



# wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 28, 2023 – 07:21 pm GMT

PDB ID : 4V5B  
Title : Structure of PDF binding helix in complex with the ribosome.  
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Deposited on : 2007-11-22  
Resolution : 3.74 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

<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>.

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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  
Xtriage (Phenix) : 1.13  
EDS : 2.32.1  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.32.1

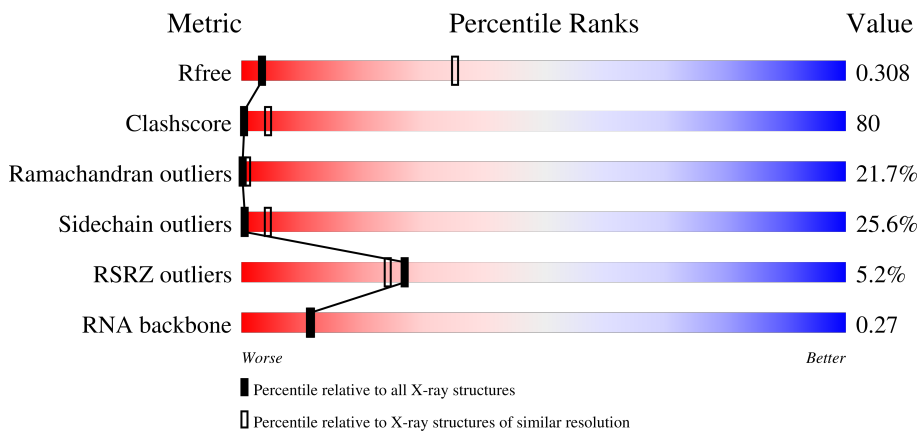
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.74 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))
$R_{free}$	130704	1001 (3.90-3.58)
Clashscore	141614	1063 (3.90-3.58)
Ramachandran outliers	138981	1027 (3.90-3.58)
Sidechain outliers	138945	1023 (3.90-3.58)
RSRZ outliers	127900	1006 (3.92-3.56)
RNA backbone	3102	1028 (4.46-3.00)

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  $\geq 3$ , 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	A0	56	9% (Poor fit) 16% (0 outliers) 43% (1 outlier) 38% (2 outliers) 0% (3+ outliers)
1	C0	56	9% (Poor fit) 12% (0 outliers) 41% (1 outlier) 46% (2 outliers) 0% (3+ outliers)
2	A1	54	17% (Poor fit) 15% (0 outliers) 48% (1 outlier) 33% (2 outliers) 0% (3+ outliers)
2	C1	54	17% (Poor fit) 11% (0 outliers) 44% (1 outlier) 39% (2 outliers) 6% (3+ outliers)

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Mol	Chain	Length	Quality of chain
3	A2	46	
3	C2	46	
4	A3	64	
4	C3	64	
5	A4	38	
5	C4	38	
6	A5	16	
7	AA	120	
7	CA	120	
8	AB	2904	
8	CB	2904	
9	AC	273	
9	CC	273	
10	AD	209	
10	CD	209	
11	AE	201	
11	CE	201	
12	AF	178	
12	CF	178	
13	AG	176	
13	CG	176	
14	AH	149	
14	CH	149	
15	AI	141	
15	CI	141	

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Mol	Chain	Length	Quality of chain
16	AJ	142	
16	CJ	142	
17	AK	123	
17	CK	123	
18	AL	144	
18	CL	144	
19	AM	136	
19	CM	136	
20	AN	127	
20	CN	127	
21	AO	117	
21	CO	117	
22	AP	114	
22	CP	114	
23	AQ	117	
23	CQ	117	
24	AR	103	
24	CR	103	
25	AS	110	
25	CS	110	
26	AT	100	
26	CT	100	
27	AU	103	
27	CU	103	
28	AV	94	

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Mol	Chain	Length	Quality of chain
28	CV	94	4% 22% 53% 24%
29	AW	84	19% 10% 42% 35% 14%
29	CW	84	14% 7% 42% 35% 17%
30	AX	63	6% 17% 41% 35% 6%
30	CX	63	14% 16% 51% 25% 8%
31	AY	58	26% 12% 48% 33% 7%
31	CY	58	12% 14% 52% 28% 7%
32	AZ	70	7% 14% 41% 34% 10%
32	CZ	70	4% 11% 50% 33% 6%
33	BA	1542	% 5% 46% 38% 10% .
33	DA	1542	% 41% 38% 16% .
34	BB	240	3% 22% 49% 19% . 9%
34	DB	240	7% 22% 44% 22% . 9%
35	BC	232	9% 19% 52% 17% . 11%
35	DC	232	4% 14% 53% 20% . 11%
36	BD	205	19% 57% 23% .
36	DD	205	% 17% 51% 29% .
37	BE	166	7% 16% 49% 25% . 9%
37	DE	166	3% 13% 54% 22% . 9%
38	BF	135	4% 20% 39% 15% . 25%
38	DF	135	% 13% 38% 21% . 25%
39	BG	178	13% 30% 40% 15% 15%
39	DG	178	3% 25% 43% 15% . 14%
40	BH	129	6% 23% 57% 20%
40	DH	129	2% 19% 55% 23% .

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Mol	Chain	Length	Quality of chain
41	BI	129	
41	DI	129	
42	BJ	103	
42	DJ	103	
43	BK	128	
43	DK	128	
44	BL	123	
44	DL	123	
45	BM	117	
45	DM	117	
46	BN	100	
46	DN	100	
47	BO	89	
47	DO	89	
48	BP	82	
48	DP	82	
49	BQ	83	
49	DQ	83	
50	BR	74	
50	DR	74	
51	BS	91	
51	DS	91	
52	BT	86	
52	DT	86	
53	BU	71	

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Mol	Chain	Length	Quality of chain
53	DU	71	

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
54	MG	BA	4053	-	-	-	X
54	MG	DA	1612	-	-	-	X

## 2 Entry composition [i](#)

There are 55 unique types of molecules in this entry. The entry contains 284264 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 L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A0	56	Total 444	C 269	N 94	O 80	S 1	0	0	0
1	C0	56	Total 444	C 269	N 94	O 80	S 1	0	0	0

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
2	A1	54	Total 441	C 284	N 81	O 76	0	0	0
2	C1	54	Total 441	C 284	N 81	O 76	0	0	0

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	A2	46	Total 377	C 228	N 90	O 57	S 2	0	0	0
3	C2	46	Total 377	C 228	N 90	O 57	S 2	0	0	0

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	A3	64	Total 504	C 323	N 105	O 74	S 2	0	0	0
4	C3	64	Total 504	C 323	N 105	O 74	S 2	0	0	0

- Molecule 5 is a protein called 50S RIBOSOMAL PROTEIN L36.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	A4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			
5	C4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 6 is a protein called C-TERM HELIX PDF.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
6	A5	16	Total	C	N	O	0	0	0
			134	84	28	22			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A5	146	ALA	LEU	engineered mutation	UNP P0A6K3

- Molecule 7 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AA	117	Total	C	N	O	P	0	0	0
			2507	1116	459	815	117			
7	CA	117	Total	C	N	O	P	0	0	0
			2507	1116	459	815	117			

- Molecule 8 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AB	2841	Total	C	N	O	P	0	0	0
			60995	27210	11229	19715	2841			
8	CB	2841	Total	C	N	O	P	0	0	0
			60995	27210	11229	19715	2841			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AC	268	Total	C	N	O	S	0	0	1
			2054	1271	417	359	7			
9	CC	268	Total	C	N	O	S	0	0	1
			2054	1271	417	359	7			

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AD	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			
10	CD	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			
11	CE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AF	178	Total	C	N	O	S	0	0	0
			1420	905	251	258	6			
12	CF	178	Total	C	N	O	S	0	0	0
			1420	905	251	258	6			

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			
13	CG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AH	149	Total	C	N	O	S	0	0	0
			1111	699	197	214	1			
14	CH	149	Total	C	N	O	S	0	0	0
			1111	699	197	214	1			

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	CI	141	1032	651	179	196	6	0	0	0

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
16	AJ	141	1113	704	211	194	4	0	0	1
16	CJ	141	1113	704	211	194	4	0	0	1

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
17	AK	122	931	582	180	164	5	0	0	1
17	CK	122	931	582	180	164	5	0	0	1

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
18	AL	144	1053	654	207	190	2	0	0	0
18	CL	144	1053	654	207	190	2	0	0	0

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
19	AM	136	1074	686	205	177	6	0	0	0
19	CM	136	1074	686	205	177	6	0	0	0

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
20	AN	127	1008	621	204	178	5	0	0	0
20	CN	127	1008	621	204	178	5	0	0	0

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	AO	117	Total	C	N	O	S	0	0	0
			900	557	179	163	1			
21	CO	117	Total	C	N	O	S	0	0	0
			900	557	179	163	1			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AP	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			
22	CP	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
23	AQ	117	Total	C	N	O	0	0	0
			947	604	192	151			
23	CQ	117	Total	C	N	O	0	0	0
			947	604	192	151			

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	AR	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			
24	CR	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	AS	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			
25	CS	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	AT	100	Total	C	N	O	S	0	0	1
			778	491	146	139	2			
26	CT	100	Total	C	N	O	S	0	0	1
			778	491	146	139	2			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	AU	103	Total	C	N	O	S	0	0	1
			780	492	147	141				
27	CU	103	Total	C	N	O	S	0	0	1
			780	492	147	141				

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	AV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			
28	CV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			

- Molecule 29 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	AW	84	Total	C	N	O	S	0	0	0
			634	391	129	113	1			
29	CW	84	Total	C	N	O	S	0	0	0
			634	391	129	113	1			

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	AX	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			
30	CX	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			

- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	AY	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	CY	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			

- Molecule 32 is a protein called 50S RIBOSOMAL PROTEIN L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	AZ	70	Total	C	N	O	S	0	0	0
			549	339	104	100	6			
32	CZ	70	Total	C	N	O	S	0	0	0
			549	339	104	100	6			

- Molecule 33 is a RNA chain called 16S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	BA	1530	Total	C	N	O	P	0	0	0
			32831	14642	6024	10635	1530			
33	DA	1530	Total	C	N	O	P	0	0	0
			32831	14642	6024	10635	1530			

- Molecule 34 is a protein called 30S RIBOSOMAL PROTEIN S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	BB	219	Total	C	N	O	S	0	0	1
			1705	1081	306	311	7			
34	DB	219	Total	C	N	O	S	0	0	1
			1705	1081	306	311	7			

- Molecule 35 is a protein called 30S RIBOSOMAL PROTEIN S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	BC	207	Total	C	N	O	S	0	0	1
			1625	1028	306	288	3			
35	DC	207	Total	C	N	O	S	0	0	1
			1625	1028	306	288	3			

- Molecule 36 is a protein called 30S RIBOSOMAL PROTEIN S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	BD	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			
36	DD	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			

- Molecule 37 is a protein called 30S RIBOSOMAL PROTEIN S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	BE	151	Total	C	N	O	S	0	0	1
			1106	687	212	201	6			
37	DE	151	Total	C	N	O	S	0	0	1
			1106	687	212	201	6			

- Molecule 38 is a protein called 30S RIBOSOMAL PROTEIN S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	BF	101	Total	C	N	O	S	0	0	1
			818	515	149	148	6			
38	DF	101	Total	C	N	O	S	0	0	1
			818	515	149	148	6			

- Molecule 39 is a protein called 30S RIBOSOMAL PROTEIN S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BG	151	Total	C	N	O	S	0	0	1
			1175	730	227	214	4			
39	DG	153	Total	C	N	O	S	0	0	1
			1197	745	231	217	4			

- Molecule 40 is a protein called 30S RIBOSOMAL PROTEIN S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			
40	DH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			

- Molecule 41 is a protein called 30S RIBOSOMAL PROTEIN S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			
41	DI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			

- Molecule 42 is a protein called 30S RIBOSOMAL PROTEIN S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	BJ	99	Total	C	N	O	S	0	0	1
			787	493	151	142	1			
42	DJ	99	Total	C	N	O	S	0	0	1
			787	493	151	142	1			

- Molecule 43 is a protein called 30S RIBOSOMAL PROTEIN S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	BK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			
43	DK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			

- Molecule 44 is a protein called 30S RIBOSOMAL PROTEIN S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BL	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			
44	DL	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			

- Molecule 45 is a protein called 30S RIBOSOMAL PROTEIN S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	BM	115	Total	C	N	O	S	0	0	1
			884	546	179	156	3			
45	DM	114	Total	C	N	O	S	0	0	1
			877	541	178	155	3			

- Molecule 46 is a protein called 30S RIBOSOMAL PROTEIN S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	BN	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			
46	DN	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			

- Molecule 47 is a protein called 30S RIBOSOMAL PROTEIN S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	BO	88	Total	C	N	O	S	0	0	0
			716	440	146	129	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
47	DO	88	716	440	146	129	1	0	0	0

- Molecule 48 is a protein called 30S RIBOSOMAL PROTEIN S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
48	BP	82	649	406	128	114	1	0	0	0
48	DP	81	639	400	127	111	1	0	0	1

- Molecule 49 is a protein called 30S RIBOSOMAL PROTEIN S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
49	BQ	81	649	411	122	113	3	0	0	1
49	DQ	81	657	417	122	115	3	0	0	0

- Molecule 50 is a protein called 30S RIBOSOMAL PROTEIN S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
50	BR	56	456	288	87	81	0	0	1
50	DR	56	456	288	87	81	0	0	1

- Molecule 51 is a protein called 30S RIBOSOMAL PROTEIN S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
51	BS	80	638	408	121	107	2	0	0	1
51	DS	81	645	413	122	108	2	0	0	1

- Molecule 52 is a protein called 30S RIBOSOMAL PROTEIN S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
52	BT	85	665	411	137	114	3	0	0	0
52	DT	85	665	411	137	114	3	0	0	0

- Molecule 53 is a protein called 30S RIBOSOMAL PROTEIN S21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	BU	52	Total	C	N	O	S	0	0	1
			426	265	87	73	1			
53	DU	52	Total	C	N	O	S	0	0	1
			426	265	87	73	1			

- Molecule 54 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
54	AB	109	Total	Mg	0	0
			109	109		
54	AE	1	Total	Mg	0	0
			1	1		
54	BA	58	Total	Mg	0	0
			58	58		
54	BN	1	Total	Mg	0	0
			1	1		
54	BT	1	Total	Mg	0	0
			1	1		
54	CB	109	Total	Mg	0	0
			109	109		
54	CC	1	Total	Mg	0	0
			1	1		
54	CL	1	Total	Mg	0	0
			1	1		
54	DA	61	Total	Mg	0	0
			61	61		
54	DN	1	Total	Mg	0	0
			1	1		

- Molecule 55 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
55	A2	2	Total	O	0	0
			2	2		
55	AB	489	Total	O	0	0
			489	489		
55	AC	3	Total	O	0	0
			3	3		
55	AD	1	Total	O	0	0
			1	1		
55	AE	3	Total	O	0	0
			3	3		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
55	AJ	2	Total O 2 2	0	0
55	AL	3	Total O 3 3	0	0
55	BA	284	Total O 284 284	0	0
55	BE	3	Total O 3 3	0	0
55	BI	2	Total O 2 2	0	0
55	BK	1	Total O 1 1	0	0
55	BL	2	Total O 2 2	0	0
55	BN	3	Total O 3 3	0	0
55	BP	1	Total O 1 1	0	0
55	BT	2	Total O 2 2	0	0
55	C0	1	Total O 1 1	0	0
55	C2	2	Total O 2 2	0	0
55	CB	485	Total O 485 485	0	0
55	CC	3	Total O 3 3	0	0
55	CD	1	Total O 1 1	0	0
55	CE	1	Total O 1 1	0	0
55	CJ	2	Total O 2 2	0	0
55	CK	1	Total O 1 1	0	0
55	CL	5	Total O 5 5	0	0
55	CN	3	Total O 3 3	0	0
55	CP	1	Total O 1 1	0	0

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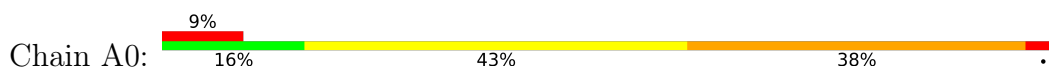
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>ZeroOcc</b>	<b>AltConf</b>
55	CQ	1	Total 1	O 1	0	0
55	CT	2	Total 2	O 2	0	0
55	CU	1	Total 1	O 1	0	0
55	DA	293	Total 293	O 293	0	0
55	DD	1	Total 1	O 1	0	0
55	DE	2	Total 2	O 2	0	0
55	DG	1	Total 1	O 1	0	0
55	DL	4	Total 4	O 4	0	0
55	DN	2	Total 2	O 2	0	0
55	DP	1	Total 1	O 1	0	0
55	DT	3	Total 3	O 3	0	0

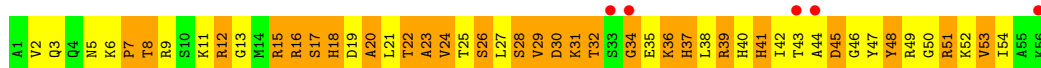
### 3 Residue-property plots [i](#)

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

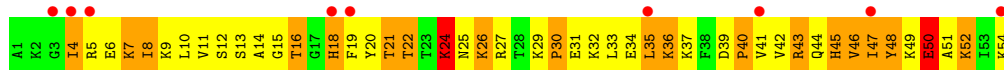
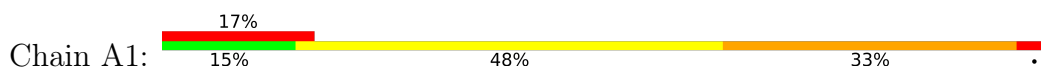
- Molecule 1: 50S RIBOSOMAL PROTEIN L32



- Molecule 1: 50S RIBOSOMAL PROTEIN L32



- Molecule 2: 50S RIBOSOMAL PROTEIN L33



- Molecule 2: 50S RIBOSOMAL PROTEIN L33



- Molecule 3: 50S RIBOSOMAL PROTEIN L34



- Molecule 3: 50S RIBOSOMAL PROTEIN L34





• Molecule 4: 50S RIBOSOMAL PROTEIN L35



• Molecule 4: 50S RIBOSOMAL PROTEIN L35



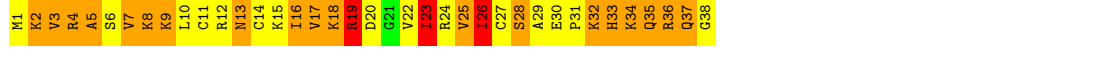
• Molecule 5: 50S RIBOSOMAL PROTEIN L36



• Molecule 5: 50S RIBOSOMAL PROTEIN L36



• Molecule 6: C-TERM HELIX PDF

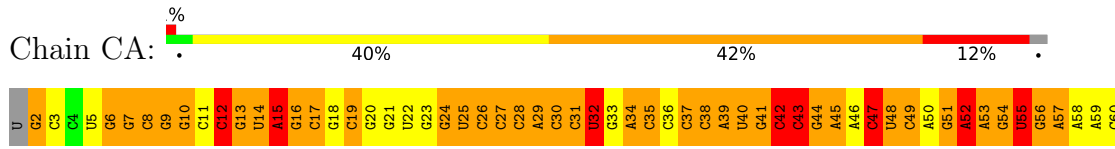


• Molecule 7: 5S RIBOSOMAL RNA

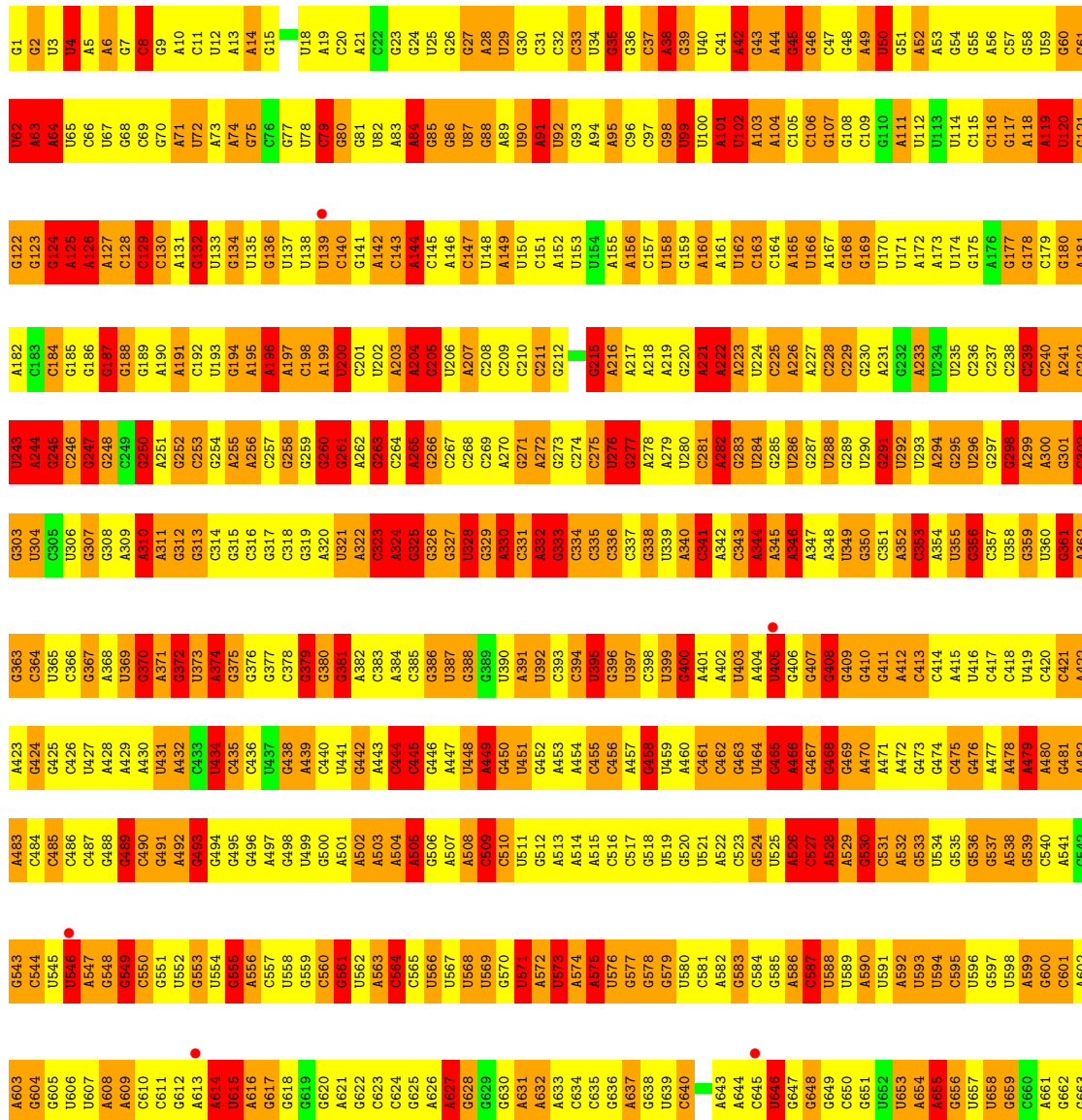




• Molecule 7: 5S RIBOSOMAL RNA



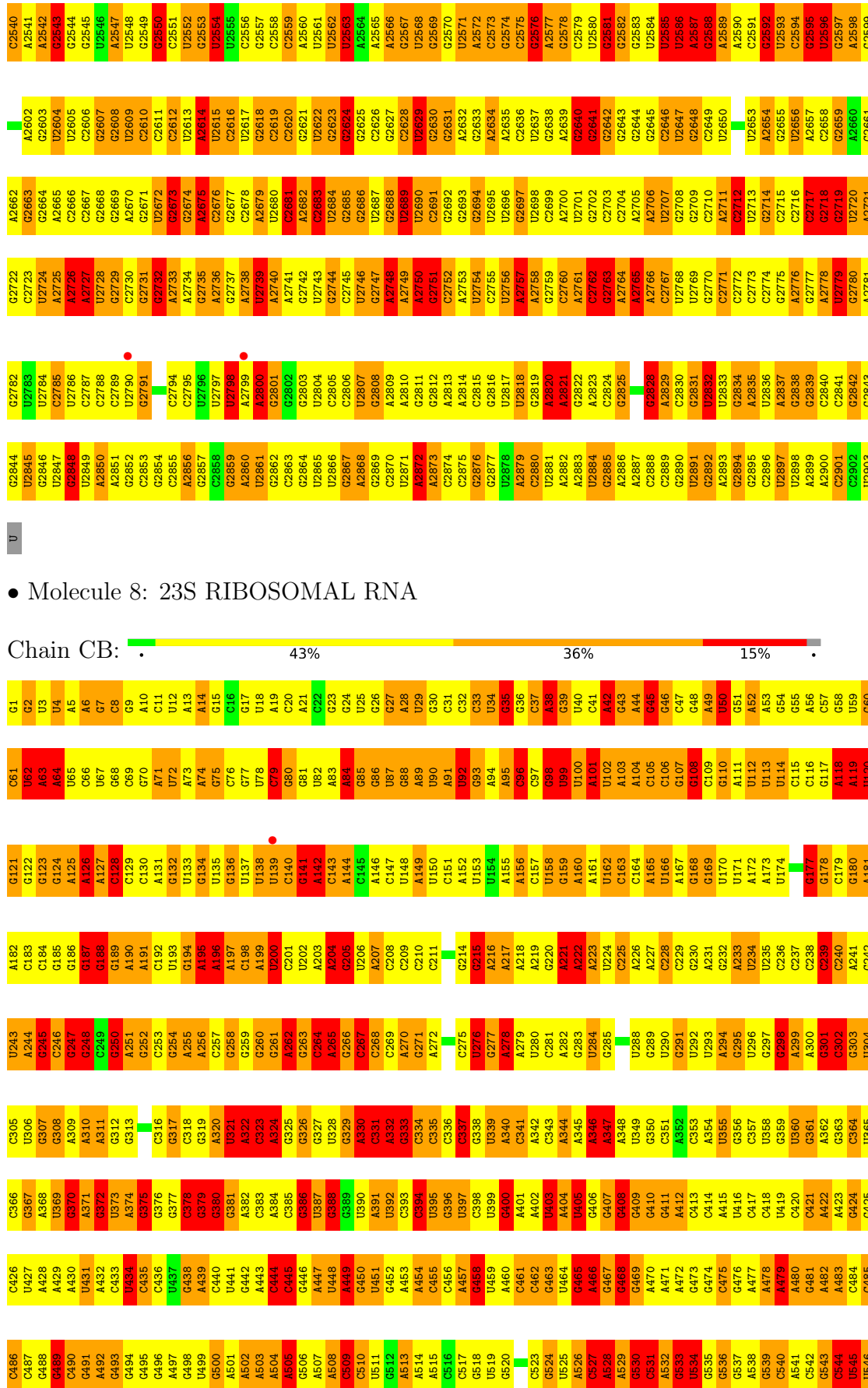
• Molecule 8: 23S RIBOSOMAL RNA



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C1577	G1517	G1450	U1390	C1330	C1270	C1211	A1148	A1086	G1025	C965	A905	A845	G785	G725	U665
U1578	G1518	C1451	U1391	G1331	C1271	C1212	U1149	A1087	G1026	G966	G906	U846	G786	G726	A666
A1579	G1519	G1452	A1392	G1332	A1272	G1213	G1149	A1088	A1027	G967	G907	U847	C787	A727	A667
G1580	U1520	C1453	A1393	G1333	A1273	A1213	C1150	A1089	A1028	C968	C908	C848	A788	G728	A668
A1581	G1521	C1454	U1394	G1334	A1274	A1214	A1151	A1090	A1029	G969	A909	A849	A789	G729	A669
C1582	A1522	G1455	A1385	C1335	A1275	G1215	C1152	G1091	C1030	U970	A910	U850	U790	A730	A670
A1583	U1523	G1456	A1386	C1336	A1276	G1216	C1153	C1092	G1031	G971	A911	C851	C791	C731	C671
U1584	G1524	U1457	U1397	G1337	G1277	G1217	G1154	G1093	A1032	A972	C912	U852	A792	C732	C672
C1585	A1525	G1458	C1398	G1338	C1278	G1218	A1155	G1094	G1033	A973	U913	C853	A793	G733	C673
A1586	U1526	G1459	C1399	G1339	A1279	U1219	A1156	A1095	A1034	A974	U914	C854	A794	A734	G674
G1587	G1527	U1460	U1400	U1400	G1280	G1220	G1157	A1096	U1035	A975	C915	C855	C795	A735	A675
A1588	C1461	C1461	G1401	G1401	G1281	C1221	G1158	U1097	G1036	G976	G916	C856	C796	C736	A676
U1589	U1529	C1462	U1402	A1342	U1282	U1222	U1159	A1098	G1037	G977	A917	C857	C797	C737	A677
A1590	G1530	G1463	A1403	G1343	G1283	G1223	G1160	G1099	G1038	A978	U918	C858	G798	G738	C678
U1591	U1531	G1465	C1404	G1344	A1284	U1224	C1161	C1100	A1039	A979	U919	C859	G799	A739	C679
A1592	U1532	U1466	U1405	G1345	A1285	G1225	G1162	U1101	A1040	A980	A920	U860	A800	C740	C680
A1593	C1533	U1467	U1406	G1346	A1286	G1226	G1163	C1102	G1041	A981	C921	A861	G801	U741	G681
U1594	U1534	A1469	G1407	A1347	A1287	G1227	C1164	A1103	G1042	C982	C922	C862	A802	A742	G682
C1595	A1535	A1470	G1408	C1348	G1288	G1228	A1165	C1104	C1043	A983	G923	A863	U803	A743	G683
A1596	U1536	A1471	U1409	C1349	G1289	G1229	G1166	U1105	U1044	A984	G924	C864	A804	U744	G684
U1597	G1537	G1472	G1410	C1350	C1290	U1230	C1167	G1106	C1045	C985	A925	C865	G805	G745	A685
A1598	U1538	G1473	U1411	C1351	C1291	U1231	G1168	G1107	A1046	C986	G926	A866	C806	U746	A686
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C1600	G1540	G1475	A1413	A1353	C1293	G1233	C1170	C1109	A1048	A988	A928	C868	G808	G748	U688
G1601	C1541	U1476	G1414	A1354	U1294	U1234	C1172	G1110	C1049	C989	U929	C869	G809	A749	A689
U1602	U1542	A1477	U1415	G1355	C1295	G1235	U1173	A1111	A1050	A990	G930	U870	U810	A750	G690
A1603	G1543	G1478	G1416	G1356	G1296	G1236	U1174	G1112	G1051	C991	U931	U871	U811	A751	C691
C1604	U1544	G1479	C1417	G1357	C1297	A1237	A1175	U1113	C1052	C992	U932	U872	C812	A752	C692
A1605	A1545	C1480	G1418	G1358	C1298	G1238	U1176	C1114	C1053	C993	U933	U873	U813	A753	A693
U1606	G1546	U1481	A1419	A1359	G1299	G1239	G1177	G1115	A1054	C994	U934	C874	C814	U754	U694
C1607	C1547	G1482	A1420	G1360	G1300	U1240	C1178	G1116	G1055	C995	G935	C875	C815	U755	G695
A1608	U1548	G1483	G1421	G1361	A1301	A1241	G1179	C1117	G1056	A996	A936	C876	C816	A756	G696
U1609	A1549	U1484	G1422	C1362	A1302	U1242	U1180	C1118	U1058	C997	C937	A877	C817	U757	C697
A1610	U1550	G1485	G1423	G1363	G1303	C1243	U1181	U1119	G1059	C998	G938	A878	G818	C758	C698
C1611	A1551	U1486	G1424	G1364	A1304	A1244	G1182	G1120	C1060	C999	G939	G	A819	G759	A699
U1612	U1552	U1487	G1425	A1365	C1305	G1245	U1183	C1121	U1061	U1000	G940	G	A820	G760	G700
G1613	A1553	C1488	G1426	A1366	C1306	A1246	U1184	G1122	U1062	A1001	A941	G	A821	A761	G701
A1614	U1554	C1489	A1427	A1367	A1307	A1247	G1185	G1123	G1062	G1002	G942	G	G822	U762	U702
U1615	G1555	A1490	C1428	G1368	A1308	G1248	G1186	C1124	G1063	U1003	G943	G	C823	G763	G703
A1616	C1556	G1491	G1429	G1369	G1309	U1249	G1187	G1125	C1064	G1004	C944	U	U824	A764	G704
C1617	U1557	G1492	G1430	C1370	G1310	G1250	U1188	A1126	U1065	C1005	A945	C	A825	A765	A705
A1618	C1558	C1493	A1431	G1371	G1311	C1251	A1189	A1127	U1066	U1006	C946	A	U826	U766	A706
G1619	U1559	A1494	G1432	U1372	G1312	G1252	G1190	G1128	A1067	C1007	A947	U	U827	U767	G707
U1620	G1560	A1495	A1433	A1373	U1313	U1253	G1191	A1129	G1068	A1008	C948	C	U828	G768	G708
G1621	C1561	U1496	A1434	G1374	C1314	A1254	G1192	U1130	A1069	A1009	G949	C	A829	U769	U709
A1622	U1562	U1497	G1435	U1375	C1315	U1255	G1193	G1131	A1070	A1010	G950	C	G830	G770	U710
G1623	C1563	C1498	G1436	G1376	U1316	G1256	A1194	U1132	G1071	G1011	C951	C	G831	G771	G711
U1624	U1564	C1499	C1437	G1377	G1317	C1257	G1195	A1133	C1072	U1012	G952	A	U832	C772	G712
C1625	U1565	G1498	U1438	A1378	U1318	U1258	C1196	A1134	G1073	C1013	G953	C	A833	U773	G713
A1626	A1566	A1503	U1439	U1379	C1319	G1259	G1197	C1135	C1075	A1014	G954	U	G834	G774	U714
G1627	G1567	A1504	U1440	G1380	C1320	A1260	U1198	G1136	G1076	U1015	U955	U	C835	A775	A715
C1628	U1568	A1505	G1441	U1381	A1321	C1261	U1199	G1137	A1077	G1016	G956	A	G836	G776	A716
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A1630	C1570	G1507	U1443	G1383	C1323	U1263	U1201	G1139	G1079	U1018	U958	C898	C838	U778	A718
G1631	A1571	A1508	G1444	A1384	G1324	A1264	U1202	C1140	A1080	U1019	A959	A899	U839	U779	C719
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A1633	G1573	U1510	G1446	C1386	U1326	G1266	A1204	A1142	U1082	A1021	C961	C901	G841	A781	A721
U1634	C1574	G1447	U1447	A1387	A1327	U1267	A1205	A1143	U1083	U1022	G962	C902	U842	A782	A722
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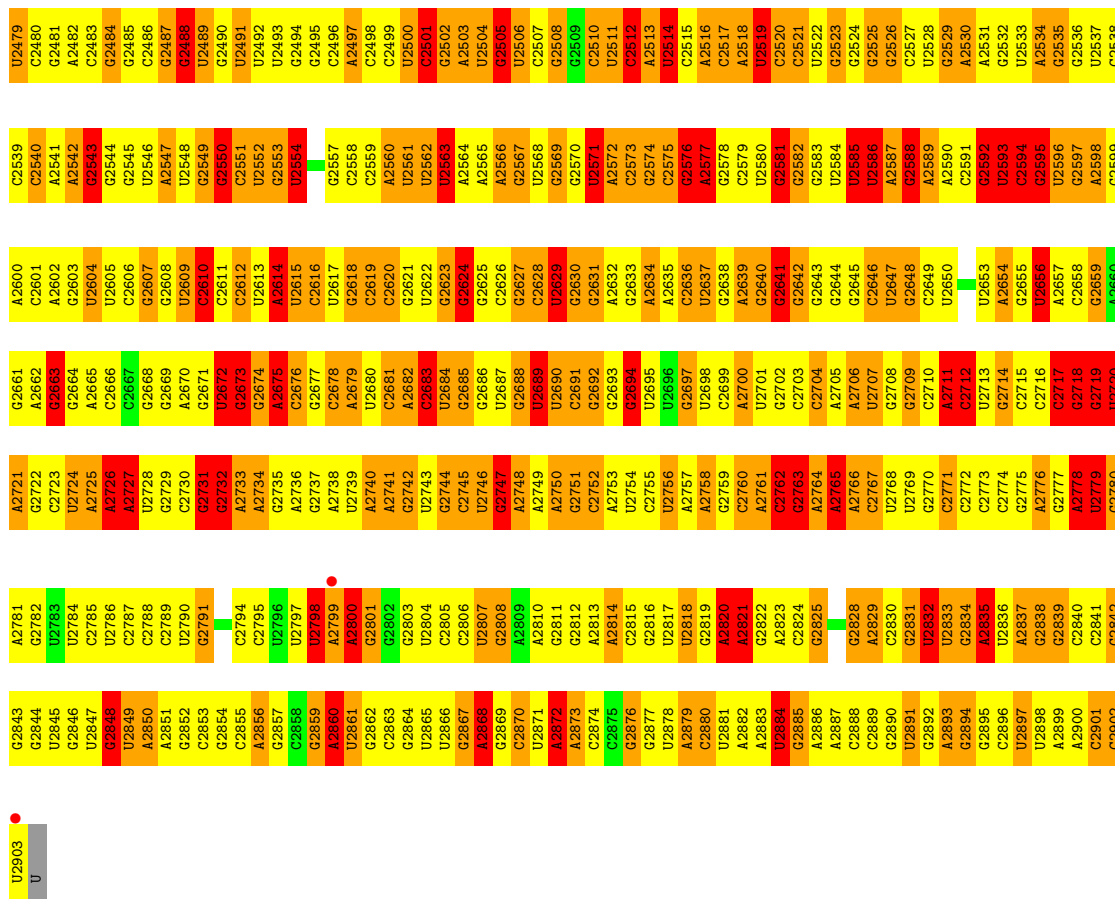




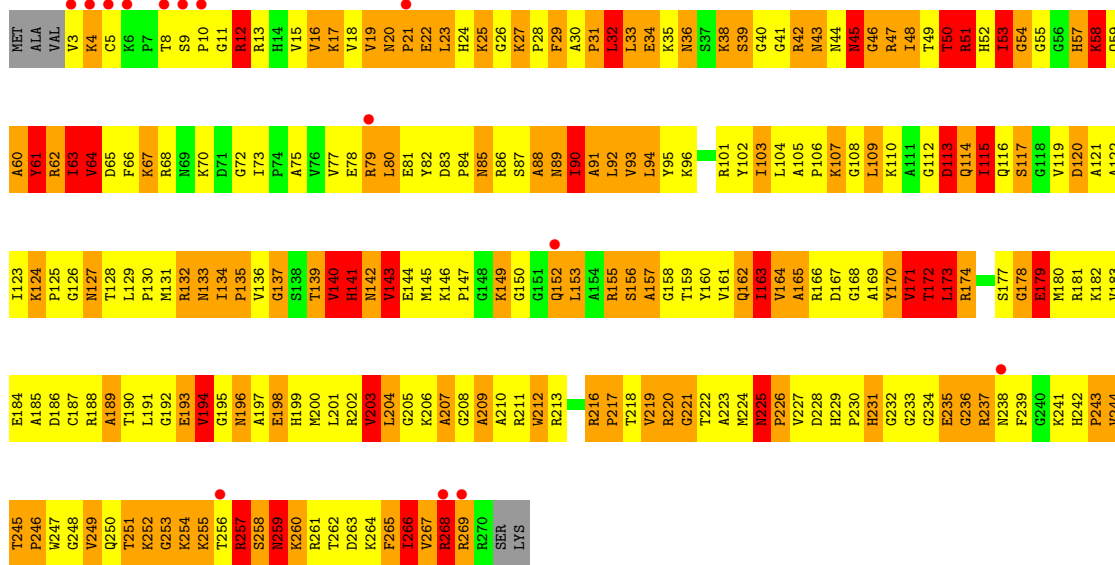




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C2422	C2362	U2302	A2242	U2182	C1940	U1818	U1758	G1698	A1637	C1577	G1517
U2423	G2363	G2303	U2243	A2183	C1942	A1819	C1759	G1699	C1638	U1578	C1518
C2424	C2364	C2304	U2244	A2184	U2043	U1820	C1760	A1700	C1639	U1579	C1519
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A2426	A2366	C2306	G2246	G2186	U1945	C1822	A1762	G1702	A1641	G1581	U1521
G2427	G2367	U2307	G2247	G2187	G2067	G1823	G1763	G1703	G1642	A1582	A1522
G2428	G2368	G2308	U2248	U2188	U2068	U1824	C1764	G1704	C1643	A1583	A1523
A2429	A2369	A2309	U2249	G2189	G2069	U1825	U1765	A1705	C1644	U1584	U1524
G2430	C2370	C2310	G2250	A2190	A2070	G1888	G1766	G1706	G1645	A1585	A1525
U2431	G2371	U2311	A2251	U2191	A2071	A1889	G1767	G1707	G1646	A1586	C1526
A2432	U2372	U2312	G2252	U2192	C2072	A1890	C1768	C1708	U1647	G1587	G1527
A2433	G2373	A2313	G2253	G2193	A1929	A1891	U1769	U1709	U1648	A1588	A1528
A2434	A2374	C2314	G2254	G2194	U2073	G1892	U1770	G1710	G1649	U1589	A1529
A2435	G2375	G2315	G2255	U2195	U2074	A1953	C1771	G1711	G1650	A1590	G1530
G2436	G2376	G2316	A2256	U2196	U2075	G1954	C1772	A1712	A1651	A1591	C1531
G2437	A2377	A2317	U2257	U2197	U2076	U1955	U1773	U1713	G1652	A1592	A1532
A2438	A2378	G2318	G2258	A2198	A2077	U1956	C1774	U1714	G1653	A1593	C1533
U2439	G2379	U2319	G2259	A2199	C2078	C1957	C1775	U1715	A1654	U1594	U1534
C2440	C2380	U2320	C2260	C2200	A2080	A1959	U1776	U1716	A1655	C1595	A1535
U2441	A2381	U2321	C2261	U2201	U2081	A1960	U1777	A1717	A1656	A1596	A1536
C2442	G2382	A2322	U2262	A2142	A2082	U2022	U1778	G1718	U1657	A1597	G1537
C2443	G2383	G2323	C2263	C2143	G2083	C1961	U1779	G1719	C1658	G1538	U1538
U2444	U2384	U2324	C2264	G2144	G2084	G1962	A1780	U1720	G1659	U1539	U1539
G2445	G2385	G2325	U2265	C2145	U2085	U1970	U1781	G1721	G1660	C1600	G1540
G2446	A2386	C2326	A2266	C2146	U2086	C1965	U1782	A1722	G1661	C1601	C1541
G2447	U2387	A2327	A2267	A2147	G2087	A1967	G1783	G1723	U1662	U1602	U1542
A2448	A2388	A2328	A2268	C2148	A2088	G1968	A1784	G1724	G1663	A1603	G1543
U2449	G2389	U2329	G2269	U2149	C2089	A1969	U1785	U1725	A1664	C1604	A1544
A2450	U2390	G2330	A2270	C2150	A2090	A2080	U1786	C1726	A1665	C1605	A1545
A2451	G2391	A2331	G2271	U2151	C2091	U1971	U1787	G1727	G1666	C1606	G1546
A2452	C2392	C2332	U2272	C2152	U2092	G1972	C1788	C1728	U1667	C1607	C1547
A2453	U2393	A2333	A2273	G2153	G2093	A1973	U1911	U1729	A1668	A1608	A1548
G2454	C2394	U2334	A2274	A2154	A2094	C1974	A1912	G1730	A1669	A1609	A1549
G2455	G2395	A2335	C2275	U2155	A2095	G1975	C1913	U1731	C1670	A1610	C1550
C2456	G2396	A2336	G2276	G2156	C2096	U1976	G1792	U1732	U1671	C1611	A1551
U2457	G2397	G2337	G2277	G2157	A2097	A1977	C1793	G1733	A1672	C1612	A1552
G2458	U2398	C2338	A2278	A	U2098	A1978	A1794	U1734	G1673	G1613	A1553
A2459	G2399	G2339	G2279	C	U2099	U1979	C1795	A1735	G1674	A1614	U1554
U2460	G2400	U2340	G2280	G	G2100	G1980	U1796	U1736	C1675	C1615	G1555
A2461	U2401	G2341	A2281	C	A2101	A1981	G1797	G1737	A1676	A1616	C1556
C2462	U2402	C2342	G2282	G	G2102	U1982	U1798	U1738	A1677	C1617	C1557
C2463	C2403	U2343	C2283	A	C2103	G1983	G1799	A1739	A1678	C1558	C1558
U2404	G2404	G2344	A2284	C	C2104	U1984	C1800	G1740	A1679	U1559	U1559
C2465	G2405	A2345	C2285	C	U2105	C1985	A1801	C1741	U1680	G1620	G1560
C2466	A2406	C2346	G2286	U	G2106	C1986	A1802	U1742	G1681	U1621	C1561
C2467	A2407	G2347	A2287	U	U2107	A1987	A1803	G1743	G1682	G1622	U1562
A2468	U2408	U2348	A2288	G	A2108	G1988	C1804	A1744	U1683	U1623	U1563
A2469	G2409	G2349	G2289	A	U2109	G1989	A1805	A1745	G1684	U1624	C1564
G2470	G2410	C2350	G2290	A	G2110	C2050	A1806	A1746	C1685	C1625	C1565
A2471	A2411	U2291	U2231	U	A2051	U1991	G1807	U1747	C1686	A1626	A1566
G2472	A2412	A2352	U2292	U	C2052	G1992	A1808	C1748	G1687	G1627	U1567
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U2474	G2414	G2354	G2294	C	A2054	A1994	A1810	A1750	U1689	U1629	A1569
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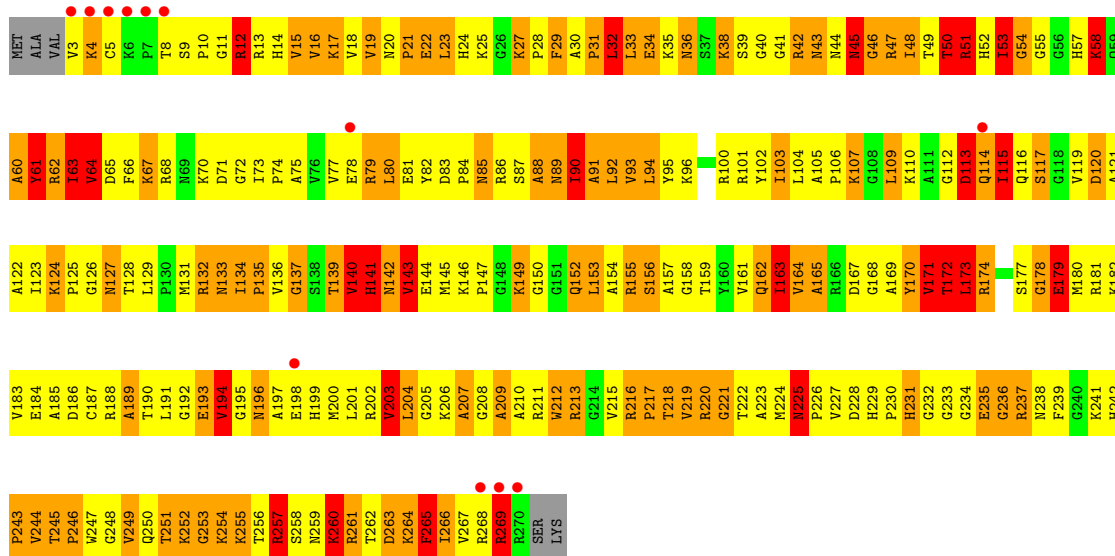


• Molecule 9: 50S RIBOSOMAL PROTEIN L2

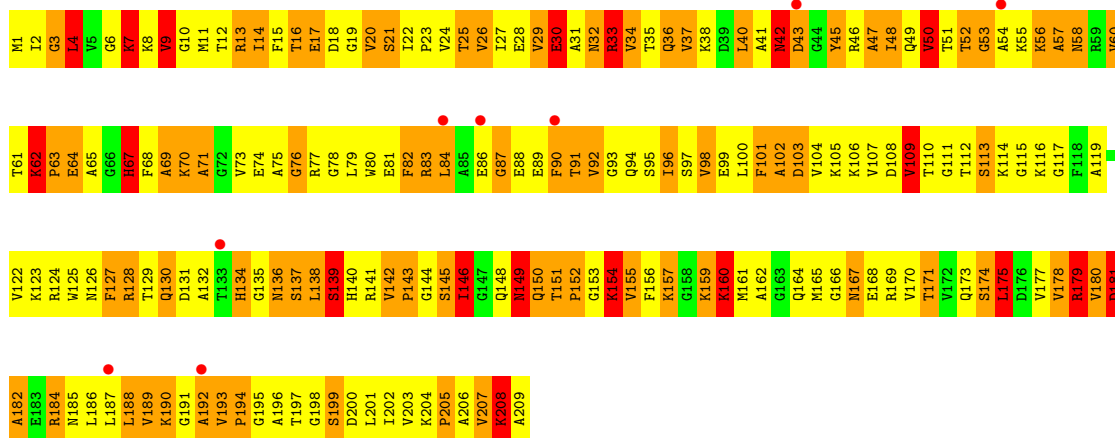


• Molecule 9: 50S RIBOSOMAL PROTEIN L2

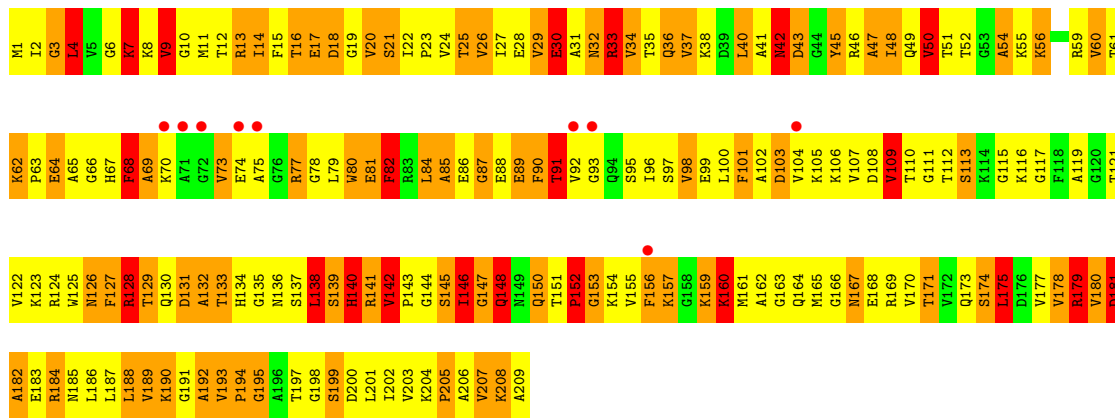




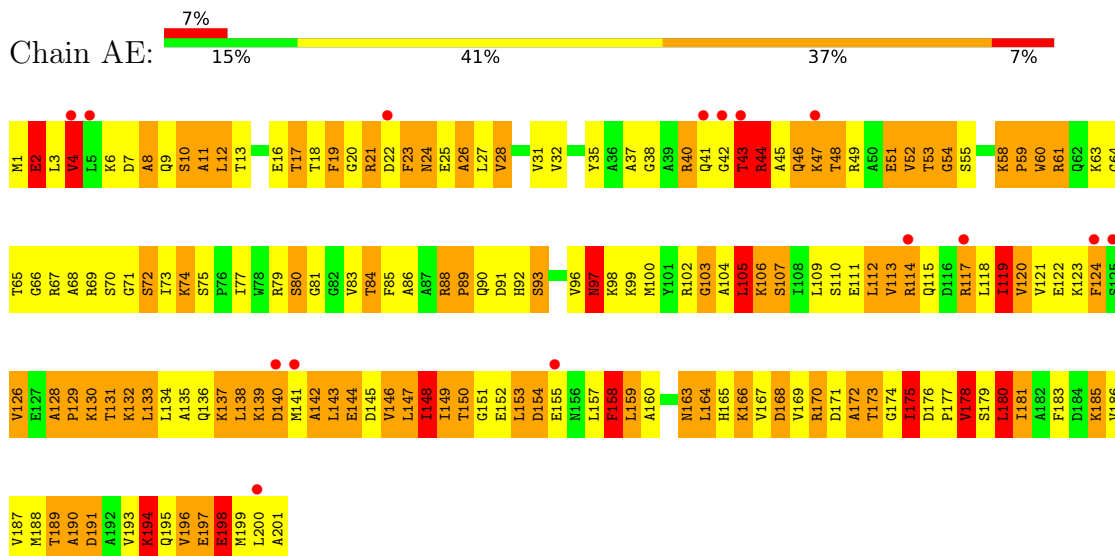
● Molecule 10: 50S RIBOSOMAL PROTEIN L3



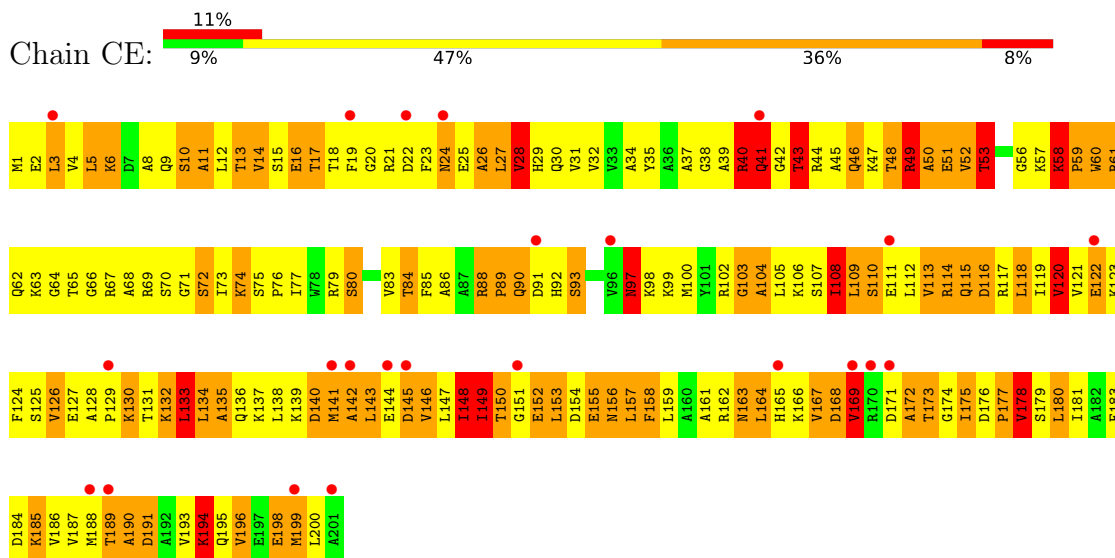
● Molecule 10: 50S RIBOSOMAL PROTEIN L3



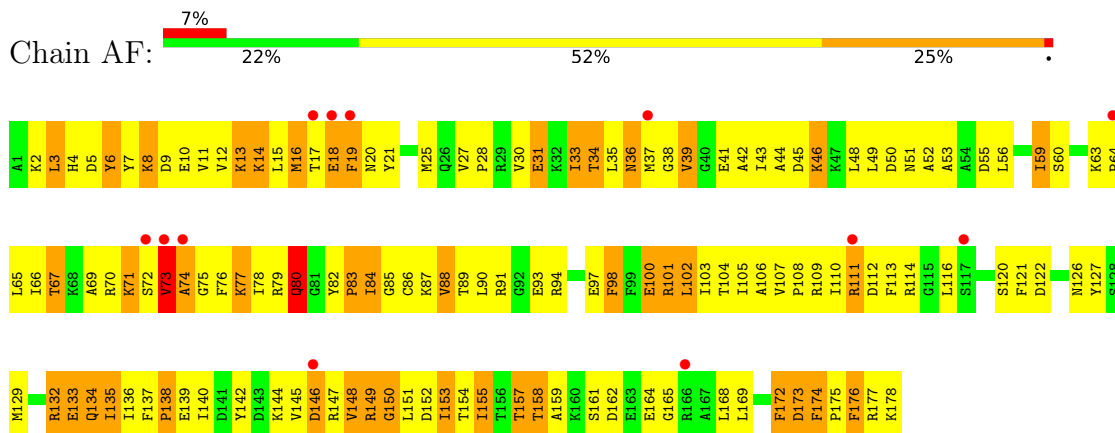
- Molecule 11: 50S RIBOSOMAL PROTEIN L4



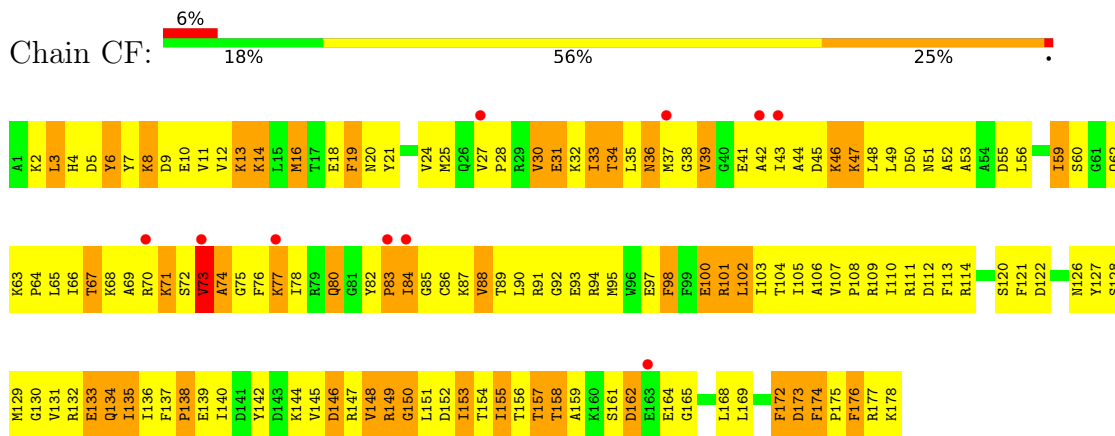
- Molecule 11: 50S RIBOSOMAL PROTEIN L4



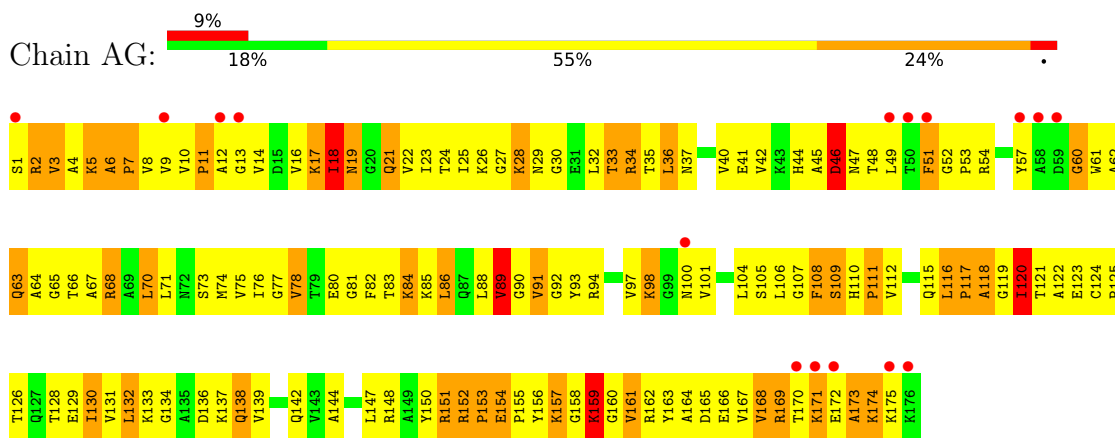
- Molecule 12: 50S RIBOSOMAL PROTEIN L5



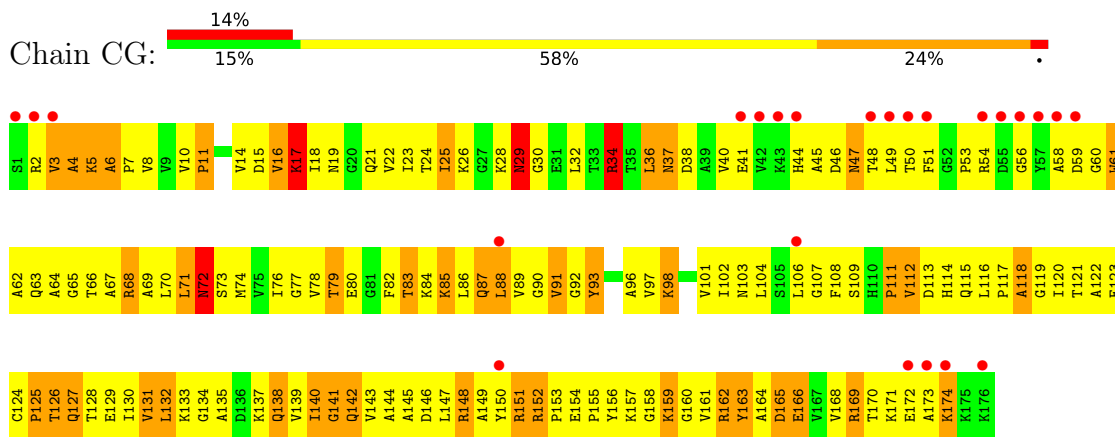
- Molecule 12: 50S RIBOSOMAL PROTEIN L5



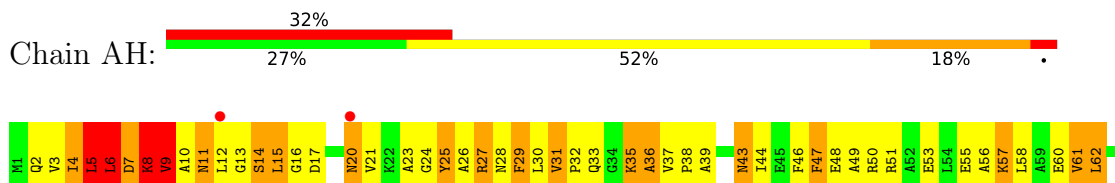
- Molecule 13: 50S RIBOSOMAL PROTEIN L6



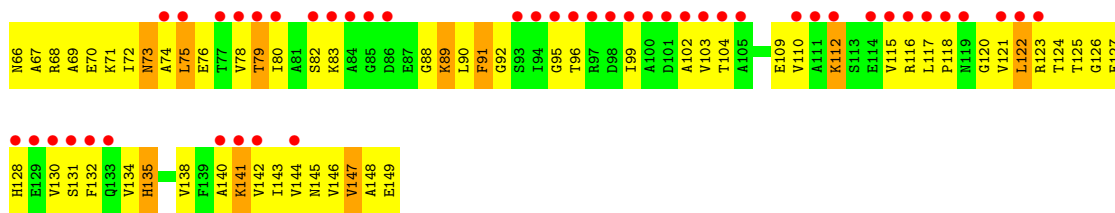
- Molecule 13: 50S RIBOSOMAL PROTEIN L6



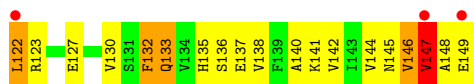
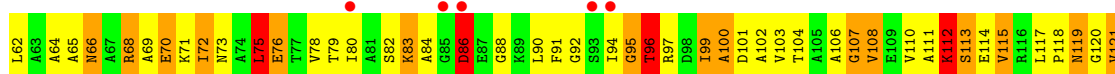
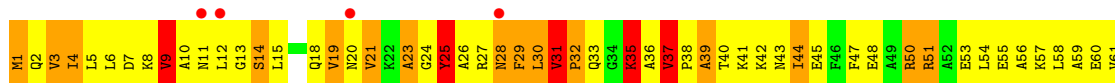
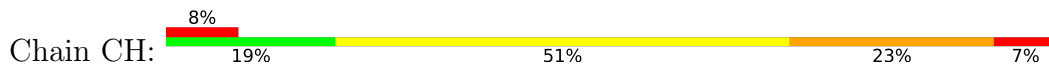
- Molecule 14: 50S RIBOSOMAL PROTEIN L9



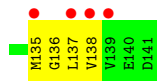
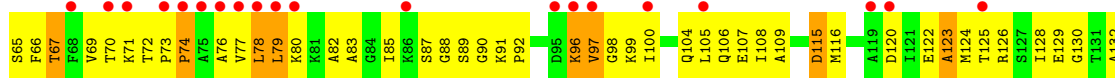
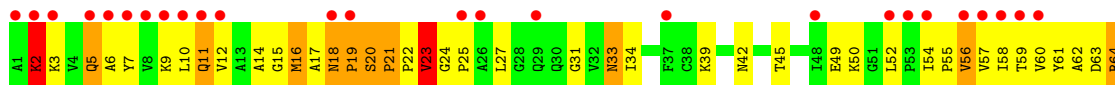




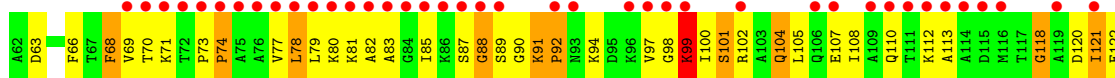
● Molecule 14: 50S RIBOSOMAL PROTEIN L9



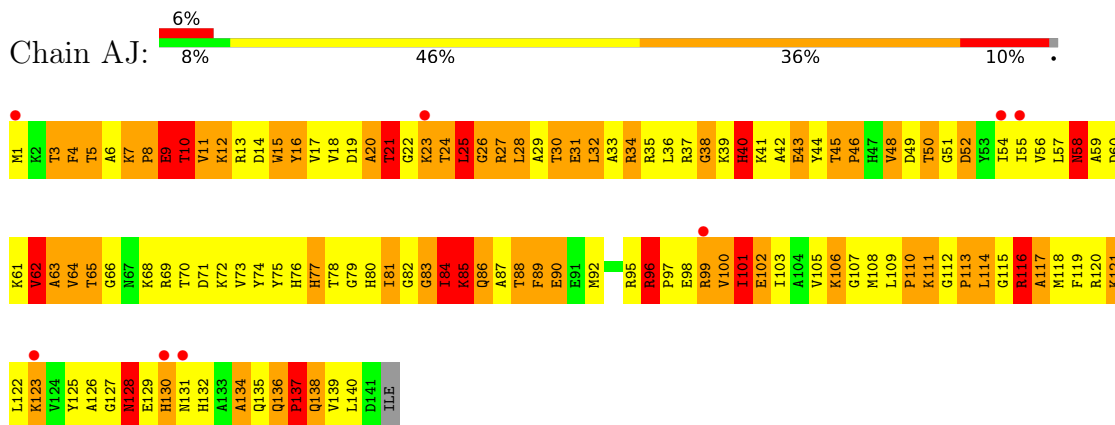
● Molecule 15: 50S RIBOSOMAL PROTEIN L11



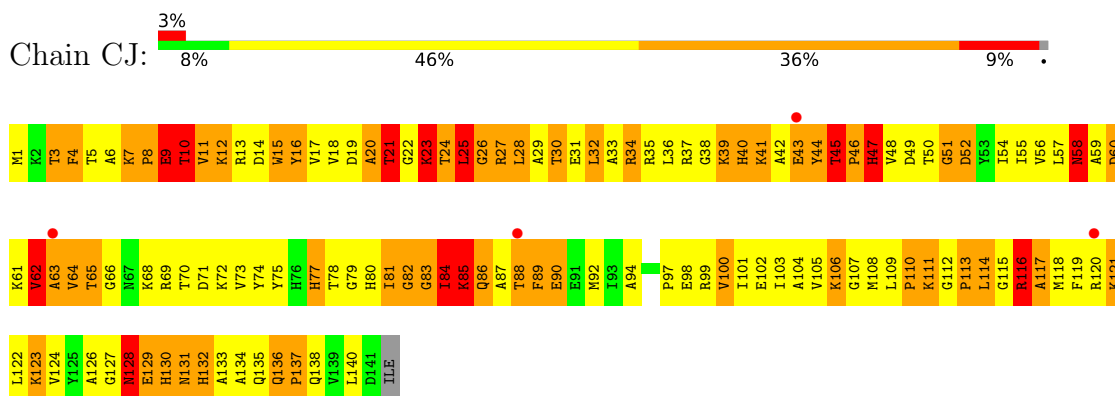
● Molecule 15: 50S RIBOSOMAL PROTEIN L11



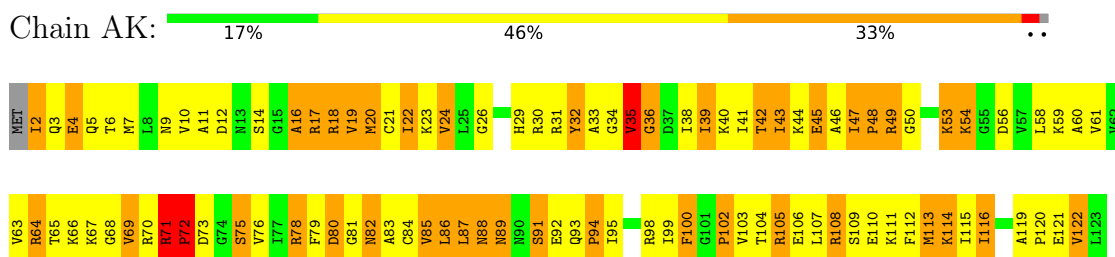
- Molecule 16: 50S RIBOSOMAL PROTEIN L13



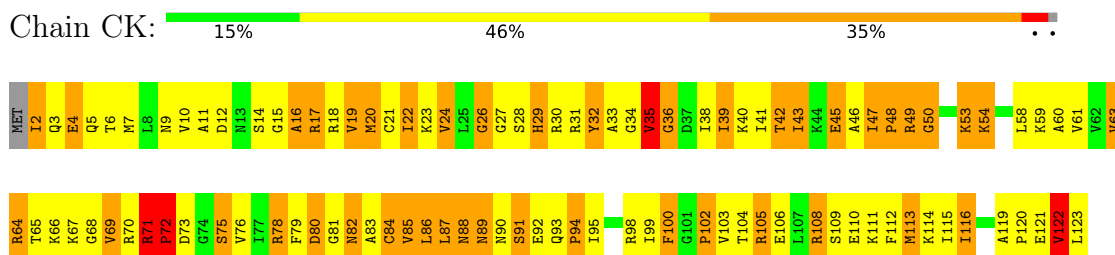
- Molecule 16: 50S RIBOSOMAL PROTEIN L13



- Molecule 17: 50S RIBOSOMAL PROTEIN L14

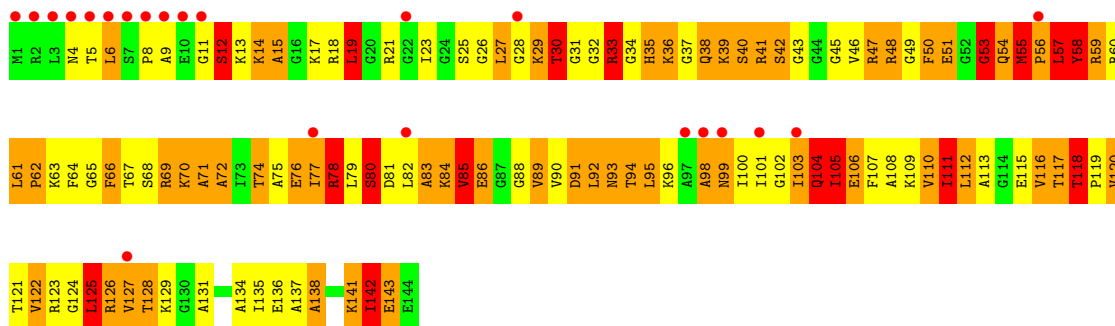


- Molecule 17: 50S RIBOSOMAL PROTEIN L14

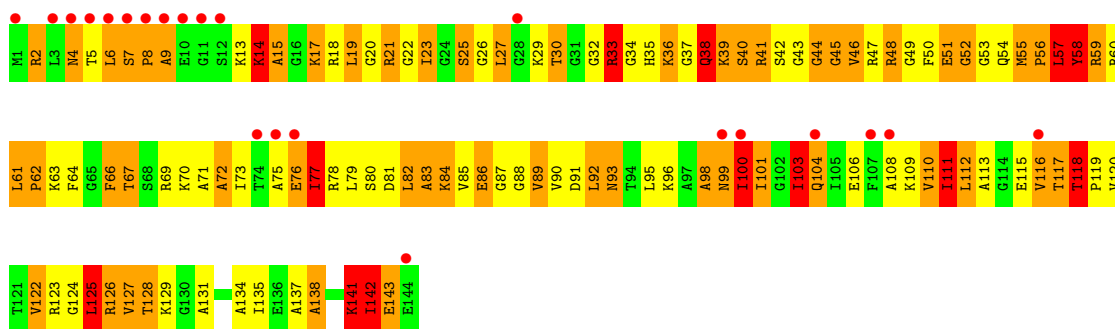
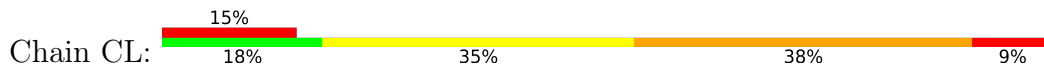


- Molecule 18: 50S RIBOSOMAL PROTEIN L15

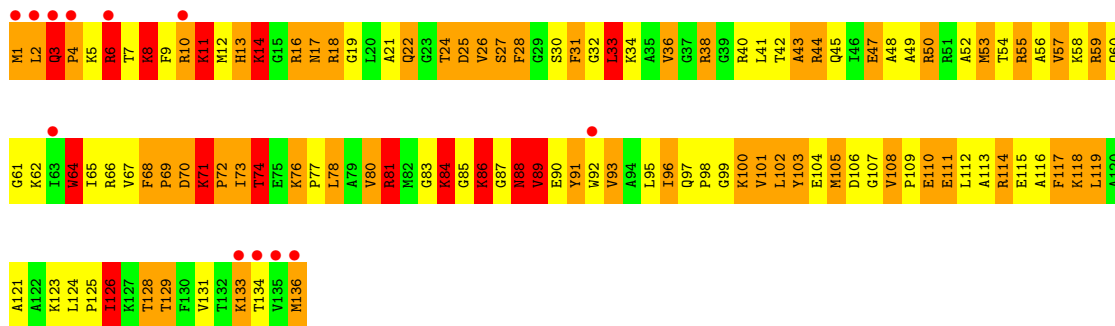
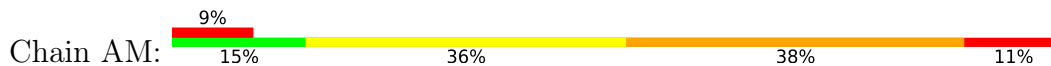




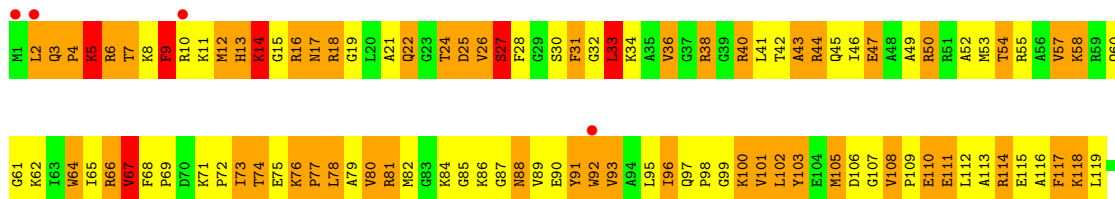
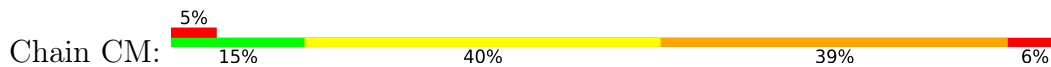
● Molecule 18: 50S RIBOSOMAL PROTEIN L15

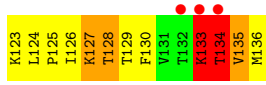


● Molecule 19: 50S RIBOSOMAL PROTEIN L16

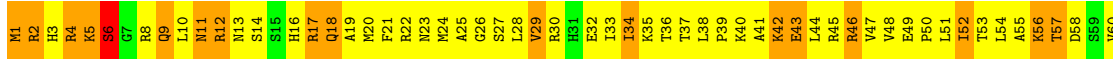
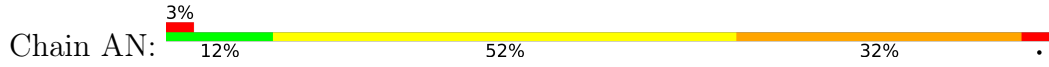


● Molecule 19: 50S RIBOSOMAL PROTEIN L16

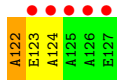
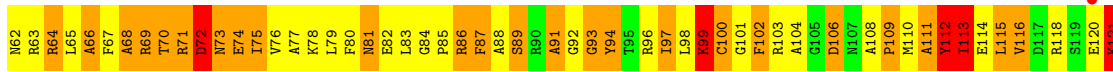
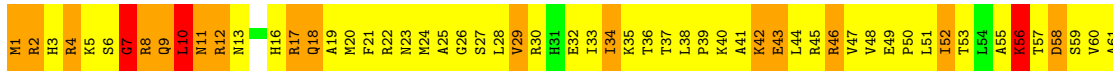
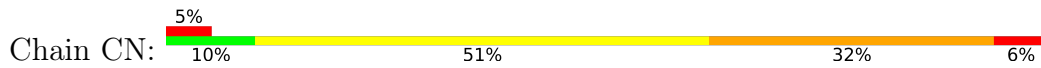




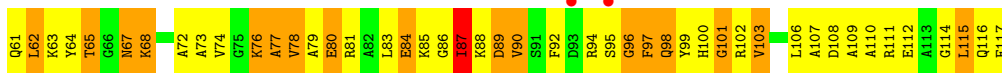
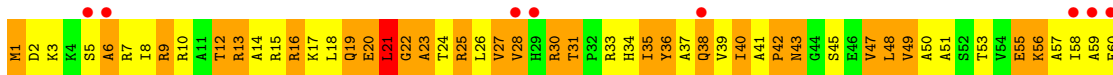
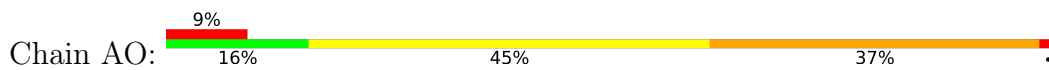
● Molecule 20: 50S RIBOSOMAL PROTEIN L17



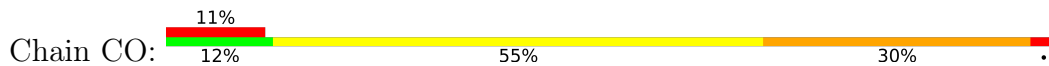
● Molecule 20: 50S RIBOSOMAL PROTEIN L17

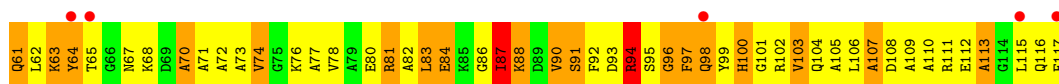


● Molecule 21: 50S RIBOSOMAL PROTEIN L18

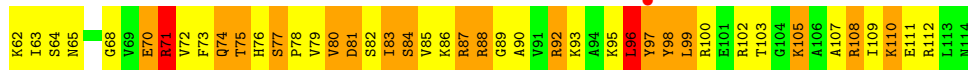
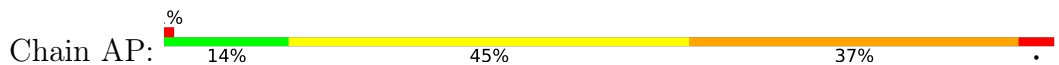


● Molecule 21: 50S RIBOSOMAL PROTEIN L18

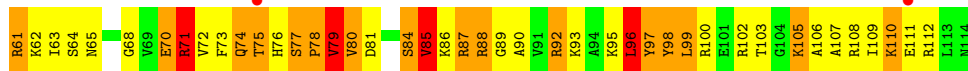
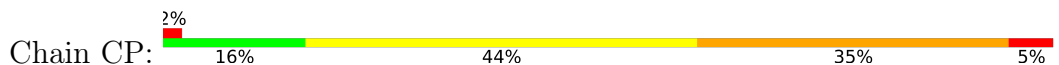




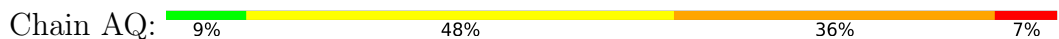
• Molecule 22: 50S RIBOSOMAL PROTEIN L19



• Molecule 22: 50S RIBOSOMAL PROTEIN L19



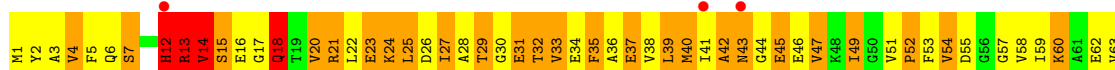
• Molecule 23: 50S RIBOSOMAL PROTEIN L20

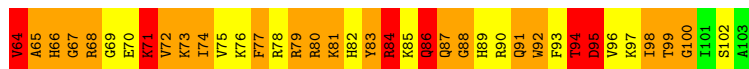


• Molecule 23: 50S RIBOSOMAL PROTEIN L20

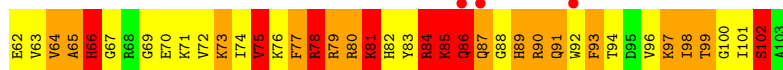
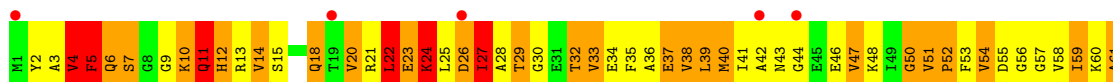
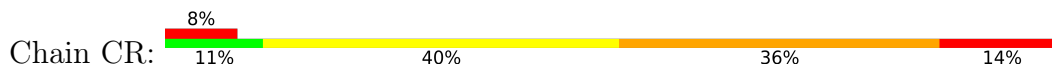


• Molecule 24: 50S RIBOSOMAL PROTEIN L21

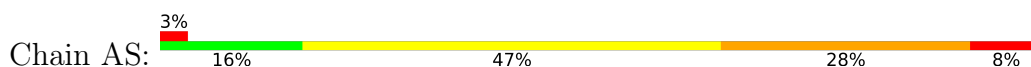




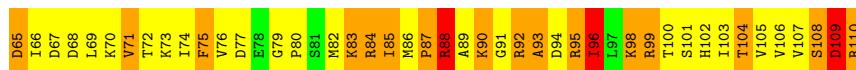
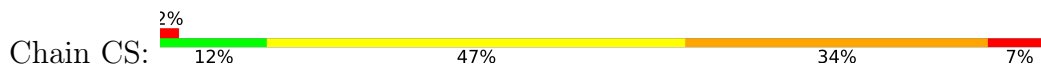
- Molecule 24: 50S RIBOSOMAL PROTEIN L21



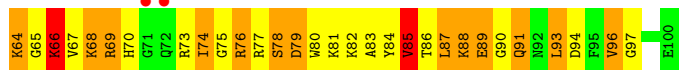
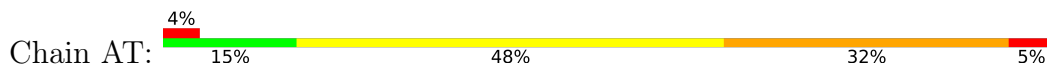
- Molecule 25: 50S RIBOSOMAL PROTEIN L22



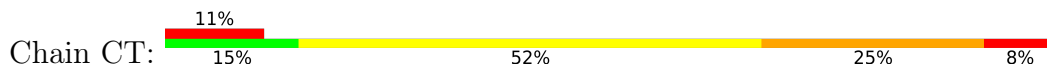
- Molecule 25: 50S RIBOSOMAL PROTEIN L22

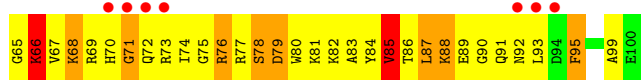
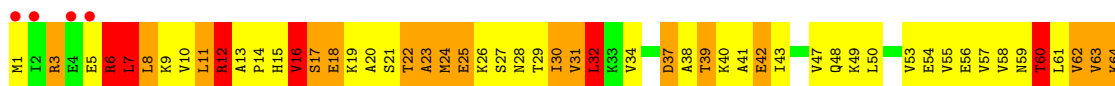


- Molecule 26: 50S RIBOSOMAL PROTEIN L23

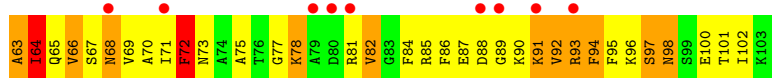
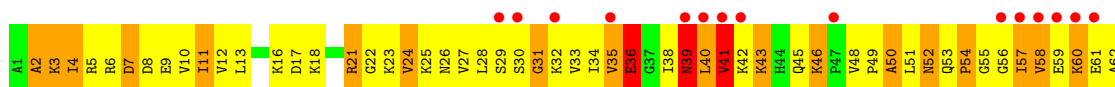
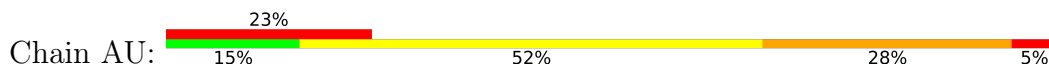


- Molecule 26: 50S RIBOSOMAL PROTEIN L23

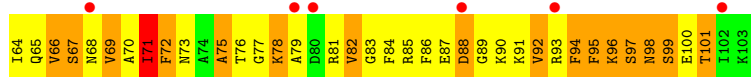
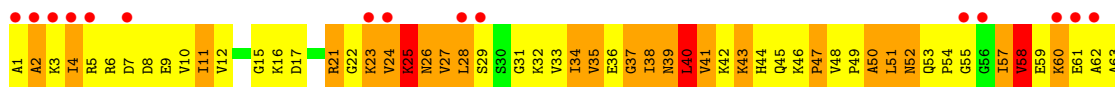
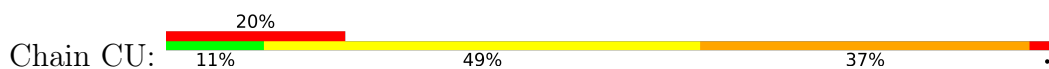




● Molecule 27: 50S RIBOSOMAL PROTEIN L24



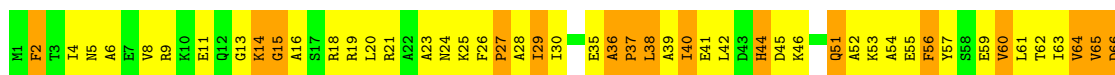
● Molecule 27: 50S RIBOSOMAL PROTEIN L24



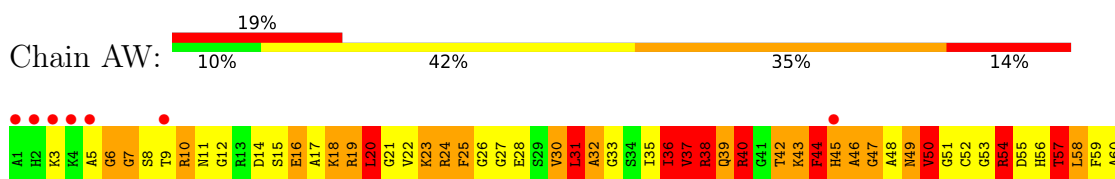
● Molecule 28: 50S RIBOSOMAL PROTEIN L25



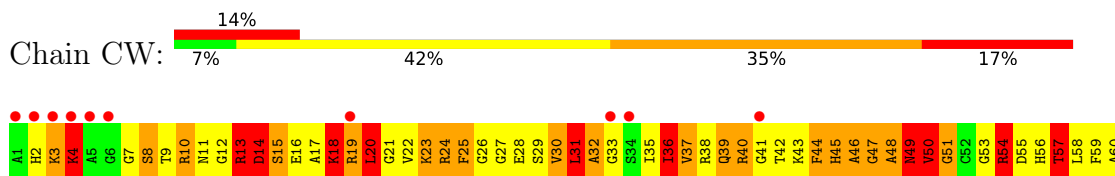
● Molecule 28: 50S RIBOSOMAL PROTEIN L25



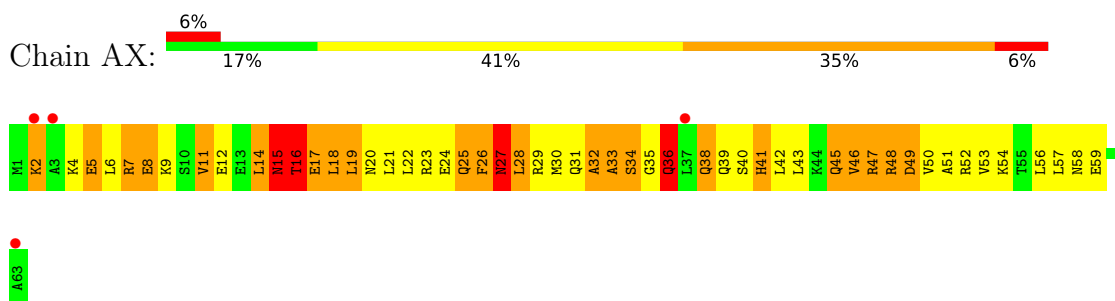
● Molecule 29: 50S RIBOSOMAL PROTEIN L27



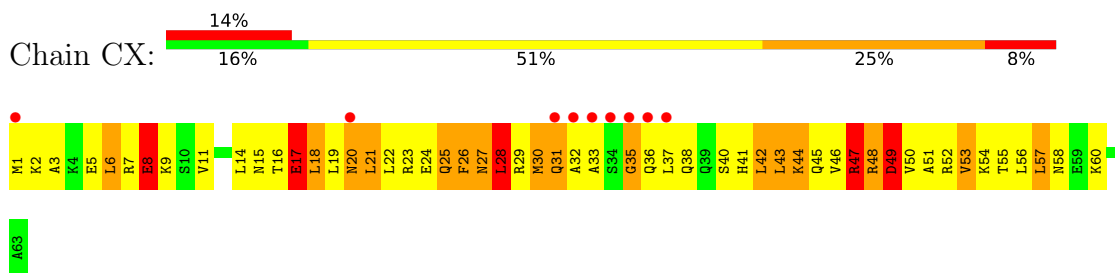
- Molecule 29: 50S RIBOSOMAL PROTEIN L27



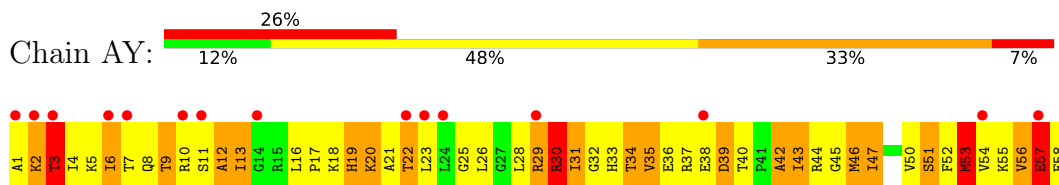
- Molecule 30: 50S RIBOSOMAL PROTEIN L29



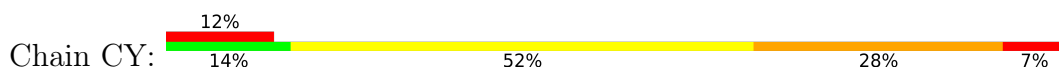
- Molecule 30: 50S RIBOSOMAL PROTEIN L29



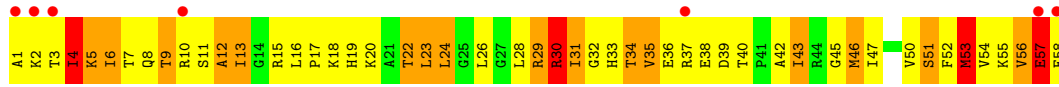
- Molecule 31: 50S RIBOSOMAL PROTEIN L30



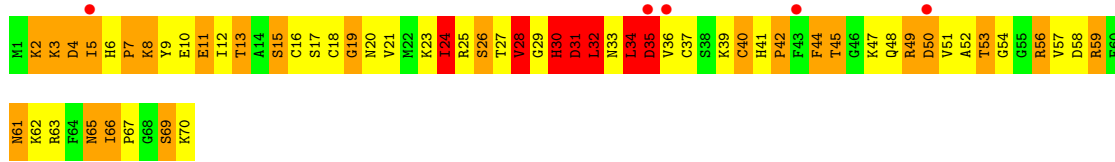
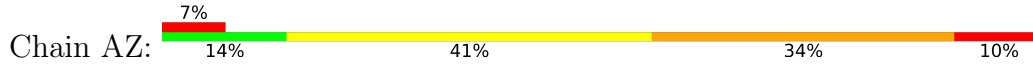
- Molecule 31: 50S RIBOSOMAL PROTEIN L30



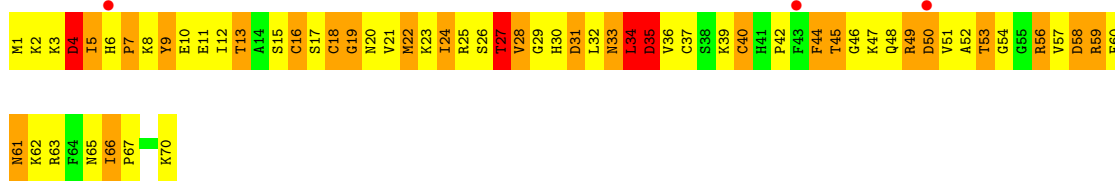
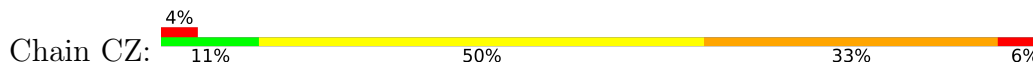




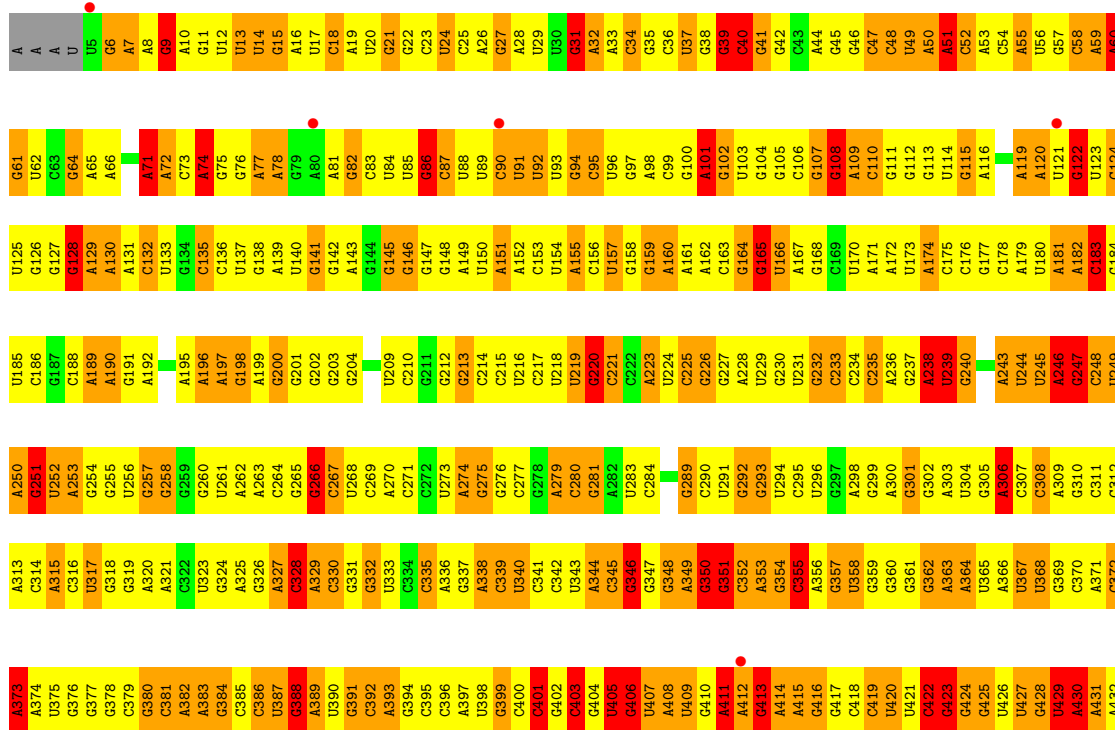
• Molecule 32: 50S RIBOSOMAL PROTEIN L31



• Molecule 32: 50S RIBOSOMAL PROTEIN L31



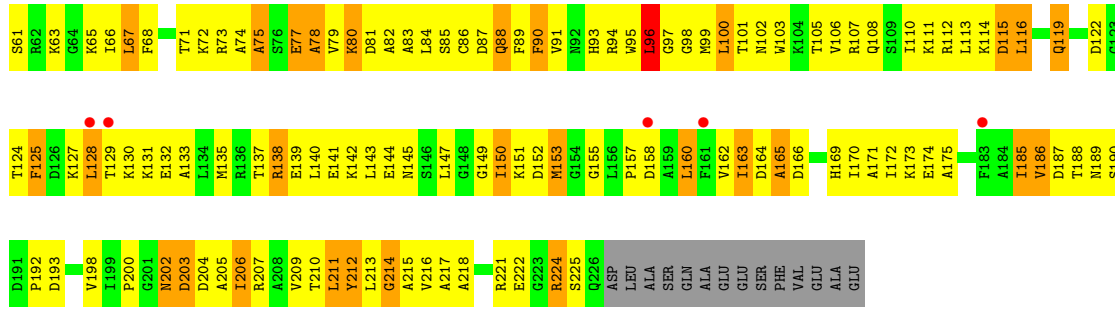
• Molecule 33: 16S RIBOSOMAL RNA



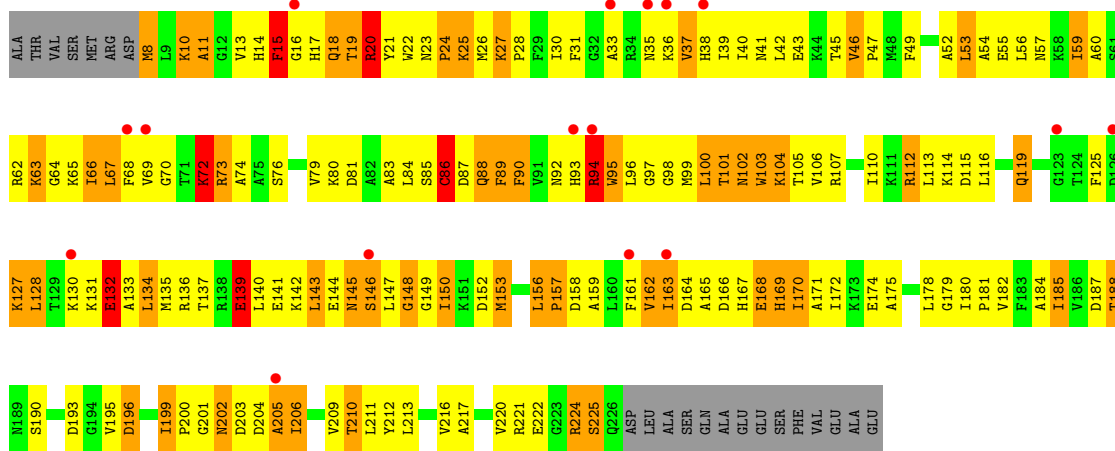
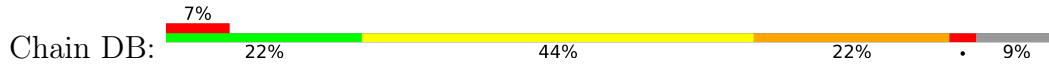
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A1339	C1277	C1217	G1156	C1096	A1086	A975	A915	U855	C795	C735	A675	G614	A554	G494	U494
A1340	G1278	C1218	A1157	C1097	C1037	C976	U916	C856	C796	C736	A676	G615	A555	A495	A435
U1341	G1279	C1219	C1158	C1098	C1038	A977	G917	C857	C797	C737	A677	G616	A556	A496	A436
C1342	A1280	G1220	U1159	G1099	U1039	A978	A918	C858	C798	C738	A678	G617	A557	A497	U437
C1343	C1281	G1221	U1160	G1100	U1040	C979	A919	C859	C799	C739	A679	G618	A558	A498	U438
C1344	C1282	G1222	C1162	A1101	G1041	C980	U920	A860	G800	U740	C680	U619	A559	A499	U439
U1345	U1283	C1223	A1163	A1102	A1042	U981	U921	G861	G801	G741	A681	C620	A560	G500	C440
A1346	C1284	U1224	G1164	C1103	G1043	U982	U922	C862	A802	G742	A682	A621	A561	C501	A441
G1347	A1285	U1165	A1165	A1104	A1044	A983	A923	U863	G803	A743	A683	A622	A562	A502	G442
U1348	G1286	C1225	G1166	A1105	C1045	A984	C924	A864	U804	C744	A684	A623	A563	A503	C443
A1349	A1287	U1167	U1167	A1106	C1046	C985	U925	A865	C805	G745	A685	C624	A564	A504	G444
A1350	U1168	G1227	U1168	G1107	G1047	U986	U926	A866	C806	A746	A686	U625	A565	A505	G445
U1351	A1289	A1229	A1169	G1108	G1048	G987	G927	G867	A807	A747	A687	G626	A566	A506	G446
C1352	G1290	C1230	A1170	C1109	U1049	C988	U928	C868	C808	G748	A688	G627	A567	C507	G447
G1353	U1291	G1231	A1171	A1110	G1050	A989	U929	C869	C809	A749	A689	G628	A568	U508	A448
U1354	G1292	U1232	C1172	A1111	U1051	U990	C930	U870	C810	C750	A690	A629	C569	A509	C449
G1355	C1293	G1233	U1173	C1112	U1052	C991	C931	U871	C811	U751	A691	U630	A570	A510	G450
G1356	G1294	C1234	G1174	C1113	G1053	U992	C932	A872	G812	G752	A692	U631	A571	C511	A451
U1357	U1295	U1235	A1175	C1114	C1054	G993	G933	A873	U813	A753	A693	U632	A572	U512	A452
A1358	C1296	U1236	U1115	U1115	A1055	A994	C934	G874	A814	C754	A694	U633	A573	C513	G453
C1359	G1297	C1237	G1177	U1116	U1056	C995	A935	U875	A815	G755	A695	U634	A574	C514	G454
A1360	U1298	A1238	G1178	A1117	G1057	C996	C936	C876	A816	G756	A696	U635	A575	C515	G455
G1361	A1299	U1179	A1179	U1118	U1058	C997	A937	G877	C817	U757	A697	U636	A576	C516	G456
A1362	G1300	A1240	A1180	C1119	G1059	C998	A938	A878	C818	C758	A698	U637	A577	C517	G457
A1363	U1301	G1241	G1181	C1120	U1060	A1000	G939	C879	A819	A758	A699	U638	A578	C518	U458
U1364	C1302	G1242	G1182	U1121	G1061	C1001	C940	C880	U820	G760	A700	A640	A579	C519	A459
G1365	C1303	C1243	U1183	U1122	U1062	C1002	C941	C881	U821	G761	A701	U641	C580	A520	A460
C1366	G1304	G1244	G1184	U1123	G1063	C1003	G942	C882	U822	U762	A702	A642	C581	A521	A461
C1367	G1305	C1245	U1185	G1124	G1064	C1004	U943	C883	C823	G763	A703	C643	C582	C522	G462
A1368	A1306	A1246	G1186	U1125	U1065	A1005	G944	U884	G824	C764	A704	U644	A583	A523	U463
C1369	U1307	U1247	G1187	U1126	C1066	G1006	G945	G885	A825	G765	A705	G645	A584	C524	U464
G1370	U1308	A1248	A1188	G1127	A1067	G1007	A946	G886	C826	A766	A706	G646	A585	C525	A465
U1371	G1309	C1249	U1189	C1128	G1068	U1008	G947	C887	U827	A767	A707	C647	A586	C526	A466
U1372	G1310	A1250	G1190	U1129	U1069	C1009	C948	C888	U828	A768	A708	U648	A587	C527	U467
G1373	A1311	A1251	A1191	A1130	U1070	U1010	A949	A889	G829	G769	A709	A649	A588	C528	A468
A1374	G1312	A1252	C1192	G1131	G1071	C1011	U950	G890	G830	C770	A710	G650	U589	G529	C469
A1375	U1313	G1253	G1193	C1132	G1072	A1012	G951	U891	A831	G771	A711	C651	U590	G530	C470
U1376	C1314	A1254	U1194	G1133	U1073	G1013	U952	A892	G832	U772	A712	U652	U591	U531	U471
A1377	U1315	G1255	C1195	G1134	G1074	A1014	G953	C893	G833	G773	A713	U653	G592	A532	U472
C1378	G1316	A1256	A1196	U1135	U1075	G1015	G954	C894	U834	G774	A714	G654	U593	A533	U473
U1379	C1317	A1257	U1197	C1136	U1076	A1016	U955	C895	U835	G775	A715	A655	U594	U534	U474
A1380	A1318	G1258	G1198	C1137	G1077	U1017	U956	C896	G836	G776	A716	G656	A595	A535	U475
U1381	A1319	C1259	U1199	G1138	U1078	G1018	U957	C897	U837	A777	U717	U657	A596	C536	U476
C1382	C1320	G1260	C1200	G1139	G1079	A1019	A958	G898	G838	G778	A718	C658	G597	G537	C477
C1383	U1321	A1261	A1201	C1140	A1080	G1020	A959	C899	C839	C779	A719	U659	U598	G538	A478
C1384	C1322	C1262	U1202	C1141	A1081	A1021	U960	A900	C840	A780	C720	C660	C599	A539	U479
G1385	G1323	C1263	C1203	G1142	A1082	A1022	G961	A901	C841	A781	G721	U661	A600	G540	U480
G1386	A1324	U1264	U1204	G1143	U1083	U1023	C962	A902	U842	A782	G722	U662	G601	G541	G481
C1387	C1325	C1265	U1205	G1144	G1084	G1024	G963	A903	U843	C783	U723	A663	A602	G542	A482
C1388	G1266	G1266	A1145	A1145	U1085	U1025	U964	U904	G844	A784	G724	G664	U603	U543	C483
C1389	C1267	G1267	C1207	A1146	U1086	G1026	U965	U905	A845	G785	G725	A665	G604	G544	G484
U1390	G1268	G1268	C1208	C1147	G1087	C1027	C966	A906	C846	G786	C726	C666	U605	C545	U485
U1391	C1331	A1269	C1209	U1148	G1088	C1028	G967	A907	G847	A787	G727	C667	A606	A546	U486
G1392	A1332	G1270	C1210	C1149	U1089	U1029	A968	A908	C848	U788	A728	G668	A607	A547	A487
U1393	U1333	A1271	U1211	A1150	U1090	U1030	A969	A909	G849	U789	A729	G669	A608	G548	C488
A1394	G1334	G1272	U1212	A1151	U1091	C1031	C970	G910	U850	A790	G730	G670	A609	C549	C489
C1395	U1335	A1273	A1213	A1152	A1092	G1032	G971	U911	G851	G791	G731	U671	U610	G550	C490
A1396	C1336	C1274	G1153	G1153	A1093	G1033	C972	C912	G852	A792	C732	U672	C611	U551	G491
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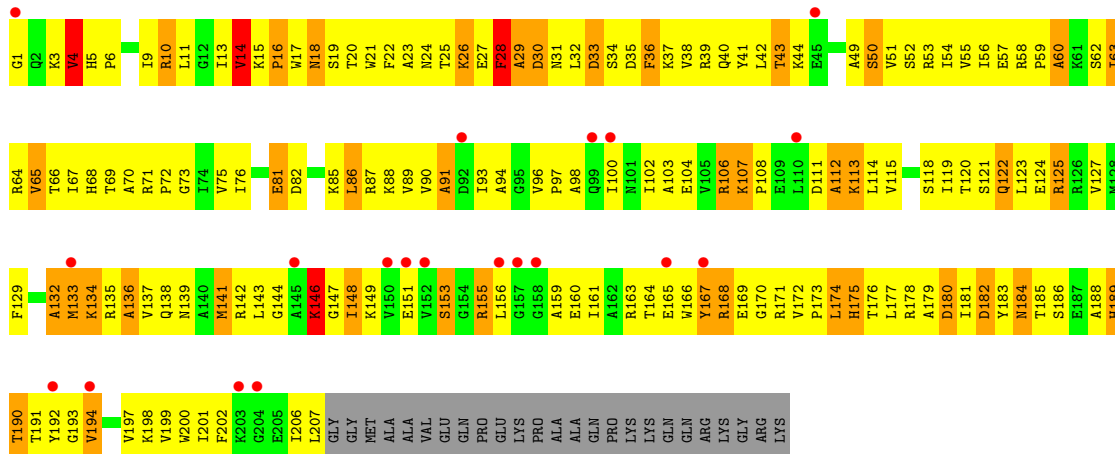
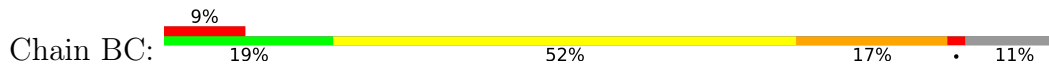




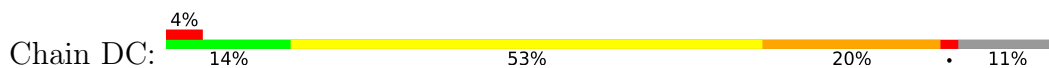
• Molecule 34: 30S RIBOSOMAL PROTEIN S2

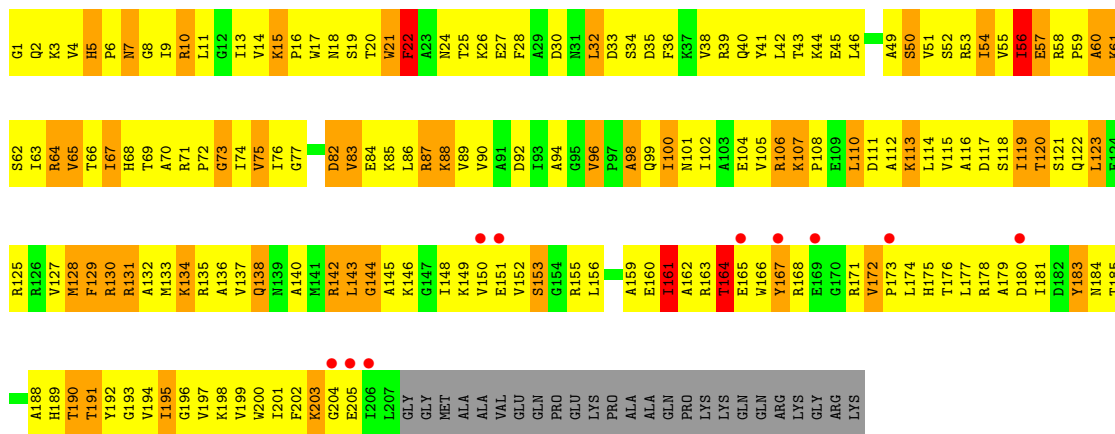


• Molecule 35: 30S RIBOSOMAL PROTEIN S3



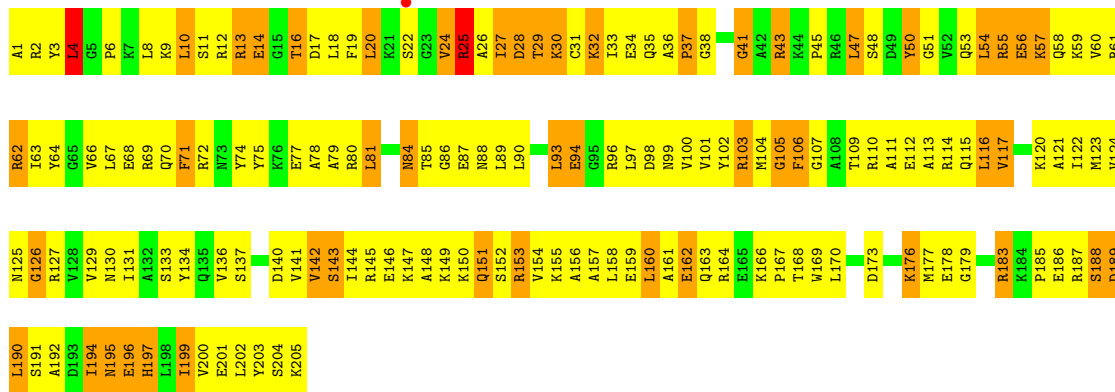
• Molecule 35: 30S RIBOSOMAL PROTEIN S3





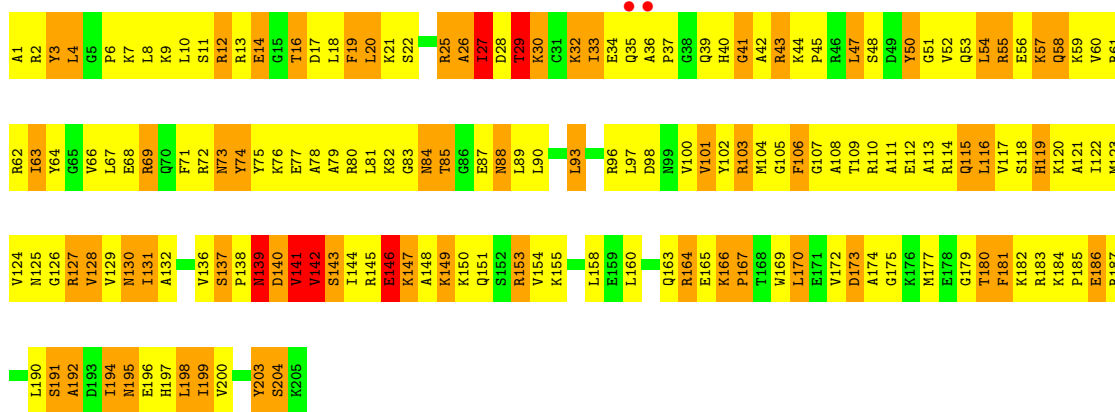
• Molecule 36: 30S RIBOSOMAL PROTEIN S4

Chain BD: 19% 57% 23%



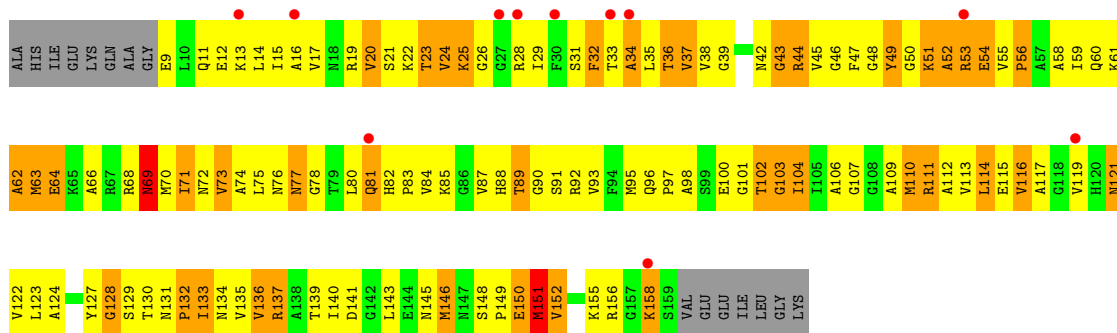
• Molecule 36: 30S RIBOSOMAL PROTEIN S4

Chain DD: 17% 51% 29%

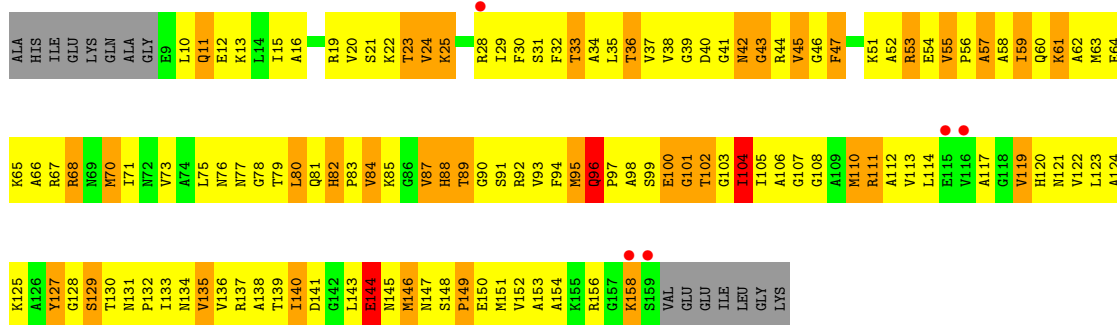
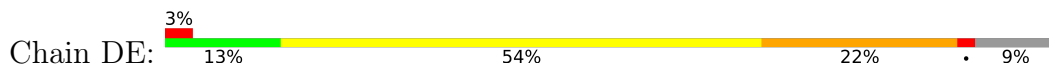


• Molecule 37: 30S RIBOSOMAL PROTEIN S5

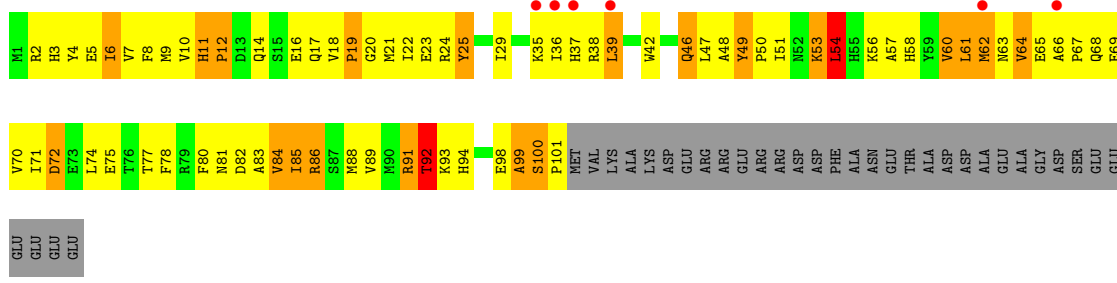
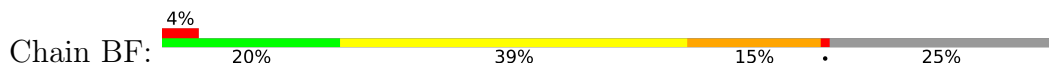
Chain BE: 7% 16% 49% 25% 9%



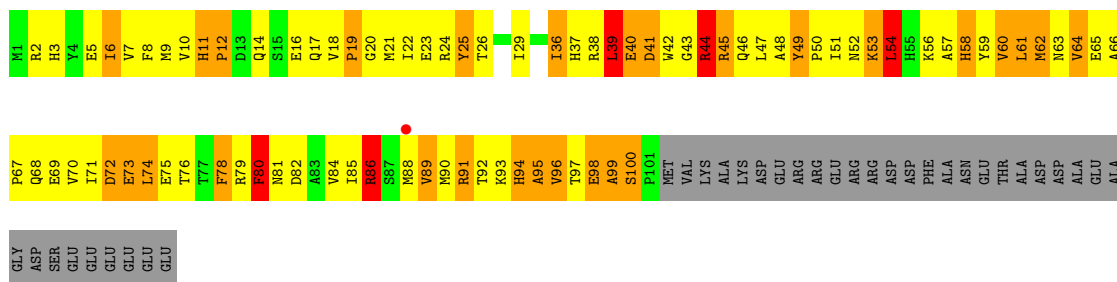
• Molecule 37: 30S RIBOSOMAL PROTEIN S5



• Molecule 38: 30S RIBOSOMAL PROTEIN S6



• Molecule 38: 30S RIBOSOMAL PROTEIN S6

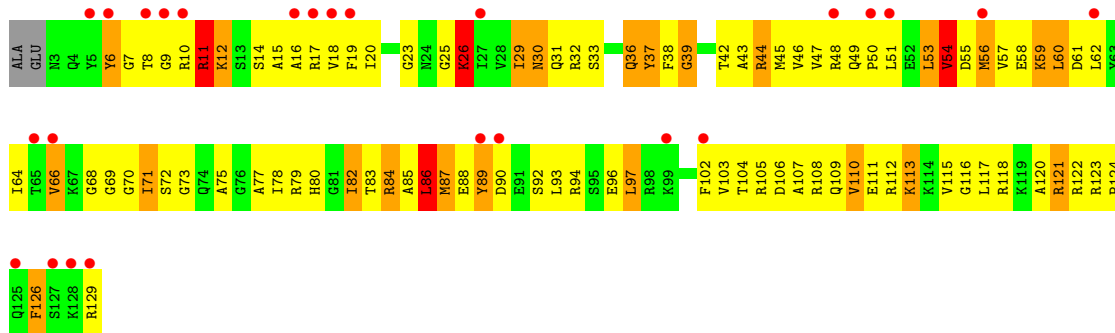




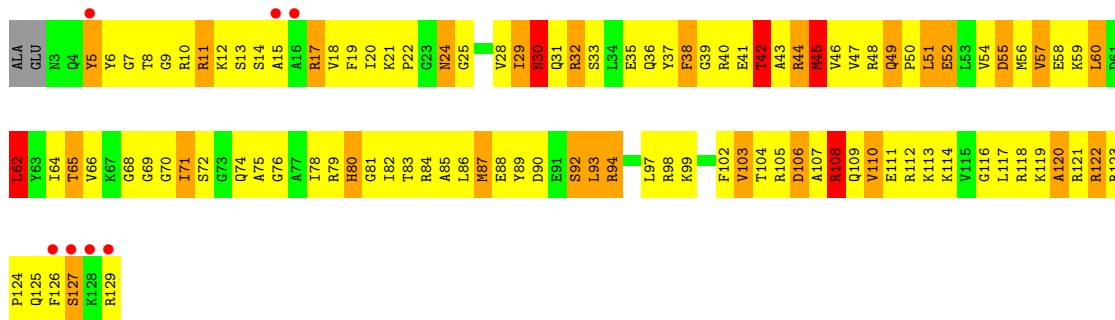
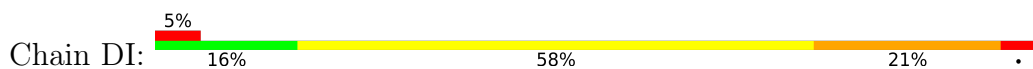




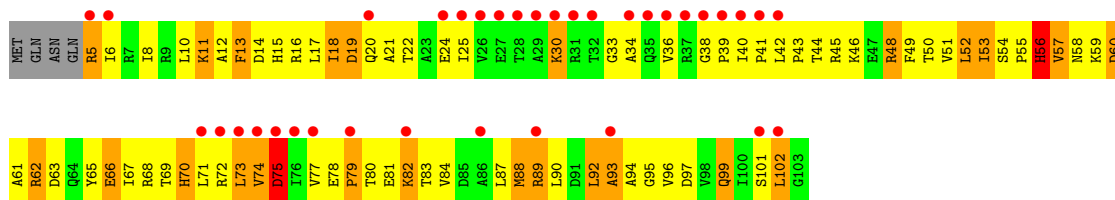
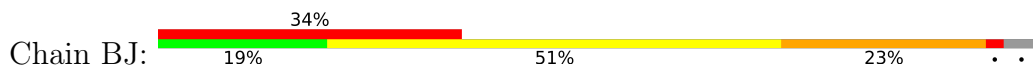
• Molecule 41: 30S RIBOSOMAL PROTEIN S9



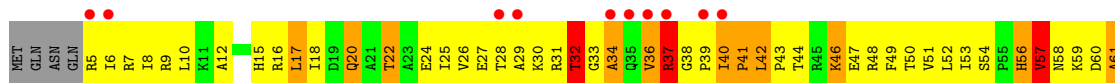
• Molecule 41: 30S RIBOSOMAL PROTEIN S9

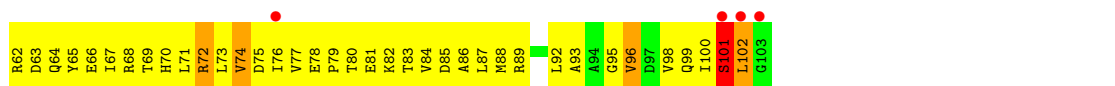


• Molecule 42: 30S RIBOSOMAL PROTEIN S10

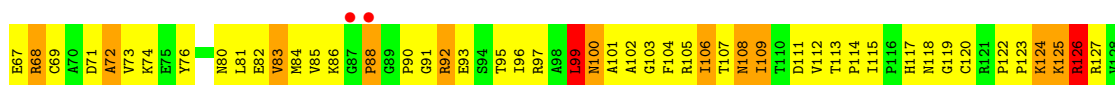


• Molecule 42: 30S RIBOSOMAL PROTEIN S10

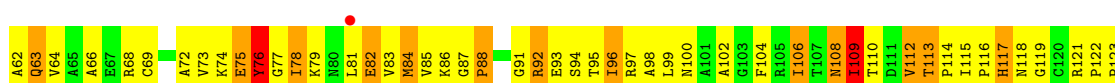
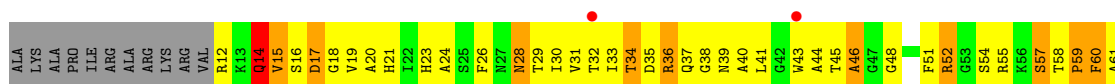
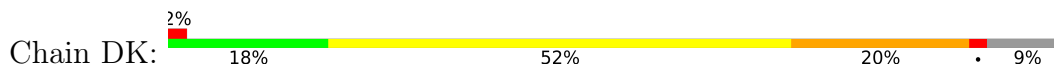




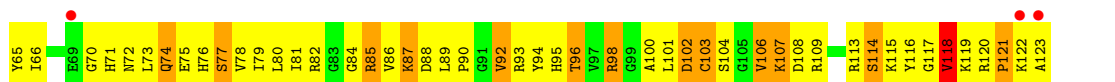
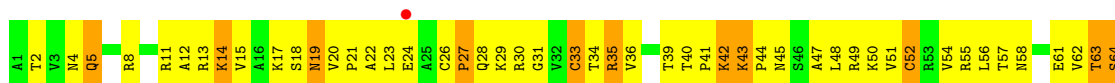
● Molecule 43: 30S RIBOSOMAL PROTEIN S11



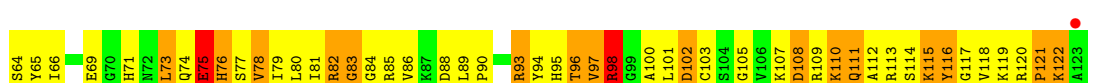
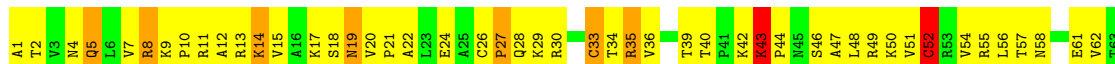
● Molecule 43: 30S RIBOSOMAL PROTEIN S11



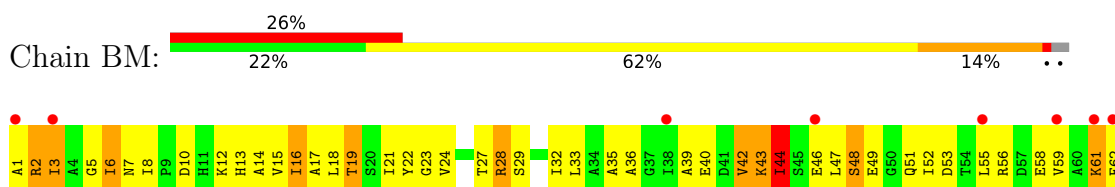
● Molecule 44: 30S RIBOSOMAL PROTEIN S12



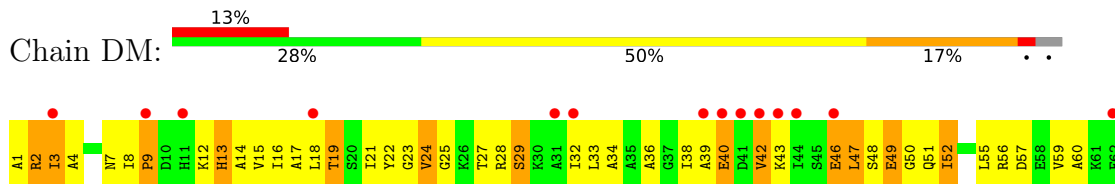
● Molecule 44: 30S RIBOSOMAL PROTEIN S12



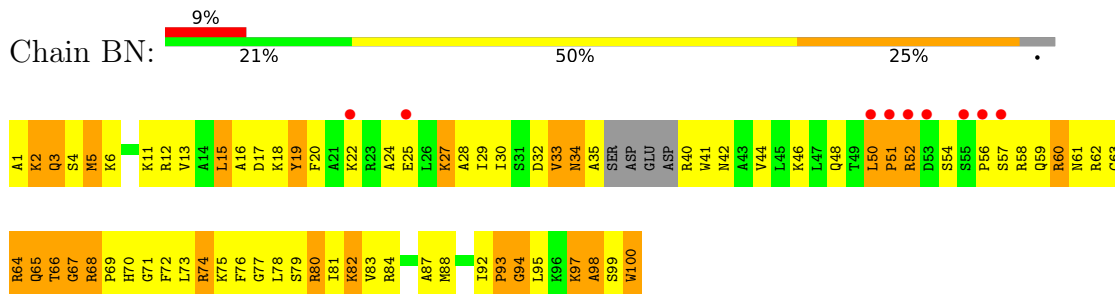
● Molecule 45: 30S RIBOSOMAL PROTEIN S13



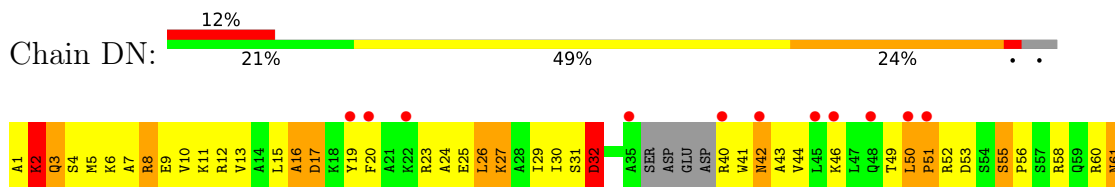
- Molecule 45: 30S RIBOSOMAL PROTEIN S13



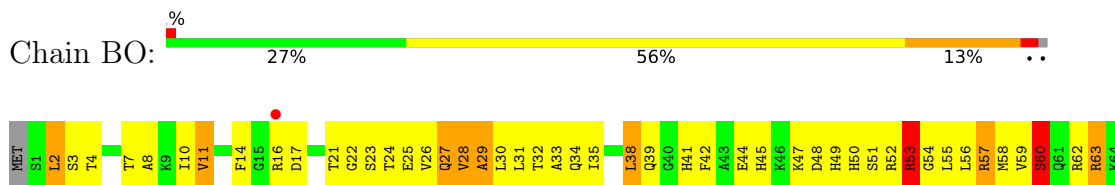
- Molecule 46: 30S RIBOSOMAL PROTEIN S14



- Molecule 46: 30S RIBOSOMAL PROTEIN S14



- Molecule 47: 30S RIBOSOMAL PROTEIN S15

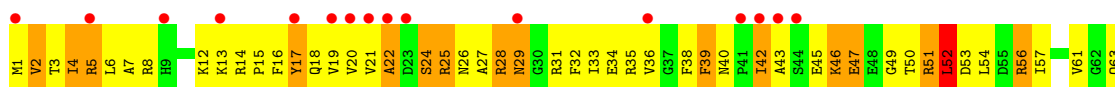




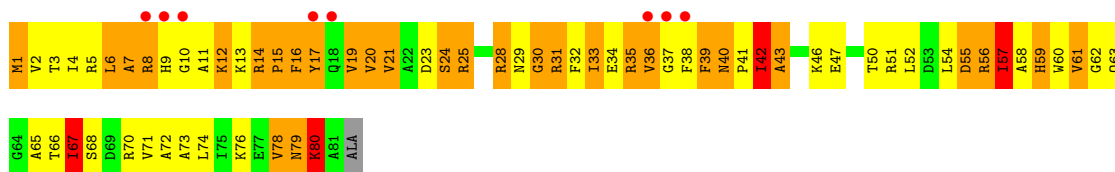
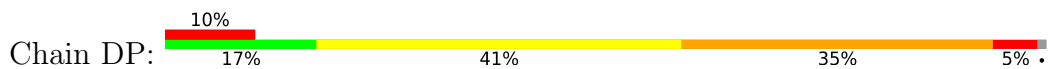
- Molecule 47: 30S RIBOSOMAL PROTEIN S15



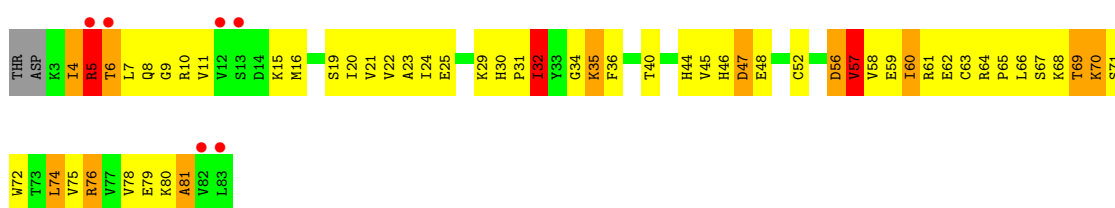
- Molecule 48: 30S RIBOSOMAL PROTEIN S16



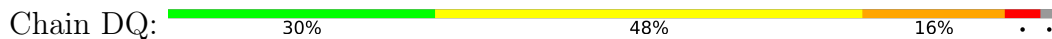
- Molecule 48: 30S RIBOSOMAL PROTEIN S16



- Molecule 49: 30S RIBOSOMAL PROTEIN S17



- Molecule 49: 30S RIBOSOMAL PROTEIN S17

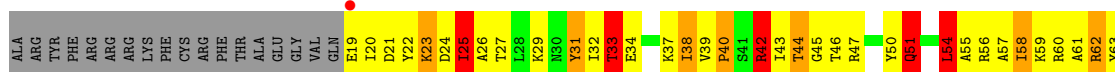
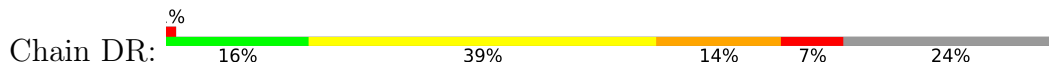




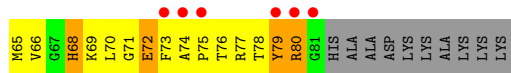
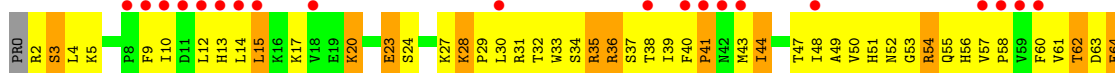
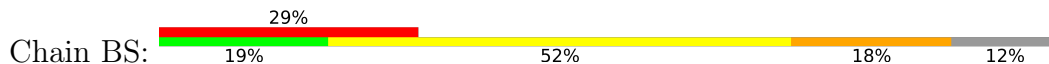
• Molecule 50: 30S RIBOSOMAL PROTEIN S18



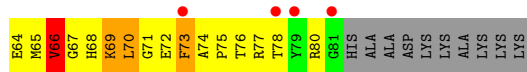
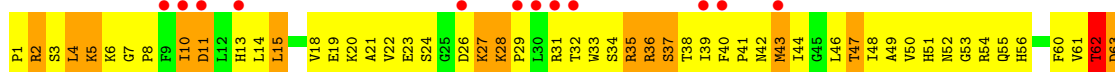
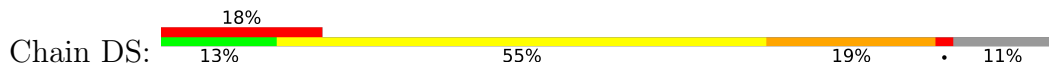
• Molecule 50: 30S RIBOSOMAL PROTEIN S18



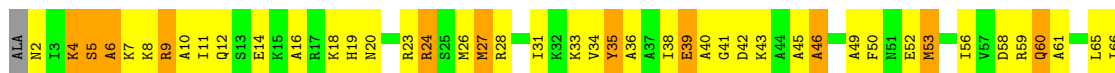
• Molecule 51: 30S RIBOSOMAL PROTEIN S19



• Molecule 51: 30S RIBOSOMAL PROTEIN S19

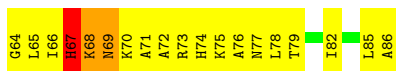
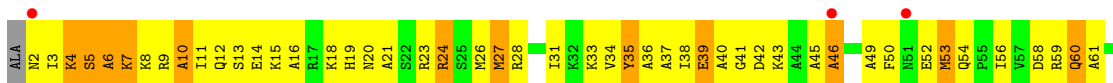


• Molecule 52: 30S RIBOSOMAL PROTEIN S20

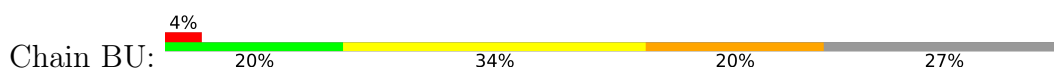




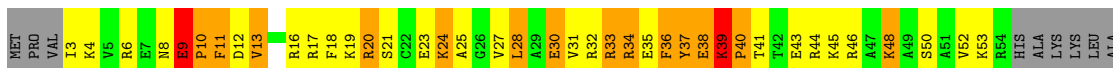
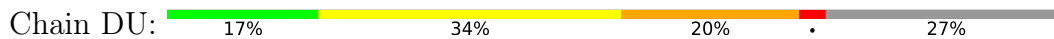
• Molecule 52: 30S RIBOSOMAL PROTEIN S20



• Molecule 53: 30S RIBOSOMAL PROTEIN S21



• Molecule 53: 30S RIBOSOMAL PROTEIN S21



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	208.18Å 380.08Å 736.70Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.74 49.74 – 3.74	Depositor EDS
% Data completeness (in resolution range)	91.5 (50.00-3.74) 91.5 (49.74-3.74)	Depositor EDS
$R_{merge}$	0.18	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.52 (at 3.77Å)	Xtrriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, $R_{free}$	0.259 , 0.323 0.250 , 0.308	Depositor DCC
$R_{free}$ test set	5544 reflections (1.01%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	90.4	Xtrriage
Anisotropy	0.290	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.10 , 13.7	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.34$ , $\langle L^2 \rangle = 0.17$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.90	EDS
Total number of atoms	284264	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	129.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.64% 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, 0.333 respectively for untwinned datasets, and 0.375, 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

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	A0	0.41	0/450	0.71	0/599
1	C0	0.48	0/450	0.78	0/599
2	A1	0.42	0/448	0.69	0/594
2	C1	0.46	0/448	0.73	0/594
3	A2	0.46	0/380	0.76	0/498
3	C2	0.46	0/380	0.83	1/498 (0.2%)
4	A3	0.52	0/513	0.79	0/676
4	C3	0.54	0/513	0.91	0/676
5	A4	0.43	0/303	0.69	0/397
5	C4	0.46	0/303	0.78	0/397
6	A5	0.64	0/134	0.72	0/176
7	AA	0.76	3/2803 (0.1%)	1.48	39/4371 (0.9%)
7	CA	0.79	2/2803 (0.1%)	1.52	47/4371 (1.1%)
8	AB	0.82	7/68314 (0.0%)	1.58	975/106569 (0.9%)
8	CB	0.90	15/68314 (0.0%)	1.64	1204/106569 (1.1%)
9	AC	0.51	0/2093	0.81	2/2815 (0.1%)
9	CC	0.55	0/2093	0.82	1/2815 (0.0%)
10	AD	0.45	0/1586	0.72	0/2134
10	CD	0.51	0/1586	0.77	0/2134
11	AE	0.47	0/1571	0.77	0/2113
11	CE	0.50	0/1571	0.75	0/2113
12	AF	0.30	0/1444	0.53	0/1937
12	CF	0.32	0/1444	0.54	0/1937
13	AG	0.38	0/1343	0.62	0/1816
13	CG	0.37	0/1343	0.62	0/1816
14	AH	0.34	0/1122	0.60	0/1515
14	CH	0.37	0/1122	0.64	0/1515
15	AI	0.29	0/1046	0.52	0/1410
15	CI	0.26	0/1045	0.52	0/1406
16	AJ	0.43	0/1136	0.71	0/1531
16	CJ	0.50	0/1136	0.75	0/1531
17	AK	0.50	0/940	0.71	0/1260



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	CK	0.54	0/940	0.72	0/1260
18	AL	0.46	0/1062	0.84	1/1413 (0.1%)
18	CL	0.44	0/1062	0.81	0/1413
19	AM	0.46	0/1093	0.73	0/1460
19	CM	0.48	0/1093	0.77	0/1460
20	AN	0.41	0/1021	0.66	0/1364
20	CN	0.49	0/1021	0.73	0/1364
21	AO	0.38	0/910	0.69	0/1219
21	CO	0.45	0/910	0.77	0/1219
22	AP	0.44	0/929	0.77	1/1242 (0.1%)
22	CP	0.51	0/929	0.81	1/1242 (0.1%)
23	AQ	0.45	0/960	0.71	0/1278
23	CQ	0.53	0/960	0.81	1/1278 (0.1%)
24	AR	0.41	0/829	0.72	0/1107
24	CR	0.46	0/829	0.75	0/1107
25	AS	0.43	0/864	0.74	0/1156
25	CS	0.44	0/864	0.82	0/1156
26	AT	0.45	0/785	0.68	0/1050
26	CT	0.43	0/785	0.69	0/1050
27	AU	0.48	0/788	0.72	0/1053
27	CU	0.42	0/788	0.69	0/1053
28	AV	0.34	0/766	0.52	0/1025
28	CV	0.36	0/766	0.52	0/1025
29	AW	0.42	0/642	0.76	0/848
29	CW	0.45	0/642	0.78	0/848
30	AX	0.47	0/510	0.76	0/677
30	CX	0.40	0/510	0.69	0/677
31	AY	0.36	0/453	0.66	0/605
31	CY	0.34	0/453	0.67	0/605
32	AZ	0.56	0/559	0.94	2/745 (0.3%)
32	CZ	0.68	0/559	0.97	0/745
33	BA	0.70	4/36761 (0.0%)	1.42	407/57346 (0.7%)
33	DA	0.82	4/36762 (0.0%)	1.58	674/57350 (1.2%)
34	BB	0.32	0/1736	0.54	0/2340
34	DB	0.36	0/1736	0.61	0/2340
35	BC	0.33	0/1652	0.53	0/2227
35	DC	0.39	0/1652	0.61	0/2227
36	BD	0.36	0/1665	0.62	0/2227
36	DD	0.46	0/1665	0.68	0/2227
37	BE	0.37	0/1119	0.56	0/1506
37	DE	0.43	0/1119	0.67	0/1506
38	BF	0.40	1/836 (0.1%)	0.57	0/1130
38	DF	0.41	1/836 (0.1%)	0.63	1/1130 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
39	BG	0.33	0/1188	0.52	0/1593
39	DG	0.38	0/1212	0.58	0/1626
40	BH	0.32	0/989	0.55	0/1326
40	DH	0.44	0/989	0.69	0/1326
41	BI	0.29	0/1034	0.51	0/1375
41	DI	0.33	0/1034	0.64	1/1375 (0.1%)
42	BJ	0.33	1/797 (0.1%)	0.53	0/1079
42	DJ	0.36	1/797 (0.1%)	0.57	0/1079
43	BK	0.35	0/893	0.61	0/1205
43	DK	0.43	0/893	0.70	0/1205
44	BL	0.33	0/969	0.58	0/1300
44	DL	0.42	0/969	0.67	0/1300
45	BM	0.29	0/893	0.50	0/1195
45	DM	0.37	1/885 (0.1%)	0.60	0/1183
46	BN	0.29	0/785	0.51	0/1043
46	DN	0.30	0/785	0.56	0/1043
47	BO	0.33	0/724	0.55	0/966
47	DO	0.38	0/724	0.63	0/966
48	BP	0.30	0/659	0.51	0/884
48	DP	0.49	0/649	0.69	0/872
49	BQ	0.37	0/658	0.59	0/883
49	DQ	0.39	0/666	0.65	0/892
50	BR	0.40	0/463	0.62	0/623
50	DR	0.49	0/463	0.70	0/623
51	BS	0.32	1/653 (0.2%)	0.50	0/879
51	DS	0.37	1/661 (0.2%)	0.62	0/890
52	BT	0.32	0/671	0.49	0/888
52	DT	0.39	0/671	0.58	0/888
53	BU	0.42	0/431	0.56	0/572
53	DU	0.55	0/431	0.73	0/572
All	All	0.73	42/306634 (0.0%)	1.39	3358/458333 (0.7%)

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	C0	0	2
4	C3	0	2
11	CE	0	3
13	AG	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
14	CH	0	1
16	AJ	0	1
16	CJ	0	1
18	AL	0	1
18	CL	0	1
19	AM	0	1
20	CN	0	2
22	AP	0	3
22	CP	0	4
24	CR	0	1
25	CS	0	2
26	CT	0	1
30	CX	0	1
32	AZ	0	1
32	CZ	0	1
All	All	0	30

The worst 5 of 42 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	DA	765	G	N9-C4	9.10	1.45	1.38
8	CB	301	G	C3'-O3'	7.66	1.52	1.42
7	CA	87	U	C1'-N1	7.10	1.59	1.48
7	AA	87	U	C1'-N1	6.70	1.58	1.48
33	DA	519	C	C1'-N1	6.38	1.58	1.48

The worst 5 of 3358 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	AB	2288	A	C2-N3-C4	-70.19	75.50	110.60
8	CB	2288	A	C2-N3-C4	-69.49	75.85	110.60
8	CB	2288	A	N1-C2-N3	59.84	159.22	129.30
8	AB	2288	A	C6-N1-C2	-58.83	83.30	118.60
8	AB	2288	A	N1-C2-N3	58.75	158.67	129.30

There are no chirality outliers.

5 of 30 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
13	AG	109	SER	Peptide
16	AJ	9	GLU	Peptide

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Mol	Chain	Res	Type	Group
18	AL	53	GLY	Peptide
19	AM	88	ASN	Peptide
22	AP	46	VAL	Peptide

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A0	444	0	461	86	0
1	C0	444	0	461	112	0
2	A1	441	0	485	104	0
2	C1	441	0	485	89	0
3	A2	377	0	418	106	0
3	C2	377	0	418	104	0
4	A3	504	0	574	171	0
4	C3	504	0	574	137	0
5	A4	302	0	340	104	0
5	C4	302	0	340	99	0
6	A5	134	0	153	17	0
7	AA	2507	0	1270	277	0
7	CA	2507	0	1270	303	0
8	AB	60995	0	30679	6966	0
8	CB	60995	0	30678	7146	0
9	AC	2054	0	2122	607	0
9	CC	2054	0	2122	625	0
10	AD	1565	0	1616	443	0
10	CD	1565	0	1616	508	0
11	AE	1552	0	1619	432	0
11	CE	1552	0	1619	401	0
12	AF	1420	0	1460	177	0
12	CF	1420	0	1460	216	0
13	AG	1323	0	1374	196	0
13	CG	1323	0	1374	226	0
14	AH	1111	0	1148	160	0
14	CH	1111	0	1148	191	0
15	AI	1032	0	1088	100	0
15	CI	1032	0	1088	131	0
16	AJ	1113	0	1147	293	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	CJ	1113	0	1147	307	0
17	AK	931	0	1000	161	0
17	CK	931	0	1000	159	0
18	AL	1053	0	1129	403	0
18	CL	1053	0	1129	336	0
19	AM	1074	0	1157	276	0
19	CM	1074	0	1157	294	0
20	AN	1008	0	1045	219	0
20	CN	1008	0	1045	248	0
21	AO	900	0	935	206	0
21	CO	900	0	935	247	0
22	AP	917	0	965	248	0
22	CP	917	0	965	243	0
23	AQ	947	0	1022	269	0
23	CQ	947	0	1022	284	0
24	AR	816	0	839	236	0
24	CR	816	0	839	308	0
25	AS	857	0	922	172	0
25	CS	857	0	922	200	0
26	AT	778	0	840	178	0
26	CT	778	0	840	173	0
27	AU	780	0	834	183	0
27	CU	780	0	834	172	0
28	AV	753	0	780	100	0
28	CV	753	0	780	90	0
29	AW	634	0	656	205	0
29	CW	634	0	656	226	0
30	AX	509	0	543	111	0
30	CX	509	0	543	123	0
31	AY	449	0	491	66	0
31	CY	449	0	491	84	0
32	AZ	549	0	552	174	0
32	CZ	549	0	552	152	0
33	BA	32831	0	16522	3630	0
33	DA	32831	0	16521	4106	0
34	BB	1705	0	1732	245	0
34	DB	1705	0	1732	220	0
35	BC	1625	0	1699	214	0
35	DC	1625	0	1699	274	0
36	BD	1643	0	1710	284	0
36	DD	1643	0	1710	280	0
37	BE	1106	0	1148	176	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
37	DE	1106	0	1148	200	0
38	BF	818	0	808	114	0
38	DF	818	0	808	143	0
39	BG	1175	0	1230	116	0
39	DG	1197	0	1246	145	0
40	BH	979	0	1034	141	0
40	DH	979	0	1034	156	0
41	BI	1022	0	1070	141	0
41	DI	1022	0	1070	158	0
42	BJ	787	0	828	99	0
42	DJ	787	0	828	129	0
43	BK	877	0	887	127	0
43	DK	877	0	887	134	0
44	BL	955	0	1019	145	0
44	DL	955	0	1019	149	0
45	BM	884	0	944	125	0
45	DM	877	0	937	107	0
46	BN	774	0	827	138	0
46	DN	774	0	827	127	0
47	BO	716	0	742	96	0
47	DO	716	0	742	106	0
48	BP	649	0	666	109	0
48	DP	639	0	656	121	0
49	BQ	649	0	691	70	0
49	DQ	657	0	702	91	0
50	BR	456	0	478	75	0
50	DR	456	0	478	100	0
51	BS	638	0	665	112	0
51	DS	645	0	675	97	0
52	BT	665	0	714	85	0
52	DT	665	0	714	91	0
53	BU	426	0	449	81	0
53	DU	426	0	449	67	0
54	AB	109	0	0	0	0
54	AE	1	0	0	0	0
54	BA	58	0	0	0	0
54	BN	1	0	0	0	0
54	BT	1	0	0	0	0
54	CB	109	0	0	0	0
54	CC	1	0	0	0	0
54	CL	1	0	0	0	0
54	DA	61	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
54	DN	1	0	0	0	0
55	A2	2	0	0	2	0
55	AB	489	0	0	65	0
55	AC	3	0	0	1	0
55	AD	1	0	0	0	0
55	AE	3	0	0	2	0
55	AJ	2	0	0	2	0
55	AL	3	0	0	1	0
55	BA	284	0	0	26	0
55	BE	3	0	0	0	0
55	BI	2	0	0	0	0
55	BK	1	0	0	0	0
55	BL	2	0	0	0	0
55	BN	3	0	0	0	0
55	BP	1	0	0	0	0
55	BT	2	0	0	0	0
55	C0	1	0	0	0	0
55	C2	2	0	0	0	0
55	CB	485	0	0	65	0
55	CC	3	0	0	0	0
55	CD	1	0	0	0	0
55	CE	1	0	0	0	0
55	CJ	2	0	0	0	0
55	CK	1	0	0	0	0
55	CL	5	0	0	1	0
55	CN	3	0	0	2	0
55	CP	1	0	0	0	0
55	CQ	1	0	0	0	0
55	CT	2	0	0	0	0
55	CU	1	0	0	2	0
55	DA	293	0	0	18	0
55	DD	1	0	0	0	0
55	DE	2	0	0	0	0
55	DG	1	0	0	0	0
55	DL	4	0	0	0	0
55	DN	2	0	0	1	0
55	DP	1	0	0	0	0
55	DT	3	0	0	2	0
All	All	284264	0	190919	37666	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 80.

The worst 5 of 37666 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)
8:CB:2822:G:OP2	20:CN:2:ARG:HB3	1.29	1.26
33:DA:585:G:H5'	33:DA:585:G:C8	1.76	1.21
33:DA:235:C:H2'	33:DA:236:A:C8	1.77	1.19
1:C0:27:LEU:HG	8:CB:2886:A:C6	1.77	1.19
23:CQ:49:ARG:HG3	24:CR:77:PHE:CZ	1.79	1.18

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	A0	54/56 (96%)	26 (48%)	13 (24%)	15 (28%)	0	0
1	C0	54/56 (96%)	24 (44%)	12 (22%)	18 (33%)	0	0
2	A1	52/54 (96%)	18 (35%)	15 (29%)	19 (36%)	0	0
2	C1	52/54 (96%)	18 (35%)	12 (23%)	22 (42%)	0	0
3	A2	44/46 (96%)	15 (34%)	16 (36%)	13 (30%)	0	0
3	C2	44/46 (96%)	16 (36%)	16 (36%)	12 (27%)	0	0
4	A3	62/64 (97%)	24 (39%)	17 (27%)	21 (34%)	0	0
4	C3	62/64 (97%)	29 (47%)	20 (32%)	13 (21%)	0	1
5	A4	36/38 (95%)	14 (39%)	13 (36%)	9 (25%)	0	0
5	C4	36/38 (95%)	9 (25%)	16 (44%)	11 (31%)	0	0
6	A5	14/16 (88%)	6 (43%)	5 (36%)	3 (21%)	0	1
9	AC	266/273 (97%)	101 (38%)	67 (25%)	98 (37%)	0	0
9	CC	266/273 (97%)	101 (38%)	70 (26%)	95 (36%)	0	0
10	AD	207/209 (99%)	80 (39%)	56 (27%)	71 (34%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	CD	207/209 (99%)	72 (35%)	65 (31%)	70 (34%)	0	0
11	AE	199/201 (99%)	76 (38%)	58 (29%)	65 (33%)	0	0
11	CE	199/201 (99%)	71 (36%)	63 (32%)	65 (33%)	0	0
12	AF	176/178 (99%)	95 (54%)	48 (27%)	33 (19%)	0	2
12	CF	176/178 (99%)	95 (54%)	45 (26%)	36 (20%)	0	1
13	AG	174/176 (99%)	98 (56%)	42 (24%)	34 (20%)	0	2
13	CG	174/176 (99%)	89 (51%)	52 (30%)	33 (19%)	0	2
14	AH	147/149 (99%)	94 (64%)	34 (23%)	19 (13%)	0	5
14	CH	147/149 (99%)	74 (50%)	39 (26%)	34 (23%)	0	0
15	AI	139/141 (99%)	92 (66%)	33 (24%)	14 (10%)	0	8
15	CI	137/141 (97%)	87 (64%)	32 (23%)	18 (13%)	0	4
16	AJ	139/142 (98%)	60 (43%)	34 (24%)	45 (32%)	0	0
16	CJ	139/142 (98%)	57 (41%)	37 (27%)	45 (32%)	0	0
17	AK	120/123 (98%)	67 (56%)	30 (25%)	23 (19%)	0	2
17	CK	120/123 (98%)	66 (55%)	29 (24%)	25 (21%)	0	1
18	AL	142/144 (99%)	53 (37%)	37 (26%)	52 (37%)	0	0
18	CL	142/144 (99%)	54 (38%)	39 (28%)	49 (34%)	0	0
19	AM	134/136 (98%)	51 (38%)	46 (34%)	37 (28%)	0	0
19	CM	134/136 (98%)	55 (41%)	45 (34%)	34 (25%)	0	0
20	AN	125/127 (98%)	55 (44%)	43 (34%)	27 (22%)	0	1
20	CN	125/127 (98%)	55 (44%)	44 (35%)	26 (21%)	0	1
21	AO	115/117 (98%)	49 (43%)	40 (35%)	26 (23%)	0	0
21	CO	115/117 (98%)	46 (40%)	41 (36%)	28 (24%)	0	0
22	AP	112/114 (98%)	48 (43%)	30 (27%)	34 (30%)	0	0
22	CP	112/114 (98%)	48 (43%)	31 (28%)	33 (30%)	0	0
23	AQ	115/117 (98%)	62 (54%)	26 (23%)	27 (24%)	0	0
23	CQ	115/117 (98%)	57 (50%)	30 (26%)	28 (24%)	0	0
24	AR	101/103 (98%)	31 (31%)	25 (25%)	45 (45%)	0	0
24	CR	101/103 (98%)	37 (37%)	23 (23%)	41 (41%)	0	0
25	AS	108/110 (98%)	58 (54%)	24 (22%)	26 (24%)	0	0
25	CS	108/110 (98%)	52 (48%)	29 (27%)	27 (25%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	AT	98/100 (98%)	42 (43%)	33 (34%)	23 (24%)	0	0
26	CT	98/100 (98%)	42 (43%)	33 (34%)	23 (24%)	0	0
27	AU	101/103 (98%)	40 (40%)	36 (36%)	25 (25%)	0	0
27	CU	101/103 (98%)	38 (38%)	31 (31%)	32 (32%)	0	0
28	AV	92/94 (98%)	58 (63%)	21 (23%)	13 (14%)	0	4
28	CV	92/94 (98%)	57 (62%)	21 (23%)	14 (15%)	0	3
29	AW	82/84 (98%)	20 (24%)	28 (34%)	34 (42%)	0	0
29	CW	82/84 (98%)	17 (21%)	29 (35%)	36 (44%)	0	0
30	AX	61/63 (97%)	17 (28%)	25 (41%)	19 (31%)	0	0
30	CX	61/63 (97%)	26 (43%)	22 (36%)	13 (21%)	0	1
31	AY	56/58 (97%)	25 (45%)	17 (30%)	14 (25%)	0	0
31	CY	56/58 (97%)	26 (46%)	19 (34%)	11 (20%)	0	2
32	AZ	68/70 (97%)	30 (44%)	19 (28%)	19 (28%)	0	0
32	CZ	68/70 (97%)	34 (50%)	21 (31%)	13 (19%)	0	2
34	BB	217/240 (90%)	128 (59%)	65 (30%)	24 (11%)	0	6
34	DB	217/240 (90%)	124 (57%)	59 (27%)	34 (16%)	0	3
35	BC	205/232 (88%)	116 (57%)	59 (29%)	30 (15%)	0	3
35	DC	205/232 (88%)	112 (55%)	67 (33%)	26 (13%)	0	5
36	BD	203/205 (99%)	120 (59%)	57 (28%)	26 (13%)	0	5
36	DD	203/205 (99%)	116 (57%)	50 (25%)	37 (18%)	0	2
37	BE	149/166 (90%)	94 (63%)	33 (22%)	22 (15%)	0	3
37	DE	149/166 (90%)	77 (52%)	49 (33%)	23 (15%)	0	3
38	BF	99/135 (73%)	62 (63%)	25 (25%)	12 (12%)	0	5
38	DF	99/135 (73%)	56 (57%)	22 (22%)	21 (21%)	0	1
39	BG	149/178 (84%)	100 (67%)	34 (23%)	15 (10%)	0	8
39	DG	151/178 (85%)	94 (62%)	43 (28%)	14 (9%)	0	10
40	BH	127/129 (98%)	73 (58%)	42 (33%)	12 (9%)	0	10
40	DH	127/129 (98%)	70 (55%)	34 (27%)	23 (18%)	0	2
41	BI	125/129 (97%)	78 (62%)	35 (28%)	12 (10%)	0	9
41	DI	125/129 (97%)	73 (58%)	32 (26%)	20 (16%)	0	3
42	BJ	97/103 (94%)	59 (61%)	23 (24%)	15 (16%)	0	3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
42	DJ	97/103 (94%)	62 (64%)	24 (25%)	11 (11%)	0	6
43	BK	115/128 (90%)	69 (60%)	31 (27%)	15 (13%)	0	4
43	DK	115/128 (90%)	73 (64%)	30 (26%)	12 (10%)	0	8
44	BL	121/123 (98%)	67 (55%)	37 (31%)	17 (14%)	0	4
44	DL	121/123 (98%)	73 (60%)	32 (26%)	16 (13%)	0	4
45	BM	113/117 (97%)	70 (62%)	32 (28%)	11 (10%)	0	9
45	DM	112/117 (96%)	78 (70%)	20 (18%)	14 (12%)	0	5
46	BN	92/100 (92%)	58 (63%)	18 (20%)	16 (17%)	0	2
46	DN	92/100 (92%)	55 (60%)	18 (20%)	19 (21%)	0	1
47	BO	86/89 (97%)	51 (59%)	26 (30%)	9 (10%)	0	7
47	DO	86/89 (97%)	51 (59%)	26 (30%)	9 (10%)	0	7
48	BP	80/82 (98%)	43 (54%)	22 (28%)	15 (19%)	0	2
48	DP	79/82 (96%)	38 (48%)	24 (30%)	17 (22%)	0	1
49	BQ	79/83 (95%)	53 (67%)	15 (19%)	11 (14%)	0	4
49	DQ	79/83 (95%)	53 (67%)	16 (20%)	10 (13%)	0	5
50	BR	54/74 (73%)	25 (46%)	19 (35%)	10 (18%)	0	2
50	DR	54/74 (73%)	24 (44%)	19 (35%)	11 (20%)	0	1
51	BS	78/91 (86%)	52 (67%)	20 (26%)	6 (8%)	1	14
51	DS	79/91 (87%)	50 (63%)	20 (25%)	9 (11%)	0	6
52	BT	83/86 (96%)	51 (61%)	20 (24%)	12 (14%)	0	4
52	DT	83/86 (96%)	52 (63%)	20 (24%)	11 (13%)	0	4
53	BU	50/71 (70%)	26 (52%)	14 (28%)	10 (20%)	0	1
53	DU	50/71 (70%)	13 (26%)	27 (54%)	10 (20%)	0	1
All	All	11307/11918 (95%)	5696 (50%)	3156 (28%)	2455 (22%)	0	1

5 of 2455 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A0	19	ASP
1	A0	21	LEU
1	A0	25	THR
1	A0	29	VAL
1	A0	36	LYS

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	A0	47/47 (100%)	34 (72%)	13 (28%)	0	2
1	C0	47/47 (100%)	39 (83%)	8 (17%)	2	13
2	A1	48/48 (100%)	40 (83%)	8 (17%)	2	14
2	C1	48/48 (100%)	36 (75%)	12 (25%)	0	4
3	A2	38/38 (100%)	18 (47%)	20 (53%)	0	0
3	C2	38/38 (100%)	20 (53%)	18 (47%)	0	0
4	A3	51/51 (100%)	34 (67%)	17 (33%)	0	1
4	C3	51/51 (100%)	30 (59%)	21 (41%)	0	0
5	A4	34/34 (100%)	21 (62%)	13 (38%)	0	0
5	C4	34/34 (100%)	19 (56%)	15 (44%)	0	0
6	A5	15/15 (100%)	12 (80%)	3 (20%)	1	8
9	AC	213/218 (98%)	150 (70%)	63 (30%)	0	2
9	CC	213/218 (98%)	147 (69%)	66 (31%)	0	2
10	AD	164/164 (100%)	112 (68%)	52 (32%)	0	1
10	CD	164/164 (100%)	111 (68%)	53 (32%)	0	1
11	AE	165/165 (100%)	120 (73%)	45 (27%)	0	3
11	CE	165/165 (100%)	118 (72%)	47 (28%)	0	2
12	AF	149/149 (100%)	129 (87%)	20 (13%)	4	22
12	CF	149/149 (100%)	131 (88%)	18 (12%)	5	25
13	AG	137/137 (100%)	103 (75%)	34 (25%)	0	4
13	CG	137/137 (100%)	106 (77%)	31 (23%)	1	6
14	AH	114/114 (100%)	87 (76%)	27 (24%)	1	5
14	CH	114/114 (100%)	85 (75%)	29 (25%)	0	4
15	AI	109/109 (100%)	93 (85%)	16 (15%)	3	19
15	CI	109/109 (100%)	98 (90%)	11 (10%)	7	32
16	AJ	114/116 (98%)	74 (65%)	40 (35%)	0	1

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	CJ	114/116 (98%)	76 (67%)	38 (33%)	0	1
17	AK	102/104 (98%)	68 (67%)	34 (33%)	0	1
17	CK	102/104 (98%)	65 (64%)	37 (36%)	0	0
18	AL	103/103 (100%)	61 (59%)	42 (41%)	0	0
18	CL	103/103 (100%)	63 (61%)	40 (39%)	0	0
19	AM	109/109 (100%)	59 (54%)	50 (46%)	0	0
19	CM	109/109 (100%)	66 (61%)	43 (39%)	0	0
20	AN	103/103 (100%)	74 (72%)	29 (28%)	0	2
20	CN	103/103 (100%)	69 (67%)	34 (33%)	0	1
21	AO	87/87 (100%)	64 (74%)	23 (26%)	0	3
21	CO	87/87 (100%)	69 (79%)	18 (21%)	1	7
22	AP	99/99 (100%)	79 (80%)	20 (20%)	1	8
22	CP	99/99 (100%)	81 (82%)	18 (18%)	1	10
23	AQ	89/89 (100%)	58 (65%)	31 (35%)	0	1
23	CQ	89/89 (100%)	55 (62%)	34 (38%)	0	0
24	AR	84/84 (100%)	59 (70%)	25 (30%)	0	2
24	CR	84/84 (100%)	52 (62%)	32 (38%)	0	0
25	AS	93/93 (100%)	66 (71%)	27 (29%)	0	2
25	CS	93/93 (100%)	66 (71%)	27 (29%)	0	2
26	AT	83/84 (99%)	60 (72%)	23 (28%)	0	2
26	CT	83/84 (99%)	59 (71%)	24 (29%)	0	2
27	AU	83/84 (99%)	63 (76%)	20 (24%)	0	5
27	CU	83/84 (99%)	63 (76%)	20 (24%)	0	5
28	AV	78/78 (100%)	63 (81%)	15 (19%)	1	9
28	CV	78/78 (100%)	62 (80%)	16 (20%)	1	7
29	AW	62/62 (100%)	42 (68%)	20 (32%)	0	1
29	CW	62/62 (100%)	39 (63%)	23 (37%)	0	0
30	AX	55/55 (100%)	40 (73%)	15 (27%)	0	3
30	CX	55/55 (100%)	38 (69%)	17 (31%)	0	2
31	AY	48/48 (100%)	33 (69%)	15 (31%)	0	1
31	CY	48/48 (100%)	32 (67%)	16 (33%)	0	1

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
32	AZ	62/62 (100%)	44 (71%)	18 (29%)	0	2
32	CZ	62/62 (100%)	43 (69%)	19 (31%)	0	2
34	BB	180/198 (91%)	143 (79%)	37 (21%)	1	7
34	DB	180/198 (91%)	140 (78%)	40 (22%)	1	6
35	BC	170/189 (90%)	142 (84%)	28 (16%)	2	14
35	DC	170/189 (90%)	130 (76%)	40 (24%)	1	5
36	BD	172/172 (100%)	137 (80%)	35 (20%)	1	8
36	DD	172/172 (100%)	126 (73%)	46 (27%)	0	3
37	BE	113/125 (90%)	86 (76%)	27 (24%)	0	5
37	DE	113/125 (90%)	82 (73%)	31 (27%)	0	3
38	BF	87/116 (75%)	71 (82%)	16 (18%)	1	10
38	DF	87/116 (75%)	67 (77%)	20 (23%)	1	6
39	BG	123/146 (84%)	105 (85%)	18 (15%)	3	19
39	DG	125/146 (86%)	95 (76%)	30 (24%)	0	5
40	BH	104/104 (100%)	78 (75%)	26 (25%)	0	4
40	DH	104/104 (100%)	78 (75%)	26 (25%)	0	4
41	BI	105/106 (99%)	81 (77%)	24 (23%)	1	6
41	DI	105/106 (99%)	82 (78%)	23 (22%)	1	6
42	BJ	86/90 (96%)	68 (79%)	18 (21%)	1	7
42	DJ	86/90 (96%)	71 (83%)	15 (17%)	2	12
43	BK	90/98 (92%)	68 (76%)	22 (24%)	0	5
43	DK	90/98 (92%)	61 (68%)	29 (32%)	0	1
44	BL	103/103 (100%)	82 (80%)	21 (20%)	1	7
44	DL	103/103 (100%)	79 (77%)	24 (23%)	1	5
45	BM	92/95 (97%)	76 (83%)	16 (17%)	2	12
45	DM	91/95 (96%)	74 (81%)	17 (19%)	1	10
46	BN	79/83 (95%)	66 (84%)	13 (16%)	2	14
46	DN	79/83 (95%)	64 (81%)	15 (19%)	1	9
47	BO	76/77 (99%)	63 (83%)	13 (17%)	2	13
47	DO	76/77 (99%)	60 (79%)	16 (21%)	1	7
48	BP	65/65 (100%)	54 (83%)	11 (17%)	2	14

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
48	DP	65/65 (100%)	42 (65%)	23 (35%)	0	0
49	BQ	74/77 (96%)	65 (88%)	9 (12%)	5	25
49	DQ	75/77 (97%)	63 (84%)	12 (16%)	2	16
50	BR	48/64 (75%)	39 (81%)	9 (19%)	1	10
50	DR	48/64 (75%)	35 (73%)	13 (27%)	0	3
51	BS	70/78 (90%)	59 (84%)	11 (16%)	2	17
51	DS	71/78 (91%)	53 (75%)	18 (25%)	0	4
52	BT	65/65 (100%)	55 (85%)	10 (15%)	2	17
52	DT	65/65 (100%)	57 (88%)	8 (12%)	4	25
53	BU	44/61 (72%)	39 (89%)	5 (11%)	5	28
53	DU	44/61 (72%)	31 (70%)	13 (30%)	0	2
All	All	9356/9707 (96%)	6965 (74%)	2391 (26%)	0	4

5 of 2391 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
28	CV	70	ILE
47	DO	17	ASP
31	CY	43	ILE
28	CV	60	VAL
37	DE	111	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 328 such sidechains are listed below:

Mol	Chain	Res	Type
22	CP	74	GLN
39	DG	8	GLN
24	CR	43	ASN
32	CZ	6	HIS
43	DK	28	ASN

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
33	BA	1528/1542 (99%)	618 (40%)	204 (13%)
33	DA	1529/1542 (99%)	663 (43%)	211 (13%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
7	AA	116/120 (96%)	40 (34%)	12 (10%)
7	CA	117/120 (97%)	48 (41%)	15 (12%)
8	AB	2839/2904 (97%)	1140 (40%)	396 (13%)
8	CB	2838/2904 (97%)	1137 (40%)	386 (13%)
All	All	8967/9132 (98%)	3646 (40%)	1224 (13%)

5 of 3646 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
7	AA	6	G
7	AA	7	G
7	AA	9	G
7	AA	12	C
7	AA	13	G

5 of 1224 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
8	CB	2223	G
33	DA	965	U
8	CB	2434	A
8	CB	2214	C
33	DA	238	A

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 343 ligands modelled in this entry, 343 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](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
33	BA	1
15	CI	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	BA	1045:C	O3'	1046:A	P	4.69
1	CI	72:THR	C	73:PRO	N	4.33

## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

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	A0	56/56 (100%)	0.29	5 (8%) 9 8	109, 149, 271, 317	0
1	C0	56/56 (100%)	0.29	5 (8%) 9 8	97, 120, 190, 244	0
2	A1	54/54 (100%)	0.82	9 (16%) 1 2	124, 143, 239, 296	0
2	C1	54/54 (100%)	1.08	9 (16%) 1 2	92, 113, 223, 254	0
3	A2	46/46 (100%)	0.49	3 (6%) 18 14	74, 92, 165, 271	0
3	C2	46/46 (100%)	0.04	3 (6%) 18 14	68, 103, 198, 264	0
4	A3	64/64 (100%)	0.11	5 (7%) 13 11	80, 106, 228, 309	0
4	C3	64/64 (100%)	-0.07	2 (3%) 49 40	69, 99, 174, 229	0
5	A4	38/38 (100%)	1.06	9 (23%) 0 0	115, 135, 250, 284	0
5	C4	38/38 (100%)	0.77	5 (13%) 3 4	124, 144, 238, 298	0
6	A5	16/16 (100%)	-0.24	0 100 100	73, 108, 197, 216	0
7	AA	117/120 (97%)	-0.54	0 100 100	78, 127, 174, 316	0
7	CA	117/120 (97%)	-0.57	1 (0%) 84 81	71, 126, 170, 285	0
8	AB	2841/2904 (97%)	-0.45	31 (1%) 80 76	57, 105, 213, 373	0
8	CB	2841/2904 (97%)	-0.60	12 (0%) 92 91	41, 89, 202, 421	0
9	AC	268/273 (98%)	0.08	14 (5%) 27 24	71, 107, 196, 257	0
9	CC	268/273 (98%)	-0.08	12 (4%) 33 28	63, 91, 165, 248	0
10	AD	209/209 (100%)	0.20	8 (3%) 40 34	12, 127, 226, 325	0
10	CD	209/209 (100%)	-0.07	9 (4%) 35 30	11, 94, 186, 271	0
11	AE	201/201 (100%)	0.16	15 (7%) 14 11	92, 120, 206, 299	0
11	CE	201/201 (100%)	0.30	23 (11%) 5 5	88, 117, 224, 290	0
12	AF	178/178 (100%)	0.22	12 (6%) 17 14	121, 170, 253, 334	0
12	CF	178/178 (100%)	0.21	10 (5%) 24 20	92, 155, 224, 286	0
13	AG	176/176 (100%)	0.12	16 (9%) 9 8	100, 137, 207, 246	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	CG	176/176 (100%)	0.46	24 (13%) 3 3	88, 138, 222, 271	0
14	AH	149/149 (100%)	1.69	48 (32%) 0 0	71, 314, 427, 456	0
14	CH	149/149 (100%)	0.36	12 (8%) 12 10	107, 147, 233, 274	0
15	AI	141/141 (100%)	1.86	50 (35%) 0 0	155, 233, 307, 356	0
15	CI	141/141 (100%)	2.80	62 (43%) 0 0	219, 343, 422, 470	0
16	AJ	141/142 (99%)	0.04	8 (5%) 23 19	105, 130, 217, 267	0
16	CJ	141/142 (99%)	0.15	4 (2%) 53 45	104, 121, 207, 250	0
17	AK	122/123 (99%)	-0.23	0 100 100	81, 109, 162, 234	0
17	CK	122/123 (99%)	-0.48	0 100 100	80, 94, 127, 208	0
18	AL	144/144 (100%)	1.03	22 (15%) 2 2	94, 138, 281, 363	0
18	CL	144/144 (100%)	0.61	22 (15%) 2 2	83, 128, 275, 315	0
19	AM	136/136 (100%)	0.11	12 (8%) 10 8	105, 126, 222, 268	0
19	CM	136/136 (100%)	-0.04	7 (5%) 28 24	77, 108, 223, 279	0
20	AN	127/127 (100%)	0.03	4 (3%) 49 40	96, 114, 200, 251	0
20	CN	127/127 (100%)	-0.11	6 (4%) 31 27	58, 78, 155, 257	0
21	AO	117/117 (100%)	0.20	10 (8%) 10 9	107, 162, 236, 299	0
21	CO	117/117 (100%)	0.39	13 (11%) 5 5	52, 118, 211, 255	0
22	AP	114/114 (100%)	-0.11	1 (0%) 84 81	85, 123, 219, 281	0
22	CP	114/114 (100%)	-0.26	2 (1%) 68 63	77, 96, 196, 257	0
23	AQ	117/117 (100%)	-0.28	0 100 100	70, 106, 152, 203	0
23	CQ	117/117 (100%)	-0.30	1 (0%) 84 81	70, 93, 148, 225	0
24	AR	103/103 (100%)	0.21	3 (2%) 51 43	105, 145, 250, 346	0
24	CR	103/103 (100%)	0.27	8 (7%) 13 11	87, 132, 229, 286	0
25	AS	110/110 (100%)	0.09	3 (2%) 54 46	77, 106, 167, 279	0
25	CS	110/110 (100%)	-0.09	2 (1%) 68 63	49, 85, 152, 211	0
26	AT	100/100 (100%)	0.00	4 (4%) 38 32	94, 130, 222, 250	0
26	CT	100/100 (100%)	0.39	11 (11%) 5 5	85, 120, 248, 278	0
27	AU	103/103 (100%)	1.06	24 (23%) 0 0	90, 140, 235, 264	0
27	CU	103/103 (100%)	0.87	21 (20%) 1 1	118, 162, 256, 281	0
28	AV	94/94 (100%)	-0.24	3 (3%) 47 39	86, 136, 209, 234	0
28	CV	94/94 (100%)	-0.20	4 (4%) 35 30	87, 124, 194, 215	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
29	AW	84/84 (100%)	1.16	16 (19%) 1 1	116, 147, 244, 330	0
29	CW	84/84 (100%)	0.68	12 (14%) 2 3	111, 136, 238, 275	0
30	AX	63/63 (100%)	-0.08	4 (6%) 20 15	84, 130, 208, 247	0
30	CX	63/63 (100%)	0.40	9 (14%) 2 3	86, 150, 233, 320	0
31	AY	58/58 (100%)	1.50	15 (25%) 0 0	116, 143, 272, 279	0
31	CY	58/58 (100%)	0.97	7 (12%) 4 4	126, 138, 240, 249	0
32	AZ	70/70 (100%)	0.15	5 (7%) 16 12	66, 104, 170, 258	0
32	CZ	70/70 (100%)	-0.05	3 (4%) 35 30	70, 91, 169, 255	0
33	BA	1530/1542 (99%)	-0.33	15 (0%) 82 78	70, 137, 279, 497	0
33	DA	1530/1542 (99%)	-0.53	9 (0%) 89 87	45, 111, 224, 368	0
34	BB	219/240 (91%)	-0.03	7 (3%) 47 39	94, 175, 269, 316	0
34	DB	219/240 (91%)	0.18	16 (7%) 15 12	108, 159, 243, 292	0
35	BC	207/232 (89%)	0.16	20 (9%) 7 7	87, 169, 255, 315	0
35	DC	207/232 (89%)	-0.06	10 (4%) 30 26	113, 140, 207, 226	0
36	BD	205/205 (100%)	-0.20	1 (0%) 91 89	61, 139, 230, 325	0
36	DD	205/205 (100%)	-0.27	2 (0%) 82 78	71, 102, 169, 227	0
37	BE	151/166 (90%)	0.24	11 (7%) 15 12	75, 156, 254, 336	0
37	DE	151/166 (90%)	-0.04	5 (3%) 46 39	56, 99, 174, 250	0
38	BF	101/135 (74%)	-0.06	6 (5%) 22 18	57, 140, 224, 279	0
38	DF	101/135 (74%)	-0.11	1 (0%) 82 78	110, 137, 200, 247	0
39	BG	151/178 (84%)	0.68	23 (15%) 2 2	94, 206, 288, 333	0
39	DG	153/178 (85%)	0.05	5 (3%) 46 39	44, 144, 206, 228	0
40	BH	129/129 (100%)	0.24	8 (6%) 20 16	76, 157, 231, 297	0
40	DH	129/129 (100%)	-0.25	2 (1%) 72 66	70, 98, 166, 216	0
41	BI	127/129 (98%)	0.86	25 (19%) 1 1	90, 194, 271, 307	0
41	DI	127/129 (98%)	0.29	7 (5%) 25 21	103, 165, 231, 281	0
42	BJ	99/103 (96%)	1.65	35 (35%) 0 0	131, 254, 373, 423	0
42	DJ	99/103 (96%)	0.56	14 (14%) 2 3	130, 173, 223, 237	0
43	BK	117/128 (91%)	-0.13	3 (2%) 56 48	54, 128, 245, 290	0
43	DK	117/128 (91%)	-0.08	3 (2%) 56 48	69, 100, 165, 222	0
44	BL	123/123 (100%)	-0.01	4 (3%) 46 39	50, 138, 215, 332	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	DL	123/123 (100%)	-0.28	1 (0%) 86 83	64, 95, 150, 211	0
45	BM	115/117 (98%)	1.28	31 (26%) 0 0	144, 252, 315, 344	0
45	DM	114/117 (97%)	0.58	15 (13%) 3 4	113, 171, 221, 288	0
46	BN	96/100 (96%)	0.54	9 (9%) 8 7	85, 188, 308, 367	0
46	DN	96/100 (96%)	0.47	12 (12%) 3 4	105, 153, 250, 295	0
47	BO	88/89 (98%)	-0.13	1 (1%) 80 76	67, 133, 213, 255	0
47	DO	88/89 (98%)	-0.39	0 100 100	73, 105, 170, 201	0
48	BP	82/82 (100%)	0.98	18 (21%) 0 1	90, 168, 269, 347	0
48	DP	81/82 (98%)	0.41	8 (9%) 7 6	69, 93, 145, 202	0
49	BQ	81/83 (97%)	0.44	6 (7%) 14 12	101, 180, 266, 301	0
49	DQ	81/83 (97%)	-0.04	0 100 100	65, 109, 172, 212	0
50	BR	56/74 (75%)	-0.23	1 (1%) 68 63	66, 117, 216, 283	0
50	DR	56/74 (75%)	0.37	1 (1%) 68 63	74, 103, 172, 253	0
51	BS	80/91 (87%)	1.66	26 (32%) 0 0	152, 267, 315, 366	0
51	DS	81/91 (89%)	0.77	16 (19%) 1 1	122, 182, 230, 249	0
52	BT	85/86 (98%)	-0.17	0 100 100	76, 155, 224, 256	0
52	DT	85/86 (98%)	0.13	3 (3%) 44 37	79, 97, 185, 219	0
53	BU	52/71 (73%)	0.03	3 (5%) 23 19	91, 171, 256, 300	0
53	DU	52/71 (73%)	-0.40	0 100 100	95, 140, 201, 249	0
All	All	20487/21050 (97%)	-0.06	1063 (5%) 27 24	11, 121, 254, 497	0

The worst 5 of 1063 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
15	CI	98	GLY	28.8
15	CI	83	ALA	21.6
18	AL	98	ALA	17.3
15	CI	137	LEU	17.3
15	AI	70	THR	17.3

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

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

### 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 6.4 Ligands [i](#)

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, 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	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	BA	4056	1/1	0.66	0.32	81,81,81,81	0
54	MG	DA	1612	1/1	0.69	0.45	81,81,81,81	0
54	MG	CB	3038	1/1	0.74	0.17	58,58,58,58	0
54	MG	BA	4053	1/1	0.77	0.54	109,109,109,109	0
54	MG	BA	4023	1/1	0.78	0.16	63,63,63,63	1
54	MG	DA	1608	1/1	0.80	0.33	41,41,41,41	0
54	MG	BA	4054	1/1	0.80	1.00	90,90,90,90	0
54	MG	CB	3080	1/1	0.82	0.42	55,55,55,55	1
54	MG	DA	1610	1/1	0.83	0.22	48,48,48,48	0
54	MG	BA	4028	1/1	0.83	0.20	61,61,61,61	0
54	MG	AB	4062	1/1	0.85	0.16	30,30,30,30	0
54	MG	CB	3094	1/1	0.85	0.15	16,16,16,16	0
54	MG	CB	3108	1/1	0.85	0.59	53,53,53,53	1
54	MG	DA	1626	1/1	0.86	0.25	11,11,11,11	1
54	MG	DA	1632	1/1	0.86	0.39	90,90,90,90	0
54	MG	AB	4050	1/1	0.87	0.34	49,49,49,49	0
54	MG	AB	4013	1/1	0.87	0.18	46,46,46,46	0
54	MG	AB	4036	1/1	0.88	0.09	12,12,12,12	0
54	MG	BA	4002	1/1	0.88	0.32	86,86,86,86	0
54	MG	BA	4037	1/1	0.88	0.11	58,58,58,58	0
54	MG	BA	4013	1/1	0.88	0.32	73,73,73,73	0
54	MG	BA	4014	1/1	0.88	0.12	44,44,44,44	0
54	MG	BA	4021	1/1	0.89	0.29	28,28,28,28	1
54	MG	DA	1619	1/1	0.89	0.60	64,64,64,64	0
54	MG	BA	4029	1/1	0.89	0.11	44,44,44,44	0
54	MG	BA	4011	1/1	0.89	0.08	56,56,56,56	0
54	MG	DA	1636	1/1	0.89	0.07	43,43,43,43	0
54	MG	BA	4043	1/1	0.90	0.69	25,25,25,25	0
54	MG	AB	4096	1/1	0.90	0.35	46,46,46,46	0
54	MG	BA	4024	1/1	0.90	0.34	32,32,32,32	1
54	MG	CB	3107	1/1	0.90	0.16	22,22,22,22	0
54	MG	BA	4025	1/1	0.90	0.17	37,37,37,37	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
54	MG	DA	1634	1/1	0.90	0.35	110,110,110,110	0
54	MG	BT	101	1/1	0.90	0.22	27,27,27,27	0
54	MG	AB	4109	1/1	0.91	0.14	34,34,34,34	0
54	MG	DA	1607	1/1	0.91	0.20	54,54,54,54	0
54	MG	BA	4057	1/1	0.91	0.11	29,29,29,29	0
54	MG	CB	3099	1/1	0.91	0.41	43,43,43,43	0
54	MG	CB	3076	1/1	0.91	0.28	15,15,15,15	0
54	MG	AB	4098	1/1	0.92	0.36	37,37,37,37	0
54	MG	DA	1611	1/1	0.92	0.16	51,51,51,51	0
54	MG	CB	3029	1/1	0.92	0.18	39,39,39,39	0
54	MG	AB	4069	1/1	0.92	0.17	51,51,51,51	0
54	MG	CB	3043	1/1	0.92	0.07	69,69,69,69	0
54	MG	CB	3050	1/1	0.92	0.11	45,45,45,45	0
54	MG	AB	4047	1/1	0.92	0.27	48,48,48,48	0
54	MG	CB	3077	1/1	0.92	0.17	76,76,76,76	0
54	MG	DA	1640	1/1	0.92	0.15	17,17,17,17	0
54	MG	DA	1651	1/1	0.92	0.17	56,56,56,56	0
54	MG	DA	1659	1/1	0.92	0.25	85,85,85,85	0
54	MG	BA	4034	1/1	0.93	0.17	48,48,48,48	0
54	MG	CB	3100	1/1	0.93	0.15	43,43,43,43	0
54	MG	CB	3009	1/1	0.93	0.12	13,13,13,13	0
54	MG	CB	3010	1/1	0.93	0.16	30,30,30,30	0
54	MG	BA	4036	1/1	0.93	0.08	5,5,5,5	0
54	MG	AB	4090	1/1	0.93	0.26	37,37,37,37	0
54	MG	DA	1609	1/1	0.93	0.20	56,56,56,56	0
54	MG	AB	4095	1/1	0.93	0.16	47,47,47,47	0
54	MG	CB	3049	1/1	0.93	0.17	30,30,30,30	1
54	MG	BA	4046	1/1	0.93	0.31	62,62,62,62	0
54	MG	CB	3071	1/1	0.93	0.21	52,52,52,52	0
54	MG	CB	3074	1/1	0.93	0.11	33,33,33,33	0
54	MG	AB	4023	1/1	0.93	0.19	66,66,66,66	0
54	MG	BA	4026	1/1	0.93	0.18	75,75,75,75	0
54	MG	CB	3079	1/1	0.93	0.16	54,54,54,54	0
54	MG	AB	4045	1/1	0.93	0.09	51,51,51,51	0
54	MG	CB	3087	1/1	0.93	0.26	25,25,25,25	0
54	MG	AB	4088	1/1	0.93	0.14	24,24,24,24	0
54	MG	AB	4084	1/1	0.94	0.09	21,21,21,21	0
54	MG	AB	4025	1/1	0.94	0.23	129,129,129,129	0
54	MG	CB	3092	1/1	0.94	0.11	7,7,7,7	0
54	MG	AB	4031	1/1	0.94	0.18	56,56,56,56	0
54	MG	AB	4092	1/1	0.94	0.49	27,27,27,27	1
54	MG	AB	4093	1/1	0.94	0.09	4,4,4,4	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	AB	4048	1/1	0.94	0.24	22,22,22,22	0
54	MG	AB	4034	1/1	0.94	0.19	51,51,51,51	0
54	MG	CB	3014	1/1	0.94	0.25	33,33,33,33	0
54	MG	CB	3026	1/1	0.94	0.11	10,10,10,10	0
54	MG	AB	4007	1/1	0.94	0.15	37,37,37,37	0
54	MG	AB	4107	1/1	0.94	0.12	6,6,6,6	0
54	MG	CB	3040	1/1	0.94	0.24	46,46,46,46	0
54	MG	AB	4064	1/1	0.94	0.12	43,43,43,43	0
54	MG	AB	4042	1/1	0.94	0.13	90,90,90,90	0
54	MG	DA	1624	1/1	0.94	0.31	57,57,57,57	0
54	MG	DA	1625	1/1	0.94	0.18	37,37,37,37	1
54	MG	BA	4008	1/1	0.94	0.12	21,21,21,21	0
54	MG	DA	1628	1/1	0.94	0.34	33,33,33,33	1
54	MG	DA	1630	1/1	0.94	0.08	29,29,29,29	0
54	MG	BA	4039	1/1	0.94	0.23	31,31,31,31	0
54	MG	BA	4042	1/1	0.94	0.26	69,69,69,69	0
54	MG	AB	4083	1/1	0.94	0.12	29,29,29,29	0
54	MG	BA	4044	1/1	0.94	0.20	86,86,86,86	0
54	MG	DA	1644	1/1	0.94	0.30	53,53,53,53	0
54	MG	CB	3078	1/1	0.94	0.12	57,57,57,57	0
54	MG	BA	4012	1/1	0.94	0.20	54,54,54,54	0
54	MG	BA	4015	1/1	0.95	0.10	59,59,59,59	0
54	MG	CB	3032	1/1	0.95	0.27	52,52,52,52	0
54	MG	CB	3106	1/1	0.95	0.24	20,20,20,20	0
54	MG	CB	3037	1/1	0.95	0.13	10,10,10,10	0
54	MG	BA	4017	1/1	0.95	0.23	42,42,42,42	0
54	MG	CL	201	1/1	0.95	0.07	43,43,43,43	0
54	MG	BA	4018	1/1	0.95	0.11	64,64,64,64	0
54	MG	BA	4020	1/1	0.95	0.39	77,77,77,77	0
54	MG	AB	4108	1/1	0.95	0.20	9,9,9,9	0
54	MG	AB	4078	1/1	0.95	0.14	35,35,35,35	0
54	MG	CB	3059	1/1	0.95	0.11	12,12,12,12	0
54	MG	CB	3060	1/1	0.95	0.19	78,78,78,78	0
54	MG	DA	1613	1/1	0.95	0.20	62,62,62,62	0
54	MG	CB	3061	1/1	0.95	0.11	31,31,31,31	0
54	MG	CB	3063	1/1	0.95	0.20	11,11,11,11	0
54	MG	BA	4052	1/1	0.95	0.14	33,33,33,33	0
54	MG	AB	4053	1/1	0.95	0.13	14,14,14,14	0
54	MG	BA	4007	1/1	0.95	0.70	81,81,81,81	0
54	MG	AB	4022	1/1	0.95	0.33	11,11,11,11	0
54	MG	BA	4027	1/1	0.95	0.29	68,68,68,68	0
54	MG	AB	4009	1/1	0.95	0.12	58,58,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	AB	4097	1/1	0.95	0.16	17,17,17,17	0
54	MG	BA	4033	1/1	0.95	0.21	90,90,90,90	0
54	MG	DA	1641	1/1	0.95	0.08	63,63,63,63	0
54	MG	AB	4046	1/1	0.95	0.10	26,26,26,26	0
54	MG	CB	3093	1/1	0.95	0.25	3,3,3,3	0
54	MG	DA	1653	1/1	0.95	0.13	21,21,21,21	0
54	MG	AB	4091	1/1	0.95	0.41	34,34,34,34	0
54	MG	DA	1661	1/1	0.95	0.12	13,13,13,13	0
54	MG	AB	4008	1/1	0.96	0.09	38,38,38,38	0
54	MG	BA	4038	1/1	0.96	0.10	50,50,50,50	0
54	MG	CB	3095	1/1	0.96	0.16	22,22,22,22	0
54	MG	AB	4099	1/1	0.96	0.40	12,12,12,12	1
54	MG	CB	3033	1/1	0.96	0.12	33,33,33,33	0
54	MG	CB	3034	1/1	0.96	0.15	7,7,7,7	0
54	MG	AB	4101	1/1	0.96	0.16	25,25,25,25	0
54	MG	AB	4103	1/1	0.96	0.20	13,13,13,13	0
54	MG	AB	4003	1/1	0.96	0.15	26,26,26,26	0
54	MG	DA	1605	1/1	0.96	0.14	76,76,76,76	0
54	MG	DA	1606	1/1	0.96	0.09	18,18,18,18	0
54	MG	CB	3041	1/1	0.96	0.20	19,19,19,19	0
54	MG	AB	4024	1/1	0.96	0.14	54,54,54,54	0
54	MG	BA	4048	1/1	0.96	0.10	73,73,73,73	0
54	MG	BA	4049	1/1	0.96	0.15	100,100,100,100	0
54	MG	CB	3052	1/1	0.96	0.20	43,43,43,43	0
54	MG	CB	3053	1/1	0.96	0.11	5,5,5,5	0
54	MG	BA	4050	1/1	0.96	0.15	51,51,51,51	0
54	MG	AB	4057	1/1	0.96	0.28	49,49,49,49	0
54	MG	BA	4001	1/1	0.96	0.23	69,69,69,69	0
54	MG	AB	4061	1/1	0.96	0.17	35,35,35,35	0
54	MG	CB	3065	1/1	0.96	0.09	26,26,26,26	0
54	MG	DA	1627	1/1	0.96	0.13	51,51,51,51	0
54	MG	AB	4012	1/1	0.96	0.08	44,44,44,44	0
54	MG	CB	3072	1/1	0.96	0.19	42,42,42,42	0
54	MG	AB	4026	1/1	0.96	0.14	78,78,78,78	0
54	MG	BN	201	1/1	0.96	0.20	61,61,61,61	0
54	MG	AB	4067	1/1	0.96	0.12	31,31,31,31	0
54	MG	CB	3006	1/1	0.96	0.09	19,19,19,19	0
54	MG	AB	4001	1/1	0.96	0.06	5,5,5,5	0
54	MG	AB	4072	1/1	0.96	0.14	44,44,44,44	0
54	MG	DA	1647	1/1	0.96	0.29	30,30,30,30	0
54	MG	DA	1649	1/1	0.96	0.14	45,45,45,45	0
54	MG	CB	3082	1/1	0.96	0.14	17,17,17,17	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	AB	4075	1/1	0.96	0.13	41,41,41,41	0
54	MG	CB	3089	1/1	0.96	0.14	38,38,38,38	0
54	MG	DA	1660	1/1	0.96	0.25	14,14,14,14	0
54	MG	CB	3023	1/1	0.96	0.09	7,7,7,7	0
54	MG	DN	201	1/1	0.96	0.08	48,48,48,48	0
54	MG	AB	4033	1/1	0.97	0.27	52,52,52,52	0
54	MG	CB	3035	1/1	0.97	0.09	20,20,20,20	0
54	MG	AB	4073	1/1	0.97	0.17	21,21,21,21	0
54	MG	CB	3096	1/1	0.97	0.21	38,38,38,38	0
54	MG	AB	4074	1/1	0.97	0.13	50,50,50,50	0
54	MG	AB	4055	1/1	0.97	0.07	68,68,68,68	0
54	MG	CB	3103	1/1	0.97	0.35	10,10,10,10	0
54	MG	CB	3104	1/1	0.97	0.45	6,6,6,6	0
54	MG	AB	4077	1/1	0.97	0.30	28,28,28,28	0
54	MG	BA	4035	1/1	0.97	0.54	30,30,30,30	0
54	MG	AB	4044	1/1	0.97	0.04	17,17,17,17	0
54	MG	AB	4059	1/1	0.97	0.12	55,55,55,55	0
54	MG	DA	1601	1/1	0.97	0.09	28,28,28,28	0
54	MG	DA	1602	1/1	0.97	0.09	13,13,13,13	0
54	MG	CB	3004	1/1	0.97	0.14	9,9,9,9	0
54	MG	CB	3005	1/1	0.97	0.17	26,26,26,26	0
54	MG	CB	3056	1/1	0.97	0.14	8,8,8,8	0
54	MG	CB	3057	1/1	0.97	0.11	7,7,7,7	0
54	MG	AB	4002	1/1	0.97	0.18	27,27,27,27	0
54	MG	AB	4085	1/1	0.97	0.24	53,53,53,53	0
54	MG	BA	4041	1/1	0.97	0.10	54,54,54,54	0
54	MG	CB	3012	1/1	0.97	0.07	10,10,10,10	0
54	MG	CB	3064	1/1	0.97	0.14	63,63,63,63	0
54	MG	DA	1616	1/1	0.97	0.16	21,21,21,21	0
54	MG	DA	1618	1/1	0.97	0.07	30,30,30,30	0
54	MG	AB	4021	1/1	0.97	0.11	33,33,33,33	0
54	MG	DA	1620	1/1	0.97	0.09	19,19,19,19	0
54	MG	CB	3066	1/1	0.97	0.18	45,45,45,45	0
54	MG	CB	3068	1/1	0.97	0.11	59,59,59,59	0
54	MG	CB	3070	1/1	0.97	0.32	33,33,33,33	0
54	MG	CB	3015	1/1	0.97	0.14	9,9,9,9	0
54	MG	CB	3019	1/1	0.97	0.12	11,11,11,11	0
54	MG	DA	1629	1/1	0.97	0.24	52,52,52,52	0
54	MG	CB	3020	1/1	0.97	0.20	8,8,8,8	0
54	MG	CB	3075	1/1	0.97	0.14	61,61,61,61	0
54	MG	CB	3021	1/1	0.97	0.06	22,22,22,22	0
54	MG	DA	1635	1/1	0.97	0.17	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
54	MG	CB	3022	1/1	0.97	0.08	21,21,21,21	0
54	MG	DA	1637	1/1	0.97	0.20	109,109,109,109	0
54	MG	AB	4037	1/1	0.97	0.12	25,25,25,25	0
54	MG	CB	3025	1/1	0.97	0.09	27,27,27,27	0
54	MG	AB	4038	1/1	0.97	0.11	30,30,30,30	0
54	MG	CB	3081	1/1	0.97	0.13	10,10,10,10	0
54	MG	AB	4041	1/1	0.97	0.09	11,11,11,11	0
54	MG	CB	3084	1/1	0.97	0.10	24,24,24,24	0
54	MG	CB	3030	1/1	0.97	0.18	17,17,17,17	0
54	MG	BA	4004	1/1	0.97	0.13	34,34,34,34	0
54	MG	CB	3090	1/1	0.97	0.11	67,67,67,67	0
54	MG	CB	3091	1/1	0.97	0.10	42,42,42,42	0
54	MG	BA	4006	1/1	0.97	0.12	42,42,42,42	0
54	MG	AB	4004	1/1	0.98	0.15	41,41,41,41	0
54	MG	AB	4058	1/1	0.98	0.09	20,20,20,20	0
54	MG	AB	4005	1/1	0.98	0.14	11,11,11,11	0
54	MG	CB	3097	1/1	0.98	0.10	9,9,9,9	0
54	MG	CB	3098	1/1	0.98	0.09	7,7,7,7	0
54	MG	CB	3036	1/1	0.98	0.32	19,19,19,19	0
54	MG	BA	4009	1/1	0.98	0.10	34,34,34,34	0
54	MG	CB	3102	1/1	0.98	0.18	17,17,17,17	0
54	MG	BA	4047	1/1	0.98	0.09	29,29,29,29	0
54	MG	AB	4087	1/1	0.98	0.12	38,38,38,38	0
54	MG	AB	4060	1/1	0.98	0.10	36,36,36,36	0
54	MG	CB	3042	1/1	0.98	0.08	18,18,18,18	0
54	MG	AB	4015	1/1	0.98	0.09	3,3,3,3	0
54	MG	CB	3109	1/1	0.98	0.10	16,16,16,16	0
54	MG	CB	3045	1/1	0.98	0.32	67,67,67,67	0
54	MG	BA	4051	1/1	0.98	0.14	79,79,79,79	0
54	MG	AB	4027	1/1	0.98	0.20	22,22,22,22	0
54	MG	DA	1604	1/1	0.98	0.13	35,35,35,35	0
54	MG	CB	3051	1/1	0.98	0.25	12,12,12,12	0
54	MG	AB	4028	1/1	0.98	0.11	16,16,16,16	0
54	MG	BA	4016	1/1	0.98	0.06	47,47,47,47	0
54	MG	AB	4066	1/1	0.98	0.13	33,33,33,33	0
54	MG	AB	4094	1/1	0.98	0.06	15,15,15,15	0
54	MG	CB	3058	1/1	0.98	0.07	31,31,31,31	0
54	MG	BA	4058	1/1	0.98	0.07	78,78,78,78	0
54	MG	BA	4019	1/1	0.98	0.29	11,11,11,11	0
54	MG	AB	4029	1/1	0.98	0.17	55,55,55,55	0
54	MG	DA	1614	1/1	0.98	0.19	25,25,25,25	0
54	MG	DA	1615	1/1	0.98	0.12	95,95,95,95	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	CB	3062	1/1	0.98	0.07	7,7,7,7	0
54	MG	DA	1617	1/1	0.98	0.10	10,10,10,10	0
54	MG	AB	4068	1/1	0.98	0.08	21,21,21,21	0
54	MG	AB	4030	1/1	0.98	0.07	34,34,34,34	0
54	MG	AB	4071	1/1	0.98	0.26	29,29,29,29	0
54	MG	DA	1621	1/1	0.98	0.16	18,18,18,18	0
54	MG	CB	3008	1/1	0.98	0.11	16,16,16,16	0
54	MG	CB	3067	1/1	0.98	0.14	9,9,9,9	0
54	MG	AB	4018	1/1	0.98	0.05	32,32,32,32	0
54	MG	AB	4032	1/1	0.98	0.15	35,35,35,35	0
54	MG	CB	3011	1/1	0.98	0.10	33,33,33,33	0
54	MG	AB	4006	1/1	0.98	0.07	12,12,12,12	0
54	MG	AB	4105	1/1	0.98	0.09	33,33,33,33	0
54	MG	AB	4106	1/1	0.98	0.07	9,9,9,9	0
54	MG	DA	1633	1/1	0.98	0.06	3,3,3,3	0
54	MG	CB	3017	1/1	0.98	0.10	13,13,13,13	0
54	MG	CB	3018	1/1	0.98	0.10	25,25,25,25	0
54	MG	BA	4030	1/1	0.98	0.47	34,34,34,34	0
54	MG	BA	4031	1/1	0.98	0.11	40,40,40,40	0
54	MG	DA	1639	1/1	0.98	0.09	79,79,79,79	0
54	MG	AB	4010	1/1	0.98	0.10	32,32,32,32	0
54	MG	AB	4076	1/1	0.98	0.34	23,23,23,23	0
54	MG	DA	1643	1/1	0.98	0.09	70,70,70,70	0
54	MG	AB	4011	1/1	0.98	0.17	45,45,45,45	0
54	MG	DA	1645	1/1	0.98	0.09	56,56,56,56	0
54	MG	AE	301	1/1	0.98	0.12	10,10,10,10	0
54	MG	DA	1648	1/1	0.98	0.12	43,43,43,43	0
54	MG	CB	3085	1/1	0.98	0.18	16,16,16,16	0
54	MG	AB	4056	1/1	0.98	0.35	9,9,9,9	0
54	MG	CB	3027	1/1	0.98	0.11	40,40,40,40	0
54	MG	DA	1654	1/1	0.98	0.07	13,13,13,13	0
54	MG	DA	1655	1/1	0.98	0.07	12,12,12,12	0
54	MG	DA	1656	1/1	0.98	0.07	15,15,15,15	0
54	MG	DA	1657	1/1	0.98	0.67	63,63,63,63	0
54	MG	DA	1658	1/1	0.98	0.47	47,47,47,47	0
54	MG	AB	4080	1/1	0.98	0.14	17,17,17,17	0
54	MG	BA	4003	1/1	0.98	0.20	29,29,29,29	0
54	MG	CB	3031	1/1	0.98	0.12	55,55,55,55	0
54	MG	AB	4081	1/1	0.98	0.11	60,60,60,60	0
54	MG	CB	3016	1/1	0.99	0.07	18,18,18,18	0
54	MG	DA	1603	1/1	0.99	0.10	22,22,22,22	0
54	MG	AB	4049	1/1	0.99	0.28	21,21,21,21	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	AB	4079	1/1	0.99	0.21	43,43,43,43	0
54	MG	AB	4100	1/1	0.99	0.17	25,25,25,25	0
54	MG	AB	4063	1/1	0.99	0.29	16,16,16,16	0
54	MG	BA	4045	1/1	0.99	0.10	59,59,59,59	0
54	MG	AB	4102	1/1	0.99	0.09	63,63,63,63	0
54	MG	AB	4040	1/1	0.99	0.12	77,77,77,77	0
54	MG	CB	3069	1/1	0.99	0.10	10,10,10,10	0
54	MG	CB	3024	1/1	0.99	0.11	21,21,21,21	0
54	MG	AB	4104	1/1	0.99	0.10	26,26,26,26	0
54	MG	AB	4082	1/1	0.99	0.27	50,50,50,50	0
54	MG	CB	3073	1/1	0.99	0.15	14,14,14,14	0
54	MG	AB	4065	1/1	0.99	0.18	20,20,20,20	0
54	MG	CB	3028	1/1	0.99	0.30	46,46,46,46	0
54	MG	BA	4022	1/1	0.99	0.23	14,14,14,14	0
54	MG	AB	4051	1/1	0.99	0.12	7,7,7,7	0
54	MG	AB	4052	1/1	0.99	0.08	25,25,25,25	0
54	MG	AB	4086	1/1	0.99	0.10	39,39,39,39	0
54	MG	DA	1622	1/1	0.99	0.36	27,27,27,27	0
54	MG	DA	1623	1/1	0.99	0.32	20,20,20,20	0
54	MG	BA	4055	1/1	0.99	0.11	27,27,27,27	0
54	MG	AB	4014	1/1	0.99	0.22	18,18,18,18	0
54	MG	AB	4054	1/1	0.99	0.10	10,10,10,10	0
54	MG	CB	3083	1/1	0.99	0.12	9,9,9,9	0
54	MG	AB	4089	1/1	0.99	0.06	31,31,31,31	0
54	MG	AB	4070	1/1	0.99	0.15	20,20,20,20	0
54	MG	CB	3086	1/1	0.99	0.11	17,17,17,17	0
54	MG	DA	1631	1/1	0.99	0.04	22,22,22,22	0
54	MG	AB	4019	1/1	0.99	0.10	29,29,29,29	0
54	MG	CB	3088	1/1	0.99	0.05	52,52,52,52	0
54	MG	CB	3039	1/1	0.99	0.08	27,27,27,27	0
54	MG	CB	3001	1/1	0.99	0.04	9,9,9,9	0
54	MG	CB	3002	1/1	0.99	0.08	54,54,54,54	0
54	MG	CB	3003	1/1	0.99	0.04	8,8,8,8	0
54	MG	DA	1638	1/1	0.99	0.13	12,12,12,12	0
54	MG	BA	4005	1/1	0.99	0.21	59,59,59,59	0
54	MG	BA	4032	1/1	0.99	0.19	27,27,27,27	0
54	MG	CB	3046	1/1	0.99	0.09	29,29,29,29	0
54	MG	DA	1642	1/1	0.99	0.06	31,31,31,31	0
54	MG	CB	3047	1/1	0.99	0.05	10,10,10,10	0
54	MG	CB	3048	1/1	0.99	0.18	4,4,4,4	0
54	MG	AB	4043	1/1	0.99	0.47	16,16,16,16	0
54	MG	CB	3007	1/1	0.99	0.15	25,25,25,25	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	AB	4035	1/1	0.99	0.07	39,39,39,39	0
54	MG	CB	3101	1/1	0.99	0.33	8,8,8,8	0
54	MG	DA	1650	1/1	0.99	0.12	48,48,48,48	0
54	MG	AB	4020	1/1	0.99	0.47	67,67,67,67	0
54	MG	DA	1652	1/1	0.99	0.03	21,21,21,21	0
54	MG	AB	4016	1/1	0.99	0.20	68,68,68,68	0
54	MG	CB	3054	1/1	0.99	0.24	13,13,13,13	0
54	MG	CB	3105	1/1	0.99	0.05	20,20,20,20	0
54	MG	CB	3055	1/1	0.99	0.06	5,5,5,5	0
54	MG	BA	4010	1/1	0.99	0.08	17,17,17,17	0
54	MG	AB	4017	1/1	0.99	0.41	10,10,10,10	0
54	MG	CB	3013	1/1	0.99	0.06	14,14,14,14	0
54	MG	CC	301	1/1	0.99	0.08	89,89,89,89	0
54	MG	AB	4039	1/1	0.99	0.05	25,25,25,25	0
54	MG	BA	4040	1/1	0.99	0.07	49,49,49,49	0
54	MG	CB	3044	1/1	1.00	0.38	83,83,83,83	0
54	MG	DA	1646	1/1	1.00	0.17	50,50,50,50	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.