



# wwPDB X-ray Structure Validation Summary Report ⓘ

Sep 15, 2023 – 08:22 AM EDT

PDB ID : 4V7U  
Title : Crystal structure of the E. coli ribosome bound to erythromycin.  
Authors : Dunkle, J.A.; Xiong, L.; Mankin, A.S.; Cate, J.H.D.  
Deposited on : 2010-08-15  
Resolution : 3.10 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.35.1  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.35.1

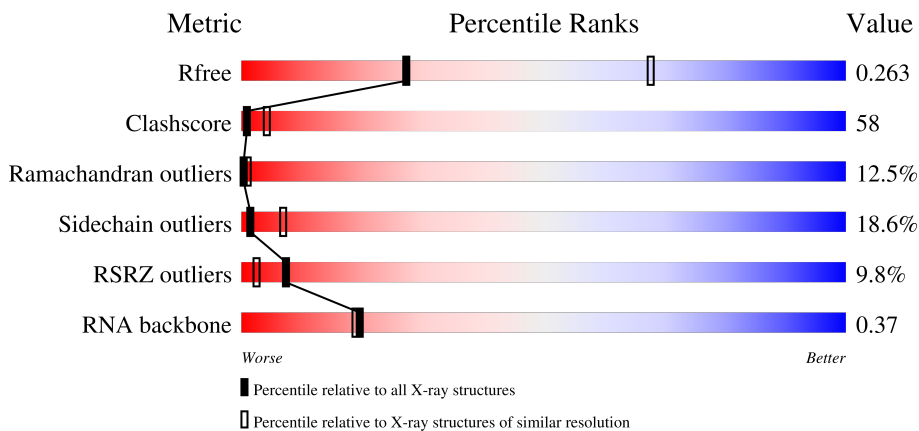
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.10 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	1094 (3.10-3.10)
Clashscore	141614	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)
RSRZ outliers	127900	1067 (3.10-3.10)
RNA backbone	3102	1116 (3.40-2.80)

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

Mol	Chain	Length	Quality of chain
1	AA	1533	
1	CA	1533	
2	AB	218	
2	CB	218	

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Mol	Chain	Length	Quality of chain
3	AC	206	
3	CC	206	
4	AD	205	
4	CD	205	
5	AE	150	
5	CE	150	
6	AF	100	
6	CF	100	
7	AG	151	
7	CG	151	
8	AH	129	
8	CH	129	
9	AI	127	
9	CI	127	
10	AJ	98	
10	CJ	98	
11	AK	117	
11	CK	117	
12	AL	123	
12	CL	123	
13	AM	114	
13	CM	114	
14	AN	100	
14	CN	100	
15	AO	88	

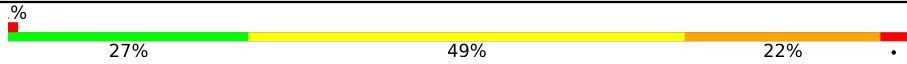
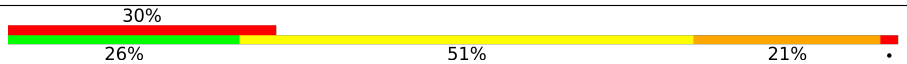
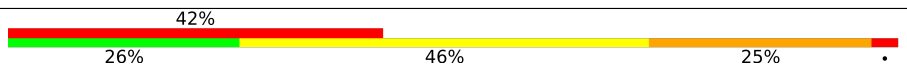
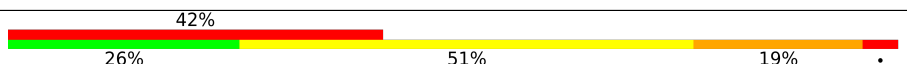
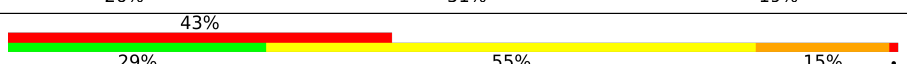

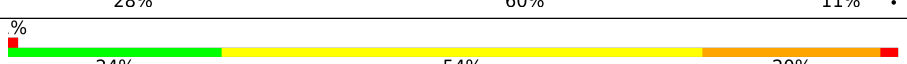
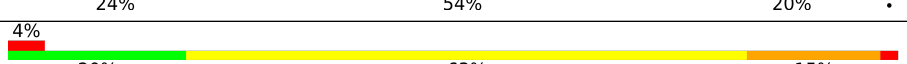
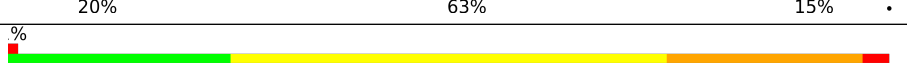
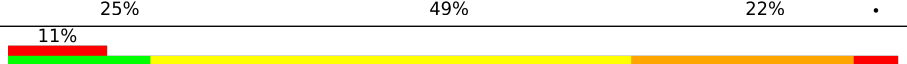
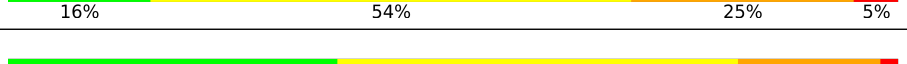

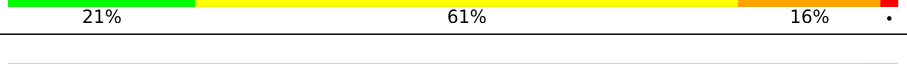
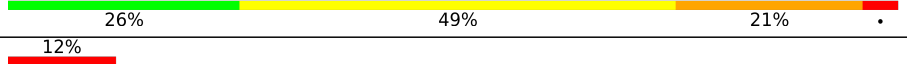
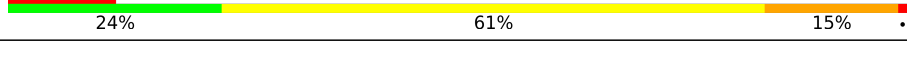

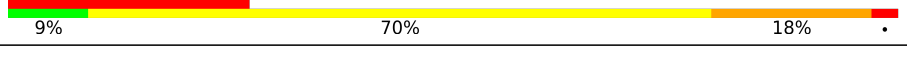
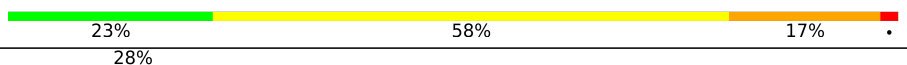
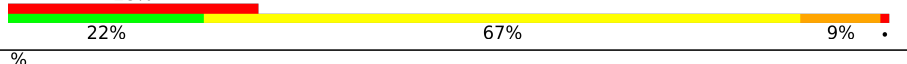

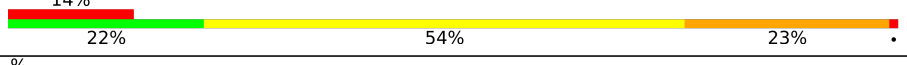
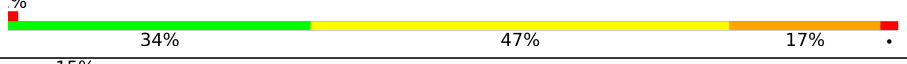
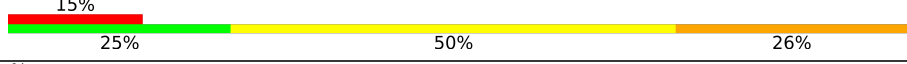
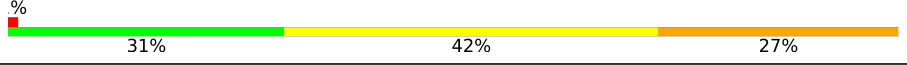
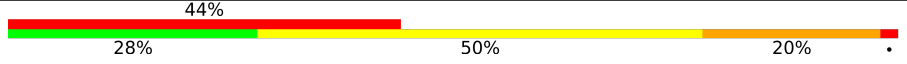
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Mol	Chain	Length	Quality of chain
15	CO	88	35% 56% 8%
16	AP	82	11% 22% 57% 21%
16	CP	82	12% 17% 59% 22%
17	AQ	80	8% 22% 55% 22%
17	CQ	80	15% 22% 58% 20%
18	AR	55	5% 27% 64% 7%
18	CR	55	4% 20% 65% 13%
19	AS	79	35% 23% 62% 13%
19	CS	79	57% 23% 65% 11%
20	AT	85	28% 47% 24%
20	CT	85	13% 32% 46% 20%
21	AU	51	37% 12% 55% 33%
21	CU	51	14% 14% 45% 33% 8%
22	BA	2904	17% 40% 24% 17%
22	DA	2904	3% 9% 47% 25% 16%
23	BB	118	29% 36% 19% 16%
23	DB	118	2% 12% 52% 21% 14%
24	BC	271	2% 34% 48% 16%
24	DC	271	8% 23% 58% 17%
25	BD	209	30% 44% 22%
25	DD	209	11% 22% 53% 24%
26	BE	201	29% 42% 26%
26	DE	201	31% 21% 58% 18%
27	BF	178	2% 34% 44% 21%
27	DF	178	49% 23% 52% 23%

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Mol	Chain	Length	Quality of chain
28	BG	176	 27% 49% 22% .
28	DG	176	 30% 26% 51% 21% .
29	BH	149	 42% 26% 46% 25% .
29	DH	149	 42% 26% 51% 19% .
30	BI	141	 43% 29% 55% 15% .
30	DI	141	 67% 28% 60% 11% .
31	BJ	142	 24% 54% 20% .
31	DJ	142	 4% 20% 63% 15% .
32	BK	122	 25% 49% 22% .
32	DK	122	 11% 16% 54% 25% 5% .
33	BL	143	 37% 45% 16% .
33	DL	143	 20% 21% 61% 16% .
34	BM	136	 26% 49% 21% .
34	DM	136	 12% 24% 61% 15% .
35	BN	120	 38% 43% 16% .
35	DN	120	 27% 9% 70% 18% .
36	BO	116	 23% 58% 17% .
36	DO	116	 28% 22% 67% 9% .
37	BP	114	 22% 43% 33% .
37	DP	114	 14% 22% 54% 23% .
38	BQ	117	 34% 47% 17% .
38	DQ	117	 15% 25% 50% 26% .
39	BR	103	 31% 42% 27% .
39	DR	103	 44% 28% 50% 20% .
40	BS	110	 37% 45% 17% .

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Mol	Chain	Length	Quality of chain
40	DS	110	
41	BT	93	
41	DT	93	
42	BU	102	
42	DU	102	
43	BV	94	
43	DV	94	
44	BW	79	
44	DW	79	
45	BX	77	
45	DX	77	
46	BY	63	
46	DY	63	
47	BZ	58	
47	DZ	58	
48	B0	56	
48	D0	56	
49	B1	50	
49	D1	50	
50	B2	46	
50	D2	46	
51	B3	64	
51	D3	64	
52	B4	38	
52	D4	38	

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	BA	3130	-	-	-	X
53	MG	CA	1614	-	-	-	X
53	MG	CA	1628	-	-	-	X
53	MG	DA	3003	-	-	-	X
53	MG	DA	3007	-	-	-	X
53	MG	DA	3010	-	-	-	X
53	MG	DA	3013	-	-	-	X
53	MG	DA	3015	-	-	-	X
53	MG	DA	3016	-	-	-	X
53	MG	DA	3020	-	-	-	X
53	MG	DA	3026	-	-	-	X
53	MG	DA	3028	-	-	-	X
53	MG	DA	3033	-	-	-	X
53	MG	DA	3043	-	-	-	X
53	MG	DA	3045	-	-	-	X
53	MG	DA	3057	-	-	-	X
53	MG	DA	3058	-	-	-	X
53	MG	DA	3062	-	-	-	X
53	MG	DA	3063	-	-	-	X
53	MG	DA	3064	-	-	-	X
53	MG	DA	3074	-	-	-	X
53	MG	DA	3078	-	-	-	X
53	MG	DA	3109	-	-	-	X
53	MG	DA	3111	-	-	-	X
53	MG	DA	3127	-	-	-	X
53	MG	DA	3130	-	-	-	X
53	MG	DA	3133	-	-	-	X
53	MG	DJ	201	-	-	-	X

## 2 Entry composition

There are 56 unique types of molecules in this entry. The entry contains 284525 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 rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	AA	1533	Total 32895	C 14671	N 6036	O 10655	P 1533	0	0	0
1	CA	1530	Total 32831	C 14642	N 6024	O 10635	P 1530	0	0	0

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	AB	218	Total 1705	C 1081	N 305	O 312	S 7	0	0	0
2	CB	218	Total 1705	C 1081	N 305	O 312	S 7	0	0	0

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	AC	206	Total 1625	C 1028	N 305	O 289	S 3	0	0	0
3	CC	206	Total 1625	C 1028	N 305	O 289	S 3	0	0	0

- Molecule 4 is a protein called 30S ribosomal protein S4.

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

- Molecule 5 is a protein called 30S ribosomal protein S5.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AE	150	Total	C	N	O	S	0	0	0
			1106	687	211	202	6			
5	CE	150	Total	C	N	O	S	0	0	0
			1106	687	211	202	6			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AF	100	Total	C	N	O	S	0	0	0
			818	515	148	149	6			
6	CF	100	Total	C	N	O	S	0	0	0
			818	515	148	149	6			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AG	151	Total	C	N	O	S	0	0	0
			1182	735	227	216	4			
7	CG	150	Total	C	N	O	S	0	0	0
			1175	730	226	215	4			

- Molecule 8 is a protein called 30S ribosomal protein S8.

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

- Molecule 9 is a protein called 30S ribosomal protein S9.

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

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AJ	98	Total	C	N	O	S	0	0	0
			787	493	150	143	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	CJ	98	787	493	150	143	1	0	0	0

- Molecule 11 is a protein called 30S ribosomal protein S11.

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

- Molecule 12 is a protein called 30S ribosomal protein S12.

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

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	AM	114	884	546	178	157	3	0	0	0
13	CM	114	877	541	178	155	3	0	0	1

- Molecule 14 is a protein called 30S ribosomal protein S14.

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

- Molecule 15 is a protein called 30S ribosomal protein S15.

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

- Molecule 16 is a protein called 30S ribosomal protein S16.

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

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
17	AQ	80	Total 649	C 411	N 121	O 114	S 3	0	0	0
17	CQ	80	Total 649	C 411	N 121	O 114	S 3	0	0	0

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
18	AR	55	Total 456	C 288	N 86	O 82	0	0	0
18	CR	55	Total 456	C 288	N 86	O 82	0	0	0

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
19	AS	79	Total 638	C 408	N 120	O 108	S 2	0	0	0
19	CS	79	Total 638	C 408	N 120	O 108	S 2	0	0	0

- Molecule 20 is a protein called 30S ribosomal protein S20.

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

- 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
			426	265	86	74	1			
21	CU	51	Total	C	N	O	S	0	0	0
			426	265	86	74	1			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	BB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			
23	DB	117	Total	C	N	O	P	0	0	0
			2507	1116	459	815	117			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	BC	271	Total	C	N	O	S	0	0	0
			2083	1288	423	365	7			
24	DC	271	Total	C	N	O	S	0	0	0
			2083	1288	423	365	7			

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
27	BF	178	1411	899	250	256	6	0	0	1
27	DF	178	1420	905	251	258	6	0	0	0

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
30	BI	141	1032	651	179	196	6	0	0	0
30	DI	141	1032	651	179	196	6	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	142	1129	714	212	199	4	0	0	0
31	DJ	142	1129	714	212	199	4	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	BK	122	Total	C	N	O	S	0	0	0
			939	587	180	166	6			
32	DK	122	Total	C	N	O	S	0	0	0
			939	587	180	166	6			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	BN	120	Total	C	N	O	S	0	0	0
			961	593	196	167	5			
35	DN	120	Total	C	N	O	S	0	0	0
			961	593	196	167	5			

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

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

- 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	93	Total	C	N	O	S	0	0	0
			739	466	139	132	2			
41	DT	93	Total	C	N	O	S	0	0	0
			739	466	139	132	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
			780	492	146	142			

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
42	DU	102	780	492	146	142	0	0	0

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

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

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

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

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

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

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

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

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

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



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

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

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
49	B1	50	Total	C	N	O	0	0	0
			410	263	75	72			
49	D1	50	Total	C	N	O	0	0	0
			410	263	75	72			

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

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

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

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

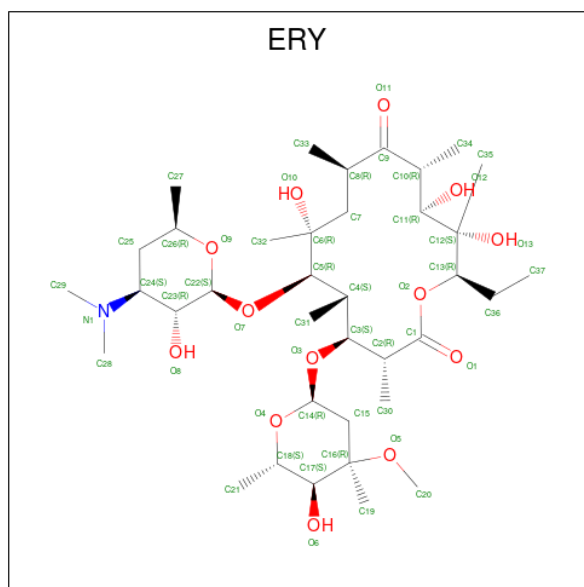
- Molecule 52 is a protein called 50S ribosomal protein L36.

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

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

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
53	AA	41	Total Mg 41 41	0	0
53	AN	2	Total Mg 2 2	0	0
53	BA	135	Total Mg 135 135	0	0
53	BB	4	Total Mg 4 4	0	0
53	CA	42	Total Mg 42 42	0	0
53	DA	133	Total Mg 133 133	0	0
53	DB	1	Total Mg 1 1	0	0
53	DC	2	Total Mg 2 2	0	0
53	DJ	1	Total Mg 1 1	0	0

- Molecule 54 is ERYTHROMYCIN A (three-letter code: ERY) (formula:  $C_{37}H_{67}NO_{13}$ ).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
54	BA	1	Total C N O 51 37 1 13	0	0

- Molecule 55 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

- Molecule 56 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
56	AA	197	Total O 197 197	0	0
56	AE	1	Total O 1 1	0	0
56	AL	1	Total O 1 1	0	0
56	AN	7	Total O 7 7	0	0
56	AT	1	Total O 1 1	0	0
56	AU	1	Total O 1 1	0	0
56	BA	605	Total O 605 605	0	0
56	BB	19	Total O 19 19	0	0
56	BC	7	Total O 7 7	0	0
56	BD	3	Total O 3 3	0	0
56	BE	1	Total O 1 1	0	0
56	BL	4	Total O 4 4	0	0
56	BN	2	Total O 2 2	0	0
56	BR	1	Total O 1 1	0	0
56	BT	2	Total O 2 2	0	0
56	BV	1	Total O 1 1	0	0
56	B3	3	Total O 3 3	0	0
56	B4	2	Total O 2 2	0	0

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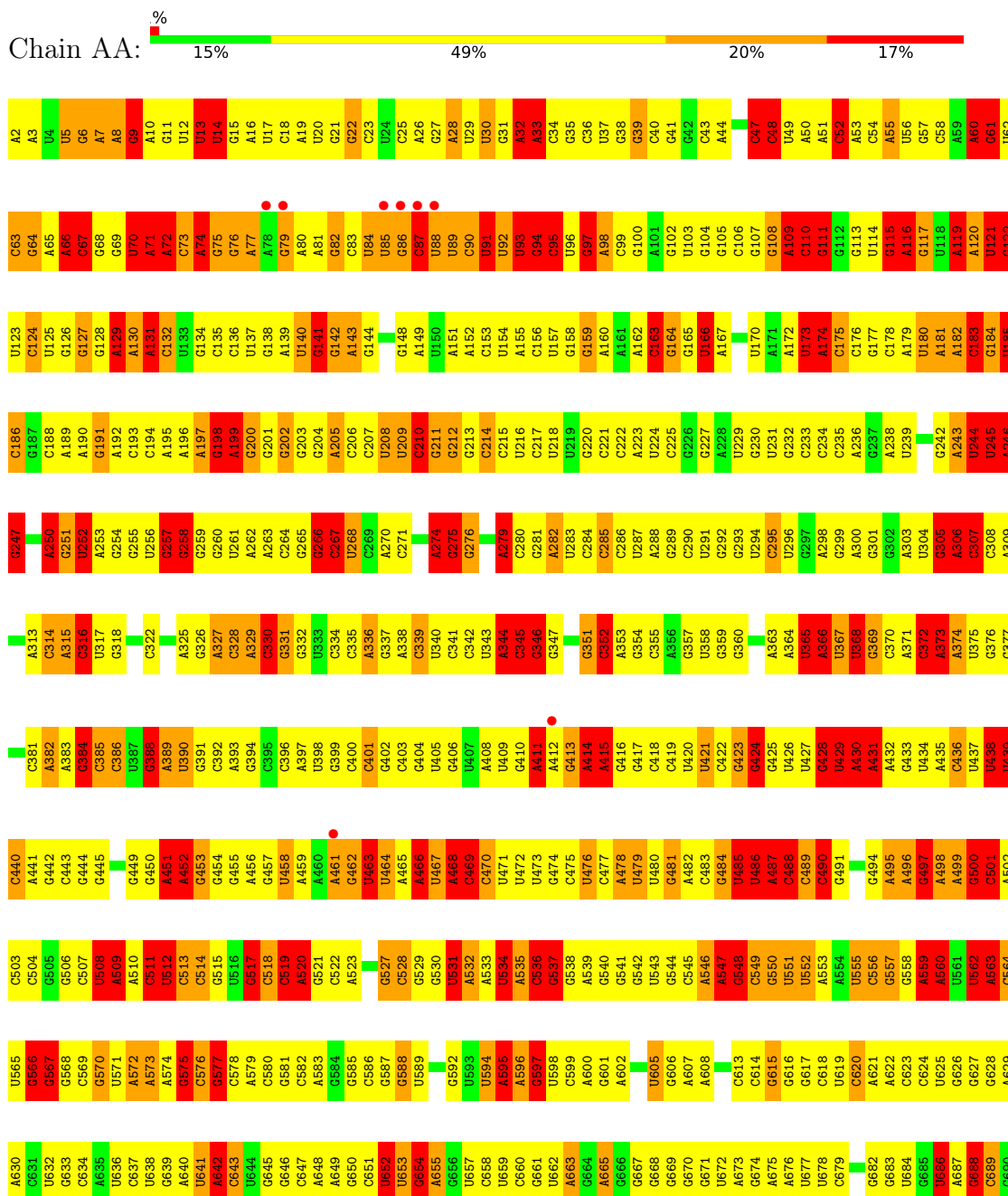
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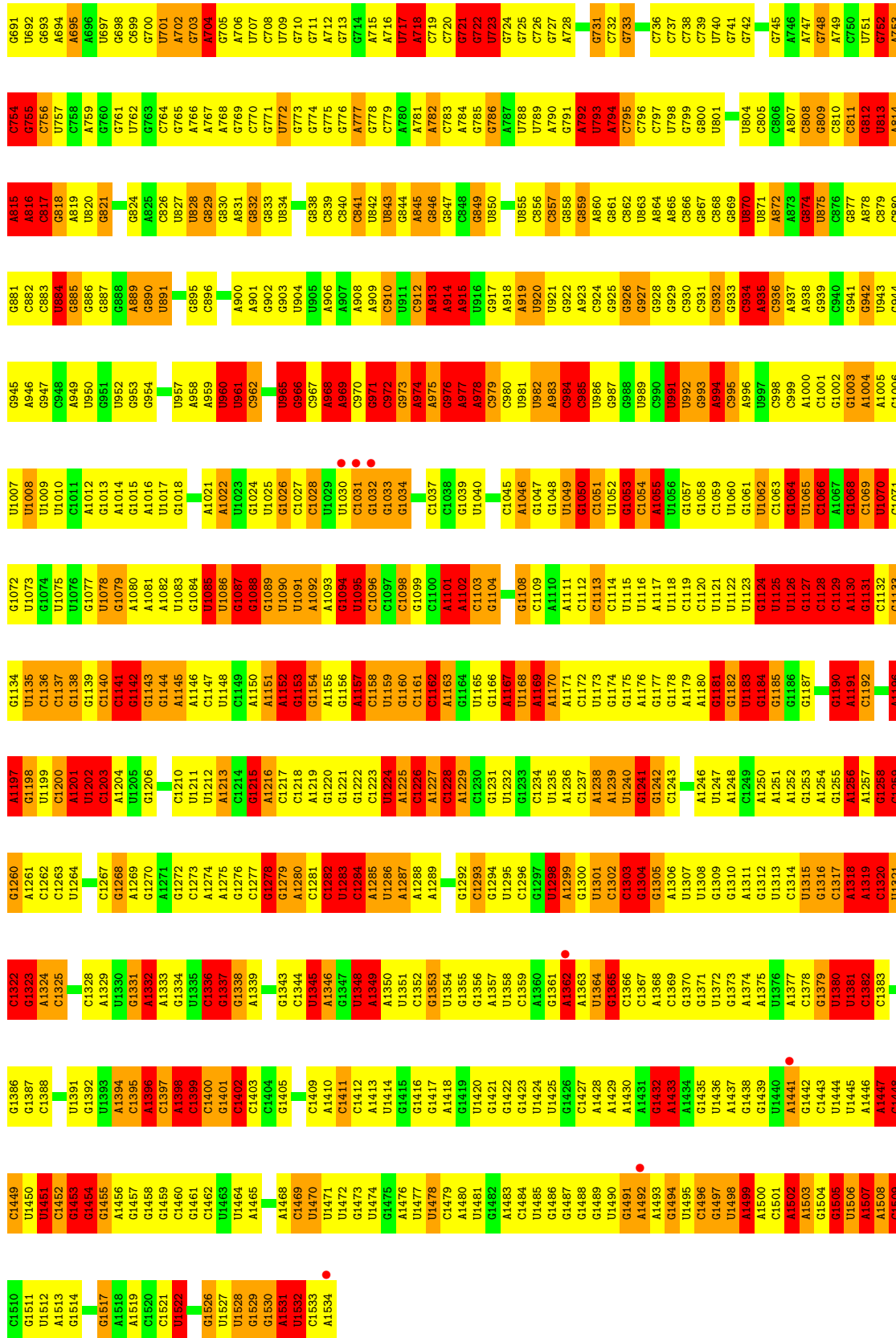
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	CA	195	Total 195	O 195	0	0
56	CE	3	Total 3	O 3	0	0
56	CL	1	Total 1	O 1	0	0
56	CN	3	Total 3	O 3	0	0
56	CT	4	Total 4	O 4	0	0
56	CU	1	Total 1	O 1	0	0
56	DA	600	Total 600	O 600	0	0
56	DB	3	Total 3	O 3	0	0
56	DC	13	Total 13	O 13	0	0
56	DD	2	Total 2	O 2	0	0
56	DE	4	Total 4	O 4	0	0
56	DJ	3	Total 3	O 3	0	0
56	DL	4	Total 4	O 4	0	0
56	DN	2	Total 2	O 2	0	0
56	DT	2	Total 2	O 2	0	0
56	DU	2	Total 2	O 2	0	0
56	DV	2	Total 2	O 2	0	0
56	D2	1	Total 1	O 1	0	0
56	D3	1	Total 1	O 1	0	0
56	D4	4	Total 4	O 4	0	0

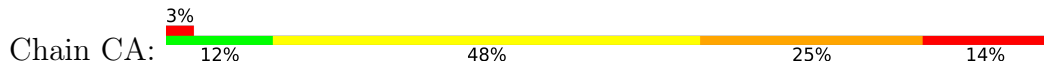
### 3 Residue-property plots

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

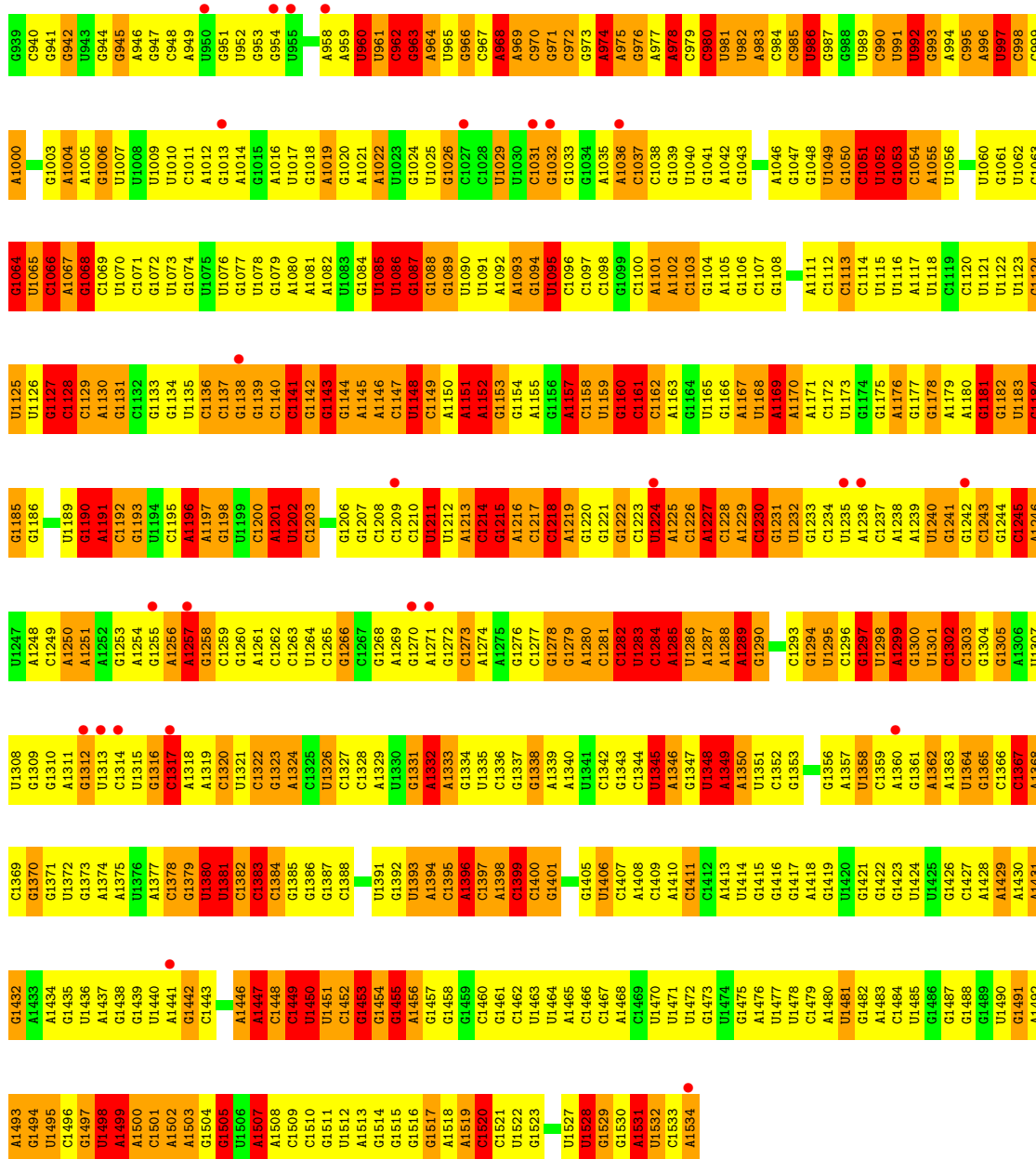
- Molecule 1: 16S rRNA



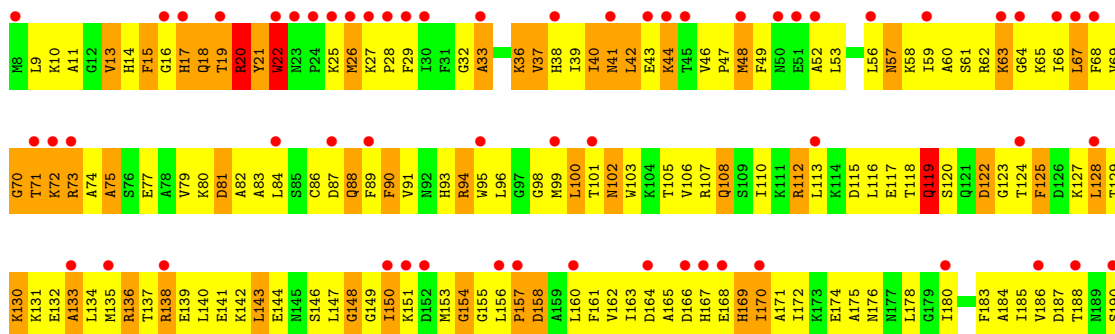




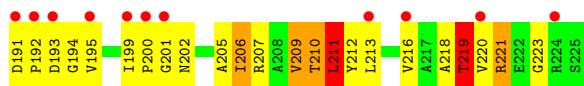
A	A65	U125	U185	A250	A313	U375	U437	G497	G557	G617	U684	G748	G809	G872	
A	A66	G126	C186	G251	C314	G376	U438	A498	G558	C618	G685	A749	C810	U875	
A	C67	G127	G187	U252	A315	G377	U439	A499	A559	U619	U686	C750	C811	C876	
U	G68	G128	G188	A253	C316	G378	C440	G500	A560	G623	A687	U751	C812	C877	
U	G69	A129	G191	G254	U317	C379	A441	C501	U561	C624	G688	G752	U813	A878	
A7	U70	A130	A192	G255	G318	G380	G442	A502	U562	C624	C689	A753	A814	C879	
A8	A71	A131	C193	U256	G819	C381	C443	C503	A563	U625	G690	C754	A815	C880	
A8	A72	C132	C194	G257	A320	A382	C444	C504	C564	G628	G691	G755	A816	C881	
A10	A73	U133	A195	G258	A321	A383	G445	G505	U565	G629	G692	C756	C817	C882	
U13	G74	G134	A196	G259	C322	G384	G446	C506	U566	A630	A693	U757	C818	C883	
U14	G75	C135	A197	G260	G322	C385	G447	C507	U567	A630	A694	C758	A819	C884	
G15	G76	U137	A198	U261	A325	C386	G448	U508	U568	C631	A695	U759	U820	C885	
A16	A77	G136	A199	A262	A326	U387	G449	A509	C569	U632	A696	G761	G821	G886	
U17	A78	U137	G200	A263	A327	U388	G450	A510	G570	G633	U697	U762	U822	G887	
C18	G79	G138	G201	A264	A328	A389	A451	C511	U571	C634	G700	G763	C823	A889	
C18	A80	U140	G202	C264	C329	U390	A452	U512	A572	A635	G701	C764	C824	C890	
A19	A81	G141	G203	G266	C330	G391	G453	C513	A573	A636	U701	G765	A825	U891	
U20	G82	G142	G204	G267	G331	C392	G454	C514	A574	C637	A702	A766	C826	A892	
G21	C83	A143	A205	U268	G332	A393	G455	G515	G575	U640	C703	A767	U827	C893	
G22	U84	G144	C206	C269	U333	C394	A456	U516	C576	A640	A704	A768	U828	G896	
C23	U85	G145	C207	A270	C334	C395	A457	U517	G577	U641	A705	G769	U829	C897	
A26	G86	G146	U208	U273	C335	C396	U458	C518	C578	A642	A706	G770	G830	C898	
G27	C87	G147	U209	G274	A336	A397	A459	C519	A579	C643	U707	C771	A831	G899	
A28	U88	G148	U209	A275	C337	U398	A460	C520	C580	U644	C708	A772	C832	A900	
U29	U89	A149	G211	G275	G337	G398	A461	G521	G581	G645	U709	G773	G833	A901	
U30	C90	U150	G212	G276	U338	C400	G462	C522	C582	G646	G710	G774	U834	U905	
U31	U91	U151	G213	G277	U340	C401	U463	A523	A583	C647	G711	G775	U835	U906	
G31	U92	A152	C214	G278	U341	G402	U464	G524	G584	A648	A712	G776	C836	U907	
A32	U93	C153	C215	A279	C342	C403	A465	C525	G585	U652	G713	A777	C837	A908	
A33	U94	U154	U216	C280	U343	G404	A466	C526	C586	U653	G714	G778	C838	A909	
C34	C95	A155	C217	G281	A344	U405	U467	G527	G587	U654	A715	C779	C839	A910	
G35	U96	C156	C218	A882	C345	G406	A468	C528	U588	U655	A716	A780	U842	A911	
C36	G97	U157	U219	G284	C346	U407	A469	C529	U589	A656	U717	A781	U843	C910	
U37	U98	G158	G220	C284	G347	A408	C470	C530	U590	U656	U718	A782	C844	U911	
G38	C99	G100	C221	C284	U348	U409	C471	U531	U591	U657	C719	A783	C845	A912	
G39	C100	A101	C222	U287	A349	U410	U472	A532	G592	U658	C720	A784	C846	A913	
C40	G101	A101	A161	U288	A350	G410	U473	A533	U593	U659	G721	G785	C847	A914	
G41	G102	G102	A162	G389	G351	A411	G474	A534	U594	C660	G722	G786	C848	A915	
G42	U103	U103	C163	C290	G352	A412	C475	A535	U595	A663	U723	A787	C849	U916	
C43	G104	G104	C163	U291	A353	G413	U476	C536	A596	A664	G733	A788	U850	G917	
A44	C105	G105	C163	G292	G354	A414	C477	C537	U597	U664	A728	U789	C851	A918	
G45	C106	U166	G165	G293	G355	G415	A478	G538	U598	A665	A729	U790	C852	A919	
G46	G107	A167	G167	U294	A356	G416	U479	A539	C599	U666	G730	G791	C853	U920	
C47	G108	G168	G168	C295	G357	C418	U480	G540	U600	U667	G731	U792	U854	U921	
C48	A109	C169	C234	U296	U357	U418	G481	G541	G601	G668	C732	U793	U855	G922	
U49	C110	U170	C235	G297	G360	U421	A482	C542	A602	U669	G733	A794	C856	A923	
A50	G111	G171	A236	G298	G361	C422	C483	U543	U603	U670	G734	C795	C857	G926	
A51	G112	A172	G237	G299	G362	G423	G484	C544	G604	U671	C735	C796	C858	G927	
C52	G113	G113	A238	A300	A363	G424	U485	C545	U605	U672	G736	C797	C859	G928	
A53	U114	U174	U239	G301	A364	G425	U486	A546	G606	A673	C737	U798	U863	G929	
C54	G115	C175	G240	G302	U365	U426	A487	A547	A607	G674	C738	G799	A864	G930	
G57	A116	C176	G241	U296	A366	U427	C488	C548	U608	A675	C739	G800	A865	C930	
C58	U118	G177	G242	G305	U367	G428	C489	C549	A609	A676	U740	U801	C931	C931	
A59	A119	C178	A243	A306	U368	U429	C490	C550	U610	U677	G741	A802	C932	C932	
A60	U120	A179	U244	C307	G369	A430	U429	U551	C611	U678	G742	G803	C933	G933	
G61	U121	U180	U245	C308	C370	A431	G492	U552	C612	C679	A743	U804	C934	C934	
U62	U122	A181	U246	A309	A371	A432	A493	A553	C613	C680	C744	C805	A935	A935	
C63	C123	A182	G247	G310	C372	A433	G494	A554	C614	A681	G745	C806	C936	C936	
C64	C124	C183	C248	C311	A373	A434	A495	U555	C615	U682	A746	A807	A937	A937	
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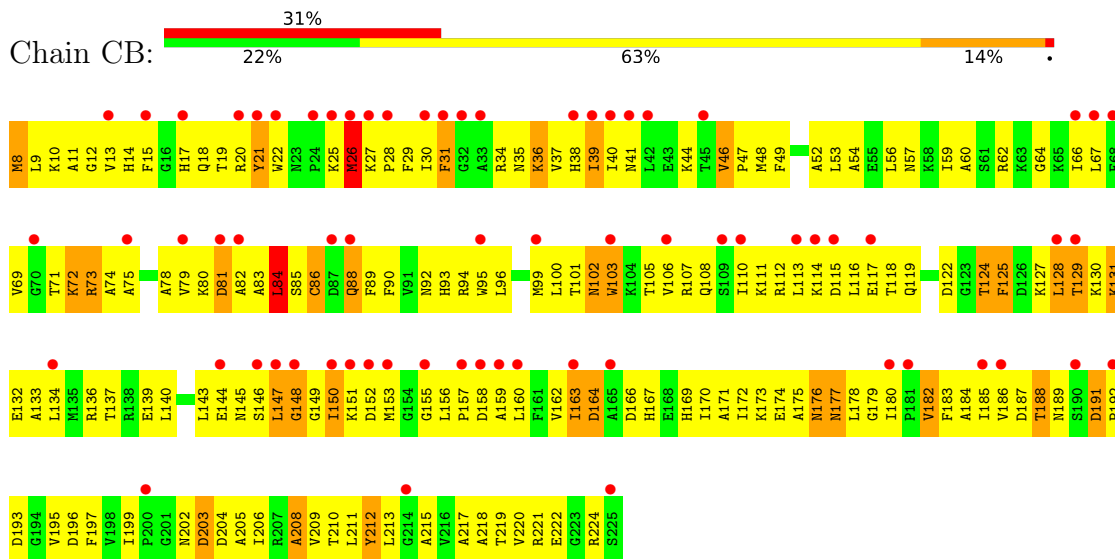
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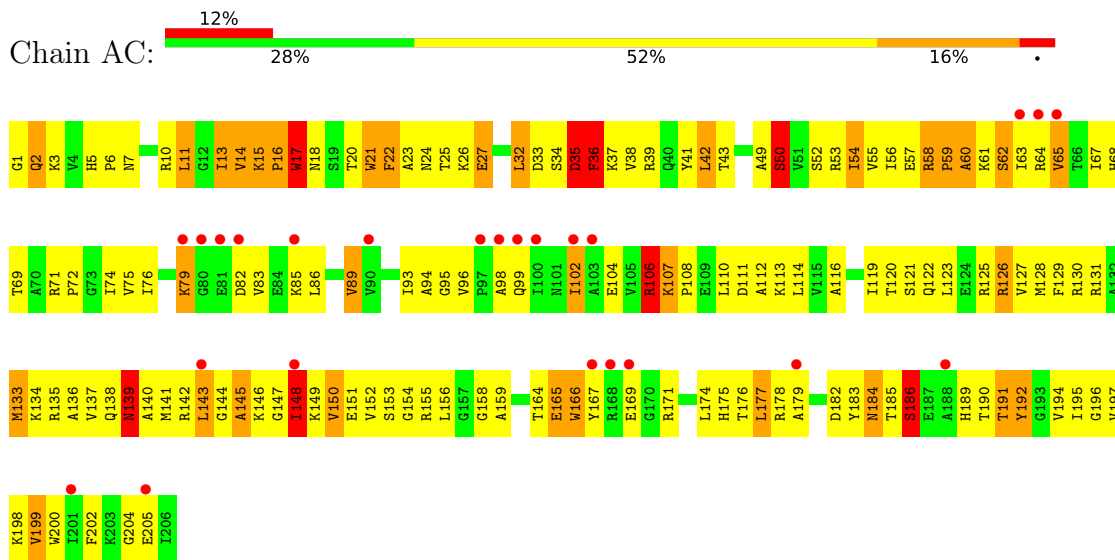




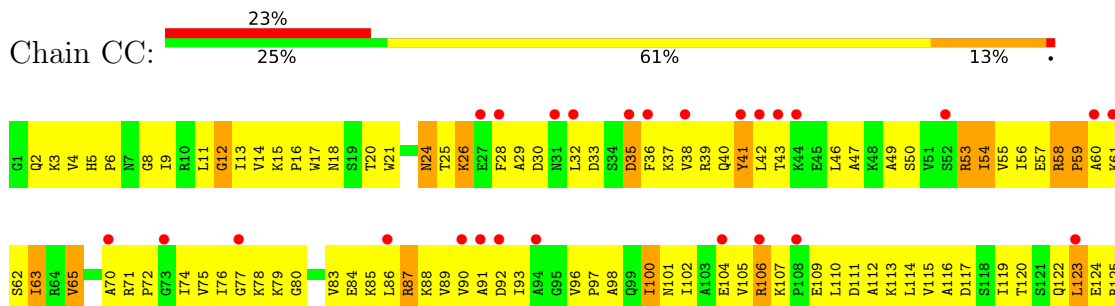
• Molecule 2: 30S ribosomal protein S2

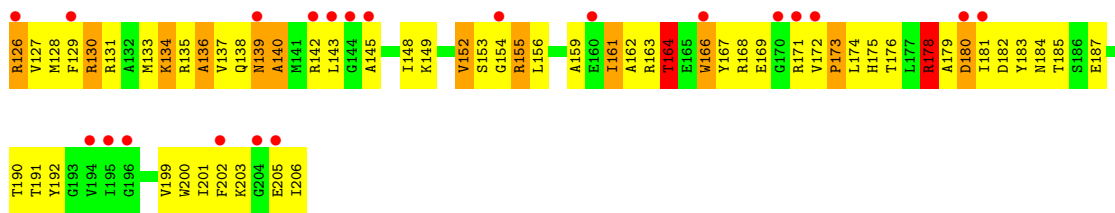


• Molecule 3: 30S ribosomal protein S3

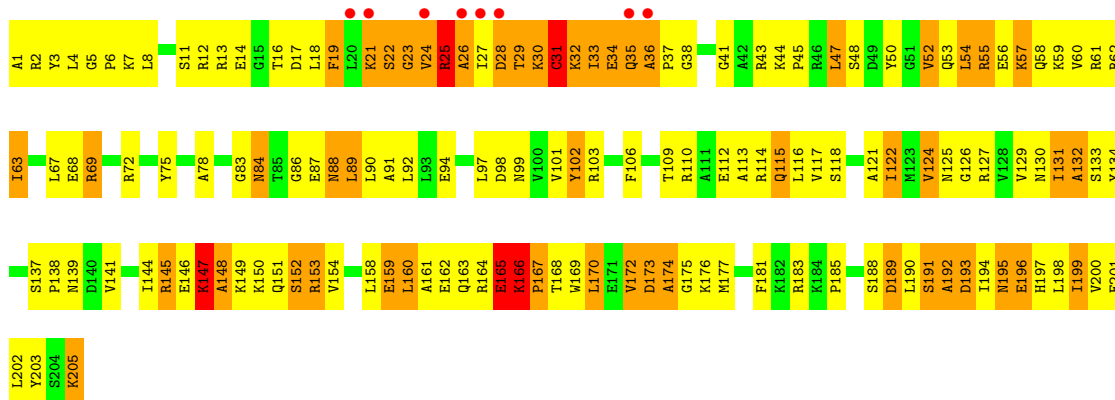


• Molecule 3: 30S ribosomal protein S3

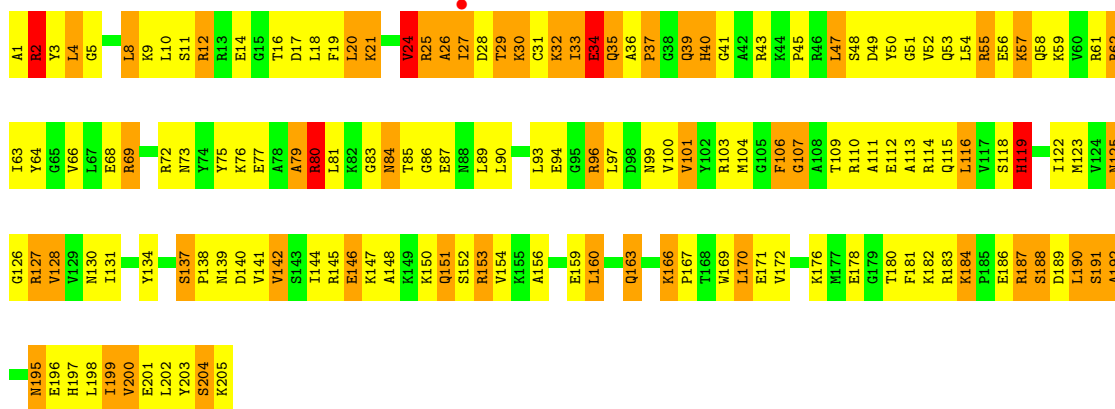




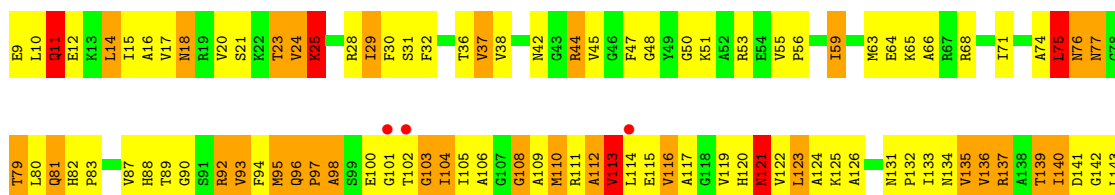
• Molecule 4: 30S ribosomal protein S4



• Molecule 4: 30S ribosomal protein S4

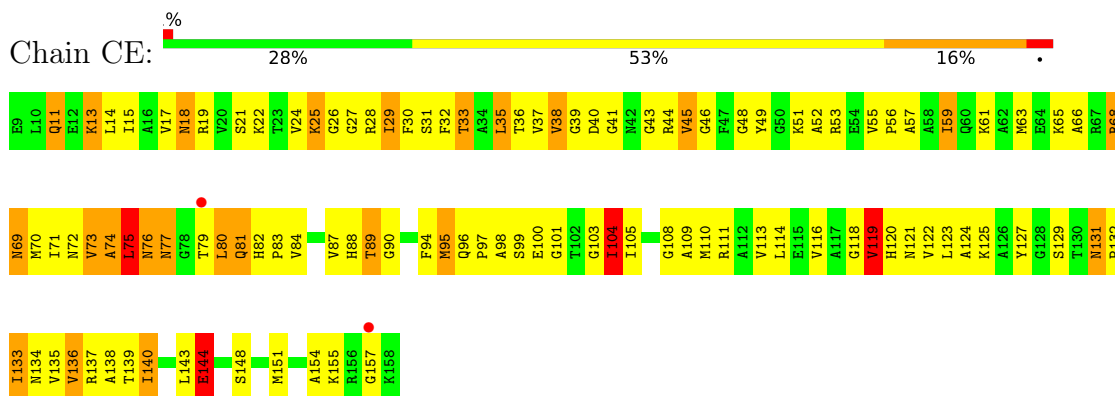


• Molecule 5: 30S ribosomal protein S5

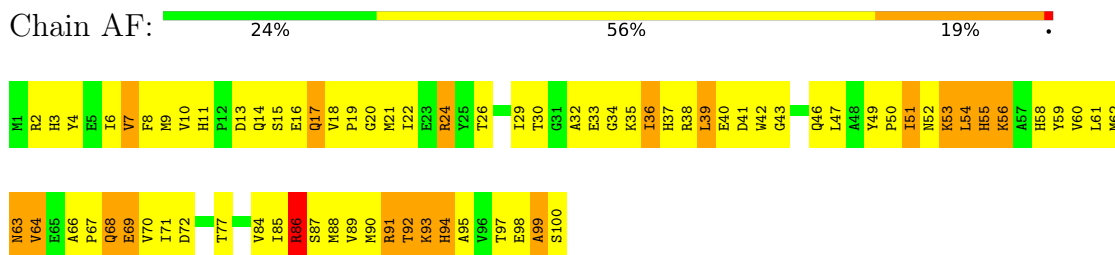




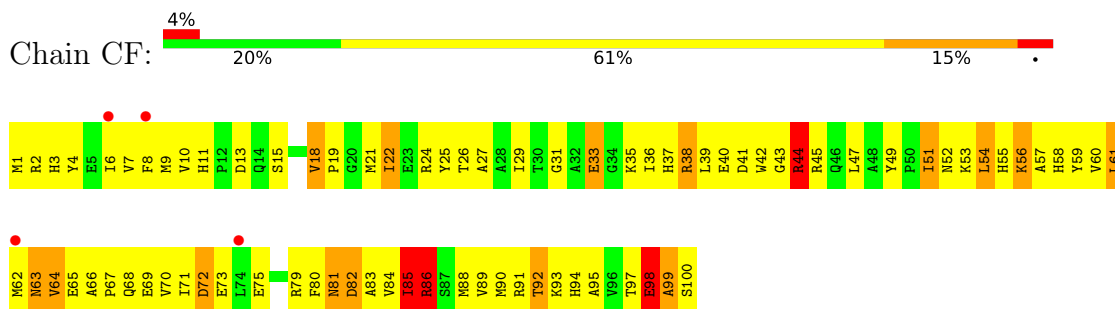
• Molecule 5: 30S ribosomal protein S5



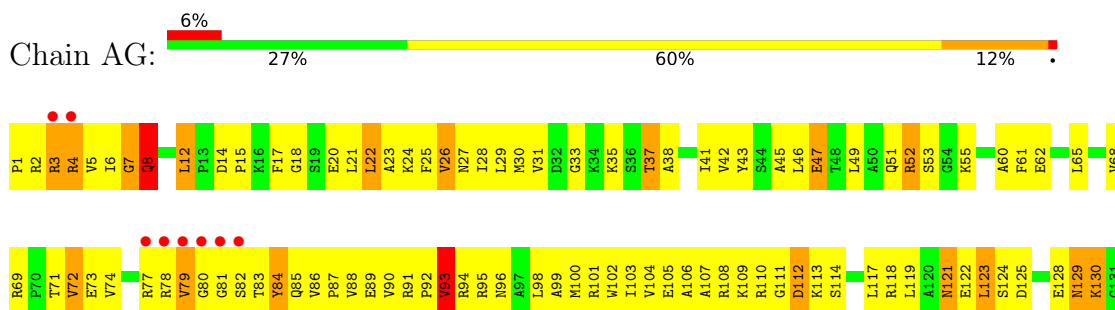
• Molecule 6: 30S ribosomal protein S6

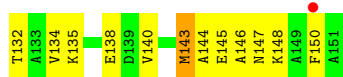


• Molecule 6: 30S ribosomal protein S6

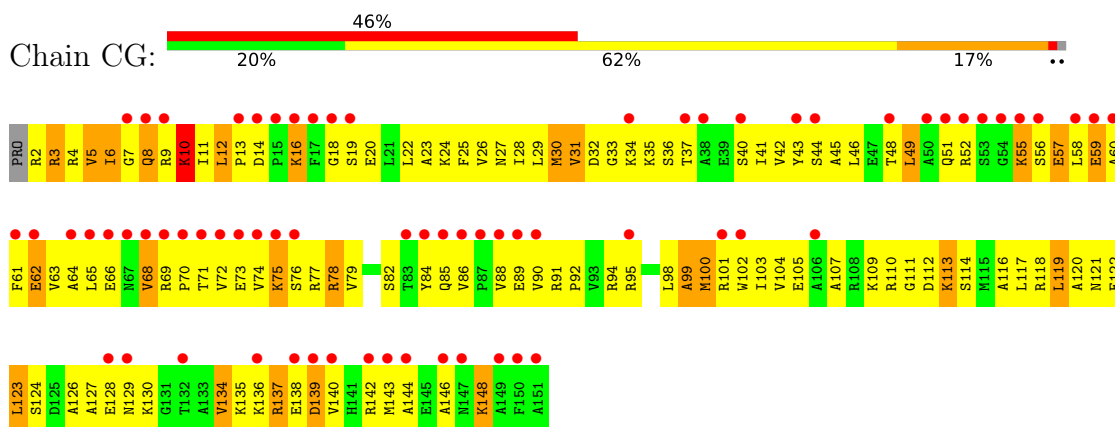


• Molecule 7: 30S ribosomal protein S7

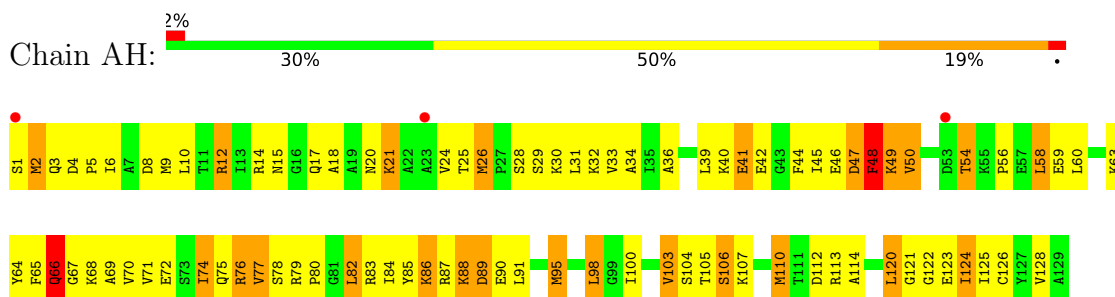




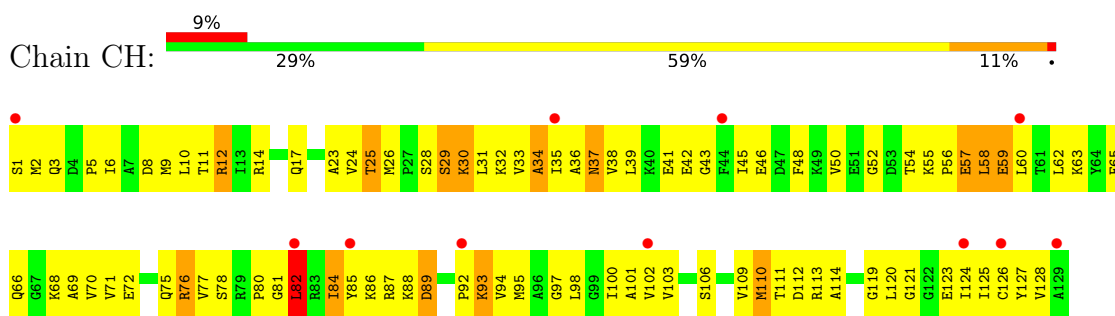
- Molecule 7: 30S ribosomal protein S7



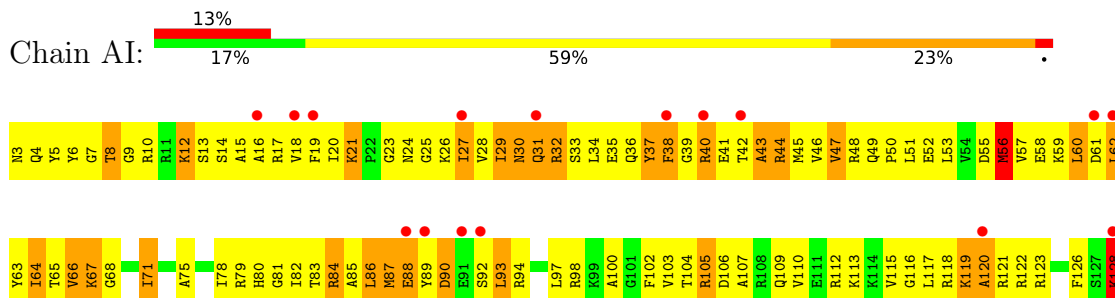
- Molecule 8: 30S ribosomal protein S8



- Molecule 8: 30S ribosomal protein S8

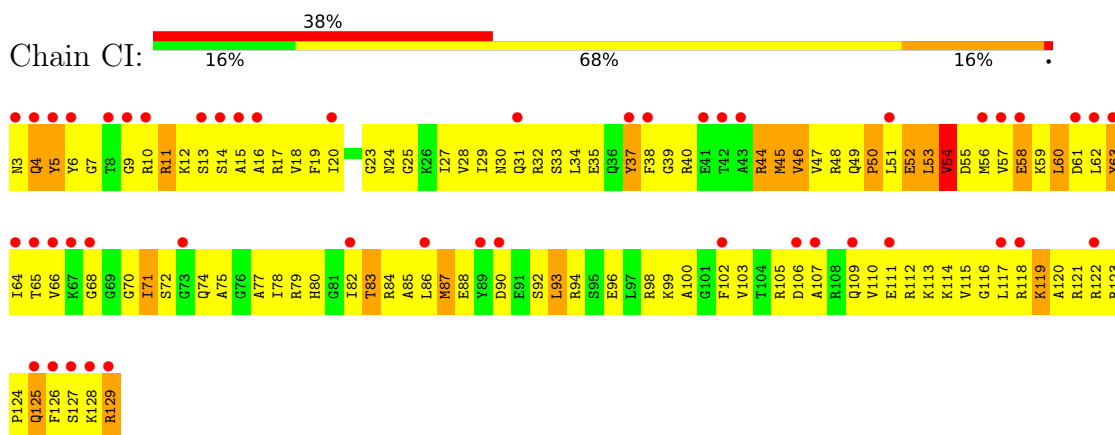


- Molecule 9: 30S ribosomal protein S9

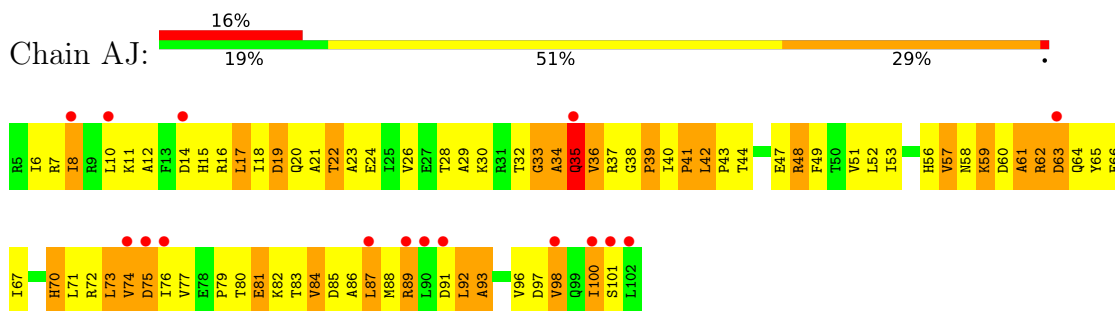


R129

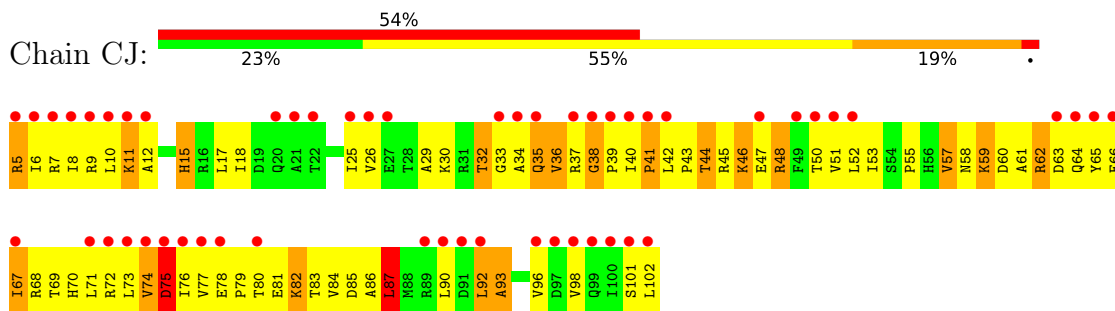
- Molecule 9: 30S ribosomal protein S9



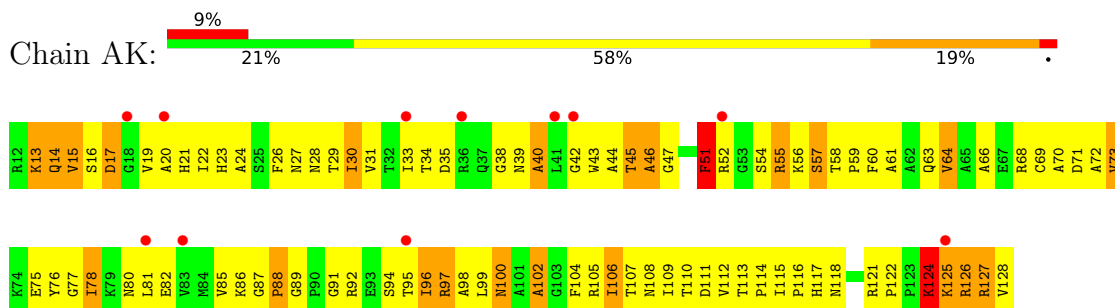
- Molecule 10: 30S ribosomal protein S10



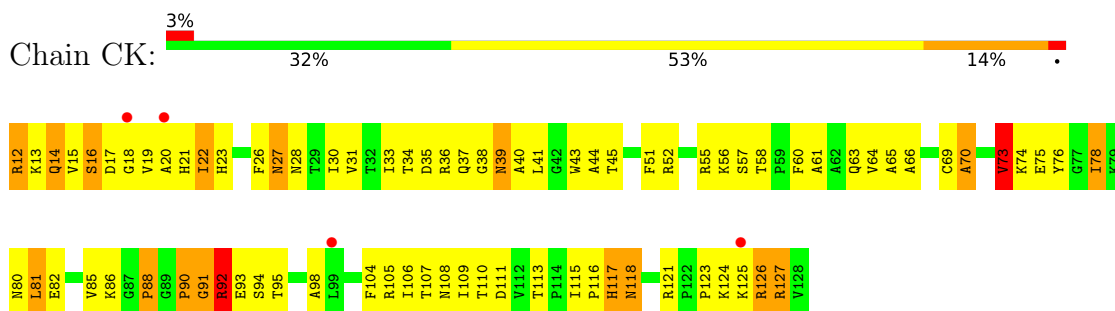
- Molecule 10: 30S ribosomal protein S10



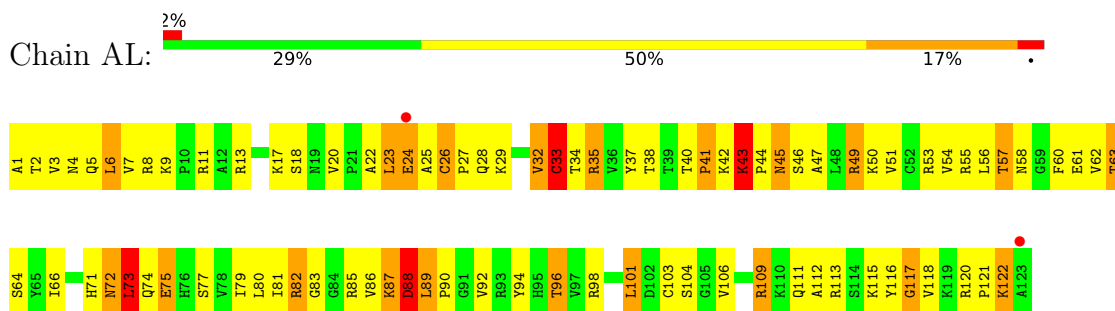
- Molecule 11: 30S ribosomal protein S11



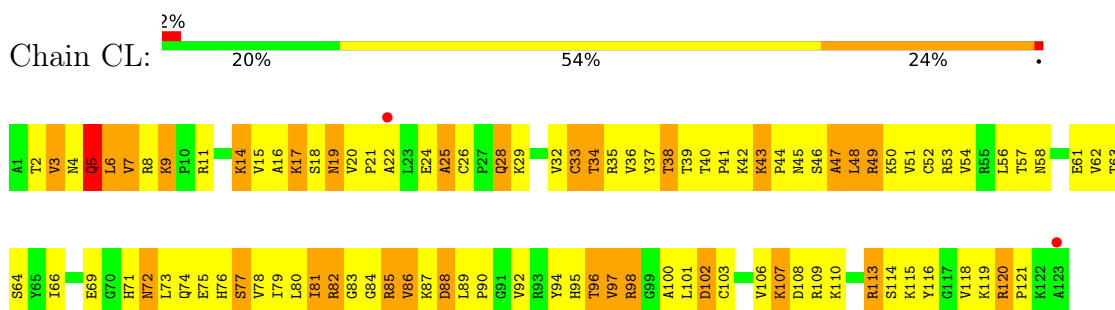
- Molecule 11: 30S ribosomal protein S11



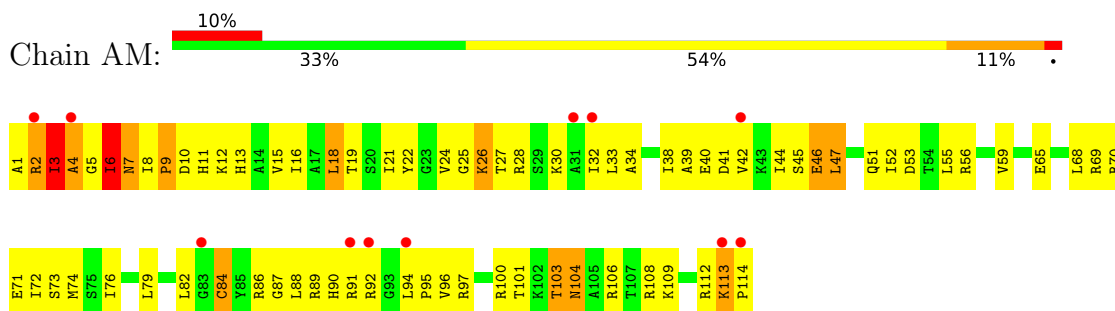
- Molecule 12: 30S ribosomal protein S12



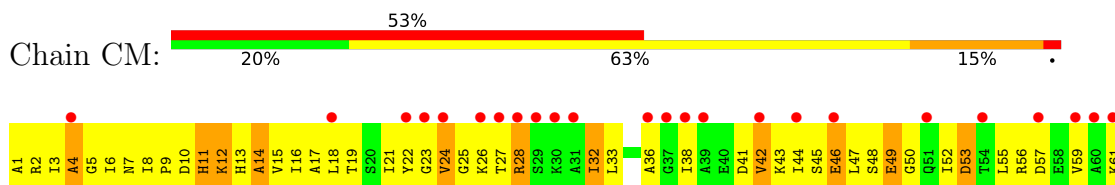
- Molecule 12: 30S ribosomal protein S12

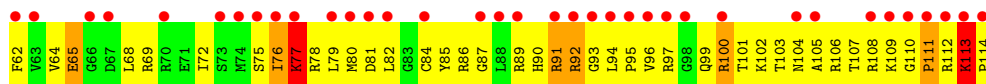


- Molecule 13: 30S ribosomal protein S13

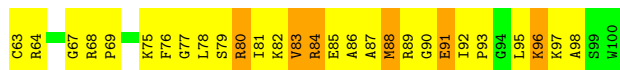
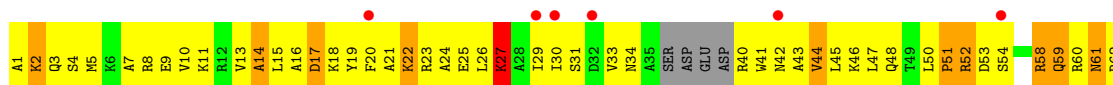


- Molecule 13: 30S ribosomal protein S13

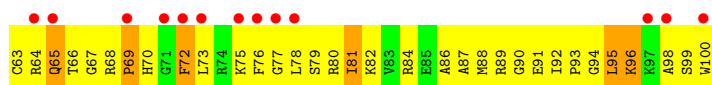
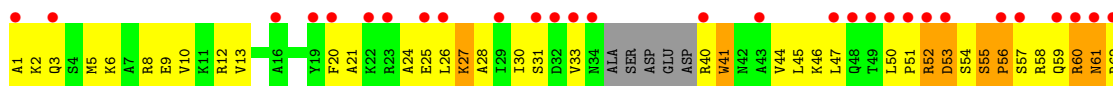
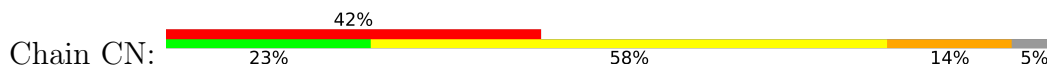




- Molecule 14: 30S ribosomal protein S14



- Molecule 14: 30S ribosomal protein S14



- Molecule 15: 30S ribosomal protein S15

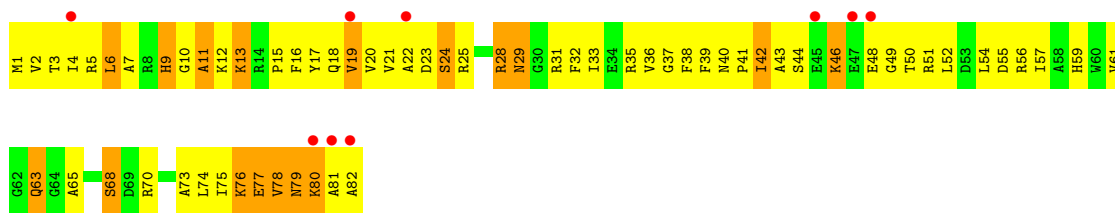


- Molecule 15: 30S ribosomal protein S15

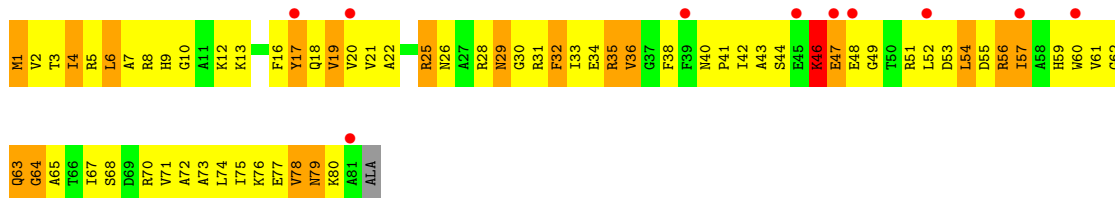


- Molecule 16: 30S ribosomal protein S16

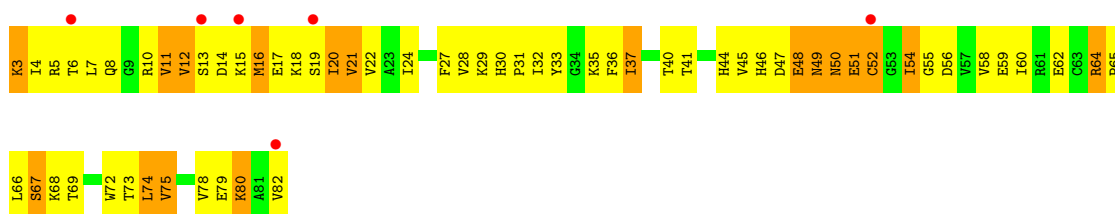




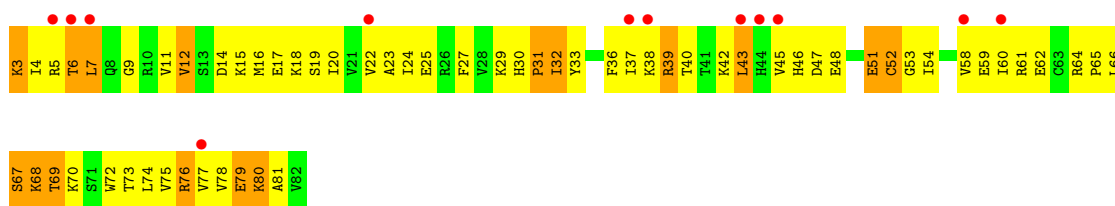
• Molecule 16: 30S ribosomal protein S16



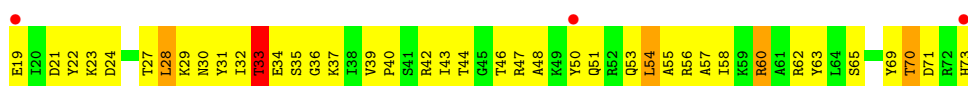
• Molecule 17: 30S ribosomal protein S17



• Molecule 17: 30S ribosomal protein S17



• Molecule 18: 30S ribosomal protein S18

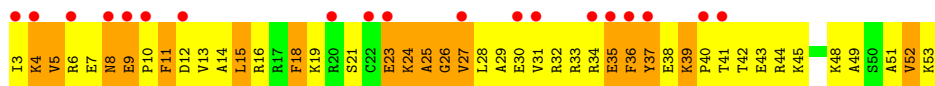


• Molecule 18: 30S ribosomal protein S18

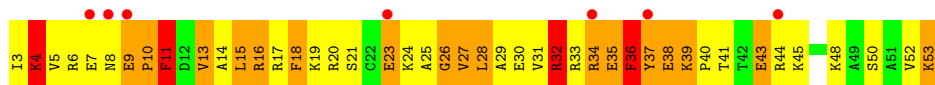
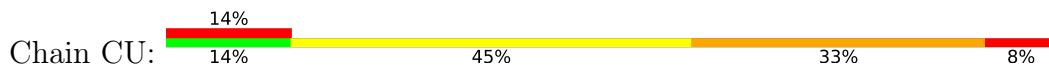




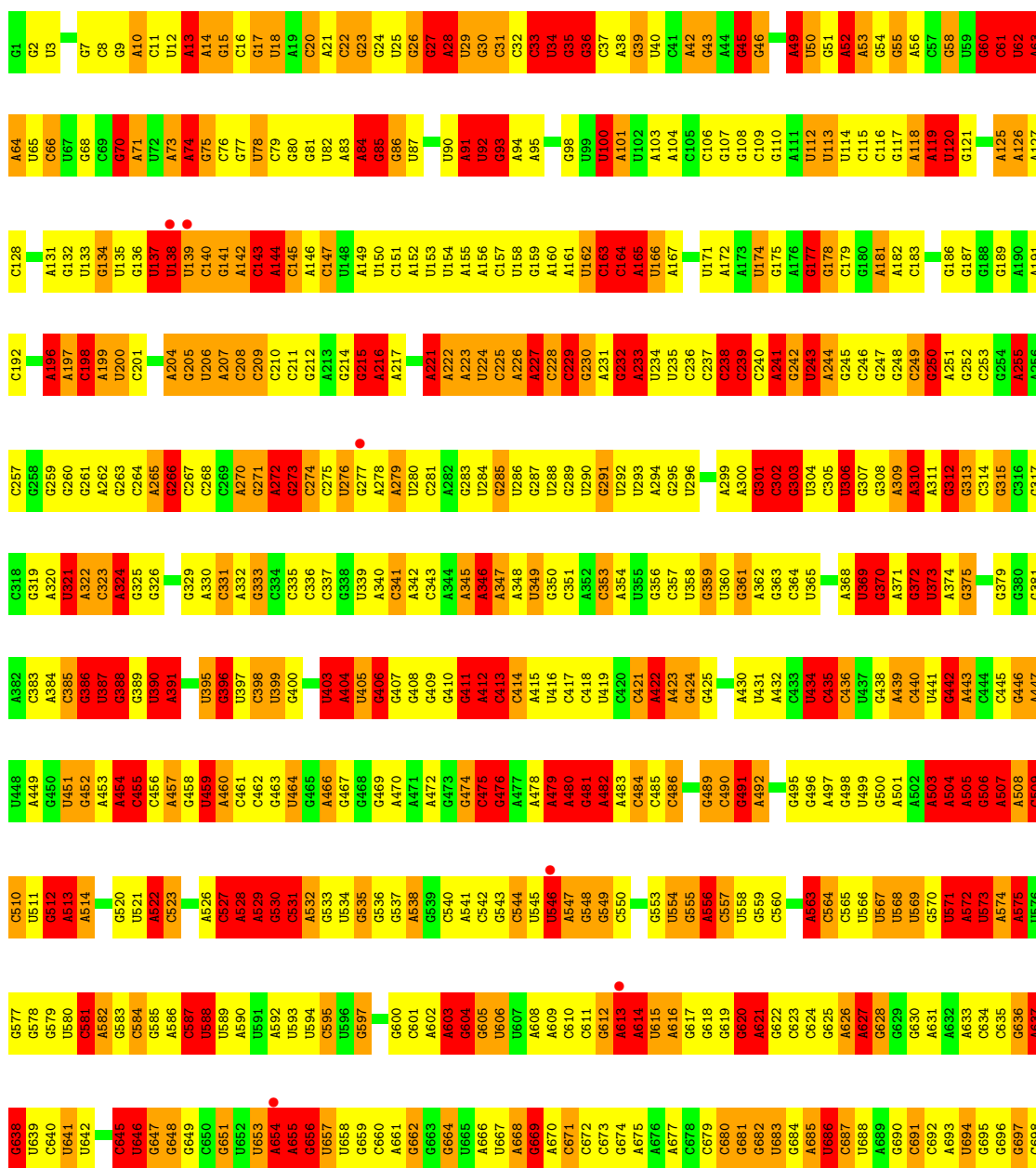
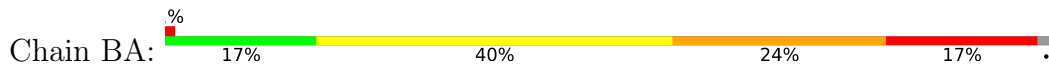




• Molecule 21: 30S ribosomal protein S21

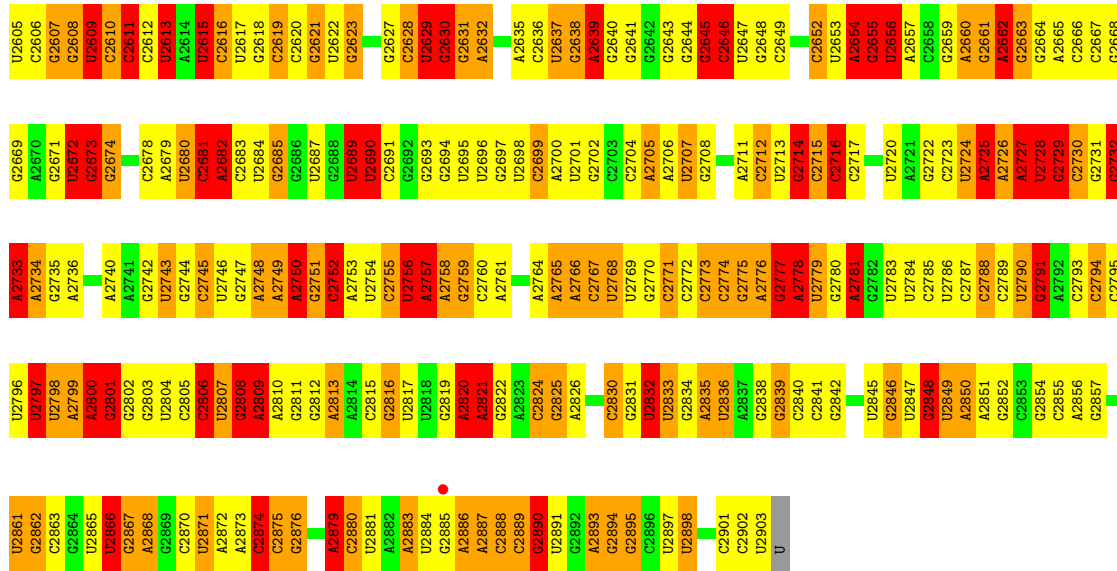


• Molecule 22: 23S rRNA

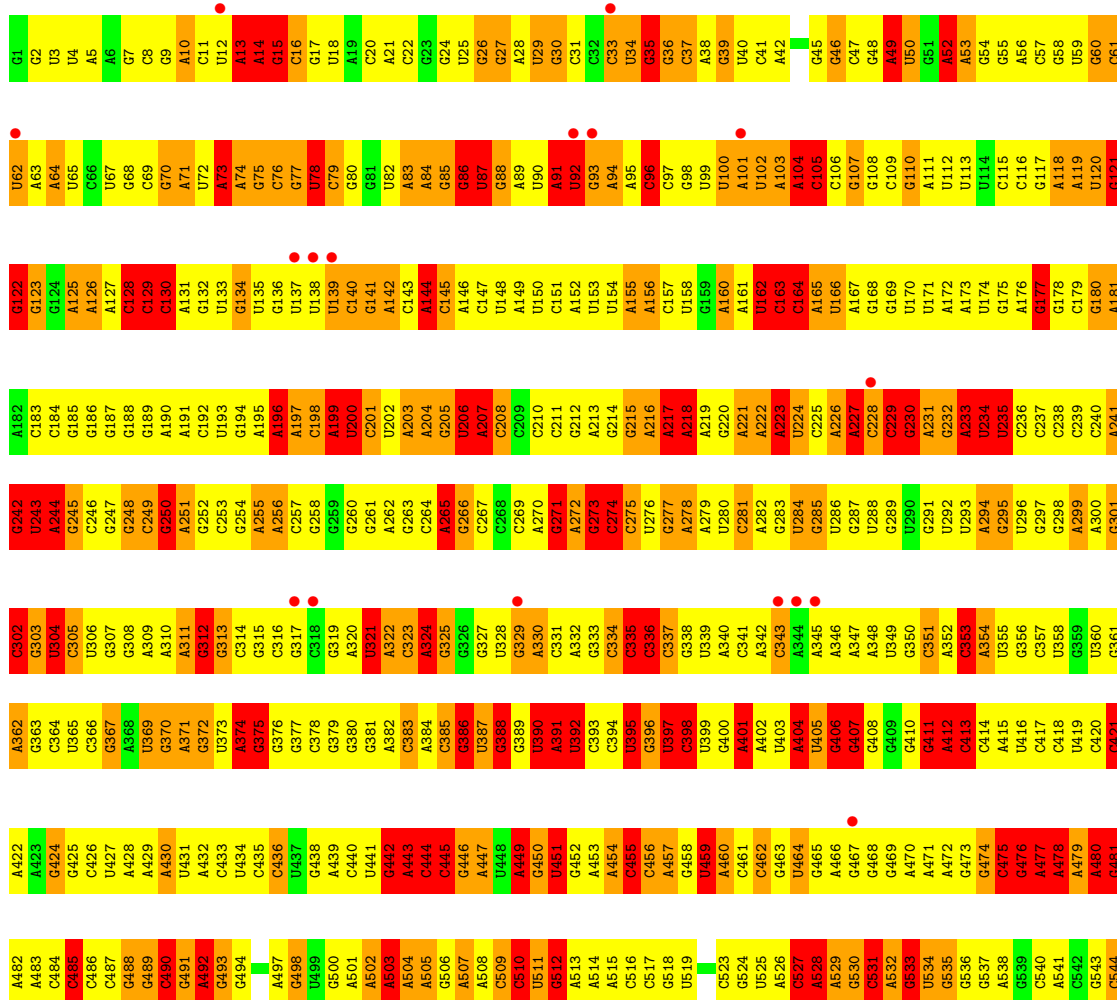




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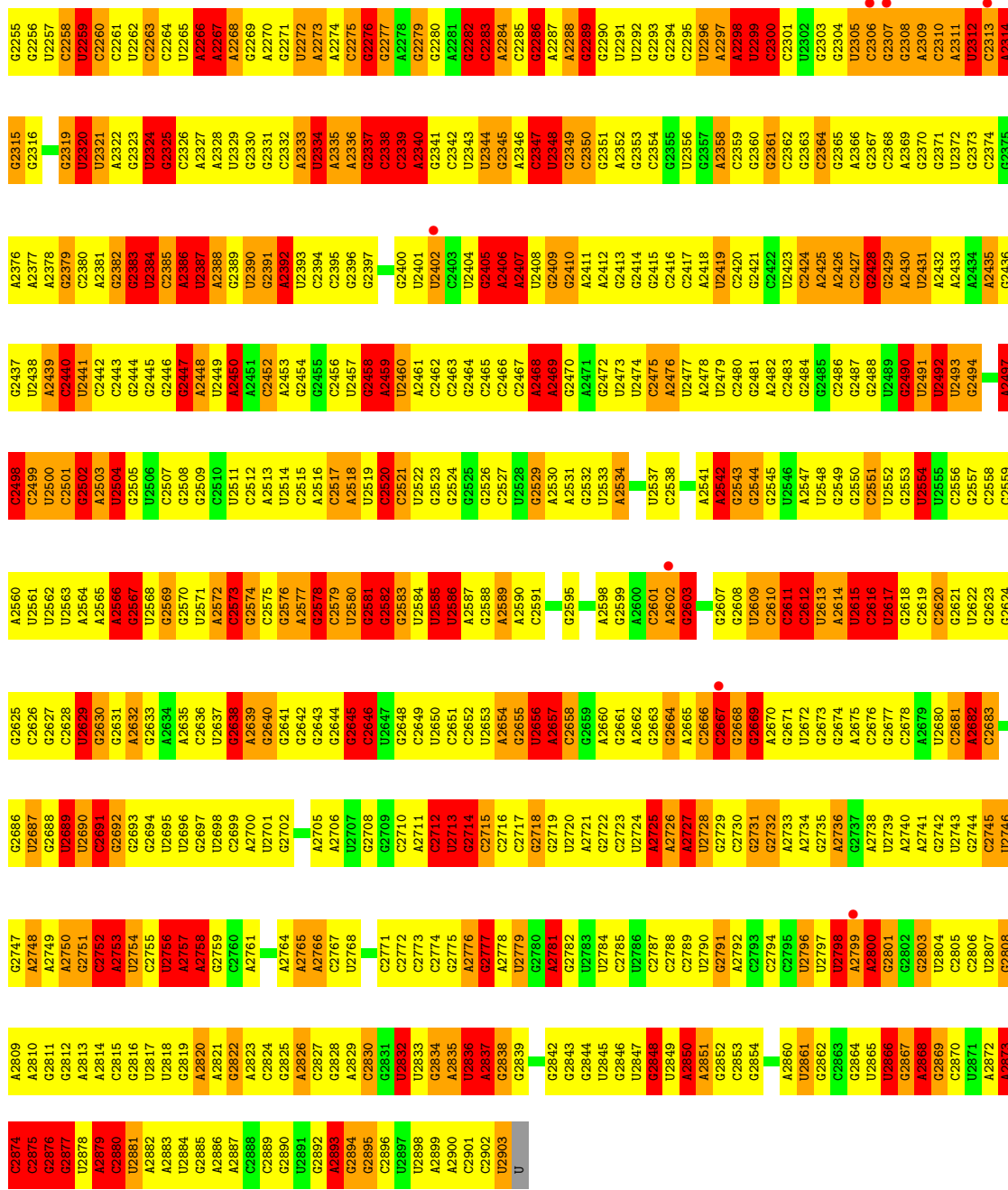


• Molecule 22: 23S rRNA

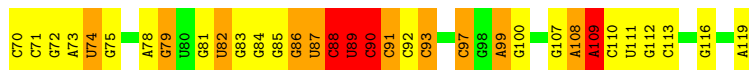




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A	C2103	C2043	C2043	A1981	C1920	G1857	A1795	U1735	C1615	U1554	C1493	A1433	A1433
C	G2104	G2044	C2044	U1982	A1858	U1858	U1796	A1736	A1616	G1494	A1433	A1433	A1433
C	U2105	C2045	C2045	G1983	U1859	U1859	G1797	A1737	A1617	A1495	A1434	A1434	A1434
U	U2106	C2046	C2046	G1984	G1860	G1860	U1798	G1738	A1618	C1557	G1435	G1435	G1435
U	G2107	C2047	C2047	C1985	G1861	G1861	U1799	A1739	C1558	U1497	G1436	G1436	G1436
G	A2108	G2048	G2048	U1986	U1926	C1800	C1800	G1740	C1559	C1498	U1437	U1438	U1438
A	U2109	G2049	A2049	A1987	A1927	G1862	C1741	G1621	G1560	C1499	U1438	U1439	U1439
A	G2110	C2050	C2050	G1988	U1864	U1864	U1742	U1622	C1561	G1500	A1439	A1440	A1440
U	U	A2051	A2051	G1989	G1928	A1803	G1743	G1623	U1562	G1501	U1440	U1441	U1441
G	C	A2052	A2052	C1990	G1930	C1804	A1744	U1624	U1563	A1502	G1442	U1442	U1442
A	U	G2053	G2053	U1991	U1931	G1867	A1605	C1625	C1564	A1503	U1443	U1443	U1443
A	A	A2054	A2054	G1992	A1932	C1868	A1746	A1626	C1565	A1504	U1444	U1444	U1444
C	G	C2055	C2055	U1993	G1933	G1869	U1747	G1627	A1566	A1505	G1445	G1445	G1445
A	G	G2056	G2056	C1994	C1934	C1870	A1808	U1628	U1506	G1446	C1446	C1446	C1446
C	U	G2057	G2057	U1995	G1935	A1871	A1809	A1629	G1568	C1507	C1447	C1447	C1447
U	U	A2058	A2058	C1996	A1936	A1872	A1810	A1630	A1508	A1508	G1448	G1448	G1448
A	A	A2059	A2059	C1997	U1937	G1873	U1751	G1631	A1570	A1509	G1448	G1448	G1448
G	G	A2060	A2060	A1998	A1938	C1874	C1752	C1632	A1571	A1571	G1450	G1450	G1450
G	G	G2061	G2061	C1999	G1939	G1875	G1753	G1633	A1572	G1511	G1451	G1451	G1451
G	G	A2062	A2062	C2000	U1940	A1876	A1754	A1634	C1573	C1512	G1452	G1452	G1452
U	U	C2063	C2063	C2001	G1941	A1877	A1755	A1635	C1574	U1513	G1453	G1453	G1453
G	G	C2064	C2064	G2002	C1942	G1878	G1756	U1636	U1575	G1514	A1453	A1453	A1453
G	G	C2065	C2065	U1943	U1943	G1879	A1757	G1637	U1576	U1515	C1454	C1454	C1454
G	A	C2066	C2066	U1944	U1944	U1880	U1758	A1638	C1577	G1516	G1455	G1455	G1455
G	G	G2067	G2067	C2007	G1945	C1881	U1759	C1639	U1578	G1517	G1456	G1456	G1456
G	G	U2068	U2068	C2008	U1946	U1882	U1760	A1640	C1518	G1518	G1457	G1457	G1457
C	C	G2069	G2069	A2009	G1947	G1883	C1761	A1641	G1581	G1519	U1458	U1458	U1458
U	U	A2070	A2070	G2010	G1948	G1884	U1762	G1642	C1521	U1520	G1459	G1459	G1459
U	U	A2071	A2071	U2011	G1949	A1885	G1763	G1643	A1583	G1521	U1460	U1460	U1460
U	U	C2072	C2072	G2012	G1950	U1886	U1764	C1644	U1584	A1522	C1461	C1461	C1461
U	U	A2013	A2013	A2013	U1951	U1887	U1765	C1645	U1585	A1523	C1462	C1462	C1462
A2134	U2074	U2074	U2074	A2014	A1952	G1888	G1766	C1706	A1586	G1524	C1463	C1463	C1463

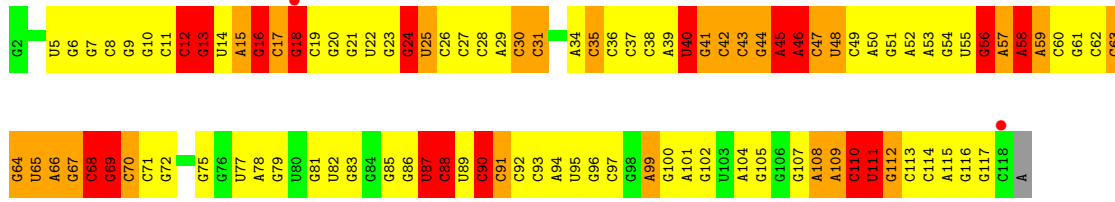
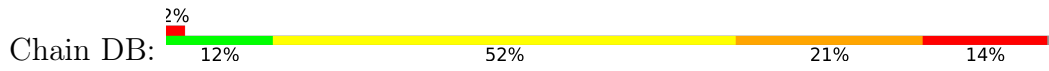


• Molecule 23: 5S rRNA

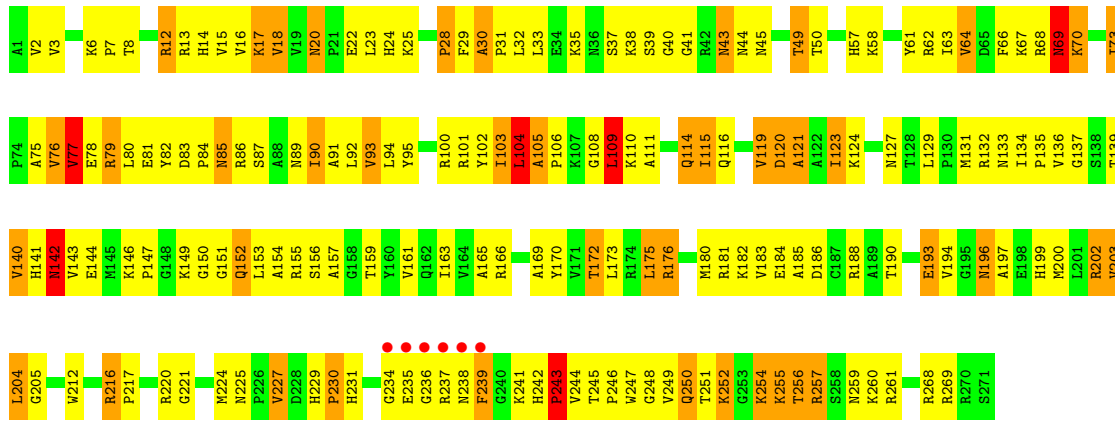


• Molecule 23: 5S rRNA

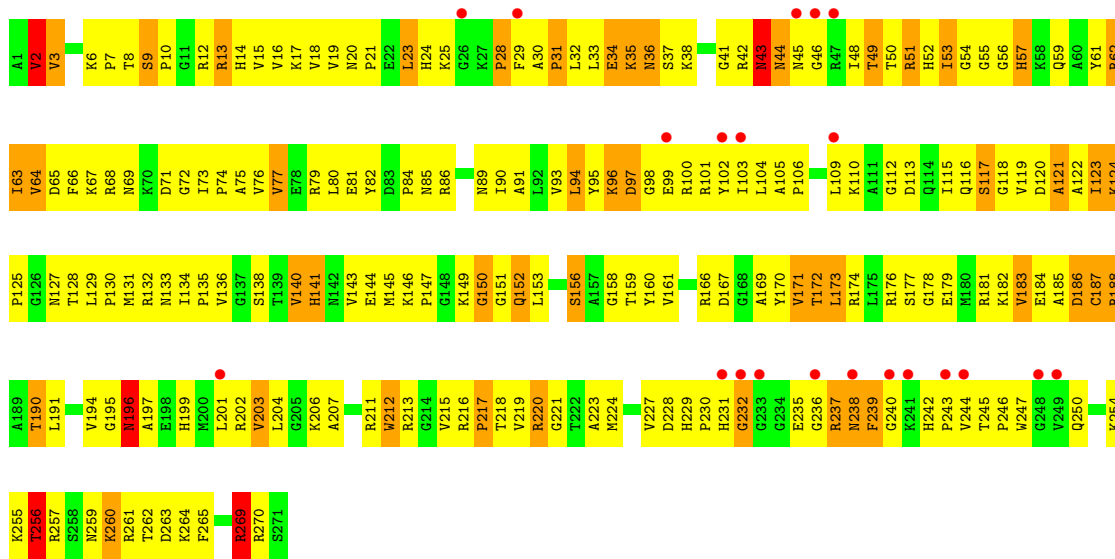




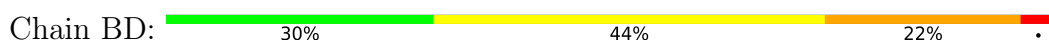
• Molecule 24: 50S ribosomal protein L2

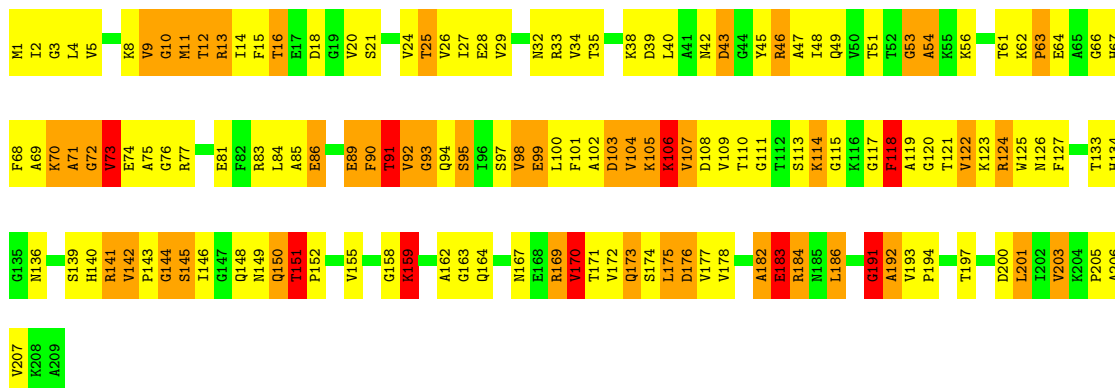


• Molecule 24: 50S ribosomal protein L2

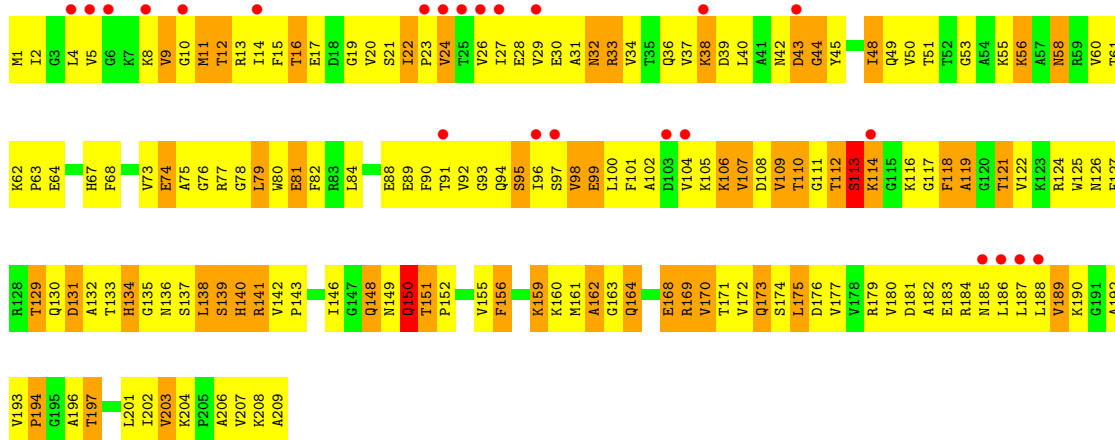


• Molecule 25: 50S ribosomal protein L3

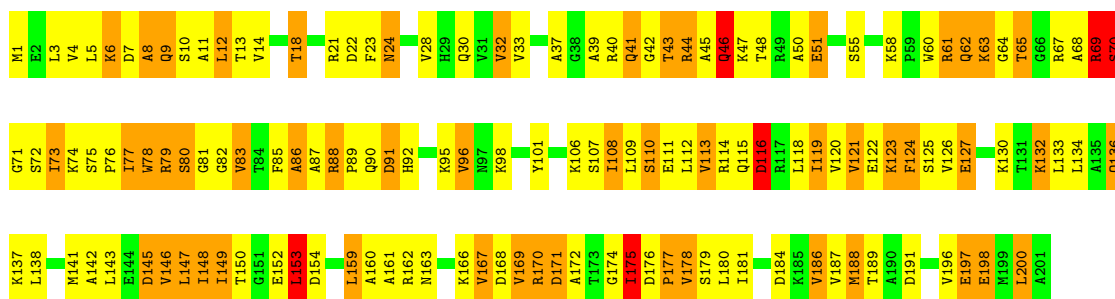




• Molecule 25: 50S ribosomal protein L3

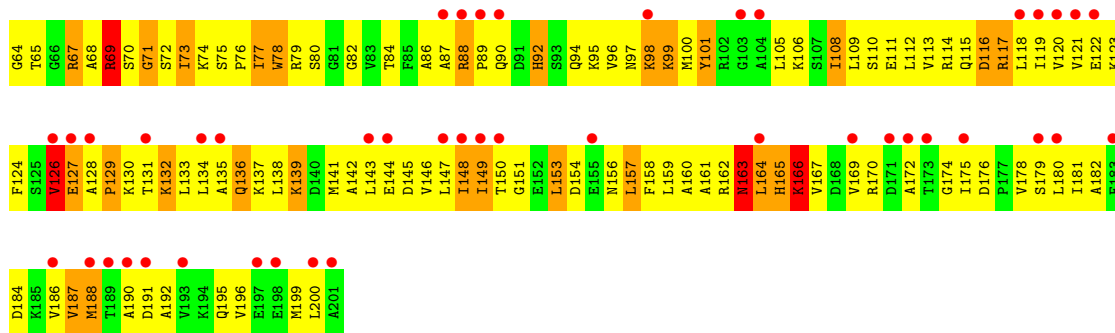


• Molecule 26: 50S ribosomal protein L4

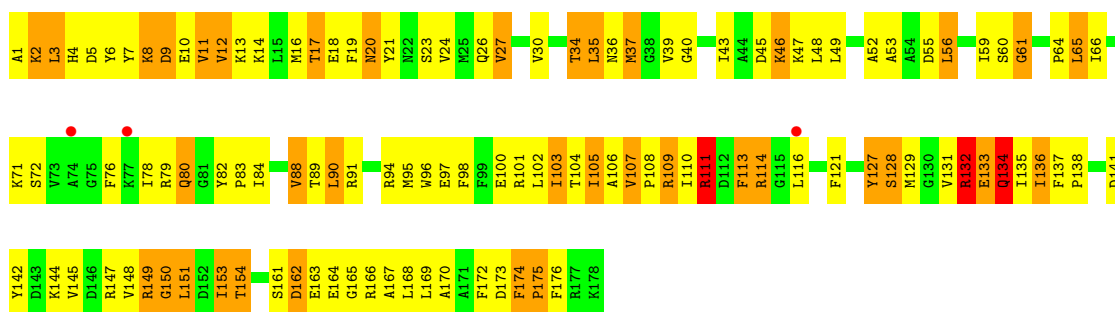


• Molecule 26: 50S ribosomal protein L4

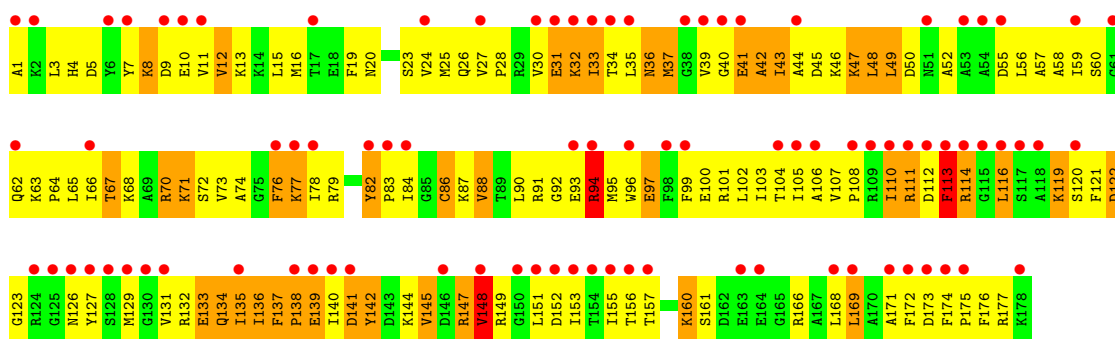




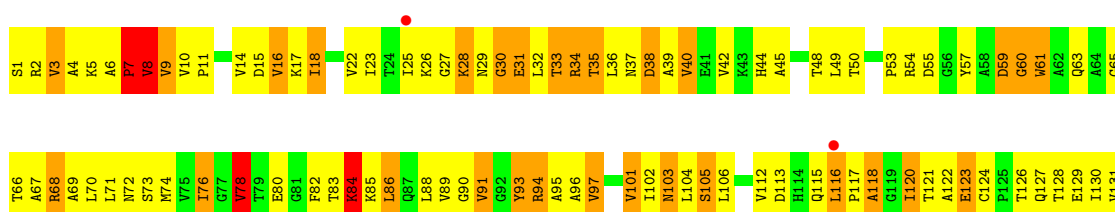
• Molecule 27: 50S ribosomal protein L5

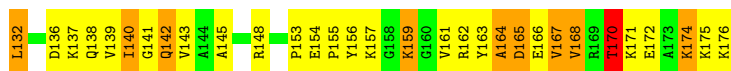


• Molecule 27: 50S ribosomal protein L5

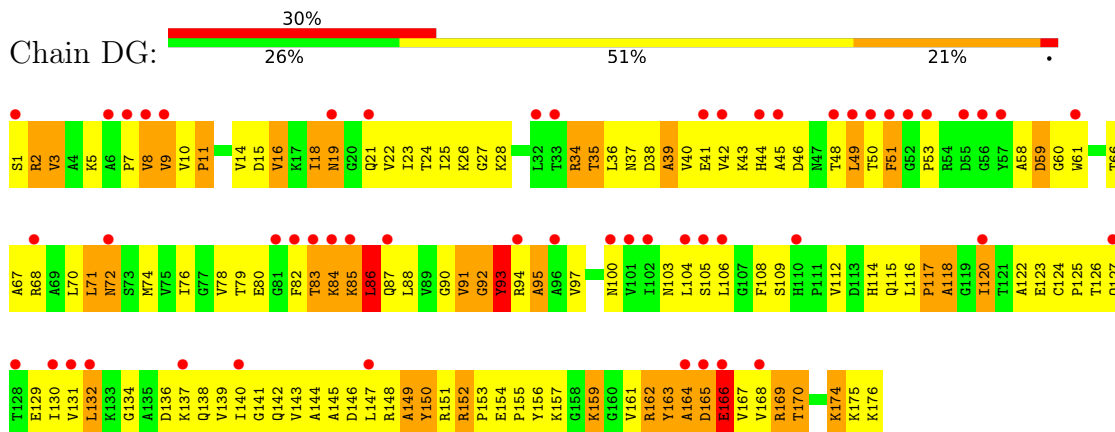


• Molecule 28: 50S ribosomal protein L6

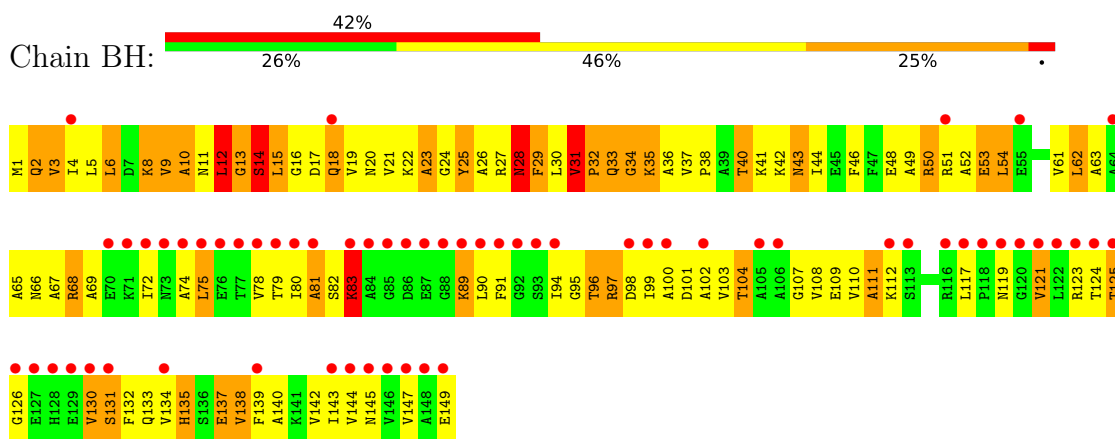




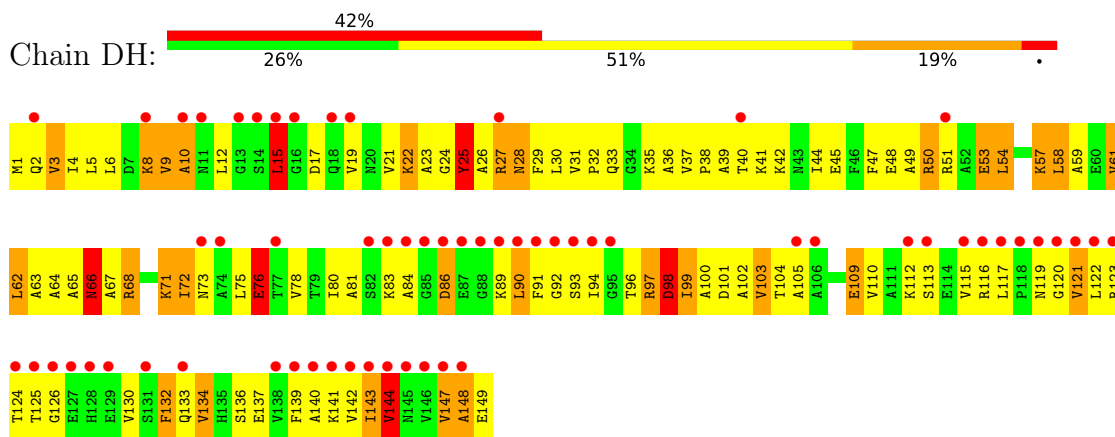
- Molecule 28: 50S ribosomal protein L6



- Molecule 29: 50S ribosomal protein L9

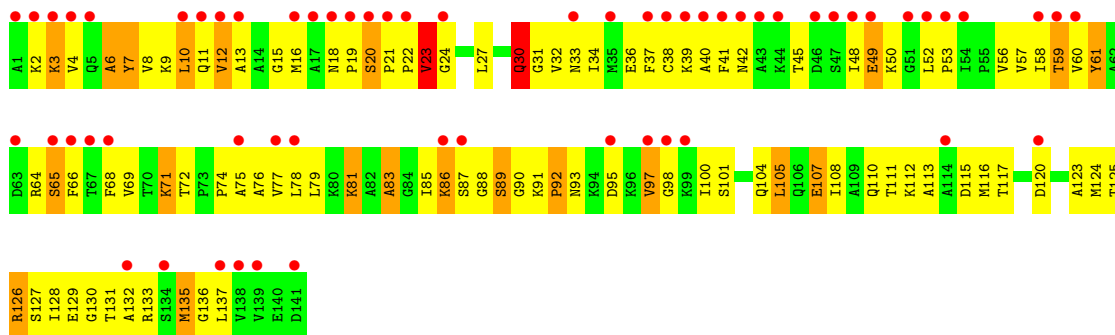


- Molecule 29: 50S ribosomal protein L9

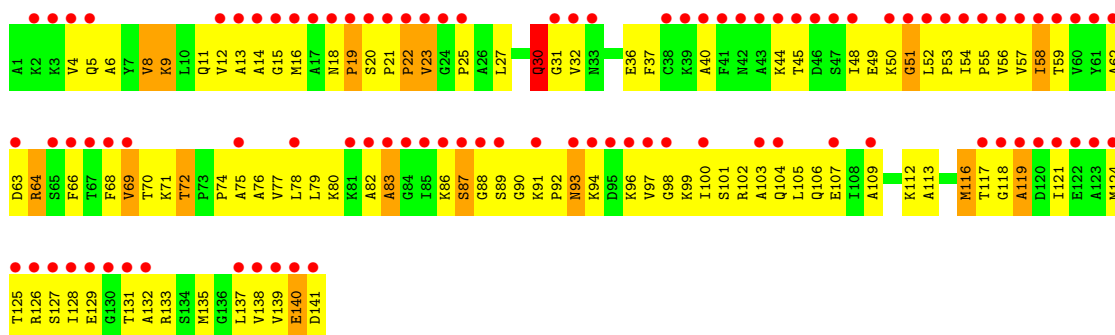


- Molecule 30: 50S ribosomal protein L11

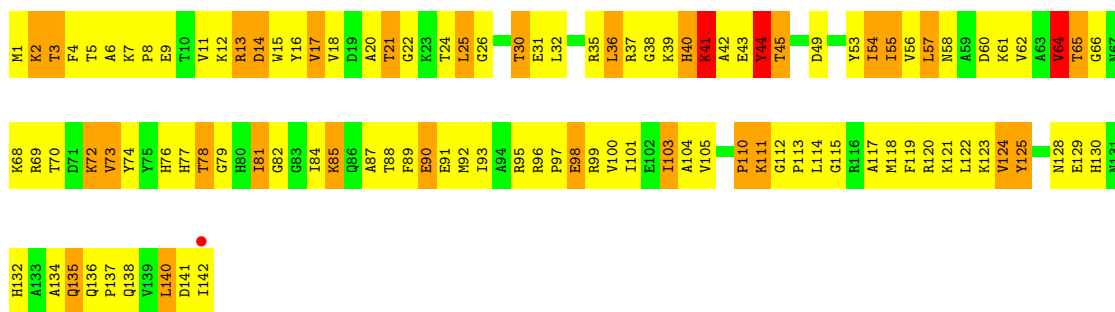
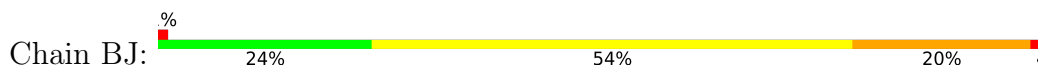




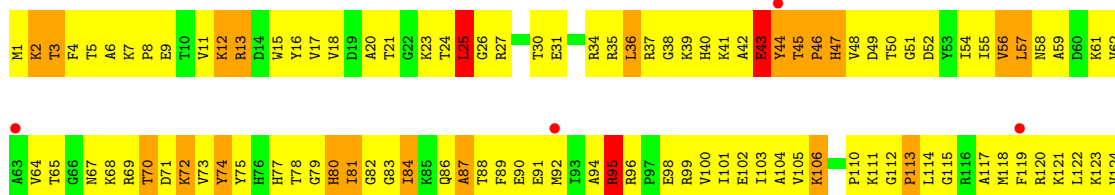
• Molecule 30: 50S ribosomal protein L11



• Molecule 31: 50S ribosomal protein L13



• Molecule 31: 50S ribosomal protein L13

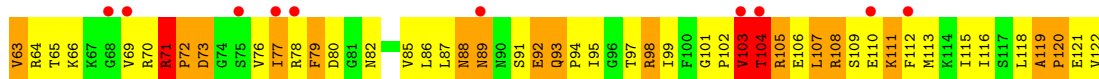
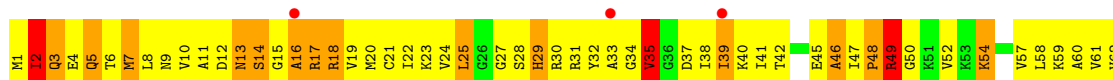
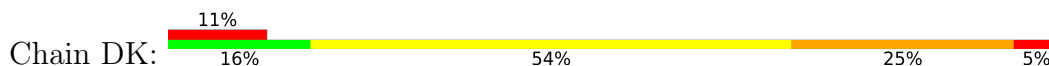




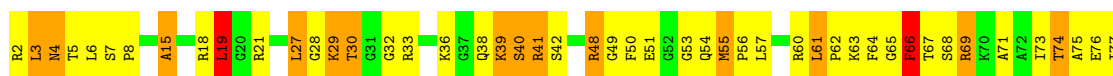
• Molecule 32: 50S ribosomal protein L14



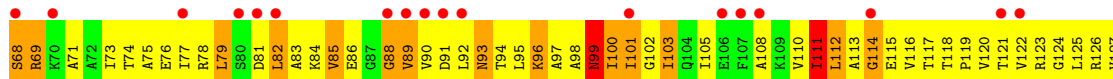
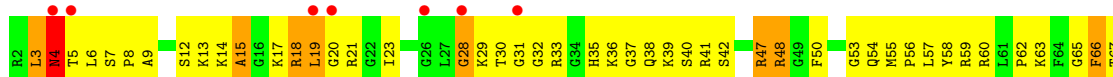
• Molecule 32: 50S ribosomal protein L14



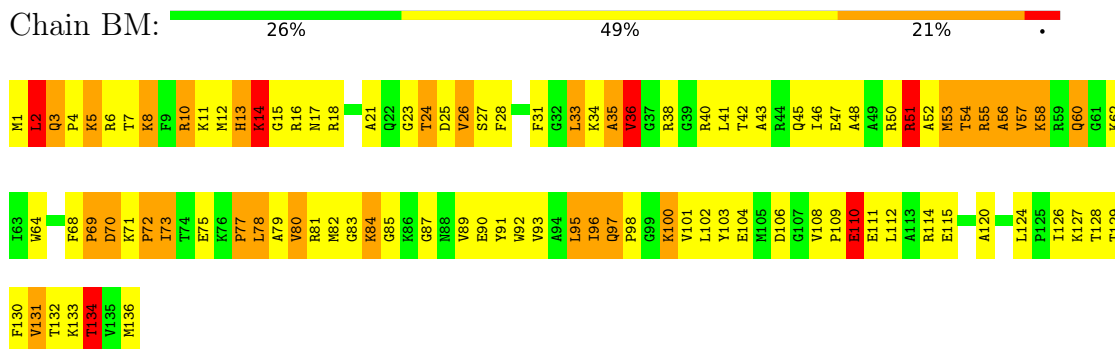
• Molecule 33: 50S ribosomal protein L15



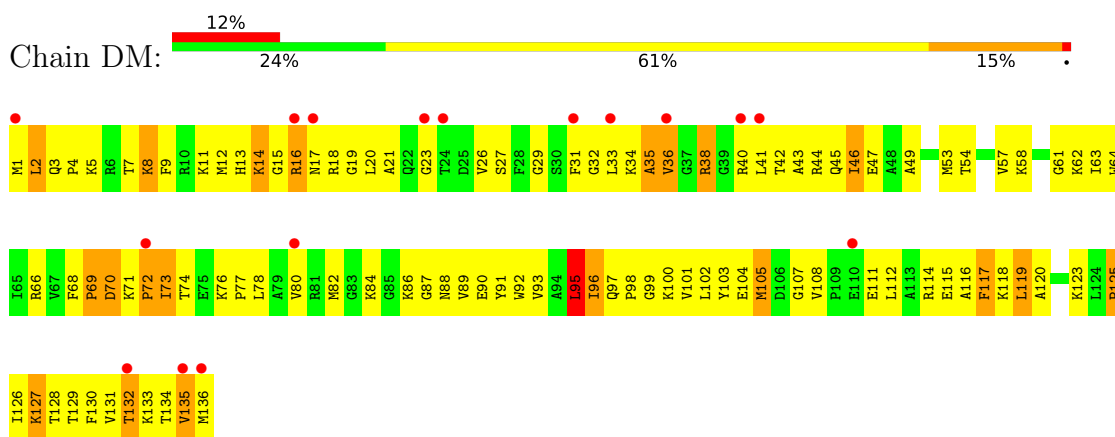
• Molecule 33: 50S ribosomal protein L15



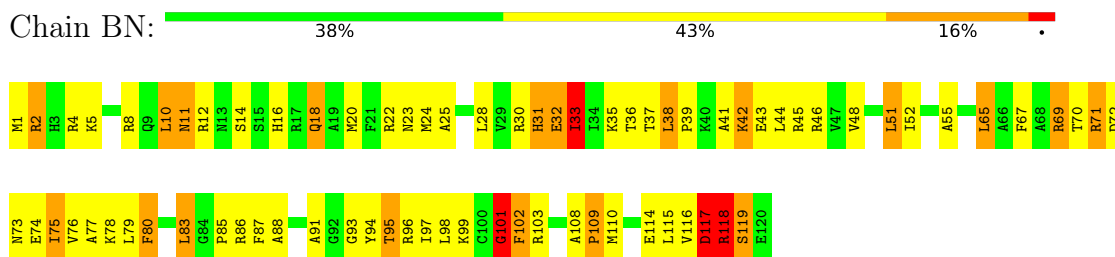
- Molecule 34: 50S ribosomal protein L16



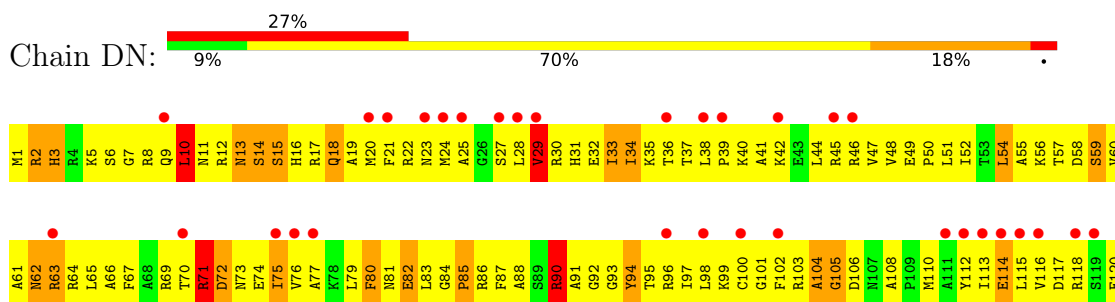
- Molecule 34: 50S ribosomal protein L16



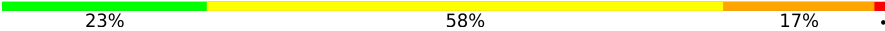
- Molecule 35: 50S ribosomal protein L17

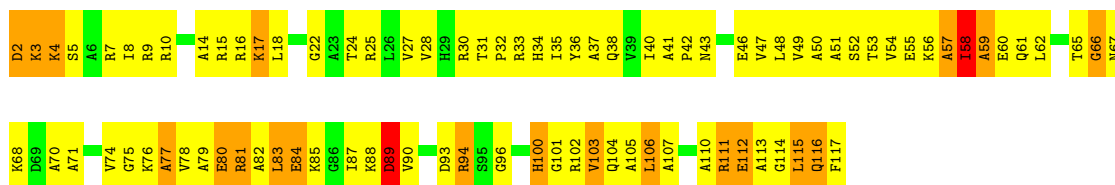


- Molecule 35: 50S ribosomal protein L17



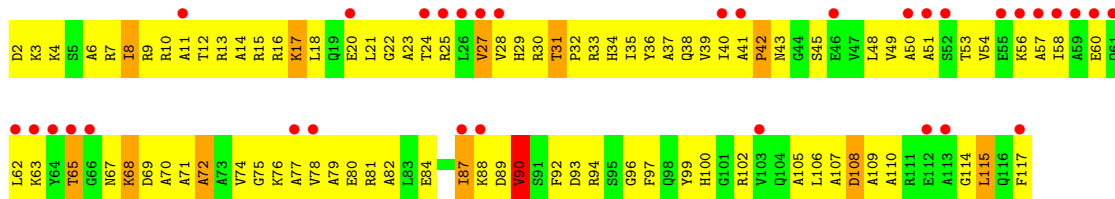
- Molecule 36: 50S ribosomal protein L18

Chain BO:  23% 58% 17%




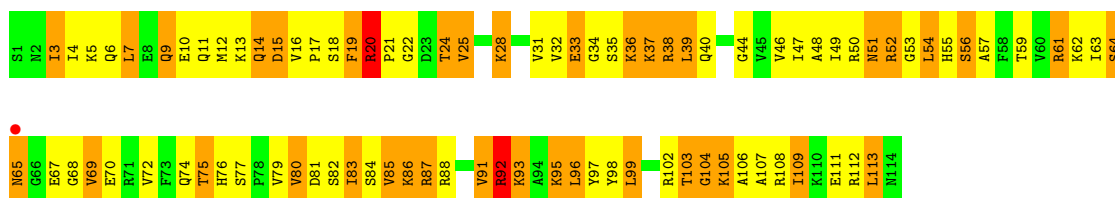
- Molecule 36: 50S ribosomal protein L18

Chain DO:  22% 28% 67% 9%



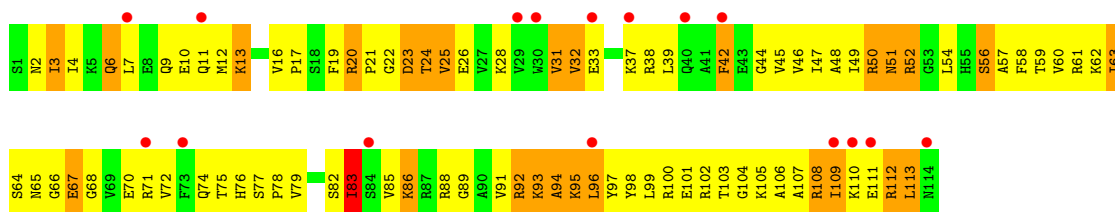
- Molecule 37: 50S ribosomal protein L19

Chain BP:  22% 43% 33%



- Molecule 37: 50S ribosomal protein L19

Chain DP:  14% 22% 54% 23%

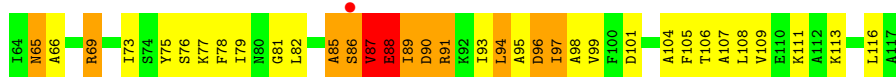


- Molecule 38: 50S ribosomal protein L20

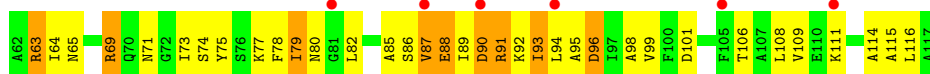
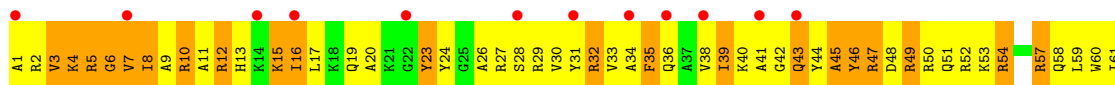
Chain BQ:  34% 47% 17%







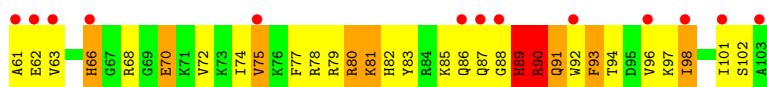
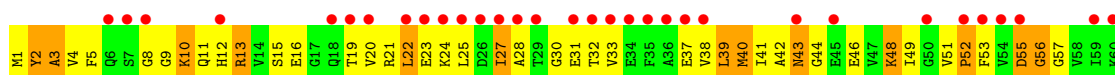
- Molecule 38: 50S ribosomal protein L20



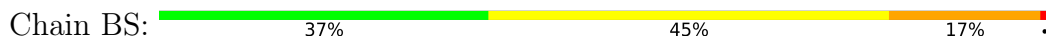
- Molecule 39: 50S ribosomal protein L21



- Molecule 39: 50S ribosomal protein L21

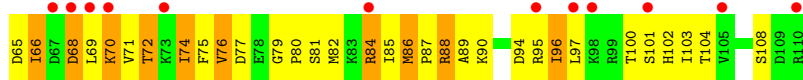
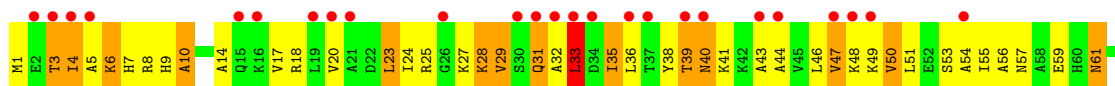


- Molecule 40: 50S ribosomal protein L22

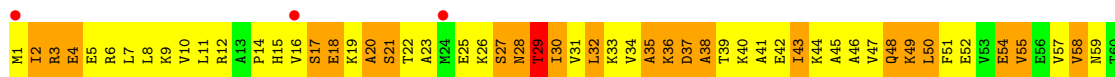
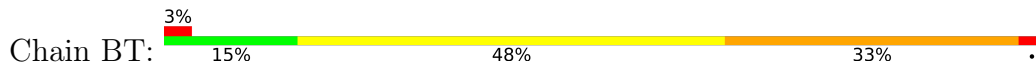


- Molecule 40: 50S ribosomal protein L22

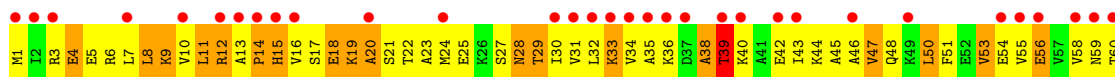
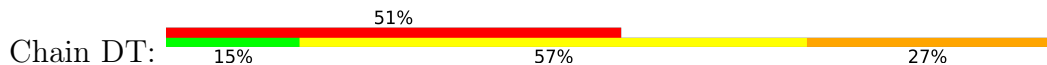




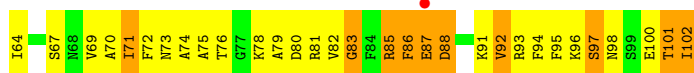
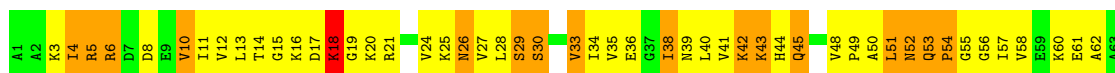
- Molecule 41: 50S ribosomal protein L23



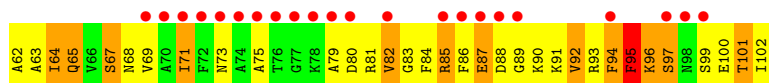
- Molecule 41: 50S ribosomal protein L23



- Molecule 42: 50S ribosomal protein L24

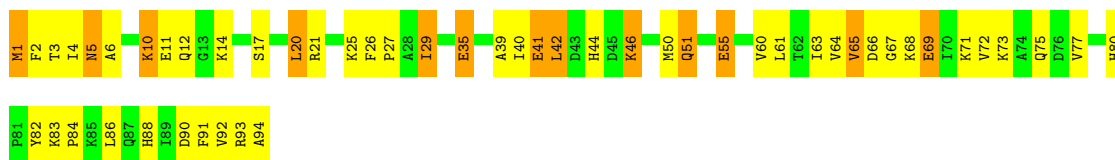


- Molecule 42: 50S ribosomal protein L24



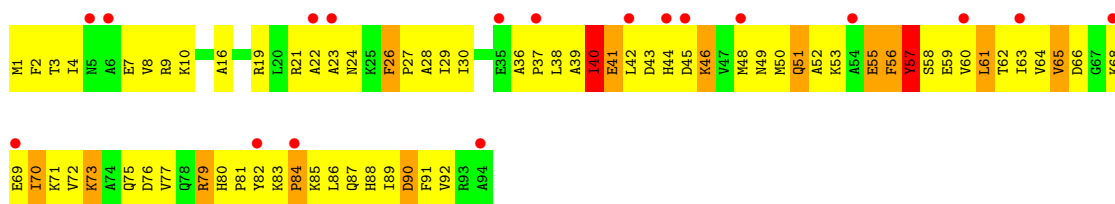
- Molecule 43: 50S ribosomal protein L25

Chain BV:  45% 41% 14%




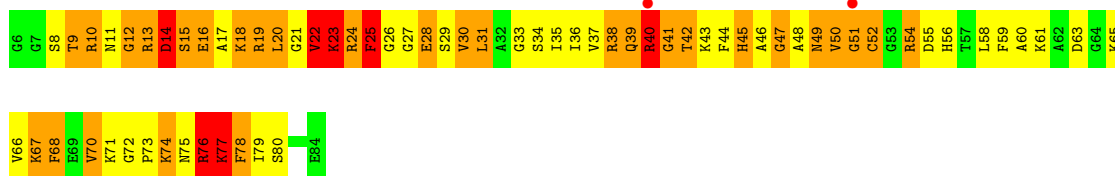
• Molecule 43: 50S ribosomal protein L25

Chain DV:  24% 19% 60% 14%




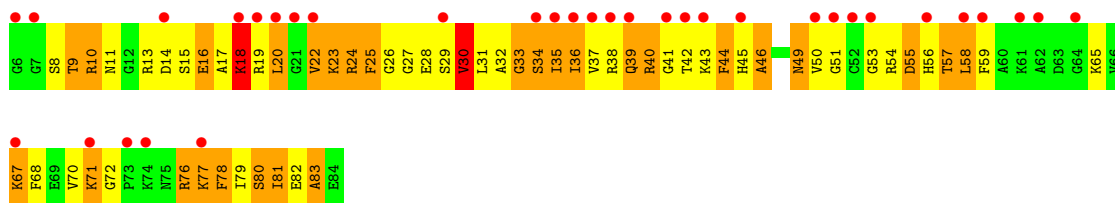
• Molecule 44: 50S ribosomal protein L27

Chain BW:  3% 15% 39% 37% 9%

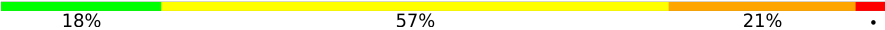


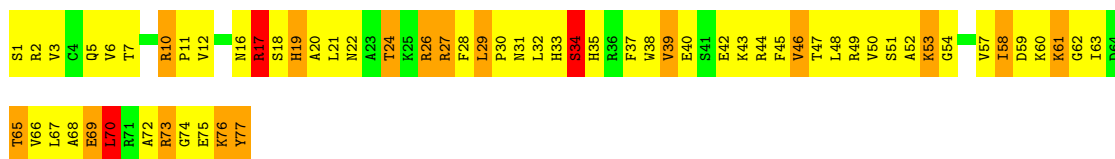
• Molecule 44: 50S ribosomal protein L27

Chain DW:  23% 43% 39% 35%



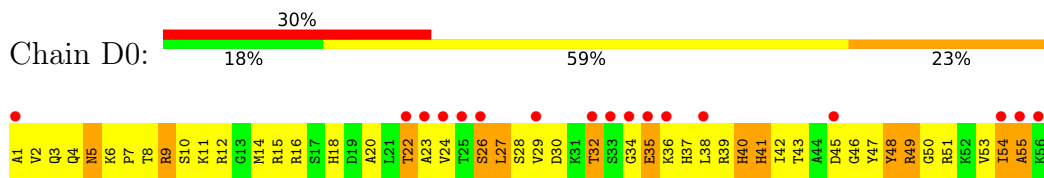
• Molecule 45: 50S ribosomal protein L28

Chain BX:  18% 57% 21%

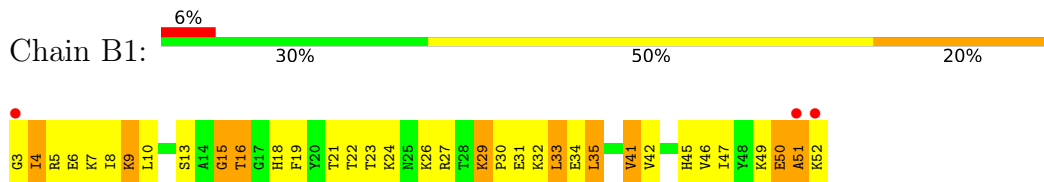


• Molecule 45: 50S ribosomal protein L28

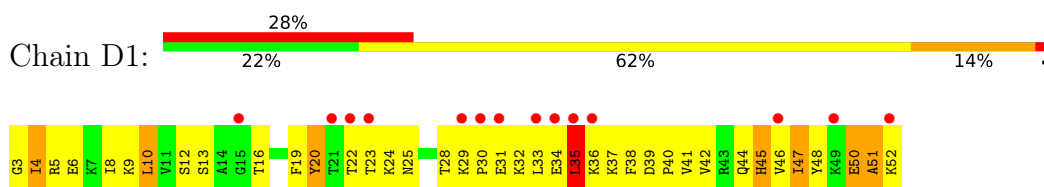




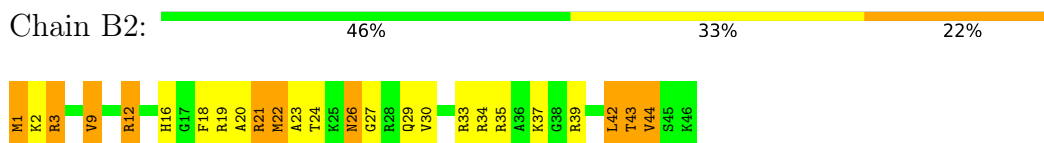
• Molecule 49: 50S ribosomal protein L33



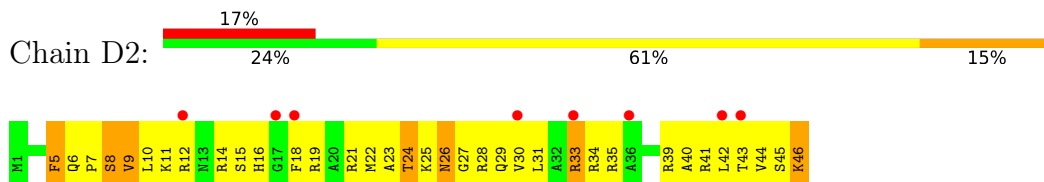
• Molecule 49: 50S ribosomal protein L33



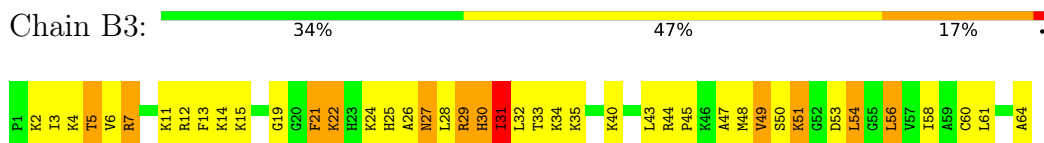
• Molecule 50: 50S ribosomal protein L34



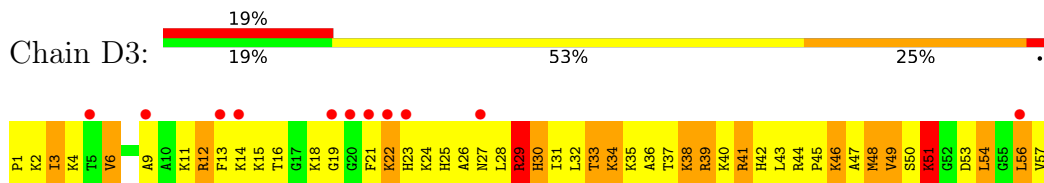
• Molecule 50: 50S ribosomal protein L34



• Molecule 51: 50S ribosomal protein L35



• Molecule 51: 50S ribosomal protein L35

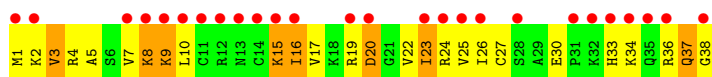




- Molecule 52: 50S ribosomal protein L36



- Molecule 52: 50S ribosomal protein L36



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	211.96Å 434.53Å 623.58Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	82.40 – 3.10 82.42 – 3.10	Depositor EDS
% Data completeness (in resolution range)	(Not available) (82.40-3.10) 83.9 (82.42-3.10)	Depositor EDS
$R_{merge}$	0.10	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.47 (at 3.13Å)	Xtrriage
Refinement program	PHENIX	Depositor
R, $R_{free}$	0.205 , 0.254 0.215 , 0.263	Depositor DCC
$R_{free}$ test set	18659 reflections (2.02%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	54.4	Xtrriage
Anisotropy	0.354	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.24 , 79.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	284525	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	102.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.52% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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

## 5 Model quality

### 5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	AA	0.53	0/36834	1.32	524/57462 (0.9%)
1	CA	0.46	0/36762	1.21	433/57350 (0.8%)
2	AB	0.24	0/1736	0.47	0/2338
2	CB	0.22	0/1736	0.44	0/2338
3	AC	0.27	0/1652	0.50	0/2225
3	CC	0.24	0/1652	0.44	0/2225
4	AD	0.30	0/1665	0.52	0/2227
4	CD	0.37	0/1665	0.61	0/2227
5	AE	0.34	0/1119	0.61	0/1504
5	CE	0.31	0/1119	0.55	0/1504
6	AF	0.29	0/836	0.47	0/1128
6	CF	0.28	0/836	0.51	0/1128
7	AG	0.22	0/1196	0.44	0/1602
7	CG	0.22	0/1188	0.44	0/1591
8	AH	0.32	0/989	0.56	0/1326
8	CH	0.27	0/989	0.49	0/1326
9	AI	0.23	0/1034	0.45	0/1375
9	CI	0.22	0/1034	0.41	0/1375
10	AJ	0.24	0/797	0.47	0/1077
10	CJ	0.21	0/797	0.47	0/1077
11	AK	0.27	0/893	0.53	0/1205
11	CK	0.26	0/893	0.50	0/1205
12	AL	0.38	0/969	0.69	0/1300
12	CL	0.32	0/969	0.56	0/1300
13	AM	0.23	0/893	0.49	0/1193
13	CM	0.27	1/885 (0.1%)	0.39	0/1183
14	AN	0.25	0/785	0.48	0/1043
14	CN	0.21	0/780	0.38	0/1036
15	AO	0.30	0/722	0.49	0/964
15	CO	0.25	0/722	0.44	0/964
16	AP	0.31	0/659	0.51	0/884
16	CP	0.33	0/649	0.53	0/872



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	AQ	0.37	0/658	0.59	0/881
17	CQ	0.26	0/658	0.50	0/881
18	AR	0.29	0/463	0.49	0/621
18	CR	0.28	0/463	0.46	0/621
19	AS	0.23	0/653	0.46	0/877
19	CS	0.21	0/653	0.41	0/877
20	AT	0.34	0/671	0.57	0/888
20	CT	0.26	0/671	0.51	0/888
21	AU	0.25	0/431	0.46	0/570
21	CU	0.31	0/431	0.58	0/570
22	BA	0.85	15/68626 (0.0%)	1.69	1674/107056 (1.6%)
22	DA	0.46	0/68314	1.26	901/106569 (0.8%)
23	BB	0.74	0/2828	1.56	46/4410 (1.0%)
23	DB	0.40	0/2803	1.09	27/4371 (0.6%)
24	BC	0.48	0/2122	0.74	1/2852 (0.0%)
24	DC	0.29	0/2122	0.54	0/2852
25	BD	0.61	0/1586	0.80	2/2134 (0.1%)
25	DD	0.28	0/1586	0.55	0/2134
26	BE	0.51	0/1571	0.73	0/2113
26	DE	0.25	0/1571	0.48	0/2113
27	BF	0.35	0/1435	0.55	0/1928
27	DF	0.21	0/1444	0.44	0/1937
28	BG	0.38	0/1343	0.61	0/1816
28	DG	0.21	0/1343	0.44	0/1816
29	BH	0.28	0/1122	0.51	0/1515
29	DH	0.26	0/1122	0.48	0/1515
30	BI	0.23	0/1046	0.47	0/1410
30	DI	0.20	0/1046	0.42	0/1410
31	BJ	0.60	0/1152	0.84	1/1551 (0.1%)
31	DJ	0.27	0/1152	0.55	1/1551 (0.1%)
32	BK	0.61	1/948 (0.1%)	0.83	0/1268
32	DK	0.30	0/948	0.56	0/1268
33	BL	0.50	0/1054	0.80	2/1403 (0.1%)
33	DL	0.25	0/1054	0.51	0/1403
34	BM	0.55	0/1093	0.78	0/1460
34	DM	0.27	0/1093	0.49	0/1460
35	BN	0.55	0/974	0.82	2/1301 (0.2%)
35	DN	0.27	0/974	0.50	0/1301
36	BO	0.42	0/902	0.66	0/1209
36	DO	0.22	0/902	0.41	0/1209
37	BP	0.52	0/929	0.72	0/1242
37	DP	0.28	0/929	0.49	0/1242
38	BQ	0.72	0/960	0.89	1/1278 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
38	DQ	0.27	0/960	0.46	0/1278
39	BR	0.67	2/829 (0.2%)	0.85	1/1107 (0.1%)
39	DR	0.27	0/829	0.48	0/1107
40	BS	0.63	0/864	0.84	0/1156
40	DS	0.26	0/864	0.51	0/1156
41	BT	0.51	0/745	0.80	0/994
41	DT	0.22	0/745	0.46	0/994
42	BU	0.44	0/788	0.75	0/1051
42	DU	0.23	0/788	0.45	0/1051
43	BV	0.47	0/766	0.65	0/1025
43	DV	0.23	0/766	0.43	0/1025
44	BW	0.67	0/603	0.93	1/797 (0.1%)
44	DW	0.24	0/603	0.48	0/797
45	BX	0.43	0/635	0.75	1/848 (0.1%)
45	DX	0.28	0/635	0.54	0/848
46	BY	0.39	0/510	0.63	0/677
46	DY	0.21	0/510	0.41	0/677
47	BZ	0.58	0/453	0.93	2/605 (0.3%)
47	DZ	0.25	0/453	0.49	0/605
48	B0	0.52	0/450	0.79	0/599
48	D0	0.27	0/450	0.49	0/599
49	B1	0.38	0/417	0.64	0/554
49	D1	0.23	0/417	0.46	0/554
50	B2	0.52	0/380	0.71	0/498
50	D2	0.27	0/380	0.52	0/498
51	B3	0.50	0/513	0.70	1/676 (0.1%)
51	D3	0.26	0/513	0.54	0/676
52	B4	0.41	0/303	0.64	0/397
52	D4	0.24	0/303	0.43	0/397
All	All	0.56	19/306773 (0.0%)	1.25	3621/458571 (0.8%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
12	AL	0	1
20	AT	0	1
25	BD	0	1
31	BJ	0	1
35	BN	0	1
All	All	0	5

The worst 5 of 19 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	BA	1142	A	N9-C4	-8.33	1.32	1.37
22	BA	984	A	C5-C6	-7.40	1.34	1.41
39	BR	86	GLN	CB-CG	7.19	1.72	1.52
22	BA	1783	A	N7-C5	-6.87	1.35	1.39
22	BA	984	A	N9-C4	-5.90	1.34	1.37

The worst 5 of 3621 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	571	U	O4'-C1'-N1	17.46	122.17	108.20
22	BA	2848	G	P-O3'-C3'	17.00	140.09	119.70
22	BA	627	A	P-O3'-C3'	16.24	139.19	119.70
22	BA	984	A	N1-C6-N6	16.11	128.26	118.60
22	BA	1603	A	P-O3'-C3'	-15.84	100.69	119.70

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	AL	22	ALA	Peptide
20	AT	6	ALA	Peptide
25	BD	191	GLY	Peptide
31	BJ	110	PRO	Peptide
35	BN	101	GLY	Peptide

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	32895	0	16553	2319	0
1	CA	32831	0	16521	2706	0
2	AB	1705	0	1732	283	0
2	CB	1705	0	1732	260	0
3	AC	1625	0	1699	194	0
3	CC	1625	0	1699	238	0
4	AD	1643	0	1710	284	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	CD	1643	0	1710	269	0
5	AE	1106	0	1148	203	0
5	CE	1106	0	1148	183	0
6	AF	818	0	808	113	0
6	CF	818	0	808	134	0
7	AG	1182	0	1240	150	0
7	CG	1175	0	1230	209	0
8	AH	979	0	1034	162	0
8	CH	979	0	1034	140	0
9	AI	1022	0	1070	165	0
9	CI	1022	0	1070	178	0
10	AJ	787	0	828	169	0
10	CJ	787	0	828	142	0
11	AK	877	0	887	165	0
11	CK	877	0	887	138	0
12	AL	955	0	1019	132	0
12	CL	955	0	1019	173	0
13	AM	884	0	944	120	0
13	CM	877	0	937	176	0
14	AN	774	0	827	131	0
14	CN	769	0	822	149	0
15	AO	714	0	737	93	0
15	CO	714	0	737	71	0
16	AP	649	0	666	105	0
16	CP	639	0	656	135	0
17	AQ	649	0	691	141	0
17	CQ	649	0	691	98	0
18	AR	456	0	478	51	0
18	CR	456	0	478	95	0
19	AS	638	0	665	97	0
19	CS	638	0	665	118	0
20	AT	665	0	714	117	0
20	CT	665	0	714	99	0
21	AU	426	0	449	131	0
21	CU	426	0	449	126	0
22	BA	61274	0	30819	3116	1
22	DA	60995	0	30679	5725	1
23	BB	2529	0	1281	109	0
23	DB	2507	0	1270	238	0
24	BC	2083	0	2157	313	0
24	DC	2083	0	2157	347	0
25	BD	1565	0	1616	274	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	DD	1565	0	1616	319	0
26	BE	1552	0	1619	199	0
26	DE	1552	0	1619	321	0
27	BF	1411	0	1447	210	0
27	DF	1420	0	1460	289	0
28	BG	1323	0	1374	225	0
28	DG	1323	0	1374	229	0
29	BH	1111	0	1148	184	0
29	DH	1111	0	1148	208	0
30	BI	1032	0	1088	135	0
30	DI	1032	0	1088	149	0
31	BJ	1129	0	1162	214	0
31	DJ	1129	0	1162	205	0
32	BK	939	0	1012	150	0
32	DK	939	0	1012	188	0
33	BL	1045	0	1117	169	0
33	DL	1045	0	1117	224	0
34	BM	1074	0	1157	148	0
34	DM	1074	0	1157	156	0
35	BN	961	0	1000	131	0
35	DN	961	0	1000	228	0
36	BO	892	0	923	120	0
36	DO	892	0	923	118	0
37	BP	917	0	965	189	0
37	DP	917	0	965	184	0
38	BQ	947	0	1022	192	0
38	DQ	947	0	1022	203	0
39	BR	816	0	839	145	0
39	DR	816	0	839	147	0
40	BS	857	0	922	93	0
40	DS	857	0	922	125	0
41	BT	739	0	807	155	0
41	DT	739	0	807	174	0
42	BU	780	0	834	103	0
42	DU	780	0	834	147	0
43	BV	753	0	780	63	0
43	DV	753	0	780	118	0
44	BW	596	0	610	286	0
44	DW	596	0	610	180	0
45	BX	625	0	655	113	0
45	DX	625	0	655	128	0
46	BY	509	0	543	72	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	DY	509	0	543	114	0
47	BZ	449	0	491	44	0
47	DZ	449	0	491	69	0
48	B0	444	0	461	52	0
48	D0	444	0	461	92	0
49	B1	410	0	440	66	0
49	D1	410	0	440	55	0
50	B2	377	0	418	29	0
50	D2	377	0	418	65	0
51	B3	504	0	574	71	0
51	D3	504	0	574	105	0
52	B4	302	0	340	48	0
52	D4	302	0	343	48	0
53	AA	41	0	0	0	0
53	AN	2	0	0	0	0
53	BA	135	0	0	0	0
53	BB	4	0	0	0	0
53	CA	42	0	0	0	0
53	DA	133	0	0	0	0
53	DB	1	0	0	0	0
53	DC	2	0	0	0	0
53	DJ	1	0	0	0	0
54	BA	51	0	67	4	0
55	B4	1	0	0	0	0
55	D4	1	0	0	0	0
56	AA	197	0	0	12	0
56	AE	1	0	0	0	0
56	AL	1	0	0	0	0
56	AN	7	0	0	0	0
56	AT	1	0	0	0	0
56	AU	1	0	0	0	0
56	B3	3	0	0	0	0
56	B4	2	0	0	0	0
56	BA	605	0	0	46	0
56	BB	19	0	0	0	0
56	BC	7	0	0	0	0
56	BD	3	0	0	2	0
56	BE	1	0	0	1	0
56	BL	4	0	0	1	0
56	BN	2	0	0	0	0
56	BR	1	0	0	0	0
56	BT	2	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	BV	1	0	0	1	0
56	CA	195	0	0	3	0
56	CE	3	0	0	1	0
56	CL	1	0	0	0	0
56	CN	3	0	0	0	0
56	CT	4	0	0	0	0
56	CU	1	0	0	0	0
56	D2	1	0	0	1	0
56	D3	1	0	0	0	0
56	D4	4	0	0	0	0
56	DA	600	0	0	30	0
56	DB	3	0	0	0	0
56	DC	13	0	0	2	0
56	DD	2	0	0	0	0
56	DE	4	0	0	0	0
56	DJ	3	0	0	0	0
56	DL	4	0	0	1	0
56	DN	2	0	0	0	0
56	DT	2	0	0	0	0
56	DU	2	0	0	0	0
56	DV	2	0	0	0	0
All	All	284525	0	190908	27236	1

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 58.

The worst 5 of 27236 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)
37:BP:50:ARG:CG	37:BP:57:ALA:H	1.24	1.44
37:BP:50:ARG:HD2	37:BP:51:ASN:N	1.27	1.42
37:BP:50:ARG:HG2	37:BP:57:ALA:N	1.13	1.41
38:BQ:63:ARG:NH1	38:BQ:96:ASP:HA	1.37	1.34
1:CA:238:A:C2'	1:CA:239:U:H5''	1.57	1.34

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:138:U:O4	22:DA:305:C:OP1[3_545]	2.02	0.18

## 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	AB	216/218 (99%)	133 (62%)	51 (24%)	32 (15%)	0	0
2	CB	216/218 (99%)	158 (73%)	38 (18%)	20 (9%)	0	3
3	AC	204/206 (99%)	144 (71%)	36 (18%)	24 (12%)	0	1
3	CC	204/206 (99%)	138 (68%)	47 (23%)	19 (9%)	0	3
4	AD	203/205 (99%)	127 (63%)	43 (21%)	33 (16%)	0	0
4	CD	203/205 (99%)	138 (68%)	40 (20%)	25 (12%)	0	1
5	AE	148/150 (99%)	97 (66%)	28 (19%)	23 (16%)	0	0
5	CE	148/150 (99%)	111 (75%)	21 (14%)	16 (11%)	0	2
6	AF	98/100 (98%)	71 (72%)	15 (15%)	12 (12%)	0	1
6	CF	98/100 (98%)	66 (67%)	19 (19%)	13 (13%)	0	1
7	AG	149/151 (99%)	100 (67%)	37 (25%)	12 (8%)	1	5
7	CG	148/151 (98%)	96 (65%)	38 (26%)	14 (10%)	0	3
8	AH	127/129 (98%)	101 (80%)	15 (12%)	11 (9%)	1	4
8	CH	127/129 (98%)	96 (76%)	23 (18%)	8 (6%)	1	8
9	AI	125/127 (98%)	81 (65%)	28 (22%)	16 (13%)	0	1
9	CI	125/127 (98%)	84 (67%)	32 (26%)	9 (7%)	1	6
10	AJ	96/98 (98%)	69 (72%)	10 (10%)	17 (18%)	0	0
10	CJ	96/98 (98%)	61 (64%)	21 (22%)	14 (15%)	0	1
11	AK	115/117 (98%)	80 (70%)	20 (17%)	15 (13%)	0	1
11	CK	115/117 (98%)	87 (76%)	16 (14%)	12 (10%)	0	3
12	AL	121/123 (98%)	88 (73%)	21 (17%)	12 (10%)	0	3
12	CL	121/123 (98%)	84 (69%)	24 (20%)	13 (11%)	0	2
13	AM	112/114 (98%)	83 (74%)	19 (17%)	10 (9%)	1	4
13	CM	112/114 (98%)	62 (55%)	37 (33%)	13 (12%)	0	2
14	AN	92/100 (92%)	60 (65%)	18 (20%)	14 (15%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	CN	91/100 (91%)	57 (63%)	26 (29%)	8 (9%)	1	4
15	AO	86/88 (98%)	59 (69%)	19 (22%)	8 (9%)	0	3
15	CO	86/88 (98%)	53 (62%)	30 (35%)	3 (4%)	3	20
16	AP	80/82 (98%)	59 (74%)	12 (15%)	9 (11%)	0	2
16	CP	79/82 (96%)	48 (61%)	23 (29%)	8 (10%)	0	3
17	AQ	78/80 (98%)	48 (62%)	24 (31%)	6 (8%)	1	5
17	CQ	78/80 (98%)	59 (76%)	11 (14%)	8 (10%)	0	3
18	AR	53/55 (96%)	40 (76%)	10 (19%)	3 (6%)	1	10
18	CR	53/55 (96%)	33 (62%)	17 (32%)	3 (6%)	1	10
19	AS	77/79 (98%)	51 (66%)	15 (20%)	11 (14%)	0	1
19	CS	77/79 (98%)	46 (60%)	24 (31%)	7 (9%)	1	4
20	AT	83/85 (98%)	57 (69%)	21 (25%)	5 (6%)	1	9
20	CT	83/85 (98%)	52 (63%)	21 (25%)	10 (12%)	0	1
21	AU	49/51 (96%)	25 (51%)	12 (24%)	12 (24%)	0	0
21	CU	49/51 (96%)	20 (41%)	13 (26%)	16 (33%)	0	0
24	BC	269/271 (99%)	197 (73%)	46 (17%)	26 (10%)	0	3
24	DC	269/271 (99%)	174 (65%)	64 (24%)	31 (12%)	0	2
25	BD	207/209 (99%)	141 (68%)	32 (16%)	34 (16%)	0	0
25	DD	207/209 (99%)	131 (63%)	41 (20%)	35 (17%)	0	0
26	BE	199/201 (99%)	144 (72%)	35 (18%)	20 (10%)	0	3
26	DE	199/201 (99%)	115 (58%)	54 (27%)	30 (15%)	0	0
27	BF	176/178 (99%)	124 (70%)	36 (20%)	16 (9%)	1	4
27	DF	176/178 (99%)	87 (49%)	58 (33%)	31 (18%)	0	0
28	BG	174/176 (99%)	111 (64%)	38 (22%)	25 (14%)	0	1
28	DG	174/176 (99%)	99 (57%)	40 (23%)	35 (20%)	0	0
29	BH	147/149 (99%)	62 (42%)	50 (34%)	35 (24%)	0	0
29	DH	147/149 (99%)	70 (48%)	54 (37%)	23 (16%)	0	0
30	BI	139/141 (99%)	84 (60%)	41 (30%)	14 (10%)	0	3
30	DI	139/141 (99%)	75 (54%)	48 (34%)	16 (12%)	0	2
31	BJ	140/142 (99%)	104 (74%)	24 (17%)	12 (9%)	1	4
31	DJ	140/142 (99%)	92 (66%)	28 (20%)	20 (14%)	0	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
32	BK	120/122 (98%)	89 (74%)	17 (14%)	14 (12%)	0	1
32	DK	120/122 (98%)	76 (63%)	17 (14%)	27 (22%)	0	0
33	BL	141/143 (99%)	100 (71%)	30 (21%)	11 (8%)	1	5
33	DL	141/143 (99%)	77 (55%)	44 (31%)	20 (14%)	0	1
34	BM	134/136 (98%)	96 (72%)	18 (13%)	20 (15%)	0	0
34	DM	134/136 (98%)	90 (67%)	26 (19%)	18 (13%)	0	1
35	BN	118/120 (98%)	91 (77%)	16 (14%)	11 (9%)	0	3
35	DN	118/120 (98%)	74 (63%)	25 (21%)	19 (16%)	0	0
36	BO	114/116 (98%)	85 (75%)	18 (16%)	11 (10%)	0	3
36	DO	114/116 (98%)	74 (65%)	30 (26%)	10 (9%)	1	4
37	BP	112/114 (98%)	78 (70%)	20 (18%)	14 (12%)	0	1
37	DP	112/114 (98%)	60 (54%)	31 (28%)	21 (19%)	0	0
38	BQ	115/117 (98%)	100 (87%)	7 (6%)	8 (7%)	1	7
38	DQ	115/117 (98%)	75 (65%)	27 (24%)	13 (11%)	0	2
39	BR	101/103 (98%)	76 (75%)	14 (14%)	11 (11%)	0	2
39	DR	101/103 (98%)	64 (63%)	24 (24%)	13 (13%)	0	1
40	BS	108/110 (98%)	89 (82%)	14 (13%)	5 (5%)	2	15
40	DS	108/110 (98%)	72 (67%)	25 (23%)	11 (10%)	0	3
41	BT	91/93 (98%)	49 (54%)	26 (29%)	16 (18%)	0	0
41	DT	91/93 (98%)	41 (45%)	26 (29%)	24 (26%)	0	0
42	BU	100/102 (98%)	66 (66%)	16 (16%)	18 (18%)	0	0
42	DU	100/102 (98%)	52 (52%)	22 (22%)	26 (26%)	0	0
43	BV	92/94 (98%)	75 (82%)	15 (16%)	2 (2%)	6	29
43	DV	92/94 (98%)	60 (65%)	24 (26%)	8 (9%)	1	4
44	BW	77/79 (98%)	31 (40%)	22 (29%)	24 (31%)	0	0
44	DW	77/79 (98%)	30 (39%)	25 (32%)	22 (29%)	0	0
45	BX	75/77 (97%)	58 (77%)	10 (13%)	7 (9%)	0	3
45	DX	75/77 (97%)	44 (59%)	20 (27%)	11 (15%)	0	0
46	BY	61/63 (97%)	38 (62%)	15 (25%)	8 (13%)	0	1
46	DY	61/63 (97%)	40 (66%)	16 (26%)	5 (8%)	1	5
47	BZ	56/58 (97%)	47 (84%)	5 (9%)	4 (7%)	1	6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
47	DZ	56/58 (97%)	31 (55%)	20 (36%)	5 (9%)	1	4
48	B0	54/56 (96%)	41 (76%)	9 (17%)	4 (7%)	1	6
48	D0	54/56 (96%)	33 (61%)	16 (30%)	5 (9%)	0	3
49	B1	48/50 (96%)	37 (77%)	6 (12%)	5 (10%)	0	3
49	D1	48/50 (96%)	35 (73%)	8 (17%)	5 (10%)	0	3
50	B2	44/46 (96%)	37 (84%)	7 (16%)	0	100	100
50	D2	44/46 (96%)	29 (66%)	10 (23%)	5 (11%)	0	2
51	B3	62/64 (97%)	53 (86%)	5 (8%)	4 (6%)	1	8
51	D3	62/64 (97%)	42 (68%)	12 (19%)	8 (13%)	0	1
52	B4	36/38 (95%)	24 (67%)	9 (25%)	3 (8%)	1	5
52	D4	36/38 (95%)	21 (58%)	9 (25%)	6 (17%)	0	0
All	All	11241/11452 (98%)	7412 (66%)	2420 (22%)	1409 (12%)	0	1

5 of 1409 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AB	21	TYR
2	AB	33	ALA
2	AB	37	VAL
2	AB	72	LYS
2	AB	75	ALA

### 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	AB	180/180 (100%)	142 (79%)	38 (21%)	1	5
2	CB	180/180 (100%)	154 (86%)	26 (14%)	3	14
3	AC	170/170 (100%)	136 (80%)	34 (20%)	1	5
3	CC	170/170 (100%)	153 (90%)	17 (10%)	7	28
4	AD	172/172 (100%)	138 (80%)	34 (20%)	1	5

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	CD	172/172 (100%)	131 (76%)	41 (24%)	0	2
5	AE	113/113 (100%)	77 (68%)	36 (32%)	0	0
5	CE	113/113 (100%)	89 (79%)	24 (21%)	1	5
6	AF	87/87 (100%)	71 (82%)	16 (18%)	1	7
6	CF	87/87 (100%)	73 (84%)	14 (16%)	2	10
7	AG	124/124 (100%)	111 (90%)	13 (10%)	7	26
7	CG	123/124 (99%)	101 (82%)	22 (18%)	2	8
8	AH	104/104 (100%)	83 (80%)	21 (20%)	1	5
8	CH	104/104 (100%)	91 (88%)	13 (12%)	4	18
9	AI	105/105 (100%)	82 (78%)	23 (22%)	1	4
9	CI	105/105 (100%)	89 (85%)	16 (15%)	3	12
10	AJ	86/86 (100%)	70 (81%)	16 (19%)	1	7
10	CJ	86/86 (100%)	73 (85%)	13 (15%)	3	12
11	AK	90/90 (100%)	73 (81%)	17 (19%)	1	6
11	CK	90/90 (100%)	79 (88%)	11 (12%)	5	19
12	AL	103/103 (100%)	76 (74%)	27 (26%)	0	1
12	CL	103/103 (100%)	78 (76%)	25 (24%)	0	2
13	AM	92/92 (100%)	84 (91%)	8 (9%)	10	36
13	CM	91/92 (99%)	81 (89%)	10 (11%)	6	25
14	AN	79/83 (95%)	71 (90%)	8 (10%)	7	28
14	CN	79/83 (95%)	69 (87%)	10 (13%)	4	18
15	AO	76/76 (100%)	59 (78%)	17 (22%)	1	3
15	CO	76/76 (100%)	69 (91%)	7 (9%)	9	33
16	AP	65/65 (100%)	54 (83%)	11 (17%)	2	9
16	CP	65/65 (100%)	50 (77%)	15 (23%)	1	3
17	AQ	74/74 (100%)	60 (81%)	14 (19%)	1	6
17	CQ	74/74 (100%)	62 (84%)	12 (16%)	2	10
18	AR	48/48 (100%)	44 (92%)	4 (8%)	11	38
18	CR	48/48 (100%)	40 (83%)	8 (17%)	2	9
19	AS	70/70 (100%)	63 (90%)	7 (10%)	7	28
19	CS	70/70 (100%)	64 (91%)	6 (9%)	10	37

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	AT	65/65 (100%)	48 (74%)	17 (26%)	0	1
20	CT	65/65 (100%)	52 (80%)	13 (20%)	1	5
21	AU	44/44 (100%)	36 (82%)	8 (18%)	1	7
21	CU	44/44 (100%)	29 (66%)	15 (34%)	0	0
24	BC	216/216 (100%)	170 (79%)	46 (21%)	1	4
24	DC	216/216 (100%)	178 (82%)	38 (18%)	2	8
25	BD	164/164 (100%)	133 (81%)	31 (19%)	1	6
25	DD	164/164 (100%)	131 (80%)	33 (20%)	1	5
26	BE	165/165 (100%)	111 (67%)	54 (33%)	0	0
26	DE	165/165 (100%)	143 (87%)	22 (13%)	4	16
27	BF	148/149 (99%)	116 (78%)	32 (22%)	1	4
27	DF	149/149 (100%)	124 (83%)	25 (17%)	2	9
28	BG	137/137 (100%)	106 (77%)	31 (23%)	1	3
28	DG	137/137 (100%)	117 (85%)	20 (15%)	3	13
29	BH	114/114 (100%)	96 (84%)	18 (16%)	2	11
29	DH	114/114 (100%)	90 (79%)	24 (21%)	1	5
30	BI	109/109 (100%)	91 (84%)	18 (16%)	2	10
30	DI	109/109 (100%)	103 (94%)	6 (6%)	21	53
31	BJ	116/116 (100%)	92 (79%)	24 (21%)	1	5
31	DJ	116/116 (100%)	101 (87%)	15 (13%)	4	18
32	BK	103/103 (100%)	77 (75%)	26 (25%)	0	1
32	DK	103/103 (100%)	84 (82%)	19 (18%)	1	7
33	BL	102/102 (100%)	82 (80%)	20 (20%)	1	6
33	DL	102/102 (100%)	89 (87%)	13 (13%)	4	18
34	BM	109/109 (100%)	81 (74%)	28 (26%)	0	1
34	DM	109/109 (100%)	98 (90%)	11 (10%)	7	28
35	BN	100/100 (100%)	82 (82%)	18 (18%)	1	7
35	DN	100/100 (100%)	85 (85%)	15 (15%)	3	12
36	BO	86/86 (100%)	67 (78%)	19 (22%)	1	4
36	DO	86/86 (100%)	79 (92%)	7 (8%)	11	39
37	BP	99/99 (100%)	66 (67%)	33 (33%)	0	0

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	DP	99/99 (100%)	88 (89%)	11 (11%)	6	24
38	BQ	89/89 (100%)	68 (76%)	21 (24%)	1	2
38	DQ	89/89 (100%)	69 (78%)	20 (22%)	1	3
39	BR	84/84 (100%)	66 (79%)	18 (21%)	1	4
39	DR	84/84 (100%)	69 (82%)	15 (18%)	2	8
40	BS	93/93 (100%)	72 (77%)	21 (23%)	1	3
40	DS	93/93 (100%)	72 (77%)	21 (23%)	1	3
41	BT	80/80 (100%)	53 (66%)	27 (34%)	0	0
41	DT	80/80 (100%)	75 (94%)	5 (6%)	18	48
42	BU	83/83 (100%)	66 (80%)	17 (20%)	1	5
42	DU	83/83 (100%)	72 (87%)	11 (13%)	4	16
43	BV	78/78 (100%)	62 (80%)	16 (20%)	1	5
43	DV	78/78 (100%)	66 (85%)	12 (15%)	2	11
44	BW	59/59 (100%)	38 (64%)	21 (36%)	0	0
44	DW	59/59 (100%)	45 (76%)	14 (24%)	1	2
45	BX	67/67 (100%)	51 (76%)	16 (24%)	0	2
45	DX	67/67 (100%)	55 (82%)	12 (18%)	2	8
46	BY	55/55 (100%)	42 (76%)	13 (24%)	1	2
46	DY	55/55 (100%)	51 (93%)	4 (7%)	14	43
47	BZ	48/48 (100%)	35 (73%)	13 (27%)	0	1
47	DZ	48/48 (100%)	38 (79%)	10 (21%)	1	5
48	B0	47/47 (100%)	39 (83%)	8 (17%)	2	9
48	D0	47/47 (100%)	38 (81%)	9 (19%)	1	6
49	B1	45/45 (100%)	37 (82%)	8 (18%)	2	8
49	D1	45/45 (100%)	38 (84%)	7 (16%)	2	11
50	B2	38/38 (100%)	27 (71%)	11 (29%)	0	1
50	D2	38/38 (100%)	33 (87%)	5 (13%)	4	17
51	B3	51/51 (100%)	42 (82%)	9 (18%)	2	8
51	D3	51/51 (100%)	37 (72%)	14 (28%)	0	1
52	B4	34/34 (100%)	28 (82%)	6 (18%)	2	8
52	D4	34/34 (100%)	30 (88%)	4 (12%)	5	21

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	9331/9342 (100%)	7599 (81%)	1732 (19%)	<b>1</b> <b>7</b>

5 of 1732 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
46	BY	19	LEU
8	CH	93	LYS
39	DR	81	LYS
48	B0	17	SER
46	BY	16	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 360 such sidechains are listed below:

Mol	Chain	Res	Type
9	CI	109	GLN
29	DH	66	ASN
11	CK	39	ASN
20	CT	60	GLN
35	DN	3	HIS

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1532/1533 (99%)	518 (33%)	236 (15%)
1	CA	1529/1533 (99%)	572 (37%)	242 (15%)
22	BA	2850/2904 (98%)	913 (32%)	429 (15%)
22	DA	2839/2904 (97%)	1105 (38%)	498 (17%)
23	BB	117/118 (99%)	34 (29%)	17 (14%)
23	DB	116/118 (98%)	44 (37%)	16 (13%)
All	All	8983/9110 (98%)	3186 (35%)	1438 (16%)

5 of 3186 RNA backbone outliers are listed below:

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

5 of 1438 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
22	DA	15	G
22	DA	1272	A
22	DA	163	C
22	DA	14	A
22	DA	621	A

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

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

#### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

#### 5.6 Ligand geometry [i](#)

Of 364 ligands modelled in this entry, 363 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
54	ERY	BA	3136	-	53,53,53	0.79	1 (1%)	82,82,82	1.66	19 (23%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
54	ERY	BA	3136	-	-	7/72/107/107	0/3/3/3

All (1) bond length outliers are listed below:



Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
54	BA	3136	ERY	C6-C5	2.34	1.59	1.55

The worst 5 of 19 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	BA	3136	ERY	C25-C24-C23	-5.00	102.77	109.97
54	BA	3136	ERY	O7-C5-C6	-4.81	100.45	106.39
54	BA	3136	ERY	O2-C1-O1	-3.57	117.27	123.94
54	BA	3136	ERY	C3-C2-C1	-3.44	102.98	110.01
54	BA	3136	ERY	C27-C26-C25	-3.10	108.53	113.40

There are no chirality outliers.

5 of 7 torsion outliers are listed below:

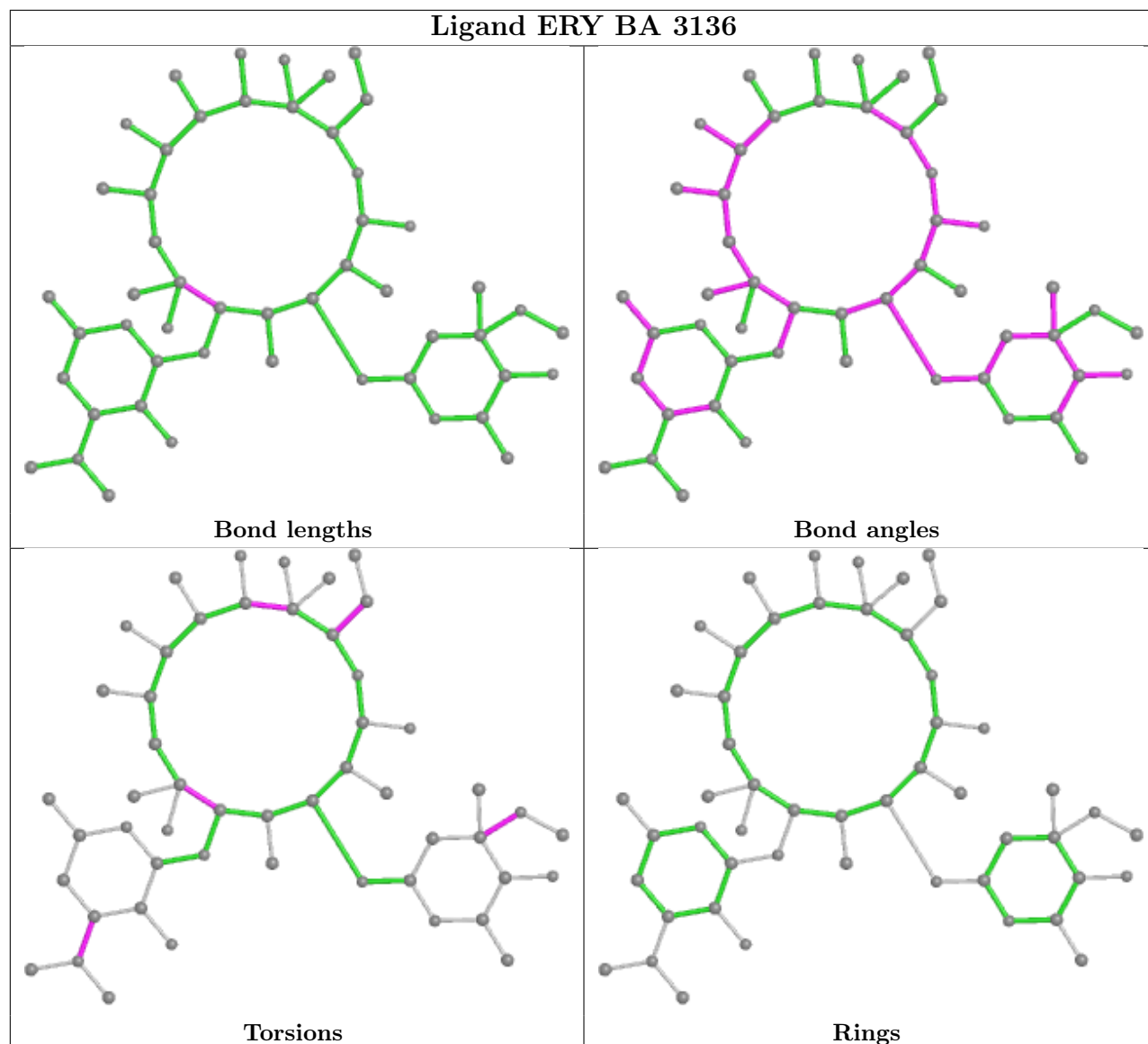
Mol	Chain	Res	Type	Atoms
54	BA	3136	ERY	C15-C16-O5-C20
54	BA	3136	ERY	C19-C16-O5-C20
54	BA	3136	ERY	C10-C11-C12-O13
54	BA	3136	ERY	C25-C24-N1-C28
54	BA	3136	ERY	C4-C5-C6-C32

There are no ring outliers.

1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
54	BA	3136	ERY	4	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data i

### 6.1 Protein, DNA and RNA chains i

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ > 2	OWAB(Å <sup>2</sup> )	Q < 0.9
1	AA	1533/1533 (100%)	-0.57	15 (0%) 82 67	21, 74, 188, 404	0
1	CA	1530/1533 (99%)	0.03	42 (2%) 54 31	38, 102, 287, 422	0
2	AB	218/218 (100%)	1.58	71 (32%) 0 0	72, 142, 202, 237	0
2	CB	218/218 (100%)	1.57	68 (31%) 0 0	98, 165, 222, 272	0
3	AC	206/206 (100%)	0.65	24 (11%) 4 2	54, 101, 149, 187	0
3	CC	206/206 (100%)	1.14	47 (22%) 0 0	80, 139, 210, 243	0
4	AD	205/205 (100%)	-0.07	8 (3%) 39 20	38, 80, 182, 310	0
4	CD	205/205 (100%)	-0.27	1 (0%) 91 81	29, 54, 103, 236	0
5	AE	150/150 (100%)	-0.10	3 (2%) 65 44	37, 70, 136, 207	0
5	CE	150/150 (100%)	0.33	2 (1%) 77 59	38, 87, 150, 253	0
6	AF	100/100 (100%)	-0.17	0 100 100	43, 85, 149, 174	0
6	CF	100/100 (100%)	0.03	4 (4%) 38 19	58, 109, 180, 202	0
7	AG	151/151 (100%)	0.24	9 (5%) 21 10	82, 155, 235, 286	0
7	CG	150/151 (99%)	2.32	69 (46%) 0 0	112, 196, 246, 272	0
8	AH	129/129 (100%)	-0.04	3 (2%) 60 39	41, 69, 120, 203	0
8	CH	129/129 (100%)	0.63	11 (8%) 10 4	52, 107, 161, 197	0
9	AI	127/127 (100%)	0.87	17 (13%) 3 1	68, 153, 256, 288	0
9	CI	127/127 (100%)	1.84	48 (37%) 0 0	102, 200, 285, 325	0
10	AJ	98/98 (100%)	0.61	16 (16%) 1 1	60, 119, 200, 251	0
10	CJ	98/98 (100%)	2.80	53 (54%) 0 0	102, 192, 267, 283	0
11	AK	117/117 (100%)	0.64	11 (9%) 8 3	38, 104, 176, 222	0
11	CK	117/117 (100%)	0.27	4 (3%) 45 24	53, 102, 161, 200	0
12	AL	123/123 (100%)	-0.34	2 (1%) 72 51	16, 49, 111, 187	0
12	CL	123/123 (100%)	0.19	2 (1%) 72 51	41, 81, 128, 173	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	AM	114/114 (100%)	0.45	11 (9%) 8 2	69, 139, 213, 258	0
13	CM	114/114 (100%)	2.29	60 (52%) 0 0	190, 427, 522, 545	0
14	AN	96/100 (96%)	0.38	6 (6%) 20 8	68, 111, 199, 266	0
14	CN	95/100 (95%)	2.08	42 (44%) 0 0	112, 209, 319, 350	0
15	AO	88/88 (100%)	-0.41	0 100 100	34, 70, 111, 172	0
15	CO	88/88 (100%)	-0.14	1 (1%) 80 64	68, 112, 187, 286	0
16	AP	82/82 (100%)	0.70	9 (10%) 5 2	45, 68, 174, 288	0
16	CP	81/82 (98%)	0.71	10 (12%) 4 1	46, 97, 157, 229	0
17	AQ	80/80 (100%)	0.40	6 (7%) 14 5	35, 71, 134, 209	0
17	CQ	80/80 (100%)	0.81	12 (15%) 2 1	47, 103, 151, 188	0
18	AR	55/55 (100%)	0.10	3 (5%) 25 11	50, 80, 154, 211	0
18	CR	55/55 (100%)	-0.07	2 (3%) 42 22	51, 87, 157, 235	0
19	AS	79/79 (100%)	1.51	28 (35%) 0 0	81, 150, 212, 259	0
19	CS	79/79 (100%)	2.83	45 (56%) 0 0	217, 411, 508, 531	0
20	AT	85/85 (100%)	-0.32	0 100 100	35, 69, 129, 176	0
20	CT	85/85 (100%)	0.82	11 (12%) 3 1	66, 130, 204, 226	0
21	AU	51/51 (100%)	1.68	19 (37%) 0 0	90, 146, 226, 252	0
21	CU	51/51 (100%)	0.56	7 (13%) 3 1	54, 109, 189, 269	0
22	BA	2854/2904 (98%)	-0.49	36 (1%) 77 59	6, 25, 148, 390	0
22	DA	2841/2904 (97%)	0.23	91 (3%) 47 25	55, 116, 270, 526	0
23	BB	118/118 (100%)	-0.64	0 100 100	12, 40, 73, 109	0
23	DB	117/118 (99%)	-0.13	2 (1%) 70 49	88, 164, 221, 243	0
24	BC	271/271 (100%)	-0.36	6 (2%) 62 41	8, 35, 82, 192	0
24	DC	271/271 (100%)	0.52	21 (7%) 13 5	42, 95, 151, 215	0
25	BD	209/209 (100%)	-0.45	0 100 100	6, 21, 69, 179	0
25	DD	209/209 (100%)	0.73	24 (11%) 4 2	55, 115, 199, 284	0
26	BE	201/201 (100%)	-0.45	0 100 100	6, 36, 86, 150	0
26	DE	201/201 (100%)	1.57	63 (31%) 0 0	61, 235, 398, 470	0
27	BF	178/178 (100%)	-0.04	3 (1%) 70 49	21, 63, 136, 167	0
27	DF	178/178 (100%)	2.18	88 (49%) 0 0	142, 219, 259, 301	0
28	BG	176/176 (100%)	-0.03	2 (1%) 80 64	20, 61, 131, 192	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
28	DG	176/176 (100%)	1.49	53 (30%) 0 0	88, 239, 337, 389	0
29	BH	149/149 (100%)	3.01	62 (41%) 0 0	40, 171, 260, 304	0
29	DH	149/149 (100%)	2.59	62 (41%) 0 0	68, 188, 268, 298	0
30	BI	141/141 (100%)	2.38	60 (42%) 0 0	170, 245, 289, 301	0
30	DI	141/141 (100%)	3.15	95 (67%) 0 0	178, 312, 349, 370	0
31	BJ	142/142 (100%)	-0.56	1 (0%) 87 75	7, 16, 60, 137	0
31	DJ	142/142 (100%)	0.44	6 (4%) 36 18	50, 106, 169, 198	0
32	BK	122/122 (100%)	-0.41	1 (0%) 86 72	11, 24, 69, 242	0
32	DK	122/122 (100%)	0.58	13 (10%) 6 2	59, 97, 147, 210	0
33	BL	143/143 (100%)	-0.48	0 100 100	6, 30, 71, 123	0
33	DL	143/143 (100%)	1.31	28 (19%) 1 0	59, 164, 279, 354	0
34	BM	136/136 (100%)	-0.54	0 100 100	7, 22, 59, 147	0
34	DM	136/136 (100%)	0.78	16 (11%) 4 2	37, 112, 192, 250	0
35	BN	120/120 (100%)	-0.55	0 100 100	8, 17, 40, 149	0
35	DN	120/120 (100%)	1.36	32 (26%) 0 0	63, 131, 211, 305	0
36	BO	116/116 (100%)	-0.36	0 100 100	21, 41, 72, 113	0
36	DO	116/116 (100%)	1.44	33 (28%) 0 0	106, 172, 240, 273	0
37	BP	114/114 (100%)	-0.44	1 (0%) 84 69	12, 32, 87, 176	0
37	DP	114/114 (100%)	0.82	16 (14%) 2 1	50, 110, 175, 196	0
38	BQ	117/117 (100%)	-0.62	1 (0%) 84 69	6, 15, 39, 225	0
38	DQ	117/117 (100%)	0.90	18 (15%) 2 1	65, 113, 193, 331	0
39	BR	103/103 (100%)	-0.54	1 (0%) 82 67	6, 26, 67, 184	0
39	DR	103/103 (100%)	1.92	45 (43%) 0 0	73, 144, 238, 305	0
40	BS	110/110 (100%)	-0.57	0 100 100	7, 15, 48, 172	0
40	DS	110/110 (100%)	1.46	37 (33%) 0 0	71, 132, 214, 254	0
41	BT	93/93 (100%)	-0.02	3 (3%) 47 25	13, 43, 123, 233	0
41	DT	93/93 (100%)	2.36	47 (50%) 0 0	124, 265, 379, 423	0
42	BU	102/102 (100%)	-0.21	1 (0%) 82 67	21, 45, 131, 240	0
42	DU	102/102 (100%)	3.11	62 (60%) 0 0	148, 305, 420, 554	0
43	BV	94/94 (100%)	-0.31	0 100 100	14, 38, 78, 135	0
43	DV	94/94 (100%)	0.97	18 (19%) 1 0	88, 136, 193, 236	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	BW	79/79 (100%)	-0.15	2 (2%) 57 34	13, 29, 98, 213	0
44	DW	79/79 (100%)	2.08	34 (43%) 0 0	73, 169, 279, 323	0
45	BX	77/77 (100%)	-0.58	0 100 100	13, 37, 77, 108	0
45	DX	77/77 (100%)	0.76	11 (14%) 2 1	62, 118, 214, 280	0
46	BY	63/63 (100%)	-0.14	1 (1%) 72 51	27, 59, 126, 209	0
46	DY	63/63 (100%)	1.59	18 (28%) 0 0	152, 379, 492, 508	0
47	BZ	58/58 (100%)	-0.61	0 100 100	9, 16, 47, 61	0
47	DZ	58/58 (100%)	0.45	5 (8%) 10 4	68, 143, 251, 271	0
48	B0	56/56 (100%)	-0.69	0 100 100	6, 18, 71, 138	0
48	D0	56/56 (100%)	1.43	17 (30%) 0 0	63, 144, 246, 262	0
49	B1	50/50 (100%)	0.12	3 (6%) 21 10	27, 47, 93, 115	0
49	D1	50/50 (100%)	1.55	14 (28%) 0 0	97, 154, 208, 231	0
50	B2	46/46 (100%)	-0.55	0 100 100	10, 19, 43, 195	0
50	D2	46/46 (100%)	1.23	8 (17%) 1 0	59, 119, 184, 211	0
51	B3	64/64 (100%)	-0.54	0 100 100	8, 22, 38, 65	0
51	D3	64/64 (100%)	1.11	12 (18%) 1 0	64, 122, 197, 255	0
52	B4	38/38 (100%)	0.27	2 (5%) 26 12	25, 49, 94, 97	0
52	D4	38/38 (100%)	3.07	26 (68%) 0 0	87, 173, 235, 241	0
All	All	20434/20562 (99%)	0.30	2003 (9%) 7 2	6, 93, 274, 554	0

The worst 5 of 2003 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
29	DH	92	GLY	21.2
29	DH	124	THR	18.3
29	DH	91	PHE	16.3
29	BH	118	PRO	15.6
16	AP	81	ALA	15.5

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

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

### 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
53	MG	DJ	201	1/1	-0.33	3.04	284,284,284,284	0
53	MG	DA	3016	1/1	-0.03	0.67	231,231,231,231	0
53	MG	DA	3099	1/1	0.00	0.23	180,180,180,180	0
53	MG	DA	3028	1/1	0.04	1.00	262,262,262,262	0
53	MG	DA	3003	1/1	0.08	1.79	268,268,268,268	0
53	MG	DA	3109	1/1	0.10	0.71	176,176,176,176	0
53	MG	DA	3130	1/1	0.12	2.63	279,279,279,279	0
53	MG	DA	3133	1/1	0.18	0.46	239,239,239,239	0
53	MG	DA	3111	1/1	0.22	0.40	127,127,127,127	0
53	MG	CA	1622	1/1	0.22	0.08	208,208,208,208	0
53	MG	CA	1636	1/1	0.28	0.18	155,155,155,155	0
53	MG	DA	3062	1/1	0.30	1.10	193,193,193,193	0
53	MG	DA	3064	1/1	0.31	1.24	230,230,230,230	0
53	MG	DA	3110	1/1	0.32	0.17	183,183,183,183	0
53	MG	DA	3078	1/1	0.38	1.03	210,210,210,210	0
53	MG	DA	3043	1/1	0.43	0.44	213,213,213,213	0
53	MG	DA	3082	1/1	0.51	0.36	189,189,189,189	0
53	MG	CA	1614	1/1	0.51	1.04	231,231,231,231	0
53	MG	DA	3087	1/1	0.54	0.17	164,164,164,164	0
53	MG	DA	3083	1/1	0.55	0.20	224,224,224,224	0
53	MG	DA	3014	1/1	0.56	0.29	128,128,128,128	0
53	MG	DA	3127	1/1	0.57	0.59	199,199,199,199	0
53	MG	CA	1628	1/1	0.57	1.56	236,236,236,236	0
53	MG	DA	3058	1/1	0.57	0.49	235,235,235,235	0
53	MG	BA	3047	1/1	0.57	0.16	152,152,152,152	0
53	MG	CA	1602	1/1	0.58	0.20	175,175,175,175	0
53	MG	DA	3033	1/1	0.59	0.53	149,149,149,149	0
53	MG	DA	3059	1/1	0.59	0.22	183,183,183,183	0
53	MG	DA	3013	1/1	0.60	0.88	185,185,185,185	0
53	MG	DA	3010	1/1	0.60	0.50	171,171,171,171	0
53	MG	DA	3074	1/1	0.60	1.20	240,240,240,240	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
53	MG	DA	3045	1/1	0.61	0.49	233,233,233,233	0
53	MG	DA	3015	1/1	0.62	0.40	145,145,145,145	0
53	MG	DA	3039	1/1	0.62	0.13	99,99,99,99	0
53	MG	DA	3084	1/1	0.62	0.18	182,182,182,182	0
53	MG	DA	3047	1/1	0.62	0.19	136,136,136,136	0
53	MG	DA	3018	1/1	0.63	0.25	232,232,232,232	0
53	MG	DA	3038	1/1	0.63	0.12	204,204,204,204	0
53	MG	DA	3106	1/1	0.64	0.15	205,205,205,205	0
53	MG	DA	3097	1/1	0.65	0.25	116,116,116,116	0
53	MG	DA	3006	1/1	0.67	0.21	267,267,267,267	0
53	MG	CA	1627	1/1	0.67	0.21	198,198,198,198	0
53	MG	DA	3020	1/1	0.67	0.51	218,218,218,218	0
53	MG	CA	1640	1/1	0.67	0.21	149,149,149,149	0
53	MG	DA	3002	1/1	0.67	0.32	160,160,160,160	0
53	MG	CA	1620	1/1	0.67	0.10	170,170,170,170	0
53	MG	DA	3132	1/1	0.68	0.10	175,175,175,175	0
53	MG	DA	3092	1/1	0.70	0.12	121,121,121,121	0
53	MG	BA	3130	1/1	0.70	0.47	205,205,205,205	0
53	MG	CA	1601	1/1	0.71	0.12	179,179,179,179	0
53	MG	BB	201	1/1	0.71	0.32	236,236,236,236	0
53	MG	DA	3026	1/1	0.71	0.98	244,244,244,244	0
53	MG	CA	1607	1/1	0.71	0.26	154,154,154,154	0
53	MG	AA	1634	1/1	0.72	0.15	199,199,199,199	0
53	MG	CA	1637	1/1	0.72	0.13	63,63,63,63	0
53	MG	DA	3125	1/1	0.72	0.31	163,163,163,163	0
53	MG	DA	3007	1/1	0.72	0.45	253,253,253,253	0
53	MG	DA	3027	1/1	0.73	0.10	144,144,144,144	0
53	MG	DA	3063	1/1	0.73	2.07	192,192,192,192	0
53	MG	CA	1629	1/1	0.74	0.20	217,217,217,217	0
53	MG	CA	1610	1/1	0.74	0.09	175,175,175,175	0
53	MG	DA	3050	1/1	0.74	0.13	125,125,125,125	0
53	MG	AA	1618	1/1	0.74	0.09	164,164,164,164	0
53	MG	DA	3032	1/1	0.74	0.14	100,100,100,100	0
53	MG	DA	3095	1/1	0.74	0.21	116,116,116,116	0
53	MG	CA	1617	1/1	0.75	0.17	280,280,280,280	0
53	MG	DA	3001	1/1	0.76	0.12	130,130,130,130	0
53	MG	DA	3009	1/1	0.76	0.17	101,101,101,101	0
53	MG	BA	3057	1/1	0.76	0.23	161,161,161,161	0
53	MG	BA	3048	1/1	0.76	0.18	104,104,104,104	0
53	MG	BA	3132	1/1	0.76	0.23	165,165,165,165	0
53	MG	DA	3122	1/1	0.77	0.11	72,72,72,72	0
53	MG	DA	3051	1/1	0.78	0.21	124,124,124,124	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
53	MG	DA	3049	1/1	0.78	0.32	235,235,235,235	0
53	MG	DA	3073	1/1	0.78	0.11	162,162,162,162	0
53	MG	DA	3036	1/1	0.79	0.16	211,211,211,211	0
53	MG	DA	3116	1/1	0.79	0.18	66,66,66,66	0
53	MG	AA	1638	1/1	0.79	0.12	102,102,102,102	0
53	MG	BA	3083	1/1	0.80	0.20	113,113,113,113	0
53	MG	DA	3057	1/1	0.80	0.50	212,212,212,212	0
53	MG	CA	1618	1/1	0.80	0.31	139,139,139,139	0
53	MG	AA	1619	1/1	0.80	0.15	125,125,125,125	0
53	MG	DA	3008	1/1	0.80	0.14	142,142,142,142	0
53	MG	DB	201	1/1	0.80	0.09	114,114,114,114	0
53	MG	CA	1603	1/1	0.80	0.32	165,165,165,165	0
53	MG	DA	3114	1/1	0.81	0.16	123,123,123,123	0
53	MG	DA	3108	1/1	0.81	0.41	172,172,172,172	0
53	MG	DA	3070	1/1	0.81	0.11	56,56,56,56	0
53	MG	AA	1607	1/1	0.81	0.15	119,119,119,119	0
53	MG	DA	3079	1/1	0.81	0.63	150,150,150,150	0
53	MG	DA	3022	1/1	0.82	0.27	162,162,162,162	0
53	MG	DA	3023	1/1	0.82	0.12	78,78,78,78	0
53	MG	BA	3091	1/1	0.82	0.26	113,113,113,113	0
53	MG	AA	1604	1/1	0.82	0.14	120,120,120,120	0
53	MG	DA	3098	1/1	0.82	0.15	118,118,118,118	0
53	MG	CA	1632	1/1	0.82	0.16	163,163,163,163	0
53	MG	AA	1617	1/1	0.82	0.68	203,203,203,203	0
53	MG	CA	1613	1/1	0.83	0.11	114,114,114,114	0
53	MG	DA	3042	1/1	0.83	0.17	94,94,94,94	0
53	MG	DA	3094	1/1	0.83	0.09	96,96,96,96	0
53	MG	DA	3115	1/1	0.83	0.25	139,139,139,139	0
53	MG	DA	3075	1/1	0.83	0.39	140,140,140,140	0
53	MG	DA	3120	1/1	0.83	0.23	76,76,76,76	0
53	MG	CA	1633	1/1	0.83	0.10	77,77,77,77	0
53	MG	DA	3061	1/1	0.84	0.11	134,134,134,134	0
53	MG	AA	1628	1/1	0.84	0.18	183,183,183,183	0
53	MG	DA	3017	1/1	0.84	0.13	68,68,68,68	0
53	MG	CA	1630	1/1	0.84	0.09	123,123,123,123	0
53	MG	CA	1639	1/1	0.84	0.10	226,226,226,226	0
53	MG	BA	3112	1/1	0.84	0.28	89,89,89,89	0
53	MG	DA	3101	1/1	0.84	0.21	104,104,104,104	0
53	MG	BA	3011	1/1	0.84	0.30	131,131,131,131	0
53	MG	BA	3090	1/1	0.85	0.07	73,73,73,73	0
53	MG	BA	3061	1/1	0.85	0.28	223,223,223,223	0
53	MG	BA	3084	1/1	0.86	0.20	50,50,50,50	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
53	MG	BA	3002	1/1	0.86	0.11	77,77,77,77	0
53	MG	DA	3029	1/1	0.86	0.47	151,151,151,151	0
53	MG	BA	3082	1/1	0.86	0.19	85,85,85,85	0
53	MG	BA	3004	1/1	0.86	0.24	147,147,147,147	0
53	MG	DA	3123	1/1	0.86	0.20	165,165,165,165	0
53	MG	DA	3035	1/1	0.86	0.17	84,84,84,84	0
53	MG	DA	3126	1/1	0.86	0.10	76,76,76,76	0
53	MG	DA	3104	1/1	0.86	0.17	34,34,34,34	0
53	MG	CA	1612	1/1	0.86	0.39	120,120,120,120	0
53	MG	DA	3131	1/1	0.86	0.16	70,70,70,70	0
53	MG	CA	1631	1/1	0.86	0.22	88,88,88,88	0
53	MG	DA	3088	1/1	0.86	0.14	141,141,141,141	0
53	MG	DA	3089	1/1	0.86	0.24	69,69,69,69	0
53	MG	DA	3053	1/1	0.86	0.12	80,80,80,80	0
53	MG	DA	3072	1/1	0.87	0.14	132,132,132,132	0
53	MG	DA	3011	1/1	0.87	0.17	152,152,152,152	0
53	MG	BA	3098	1/1	0.87	0.16	51,51,51,51	0
53	MG	CA	1616	1/1	0.87	0.35	232,232,232,232	0
53	MG	AA	1610	1/1	0.87	0.12	210,210,210,210	0
53	MG	BA	3007	1/1	0.87	0.10	69,69,69,69	0
53	MG	DA	3069	1/1	0.87	0.19	202,202,202,202	0
53	MG	BA	3059	1/1	0.87	0.22	109,109,109,109	0
53	MG	CA	1623	1/1	0.88	0.13	120,120,120,120	0
53	MG	DA	3004	1/1	0.88	0.12	80,80,80,80	0
53	MG	DA	3005	1/1	0.88	1.07	309,309,309,309	0
53	MG	BA	3033	1/1	0.88	0.16	10,10,10,10	0
53	MG	DA	3054	1/1	0.88	0.08	71,71,71,71	0
53	MG	AA	1616	1/1	0.88	0.16	78,78,78,78	0
53	MG	CA	1638	1/1	0.88	0.15	139,139,139,139	0
53	MG	BA	3075	1/1	0.88	0.19	69,69,69,69	0
53	MG	CA	1611	1/1	0.88	0.20	122,122,122,122	0
53	MG	DA	3024	1/1	0.88	0.15	106,106,106,106	0
53	MG	DA	3086	1/1	0.88	0.16	94,94,94,94	0
53	MG	DA	3025	1/1	0.88	0.12	110,110,110,110	0
53	MG	BA	3086	1/1	0.88	0.18	88,88,88,88	0
53	MG	DC	301	1/1	0.88	0.12	124,124,124,124	0
53	MG	DC	302	1/1	0.88	0.27	121,121,121,121	0
53	MG	BA	3119	1/1	0.88	0.11	12,12,12,12	0
53	MG	BA	3125	1/1	0.89	0.18	41,41,41,41	0
53	MG	DA	3118	1/1	0.89	0.12	70,70,70,70	0
53	MG	BA	3089	1/1	0.89	0.09	30,30,30,30	0
53	MG	DA	3096	1/1	0.89	0.09	92,92,92,92	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
53	MG	CA	1625	1/1	0.89	0.30	91,91,91,91	0
53	MG	DA	3076	1/1	0.89	0.28	158,158,158,158	0
53	MG	AA	1626	1/1	0.89	0.18	106,106,106,106	0
53	MG	BA	3055	1/1	0.89	0.32	191,191,191,191	0
53	MG	BA	3092	1/1	0.89	0.07	38,38,38,38	0
53	MG	BA	3073	1/1	0.89	0.18	135,135,135,135	0
53	MG	AA	1630	1/1	0.89	0.14	87,87,87,87	0
53	MG	DA	3068	1/1	0.89	0.11	78,78,78,78	0
53	MG	BA	3087	1/1	0.89	0.17	125,125,125,125	0
53	MG	CA	1619	1/1	0.89	0.15	201,201,201,201	0
53	MG	DA	3071	1/1	0.89	0.19	52,52,52,52	0
53	MG	CA	1608	1/1	0.89	0.15	51,51,51,51	0
53	MG	DA	3090	1/1	0.90	0.10	91,91,91,91	0
53	MG	AA	1602	1/1	0.90	0.12	119,119,119,119	0
53	MG	AA	1639	1/1	0.90	0.15	126,126,126,126	0
53	MG	DA	3129	1/1	0.90	0.73	203,203,203,203	0
53	MG	DA	3046	1/1	0.90	0.10	76,76,76,76	0
53	MG	BA	3060	1/1	0.90	0.48	174,174,174,174	0
53	MG	DA	3060	1/1	0.90	0.50	161,161,161,161	0
53	MG	DA	3085	1/1	0.90	0.29	148,148,148,148	0
53	MG	AA	1633	1/1	0.90	0.08	75,75,75,75	0
53	MG	AA	1622	1/1	0.90	0.13	97,97,97,97	0
53	MG	AA	1635	1/1	0.90	0.10	88,88,88,88	0
53	MG	DA	3031	1/1	0.90	0.10	79,79,79,79	0
53	MG	BA	3028	1/1	0.91	0.11	32,32,32,32	0
53	MG	DA	3091	1/1	0.91	0.38	200,200,200,200	0
53	MG	BA	3078	1/1	0.91	0.08	41,41,41,41	0
53	MG	DA	3093	1/1	0.91	0.16	228,228,228,228	0
53	MG	DA	3119	1/1	0.91	0.14	88,88,88,88	0
53	MG	DA	3040	1/1	0.91	0.17	52,52,52,52	0
53	MG	AA	1606	1/1	0.91	0.11	58,58,58,58	0
53	MG	AA	1612	1/1	0.91	0.20	104,104,104,104	0
53	MG	AA	1614	1/1	0.91	0.14	197,197,197,197	0
53	MG	DA	3080	1/1	0.91	0.15	137,137,137,137	0
53	MG	CA	1624	1/1	0.91	0.69	179,179,179,179	0
53	MG	BA	3069	1/1	0.91	0.10	176,176,176,176	0
53	MG	DA	3103	1/1	0.91	0.16	98,98,98,98	0
53	MG	DA	3065	1/1	0.91	0.22	83,83,83,83	0
53	MG	CA	1615	1/1	0.91	0.09	124,124,124,124	0
53	MG	DA	3034	1/1	0.91	0.09	89,89,89,89	0
53	MG	BA	3115	1/1	0.91	0.15	10,10,10,10	0
53	MG	AA	1603	1/1	0.91	0.17	121,121,121,121	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
53	MG	DA	3037	1/1	0.91	0.14	81,81,81,81	0
53	MG	DA	3112	1/1	0.91	0.14	66,66,66,66	0
53	MG	DA	3100	1/1	0.92	0.19	93,93,93,93	0
53	MG	AA	1636	1/1	0.92	0.08	25,25,25,25	0
53	MG	CA	1641	1/1	0.92	0.14	80,80,80,80	0
53	MG	CA	1609	1/1	0.92	0.20	80,80,80,80	0
53	MG	BA	3131	1/1	0.92	0.11	140,140,140,140	0
53	MG	BA	3062	1/1	0.92	0.15	15,15,15,15	0
53	MG	BA	3114	1/1	0.92	0.16	144,144,144,144	0
53	MG	DA	3030	1/1	0.92	0.17	111,111,111,111	0
53	MG	DA	3044	1/1	0.92	0.17	83,83,83,83	0
53	MG	BA	3001	1/1	0.92	0.14	110,110,110,110	0
53	MG	AA	1623	1/1	0.92	0.09	72,72,72,72	0
53	MG	BA	3123	1/1	0.92	0.45	118,118,118,118	0
53	MG	DA	3048	1/1	0.92	0.18	132,132,132,132	0
53	MG	CA	1626	1/1	0.92	0.26	29,29,29,29	0
53	MG	BA	3025	1/1	0.92	0.46	119,119,119,119	0
53	MG	BA	3122	1/1	0.93	0.11	21,21,21,21	0
53	MG	DA	3121	1/1	0.93	0.23	119,119,119,119	0
53	MG	BA	3079	1/1	0.93	0.18	30,30,30,30	0
53	MG	DA	3012	1/1	0.93	0.09	51,51,51,51	0
53	MG	BA	3099	1/1	0.93	0.10	18,18,18,18	0
53	MG	DA	3107	1/1	0.93	0.18	121,121,121,121	0
53	MG	CA	1606	1/1	0.93	0.14	63,63,63,63	0
53	MG	DA	3128	1/1	0.93	0.24	123,123,123,123	0
53	MG	AA	1629	1/1	0.93	0.07	183,183,183,183	0
53	MG	AN	202	1/1	0.93	0.15	169,169,169,169	0
53	MG	BA	3034	1/1	0.93	0.30	154,154,154,154	0
53	MG	BA	3134	1/1	0.93	0.22	143,143,143,143	0
53	MG	CA	1634	1/1	0.93	0.12	153,153,153,153	0
53	MG	BA	3042	1/1	0.93	0.14	18,18,18,18	0
53	MG	BB	202	1/1	0.93	0.07	43,43,43,43	0
53	MG	BB	203	1/1	0.93	0.12	17,17,17,17	0
53	MG	DA	3052	1/1	0.93	0.10	49,49,49,49	0
55	ZN	D4	101	1/1	0.93	0.09	151,151,151,151	0
53	MG	AA	1615	1/1	0.94	0.05	128,128,128,128	0
53	MG	DA	3105	1/1	0.94	0.14	51,51,51,51	0
53	MG	AA	1609	1/1	0.94	0.06	28,28,28,28	0
53	MG	BA	3052	1/1	0.94	0.12	25,25,25,25	0
53	MG	DA	3019	1/1	0.94	0.20	224,224,224,224	0
53	MG	BA	3003	1/1	0.94	0.12	42,42,42,42	0
53	MG	BA	3103	1/1	0.94	0.20	7,7,7,7	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
53	MG	BA	3110	1/1	0.94	0.20	102,102,102,102	0
53	MG	BA	3014	1/1	0.94	0.21	42,42,42,42	0
53	MG	DA	3113	1/1	0.94	0.07	96,96,96,96	0
53	MG	BA	3036	1/1	0.94	0.39	169,169,169,169	0
53	MG	BA	3015	1/1	0.94	0.13	38,38,38,38	0
53	MG	CA	1621	1/1	0.94	0.21	55,55,55,55	0
53	MG	DA	3117	1/1	0.94	0.17	71,71,71,71	0
53	MG	BA	3117	1/1	0.94	0.08	83,83,83,83	0
53	MG	DA	3041	1/1	0.94	0.13	122,122,122,122	0
53	MG	DA	3056	1/1	0.94	0.13	112,112,112,112	0
53	MG	BA	3104	1/1	0.95	0.19	12,12,12,12	0
53	MG	CA	1605	1/1	0.95	0.21	40,40,40,40	0
53	MG	BA	3108	1/1	0.95	0.18	8,8,8,8	0
53	MG	AA	1605	1/1	0.95	0.16	35,35,35,35	0
53	MG	BA	3050	1/1	0.95	0.12	37,37,37,37	0
53	MG	AA	1613	1/1	0.95	0.08	57,57,57,57	0
53	MG	BA	3018	1/1	0.95	0.16	40,40,40,40	0
53	MG	AA	1637	1/1	0.95	0.09	104,104,104,104	0
53	MG	BA	3118	1/1	0.95	0.37	168,168,168,168	0
53	MG	AA	1625	1/1	0.95	0.31	121,121,121,121	0
53	MG	BA	3120	1/1	0.95	0.10	53,53,53,53	0
53	MG	BA	3031	1/1	0.95	0.09	34,34,34,34	0
53	MG	BA	3005	1/1	0.95	0.10	93,93,93,93	0
53	MG	AA	1621	1/1	0.95	0.14	91,91,91,91	0
53	MG	BA	3009	1/1	0.95	0.13	13,13,13,13	0
53	MG	BA	3070	1/1	0.95	0.24	134,134,134,134	0
53	MG	DA	3102	1/1	0.95	0.06	62,62,62,62	0
53	MG	BA	3097	1/1	0.95	0.14	80,80,80,80	0
53	MG	DA	3077	1/1	0.95	0.26	114,114,114,114	0
53	MG	BA	3010	1/1	0.95	0.08	19,19,19,19	0
53	MG	AA	1627	1/1	0.95	0.06	78,78,78,78	0
53	MG	BA	3100	1/1	0.95	0.21	24,24,24,24	0
53	MG	BA	3101	1/1	0.95	0.13	64,64,64,64	0
53	MG	DA	3055	1/1	0.95	0.10	84,84,84,84	0
53	MG	BA	3102	1/1	0.95	0.13	23,23,23,23	0
53	MG	BA	3076	1/1	0.95	0.06	32,32,32,32	0
53	MG	BA	3133	1/1	0.96	0.18	10,10,10,10	0
53	MG	BA	3019	1/1	0.96	0.31	10,10,10,10	0
53	MG	BA	3135	1/1	0.96	0.44	196,196,196,196	0
53	MG	BA	3040	1/1	0.96	0.21	8,8,8,8	0
53	MG	BA	3106	1/1	0.96	0.15	25,25,25,25	0
53	MG	BA	3021	1/1	0.96	0.08	43,43,43,43	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
53	MG	BA	3046	1/1	0.96	0.15	16,16,16,16	0
53	MG	BA	3111	1/1	0.96	0.16	74,74,74,74	0
53	MG	BA	3066	1/1	0.96	0.15	11,11,11,11	0
53	MG	CA	1604	1/1	0.96	0.07	60,60,60,60	0
53	MG	BA	3113	1/1	0.96	0.09	21,21,21,21	0
53	MG	BA	3067	1/1	0.96	0.12	10,10,10,10	0
53	MG	DA	3124	1/1	0.96	0.12	48,48,48,48	0
53	MG	BA	3023	1/1	0.96	0.10	7,7,7,7	0
53	MG	AA	1608	1/1	0.96	0.15	32,32,32,32	0
53	MG	BA	3071	1/1	0.96	0.15	112,112,112,112	0
53	MG	BA	3093	1/1	0.96	0.07	45,45,45,45	0
53	MG	DA	3021	1/1	0.96	0.19	41,41,41,41	0
53	MG	BA	3096	1/1	0.96	0.11	45,45,45,45	0
53	MG	BA	3121	1/1	0.96	0.18	10,10,10,10	0
53	MG	BA	3049	1/1	0.96	0.16	11,11,11,11	0
53	MG	AA	1611	1/1	0.96	0.06	54,54,54,54	0
53	MG	AN	201	1/1	0.96	0.07	105,105,105,105	0
53	MG	BA	3128	1/1	0.96	0.17	7,7,7,7	0
53	MG	BA	3016	1/1	0.96	0.13	7,7,7,7	0
53	MG	AA	1601	1/1	0.96	0.13	78,78,78,78	0
54	ERY	BA	3136	51/51	0.96	0.23	5,11,15,16	0
53	MG	BA	3080	1/1	0.96	0.13	11,11,11,11	0
53	MG	BA	3077	1/1	0.97	0.15	121,121,121,121	0
53	MG	BA	3012	1/1	0.97	0.15	6,6,6,6	0
53	MG	BA	3058	1/1	0.97	0.07	35,35,35,35	0
53	MG	BA	3127	1/1	0.97	0.15	15,15,15,15	0
53	MG	BA	3038	1/1	0.97	0.13	7,7,7,7	0
53	MG	BA	3129	1/1	0.97	0.12	14,14,14,14	0
53	MG	CA	1635	1/1	0.97	0.08	85,85,85,85	0
53	MG	DA	3066	1/1	0.97	0.08	48,48,48,48	0
53	MG	DA	3067	1/1	0.97	0.10	38,38,38,38	0
53	MG	BA	3022	1/1	0.97	0.14	9,9,9,9	0
53	MG	AA	1641	1/1	0.97	0.12	39,39,39,39	0
53	MG	BA	3043	1/1	0.97	0.12	29,29,29,29	0
53	MG	BA	3064	1/1	0.97	0.10	6,6,6,6	0
53	MG	BA	3065	1/1	0.97	0.09	7,7,7,7	0
53	MG	BA	3008	1/1	0.97	0.14	13,13,13,13	0
53	MG	CA	1642	1/1	0.97	0.05	58,58,58,58	0
53	MG	BA	3027	1/1	0.97	0.19	109,109,109,109	0
53	MG	AA	1624	1/1	0.97	0.24	31,31,31,31	0
53	MG	BA	3017	1/1	0.97	0.09	30,30,30,30	0
53	MG	BB	204	1/1	0.97	0.09	20,20,20,20	0

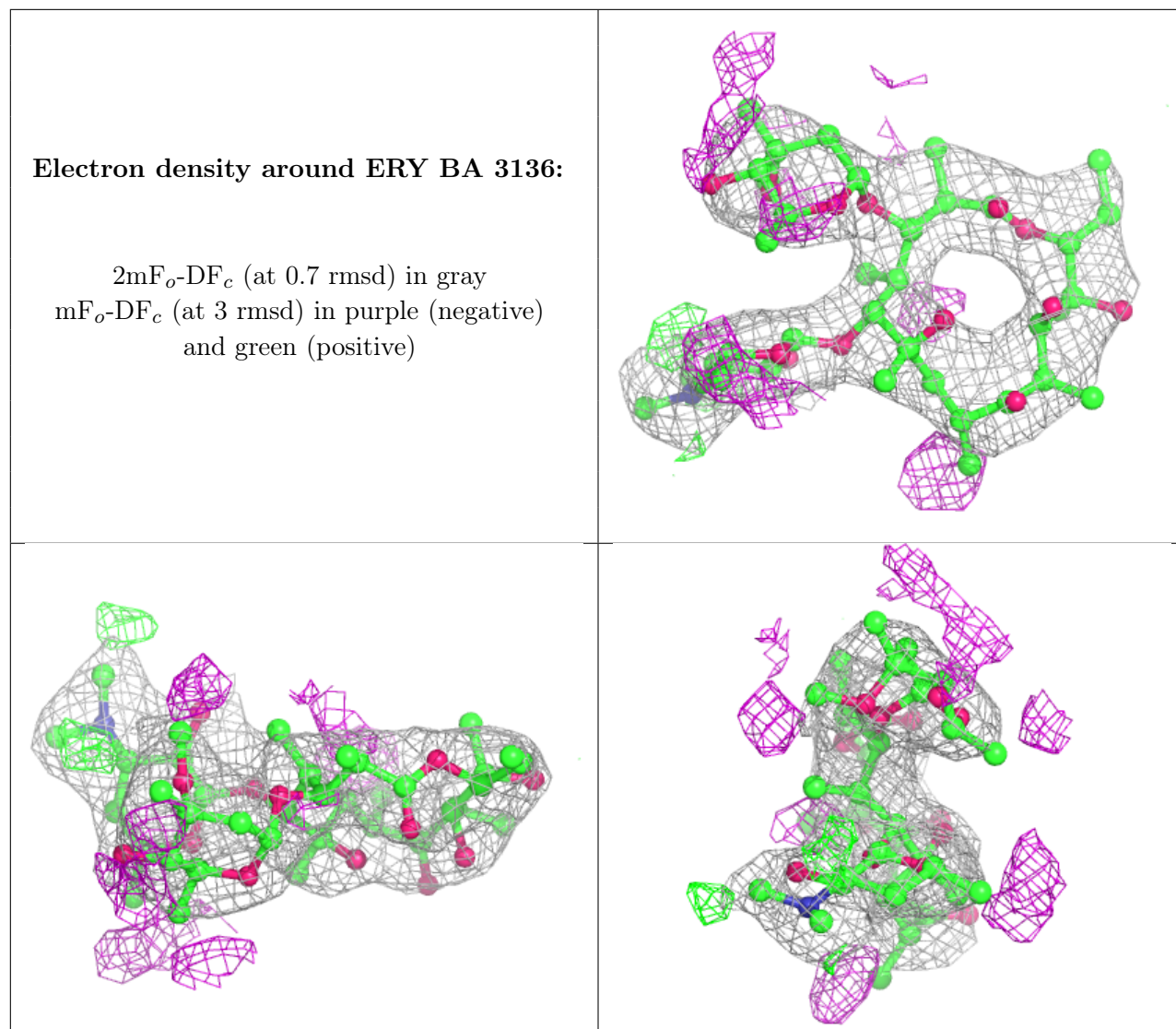
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
53	MG	BA	3116	1/1	0.97	0.07	17,17,17,17	0
53	MG	AA	1631	1/1	0.97	0.13	69,69,69,69	0
53	MG	DA	3081	1/1	0.97	0.10	92,92,92,92	0
53	MG	BA	3072	1/1	0.97	0.12	10,10,10,10	0
53	MG	AA	1620	1/1	0.97	0.19	28,28,28,28	0
53	MG	BA	3035	1/1	0.97	0.12	11,11,11,11	0
53	MG	BA	3056	1/1	0.97	0.24	233,233,233,233	0
53	MG	BA	3006	1/1	0.98	0.06	31,31,31,31	0
53	MG	BA	3020	1/1	0.98	0.15	35,35,35,35	0
53	MG	BA	3037	1/1	0.98	0.13	17,17,17,17	0
53	MG	BA	3029	1/1	0.98	0.09	66,66,66,66	0
53	MG	BA	3094	1/1	0.98	0.09	24,24,24,24	0
53	MG	BA	3095	1/1	0.98	0.10	22,22,22,22	0
53	MG	BA	3054	1/1	0.98	0.10	25,25,25,25	0
53	MG	BA	3030	1/1	0.98	0.22	15,15,15,15	0
53	MG	BA	3081	1/1	0.98	0.08	39,39,39,39	0
53	MG	BA	3041	1/1	0.98	0.19	13,13,13,13	0
53	MG	BA	3024	1/1	0.98	0.11	17,17,17,17	0
53	MG	BA	3032	1/1	0.98	0.13	16,16,16,16	0
53	MG	BA	3085	1/1	0.98	0.13	6,6,6,6	0
53	MG	AA	1640	1/1	0.98	0.18	17,17,17,17	0
53	MG	BA	3124	1/1	0.98	0.15	16,16,16,16	0
53	MG	BA	3026	1/1	0.98	0.07	19,19,19,19	0
53	MG	BA	3105	1/1	0.98	0.14	9,9,9,9	0
53	MG	BA	3088	1/1	0.98	0.05	11,11,11,11	0
53	MG	BA	3107	1/1	0.98	0.17	8,8,8,8	0
53	MG	BA	3074	1/1	0.98	0.15	18,18,18,18	0
53	MG	BA	3109	1/1	0.98	0.06	57,57,57,57	0
53	MG	AA	1632	1/1	0.99	0.11	31,31,31,31	0
53	MG	BA	3068	1/1	0.99	0.10	20,20,20,20	0
53	MG	BA	3053	1/1	0.99	0.09	9,9,9,9	0
53	MG	BA	3039	1/1	0.99	0.17	20,20,20,20	0
53	MG	BA	3013	1/1	0.99	0.17	9,9,9,9	0
53	MG	BA	3126	1/1	0.99	0.11	18,18,18,18	0
53	MG	BA	3063	1/1	0.99	0.18	13,13,13,13	0
53	MG	BA	3044	1/1	0.99	0.22	14,14,14,14	0
53	MG	BA	3045	1/1	0.99	0.13	17,17,17,17	0
55	ZN	B4	101	1/1	0.99	0.10	84,84,84,84	0
53	MG	BA	3051	1/1	0.99	0.12	10,10,10,10	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different

orientation to approximate a three-dimensional view.



## 6.5 Other polymers [\(i\)](#)

There are no such residues in this entry.