



wwPDB X-ray Structure Validation Summary Report ⓘ

Sep 14, 2023 – 10:45 AM EDT

PDB ID : 4V4Q
Title : Crystal structure of the bacterial ribosome from Escherichia coli at 3.5 Å resolution.
Authors : Schuwirth, B.S.; Borovinskaya, M.A.; Hau, C.W.; Zhang, W.; Vila-Sanjurjo, A.; Holton, J.M.; Cate, J.H.D.
Deposited on : 2005-08-30
Resolution : 3.46 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

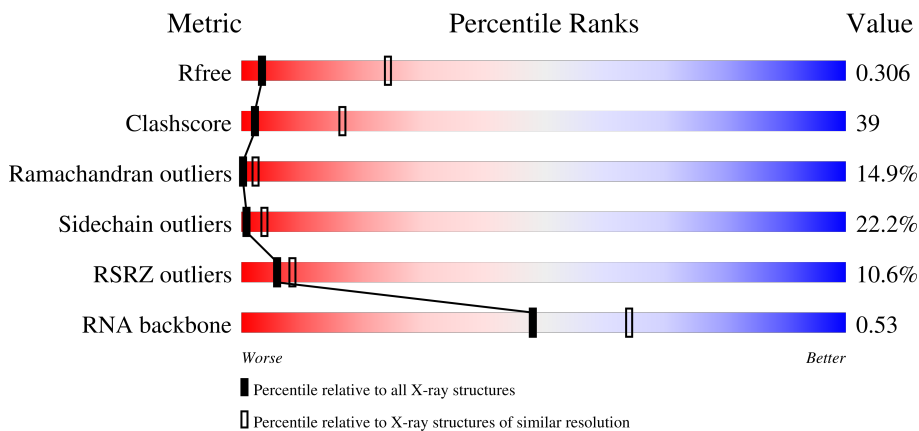
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.46 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	1291 (3.52-3.40)
Clashscore	141614	1372 (3.52-3.40)
Ramachandran outliers	138981	1337 (3.52-3.40)
Sidechain outliers	138945	1338 (3.52-3.40)
RSRZ outliers	127900	1205 (3.52-3.40)
RNA backbone	3102	1036 (3.96-2.96)

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	AA	1542	 3% 25% 59% 14% .
1	CA	1542	 26% 60% 13% ..
2	AC	232	 3% 26% 49% 12% . 11%
2	CC	232	 3% 27% 50% 12% 11%

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Mol	Chain	Length	Quality of chain
3	AD	205	
3	CD	205	
4	AE	166	
4	CE	166	
5	AF	135	
5	CF	135	
6	AG	178	
6	CG	178	
7	AH	129	
7	CH	129	
8	AI	129	
8	CI	129	
9	AJ	103	
9	CJ	103	
10	AK	128	
10	CK	128	
11	AL	123	
11	CL	123	
12	AM	117	
12	CM	117	
13	AN	100	
13	CN	100	
14	AO	89	
14	CO	89	
15	AP	82	

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Mol	Chain	Length	Quality of chain
15	CP	82	5% 24% 60% 12% ..
16	AQ	83	28% 20% 58% 18% .
16	CQ	83	11% 22% 63% 13% .
17	AR	74	12% 24% 43% 7% 26%
17	CR	74	9% 34% 31% 9% 26%
18	AS	91	10% 25% 51% 9% . 13%
18	CS	91	5% 23% 43% 15% 7% 12%
19	AT	86	% 41% 48% 8% ..
19	CT	86	% 35% 45% 19% .
20	AB	240	16% 21% 50% 19% . 9%
20	CB	240	22% 24% 49% 17% . 9%
21	AU	71	7% 13% 28% 28% . 28%
21	CU	71	6% 15% 32% 20% . 28%
22	BA	120	2% 28% 56% 14% .
22	DA	120	2% 23% 62% 12% .
23	BB	2904	% 26% 59% 12% ..
23	DB	2904	% 26% 58% 12% ..
24	BV	94	14% 23% 60% 16% .
24	DV	94	7% 34% 55% 10% .
25	BC	273	19% 11% 44% 34% 8% .
25	DC	273	28% 13% 46% 32% 7% .
26	BD	209	44% 13% 51% 33% .
26	DD	209	22% 18% 48% 28% 6%
27	BE	201	30% 14% 53% 27% 5%
27	DE	201	20% 19% 47% 29% .

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Mol	Chain	Length	Quality of chain
28	BF	178	
28	DF	178	
29	BG	176	
29	DG	176	
30	BH	149	
30	DH	149	
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	114	
37	DP	114	
38	BQ	117	
38	DQ	117	
39	BR	103	
39	DR	103	
40	BS	110	

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Mol	Chain	Length	Quality of chain
40	DS	110	9% 25% 51% 23% .
41	BT	100	20% 17% 54% 22% 6% .
41	DT	100	28% 15% 52% 27% 5% .
42	BU	103	32% 17% 50% 27% . .
42	DU	103	14% 17% 50% 26% 6% .
43	BW	84	37% 17% 44% 29% 11%
43	DW	84	35% 14% 54% 29% .
44	BX	63	19% 22% 46% 32%
44	DX	63	29% 16% 65% 14% 5%
45	BY	58	22% 28% 48% 19% 5%
45	DY	58	12% 24% 53% 21% .
46	BZ	70	9% 23% 41% 23% 13%
46	DZ	70	10% 19% 56% 21% .
47	B0	56	38% 20% 48% 20% 12%
47	D0	56	21% 11% 62% 20% 7%
48	B1	54	39% 22% 39% 37% .
48	D1	54	50% 22% 43% 35%
49	B2	46	15% 26% 43% 30%
49	D2	46	2% 28% 41% 22% 9%
50	B3	64	25% 25% 41% 33% .
50	D3	64	22% 22% 50% 25% .
51	B4	38	26% 21% 37% 39% .
51	D4	38	32% 5% 45% 29% 21%
52	BI	141	62% 35% 61% .
52	DI	141	31% 34% 59% 7%

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
53	MG	AA	1636	-	-	-	X

2 Entry composition [i](#)

There are 54 unique types of molecules in this entry. The entry contains 284107 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	AA	1530	32831	14642	6024	10635	1530	0	0	0
1	CA	1530	32831	14642	6024	10635	1530	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	150	Total	C	N	O	S	0	0	0
			1174	730	226	214	4			
6	CG	152	Total	C	N	O	S	0	0	0
			1196	745	230	217	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	96	774	483	160	128	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	716	440	146	129	1	0	0	0
14	CO	88	716	440	146	129	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	81	Total	C	N	O	S	0	0	0
			656	417	122	114	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	80	Total	C	N	O	S	0	0	0
			644	413	121	108	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 S2.

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

- Molecule 21 is a protein called 30S ribosomal protein S21.

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

- Molecule 22 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	BA	117	Total	C	N	O	P	0	0	0
			2507	1116	459	815	117			
22	DA	117	Total	C	N	O	P	0	0	0
			2507	1116	459	815	117			

- Molecule 23 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	BB	2841	Total	C	N	O	P	0	0	0
			60995	27210	11229	19715	2841			
23	DB	2841	Total	C	N	O	P	0	0	0
			60995	27210	11229	19715	2841			

- Molecule 24 is a protein called 50S ribosomal protein L25.

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

- Molecule 25 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	BC	267	Total	C	N	O	S	0	0	0
			2053	1271	416	359	7			
25	DC	267	Total	C	N	O	S	0	0	0
			2053	1271	416	359	7			

- Molecule 26 is a protein called 50S ribosomal protein L3.

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

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

- Molecule 27 is a protein called 50S ribosomal protein L4.

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

- Molecule 28 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
28	BF	178	1420	905	251	258	6	0	0	0
28	DF	178	1420	905	251	258	6	0	0	0

- Molecule 29 is a protein called 50S ribosomal protein L6.

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

- Molecule 30 is a protein called 50S ribosomal protein L9.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
31	BJ	140	1112	704	210	194	4	0	0	0
31	DJ	140	1112	704	210	194	4	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
32	BK	121	Total 930	C 582	N 179	O 164	S 5	0	0	0
32	DK	121	Total 930	C 582	N 179	O 164	S 5	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	144	Total 1053	C 654	N 207	O 190	S 2	0	0	0
33	DL	144	Total 1053	C 654	N 207	O 190	S 2	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	Total 1074	C 686	N 205	O 177	S 6	0	0	0
34	DM	136	Total 1074	C 686	N 205	O 177	S 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	127	Total 1008	C 621	N 204	O 178	S 5	0	0	0
35	DN	127	Total 1008	C 621	N 204	O 178	S 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	S			
36	BO	117	Total 900	C 557	N 179	O 163	S 1	0	0	0
36	DO	117	Total 900	C 557	N 179	O 163	S 1	0	0	0

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BT	99	Total	C	N	O	S	0	0	0
			777	491	145	139	2			
41	DT	99	Total	C	N	O	S	0	0	0
			777	491	145	139	2			

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

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

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

- Molecule 43 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
43	BW	84	634	391	129	113	1	0	0	0
43	DW	84	634	391	129	113	1	0	0	0

- Molecule 44 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
44	BX	63	509	313	99	95	2	0	0	0
44	DX	63	509	313	99	95	2	0	0	0

- Molecule 45 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
45	BY	58	449	281	87	79	2	0	0	0
45	DY	58	449	281	87	79	2	0	0	0

- Molecule 46 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
46	BZ	70	549	339	104	100	6	0	0	0
46	DZ	70	549	339	104	100	6	0	0	0

- Molecule 47 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
47	B0	56	444	269	94	80	1	0	0	0
47	D0	56	444	269	94	80	1	0	0	0

- Molecule 48 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
48	B1	54	Total	C	N	O	0	0	0
			441	284	81	76			
48	D1	54	Total	C	N	O	0	0	0
			441	284	81	76			

- Molecule 49 is a protein called 50S ribosomal protein L34.

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

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

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

- Molecule 51 is a protein called 50S ribosomal protein L36.

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

- Molecule 52 is a protein called 50S ribosomal protein L11.

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

- Molecule 53 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
53	AA	59	Total Mg 59 59	0	0
53	AP	1	Total Mg 1 1	0	0
53	BB	110	Total Mg 110 110	0	0
53	CA	62	Total Mg 62 62	0	0
53	DB	110	Total Mg 110 110	0	0
53	DN	1	Total Mg 1 1	0	0

- Molecule 54 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
54	AA	290	Total O 290 290	0	0
54	AE	3	Total O 3 3	0	0
54	AK	2	Total O 2 2	0	0
54	AN	4	Total O 4 4	0	0
54	AP	1	Total O 1 1	0	0
54	BB	497	Total O 497 497	0	0
54	BC	1	Total O 1 1	0	0
54	BE	5	Total O 5 5	0	0
54	BH	1	Total O 1 1	0	0
54	BL	2	Total O 2 2	0	0
54	BN	1	Total O 1 1	0	0
54	CA	295	Total O 295 295	0	0
54	CE	3	Total O 3 3	0	0
54	CK	1	Total O 1 1	0	0

Continued on next page...

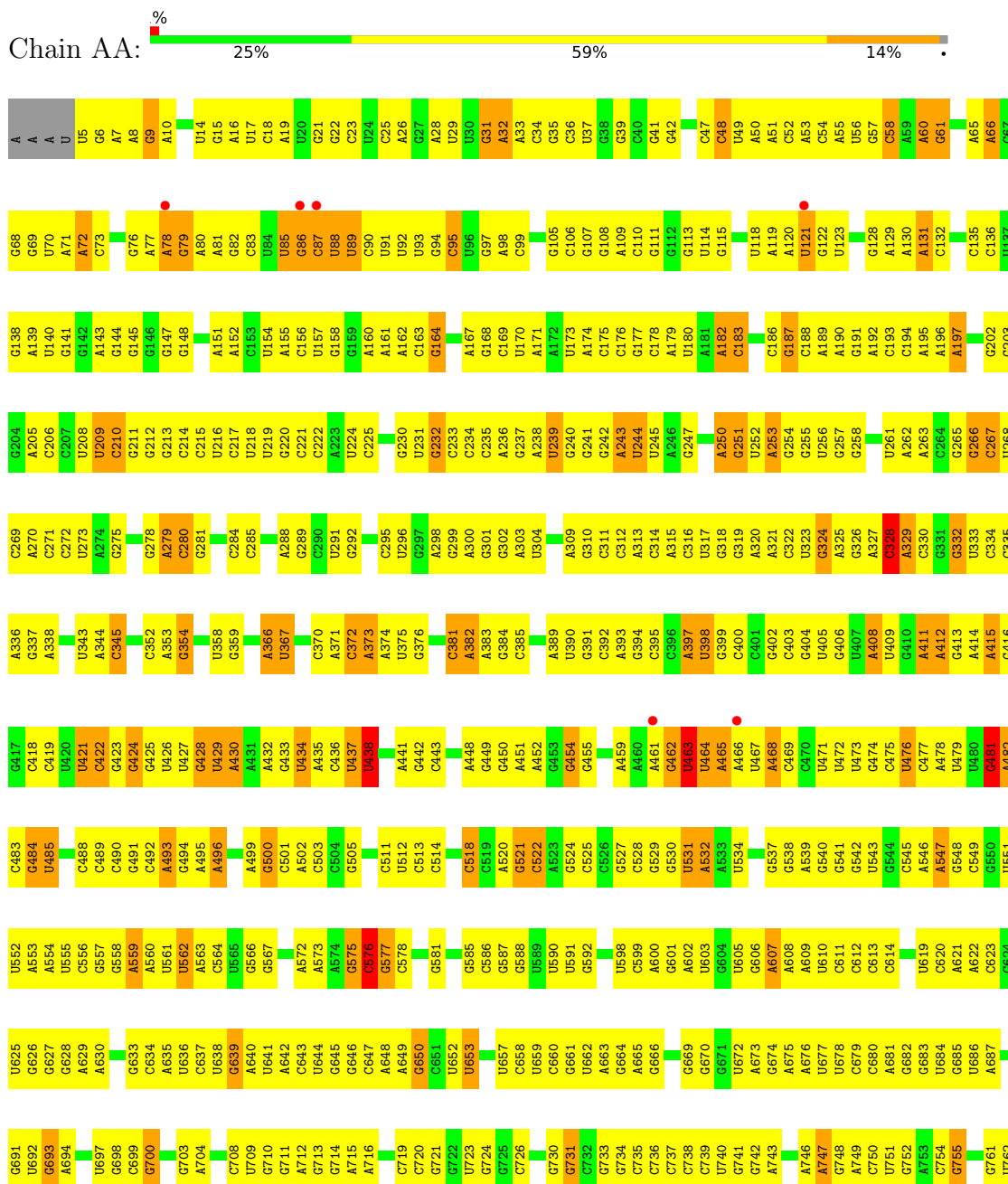
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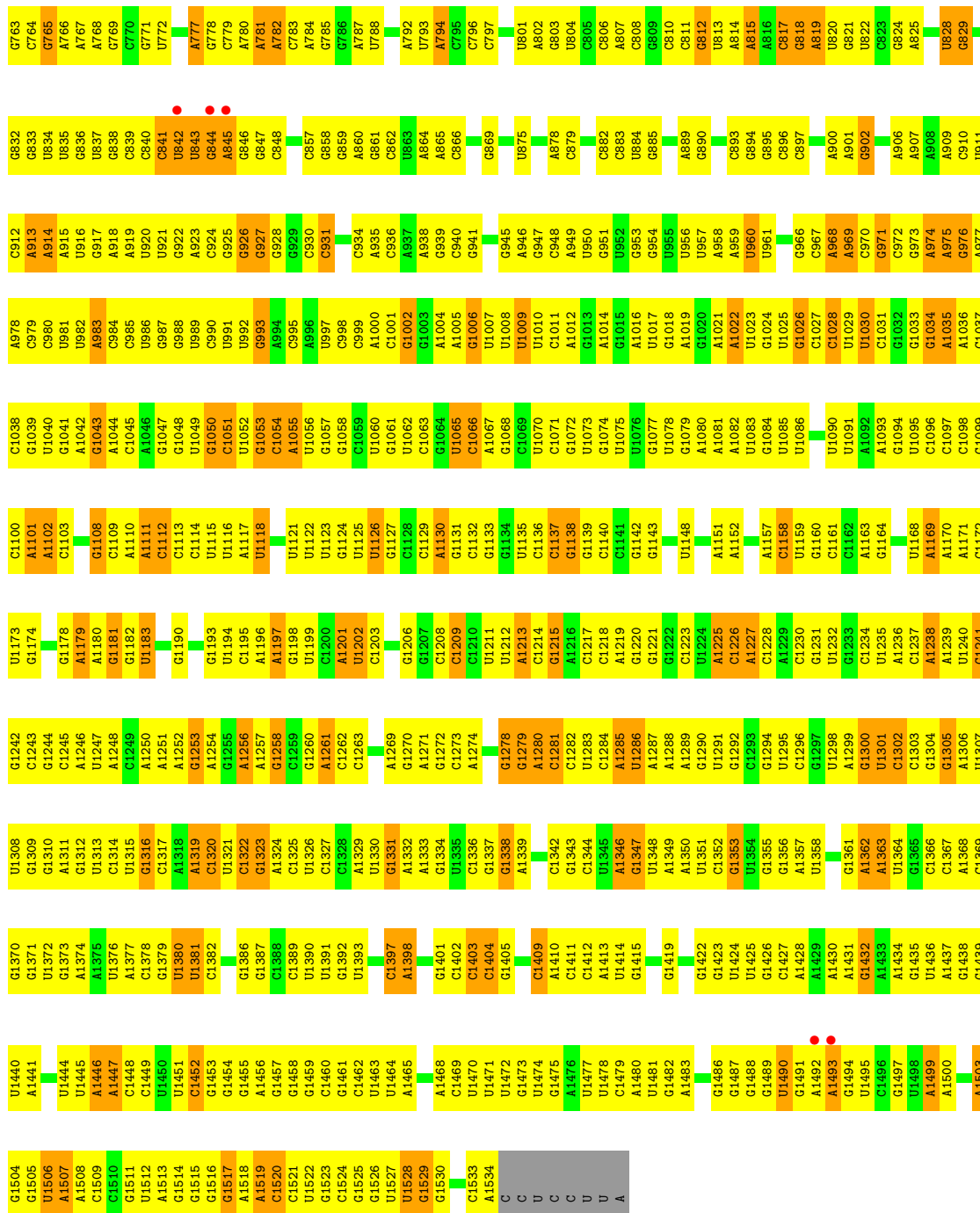
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
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54	CN	2	Total O 2 2	0	0
54	CP	1	Total O 1 1	0	0
54	CT	2	Total O 2 2	0	0
54	DB	499	Total O 499 499	0	0
54	DC	1	Total O 1 1	0	0
54	DD	1	Total O 1 1	0	0
54	DE	3	Total O 3 3	0	0
54	DJ	2	Total O 2 2	0	0
54	DL	1	Total O 1 1	0	0
54	DN	2	Total O 2 2	0	0
54	DQ	1	Total O 1 1	0	0
54	D2	2	Total O 2 2	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.

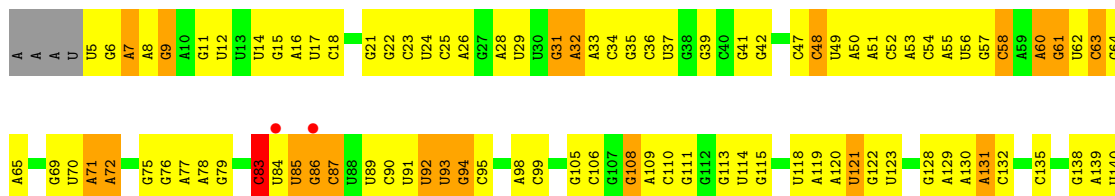
• Molecule 1: 16S ribosomal RNA

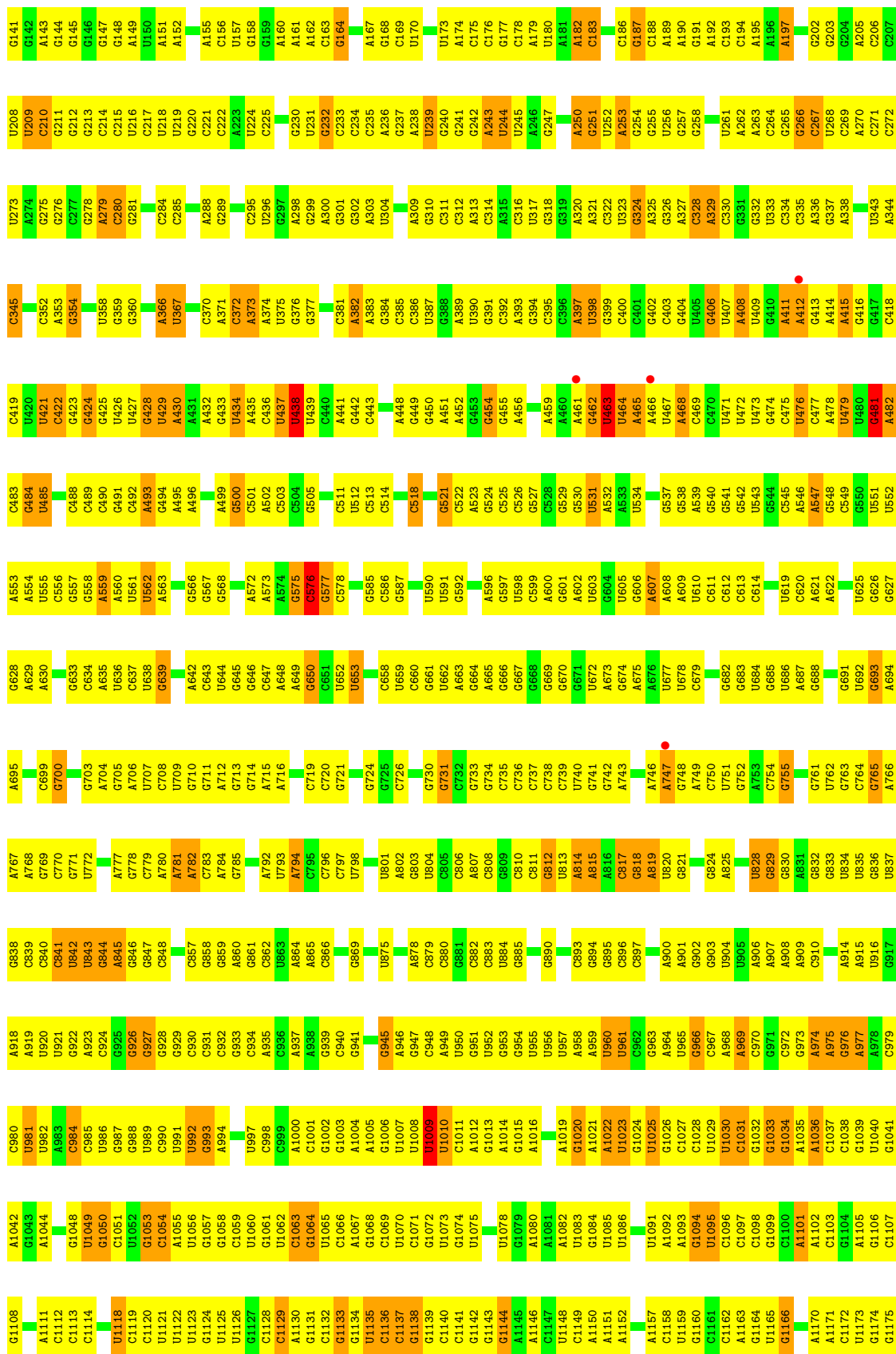


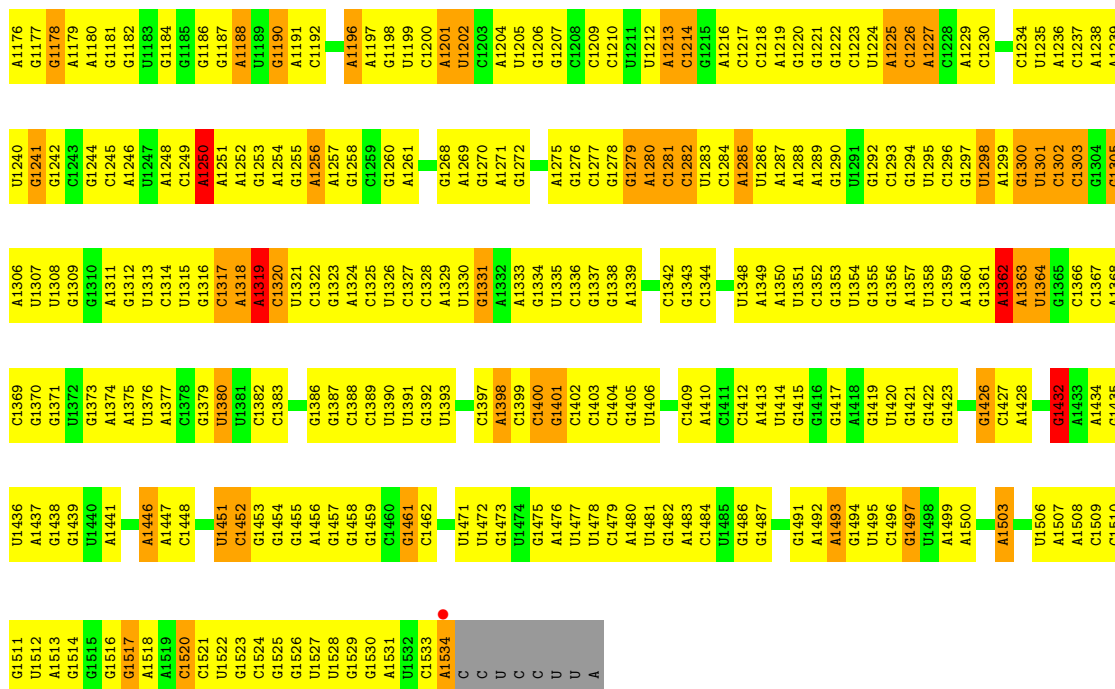


● Molecule 1: 16S ribosomal RNA

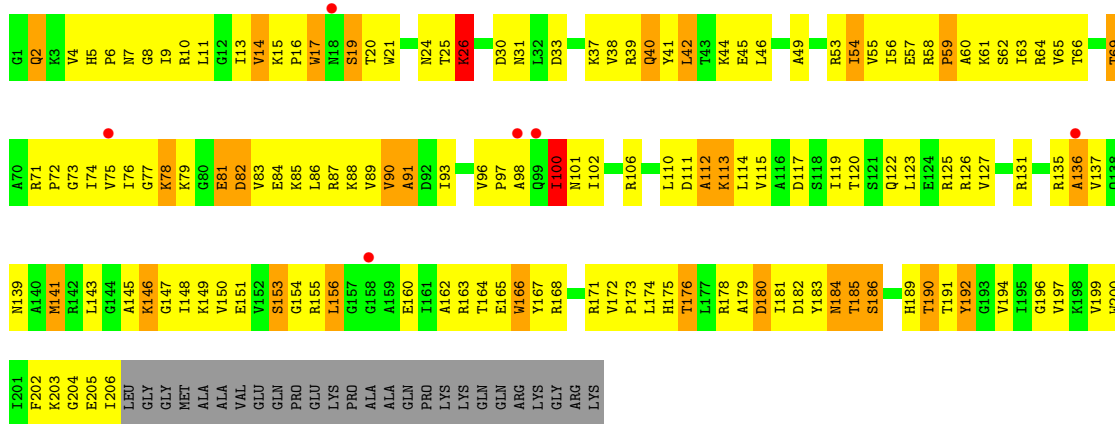
Chain CA: 26% 60% 13% ..



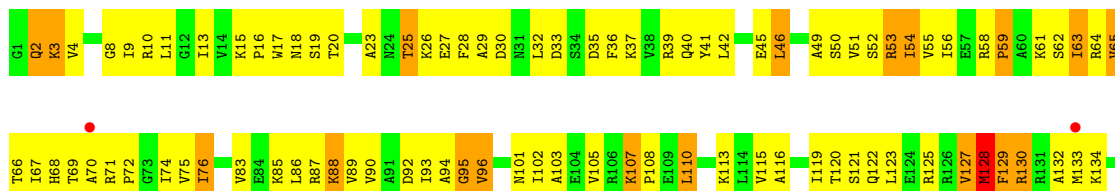


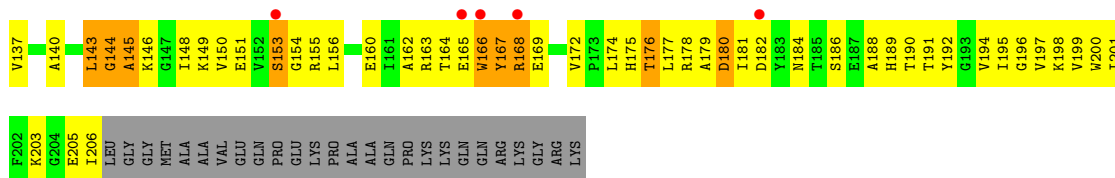


• Molecule 2: 30S ribosomal protein S3

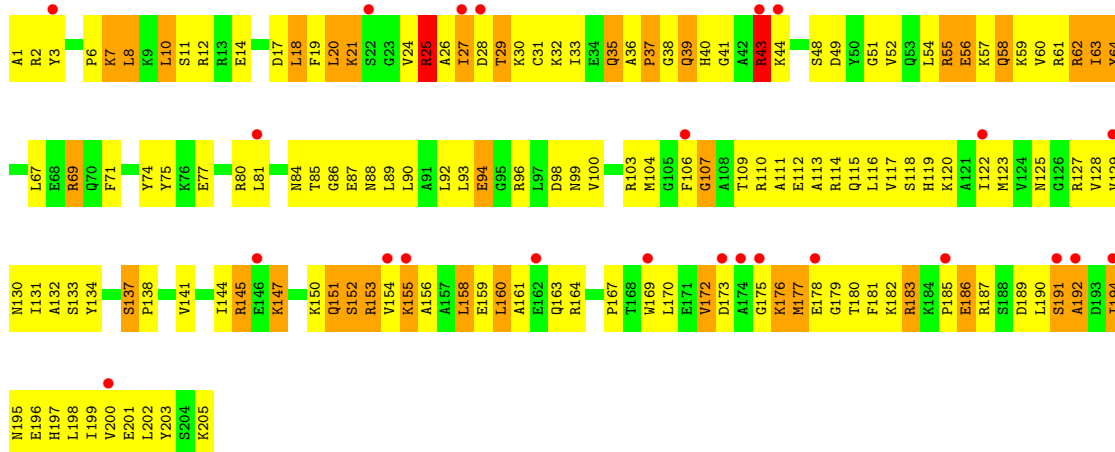


• Molecule 2: 30S ribosomal protein S3

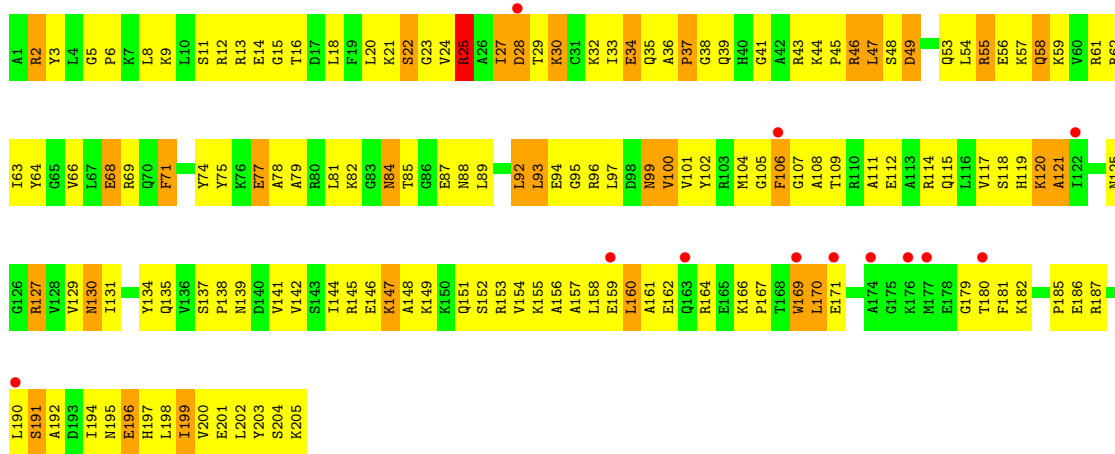




• Molecule 3: 30S ribosomal protein S4

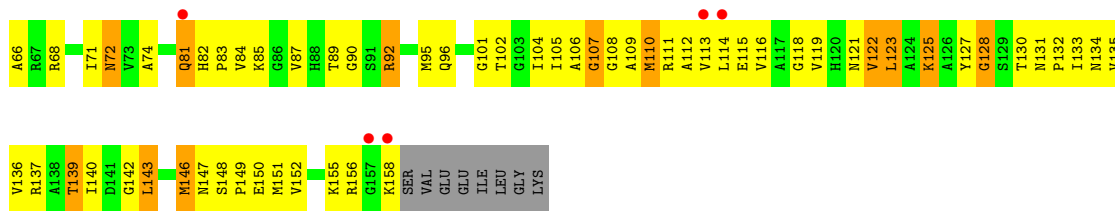


• Molecule 3: 30S ribosomal protein S4

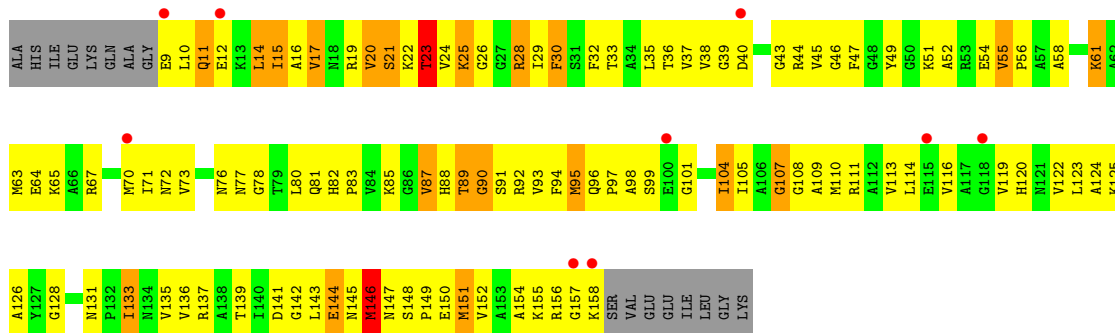


• Molecule 4: 30S ribosomal protein S5

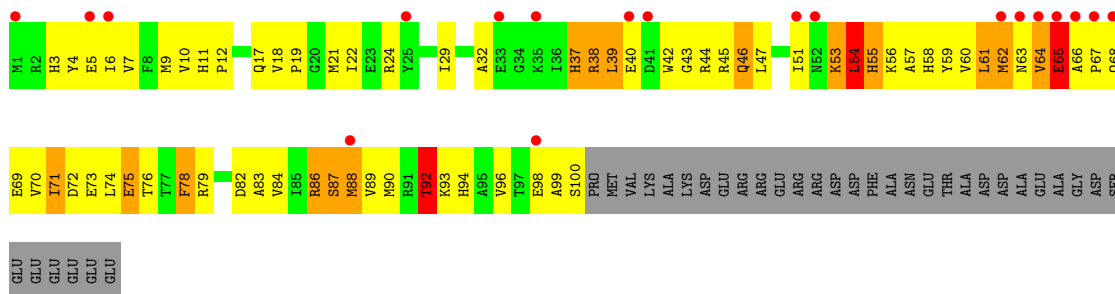
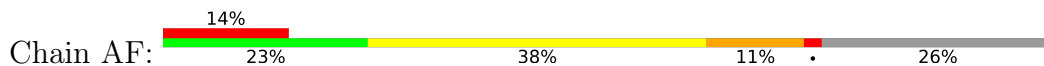




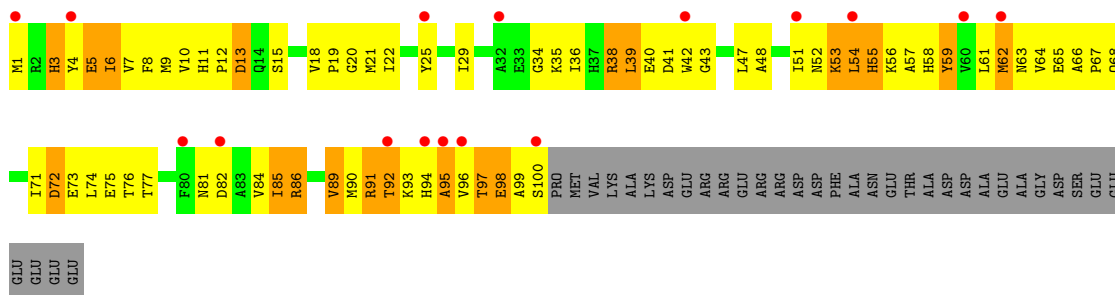
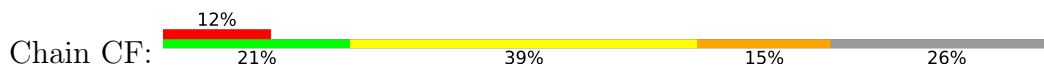
• Molecule 4: 30S ribosomal protein S5



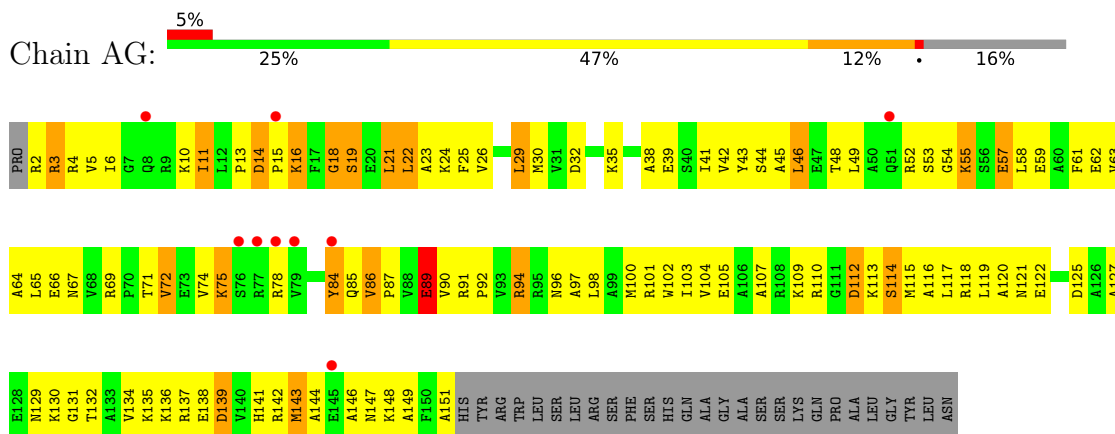
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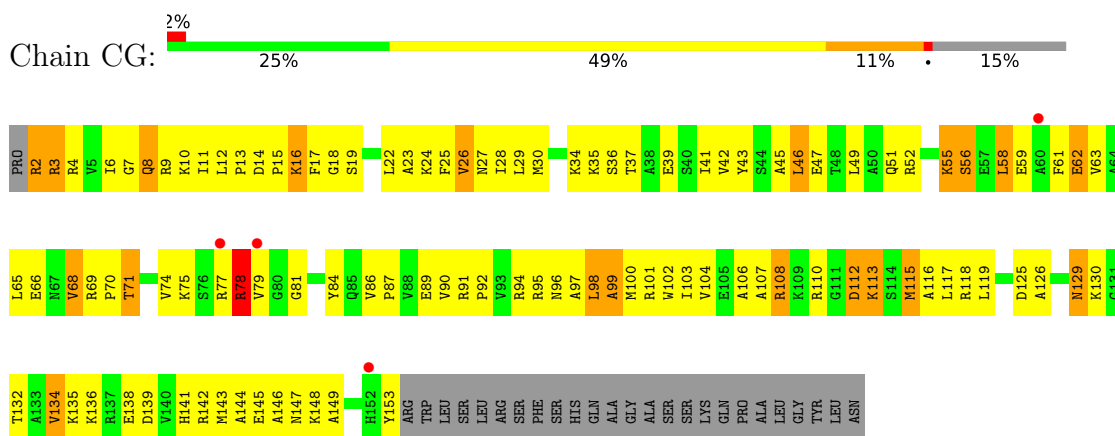
• Molecule 5: 30S ribosomal protein S6



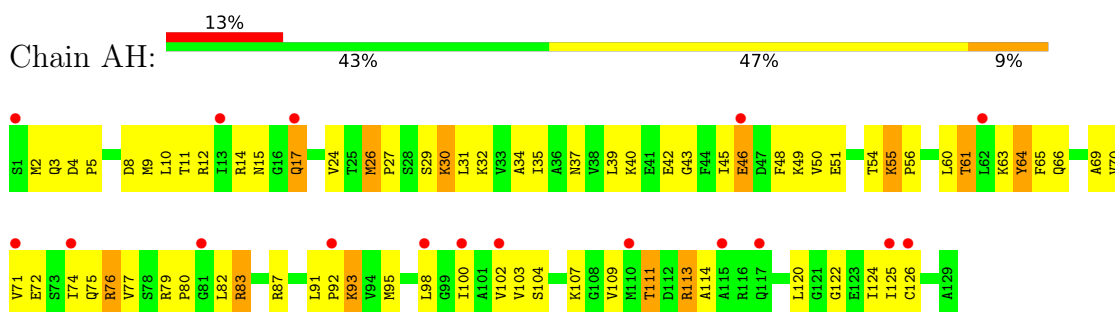
• Molecule 6: 30S ribosomal protein S7



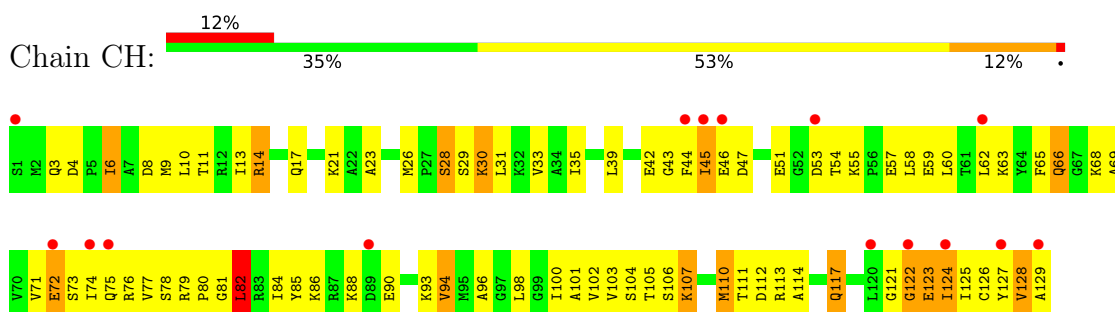
• Molecule 6: 30S ribosomal protein S7



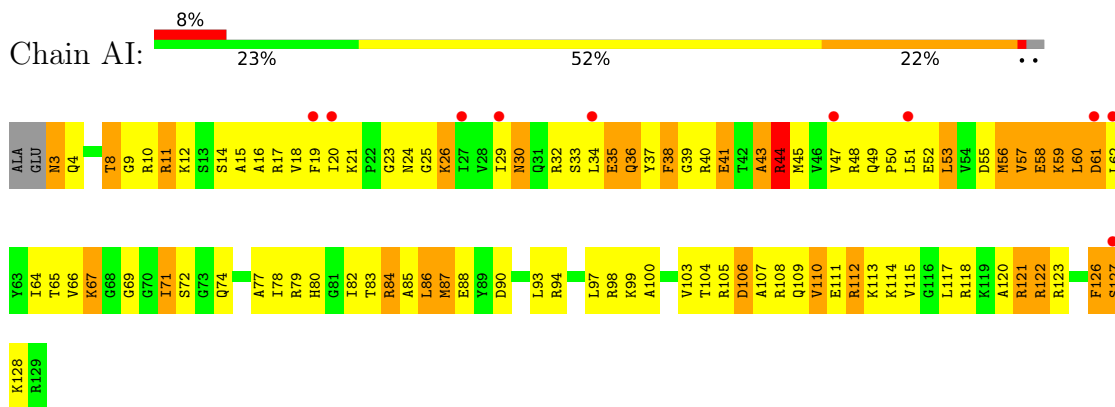
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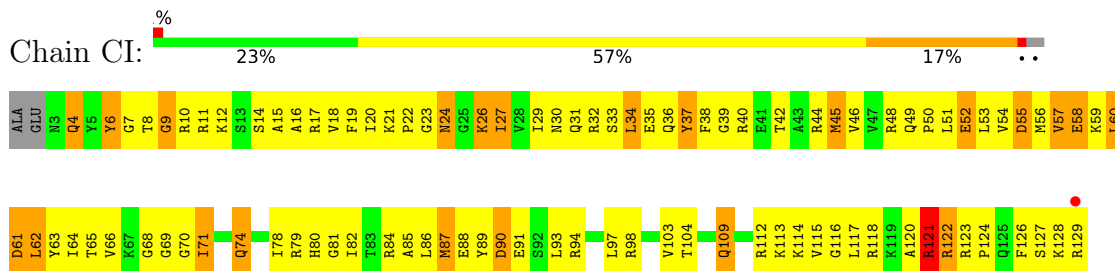
• Molecule 7: 30S ribosomal protein S8



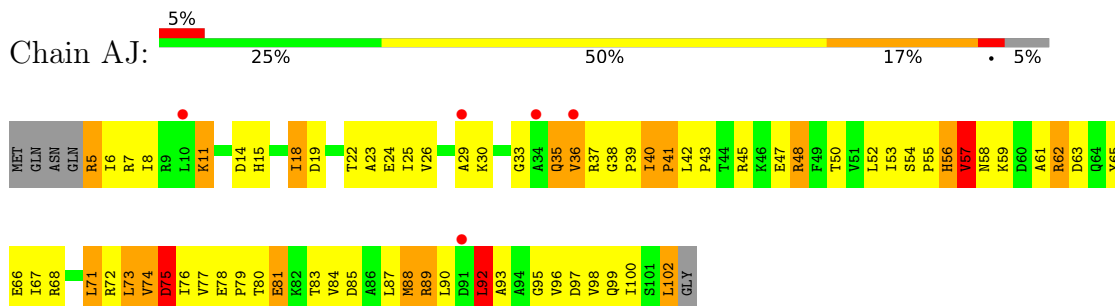
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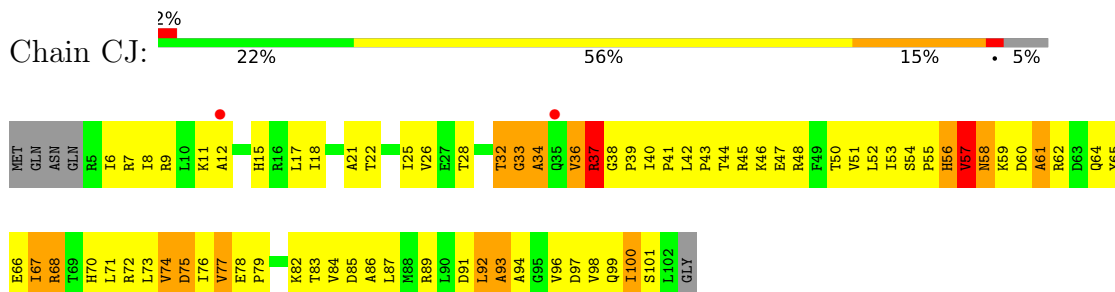
• Molecule 8: 30S ribosomal protein S9



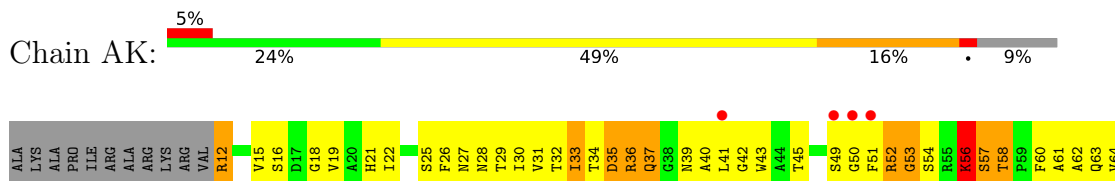
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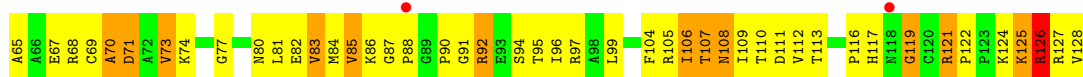


• Molecule 9: 30S ribosomal protein S10



• Molecule 10: 30S ribosomal protein S11

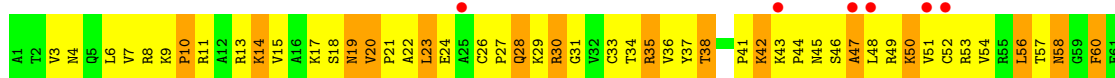




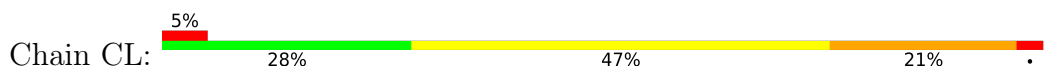
- Molecule 10: 30S ribosomal protein S11



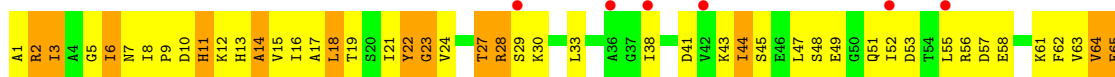
- Molecule 11: 30S ribosomal protein S12



- Molecule 11: 30S ribosomal protein S12

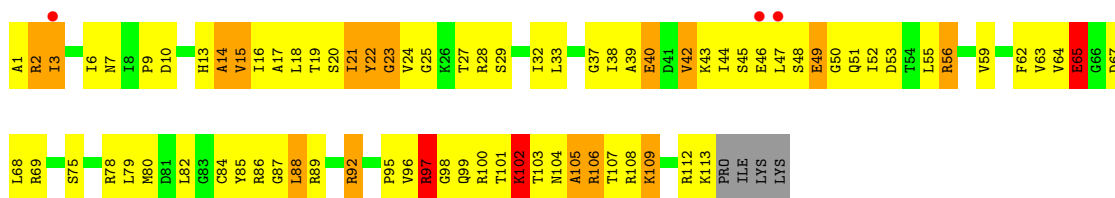


- Molecule 12: 30S ribosomal protein S13

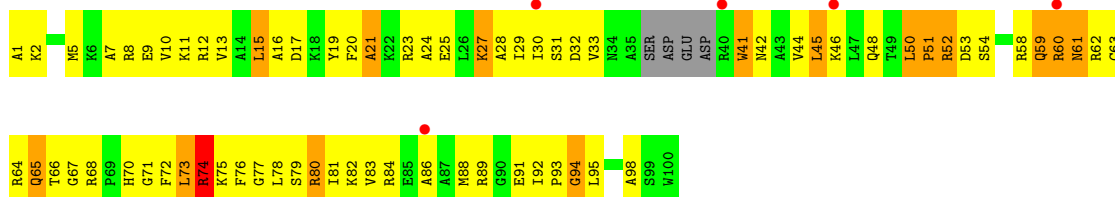


- Molecule 12: 30S ribosomal protein S13

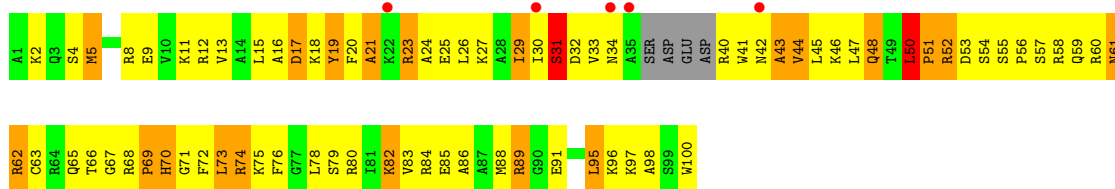




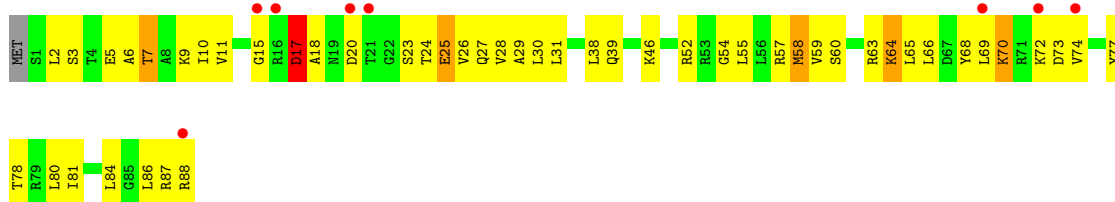
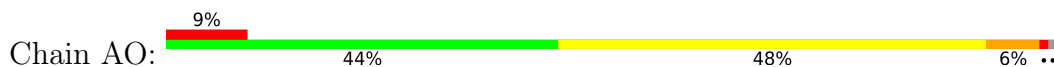
- Molecule 13: 30S ribosomal protein S14



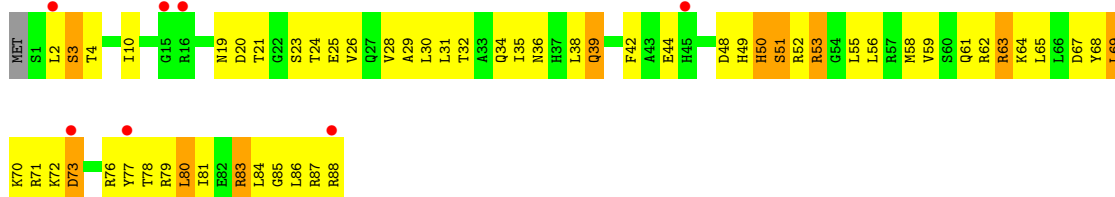
- Molecule 13: 30S ribosomal protein S14



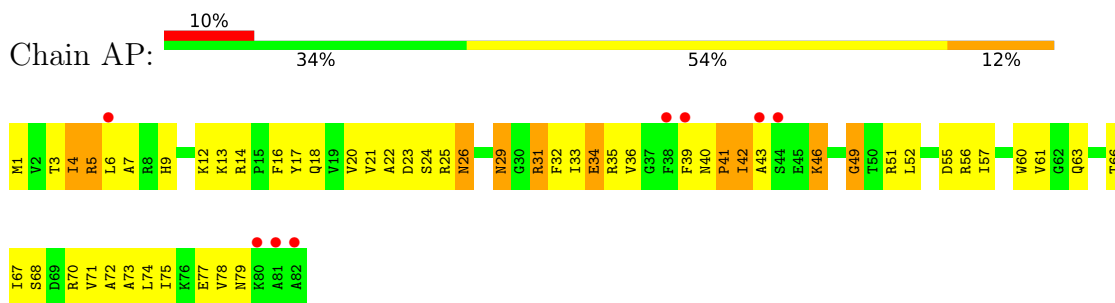
- Molecule 14: 30S ribosomal protein S15



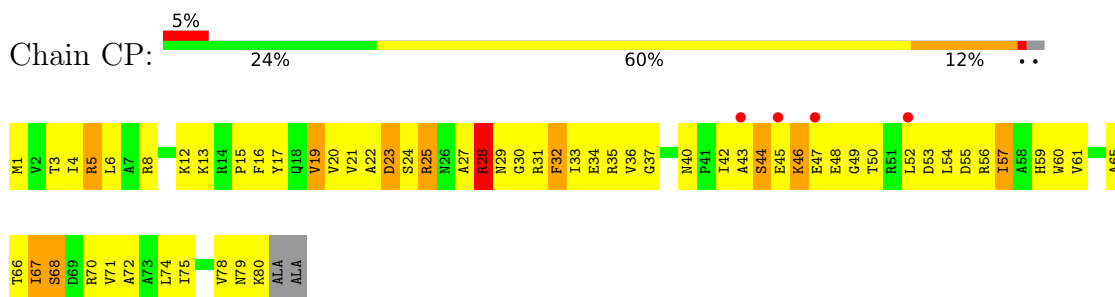
- Molecule 14: 30S ribosomal protein S15



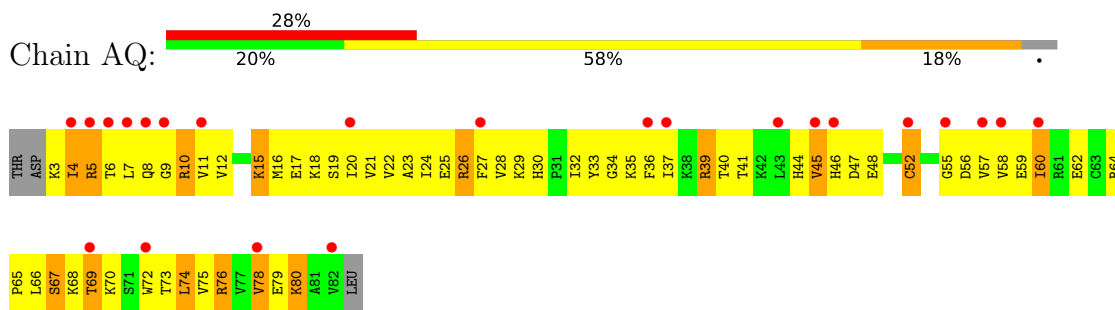
- Molecule 15: 30S ribosomal protein S16



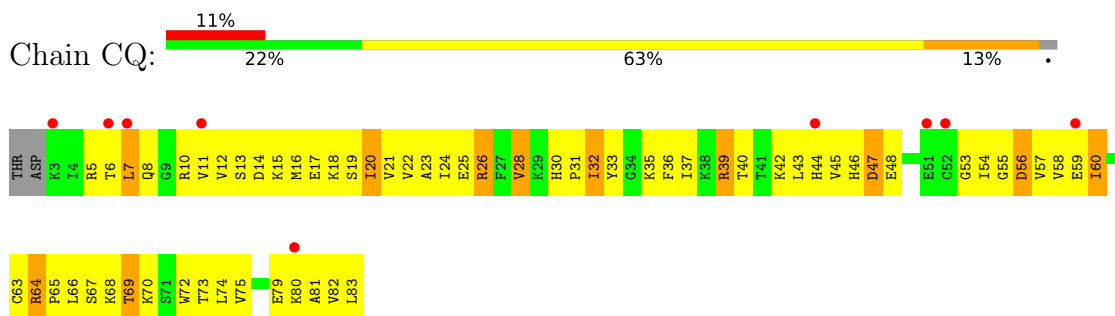
- Molecule 15: 30S ribosomal protein S16



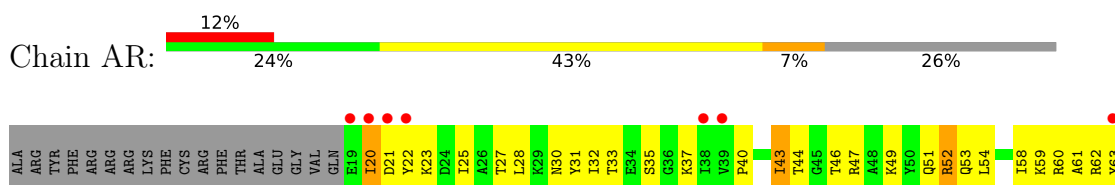
- Molecule 16: 30S ribosomal protein S17



- Molecule 16: 30S ribosomal protein S17

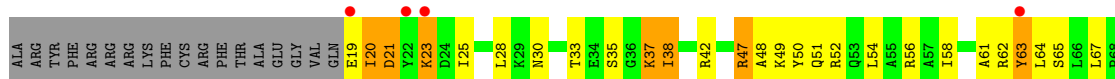
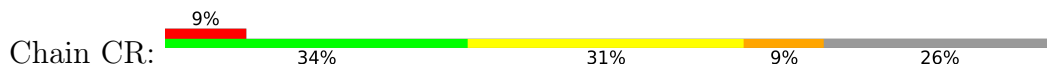


- Molecule 17: 30S ribosomal protein S18

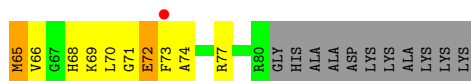
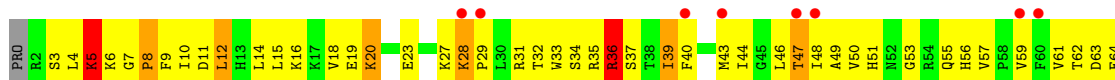




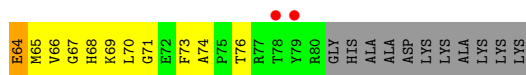
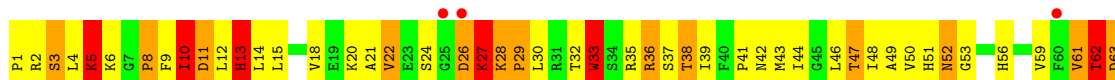
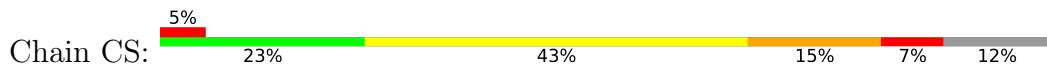
- Molecule 17: 30S ribosomal protein S18



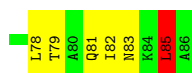
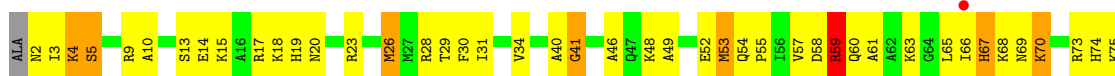
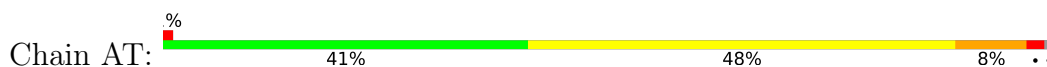
- Molecule 18: 30S ribosomal protein S19



- Molecule 18: 30S ribosomal protein S19

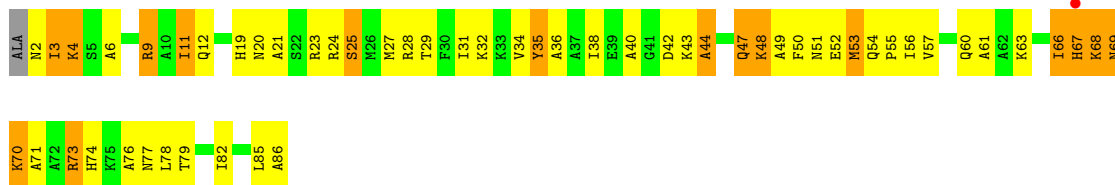


- Molecule 19: 30S ribosomal protein S20

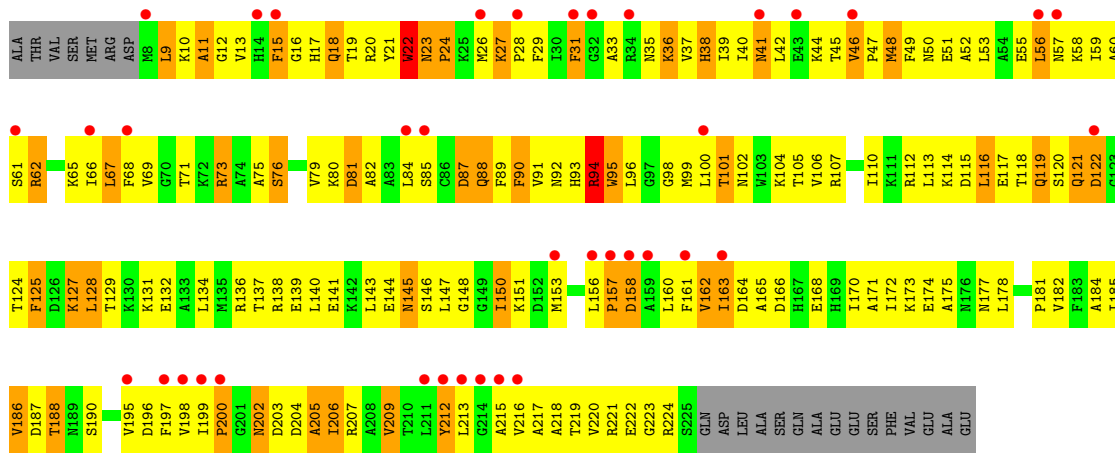


- Molecule 19: 30S ribosomal protein S20

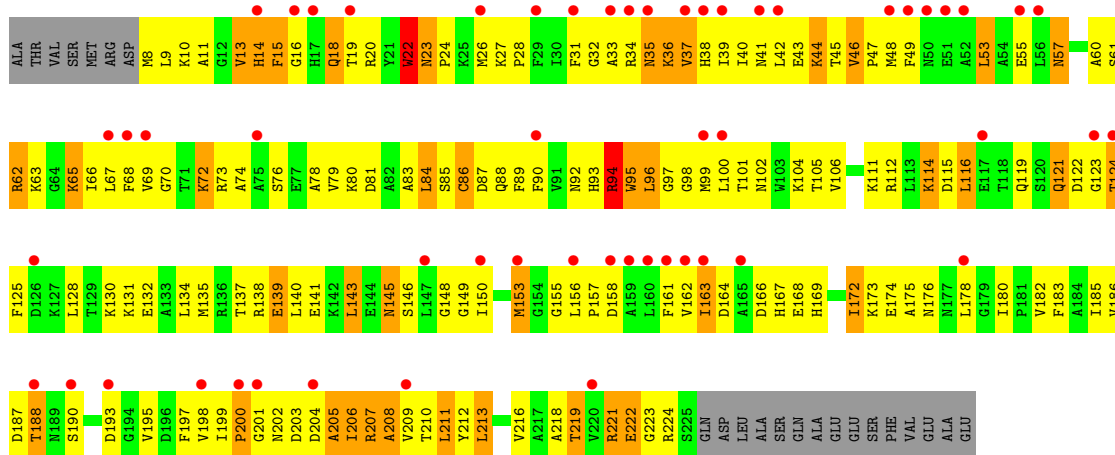




• Molecule 20: 30S ribosomal protein S2



• Molecule 20: 30S ribosomal protein S2



• Molecule 21: 30S ribosomal protein S21



ALA
ARG
ARG
THR
ARG
LEU
LEU
TYR

• Molecule 21: 30S ribosomal protein S21

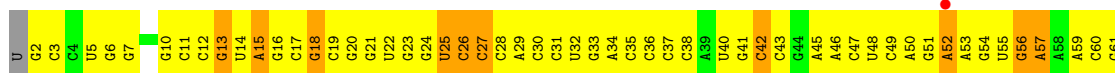


ASN
ALA
ARG
ARG
THR
ARG
LEU
LEU
TYR

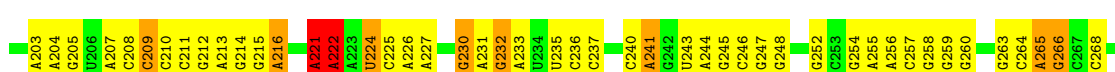
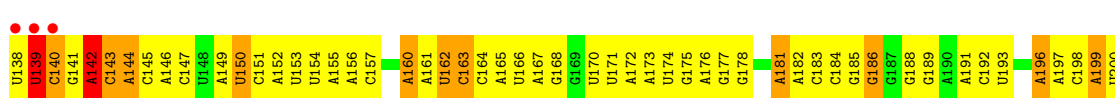
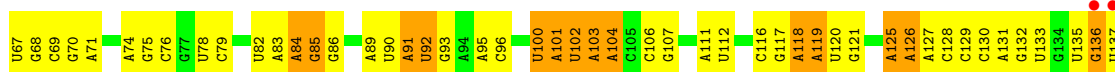
• Molecule 22: 5S ribosomal RNA



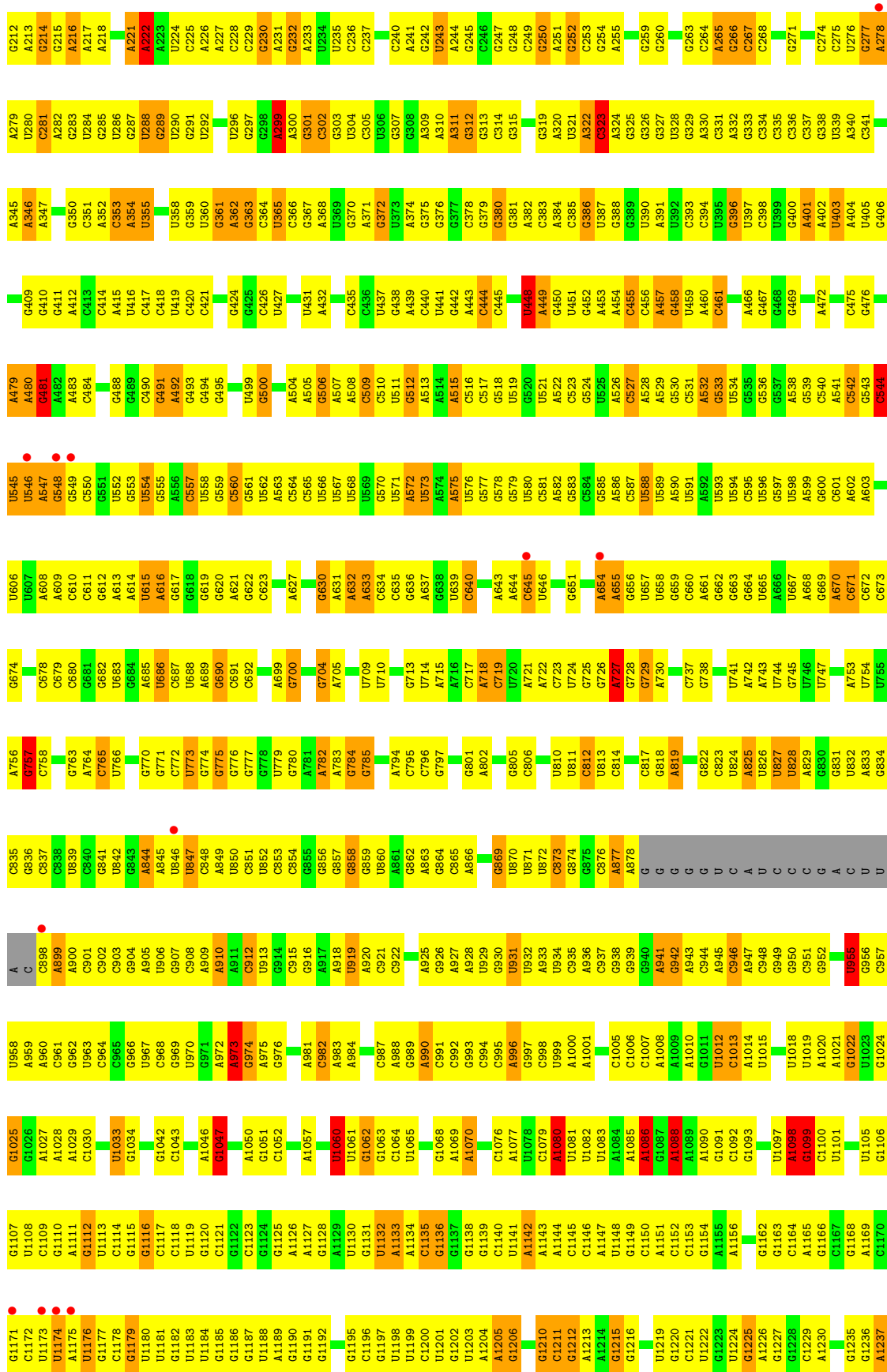
• Molecule 22: 5S ribosomal RNA

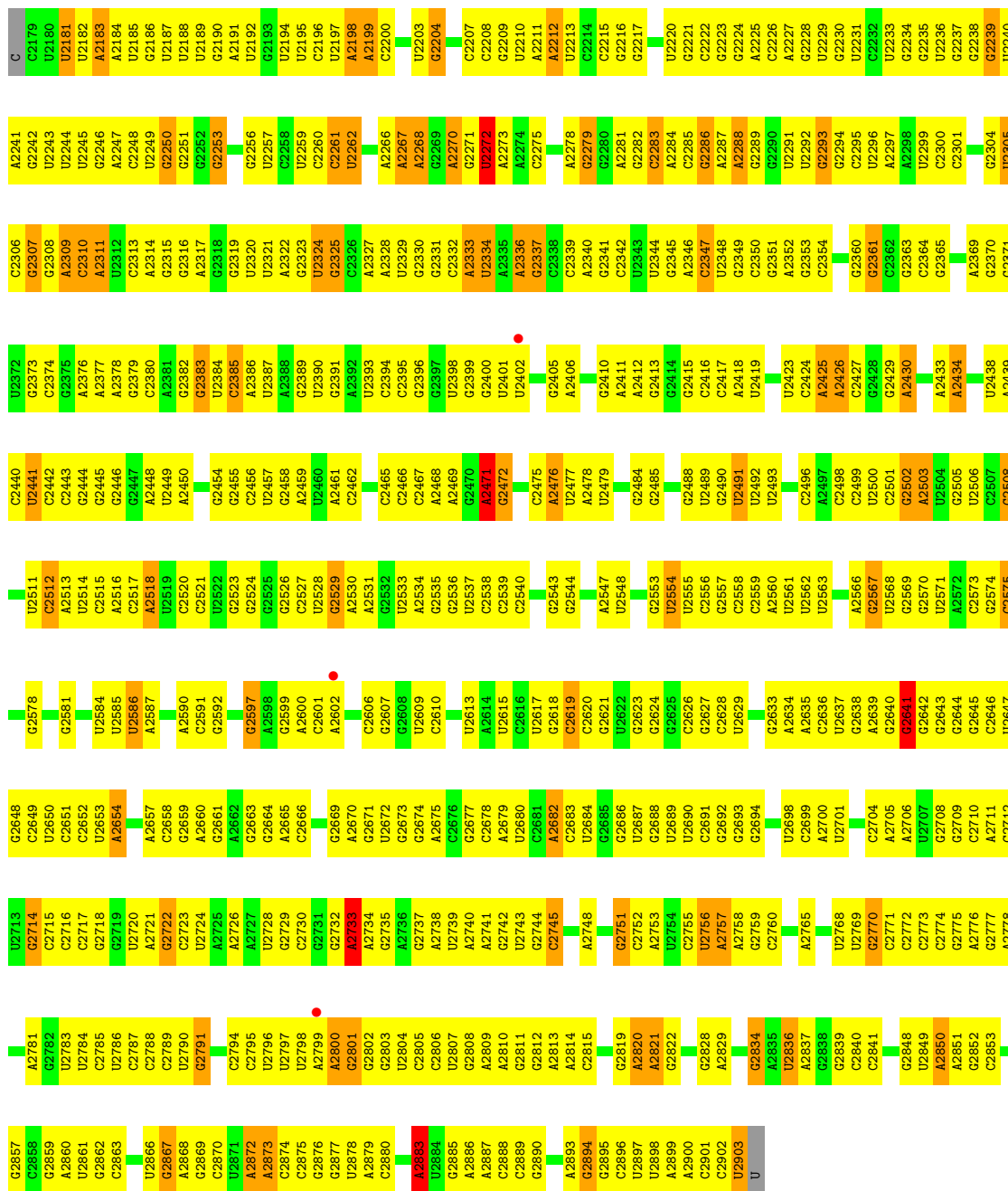


• Molecule 23: 23S ribosomal RNA

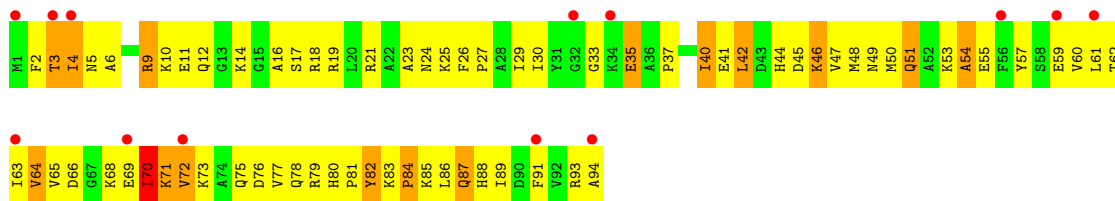


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G1216	C1153	A1020	A959	G831	U754	C673	U607	C540	G406	A340	C273
G1217	A1086	A1021	A960	U832	U755	C674	A608	C541	G407	A478	G274
G1218	G1087	U1022	C961	C898	C957	C679	C610	C542	A479	A609	C275
G1219	A1088	G1023	C962	G834	G757	C680	C611	C544	A480	A609	U276
G1220	A1089	G1024	U963	C835	C758	C680	C612	C545	G481	G410	G277
G1221	A1090	G1025	C964	U839	G759	C684	G613	U546	A482	G411	G277
G1222	G1091	G1026	G965	C940	G760	A685	A614	A547	A348	A278	A279
G1223	C1092	A1027	G966	G841	G763	A686	A615	A548	U349	U349	U280
G1224	A1095	U1028	U967	U842	U764	U686	U616	G549	A415	G350	C281
G1225	A1096	A1029	C968	U843	C765	U688	A616	G549	U416	G350	C282
G1226	U1097	G1030	G969	A844	U766	U689	G617	C550	C417	C351	G283
G1227	U1098	G1031	U970	A844	U766	A689	G617	C550	C418	C353	U284
G1228	G1099	A1032	G971	A845	G770	C690	G620	U554	U419	A354	G285
G1229	U1099	U1033	A972	U846	G771	C691	A621	U555	A492	U355	U286
G1230	C1100	G1034	A973	C912	C772	C692	C623	C557	G494	G356	G287
G1231	U1101	U1035	G974	C948	C773	C692	C623	C558	G495	C357	U288
G1232	C1104	G1038	A975	A849	U773	A699	A627	U558	G496	U358	U288
G1233	U1105	A1039	G976	U850	G774	G700	A627	C559	A497	C359	G289
G1234	G1106	A1040	G977	C915	G775	G701	A627	C560	G498	U360	G295
G1235	G1107	G1041	G978	G916	G776	U702	G630	C561	U427	G361	U296
G1236	U1108	G1042	A979	C917	G776	U703	A631	U562	U428	A362	G297
G1237	C1109	U1042	A980	U919	G780	U704	A632	U563	A428	G363	G298
G1238	U1110	G1042	A981	C854	U781	A705	A633	C564	A429	C364	A299
G1239	U1111	G1046	C982	G855	A782	A705	C634	C565	C433	U365	A300
G1240	C1112	G1047	A983	G856	A783	G708	C635	U566	U434	C366	G301
G1241	U1113	A1048	A984	G857	A784	U709	C636	U567	U435	A367	C302
G1242	G1114	A1049	A985	U859	G785	U710	A637	U568	C436	G370	G303
G1243	G1115	C1049	C986	G860	C786	G711	G638	U569	U437	A371	U304
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G1245	C1117	G1051	A988	G864	U788	G713	G640	U571	A439	U373	U306
G1246	U1118	C1052	A989	A865	A794	G713	G640	A572	C440	A374	G307
G1247	U1119	U1053	G989	C865	G795	A716	A643	U573	U441	G375	G308
G1248	C1120	A1054	A990	A866	C796	C717	A644	A574	G442	A309	A309
G1249	G1121	G1055	C991	G869	C797	A718	C645	A575	A443	C378	A310
G1250	U1122	U1056	C992	U870	G797	C719	U646	U576	C444	A311	A311
G1251	C1123	A1057	G993	U871	G805	U720	U646	G577	C445	G380	G312
G1252	G1124	U1058	C994	U872	C806	A722	G649	U580	G446	G381	G315
G1253	U1125	G1059	C995	U873	C807	A722	C650	A588	A447	A382	C316
G1254	A1126	U1060	A996	C872	U807	A722	C651	C581	U448	C383	G319
G1255	U1130	U1061	G997	G874	G808	G726	U652	A582	A449	G386	G319
G1256	G1131	G1062	C998	C875	G809	A726	U653	C584	G450	U387	U321
G1257	U1132	C1063	U999	C876	U810	G728	U654	G585	U451	G388	U322
G1258	A1133	U1064	A1000	A877	U811	G729	A655	A586	G452	U389	A322
G1259	U1134	U1065	A1001	A878	C812	A730	A656	C587	C455	U390	C323
G1260	C1135	G1066	G1002	G	C914	G737	G656	A587	A456	A391	A324
G1261	U1136	A1067	C1006	G	C817	C738	U657	C588	A457	U392	G325
G1262	G1137	U1068	C1007	G	G818	A739	C660	U589	A526	C393	G326
G1263	U1138	A1070	C1007	C	A819	G739	A661	A590	C527	C394	G327
G1264	C1139	G1071	A1008	U	G819	C740	A661	U591	A528	U395	U328
G1265	U1140	C1072	A1009	C	A820	U741	G662	A592	A529	A460	U329
G1266	A1141	U1076	A1010	A	A821	A742	G663	G530	C61	G396	G329
G1267	G1076	C1076	G1011	U	G822	A743	G664	U593	C631	U397	A330
G1268	U1077	U1077	U1012	C	C923	U744	U665	C595	A532	C398	A331
G1269	A1142	A1078	C1013	C	G824	G745	A666	U596	G533	U399	A332
G1270	C1143	U1078	A1014	C	A825	U746	U667	G597	A466	G400	G333
G1271	U1144	C1079	U1015	G	U826	U747	A668	U598	U534	A401	G334
G1272	C1145	A1080	G1016	A	U827	U747	A669	A599	G467	A402	G334
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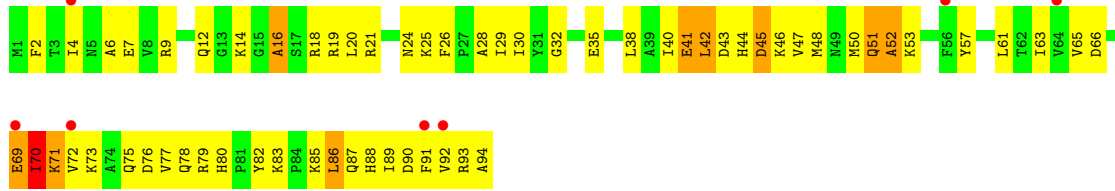




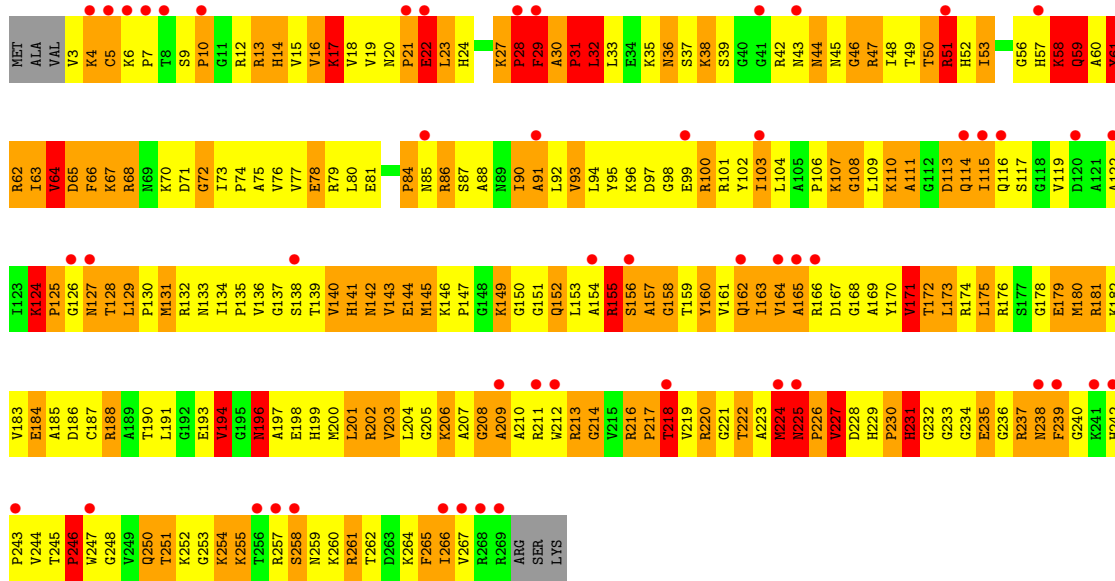
● Molecule 24: 50S ribosomal protein L25



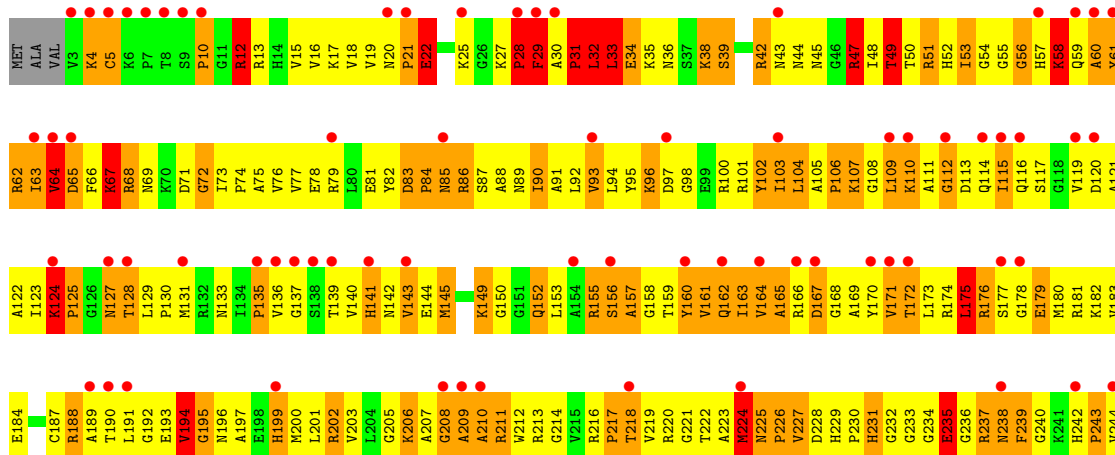
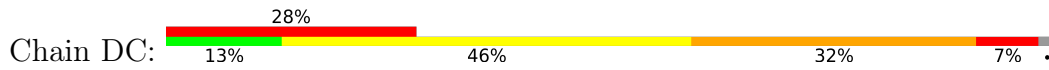
● Molecule 24: 50S ribosomal protein L25

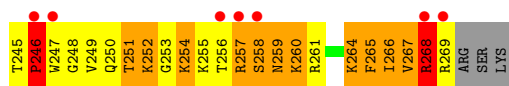


• Molecule 25: 50S ribosomal protein L2

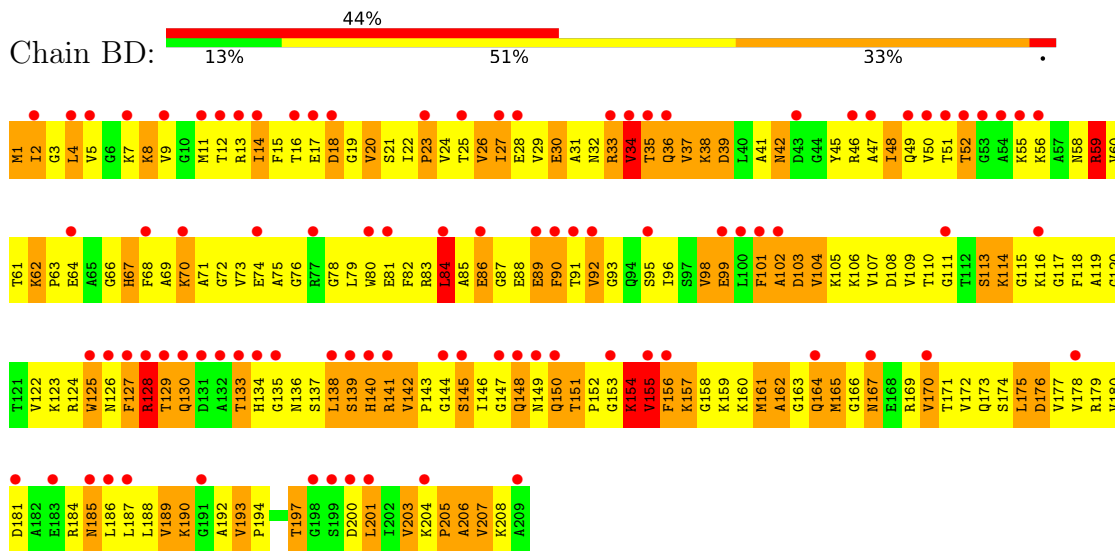


• Molecule 25: 50S ribosomal protein L2

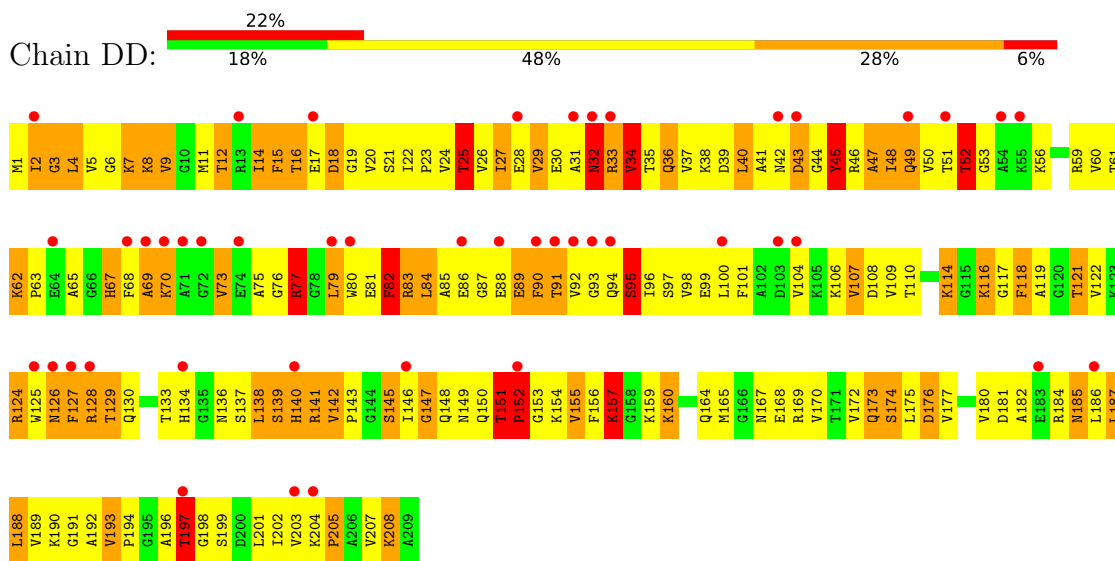




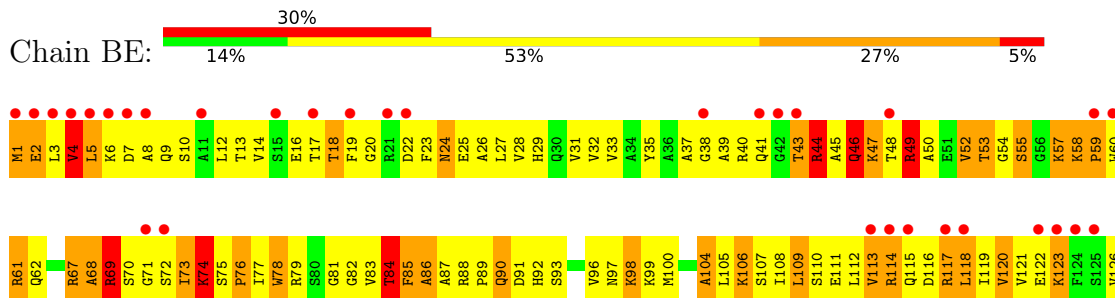
- Molecule 26: 50S ribosomal protein L3

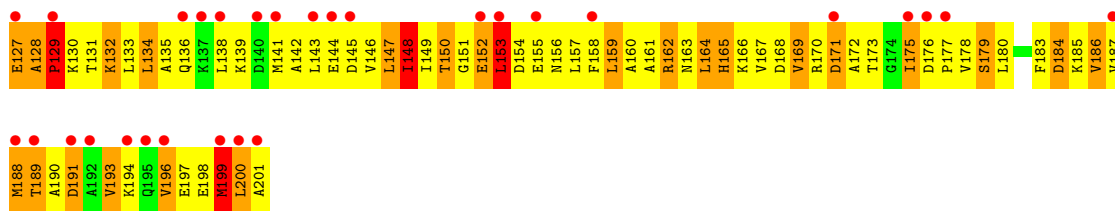


- Molecule 26: 50S ribosomal protein L3

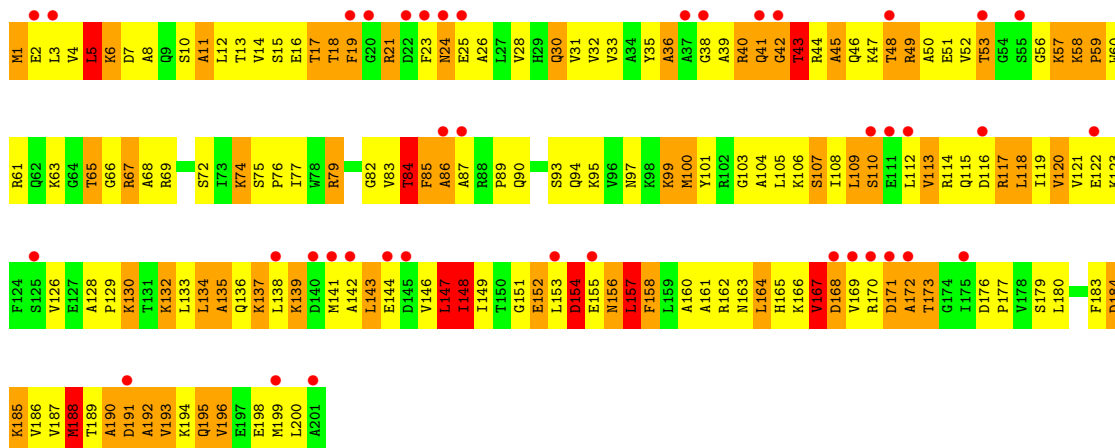
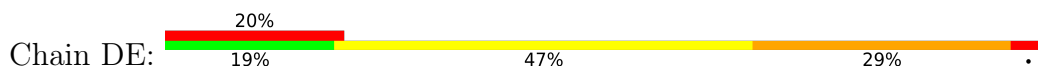


- Molecule 27: 50S ribosomal protein L4

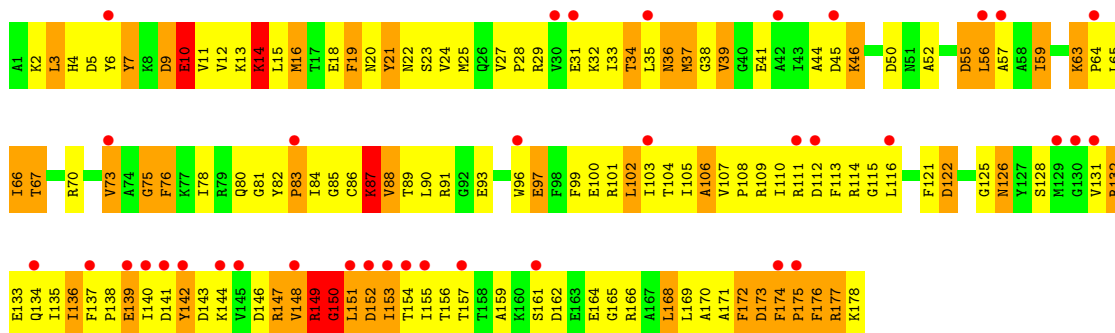




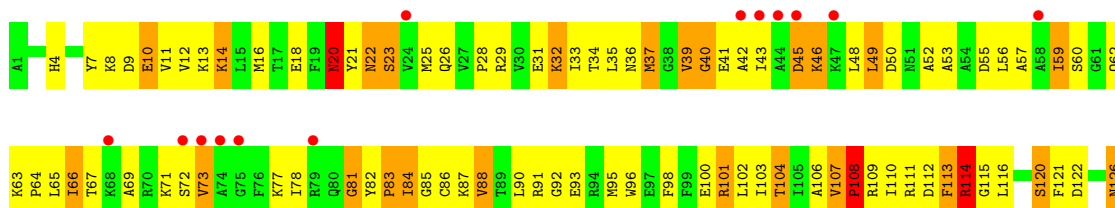
• Molecule 27: 50S ribosomal protein L4



• Molecule 28: 50S ribosomal protein L5

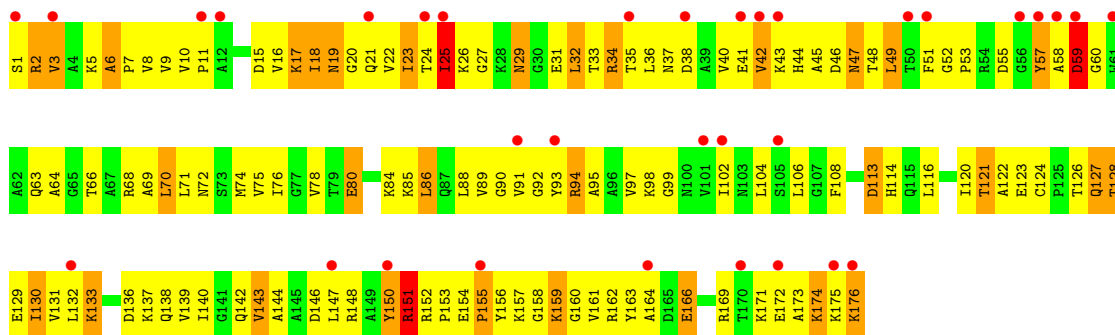


• Molecule 28: 50S ribosomal protein L5

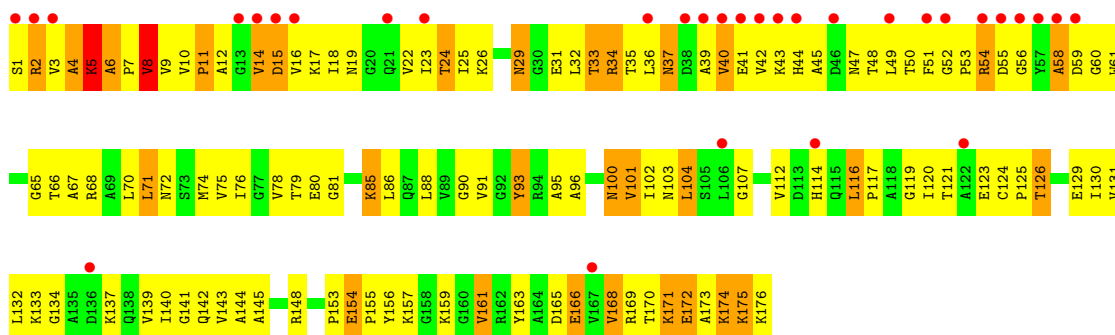




- Molecule 29: 50S ribosomal protein L6



- Molecule 29: 50S ribosomal protein L6

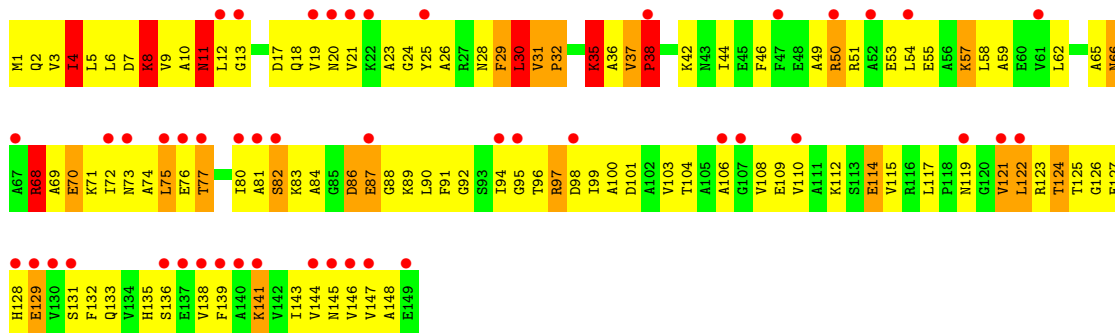


- Molecule 30: 50S ribosomal protein L9

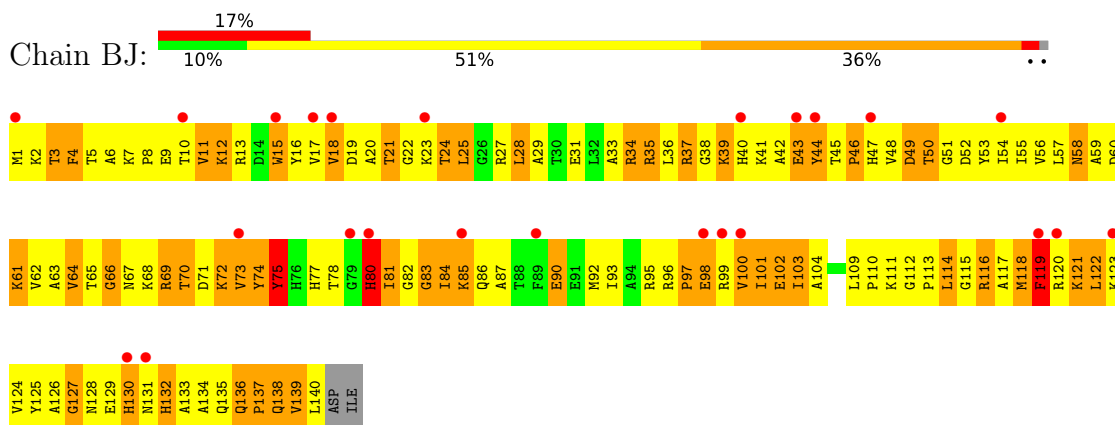


- Molecule 30: 50S ribosomal protein L9

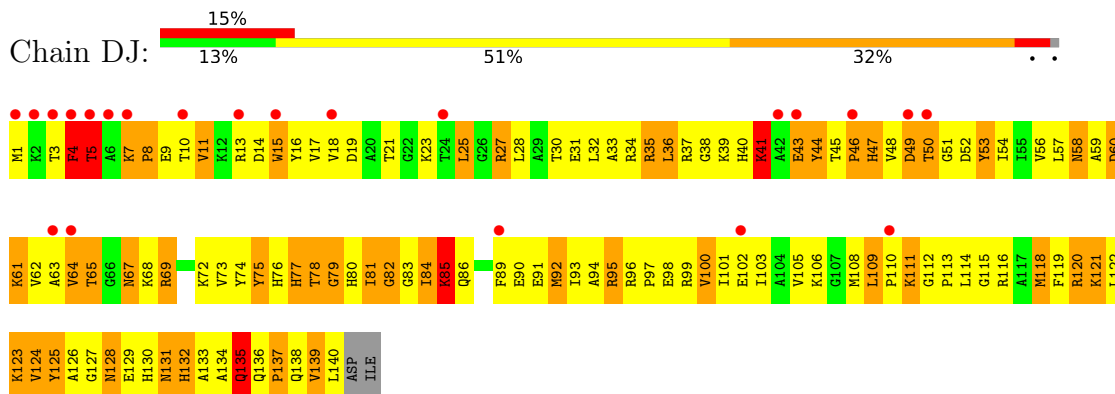




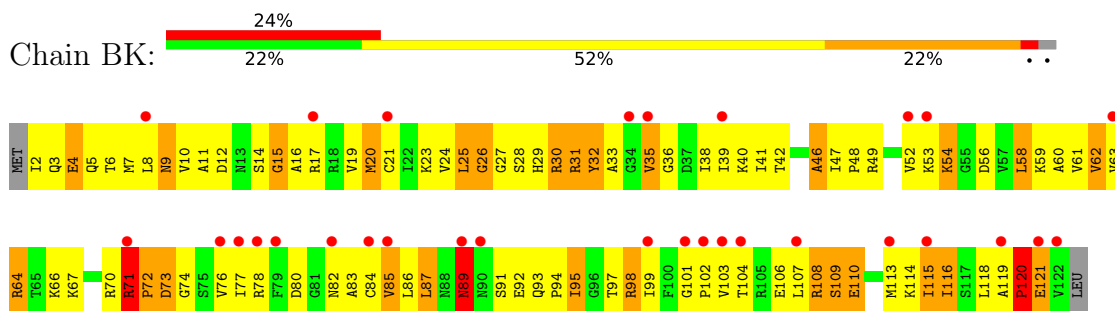
- Molecule 31: 50S ribosomal protein L13



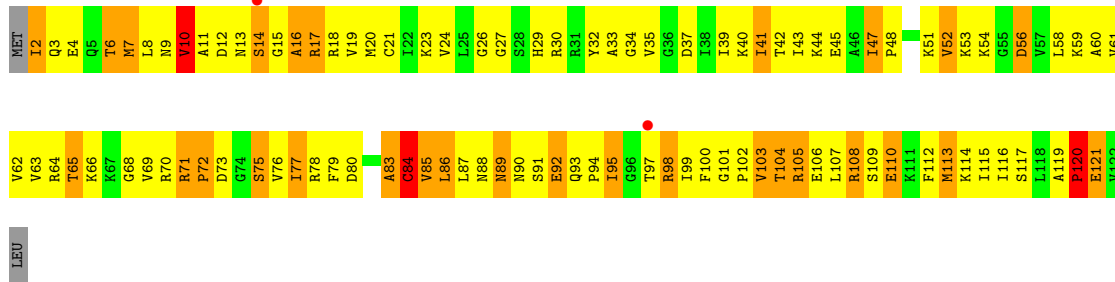
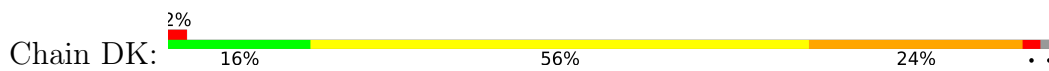
- Molecule 31: 50S ribosomal protein L13



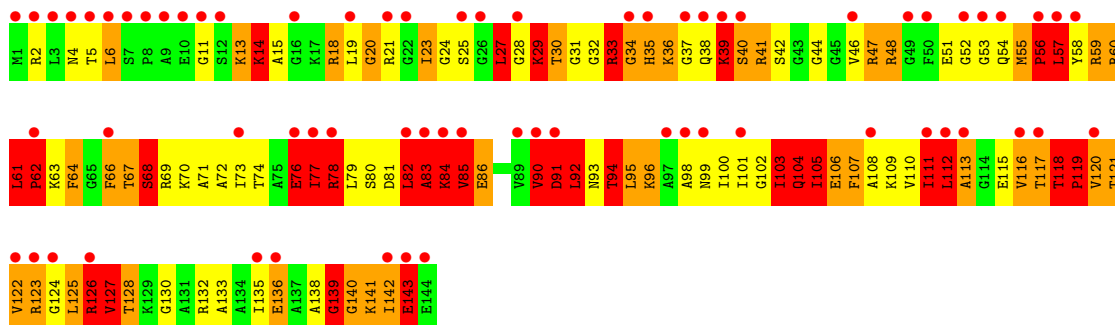
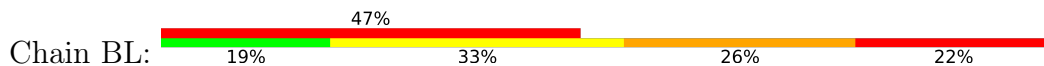
- Molecule 32: 50S ribosomal protein L14



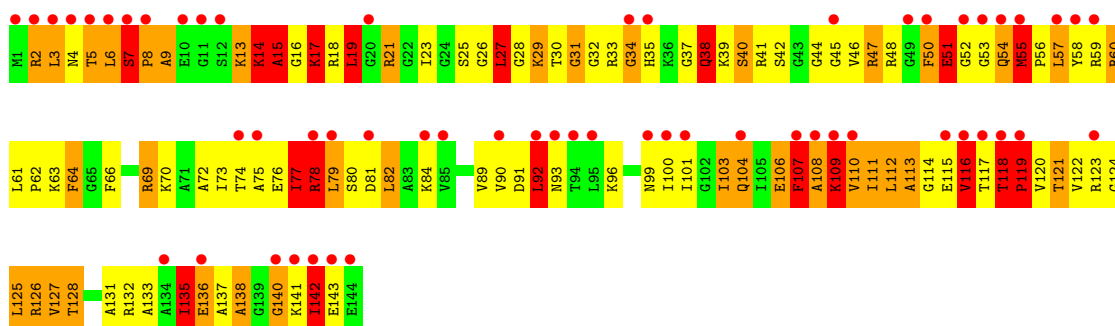
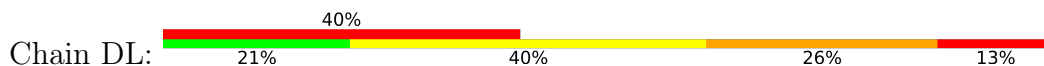
- Molecule 32: 50S ribosomal protein L14



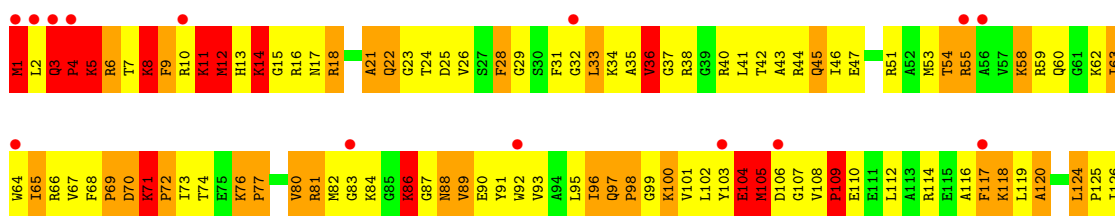
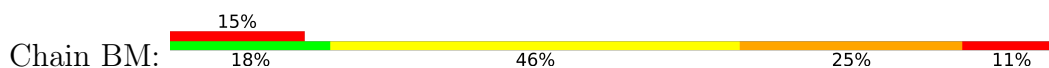
• Molecule 33: 50S ribosomal protein L15

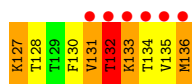


• Molecule 33: 50S ribosomal protein L15

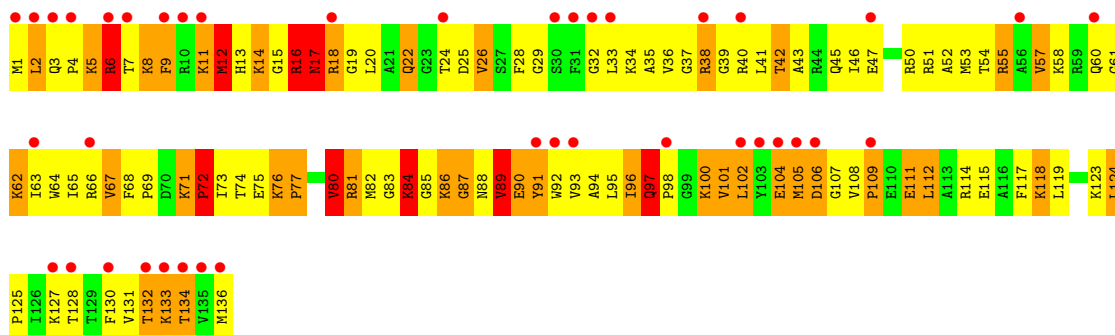
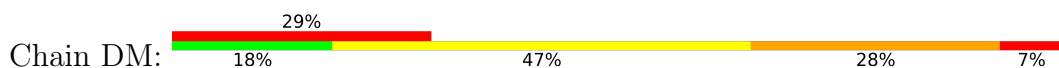


• Molecule 34: 50S ribosomal protein L16

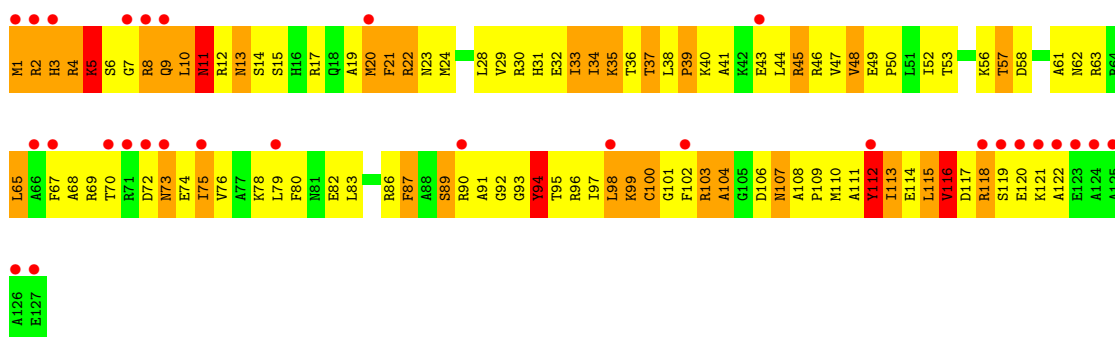
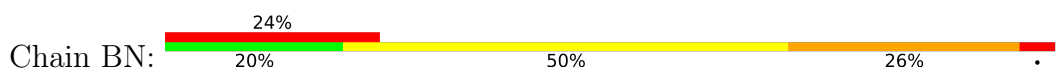




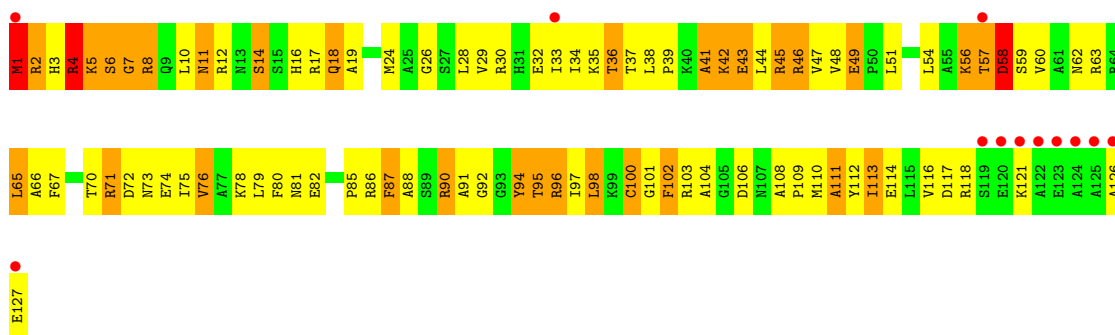
- Molecule 34: 50S ribosomal protein L16



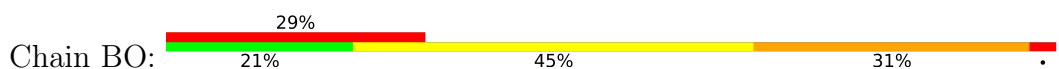
- Molecule 35: 50S ribosomal protein L17

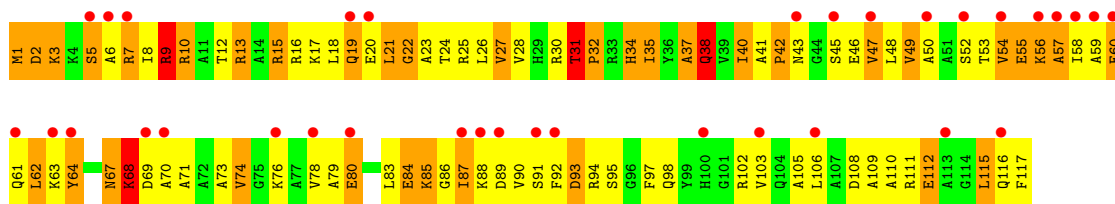


- Molecule 35: 50S ribosomal protein L17

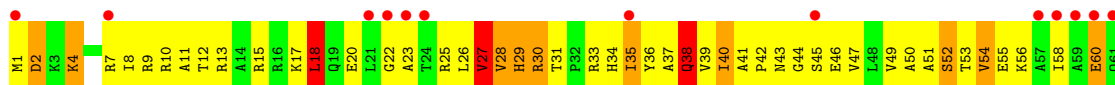


- Molecule 36: 50S ribosomal protein L18

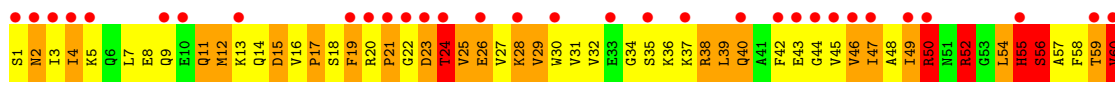
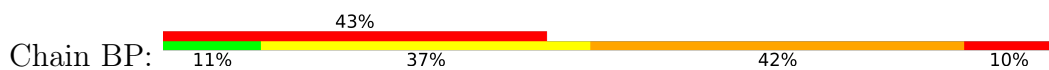




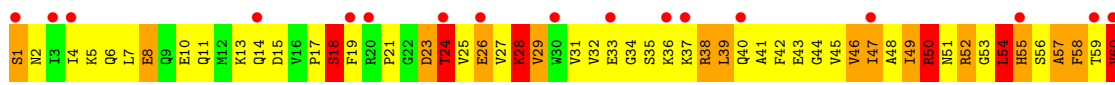
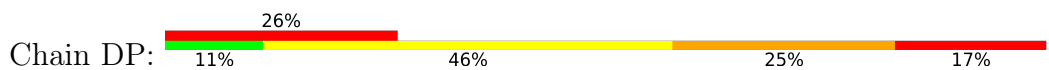
• Molecule 36: 50S ribosomal protein L18



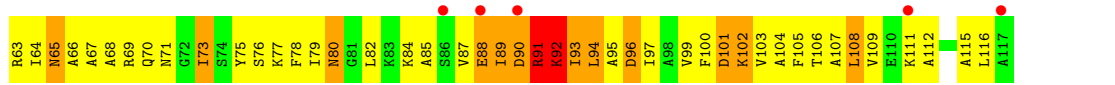
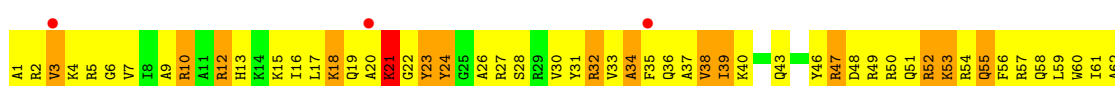
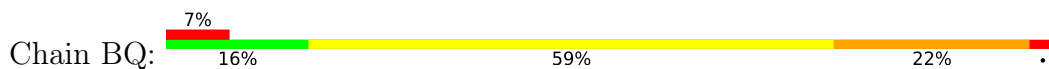
• Molecule 37: 50S ribosomal protein L19



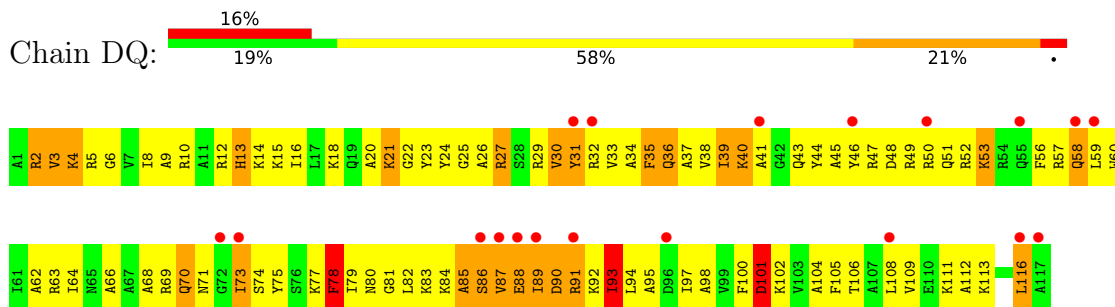
• Molecule 37: 50S ribosomal protein L19



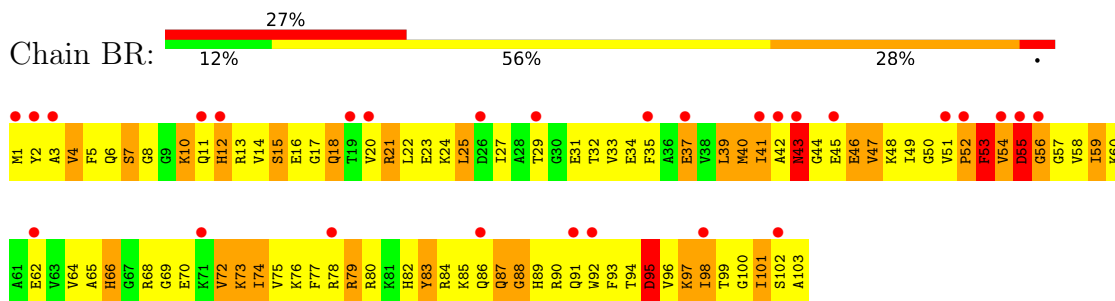
• Molecule 38: 50S ribosomal protein L20



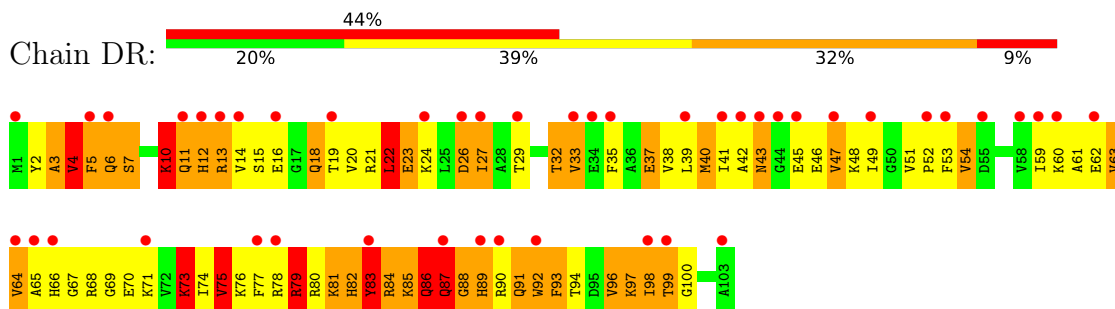
- Molecule 38: 50S ribosomal protein L20



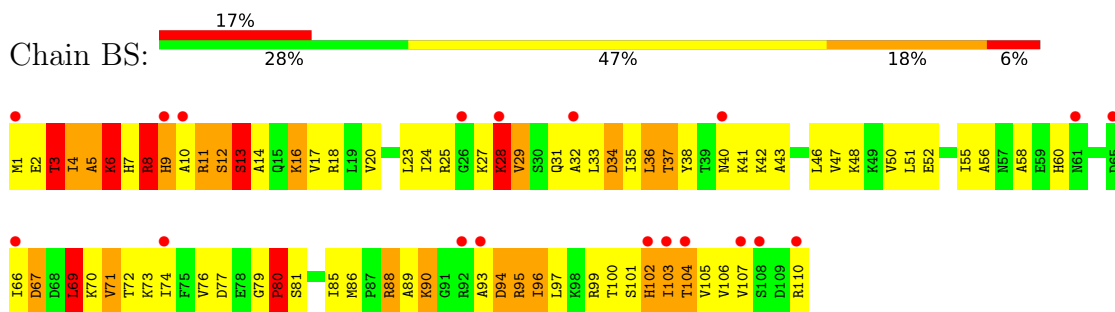
- Molecule 39: 50S ribosomal protein L21



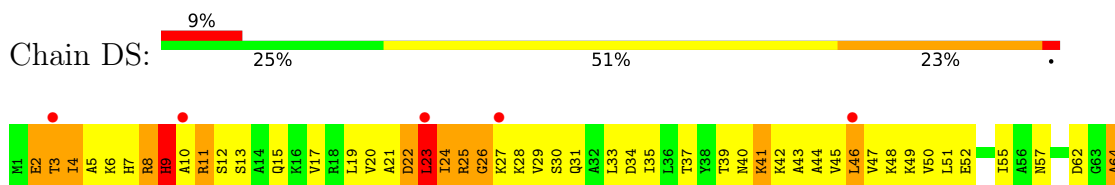
- Molecule 39: 50S ribosomal protein L21

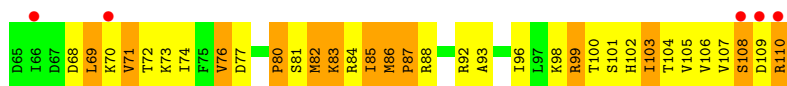


- Molecule 40: 50S ribosomal protein L22

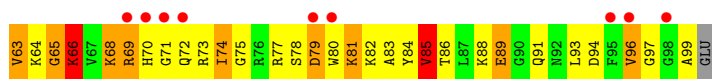
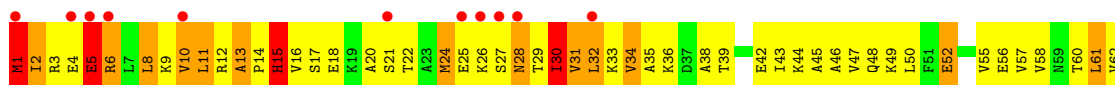
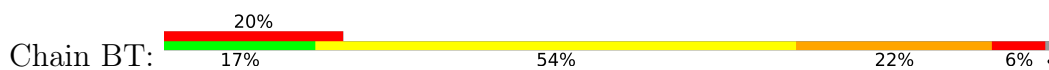


- Molecule 40: 50S ribosomal protein L22

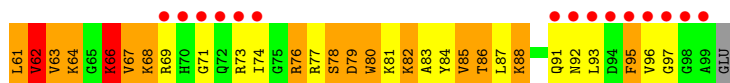
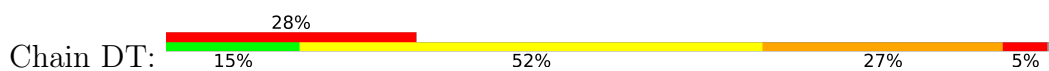




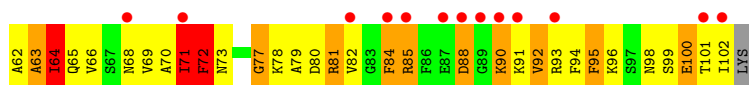
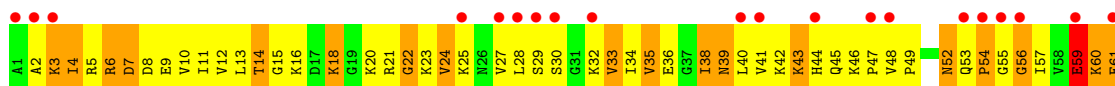
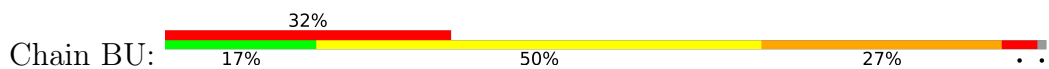
- Molecule 41: 50S ribosomal protein L23



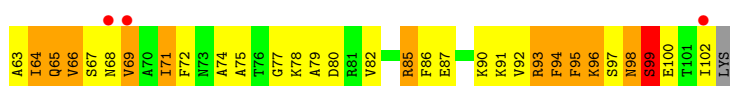
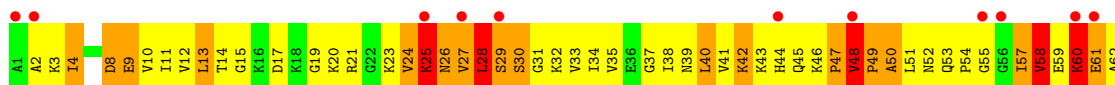
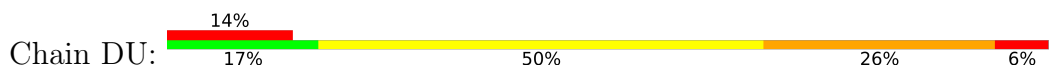
- Molecule 41: 50S ribosomal protein L23



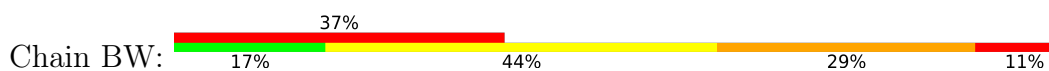
- Molecule 42: 50S ribosomal protein L24

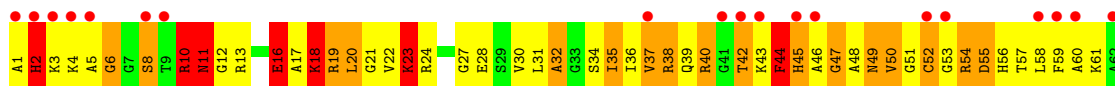


- Molecule 42: 50S ribosomal protein L24

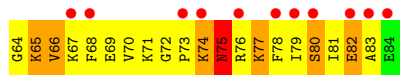
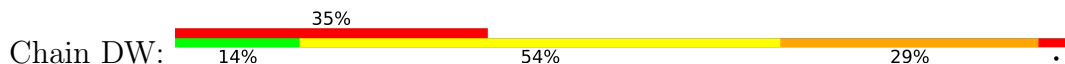


- Molecule 43: 50S ribosomal protein L27

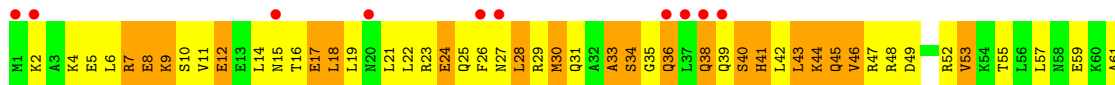




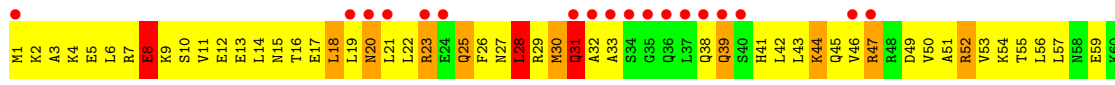
• Molecule 43: 50S ribosomal protein L27



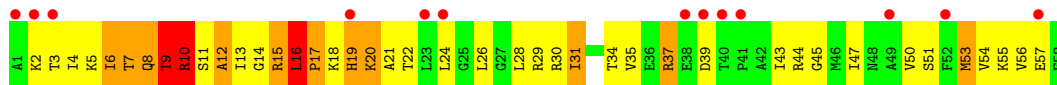
• Molecule 44: 50S ribosomal protein L29



• Molecule 44: 50S ribosomal protein L29



• Molecule 45: 50S ribosomal protein L30

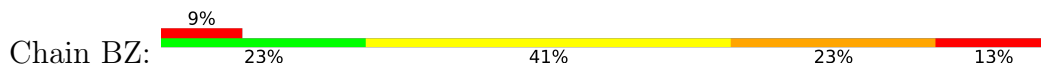


• Molecule 45: 50S ribosomal protein L30

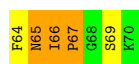
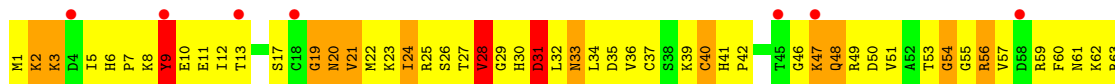




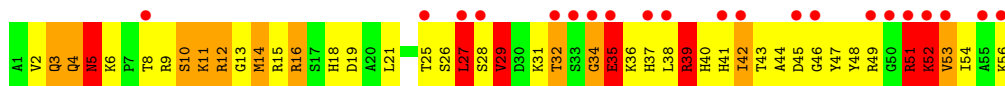
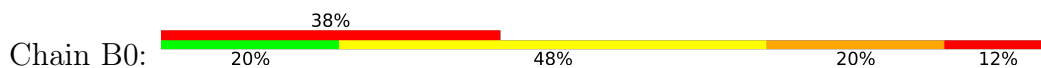
- Molecule 46: 50S ribosomal protein L31



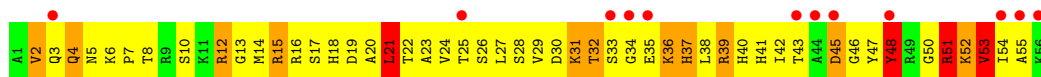
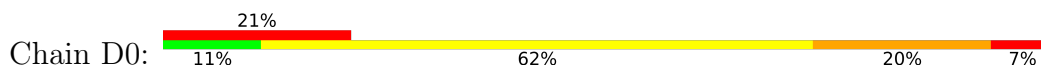
- Molecule 46: 50S ribosomal protein L31



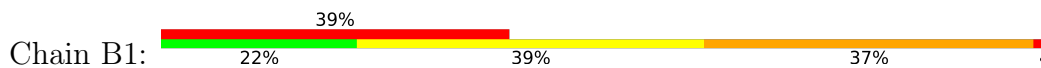
- Molecule 47: 50S ribosomal protein L32



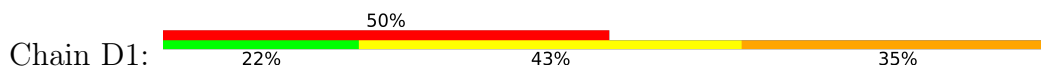
- Molecule 47: 50S ribosomal protein L32

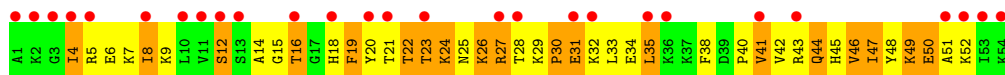


- Molecule 48: 50S ribosomal protein L33

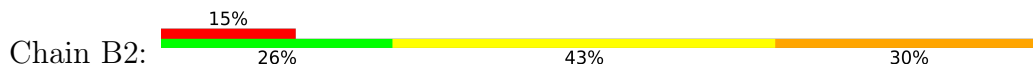


- Molecule 48: 50S ribosomal protein L33

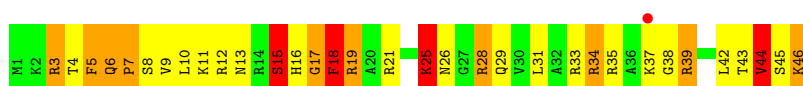




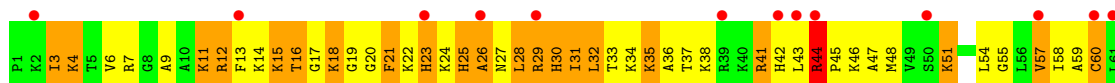
• Molecule 49: 50S ribosomal protein L34



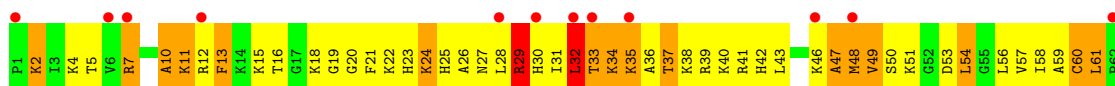
• Molecule 49: 50S ribosomal protein L34



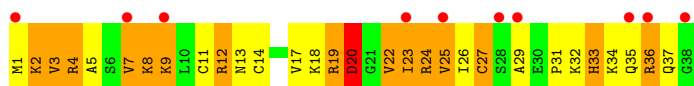
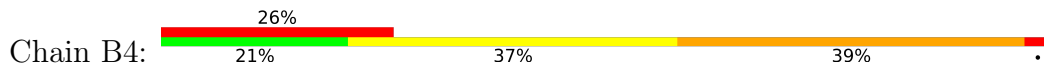
• Molecule 50: 50S ribosomal protein L35



• Molecule 50: 50S ribosomal protein L35

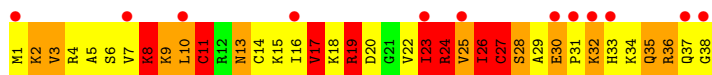


• Molecule 51: 50S ribosomal protein L36

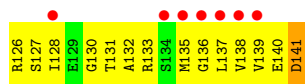
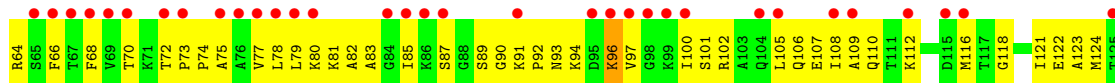
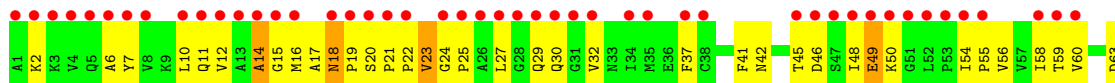


• Molecule 51: 50S ribosomal protein L36

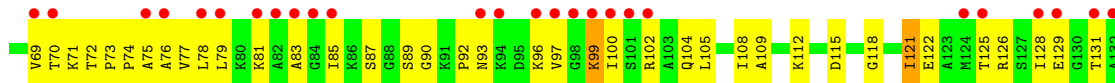
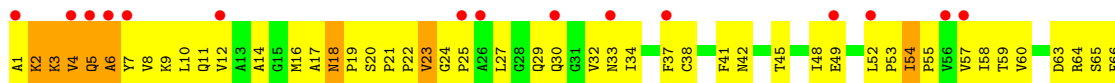
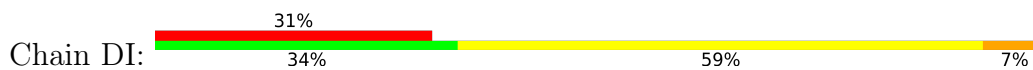




● Molecule 52: 50S ribosomal protein L11



● Molecule 52: 50S ribosomal protein L11



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	208.85Å 379.20Å 739.30Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	70.00 – 3.46 163.96 – 3.46	Depositor EDS
% Data completeness (in resolution range)	91.6 (70.00-3.46) 91.6 (163.96-3.46)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.19 (at 3.49Å)	Xtrriage
Refinement program	CNS	Depositor
R, R_{free}	0.279 , 0.331 0.260 , 0.306	Depositor DCC
R_{free} test set	35586 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å ²)	77.0	Xtrriage
Anisotropy	0.184	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.24 , 65.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.89	EDS
Total number of atoms	284107	wwPDB-VP
Average B, all atoms (Å ²)	64.0	wwPDB-VP

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

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	AA	0.26	1/36762 (0.0%)	0.75	7/57350 (0.0%)
1	CA	0.26	2/36762 (0.0%)	0.75	11/57350 (0.0%)
2	AC	0.23	0/1651	0.44	0/2225
2	CC	0.23	0/1651	0.47	0/2225
3	AD	0.23	0/1665	0.46	0/2227
3	CD	0.23	0/1665	0.45	0/2227
4	AE	0.23	0/1118	0.45	0/1504
4	CE	0.24	0/1118	0.45	0/1504
5	AF	0.25	0/835	0.47	0/1128
5	CF	0.24	0/835	0.49	0/1128
6	AG	0.23	0/1187	0.45	0/1591
6	CG	0.23	0/1211	0.45	0/1624
7	AH	0.23	0/989	0.45	0/1326
7	CH	0.23	0/989	0.46	0/1326
8	AI	0.24	0/1034	0.45	0/1375
8	CI	0.24	0/1034	0.46	0/1375
9	AJ	0.23	0/796	0.49	0/1077
9	CJ	0.22	0/796	0.49	0/1077
10	AK	0.24	0/893	0.46	0/1205
10	CK	0.24	0/893	0.47	0/1205
11	AL	0.22	0/969	0.47	0/1300
11	CL	0.22	0/969	0.48	0/1300
12	AM	0.21	0/892	0.48	0/1193
12	CM	0.21	0/884	0.46	0/1181
13	AN	0.24	0/785	0.46	0/1043
13	CN	0.24	0/785	0.45	0/1043
14	AO	0.23	0/724	0.45	0/966
14	CO	0.23	0/724	0.44	0/966
15	AP	0.26	0/659	0.44	0/884
15	CP	0.25	0/648	0.45	0/870
16	AQ	0.23	0/657	0.46	0/881
16	CQ	0.24	0/665	0.47	0/892

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	AR	0.23	0/462	0.46	0/621
17	CR	0.23	0/462	0.45	0/621
18	AS	0.25	0/652	0.46	0/877
18	CS	0.25	0/660	0.47	0/888
19	AT	0.23	0/671	0.41	0/888
19	CT	0.24	0/671	0.42	0/888
20	AB	0.25	0/1735	0.47	0/2338
20	CB	0.25	0/1735	0.47	0/2338
21	AU	1.01	4/430 (0.9%)	0.74	2/570 (0.4%)
21	CU	0.98	3/430 (0.7%)	0.82	3/570 (0.5%)
22	BA	0.27	0/2803	0.74	0/4371
22	DA	0.28	0/2803	0.77	0/4371
23	BB	0.33	15/68314 (0.0%)	0.79	63/106569 (0.1%)
23	DB	0.34	18/68314 (0.0%)	0.79	75/106569 (0.1%)
24	BV	0.30	0/766	0.53	0/1025
24	DV	0.25	0/766	0.46	0/1025
25	BC	0.40	0/2092	0.88	7/2813 (0.2%)
25	DC	0.40	0/2092	0.90	8/2813 (0.3%)
26	BD	0.40	0/1586	0.80	2/2134 (0.1%)
26	DD	0.37	0/1586	0.82	4/2134 (0.2%)
27	BE	0.45	1/1571 (0.1%)	0.88	6/2113 (0.3%)
27	DE	0.70	4/1571 (0.3%)	0.83	5/2113 (0.2%)
28	BF	0.33	0/1444	0.87	5/1937 (0.3%)
28	DF	0.41	1/1444 (0.1%)	1.00	10/1937 (0.5%)
29	BG	0.31	0/1343	0.69	0/1816
29	DG	0.30	0/1343	0.67	1/1816 (0.1%)
30	BH	0.28	0/1122	0.60	0/1515
30	DH	0.34	0/1122	0.71	1/1515 (0.1%)
31	BJ	0.41	1/1135 (0.1%)	0.72	3/1529 (0.2%)
31	DJ	0.32	0/1135	0.76	3/1529 (0.2%)
32	BK	0.35	0/939	1.00	2/1258 (0.2%)
32	DK	0.35	0/939	0.99	4/1258 (0.3%)
33	BL	0.69	0/1062	1.60	31/1413 (2.2%)
33	DL	0.74	1/1062 (0.1%)	1.58	25/1413 (1.8%)
34	BM	0.48	0/1093	1.03	8/1460 (0.5%)
34	DM	0.39	0/1093	0.85	5/1460 (0.3%)
35	BN	0.37	0/1021	0.92	7/1364 (0.5%)
35	DN	0.37	0/1021	0.80	3/1364 (0.2%)
36	BO	0.30	0/910	0.67	0/1219
36	DO	0.31	0/910	0.64	0/1219
37	BP	0.55	0/929	1.40	16/1242 (1.3%)
37	DP	0.58	0/929	1.40	16/1242 (1.3%)
38	BQ	0.41	0/960	0.86	3/1278 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	DQ	0.36	0/960	0.75	0/1278
39	BR	1.06	6/829 (0.7%)	1.42	13/1107 (1.2%)
39	DR	0.38	0/829	0.82	3/1107 (0.3%)
40	BS	0.27	0/864	0.68	1/1156 (0.1%)
40	DS	0.26	0/864	0.60	0/1156
41	BT	0.39	0/784	0.78	4/1048 (0.4%)
41	DT	0.45	1/784 (0.1%)	0.80	1/1048 (0.1%)
42	BU	0.33	0/787	0.74	0/1051
42	DU	0.37	0/787	0.94	7/1051 (0.7%)
43	BW	0.36	0/642	0.96	5/848 (0.6%)
43	DW	0.39	0/642	0.80	2/848 (0.2%)
44	BX	0.29	0/510	0.80	1/677 (0.1%)
44	DX	0.29	0/510	0.66	0/677
45	BY	0.31	0/453	0.64	0/605
45	DY	0.31	0/453	0.69	1/605 (0.2%)
46	BZ	0.48	0/559	1.04	5/745 (0.7%)
46	DZ	0.52	0/559	0.91	1/745 (0.1%)
47	B0	0.53	1/450 (0.2%)	1.15	7/599 (1.2%)
47	D0	0.41	0/450	0.97	3/599 (0.5%)
48	B1	0.36	0/448	0.71	0/594
48	D1	0.32	0/448	0.69	0/594
49	B2	0.33	0/380	0.64	0/498
49	D2	0.30	0/380	0.60	0/498
50	B3	0.47	0/513	0.95	1/676 (0.1%)
50	D3	0.39	0/513	0.80	1/676 (0.1%)
51	B4	0.40	0/303	0.73	0/397
51	D4	0.32	0/303	0.77	0/397
52	BI	0.26	0/1046	0.58	0/1410
52	DI	0.60	4/1046 (0.4%)	0.76	4/1410 (0.3%)
All	All	0.33	63/306469 (0.0%)	0.77	396/458101 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	AA	0	16
1	CA	0	20
21	AU	0	1
22	DA	0	1
23	BB	0	60

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Mol	Chain	#Chirality outliers	#Planarity outliers
23	DB	1	65
25	BC	0	3
25	DC	0	2
31	BJ	0	2
33	BL	0	1
37	BP	0	1
37	DP	0	1
38	BQ	0	1
39	BR	0	1
39	DR	0	1
46	DZ	0	1
47	D0	0	1
All	All	1	178

The worst 5 of 63 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
27	DE	79	ARG	CD-NE	18.29	1.77	1.46
39	BR	53	PHE	CB-CG	17.86	1.81	1.51
23	DB	1086	A	C5-C6	-17.70	1.25	1.41
23	BB	1086	A	C5-C6	-17.70	1.25	1.41
21	CU	25	ALA	C-N	15.34	1.60	1.33

The worst 5 of 396 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	BB	2791	G	O5'-P-OP1	-28.71	76.25	110.70
23	DB	2791	G	O5'-P-OP2	-27.77	77.38	110.70
23	DB	2791	G	O5'-P-OP1	18.50	132.90	110.70
23	BB	2791	G	O5'-P-OP2	18.20	132.54	110.70
23	DB	448	U	N1-C1'-C2'	17.52	136.78	114.00

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
23	DB	2076	U	C3'

5 of 178 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AA	187	G	Sidechain
1	AA	281	G	Sidechain

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Mol	Chain	Res	Type	Group
1	AA	437	U	Sidechain
1	AA	438	U	Sidechain
1	AA	58	C	Sidechain

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	AA	32831	0	16521	1157	0
1	CA	32831	0	16521	1198	0
2	AC	1624	0	1699	159	0
2	CC	1624	0	1699	148	0
3	AD	1643	0	1710	172	0
3	CD	1643	0	1710	167	0
4	AE	1105	0	1148	109	0
4	CE	1105	0	1148	143	0
5	AF	817	0	808	78	0
5	CF	817	0	808	93	0
6	AG	1174	0	1230	100	0
6	CG	1196	0	1246	98	0
7	AH	979	0	1034	78	0
7	CH	979	0	1034	86	0
8	AI	1022	0	1070	144	0
8	CI	1022	0	1070	127	0
9	AJ	786	0	828	92	0
9	CJ	786	0	828	106	0
10	AK	877	0	887	111	0
10	CK	877	0	887	108	0
11	AL	955	0	1019	103	0
11	CL	955	0	1019	101	0
12	AM	883	0	944	88	0
12	CM	876	0	937	95	0
13	AN	774	0	827	93	0
13	CN	774	0	827	114	0
14	AO	716	0	742	53	0
14	CO	716	0	742	50	0
15	AP	649	0	666	77	0
15	CP	638	0	656	71	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	AQ	648	0	691	80	0
16	CQ	656	0	702	85	0
17	AR	455	0	478	39	0
17	CR	455	0	478	41	0
18	AS	637	0	665	75	0
18	CS	644	0	675	87	0
19	AT	665	0	714	52	0
19	CT	665	0	714	64	0
20	AB	1704	0	1732	195	0
20	CB	1704	0	1732	152	0
21	AU	425	0	447	104	0
21	CU	425	0	449	84	0
22	BA	2507	0	1270	87	0
22	DA	2507	0	1270	97	0
23	BB	60995	0	30678	2393	0
23	DB	60995	0	30677	2365	0
24	BV	753	0	780	107	0
24	DV	753	0	780	69	0
25	BC	2053	0	2122	436	0
25	DC	2053	0	2122	433	0
26	BD	1565	0	1616	372	0
26	DD	1565	0	1616	316	0
27	BE	1552	0	1619	261	0
27	DE	1552	0	1619	266	0
28	BF	1420	0	1460	169	0
28	DF	1420	0	1460	181	0
29	BG	1323	0	1374	175	0
29	DG	1323	0	1374	162	0
30	BH	1111	0	1148	160	0
30	DH	1111	0	1148	145	0
31	BJ	1112	0	1147	219	0
31	DJ	1112	0	1147	231	0
32	BK	930	0	1000	121	0
32	DK	930	0	1000	126	0
33	BL	1053	0	1129	284	0
33	DL	1053	0	1129	227	0
34	BM	1074	0	1157	237	0
34	DM	1074	0	1157	189	0
35	BN	1008	0	1045	157	0
35	DN	1008	0	1045	133	0
36	BO	900	0	935	128	0
36	DO	900	0	935	128	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
37	BP	917	0	965	206	0
37	DP	917	0	965	209	0
38	BQ	947	0	1022	178	0
38	DQ	947	0	1022	161	0
39	BR	816	0	838	165	0
39	DR	816	0	839	180	0
40	BS	857	0	922	122	0
40	DS	857	0	922	111	0
41	BT	777	0	840	139	0
41	DT	777	0	840	129	0
42	BU	779	0	834	152	0
42	DU	779	0	834	134	0
43	BW	634	0	656	155	0
43	DW	634	0	656	156	0
44	BX	509	0	543	73	0
44	DX	509	0	543	90	0
45	BY	449	0	491	57	0
45	DY	449	0	491	64	0
46	BZ	549	0	552	114	0
46	DZ	549	0	552	101	0
47	B0	444	0	461	75	0
47	D0	444	0	461	80	0
48	B1	441	0	485	63	0
48	D1	441	0	485	69	0
49	B2	377	0	418	55	0
49	D2	377	0	418	66	0
50	B3	504	0	574	111	0
50	D3	504	0	574	113	0
51	B4	302	0	343	44	0
51	D4	302	0	343	80	0
52	BI	1032	0	1088	129	0
52	DI	1032	0	1088	214	0
53	AA	59	0	0	0	0
53	AP	1	0	0	0	0
53	BB	110	0	0	0	0
53	CA	62	0	0	0	0
53	DB	110	0	0	0	0
53	DN	1	0	0	0	0
54	AA	290	0	0	0	0
54	AE	3	0	0	0	0
54	AK	2	0	0	0	0
54	AN	4	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
54	AP	1	0	0	0	0
54	BB	497	0	0	12	0
54	BC	1	0	0	0	0
54	BE	5	0	0	0	0
54	BH	1	0	0	0	0
54	BL	2	0	0	0	0
54	BN	1	0	0	0	0
54	CA	295	0	0	1	0
54	CE	3	0	0	0	0
54	CK	1	0	0	0	0
54	CL	4	0	0	0	0
54	CN	2	0	0	0	0
54	CP	1	0	0	0	0
54	CT	2	0	0	0	0
54	D2	2	0	0	0	0
54	DB	499	0	0	7	0
54	DC	1	0	0	0	0
54	DD	1	0	0	0	0
54	DE	3	0	0	0	0
54	DJ	2	0	0	1	0
54	DL	1	0	0	0	0
54	DN	2	0	0	0	0
54	DQ	1	0	0	0	0
All	All	284107	0	190766	18478	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 39.

The worst 5 of 18478 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)
52:DI:3:LYS:CD	52:DI:3:LYS:CE	1.74	1.64
39:BR:53:PHE:CB	39:BR:53:PHE:CG	1.81	1.61
39:BR:54:VAL:CB	39:BR:54:VAL:CA	1.78	1.57
27:DE:79:ARG:CG	27:DE:79:ARG:CD	1.78	1.57
52:DI:3:LYS:CD	52:DI:3:LYS:CG	1.81	1.56

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	
2	AC	204/232 (88%)	135 (66%)	49 (24%)	20 (10%)	0	6
2	CC	204/232 (88%)	139 (68%)	45 (22%)	20 (10%)	0	6
3	AD	203/205 (99%)	131 (64%)	54 (27%)	18 (9%)	1	7
3	CD	203/205 (99%)	137 (68%)	49 (24%)	17 (8%)	1	8
4	AE	148/166 (89%)	107 (72%)	34 (23%)	7 (5%)	2	19
4	CE	148/166 (89%)	108 (73%)	31 (21%)	9 (6%)	1	13
5	AF	98/135 (73%)	69 (70%)	23 (24%)	6 (6%)	1	13
5	CF	98/135 (73%)	65 (66%)	23 (24%)	10 (10%)	0	6
6	AG	148/178 (83%)	103 (70%)	37 (25%)	8 (5%)	2	16
6	CG	150/178 (84%)	101 (67%)	36 (24%)	13 (9%)	1	8
7	AH	127/129 (98%)	105 (83%)	19 (15%)	3 (2%)	6	34
7	CH	127/129 (98%)	90 (71%)	31 (24%)	6 (5%)	2	19
8	AI	125/129 (97%)	87 (70%)	27 (22%)	11 (9%)	1	7
8	CI	125/129 (97%)	82 (66%)	33 (26%)	10 (8%)	1	9
9	AJ	96/103 (93%)	63 (66%)	21 (22%)	12 (12%)	0	4
9	CJ	96/103 (93%)	58 (60%)	21 (22%)	17 (18%)	0	1
10	AK	115/128 (90%)	75 (65%)	27 (24%)	13 (11%)	0	5
10	CK	115/128 (90%)	78 (68%)	27 (24%)	10 (9%)	1	8
11	AL	121/123 (98%)	74 (61%)	30 (25%)	17 (14%)	0	3
11	CL	121/123 (98%)	75 (62%)	28 (23%)	18 (15%)	0	2
12	AM	112/117 (96%)	87 (78%)	14 (12%)	11 (10%)	0	6
12	CM	111/117 (95%)	79 (71%)	17 (15%)	15 (14%)	0	3
13	AN	92/100 (92%)	59 (64%)	24 (26%)	9 (10%)	0	6
13	CN	92/100 (92%)	53 (58%)	24 (26%)	15 (16%)	0	2
14	AO	86/89 (97%)	66 (77%)	18 (21%)	2 (2%)	6	34

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	CO	86/89 (97%)	67 (78%)	16 (19%)	3 (4%)	3	26
15	AP	80/82 (98%)	59 (74%)	17 (21%)	4 (5%)	2	18
15	CP	78/82 (95%)	52 (67%)	19 (24%)	7 (9%)	1	7
16	AQ	78/83 (94%)	48 (62%)	26 (33%)	4 (5%)	2	17
16	CQ	79/83 (95%)	61 (77%)	13 (16%)	5 (6%)	1	13
17	AR	53/74 (72%)	27 (51%)	19 (36%)	7 (13%)	0	3
17	CR	53/74 (72%)	39 (74%)	11 (21%)	3 (6%)	1	15
18	AS	77/91 (85%)	57 (74%)	14 (18%)	6 (8%)	1	9
18	CS	78/91 (86%)	48 (62%)	17 (22%)	13 (17%)	0	2
19	AT	83/86 (96%)	69 (83%)	8 (10%)	6 (7%)	1	10
19	CT	83/86 (96%)	61 (74%)	16 (19%)	6 (7%)	1	10
20	AB	216/240 (90%)	145 (67%)	53 (24%)	18 (8%)	1	8
20	CB	216/240 (90%)	150 (69%)	36 (17%)	30 (14%)	0	3
21	AU	49/71 (69%)	22 (45%)	12 (24%)	15 (31%)	0	0
21	CU	49/71 (69%)	28 (57%)	15 (31%)	6 (12%)	0	4
24	BV	92/94 (98%)	62 (67%)	21 (23%)	9 (10%)	0	6
24	DV	92/94 (98%)	59 (64%)	27 (29%)	6 (6%)	1	12
25	BC	265/273 (97%)	103 (39%)	83 (31%)	79 (30%)	0	0
25	DC	265/273 (97%)	97 (37%)	93 (35%)	75 (28%)	0	0
26	BD	207/209 (99%)	90 (44%)	69 (33%)	48 (23%)	0	1
26	DD	207/209 (99%)	96 (46%)	67 (32%)	44 (21%)	0	1
27	BE	199/201 (99%)	98 (49%)	60 (30%)	41 (21%)	0	1
27	DE	199/201 (99%)	87 (44%)	63 (32%)	49 (25%)	0	0
28	BF	176/178 (99%)	95 (54%)	48 (27%)	33 (19%)	0	1
28	DF	176/178 (99%)	91 (52%)	53 (30%)	32 (18%)	0	1
29	BG	174/176 (99%)	118 (68%)	39 (22%)	17 (10%)	0	6
29	DG	174/176 (99%)	117 (67%)	39 (22%)	18 (10%)	0	6
30	BH	147/149 (99%)	87 (59%)	45 (31%)	15 (10%)	0	6
30	DH	147/149 (99%)	84 (57%)	44 (30%)	19 (13%)	0	3
31	BJ	138/142 (97%)	67 (49%)	42 (30%)	29 (21%)	0	1
31	DJ	138/142 (97%)	70 (51%)	36 (26%)	32 (23%)	0	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
32	BK	119/123 (97%)	71 (60%)	32 (27%)	16 (13%)	0	3
32	DK	119/123 (97%)	72 (60%)	25 (21%)	22 (18%)	0	1
33	BL	142/144 (99%)	60 (42%)	40 (28%)	42 (30%)	0	0
33	DL	142/144 (99%)	66 (46%)	37 (26%)	39 (28%)	0	0
34	BM	134/136 (98%)	69 (52%)	37 (28%)	28 (21%)	0	1
34	DM	134/136 (98%)	79 (59%)	31 (23%)	24 (18%)	0	1
35	BN	125/127 (98%)	73 (58%)	35 (28%)	17 (14%)	0	3
35	DN	125/127 (98%)	82 (66%)	32 (26%)	11 (9%)	1	7
36	BO	115/117 (98%)	64 (56%)	26 (23%)	25 (22%)	0	1
36	DO	115/117 (98%)	63 (55%)	33 (29%)	19 (16%)	0	2
37	BP	112/114 (98%)	39 (35%)	36 (32%)	37 (33%)	0	0
37	DP	112/114 (98%)	42 (38%)	38 (34%)	32 (29%)	0	0
38	BQ	115/117 (98%)	81 (70%)	22 (19%)	12 (10%)	0	6
38	DQ	115/117 (98%)	79 (69%)	22 (19%)	14 (12%)	0	4
39	BR	101/103 (98%)	44 (44%)	31 (31%)	26 (26%)	0	0
39	DR	101/103 (98%)	42 (42%)	31 (31%)	28 (28%)	0	0
40	BS	108/110 (98%)	63 (58%)	27 (25%)	18 (17%)	0	2
40	DS	108/110 (98%)	67 (62%)	20 (18%)	21 (19%)	0	1
41	BT	97/100 (97%)	42 (43%)	40 (41%)	15 (16%)	0	2
41	DT	97/100 (97%)	42 (43%)	32 (33%)	23 (24%)	0	1
42	BU	100/103 (97%)	33 (33%)	46 (46%)	21 (21%)	0	1
42	DU	100/103 (97%)	46 (46%)	41 (41%)	13 (13%)	0	3
43	BW	82/84 (98%)	29 (35%)	26 (32%)	27 (33%)	0	0
43	DW	82/84 (98%)	31 (38%)	30 (37%)	21 (26%)	0	0
44	BX	61/63 (97%)	28 (46%)	21 (34%)	12 (20%)	0	1
44	DX	61/63 (97%)	38 (62%)	15 (25%)	8 (13%)	0	3
45	BY	56/58 (97%)	29 (52%)	17 (30%)	10 (18%)	0	1
45	DY	56/58 (97%)	35 (62%)	17 (30%)	4 (7%)	1	11
46	BZ	68/70 (97%)	29 (43%)	26 (38%)	13 (19%)	0	1
46	DZ	68/70 (97%)	37 (54%)	22 (32%)	9 (13%)	0	3
47	B0	54/56 (96%)	30 (56%)	15 (28%)	9 (17%)	0	2

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
47	D0	54/56 (96%)	30 (56%)	15 (28%)	9 (17%)	0	2
48	B1	52/54 (96%)	19 (36%)	23 (44%)	10 (19%)	0	1
48	D1	52/54 (96%)	21 (40%)	22 (42%)	9 (17%)	0	2
49	B2	44/46 (96%)	23 (52%)	14 (32%)	7 (16%)	0	2
49	D2	44/46 (96%)	24 (54%)	12 (27%)	8 (18%)	0	1
50	B3	62/64 (97%)	30 (48%)	25 (40%)	7 (11%)	0	5
50	D3	62/64 (97%)	35 (56%)	17 (27%)	10 (16%)	0	2
51	B4	36/38 (95%)	18 (50%)	9 (25%)	9 (25%)	0	0
51	D4	36/38 (95%)	13 (36%)	11 (31%)	12 (33%)	0	0
52	BI	139/141 (99%)	124 (89%)	11 (8%)	4 (3%)	4	30
52	DI	139/141 (99%)	123 (88%)	11 (8%)	5 (4%)	3	25
All	All	11263/11902 (95%)	6645 (59%)	2936 (26%)	1682 (15%)	0	2

5 of 1682 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AC	2	GLN
2	AC	91	ALA
2	AC	153	SER
3	AD	18	LEU
3	AD	31	CYS

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	
2	AC	170/189 (90%)	142 (84%)	28 (16%)	2	12
2	CC	170/189 (90%)	146 (86%)	24 (14%)	3	17
3	AD	172/172 (100%)	140 (81%)	32 (19%)	1	7
3	CD	172/172 (100%)	137 (80%)	35 (20%)	1	5
4	AE	113/125 (90%)	92 (81%)	21 (19%)	1	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	CE	113/125 (90%)	92 (81%)	21 (19%)	1	7
5	AF	87/116 (75%)	68 (78%)	19 (22%)	1	4
5	CF	87/116 (75%)	74 (85%)	13 (15%)	3	16
6	AG	123/146 (84%)	102 (83%)	21 (17%)	2	10
6	CG	125/146 (86%)	106 (85%)	19 (15%)	3	15
7	AH	104/104 (100%)	87 (84%)	17 (16%)	2	12
7	CH	104/104 (100%)	85 (82%)	19 (18%)	1	7
8	AI	105/106 (99%)	83 (79%)	22 (21%)	1	4
8	CI	105/106 (99%)	89 (85%)	16 (15%)	3	15
9	AJ	86/90 (96%)	66 (77%)	20 (23%)	1	3
9	CJ	86/90 (96%)	78 (91%)	8 (9%)	9	34
10	AK	90/98 (92%)	70 (78%)	20 (22%)	1	4
10	CK	90/98 (92%)	74 (82%)	16 (18%)	2	8
11	AL	103/103 (100%)	88 (85%)	15 (15%)	3	16
11	CL	103/103 (100%)	79 (77%)	24 (23%)	1	3
12	AM	92/95 (97%)	70 (76%)	22 (24%)	0	3
12	CM	91/95 (96%)	75 (82%)	16 (18%)	2	9
13	AN	79/83 (95%)	67 (85%)	12 (15%)	3	15
13	CN	79/83 (95%)	68 (86%)	11 (14%)	3	18
14	AO	76/77 (99%)	69 (91%)	7 (9%)	9	34
14	CO	76/77 (99%)	63 (83%)	13 (17%)	2	10
15	AP	65/65 (100%)	56 (86%)	9 (14%)	3	18
15	CP	65/65 (100%)	54 (83%)	11 (17%)	2	11
16	AQ	74/77 (96%)	60 (81%)	14 (19%)	1	6
16	CQ	75/77 (97%)	66 (88%)	9 (12%)	5	23
17	AR	48/64 (75%)	45 (94%)	3 (6%)	18	50
17	CR	48/64 (75%)	41 (85%)	7 (15%)	3	16
18	AS	70/78 (90%)	60 (86%)	10 (14%)	3	17
18	CS	71/78 (91%)	53 (75%)	18 (25%)	0	2
19	AT	65/65 (100%)	56 (86%)	9 (14%)	3	18
19	CT	65/65 (100%)	51 (78%)	14 (22%)	1	4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	AB	180/198 (91%)	142 (79%)	38 (21%)	1	4
20	CB	180/198 (91%)	153 (85%)	27 (15%)	3	15
21	AU	44/61 (72%)	36 (82%)	8 (18%)	1	8
21	CU	44/61 (72%)	30 (68%)	14 (32%)	0	2
24	BV	78/78 (100%)	66 (85%)	12 (15%)	2	14
24	DV	78/78 (100%)	69 (88%)	9 (12%)	5	24
25	BC	213/218 (98%)	145 (68%)	68 (32%)	0	2
25	DC	213/218 (98%)	150 (70%)	63 (30%)	0	2
26	BD	164/164 (100%)	112 (68%)	52 (32%)	0	2
26	DD	164/164 (100%)	113 (69%)	51 (31%)	0	2
27	BE	165/165 (100%)	115 (70%)	50 (30%)	0	2
27	DE	165/165 (100%)	127 (77%)	38 (23%)	1	3
28	BF	149/149 (100%)	119 (80%)	30 (20%)	1	5
28	DF	149/149 (100%)	122 (82%)	27 (18%)	1	8
29	BG	137/137 (100%)	105 (77%)	32 (23%)	1	3
29	DG	137/137 (100%)	111 (81%)	26 (19%)	1	7
30	BH	114/114 (100%)	85 (75%)	29 (25%)	0	2
30	DH	114/114 (100%)	90 (79%)	24 (21%)	1	4
31	BJ	114/116 (98%)	84 (74%)	30 (26%)	0	2
31	DJ	114/116 (98%)	85 (75%)	29 (25%)	0	2
32	BK	102/104 (98%)	78 (76%)	24 (24%)	1	3
32	DK	102/104 (98%)	81 (79%)	21 (21%)	1	5
33	BL	103/103 (100%)	62 (60%)	41 (40%)	0	1
33	DL	103/103 (100%)	68 (66%)	35 (34%)	0	1
34	BM	109/109 (100%)	77 (71%)	32 (29%)	0	2
34	DM	109/109 (100%)	75 (69%)	34 (31%)	0	2
35	BN	103/103 (100%)	78 (76%)	25 (24%)	0	3
35	DN	103/103 (100%)	76 (74%)	27 (26%)	0	2
36	BO	87/87 (100%)	58 (67%)	29 (33%)	0	1
36	DO	87/87 (100%)	69 (79%)	18 (21%)	1	5
37	BP	99/99 (100%)	77 (78%)	22 (22%)	1	4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	DP	99/99 (100%)	67 (68%)	32 (32%)	0	1
38	BQ	89/89 (100%)	66 (74%)	23 (26%)	0	2
38	DQ	89/89 (100%)	71 (80%)	18 (20%)	1	5
39	BR	84/84 (100%)	68 (81%)	16 (19%)	1	7
39	DR	84/84 (100%)	58 (69%)	26 (31%)	0	2
40	BS	93/93 (100%)	72 (77%)	21 (23%)	1	3
40	DS	93/93 (100%)	77 (83%)	16 (17%)	2	10
41	BT	83/84 (99%)	60 (72%)	23 (28%)	0	2
41	DT	83/84 (99%)	60 (72%)	23 (28%)	0	2
42	BU	83/84 (99%)	62 (75%)	21 (25%)	0	3
42	DU	83/84 (99%)	60 (72%)	23 (28%)	0	2
43	BW	62/62 (100%)	46 (74%)	16 (26%)	0	2
43	DW	62/62 (100%)	45 (73%)	17 (27%)	0	2
44	BX	55/55 (100%)	40 (73%)	15 (27%)	0	2
44	DX	55/55 (100%)	43 (78%)	12 (22%)	1	4
45	BY	48/48 (100%)	36 (75%)	12 (25%)	0	3
45	DY	48/48 (100%)	33 (69%)	15 (31%)	0	2
46	BZ	62/62 (100%)	43 (69%)	19 (31%)	0	2
46	DZ	62/62 (100%)	46 (74%)	16 (26%)	0	2
47	B0	47/47 (100%)	31 (66%)	16 (34%)	0	1
47	D0	47/47 (100%)	33 (70%)	14 (30%)	0	2
48	B1	48/48 (100%)	33 (69%)	15 (31%)	0	2
48	D1	48/48 (100%)	33 (69%)	15 (31%)	0	2
49	B2	38/38 (100%)	27 (71%)	11 (29%)	0	2
49	D2	38/38 (100%)	27 (71%)	11 (29%)	0	2
50	B3	51/51 (100%)	33 (65%)	18 (35%)	0	1
50	D3	51/51 (100%)	40 (78%)	11 (22%)	1	4
51	B4	34/34 (100%)	21 (62%)	13 (38%)	0	1
51	D4	34/34 (100%)	17 (50%)	17 (50%)	0	0
52	BI	109/109 (100%)	106 (97%)	3 (3%)	43	72
52	DI	109/109 (100%)	104 (95%)	5 (5%)	27	59

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	9341/9692 (96%)	7268 (78%)	2073 (22%)	1 4

5 of 2073 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
39	DR	4	VAL
41	DT	61	LEU
38	DQ	101	ASP
36	BO	10	ARG
35	BN	34	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 317 such sidechains are listed below:

Mol	Chain	Res	Type
20	CB	145	ASN
37	DP	55	HIS
25	DC	127	ASN
29	DG	72	ASN
41	DT	48	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1529/1542 (99%)	277 (18%)	25 (1%)
1	CA	1529/1542 (99%)	249 (16%)	26 (1%)
22	BA	116/120 (96%)	23 (19%)	0
22	DA	116/120 (96%)	20 (17%)	1 (0%)
23	BB	2837/2904 (97%)	451 (15%)	18 (0%)
23	DB	2837/2904 (97%)	482 (16%)	22 (0%)
All	All	8964/9132 (98%)	1502 (16%)	92 (1%)

5 of 1502 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	7	A
1	AA	9	G
1	AA	14	U
1	AA	31	G
1	AA	32	A

5 of 92 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	CA	1064	G
23	DB	125	A
1	CA	1135	U
1	CA	1302	C
23	DB	301	G

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 343 ligands modelled in this entry, 343 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
21	AU	2
21	CU	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	CU	25:ALA	C	26:GLY	N	1.60
1	AU	25:ALA	C	26:GLY	N	1.16
1	AU	15:LEU	C	16:ARG	N	0.99

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	AA	1530/1542 (99%)	-0.28	11 (0%) 87 85	16, 66, 135, 180	0
1	CA	1530/1542 (99%)	-0.36	7 (0%) 91 89	11, 49, 119, 180	0
2	AC	206/232 (88%)	0.32	6 (2%) 51 49	8, 56, 116, 163	0
2	CC	206/232 (88%)	0.20	7 (3%) 45 43	13, 68, 122, 154	0
3	AD	205/205 (100%)	0.76	24 (11%) 4 6	16, 65, 125, 180	0
3	CD	205/205 (100%)	0.77	12 (5%) 22 23	5, 49, 103, 156	0
4	AE	150/166 (90%)	0.48	5 (3%) 46 44	5, 56, 104, 151	0
4	CE	150/166 (90%)	0.60	9 (6%) 21 22	5, 49, 101, 167	0
5	AF	100/135 (74%)	1.22	19 (19%) 1 1	19, 64, 113, 150	0
5	CF	100/135 (74%)	1.15	16 (16%) 1 3	10, 65, 113, 147	0
6	AG	150/178 (84%)	0.26	9 (6%) 21 22	23, 86, 133, 180	0
6	CG	152/178 (85%)	-0.07	4 (2%) 56 53	22, 83, 132, 166	0
7	AH	129/129 (100%)	0.81	17 (13%) 3 5	8, 63, 113, 155	0
7	CH	129/129 (100%)	0.73	15 (11%) 4 6	5, 49, 104, 154	0
8	AI	127/129 (98%)	0.25	10 (7%) 12 15	5, 83, 126, 169	0
8	CI	127/129 (98%)	-0.19	1 (0%) 86 82	22, 81, 135, 161	0
9	AJ	98/103 (95%)	0.36	5 (5%) 28 27	14, 76, 141, 160	0
9	CJ	98/103 (95%)	0.09	2 (2%) 65 63	27, 78, 122, 143	0
10	AK	117/128 (91%)	0.69	6 (5%) 28 27	6, 56, 99, 164	0
10	CK	117/128 (91%)	0.37	7 (5%) 21 22	5, 44, 95, 117	0
11	AL	123/123 (100%)	0.75	12 (9%) 7 9	18, 59, 115, 162	0
11	CL	123/123 (100%)	0.51	6 (4%) 29 29	5, 34, 109, 141	0
12	AM	114/117 (97%)	0.37	7 (6%) 21 22	37, 96, 137, 155	0
12	CM	113/117 (96%)	0.08	3 (2%) 54 52	19, 92, 143, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	AN	96/100 (96%)	0.11	5 (5%) 27 27	11, 76, 133, 147	0
13	CN	96/100 (96%)	0.06	5 (5%) 27 27	32, 73, 130, 160	0
14	AO	88/89 (98%)	0.69	8 (9%) 9 11	15, 62, 104, 177	0
14	CO	88/89 (98%)	0.79	7 (7%) 12 14	5, 46, 113, 136	0
15	AP	82/82 (100%)	0.54	8 (9%) 7 9	20, 72, 132, 171	0
15	CP	80/82 (97%)	0.34	4 (5%) 28 28	5, 42, 126, 137	0
16	AQ	80/83 (96%)	1.28	23 (28%) 0 0	34, 77, 119, 158	0
16	CQ	81/83 (97%)	0.85	9 (11%) 5 7	11, 52, 113, 155	0
17	AR	55/74 (74%)	0.88	9 (16%) 1 2	16, 60, 124, 148	0
17	CR	55/74 (74%)	0.75	7 (12%) 3 5	17, 45, 118, 139	0
18	AS	79/91 (86%)	0.53	9 (11%) 5 7	44, 110, 140, 169	0
18	CS	80/91 (87%)	0.38	5 (6%) 20 20	47, 99, 151, 161	0
19	AT	85/86 (98%)	0.08	1 (1%) 79 75	37, 83, 123, 155	0
19	CT	85/86 (98%)	0.18	1 (1%) 79 75	9, 49, 103, 138	0
20	AB	218/240 (90%)	0.93	38 (17%) 1 2	17, 82, 131, 156	0
20	CB	218/240 (90%)	1.27	54 (24%) 0 0	13, 90, 135, 162	0
21	AU	51/71 (71%)	0.66	5 (9%) 7 9	29, 80, 131, 158	0
21	CU	51/71 (71%)	0.62	4 (7%) 13 15	34, 73, 112, 140	0
22	BA	117/120 (97%)	-0.24	2 (1%) 70 67	36, 62, 94, 157	0
22	DA	117/120 (97%)	-0.22	2 (1%) 70 67	27, 62, 113, 180	0
23	BB	2841/2904 (97%)	-0.09	29 (1%) 82 79	10, 49, 134, 180	0
23	DB	2841/2904 (97%)	-0.17	24 (0%) 86 82	5, 39, 133, 180	0
24	BV	94/94 (100%)	0.74	13 (13%) 2 4	20, 75, 130, 149	0
24	DV	94/94 (100%)	0.83	7 (7%) 14 17	17, 71, 119, 130	0
25	BC	267/273 (97%)	1.22	51 (19%) 1 1	5, 51, 136, 180	0
25	DC	267/273 (97%)	1.58	77 (28%) 0 0	5, 46, 139, 180	0
26	BD	209/209 (100%)	2.25	91 (43%) 0 0	21, 82, 174, 180	0
26	DD	209/209 (100%)	1.21	45 (21%) 0 1	5, 60, 139, 180	0
27	BE	201/201 (100%)	1.58	61 (30%) 0 0	8, 78, 147, 180	0
27	DE	201/201 (100%)	1.30	40 (19%) 1 1	5, 76, 164, 180	0
28	BF	178/178 (100%)	1.18	37 (20%) 1 1	43, 98, 152, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
28	DF	178/178 (100%)	0.39	15 (8%) 11 13	29, 89, 138, 180	0
29	BG	176/176 (100%)	1.19	33 (18%) 1 2	23, 94, 154, 180	0
29	DG	176/176 (100%)	1.02	32 (18%) 1 2	20, 86, 154, 172	0
30	BH	149/149 (100%)	2.78	78 (52%) 0 0	23, 120, 170, 180	0
30	DH	149/149 (100%)	1.57	47 (31%) 0 0	31, 100, 153, 180	0
31	BJ	140/142 (98%)	1.03	24 (17%) 1 2	14, 79, 160, 180	0
31	DJ	140/142 (98%)	0.93	22 (15%) 2 3	14, 61, 136, 162	0
32	BK	121/123 (98%)	1.44	30 (24%) 0 0	13, 57, 106, 147	0
32	DK	121/123 (98%)	0.52	2 (1%) 70 67	5, 37, 84, 143	0
33	BL	144/144 (100%)	2.79	67 (46%) 0 0	19, 93, 160, 180	0
33	DL	144/144 (100%)	2.02	57 (39%) 0 0	7, 74, 150, 179	0
34	BM	136/136 (100%)	0.83	20 (14%) 2 3	16, 71, 168, 180	0
34	DM	136/136 (100%)	1.64	40 (29%) 0 0	10, 66, 152, 180	0
35	BN	127/127 (100%)	1.64	30 (23%) 0 0	19, 67, 149, 180	0
35	DN	127/127 (100%)	0.88	12 (9%) 8 10	5, 45, 143, 180	0
36	BO	117/117 (100%)	2.03	34 (29%) 0 0	20, 82, 150, 180	0
36	DO	117/117 (100%)	1.22	19 (16%) 1 2	20, 77, 150, 169	0
37	BP	114/114 (100%)	1.85	49 (42%) 0 0	21, 84, 177, 180	0
37	DP	114/114 (100%)	1.40	30 (26%) 0 0	8, 69, 148, 180	0
38	BQ	117/117 (100%)	0.46	8 (6%) 17 19	8, 63, 125, 174	0
38	DQ	117/117 (100%)	1.12	19 (16%) 1 2	11, 57, 127, 180	0
39	BR	103/103 (100%)	1.50	28 (27%) 0 0	33, 100, 153, 180	0
39	DR	103/103 (100%)	2.34	45 (43%) 0 0	26, 92, 154, 180	0
40	BS	110/110 (100%)	1.12	19 (17%) 1 2	14, 57, 132, 180	0
40	DS	110/110 (100%)	0.69	10 (9%) 9 11	5, 45, 137, 175	0
41	BT	99/100 (99%)	1.12	20 (20%) 1 1	25, 73, 150, 170	0
41	DT	99/100 (99%)	1.54	28 (28%) 0 0	16, 84, 160, 180	0
42	BU	102/103 (99%)	1.64	33 (32%) 0 0	18, 92, 158, 178	0
42	DU	102/103 (99%)	0.60	14 (13%) 3 4	11, 103, 161, 180	0
43	BW	84/84 (100%)	2.26	31 (36%) 0 0	22, 87, 153, 180	0
43	DW	84/84 (100%)	1.58	29 (34%) 0 0	20, 81, 149, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
44	BX	63/63 (100%)	1.45	12 (19%) 1 1	28, 92, 148, 170	0
44	DX	63/63 (100%)	1.48	18 (28%) 0 0	47, 96, 162, 171	0
45	BY	58/58 (100%)	1.62	13 (22%) 0 0	29, 72, 150, 180	0
45	DY	58/58 (100%)	1.16	7 (12%) 4 6	5, 60, 129, 177	0
46	BZ	70/70 (100%)	0.69	6 (8%) 10 13	20, 68, 134, 168	0
46	DZ	70/70 (100%)	0.89	7 (10%) 7 9	16, 59, 132, 180	0
47	B0	56/56 (100%)	2.15	21 (37%) 0 0	23, 89, 163, 180	0
47	D0	56/56 (100%)	1.55	12 (21%) 0 1	12, 61, 148, 180	0
48	B1	54/54 (100%)	2.30	21 (38%) 0 0	18, 89, 142, 179	0
48	D1	54/54 (100%)	2.78	27 (50%) 0 0	22, 77, 153, 173	0
49	B2	46/46 (100%)	0.74	7 (15%) 2 3	11, 47, 152, 180	0
49	D2	46/46 (100%)	0.58	1 (2%) 62 59	13, 48, 112, 129	0
50	B3	64/64 (100%)	1.48	16 (25%) 0 0	15, 61, 149, 180	0
50	D3	64/64 (100%)	1.33	14 (21%) 0 1	8, 55, 125, 169	0
51	B4	38/38 (100%)	1.62	10 (26%) 0 0	36, 85, 161, 180	0
51	D4	38/38 (100%)	1.62	12 (31%) 0 0	20, 80, 168, 180	0
52	BI	141/141 (100%)	2.90	87 (61%) 0 0	61, 151, 180, 180	0
52	DI	141/141 (100%)	1.55	44 (31%) 0 0	84, 157, 180, 180	0
All	All	20439/21034 (97%)	0.51	2161 (10%) 6 8	5, 61, 145, 180	0

The worst 5 of 2161 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
36	BO	57	ALA	23.4
36	BO	58	ILE	21.6
33	BL	98	ALA	18.3
45	BY	3	THR	17.6
36	BO	59	ALA	16.4

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
53	MG	AP	101	1/1	0.41	0.37	53,53,53,53	1
53	MG	BB	3042	1/1	0.48	0.09	95,95,95,95	0
53	MG	CA	1623	1/1	0.53	0.16	151,151,151,151	0
53	MG	AA	1612	1/1	0.58	0.16	104,104,104,104	0
53	MG	AA	1655	1/1	0.66	0.18	75,75,75,75	0
53	MG	BB	3082	1/1	0.68	0.16	19,19,19,19	0
53	MG	DB	3082	1/1	0.69	0.16	73,73,73,73	0
53	MG	AA	1644	1/1	0.70	0.10	96,96,96,96	0
53	MG	AA	1614	1/1	0.71	0.11	62,62,62,62	0
53	MG	DB	3059	1/1	0.72	0.09	127,127,127,127	0
53	MG	AA	1619	1/1	0.73	0.13	100,100,100,100	0
53	MG	BB	3090	1/1	0.75	0.08	74,74,74,74	0
53	MG	AA	1622	1/1	0.75	0.21	116,116,116,116	0
53	MG	AA	1636	1/1	0.77	0.61	127,127,127,127	0
53	MG	AA	1649	1/1	0.77	0.18	114,114,114,114	0
53	MG	BB	3033	1/1	0.78	0.29	93,93,93,93	0
53	MG	DB	3058	1/1	0.78	0.31	30,30,30,30	1
53	MG	DB	3060	1/1	0.79	0.11	77,77,77,77	0
53	MG	AA	1625	1/1	0.80	0.19	5,5,5,5	1
53	MG	DB	3024	1/1	0.80	0.11	36,36,36,36	0
53	MG	DB	3030	1/1	0.80	0.15	23,23,23,23	0
53	MG	DB	3057	1/1	0.80	0.09	28,28,28,28	0
53	MG	AA	1608	1/1	0.81	0.08	121,121,121,121	0
53	MG	CA	1660	1/1	0.81	0.15	65,65,65,65	0
53	MG	AA	1654	1/1	0.81	0.10	59,59,59,59	0
53	MG	BB	3017	1/1	0.82	0.10	72,72,72,72	0
53	MG	AA	1638	1/1	0.82	0.21	98,98,98,98	0
53	MG	BB	3094	1/1	0.82	0.08	35,35,35,35	0
53	MG	AA	1623	1/1	0.82	0.17	32,32,32,32	1
53	MG	BB	3081	1/1	0.83	0.16	46,46,46,46	0
53	MG	BB	3054	1/1	0.83	0.13	72,72,72,72	0
53	MG	BB	3088	1/1	0.83	0.15	34,34,34,34	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
53	MG	CA	1636	1/1	0.83	0.10	51,51,51,51	0
53	MG	DB	3050	1/1	0.84	0.11	74,74,74,74	0
53	MG	BB	3051	1/1	0.84	0.09	71,71,71,71	0
53	MG	DB	3013	1/1	0.84	0.15	34,34,34,34	0
53	MG	AA	1629	1/1	0.84	0.14	138,138,138,138	0
53	MG	BB	3028	1/1	0.84	0.20	40,40,40,40	0
53	MG	DB	3065	1/1	0.84	0.16	47,47,47,47	1
53	MG	DB	3034	1/1	0.84	0.16	66,66,66,66	0
53	MG	BB	3049	1/1	0.85	0.10	11,11,11,11	0
53	MG	AA	1653	1/1	0.85	0.10	65,65,65,65	0
53	MG	BB	3010	1/1	0.85	0.11	39,39,39,39	0
53	MG	CA	1662	1/1	0.85	0.14	26,26,26,26	0
53	MG	AA	1659	1/1	0.85	0.12	105,105,105,105	0
53	MG	DB	3104	1/1	0.85	0.12	50,50,50,50	0
53	MG	AA	1607	1/1	0.86	0.09	27,27,27,27	0
53	MG	BB	3110	1/1	0.86	0.13	60,60,60,60	0
53	MG	BB	3034	1/1	0.86	0.12	25,25,25,25	0
53	MG	AA	1641	1/1	0.86	0.11	49,49,49,49	0
53	MG	BB	3021	1/1	0.86	0.14	55,55,55,55	0
53	MG	AA	1615	1/1	0.86	0.12	43,43,43,43	0
53	MG	BB	3100	1/1	0.87	0.20	11,11,11,11	1
53	MG	BB	3018	1/1	0.87	0.09	27,27,27,27	0
53	MG	BB	3067	1/1	0.87	0.18	78,78,78,78	0
53	MG	CA	1630	1/1	0.87	0.09	5,5,5,5	1
53	MG	BB	3074	1/1	0.87	0.11	13,13,13,13	0
53	MG	BB	3007	1/1	0.87	0.15	28,28,28,28	0
53	MG	DB	3054	1/1	0.87	0.07	15,15,15,15	0
53	MG	BB	3046	1/1	0.88	0.07	51,51,51,51	0
53	MG	DB	3014	1/1	0.88	0.07	5,5,5,5	0
53	MG	CA	1627	1/1	0.88	0.14	29,29,29,29	1
53	MG	DB	3053	1/1	0.88	0.12	27,27,27,27	0
53	MG	DB	3052	1/1	0.89	0.17	60,60,60,60	0
53	MG	BB	3104	1/1	0.89	0.12	18,18,18,18	0
53	MG	AA	1639	1/1	0.89	0.06	47,47,47,47	0
53	MG	CA	1639	1/1	0.89	0.08	117,117,117,117	0
53	MG	CA	1645	1/1	0.89	0.12	82,82,82,82	0
53	MG	AA	1620	1/1	0.90	0.12	62,62,62,62	0
53	MG	CA	1637	1/1	0.90	0.09	68,68,68,68	0
53	MG	AA	1631	1/1	0.90	0.08	61,61,61,61	0
53	MG	CA	1643	1/1	0.90	0.08	41,41,41,41	0
53	MG	BB	3105	1/1	0.90	0.22	64,64,64,64	0
53	MG	CA	1649	1/1	0.90	0.18	88,88,88,88	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
53	MG	BB	3005	1/1	0.90	0.12	5,5,5,5	0
53	MG	CA	1608	1/1	0.90	0.06	110,110,110,110	0
53	MG	AA	1650	1/1	0.90	0.05	72,72,72,72	0
53	MG	CA	1624	1/1	0.90	0.13	48,48,48,48	0
53	MG	BB	3057	1/1	0.90	0.17	27,27,27,27	0
53	MG	DB	3094	1/1	0.90	0.24	5,5,5,5	1
53	MG	BB	3043	1/1	0.90	0.09	75,75,75,75	0
53	MG	DB	3110	1/1	0.90	0.18	54,54,54,54	0
53	MG	DB	3016	1/1	0.91	0.11	23,23,23,23	0
53	MG	DB	3023	1/1	0.91	0.06	34,34,34,34	0
53	MG	BB	3079	1/1	0.91	0.10	38,38,38,38	0
53	MG	DB	3029	1/1	0.91	0.29	41,41,41,41	0
53	MG	AA	1657	1/1	0.91	0.06	81,81,81,81	0
53	MG	CA	1631	1/1	0.91	0.08	36,36,36,36	0
53	MG	CA	1635	1/1	0.91	0.11	20,20,20,20	0
53	MG	BB	3059	1/1	0.91	0.08	10,10,10,10	0
53	MG	BB	3060	1/1	0.91	0.08	69,69,69,69	0
53	MG	AA	1617	1/1	0.91	0.12	78,78,78,78	0
53	MG	CA	1609	1/1	0.91	0.18	45,45,45,45	0
53	MG	CA	1611	1/1	0.91	0.12	71,71,71,71	0
53	MG	CA	1614	1/1	0.91	0.09	47,47,47,47	0
53	MG	CA	1657	1/1	0.91	0.07	37,37,37,37	0
53	MG	DB	3061	1/1	0.91	0.07	78,78,78,78	0
53	MG	DB	3063	1/1	0.91	0.08	13,13,13,13	0
53	MG	CA	1616	1/1	0.91	0.08	68,68,68,68	0
53	MG	AA	1602	1/1	0.91	0.08	62,62,62,62	0
53	MG	DB	3007	1/1	0.91	0.10	12,12,12,12	0
53	MG	BB	3096	1/1	0.91	0.14	43,43,43,43	0
53	MG	CA	1626	1/1	0.91	0.10	73,73,73,73	0
53	MG	DB	3025	1/1	0.92	0.15	21,21,21,21	0
53	MG	BB	3091	1/1	0.92	0.07	19,19,19,19	0
53	MG	AA	1624	1/1	0.92	0.16	79,79,79,79	0
53	MG	DB	3031	1/1	0.92	0.12	18,18,18,18	0
53	MG	BB	3080	1/1	0.92	0.08	31,31,31,31	0
53	MG	DB	3045	1/1	0.92	0.07	61,61,61,61	0
53	MG	BB	3097	1/1	0.92	0.16	74,74,74,74	0
53	MG	CA	1622	1/1	0.92	0.09	67,67,67,67	0
53	MG	CA	1646	1/1	0.92	0.08	42,42,42,42	0
53	MG	AA	1618	1/1	0.92	0.06	46,46,46,46	0
53	MG	CA	1650	1/1	0.92	0.12	82,82,82,82	0
53	MG	AA	1635	1/1	0.92	0.06	85,85,85,85	0
53	MG	BB	3040	1/1	0.92	0.10	21,21,21,21	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
53	MG	BB	3109	1/1	0.92	0.14	15,15,15,15	0
53	MG	CA	1628	1/1	0.92	0.06	55,55,55,55	1
53	MG	CA	1629	1/1	0.92	0.06	45,45,45,45	0
53	MG	BB	3089	1/1	0.92	0.09	45,45,45,45	0
53	MG	DB	3067	1/1	0.92	0.11	17,17,17,17	0
53	MG	CA	1607	1/1	0.92	0.06	18,18,18,18	0
53	MG	DB	3021	1/1	0.92	0.10	16,16,16,16	0
53	MG	CA	1632	1/1	0.92	0.12	61,61,61,61	0
53	MG	BB	3009	1/1	0.92	0.07	35,35,35,35	0
53	MG	DN	201	1/1	0.92	0.19	49,49,49,49	0
53	MG	BB	3084	1/1	0.93	0.11	5,5,5,5	0
53	MG	CA	1638	1/1	0.93	0.04	37,37,37,37	0
53	MG	BB	3052	1/1	0.93	0.10	19,19,19,19	0
53	MG	CA	1613	1/1	0.93	0.14	78,78,78,78	0
53	MG	BB	3053	1/1	0.93	0.07	6,6,6,6	0
53	MG	AA	1604	1/1	0.93	0.14	45,45,45,45	0
53	MG	AA	1647	1/1	0.93	0.10	23,23,23,23	0
53	MG	AA	1605	1/1	0.93	0.09	48,48,48,48	0
53	MG	CA	1653	1/1	0.93	0.26	45,45,45,45	0
53	MG	DB	3055	1/1	0.93	0.09	19,19,19,19	0
53	MG	BB	3035	1/1	0.93	0.08	12,12,12,12	0
53	MG	BB	3065	1/1	0.93	0.13	47,47,47,47	0
53	MG	BB	3098	1/1	0.93	0.16	45,45,45,45	0
53	MG	AA	1637	1/1	0.93	0.11	81,81,81,81	0
53	MG	BB	3071	1/1	0.93	0.11	24,24,24,24	0
53	MG	DB	3062	1/1	0.93	0.13	43,43,43,43	0
53	MG	AA	1606	1/1	0.93	0.06	59,59,59,59	0
53	MG	AA	1632	1/1	0.93	0.05	53,53,53,53	0
53	MG	DB	3017	1/1	0.93	0.12	5,5,5,5	0
53	MG	DB	3071	1/1	0.93	0.08	39,39,39,39	0
53	MG	DB	3018	1/1	0.93	0.09	29,29,29,29	0
53	MG	DB	3083	1/1	0.93	0.17	27,27,27,27	0
53	MG	AA	1634	1/1	0.93	0.10	85,85,85,85	0
53	MG	CA	1634	1/1	0.93	0.15	61,61,61,61	0
53	MG	DB	3108	1/1	0.93	0.07	5,5,5,5	0
53	MG	AA	1656	1/1	0.93	0.26	66,66,66,66	0
53	MG	AA	1643	1/1	0.93	0.09	73,73,73,73	0
53	MG	CA	1656	1/1	0.94	0.11	48,48,48,48	0
53	MG	BB	3072	1/1	0.94	0.09	24,24,24,24	0
53	MG	AA	1613	1/1	0.94	0.06	42,42,42,42	0
53	MG	BB	3093	1/1	0.94	0.23	5,5,5,5	1
53	MG	DB	3001	1/1	0.94	0.16	7,7,7,7	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
53	MG	BB	3075	1/1	0.94	0.18	31,31,31,31	0
53	MG	AA	1658	1/1	0.94	0.21	167,167,167,167	0
53	MG	AA	1642	1/1	0.94	0.08	70,70,70,70	0
53	MG	AA	1611	1/1	0.94	0.06	40,40,40,40	0
53	MG	BB	3099	1/1	0.94	0.11	30,30,30,30	0
53	MG	CA	1640	1/1	0.94	0.07	11,11,11,11	0
53	MG	CA	1642	1/1	0.94	0.09	45,45,45,45	0
53	MG	AA	1603	1/1	0.94	0.11	43,43,43,43	0
53	MG	BB	3083	1/1	0.94	0.09	20,20,20,20	0
53	MG	BB	3031	1/1	0.94	0.19	45,45,45,45	0
53	MG	DB	3072	1/1	0.94	0.07	30,30,30,30	0
53	MG	DB	3076	1/1	0.94	0.07	17,17,17,17	0
53	MG	DB	3077	1/1	0.94	0.17	57,57,57,57	0
53	MG	BB	3087	1/1	0.94	0.13	45,45,45,45	0
53	MG	AA	1645	1/1	0.94	0.11	27,27,27,27	0
53	MG	DB	3089	1/1	0.94	0.06	65,65,65,65	0
53	MG	CA	1652	1/1	0.94	0.07	44,44,44,44	0
53	MG	DB	3096	1/1	0.94	0.08	20,20,20,20	0
53	MG	DB	3102	1/1	0.94	0.10	26,26,26,26	0
53	MG	DB	3032	1/1	0.94	0.10	46,46,46,46	0
53	MG	DB	3107	1/1	0.94	0.09	19,19,19,19	0
53	MG	AA	1630	1/1	0.94	0.08	30,30,30,30	0
53	MG	DB	3043	1/1	0.94	0.14	9,9,9,9	0
53	MG	CA	1654	1/1	0.94	0.05	40,40,40,40	0
53	MG	AA	1646	1/1	0.95	0.30	60,60,60,60	0
53	MG	DB	3040	1/1	0.95	0.12	5,5,5,5	0
53	MG	CA	1648	1/1	0.95	0.08	56,56,56,56	0
53	MG	AA	1616	1/1	0.95	0.07	46,46,46,46	0
53	MG	BB	3064	1/1	0.95	0.06	39,39,39,39	0
53	MG	CA	1620	1/1	0.95	0.07	35,35,35,35	0
53	MG	BB	3036	1/1	0.95	0.14	37,37,37,37	0
53	MG	BB	3039	1/1	0.95	0.18	45,45,45,45	0
53	MG	BB	3016	1/1	0.95	0.13	15,15,15,15	0
53	MG	CA	1625	1/1	0.95	0.09	26,26,26,26	0
53	MG	BB	3041	1/1	0.95	0.05	30,30,30,30	0
53	MG	AA	1648	1/1	0.95	0.05	94,94,94,94	0
53	MG	AA	1627	1/1	0.95	0.14	72,72,72,72	0
53	MG	DB	3002	1/1	0.95	0.12	37,37,37,37	0
53	MG	DB	3004	1/1	0.95	0.13	19,19,19,19	0
53	MG	BB	3078	1/1	0.95	0.19	25,25,25,25	0
53	MG	BB	3101	1/1	0.95	0.05	12,12,12,12	0
53	MG	DB	3066	1/1	0.95	0.08	5,5,5,5	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
53	MG	BB	3019	1/1	0.95	0.08	27,27,27,27	0
53	MG	DB	3015	1/1	0.95	0.09	49,49,49,49	0
53	MG	AA	1628	1/1	0.95	0.10	26,26,26,26	0
53	MG	BB	3027	1/1	0.95	0.09	23,23,23,23	0
53	MG	AA	1652	1/1	0.95	0.08	25,25,25,25	0
53	MG	DB	3020	1/1	0.95	0.12	20,20,20,20	0
53	MG	CA	1603	1/1	0.95	0.13	69,69,69,69	0
53	MG	DB	3088	1/1	0.95	0.14	35,35,35,35	0
53	MG	CA	1605	1/1	0.95	0.07	18,18,18,18	0
53	MG	CA	1606	1/1	0.95	0.09	74,74,74,74	0
53	MG	BB	3030	1/1	0.95	0.05	53,53,53,53	0
53	MG	DB	3098	1/1	0.95	0.12	18,18,18,18	0
53	MG	DB	3099	1/1	0.95	0.07	9,9,9,9	0
53	MG	DB	3026	1/1	0.95	0.14	18,18,18,18	0
53	MG	DB	3027	1/1	0.95	0.08	10,10,10,10	0
53	MG	DB	3105	1/1	0.95	0.11	23,23,23,23	0
53	MG	DB	3106	1/1	0.95	0.06	21,21,21,21	0
53	MG	AA	1633	1/1	0.95	0.05	75,75,75,75	0
53	MG	AA	1601	1/1	0.95	0.06	26,26,26,26	0
53	MG	BB	3058	1/1	0.95	0.10	28,28,28,28	0
53	MG	CA	1612	1/1	0.95	0.08	29,29,29,29	0
53	MG	BB	3055	1/1	0.96	0.13	27,27,27,27	0
53	MG	BB	3076	1/1	0.96	0.05	24,24,24,24	0
53	MG	BB	3077	1/1	0.96	0.08	44,44,44,44	0
53	MG	DB	3022	1/1	0.96	0.08	15,15,15,15	0
53	MG	AA	1626	1/1	0.96	0.06	35,35,35,35	0
53	MG	AA	1610	1/1	0.96	0.09	34,34,34,34	0
53	MG	AA	1621	1/1	0.96	0.09	23,23,23,23	0
53	MG	BB	3047	1/1	0.96	0.06	114,114,114,114	0
53	MG	BB	3063	1/1	0.96	0.14	27,27,27,27	0
53	MG	DB	3070	1/1	0.96	0.07	46,46,46,46	0
53	MG	CA	1659	1/1	0.96	0.17	48,48,48,48	0
53	MG	BB	3048	1/1	0.96	0.06	20,20,20,20	0
53	MG	DB	3073	1/1	0.96	0.11	16,16,16,16	0
53	MG	CA	1615	1/1	0.96	0.09	101,101,101,101	0
53	MG	BB	3037	1/1	0.96	0.08	24,24,24,24	0
53	MG	DB	3033	1/1	0.96	0.09	11,11,11,11	0
53	MG	CA	1618	1/1	0.96	0.10	5,5,5,5	0
53	MG	DB	3036	1/1	0.96	0.09	16,16,16,16	0
53	MG	DB	3039	1/1	0.96	0.07	19,19,19,19	0
53	MG	DB	3090	1/1	0.96	0.15	28,28,28,28	0
53	MG	DB	3091	1/1	0.96	0.08	96,96,96,96	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
53	MG	BB	3038	1/1	0.96	0.04	58,58,58,58	0
53	MG	DB	3042	1/1	0.96	0.10	27,27,27,27	0
53	MG	DB	3005	1/1	0.96	0.07	9,9,9,9	0
53	MG	CA	1621	1/1	0.96	0.24	113,113,113,113	0
53	MG	DB	3046	1/1	0.96	0.08	33,33,33,33	0
53	MG	DB	3103	1/1	0.96	0.12	50,50,50,50	0
53	MG	DB	3008	1/1	0.96	0.13	24,24,24,24	0
53	MG	DB	3051	1/1	0.96	0.13	53,53,53,53	0
53	MG	BB	3108	1/1	0.96	0.08	19,19,19,19	0
53	MG	BB	3004	1/1	0.96	0.04	21,21,21,21	0
53	MG	CA	1644	1/1	0.96	0.06	29,29,29,29	0
53	MG	BB	3032	1/1	0.96	0.12	9,9,9,9	0
53	MG	BB	3013	1/1	0.96	0.09	31,31,31,31	0
53	MG	BB	3026	1/1	0.97	0.10	5,5,5,5	0
53	MG	BB	3056	1/1	0.97	0.10	19,19,19,19	0
53	MG	BB	3102	1/1	0.97	0.13	19,19,19,19	0
53	MG	AA	1640	1/1	0.97	0.08	44,44,44,44	0
53	MG	BB	3014	1/1	0.97	0.04	29,29,29,29	0
53	MG	CA	1651	1/1	0.97	0.09	14,14,14,14	0
53	MG	BB	3107	1/1	0.97	0.07	27,27,27,27	0
53	MG	BB	3029	1/1	0.97	0.08	13,13,13,13	0
53	MG	DB	3028	1/1	0.97	0.12	28,28,28,28	0
53	MG	BB	3015	1/1	0.97	0.08	24,24,24,24	0
53	MG	CA	1655	1/1	0.97	0.14	48,48,48,48	0
53	MG	BB	3061	1/1	0.97	0.06	42,42,42,42	0
53	MG	BB	3045	1/1	0.97	0.05	31,31,31,31	0
53	MG	CA	1658	1/1	0.97	0.07	38,38,38,38	0
53	MG	BB	3085	1/1	0.97	0.07	22,22,22,22	0
53	MG	DB	3035	1/1	0.97	0.10	30,30,30,30	0
53	MG	DB	3085	1/1	0.97	0.09	17,17,17,17	0
53	MG	DB	3086	1/1	0.97	0.14	69,69,69,69	0
53	MG	DB	3087	1/1	0.97	0.12	6,6,6,6	0
53	MG	BB	3001	1/1	0.97	0.06	10,10,10,10	0
53	MG	BB	3008	1/1	0.97	0.06	58,58,58,58	0
53	MG	CA	1633	1/1	0.97	0.09	47,47,47,47	0
53	MG	DB	3041	1/1	0.97	0.07	18,18,18,18	0
53	MG	BB	3066	1/1	0.97	0.09	59,59,59,59	0
53	MG	DB	3095	1/1	0.97	0.16	55,55,55,55	0
53	MG	BB	3003	1/1	0.97	0.06	13,13,13,13	0
53	MG	DB	3044	1/1	0.97	0.07	7,7,7,7	0
53	MG	BB	3069	1/1	0.97	0.07	9,9,9,9	0
53	MG	DB	3100	1/1	0.97	0.09	11,11,11,11	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
53	MG	AA	1651	1/1	0.97	0.07	84,84,84,84	0
53	MG	BB	3020	1/1	0.97	0.06	23,23,23,23	0
53	MG	DB	3010	1/1	0.97	0.09	12,12,12,12	0
53	MG	BB	3073	1/1	0.97	0.09	28,28,28,28	0
53	MG	BB	3011	1/1	0.97	0.13	7,7,7,7	0
53	MG	CA	1641	1/1	0.97	0.11	92,92,92,92	0
53	MG	BB	3022	1/1	0.97	0.08	38,38,38,38	0
53	MG	DB	3109	1/1	0.97	0.07	24,24,24,24	0
53	MG	BB	3025	1/1	0.97	0.16	53,53,53,53	0
53	MG	CA	1619	1/1	0.97	0.09	26,26,26,26	0
53	MG	DB	3038	1/1	0.98	0.09	16,16,16,16	0
53	MG	CA	1601	1/1	0.98	0.06	5,5,5,5	0
53	MG	CA	1602	1/1	0.98	0.15	32,32,32,32	0
53	MG	BB	3050	1/1	0.98	0.10	35,35,35,35	0
53	MG	DB	3074	1/1	0.98	0.09	25,25,25,25	0
53	MG	DB	3075	1/1	0.98	0.04	5,5,5,5	0
53	MG	CA	1604	1/1	0.98	0.09	18,18,18,18	0
53	MG	BB	3024	1/1	0.98	0.09	22,22,22,22	0
53	MG	DB	3078	1/1	0.98	0.08	18,18,18,18	0
53	MG	DB	3079	1/1	0.98	0.10	5,5,5,5	0
53	MG	DB	3080	1/1	0.98	0.09	12,12,12,12	0
53	MG	DB	3019	1/1	0.98	0.04	5,5,5,5	0
53	MG	BB	3002	1/1	0.98	0.10	10,10,10,10	0
53	MG	DB	3084	1/1	0.98	0.07	8,8,8,8	0
53	MG	BB	3092	1/1	0.98	0.07	11,11,11,11	0
53	MG	DB	3047	1/1	0.98	0.13	17,17,17,17	0
53	MG	DB	3049	1/1	0.98	0.06	5,5,5,5	0
53	MG	BB	3103	1/1	0.98	0.07	7,7,7,7	0
53	MG	CA	1661	1/1	0.98	0.04	62,62,62,62	0
53	MG	AA	1609	1/1	0.98	0.14	8,8,8,8	0
53	MG	CA	1610	1/1	0.98	0.03	34,34,34,34	0
53	MG	DB	3092	1/1	0.98	0.08	23,23,23,23	0
53	MG	DB	3093	1/1	0.98	0.06	10,10,10,10	0
53	MG	BB	3006	1/1	0.98	0.07	10,10,10,10	0
53	MG	DB	3003	1/1	0.98	0.07	14,14,14,14	0
53	MG	DB	3056	1/1	0.98	0.09	11,11,11,11	0
53	MG	BB	3106	1/1	0.98	0.11	46,46,46,46	0
53	MG	BB	3095	1/1	0.98	0.09	34,34,34,34	0
53	MG	DB	3006	1/1	0.98	0.07	5,5,5,5	0
53	MG	DB	3101	1/1	0.98	0.11	27,27,27,27	0
53	MG	BB	3068	1/1	0.98	0.09	24,24,24,24	0
53	MG	BB	3023	1/1	0.98	0.07	22,22,22,22	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
53	MG	DB	3009	1/1	0.98	0.08	7,7,7,7	0
53	MG	BB	3062	1/1	0.98	0.09	22,22,22,22	0
53	MG	DB	3064	1/1	0.98	0.07	28,28,28,28	0
53	MG	DB	3012	1/1	0.98	0.12	6,6,6,6	0
53	MG	CA	1617	1/1	0.98	0.10	9,9,9,9	0
53	MG	DB	3037	1/1	0.98	0.09	13,13,13,13	0
53	MG	DB	3068	1/1	0.98	0.12	14,14,14,14	0
53	MG	DB	3069	1/1	0.98	0.09	44,44,44,44	0
53	MG	BB	3086	1/1	0.99	0.15	37,37,37,37	0
53	MG	BB	3044	1/1	0.99	0.07	32,32,32,32	0
53	MG	BB	3012	1/1	0.99	0.08	41,41,41,41	0
53	MG	DB	3097	1/1	0.99	0.11	15,15,15,15	0
53	MG	DB	3081	1/1	0.99	0.06	25,25,25,25	0
53	MG	CA	1647	1/1	0.99	0.06	32,32,32,32	0
53	MG	DB	3011	1/1	0.99	0.09	8,8,8,8	0
53	MG	DB	3048	1/1	0.99	0.05	20,20,20,20	0
53	MG	BB	3070	1/1	0.99	0.09	32,32,32,32	0

6.5 Other polymers [i](#)

There are no such residues in this entry.