



wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 6, 2026 – 09:04 PM UTC

PDB ID : 4U20 / pdb_00004u20
Title : Crystal structure of the E. coli ribosome bound to flopristin.
Authors : Noeske, J.; Huang, J.; Olivier, N.B.; Giacobbe, R.A.; Zambrowski, M.; Cate, J.H.D.
Deposited on : 2014-07-16
Resolution : 2.90 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

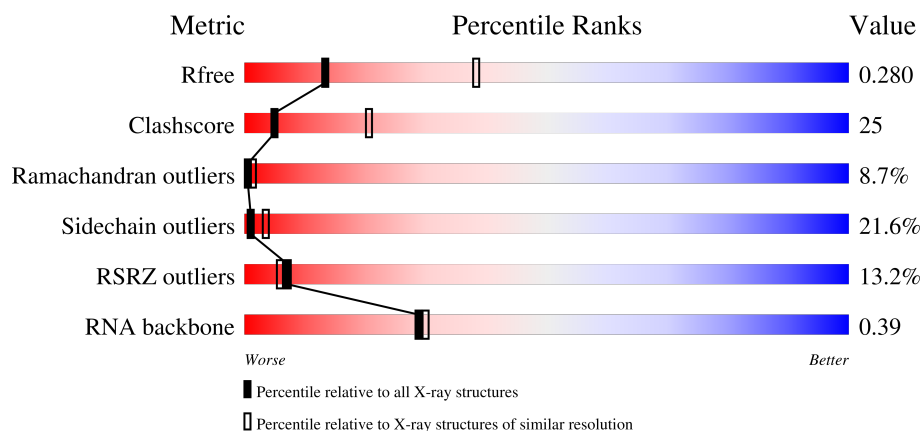
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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}	180053	2481 (2.90-2.90)
Clashscore	190562	2690 (2.90-2.90)
Ramachandran outliers	187476	2623 (2.90-2.90)
Sidechain outliers	187428	2625 (2.90-2.90)
RSRZ outliers	180081	2481 (2.90-2.90)
RNA backbone	3983	1120 (3.10-2.70)

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

Mol	Chain	Length	Quality of chain
1	AA	1539	5% 30% 53% 17%
1	CA	1539	8% 31% 53% 16%
2	AB	218	14% 14% 47% 30% 9%
2	CB	218	27% 22% 49% 24% .

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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	
16	AP	82	
16	CP	82	
17	AQ	80	
17	CQ	80	
18	AR	55	
18	CR	55	
19	AS	79	
19	CS	79	
20	AT	85	
20	CT	85	
21	AU	51	
21	CU	51	
22	BA	2903	
22	DA	2903	
23	BB	119	
23	DB	119	
24	BC	271	
24	DC	271	
25	BD	209	
25	DD	209	
26	BE	201	
26	DE	201	
27	BF	177	
27	DF	177	

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Mol	Chain	Length	Quality of chain
28	BG	176	
28	DG	176	
29	BH	149	
29	DH	149	
30	BI	141	
30	DI	141	
31	BJ	142	
31	DJ	142	
32	BK	122	
32	DK	122	
33	BL	143	
33	DL	143	
34	BM	136	
34	DM	136	
35	BN	120	
35	DN	120	
36	BO	116	
36	DO	116	
37	BP	114	
37	DP	114	
38	BQ	117	
38	DQ	117	
39	BR	103	
39	DR	103	
40	BS	110	

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Mol	Chain	Length	Quality of chain
40	DS	110	
41	BT	93	
41	DT	93	
42	BU	102	
42	DU	102	
43	BV	94	
43	DV	94	
44	BW	76	
44	DW	76	
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	

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Mol	Chain	Length	Quality of chain
53	B5	228	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
54	MG	DA	3062	-	-	-	X
54	MG	DA	3132	-	-	-	X
56	ZN	B4	101	-	-	X	-

2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 288258 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
1	AA	1538	Total	C	N	O	P	0	0	0
			32995	14716	6050	10691	1538			
1	CA	1539	Total	C	N	O	P	0	0	0
			33015	14725	6052	10699	1539			

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

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

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

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

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

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

- 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	151	Total	C	N	O	S	0	0	0
			1182	735	227	216	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
10	CJ	98	Total	C	N	O	S	0	0	0
			787	493	150	143	1			

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AO	88	Total	C	N	O	S	0	0	0
			710	437	143	129	1			
15	CO	88	Total	C	N	O	S	0	0	0
			710	437	143	129	1			

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

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

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

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

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

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

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

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

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

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

- 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	2897	Total	C	N	O	P	0	0	0
			62195	27745	11446	20107	2897			
22	DA	2897	Total	C	N	O	P	0	0	0
			62195	27745	11446	20107	2897			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	BB	119	Total	C	N	O	P	0	0	0
			2549	1135	466	829	119			
23	DB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			

- 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
26	DE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	BF	177	Total	C	N	O	S	0	0	0
			1411	899	249	257	6			
27	DF	177	Total	C	N	O	S	0	0	0
			1411	899	249	257	6			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	BH	149	Total	C	N	O	S	0	0	0
			1110	699	197	213	1			
29	DH	149	Total	C	N	O	S	0	0	0
			1110	699	197	213	1			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	BK	122	Total	C	N	O	S	0	0	0
			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	S	0	0	0
			780	492	146	142				

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BW	76	Total	C	N	O	S	0	0	0
			580	359	117	103	1			
44	DW	75	Total	C	N	O	S	0	0	0
			569	353	113	102	1			

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

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

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

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

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

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

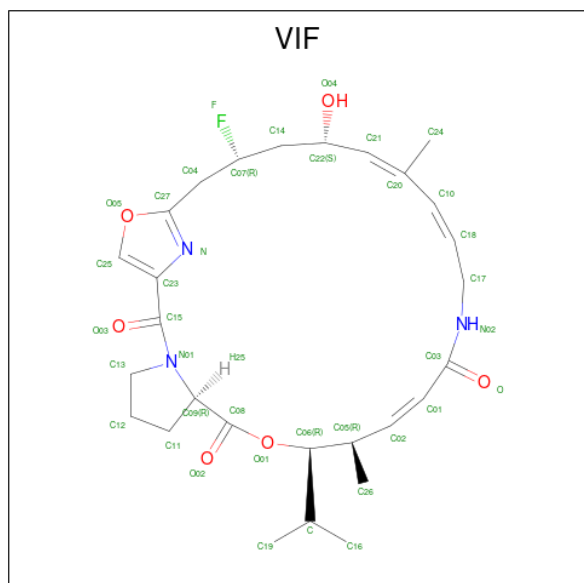
- Molecule 53 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
53	B5	191	Total	C	N	O	0	0	1
			1142	691	221	230			

- Molecule 54 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
54	AA	72	Total	Mg	0	0
			72	72		
54	BA	194	Total	Mg	0	0
			194	194		
54	BB	4	Total	Mg	0	0
			4	4		
54	BN	1	Total	Mg	0	0
			1	1		
54	CA	55	Total	Mg	0	0
			55	55		
54	CM	1	Total	Mg	0	0
			1	1		
54	DA	166	Total	Mg	0	0
			166	166		
54	DB	3	Total	Mg	0	0
			3	3		
54	DQ	1	Total	Mg	0	0
			1	1		
54	D2	1	Total	Mg	0	0
			1	1		

- Molecule 55 is Flopristin (CCD ID: VIF) (formula: C₂₈H₃₈FN₃O₆).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
55	BA	1	Total	C	F	N	O	0	0
			38	28	1	3	6		
55	DA	1	Total	C	F	N	O	0	0
			38	28	1	3	6		

- Molecule 56 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

- Molecule 57 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	AA	195	Total	O	0	0
			195	195		
57	AL	1	Total	O	0	0
			1	1		
57	AN	5	Total	O	0	0
			5	5		
57	AT	1	Total	O	0	0
			1	1		
57	AU	1	Total	O	0	0
			1	1		
57	BA	620	Total	O	0	0
			620	620		
57	BB	13	Total	O	0	0
			13	13		
57	BC	6	Total	O	0	0
			6	6		
57	BD	3	Total	O	0	0
			3	3		
57	BE	4	Total	O	0	0
			4	4		
57	BF	1	Total	O	0	0
			1	1		
57	BG	1	Total	O	0	0
			1	1		
57	BL	8	Total	O	0	0
			8	8		
57	BN	4	Total	O	0	0
			4	4		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	BS	1	Total 1	O 1	0	0
57	BV	1	Total 1	O 1	0	0
57	B2	1	Total 1	O 1	0	0
57	B3	2	Total 2	O 2	0	0
57	B4	1	Total 1	O 1	0	0
57	CA	189	Total 189	O 189	0	0
57	CL	1	Total 1	O 1	0	0
57	CN	3	Total 3	O 3	0	0
57	CT	4	Total 4	O 4	0	0
57	CU	1	Total 1	O 1	0	0
57	DA	613	Total 613	O 613	0	0
57	DB	13	Total 13	O 13	0	0
57	DC	9	Total 9	O 9	0	0
57	DD	4	Total 4	O 4	0	0
57	DE	2	Total 2	O 2	0	0
57	DJ	1	Total 1	O 1	0	0
57	DL	3	Total 3	O 3	0	0
57	DN	1	Total 1	O 1	0	0
57	DT	2	Total 2	O 2	0	0
57	DV	1	Total 1	O 1	0	0
57	D0	1	Total 1	O 1	0	0

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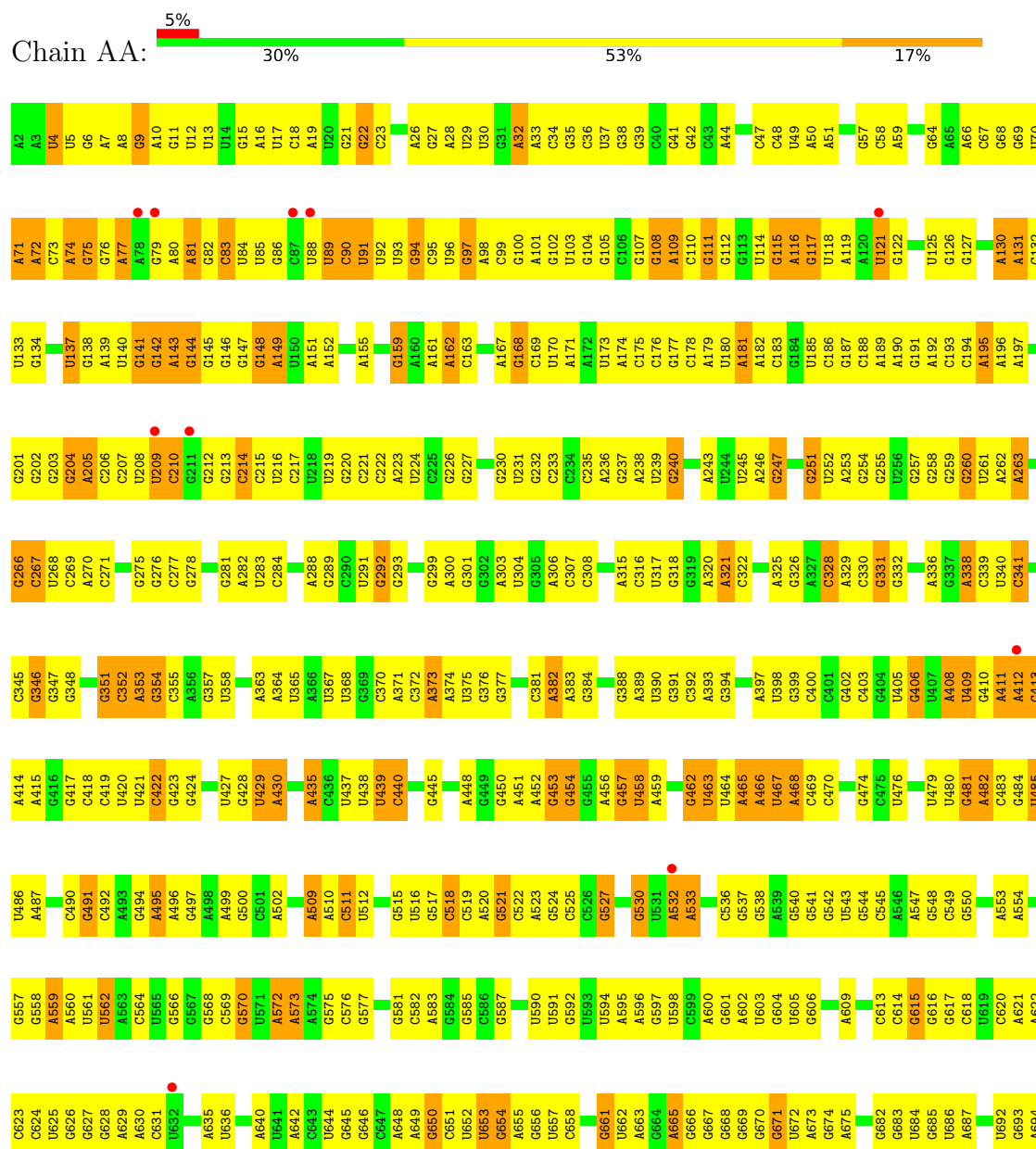
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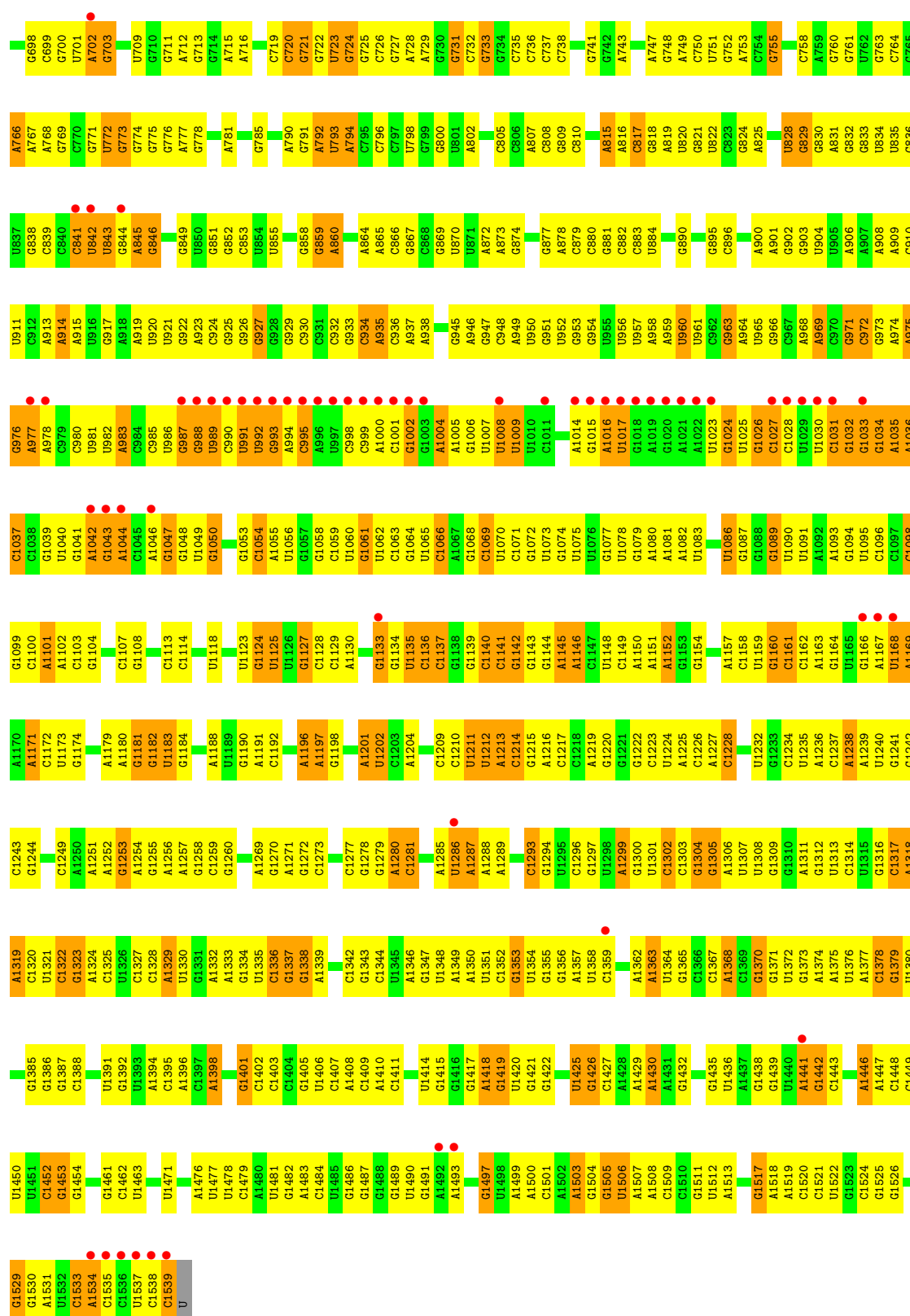
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	D2	3	Total 3	O 3	0	0
57	D3	2	Total 2	O 2	0	0
57	D4	1	Total 1	O 1	0	0

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.

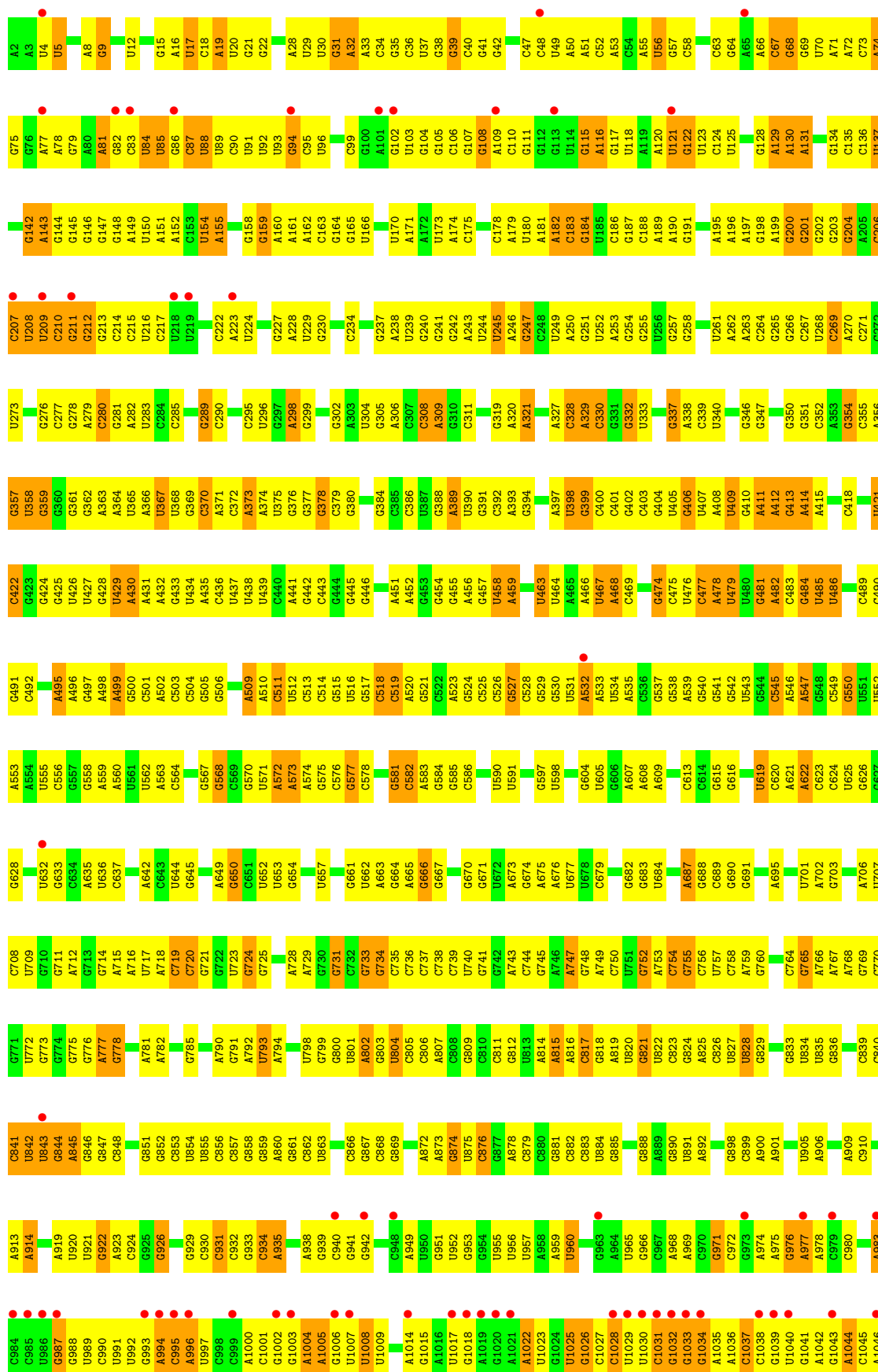
• Molecule 1: 16S rRNA

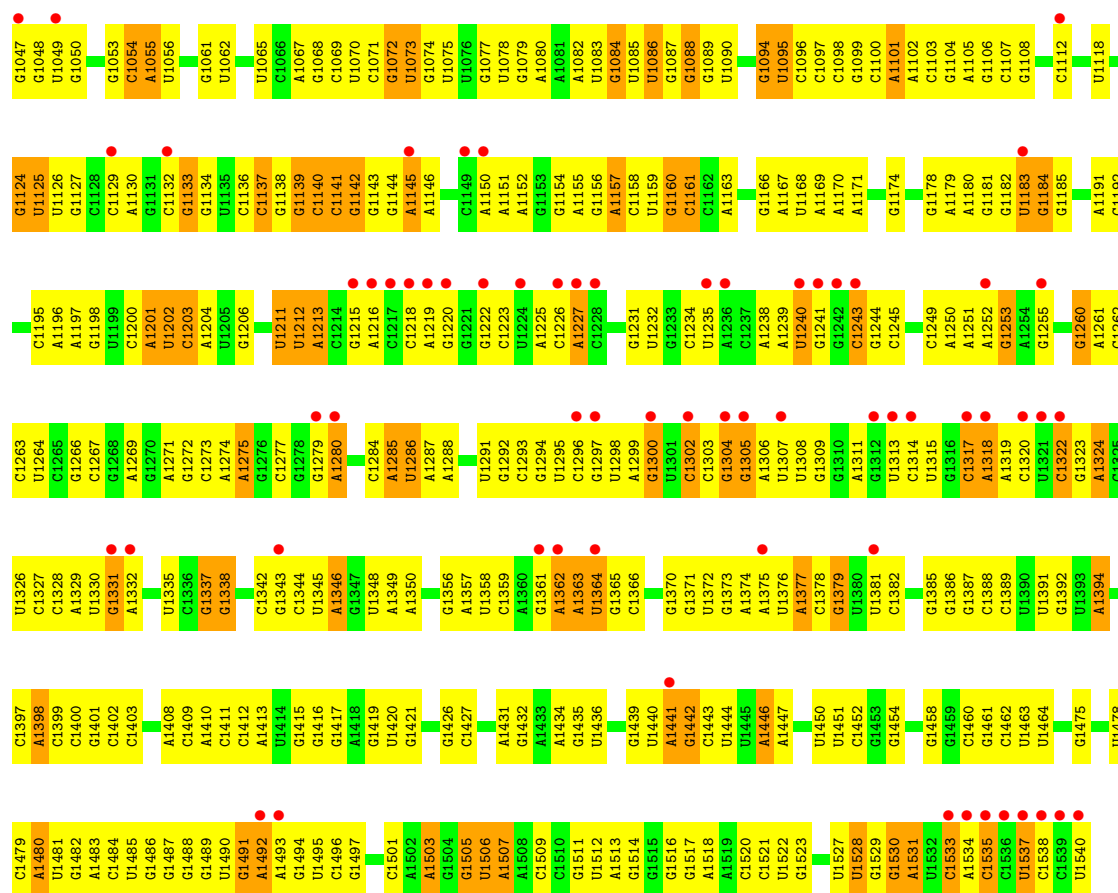




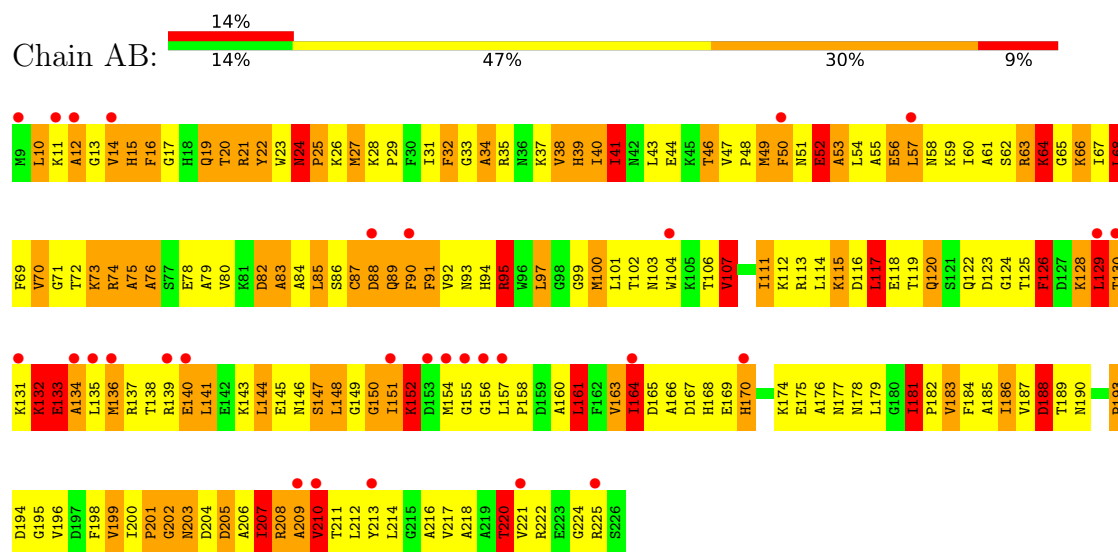
● Molecule 1: 16S rRNA





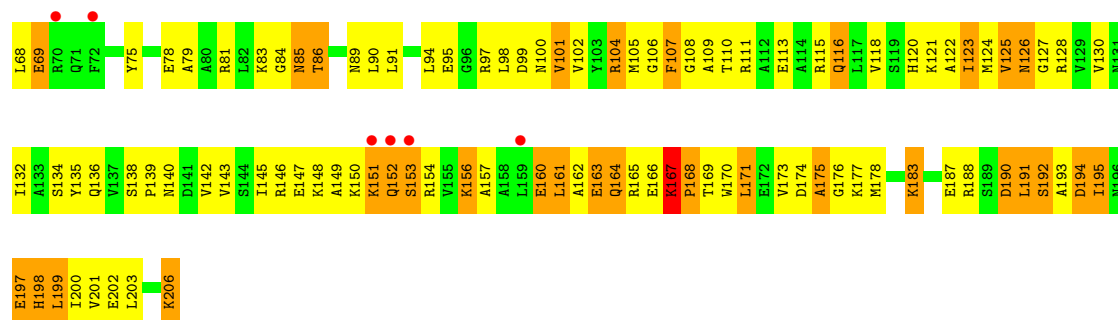


• Molecule 2: 30S ribosomal protein S2

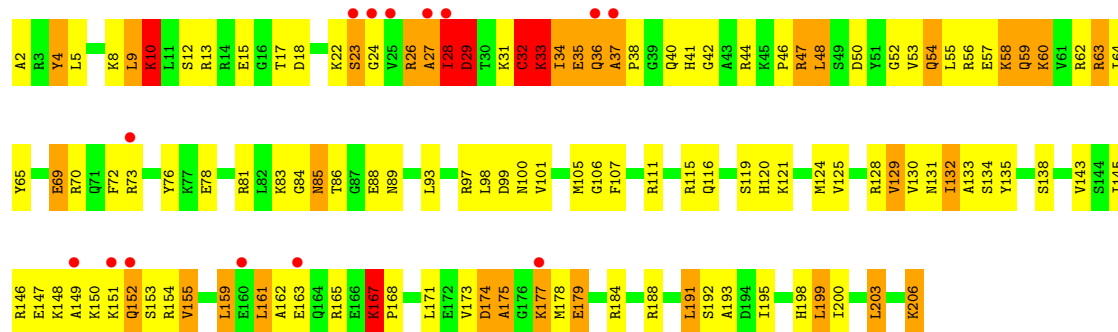


• Molecule 2: 30S ribosomal protein S2

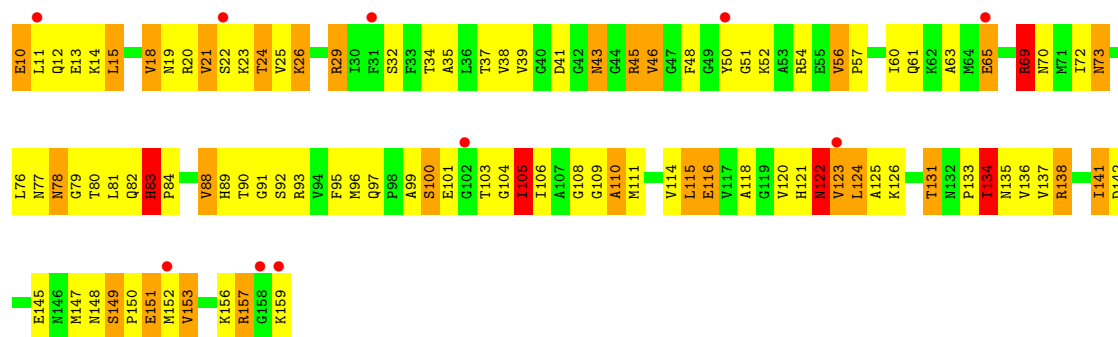




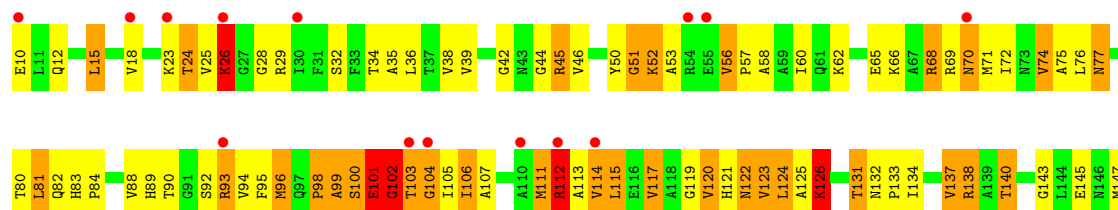
• Molecule 4: 30S ribosomal protein S4

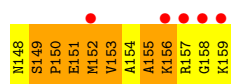


• Molecule 5: 30S ribosomal protein S5

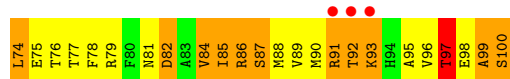


• Molecule 5: 30S ribosomal protein S5

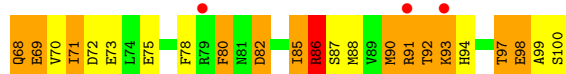
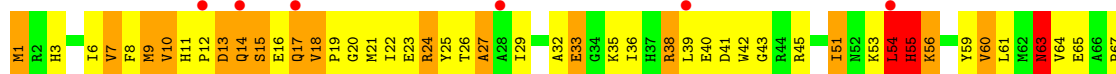




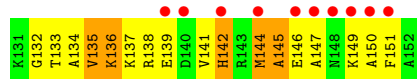
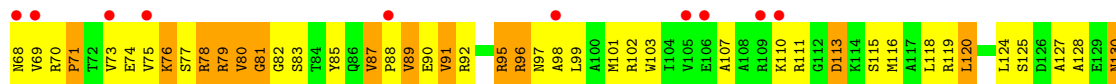
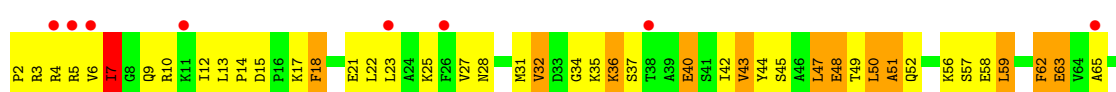
- Molecule 6: 30S ribosomal protein S6



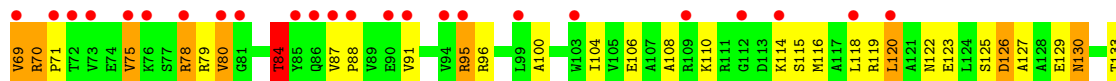
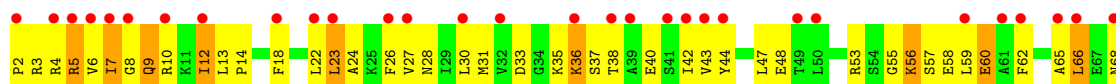
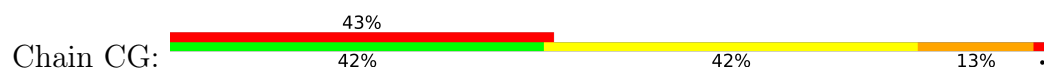
- Molecule 6: 30S ribosomal protein S6



- Molecule 7: 30S ribosomal protein S7

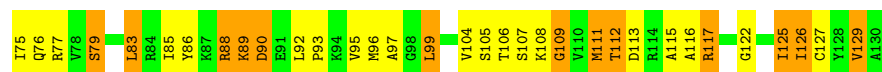


- Molecule 7: 30S ribosomal protein S7

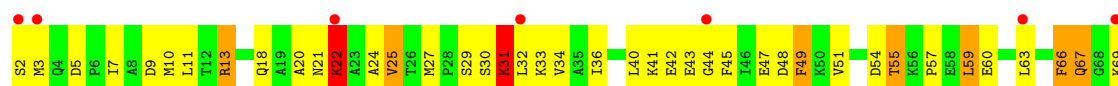
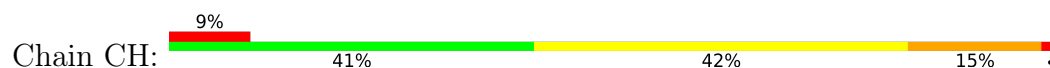




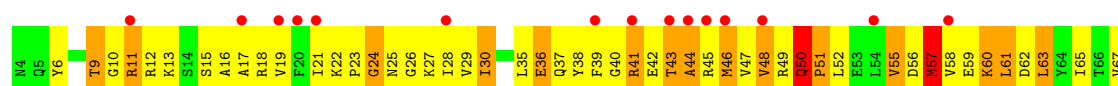
• Molecule 8: 30S ribosomal protein S8



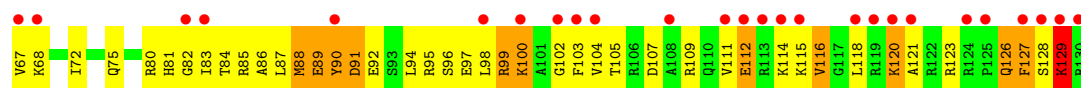
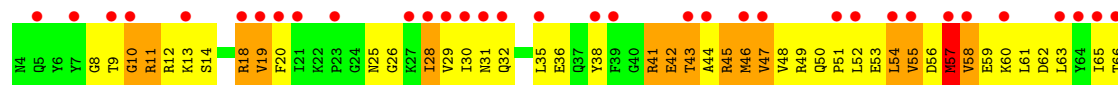
• Molecule 8: 30S ribosomal protein S8



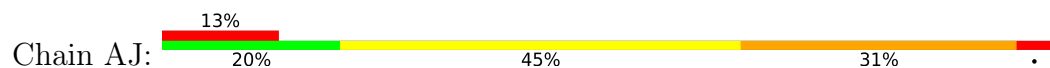
• Molecule 9: 30S ribosomal protein S9

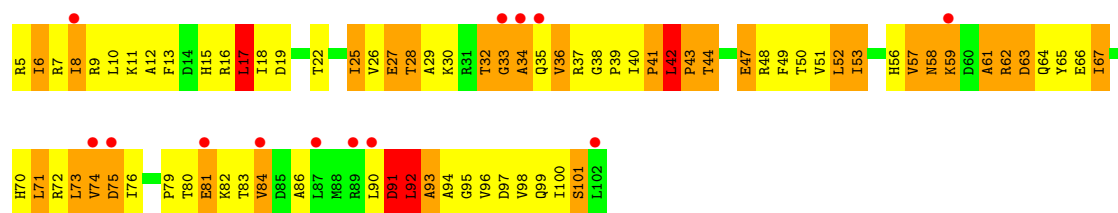


• Molecule 9: 30S ribosomal protein S9

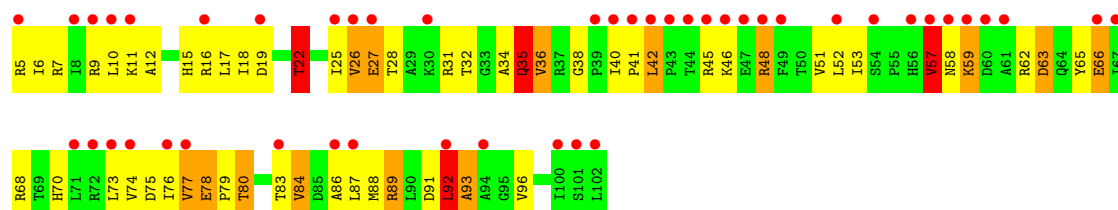
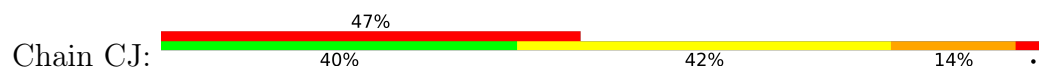


• Molecule 10: 30S ribosomal protein S10

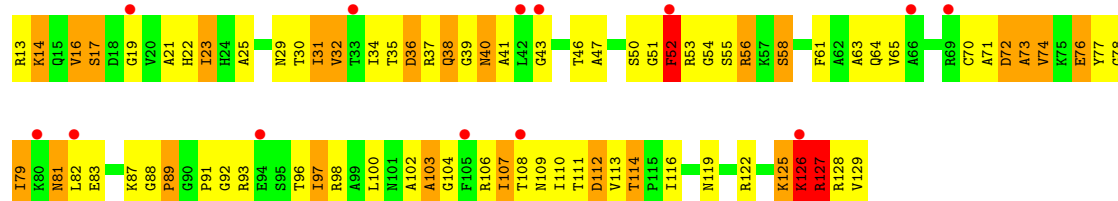




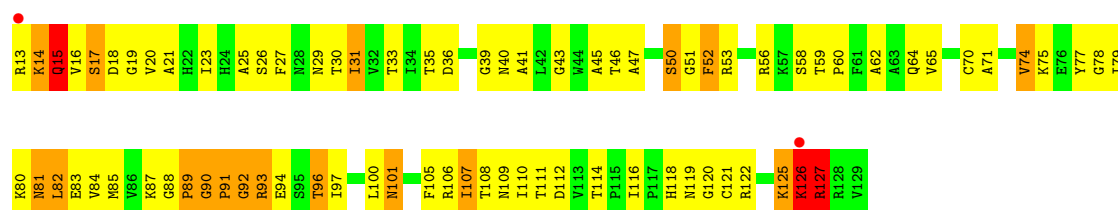
• Molecule 10: 30S ribosomal protein S10



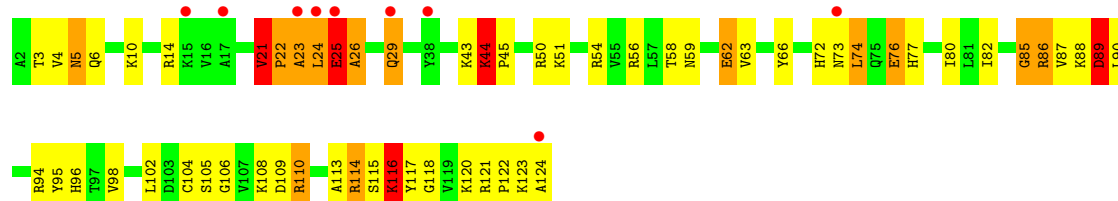
• Molecule 11: 30S ribosomal protein S11



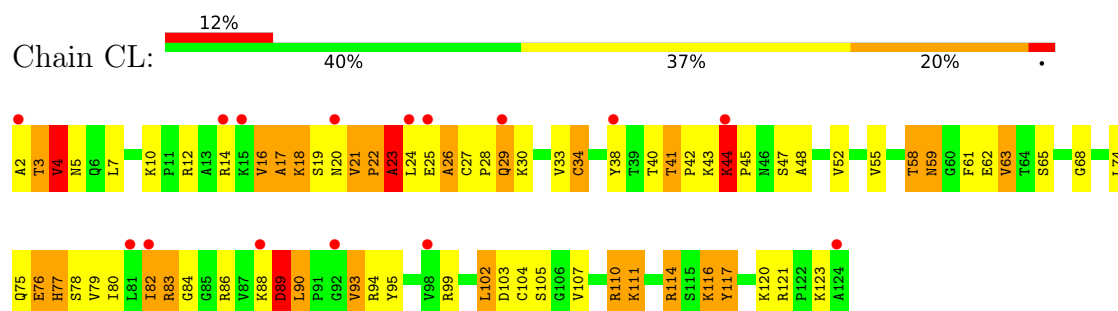
• Molecule 11: 30S ribosomal protein S11



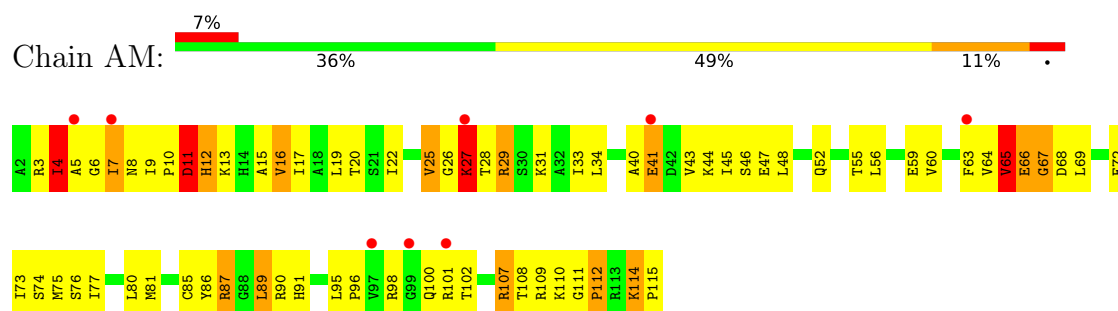
• Molecule 12: 30S ribosomal protein S12



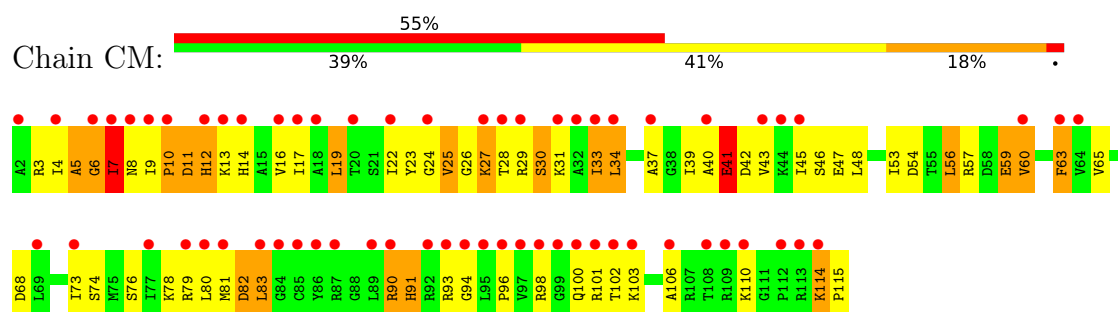
- Molecule 12: 30S ribosomal protein S12



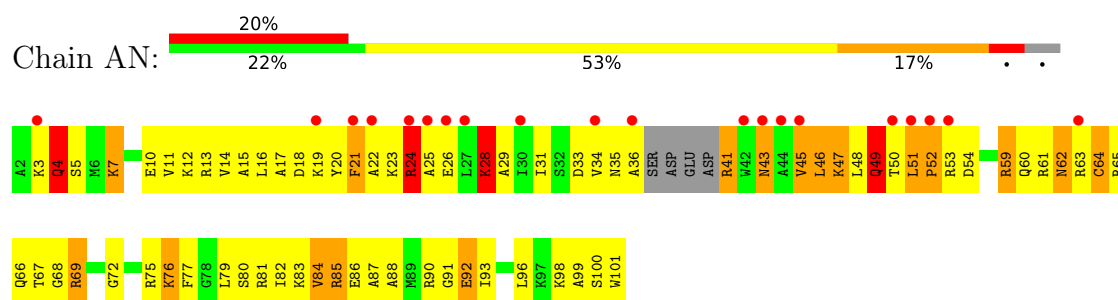
- Molecule 13: 30S ribosomal protein S13



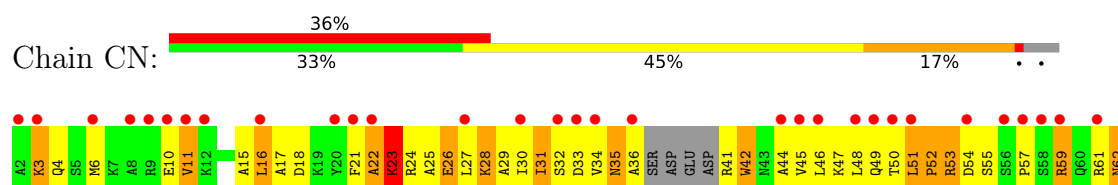
- Molecule 13: 30S ribosomal protein S13

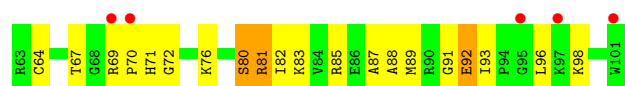


- Molecule 14: 30S ribosomal protein S14

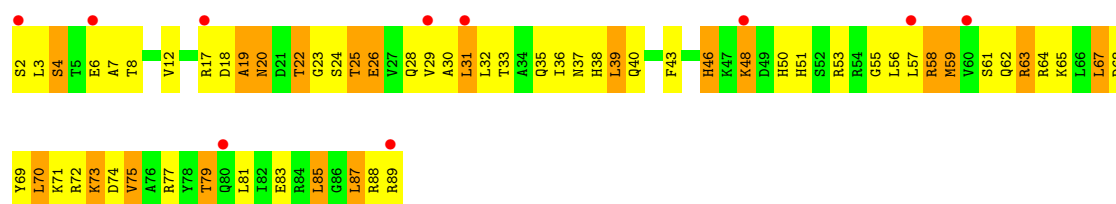


- Molecule 14: 30S ribosomal protein S14





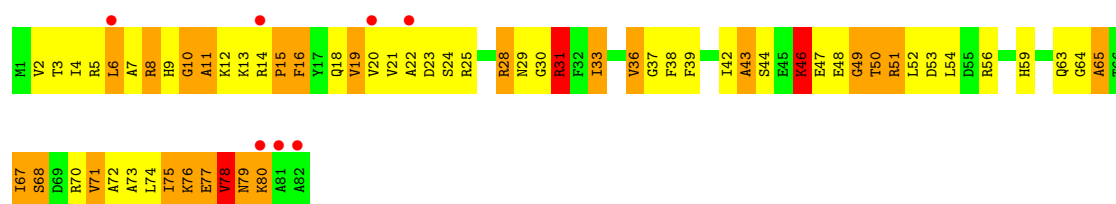
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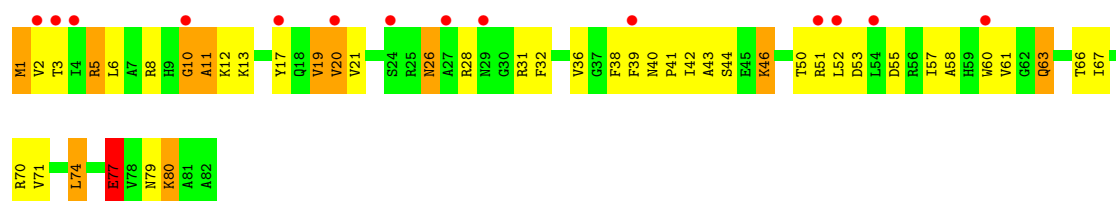
• Molecule 15: 30S ribosomal protein S15



• Molecule 16: 30S ribosomal protein S16

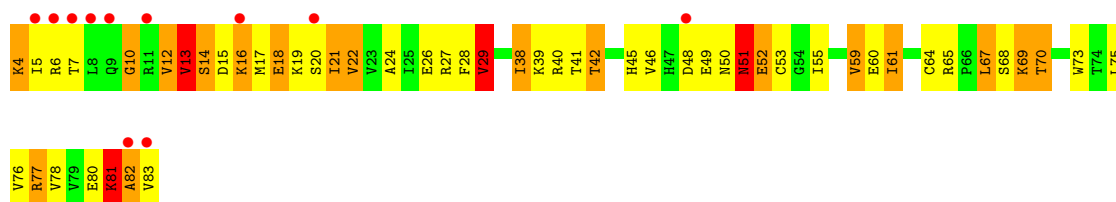


• Molecule 16: 30S ribosomal protein S16

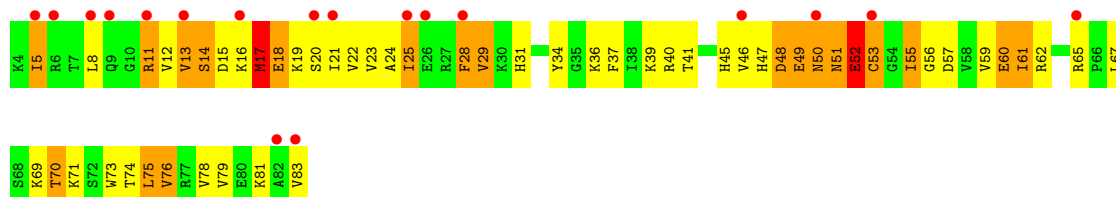


• Molecule 17: 30S ribosomal protein S17





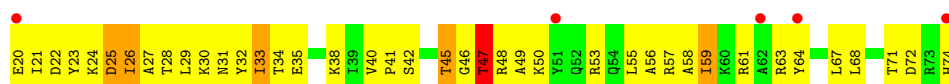
• Molecule 17: 30S ribosomal protein S17



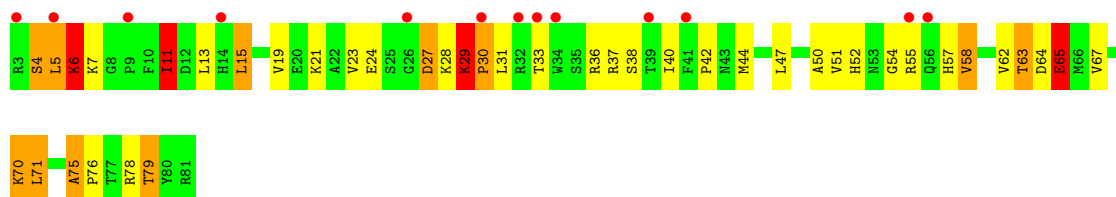
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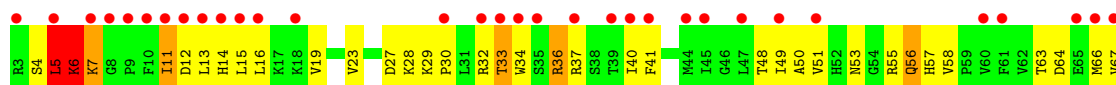
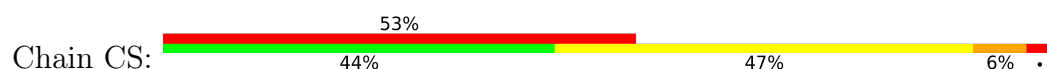
• Molecule 18: 30S ribosomal protein S18



• Molecule 19: 30S ribosomal protein S19

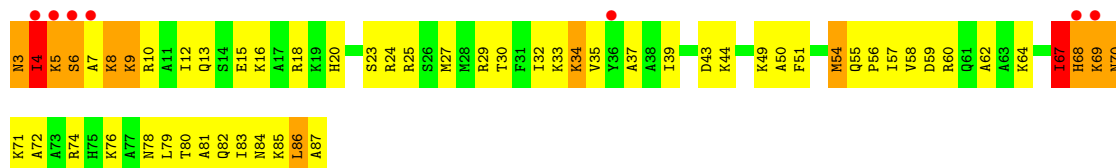


• Molecule 19: 30S ribosomal protein S19

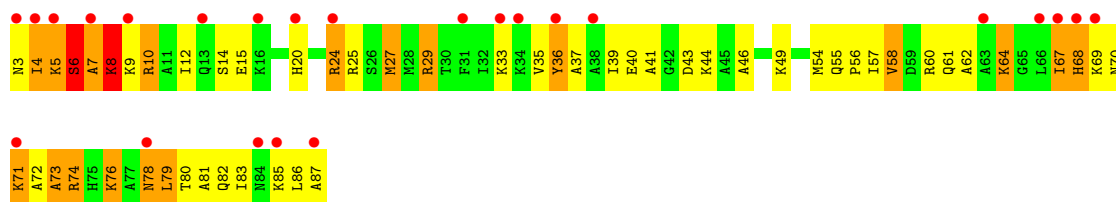




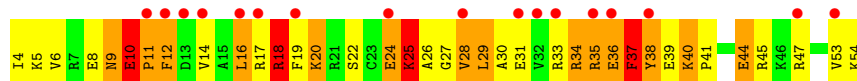
- Molecule 20: 30S ribosomal protein S20



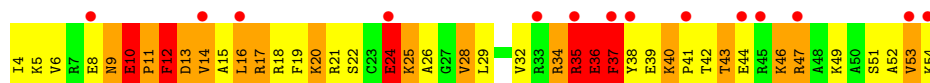
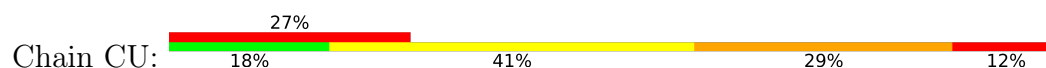
- Molecule 20: 30S ribosomal protein S20



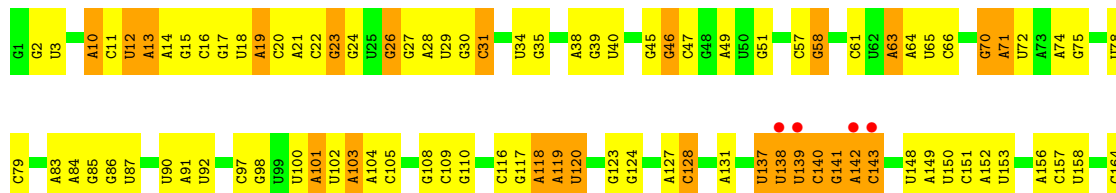
- Molecule 21: 30S ribosomal protein S21



- Molecule 21: 30S ribosomal protein S21

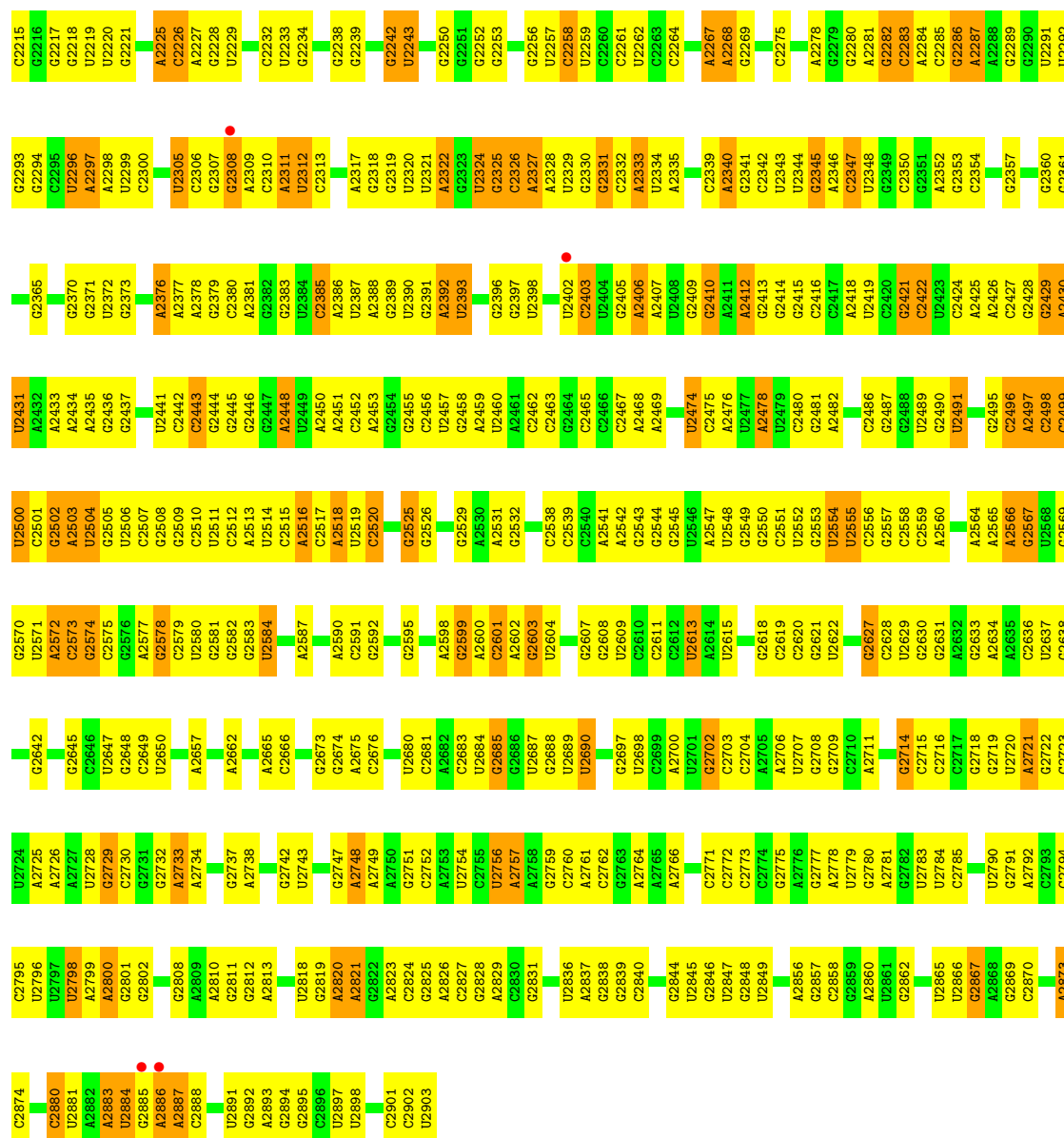


- Molecule 22: 23S rRNA



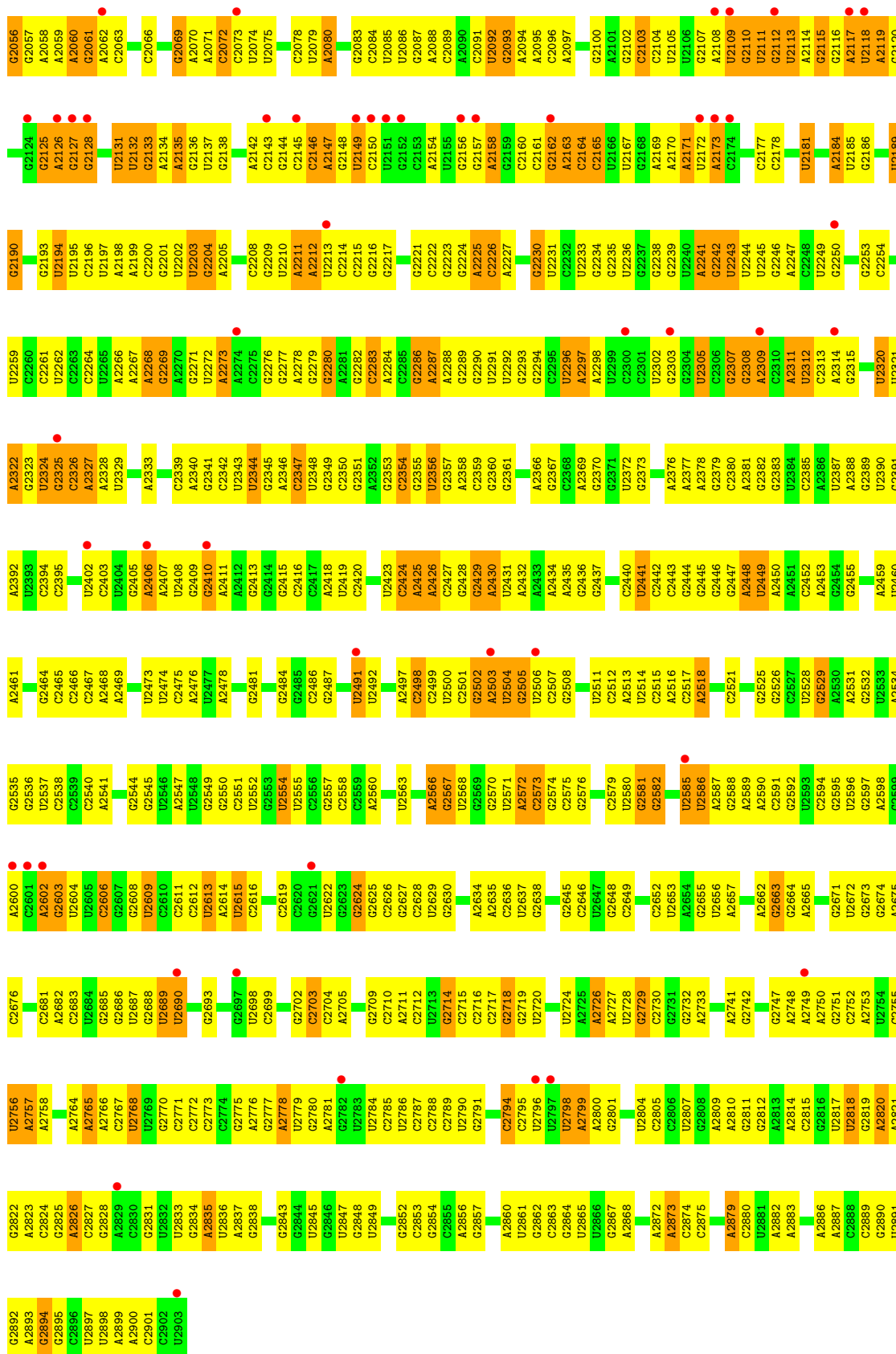
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U773	G774	G775	G776	G777	G778	U779	G780	A781	A782	U783	G784	G785	U788	A789	U790	C791	U792	C796	G797	A800	G801	G805	C806	U807	G808	U811	C812	U813	C814	C815	C816	C817	G818	A819	A825	U826	U827	U828	A909	A910	G978	A911	C912	U913	G914	C915	G916	A983	U984	C985	C986	C987	A988	G989	A990	C991	C992	
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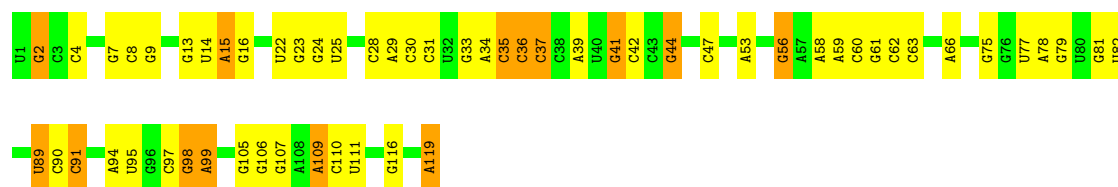






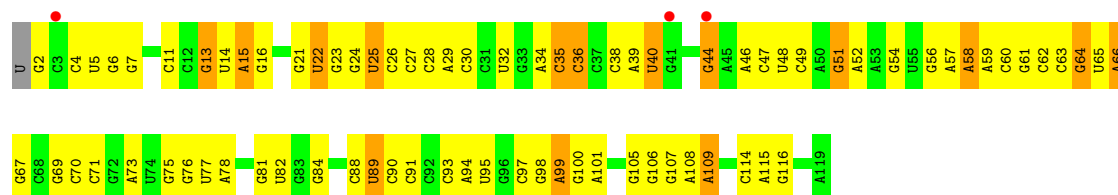
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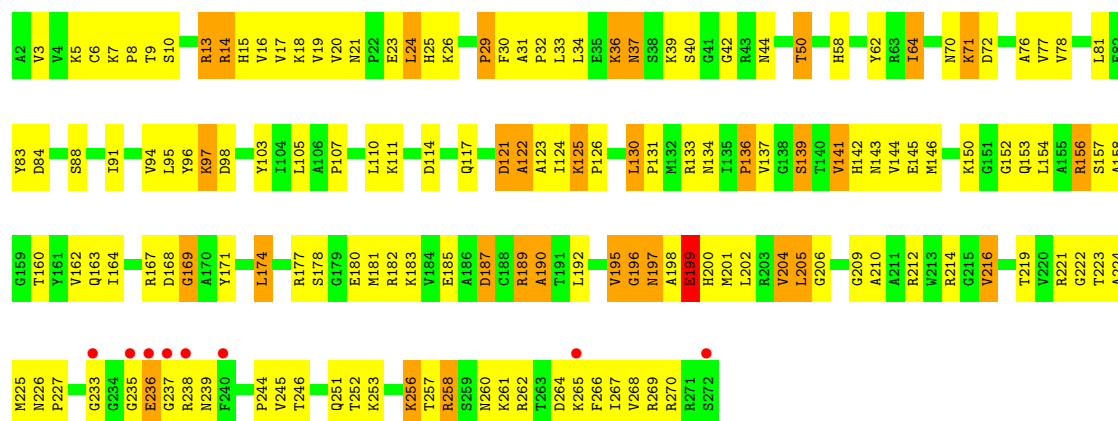
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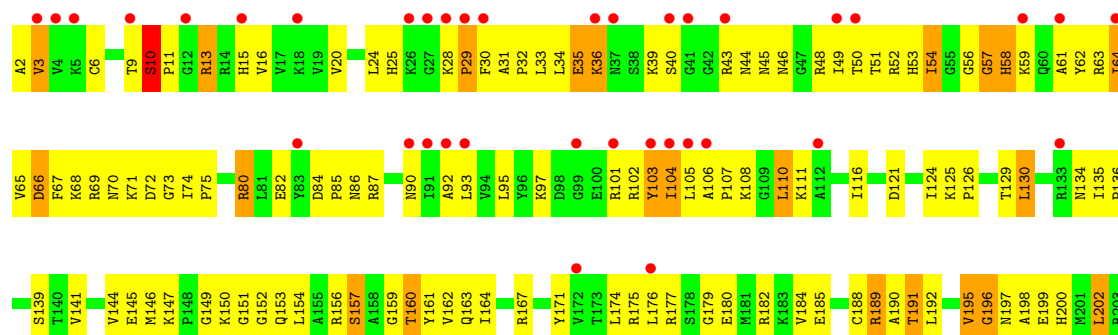
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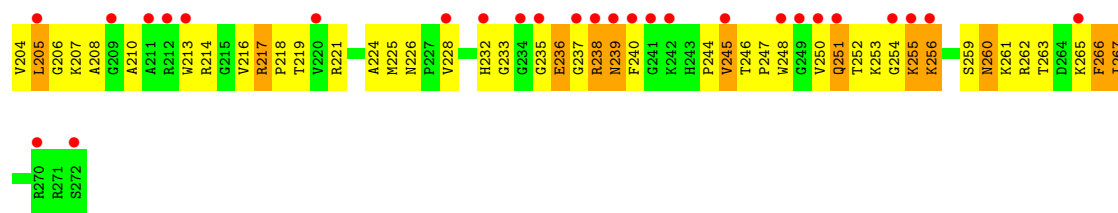
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• Molecule 24: 50S ribosomal protein L2

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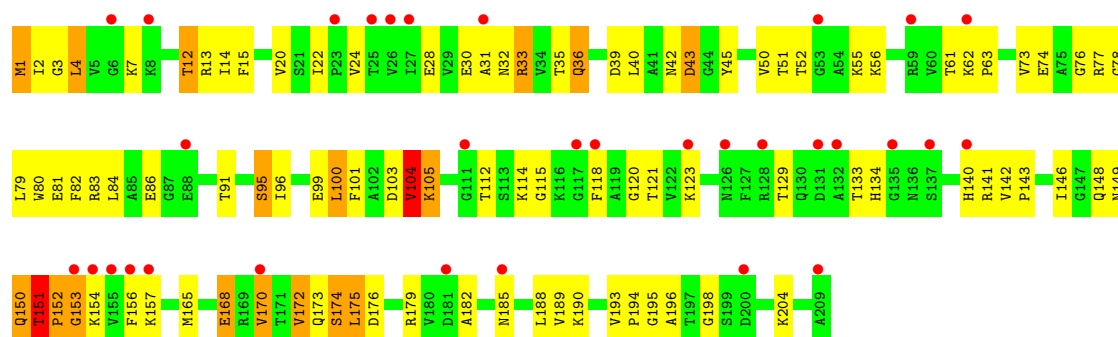




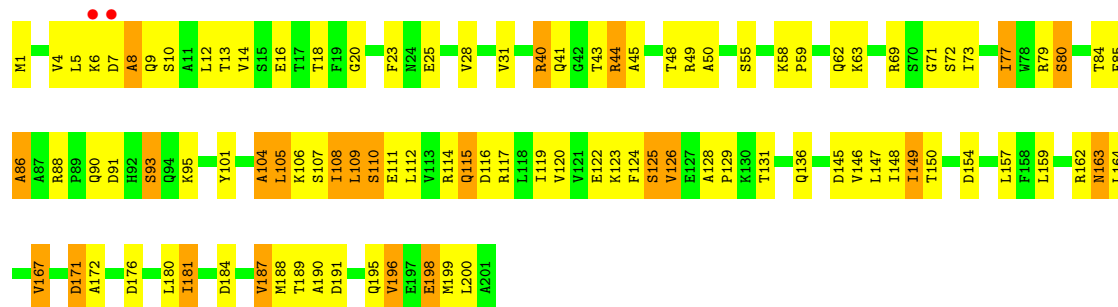
• Molecule 25: 50S ribosomal protein L3



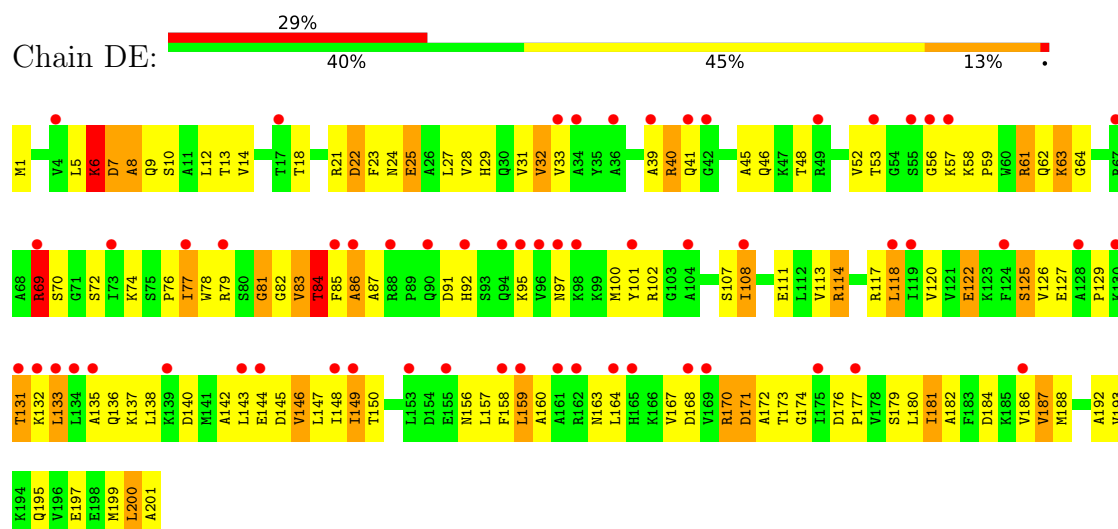
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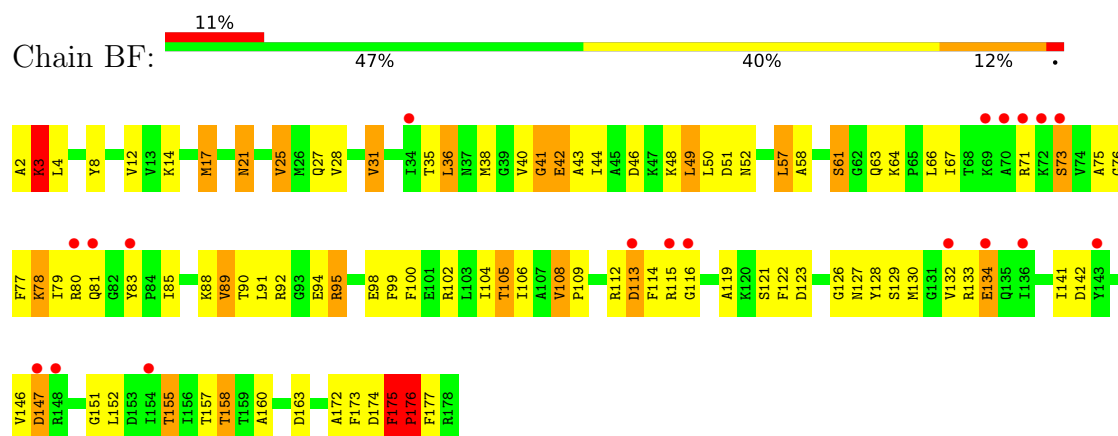
• Molecule 26: 50S ribosomal protein L4



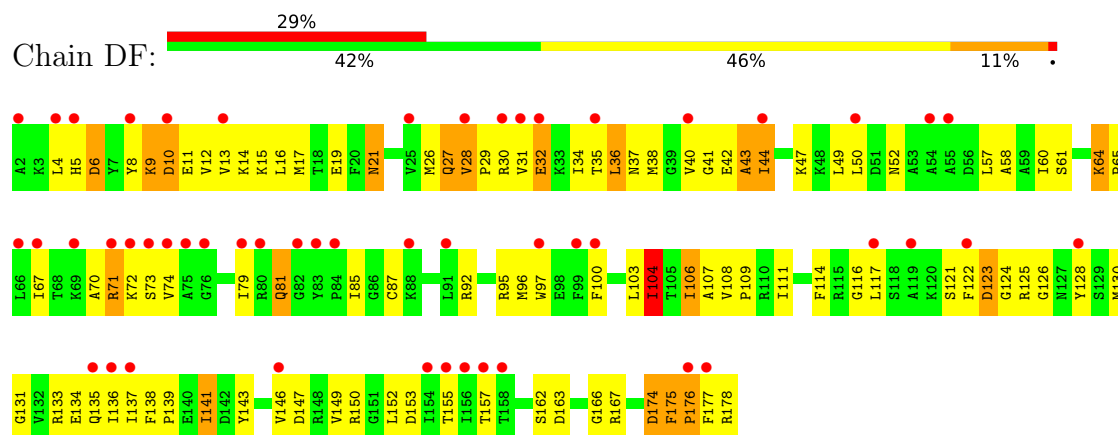
• Molecule 26: 50S ribosomal protein L4



• Molecule 27: 50S ribosomal protein L5

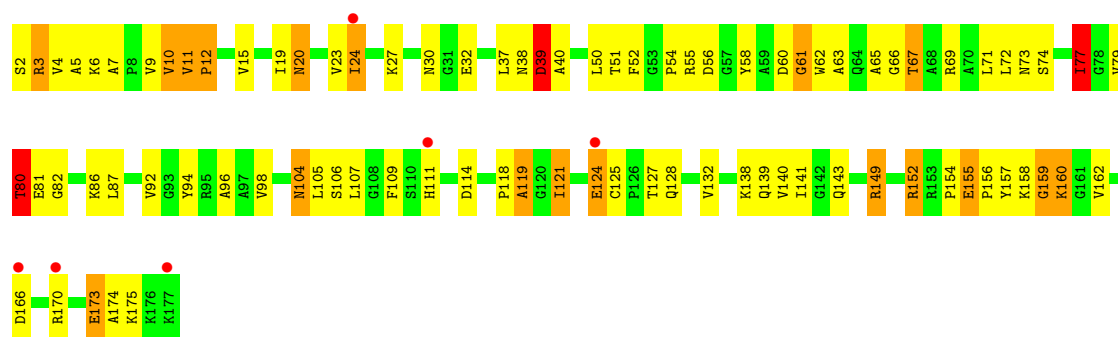


• Molecule 27: 50S ribosomal protein L5

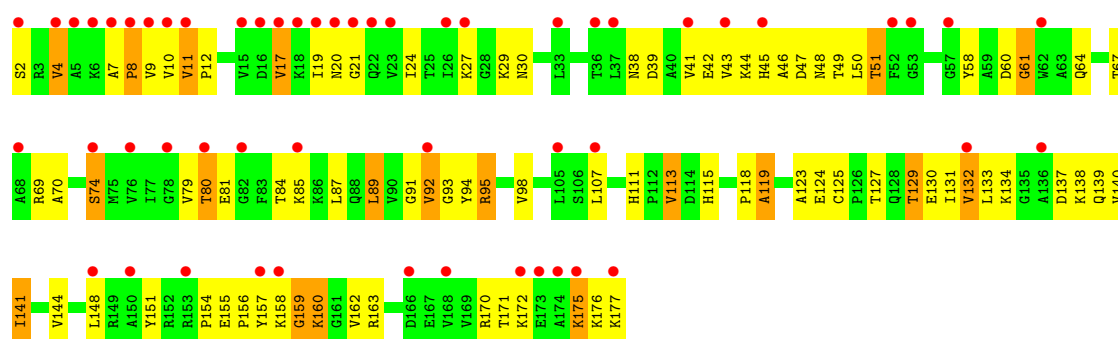


• Molecule 28: 50S ribosomal protein L6

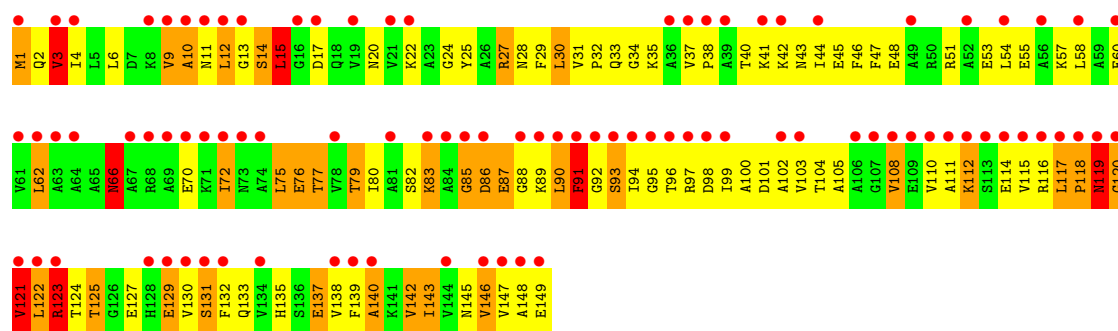




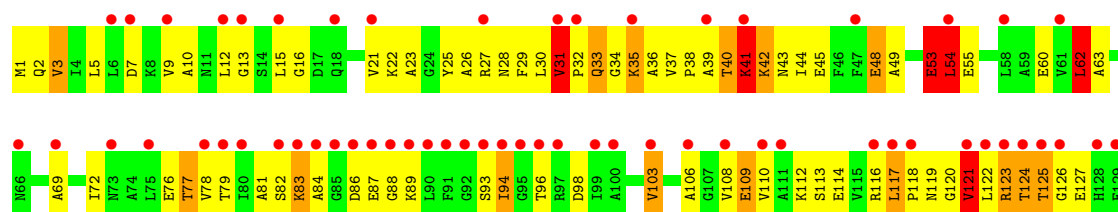
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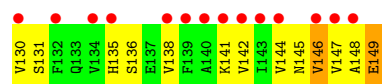


• Molecule 29: 50S ribosomal protein L9

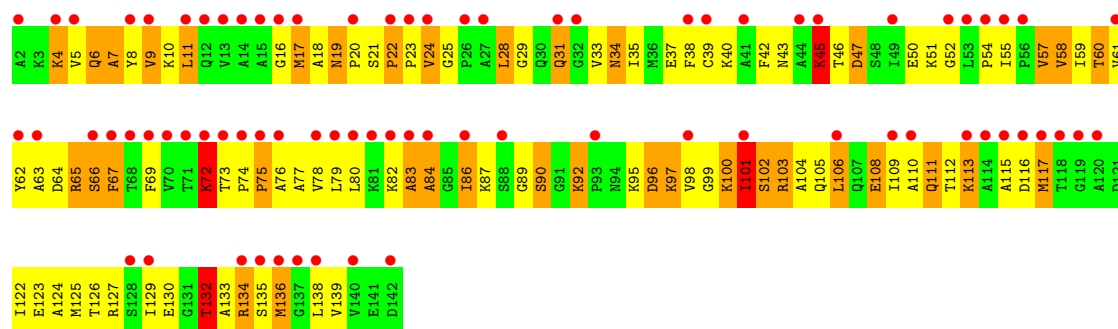


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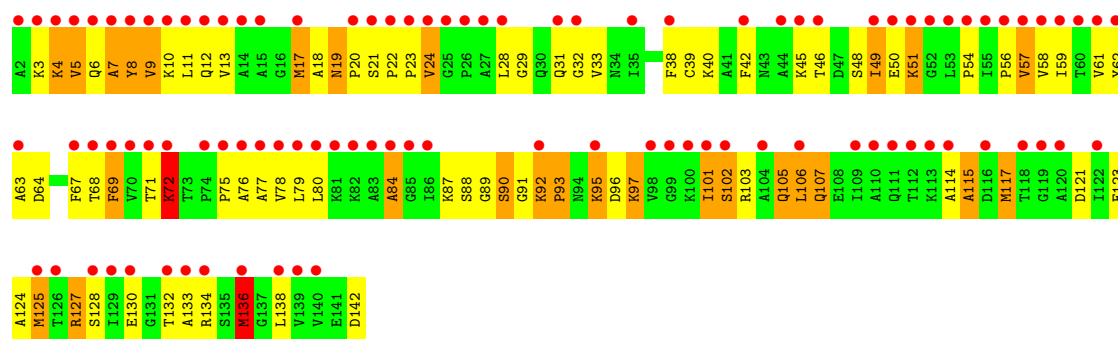




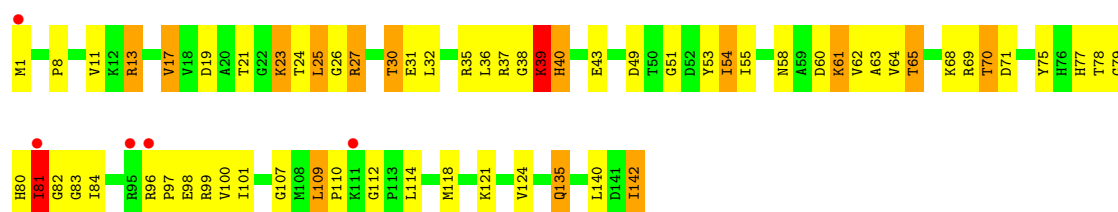
• Molecule 30: 50S ribosomal protein L11



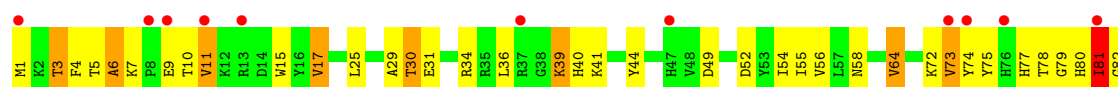
• Molecule 30: 50S ribosomal protein L11

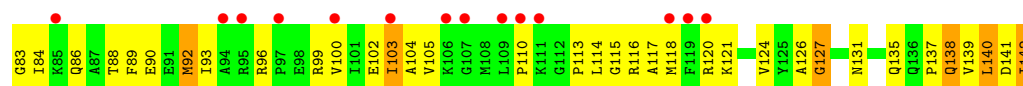


• Molecule 31: 50S ribosomal protein L13

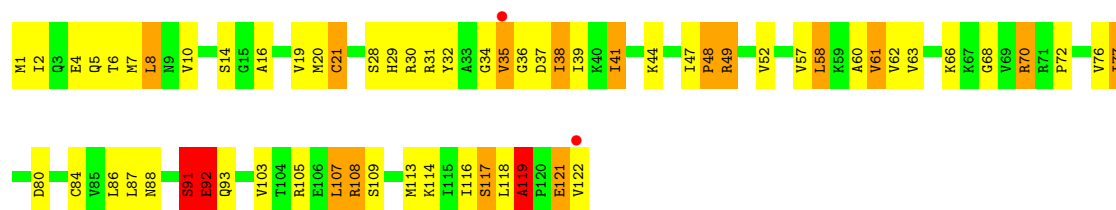


• Molecule 31: 50S ribosomal protein L13

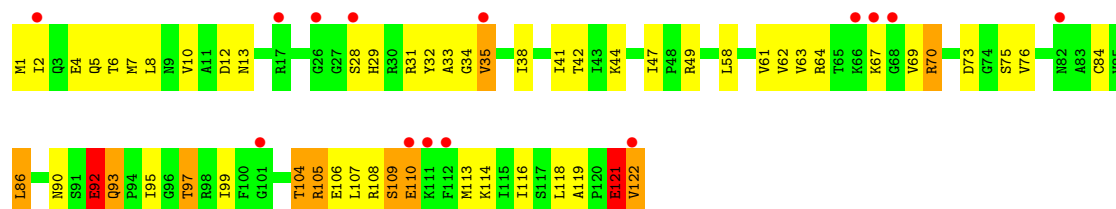




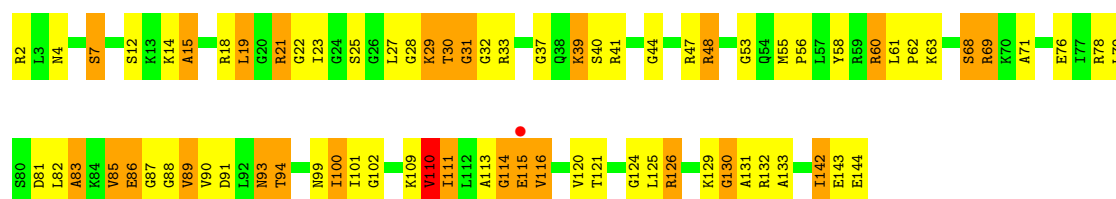
- Molecule 32: 50S ribosomal protein L14



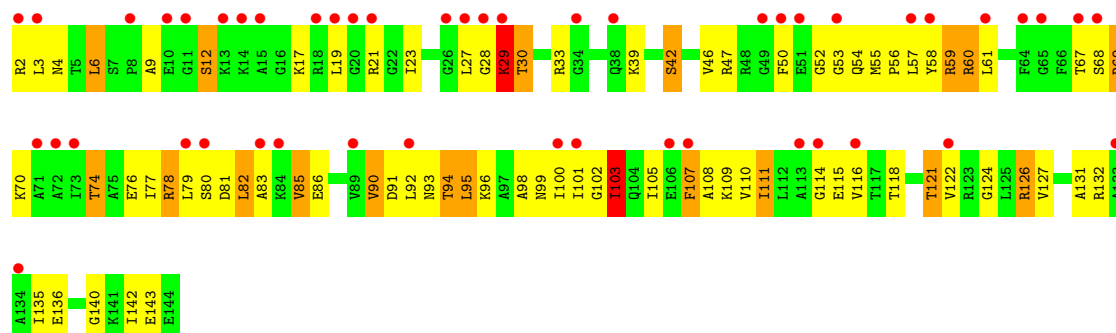
- Molecule 32: 50S ribosomal protein L14



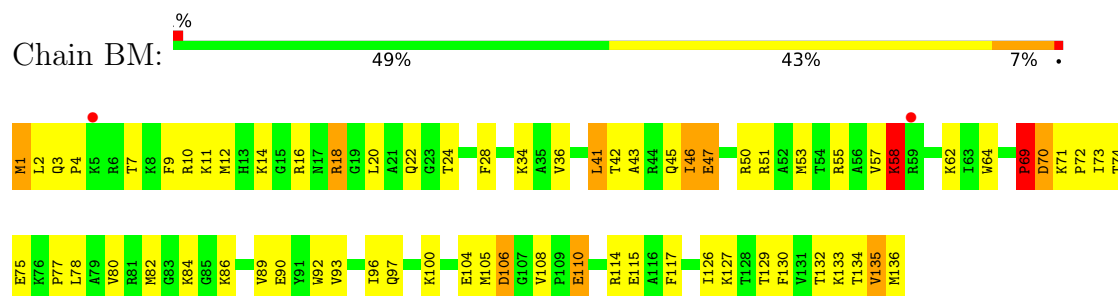
- Molecule 33: 50S ribosomal protein L15



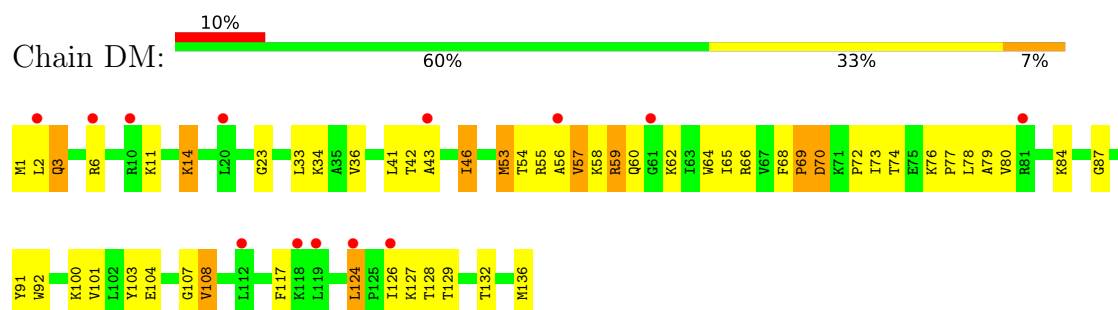
- Molecule 33: 50S ribosomal protein L15



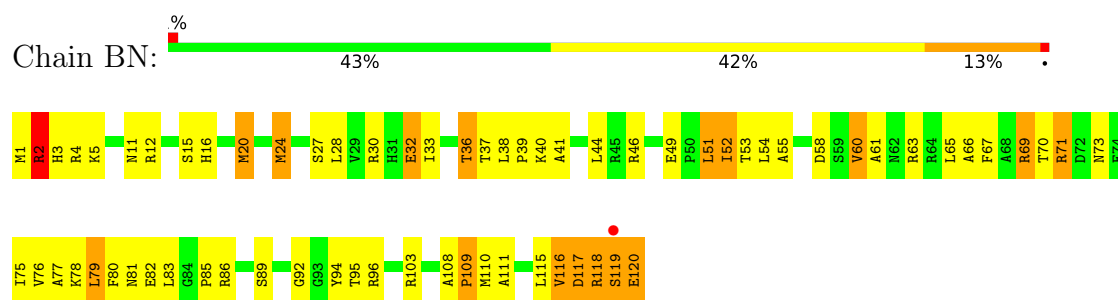
- Molecule 34: 50S ribosomal protein L16



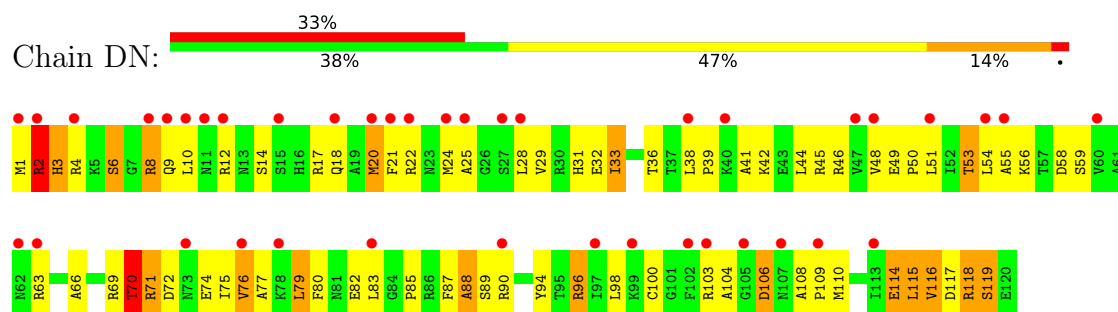
- Molecule 34: 50S ribosomal protein L16



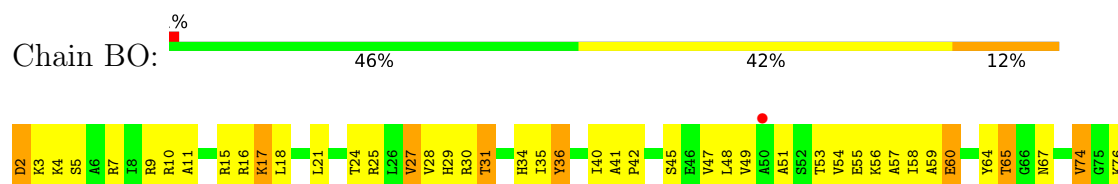
- Molecule 35: 50S ribosomal protein L17



- Molecule 35: 50S ribosomal protein L17

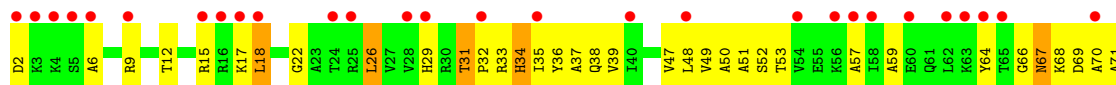


- Molecule 36: 50S ribosomal protein L18

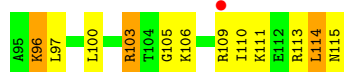
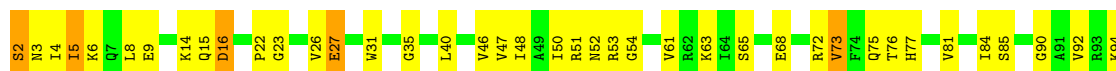




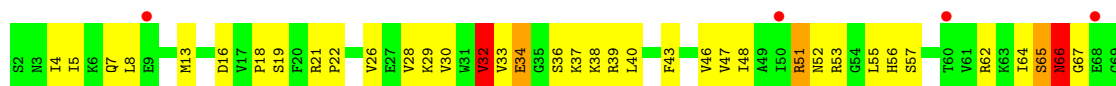
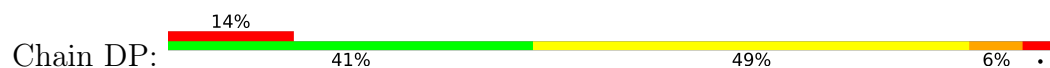
• Molecule 36: 50S ribosomal protein L18



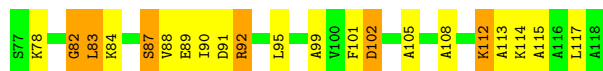
• Molecule 37: 50S ribosomal protein L19



• Molecule 37: 50S ribosomal protein L19

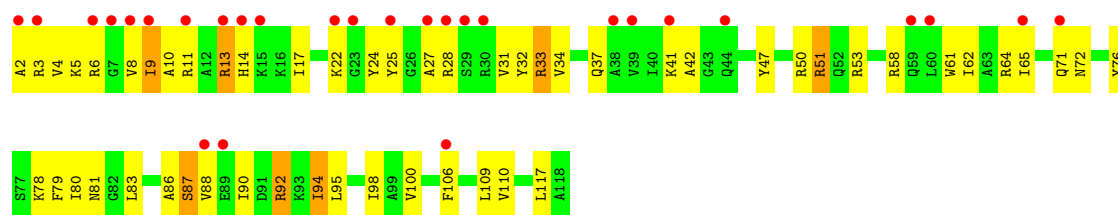


• Molecule 38: 50S ribosomal protein L20

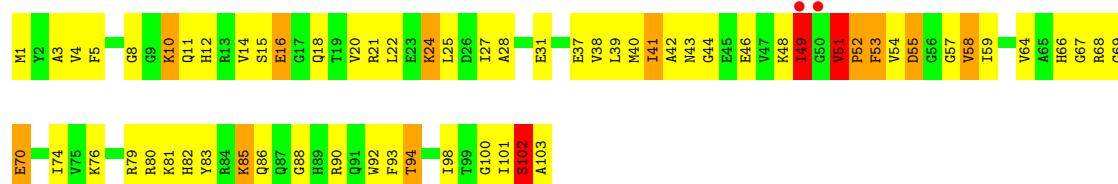


• Molecule 38: 50S ribosomal protein L20

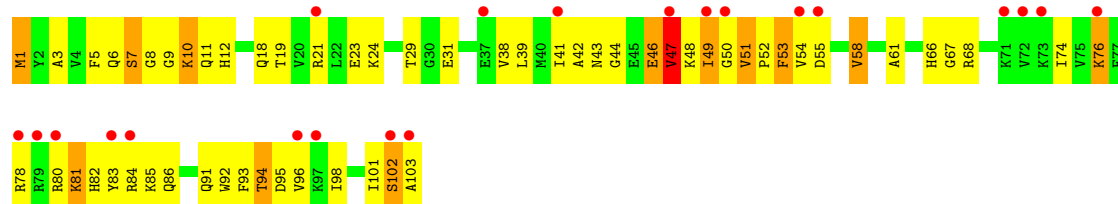
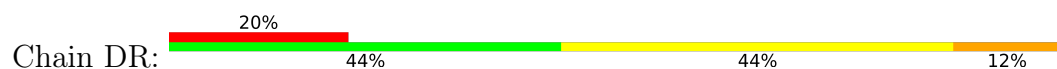




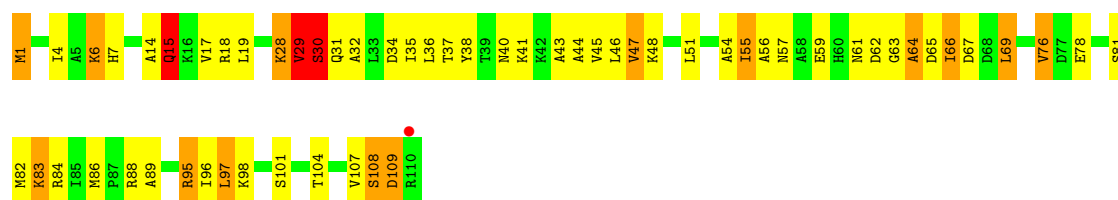
• Molecule 39: 50S ribosomal protein L21



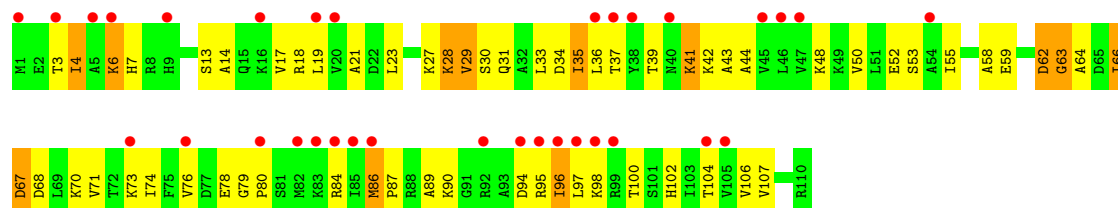
• Molecule 39: 50S ribosomal protein L21



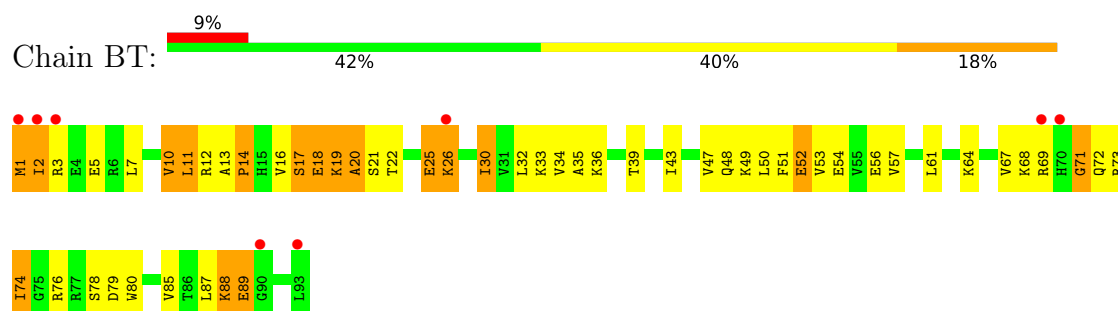
• Molecule 40: 50S ribosomal protein L22



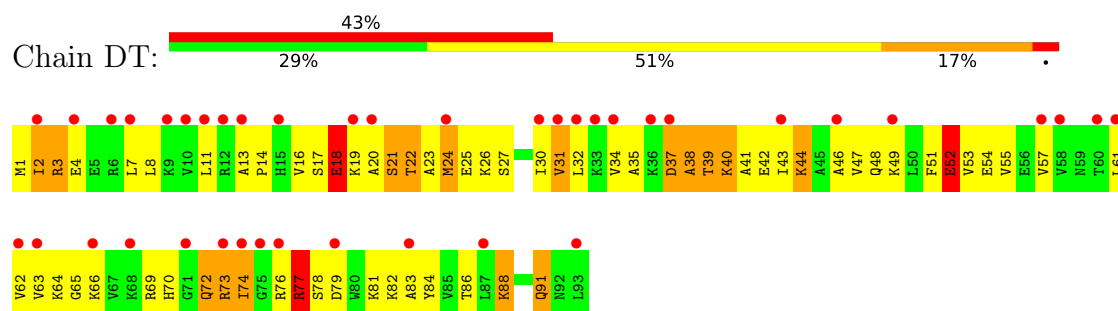
• Molecule 40: 50S ribosomal protein L22



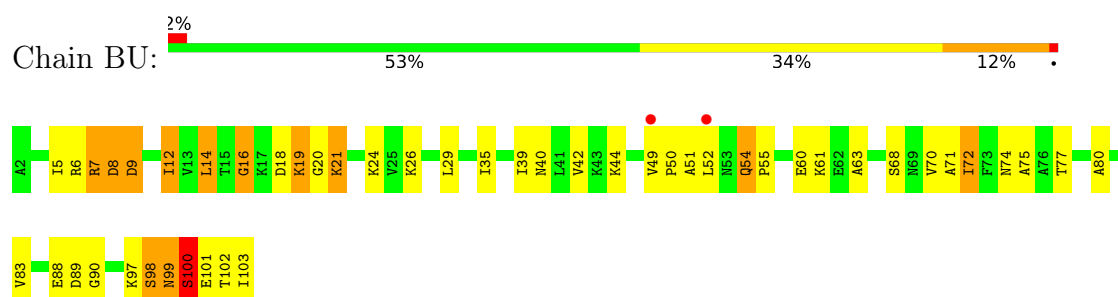
- Molecule 41: 50S ribosomal protein L23



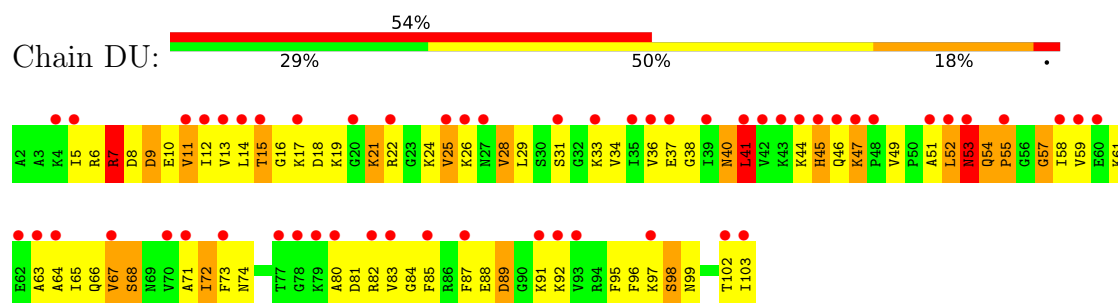
- Molecule 41: 50S ribosomal protein L23



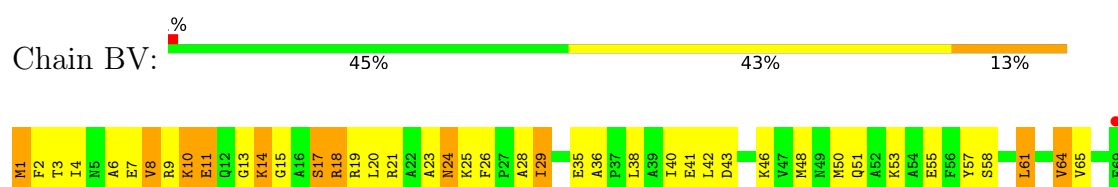
- Molecule 42: 50S ribosomal protein L24

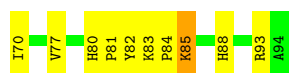


- Molecule 42: 50S ribosomal protein L24

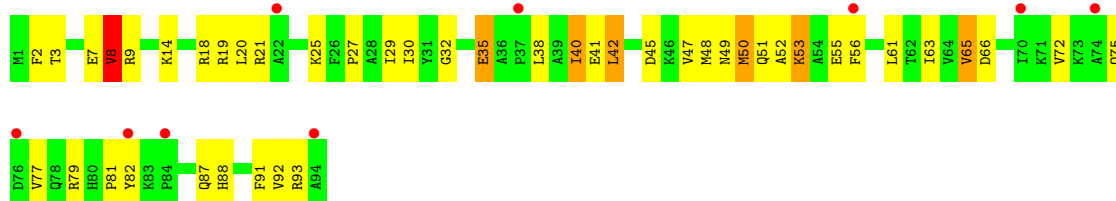


- Molecule 43: 50S ribosomal protein L25





- Molecule 43: 50S ribosomal protein L25



- Molecule 44: 50S ribosomal protein L27



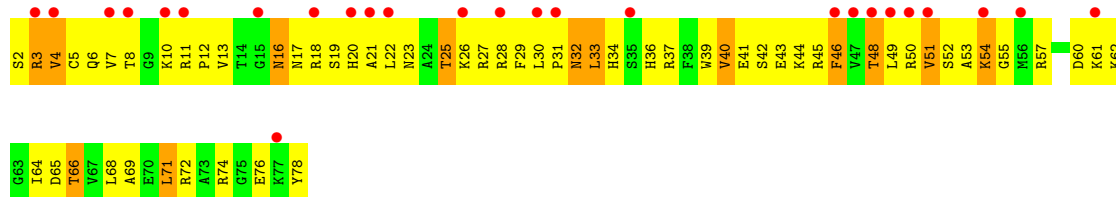
- Molecule 44: 50S ribosomal protein L27



- Molecule 45: 50S ribosomal protein L28

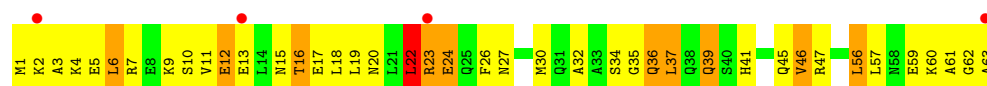


- Molecule 45: 50S ribosomal protein L28

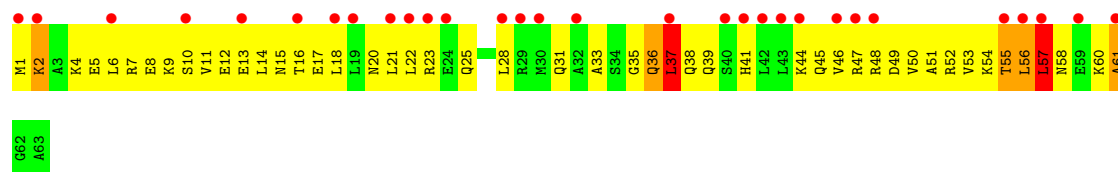


- Molecule 46: 50S ribosomal protein L29

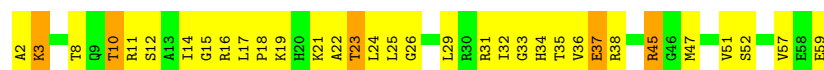




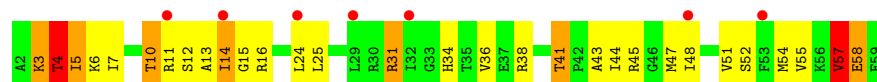
- Molecule 46: 50S ribosomal protein L29



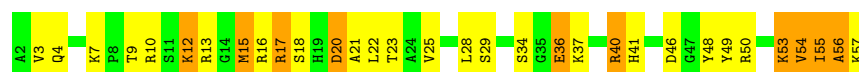
- Molecule 47: 50S ribosomal protein L30



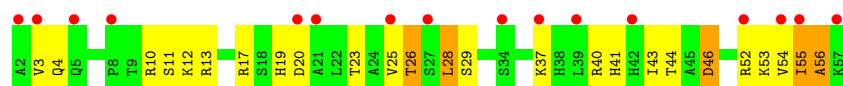
- Molecule 47: 50S ribosomal protein L30



- Molecule 48: 50S ribosomal protein L32



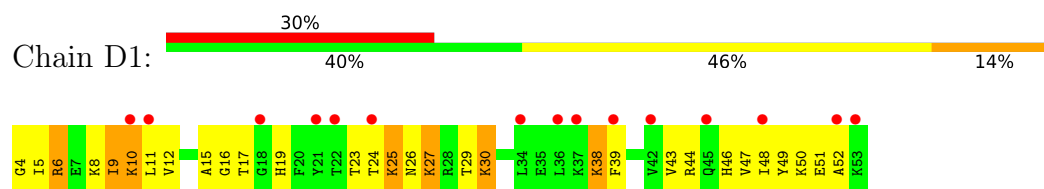
- Molecule 48: 50S ribosomal protein L32



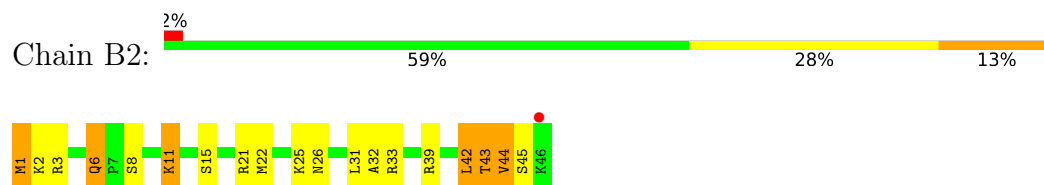
- Molecule 49: 50S ribosomal protein L33



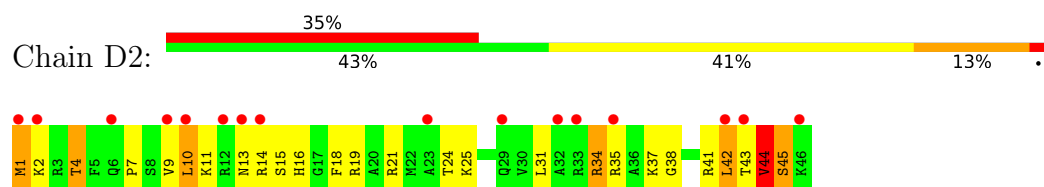
● Molecule 49: 50S ribosomal protein L33



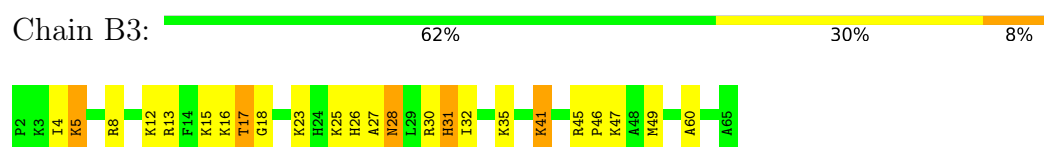
● Molecule 50: 50S ribosomal protein L34



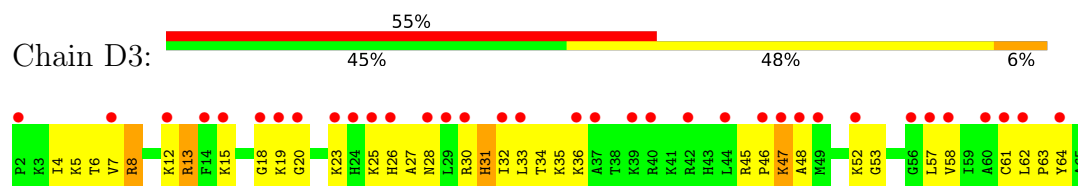
● Molecule 50: 50S ribosomal protein L34



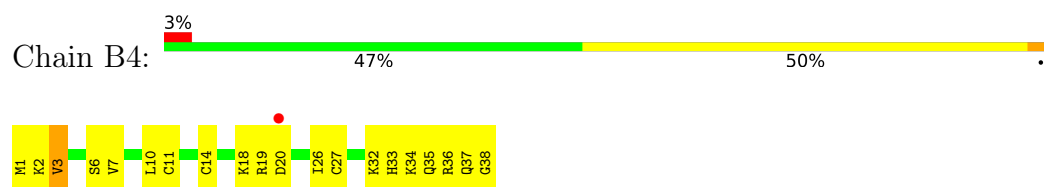
● Molecule 51: 50S ribosomal protein L35



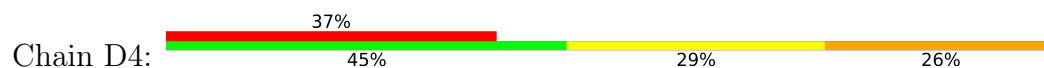
● Molecule 51: 50S ribosomal protein L35

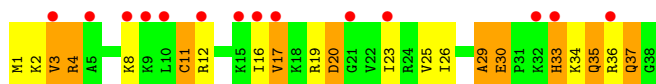


● Molecule 52: 50S ribosomal protein L36

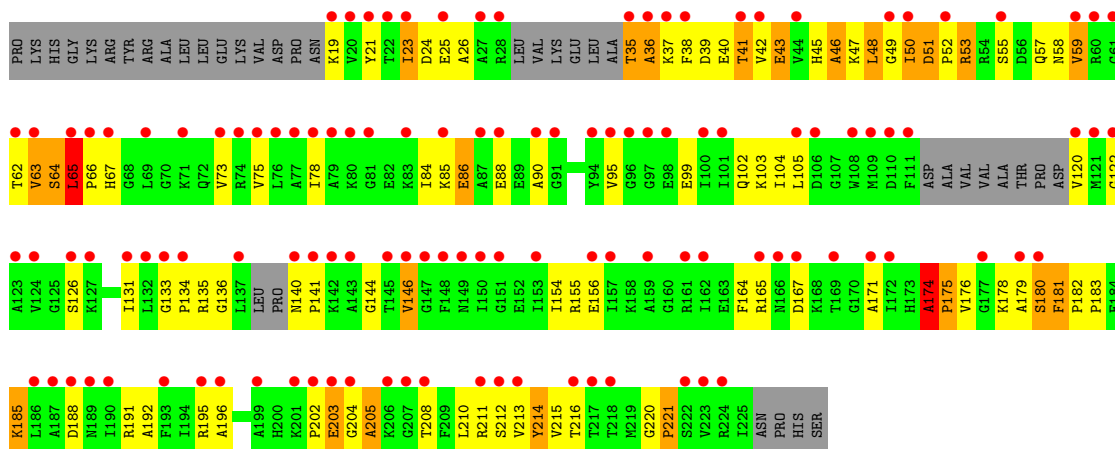
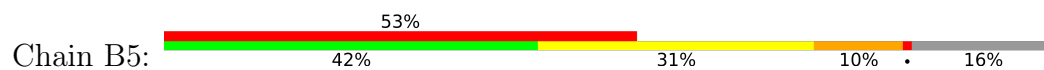


● Molecule 52: 50S ribosomal protein L36





• Molecule 53: 50S ribosomal protein L1



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	211.79Å 433.06Å 623.86Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	69.33 – 2.90 69.33 – 2.90	Depositor EDS
% Data completeness (in resolution range)	87.4 (69.33-2.90) 87.4 (69.33-2.90)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.50 (at 2.91Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.1_1168)	Depositor
R, R_{free}	0.235 , 0.279 0.238 , 0.280	Depositor DCC
R_{free} test set	4412 reflections (0.40%)	wwPDB-VP
Wilson B-factor (Å ²)	48.9	Xtriage
Anisotropy	0.742	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , 50.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.27$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	288258	wwPDB-VP
Average B, all atoms (Å ²)	61.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.85% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, VIF, 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	0.26	0/36944	0.46	0/57632
1	CA	0.22	0/36966	0.42	0/57666
2	AB	0.45	0/1736	0.96	5/2338 (0.2%)
2	CB	0.44	0/1736	0.88	1/2338 (0.0%)
3	AC	0.45	0/1652	0.88	1/2225 (0.0%)
3	CC	0.43	0/1652	0.84	1/2225 (0.0%)
4	AD	0.43	0/1665	0.88	2/2227 (0.1%)
4	CD	0.50	0/1665	0.91	2/2227 (0.1%)
5	AE	0.56	2/1119 (0.2%)	0.95	1/1504 (0.1%)
5	CE	0.51	0/1119	1.01	5/1504 (0.3%)
6	AF	0.52	0/836	0.87	1/1128 (0.1%)
6	CF	0.44	0/836	0.88	4/1128 (0.4%)
7	AG	0.43	0/1196	0.87	2/1602 (0.1%)
7	CG	0.43	0/1196	0.84	0/1602
8	AH	0.44	0/989	0.88	5/1326 (0.4%)
8	CH	0.40	0/989	0.83	2/1326 (0.2%)
9	AI	0.42	0/1034	0.84	1/1375 (0.1%)
9	CI	0.41	0/1034	0.87	1/1375 (0.1%)
10	AJ	0.48	0/797	0.84	0/1077
10	CJ	0.45	0/797	0.85	2/1077 (0.2%)
11	AK	0.48	0/893	0.86	0/1205
11	CK	0.45	0/893	0.90	3/1205 (0.2%)
12	AL	0.49	0/969	0.92	3/1300 (0.2%)
12	CL	0.48	0/969	1.04	3/1300 (0.2%)
13	AM	0.46	0/893	0.91	0/1193
13	CM	0.49	0/893	0.90	0/1193
14	AN	0.43	0/785	0.90	1/1043 (0.1%)
14	CN	0.39	0/785	0.85	2/1043 (0.2%)
15	AO	0.43	0/718	0.83	1/959 (0.1%)
15	CO	0.39	0/718	0.82	1/959 (0.1%)
16	AP	0.48	0/659	0.91	2/884 (0.2%)
16	CP	0.47	0/659	0.83	1/884 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	AQ	0.47	0/658	0.88	1/881 (0.1%)
17	CQ	0.48	0/658	0.80	1/881 (0.1%)
18	AR	0.44	0/463	0.87	1/621 (0.2%)
18	CR	0.44	0/463	0.84	0/621
19	AS	0.46	0/653	0.97	4/877 (0.5%)
19	CS	0.46	0/653	0.83	1/877 (0.1%)
20	AT	0.42	0/671	0.86	1/888 (0.1%)
20	CT	0.42	0/671	0.87	1/888 (0.1%)
21	AU	0.57	0/431	1.03	3/570 (0.5%)
21	CU	0.55	0/431	0.96	2/570 (0.4%)
22	BA	0.43	0/69659	0.63	0/108672
22	DA	0.22	0/69659	0.41	0/108672
23	BB	0.36	0/2850	0.55	0/4444
23	DB	0.18	0/2828	0.34	0/4410
24	BC	0.59	0/2122	1.00	6/2852 (0.2%)
24	DC	0.44	0/2122	0.88	6/2852 (0.2%)
25	BD	0.70	0/1586	1.15	5/2134 (0.2%)
25	DD	0.43	0/1586	0.85	3/2134 (0.1%)
26	BE	0.61	0/1571	0.90	2/2113 (0.1%)
26	DE	0.46	0/1571	0.86	1/2113 (0.0%)
27	BF	0.48	0/1435	0.89	2/1926 (0.1%)
27	DF	0.44	0/1435	0.86	3/1926 (0.2%)
28	BG	0.46	0/1343	0.99	8/1816 (0.4%)
28	DG	0.43	0/1343	0.85	2/1816 (0.1%)
29	BH	0.48	0/1121	0.98	5/1515 (0.3%)
29	DH	0.47	0/1121	0.92	5/1515 (0.3%)
30	BI	0.57	0/1046	0.96	6/1410 (0.4%)
30	DI	0.56	0/1046	1.03	5/1410 (0.4%)
31	BJ	0.72	0/1152	1.00	2/1551 (0.1%)
31	DJ	0.40	0/1152	0.90	2/1551 (0.1%)
32	BK	0.67	0/948	1.06	5/1268 (0.4%)
32	DK	0.42	0/948	0.86	3/1268 (0.2%)
33	BL	0.68	0/1054	1.16	8/1403 (0.6%)
33	DL	0.48	0/1054	0.94	2/1403 (0.1%)
34	BM	0.67	0/1093	1.02	4/1460 (0.3%)
34	DM	0.40	0/1093	0.84	0/1460
35	BN	0.72	0/974	1.07	1/1301 (0.1%)
35	DN	0.46	0/974	0.85	1/1301 (0.1%)
36	BO	0.55	0/902	0.93	1/1209 (0.1%)
36	DO	0.40	0/902	0.81	1/1209 (0.1%)
37	BP	0.61	0/929	0.97	1/1242 (0.1%)
37	DP	0.44	0/929	0.84	2/1242 (0.2%)
38	BQ	0.75	0/960	1.13	2/1278 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	DQ	0.41	0/960	0.79	0/1278
39	BR	0.74	0/829	1.07	3/1107 (0.3%)
39	DR	0.43	0/829	0.86	4/1107 (0.4%)
40	BS	0.84	0/864	1.06	2/1156 (0.2%)
40	DS	0.47	0/864	0.84	0/1156
41	BT	0.53	0/745	0.90	0/994
41	DT	0.46	0/745	0.82	1/994 (0.1%)
42	BU	0.53	0/788	0.90	0/1051
42	DU	0.50	0/788	0.88	0/1051
43	BV	0.57	0/766	0.95	2/1025 (0.2%)
43	DV	0.39	0/766	0.85	1/1025 (0.1%)
44	BW	0.69	0/587	0.98	1/776 (0.1%)
44	DW	0.38	0/576	0.75	0/762
45	BX	0.56	0/635	0.98	1/848 (0.1%)
45	DX	0.43	0/635	0.89	2/848 (0.2%)
46	BY	0.50	0/510	0.91	1/677 (0.1%)
46	DY	0.42	0/510	0.86	0/677
47	BZ	0.79	0/453	1.12	2/605 (0.3%)
47	DZ	0.44	0/453	0.82	1/605 (0.2%)
48	B0	0.73	0/450	1.10	2/599 (0.3%)
48	D0	0.46	0/450	0.80	0/599
49	B1	0.49	0/417	0.85	0/554
49	D1	0.45	0/417	0.75	0/554
50	B2	0.68	0/380	1.08	3/498 (0.6%)
50	D2	0.44	0/380	0.86	0/498
51	B3	0.65	0/513	0.96	0/676
51	D3	0.41	0/513	0.81	0/676
52	B4	0.69	0/303	0.92	0/397
52	D4	0.72	2/303 (0.7%)	1.00	3/397 (0.8%)
53	B5	0.51	0/1145	1.16	10/1556 (0.6%)
All	All	0.38	4/310626 (0.0%)	0.64	201/464366 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	CB	0	1
5	CE	0	1
6	CF	0	1
11	AK	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
11	CK	0	1
12	CL	0	1
21	AU	0	2
21	CU	0	1
25	BD	0	1
25	DD	0	1
33	BL	0	1
47	BZ	0	1
All	All	0	13

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	D4	33	HIS	CG-CD2	6.72	1.43	1.35
52	D4	33	HIS	CE1-NE2	-6.53	1.26	1.32
5	AE	83	HIS	CG-ND1	-5.11	1.32	1.38
5	AE	83	HIS	CE1-NE2	-5.02	1.27	1.32

The worst 5 of 201 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	BD	151	THR	CA-C-N	15.42	139.11	119.84
25	BD	151	THR	C-N-CA	15.42	139.11	119.84
53	B5	182	PRO	CA-C-N	12.09	134.96	119.84
53	B5	182	PRO	C-N-CA	12.09	134.96	119.84
53	B5	220	GLY	CA-C-N	10.62	133.11	119.84

There are no chirality outliers.

5 of 13 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
11	AK	126	LYS	Peptide
21	AU	39	GLU	Peptide
21	AU	8	GLU	Peptide
25	BD	151	THR	Peptide
33	BL	110	VAL	Peptide

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	32995	0	16607	1177	4
1	CA	33015	0	16617	1166	1
2	AB	1705	0	1732	211	0
2	CB	1705	0	1732	162	0
3	AC	1625	0	1696	96	0
3	CC	1625	0	1696	98	0
4	AD	1643	0	1707	155	0
4	CD	1643	0	1707	142	0
5	AE	1106	0	1148	91	0
5	CE	1106	0	1148	121	0
6	AF	818	0	808	66	0
6	CF	818	0	808	68	0
7	AG	1182	0	1238	92	0
7	CG	1182	0	1238	60	0
8	AH	979	0	1031	69	0
8	CH	979	0	1031	59	0
9	AI	1022	0	1070	97	0
9	CI	1022	0	1070	71	0
10	AJ	787	0	828	100	0
10	CJ	787	0	828	49	0
11	AK	877	0	887	90	0
11	CK	877	0	887	79	0
12	AL	955	0	1016	54	0
12	CL	955	0	1016	65	0
13	AM	884	0	941	75	0
13	CM	884	0	941	57	0
14	AN	774	0	824	80	0
14	CN	774	0	824	58	0
15	AO	710	0	728	49	0
15	CO	710	0	728	52	0
16	AP	649	0	666	67	0
16	CP	649	0	666	32	0
17	AQ	649	0	691	62	0
17	CQ	649	0	691	56	0
18	AR	456	0	478	24	0
18	CR	456	0	478	42	0
19	AS	638	0	665	40	0
19	CS	638	0	665	31	0
20	AT	665	0	714	57	0
20	CT	665	0	714	50	0
21	AU	426	0	449	61	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
21	CU	426	0	449	56	0
22	BA	62195	0	31280	1968	0
22	DA	62195	0	31280	2100	1
23	BB	2549	0	1291	47	0
23	DB	2529	0	1281	65	0
24	BC	2083	0	2154	139	0
24	DC	2083	0	2154	149	0
25	BD	1565	0	1616	111	0
25	DD	1565	0	1616	90	0
26	BE	1552	0	1619	78	0
26	DE	1552	0	1619	112	0
27	BF	1411	0	1444	88	0
27	DF	1411	0	1444	57	0
28	BG	1323	0	1371	66	0
28	DG	1323	0	1371	63	0
29	BH	1110	0	1147	172	0
29	DH	1110	0	1148	98	4
30	BI	1032	0	1085	98	0
30	DI	1032	0	1085	81	0
31	BJ	1129	0	1162	51	0
31	DJ	1129	0	1162	58	0
32	BK	939	0	1012	51	0
32	DK	939	0	1012	38	0
33	BL	1045	0	1117	60	0
33	DL	1045	0	1117	71	0
34	BM	1074	0	1157	56	0
34	DM	1074	0	1157	37	0
35	BN	961	0	1000	72	0
35	DN	961	0	1000	75	0
36	BO	892	0	923	43	0
36	DO	892	0	923	48	0
37	BP	917	0	962	44	0
37	DP	917	0	962	54	0
38	BQ	947	0	1019	69	0
38	DQ	947	0	1019	57	0
39	BR	816	0	839	90	0
39	DR	816	0	839	58	0
40	BS	857	0	922	61	0
40	DS	857	0	922	46	0
41	BT	739	0	807	40	0
41	DT	739	0	807	57	0
42	BU	780	0	831	37	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	DU	780	0	831	72	0
43	BV	753	0	780	38	0
43	DV	753	0	780	33	0
44	BW	580	0	594	21	0
44	DW	569	0	581	19	0
45	BX	625	0	652	28	0
45	DX	625	0	652	70	0
46	BY	509	0	543	40	0
46	DY	509	0	543	47	0
47	BZ	449	0	488	24	0
47	DZ	449	0	488	16	0
48	B0	444	0	458	35	0
48	D0	444	0	458	25	0
49	B1	410	0	440	22	0
49	D1	410	0	440	19	0
50	B2	377	0	418	15	0
50	D2	377	0	418	28	0
51	B3	504	0	572	26	0
51	D3	504	0	572	31	0
52	B4	302	0	340	20	0
52	D4	302	0	342	22	0
53	B5	1142	0	865	61	0
54	AA	72	0	0	0	0
54	BA	194	0	0	0	0
54	BB	4	0	0	0	0
54	BN	1	0	0	0	0
54	CA	55	0	0	0	0
54	CM	1	0	0	0	0
54	D2	1	0	0	0	0
54	DA	166	0	0	0	0
54	DB	3	0	0	0	0
54	DQ	1	0	0	0	0
55	BA	38	0	38	5	0
55	DA	38	0	37	11	0
56	B4	1	0	0	2	0
56	D4	1	0	0	0	0
57	AA	195	0	0	29	0
57	AL	1	0	0	0	0
57	AN	5	0	0	0	0
57	AT	1	0	0	0	0
57	AU	1	0	0	1	0
57	B2	1	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	B3	2	0	0	0	0
57	B4	1	0	0	0	0
57	BA	620	0	0	101	0
57	BB	13	0	0	0	0
57	BC	6	0	0	4	0
57	BD	3	0	0	3	0
57	BE	4	0	0	0	0
57	BF	1	0	0	1	0
57	BG	1	0	0	0	0
57	BL	8	0	0	0	0
57	BN	4	0	0	0	0
57	BS	1	0	0	0	0
57	BV	1	0	0	0	0
57	CA	189	0	0	19	0
57	CL	1	0	0	0	0
57	CN	3	0	0	0	0
57	CT	4	0	0	0	0
57	CU	1	0	0	0	0
57	D0	1	0	0	0	0
57	D2	3	0	0	0	0
57	D3	2	0	0	0	0
57	D4	1	0	0	0	0
57	DA	613	0	0	87	0
57	DB	13	0	0	1	0
57	DC	9	0	0	1	0
57	DD	4	0	0	2	0
57	DE	2	0	0	0	0
57	DJ	1	0	0	0	0
57	DL	3	0	0	1	0
57	DN	1	0	0	0	0
57	DT	2	0	0	0	0
57	DV	1	0	0	0	0
All	All	288258	0	192864	11899	5

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 25.

The worst 5 of 11899 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)
29:BH:123:ARG:NH2	1:CA:367:U:OP2	1.64	1.27

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BH:117:LEU:O	29:BH:121:VAL:HG23	1.34	1.22
15:AO:89:ARG:NH1	22:BA:716:A:OP2	1.75	1.19
22:BA:1153:C:OP2	57:BA:3357:HOH:O	1.59	1.19
22:BA:2574:G:OP1	57:BA:3713:HOH:O	1.61	1.18

All (5) 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)
1:AA:368:U:OP2	29:DH:123:ARG:NE[4_455]	1.71	0.49
1:AA:368:U:OP2	29:DH:123:ARG:CZ[4_455]	1.89	0.31
1:AA:368:U:OP2	29:DH:123:ARG:NH2[4_455]	2.04	0.16
1:AA:368:U:OP1	29:DH:93:SER:OG[4_455]	2.10	0.10
1:CA:204:G:OP1	22:DA:289:G:O2'[3_545]	2.12	0.08

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	AB	216/218 (99%)	125 (58%)	36 (17%)	55 (26%)	0	0
2	CB	216/218 (99%)	126 (58%)	54 (25%)	36 (17%)	0	0
3	AC	204/206 (99%)	144 (71%)	48 (24%)	12 (6%)	1	4
3	CC	204/206 (99%)	146 (72%)	41 (20%)	17 (8%)	0	1
4	AD	203/205 (99%)	140 (69%)	38 (19%)	25 (12%)	0	0
4	CD	203/205 (99%)	148 (73%)	35 (17%)	20 (10%)	0	1
5	AE	148/150 (99%)	107 (72%)	24 (16%)	17 (12%)	0	1
5	CE	148/150 (99%)	100 (68%)	25 (17%)	23 (16%)	0	0
6	AF	98/100 (98%)	67 (68%)	17 (17%)	14 (14%)	0	0
6	CF	98/100 (98%)	65 (66%)	16 (16%)	17 (17%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	AG	149/151 (99%)	101 (68%)	33 (22%)	15 (10%)	0	1
7	CG	149/151 (99%)	120 (80%)	19 (13%)	10 (7%)	1	3
8	AH	127/129 (98%)	88 (69%)	29 (23%)	10 (8%)	1	2
8	CH	127/129 (98%)	101 (80%)	19 (15%)	7 (6%)	1	4
9	AI	125/127 (98%)	87 (70%)	23 (18%)	15 (12%)	0	1
9	CI	125/127 (98%)	91 (73%)	25 (20%)	9 (7%)	1	2
10	AJ	96/98 (98%)	63 (66%)	12 (12%)	21 (22%)	0	0
10	CJ	96/98 (98%)	72 (75%)	15 (16%)	9 (9%)	0	1
11	AK	115/117 (98%)	85 (74%)	17 (15%)	13 (11%)	0	1
11	CK	115/117 (98%)	83 (72%)	23 (20%)	9 (8%)	1	2
12	AL	121/123 (98%)	96 (79%)	15 (12%)	10 (8%)	0	1
12	CL	121/123 (98%)	92 (76%)	17 (14%)	12 (10%)	0	1
13	AM	112/114 (98%)	83 (74%)	17 (15%)	12 (11%)	0	1
13	CM	112/114 (98%)	80 (71%)	21 (19%)	11 (10%)	0	1
14	AN	92/100 (92%)	55 (60%)	25 (27%)	12 (13%)	0	0
14	CN	92/100 (92%)	57 (62%)	20 (22%)	15 (16%)	0	0
15	AO	86/88 (98%)	63 (73%)	18 (21%)	5 (6%)	1	4
15	CO	86/88 (98%)	63 (73%)	19 (22%)	4 (5%)	2	7
16	AP	80/82 (98%)	44 (55%)	17 (21%)	19 (24%)	0	0
16	CP	80/82 (98%)	57 (71%)	18 (22%)	5 (6%)	1	3
17	AQ	78/80 (98%)	53 (68%)	16 (20%)	9 (12%)	0	1
17	CQ	78/80 (98%)	55 (70%)	14 (18%)	9 (12%)	0	1
18	AR	53/55 (96%)	44 (83%)	7 (13%)	2 (4%)	2	10
18	CR	53/55 (96%)	42 (79%)	7 (13%)	4 (8%)	1	2
19	AS	77/79 (98%)	53 (69%)	16 (21%)	8 (10%)	0	1
19	CS	77/79 (98%)	61 (79%)	13 (17%)	3 (4%)	2	10
20	AT	83/85 (98%)	57 (69%)	20 (24%)	6 (7%)	1	2
20	CT	83/85 (98%)	62 (75%)	13 (16%)	8 (10%)	0	1
21	AU	49/51 (96%)	27 (55%)	10 (20%)	12 (24%)	0	0
21	CU	49/51 (96%)	24 (49%)	12 (24%)	13 (26%)	0	0
24	BC	269/271 (99%)	213 (79%)	39 (14%)	17 (6%)	1	3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	DC	269/271 (99%)	200 (74%)	49 (18%)	20 (7%)	1	2
25	BD	207/209 (99%)	167 (81%)	33 (16%)	7 (3%)	3	12
25	DD	207/209 (99%)	165 (80%)	33 (16%)	9 (4%)	2	8
26	BE	199/201 (99%)	153 (77%)	39 (20%)	7 (4%)	3	12
26	DE	199/201 (99%)	146 (73%)	40 (20%)	13 (6%)	1	3
27	BF	175/177 (99%)	136 (78%)	30 (17%)	9 (5%)	1	6
27	DF	175/177 (99%)	136 (78%)	26 (15%)	13 (7%)	1	2
28	BG	174/176 (99%)	145 (83%)	19 (11%)	10 (6%)	1	4
28	DG	174/176 (99%)	129 (74%)	30 (17%)	15 (9%)	0	1
29	BH	147/149 (99%)	89 (60%)	37 (25%)	21 (14%)	0	0
29	DH	147/149 (99%)	100 (68%)	32 (22%)	15 (10%)	0	1
30	BI	139/141 (99%)	71 (51%)	44 (32%)	24 (17%)	0	0
30	DI	139/141 (99%)	75 (54%)	49 (35%)	15 (11%)	0	1
31	BJ	140/142 (99%)	124 (89%)	12 (9%)	4 (3%)	3	15
31	DJ	140/142 (99%)	123 (88%)	12 (9%)	5 (4%)	2	11
32	BK	120/122 (98%)	96 (80%)	16 (13%)	8 (7%)	1	3
32	DK	120/122 (98%)	97 (81%)	16 (13%)	7 (6%)	1	4
33	BL	141/143 (99%)	106 (75%)	20 (14%)	15 (11%)	0	1
33	DL	141/143 (99%)	104 (74%)	27 (19%)	10 (7%)	1	2
34	BM	134/136 (98%)	117 (87%)	15 (11%)	2 (2%)	8	28
34	DM	134/136 (98%)	111 (83%)	17 (13%)	6 (4%)	2	8
35	BN	118/120 (98%)	92 (78%)	19 (16%)	7 (6%)	1	4
35	DN	118/120 (98%)	91 (77%)	19 (16%)	8 (7%)	1	2
36	BO	114/116 (98%)	91 (80%)	19 (17%)	4 (4%)	3	12
36	DO	114/116 (98%)	97 (85%)	11 (10%)	6 (5%)	1	5
37	BP	112/114 (98%)	101 (90%)	6 (5%)	5 (4%)	2	8
37	DP	112/114 (98%)	89 (80%)	16 (14%)	7 (6%)	1	3
38	BQ	115/117 (98%)	93 (81%)	16 (14%)	6 (5%)	1	5
38	DQ	115/117 (98%)	104 (90%)	10 (9%)	1 (1%)	14	41
39	BR	101/103 (98%)	83 (82%)	9 (9%)	9 (9%)	0	1
39	DR	101/103 (98%)	80 (79%)	14 (14%)	7 (7%)	1	2

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
40	BS	108/110 (98%)	83 (77%)	18 (17%)	7 (6%)	1	3
40	DS	108/110 (98%)	88 (82%)	13 (12%)	7 (6%)	1	3
41	BT	91/93 (98%)	69 (76%)	8 (9%)	14 (15%)	0	0
41	DT	91/93 (98%)	65 (71%)	14 (15%)	12 (13%)	0	0
42	BU	100/102 (98%)	75 (75%)	16 (16%)	9 (9%)	0	1
42	DU	100/102 (98%)	70 (70%)	19 (19%)	11 (11%)	0	1
43	BV	92/94 (98%)	85 (92%)	6 (6%)	1 (1%)	11	36
43	DV	92/94 (98%)	76 (83%)	14 (15%)	2 (2%)	5	20
44	BW	74/76 (97%)	70 (95%)	4 (5%)	0	100	100
44	DW	73/76 (96%)	59 (81%)	11 (15%)	3 (4%)	2	9
45	BX	75/77 (97%)	66 (88%)	6 (8%)	3 (4%)	2	9
45	DX	75/77 (97%)	57 (76%)	14 (19%)	4 (5%)	1	5
46	BY	61/63 (97%)	35 (57%)	19 (31%)	7 (12%)	0	1
46	DY	61/63 (97%)	42 (69%)	14 (23%)	5 (8%)	0	2
47	BZ	56/58 (97%)	47 (84%)	9 (16%)	0	100	100
47	DZ	56/58 (97%)	53 (95%)	1 (2%)	2 (4%)	2	11
48	B0	54/56 (96%)	44 (82%)	7 (13%)	3 (6%)	1	4
48	D0	54/56 (96%)	38 (70%)	12 (22%)	4 (7%)	1	2
49	B1	48/50 (96%)	39 (81%)	5 (10%)	4 (8%)	0	1
49	D1	48/50 (96%)	40 (83%)	5 (10%)	3 (6%)	1	3
50	B2	44/46 (96%)	36 (82%)	7 (16%)	1 (2%)	5	19
50	D2	44/46 (96%)	36 (82%)	6 (14%)	2 (4%)	2	8
51	B3	62/64 (97%)	54 (87%)	7 (11%)	1 (2%)	7	27
51	D3	62/64 (97%)	49 (79%)	10 (16%)	3 (5%)	2	7
52	B4	36/38 (95%)	31 (86%)	5 (14%)	0	100	100
52	D4	36/38 (95%)	28 (78%)	4 (11%)	4 (11%)	0	1
53	B5	183/228 (80%)	100 (55%)	49 (27%)	34 (19%)	0	0
All	All	11418/11672 (98%)	8486 (74%)	1941 (17%)	991 (9%)	0	1

5 of 991 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AB	12	ALA

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Mol	Chain	Res	Type
2	AB	16	PHE
2	AB	22	TYR
2	AB	34	ALA
2	AB	64	LYS

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	AB	180/180 (100%)	115 (64%)	65 (36%)	0	0
2	CB	180/180 (100%)	126 (70%)	54 (30%)	0	1
3	AC	170/170 (100%)	131 (77%)	39 (23%)	1	3
3	CC	170/170 (100%)	133 (78%)	37 (22%)	1	3
4	AD	172/172 (100%)	131 (76%)	41 (24%)	1	2
4	CD	172/172 (100%)	132 (77%)	40 (23%)	1	3
5	AE	113/113 (100%)	80 (71%)	33 (29%)	0	1
5	CE	113/113 (100%)	82 (73%)	31 (27%)	0	1
6	AF	87/87 (100%)	57 (66%)	30 (34%)	0	0
6	CF	87/87 (100%)	58 (67%)	29 (33%)	0	0
7	AG	124/124 (100%)	88 (71%)	36 (29%)	0	1
7	CG	124/124 (100%)	90 (73%)	34 (27%)	0	1
8	AH	104/104 (100%)	77 (74%)	27 (26%)	0	2
8	CH	104/104 (100%)	79 (76%)	25 (24%)	1	2
9	AI	105/105 (100%)	79 (75%)	26 (25%)	1	2
9	CI	105/105 (100%)	73 (70%)	32 (30%)	0	1
10	AJ	86/86 (100%)	62 (72%)	24 (28%)	0	1
10	CJ	86/86 (100%)	63 (73%)	23 (27%)	0	1
11	AK	90/90 (100%)	65 (72%)	25 (28%)	0	1
11	CK	90/90 (100%)	69 (77%)	21 (23%)	1	3

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
12	AL	103/103 (100%)	81 (79%)	22 (21%)	1	4
12	CL	103/103 (100%)	75 (73%)	28 (27%)	0	1
13	AM	92/92 (100%)	76 (83%)	16 (17%)	2	7
13	CM	92/92 (100%)	70 (76%)	22 (24%)	1	3
14	AN	79/83 (95%)	62 (78%)	17 (22%)	1	3
14	CN	79/83 (95%)	69 (87%)	10 (13%)	4	14
15	AO	75/76 (99%)	56 (75%)	19 (25%)	0	2
15	CO	75/76 (99%)	61 (81%)	14 (19%)	1	5
16	AP	65/65 (100%)	47 (72%)	18 (28%)	0	1
16	CP	65/65 (100%)	50 (77%)	15 (23%)	1	3
17	AQ	74/74 (100%)	48 (65%)	26 (35%)	0	0
17	CQ	74/74 (100%)	51 (69%)	23 (31%)	0	1
18	AR	48/48 (100%)	43 (90%)	5 (10%)	7	23
18	CR	48/48 (100%)	39 (81%)	9 (19%)	1	5
19	AS	70/70 (100%)	58 (83%)	12 (17%)	2	7
19	CS	70/70 (100%)	55 (79%)	15 (21%)	1	4
20	AT	65/65 (100%)	47 (72%)	18 (28%)	0	1
20	CT	65/65 (100%)	46 (71%)	19 (29%)	0	1
21	AU	44/44 (100%)	29 (66%)	15 (34%)	0	0
21	CU	44/44 (100%)	28 (64%)	16 (36%)	0	0
24	BC	216/216 (100%)	181 (84%)	35 (16%)	2	8
24	DC	216/216 (100%)	179 (83%)	37 (17%)	2	7
25	BD	164/164 (100%)	142 (87%)	22 (13%)	4	12
25	DD	164/164 (100%)	143 (87%)	21 (13%)	4	14
26	BE	165/165 (100%)	131 (79%)	34 (21%)	1	4
26	DE	165/165 (100%)	131 (79%)	34 (21%)	1	4
27	BF	148/148 (100%)	119 (80%)	29 (20%)	1	5
27	DF	148/148 (100%)	120 (81%)	28 (19%)	1	5
28	BG	137/137 (100%)	115 (84%)	22 (16%)	2	8
28	DG	137/137 (100%)	120 (88%)	17 (12%)	4	15
29	BH	114/114 (100%)	81 (71%)	33 (29%)	0	1

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles		
29	DH	114/114 (100%)	89 (78%)	25 (22%)	1	3	
30	BI	109/109 (100%)	76 (70%)	33 (30%)	0	1	
30	DI	109/109 (100%)	83 (76%)	26 (24%)	1	3	
31	BJ	116/116 (100%)	92 (79%)	24 (21%)	1	4	
31	DJ	116/116 (100%)	96 (83%)	20 (17%)	2	7	
32	BK	103/103 (100%)	86 (84%)	17 (16%)	2	8	
32	DK	103/103 (100%)	88 (85%)	15 (15%)	3	10	
33	BL	102/102 (100%)	79 (78%)	23 (22%)	1	3	
33	DL	102/102 (100%)	75 (74%)	27 (26%)	0	2	
34	BM	109/109 (100%)	93 (85%)	16 (15%)	3	10	
34	DM	109/109 (100%)	97 (89%)	12 (11%)	6	20	
35	BN	100/100 (100%)	84 (84%)	16 (16%)	2	8	
35	DN	100/100 (100%)	82 (82%)	18 (18%)	2	6	
36	BO	86/86 (100%)	62 (72%)	24 (28%)	0	1	
36	DO	86/86 (100%)	70 (81%)	16 (19%)	1	5	
37	BP	99/99 (100%)	86 (87%)	13 (13%)	4	13	
37	DP	99/99 (100%)	79 (80%)	20 (20%)	1	4	
38	BQ	89/89 (100%)	74 (83%)	15 (17%)	2	7	
38	DQ	89/89 (100%)	75 (84%)	14 (16%)	2	9	
39	BR	84/84 (100%)	70 (83%)	14 (17%)	2	7	
39	DR	84/84 (100%)	69 (82%)	15 (18%)	2	6	
40	BS	93/93 (100%)	71 (76%)	22 (24%)	1	2	
40	DS	93/93 (100%)	79 (85%)	14 (15%)	3	10	
41	BT	80/80 (100%)	69 (86%)	11 (14%)	3	12	
41	DT	80/80 (100%)	64 (80%)	16 (20%)	1	4	
42	BU	83/83 (100%)	70 (84%)	13 (16%)	2	9	
42	DU	83/83 (100%)	62 (75%)	21 (25%)	0	2	
43	BV	78/78 (100%)	58 (74%)	20 (26%)	0	2	
43	DV	78/78 (100%)	66 (85%)	12 (15%)	2	9	
44	BW	57/58 (98%)	48 (84%)	9 (16%)	2	8	
44	DW	56/58 (97%)	50 (89%)	6 (11%)	6	22	

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
45	BX	67/67 (100%)	56 (84%)	11 (16%)	2	8
45	DX	67/67 (100%)	53 (79%)	14 (21%)	1	4
46	BY	55/55 (100%)	46 (84%)	9 (16%)	2	8
46	DY	55/55 (100%)	43 (78%)	12 (22%)	1	3
47	BZ	48/48 (100%)	36 (75%)	12 (25%)	0	2
47	DZ	48/48 (100%)	35 (73%)	13 (27%)	0	1
48	B0	47/47 (100%)	38 (81%)	9 (19%)	1	5
48	D0	47/47 (100%)	41 (87%)	6 (13%)	4	14
49	B1	45/45 (100%)	39 (87%)	6 (13%)	4	12
49	D1	45/45 (100%)	35 (78%)	10 (22%)	1	3
50	B2	38/38 (100%)	32 (84%)	6 (16%)	2	8
50	D2	38/38 (100%)	30 (79%)	8 (21%)	1	4
51	B3	51/51 (100%)	44 (86%)	7 (14%)	3	12
51	D3	51/51 (100%)	45 (88%)	6 (12%)	5	17
52	B4	34/34 (100%)	29 (85%)	5 (15%)	3	10
52	D4	34/34 (100%)	27 (79%)	7 (21%)	1	4
53	B5	61/180 (34%)	46 (75%)	15 (25%)	1	2
All	All	9386/9518 (99%)	7360 (78%)	2026 (22%)	1	3

5 of 2026 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
42	BU	61	LYS
33	DL	85	VAL
4	CD	63	ARG
32	DK	104	THR
40	DS	96	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 102 such sidechains are listed below:

Mol	Chain	Res	Type
5	CE	77	ASN
18	CR	74	HIS
49	D1	26	ASN
6	CF	37	HIS

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Mol	Chain	Res	Type
13	CM	91	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1537/1539 (99%)	350 (22%)	15 (0%)
1	CA	1538/1539 (99%)	333 (21%)	9 (0%)
22	BA	2895/2903 (99%)	647 (22%)	30 (1%)
22	DA	2895/2903 (99%)	637 (22%)	29 (1%)
23	BB	118/119 (99%)	21 (17%)	0
23	DB	117/119 (98%)	25 (21%)	0
All	All	9100/9122 (99%)	2013 (22%)	83 (0%)

5 of 2013 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	4	U
1	AA	5	U
1	AA	6	G
1	AA	9	G
1	AA	13	U

5 of 83 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
22	DA	479	A
22	DA	2162	G
22	DA	614	A
22	DA	1378	A
22	DA	2296	U

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 502 ligands modelled in this entry, 500 are monoatomic - leaving 2 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	$\# Z > 2$
55	VIF	DA	3001	-	38,40,40	2.48	14 (36%)	47,55,55	2.40	18 (38%)
55	VIF	BA	3001	-	38,40,40	2.48	15 (39%)	47,55,55	2.20	14 (29%)

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
55	VIF	DA	3001	-	-	10/48/58/58	0/2/3/3
55	VIF	BA	3001	-	-	9/48/58/58	0/2/3/3

The worst 5 of 29 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	DA	3001	VIF	C15-N01	6.89	1.44	1.34
55	BA	3001	VIF	C15-N01	6.57	1.44	1.34
55	BA	3001	VIF	O01-C06	-5.01	1.37	1.44
55	DA	3001	VIF	O04-C22	-4.55	1.35	1.43
55	BA	3001	VIF	O01-C08	-4.48	1.24	1.34

The worst 5 of 32 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	DA	3001	VIF	C02-C01-C03	-8.04	103.77	122.67
55	BA	3001	VIF	C02-C01-C03	-6.08	108.38	122.67
55	BA	3001	VIF	C14-C07-C04	-5.13	106.67	113.89
55	BA	3001	VIF	C18-C10-C20	-4.96	118.40	125.89
55	DA	3001	VIF	C06-O01-C08	4.84	125.80	117.76

There are no chirality outliers.

5 of 19 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
55	BA	3001	VIF	C19-C-C06-O01
55	BA	3001	VIF	C27-C04-C07-F
55	DA	3001	VIF	C27-C04-C07-F
55	DA	3001	VIF	F-C07-C14-C22
55	DA	3001	VIF	C18-C10-C20-C24

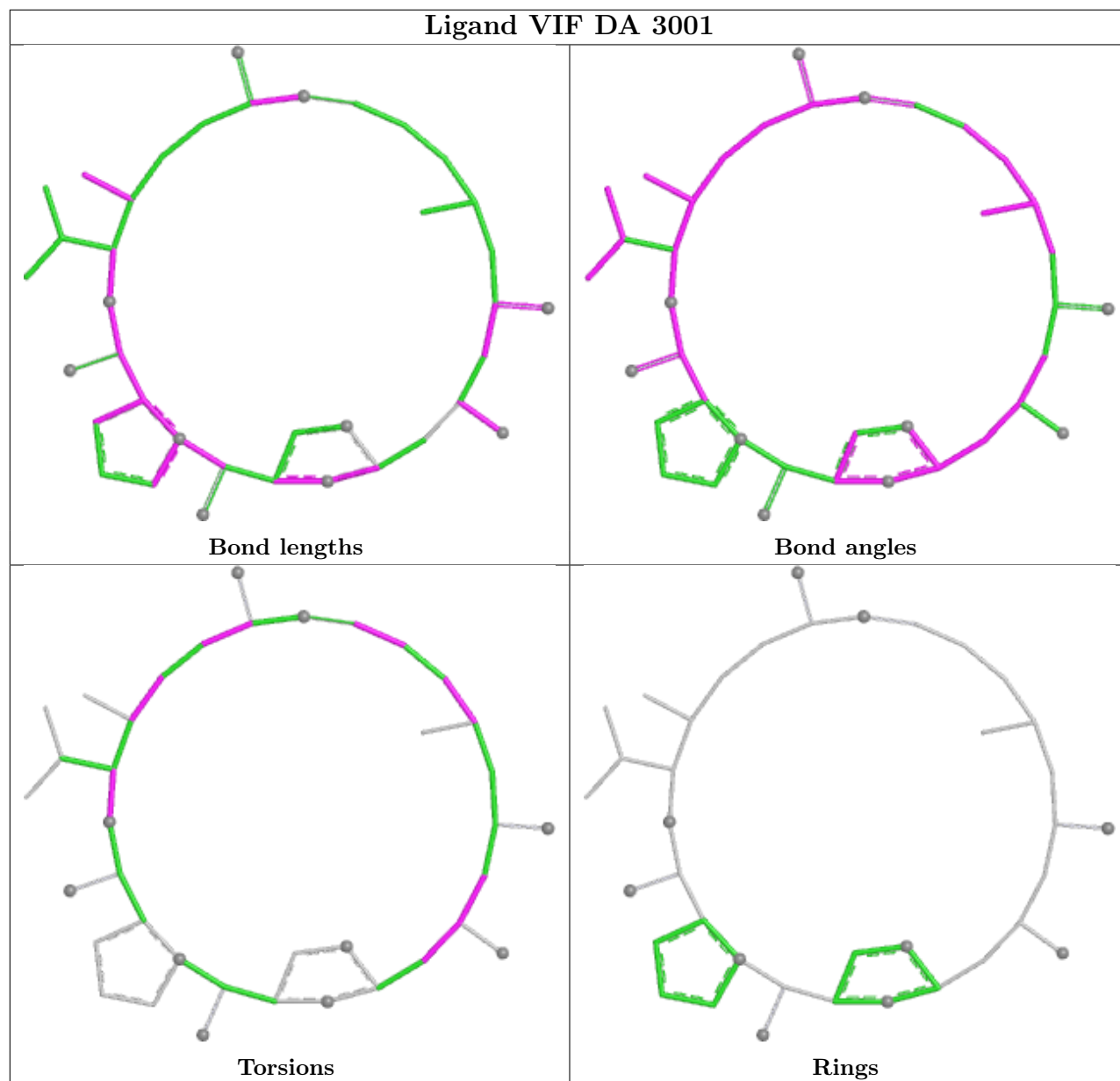
There are no ring outliers.

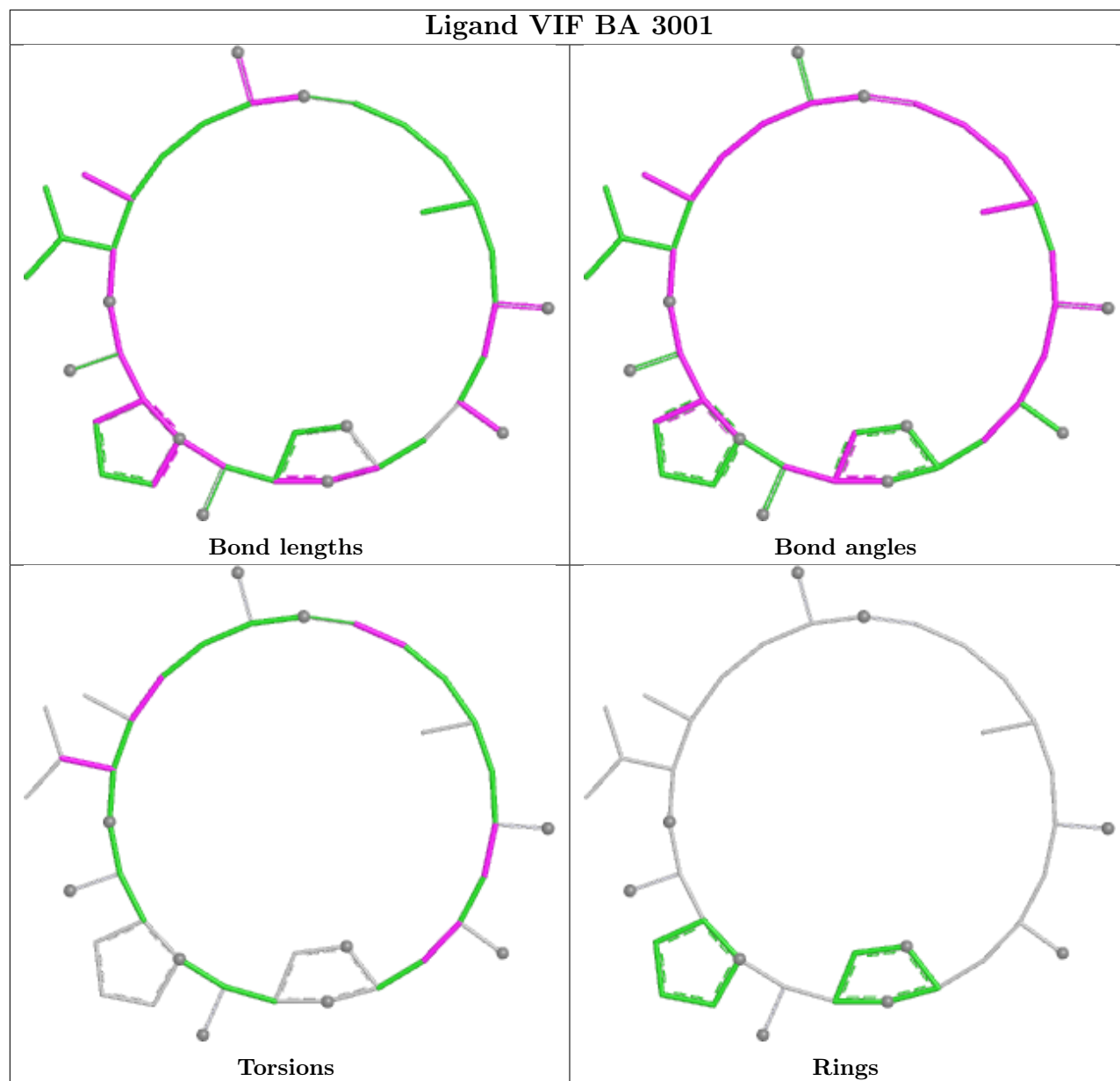
2 monomers are involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
55	DA	3001	VIF	11	0
55	BA	3001	VIF	5	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.

Ligand VIF DA 3001





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	AA	1538/1539 (99%)	0.14	70 (4%) 37 29	13, 51, 135, 177	0
1	CA	1539/1539 (100%)	0.61	125 (8%) 18 15	27, 71, 143, 176	0
2	AB	218/218 (100%)	1.06	30 (13%) 6 5	40, 71, 99, 129	0
2	CB	218/218 (100%)	1.44	58 (26%) 1 1	57, 81, 107, 126	0
3	AC	206/206 (100%)	0.41	6 (2%) 53 45	36, 57, 81, 94	0
3	CC	206/206 (100%)	0.77	16 (7%) 19 16	53, 75, 93, 113	0
4	AD	205/205 (100%)	0.61	17 (8%) 17 14	33, 55, 79, 108	0
4	CD	205/205 (100%)	0.50	14 (6%) 23 18	21, 40, 74, 90	0
5	AE	150/150 (100%)	0.61	10 (6%) 24 19	28, 50, 82, 111	0
5	CE	150/150 (100%)	0.89	19 (12%) 8 6	33, 57, 84, 105	0
6	AF	100/100 (100%)	0.47	5 (5%) 34 27	33, 56, 75, 84	0
6	CF	100/100 (100%)	0.88	9 (9%) 15 13	47, 72, 95, 105	0
7	AG	151/151 (100%)	1.18	28 (18%) 3 3	49, 74, 98, 107	0
7	CG	151/151 (100%)	2.02	65 (43%) 0 0	77, 94, 106, 113	0
8	AH	129/129 (100%)	0.35	3 (2%) 61 52	29, 48, 71, 80	0
8	CH	129/129 (100%)	0.80	11 (8%) 16 14	47, 63, 82, 88	0
9	AI	127/127 (100%)	1.19	25 (19%) 3 2	45, 70, 95, 115	0
9	CI	127/127 (100%)	2.04	60 (47%) 0 0	68, 88, 106, 130	0
10	AJ	98/98 (100%)	1.08	13 (13%) 7 6	44, 64, 93, 121	0
10	CJ	98/98 (100%)	2.00	46 (46%) 0 0	68, 90, 109, 123	0
11	AK	117/117 (100%)	0.86	13 (11%) 10 9	27, 61, 87, 107	0
11	CK	117/117 (100%)	0.51	2 (1%) 69 61	37, 65, 83, 90	0
12	AL	123/123 (100%)	0.45	9 (7%) 21 17	24, 37, 71, 101	0
12	CL	123/123 (100%)	0.91	15 (12%) 8 7	38, 51, 79, 102	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	AM	114/114 (100%)	0.80	8 (7%) 22 18	46, 67, 90, 104	0
13	CM	114/114 (100%)	2.29	63 (55%) 0 0	84, 100, 114, 118	0
14	AN	96/100 (96%)	1.15	20 (20%) 2 2	41, 58, 92, 107	0
14	CN	96/100 (96%)	1.78	36 (37%) 1 0	64, 88, 107, 118	0
15	AO	88/88 (100%)	0.65	10 (11%) 10 8	31, 50, 66, 98	0
15	CO	88/88 (100%)	0.68	7 (7%) 18 15	39, 62, 84, 105	0
16	AP	82/82 (100%)	0.67	7 (8%) 16 14	33, 45, 80, 103	0
16	CP	82/82 (100%)	1.20	14 (17%) 4 3	44, 62, 89, 105	0
17	AQ	80/80 (100%)	1.06	11 (13%) 6 5	29, 54, 83, 123	0
17	CQ	80/80 (100%)	1.27	18 (22%) 2 2	41, 70, 96, 108	0
18	AR	55/55 (100%)	0.52	5 (9%) 15 12	37, 51, 76, 113	0
18	CR	55/55 (100%)	0.60	5 (9%) 15 12	39, 54, 82, 112	0
19	AS	79/79 (100%)	1.04	13 (16%) 4 3	46, 67, 92, 97	0
19	CS	79/79 (100%)	2.33	42 (53%) 0 0	82, 100, 113, 125	0
20	AT	85/85 (100%)	0.81	7 (8%) 17 14	33, 48, 72, 115	0
20	CT	85/85 (100%)	1.48	24 (28%) 1 1	53, 69, 91, 97	0
21	AU	51/51 (100%)	1.89	17 (33%) 1 1	45, 71, 92, 105	0
21	CU	51/51 (100%)	1.80	14 (27%) 1 1	42, 69, 92, 107	0
22	BA	2897/2903 (99%)	-0.24	163 (5%) 30 23	2, 18, 128, 195	0
22	DA	2897/2903 (99%)	0.96	245 (8%) 16 14	44, 82, 142, 183	0
23	BB	119/119 (100%)	-0.51	0 100 100	5, 27, 53, 94	0
23	DB	118/119 (99%)	0.86	3 (2%) 58 48	68, 110, 132, 142	0
24	BC	271/271 (100%)	0.08	8 (2%) 52 43	6, 24, 44, 62	0
24	DC	271/271 (100%)	1.23	64 (23%) 2 2	40, 61, 75, 83	0
25	BD	209/209 (100%)	-0.22	2 (0%) 79 73	2, 14, 42, 69	0
25	DD	209/209 (100%)	1.17	32 (15%) 5 4	47, 65, 84, 98	0
26	BE	201/201 (100%)	-0.08	2 (0%) 79 73	4, 27, 55, 94	0
26	DE	201/201 (100%)	1.63	59 (29%) 1 1	38, 78, 97, 108	0
27	BF	177/177 (100%)	0.57	19 (10%) 11 9	23, 45, 85, 101	0
27	DF	177/177 (100%)	1.60	51 (28%) 1 1	80, 99, 114, 125	0
28	BG	176/176 (100%)	0.11	6 (3%) 48 39	21, 40, 66, 93	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
28	DG	176/176 (100%)	1.63	54 (30%) 1 1	68, 87, 103, 118	0
29	BH	149/149 (100%)	2.56	91 (61%) 0 0	25, 102, 121, 129	0
29	DH	149/149 (100%)	2.04	73 (48%) 0 0	25, 92, 107, 115	0
30	BI	141/141 (100%)	2.52	77 (54%) 0 0	82, 105, 120, 135	0
30	DI	141/141 (100%)	2.81	98 (69%) 0 0	95, 111, 121, 124	0
31	BJ	142/142 (100%)	-0.18	5 (3%) 47 38	2, 11, 33, 52	0
31	DJ	142/142 (100%)	1.07	25 (17%) 4 3	50, 65, 81, 97	0
32	BK	122/122 (100%)	-0.28	2 (1%) 70 62	6, 18, 37, 68	0
32	DK	122/122 (100%)	0.92	14 (11%) 9 8	46, 61, 80, 94	0
33	BL	143/143 (100%)	0.10	1 (0%) 84 79	3, 24, 50, 81	0
33	DL	143/143 (100%)	1.70	48 (33%) 1 1	45, 74, 91, 111	0
34	BM	136/136 (100%)	-0.24	2 (1%) 72 64	3, 14, 33, 93	0
34	DM	136/136 (100%)	0.88	13 (9%) 13 11	44, 66, 82, 109	0
35	BN	120/120 (100%)	-0.22	1 (0%) 82 77	6, 13, 25, 68	0
35	DN	120/120 (100%)	1.61	40 (33%) 1 1	53, 71, 88, 111	0
36	BO	116/116 (100%)	0.01	1 (0%) 81 75	19, 29, 51, 57	0
36	DO	116/116 (100%)	1.46	31 (26%) 1 1	70, 88, 102, 113	0
37	BP	114/114 (100%)	-0.06	1 (0%) 81 75	11, 21, 49, 73	0
37	DP	114/114 (100%)	1.18	16 (14%) 6 5	54, 67, 84, 91	0
38	BQ	117/117 (100%)	-0.28	0 100 100	3, 8, 19, 51	0
38	DQ	117/117 (100%)	1.30	28 (23%) 2 2	51, 65, 79, 82	0
39	BR	103/103 (100%)	0.06	2 (1%) 66 58	3, 17, 36, 65	0
39	DR	103/103 (100%)	1.33	21 (20%) 3 2	52, 73, 87, 96	0
40	BS	110/110 (100%)	-0.34	1 (0%) 81 75	3, 8, 28, 88	0
40	DS	110/110 (100%)	1.53	33 (30%) 1 1	56, 70, 88, 96	0
41	BT	93/93 (100%)	0.41	8 (8%) 16 13	13, 30, 83, 101	0
41	DT	93/93 (100%)	2.03	40 (43%) 0 0	62, 81, 103, 109	0
42	BU	102/102 (100%)	0.15	2 (1%) 65 56	13, 31, 60, 95	0
42	DU	102/102 (100%)	2.25	55 (53%) 0 0	66, 84, 105, 111	0
43	BV	94/94 (100%)	-0.24	1 (1%) 78 71	10, 24, 47, 58	0
43	DV	94/94 (100%)	1.03	9 (9%) 13 11	65, 79, 94, 97	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
44	BW	76/76 (100%)	-0.06	2 (2%) 57 48	9, 16, 38, 57	0
44	DW	75/76 (98%)	1.40	18 (24%) 2 1	51, 77, 88, 108	0
45	BX	77/77 (100%)	0.01	2 (2%) 57 48	10, 26, 52, 79	0
45	DX	77/77 (100%)	1.63	26 (33%) 1 1	47, 67, 84, 89	0
46	BY	63/63 (100%)	0.49	4 (6%) 26 20	20, 44, 71, 96	0
46	DY	63/63 (100%)	2.08	30 (47%) 0 0	68, 88, 96, 103	0
47	BZ	58/58 (100%)	-0.13	0 100 100	6, 11, 36, 41	0
47	DZ	58/58 (100%)	1.12	7 (12%) 8 7	52, 70, 83, 88	0
48	B0	56/56 (100%)	-0.28	0 100 100	3, 14, 40, 75	0
48	D0	56/56 (100%)	1.61	16 (28%) 1 1	51, 71, 91, 105	0
49	B1	50/50 (100%)	0.15	1 (2%) 65 56	20, 32, 58, 92	0
49	D1	50/50 (100%)	1.65	15 (30%) 1 1	64, 80, 92, 104	0
50	B2	46/46 (100%)	-0.14	1 (2%) 62 53	7, 13, 20, 95	0
50	D2	46/46 (100%)	2.01	16 (34%) 1 1	51, 66, 79, 99	0
51	B3	64/64 (100%)	-0.15	0 100 100	9, 15, 25, 33	0
51	D3	64/64 (100%)	2.33	35 (54%) 0 0	54, 68, 79, 83	0
52	B4	38/38 (100%)	0.10	1 (2%) 57 48	15, 22, 37, 55	0
52	D4	38/38 (100%)	1.62	14 (36%) 1 0	59, 72, 84, 97	0
53	B5	191/228 (83%)	2.33	120 (62%) 0 0	78, 108, 120, 133	0
All	All	20734/20794 (99%)	0.70	2745 (13%) 7 6	2, 62, 117, 195	0

The worst 5 of 2745 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	CD	25	VAL	11.0
30	BI	53	LEU	10.6
50	D2	46	LYS	9.5
20	AT	68	HIS	8.5
1	AA	1017	U	7.8

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 ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
54	MG	DA	3132	1/1	0.31	0.41	83,83,83,83	0
54	MG	DA	3062	1/1	0.41	0.73	73,73,73,73	0
54	MG	DA	3042	1/1	0.43	0.20	67,67,67,67	0
54	MG	CA	1635	1/1	0.53	0.12	91,91,91,91	0
54	MG	DA	3134	1/1	0.61	0.37	75,75,75,75	0
54	MG	BA	3057	1/1	0.64	0.28	37,37,37,37	0
54	MG	DA	3073	1/1	0.65	0.37	76,76,76,76	0
54	MG	DA	3041	1/1	0.67	0.13	62,62,62,62	0
54	MG	BA	3104	1/1	0.67	0.19	16,16,16,16	0
54	MG	DA	3160	1/1	0.68	0.12	47,47,47,47	0
54	MG	DA	3078	1/1	0.69	0.17	64,64,64,64	0
54	MG	BA	3062	1/1	0.69	0.34	36,36,36,36	0
54	MG	DA	3145	1/1	0.71	0.16	60,60,60,60	0
54	MG	DA	3049	1/1	0.72	0.15	84,84,84,84	0
54	MG	DA	3016	1/1	0.72	0.30	65,65,65,65	0
54	MG	DA	3144	1/1	0.74	0.37	57,57,57,57	0
54	MG	DA	3129	1/1	0.75	0.11	65,65,65,65	0
54	MG	AA	1655	1/1	0.75	0.27	50,50,50,50	0
54	MG	AA	1645	1/1	0.75	0.12	41,41,41,41	0
54	MG	AA	1647	1/1	0.76	0.09	40,40,40,40	0
54	MG	CA	1633	1/1	0.76	0.29	61,61,61,61	0
54	MG	CA	1627	1/1	0.77	0.26	69,69,69,69	0
54	MG	DA	3136	1/1	0.78	0.22	67,67,67,67	0
54	MG	CA	1649	1/1	0.78	0.19	48,48,48,48	0
54	MG	DA	3020	1/1	0.79	0.18	75,75,75,75	0
54	MG	DA	3127	1/1	0.79	0.12	59,59,59,59	0
54	MG	AA	1658	1/1	0.79	0.14	47,47,47,47	0
54	MG	CA	1650	1/1	0.80	0.09	45,45,45,45	0
54	MG	DA	3043	1/1	0.80	0.22	68,68,68,68	0
54	MG	DA	3094	1/1	0.80	0.20	78,78,78,78	0
54	MG	DA	3120	1/1	0.80	0.26	80,80,80,80	0
54	MG	DA	3035	1/1	0.80	0.18	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	BA	3155	1/1	0.80	0.29	37,37,37,37	0
54	MG	CA	1655	1/1	0.81	0.08	53,53,53,53	0
54	MG	DA	3100	1/1	0.81	0.28	68,68,68,68	0
54	MG	DA	3146	1/1	0.81	0.12	54,54,54,54	0
54	MG	DA	3152	1/1	0.81	0.20	54,54,54,54	0
54	MG	DA	3153	1/1	0.81	0.12	56,56,56,56	0
54	MG	DA	3104	1/1	0.81	0.20	59,59,59,59	0
54	MG	DA	3147	1/1	0.82	0.07	45,45,45,45	0
54	MG	BA	3016	1/1	0.82	0.19	67,67,67,67	0
54	MG	BA	3171	1/1	0.82	0.22	34,34,34,34	0
54	MG	AA	1660	1/1	0.82	0.24	38,38,38,38	0
54	MG	BA	3059	1/1	0.83	0.25	23,23,23,23	0
54	MG	DA	3072	1/1	0.83	0.16	63,63,63,63	0
54	MG	AA	1661	1/1	0.83	0.20	49,49,49,49	0
54	MG	DA	3029	1/1	0.83	0.29	63,63,63,63	0
54	MG	CA	1645	1/1	0.83	0.16	50,50,50,50	0
54	MG	DA	3125	1/1	0.84	0.18	76,76,76,76	0
54	MG	CA	1641	1/1	0.84	0.33	59,59,59,59	0
54	MG	DA	3030	1/1	0.84	0.17	61,61,61,61	0
54	MG	DA	3011	1/1	0.84	0.14	65,65,65,65	0
54	MG	DA	3151	1/1	0.84	0.15	53,53,53,53	0
54	MG	BA	3177	1/1	0.84	0.10	13,13,13,13	0
54	MG	CA	1654	1/1	0.84	0.11	40,40,40,40	0
54	MG	DA	3141	1/1	0.84	0.19	39,39,39,39	0
54	MG	DA	3027	1/1	0.85	0.25	60,60,60,60	0
54	MG	DA	3149	1/1	0.85	0.20	53,53,53,53	0
54	MG	DA	3154	1/1	0.85	0.08	63,63,63,63	0
54	MG	BA	3193	1/1	0.85	0.47	10,10,10,10	0
54	MG	D2	101	1/1	0.85	0.12	63,63,63,63	0
54	MG	CA	1643	1/1	0.86	0.28	54,54,54,54	0
54	MG	DA	3138	1/1	0.86	0.20	42,42,42,42	0
54	MG	CA	1628	1/1	0.86	0.20	70,70,70,70	0
54	MG	CA	1630	1/1	0.86	0.22	81,81,81,81	0
54	MG	BA	3121	1/1	0.86	0.18	50,50,50,50	0
54	MG	DA	3155	1/1	0.86	0.10	43,43,43,43	0
54	MG	CA	1611	1/1	0.86	0.18	68,68,68,68	0
54	MG	AA	1665	1/1	0.86	0.13	48,48,48,48	0
54	MG	DA	3038	1/1	0.87	0.11	74,74,74,74	0
54	MG	AA	1638	1/1	0.87	0.10	57,57,57,57	0
54	MG	CM	201	1/1	0.87	0.23	50,50,50,50	0
54	MG	AA	1652	1/1	0.87	0.23	28,28,28,28	0
54	MG	DA	3095	1/1	0.87	0.09	75,75,75,75	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	BA	3157	1/1	0.87	0.08	7,7,7,7	0
54	MG	DA	3139	1/1	0.87	0.22	35,35,35,35	0
54	MG	DA	3059	1/1	0.87	0.31	63,63,63,63	0
54	MG	DA	3159	1/1	0.87	0.14	57,57,57,57	0
54	MG	DA	3019	1/1	0.87	0.14	66,66,66,66	0
54	MG	DA	3070	1/1	0.87	0.17	69,69,69,69	0
54	MG	DA	3048	1/1	0.88	0.13	59,59,59,59	0
54	MG	AA	1659	1/1	0.88	0.07	43,43,43,43	0
54	MG	DA	3106	1/1	0.88	0.18	61,61,61,61	0
54	MG	DA	3058	1/1	0.88	0.18	65,65,65,65	0
54	MG	BA	3183	1/1	0.88	0.13	20,20,20,20	0
54	MG	DA	3003	1/1	0.88	0.18	65,65,65,65	0
54	MG	DA	3007	1/1	0.88	0.11	84,84,84,84	0
54	MG	BA	3108	1/1	0.88	0.07	0,0,0,0	0
54	MG	BA	3161	1/1	0.88	0.12	19,19,19,19	0
54	MG	CA	1652	1/1	0.88	0.14	45,45,45,45	0
54	MG	DA	3157	1/1	0.88	0.25	42,42,42,42	0
54	MG	DA	3093	1/1	0.88	0.21	79,79,79,79	0
54	MG	AA	1671	1/1	0.88	0.21	37,37,37,37	0
54	MG	DA	3166	1/1	0.88	0.31	41,41,41,41	0
54	MG	DA	3046	1/1	0.88	0.09	72,72,72,72	0
54	MG	DA	3061	1/1	0.89	0.21	69,69,69,69	0
54	MG	CA	1642	1/1	0.89	0.16	31,31,31,31	0
54	MG	AA	1663	1/1	0.89	0.10	51,51,51,51	0
54	MG	BA	3048	1/1	0.89	0.10	25,25,25,25	0
54	MG	AA	1653	1/1	0.89	0.22	40,40,40,40	0
54	MG	DA	3142	1/1	0.89	0.17	30,30,30,30	0
54	MG	CA	1604	1/1	0.89	0.12	80,80,80,80	0
54	MG	DA	3086	1/1	0.89	0.09	61,61,61,61	0
54	MG	BA	3148	1/1	0.89	0.11	0,0,0,0	0
54	MG	CA	1653	1/1	0.89	0.05	48,48,48,48	0
54	MG	BA	3153	1/1	0.89	0.07	15,15,15,15	0
54	MG	BA	3154	1/1	0.89	0.08	11,11,11,11	0
54	MG	AA	1649	1/1	0.89	0.09	34,34,34,34	0
54	MG	BA	3015	1/1	0.89	0.09	22,22,22,22	0
54	MG	DA	3109	1/1	0.89	0.09	54,54,54,54	0
54	MG	DA	3113	1/1	0.89	0.20	56,56,56,56	0
54	MG	DA	3005	1/1	0.89	0.21	76,76,76,76	0
54	MG	BA	3073	1/1	0.89	0.14	30,30,30,30	0
54	MG	BA	3078	1/1	0.89	0.17	26,26,26,26	0
54	MG	DA	3165	1/1	0.89	0.12	46,46,46,46	0
54	MG	DA	3012	1/1	0.89	0.25	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	DA	3167	1/1	0.89	0.11	39,39,39,39	0
54	MG	DA	3015	1/1	0.89	0.14	57,57,57,57	0
54	MG	BA	3174	1/1	0.90	0.07	24,24,24,24	0
54	MG	BA	3042	1/1	0.90	0.22	7,7,7,7	0
54	MG	BA	3180	1/1	0.90	0.18	10,10,10,10	0
54	MG	AA	1617	1/1	0.90	0.19	55,55,55,55	0
54	MG	CA	1636	1/1	0.90	0.17	92,92,92,92	0
54	MG	BA	3191	1/1	0.90	0.15	43,43,43,43	0
54	MG	BA	3116	1/1	0.90	0.10	29,29,29,29	0
54	MG	DA	3107	1/1	0.90	0.08	47,47,47,47	0
54	MG	BA	3049	1/1	0.90	0.10	37,37,37,37	0
54	MG	AA	1632	1/1	0.90	0.09	41,41,41,41	0
54	MG	DA	3116	1/1	0.90	0.18	64,64,64,64	0
54	MG	CA	1615	1/1	0.90	0.19	38,38,38,38	0
54	MG	BA	3152	1/1	0.90	0.08	27,27,27,27	0
54	MG	BA	3151	1/1	0.91	0.09	44,44,44,44	0
54	MG	AA	1614	1/1	0.91	0.20	52,52,52,52	0
54	MG	DA	3014	1/1	0.91	0.14	59,59,59,59	0
54	MG	DA	3047	1/1	0.91	0.08	60,60,60,60	0
54	MG	BA	3172	1/1	0.91	0.09	22,22,22,22	0
54	MG	AA	1669	1/1	0.91	0.13	28,28,28,28	0
54	MG	DA	3148	1/1	0.91	0.10	47,47,47,47	0
54	MG	BA	3031	1/1	0.91	0.10	10,10,10,10	0
54	MG	BA	3178	1/1	0.91	0.10	27,27,27,27	0
54	MG	DA	3114	1/1	0.91	0.09	57,57,57,57	0
54	MG	DA	3026	1/1	0.91	0.08	43,43,43,43	0
54	MG	BA	3126	1/1	0.91	0.24	25,25,25,25	0
54	MG	DA	3065	1/1	0.91	0.16	46,46,46,46	0
54	MG	CA	1646	1/1	0.91	0.09	40,40,40,40	0
54	MG	DA	3158	1/1	0.91	0.14	46,46,46,46	0
54	MG	DA	3006	1/1	0.91	0.09	76,76,76,76	0
54	MG	AA	1650	1/1	0.91	0.08	31,31,31,31	0
54	MG	DA	3036	1/1	0.91	0.12	65,65,65,65	0
54	MG	DA	3080	1/1	0.91	0.07	79,79,79,79	0
54	MG	DA	3008	1/1	0.91	0.23	70,70,70,70	0
54	MG	DA	3009	1/1	0.91	0.20	62,62,62,62	0
55	VIF	DA	3001	38/38	0.91	0.15	40,51,59,60	0
54	MG	AA	1672	1/1	0.92	0.14	40,40,40,40	0
54	MG	BA	3192	1/1	0.92	0.12	22,22,22,22	0
54	MG	DA	3140	1/1	0.92	0.17	36,36,36,36	0
54	MG	DA	3028	1/1	0.92	0.07	62,62,62,62	0
54	MG	DA	3079	1/1	0.92	0.09	74,74,74,74	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	BA	3035	1/1	0.92	0.10	4,4,4,4	0
54	MG	BB	204	1/1	0.92	0.21	15,15,15,15	0
54	MG	DA	3033	1/1	0.92	0.18	53,53,53,53	0
54	MG	BA	3038	1/1	0.92	0.19	30,30,30,30	0
54	MG	BA	3065	1/1	0.92	0.17	2,2,2,2	0
54	MG	BA	3162	1/1	0.92	0.10	17,17,17,17	0
54	MG	BA	3133	1/1	0.92	0.19	48,48,48,48	0
54	MG	BA	3143	1/1	0.92	0.12	7,7,7,7	0
54	MG	AA	1602	1/1	0.92	0.14	40,40,40,40	0
54	MG	BA	3176	1/1	0.92	0.09	15,15,15,15	0
54	MG	BA	3150	1/1	0.92	0.11	0,0,0,0	0
54	MG	AA	1635	1/1	0.92	0.12	49,49,49,49	0
54	MG	BA	3081	1/1	0.92	0.10	28,28,28,28	0
54	MG	DA	3057	1/1	0.92	0.29	62,62,62,62	0
54	MG	BA	3181	1/1	0.92	0.15	8,8,8,8	0
54	MG	DA	3162	1/1	0.92	0.06	56,56,56,56	0
54	MG	DA	3164	1/1	0.92	0.10	50,50,50,50	0
54	MG	BA	3027	1/1	0.92	0.13	47,47,47,47	0
54	MG	CA	1644	1/1	0.92	0.11	38,38,38,38	0
54	MG	BA	3186	1/1	0.92	0.08	10,10,10,10	0
54	MG	BA	3190	1/1	0.92	0.09	19,19,19,19	0
54	MG	CA	1648	1/1	0.92	0.24	45,45,45,45	0
54	MG	BA	3146	1/1	0.93	0.06	12,12,12,12	0
54	MG	DA	3031	1/1	0.93	0.18	49,49,49,49	0
54	MG	AA	1612	1/1	0.93	0.06	33,33,33,33	0
54	MG	DA	3143	1/1	0.93	0.13	28,28,28,28	0
54	MG	CA	1621	1/1	0.93	0.08	63,63,63,63	0
54	MG	BA	3149	1/1	0.93	0.14	26,26,26,26	0
54	MG	BA	3113	1/1	0.93	0.07	30,30,30,30	0
54	MG	BA	3114	1/1	0.93	0.09	18,18,18,18	0
54	MG	CA	1631	1/1	0.93	0.17	76,76,76,76	0
54	MG	DA	3105	1/1	0.93	0.09	57,57,57,57	0
54	MG	BA	3050	1/1	0.93	0.06	15,15,15,15	0
54	MG	CA	1634	1/1	0.93	0.07	55,55,55,55	0
54	MG	AA	1643	1/1	0.93	0.10	12,12,12,12	0
54	MG	AA	1627	1/1	0.93	0.14	50,50,50,50	0
54	MG	BA	3085	1/1	0.93	0.16	29,29,29,29	0
54	MG	BA	3189	1/1	0.93	0.10	25,25,25,25	0
54	MG	DA	3117	1/1	0.93	0.07	54,54,54,54	0
54	MG	BA	3140	1/1	0.93	0.13	0,0,0,0	0
54	MG	BA	3142	1/1	0.93	0.22	1,1,1,1	0
54	MG	BA	3012	1/1	0.93	0.10	17,17,17,17	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	DA	3163	1/1	0.93	0.27	49,49,49,49	0
54	MG	BA	3163	1/1	0.93	0.11	31,31,31,31	0
54	MG	DA	3025	1/1	0.93	0.11	40,40,40,40	0
54	MG	BA	3195	1/1	0.93	0.08	31,31,31,31	0
54	MG	BA	3167	1/1	0.93	0.13	35,35,35,35	0
54	MG	DB	201	1/1	0.93	0.07	83,83,83,83	0
54	MG	BA	3145	1/1	0.93	0.18	37,37,37,37	0
54	MG	CA	1608	1/1	0.93	0.17	56,56,56,56	0
54	MG	DA	3074	1/1	0.94	0.12	49,49,49,49	0
54	MG	BA	3100	1/1	0.94	0.14	52,52,52,52	0
54	MG	CA	1639	1/1	0.94	0.07	32,32,32,32	0
54	MG	AA	1626	1/1	0.94	0.07	24,24,24,24	0
54	MG	DA	3150	1/1	0.94	0.35	41,41,41,41	0
54	MG	DA	3121	1/1	0.94	0.06	54,54,54,54	0
54	MG	DA	3124	1/1	0.94	0.07	52,52,52,52	0
54	MG	BA	3034	1/1	0.94	0.07	20,20,20,20	0
54	MG	DA	3089	1/1	0.94	0.07	57,57,57,57	0
54	MG	DA	3092	1/1	0.94	0.08	60,60,60,60	0
54	MG	DA	3156	1/1	0.94	0.09	44,44,44,44	0
54	MG	AA	1656	1/1	0.94	0.09	43,43,43,43	0
54	MG	DA	3133	1/1	0.94	0.14	51,51,51,51	0
54	MG	BA	3009	1/1	0.94	0.05	10,10,10,10	0
54	MG	DA	3135	1/1	0.94	0.07	41,41,41,41	0
54	MG	BA	3165	1/1	0.94	0.19	9,9,9,9	0
54	MG	AA	1666	1/1	0.94	0.14	25,25,25,25	0
54	MG	DA	3101	1/1	0.94	0.12	54,54,54,54	0
54	MG	CA	1629	1/1	0.94	0.06	67,67,67,67	0
54	MG	AA	1667	1/1	0.94	0.17	47,47,47,47	0
54	MG	AA	1668	1/1	0.94	0.06	41,41,41,41	0
54	MG	AA	1628	1/1	0.94	0.06	45,45,45,45	0
54	MG	BA	3139	1/1	0.94	0.24	0,0,0,0	0
54	MG	BA	3092	1/1	0.94	0.06	20,20,20,20	0
54	MG	AA	1662	1/1	0.95	0.05	25,25,25,25	0
54	MG	DA	3090	1/1	0.95	0.22	66,66,66,66	0
54	MG	BA	3137	1/1	0.95	0.18	44,44,44,44	0
54	MG	CA	1632	1/1	0.95	0.08	66,66,66,66	0
54	MG	BA	3168	1/1	0.95	0.15	32,32,32,32	0
54	MG	BA	3169	1/1	0.95	0.07	25,25,25,25	0
54	MG	BA	3138	1/1	0.95	0.23	8,8,8,8	0
54	MG	BA	3006	1/1	0.95	0.09	46,46,46,46	0
54	MG	DA	3102	1/1	0.95	0.08	49,49,49,49	0
54	MG	DA	3103	1/1	0.95	0.07	45,45,45,45	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	CA	1637	1/1	0.95	0.16	52,52,52,52	0
54	MG	AA	1644	1/1	0.95	0.10	41,41,41,41	0
54	MG	BN	201	1/1	0.95	0.10	6,6,6,6	0
54	MG	DA	3050	1/1	0.95	0.13	58,58,58,58	0
54	MG	DA	3055	1/1	0.95	0.12	48,48,48,48	0
54	MG	DA	3112	1/1	0.95	0.15	67,67,67,67	0
54	MG	BA	3141	1/1	0.95	0.05	8,8,8,8	0
54	MG	CA	1605	1/1	0.95	0.11	57,57,57,57	0
54	MG	BA	3115	1/1	0.95	0.08	11,11,11,11	0
54	MG	AA	1670	1/1	0.95	0.09	50,50,50,50	0
54	MG	CA	1614	1/1	0.95	0.05	45,45,45,45	0
54	MG	DA	3022	1/1	0.95	0.09	50,50,50,50	0
54	MG	CA	1647	1/1	0.95	0.16	19,19,19,19	0
54	MG	DA	3161	1/1	0.95	0.07	39,39,39,39	0
54	MG	BA	3159	1/1	0.95	0.12	25,25,25,25	0
54	MG	CA	1616	1/1	0.95	0.07	31,31,31,31	0
54	MG	BA	3117	1/1	0.95	0.12	40,40,40,40	0
54	MG	DA	3076	1/1	0.95	0.10	55,55,55,55	0
54	MG	CA	1651	1/1	0.95	0.07	54,54,54,54	0
54	MG	AA	1664	1/1	0.95	0.07	30,30,30,30	0
54	MG	BA	3184	1/1	0.95	0.12	21,21,21,21	0
54	MG	BA	3075	1/1	0.95	0.09	3,3,3,3	0
54	MG	DA	3137	1/1	0.95	0.13	69,69,69,69	0
54	MG	AA	1630	1/1	0.96	0.08	53,53,53,53	0
54	MG	BA	3123	1/1	0.96	0.05	17,17,17,17	0
54	MG	AA	1609	1/1	0.96	0.09	28,28,28,28	0
54	MG	BA	3127	1/1	0.96	0.08	7,7,7,7	0
54	MG	BA	3080	1/1	0.96	0.04	50,50,50,50	0
54	MG	BA	3134	1/1	0.96	0.09	32,32,32,32	0
54	MG	BA	3135	1/1	0.96	0.18	46,46,46,46	0
54	MG	DA	3082	1/1	0.96	0.05	42,42,42,42	0
54	MG	DA	3084	1/1	0.96	0.09	50,50,50,50	0
54	MG	DA	3085	1/1	0.96	0.08	72,72,72,72	0
54	MG	CA	1601	1/1	0.96	0.06	34,34,34,34	0
54	MG	AA	1625	1/1	0.96	0.06	35,35,35,35	0
54	MG	BA	3082	1/1	0.96	0.07	12,12,12,12	0
54	MG	AA	1601	1/1	0.96	0.06	53,53,53,53	0
54	MG	DA	3034	1/1	0.96	0.09	54,54,54,54	0
54	MG	BA	3086	1/1	0.96	0.15	10,10,10,10	0
54	MG	BA	3170	1/1	0.96	0.10	29,29,29,29	0
54	MG	BA	3090	1/1	0.96	0.12	28,28,28,28	0
54	MG	BA	3002	1/1	0.96	0.04	15,15,15,15	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	CA	1618	1/1	0.96	0.06	38,38,38,38	0
54	MG	AA	1640	1/1	0.96	0.09	41,41,41,41	0
54	MG	DA	3044	1/1	0.96	0.06	54,54,54,54	0
54	MG	DA	3045	1/1	0.96	0.13	68,68,68,68	0
54	MG	DA	3002	1/1	0.96	0.06	52,52,52,52	0
54	MG	BA	3101	1/1	0.96	0.06	8,8,8,8	0
54	MG	AA	1654	1/1	0.96	0.12	25,25,25,25	0
54	MG	BA	3147	1/1	0.96	0.27	25,25,25,25	0
54	MG	AA	1605	1/1	0.96	0.09	36,36,36,36	0
54	MG	DA	3053	1/1	0.96	0.04	44,44,44,44	0
54	MG	AA	1616	1/1	0.96	0.06	57,57,57,57	0
54	MG	AA	1657	1/1	0.96	0.08	28,28,28,28	0
54	MG	AA	1629	1/1	0.96	0.08	42,42,42,42	0
54	MG	BA	3185	1/1	0.96	0.07	16,16,16,16	0
54	MG	DA	3060	1/1	0.96	0.05	43,43,43,43	0
54	MG	BA	3029	1/1	0.96	0.21	38,38,38,38	0
54	MG	BA	3188	1/1	0.96	0.05	19,19,19,19	0
54	MG	DB	203	1/1	0.96	0.05	70,70,70,70	0
54	MG	BA	3030	1/1	0.96	0.05	4,4,4,4	0
55	VIF	BA	3001	38/38	0.96	0.08	3,9,14,18	0
54	MG	DA	3017	1/1	0.96	0.20	65,65,65,65	0
54	MG	BA	3164	1/1	0.97	0.08	27,27,27,27	0
54	MG	DA	3111	1/1	0.97	0.14	45,45,45,45	0
54	MG	CA	1602	1/1	0.97	0.06	69,69,69,69	0
54	MG	CA	1603	1/1	0.97	0.07	43,43,43,43	0
54	MG	AA	1603	1/1	0.97	0.14	48,48,48,48	0
54	MG	DA	3115	1/1	0.97	0.07	45,45,45,45	0
54	MG	BA	3004	1/1	0.97	0.06	24,24,24,24	0
54	MG	CA	1607	1/1	0.97	0.07	46,46,46,46	0
54	MG	DA	3119	1/1	0.97	0.12	52,52,52,52	0
54	MG	DA	3052	1/1	0.97	0.04	32,32,32,32	0
54	MG	BA	3061	1/1	0.97	0.17	22,22,22,22	0
54	MG	AA	1610	1/1	0.97	0.11	53,53,53,53	0
54	MG	DA	3056	1/1	0.97	0.08	52,52,52,52	0
54	MG	BA	3105	1/1	0.97	0.04	9,9,9,9	0
54	MG	DA	3128	1/1	0.97	0.08	61,61,61,61	0
54	MG	BA	3107	1/1	0.97	0.07	1,1,1,1	0
54	MG	BA	3033	1/1	0.97	0.05	15,15,15,15	0
54	MG	BA	3173	1/1	0.97	0.13	24,24,24,24	0
54	MG	CA	1620	1/1	0.97	0.07	49,49,49,49	0
54	MG	BA	3144	1/1	0.97	0.13	14,14,14,14	0
54	MG	DA	3063	1/1	0.97	0.22	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	CA	1623	1/1	0.97	0.07	42,42,42,42	0
54	MG	DA	3068	1/1	0.97	0.05	43,43,43,43	0
54	MG	DA	3069	1/1	0.97	0.04	56,56,56,56	0
54	MG	CA	1624	1/1	0.97	0.05	33,33,33,33	0
54	MG	CA	1626	1/1	0.97	0.06	48,48,48,48	0
54	MG	BA	3175	1/1	0.97	0.05	11,11,11,11	0
54	MG	BA	3111	1/1	0.97	0.06	0,0,0,0	0
54	MG	BA	3112	1/1	0.97	0.05	16,16,16,16	0
54	MG	DA	3077	1/1	0.97	0.12	56,56,56,56	0
54	MG	BA	3069	1/1	0.97	0.06	2,2,2,2	0
54	MG	BA	3179	1/1	0.97	0.18	7,7,7,7	0
54	MG	AA	1636	1/1	0.97	0.13	31,31,31,31	0
54	MG	DA	3081	1/1	0.97	0.05	67,67,67,67	0
54	MG	BA	3010	1/1	0.97	0.06	3,3,3,3	0
54	MG	DA	3083	1/1	0.97	0.06	52,52,52,52	0
54	MG	BA	3182	1/1	0.97	0.04	26,26,26,26	0
54	MG	BA	3076	1/1	0.97	0.09	29,29,29,29	0
54	MG	BA	3036	1/1	0.97	0.24	9,9,9,9	0
54	MG	DA	3087	1/1	0.97	0.04	48,48,48,48	0
54	MG	DA	3088	1/1	0.97	0.04	53,53,53,53	0
54	MG	BA	3118	1/1	0.97	0.07	7,7,7,7	0
54	MG	CA	1638	1/1	0.97	0.06	54,54,54,54	0
54	MG	BA	3120	1/1	0.97	0.07	24,24,24,24	0
54	MG	DA	3032	1/1	0.97	0.06	46,46,46,46	0
54	MG	AA	1646	1/1	0.97	0.07	39,39,39,39	0
54	MG	AA	1606	1/1	0.97	0.04	36,36,36,36	0
54	MG	DA	3099	1/1	0.97	0.06	37,37,37,37	0
54	MG	BA	3156	1/1	0.97	0.05	17,17,17,17	0
54	MG	AA	1639	1/1	0.97	0.06	56,56,56,56	0
54	MG	BA	3021	1/1	0.97	0.14	0,0,0,0	0
54	MG	DA	3039	1/1	0.97	0.06	54,54,54,54	0
54	MG	BA	3160	1/1	0.97	0.15	16,16,16,16	0
54	MG	AA	1608	1/1	0.97	0.04	20,20,20,20	0
54	MG	DQ	201	1/1	0.97	0.23	36,36,36,36	0
54	MG	BA	3088	1/1	0.97	0.10	8,8,8,8	0
54	MG	BA	3054	1/1	0.97	0.04	6,6,6,6	0
54	MG	DA	3108	1/1	0.97	0.05	60,60,60,60	0
54	MG	BA	3067	1/1	0.98	0.04	4,4,4,4	0
54	MG	CA	1617	1/1	0.98	0.08	33,33,33,33	0
54	MG	BA	3068	1/1	0.98	0.06	8,8,8,8	0
54	MG	DA	3118	1/1	0.98	0.04	56,56,56,56	0
54	MG	AA	1631	1/1	0.98	0.06	39,39,39,39	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	DA	3010	1/1	0.98	0.04	57,57,57,57	0
54	MG	BA	3071	1/1	0.98	0.06	45,45,45,45	0
54	MG	DA	3064	1/1	0.98	0.07	43,43,43,43	0
54	MG	BA	3072	1/1	0.98	0.04	6,6,6,6	0
54	MG	DA	3126	1/1	0.98	0.09	51,51,51,51	0
54	MG	DA	3066	1/1	0.98	0.04	40,40,40,40	0
54	MG	AA	1604	1/1	0.98	0.04	43,43,43,43	0
54	MG	CA	1625	1/1	0.98	0.06	26,26,26,26	0
54	MG	DA	3131	1/1	0.98	0.04	58,58,58,58	0
54	MG	BA	3017	1/1	0.98	0.10	9,9,9,9	0
54	MG	DA	3071	1/1	0.98	0.04	75,75,75,75	0
54	MG	BA	3046	1/1	0.98	0.05	13,13,13,13	0
54	MG	DA	3018	1/1	0.98	0.04	53,53,53,53	0
54	MG	BA	3077	1/1	0.98	0.07	11,11,11,11	0
54	MG	DA	3075	1/1	0.98	0.04	47,47,47,47	0
54	MG	BA	3047	1/1	0.98	0.07	19,19,19,19	0
54	MG	DA	3021	1/1	0.98	0.10	50,50,50,50	0
54	MG	BA	3079	1/1	0.98	0.04	30,30,30,30	0
54	MG	DA	3024	1/1	0.98	0.04	63,63,63,63	0
54	MG	AA	1634	1/1	0.98	0.04	40,40,40,40	0
54	MG	BA	3187	1/1	0.98	0.18	16,16,16,16	0
54	MG	BA	3119	1/1	0.98	0.04	9,9,9,9	0
54	MG	BA	3025	1/1	0.98	0.05	4,4,4,4	0
54	MG	AA	1641	1/1	0.98	0.04	16,16,16,16	0
54	MG	BA	3122	1/1	0.98	0.05	10,10,10,10	0
54	MG	BA	3005	1/1	0.98	0.06	32,32,32,32	0
54	MG	BA	3124	1/1	0.98	0.14	0,0,0,0	0
54	MG	BA	3194	1/1	0.98	0.04	4,4,4,4	0
54	MG	BA	3125	1/1	0.98	0.09	6,6,6,6	0
54	MG	BB	202	1/1	0.98	0.04	12,12,12,12	0
54	MG	DA	3091	1/1	0.98	0.09	55,55,55,55	0
54	MG	AA	1651	1/1	0.98	0.24	36,36,36,36	0
54	MG	AA	1620	1/1	0.98	0.04	51,51,51,51	0
54	MG	BA	3129	1/1	0.98	0.04	7,7,7,7	0
54	MG	DA	3040	1/1	0.98	0.04	39,39,39,39	0
54	MG	DA	3097	1/1	0.98	0.04	49,49,49,49	0
54	MG	BA	3131	1/1	0.98	0.05	0,0,0,0	0
54	MG	BA	3089	1/1	0.98	0.10	13,13,13,13	0
54	MG	AA	1623	1/1	0.98	0.04	42,42,42,42	0
54	MG	AA	1637	1/1	0.98	0.04	17,17,17,17	0
54	MG	CA	1606	1/1	0.98	0.07	49,49,49,49	0
54	MG	BA	3093	1/1	0.98	0.03	43,43,43,43	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	BA	3094	1/1	0.98	0.12	23,23,23,23	0
54	MG	CA	1609	1/1	0.98	0.05	57,57,57,57	0
54	MG	CA	1610	1/1	0.98	0.04	57,57,57,57	0
54	MG	BA	3095	1/1	0.98	0.05	26,26,26,26	0
54	MG	DB	202	1/1	0.98	0.04	49,49,49,49	0
54	MG	CA	1612	1/1	0.98	0.09	43,43,43,43	0
54	MG	CA	1613	1/1	0.98	0.06	16,16,16,16	0
54	MG	BA	3063	1/1	0.98	0.18	41,41,41,41	0
54	MG	DA	3004	1/1	0.98	0.04	58,58,58,58	0
54	MG	BA	3014	1/1	0.98	0.09	0,0,0,0	0
56	ZN	B4	101	1/1	0.98	0.05	102,102,102,102	0
56	ZN	D4	101	1/1	0.98	0.03	78,78,78,78	0
54	MG	DA	3054	1/1	0.99	0.07	40,40,40,40	0
54	MG	BA	3110	1/1	0.99	0.11	4,4,4,4	0
54	MG	BA	3007	1/1	0.99	0.07	17,17,17,17	0
54	MG	BA	3008	1/1	0.99	0.06	29,29,29,29	0
54	MG	BA	3158	1/1	0.99	0.15	17,17,17,17	0
54	MG	BA	3032	1/1	0.99	0.14	6,6,6,6	0
54	MG	AA	1621	1/1	0.99	0.06	30,30,30,30	0
54	MG	AA	1648	1/1	0.99	0.04	54,54,54,54	0
54	MG	DA	3122	1/1	0.99	0.06	42,42,42,42	0
54	MG	DA	3123	1/1	0.99	0.08	35,35,35,35	0
54	MG	AA	1622	1/1	0.99	0.16	17,17,17,17	0
54	MG	BA	3074	1/1	0.99	0.04	3,3,3,3	0
54	MG	BA	3013	1/1	0.99	0.05	3,3,3,3	0
54	MG	BA	3037	1/1	0.99	0.05	1,1,1,1	0
54	MG	BA	3166	1/1	0.99	0.03	6,6,6,6	0
54	MG	DA	3067	1/1	0.99	0.04	48,48,48,48	0
54	MG	DA	3130	1/1	0.99	0.07	35,35,35,35	0
54	MG	AA	1613	1/1	0.99	0.03	25,25,25,25	0
54	MG	BA	3040	1/1	0.99	0.04	3,3,3,3	0
54	MG	DA	3013	1/1	0.99	0.09	40,40,40,40	0
54	MG	BA	3041	1/1	0.99	0.02	7,7,7,7	0
54	MG	AA	1624	1/1	0.99	0.03	30,30,30,30	0
54	MG	CA	1619	1/1	0.99	0.05	30,30,30,30	0
54	MG	BA	3043	1/1	0.99	0.07	11,11,11,11	0
54	MG	AA	1642	1/1	0.99	0.03	21,21,21,21	0
54	MG	CA	1622	1/1	0.99	0.03	53,53,53,53	0
54	MG	BA	3083	1/1	0.99	0.06	0,0,0,0	0
54	MG	BA	3084	1/1	0.99	0.09	10,10,10,10	0
54	MG	BA	3128	1/1	0.99	0.10	5,5,5,5	0
54	MG	DA	3023	1/1	0.99	0.08	36,36,36,36	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	AA	1607	1/1	0.99	0.02	47,47,47,47	0
54	MG	BA	3130	1/1	0.99	0.08	4,4,4,4	0
54	MG	BA	3018	1/1	0.99	0.06	4,4,4,4	0
54	MG	BA	3087	1/1	0.99	0.04	0,0,0,0	0
54	MG	BA	3019	1/1	0.99	0.05	17,17,17,17	0
54	MG	BA	3020	1/1	0.99	0.04	24,24,24,24	0
54	MG	BA	3136	1/1	0.99	0.05	1,1,1,1	0
54	MG	BA	3052	1/1	0.99	0.03	8,8,8,8	0
54	MG	BA	3053	1/1	0.99	0.06	6,6,6,6	0
54	MG	BA	3003	1/1	0.99	0.08	19,19,19,19	0
54	MG	BA	3022	1/1	0.99	0.03	3,3,3,3	0
54	MG	BA	3058	1/1	0.99	0.07	11,11,11,11	0
54	MG	BA	3096	1/1	0.99	0.03	17,17,17,17	0
54	MG	DA	3037	1/1	0.99	0.04	46,46,46,46	0
54	MG	BA	3097	1/1	0.99	0.04	18,18,18,18	0
54	MG	DA	3096	1/1	0.99	0.08	62,62,62,62	0
54	MG	CA	1640	1/1	0.99	0.12	22,22,22,22	0
54	MG	DA	3098	1/1	0.99	0.08	46,46,46,46	0
54	MG	BA	3098	1/1	0.99	0.05	5,5,5,5	0
54	MG	BA	3099	1/1	0.99	0.04	5,5,5,5	0
54	MG	BA	3024	1/1	0.99	0.05	5,5,5,5	0
54	MG	AA	1618	1/1	0.99	0.03	41,41,41,41	0
54	MG	BA	3102	1/1	0.99	0.04	10,10,10,10	0
54	MG	BA	3103	1/1	0.99	0.06	0,0,0,0	0
54	MG	BB	201	1/1	0.99	0.04	20,20,20,20	0
54	MG	BA	3026	1/1	0.99	0.05	9,9,9,9	0
54	MG	BB	203	1/1	0.99	0.03	6,6,6,6	0
54	MG	AA	1619	1/1	0.99	0.15	44,44,44,44	0
54	MG	BA	3106	1/1	0.99	0.07	3,3,3,3	0
54	MG	DA	3110	1/1	0.99	0.11	36,36,36,36	0
54	MG	DA	3051	1/1	0.99	0.05	43,43,43,43	0
54	MG	AA	1615	1/1	0.99	0.05	43,43,43,43	0
54	MG	BA	3066	1/1	0.99	0.03	6,6,6,6	0
54	MG	BA	3023	1/1	1.00	0.06	0,0,0,0	0
54	MG	BA	3044	1/1	1.00	0.03	4,4,4,4	0
54	MG	BA	3045	1/1	1.00	0.02	14,14,14,14	0
54	MG	BA	3055	1/1	1.00	0.04	5,5,5,5	0
54	MG	BA	3056	1/1	1.00	0.04	7,7,7,7	0
54	MG	BA	3070	1/1	1.00	0.03	0,0,0,0	0
54	MG	BA	3132	1/1	1.00	0.06	2,2,2,2	0
54	MG	BA	3028	1/1	1.00	0.03	4,4,4,4	0
54	MG	BA	3039	1/1	1.00	0.10	2,2,2,2	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
54	MG	BA	3011	1/1	1.00	0.03	3,3,3,3	0
54	MG	BA	3060	1/1	1.00	0.03	16,16,16,16	0
54	MG	AA	1611	1/1	1.00	0.03	25,25,25,25	0
54	MG	AA	1633	1/1	1.00	0.05	29,29,29,29	0
54	MG	BA	3091	1/1	1.00	0.02	4,4,4,4	0
54	MG	BA	3051	1/1	1.00	0.06	11,11,11,11	0
54	MG	BA	3064	1/1	1.00	0.05	0,0,0,0	0
54	MG	BA	3109	1/1	1.00	0.04	20,20,20,20	0

6.5 Other polymers [i](#)

There are no such residues in this entry.