



# wwPDB X-ray Structure Validation Summary Report ⓘ

Jan 31, 2016 – 11:03 PM GMT

PDB ID : 1VQK  
Title : The structure of CCDA-PHE-CAP-BIO bound to the a site of the ribosomal subunit of haloarcula marismortui  
Authors : Schmeing, T.M.; Steitz, T.A.  
Deposited on : 2004-12-16  
Resolution : 2.30 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](mailto:validation@mail.wwpdb.org)  
A user guide is available at  
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.7 (RC4), CSD as536be (2015)  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20026688  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
Refmac : 5.8.0135  
CCP4 : 6.5.0  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk26865

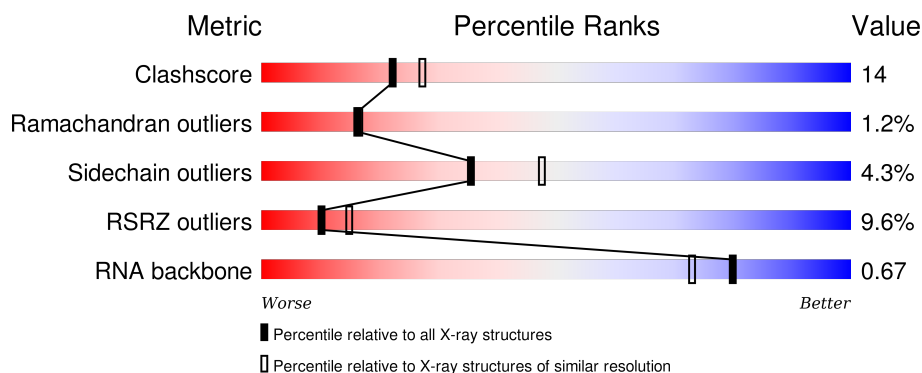
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 2.30 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))
Clashscore	102246	4452 (2.30-2.30)
Ramachandran outliers	100387	4410 (2.30-2.30)
Sidechain outliers	100360	4409 (2.30-2.30)
RSRZ outliers	91569	3857 (2.30-2.30)
RNA backbone	2183	1011 (2.84-1.76)

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 on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. 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	0	2922	<div> <div>3%</div> <div>65%</div> <div>24%</div> <div>5%</div> <div>6%</div> </div>
2	9	122	<div> <div>7%</div> <div>57%</div> <div>34%</div> <div>8%</div> <div>.</div> </div>
3	4	5	<div> <div>20%</div> <div>40%</div> <div>60%</div> </div>
4	A	240	<div> <div>8%</div> <div>63%</div> <div>32%</div> <div>.</div> <div>.</div> </div>
5	B	338	<div> <div>4%</div> <div>59%</div> <div>35%</div> <div>6%</div> </div>

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Mol	Chain	Length	Quality of chain
6	C	246	
7	D	177	
8	E	178	
9	F	120	
10	G	348	
11	H	171	
12	J	145	
13	K	132	
14	L	165	
15	M	195	
16	N	187	
17	O	116	
18	P	149	
19	Q	96	
20	R	155	
21	S	85	
22	T	120	
23	U	66	
24	V	71	
25	W	154	
26	X	92	
27	Y	241	
28	Z	83	
29	1	57	
30	2	50	

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Mol	Chain	Length	Quality of chain
31	3	92	
32	I	162	

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	MG	0	8001	-	-	-	X
33	MG	0	8008	-	-	-	X
33	MG	0	8012	-	-	-	X
33	MG	0	8013	-	-	-	X
33	MG	0	8017	-	-	-	X
33	MG	0	8020	-	-	-	X
33	MG	0	8027	-	-	-	X
33	MG	0	8038	-	-	-	X
33	MG	0	8057	-	-	-	X
33	MG	0	8080	-	-	-	X
33	MG	0	8084	-	-	-	X
33	MG	0	8097	-	-	-	X
33	MG	0	8107	-	-	-	X
34	K	0	9001	-	-	-	X
35	NA	0	9115	-	-	-	X
35	NA	0	9118	-	-	-	X
35	NA	0	9120	-	-	-	X
35	NA	0	9125	-	-	-	X
35	NA	0	9127	-	-	-	X
35	NA	0	9132	-	-	-	X
35	NA	0	9150	-	-	-	X
35	NA	0	9156	-	-	-	X
35	NA	0	9159	-	-	-	X
35	NA	0	9161	-	-	-	X
35	NA	0	9162	-	-	-	X
35	NA	0	9164	-	-	-	X
35	NA	0	9168	-	-	-	X
35	NA	0	9171	-	-	-	X
35	NA	0	9172	-	-	-	X
35	NA	0	9173	-	-	-	X
35	NA	0	9174	-	-	-	X
35	NA	0	9177	-	-	-	X
35	NA	0	9185	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
35	NA	9	9183	-	-	-	X
37	SR	0	9406	-	-	-	X
37	SR	0	9475	-	-	-	X
37	SR	0	9482	-	-	-	X
37	SR	0	9500	-	-	-	X
37	SR	0	9515	-	-	-	X
37	SR	B	9521	-	-	-	X

## 2 Entry composition

There are 39 unique types of molecules in this entry. The entry contains 99036 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 RNA chain called 23S ribosomal rna.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	0	2754	Total	C	N	O	P	0	0	0
			59021	26350	10878	19048	2745			

- Molecule 2 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	9	122	Total	C	N	O	P	0	0	0
			2600	1160	472	847	121			

- Molecule 3 is a RNA chain called 5'-R(\*CP\*CP\*(DA)\*(PHE)\*(ACA))-3'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	4	5	Total	C	N	O	P	0	0	0
			73	40	12	19	2			

- Molecule 4 is a protein called 50S ribosomal protein L2P.

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

- Molecule 5 is a protein called 50S ribosomal protein L3P.

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

- Molecule 6 is a protein called 50S ribosomal protein L4E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	C	246	Total	C	N	O	S	0	0	0
			1859	1131	344	383	1			

- Molecule 7 is a protein called 50S ribosomal protein L5P.

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

- Molecule 8 is a protein called 50S ribosomal protein L6P.

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

- Molecule 9 is a protein called 50S ribosomal protein L7AE.

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

- Molecule 10 is a protein called ACIDIC RIBOSOMAL PROTEIN P0 HOMOLOG.

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

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L10E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	H	160	Total	C	N	O	S	0	0	0
			1266	785	237	238	6			

- Molecule 12 is a protein called 50S ribosomal protein L13P.

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

- Molecule 13 is a protein called 50S ribosomal protein L14P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	K	132	Total	C	N	O	S	0	0	0
			992	609	187	192	4			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	44	LEU	HIS	CONFLICT	UNP P22450

- Molecule 14 is a protein called 50S ribosomal protein L15P.

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

- Molecule 15 is a protein called 50S Ribosomal Protein L15E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	M	194	Total	C	N	O	S	0	0	0
			1560	943	332	284	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	13	GLU	LYS	CONFLICT	GB 55231501
M	194	ALA	GLY	CONFLICT	GB 55231501

- Molecule 16 is a protein called 50S ribosomal protein L18P.

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

- Molecule 17 is a protein called 50S ribosomal protein L18e.

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

- Molecule 18 is a protein called 50S ribosomal protein L19E.

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

- Molecule 19 is a protein called 50S ribosomal protein L21e.



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

- Molecule 20 is a protein called 50S ribosomal protein L22P.

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

- Molecule 21 is a protein called 50S ribosomal protein L23P.

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

- Molecule 22 is a protein called 50S ribosomal protein L24P.

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

- Molecule 23 is a protein called 50S ribosomal protein L24E.

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

- Molecule 24 is a protein called 50S ribosomal protein L29P.

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

- Molecule 25 is a protein called 50S ribosomal protein L30P.

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

- Molecule 26 is a protein called 50S ribosomal protein L31e.

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

- Molecule 27 is a protein called 50S ribosomal protein L32E.

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

- Molecule 28 is a protein called 50S ribosomal protein L37Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	Z	73	Total	C	N	O	S	0	0	0
			578	346	116	111	5			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Z	10	ARG	SER	CONFLICT	GB 55231162

- Molecule 29 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	1	56	Total	C	N	O	S	0	0	0
			431	258	86	83	4			

- Molecule 30 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	2	46	Total	C	N	O	S	0	0	0
			396	239	89	67	1			

- Molecule 31 is a protein called 50S ribosomal protein L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	3	92	Total	C	N	O	S	0	0	0
			755	458	153	137	7			

- Molecule 32 is a protein called 50S RIBOSOMAL PROTEIN L11P.

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

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	0	87	Total	Mg	0	0
			87	87		
33	Y	1	Total	Mg	0	0
			1	1		
33	K	1	Total	Mg	0	0
			1	1		
33	B	1	Total	Mg	0	0
			1	1		
33	A	1	Total	Mg	0	0
			1	1		
33	T	1	Total	Mg	0	0
			1	1		
33	9	1	Total	Mg	0	0
			1	1		

- Molecule 34 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	0	2	Total	K	0	0
			2	2		

- Molecule 35 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	0	64	Total	Na	0	0
			64	64		
35	J	1	Total	Na	0	0
			1	1		
35	Q	1	Total	Na	0	0
			1	1		
35	D	1	Total	Na	0	0
			1	1		
35	C	1	Total	Na	0	0
			1	1		
35	3	1	Total	Na	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	R	3	Total 3	Na 3	0	0
35	9	1	Total 1	Na 1	0	0
35	S	1	Total 1	Na 1	0	0
35	M	1	Total 1	Na 1	0	0

- Molecule 36 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	0	10	Total 10	Cl 10	0	0
36	J	3	Total 3	Cl 3	0	0
36	B	1	Total 1	Cl 1	0	0
36	A	1	Total 1	Cl 1	0	0
36	N	1	Total 1	Cl 1	0	0
36	O	1	Total 1	Cl 1	0	0
36	R	1	Total 1	Cl 1	0	0
36	Y	1	Total 1	Cl 1	0	0
36	L	1	Total 1	Cl 1	0	0
36	3	1	Total 1	Cl 1	0	0
36	M	1	Total 1	Cl 1	0	0

- Molecule 37 is STRONTIUM ION (three-letter code: SR) (formula: Sr).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	0	98	Total 98	Sr 98	0	0
37	1	2	Total 2	Sr 2	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	H	1	Total 1	Sr 1	0	0
37	B	2	Total 2	Sr 2	0	0
37	3	1	Total 1	Sr 1	0	0
37	A	3	Total 3	Sr 3	0	0
37	R	1	Total 1	Sr 1	0	0
37	9	3	Total 3	Sr 3	0	0
37	L	1	Total 1	Sr 1	0	0
37	S	1	Total 1	Sr 1	0	0
37	F	1	Total 1	Sr 1	0	0

- Molecule 38 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	O	1	Total 1	Cd 1	0	0
38	Z	1	Total 1	Cd 1	0	0
38	1	1	Total 1	Cd 1	0	0
38	3	1	Total 1	Cd 1	0	0
38	U	1	Total 1	Cd 1	0	0

- Molecule 39 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
39	0	5769	Total 5769	O 5769	0	0
39	9	140	Total 140	O 140	0	0
39	A	121	Total 121	O 121	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
39	B	144	Total 144	O 144	0	0
39	C	177	Total 177	O 177	0	0
39	D	48	Total 48	O 48	0	0
39	E	44	Total 44	O 44	0	0
39	F	27	Total 27	O 27	0	0
39	G	17	Total 17	O 17	0	0
39	H	69	Total 69	O 69	0	0
39	J	52	Total 52	O 52	0	0
39	K	57	Total 57	O 57	0	0
39	L	81	Total 81	O 81	0	0
39	M	130	Total 130	O 130	0	0
39	N	61	Total 61	O 61	0	0
39	O	40	Total 40	O 40	0	0
39	P	64	Total 64	O 64	0	0
39	Q	49	Total 49	O 49	0	0
39	R	82	Total 82	O 82	0	0
39	S	32	Total 32	O 32	0	0
39	T	37	Total 37	O 37	0	0
39	U	29	Total 29	O 29	0	0
39	V	14	Total 14	O 14	0	0
39	W	69	Total 69	O 69	0	0

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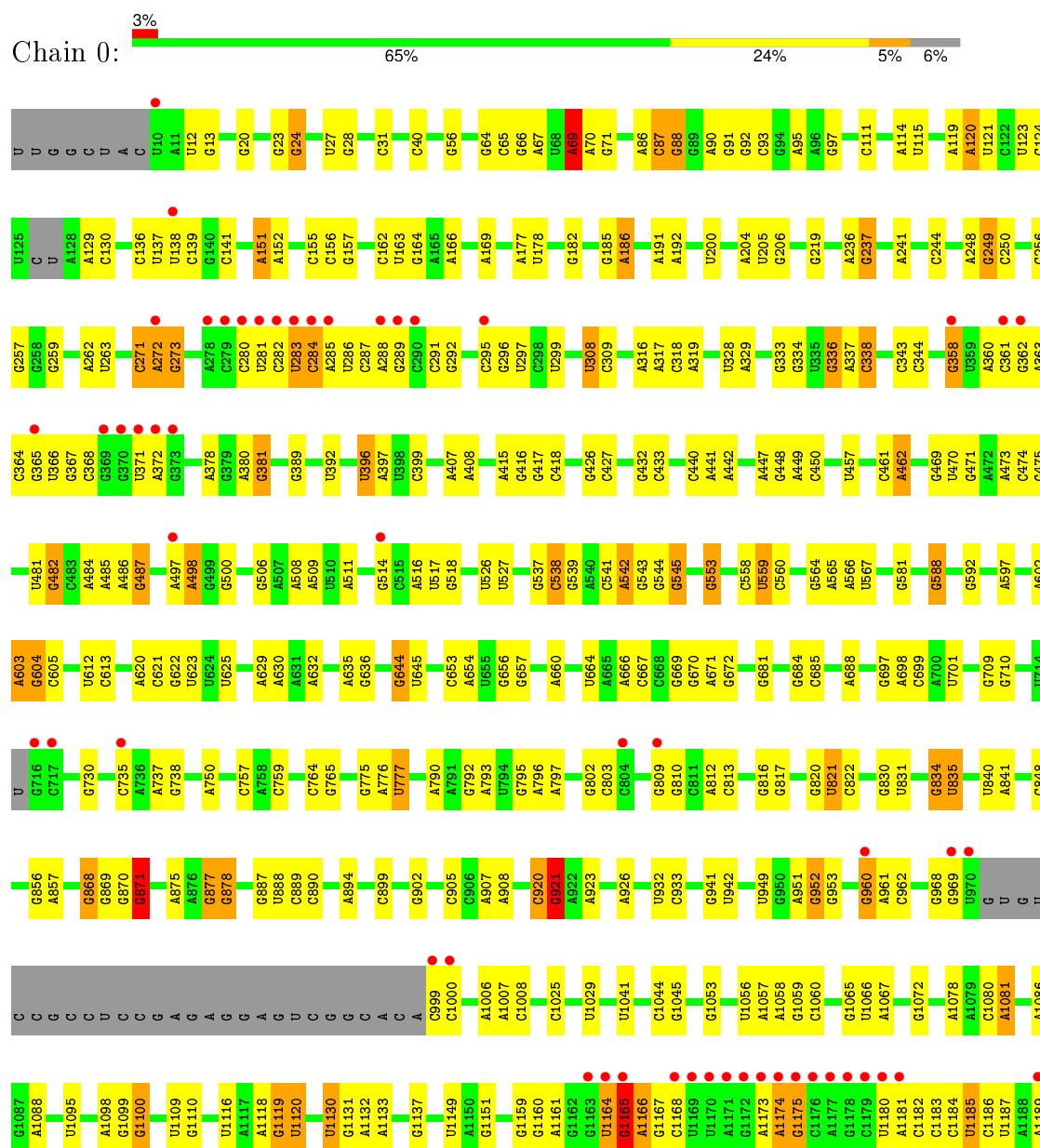
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
39	X	24	Total 24	O 24	0	0
39	Y	96	Total 96	O 96	0	0
39	Z	31	Total 31	O 31	0	0
39	1	50	Total 50	O 50	0	0
39	2	40	Total 40	O 40	0	0
39	3	67	Total 67	O 67	0	0
39	I	7	Total 7	O 7	0	0

### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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 ( $\text{RSRZ} > 2$ ). 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.

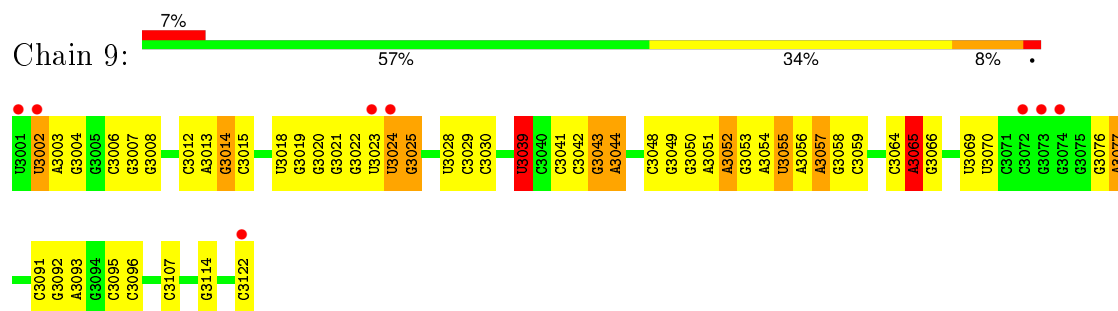
- Molecule 1: 23S ribosomal rna



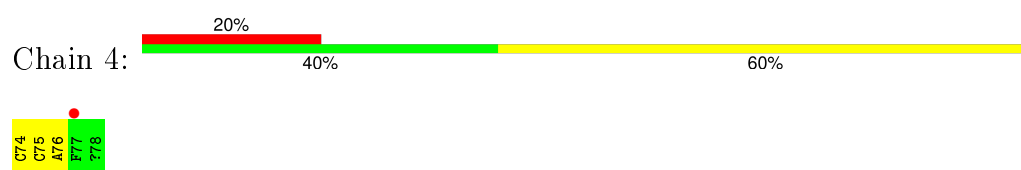


A2840	G2748	G2632	C2510	G2412	G2271	U2133	G1985	G1878	A1759	A1642	C1477	G1299	G1190
A2841	G2749	A2633	A2511	A2412	G2272	G2134	U1996	U1879	U1766	U1654	U1478	G1311	A1191
G2842	G2750	A2634	A2521	A2413	A2291	A2135	U2003	C1882	G1767	G1655	C1495	G1314	A1192
G2851	G2754	A2635	G2524	A2415	A2302	C	G2005	G1902	C1768	A1656	G1496	U1314	A1193
A2852	U2756	A2637	G2525	G2417	C2309	U	C2006	U1903	C1769	A1659	A1501	A1328	G1195
U2853	A2761	C2644	C2526	U2418	C	U	U2007	A1919	A1778	G1660	A1502	A1331	G1196
A2856	C2762	U2645	U2531	U2419	C2313	G	U2008	C1920	A1779	C1666	U1503	U1332	U1198
C2857	A2649	G2420	U2532	G2420	G2314	G	A2011	C1921	C1786	A1667	A1504	U1333	A1199
U2858	C2765	U2422	C2533	G2421	G2315	U	U2012	A1922	C1787	U1668	U1505	C1334	C1201
U2866	U2652	U2426	U2535	G2426	C2317	C	G2014	G1926	U1788	G1681	U1506	C1335	A1202
G2867	A2653	C2427	C2536	C2427	C2317	C	G2015	A1927	G1789	G1682	A1522	G1203	G1203
G2868	U2661	U2435	C2537	U2435	U2320	A	U2016	C1928	G1794	A1683	G1523	C1204	C1204
G2869	U2663	U2436	A2538	U2436	A2321	C	U2017	G1929	U1795	A1684	U1524	A1341	U1205
G2876	U2664	C2443	U2541	C2443	U2326	A	U2032	U1937	A1796	A1685	G1525	C1342	U1206
G2877	A	G2452	U2545	G2452	C2329	G	G2033	G1938	A1797	G1686	A1526	C1343	A1207
U2878	U2667	G2453	U2546	G2453	U2330	U	U2034	U1939	C1798	C1687	A1527	U1350	C1208
A2879	U2670	A2456	C2548	A2456	U2331	G	C2035	C1940	G1799	C1692	G1528	A1351	G1210
A2883	U2671	U2457	C2552	U2457	G2338	A	U2042	A1942	G1809	C1692	G1552	C1353	G1211
G2884	C2672	U2457	A2553	U2457	C	A	U2043	C1943	C1818	U1701	G1555	C1360	G1212
A2890	U2673	G2462	U2554	G2462	A	U	G2044	C1946	G1819	U1702	G1555	C1360	G1216
C2894	C2676	A2465	U2563	A2465	A	C	G2053	G1947	G1820	A1710	A1559	G1363	G1217
C2895	U2781	G2466	C2564	A2466	G	U	A2054	G1948	A1821	G1717	U	U1218	U1218
A2896	U2782	A2467	C2565	A2467	C	A	G2061	G1949	A1822	C1714	C1562	A1372	U1219
C2897	U2783	A2468	A2568	A2468	C2346	C	C2062	G1950	A1829	C1715	G1563	C1377	G1226
U2898	A2784	C2472	A2569	A2468	C2347	C	U2063	G1951	C1834	U1716	C1564	G1378	C1229
A2900	G2785	C2472	C2578	C2472	U2348	G	U2064	U	U1835	A1717	A1574	C1384	A1230
C2901	U2791	C2476	G2578	C2476	A2353	C	A2067	A	U1836	G1718	C1574	A1232	A1232
A2902	A2792	U2586	U2587	U2586	A2354	G	G2068	C	U1837	U1722	G1592	A1406	A1233
C2903	U2587	G2588	U2587	G2588	C2355	U	A2068	U	U1838	G1723	C1593	A1407	U1234
A2906	G2589	U2590	U2589	G2589	C2356	C	G2072	A	A1839	U1724	C1594	U1408	G1235
C2907	A2812	A2483	U2590	A2483	A2361	U	A2074	G	A1840	C1725	G1595	G1409	A1236
A2908	G2813	C2487	C2591	A2487	A2362	C	A2081	A	A1845	G1730	U1596	U1419	U1237
G2909	U2711	A2490	A2599	A2490	A2363	U	A2089	C	U1846	C1731	A1597	U1419	C1238
A2910	G2712	G2491	A2600	G2491	A2364	C	A2090	C	A1847	A1732	A1598	U1422	G1239
C2911	G2715	C2493	G2601	G2493	A2365	C	G2091	U1964	G1848	A1736	A1603	C1423	A1242
A2912	G2716	U2499	A2602	U2499	A2366	C	A2096	C1965	G1849	C1739	G1604	C1426	G1243
C2913	C2717	C2500	G2603	C2500	A2367	A	U2097	U1966	C1853	U1740	G1605	C1426	U1244
A2914	C2718	G2501	A2604	G2501	A2368	G	A2098	U1967	C1856	U1741	A1615	G1430	A1246
A	C2719	C2502	A2605	C2502	A2369	C	A2099	G1971	C1857	G1744	A1615	U1435	A1252
C	U2720	A2503	G2606	A2503	A2370	A	A2100	U1972	C1861	G1745	U1625	C1451	C1253
U	U2721	A2504	A2607	A2504	A2371	C	A2101	A1973	G1862	G1746	A1626	C1461	C1268
A	G2722	A2505	A2608	A2505	A2372	C	A2102	G1979	G1863	U1748	G1627	C1462	C1278
U	G2723	A2506	A2609	A2506	A2373	C	A2103	U1980	G1867	G1752	A1630	A1463	U1279
U	U2726	C2507	A2610	A2507	A2374	C	G2110	A1981	G1868	G1753	C1633	A1470	C1289
U	C2747	C2508	A2611	A2508	A2401	U	G2111	U1992	G1873	G1756	G1634	C1474	U1298
U	U2837	C2509	A2612	A2509	A2402	G	G2112	A1994	G1877	G1756	A1641	C1474	U1298

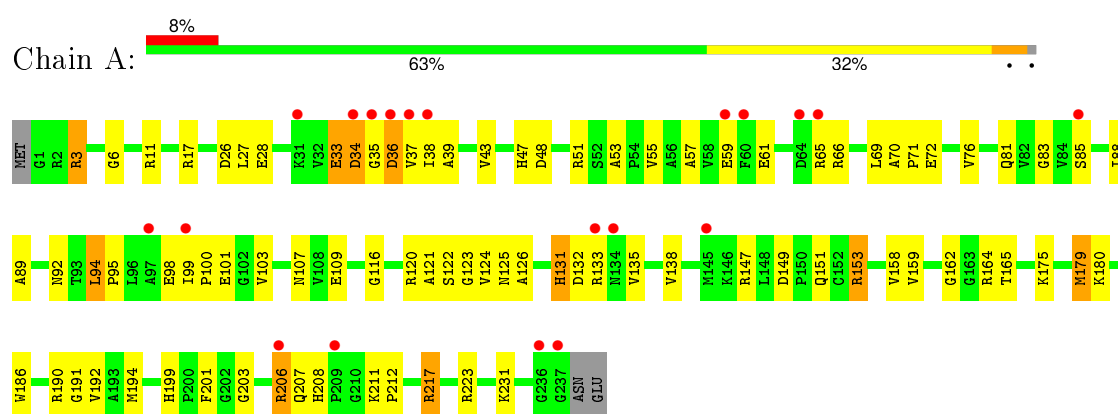
- Molecule 2: 5S ribosomal RNA



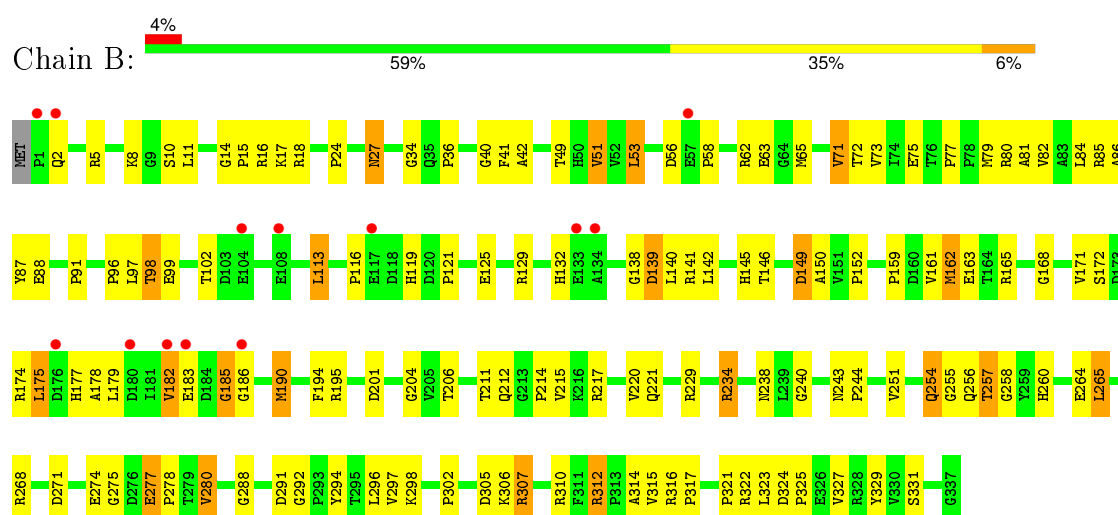
- Molecule 3: 5'-R(\*CP\*CP\*(DA)\*(PHE)\*(ACA))-3'



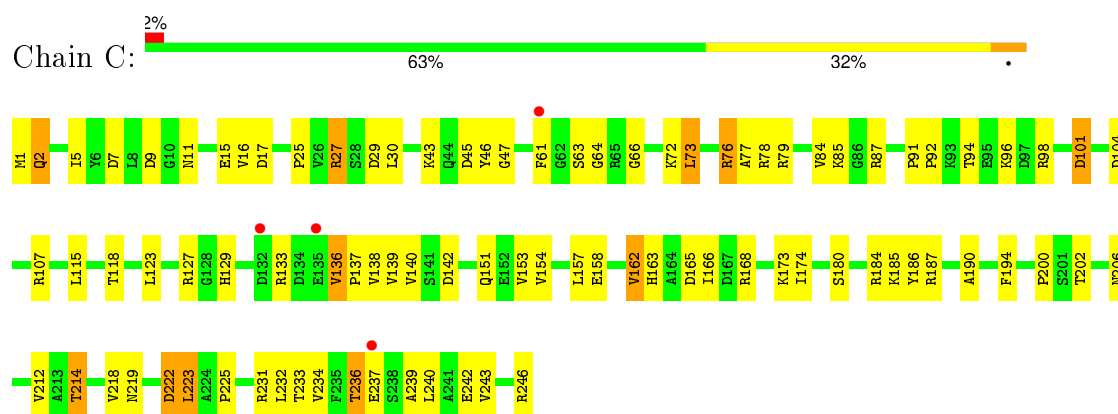
- Molecule 4: 50S ribosomal protein L2P



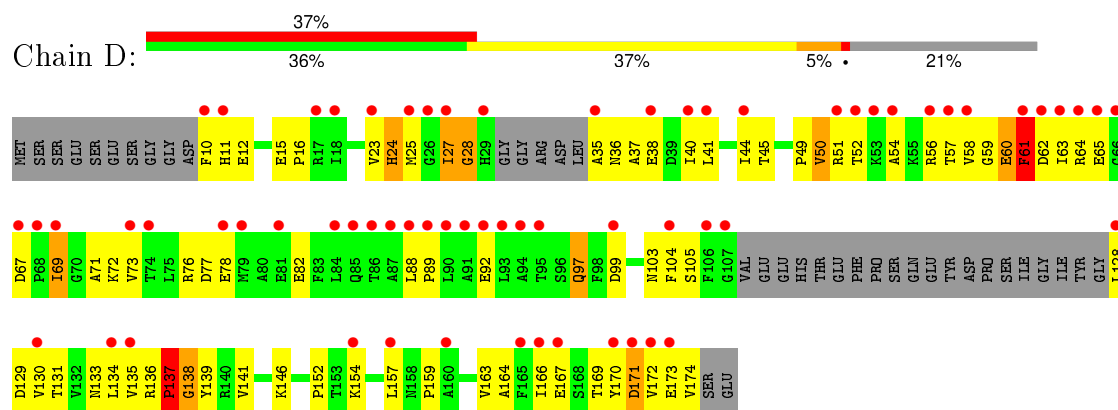
- Molecule 5: 50S ribosomal protein L3P



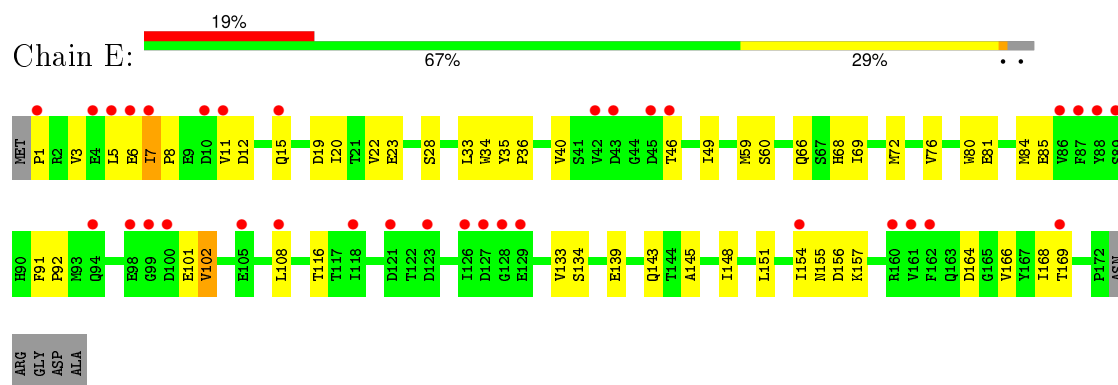
- Molecule 6: 50S ribosomal protein L4E



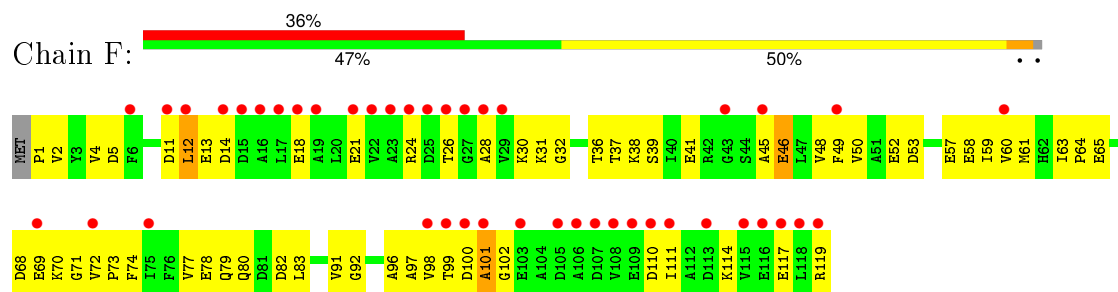
• Molecule 7: 50S ribosomal protein L5P



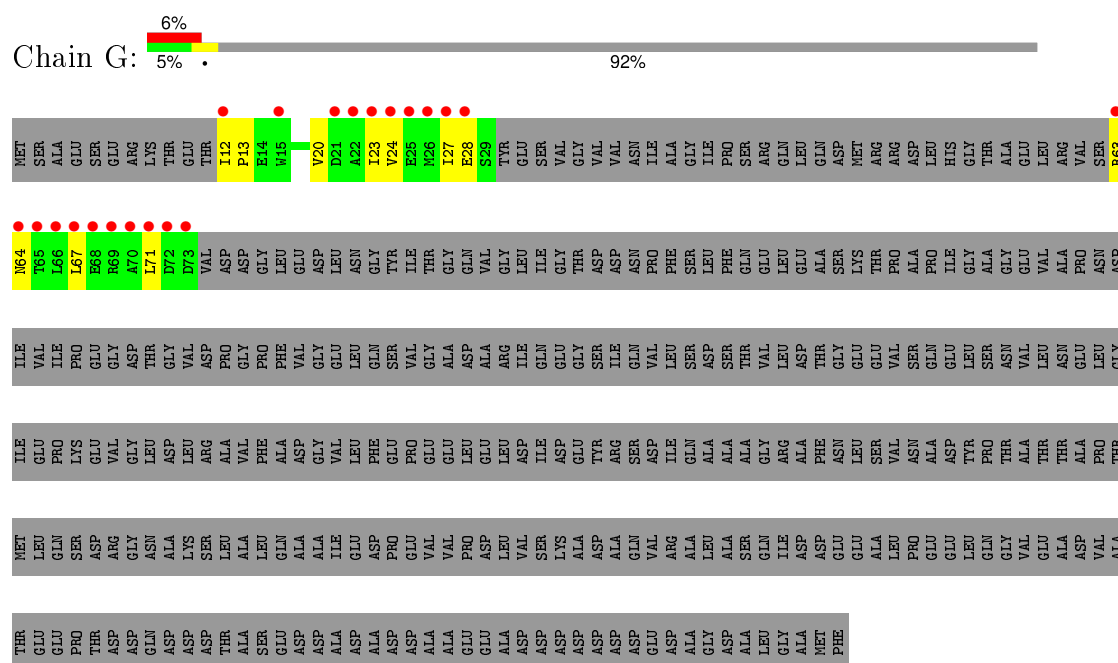
• Molecule 8: 50S ribosomal protein L6P



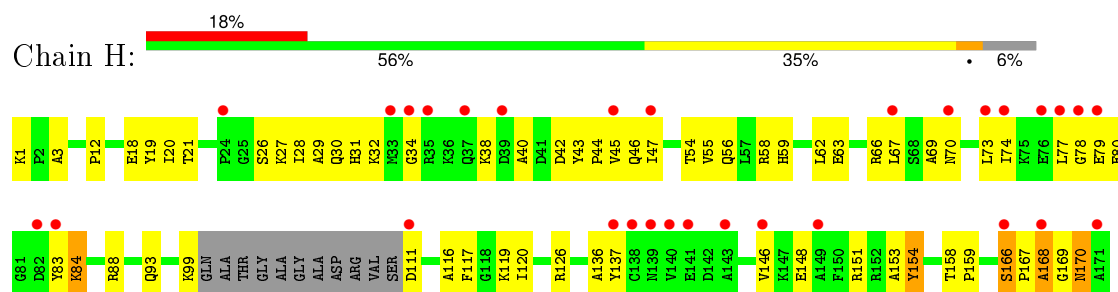
• Molecule 9: 50S ribosomal protein L7AE



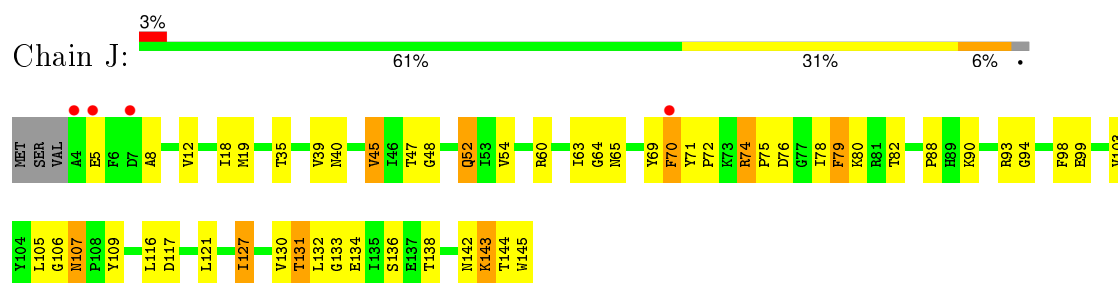
• Molecule 10: ACIDIC RIBOSOMAL PROTEIN P0 HOMOLOG



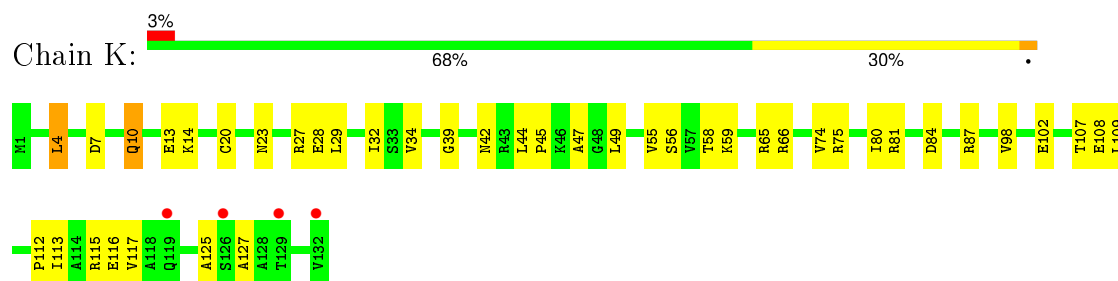
- Molecule 11: 50S RIBOSOMAL PROTEIN L10E



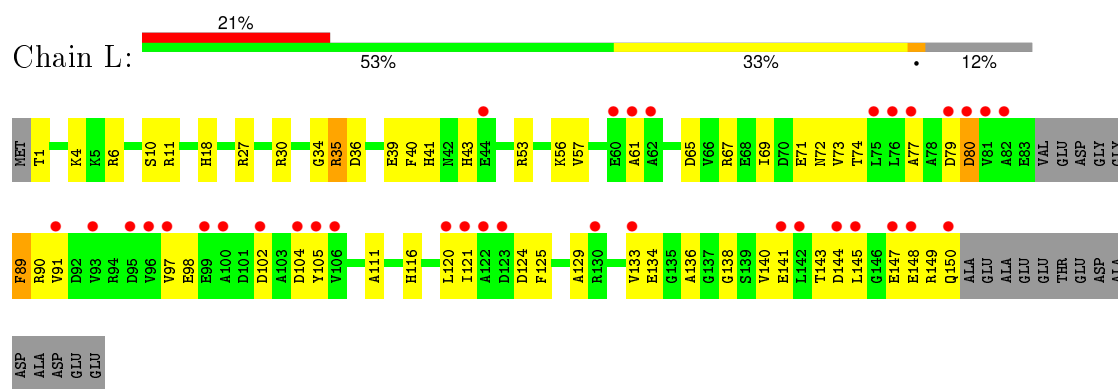
- Molecule 12: 50S ribosomal protein L13P



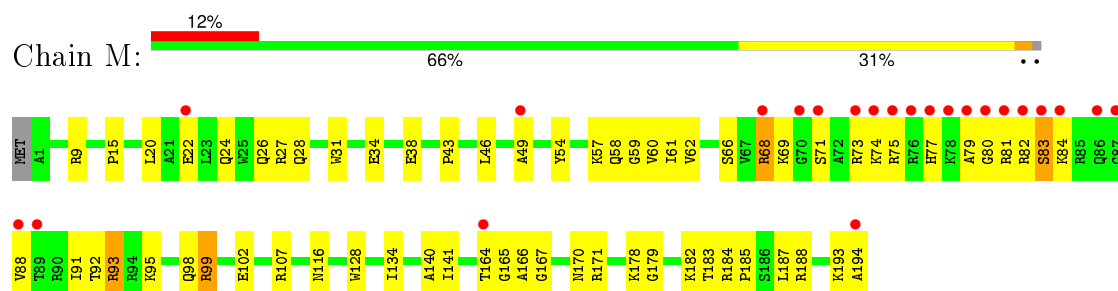
- Molecule 13: 50S ribosomal protein L14P



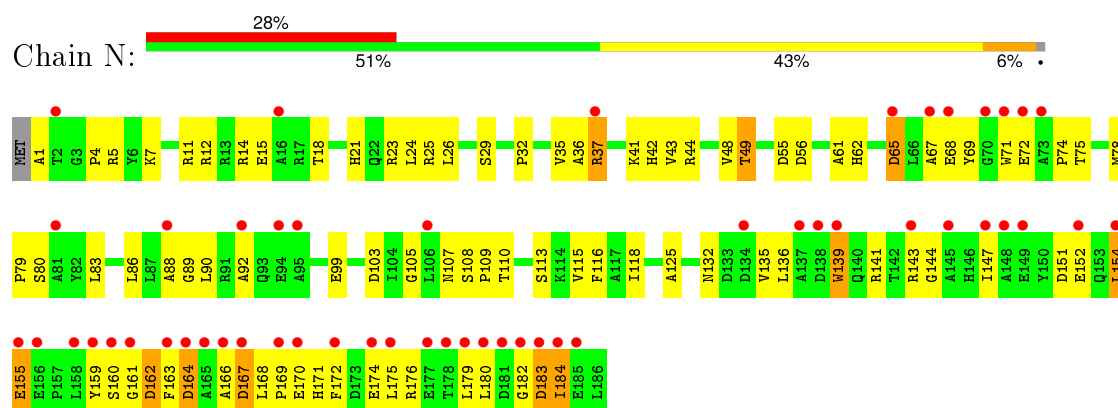
- Molecule 14: 50S ribosomal protein L15P



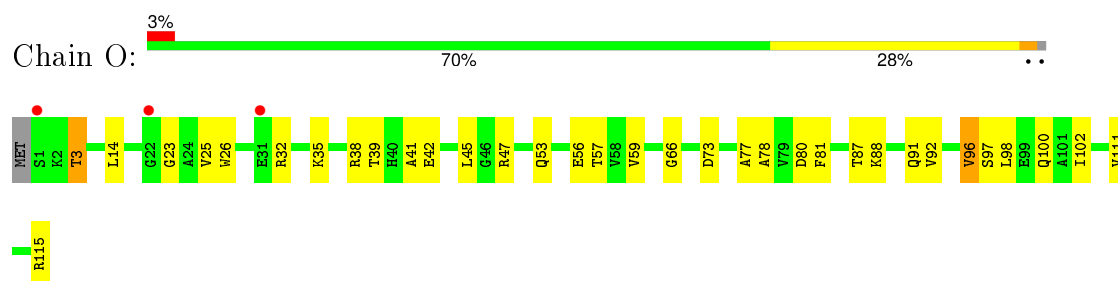
- Molecule 15: 50S Ribosomal Protein L15E



- Molecule 16: 50S ribosomal protein L18P

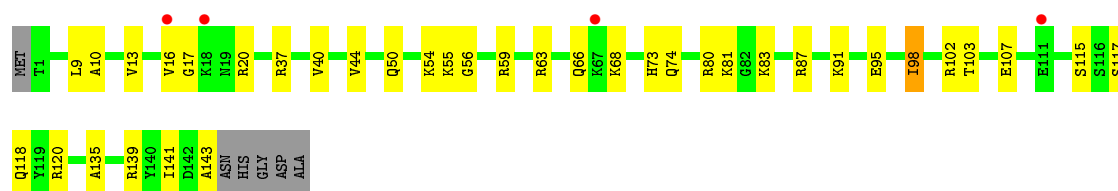


- Molecule 17: 50S ribosomal protein L18e

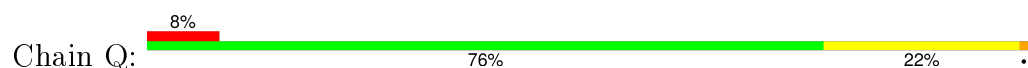


- Molecule 18: 50S ribosomal protein L19E

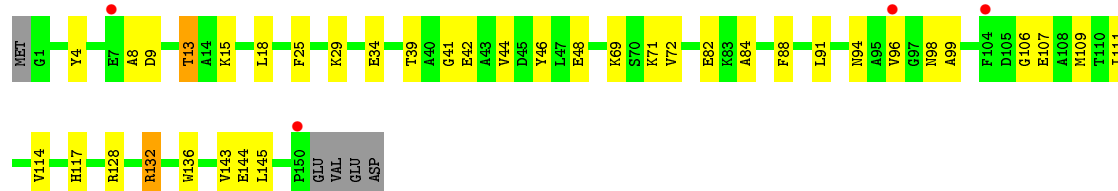




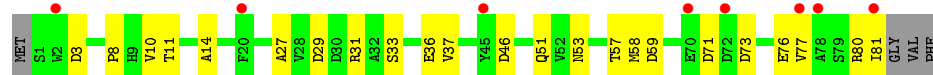
- Molecule 19: 50S ribosomal protein L21e



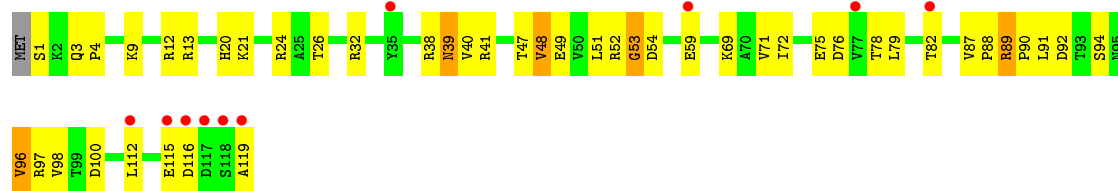
- Molecule 20: 50S ribosomal protein L22P



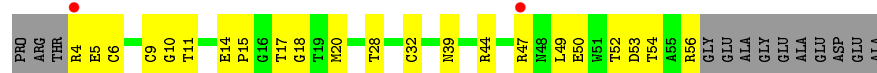
- Molecule 21: 50S ribosomal protein L23P



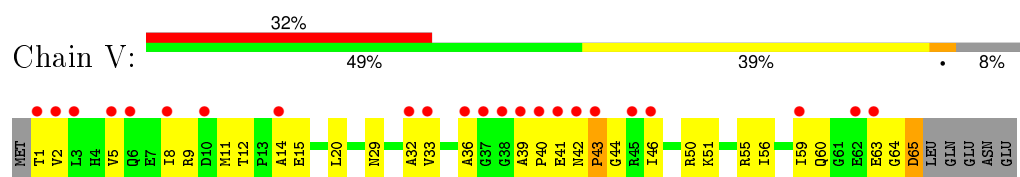
- Molecule 22: 50S ribosomal protein L24P



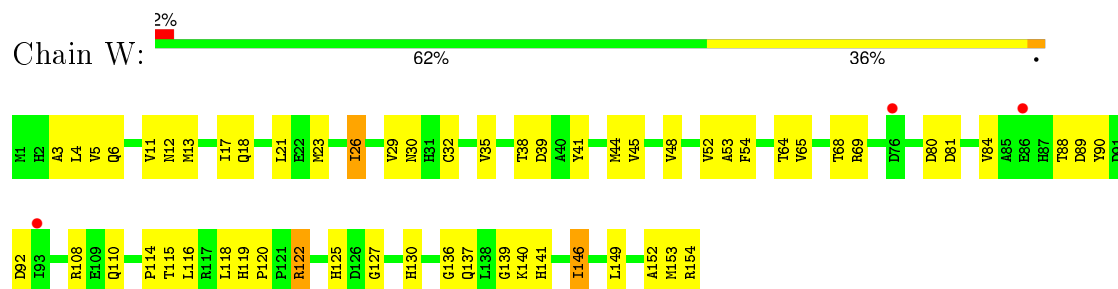
- Molecule 23: 50S ribosomal protein L24E



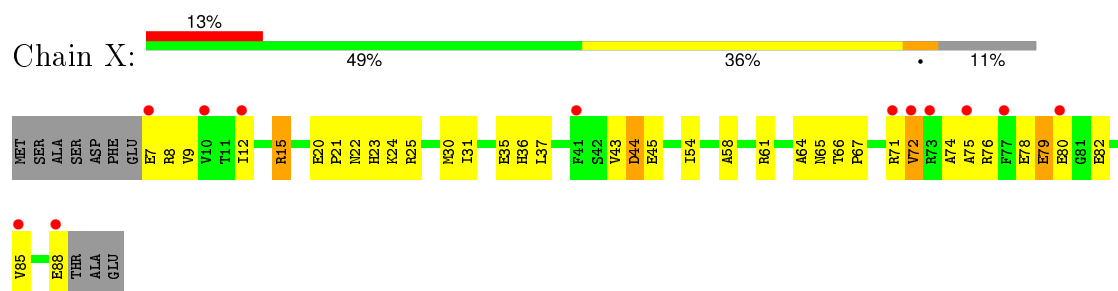
- Molecule 24: 50S ribosomal protein L29P



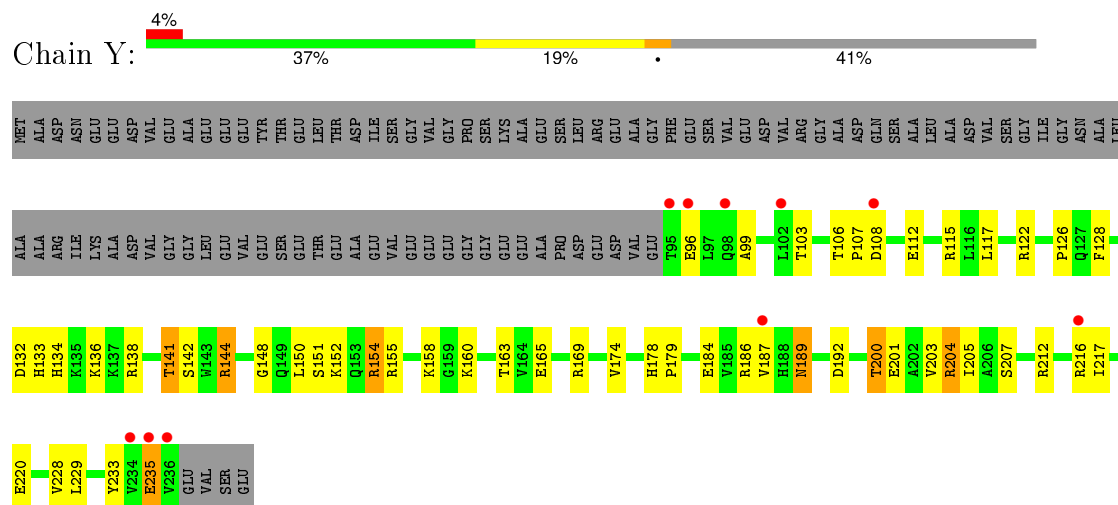
- Molecule 25: 50S ribosomal protein L30P



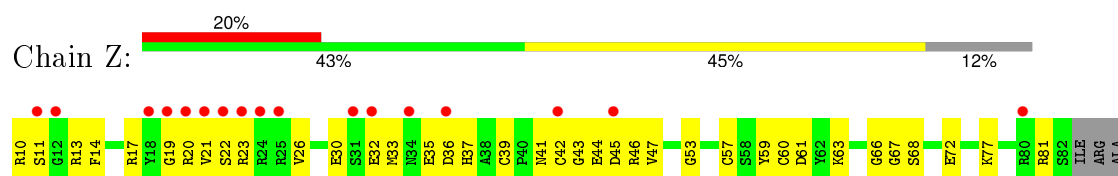
- Molecule 26: 50S ribosomal protein L31e



- Molecule 27: 50S ribosomal protein L32E

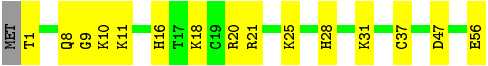


- Molecule 28: 50S ribosomal protein L37Ae

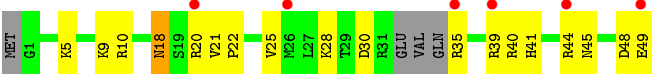


ALA  
LEU  
SER  
GLU  
ASP  
GLU  
GLU

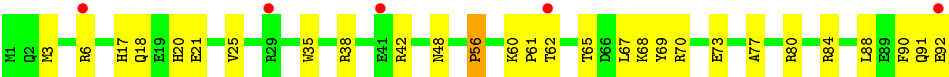
- Molecule 29: 50S ribosomal protein L37e



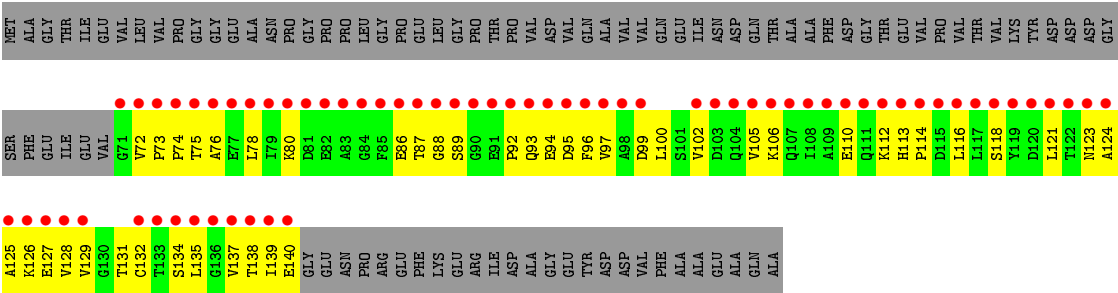
- Molecule 30: 50S ribosomal protein L39e



- Molecule 31: 50S ribosomal protein L44E



- Molecule 32: 50S RIBOSOMAL PROTEIN L11P





## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	211.87Å 298.57Å 575.39Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 2.30 49.73 – 2.30	Depositor EDS
% Data completeness (in resolution range)	89.5 (50.00-2.30) 89.6 (49.73-2.30)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.55 (at 2.29Å)	Xtriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.218 , 0.250 0.207 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	DCC
Wilson B-factor (Å <sup>2</sup> )	43.4	Xtriage
Anisotropy	0.164	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.33 , 61.0	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtriage
Outliers	0 of 797435 reflections	Xtriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	99036	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.60% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

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

## 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: MG, OMG, CL, SR, NA, K, ACA, CD, OMU, UR3, 1MA, PSU

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	0	0.37	0/65959	0.70	26/102870 (0.0%)
2	9	0.33	0/2905	0.71	1/4528 (0.0%)
3	4	0.52	0/75	0.73	0/110
4	A	0.34	0/1786	0.66	0/2408
5	B	0.33	0/2690	0.66	0/3652
6	C	0.38	0/1884	0.64	1/2551 (0.0%)
7	D	0.29	0/1111	0.54	0/1498
8	E	0.32	0/1382	0.57	0/1880
9	F	0.31	0/901	0.54	0/1224
10	G	0.27	0/241	0.47	0/324
11	H	0.33	0/1287	0.64	0/1725
12	J	0.35	0/1136	0.61	0/1530
13	K	0.35	0/1001	0.67	0/1347
14	L	0.33	0/1130	0.64	0/1509
15	M	0.34	0/1584	0.60	0/2119
16	N	0.28	0/1474	0.60	0/1999
17	O	0.33	0/874	0.59	1/1181 (0.1%)
18	P	0.34	0/1147	0.56	0/1528
19	Q	0.35	0/749	0.69	0/1005
20	R	0.35	0/1172	0.67	0/1578
21	S	0.32	0/648	0.58	1/875 (0.1%)
22	T	0.31	0/958	0.63	0/1289
23	U	0.35	0/417	0.58	0/562
24	V	0.27	0/502	0.53	0/675
25	W	0.34	0/1219	0.60	0/1655
26	X	0.33	0/664	0.60	0/895
27	Y	0.36	0/1146	0.65	0/1536
28	Z	0.34	0/589	0.61	0/787
29	1	0.43	0/438	0.66	0/578
30	2	0.35	0/401	0.60	0/529
31	3	0.38	0/771	0.58	0/1024
32	I	0.28	0/526	0.50	0/716

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
All	All	0.36	0/98767	0.67	30/147687 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	0	1	39
2	9	0	2
All	All	1	41

There are no bond length outliers.

The worst 5 of 30 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	1563	G	C2'-C3'-O3'	9.69	130.83	109.50
2	9	3039	U	N1-C1'-C2'	7.45	123.68	114.00
1	0	1942	A	C5'-C4'-C3'	7.27	127.63	116.00
1	0	1819	G	C5'-C4'-C3'	6.86	126.98	116.00
1	0	1592	G	N9-C1'-C2'	6.67	122.67	114.00

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	0	1563	G	C3'

5 of 41 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	182	G	Sidechain
1	0	24	G	Sidechain
1	0	396	U	Sidechain
1	0	462	A	Sidechain
1	0	469	G	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	0	59021	0	29813	722	0
2	9	2600	0	1326	50	0
3	4	73	0	44	2	0
4	A	1753	0	1766	101	0
5	B	2625	0	2532	145	0
6	C	1859	0	1816	106	0
7	D	1094	0	1085	79	0
8	E	1357	0	1266	45	0
9	F	890	0	843	57	0
10	G	240	0	231	11	0
11	H	1266	0	1268	68	0
12	J	1120	0	1098	68	0
13	K	992	0	1031	53	0
14	L	1118	0	1076	61	0
15	M	1560	0	1568	63	0
16	N	1445	0	1401	97	0
17	O	865	0	873	40	0
18	P	1136	0	1123	35	0
19	Q	735	0	729	18	0
20	R	1149	0	1122	37	0
21	S	641	0	605	16	0
22	T	950	0	923	47	0
23	U	410	0	364	26	0
24	V	499	0	511	38	0
25	W	1196	0	1137	82	0
26	X	654	0	653	35	0
27	Y	1130	0	1133	57	0
28	Z	578	0	539	28	0
29	1	431	0	426	22	0
30	2	396	0	413	26	0
31	3	755	0	728	26	0
32	I	519	0	500	51	0
33	0	87	0	0	0	0
33	9	1	0	0	0	0
33	A	1	0	0	0	0
33	B	1	0	0	0	0
33	K	1	0	0	0	0
33	T	1	0	0	0	0
33	Y	1	0	0	0	0
34	0	2	0	0	0	0
35	0	64	0	0	0	0
35	3	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
35	9	1	0	0	0	0
35	C	1	0	0	0	0
35	D	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	3	0	0	0	0
35	S	1	0	0	0	0
36	0	10	0	0	0	0
36	3	1	0	0	0	0
36	A	1	0	0	0	0
36	B	1	0	0	0	0
36	J	3	0	0	1	0
36	L	1	0	0	0	0
36	M	1	0	0	0	0
36	N	1	0	0	1	0
36	O	1	0	0	0	0
36	R	1	0	0	0	0
36	Y	1	0	0	0	0
37	0	98	0	0	0	0
37	1	2	0	0	0	0
37	3	1	0	0	0	0
37	9	3	0	0	0	0
37	A	3	0	0	0	0
37	B	2	0	0	0	0
37	F	1	0	0	0	0
37	H	1	0	0	0	0
37	L	1	0	0	0	0
37	R	1	0	0	0	0
37	S	1	0	0	0	0
38	1	1	0	0	0	0
38	3	1	0	0	0	0
38	O	1	0	0	0	0
38	U	1	0	0	0	0
38	Z	1	0	0	0	0
39	0	5769	0	0	106	0
39	1	50	0	0	2	0
39	2	40	0	0	3	0
39	3	67	0	0	4	0
39	9	140	0	0	6	0
39	A	121	0	0	11	0
39	B	144	0	0	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
39	C	177	0	0	18	0
39	D	48	0	0	10	0
39	E	44	0	0	1	0
39	F	27	0	0	4	0
39	G	17	0	0	1	0
39	H	69	0	0	7	0
39	I	7	0	0	1	0
39	J	52	0	0	4	0
39	K	57	0	0	6	0
39	L	81	0	0	14	0
39	M	130	0	0	3	0
39	N	61	0	0	9	0
39	O	40	0	0	5	0
39	P	64	0	0	2	0
39	Q	49	0	0	5	0
39	R	82	0	0	3	0
39	S	32	0	0	1	0
39	T	37	0	0	3	0
39	U	29	0	0	3	0
39	V	14	0	0	2	0
39	W	69	0	0	5	0
39	X	24	0	0	6	0
39	Y	96	0	0	9	0
39	Z	31	0	0	2	0
All	All	99036	0	59943	2083	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 14.

The worst 5 of 2083 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)
25:W:21:LEU:HD21	25:W:48:VAL:HG11	1.29	1.14
26:X:37:LEU:HD13	26:X:85:VAL:HG21	1.29	1.10
6:C:236:THR:HG22	6:C:239:ALA:H	1.19	1.07
1:O:656:G:H5'	17:O:3:THR:HG22	1.38	1.05
1:O:1160:G:H5'	1:O:1161:A:H5'	1.40	1.04

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	
4	A	235/240 (98%)	209 (89%)	23 (10%)	3 (1%)	15	15
5	B	335/338 (99%)	314 (94%)	17 (5%)	4 (1%)	16	16
6	C	244/246 (99%)	229 (94%)	15 (6%)	0	100	100
7	D	134/177 (76%)	105 (78%)	17 (13%)	12 (9%)	1	0
8	E	170/178 (96%)	165 (97%)	5 (3%)	0	100	100
9	F	117/120 (98%)	100 (86%)	15 (13%)	2 (2%)	11	10
10	G	25/348 (7%)	24 (96%)	1 (4%)	0	100	100
11	H	156/171 (91%)	140 (90%)	14 (9%)	2 (1%)	15	15
12	J	140/145 (97%)	131 (94%)	6 (4%)	3 (2%)	9	7
13	K	130/132 (98%)	123 (95%)	7 (5%)	0	100	100
14	L	141/165 (86%)	118 (84%)	22 (16%)	1 (1%)	26	31
15	M	192/195 (98%)	182 (95%)	8 (4%)	2 (1%)	19	21
16	N	184/187 (98%)	163 (89%)	12 (6%)	9 (5%)	3	1
17	O	113/116 (97%)	109 (96%)	4 (4%)	0	100	100
18	P	141/149 (95%)	139 (99%)	2 (1%)	0	100	100
19	Q	93/96 (97%)	90 (97%)	3 (3%)	0	100	100
20	R	148/155 (96%)	141 (95%)	7 (5%)	0	100	100
21	S	79/85 (93%)	76 (96%)	2 (2%)	1 (1%)	15	15
22	T	117/120 (98%)	109 (93%)	7 (6%)	1 (1%)	21	24
23	U	51/66 (77%)	48 (94%)	3 (6%)	0	100	100
24	V	63/71 (89%)	59 (94%)	3 (5%)	1 (2%)	12	11
25	W	152/154 (99%)	148 (97%)	4 (3%)	0	100	100
26	X	80/92 (87%)	73 (91%)	7 (9%)	0	100	100
27	Y	140/241 (58%)	138 (99%)	2 (1%)	0	100	100
28	Z	71/83 (86%)	61 (86%)	7 (10%)	3 (4%)	3	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
29	1	54/57 (95%)	52 (96%)	2 (4%)	0	100	100
30	2	42/50 (84%)	41 (98%)	1 (2%)	0	100	100
31	3	90/92 (98%)	88 (98%)	1 (1%)	1 (1%)	17	18
32	I	68/162 (42%)	55 (81%)	12 (18%)	1 (2%)	13	12
All	All	3705/4431 (84%)	3430 (93%)	229 (6%)	46 (1%)	16	16

5 of 46 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	A	27	LEU
4	A	37	VAL
5	B	139	ASP
7	D	137	PRO
9	F	101	ALA

### 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	
4	A	179/182 (98%)	169 (94%)	10 (6%)	26	35
5	B	282/283 (100%)	261 (93%)	21 (7%)	17	21
6	C	193/193 (100%)	178 (92%)	15 (8%)	16	19
7	D	117/148 (79%)	112 (96%)	5 (4%)	35	47
8	E	152/156 (97%)	145 (95%)	7 (5%)	33	44
9	F	93/94 (99%)	91 (98%)	2 (2%)	60	77
10	G	27/283 (10%)	27 (100%)	0	100	100
11	H	132/138 (96%)	126 (96%)	6 (4%)	34	46
12	J	118/121 (98%)	109 (92%)	9 (8%)	16	20
13	K	106/106 (100%)	103 (97%)	3 (3%)	51	68
14	L	113/127 (89%)	109 (96%)	4 (4%)	43	58
15	M	158/159 (99%)	153 (97%)	5 (3%)	46	62

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	N	149/150 (99%)	144 (97%)	5 (3%)	44	59
17	O	93/94 (99%)	91 (98%)	2 (2%)	60	77
18	P	113/117 (97%)	112 (99%)	1 (1%)	84	93
19	Q	79/80 (99%)	75 (95%)	4 (5%)	29	39
20	R	117/122 (96%)	114 (97%)	3 (3%)	54	71
21	S	71/74 (96%)	69 (97%)	2 (3%)	51	68
22	T	105/106 (99%)	101 (96%)	4 (4%)	40	54
23	U	44/52 (85%)	44 (100%)	0	100	100
24	V	51/57 (90%)	50 (98%)	1 (2%)	63	79
25	W	130/130 (100%)	126 (97%)	4 (3%)	47	64
26	X	66/74 (89%)	60 (91%)	6 (9%)	12	13
27	Y	120/196 (61%)	110 (92%)	10 (8%)	14	17
28	Z	60/68 (88%)	59 (98%)	1 (2%)	68	83
29	1	46/47 (98%)	45 (98%)	1 (2%)	60	77
30	2	42/46 (91%)	41 (98%)	1 (2%)	57	74
31	3	79/79 (100%)	78 (99%)	1 (1%)	76	87
32	I	58/130 (45%)	58 (100%)	0	100	100
All	All	3093/3612 (86%)	2960 (96%)	133 (4%)	35	47

5 of 133 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
11	H	1	LYS
12	J	131	THR
27	Y	154	ARG
11	H	18	GLU
12	J	52	GLN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 90 such sidechains are listed below:

Mol	Chain	Res	Type
15	M	170	ASN
18	P	89	ASN
30	2	41	HIS
16	N	93	GLN

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Mol	Chain	Res	Type
17	O	100	GLN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2745/2922 (93%)	238 (8%)	33 (1%)
2	9	121/122 (99%)	16 (13%)	2 (1%)
3	4	1/5 (20%)	0	0
All	All	2867/3049 (94%)	254 (8%)	35 (1%)

5 of 254 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	31	C
1	0	67	A
1	0	69	A
1	0	70	A
1	0	71	G

5 of 35 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	1506	U
1	0	1692	C
1	0	2852	A
1	0	1563	G
1	0	1684	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
1	OMU	0	2587	1	12,22,23	1.01	1 (8%)	19,31,34	3.16	2 (10%)
1	OMG	0	2588	1,3	17,26,27	1.06	1 (5%)	21,38,41	2.53	3 (14%)
1	UR3	0	2619	1	12,22,23	0.86	1 (8%)	16,32,35	0.73	0
1	PSU	0	2621	1	13,21,22	1.65	2 (15%)	18,30,33	6.05	4 (22%)
1	1MA	0	628	1,35	14,25,26	0.96	1 (7%)	15,37,40	1.15	1 (6%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMU	0	2587	1	-	0/5/27/28	0/2/2/2
1	OMG	0	2588	1,3	-	0/5/27/28	0/3/3/3
1	UR3	0	2619	1	-	0/3/25/26	0/2/2/2
1	PSU	0	2621	1	-	0/7/25/26	0/2/2/2
1	1MA	0	628	1,35	-	0/3/25/26	0/3/3/3

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	2621	PSU	C5-C1'	-4.96	1.47	1.52
1	0	2619	UR3	C6-C5	-2.12	1.33	1.38
1	0	2587	OMU	C4-N3	2.44	1.37	1.33
1	0	628	1MA	C6-N6	2.59	1.33	1.29
1	0	2621	PSU	C4-N3	2.79	1.38	1.33

The worst 5 of 10 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2621	PSU	N1-C2-N3	-21.21	114.80	128.33
1	0	2588	OMG	C5-C6-N1	-8.81	111.54	123.59
1	0	628	1MA	C2-N3-C4	-3.60	110.83	116.40
1	0	2587	OMU	C5-C4-N3	-3.30	114.66	123.12
1	0	2588	OMG	N3-C2-N1	-2.22	124.06	127.44

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 2 short contacts:

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

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 311 ligands modelled in this entry, 311 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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	0	2749/2922 (94%)	-0.02	98 (3%) 46 55	22, 45, 89, 149	0
2	9	122/122 (100%)	0.23	8 (6%) 22 29	38, 63, 87, 149	0
3	4	4/5 (80%)	1.66	1 (25%) 1 1	61, 64, 71, 74	0
4	A	237/240 (98%)	0.63	20 (8%) 14 19	28, 50, 82, 104	0
5	B	337/338 (99%)	0.35	13 (3%) 43 52	28, 50, 75, 86	0
6	C	246/246 (100%)	0.16	4 (1%) 74 80	25, 46, 68, 80	0
7	D	140/177 (79%)	2.25	65 (46%) 0 0	58, 88, 120, 130	0
8	E	172/178 (96%)	0.99	34 (19%) 1 2	40, 62, 80, 86	0
9	F	119/120 (99%)	1.45	43 (36%) 0 0	44, 71, 100, 110	0
10	G	29/348 (8%)	3.08	21 (72%) 0 0	71, 89, 99, 100	0
11	H	160/171 (93%)	0.93	30 (18%) 2 2	43, 61, 93, 101	0
12	J	142/145 (97%)	0.17	4 (2%) 56 66	36, 47, 67, 89	0
13	K	132/132 (100%)	0.06	4 (3%) 54 63	33, 46, 67, 72	0
14	L	145/165 (87%)	1.05	35 (24%) 1 1	27, 64, 110, 120	0
15	M	194/195 (99%)	0.69	23 (11%) 6 9	31, 44, 77, 87	0
16	N	186/187 (99%)	1.28	52 (27%) 1 1	43, 63, 108, 113	0
17	O	115/116 (99%)	0.23	3 (2%) 59 68	39, 53, 67, 75	0
18	P	143/149 (95%)	0.27	4 (2%) 56 66	38, 51, 65, 76	0
19	Q	95/96 (98%)	0.32	8 (8%) 14 19	38, 47, 61, 76	0
20	R	150/155 (96%)	0.09	4 (2%) 58 67	29, 43, 61, 71	0
21	S	81/85 (95%)	0.56	8 (9%) 9 14	42, 58, 80, 95	0
22	T	119/120 (99%)	0.77	10 (8%) 14 19	40, 54, 81, 110	0
23	U	53/66 (80%)	0.36	2 (3%) 44 53	40, 50, 68, 79	0
24	V	65/71 (91%)	2.05	23 (35%) 0 0	52, 76, 110, 116	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
25	W	154/154 (100%)	0.21	3 (1%) 70 76	37, 49, 69, 78	0
26	X	82/92 (89%)	0.96	12 (14%) 3 5	40, 53, 82, 101	0
27	Y	142/241 (58%)	0.36	10 (7%) 19 27	29, 42, 63, 85	0
28	Z	73/83 (87%)	0.99	17 (23%) 1 1	48, 70, 85, 92	0
29	1	56/57 (98%)	-0.25	0 100 100	26, 32, 39, 49	0
30	2	46/50 (92%)	0.68	6 (13%) 5 7	33, 51, 67, 80	0
31	3	92/92 (100%)	0.43	5 (5%) 29 38	33, 55, 70, 83	0
32	I	70/162 (43%)	6.48	66 (94%) 0 0	111, 123, 141, 143	0
All	All	6650/7480 (88%)	0.43	636 (9%) 10 15	22, 50, 95, 149	0

The worst 5 of 636 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
32	I	71	GLY	17.4
7	D	63	ILE	15.8
24	V	1	THR	15.1
32	I	133	THR	14.1
32	I	79	ILE	13.7

## 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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> 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	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
1	1MA	0	628	23/24	0.98	0.14	-	31,33,36,39	0
1	OMU	0	2587	21/22	0.98	0.12	-	35,37,38,39	0
1	OMG	0	2588	24/25	0.97	0.12	-	32,34,38,40	0
1	PSU	0	2621	20/21	0.98	0.12	-	33,36,44,45	0
1	UR3	0	2619	21/22	0.98	0.14	-	42,46,49,51	0

## 6.3 Carbohydrates ⓘ

There are no carbohydrates 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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> 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	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
35	NA	0	9164	1/1	0.62	0.57	84.72	67,67,67,67	0
37	SR	0	9500	1/1	0.17	1.75	75.02	200,200,200,200	0
35	NA	0	9125	1/1	0.90	1.02	61.89	106,106,106,106	0
35	NA	0	9120	1/1	0.94	0.31	32.27	61,61,61,61	0
37	SR	B	9521	1/1	0.21	0.72	25.64	200,200,200,200	0
33	MG	0	8084	1/1	0.92	0.54	25.46	109,109,109,109	0
35	NA	0	9185	1/1	0.81	0.56	25.07	54,54,54,54	0
35	NA	0	9161	1/1	0.95	0.31	24.87	57,57,57,57	0
35	NA	0	9177	1/1	0.93	0.40	23.02	70,70,70,70	0
35	NA	0	9168	1/1	0.84	0.28	21.30	72,72,72,72	0
35	NA	0	9172	1/1	0.82	0.42	19.83	68,68,68,68	0
35	NA	0	9150	1/1	0.87	0.33	19.39	54,54,54,54	0
35	NA	0	9173	1/1	0.90	0.39	18.81	66,66,66,66	0
35	NA	0	9162	1/1	0.98	0.29	17.10	51,51,51,51	0
37	SR	0	9406	1/1	1.00	0.17	15.65	33,33,33,33	0
35	NA	0	9132	1/1	0.85	0.38	13.99	61,61,61,61	0
35	NA	0	9115	1/1	0.95	0.25	13.20	43,43,43,43	0
33	MG	0	8038	1/1	0.99	0.27	10.83	13,13,13,13	0
35	NA	0	9174	1/1	0.84	0.24	10.73	67,67,67,67	0
33	MG	0	8001	1/1	0.97	0.22	10.33	17,17,17,17	0
35	NA	0	9118	1/1	0.94	0.22	10.06	41,41,41,41	0
33	MG	0	8008	1/1	0.99	0.22	9.53	14,14,14,14	0
33	MG	0	8012	1/1	0.99	0.26	9.24	37,37,37,37	0
34	K	0	9001	1/1	0.87	0.49	8.97	95,95,95,95	0
33	MG	0	8013	1/1	0.85	0.38	8.90	16,16,16,16	0
35	NA	0	9171	1/1	0.52	0.24	7.00	63,63,63,63	0
37	SR	0	9482	1/1	0.94	0.19	6.31	118,118,118,118	0
35	NA	9	9183	1/1	0.82	0.23	6.11	72,72,72,72	0
35	NA	0	9156	1/1	0.97	0.20	5.87	55,55,55,55	0
33	MG	0	8057	1/1	0.88	0.41	5.73	79,79,79,79	0
33	MG	0	8017	1/1	0.98	0.18	5.50	20,20,20,20	0
33	MG	0	8097	1/1	0.94	0.20	4.91	55,55,55,55	0
33	MG	0	8080	1/1	0.92	0.24	4.79	48,48,48,48	0
35	NA	0	9127	1/1	0.94	0.19	4.35	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
33	MG	0	8107	1/1	0.82	0.22	3.32	68,68,68,68	0
35	NA	0	9159	1/1	0.93	0.17	2.78	56,56,56,56	0
33	MG	0	8027	1/1	0.95	0.19	2.77	30,30,30,30	0
37	SR	0	9515	1/1	0.99	0.18	2.40	100,100,100,100	0
37	SR	0	9475	1/1	0.97	0.14	2.30	77,77,77,77	0
33	MG	0	8020	1/1	0.97	0.19	2.19	30,30,30,30	0
35	NA	0	9165	1/1	0.94	0.21	1.50	41,41,41,41	0
37	SR	H	9486	1/1	0.96	0.18	1.45	121,121,121,121	0
35	NA	0	9117	1/1	0.99	0.16	1.35	32,32,32,32	0
37	SR	0	9407	1/1	0.98	0.14	1.34	42,42,42,42	0
35	NA	0	9105	1/1	0.98	0.15	1.26	41,41,41,41	0
33	MG	0	8074	1/1	0.99	0.21	1.20	20,20,20,20	0
37	SR	0	9410	1/1	1.00	0.15	1.16	34,34,34,34	0
33	MG	0	8054	1/1	0.80	0.13	1.14	58,58,58,58	0
36	CL	0	9316	1/1	0.93	0.17	1.12	74,74,74,74	0
33	MG	A	8066	1/1	0.96	0.18	1.02	53,53,53,53	0
35	NA	R	9186	1/1	0.92	0.15	0.99	64,64,64,64	0
33	MG	0	8056	1/1	0.98	0.18	0.96	47,47,47,47	0
36	CL	B	9319	1/1	0.92	0.16	0.91	59,59,59,59	0
35	NA	0	9178	1/1	0.91	0.15	0.81	54,54,54,54	0
34	K	0	9002	1/1	0.91	0.19	0.55	86,86,86,86	0
33	MG	0	8003	1/1	0.96	0.18	0.54	29,29,29,29	0
35	NA	0	9182	1/1	0.82	0.13	0.49	84,84,84,84	0
35	NA	0	9124	1/1	0.90	0.15	0.36	51,51,51,51	0
35	NA	C	9104	1/1	0.97	0.17	0.23	27,27,27,27	0
33	MG	0	8004	1/1	0.99	0.12	0.20	27,27,27,27	0
37	SR	1	9419	1/1	0.99	0.12	0.11	38,38,38,38	0
35	NA	0	9166	1/1	0.91	0.11	-0.12	65,65,65,65	0
33	MG	0	8096	1/1	0.97	0.13	-0.36	44,44,44,44	0
33	MG	0	8002	1/1	0.98	0.13	-0.38	22,22,22,22	0
35	NA	0	9139	1/1	0.96	0.13	-0.50	57,57,57,57	0
36	CL	M	9318	1/1	0.99	0.16	-0.53	37,37,37,37	0
37	SR	F	9595	1/1	0.97	0.14	-0.57	95,95,95,95	0
37	SR	A	9437	1/1	0.97	0.13	-0.57	64,64,64,64	0
35	NA	J	9146	1/1	0.83	0.13	-0.60	62,62,62,62	0
36	CL	J	9321	1/1	0.98	0.12	-0.67	58,58,58,58	0
37	SR	0	9490	1/1	0.96	0.12	-0.72	105,105,105,105	0
35	NA	0	9135	1/1	0.92	0.14	-0.77	46,46,46,46	0
37	SR	0	9509	1/1	0.97	0.12	-0.78	83,83,83,83	0
33	MG	0	8110	1/1	0.98	0.14	-0.82	46,46,46,46	0
37	SR	0	9424	1/1	0.99	0.15	-0.86	43,43,43,43	0
38	CD	U	9201	1/1	0.99	0.09	-0.98	56,56,56,56	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
35	NA	R	9137	1/1	0.95	0.11	-1.00	32,32,32,32	0
37	SR	0	9534	1/1	0.96	0.11	-1.00	106,106,106,106	0
35	NA	Q	9148	1/1	0.98	0.13	-1.01	50,50,50,50	0
38	CD	Z	9203	1/1	0.99	0.07	-1.22	75,75,75,75	0
33	MG	T	8073	1/1	0.94	0.15	-1.24	42,42,42,42	0
33	MG	0	8015	1/1	0.96	0.10	-1.25	29,29,29,29	0
33	MG	0	8088	1/1	0.93	0.06	-1.36	43,43,43,43	0
35	NA	M	9147	1/1	0.98	0.10	-1.42	38,38,38,38	0
35	NA	R	9138	1/1	0.99	0.08	-1.50	52,52,52,52	0
37	SR	0	9451	1/1	0.99	0.09	-1.50	63,63,63,63	0
33	MG	0	8060	1/1	0.95	0.10	-1.55	81,81,81,81	0
37	SR	L	9409	1/1	1.00	0.12	-1.84	36,36,36,36	0
33	MG	0	8067	1/1	0.98	0.12	-1.88	36,36,36,36	0
37	SR	0	9457	1/1	0.99	0.09	-1.99	47,47,47,47	0
36	CL	0	9312	1/1	1.00	0.09	-2.08	45,45,45,45	0
37	SR	0	9442	1/1	0.98	0.11	-2.13	59,59,59,59	0
38	CD	3	9204	1/1	0.99	0.06	-2.15	58,58,58,58	0
33	MG	0	8032	1/1	0.89	0.11	-2.19	36,36,36,36	0
36	CL	3	9304	1/1	0.95	0.11	-2.20	59,59,59,59	0
36	CL	0	9315	1/1	0.96	0.10	-2.43	54,54,54,54	0
36	CL	O	9308	1/1	0.98	0.06	-2.45	67,67,67,67	0
35	NA	0	9131	1/1	0.96	0.11	-2.57	47,47,47,47	0
33	MG	Y	8109	1/1	0.98	0.10	-2.58	38,38,38,38	0
37	SR	0	9455	1/1	0.98	0.10	-2.68	61,61,61,61	0
37	SR	3	9439	1/1	0.99	0.06	-2.75	63,63,63,63	0
37	SR	A	9436	1/1	0.99	0.06	-2.83	57,57,57,57	0
37	SR	0	9468	1/1	0.70	0.05	-2.85	115,115,115,115	0
37	SR	0	9473	1/1	0.99	0.04	-3.12	69,69,69,69	0
37	SR	0	9506	1/1	0.96	0.07	-3.35	86,86,86,86	0
35	NA	0	9123	1/1	0.99	0.10	-3.36	37,37,37,37	0
35	NA	0	9143	1/1	0.97	0.07	-3.38	38,38,38,38	0
37	SR	0	9444	1/1	1.00	0.09	-3.46	47,47,47,47	0
37	SR	0	9453	1/1	0.98	0.09	-3.83	68,68,68,68	0
38	CD	1	9202	1/1	1.00	0.04	-3.86	51,51,51,51	0
33	MG	0	8044	1/1	0.99	0.06	-4.33	42,42,42,42	0
37	SR	0	9483	1/1	0.98	0.08	-4.37	67,67,67,67	0
37	SR	0	9498	1/1	0.99	0.06	-4.95	63,63,63,63	0
37	SR	0	9428	1/1	1.00	0.07	-4.99	43,43,43,43	0
36	CL	0	9305	1/1	0.98	0.07	-5.11	52,52,52,52	0
33	MG	0	8019	1/1	0.96	0.05	-5.22	53,53,53,53	0
37	SR	0	9532	1/1	0.99	0.05	-5.42	100,100,100,100	0
33	MG	0	8112	1/1	0.99	0.04	-5.59	44,44,44,44	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
33	MG	0	8039	1/1	0.96	0.04	-6.54	56,56,56,56	0
37	SR	0	9416	1/1	1.00	0.09	-7.63	45,45,45,45	0
37	SR	0	9456	1/1	0.98	0.06	-8.94	67,67,67,67	0
37	SR	9	9588	1/1	0.86	0.14	-	122,122,122,122	0
36	CL	0	9303	1/1	0.98	0.17	-	49,49,49,49	0
35	NA	0	9126	1/1	0.83	0.14	-	55,55,55,55	0
37	SR	0	9422	1/1	0.99	0.12	-	53,53,53,53	0
33	MG	0	8075	1/1	0.93	0.06	-	37,37,37,37	0
37	SR	0	9425	1/1	0.99	0.09	-	71,71,71,71	0
33	MG	0	8021	1/1	0.87	0.24	-	51,51,51,51	0
37	SR	0	9495	1/1	0.95	0.11	-	88,88,88,88	0
33	MG	K	8069	1/1	0.99	0.21	-	23,23,23,23	0
35	NA	0	9141	1/1	0.87	0.12	-	61,61,61,61	0
35	NA	0	9158	1/1	0.95	0.10	-	62,62,62,62	0
35	NA	0	9130	1/1	0.96	0.09	-	45,45,45,45	0
33	MG	0	8050	1/1	0.71	0.24	-	94,94,94,94	0
35	NA	0	9170	1/1	0.90	0.32	-	75,75,75,75	0
37	SR	0	9423	1/1	0.99	0.10	-	51,51,51,51	0
33	MG	0	8108	1/1	0.39	0.28	-	115,115,115,115	0
35	NA	0	9154	1/1	0.92	0.20	-	51,51,51,51	0
36	CL	R	9306	1/1	0.99	0.16	-	46,46,46,46	0
37	SR	0	9508	1/1	0.99	0.08	-	83,83,83,83	0
35	NA	0	9106	1/1	0.96	0.19	-	37,37,37,37	0
33	MG	0	8029	1/1	0.98	0.22	-	27,27,27,27	0
37	SR	0	9474	1/1	0.96	0.09	-	96,96,96,96	0
37	SR	0	9415	1/1	1.00	0.11	-	50,50,50,50	0
33	MG	0	8030	1/1	0.93	0.04	-	34,34,34,34	0
35	NA	0	9129	1/1	-0.07	0.43	-	88,88,88,88	0
37	SR	0	9529	1/1	0.90	0.10	-	116,116,116,116	0
37	SR	0	9449	1/1	0.99	0.09	-	59,59,59,59	0
37	SR	0	9478	1/1	0.98	0.07	-	70,70,70,70	0
33	MG	0	8059	1/1	0.77	0.27	-	60,60,60,60	0
33	MG	0	8022	1/1	0.73	0.55	-	113,113,113,113	0
37	SR	0	9420	1/1	0.99	0.15	-	60,60,60,60	0
33	MG	0	8058	1/1	0.92	0.47	-	85,85,85,85	0
37	SR	0	9501	1/1	0.50	0.33	-	200,200,200,200	0
37	SR	0	9488	1/1	0.98	0.13	-	78,78,78,78	0
33	MG	0	8061	1/1	0.63	0.13	-	81,81,81,81	0
37	SR	0	9505	1/1	0.93	0.14	-	104,104,104,104	0
37	SR	0	9570	1/1	0.97	0.07	-	96,96,96,96	0
37	SR	0	9452	1/1	0.89	0.19	-	114,114,114,114	0
35	NA	0	9175	1/1	0.93	0.19	-	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
37	SR	0	9629	1/1	0.97	0.10	-	69,69,69,69	0
37	SR	0	9440	1/1	0.99	0.04	-	63,63,63,63	0
37	SR	0	9443	1/1	0.99	0.10	-	59,59,59,59	0
35	NA	0	9140	1/1	0.86	0.34	-	61,61,61,61	0
37	SR	0	9484	1/1	0.29	0.16	-	150,150,150,150	0
37	SR	0	9626	1/1	0.95	0.30	-	140,140,140,140	0
36	CL	0	9317	1/1	0.99	0.08	-	49,49,49,49	0
37	SR	0	9480	1/1	0.99	0.06	-	86,86,86,86	0
35	NA	0	9111	1/1	0.77	0.21	-	57,57,57,57	0
35	NA	0	9136	1/1	0.97	0.11	-	31,31,31,31	0
35	NA	0	9102	1/1	0.95	0.20	-	58,58,58,58	0
37	SR	0	9568	1/1	0.98	0.08	-	75,75,75,75	0
37	SR	0	9601	1/1	0.06	1.54	-	200,200,200,200	0
33	MG	0	8106	1/1	0.99	0.03	-	37,37,37,37	0
33	MG	0	8052	1/1	0.62	0.30	-	72,72,72,72	0
38	CD	O	9205	1/1	0.95	0.05	-	85,85,85,85	0
33	MG	0	8041	1/1	0.94	0.12	-	47,47,47,47	0
35	NA	0	9134	1/1	0.95	0.07	-	47,47,47,47	0
33	MG	0	8045	1/1	0.94	0.22	-	75,75,75,75	0
35	NA	0	9113	1/1	0.80	0.15	-	64,64,64,64	0
35	NA	0	9110	1/1	0.85	0.20	-	49,49,49,49	0
35	NA	D	9151	1/1	0.91	0.12	-	63,63,63,63	0
37	SR	0	9445	1/1	0.99	0.10	-	62,62,62,62	0
37	SR	0	9426	1/1	0.98	0.08	-	66,66,66,66	0
37	SR	0	9461	1/1	0.99	0.04	-	73,73,73,73	0
37	SR	0	9405	1/1	0.97	0.14	-	54,54,54,54	0
37	SR	0	9414	1/1	0.98	0.12	-	53,53,53,53	0
37	SR	0	9448	1/1	0.98	0.07	-	62,62,62,62	0
36	CL	0	9311	1/1	0.97	0.09	-	56,56,56,56	0
37	SR	0	9408	1/1	0.99	0.15	-	38,38,38,38	0
33	MG	0	8065	1/1	0.87	0.32	-	92,92,92,92	0
33	MG	0	8063	1/1	0.96	0.07	-	74,74,74,74	0
33	MG	0	8068	1/1	0.98	0.14	-	47,47,47,47	0
35	NA	0	9116	1/1	0.97	0.27	-	45,45,45,45	0
35	NA	0	9108	1/1	0.96	0.12	-	34,34,34,34	0
33	MG	0	8070	1/1	0.99	0.18	-	21,21,21,21	0
33	MG	0	8089	1/1	0.94	0.12	-	61,61,61,61	0
37	SR	R	9418	1/1	0.99	0.15	-	53,53,53,53	0
37	SR	0	9438	1/1	0.98	0.09	-	63,63,63,63	0
36	CL	L	9310	1/1	0.96	0.09	-	56,56,56,56	0
35	NA	0	9114	1/1	0.97	0.19	-	51,51,51,51	0
33	MG	0	8046	1/1	0.96	0.08	-	40,40,40,40	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
36	CL	J	9301	1/1	0.96	0.09	-	55,55,55,55	0
33	MG	0	8036	1/1	0.96	0.09	-	63,63,63,63	0
37	SR	0	9462	1/1	0.99	0.12	-	66,66,66,66	0
37	SR	0	9447	1/1	0.96	0.10	-	66,66,66,66	0
33	MG	0	8072	1/1	0.95	0.25	-	74,74,74,74	0
33	MG	0	8090	1/1	0.87	0.25	-	81,81,81,81	0
37	SR	0	9466	1/1	0.96	0.04	-	87,87,87,87	0
33	MG	0	8079	1/1	0.97	0.14	-	30,30,30,30	0
33	MG	0	8031	1/1	0.98	0.13	-	48,48,48,48	0
37	SR	0	9467	1/1	0.97	0.10	-	74,74,74,74	0
37	SR	0	9450	1/1	0.99	0.08	-	64,64,64,64	0
37	SR	0	9517	1/1	0.97	0.06	-	96,96,96,96	0
33	MG	0	8037	1/1	0.98	0.06	-	40,40,40,40	0
37	SR	9	9503	1/1	0.96	0.03	-	109,109,109,109	0
37	SR	S	9470	1/1	0.99	0.14	-	95,95,95,95	0
37	SR	0	9431	1/1	0.96	0.14	-	55,55,55,55	0
37	SR	0	9441	1/1	0.98	0.08	-	54,54,54,54	0
35	NA	0	9107	1/1	0.93	0.23	-	58,58,58,58	0
36	CL	J	9302	1/1	0.92	0.11	-	55,55,55,55	0
33	MG	0	8114	1/1	0.78	0.17	-	83,83,83,83	0
37	SR	0	9427	1/1	0.98	0.12	-	53,53,53,53	0
33	MG	0	8042	1/1	0.90	0.06	-	53,53,53,53	0
37	SR	0	9432	1/1	0.98	0.12	-	63,63,63,63	0
33	MG	0	8082	1/1	0.68	0.48	-	103,103,103,103	0
35	NA	0	9179	1/1	0.92	0.82	-	84,84,84,84	0
33	MG	0	8014	1/1	0.77	0.30	-	78,78,78,78	0
33	MG	B	8055	1/1	0.85	0.26	-	104,104,104,104	0
37	SR	1	9460	1/1	0.98	0.12	-	49,49,49,49	0
33	MG	0	8099	1/1	0.93	0.17	-	77,77,77,77	0
37	SR	0	9465	1/1	0.97	0.08	-	96,96,96,96	0
36	CL	0	9322	1/1	0.94	0.10	-	54,54,54,54	0
33	MG	0	8028	1/1	0.98	0.10	-	34,34,34,34	0
33	MG	0	8115	1/1	0.94	0.14	-	53,53,53,53	0
35	NA	0	9163	1/1	0.82	0.32	-	77,77,77,77	0
33	MG	0	8085	1/1	0.92	0.41	-	102,102,102,102	0
37	SR	0	9547	1/1	0.71	0.52	-	200,200,200,200	0
37	SR	0	9454	1/1	0.97	0.09	-	73,73,73,73	0
33	MG	0	8043	1/1	0.94	0.07	-	47,47,47,47	0
37	SR	0	9429	1/1	0.99	0.11	-	63,63,63,63	0
37	SR	0	9413	1/1	0.99	0.12	-	44,44,44,44	0
37	SR	0	9566	1/1	0.98	0.07	-	75,75,75,75	0
35	NA	0	9149	1/1	0.95	0.14	-	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
33	MG	0	8103	1/1	0.87	0.31	-	79,79,79,79	0
35	NA	0	9101	1/1	0.93	0.16	-	43,43,43,43	0
33	MG	0	8116	1/1	0.97	0.04	-	51,51,51,51	0
37	SR	0	9434	1/1	0.99	0.15	-	58,58,58,58	0
37	SR	0	9417	1/1	0.98	0.13	-	53,53,53,53	0
37	SR	0	9477	1/1	0.97	0.10	-	82,82,82,82	0
37	SR	0	9522	1/1	0.93	0.06	-	104,104,104,104	0
37	SR	9	9481	1/1	0.98	0.06	-	83,83,83,83	0
37	SR	B	9458	1/1	0.98	0.09	-	73,73,73,73	0
33	MG	0	8102	1/1	0.92	0.15	-	70,70,70,70	0
35	NA	0	9181	1/1	0.82	0.12	-	48,48,48,48	0
33	MG	0	8040	1/1	0.87	0.34	-	94,94,94,94	0
33	MG	0	8104	1/1	0.79	0.33	-	83,83,83,83	0
36	CL	0	9313	1/1	0.98	0.11	-	51,51,51,51	0
37	SR	0	9459	1/1	0.96	0.07	-	96,96,96,96	0
37	SR	0	9590	1/1	0.72	0.09	-	142,142,142,142	0
33	MG	0	8098	1/1	0.92	0.08	-	43,43,43,43	0
36	CL	N	9307	1/1	0.93	0.12	-	54,54,54,54	0
35	NA	0	9122	1/1	0.34	0.45	-	98,98,98,98	0
33	MG	0	8051	1/1	0.95	0.29	-	22,22,22,22	0
33	MG	0	8117	1/1	0.98	0.11	-	39,39,39,39	0
33	MG	0	8094	1/1	0.54	0.39	-	82,82,82,82	0
35	NA	0	9152	1/1	0.83	0.37	-	67,67,67,67	0
37	SR	A	9497	1/1	0.98	0.11	-	85,85,85,85	0
33	MG	0	8005	1/1	0.98	0.09	-	29,29,29,29	0
35	NA	0	9184	1/1	0.55	0.29	-	86,86,86,86	0
37	SR	0	9581	1/1	0.73	0.07	-	134,134,134,134	0
37	SR	0	9469	1/1	0.99	0.04	-	85,85,85,85	0
37	SR	0	9464	1/1	0.98	0.06	-	80,80,80,80	0
33	MG	0	8083	1/1	0.92	0.07	-	51,51,51,51	0
33	MG	0	8101	1/1	0.81	0.12	-	51,51,51,51	0
33	MG	0	8092	1/1	0.57	1.62	-	83,83,83,83	0
35	NA	0	9167	1/1	0.97	0.06	-	50,50,50,50	0
37	SR	0	9435	1/1	0.99	0.07	-	68,68,68,68	0
33	MG	0	8025	1/1	0.90	0.34	-	23,23,23,23	0
37	SR	0	9489	1/1	0.94	0.08	-	87,87,87,87	0
35	NA	3	9169	1/1	0.93	0.41	-	102,102,102,102	0
35	NA	0	9128	1/1	0.99	0.13	-	40,40,40,40	0
33	MG	0	8026	1/1	0.99	0.18	-	26,26,26,26	0
37	SR	0	9539	1/1	0.81	0.37	-	167,167,167,167	0
33	MG	0	8024	1/1	0.88	0.91	-	90,90,90,90	0
33	MG	0	8076	1/1	0.95	0.21	-	55,55,55,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
35	NA	0	9155	1/1	0.96	0.23	-	54,54,54,54	0
33	MG	0	8093	1/1	0.95	0.14	-	42,42,42,42	0
35	NA	S	9112	1/1	0.46	0.16	-	74,74,74,74	0
33	MG	9	8095	1/1	0.87	0.24	-	44,44,44,44	0
33	MG	0	8091	1/1	0.90	0.07	-	56,56,56,56	0
36	CL	Y	9320	1/1	0.97	0.10	-	42,42,42,42	0
37	SR	0	9430	1/1	1.00	0.14	-	41,41,41,41	0
33	MG	0	8047	1/1	0.65	0.52	-	94,94,94,94	0
37	SR	0	9585	1/1	0.97	0.08	-	86,86,86,86	0
37	SR	0	9446	1/1	0.97	0.10	-	80,80,80,80	0
36	CL	A	9309	1/1	0.99	0.17	-	64,64,64,64	0
37	SR	0	9545	1/1	0.99	0.05	-	67,67,67,67	0
33	MG	0	8009	1/1	0.95	0.07	-	31,31,31,31	0
35	NA	0	9157	1/1	0.93	0.16	-	41,41,41,41	0
37	SR	0	9560	1/1	0.97	0.08	-	97,97,97,97	0
35	NA	0	9160	1/1	0.94	0.15	-	42,42,42,42	0
37	SR	0	9504	1/1	0.91	0.10	-	92,92,92,92	0
37	SR	0	9537	1/1	0.60	0.17	-	152,152,152,152	0
33	MG	0	8113	1/1	0.92	0.08	-	45,45,45,45	0
37	SR	0	9421	1/1	0.97	0.10	-	65,65,65,65	0
37	SR	0	9412	1/1	0.98	0.12	-	43,43,43,43	0
37	SR	0	9433	1/1	0.97	0.11	-	73,73,73,73	0
37	SR	0	9411	1/1	0.99	0.16	-	42,42,42,42	0
36	CL	0	9314	1/1	0.97	0.06	-	47,47,47,47	0
37	SR	0	9530	1/1	0.95	0.12	-	94,94,94,94	0

## 6.5 Other polymers

There are no such residues in this entry.