



wwPDB X-ray Structure Validation Summary Report ⓘ

Oct 9, 2023 – 03:56 PM EDT

PDB ID : 4V6C
Title : Crystal structure of the E. coli 70S ribosome in an intermediate state of ratcheting
Authors : Zhang, W.; Dunkle, J.A.; Cate, J.H.D.
Deposited on : 2009-06-27
Resolution : 3.19 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.35.1
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) : 2.35.1

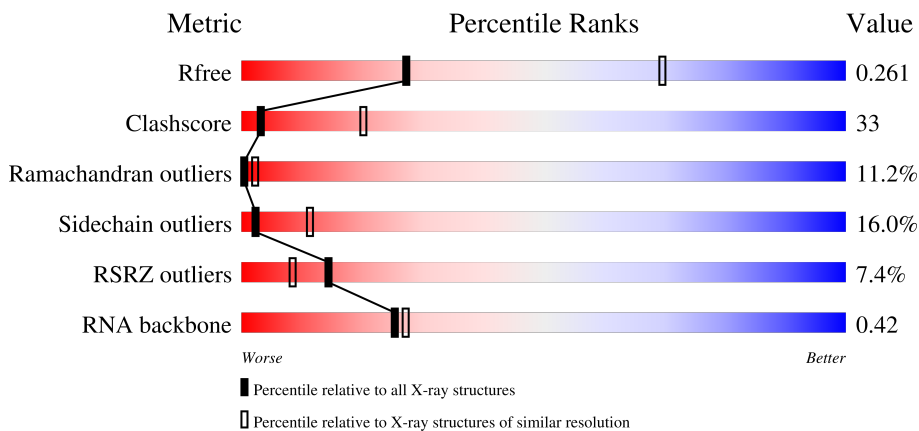
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.19 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	1133 (3.20-3.20)
Clashscore	141614	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)
RSRZ outliers	127900	1095 (3.20-3.20)
RNA backbone	3102	1010 (3.50-2.90)

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

Mol	Chain	Length	Quality of chain
1	AB	241	 6% 18% 49% 21% 10%
1	CB	241	 5% 23% 53% 14% 10%
2	AC	233	 % 33% 43% 10% 12%
2	CC	233	 5% 34% 41% 12% 12%

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Mol	Chain	Length	Quality of chain
3	AD	206	3% 32% 51% 15%
3	CD	206	% 37% 44% 17%
4	AE	167	% 34% 41% 13% 10%
4	CE	167	% 34% 41% 14% 10%
5	AF	135	30% 31% 10% 26%
5	CF	135	25% 34% 14% 26%
6	AG	179	2% 32% 44% 8% 16%
6	CG	179	37% 23% 46% 13% 16%
7	AH	130	2% 44% 44% 12%
7	CH	130	2% 36% 50% 13%
8	AI	130	7% 35% 49% 12%
8	CI	130	20% 27% 53% 17%
9	AJ	103	6% 28% 48% 18% 5%
9	CJ	103	27% 23% 53% 17% 5%
10	AK	129	% 39% 38% 12% 9%
10	CK	129	40% 36% 14% 9%
11	AL	124	2% 42% 39% 17%
11	CL	124	2% 34% 50% 15%
12	AM	118	3% 38% 50% 8%
12	CM	118	53% 23% 59% 12%
13	AN	101	4% 31% 56% 7% 5%
13	CN	101	22% 28% 57% 8% 6%
14	AO	89	% 46% 45% 7%
14	CO	89	% 52% 40% 7%
15	AP	82	4% 41% 43% 15%

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Mol	Chain	Length	Quality of chain
15	CP	82	4% 21% 55% 21% ..
16	AQ	84	5% 31% 45% 14% 5% 5%
16	CQ	84	11% 25% 54% 15% 5%
17	AR	75	4% 36% 33% 27%
17	CR	75	3% 31% 40% 27%
18	AS	92	3% 28% 45% 12% 14%
18	CS	92	41% 29% 43% 12% 14%
19	AT	87	% 37% 40% 17% ..
19	CT	87	8% 38% 43% 16% ..
20	AU	71	% 7% 41% 23% 28%
20	CU	71	% 18% 27% 23% 28%
21	AA	1533	2% 29% 42% 14% 16%
22	BA	2903	2% 29% 37% 18% 14% .
22	DA	2903	5% 20% 41% 19% 18% .
23	BB	118	44% 28% 14% 14%
24	BC	273	3% 38% 42% 16% ..
24	DC	273	4% 32% 51% 15% ..
25	BD	209	34% 43% 20% .
25	DD	209	4% 33% 48% 18% .
26	BE	201	32% 46% 20% .
26	DE	201	20% 29% 55% 14% .
27	BF	179	44% 40% 13% ..
27	DF	179	36% 26% 47% 23% ..
28	BG	177	31% 45% 22% ..
28	DG	177	23% 32% 49% 16% ..

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Mol	Chain	Length	Quality of chain
29	BH	149	
29	DH	149	
30	BI	142	
30	DI	142	
31	BJ	142	
31	DJ	142	
32	BK	123	
32	DK	123	
33	BL	144	
33	DL	144	
34	BM	136	
34	DM	136	
35	BN	127	
35	DN	127	
36	BO	117	
36	DO	117	
37	BP	115	
37	DP	115	
38	BQ	118	
38	DQ	118	
39	BR	103	
39	DR	103	
40	BS	110	
40	DS	110	
41	BT	100	

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Mol	Chain	Length	Quality of chain
41	DT	100	
42	BU	104	
42	DU	104	
43	BV	94	
43	DV	94	
44	BW	85	
44	DW	85	
45	BX	78	
45	DX	78	
46	BY	63	
46	DY	63	
47	BZ	59	
47	DZ	59	
48	B0	57	
48	D0	57	
49	B1	55	
49	D1	55	
50	B2	46	
50	D2	46	
51	B3	65	
51	D3	65	
52	B4	38	
52	D4	38	
53	CA	1530	
54	DB	117	

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
55	MG	BA	3057	-	-	-	X
55	MG	CA	1619	-	-	-	X
55	MG	CA	1624	-	-	-	X
55	MG	DA	3002	-	-	-	X
55	MG	DA	3003	-	-	-	X
55	MG	DA	3005	-	-	-	X
55	MG	DA	3010	-	-	-	X
55	MG	DA	3013	-	-	-	X
55	MG	DA	3020	-	-	-	X
55	MG	DA	3027	-	-	-	X
55	MG	DA	3039	-	-	-	X
55	MG	DA	3063	-	-	-	X
55	MG	DA	3064	-	-	-	X
55	MG	DA	3065	-	-	-	X
55	MG	DA	3098	-	-	-	X
55	MG	DA	3110	-	-	-	X
55	MG	DA	3129	-	-	-	X
55	MG	DA	3132	-	-	-	X
55	MG	DA	3134	-	-	-	X
55	MG	DJ	201	-	-	-	X

2 Entry composition [i](#)

There are 57 unique types of molecules in this entry. The entry contains 284450 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 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	AB	218	1704	1081	305	311	7	0	0	0
1	CB	218	1704	1081	305	311	7	0	0	0

- Molecule 2 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	AC	206	1624	1028	305	288	3	0	0	0
2	CC	206	1624	1028	305	288	3	0	0	0

- Molecule 3 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	AD	205	1643	1026	315	298	4	0	0	0
3	CD	205	1643	1026	315	298	4	0	0	0

- Molecule 4 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	AE	150	1105	687	211	201	6	0	0	0
4	CE	150	1105	687	211	201	6	0	0	0

- Molecule 5 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AF	100	Total	C	N	O	S	0	0	0
			817	515	148	148	6			
5	CF	100	Total	C	N	O	S	0	0	0
			817	515	148	148	6			

- Molecule 6 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AG	151	Total	C	N	O	S	0	0	0
			1181	735	227	215	4			
6	CG	150	Total	C	N	O	S	0	0	0
			1174	730	226	214	4			

- Molecule 7 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			
7	CH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			

- Molecule 8 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			
8	CI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			

- Molecule 9 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AJ	98	Total	C	N	O	S	0	0	0
			786	493	150	142	1			
9	CJ	98	Total	C	N	O	S	0	0	0
			786	493	150	142	1			

- Molecule 10 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	CK	117	877	540	174	160	3	0	0	0

- Molecule 11 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	AL	123	955	590	196	165	4	0	0	0
11	CL	123	955	590	196	165	4	0	0	0

- Molecule 12 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	AM	114	883	546	178	156	3	0	0	0
12	CM	113	876	541	177	155	3	0	0	0

- Molecule 13 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	AN	96	774	483	160	128	3	0	0	0
13	CN	95	769	480	159	127	3	0	0	0

- Molecule 14 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
14	AO	88	714	439	144	130	1	0	0	0
14	CO	88	714	439	144	130	1	0	0	0

- Molecule 15 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	AP	82	649	406	128	114	1	0	0	0
15	CP	80	638	400	126	111	1	0	0	0

- Molecule 16 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AQ	80	Total	C	N	O	S	0	0	0
			648	411	121	113	3			
16	CQ	80	Total	C	N	O	S	0	0	0
			648	411	121	113	3			

- Molecule 17 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	AR	55	Total	C	N	O	0	0	0
			455	288	86	81			
17	CR	55	Total	C	N	O	0	0	0
			455	288	86	81			

- Molecule 18 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	AS	79	Total	C	N	O	S	0	0	0
			637	408	120	107	2			
18	CS	79	Total	C	N	O	S	0	0	0
			637	408	120	107	2			

- Molecule 19 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AT	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			
19	CT	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			

- Molecule 20 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AU	51	Total	C	N	O	S	0	0	0
			425	265	86	73	1			
20	CU	51	Total	C	N	O	S	0	0	0
			425	265	86	73	1			

- Molecule 21 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
21	AA	1533	32895	14671	6036	10655	1533	0	0	0

- Molecule 22 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
22	BA	2854	61274	27334	11279	19807	2854	0	0	0
22	DA	2841	60995	27210	11229	19715	2841	0	0	0

- Molecule 23 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
23	BB	118	2529	1126	464	821	118	0	0	0

- Molecule 24 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
24	BC	271	2082	1288	423	364	7	0	0	0
24	DC	271	2082	1288	423	364	7	0	0	0

- Molecule 25 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
25	BD	209	1565	979	288	294	4	0	0	0
25	DD	209	1565	979	288	294	4	0	0	0

- Molecule 26 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
26	BE	201	1552	974	283	290	5	0	0	0
26	DE	201	1552	974	283	290	5	0	0	0

- Molecule 27 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	BF	177	Total	C	N	O	S	0	0	0
			1410	899	249	256	6			
27	DF	178	Total	C	N	O	S	0	0	0
			1420	905	251	258	6			

- Molecule 28 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	BG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			
28	DG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

- Molecule 29 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	BH	149	Total	C	N	O	S	0	0	0
			1111	699	197	214	1			
29	DH	149	Total	C	N	O	S	0	0	0
			1111	699	197	214	1			

- Molecule 30 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	BI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			
30	DI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			

- Molecule 31 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	BJ	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			
31	DJ	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			

- Molecule 32 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	BK	122	Total	C	N	O	S	0	0	0
			938	587	180	165	6			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
32	DK	122	938	587	180	165	6	0	0	0

- Molecule 33 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
33	BL	143	1045	649	206	189	1	0	0	0
33	DL	143	1045	649	206	189	1	0	0	0

- Molecule 34 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
34	BM	136	1074	686	205	177	6	0	0	0
34	DM	136	1074	686	205	177	6	0	0	0

- Molecule 35 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
35	BN	120	960	593	196	166	5	0	0	0
35	DN	120	960	593	196	166	5	0	0	0

- Molecule 36 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
36	BO	116	892	552	178	162	0	0	0
36	DO	116	892	552	178	162	0	0	0

- Molecule 37 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
37	BP	114	917	574	179	163	1	0	0	0
37	DP	114	917	574	179	163	1	0	0	0

- Molecule 38 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
38	BQ	117	947	604	192	151	0	0	0
38	DQ	117	947	604	192	151	0	0	0

- Molecule 39 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
39	BR	103	816	516	153	145	2	0	0	0
39	DR	103	816	516	153	145	2	0	0	0

- Molecule 40 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
40	BS	110	857	532	166	156	3	0	0	0
40	DS	110	857	532	166	156	3	0	0	0

- Molecule 41 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
41	BT	93	738	466	139	131	2	0	0	0
41	DT	93	738	466	139	131	2	0	0	0

- Molecule 42 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
42	BU	102	779	492	146	141	0	0	0
42	DU	102	779	492	146	141	0	0	0

- Molecule 43 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	BV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			
43	DV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			

- Molecule 44 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BW	79	Total	C	N	O	S	0	0	0
			596	367	120	108	1			
44	DW	79	Total	C	N	O	S	0	0	0
			596	367	120	108	1			

- Molecule 45 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	BX	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			
45	DX	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			

- Molecule 46 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	BY	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			
46	DY	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			

- Molecule 47 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	BZ	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			
47	DZ	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			

- Molecule 48 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	B0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	D0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

- Molecule 49 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
49	B1	50	Total	C	N	O	0	0	0
			409	263	75	71			
49	D1	50	Total	C	N	O	0	0	0
			409	263	75	71			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	B2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			
50	D2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 51 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	B3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			
51	D3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

- Molecule 52 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	B4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			
52	D4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 53 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	CA	1530	Total	C	N	O	P	0	0	0
			32831	14642	6024	10635	1530			

- Molecule 54 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
54	DB	117	2507	1116	459	815	117	0	0	0

- Molecule 55 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
55	AA	43	Total 43	Mg 43	0	0
55	BA	137	Total 137	Mg 137	0	0
55	BB	4	Total 4	Mg 4	0	0
55	CA	42	Total 42	Mg 42	0	0
55	DA	135	Total 135	Mg 135	0	0
55	DB	1	Total 1	Mg 1	0	0
55	DJ	1	Total 1	Mg 1	0	0

- Molecule 56 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	B4	1	Total 1	Zn 1	0	0
56	D4	1	Total 1	Zn 1	0	0

- Molecule 57 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	AE	1	Total 1	O 1	0	0
57	AL	3	Total 3	O 3	0	0
57	AN	6	Total 6	O 6	0	0
57	AT	2	Total 2	O 2	0	0
57	AU	1	Total 1	O 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	AA	195	Total O 195 195	0	0
57	BA	610	Total O 610 610	0	0
57	BB	20	Total O 20 20	0	0
57	BC	10	Total O 10 10	0	0
57	BD	2	Total O 2 2	0	0
57	BL	4	Total O 4 4	0	0
57	BN	3	Total O 3 3	0	0
57	BQ	1	Total O 1 1	0	0
57	BT	2	Total O 2 2	0	0
57	B0	1	Total O 1 1	0	0
57	B2	1	Total O 1 1	0	0
57	B3	3	Total O 3 3	0	0
57	B4	3	Total O 3 3	0	0
57	CE	5	Total O 5 5	0	0
57	CI	1	Total O 1 1	0	0
57	CL	1	Total O 1 1	0	0
57	CN	3	Total O 3 3	0	0
57	CT	3	Total O 3 3	0	0
57	CU	2	Total O 2 2	0	0
57	CA	192	Total O 192 192	0	0
57	DA	599	Total O 599 599	0	0

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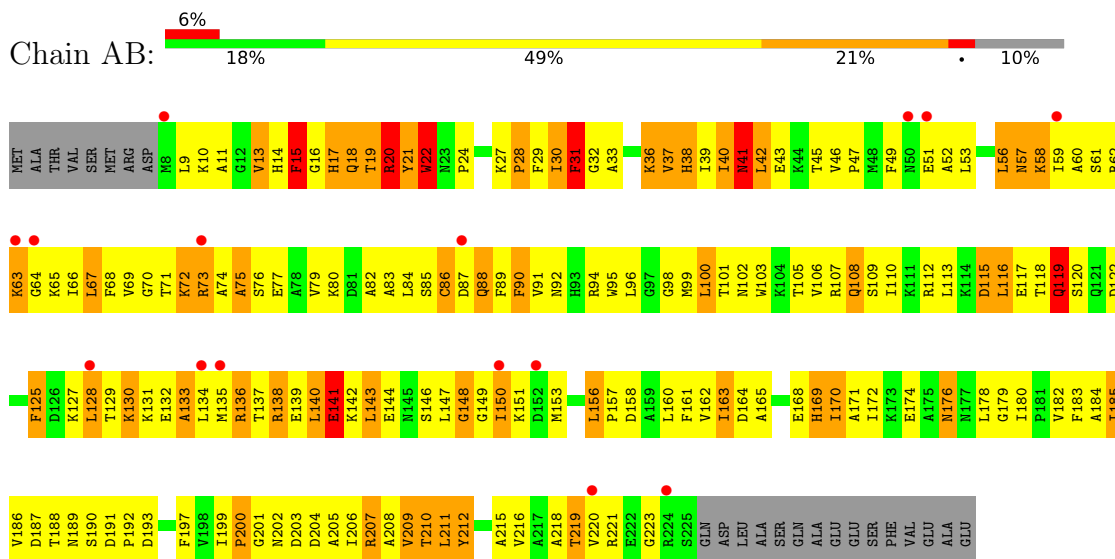
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	DB	4	Total 4	O 4	0	0
57	DC	13	Total 13	O 13	0	0
57	DD	4	Total 4	O 4	0	0
57	DE	3	Total 3	O 3	0	0
57	DJ	3	Total 3	O 3	0	0
57	DL	5	Total 5	O 5	0	0
57	DN	2	Total 2	O 2	0	0
57	DT	2	Total 2	O 2	0	0
57	DU	1	Total 1	O 1	0	0
57	DV	1	Total 1	O 1	0	0
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57	D3	1	Total 1	O 1	0	0
57	D4	4	Total 4	O 4	0	0

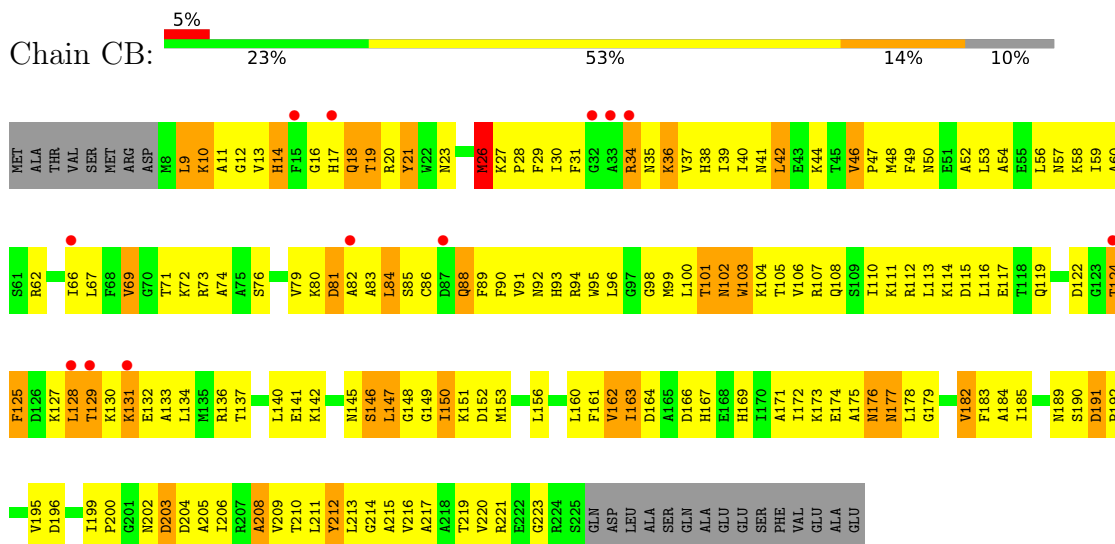
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: 30S ribosomal protein S2



- Molecule 1: 30S ribosomal protein S2

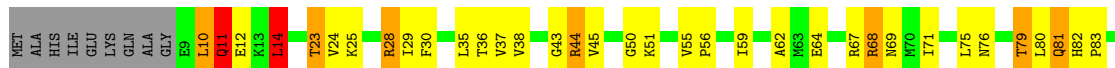
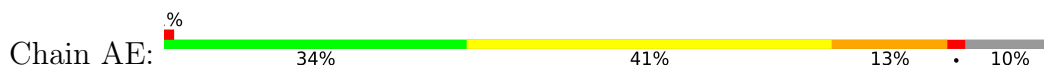


- Molecule 2: 30S ribosomal protein S3

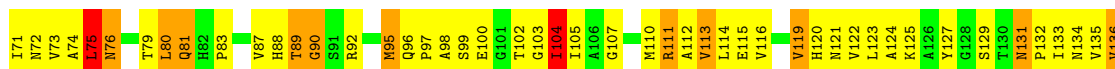
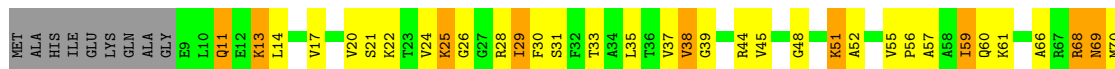




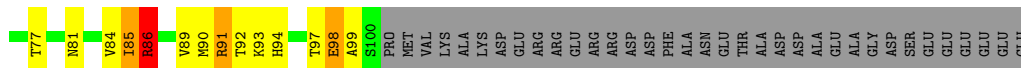
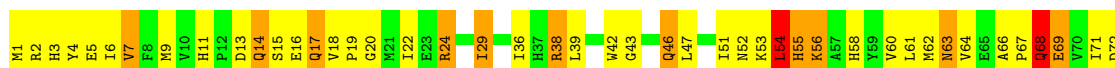
• Molecule 4: 30S ribosomal protein S5



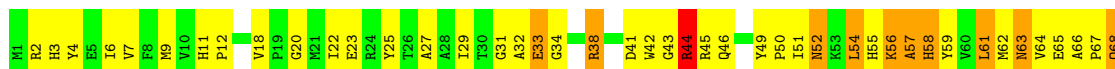
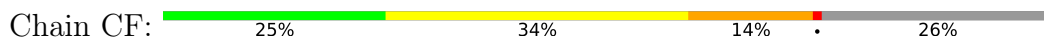
• Molecule 4: 30S ribosomal protein S5

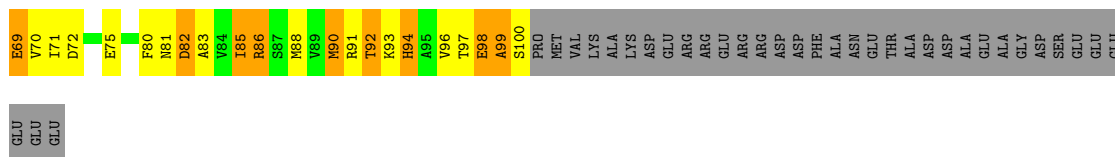


• Molecule 5: 30S ribosomal protein S6

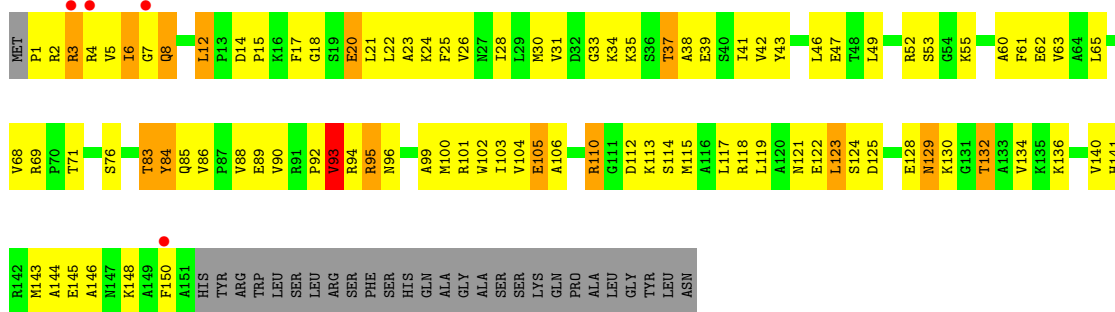


• Molecule 5: 30S ribosomal protein S6

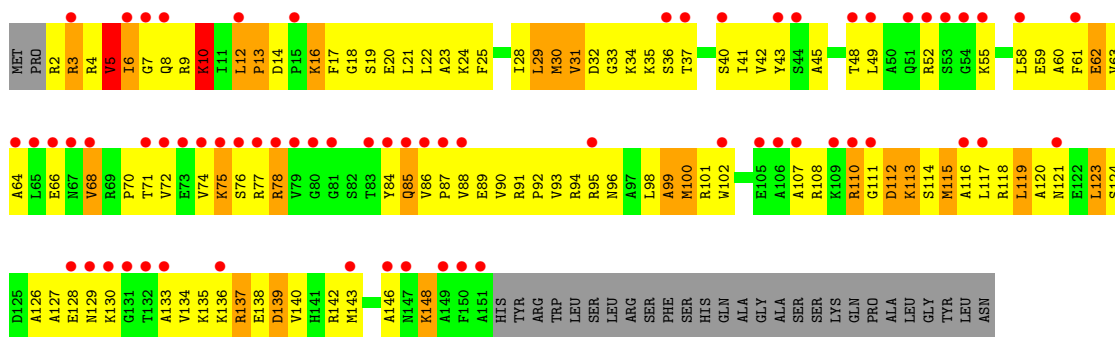




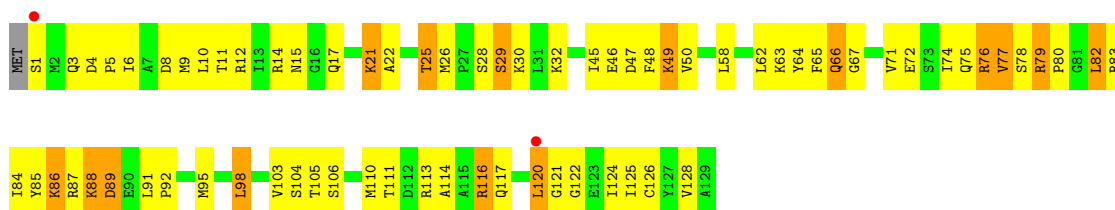
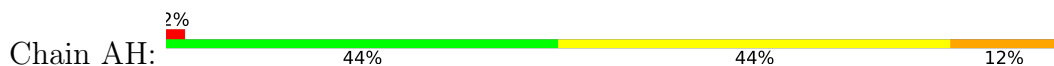
• Molecule 6: 30S ribosomal protein S7



• Molecule 6: 30S ribosomal protein S7



• Molecule 7: 30S ribosomal protein S8

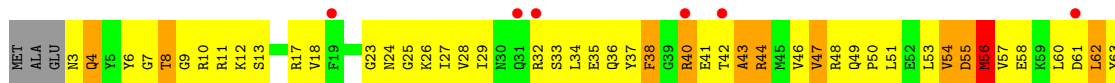


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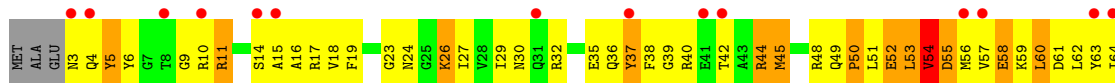




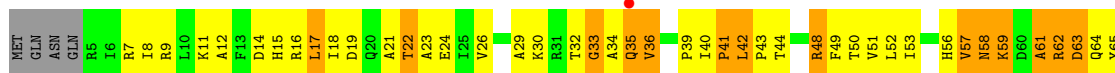
• Molecule 8: 30S ribosomal protein S9



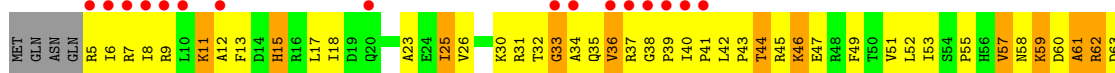
• Molecule 8: 30S ribosomal protein S9



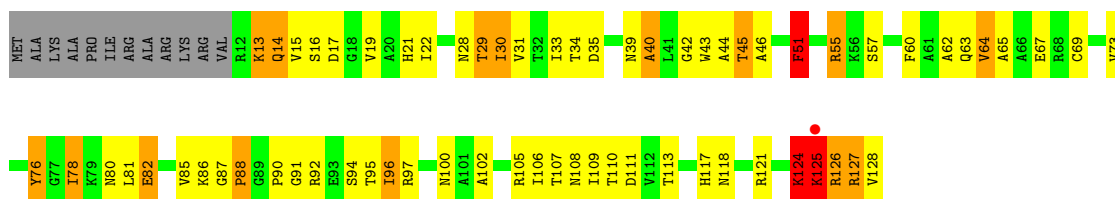
• Molecule 9: 30S ribosomal protein S10



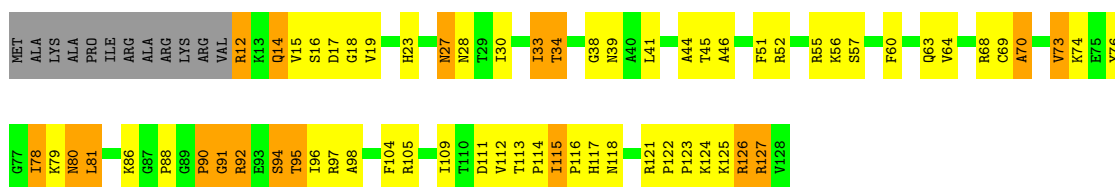
• Molecule 9: 30S ribosomal protein S10



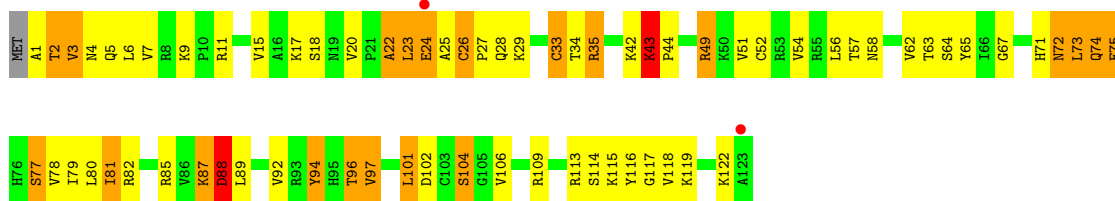
- Molecule 10: 30S ribosomal protein S11



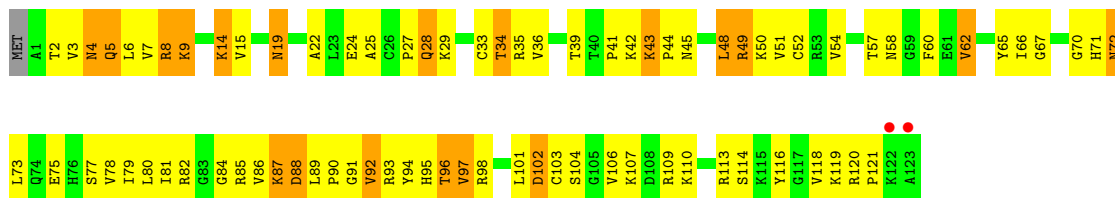
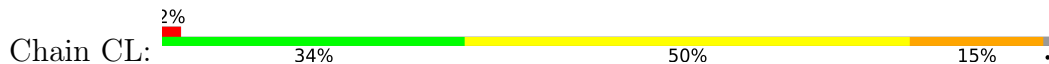
- Molecule 10: 30S ribosomal protein S11



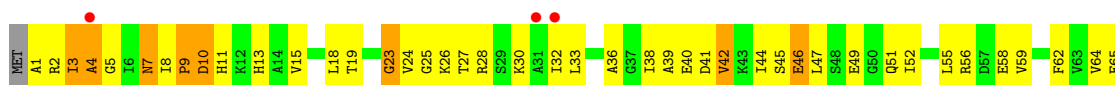
- Molecule 11: 30S ribosomal protein S12



- Molecule 11: 30S ribosomal protein S12

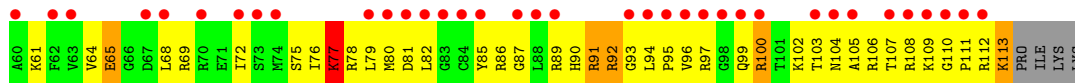
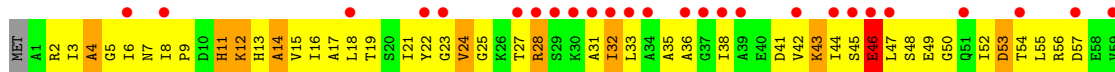


- Molecule 12: 30S ribosomal protein S13

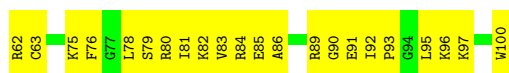
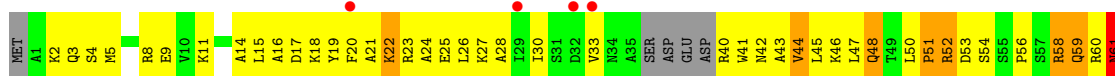




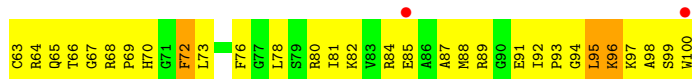
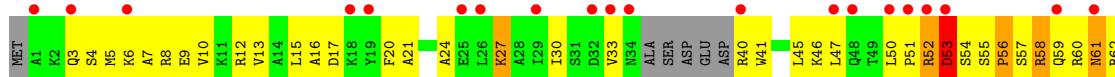
- Molecule 12: 30S ribosomal protein S13



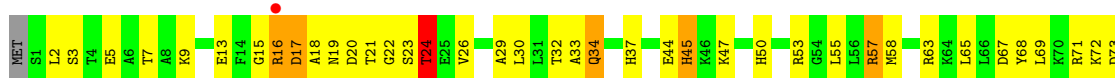
- Molecule 13: 30S ribosomal protein S14



- Molecule 13: 30S ribosomal protein S14

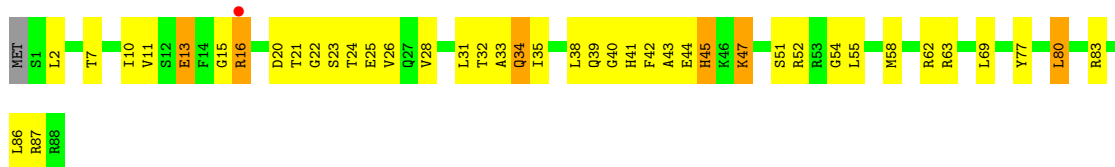


- Molecule 14: 30S ribosomal protein S15

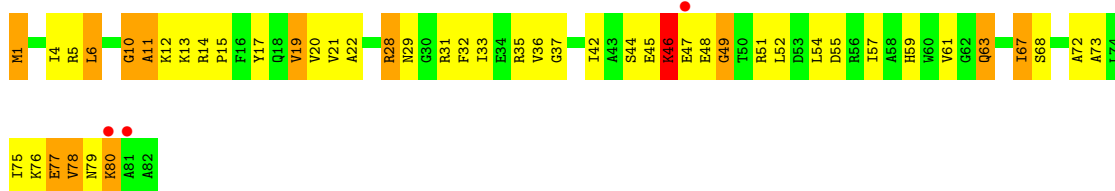


- Molecule 14: 30S ribosomal protein S15

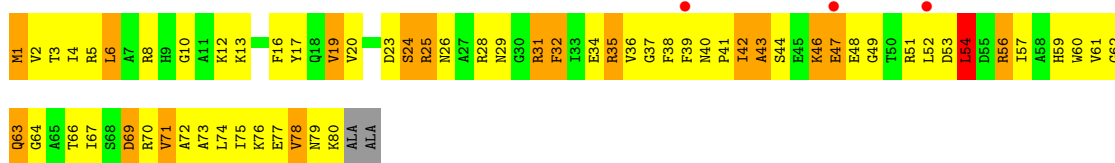




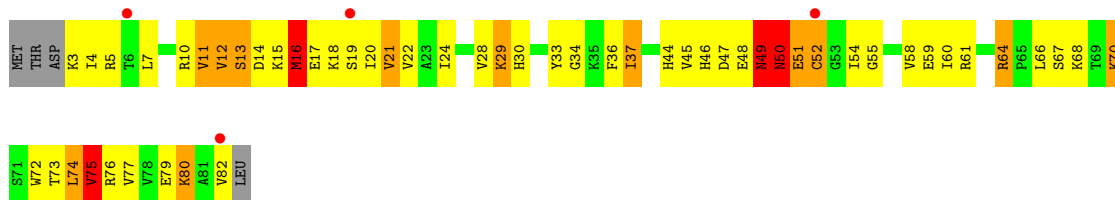
- Molecule 15: 30S ribosomal protein S16



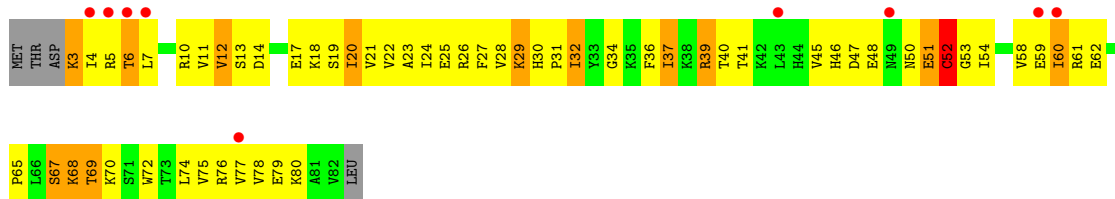
- Molecule 15: 30S ribosomal protein S16



- Molecule 16: 30S ribosomal protein S17



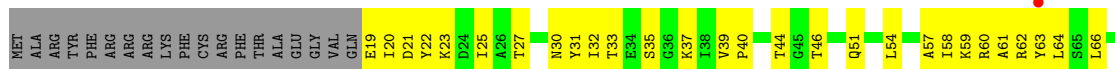
- Molecule 16: 30S ribosomal protein S17



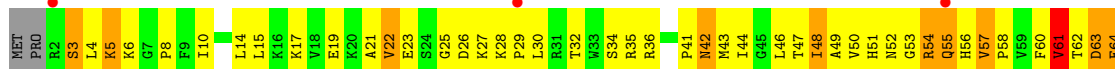
- Molecule 17: 30S ribosomal protein S18



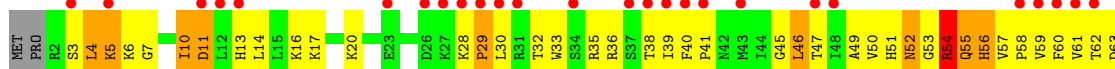
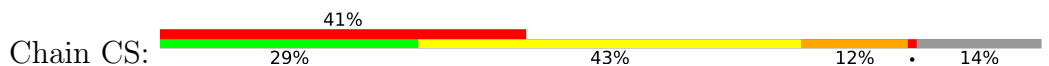
• Molecule 17: 30S ribosomal protein S18



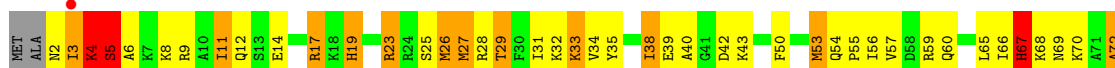
• Molecule 18: 30S ribosomal protein S19



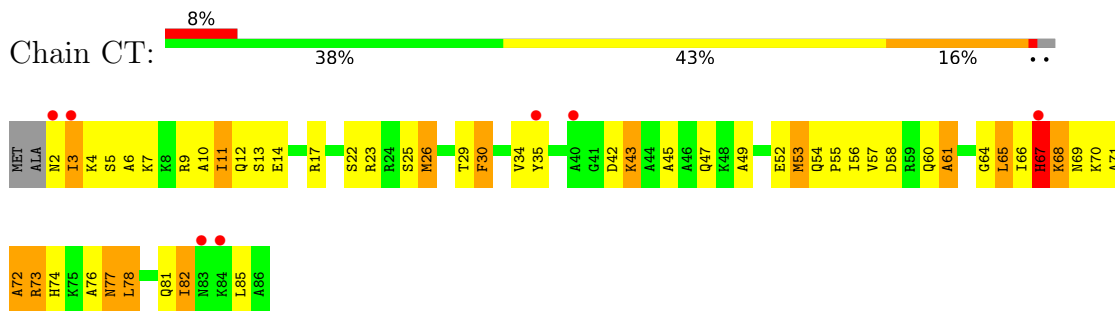
• Molecule 18: 30S ribosomal protein S19



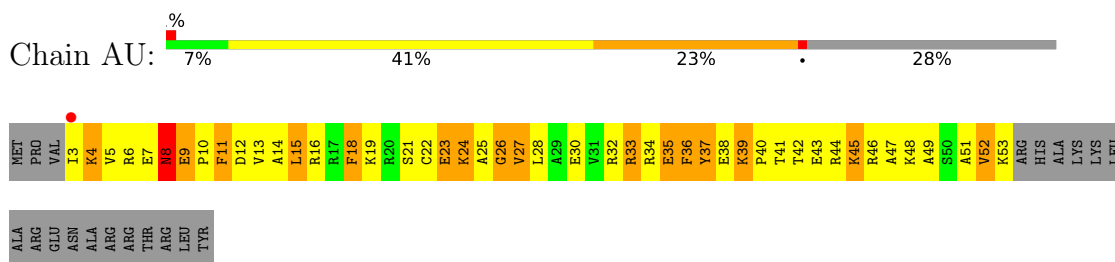
• Molecule 19: 30S ribosomal protein S20



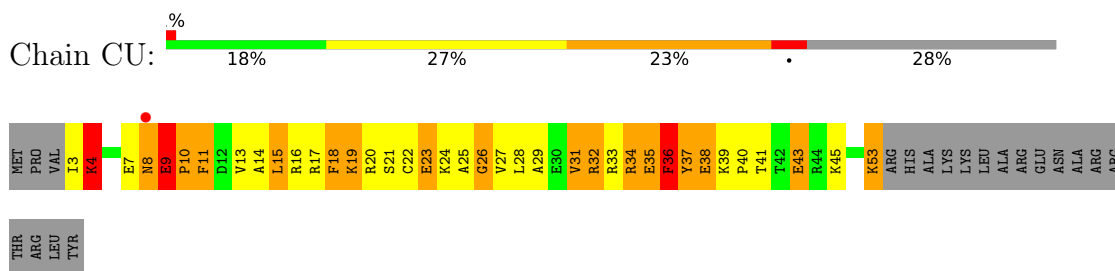
• Molecule 19: 30S ribosomal protein S20



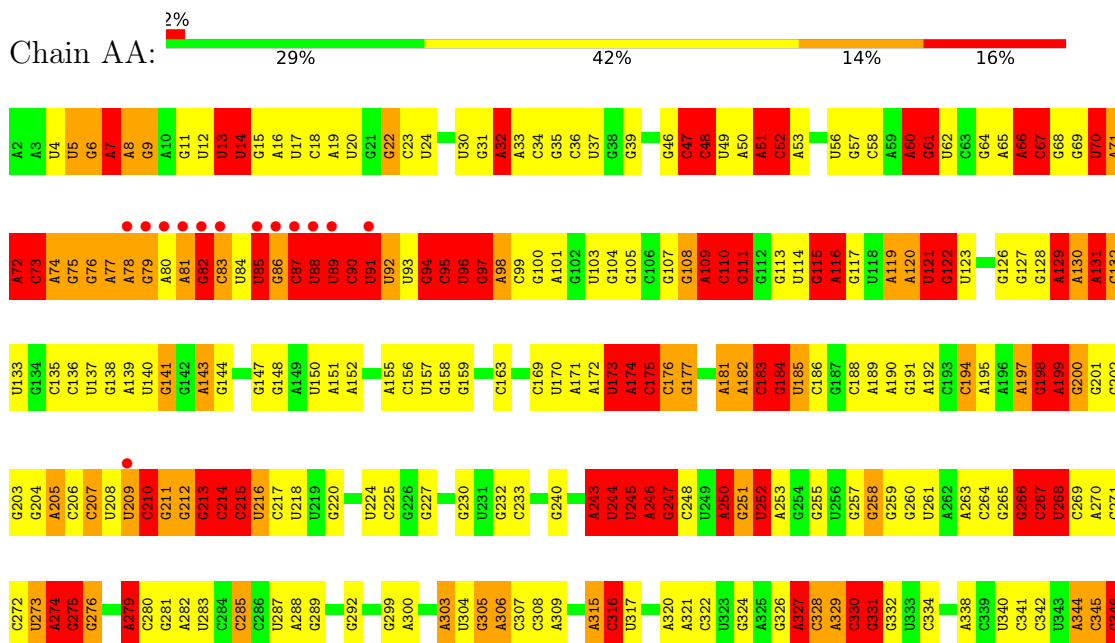
• Molecule 20: 30S ribosomal protein S21

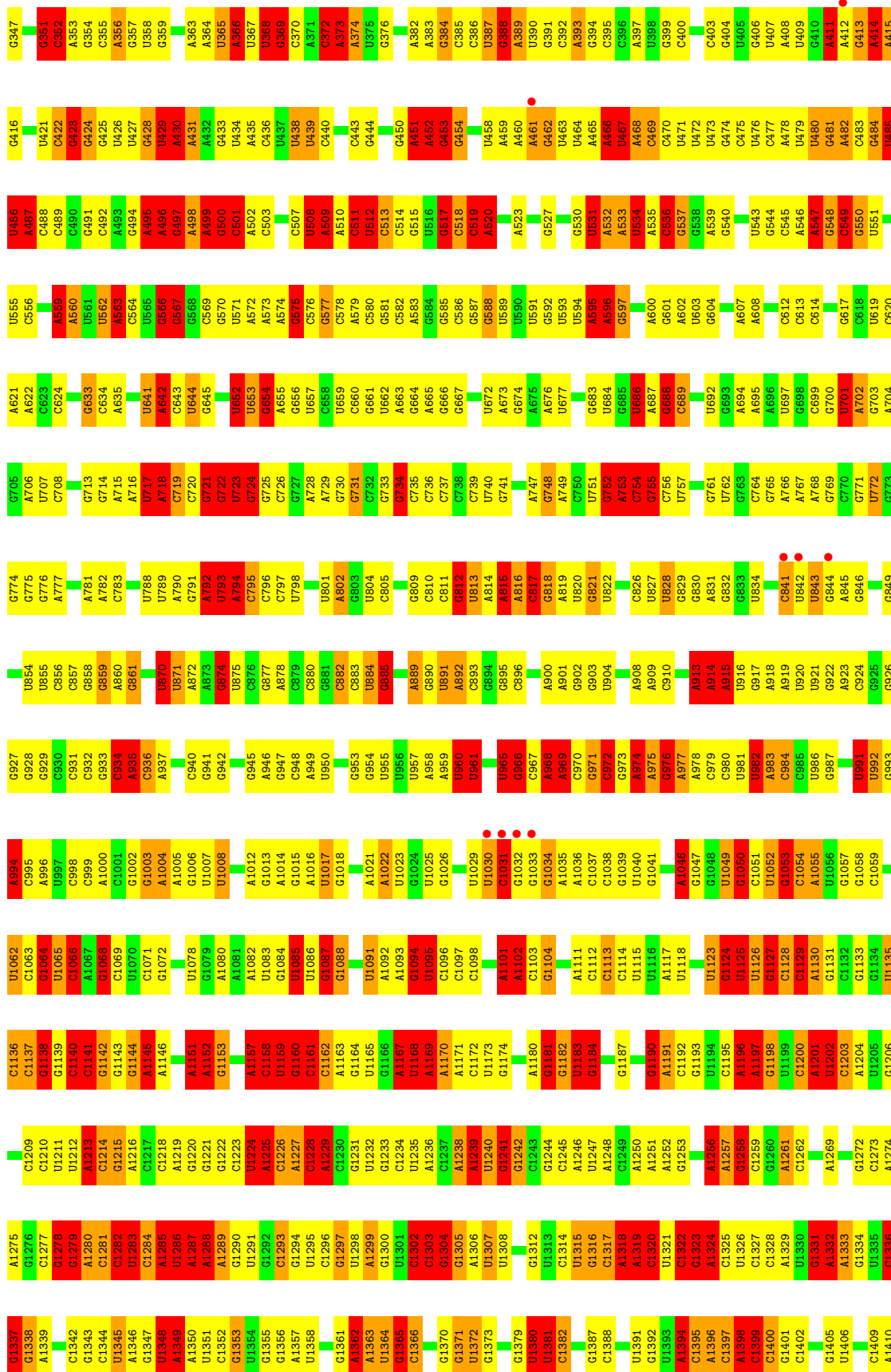


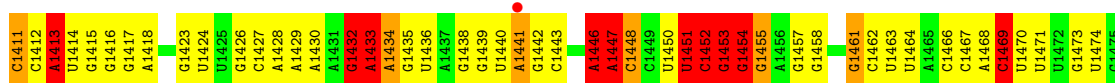
• Molecule 20: 30S ribosomal protein S21



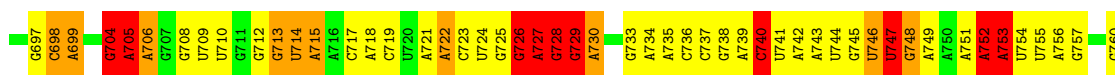
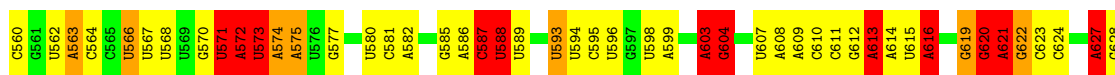
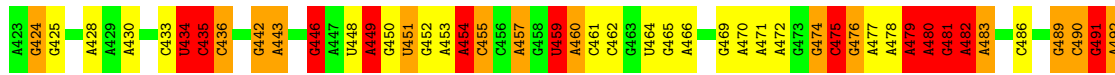
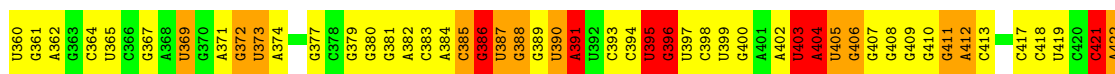
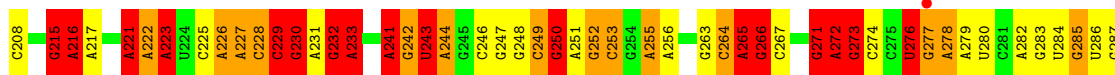
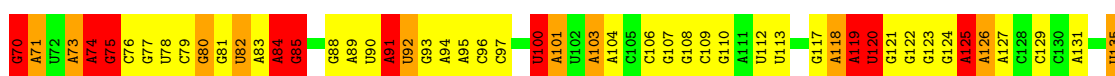
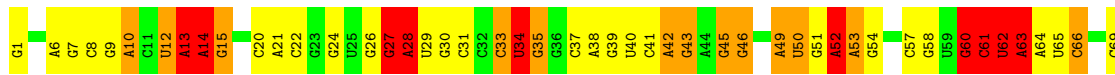
• Molecule 21: 16S rRNA

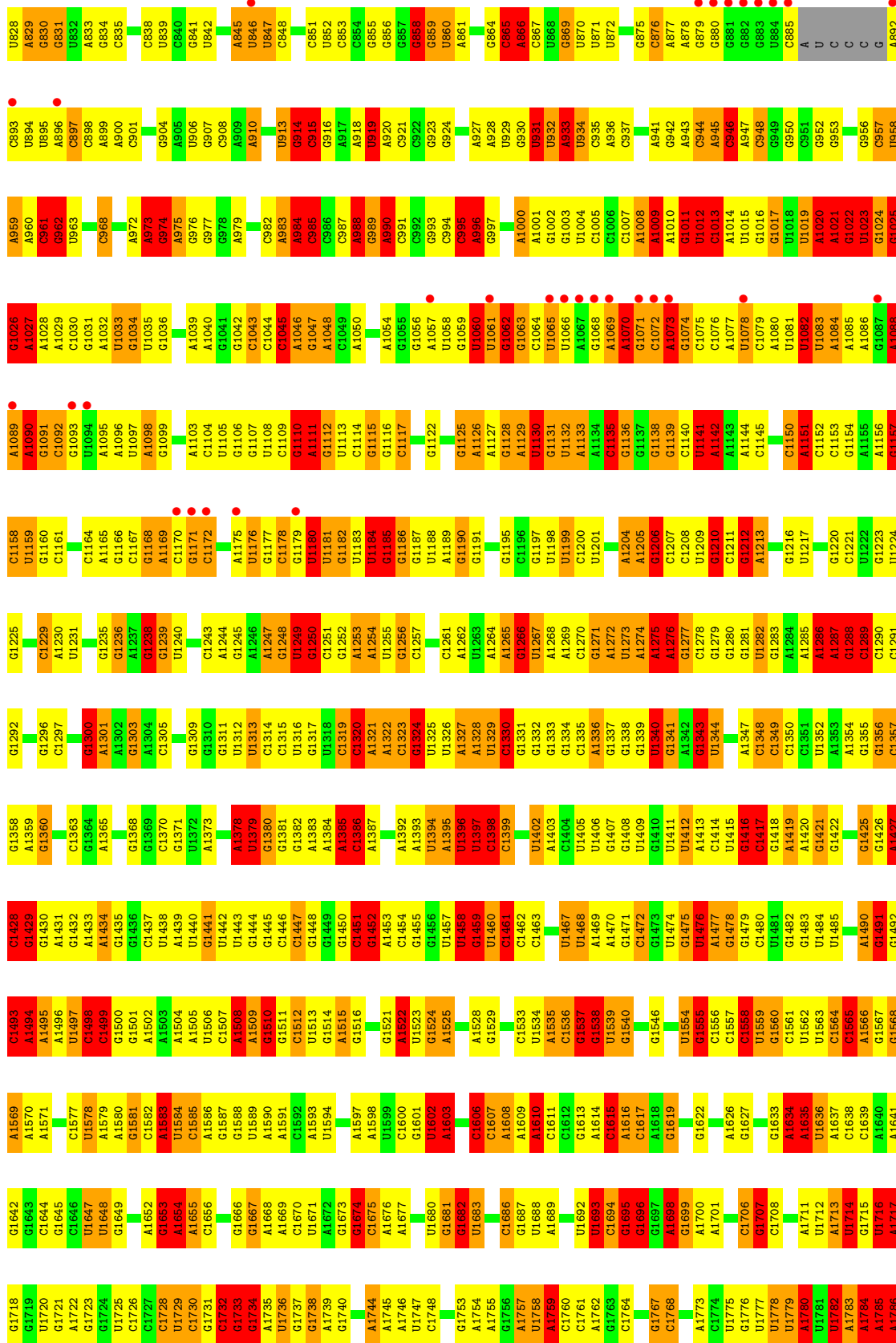




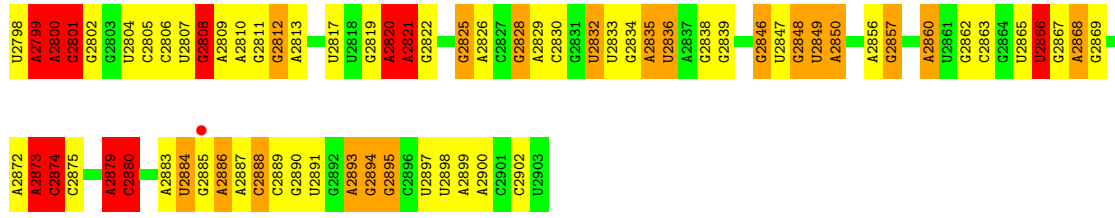


• Molecule 22: 23S rRNA

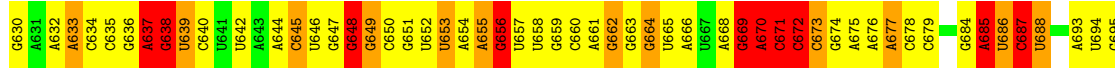
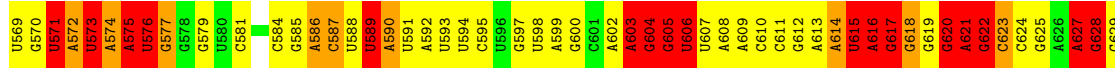
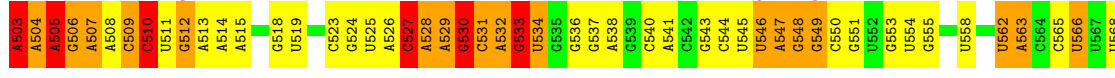
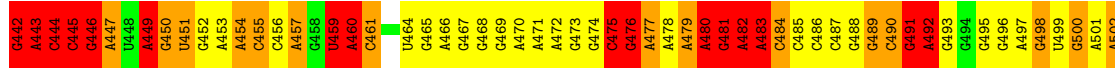
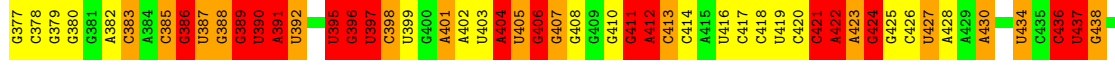
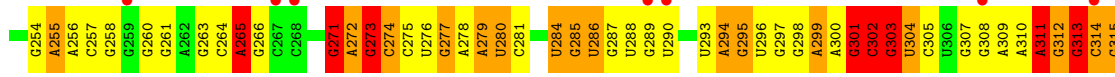
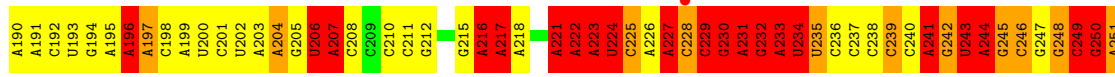
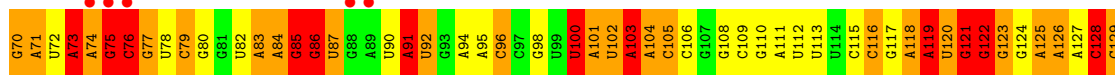
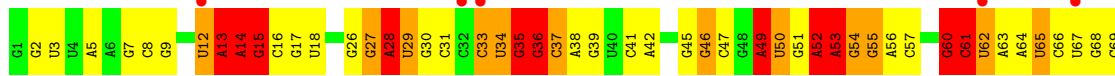
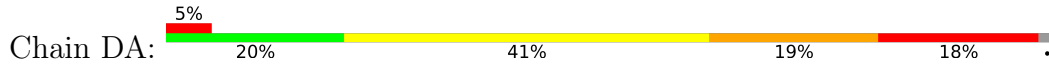


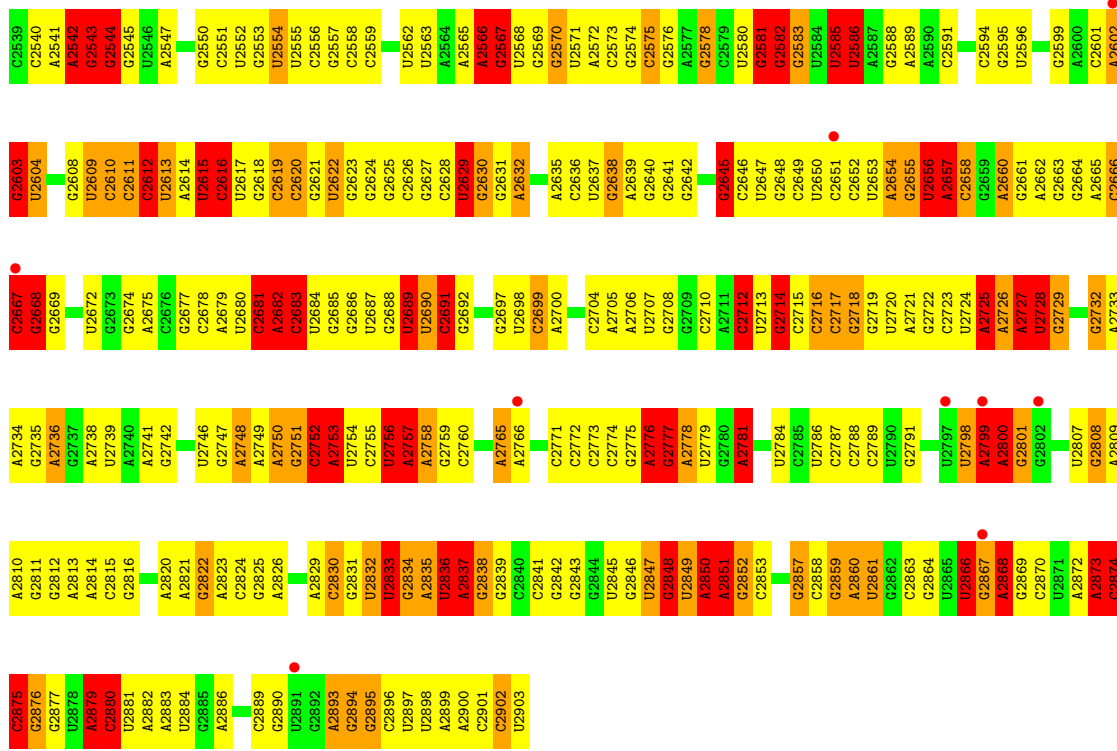


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A2726	A2566	A2566	A2424	A2352	C2285	G2216	C2150	U2079	U2016	A1936	U1859	U1789
A2727	G2567	G2567	A2425	G2353	G2286	G2217	U2151	G2086	G2018	A1937	C1790	A1791
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C2730	U2500	G2428	G2428	U2356	G2289	U2220	A2154	C2089	A2020	C1942	U1866	A1795
	G2501	G2429	G2429	G2357	G2290	G2223	U2156	C2089	C2021	U1943	G1867	U1796
	C2502	U2431	U2431	A2358	U2291	A2224	A	U2092	G2022	U1944	G1868	G1797
	A2503	U2431	U2431	G2361	U2292	G2225	G	U2093	C2023	U1945	G1869	U1798
	G2504	A2435	A2435	G2362	G2293	A2226	C	A2094	G2024	U1946	G1870	G1799
	U2505	U2438	U2438	C2364	G2294	C2227	C	A2097	G2025	U1947	A1871	C1800
	U2506	A2439	A2439	U2365	U2295	G2228	C		G2026	U1948	A1872	A1801
	G2507	A2440	A2440	G2366	A2297	U2229	G		U2028	G1954	G1873	A1802
	U2511	U2441	U2441	G2371	U2305	U2233	A		G2029	U1955	G1874	
	C2512	C2442	C2442	U2372	G2306	G2234	C		A2030	U1956	A1805	A1805
	A2513	G2443	G2443	G2373	C2307	G2235	C		A2031	U1957	G1875	A1806
	U2514	G2444	G2444	C2374	G2308	U2236	U		G2032	C1957	G1876	G1807
	C2515	G2447	G2447	G2375	G2309	U2237	G		U2034	C1958	U1882	A1808
	A2516	U2448	U2448	A2376	A2310	G2238	A		G2035	U1959	U1883	A1809
	G2517	U2449	U2449	A2377	C2311	G2239	A		A2037	C1962	G1884	U1812
	A2518	A2450	A2450	A2378	U2312	U2243	U		U2038	U1963	G1885	G1814
	U2519	A2451	A2451	G2379	C2313	U2244	A		U2039	G1964	G1888	A1815
	C2520	G2458	G2458	C2380	A2314	U2245	C		G2040	U1965	A1889	A1816
	G2524	A2459	A2459	A2381	G2315	G2246	C		U2041	U1966	G1817	G1817
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	U2528	C2462	C2462	U2383	U2317	U2248	C		C2043	G1968	G1897	U1820
	G2529	C2463	C2463	C2384	G2318	U2249	C		C2044	U1969	U1898	U1820
	A2602	G2466	G2466	U2387	G2319	G2250	C2179		C2045	A1970	A1899	A1821
	G2592	U2471	U2471	G2388	U2321	G2252	U2180		G2046	U1971	A1900	A1822
	U2593	A2472	A2472	A2388	A2322	G2253	U2181		G2047	G1972	A1901	G1823
	C2594	G2473	G2473	G2389	G2323	G2254	U2182		G2048	U1980	G1906	U1824
	U2595	U2474	U2474	U2390	U2324	U2255	A2183		G2049	A1981	U1825	U1825
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	U2404	A2478	A2478	C2394	A2329	C2263	U2188		A2055	C1986	A1913	G1839
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	A2406	C2480	C2480	G2396	G2330	U2265	U2193		G2056	C1990	C1914	C1832
	U2407	G2481	G2481	G2331	C2331	A2266	G2193			U1981	U1915	C1833
	U2408	A2482	A2482	C2332	C2332	A2267	U2194		A2059	U1982	U1917	U1834
	G2409	C2483	C2483	A2403	A2333	A2268	U2195		A2060	U1983	U1918	C1838
	U2412	U2484	U2484	U2404	U2334	G2269	C2196		G2061	U1989	A1919	G1839
	G2415	G2485	G2485	A2405	A2335	A2270	U2197		A2062	C1996	A1919	G1840
	C2416	U2486	U2486	A2406	A2336	G2271	G2198		C2063	C1997	C1921	U1841
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	G2421	U2488	U2488	U2408	C2338	A2273	C2200		C2065	C1999	U1923	
		U2489	U2489	A2412	C2339	A2274	G2201		A2066	C2000	A1847	
		U2490	U2490	G2415	A2340	C2275	U2202		G2067	G2004	U1926	U1926
		U2491	U2491	G2416	G2341	G2276	U2203		U2068	G2005	A1927	G1848
				G2418	U2344	G2277	G2204		G2069	C2006	A1928	G1850
				U2419	G2345	G2278	C2210		A2071	A2009	G1930	U1852
				G2421	C2346	G2280	A2211		C2072	A2013	U1931	A1853
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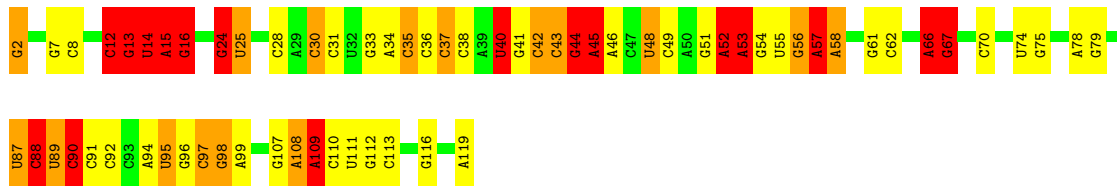


• Molecule 22: 23S rRNA

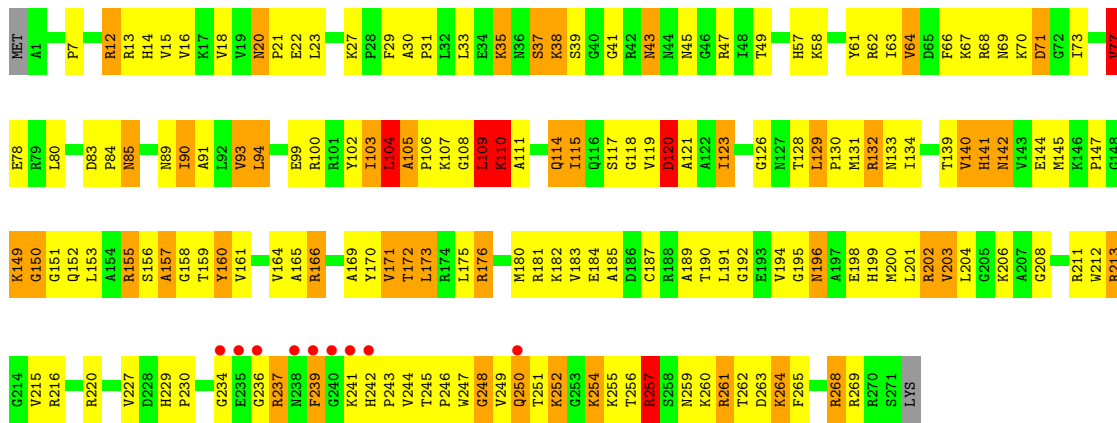




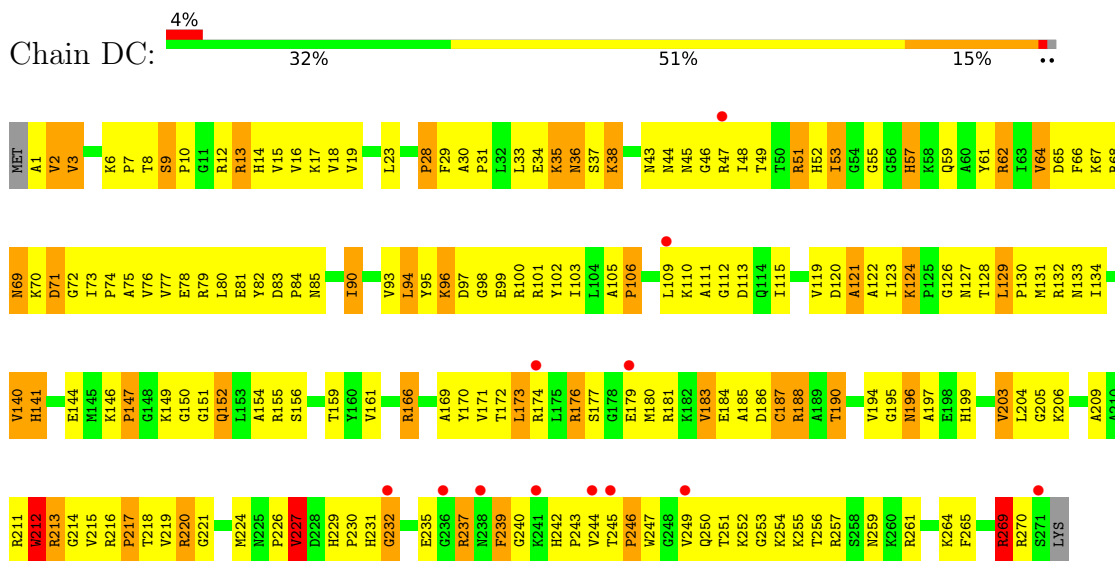
• Molecule 23: 5S rRNA



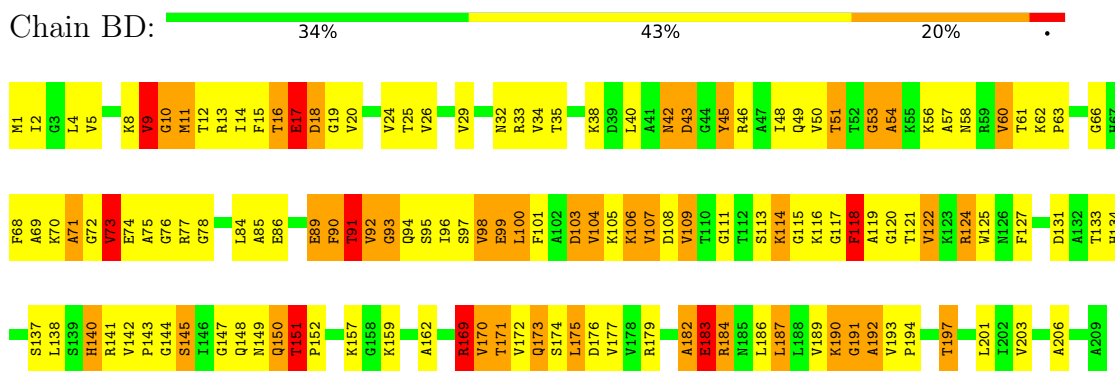
• Molecule 24: 50S ribosomal protein L2



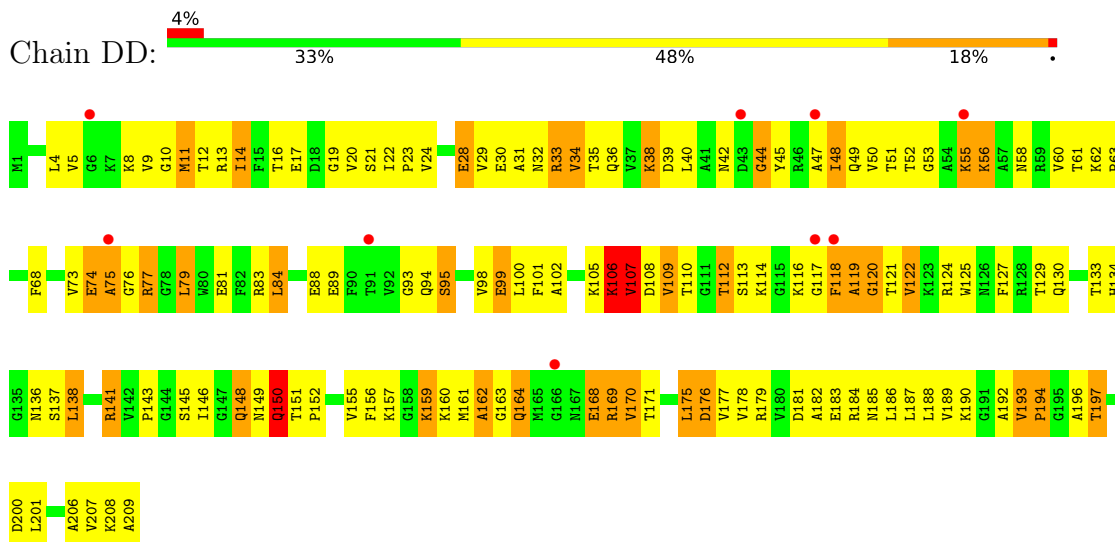
• Molecule 24: 50S ribosomal protein L2



• Molecule 25: 50S ribosomal protein L3

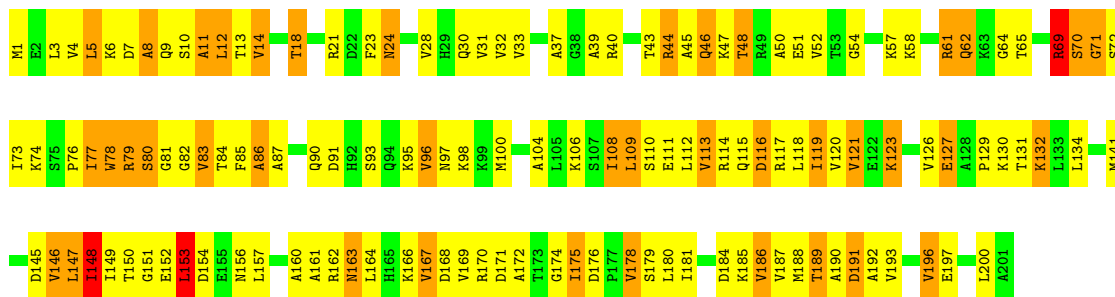


• Molecule 25: 50S ribosomal protein L3

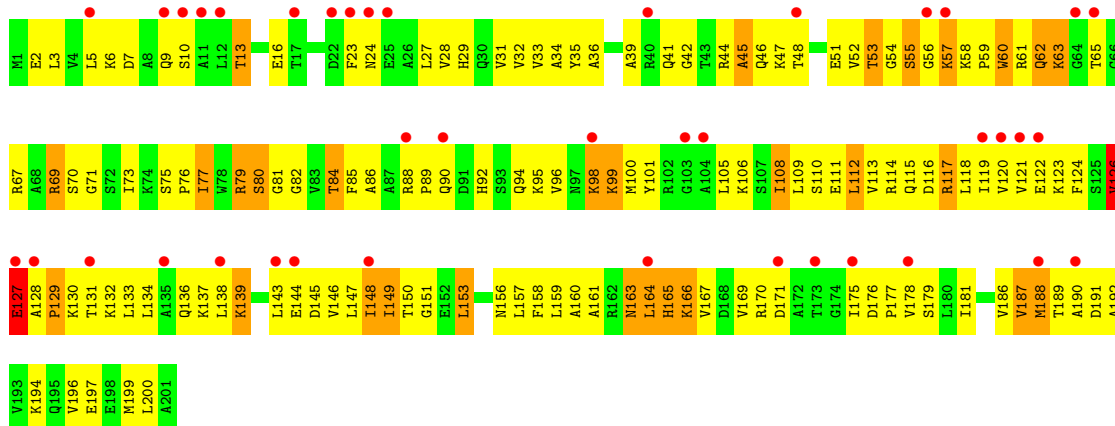


• Molecule 26: 50S ribosomal protein L4

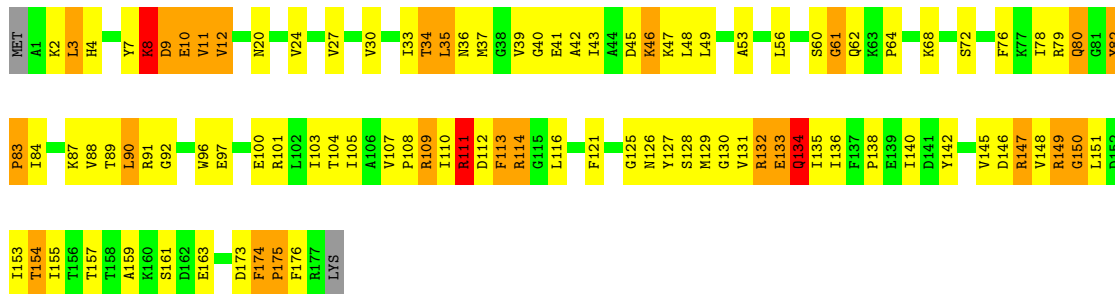




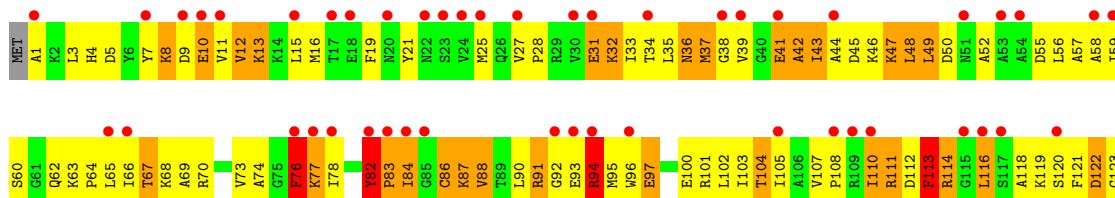
• Molecule 26: 50S ribosomal protein L4



• Molecule 27: 50S ribosomal protein L5



• Molecule 27: 50S ribosomal protein L5





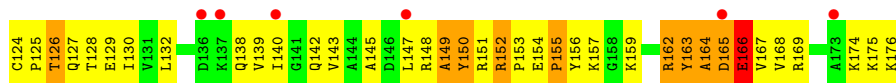
• Molecule 28: 50S ribosomal protein L6

Chain BG: 31% 45% 22% ..



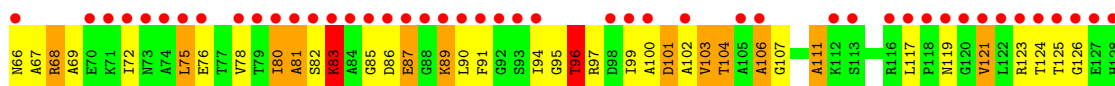
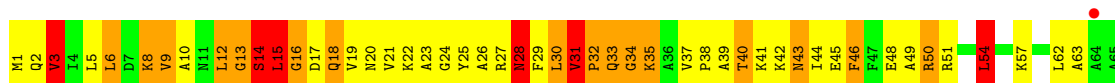
• Molecule 28: 50S ribosomal protein L6

Chain DG: 23% 32% 49% 16% ..



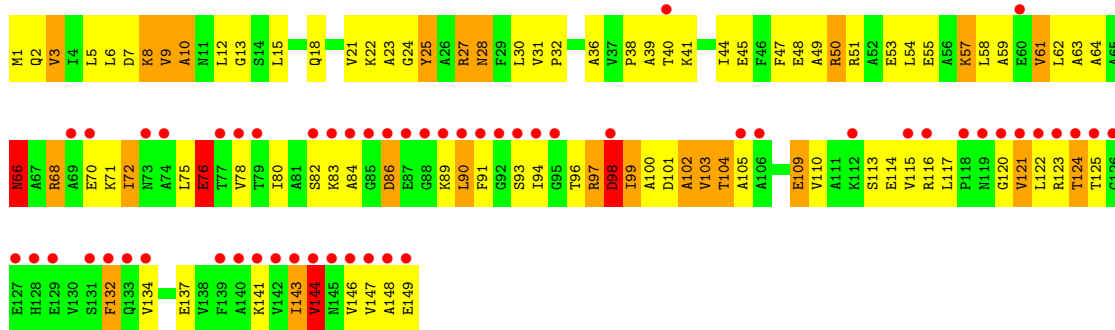
• Molecule 29: 50S ribosomal protein L9

Chain BH: 40% 32% 42% 20% 5%

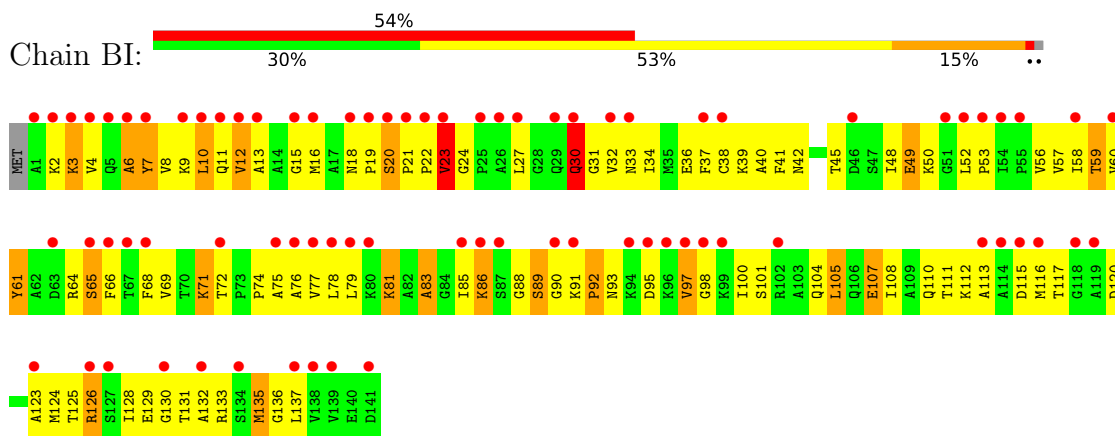


• Molecule 29: 50S ribosomal protein L9

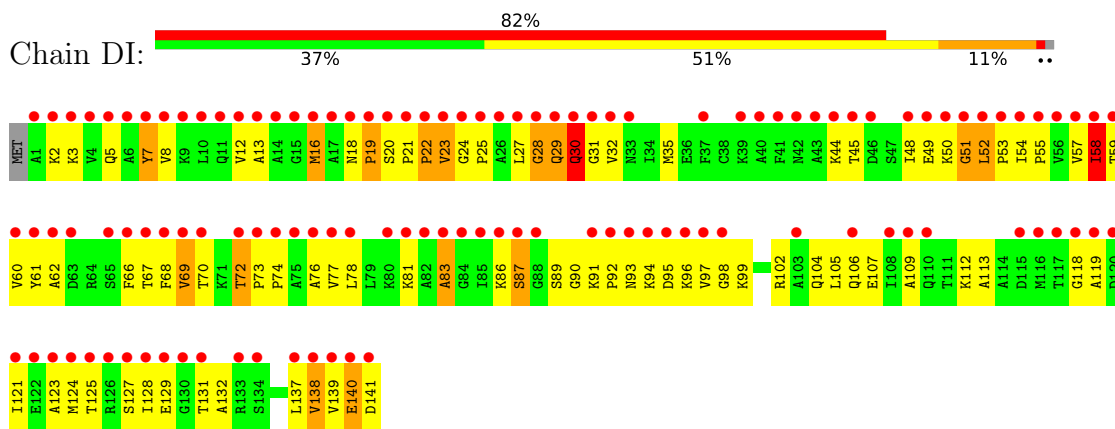
Chain DH: 38% 36% 46% 16%



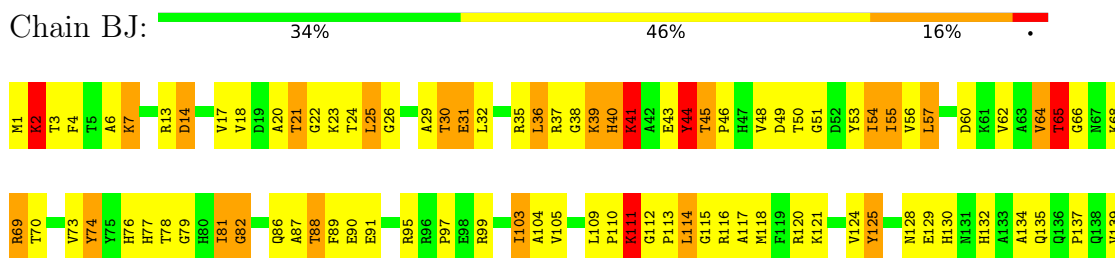
• Molecule 30: 50S ribosomal protein L11



• Molecule 30: 50S ribosomal protein L11



• Molecule 31: 50S ribosomal protein L13



L140
D141
I142

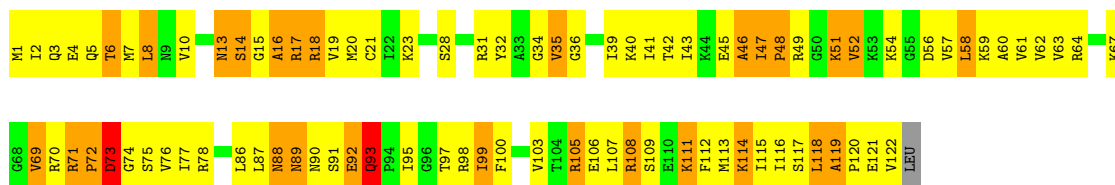
- Molecule 31: 50S ribosomal protein L13

Chain DJ: 3% 32% 54% 12%



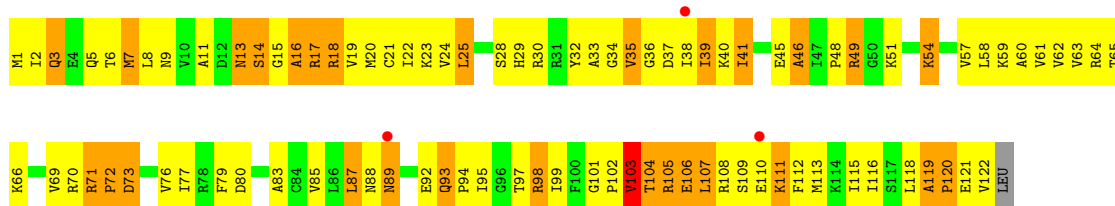
- Molecule 32: 50S ribosomal protein L14

Chain BK: 27% 49% 22%



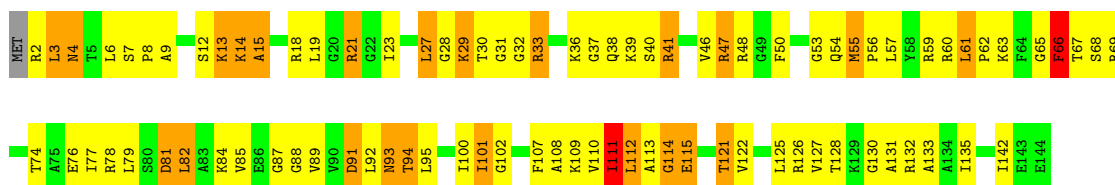
- Molecule 32: 50S ribosomal protein L14

Chain DK: 2% 24% 51% 23%

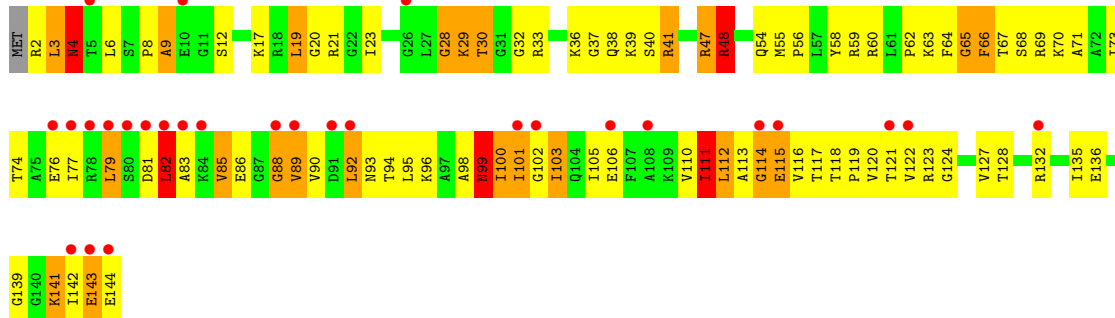


- Molecule 33: 50S ribosomal protein L15

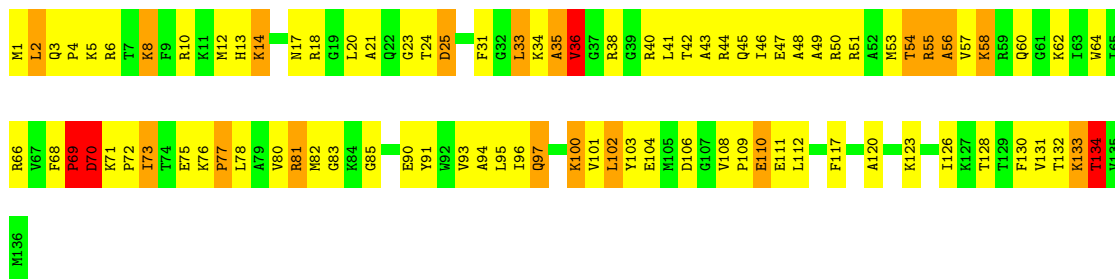
Chain BL: 38% 44% 16%



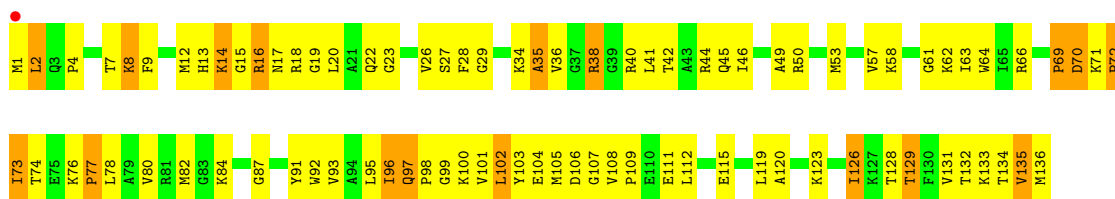
- Molecule 33: 50S ribosomal protein L15



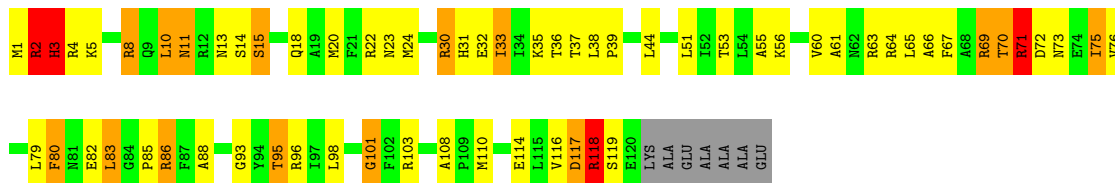
• Molecule 34: 50S ribosomal protein L16



• Molecule 34: 50S ribosomal protein L16

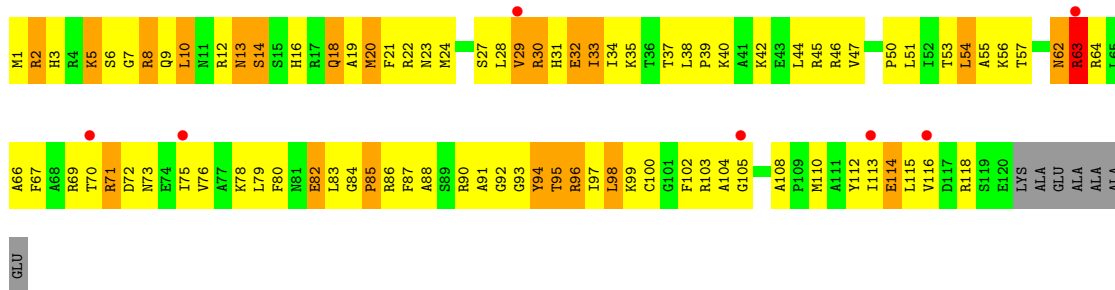


• Molecule 35: 50S ribosomal protein L17

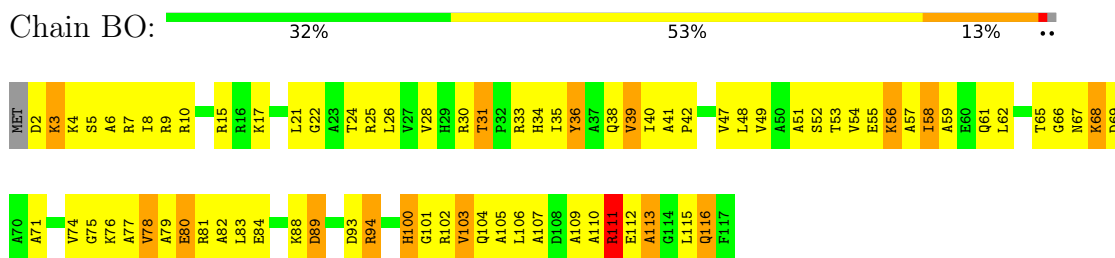


• Molecule 35: 50S ribosomal protein L17

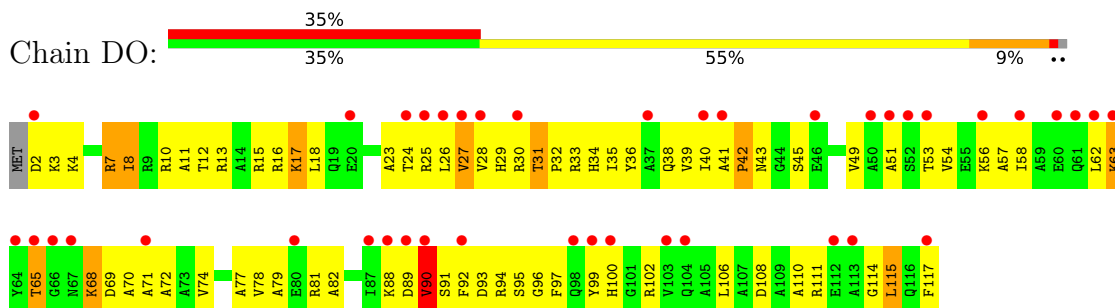




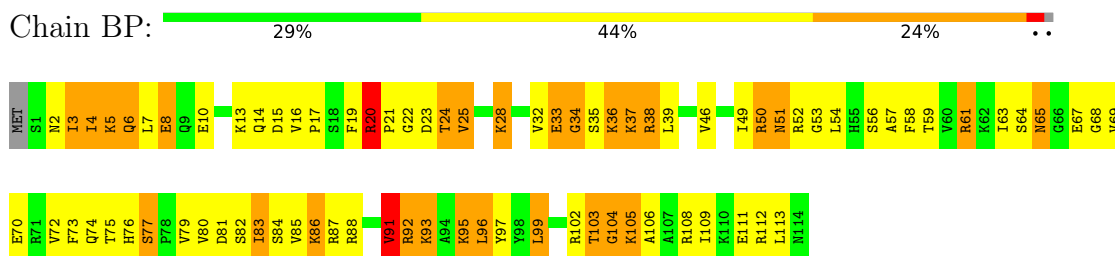
• Molecule 36: 50S ribosomal protein L18



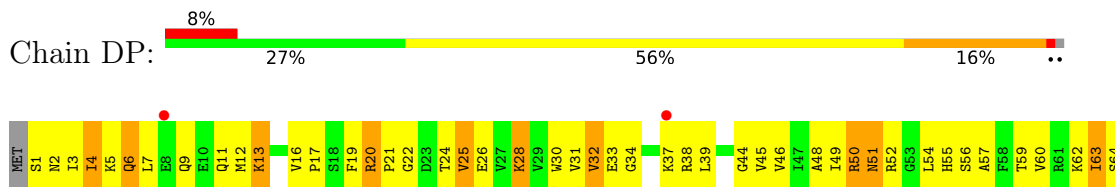
• Molecule 36: 50S ribosomal protein L18

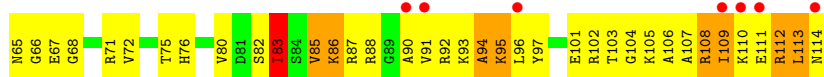


• Molecule 37: 50S ribosomal protein L19

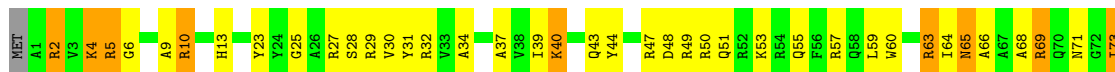


• Molecule 37: 50S ribosomal protein L19

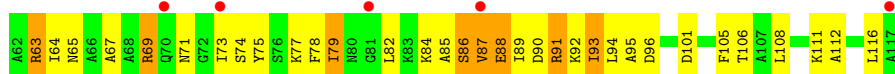
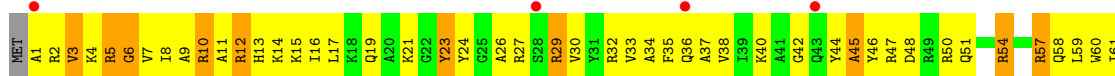




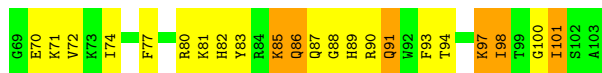
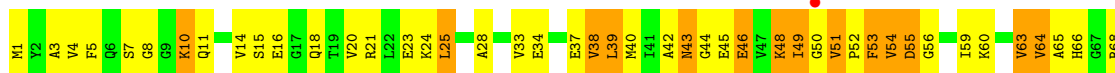
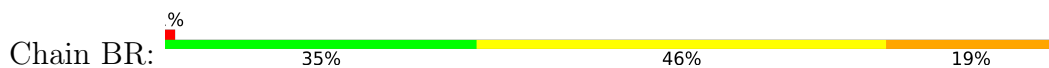
- Molecule 38: 50S ribosomal protein L20



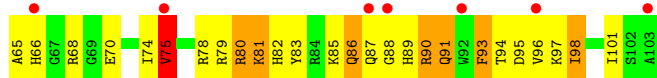
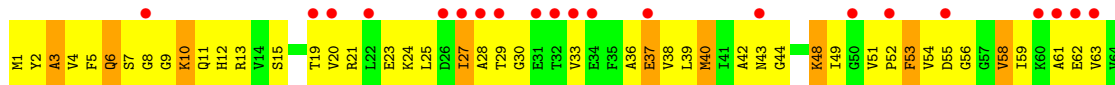
- Molecule 38: 50S ribosomal protein L20



- Molecule 39: 50S ribosomal protein L21

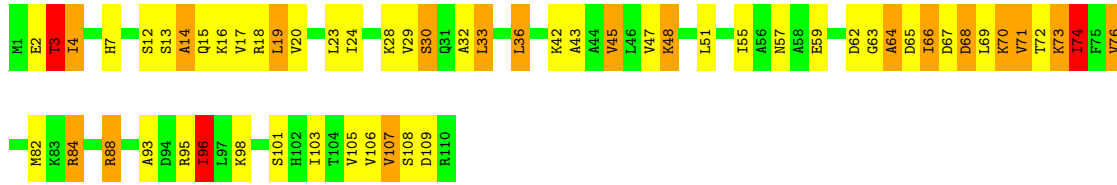


- Molecule 39: 50S ribosomal protein L21

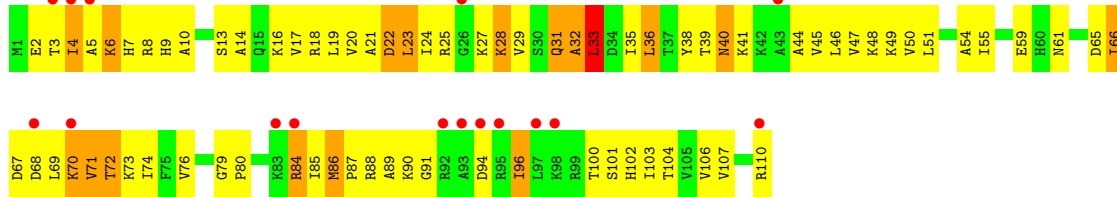


- Molecule 40: 50S ribosomal protein L22

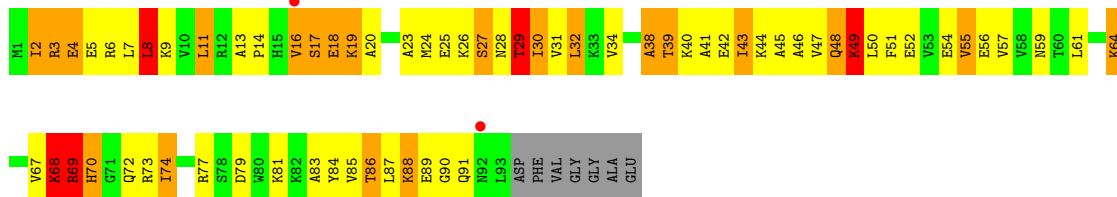
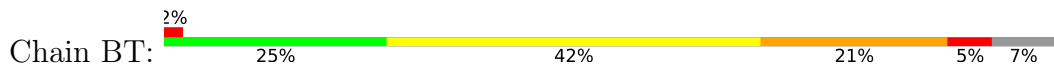




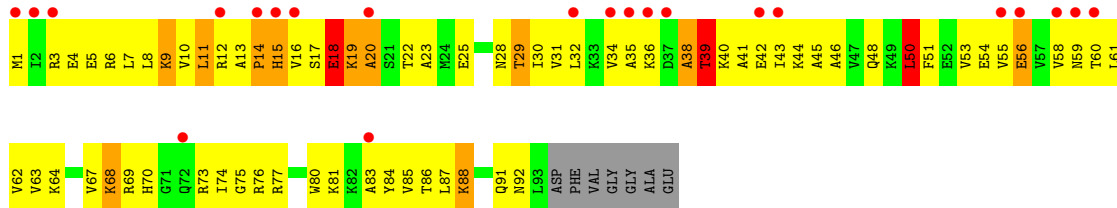
• Molecule 40: 50S ribosomal protein L22



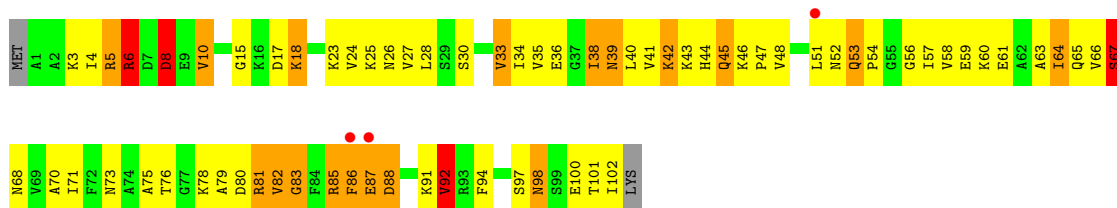
• Molecule 41: 50S ribosomal protein L23



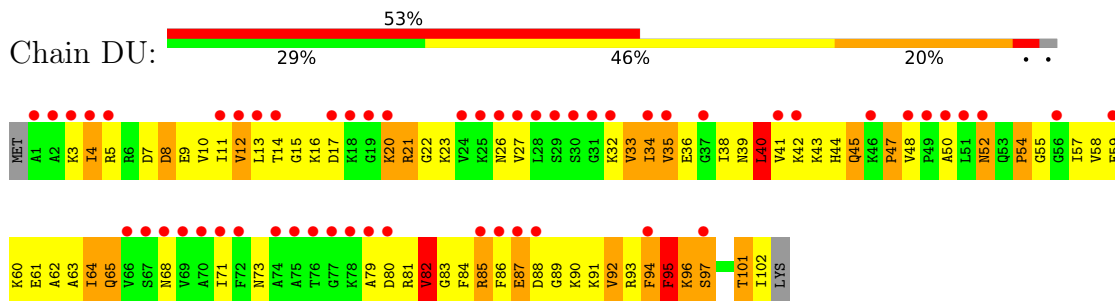
• Molecule 41: 50S ribosomal protein L23



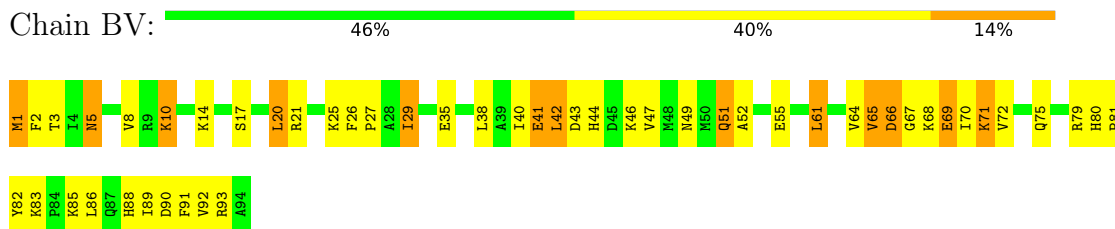
• Molecule 42: 50S ribosomal protein L24



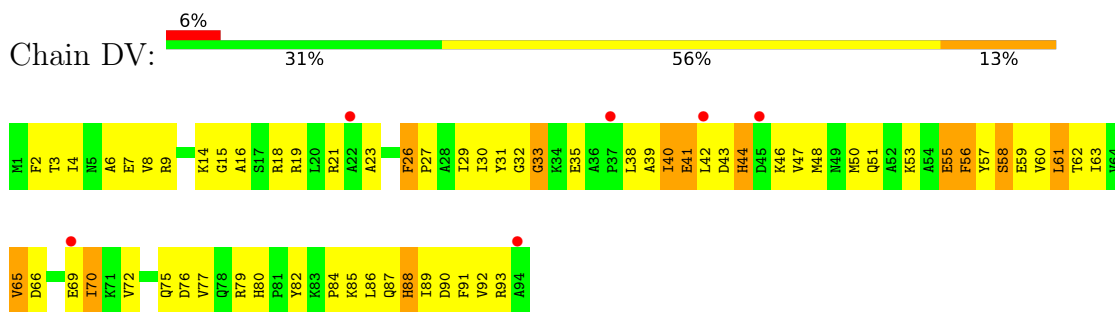
• Molecule 42: 50S ribosomal protein L24



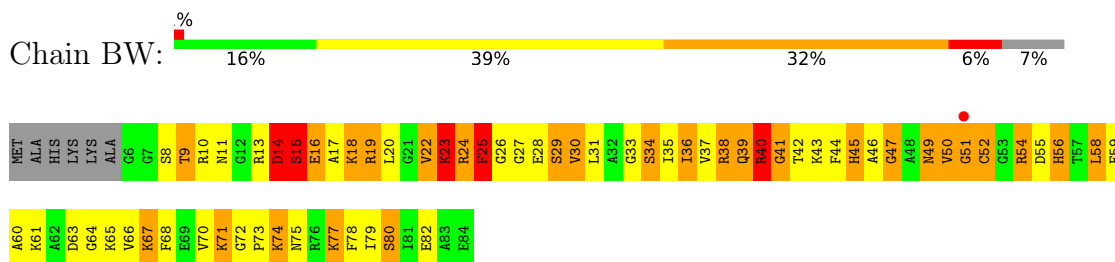
• Molecule 43: 50S ribosomal protein L25



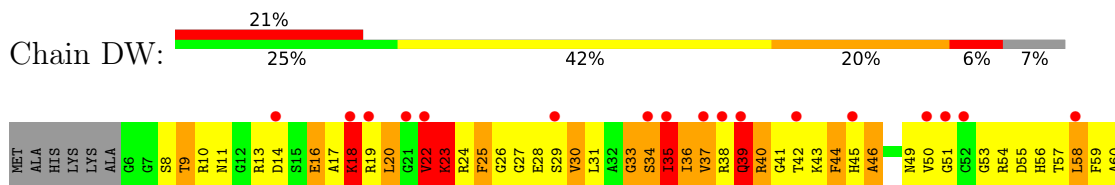
• Molecule 43: 50S ribosomal protein L25



• Molecule 44: 50S ribosomal protein L27

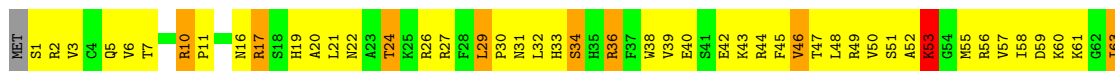
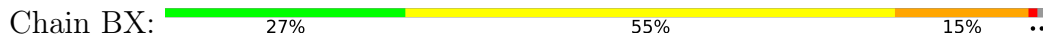


• Molecule 44: 50S ribosomal protein L27

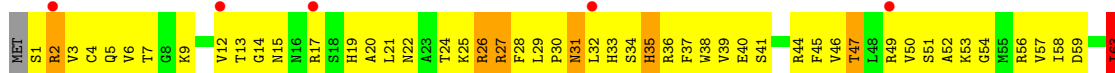




- Molecule 45: 50S ribosomal protein L28



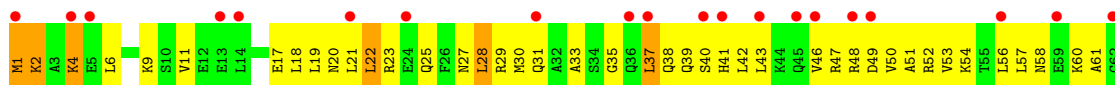
- Molecule 45: 50S ribosomal protein L28



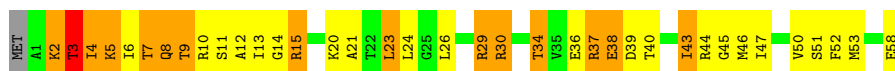
- Molecule 46: 50S ribosomal protein L29



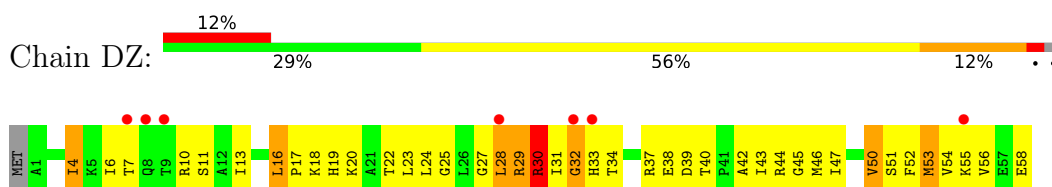
- Molecule 46: 50S ribosomal protein L29



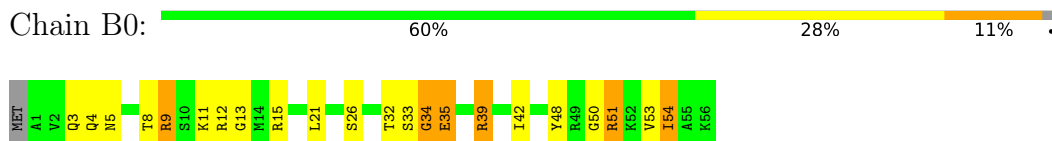
- Molecule 47: 50S ribosomal protein L30



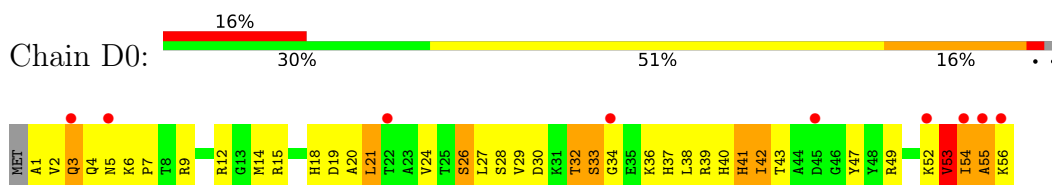
- Molecule 47: 50S ribosomal protein L30



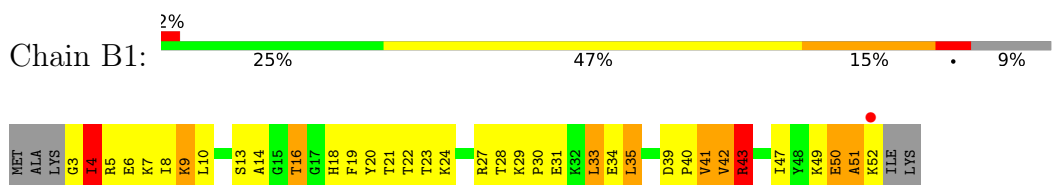
- Molecule 48: 50S ribosomal protein L32



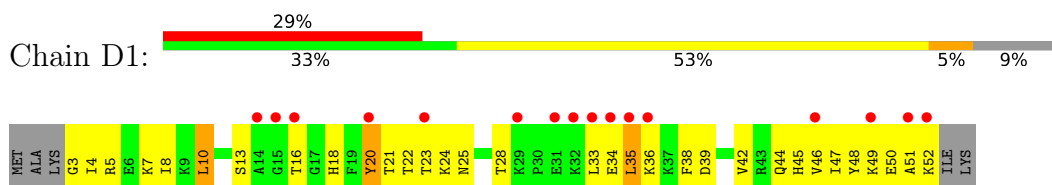
- Molecule 48: 50S ribosomal protein L32



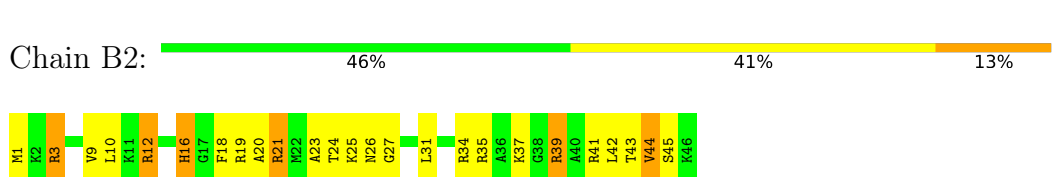
- Molecule 49: 50S ribosomal protein L33



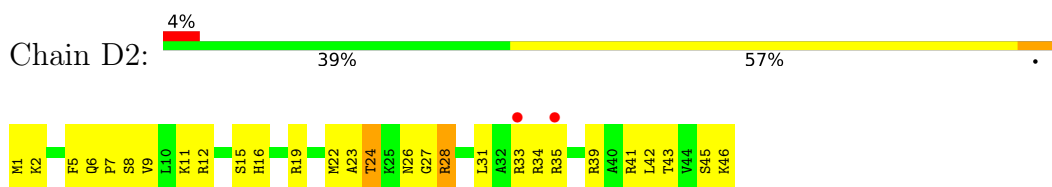
- Molecule 49: 50S ribosomal protein L33



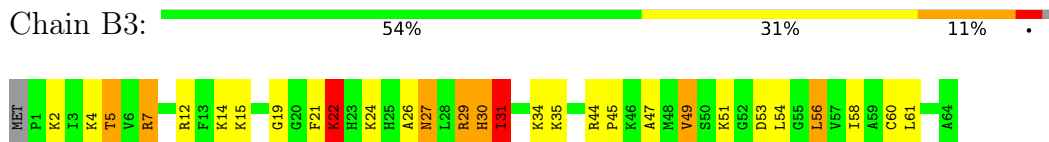
- Molecule 50: 50S ribosomal protein L34



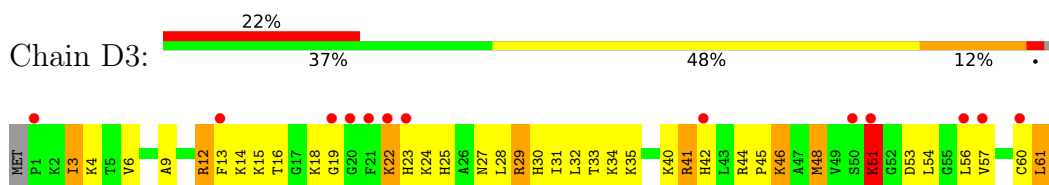
- Molecule 50: 50S ribosomal protein L34



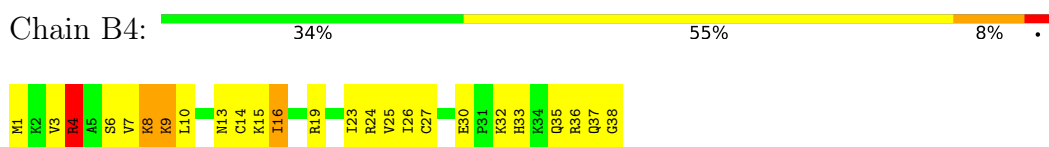
- Molecule 51: 50S ribosomal protein L35



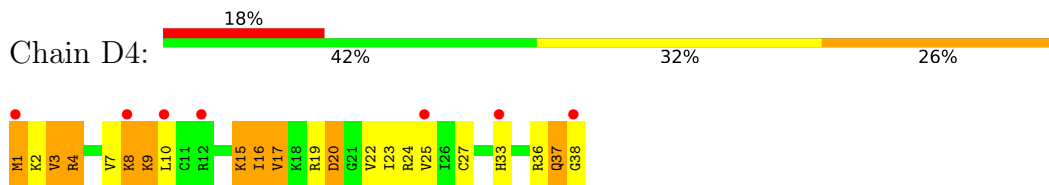
• Molecule 51: 50S ribosomal protein L35



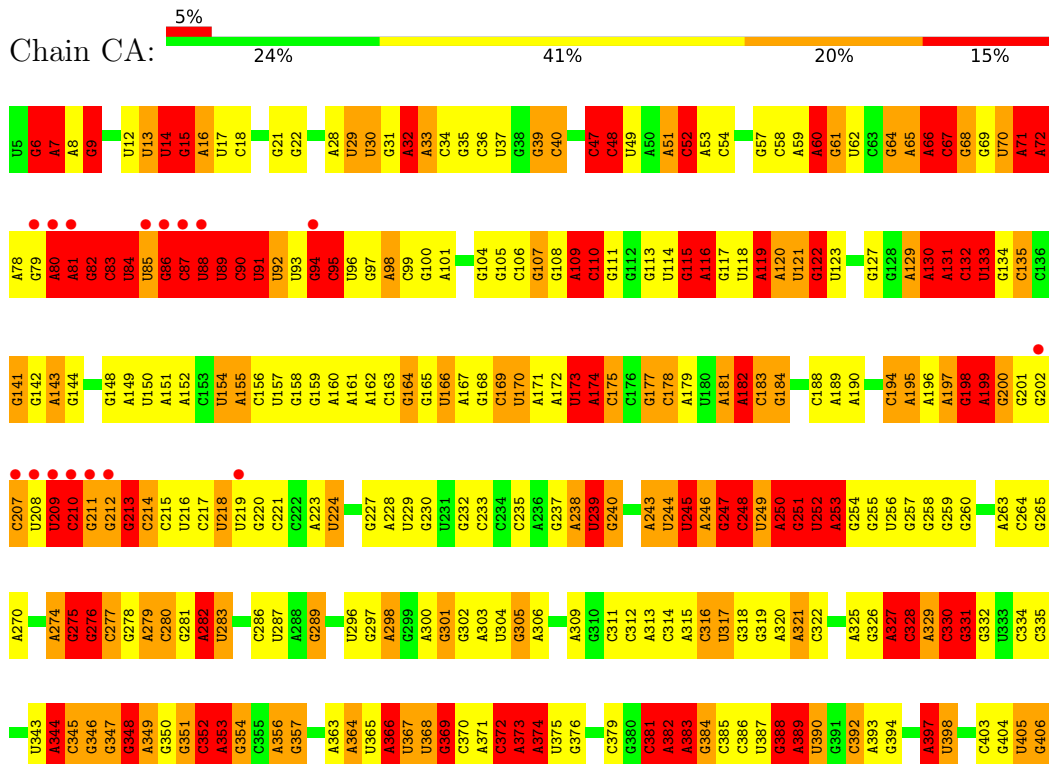
• Molecule 52: 50S ribosomal protein L36

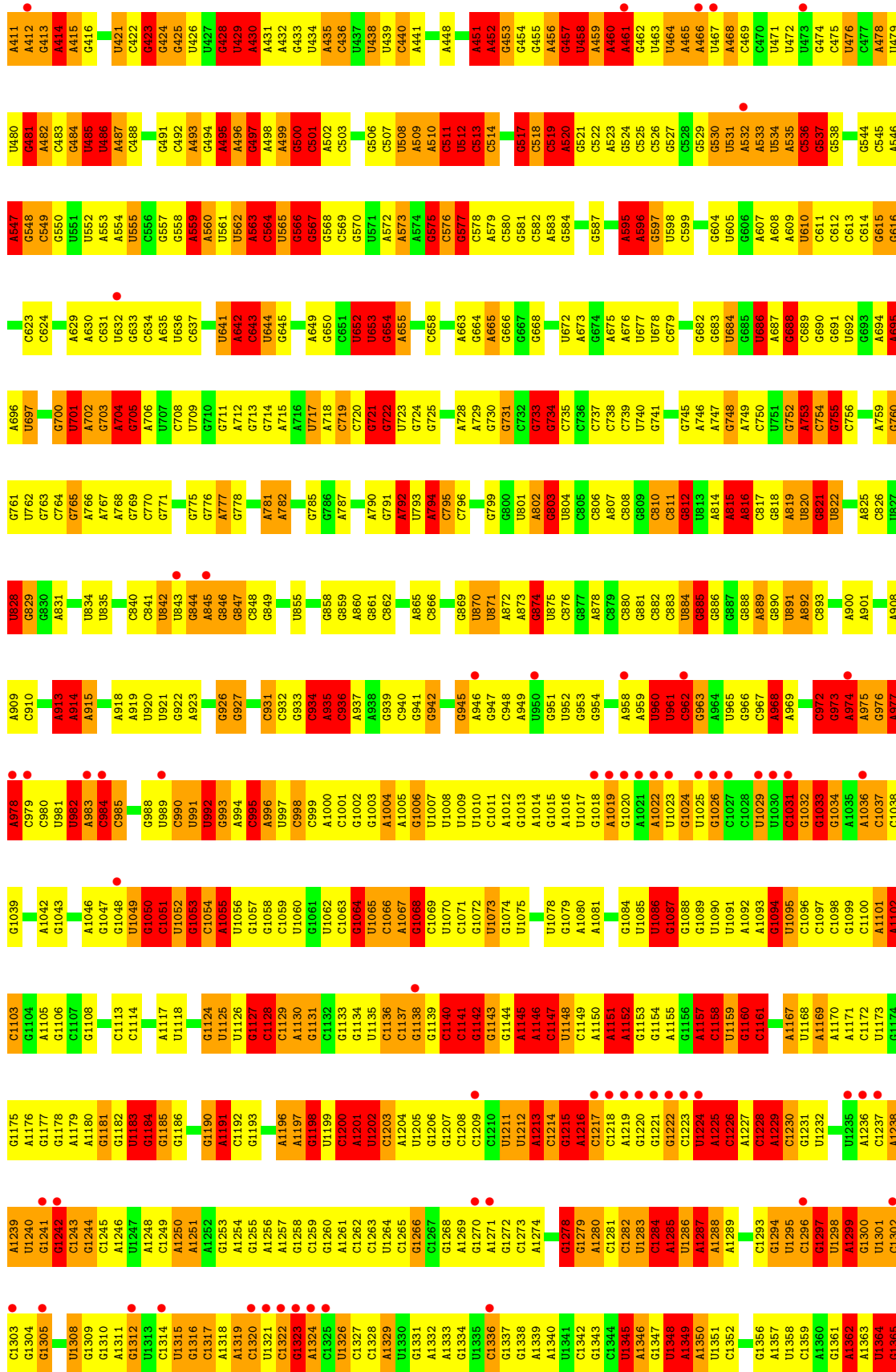


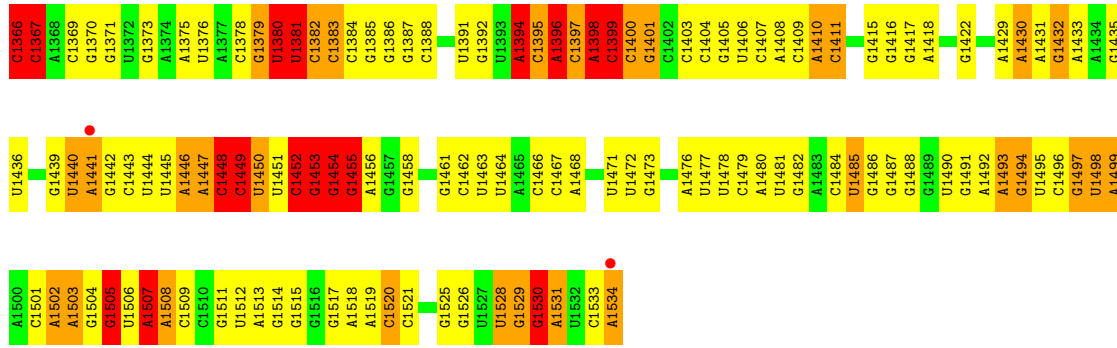
• Molecule 52: 50S ribosomal protein L36



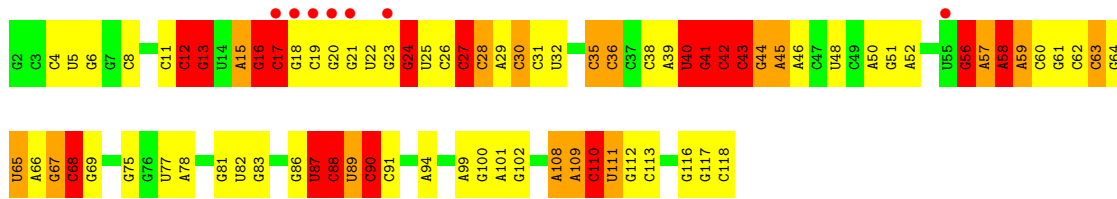
• Molecule 53: 16S rRNA







• Molecule 54: 5S rRNA



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	211.89Å 434.93Å 622.92Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	39.88 – 3.19 39.88 – 3.19	Depositor EDS
% Data completeness (in resolution range)	95.8 (39.88-3.19) 95.8 (39.88-3.19)	Depositor EDS
R_{merge}	0.17	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.53 (at 3.18Å)	Xtrriage
Refinement program	PHENIX ?, PHENIX (phenix.refine)	Depositor
R, R_{free}	0.195 , 0.252 0.207 , 0.261	Depositor DCC
R_{free} test set	18197 reflections (2.01%)	wwPDB-VP
Wilson B-factor (Å ²)	63.6	Xtrriage
Anisotropy	0.258	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.24 , 74.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	284450	wwPDB-VP
Average B, all atoms (Å ²)	98.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.53% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

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

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	AB	0.30	0/1735	0.52	0/2338
1	CB	0.27	0/1735	0.49	0/2338
2	AC	0.30	0/1651	0.53	1/2225 (0.0%)
2	CC	0.25	0/1651	0.45	0/2225
3	AD	0.31	0/1665	0.52	0/2227
3	CD	0.39	0/1665	0.60	0/2227
4	AE	0.36	0/1118	0.63	1/1504 (0.1%)
4	CE	0.34	0/1118	0.54	0/1504
5	AF	0.32	0/835	0.49	0/1128
5	CF	0.28	0/835	0.50	0/1128
6	AG	0.27	0/1195	0.48	0/1602
6	CG	0.25	0/1187	0.46	0/1591
7	AH	0.33	0/989	0.55	0/1326
7	CH	0.28	0/989	0.50	0/1326
8	AI	0.27	0/1034	0.49	0/1375
8	CI	0.24	0/1034	0.43	0/1375
9	AJ	0.29	0/796	0.53	0/1077
9	CJ	0.24	0/796	0.48	0/1077
10	AK	0.31	0/893	0.56	0/1205
10	CK	0.29	0/893	0.50	0/1205
11	AL	0.39	0/969	0.69	0/1300
11	CL	0.32	0/969	0.57	0/1300
12	AM	0.26	0/892	0.49	0/1193
12	CM	0.20	0/884	0.41	0/1181
13	AN	0.30	0/785	0.54	0/1043
13	CN	0.22	0/780	0.39	0/1036
14	AO	0.30	0/722	0.49	0/964
14	CO	0.26	0/722	0.45	0/964
15	AP	0.30	0/659	0.50	0/884
15	CP	0.30	0/648	0.51	0/870
16	AQ	0.39	0/657	0.59	0/881
16	CQ	0.31	0/657	0.51	0/881

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	AR	0.30	0/462	0.50	0/621
17	CR	0.30	0/462	0.47	0/621
18	AS	0.28	0/652	0.49	0/877
18	CS	0.21	0/652	0.43	0/877
19	AT	0.35	0/671	0.56	0/888
19	CT	0.27	0/671	0.50	0/888
20	AU	0.39	0/430	0.54	0/570
20	CU	0.39	0/430	0.63	0/570
21	AA	0.55	1/36834 (0.0%)	1.38	581/57462 (1.0%)
22	BA	0.78	12/68626 (0.0%)	1.59	1420/107056 (1.3%)
22	DA	0.50	0/68314	1.35	1136/106569 (1.1%)
23	BB	0.71	0/2828	1.50	45/4410 (1.0%)
24	BC	0.44	0/2121	0.70	1/2852 (0.0%)
24	DC	0.31	0/2121	0.53	0/2852
25	BD	0.53	0/1586	0.76	1/2134 (0.0%)
25	DD	0.30	0/1586	0.56	0/2134
26	BE	0.43	0/1571	0.64	0/2113
26	DE	0.26	0/1571	0.47	0/2113
27	BF	0.33	0/1434	0.54	0/1926
27	DF	0.23	0/1444	0.47	0/1937
28	BG	0.40	0/1343	0.64	0/1816
28	DG	0.24	0/1343	0.48	0/1816
29	BH	0.31	0/1122	0.50	0/1515
29	DH	0.28	0/1122	0.50	0/1515
30	BI	0.23	0/1046	0.47	0/1410
30	DI	0.21	0/1046	0.43	0/1410
31	BJ	0.57	0/1152	0.80	1/1551 (0.1%)
31	DJ	0.28	0/1152	0.55	1/1551 (0.1%)
32	BK	0.51	0/947	0.77	0/1268
32	DK	0.33	0/947	0.56	0/1268
33	BL	0.43	0/1054	0.75	0/1403
33	DL	0.27	0/1054	0.52	0/1403
34	BM	0.50	0/1093	0.70	0/1460
34	DM	0.27	0/1093	0.46	0/1460
35	BN	0.47	0/973	0.70	0/1301
35	DN	0.28	0/973	0.50	0/1301
36	BO	0.42	0/902	0.63	0/1209
36	DO	0.22	0/902	0.42	0/1209
37	BP	0.50	0/929	0.73	0/1242
37	DP	0.30	0/929	0.50	0/1242
38	BQ	0.57	0/960	0.73	0/1278
38	DQ	0.29	0/960	0.46	0/1278
39	BR	0.60	1/829 (0.1%)	0.75	0/1107

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
39	DR	0.28	0/829	0.49	0/1107
40	BS	0.53	0/864	0.72	0/1156
40	DS	0.29	0/864	0.52	0/1156
41	BT	0.46	0/744	0.74	0/994
41	DT	0.24	0/744	0.48	0/994
42	BU	0.44	0/787	0.70	0/1051
42	DU	0.25	0/787	0.47	0/1051
43	BV	0.42	0/766	0.58	0/1025
43	DV	0.25	0/766	0.43	0/1025
44	BW	0.56	0/603	0.87	0/797
44	DW	0.26	0/603	0.48	0/797
45	BX	0.42	0/635	0.70	1/848 (0.1%)
45	DX	0.27	0/635	0.55	0/848
46	BY	0.35	0/510	0.65	0/677
46	DY	0.22	0/510	0.45	0/677
47	BZ	0.51	0/453	0.77	0/605
47	DZ	0.26	0/453	0.49	0/605
48	B0	0.45	0/450	0.71	0/599
48	D0	0.28	0/450	0.51	0/599
49	B1	0.40	0/416	0.63	0/554
49	D1	0.27	0/416	0.46	0/554
50	B2	0.46	0/380	0.73	0/498
50	D2	0.28	0/380	0.50	0/498
51	B3	0.45	0/513	0.69	0/676
51	D3	0.27	0/513	0.51	0/676
52	B4	0.55	0/303	0.78	0/397
52	D4	0.27	0/303	0.49	0/397
53	CA	0.50	0/36762	1.32	542/57350 (0.9%)
54	DB	0.44	0/2803	1.26	34/4371 (0.8%)
All	All	0.55	14/306737 (0.0%)	1.26	3765/458565 (0.8%)

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
25	BD	0	1
32	BK	0	1
35	BN	0	1
51	B3	0	1
All	All	0	4

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	BA	1142	A	N9-C4	-10.15	1.31	1.37
22	BA	2451	A	C8-N7	8.00	1.37	1.31
22	BA	2447	G	N9-C4	7.71	1.44	1.38
22	BA	984	A	N9-C4	-6.87	1.33	1.37
22	BA	1142	A	C8-N7	6.70	1.36	1.31

The worst 5 of 3765 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	2447	G	C6-N1-C2	-18.49	114.00	125.10
22	BA	919	U	N1-C2-O2	18.00	135.40	122.80
22	BA	919	U	C2-N1-C1'	16.54	137.55	117.70
22	BA	302	C	N1-C1'-C2'	-16.46	92.60	114.00
22	BA	805	G	P-O3'-C3'	15.12	137.85	119.70

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
51	B3	29	ARG	Peptide
25	BD	9	VAL	Peptide
32	BK	15	GLY	Peptide
35	BN	101	GLY	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	AB	1704	0	1732	221	0
1	CB	1704	0	1732	174	0
2	AC	1624	0	1699	112	0
2	CC	1624	0	1699	143	0
3	AD	1643	0	1710	151	0
3	CD	1643	0	1710	152	0
4	AE	1105	0	1148	132	0
4	CE	1105	0	1148	99	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	AF	817	0	808	73	0
5	CF	817	0	808	66	0
6	AG	1181	0	1240	87	0
6	CG	1174	0	1230	136	0
7	AH	979	0	1034	74	0
7	CH	979	0	1034	88	0
8	AI	1022	0	1070	83	0
8	CI	1022	0	1070	98	0
9	AJ	786	0	828	74	0
9	CJ	786	0	828	97	0
10	AK	877	0	887	89	0
10	CK	877	0	887	78	0
11	AL	955	0	1019	89	0
11	CL	955	0	1019	89	0
12	AM	883	0	944	74	0
12	CM	876	0	937	107	0
13	AN	774	0	827	76	0
13	CN	769	0	822	82	0
14	AO	714	0	737	54	0
14	CO	714	0	737	36	0
15	AP	649	0	666	52	0
15	CP	638	0	656	67	0
16	AQ	648	0	691	75	0
16	CQ	648	0	691	61	0
17	AR	455	0	478	25	0
17	CR	455	0	478	35	0
18	AS	637	0	665	52	0
18	CS	637	0	665	75	0
19	AT	665	0	714	72	0
19	CT	665	0	714	52	0
20	AU	425	0	449	88	0
20	CU	425	0	449	80	0
21	AA	32895	0	16553	1203	0
22	BA	61274	0	30819	1932	0
22	DA	60995	0	30679	3174	0
23	BB	2529	0	1281	63	0
24	BC	2082	0	2157	213	0
24	DC	2082	0	2157	210	0
25	BD	1565	0	1616	186	0
25	DD	1565	0	1616	179	0
26	BE	1552	0	1619	127	0
26	DE	1552	0	1619	172	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	BF	1410	0	1447	124	0
27	DF	1420	0	1460	170	0
28	BG	1323	0	1374	169	0
28	DG	1323	0	1374	137	0
29	BH	1111	0	1148	107	0
29	DH	1111	0	1148	102	0
30	BI	1032	0	1088	108	0
30	DI	1032	0	1088	77	0
31	BJ	1129	0	1162	154	0
31	DJ	1129	0	1162	141	0
32	BK	938	0	1012	99	0
32	DK	938	0	1012	111	0
33	BL	1045	0	1117	117	0
33	DL	1045	0	1117	115	0
34	BM	1074	0	1157	102	0
34	DM	1074	0	1157	96	0
35	BN	960	0	1000	82	0
35	DN	960	0	1000	122	0
36	BO	892	0	923	74	0
36	DO	892	0	923	75	0
37	BP	917	0	965	131	0
37	DP	917	0	965	112	0
38	BQ	947	0	1022	124	0
38	DQ	947	0	1022	131	0
39	BR	816	0	839	91	0
39	DR	816	0	839	91	0
40	BS	857	0	922	67	0
40	DS	857	0	922	76	0
41	BT	738	0	807	117	0
41	DT	738	0	807	98	0
42	BU	779	0	834	57	0
42	DU	779	0	834	89	0
43	BV	753	0	780	45	0
43	DV	753	0	780	64	0
44	BW	596	0	610	187	0
44	DW	596	0	610	111	0
45	BX	625	0	655	61	0
45	DX	625	0	655	63	0
46	BY	509	0	543	55	0
46	DY	509	0	543	58	0
47	BZ	449	0	491	39	0
47	DZ	449	0	491	43	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	B0	444	0	461	22	0
48	D0	444	0	461	53	0
49	B1	409	0	440	44	0
49	D1	409	0	440	31	0
50	B2	377	0	418	29	0
50	D2	377	0	418	41	0
51	B3	504	0	574	41	0
51	D3	504	0	574	58	0
52	B4	302	0	340	32	0
52	D4	302	0	340	29	0
53	CA	32831	0	16521	1452	0
54	DB	2507	0	1270	121	0
55	AA	43	0	0	0	0
55	BA	137	0	0	0	0
55	BB	4	0	0	0	0
55	CA	42	0	0	0	0
55	DA	135	0	0	0	0
55	DB	1	0	0	0	0
55	DJ	1	0	0	0	0
56	B4	1	0	0	0	0
56	D4	1	0	0	0	0
57	AA	195	0	0	2	0
57	AE	1	0	0	0	0
57	AL	3	0	0	0	0
57	AN	6	0	0	0	0
57	AT	2	0	0	0	0
57	AU	1	0	0	0	0
57	B0	1	0	0	0	0
57	B2	1	0	0	0	0
57	B3	3	0	0	0	0
57	B4	3	0	0	0	0
57	BA	610	0	0	24	0
57	BB	20	0	0	1	0
57	BC	10	0	0	0	0
57	BD	2	0	0	1	0
57	BL	4	0	0	1	0
57	BN	3	0	0	0	0
57	BQ	1	0	0	0	0
57	BT	2	0	0	1	0
57	CA	192	0	0	8	0
57	CE	5	0	0	0	0
57	CI	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	CL	1	0	0	0	0
57	CN	3	0	0	0	0
57	CT	3	0	0	0	0
57	CU	2	0	0	0	0
57	D2	1	0	0	1	0
57	D3	1	0	0	0	0
57	D4	4	0	0	0	0
57	DA	599	0	0	9	0
57	DB	4	0	0	0	0
57	DC	13	0	0	1	0
57	DD	4	0	0	0	0
57	DE	3	0	0	0	0
57	DJ	3	0	0	0	0
57	DL	5	0	0	0	0
57	DN	2	0	0	2	0
57	DT	2	0	0	1	0
57	DU	1	0	0	0	0
57	DV	1	0	0	0	0
All	All	284450	0	190838	15808	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 33.

The worst 5 of 15808 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)
38:BQ:63:ARG:NH1	38:BQ:96:ASP:HA	1.49	1.26
22:DA:1439:A:C2	22:DA:1552:A:C6	2.32	1.17
22:DA:1439:A:N1	22:DA:1552:A:C5	2.12	1.17
27:BF:35:LEU:HB3	27:BF:153:ILE:HG22	1.19	1.16
33:BL:93:ASN:HD22	33:BL:94:THR:N	1.44	1.16

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	AB	216/241 (90%)	131 (61%)	49 (23%)	36 (17%)	0	0
1	CB	216/241 (90%)	149 (69%)	47 (22%)	20 (9%)	0	3
2	AC	204/233 (88%)	151 (74%)	35 (17%)	18 (9%)	1	4
2	CC	204/233 (88%)	144 (71%)	41 (20%)	19 (9%)	0	3
3	AD	203/206 (98%)	140 (69%)	36 (18%)	27 (13%)	0	1
3	CD	203/206 (98%)	142 (70%)	39 (19%)	22 (11%)	0	2
4	AE	148/167 (89%)	107 (72%)	25 (17%)	16 (11%)	0	2
4	CE	148/167 (89%)	111 (75%)	21 (14%)	16 (11%)	0	2
5	AF	98/135 (73%)	74 (76%)	15 (15%)	9 (9%)	1	3
5	CF	98/135 (73%)	68 (69%)	18 (18%)	12 (12%)	0	2
6	AG	149/179 (83%)	108 (72%)	34 (23%)	7 (5%)	2	17
6	CG	148/179 (83%)	99 (67%)	35 (24%)	14 (10%)	0	3
7	AH	127/130 (98%)	93 (73%)	30 (24%)	4 (3%)	4	26
7	CH	127/130 (98%)	96 (76%)	20 (16%)	11 (9%)	1	4
8	AI	125/130 (96%)	84 (67%)	31 (25%)	10 (8%)	1	6
8	CI	125/130 (96%)	90 (72%)	21 (17%)	14 (11%)	0	2
9	AJ	96/103 (93%)	67 (70%)	18 (19%)	11 (12%)	0	2
9	CJ	96/103 (93%)	55 (57%)	24 (25%)	17 (18%)	0	0
10	AK	115/129 (89%)	85 (74%)	21 (18%)	9 (8%)	1	6
10	CK	115/129 (89%)	85 (74%)	22 (19%)	8 (7%)	1	8
11	AL	121/124 (98%)	87 (72%)	20 (16%)	14 (12%)	0	2
11	CL	121/124 (98%)	85 (70%)	29 (24%)	7 (6%)	1	13
12	AM	112/118 (95%)	89 (80%)	16 (14%)	7 (6%)	1	10
12	CM	111/118 (94%)	60 (54%)	38 (34%)	13 (12%)	0	2
13	AN	92/101 (91%)	56 (61%)	24 (26%)	12 (13%)	0	1
13	CN	91/101 (90%)	60 (66%)	26 (29%)	5 (6%)	2	14
14	AO	86/89 (97%)	63 (73%)	20 (23%)	3 (4%)	3	24
14	CO	86/89 (97%)	62 (72%)	20 (23%)	4 (5%)	2	17
15	AP	80/82 (98%)	58 (72%)	14 (18%)	8 (10%)	0	3
15	CP	78/82 (95%)	50 (64%)	17 (22%)	11 (14%)	0	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
16	AQ	78/84 (93%)	51 (65%)	15 (19%)	12 (15%)	0	1
16	CQ	78/84 (93%)	59 (76%)	10 (13%)	9 (12%)	0	2
17	AR	53/75 (71%)	40 (76%)	11 (21%)	2 (4%)	3	22
17	CR	53/75 (71%)	39 (74%)	12 (23%)	2 (4%)	3	22
18	AS	77/92 (84%)	59 (77%)	9 (12%)	9 (12%)	0	2
18	CS	77/92 (84%)	46 (60%)	24 (31%)	7 (9%)	1	3
19	AT	83/87 (95%)	56 (68%)	20 (24%)	7 (8%)	1	5
19	CT	83/87 (95%)	59 (71%)	16 (19%)	8 (10%)	0	3
20	AU	49/71 (69%)	25 (51%)	13 (26%)	11 (22%)	0	0
20	CU	49/71 (69%)	21 (43%)	11 (22%)	17 (35%)	0	0
24	BC	269/273 (98%)	194 (72%)	50 (19%)	25 (9%)	0	3
24	DC	269/273 (98%)	174 (65%)	63 (23%)	32 (12%)	0	2
25	BD	207/209 (99%)	146 (70%)	27 (13%)	34 (16%)	0	0
25	DD	207/209 (99%)	132 (64%)	43 (21%)	32 (16%)	0	1
26	BE	199/201 (99%)	155 (78%)	24 (12%)	20 (10%)	0	3
26	DE	199/201 (99%)	130 (65%)	46 (23%)	23 (12%)	0	2
27	BF	175/179 (98%)	134 (77%)	25 (14%)	16 (9%)	1	3
27	DF	176/179 (98%)	98 (56%)	43 (24%)	35 (20%)	0	0
28	BG	174/177 (98%)	111 (64%)	38 (22%)	25 (14%)	0	1
28	DG	174/177 (98%)	106 (61%)	38 (22%)	30 (17%)	0	0
29	BH	147/149 (99%)	68 (46%)	47 (32%)	32 (22%)	0	0
29	DH	147/149 (99%)	75 (51%)	54 (37%)	18 (12%)	0	2
30	BI	139/142 (98%)	84 (60%)	41 (30%)	14 (10%)	0	3
30	DI	139/142 (98%)	81 (58%)	39 (28%)	19 (14%)	0	1
31	BJ	140/142 (99%)	107 (76%)	21 (15%)	12 (9%)	1	4
31	DJ	140/142 (99%)	91 (65%)	38 (27%)	11 (8%)	1	6
32	BK	120/123 (98%)	86 (72%)	15 (12%)	19 (16%)	0	1
32	DK	120/123 (98%)	80 (67%)	20 (17%)	20 (17%)	0	0
33	BL	141/144 (98%)	101 (72%)	32 (23%)	8 (6%)	1	14
33	DL	141/144 (98%)	81 (57%)	40 (28%)	20 (14%)	0	1
34	BM	134/136 (98%)	97 (72%)	22 (16%)	15 (11%)	0	2

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	DM	134/136 (98%)	92 (69%)	29 (22%)	13 (10%)	0	3
35	BN	118/127 (93%)	92 (78%)	17 (14%)	9 (8%)	1	7
35	DN	118/127 (93%)	72 (61%)	30 (25%)	16 (14%)	0	1
36	BO	114/117 (97%)	91 (80%)	12 (10%)	11 (10%)	0	3
36	DO	114/117 (97%)	77 (68%)	30 (26%)	7 (6%)	1	12
37	BP	112/115 (97%)	77 (69%)	18 (16%)	17 (15%)	0	1
37	DP	112/115 (97%)	68 (61%)	27 (24%)	17 (15%)	0	1
38	BQ	115/118 (98%)	100 (87%)	9 (8%)	6 (5%)	2	15
38	DQ	115/118 (98%)	80 (70%)	25 (22%)	10 (9%)	1	4
39	BR	101/103 (98%)	80 (79%)	13 (13%)	8 (8%)	1	6
39	DR	101/103 (98%)	70 (69%)	21 (21%)	10 (10%)	0	3
40	BS	108/110 (98%)	86 (80%)	16 (15%)	6 (6%)	2	14
40	DS	108/110 (98%)	76 (70%)	23 (21%)	9 (8%)	1	5
41	BT	91/100 (91%)	52 (57%)	24 (26%)	15 (16%)	0	0
41	DT	91/100 (91%)	46 (50%)	31 (34%)	14 (15%)	0	1
42	BU	100/104 (96%)	69 (69%)	15 (15%)	16 (16%)	0	0
42	DU	100/104 (96%)	51 (51%)	26 (26%)	23 (23%)	0	0
43	BV	92/94 (98%)	77 (84%)	13 (14%)	2 (2%)	6	35
43	DV	92/94 (98%)	61 (66%)	23 (25%)	8 (9%)	1	4
44	BW	77/85 (91%)	30 (39%)	24 (31%)	23 (30%)	0	0
44	DW	77/85 (91%)	33 (43%)	27 (35%)	17 (22%)	0	0
45	BX	75/78 (96%)	56 (75%)	14 (19%)	5 (7%)	1	9
45	DX	75/78 (96%)	47 (63%)	20 (27%)	8 (11%)	0	2
46	BY	61/63 (97%)	38 (62%)	16 (26%)	7 (12%)	0	2
46	DY	61/63 (97%)	42 (69%)	14 (23%)	5 (8%)	1	5
47	BZ	56/59 (95%)	45 (80%)	9 (16%)	2 (4%)	3	23
47	DZ	56/59 (95%)	34 (61%)	16 (29%)	6 (11%)	0	2
48	B0	54/57 (95%)	41 (76%)	9 (17%)	4 (7%)	1	7
48	D0	54/57 (95%)	39 (72%)	8 (15%)	7 (13%)	0	1
49	B1	48/55 (87%)	36 (75%)	7 (15%)	5 (10%)	0	3
49	D1	48/55 (87%)	37 (77%)	7 (15%)	4 (8%)	1	5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
50	B2	44/46 (96%)	39 (89%)	4 (9%)	1 (2%)	6	34
50	D2	44/46 (96%)	31 (70%)	10 (23%)	3 (7%)	1	9
51	B3	62/65 (95%)	53 (86%)	5 (8%)	4 (6%)	1	10
51	D3	62/65 (95%)	39 (63%)	18 (29%)	5 (8%)	1	5
52	B4	36/38 (95%)	31 (86%)	2 (6%)	3 (8%)	1	5
52	D4	36/38 (95%)	23 (64%)	7 (19%)	6 (17%)	0	0
All	All	11238/11970 (94%)	7646 (68%)	2332 (21%)	1260 (11%)	0	2

5 of 1260 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	AB	18	GLN
1	AB	20	ARG
1	AB	40	ILE
1	AB	75	ALA
1	AB	119	GLN

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	AB	180/199 (90%)	138 (77%)	42 (23%)	1	3
1	CB	180/199 (90%)	155 (86%)	25 (14%)	3	16
2	AC	170/190 (90%)	139 (82%)	31 (18%)	1	8
2	CC	170/190 (90%)	152 (89%)	18 (11%)	6	27
3	AD	172/173 (99%)	144 (84%)	28 (16%)	2	11
3	CD	172/173 (99%)	138 (80%)	34 (20%)	1	7
4	AE	113/126 (90%)	94 (83%)	19 (17%)	2	10
4	CE	113/126 (90%)	93 (82%)	20 (18%)	2	9
5	AF	87/116 (75%)	74 (85%)	13 (15%)	3	14
5	CF	87/116 (75%)	74 (85%)	13 (15%)	3	14

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	AG	124/147 (84%)	109 (88%)	15 (12%)	5	22
6	CG	123/147 (84%)	99 (80%)	24 (20%)	1	7
7	AH	104/105 (99%)	88 (85%)	16 (15%)	2	13
7	CH	104/105 (99%)	90 (86%)	14 (14%)	4	18
8	AI	105/107 (98%)	88 (84%)	17 (16%)	2	11
8	CI	105/107 (98%)	91 (87%)	14 (13%)	4	18
9	AJ	86/90 (96%)	72 (84%)	14 (16%)	2	11
9	CJ	86/90 (96%)	77 (90%)	9 (10%)	7	28
10	AK	90/99 (91%)	71 (79%)	19 (21%)	1	6
10	CK	90/99 (91%)	78 (87%)	12 (13%)	4	18
11	AL	103/104 (99%)	81 (79%)	22 (21%)	1	5
11	CL	103/104 (99%)	84 (82%)	19 (18%)	1	8
12	AM	92/96 (96%)	88 (96%)	4 (4%)	29	64
12	CM	91/96 (95%)	80 (88%)	11 (12%)	5	22
13	AN	79/84 (94%)	73 (92%)	6 (8%)	13	45
13	CN	79/84 (94%)	67 (85%)	12 (15%)	3	13
14	AO	76/77 (99%)	69 (91%)	7 (9%)	9	33
14	CO	76/77 (99%)	70 (92%)	6 (8%)	12	43
15	AP	65/65 (100%)	54 (83%)	11 (17%)	2	10
15	CP	65/65 (100%)	53 (82%)	12 (18%)	1	8
16	AQ	74/78 (95%)	61 (82%)	13 (18%)	2	9
16	CQ	74/78 (95%)	63 (85%)	11 (15%)	3	14
17	AR	48/65 (74%)	45 (94%)	3 (6%)	18	52
17	CR	48/65 (74%)	46 (96%)	2 (4%)	30	65
18	AS	70/79 (89%)	62 (89%)	8 (11%)	5	24
18	CS	70/79 (89%)	62 (89%)	8 (11%)	5	24
19	AT	65/66 (98%)	48 (74%)	17 (26%)	0	2
19	CT	65/66 (98%)	54 (83%)	11 (17%)	2	10
20	AU	44/61 (72%)	32 (73%)	12 (27%)	0	1
20	CU	44/61 (72%)	34 (77%)	10 (23%)	1	4
24	BC	216/218 (99%)	173 (80%)	43 (20%)	1	6

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
24	DC	216/218 (99%)	188 (87%)	28 (13%)	4	19
25	BD	164/164 (100%)	136 (83%)	28 (17%)	2	10
25	DD	164/164 (100%)	140 (85%)	24 (15%)	3	15
26	BE	165/165 (100%)	125 (76%)	40 (24%)	0	2
26	DE	165/165 (100%)	150 (91%)	15 (9%)	9	34
27	BF	148/150 (99%)	128 (86%)	20 (14%)	4	18
27	DF	149/150 (99%)	122 (82%)	27 (18%)	1	8
28	BG	137/138 (99%)	107 (78%)	30 (22%)	1	5
28	DG	137/138 (99%)	119 (87%)	18 (13%)	4	19
29	BH	114/114 (100%)	96 (84%)	18 (16%)	2	12
29	DH	114/114 (100%)	96 (84%)	18 (16%)	2	12
30	BI	109/110 (99%)	91 (84%)	18 (16%)	2	10
30	DI	109/110 (99%)	102 (94%)	7 (6%)	17	52
31	BJ	116/116 (100%)	89 (77%)	27 (23%)	1	3
31	DJ	116/116 (100%)	104 (90%)	12 (10%)	7	29
32	BK	103/104 (99%)	84 (82%)	19 (18%)	1	8
32	DK	103/104 (99%)	87 (84%)	16 (16%)	2	12
33	BL	102/103 (99%)	79 (78%)	23 (22%)	1	4
33	DL	102/103 (99%)	88 (86%)	14 (14%)	3	17
34	BM	109/109 (100%)	87 (80%)	22 (20%)	1	6
34	DM	109/109 (100%)	99 (91%)	10 (9%)	9	33
35	BN	100/103 (97%)	83 (83%)	17 (17%)	2	10
35	DN	100/103 (97%)	85 (85%)	15 (15%)	3	14
36	BO	86/87 (99%)	69 (80%)	17 (20%)	1	7
36	DO	86/87 (99%)	78 (91%)	8 (9%)	9	33
37	BP	99/100 (99%)	78 (79%)	21 (21%)	1	5
37	DP	99/100 (99%)	90 (91%)	9 (9%)	9	34
38	BQ	89/90 (99%)	74 (83%)	15 (17%)	2	10
38	DQ	89/90 (99%)	78 (88%)	11 (12%)	4	21
39	BR	84/84 (100%)	65 (77%)	19 (23%)	1	4
39	DR	84/84 (100%)	71 (84%)	13 (16%)	2	12

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
40	BS	93/93 (100%)	73 (78%)	20 (22%)	1	5
40	DS	93/93 (100%)	76 (82%)	17 (18%)	1	8
41	BT	80/84 (95%)	61 (76%)	19 (24%)	0	3
41	DT	80/84 (95%)	74 (92%)	6 (8%)	13	45
42	BU	83/85 (98%)	66 (80%)	17 (20%)	1	6
42	DU	83/85 (98%)	74 (89%)	9 (11%)	6	27
43	BV	78/78 (100%)	61 (78%)	17 (22%)	1	5
43	DV	78/78 (100%)	66 (85%)	12 (15%)	2	13
44	BW	59/63 (94%)	42 (71%)	17 (29%)	0	1
44	DW	59/63 (94%)	44 (75%)	15 (25%)	0	2
45	BX	67/68 (98%)	53 (79%)	14 (21%)	1	6
45	DX	67/68 (98%)	58 (87%)	9 (13%)	4	18
46	BY	55/55 (100%)	43 (78%)	12 (22%)	1	5
46	DY	55/55 (100%)	52 (94%)	3 (6%)	21	57
47	BZ	48/49 (98%)	32 (67%)	16 (33%)	0	0
47	DZ	48/49 (98%)	41 (85%)	7 (15%)	3	15
48	B0	47/48 (98%)	43 (92%)	4 (8%)	10	38
48	D0	47/48 (98%)	40 (85%)	7 (15%)	3	14
49	B1	45/49 (92%)	36 (80%)	9 (20%)	1	6
49	D1	45/49 (92%)	41 (91%)	4 (9%)	9	35
50	B2	38/38 (100%)	31 (82%)	7 (18%)	1	8
50	D2	38/38 (100%)	34 (90%)	4 (10%)	7	28
51	B3	51/52 (98%)	44 (86%)	7 (14%)	3	17
51	D3	51/52 (98%)	42 (82%)	9 (18%)	2	9
52	B4	34/34 (100%)	30 (88%)	4 (12%)	5	23
52	D4	34/34 (100%)	29 (85%)	5 (15%)	3	14
All	All	9331/9756 (96%)	7837 (84%)	1494 (16%)	2	11

5 of 1494 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	CD	170	LEU
24	DC	57	HIS

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Mol	Chain	Res	Type
4	CE	144	GLU
3	CD	168	THR
11	CL	4	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 333 such sidechains are listed below:

Mol	Chain	Res	Type
18	CS	51	HIS
36	DO	38	GLN
24	DC	43	ASN
28	DG	103	ASN
40	DS	31	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
21	AA	1532/1533 (99%)	471 (30%)	241 (15%)
22	BA	2850/2903 (98%)	800 (28%)	404 (14%)
22	DA	2838/2903 (97%)	1022 (36%)	515 (18%)
23	BB	117/118 (99%)	29 (24%)	19 (16%)
53	CA	1529/1530 (99%)	512 (33%)	238 (15%)
54	DB	116/117 (99%)	36 (31%)	19 (16%)
All	All	8982/9104 (98%)	2870 (31%)	1436 (15%)

5 of 2870 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
21	AA	5	U
21	AA	6	G
21	AA	7	A
21	AA	8	A
21	AA	9	G

5 of 1436 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
22	DA	128	C
22	DA	1312	U
22	DA	271	G
22	DA	125	A

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Mol	Chain	Res	Type
22	DA	740	C

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 365 ligands modelled in this entry, 365 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data 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, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	AB	218/241 (90%)	0.18	15 (6%) 16 9	85, 115, 146, 164	0
1	CB	218/241 (90%)	0.33	12 (5%) 25 14	90, 125, 152, 170	0
2	AC	206/233 (88%)	-0.35	3 (1%) 73 61	57, 83, 116, 147	0
2	CC	206/233 (88%)	0.39	11 (5%) 26 14	83, 129, 170, 188	0
3	AD	205/206 (99%)	-0.24	7 (3%) 45 29	50, 87, 137, 176	0
3	CD	205/206 (99%)	-0.37	3 (1%) 73 61	41, 63, 102, 148	0
4	AE	150/167 (89%)	-0.31	1 (0%) 87 81	51, 70, 116, 147	0
4	CE	150/167 (89%)	-0.06	1 (0%) 87 81	65, 87, 122, 144	0
5	AF	100/135 (74%)	-0.16	0 100 100	60, 90, 125, 142	0
5	CF	100/135 (74%)	0.06	0 100 100	65, 113, 147, 158	0
6	AG	151/179 (84%)	0.03	4 (2%) 56 40	69, 108, 139, 157	0
6	CG	150/179 (83%)	1.93	66 (44%) 0 0	98, 173, 223, 233	0
7	AH	129/130 (99%)	-0.52	2 (1%) 72 59	49, 71, 106, 133	0
7	CH	129/130 (99%)	-0.21	2 (1%) 72 59	63, 100, 133, 159	0
8	AI	127/130 (97%)	0.22	9 (7%) 16 9	56, 115, 166, 189	0
8	CI	127/130 (97%)	1.17	26 (20%) 1 1	127, 174, 225, 239	0
9	AJ	98/103 (95%)	0.07	6 (6%) 21 12	59, 97, 152, 160	0
9	CJ	98/103 (95%)	1.66	28 (28%) 0 0	122, 160, 189, 201	0
10	AK	117/129 (90%)	-0.13	1 (0%) 84 75	43, 88, 124, 137	0
10	CK	117/129 (90%)	-0.01	0 100 100	57, 99, 130, 151	0
11	AL	123/124 (99%)	-0.35	2 (1%) 72 59	33, 54, 96, 135	0
11	CL	123/124 (99%)	0.01	2 (1%) 72 59	47, 74, 110, 135	0
12	AM	114/118 (96%)	0.10	3 (2%) 56 40	70, 117, 155, 177	0
12	CM	113/118 (95%)	2.48	62 (54%) 0 0	220, 351, 413, 434	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	AN	96/101 (95%)	-0.15	4 (4%) 36 23	59, 86, 136, 158	0
13	CN	95/101 (94%)	1.46	22 (23%) 0 0	102, 191, 256, 269	0
14	AO	88/89 (98%)	-0.43	1 (1%) 80 69	48, 75, 106, 128	0
14	CO	88/89 (98%)	0.12	1 (1%) 80 69	72, 109, 141, 167	0
15	AP	82/82 (100%)	-0.21	3 (3%) 41 26	55, 79, 129, 174	0
15	CP	80/82 (97%)	0.22	3 (3%) 40 26	64, 96, 133, 152	0
16	AQ	80/84 (95%)	0.15	4 (5%) 28 16	38, 73, 112, 144	0
16	CQ	80/84 (95%)	0.64	9 (11%) 5 3	54, 96, 117, 131	0
17	AR	55/75 (73%)	0.09	3 (5%) 25 14	56, 80, 129, 146	0
17	CR	55/75 (73%)	0.22	2 (3%) 42 27	57, 89, 131, 170	0
18	AS	79/92 (85%)	0.26	3 (3%) 40 26	79, 110, 152, 161	0
18	CS	79/92 (85%)	2.47	38 (48%) 0 0	250, 307, 359, 371	0
19	AT	85/87 (97%)	-0.22	1 (1%) 79 67	51, 81, 114, 133	0
19	CT	85/87 (97%)	0.66	7 (8%) 11 6	79, 125, 161, 177	0
20	AU	51/71 (71%)	0.27	1 (1%) 65 51	60, 104, 138, 148	0
20	CU	51/71 (71%)	0.09	1 (1%) 65 51	63, 97, 143, 153	0
21	AA	1533/1533 (100%)	-0.49	23 (1%) 73 61	34, 72, 169, 235	0
22	BA	2854/2903 (98%)	-0.46	66 (2%) 60 47	13, 33, 142, 320	0
22	DA	2841/2903 (97%)	0.43	146 (5%) 28 16	59, 119, 216, 320	0
23	BB	118/118 (100%)	-0.57	0 100 100	18, 47, 75, 99	0
24	BC	271/273 (99%)	-0.44	9 (3%) 46 30	20, 43, 83, 142	0
24	DC	271/273 (99%)	0.22	12 (4%) 34 21	63, 94, 128, 153	0
25	BD	209/209 (100%)	-0.69	0 100 100	13, 29, 72, 96	0
25	DD	209/209 (100%)	0.37	9 (4%) 35 22	68, 108, 141, 168	0
26	BE	201/201 (100%)	-0.64	0 100 100	15, 42, 87, 124	0
26	DE	201/201 (100%)	1.10	40 (19%) 1 1	89, 191, 252, 282	0
27	BF	177/179 (98%)	-0.31	0 100 100	32, 67, 116, 132	0
27	DF	178/179 (99%)	1.75	64 (35%) 0 0	125, 209, 220, 232	0
28	BG	176/177 (99%)	-0.43	0 100 100	27, 57, 103, 128	0
28	DG	176/177 (99%)	1.29	40 (22%) 0 0	120, 165, 207, 220	0
29	BH	149/149 (100%)	2.09	59 (39%) 0 0	42, 178, 213, 217	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
29	DH	149/149 (100%)	2.48	56 (37%) 0 0	104, 173, 208, 219	0
30	BI	141/142 (99%)	2.89	77 (54%) 0 0	199, 245, 286, 294	0
30	DI	141/142 (99%)	5.04	117 (82%) 0 0	264, 305, 323, 331	0
31	BJ	142/142 (100%)	-0.68	0 100 100	12, 25, 57, 111	0
31	DJ	142/142 (100%)	0.20	4 (2%) 53 37	76, 110, 134, 153	0
32	BK	122/123 (99%)	-0.67	0 100 100	20, 32, 76, 121	0
32	DK	122/123 (99%)	0.10	3 (2%) 57 43	71, 93, 127, 142	0
33	BL	143/144 (99%)	-0.69	0 100 100	13, 38, 74, 100	0
33	DL	143/144 (99%)	1.09	28 (19%) 1 1	80, 150, 189, 202	0
34	BM	136/136 (100%)	-0.71	0 100 100	14, 30, 61, 99	0
34	DM	136/136 (100%)	0.12	1 (0%) 87 81	73, 117, 143, 161	0
35	BN	120/127 (94%)	-0.70	0 100 100	14, 28, 44, 97	0
35	DN	120/127 (94%)	0.56	7 (5%) 23 13	89, 121, 152, 171	0
36	BO	116/117 (99%)	-0.52	0 100 100	30, 46, 73, 101	0
36	DO	116/117 (99%)	1.53	41 (35%) 0 0	146, 178, 207, 216	0
37	BP	114/115 (99%)	-0.58	0 100 100	22, 39, 90, 131	0
37	DP	114/115 (99%)	0.37	9 (7%) 12 6	80, 108, 135, 143	0
38	BQ	117/118 (99%)	-0.68	1 (0%) 84 75	9, 22, 46, 96	0
38	DQ	117/118 (99%)	0.67	9 (7%) 13 7	87, 112, 154, 191	0
39	BR	103/103 (100%)	-0.60	1 (0%) 82 72	11, 33, 75, 91	0
39	DR	103/103 (100%)	1.22	28 (27%) 0 0	85, 135, 170, 190	0
40	BS	110/110 (100%)	-0.78	0 100 100	14, 23, 57, 118	0
40	DS	110/110 (100%)	0.81	16 (14%) 2 1	76, 120, 154, 170	0
41	BT	93/100 (93%)	-0.17	2 (2%) 62 48	28, 51, 112, 140	0
41	DT	93/100 (93%)	1.34	22 (23%) 0 0	132, 189, 223, 233	0
42	BU	102/104 (98%)	-0.26	3 (2%) 51 36	29, 54, 100, 155	0
42	DU	102/104 (98%)	2.20	55 (53%) 0 0	153, 202, 250, 283	0
43	BV	94/94 (100%)	-0.68	0 100 100	17, 39, 79, 105	0
43	DV	94/94 (100%)	0.46	6 (6%) 19 11	113, 143, 165, 179	0
44	BW	79/85 (92%)	-0.27	1 (1%) 77 65	18, 39, 94, 127	0
44	DW	79/85 (92%)	1.30	18 (22%) 0 0	99, 157, 191, 201	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
45	BX	77/78 (98%)	-0.53	0 100 100	23, 43, 80, 104	0
45	DX	77/78 (98%)	0.57	5 (6%) 18 11	84, 124, 170, 177	0
46	BY	63/63 (100%)	-0.19	1 (1%) 72 59	41, 68, 113, 128	0
46	DY	63/63 (100%)	1.40	21 (33%) 0 0	180, 226, 268, 278	0
47	BZ	58/59 (98%)	-0.67	0 100 100	13, 27, 56, 97	0
47	DZ	58/59 (98%)	0.63	7 (12%) 4 2	97, 143, 180, 187	0
48	B0	56/57 (98%)	-0.80	0 100 100	12, 29, 61, 113	0
48	D0	56/57 (98%)	1.05	9 (16%) 1 1	84, 128, 163, 172	0
49	B1	50/55 (90%)	-0.19	1 (2%) 65 51	29, 50, 91, 116	0
49	D1	50/55 (90%)	1.64	16 (32%) 0 0	110, 143, 159, 168	0
50	B2	46/46 (100%)	-0.65	0 100 100	20, 30, 49, 131	0
50	D2	46/46 (100%)	0.76	2 (4%) 35 22	87, 115, 137, 147	0
51	B3	64/65 (98%)	-0.74	0 100 100	15, 30, 43, 62	0
51	D3	64/65 (98%)	1.16	14 (21%) 0 0	93, 126, 150, 169	0
52	B4	38/38 (100%)	-0.56	0 100 100	19, 33, 62, 87	0
52	D4	38/38 (100%)	0.92	7 (18%) 1 1	84, 127, 158, 161	0
53	CA	1530/1530 (100%)	0.15	82 (5%) 25 14	44, 100, 246, 325	0
54	DB	117/117 (100%)	0.51	7 (5%) 21 12	108, 175, 209, 221	0
All	All	20431/21074 (96%)	0.16	1514 (7%) 14 8	9, 93, 219, 434	0

The worst 5 of 1514 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
29	DH	92	GLY	21.3
22	BA	2154	A	18.7
30	BI	2	LYS	16.5
30	DI	58	ILE	16.0
29	DH	91	PHE	15.0

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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
55	MG	DJ	201	1/1	-0.26	3.56	242,242,242,242	0
55	MG	DA	3065	1/1	0.08	2.49	221,221,221,221	0
55	MG	DA	3013	1/1	0.23	0.57	211,211,211,211	0
55	MG	DA	3132	1/1	0.31	0.76	216,216,216,216	0
55	MG	DA	3064	1/1	0.41	3.06	204,204,204,204	0
55	MG	DA	3003	1/1	0.46	1.02	210,210,210,210	0
55	MG	DA	3006	1/1	0.47	0.20	200,200,200,200	0
55	MG	CA	1624	1/1	0.48	0.75	120,120,120,120	0
55	MG	DA	3074	1/1	0.49	0.14	194,194,194,194	0
55	MG	DA	3063	1/1	0.52	1.08	191,191,191,191	0
55	MG	DA	3050	1/1	0.52	0.19	209,209,209,209	0
55	MG	DA	3005	1/1	0.54	0.84	208,208,208,208	0
55	MG	BA	3056	1/1	0.54	0.36	187,187,187,187	0
55	MG	DA	3039	1/1	0.55	0.47	220,220,220,220	0
55	MG	DA	3110	1/1	0.55	1.25	181,181,181,181	0
55	MG	CA	1636	1/1	0.59	0.26	171,171,171,171	0
55	MG	DA	3027	1/1	0.60	1.18	195,195,195,195	0
55	MG	DA	3134	1/1	0.61	0.42	198,198,198,198	0
55	MG	AA	1611	1/1	0.62	0.23	176,176,176,176	0
55	MG	DA	3002	1/1	0.63	0.91	179,179,179,179	0
55	MG	DA	3121	1/1	0.64	0.22	97,97,97,97	0
55	MG	BA	3015	1/1	0.64	0.36	221,221,221,221	0
55	MG	DA	3109	1/1	0.65	0.38	165,165,165,165	0
55	MG	DA	3007	1/1	0.65	0.30	198,198,198,198	0
55	MG	DA	3042	1/1	0.66	0.36	139,139,139,139	0
55	MG	DA	3018	1/1	0.66	0.19	194,194,194,194	0
55	MG	DA	3099	1/1	0.66	0.15	142,142,142,142	0
55	MG	DA	3125	1/1	0.67	0.18	77,77,77,77	0
55	MG	CA	1603	1/1	0.67	0.23	169,169,169,169	0
55	MG	DA	3098	1/1	0.68	0.44	158,158,158,158	0
55	MG	CA	1616	1/1	0.68	0.27	192,192,192,192	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
55	MG	DA	3107	1/1	0.68	0.26	169,169,169,169	0
55	MG	DA	3010	1/1	0.68	1.13	200,200,200,200	0
55	MG	DA	3089	1/1	0.68	0.15	169,169,169,169	0
55	MG	DA	3060	1/1	0.69	0.33	198,198,198,198	0
55	MG	DA	3033	1/1	0.70	0.14	113,113,113,113	0
55	MG	DA	3020	1/1	0.70	0.69	207,207,207,207	0
55	MG	DA	3094	1/1	0.71	0.20	172,172,172,172	0
55	MG	DA	3129	1/1	0.72	1.27	194,194,194,194	0
55	MG	DA	3100	1/1	0.72	0.18	171,171,171,171	0
55	MG	CA	1629	1/1	0.72	0.10	174,174,174,174	0
55	MG	DA	3084	1/1	0.72	0.16	178,178,178,178	0
55	MG	DA	3046	1/1	0.73	0.14	173,173,173,173	0
55	MG	DA	3127	1/1	0.73	0.33	97,97,97,97	0
55	MG	DA	3135	1/1	0.75	0.26	162,162,162,162	0
55	MG	CA	1602	1/1	0.75	0.15	120,120,120,120	0
55	MG	DA	3108	1/1	0.77	0.12	103,103,103,103	0
55	MG	CA	1619	1/1	0.78	0.44	180,180,180,180	0
55	MG	DA	3040	1/1	0.78	0.17	117,117,117,117	0
55	MG	DA	3052	1/1	0.79	0.15	110,110,110,110	0
55	MG	BA	3048	1/1	0.79	0.10	144,144,144,144	0
55	MG	DA	3044	1/1	0.79	0.13	138,138,138,138	0
55	MG	DA	3085	1/1	0.80	0.43	169,169,169,169	0
55	MG	DA	3034	1/1	0.80	0.23	105,105,105,105	0
55	MG	BA	3057	1/1	0.80	0.51	219,219,219,219	0
55	MG	DA	3070	1/1	0.80	0.35	209,209,209,209	0
55	MG	BB	201	1/1	0.80	0.45	187,187,187,187	0
55	MG	DA	3048	1/1	0.80	0.17	128,128,128,128	0
55	MG	DA	3015	1/1	0.81	0.84	183,183,183,183	0
55	MG	DA	3029	1/1	0.82	0.55	205,205,205,205	0
55	MG	DA	3126	1/1	0.82	0.44	164,164,164,164	0
55	MG	DA	3119	1/1	0.82	0.09	86,86,86,86	0
55	MG	DA	3075	1/1	0.82	1.63	207,207,207,207	0
55	MG	AA	1618	1/1	0.83	0.12	68,68,68,68	0
55	MG	DA	3123	1/1	0.83	0.09	99,99,99,99	0
55	MG	DA	3051	1/1	0.83	0.14	140,140,140,140	0
55	MG	AA	1636	1/1	0.83	0.61	164,164,164,164	0
55	MG	DA	3077	1/1	0.83	0.20	159,159,159,159	0
55	MG	BA	3004	1/1	0.83	0.16	155,155,155,155	0
55	MG	DA	3131	1/1	0.83	1.37	204,204,204,204	0
55	MG	AA	1603	1/1	0.83	0.13	124,124,124,124	0
55	MG	DA	3008	1/1	0.83	0.11	100,100,100,100	0
55	MG	DA	3111	1/1	0.83	0.20	166,166,166,166	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
55	MG	DA	3049	1/1	0.83	0.14	99,99,99,99	0
55	MG	DA	3058	1/1	0.84	0.36	171,171,171,171	0
55	MG	CA	1640	1/1	0.84	0.20	161,161,161,161	0
55	MG	CA	1632	1/1	0.84	0.16	160,160,160,160	0
55	MG	DA	3080	1/1	0.84	0.09	74,74,74,74	0
55	MG	BA	3049	1/1	0.85	0.16	104,104,104,104	0
55	MG	DA	3115	1/1	0.85	0.22	151,151,151,151	0
55	MG	CA	1617	1/1	0.85	0.23	220,220,220,220	0
55	MG	DA	3059	1/1	0.85	0.53	188,188,188,188	0
55	MG	CA	1605	1/1	0.85	0.16	48,48,48,48	0
55	MG	DA	3062	1/1	0.85	0.08	113,113,113,113	0
55	MG	CA	1610	1/1	0.85	0.18	145,145,145,145	0
55	MG	CA	1635	1/1	0.86	0.14	76,76,76,76	0
55	MG	CA	1627	1/1	0.86	0.24	166,166,166,166	0
55	MG	DA	3083	1/1	0.86	0.14	144,144,144,144	0
55	MG	DA	3031	1/1	0.86	0.13	113,113,113,113	0
55	MG	CA	1638	1/1	0.86	0.15	155,155,155,155	0
55	MG	DA	3087	1/1	0.86	0.16	87,87,87,87	0
55	MG	CA	1623	1/1	0.86	0.21	96,96,96,96	0
55	MG	DA	3093	1/1	0.86	0.16	121,121,121,121	0
55	MG	CA	1607	1/1	0.86	0.18	154,154,154,154	0
55	MG	DA	3061	1/1	0.86	0.40	160,160,160,160	0
55	MG	DA	3041	1/1	0.87	0.17	77,77,77,77	0
55	MG	CA	1622	1/1	0.87	0.09	169,169,169,169	0
55	MG	DA	3028	1/1	0.87	0.16	162,162,162,162	0
55	MG	DA	3072	1/1	0.87	0.24	80,80,80,80	0
55	MG	AA	1616	1/1	0.87	0.08	126,126,126,126	0
55	MG	CA	1634	1/1	0.87	0.11	112,112,112,112	0
55	MG	DA	3026	1/1	0.88	0.17	145,145,145,145	0
55	MG	AA	1624	1/1	0.88	0.12	101,101,101,101	0
55	MG	BA	3070	1/1	0.88	0.11	164,164,164,164	0
55	MG	DA	3057	1/1	0.88	0.15	104,104,104,104	0
55	MG	BA	3091	1/1	0.88	0.08	47,47,47,47	0
55	MG	AA	1619	1/1	0.88	0.46	165,165,165,165	0
55	MG	CA	1612	1/1	0.88	0.33	117,117,117,117	0
55	MG	DA	3117	1/1	0.88	0.13	67,67,67,67	0
55	MG	BA	3035	1/1	0.88	0.35	168,168,168,168	0
55	MG	DA	3037	1/1	0.88	0.22	176,176,176,176	0
55	MG	DA	3096	1/1	0.89	0.19	107,107,107,107	0
55	MG	CA	1608	1/1	0.89	0.17	60,60,60,60	0
55	MG	BA	3058	1/1	0.89	0.23	164,164,164,164	0
55	MG	CA	1611	1/1	0.89	0.16	108,108,108,108	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
55	MG	DA	3101	1/1	0.89	0.36	127,127,127,127	0
55	MG	DA	3004	1/1	0.89	0.17	118,118,118,118	0
55	MG	DA	3014	1/1	0.89	0.24	151,151,151,151	0
55	MG	AA	1641	1/1	0.89	0.17	131,131,131,131	0
55	MG	DA	3032	1/1	0.89	0.17	71,71,71,71	0
55	MG	DA	3092	1/1	0.89	0.19	157,157,157,157	0
55	MG	CA	1630	1/1	0.89	0.11	121,121,121,121	0
55	MG	DA	3047	1/1	0.89	0.11	82,82,82,82	0
55	MG	BA	3080	1/1	0.90	0.08	31,31,31,31	0
55	MG	AA	1608	1/1	0.90	0.11	106,106,106,106	0
55	MG	CA	1621	1/1	0.90	0.15	40,40,40,40	0
55	MG	BA	3093	1/1	0.90	0.16	110,110,110,110	0
55	MG	BA	3094	1/1	0.90	0.06	37,37,37,37	0
55	MG	DA	3011	1/1	0.90	0.16	126,126,126,126	0
55	MG	AA	1613	1/1	0.90	0.12	102,102,102,102	0
55	MG	DA	3001	1/1	0.90	0.08	109,109,109,109	0
55	MG	BA	3001	1/1	0.90	0.12	109,109,109,109	0
55	MG	DA	3079	1/1	0.90	0.47	184,184,184,184	0
55	MG	DA	3104	1/1	0.90	0.20	109,109,109,109	0
55	MG	DA	3017	1/1	0.90	0.23	86,86,86,86	0
55	MG	CA	1615	1/1	0.90	0.25	136,136,136,136	0
55	MG	AA	1630	1/1	0.90	0.11	163,163,163,163	0
55	MG	DA	3023	1/1	0.90	0.13	71,71,71,71	0
55	MG	CA	1614	1/1	0.91	0.57	178,178,178,178	0
55	MG	DA	3116	1/1	0.91	0.27	154,154,154,154	0
55	MG	BA	3003	1/1	0.91	0.10	63,63,63,63	0
55	MG	DA	3053	1/1	0.91	0.14	59,59,59,59	0
55	MG	DA	3120	1/1	0.91	0.12	84,84,84,84	0
55	MG	CA	1639	1/1	0.91	0.16	149,149,149,149	0
55	MG	DA	3122	1/1	0.91	0.17	113,113,113,113	0
55	MG	CA	1626	1/1	0.91	0.19	40,40,40,40	0
55	MG	DA	3124	1/1	0.91	0.32	165,165,165,165	0
55	MG	DA	3043	1/1	0.91	0.15	104,104,104,104	0
55	MG	BA	3137	1/1	0.91	0.36	188,188,188,188	0
55	MG	BA	3089	1/1	0.91	0.15	134,134,134,134	0
55	MG	DA	3105	1/1	0.91	0.17	62,62,62,62	0
55	MG	CA	1618	1/1	0.91	0.14	90,90,90,90	0
55	MG	CA	1601	1/1	0.91	0.10	124,124,124,124	0
55	MG	BA	3063	1/1	0.91	0.11	42,42,42,42	0
55	MG	BA	3046	1/1	0.91	0.13	23,23,23,23	0
55	MG	DA	3066	1/1	0.91	0.10	94,94,94,94	0
55	MG	BA	3037	1/1	0.92	0.32	171,171,171,171	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
55	MG	BA	3092	1/1	0.92	0.18	75,75,75,75	0
55	MG	CA	1625	1/1	0.92	0.30	118,118,118,118	0
55	MG	BA	3060	1/1	0.92	0.34	129,129,129,129	0
55	MG	DA	3036	1/1	0.92	0.09	97,97,97,97	0
55	MG	DA	3016	1/1	0.92	0.16	169,169,169,169	0
55	MG	DA	3055	1/1	0.92	0.06	75,75,75,75	0
55	MG	BA	3088	1/1	0.92	0.19	81,81,81,81	0
55	MG	CA	1628	1/1	0.92	1.03	204,204,204,204	0
55	MG	BA	3100	1/1	0.92	0.11	47,47,47,47	0
55	MG	BA	3113	1/1	0.92	0.09	60,60,60,60	0
55	MG	DA	3130	1/1	0.92	0.37	102,102,102,102	0
55	MG	BA	3132	1/1	0.92	0.39	202,202,202,202	0
55	MG	CA	1620	1/1	0.92	0.31	172,172,172,172	0
55	MG	DA	3088	1/1	0.92	0.16	160,160,160,160	0
55	MG	BA	3136	1/1	0.92	0.17	150,150,150,150	0
55	MG	DB	201	1/1	0.92	0.08	117,117,117,117	0
55	MG	AA	1615	1/1	0.92	0.18	164,164,164,164	0
56	ZN	D4	101	1/1	0.92	0.07	156,156,156,156	0
55	MG	AA	1640	1/1	0.93	0.13	109,109,109,109	0
55	MG	CA	1606	1/1	0.93	0.11	64,64,64,64	0
55	MG	DA	3097	1/1	0.93	0.16	110,110,110,110	0
55	MG	DA	3114	1/1	0.93	0.09	95,95,95,95	0
55	MG	BA	3053	1/1	0.93	0.10	30,30,30,30	0
55	MG	BA	3029	1/1	0.93	0.16	43,43,43,43	0
55	MG	BB	202	1/1	0.93	0.10	67,67,67,67	0
55	MG	DA	3118	1/1	0.93	0.14	77,77,77,77	0
55	MG	BA	3112	1/1	0.93	0.15	121,121,121,121	0
55	MG	DA	3073	1/1	0.93	0.13	141,141,141,141	0
55	MG	BA	3007	1/1	0.93	0.09	67,67,67,67	0
55	MG	CA	1613	1/1	0.93	0.08	96,96,96,96	0
55	MG	BA	3077	1/1	0.93	0.22	90,90,90,90	0
55	MG	DA	3086	1/1	0.94	0.23	122,122,122,122	0
55	MG	BA	3072	1/1	0.94	0.36	94,94,94,94	0
55	MG	BA	3116	1/1	0.94	0.13	133,133,133,133	0
55	MG	DA	3030	1/1	0.94	0.17	144,144,144,144	0
55	MG	BA	3119	1/1	0.94	0.12	88,88,88,88	0
55	MG	BA	3120	1/1	0.94	0.26	156,156,156,156	0
55	MG	DA	3068	1/1	0.94	0.08	65,65,65,65	0
55	MG	BA	3124	1/1	0.94	0.09	39,39,39,39	0
55	MG	DA	3071	1/1	0.94	0.11	64,64,64,64	0
55	MG	AA	1639	1/1	0.94	0.10	96,96,96,96	0
55	MG	DA	3035	1/1	0.94	0.15	87,87,87,87	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
55	MG	AA	1614	1/1	0.94	0.07	55,55,55,55	0
55	MG	DA	3054	1/1	0.94	0.10	75,75,75,75	0
55	MG	DA	3102	1/1	0.94	0.18	83,83,83,83	0
55	MG	BA	3086	1/1	0.94	0.12	45,45,45,45	0
55	MG	BA	3026	1/1	0.94	0.59	152,152,152,152	0
55	MG	DA	3106	1/1	0.94	0.17	69,69,69,69	0
55	MG	DA	3024	1/1	0.94	0.04	85,85,85,85	0
55	MG	DA	3133	1/1	0.94	0.09	84,84,84,84	0
55	MG	DA	3082	1/1	0.94	0.12	83,83,83,83	0
55	MG	DA	3025	1/1	0.94	0.17	108,108,108,108	0
55	MG	AA	1628	1/1	0.94	0.32	96,96,96,96	0
55	MG	BB	203	1/1	0.94	0.10	37,37,37,37	0
55	MG	DA	3112	1/1	0.94	0.11	148,148,148,148	0
55	MG	BA	3019	1/1	0.95	0.07	39,39,39,39	0
55	MG	AA	1623	1/1	0.95	0.16	70,70,70,70	0
55	MG	BA	3098	1/1	0.95	0.20	60,60,60,60	0
55	MG	CA	1604	1/1	0.95	0.07	71,71,71,71	0
55	MG	AA	1605	1/1	0.95	0.06	123,123,123,123	0
55	MG	BA	3065	1/1	0.95	0.08	26,26,26,26	0
55	MG	BA	3069	1/1	0.95	0.07	14,14,14,14	0
55	MG	BA	3031	1/1	0.95	0.13	11,11,11,11	0
55	MG	BA	3117	1/1	0.95	0.19	23,23,23,23	0
55	MG	AA	1626	1/1	0.95	0.18	39,39,39,39	0
55	MG	AA	1643	1/1	0.95	0.05	35,35,35,35	0
55	MG	DA	3095	1/1	0.95	0.14	114,114,114,114	0
55	MG	BA	3121	1/1	0.95	0.10	12,12,12,12	0
55	MG	DA	3067	1/1	0.95	0.09	70,70,70,70	0
55	MG	AA	1602	1/1	0.95	0.12	121,121,121,121	0
55	MG	DA	3069	1/1	0.95	0.07	79,79,79,79	0
55	MG	DA	3128	1/1	0.95	0.21	153,153,153,153	0
55	MG	DA	3045	1/1	0.95	0.16	102,102,102,102	0
55	MG	CA	1637	1/1	0.95	0.20	100,100,100,100	0
55	MG	BA	3002	1/1	0.95	0.10	81,81,81,81	0
55	MG	BA	3134	1/1	0.95	0.54	137,137,137,137	0
55	MG	BA	3087	1/1	0.95	0.12	13,13,13,13	0
55	MG	AA	1629	1/1	0.95	0.16	58,58,58,58	0
55	MG	AA	1604	1/1	0.95	0.10	98,98,98,98	0
55	MG	AA	1635	1/1	0.95	0.13	64,64,64,64	0
55	MG	AA	1620	1/1	0.95	0.10	107,107,107,107	0
55	MG	DA	3081	1/1	0.95	0.15	141,141,141,141	0
55	MG	BA	3079	1/1	0.96	0.07	99,99,99,99	0
55	MG	BA	3011	1/1	0.96	0.19	120,120,120,120	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
55	MG	AA	1631	1/1	0.96	0.06	165,165,165,165	0
55	MG	BA	3126	1/1	0.96	0.14	21,21,21,21	0
55	MG	DA	3113	1/1	0.96	0.08	59,59,59,59	0
55	MG	BA	3130	1/1	0.96	0.13	8,8,8,8	0
55	MG	BA	3051	1/1	0.96	0.09	71,71,71,71	0
55	MG	BA	3016	1/1	0.96	0.05	64,64,64,64	0
55	MG	CA	1641	1/1	0.96	0.08	68,68,68,68	0
55	MG	CA	1642	1/1	0.96	0.06	78,78,78,78	0
55	MG	AA	1601	1/1	0.96	0.09	82,82,82,82	0
55	MG	AA	1606	1/1	0.96	0.14	38,38,38,38	0
55	MG	DA	3091	1/1	0.96	0.13	95,95,95,95	0
55	MG	AA	1607	1/1	0.96	0.11	62,62,62,62	0
55	MG	BA	3030	1/1	0.96	0.08	57,57,57,57	0
55	MG	BA	3062	1/1	0.96	0.34	193,193,193,193	0
55	MG	AA	1621	1/1	0.96	0.08	139,139,139,139	0
55	MG	BA	3032	1/1	0.96	0.11	31,31,31,31	0
55	MG	DA	3038	1/1	0.96	0.24	97,97,97,97	0
55	MG	BA	3105	1/1	0.96	0.23	16,16,16,16	0
55	MG	BA	3111	1/1	0.96	0.06	47,47,47,47	0
55	MG	BA	3067	1/1	0.96	0.10	21,21,21,21	0
55	MG	BA	3005	1/1	0.96	0.09	86,86,86,86	0
55	MG	AA	1617	1/1	0.96	0.09	83,83,83,83	0
55	MG	DA	3103	1/1	0.96	0.12	62,62,62,62	0
55	MG	BA	3039	1/1	0.96	0.08	9,9,9,9	0
55	MG	CA	1631	1/1	0.96	0.18	92,92,92,92	0
55	MG	BA	3010	1/1	0.96	0.07	29,29,29,29	0
55	MG	CA	1633	1/1	0.96	0.07	61,61,61,61	0
56	ZN	B4	101	1/1	0.96	0.09	51,51,51,51	0
55	MG	DA	3019	1/1	0.96	0.14	161,161,161,161	0
55	MG	BA	3073	1/1	0.97	0.12	12,12,12,12	0
55	MG	DA	3056	1/1	0.97	0.14	103,103,103,103	0
55	MG	BA	3075	1/1	0.97	0.24	119,119,119,119	0
55	MG	BA	3044	1/1	0.97	0.09	34,34,34,34	0
55	MG	BA	3045	1/1	0.97	0.19	21,21,21,21	0
55	MG	DA	3021	1/1	0.97	0.23	66,66,66,66	0
55	MG	DA	3022	1/1	0.97	0.24	155,155,155,155	0
55	MG	BA	3012	1/1	0.97	0.15	8,8,8,8	0
55	MG	BA	3082	1/1	0.97	0.07	30,30,30,30	0
55	MG	BA	3085	1/1	0.97	0.14	116,116,116,116	0
55	MG	BA	3114	1/1	0.97	0.13	86,86,86,86	0
55	MG	BB	204	1/1	0.97	0.10	40,40,40,40	0
55	MG	AA	1625	1/1	0.97	0.05	67,67,67,67	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
55	MG	DA	3090	1/1	0.97	0.13	90,90,90,90	0
55	MG	DA	3009	1/1	0.97	0.18	107,107,107,107	0
55	MG	AA	1632	1/1	0.97	0.07	81,81,81,81	0
55	MG	AA	1637	1/1	0.97	0.08	85,85,85,85	0
55	MG	BA	3023	1/1	0.97	0.11	11,11,11,11	0
55	MG	BA	3024	1/1	0.97	0.13	16,16,16,16	0
55	MG	BA	3071	1/1	0.97	0.35	132,132,132,132	0
55	MG	AA	1638	1/1	0.97	0.08	29,29,29,29	0
55	MG	BA	3096	1/1	0.98	0.04	40,40,40,40	0
55	MG	BA	3040	1/1	0.98	0.15	27,27,27,27	0
55	MG	CA	1609	1/1	0.98	0.11	83,83,83,83	0
55	MG	BA	3099	1/1	0.98	0.10	82,82,82,82	0
55	MG	BA	3068	1/1	0.98	0.11	11,11,11,11	0
55	MG	DA	3012	1/1	0.98	0.20	75,75,75,75	0
55	MG	BA	3041	1/1	0.98	0.15	19,19,19,19	0
55	MG	BA	3106	1/1	0.98	0.16	37,37,37,37	0
55	MG	BA	3109	1/1	0.98	0.15	13,13,13,13	0
55	MG	AA	1612	1/1	0.98	0.10	60,60,60,60	0
55	MG	BA	3014	1/1	0.98	0.20	64,64,64,64	0
55	MG	BA	3028	1/1	0.98	0.20	100,100,100,100	0
55	MG	BA	3047	1/1	0.98	0.16	20,20,20,20	0
55	MG	BA	3115	1/1	0.98	0.13	49,49,49,49	0
55	MG	BA	3074	1/1	0.98	0.07	59,59,59,59	0
55	MG	AA	1627	1/1	0.98	0.25	86,86,86,86	0
55	MG	BA	3118	1/1	0.98	0.07	13,13,13,13	0
55	MG	BA	3076	1/1	0.98	0.15	16,16,16,16	0
55	MG	AA	1609	1/1	0.98	0.19	71,71,71,71	0
55	MG	BA	3078	1/1	0.98	0.07	26,26,26,26	0
55	MG	BA	3122	1/1	0.98	0.06	64,64,64,64	0
55	MG	BA	3123	1/1	0.98	0.15	10,10,10,10	0
55	MG	BA	3050	1/1	0.98	0.12	16,16,16,16	0
55	MG	BA	3125	1/1	0.98	0.69	162,162,162,162	0
55	MG	BA	3017	1/1	0.98	0.12	9,9,9,9	0
55	MG	BA	3127	1/1	0.98	0.17	43,43,43,43	0
55	MG	DA	3076	1/1	0.98	0.24	167,167,167,167	0
55	MG	BA	3129	1/1	0.98	0.10	31,31,31,31	0
55	MG	DA	3078	1/1	0.98	0.20	68,68,68,68	0
55	MG	BA	3081	1/1	0.98	0.08	32,32,32,32	0
55	MG	BA	3131	1/1	0.98	0.18	17,17,17,17	0
55	MG	BA	3018	1/1	0.98	0.07	35,35,35,35	0
55	MG	BA	3083	1/1	0.98	0.11	42,42,42,42	0
55	MG	BA	3084	1/1	0.98	0.17	58,58,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
55	MG	BA	3055	1/1	0.98	0.08	25,25,25,25	0
55	MG	BA	3033	1/1	0.98	0.09	9,9,9,9	0
55	MG	BA	3034	1/1	0.98	0.14	8,8,8,8	0
55	MG	AA	1634	1/1	0.98	0.08	59,59,59,59	0
55	MG	BA	3036	1/1	0.98	0.14	11,11,11,11	0
55	MG	BA	3090	1/1	0.98	0.05	28,28,28,28	0
55	MG	BA	3061	1/1	0.98	0.21	171,171,171,171	0
55	MG	BA	3022	1/1	0.98	0.07	37,37,37,37	0
55	MG	BA	3038	1/1	0.98	0.19	30,30,30,30	0
55	MG	AA	1622	1/1	0.98	0.14	30,30,30,30	0
55	MG	BA	3095	1/1	0.98	0.08	38,38,38,38	0
55	MG	BA	3102	1/1	0.99	0.08	36,36,36,36	0
55	MG	BA	3128	1/1	0.99	0.10	18,18,18,18	0
55	MG	BA	3103	1/1	0.99	0.14	60,60,60,60	0
55	MG	BA	3104	1/1	0.99	0.10	22,22,22,22	0
55	MG	BA	3066	1/1	0.99	0.10	18,18,18,18	0
55	MG	BA	3006	1/1	0.99	0.06	32,32,32,32	0
55	MG	BA	3133	1/1	0.99	0.21	103,103,103,103	0
55	MG	BA	3107	1/1	0.99	0.13	11,11,11,11	0
55	MG	BA	3135	1/1	0.99	0.12	12,12,12,12	0
55	MG	BA	3108	1/1	0.99	0.16	30,30,30,30	0
55	MG	BA	3013	1/1	0.99	0.14	8,8,8,8	0
55	MG	BA	3110	1/1	0.99	0.21	11,11,11,11	0
55	MG	BA	3052	1/1	0.99	0.10	25,25,25,25	0
55	MG	BA	3020	1/1	0.99	0.29	16,16,16,16	0
55	MG	BA	3054	1/1	0.99	0.09	14,14,14,14	0
55	MG	BA	3021	1/1	0.99	0.06	17,17,17,17	0
55	MG	BA	3042	1/1	0.99	0.15	18,18,18,18	0
55	MG	BA	3043	1/1	0.99	0.05	17,17,17,17	0
55	MG	AA	1610	1/1	0.99	0.07	33,33,33,33	0
55	MG	BA	3059	1/1	0.99	0.07	36,36,36,36	0
55	MG	BA	3008	1/1	0.99	0.12	17,17,17,17	0
55	MG	AA	1633	1/1	0.99	0.10	78,78,78,78	0
55	MG	BA	3025	1/1	0.99	0.12	21,21,21,21	0
55	MG	BA	3097	1/1	0.99	0.07	18,18,18,18	0
55	MG	AA	1642	1/1	0.99	0.14	40,40,40,40	0
55	MG	BA	3064	1/1	0.99	0.08	38,38,38,38	0
55	MG	BA	3027	1/1	0.99	0.11	31,31,31,31	0
55	MG	BA	3101	1/1	0.99	0.12	27,27,27,27	0
55	MG	BA	3009	1/1	1.00	0.09	13,13,13,13	0

6.5 Other polymers [i](#)

There are no such residues in this entry.