wwPDB X-ray Structure Validation Summary Report (i)

Sep 14, 2023 – 07:17 PM EDT

PDB ID	:	4V55
Title	:	Crystal structure of the bacterial ribosome from Escherichia coli in complex with gentamicin and ribosome recycling factor (RRF).
Authors	:	Borovinskaya, M.A.; Pai, R.D.; Zhang, W.; Schuwirth, B.-S.; Holton, J.M.; Hirokawa, G.; Kaji, H.; Kaji, A.; Cate, J.H.D.
Deposited on	:	2007-06-17
Resolution	:	4.00 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 (i) 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 (i)) were used in the production of this report:

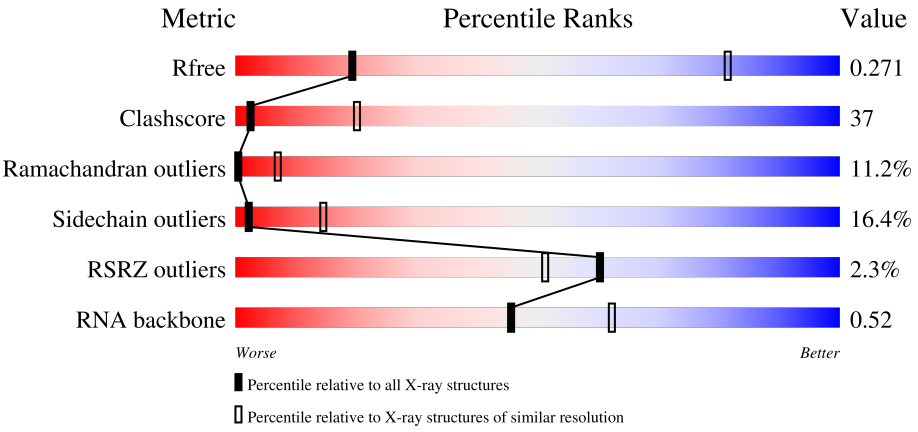
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh &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

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 4.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1087 (4.30-3.70)
Clashscore	141614	1148 (4.30-3.70)
Ramachandran outliers	138981	1108 (4.30-3.70)
Sidechain outliers	138945	1099 (4.30-3.70)
RSRZ outliers	127900	1028 (4.34-3.66)
RNA backbone	3102	1048 (5.00-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=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 <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	AA	1542	24% 62% 12%
1	CA	1542	22% 65% 12%
2	AC	232	29% 48% 11% 11%

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Mol	Chain	Length	Quality of chain
2	CC	232	28% 49% 12% 11%
3	AD	205	4% 27% 60% 12%
3	CD	205	26% 61% 12%
4	AE	166	2% 32% 51% 7% 10%
4	CE	166	2% 29% 54% 8% 10%
5	AF	135	4% 18% 43% 13% 26%
5	CF	135	21% 40% 13% 26%
6	AG	178	2% 26% 48% 10% 16%
6	CG	178	30% 44% 10% 15%
7	AH	129	6% 26% 67% 7%
7	CH	129	29% 65% 6%
8	AI	129	2% 25% 60% 13%
8	CI	129	2% 24% 60% 14%
9	AJ	103	2% 29% 52% 14% 5%
9	CJ	103	5% 30% 50% 16% 5%
10	AK	128	26% 55% 11% 9%
10	CK	128	2% 26% 53% 12% 9%
11	AL	123	2% 33% 52% 11% 5%
11	CL	123	33% 52% 11% 5%
12	AM	117	17% 63% 17%
12	CM	117	16% 62% 18%
13	AN	100	23% 54% 18%
13	CN	100	22% 54% 19%
14	AO	89	38% 53% 7%
14	CO	89	38% 53% 7%

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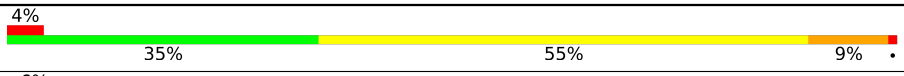
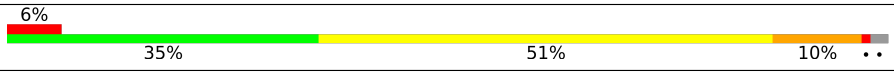
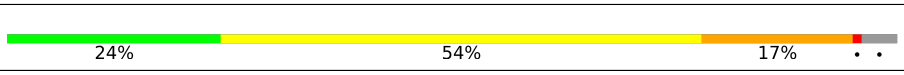
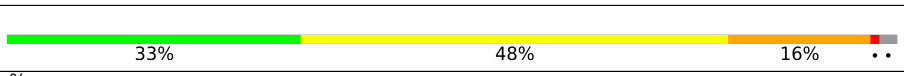
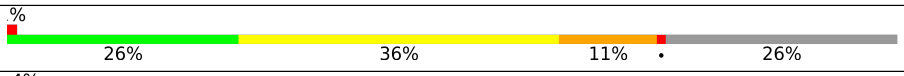
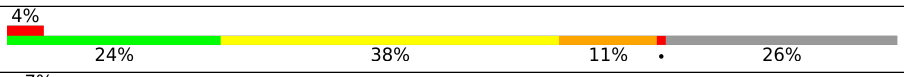
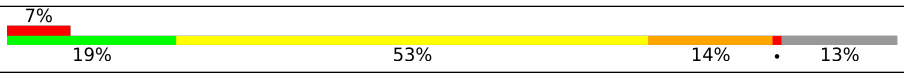
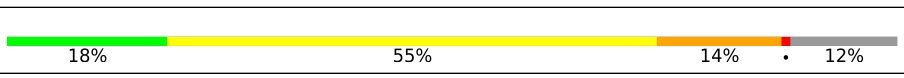
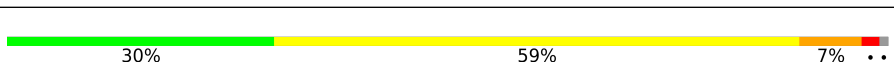
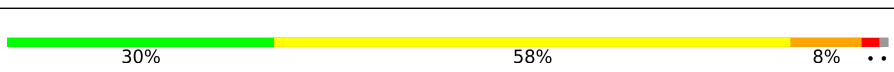
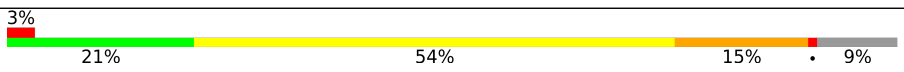
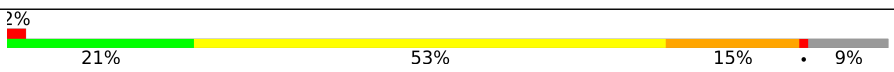
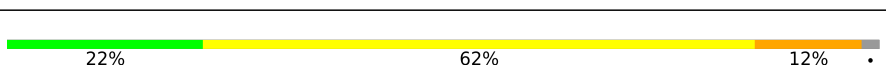
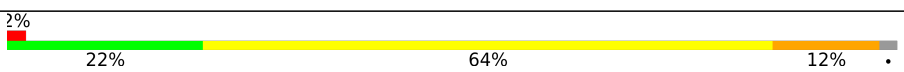
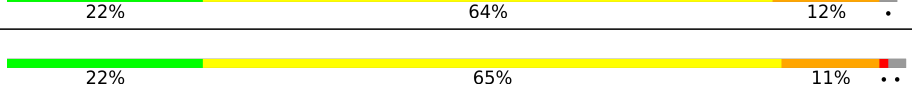
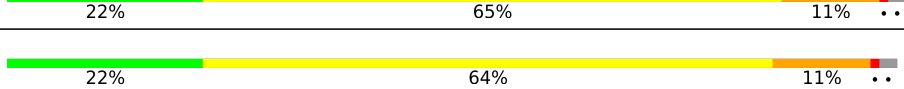
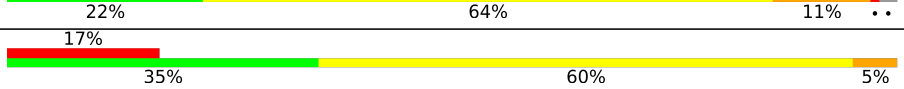
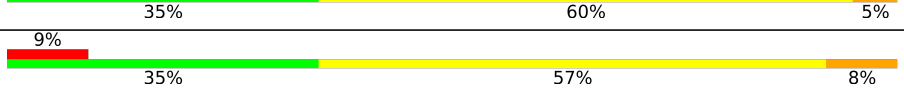
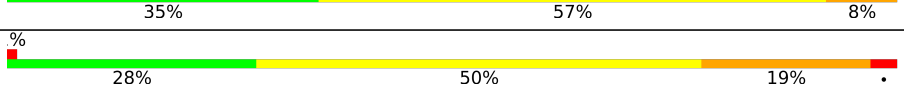
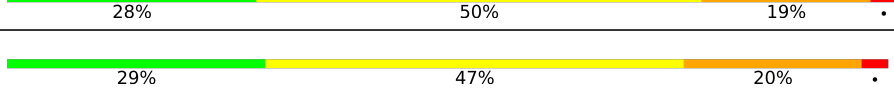
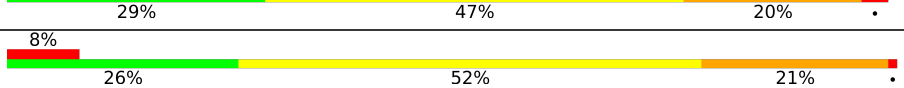
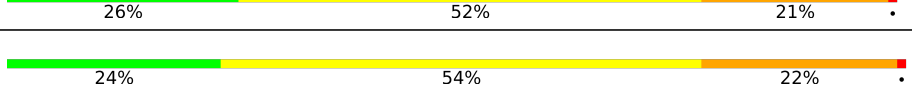
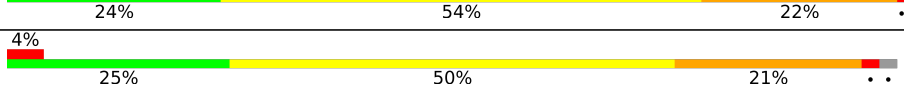
Mol	Chain	Length	Quality of chain
15	AP	82	
15	CP	82	
16	AQ	83	
16	CQ	83	
17	AR	74	
17	CR	74	
18	AS	91	
18	CS	91	
19	AT	86	
19	CT	86	
20	AB	240	
20	CB	240	
21	AU	70	
21	CU	70	
22	BA	120	
22	DA	120	
23	BB	2904	
23	DB	2904	
24	BI	141	
24	DI	141	
25	BC	272	
25	DC	272	
26	BD	209	
26	DD	209	
27	BK	123	

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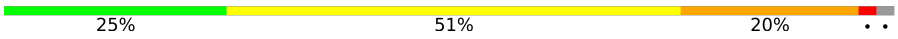
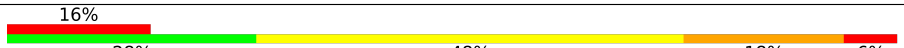
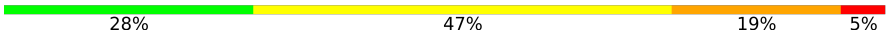
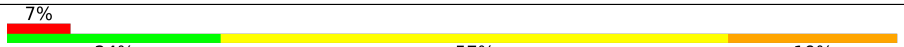
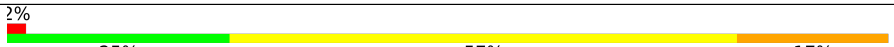
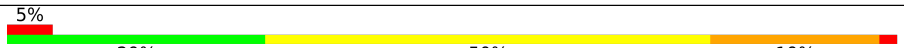
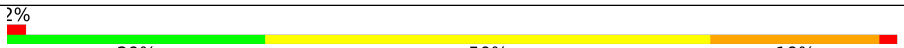
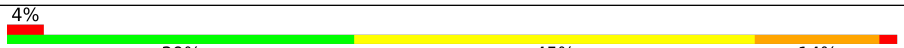
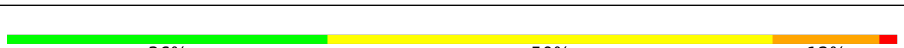
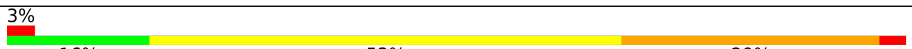
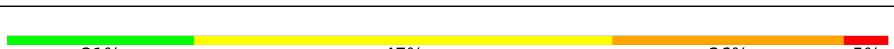
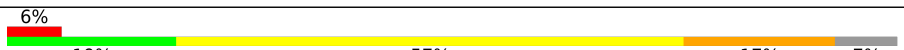
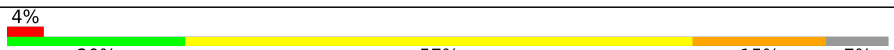
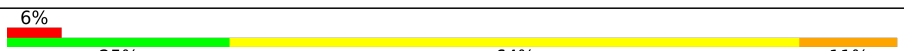
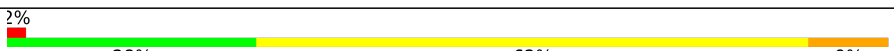
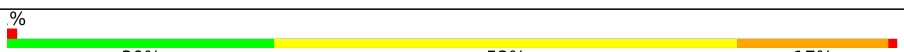
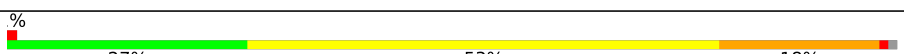
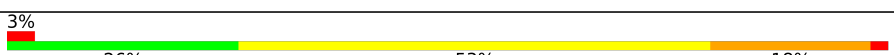
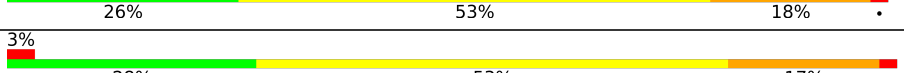
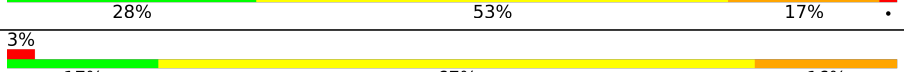
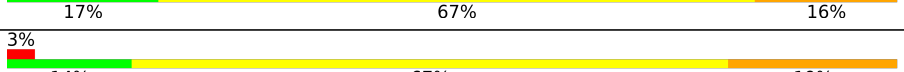
Mol	Chain	Length	Quality of chain
27	DK	123	
28	BP	114	
28	DP	114	
29	BE	201	
29	DE	201	
30	BY	58	
30	DY	58	
31	B0	56	
31	D0	56	
32	B4	38	
32	D4	38	
33	B1	54	
33	D1	54	
34	B3	64	
34	D3	64	
35	BV	94	
35	DV	94	
36	B2	46	
36	D2	46	
37	BL	144	
37	DL	144	
38	BM	136	
38	DM	136	
39	BX	63	
39	DX	63	

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Mol	Chain	Length	Quality of chain
40	BH	149	19% 20% 49% 26% 5%
40	DH	149	4% 23% 52% 19% 5%
41	BJ	142	% 26% 57% 14%
41	DJ	142	% 25% 57% 15%
42	BN	127	% 14% 64% 14% 6%
42	DN	127	15% 65% 13% 6%
43	BO	117	7% 25% 59% 15%
43	DO	117	2% 23% 62% 14%
44	BQ	117	21% 66% 13%
44	DQ	117	% 20% 65% 15%
45	BS	110	2% 22% 62% 15%
45	DS	110	25% 58% 15%
46	BU	103	6% 25% 46% 25%
46	DU	103	% 24% 47% 25%
47	BF	178	% 18% 55% 24%
47	DF	178	7% 18% 56% 24%
48	BG	176	% 25% 48% 23%
48	DG	176	2% 26% 51% 20%
49	BR	103	3% 24% 60% 15%
49	DR	103	4% 25% 59% 14%
50	BT	100	2% 16% 50% 25% 7%
50	DT	100	3% 19% 49% 23% 7%
51	BZ	78	4% 21% 51% 23%
51	DZ	78	% 22% 53% 21%
52	BW	84	8% 14% 39% 35% 6% 6%

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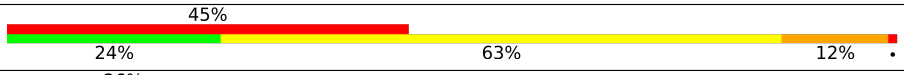
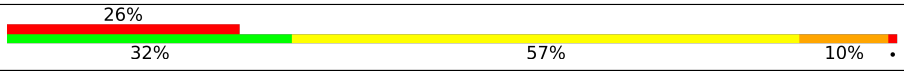
Mol	Chain	Length	Quality of chain
52	DW	84	
53	B6	185	
53	D6	185	

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	AA	1625	-	-	-	X
54	MG	AA	1637	-	-	-	X
54	MG	AA	1647	-	-	-	X
54	MG	AA	1656	-	-	-	X
54	MG	AA	1657	-	-	-	X
54	MG	AA	1659	-	-	-	X
54	MG	BB	3033	-	-	-	X

2 Entry composition (i)

There are 57 unique types of molecules in this entry. The entry contains 287083 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	1530	Total	C	N	O	P	0	0	0
			32831	14642	6024	10635	1530			
1	CA	1530	Total	C	N	O	P	0	0	0
			32831	14642	6024	10635	1530			

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AG	150	Total	C	N	O	S	0	0	0
			1174	730	226	214	4			
6	CG	152	Total	C	N	O	S	0	0	0
			1196	745	230	217	4			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			
8	CI	127	Total	C	N	O	S	0	0	0
			1021	634	206	178	3			

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AQ	80	Total	C	N	O	S	0	0	0
			648	411	121	113	3			
16	CQ	81	Total	C	N	O	S	0	0	0
			657	417	122	115	3			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	AS	79	Total	C	N	O	S	0	0	0
			637	408	120	107	2			
18	CS	80	Total	C	N	O	S	0	0	0
			644	413	121	108	2			

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

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

- Molecule 20 is a protein called 30S ribosomal protein S2.

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

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

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

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

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

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

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

- Molecule 24 is a protein called 50S ribosomal protein L11.

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

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

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

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

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

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

- Molecule 27 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	BK	121	Total	C	N	O	S	0	0	0
			930	582	179	164	5			
27	DK	121	Total	C	N	O	S	0	0	0
			930	582	179	164	5			

- Molecule 28 is a protein called 50S ribosomal protein L19.

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

- Molecule 29 is a protein called 50S ribosomal protein L4.

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

- Molecule 30 is a protein called 50S ribosomal protein L30.

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

- Molecule 31 is a protein called 50S ribosomal protein L32.

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

- Molecule 32 is a protein called 50S ribosomal protein L36.

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

- Molecule 33 is a protein called 50S ribosomal protein L33.

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

- Molecule 34 is a protein called 50S ribosomal protein L35.

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

- Molecule 35 is a protein called 50S ribosomal protein L25.

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

- Molecule 36 is a protein called 50S ribosomal protein L34.

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

- Molecule 37 is a protein called 50S ribosomal protein L15.

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

- Molecule 38 is a protein called 50S ribosomal protein L16.

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

- Molecule 39 is a protein called 50S ribosomal protein L29.

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

- Molecule 40 is a protein called 50S ribosomal protein L9.

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

- Molecule 41 is a protein called 50S ribosomal protein L13.

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

- Molecule 42 is a protein called 50S ribosomal protein L17.

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

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

- Molecule 43 is a protein called 50S ribosomal protein L18.

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

- Molecule 44 is a protein called 50S ribosomal protein L20.

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

- Molecule 45 is a protein called 50S ribosomal protein L22.

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

- Molecule 46 is a protein called 50S ribosomal protein L24.

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

- Molecule 47 is a protein called 50S ribosomal protein L5.

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

- Molecule 48 is a protein called 50S ribosomal protein L6.

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

- Molecule 49 is a protein called 50S ribosomal protein L21.

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

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

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

- Molecule 51 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	BZ	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			
51	DZ	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			

- Molecule 52 is a protein called 50S ribosomal protein L27.

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

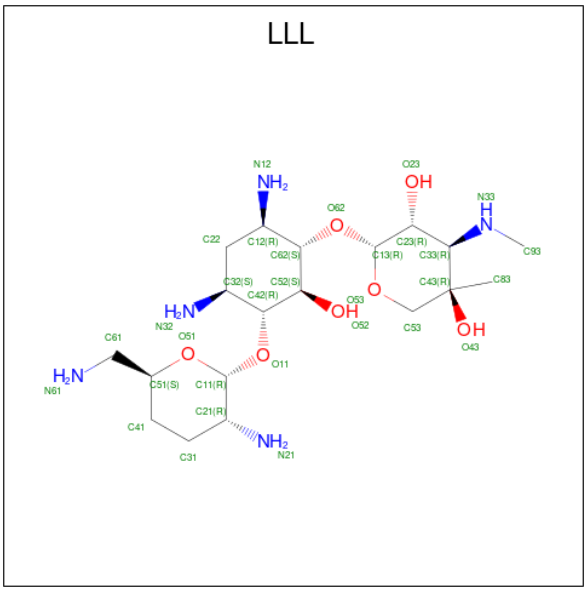
- Molecule 53 is a protein called 50S ribosomal protein RRF.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	B6	185	Total	C	N	O	S	0	0	0
			1478	924	270	282	2			
53	D6	185	Total	C	N	O	S	0	0	0
			1478	924	270	282	2			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
54	AA	60	Total	Mg	0	0
			60	60		
54	BB	110	Total	Mg	0	0
			110	110		
54	CA	61	Total	Mg	0	0
			61	61		
54	CE	1	Total	Mg	0	0
			1	1		
54	DB	111	Total	Mg	0	0
			111	111		

- Molecule 55 is (2R,3R,4R,5R)-2-((1S,2S,3R,4S,6R)-4,6-DIAMINO-3-((2R,3R,6S)-3-AMIN O-6-(AMINOMETHYL)-TETRAHYDRO-2H-PYRAN-2-YLOXY)-2-HYDR OXYCYCLO HEXYLOXY)-5-METHYL-4-(METHYLAMINO)-TETRAHYDRO-2H-PYRAN-3,5-DIOL (three-letter code: LLL) (formula: $C_{19}H_{39}N_5O_7$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
55	AA	1	Total	C	N	O	0	0
			31	19	5	7		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
55	BB	1	Total C N O 31 19 5 7	0	0
55	CA	1	Total C N O 31 19 5 7	0	0
55	DB	1	Total C N O 31 19 5 7	0	0

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

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

- Molecule 57 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	AA	287	Total O 287 287	0	0
57	AE	3	Total O 3 3	0	0
57	AK	1	Total O 1 1	0	0
57	AL	3	Total O 3 3	0	0
57	AN	4	Total O 4 4	0	0
57	AT	2	Total O 2 2	0	0
57	BB	492	Total O 492 492	0	0
57	BC	6	Total O 6 6	0	0
57	BD	1	Total O 1 1	0	0
57	BE	3	Total O 3 3	0	0
57	BL	3	Total O 3 3	0	0
57	BT	1	Total O 1 1	0	0

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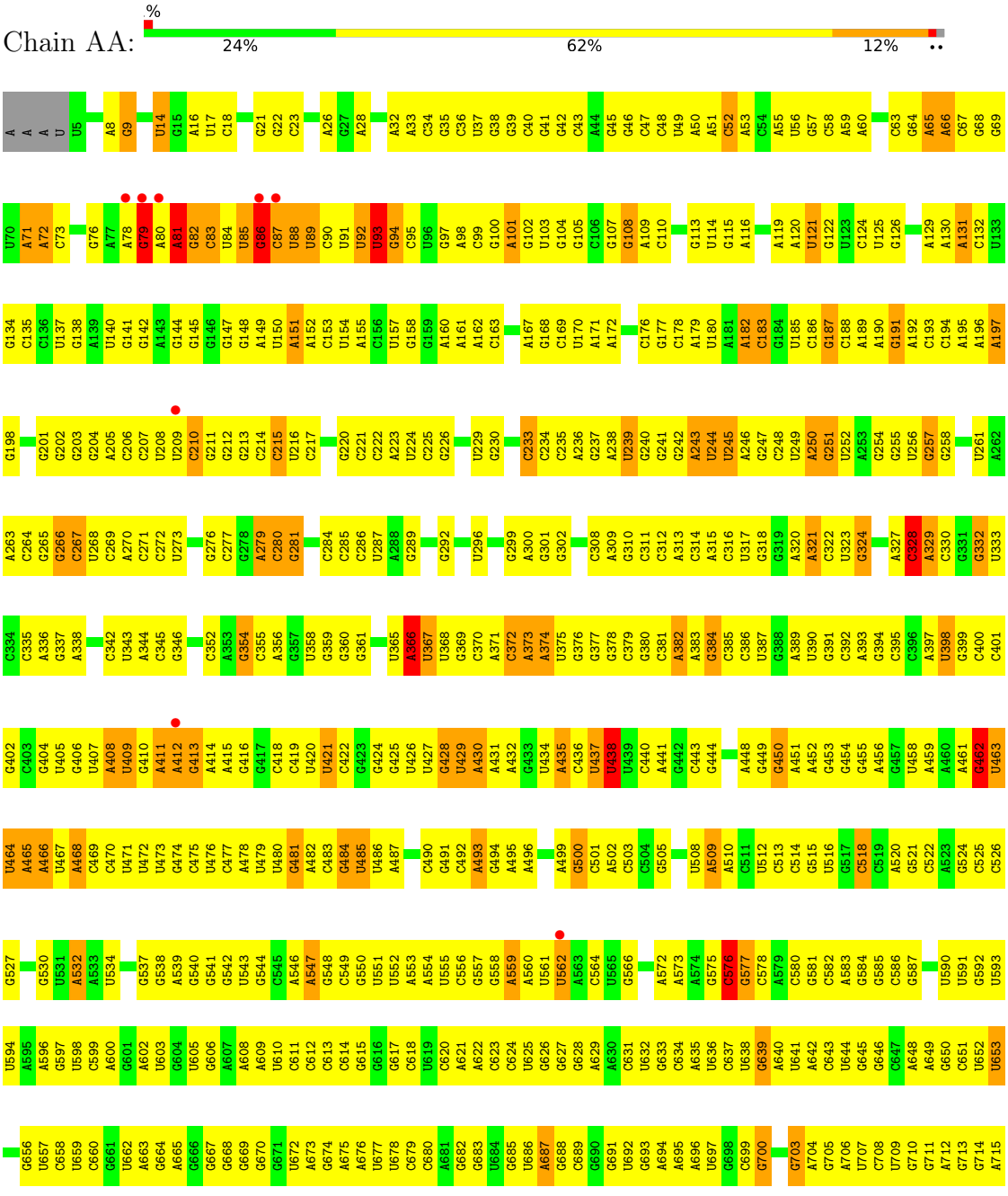
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	CA	296	Total O 296 296	0	0
57	CE	3	Total O 3 3	0	0
57	CK	1	Total O 1 1	0	0
57	CL	3	Total O 3 3	0	0
57	CN	4	Total O 4 4	0	0
57	CT	2	Total O 2 2	0	0
57	DB	500	Total O 500 500	0	0
57	DC	6	Total O 6 6	0	0
57	DE	2	Total O 2 2	0	0
57	DL	2	Total O 2 2	0	0
57	DR	1	Total O 1 1	0	0
57	DT	1	Total O 1 1	0	0

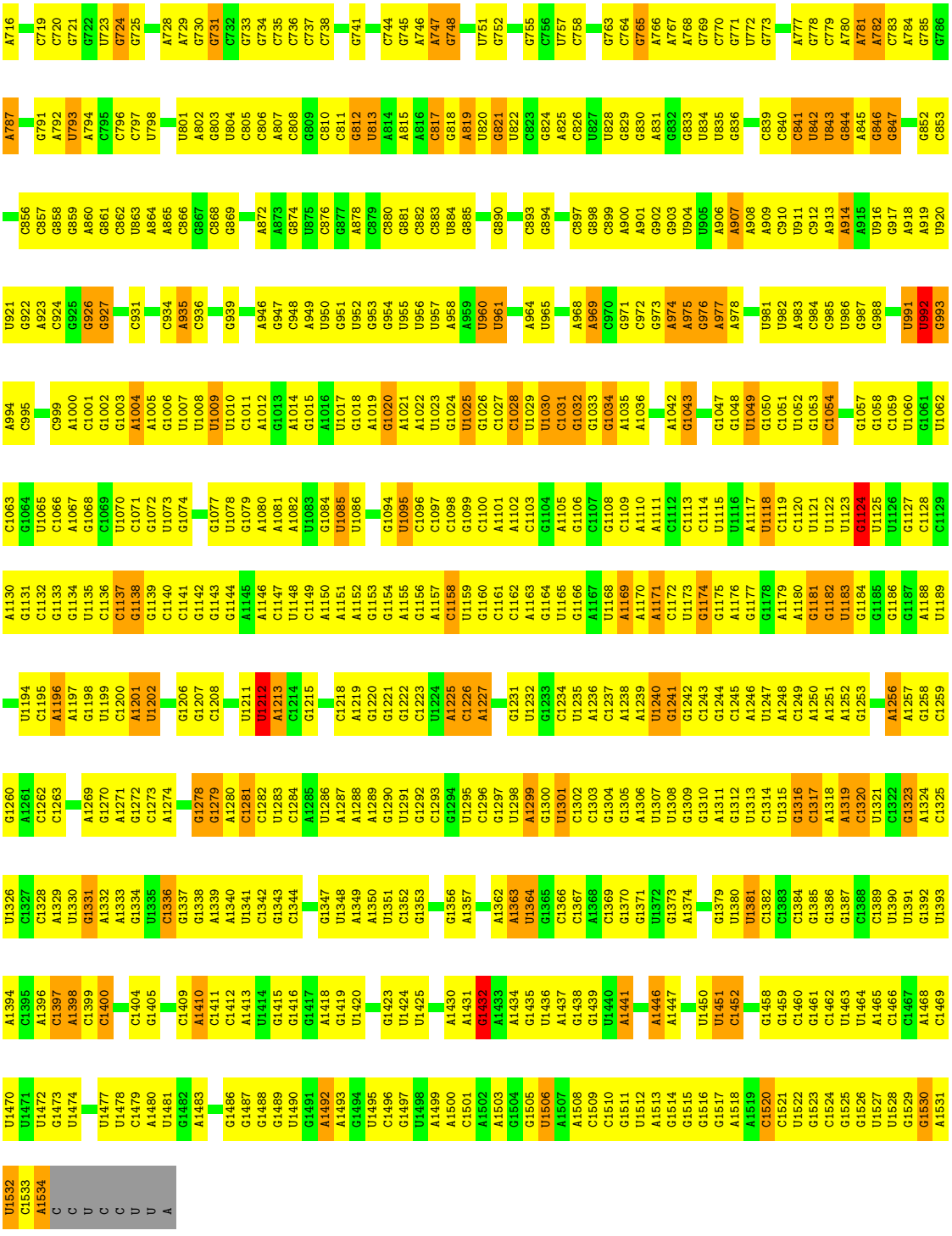
3 Residue-property plots (i)

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

• Molecule 1: 16S rRNA

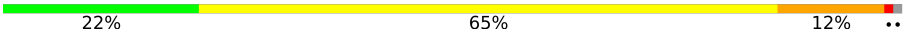
Chain AA:

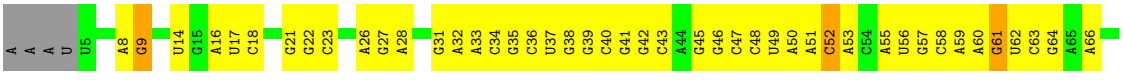


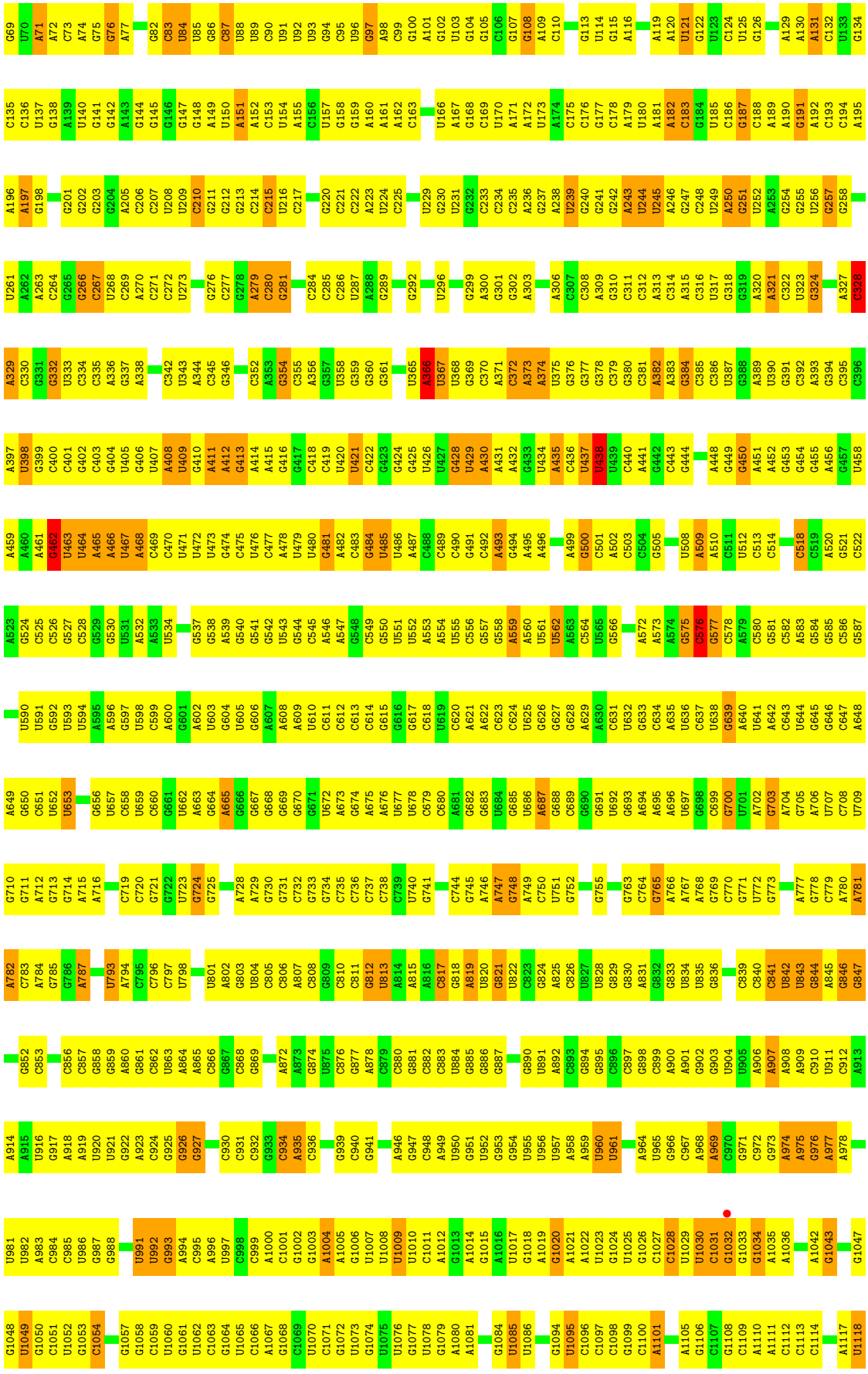


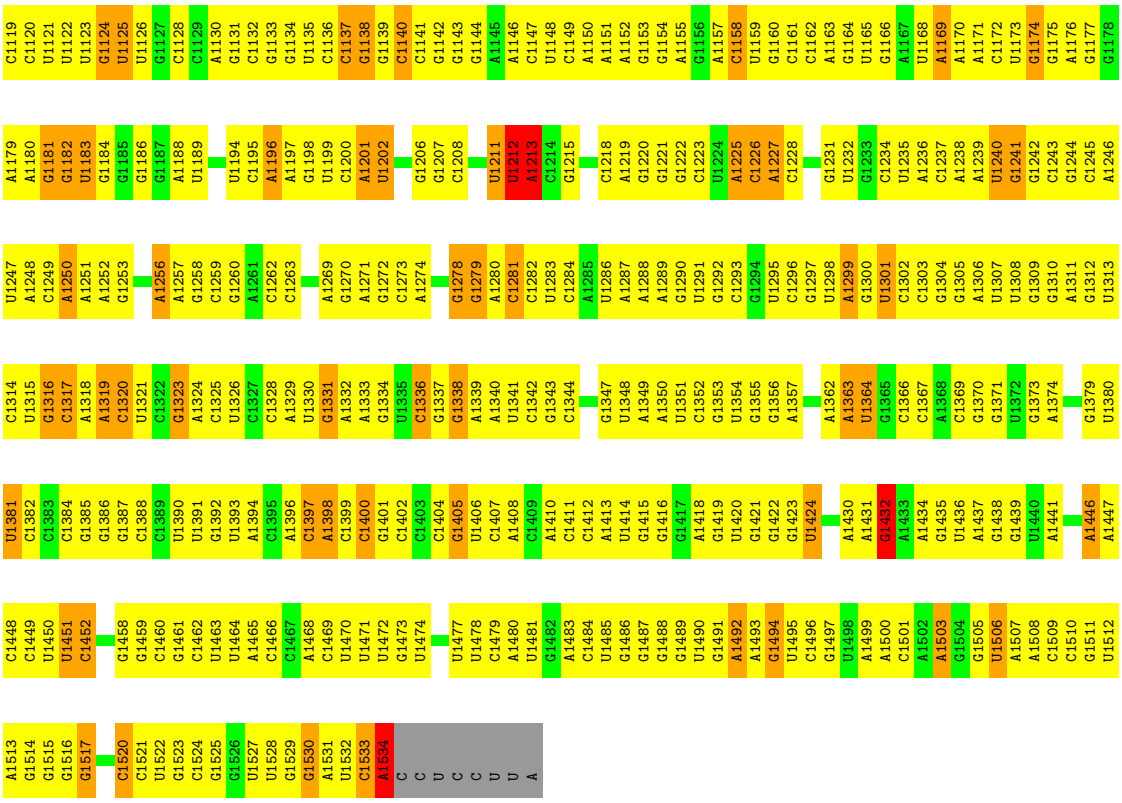
• Molecule 1: 16S rRNA

Chain CA:



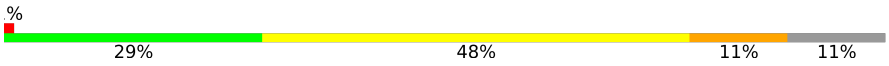


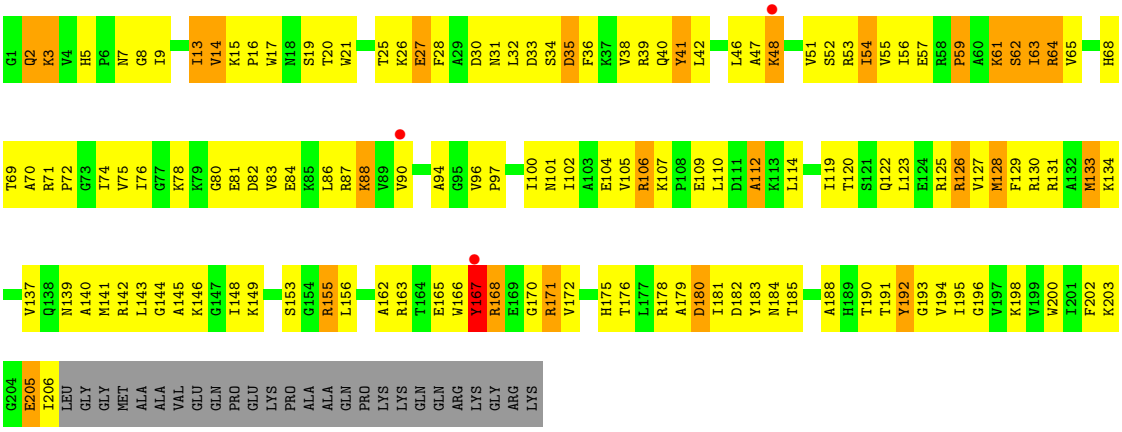




• Molecule 2: 30S ribosomal protein S3

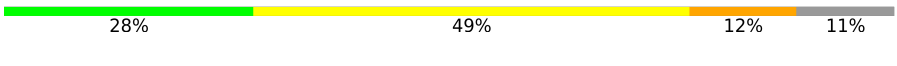
Chain AC:

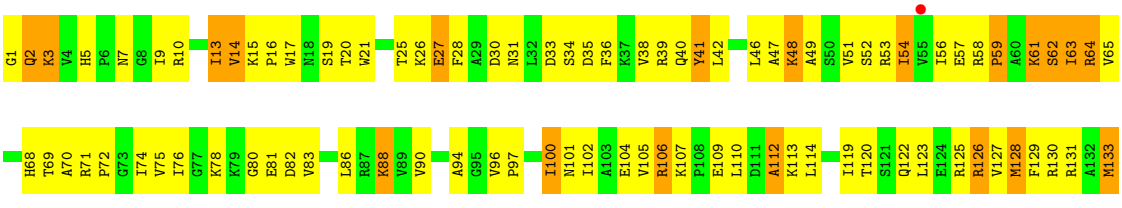


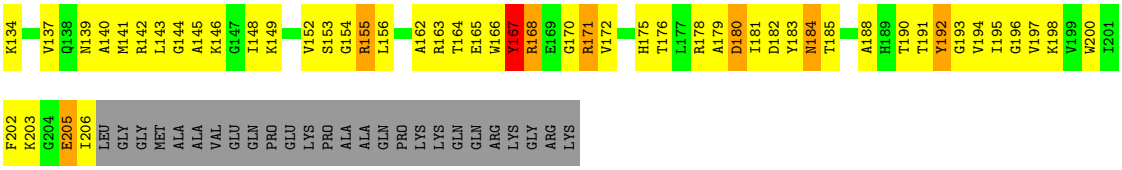


• Molecule 2: 30S ribosomal protein S3

Chain CC:

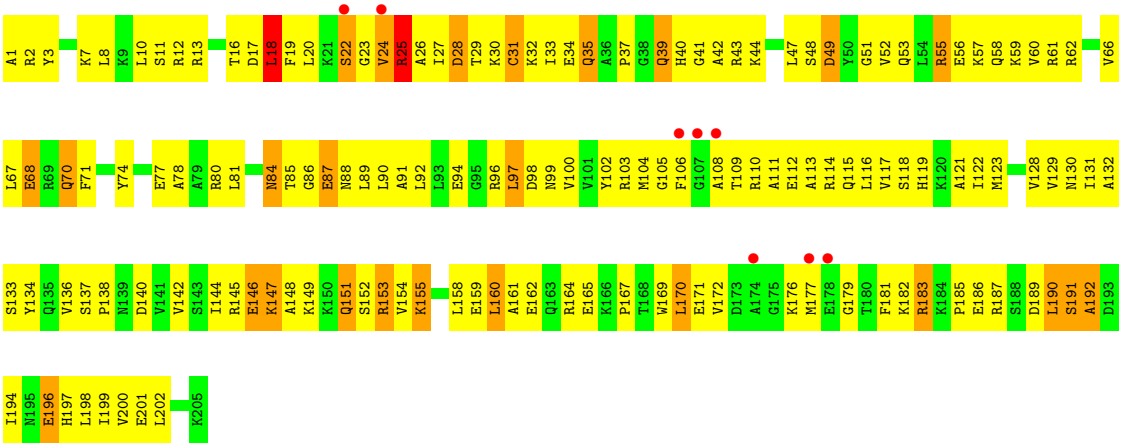






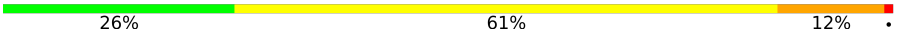
• Molecule 3: 30S ribosomal protein S4

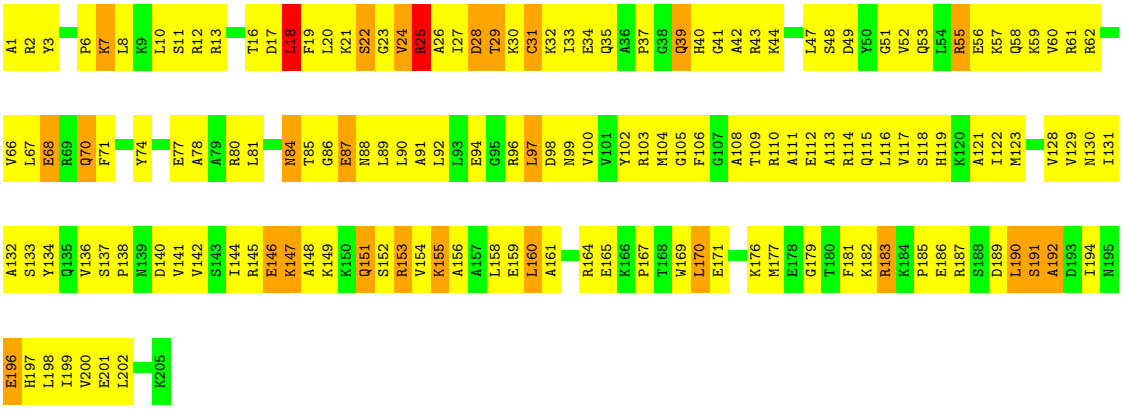
Chain AD:



• Molecule 3: 30S ribosomal protein S4

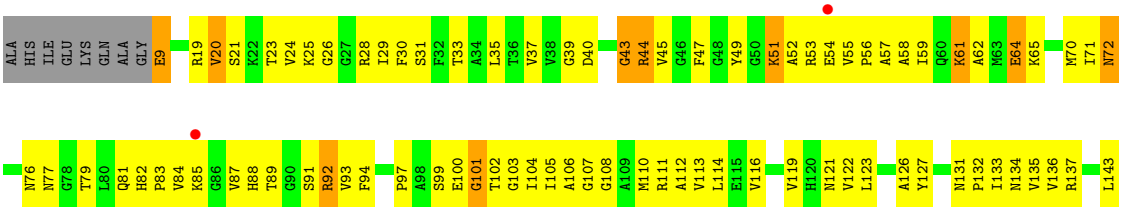
Chain CD:

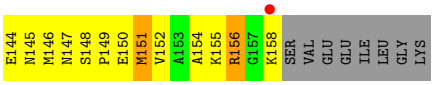




• Molecule 4: 30S ribosomal protein S5

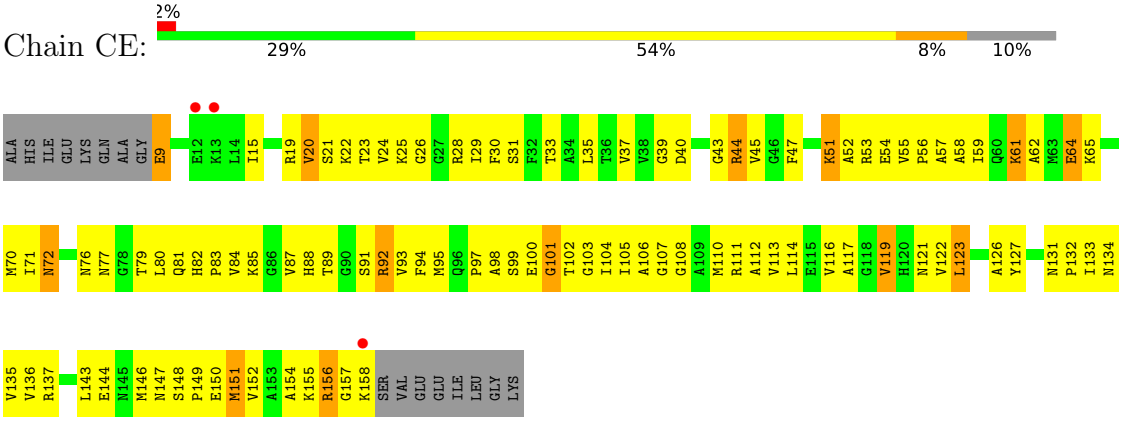
Chain AE:





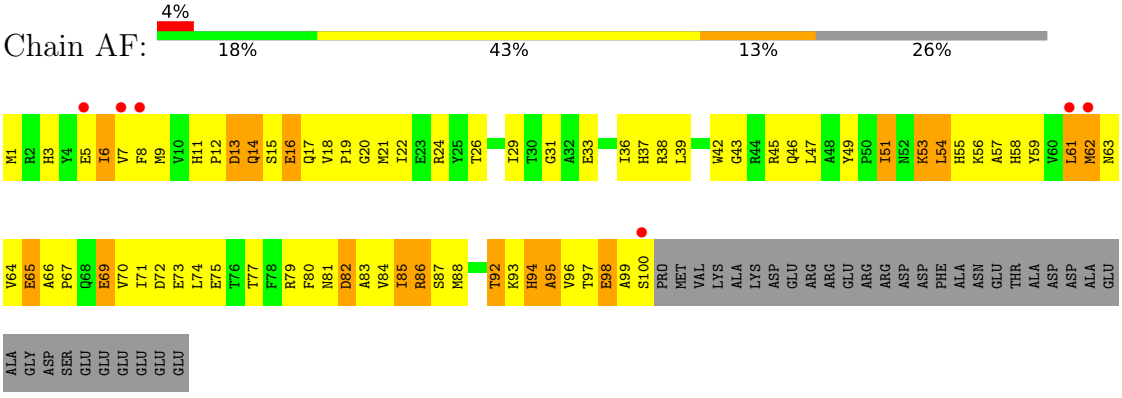
• Molecule 4: 30S ribosomal protein S5

Chain CE:



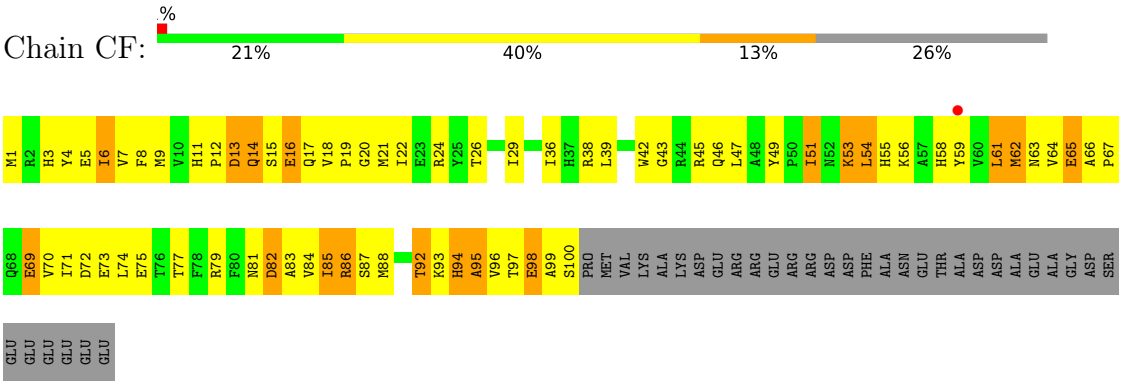
• Molecule 5: 30S ribosomal protein S6

Chain AF:



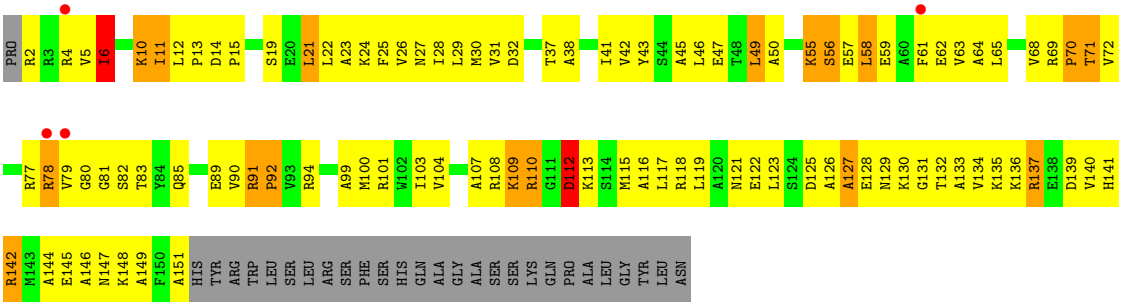
• Molecule 5: 30S ribosomal protein S6

Chain CF:



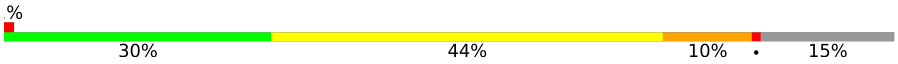
• Molecule 6: 30S ribosomal protein S7

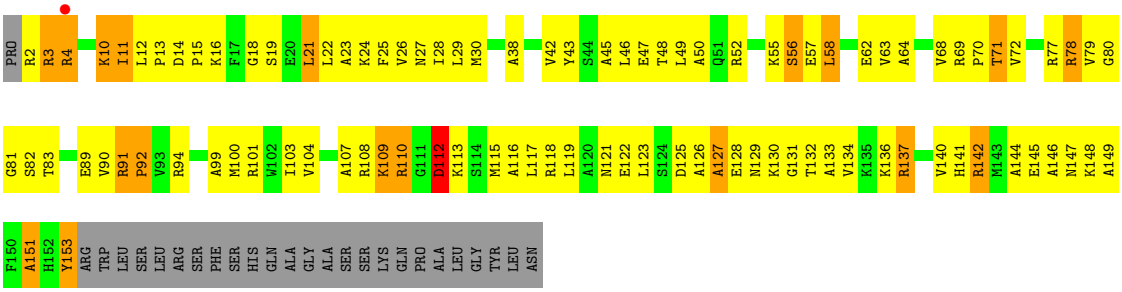
Chain AG:



• Molecule 6: 30S ribosomal protein S7

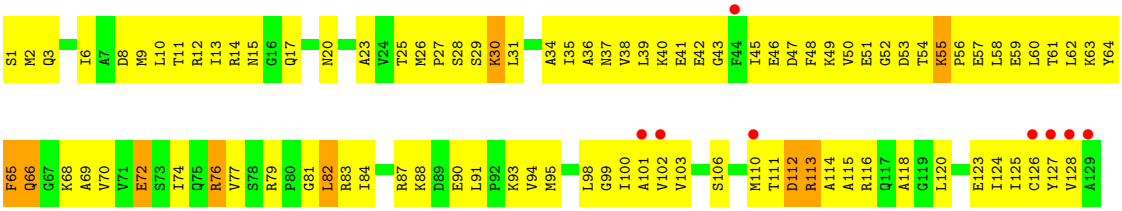
Chain CG:





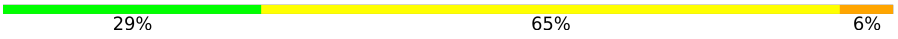
• Molecule 7: 30S ribosomal protein S8

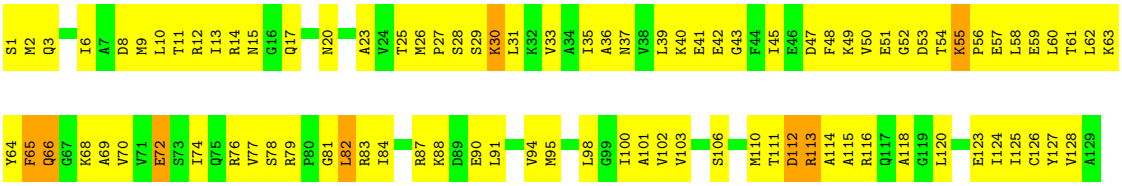
Chain AH:



• Molecule 7: 30S ribosomal protein S8

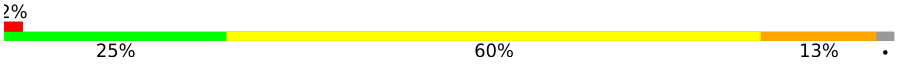
Chain CH:

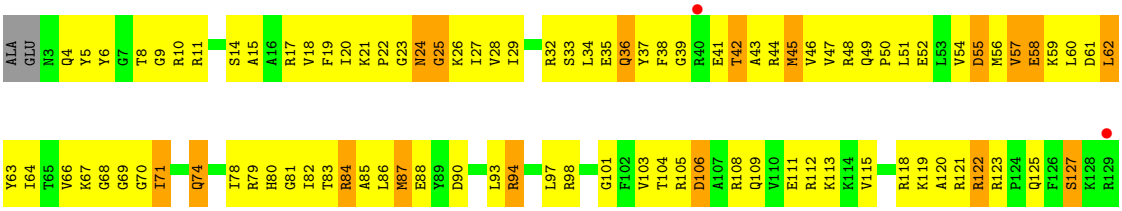




• Molecule 8: 30S ribosomal protein S9

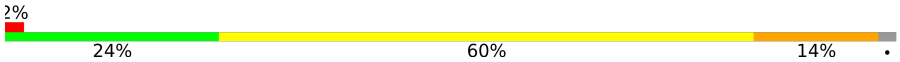
Chain AI:

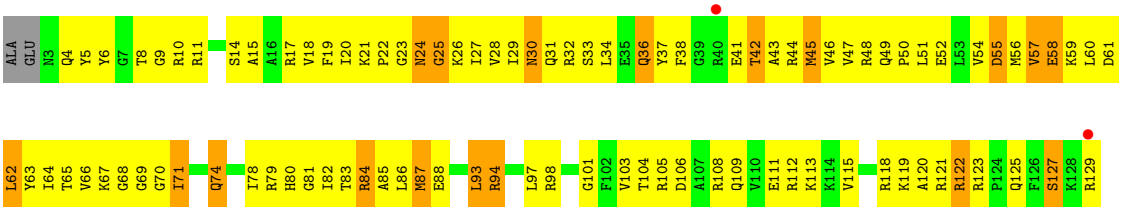




• Molecule 8: 30S ribosomal protein S9

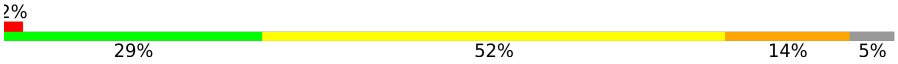
Chain CI:

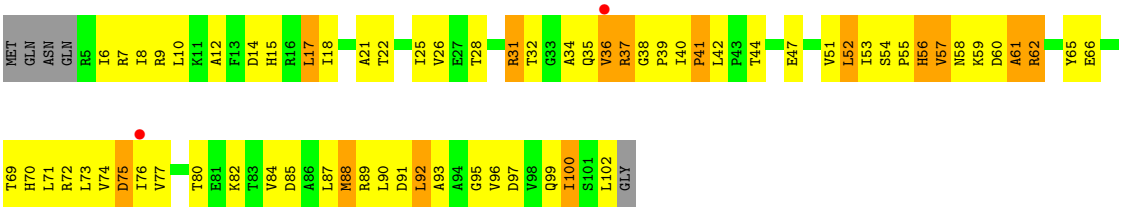




• Molecule 9: 30S ribosomal protein S10

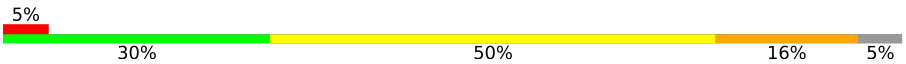
Chain AJ:

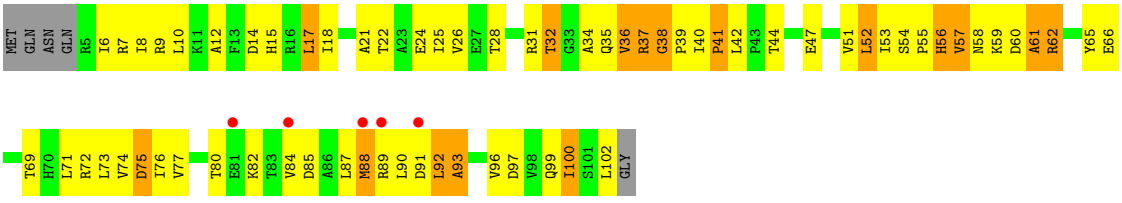




• Molecule 9: 30S ribosomal protein S10

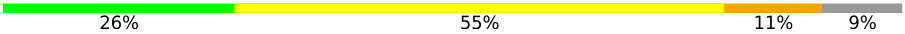
Chain CJ:





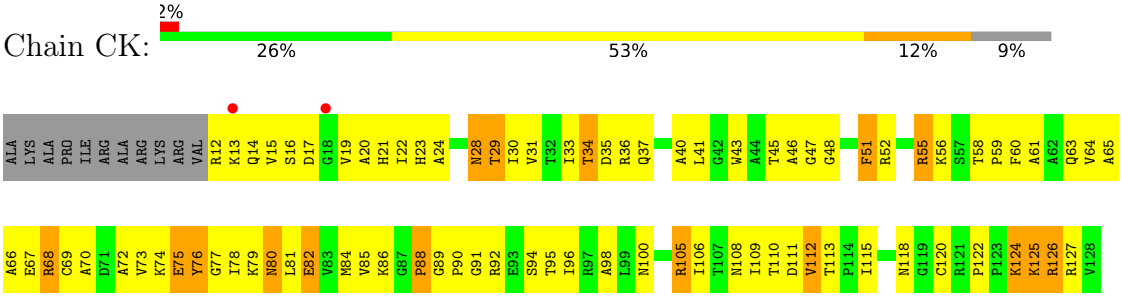
• Molecule 10: 30S ribosomal protein S11

Chain AK:



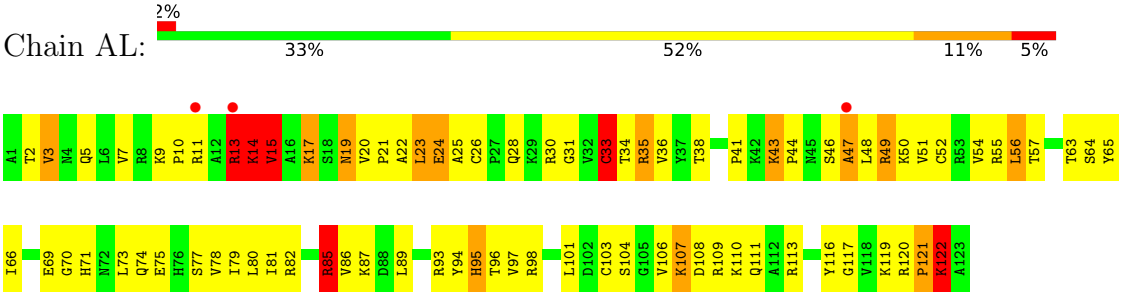
• Molecule 10: 30S ribosomal protein S11

Chain CK:



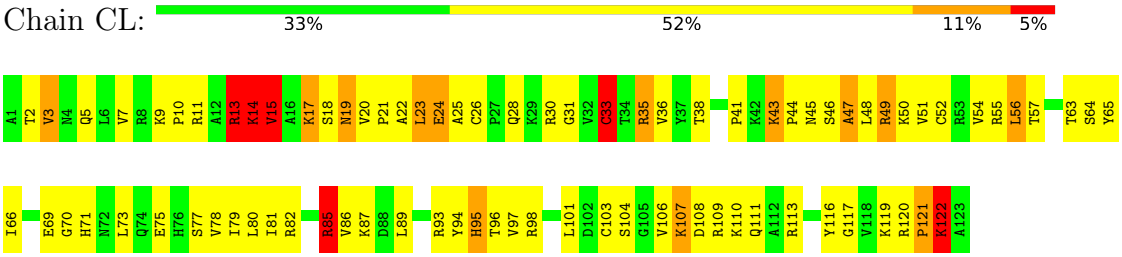
• Molecule 11: 30S ribosomal protein S12

Chain AL:



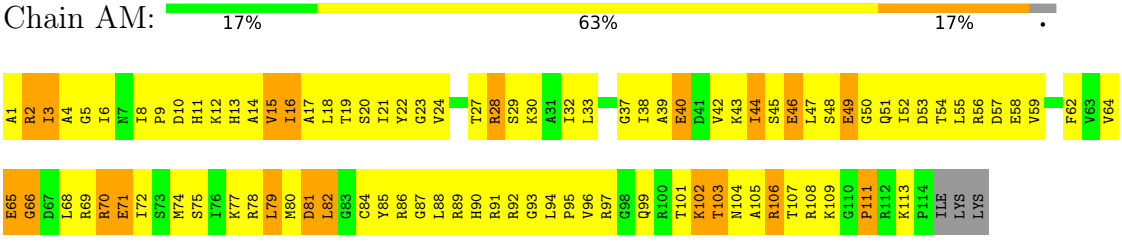
• Molecule 11: 30S ribosomal protein S12

Chain CL:



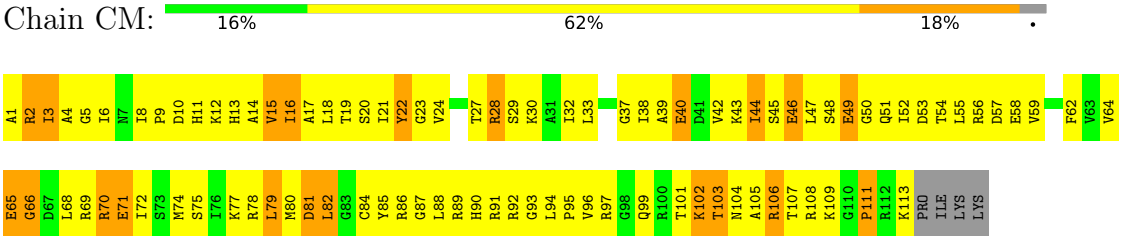
• Molecule 12: 30S ribosomal protein S13

Chain AM:



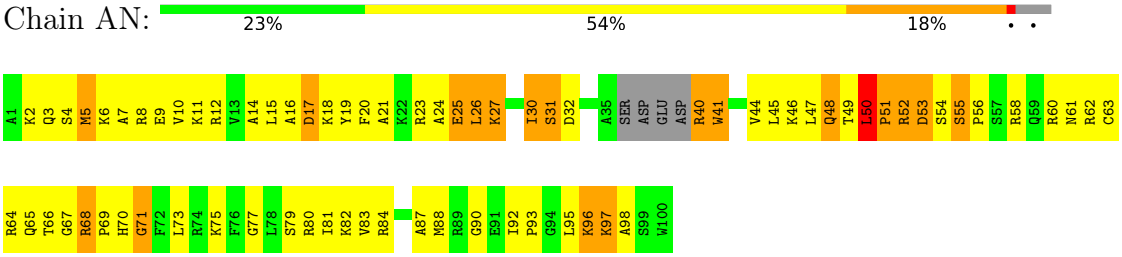
• Molecule 12: 30S ribosomal protein S13

Chain CM:



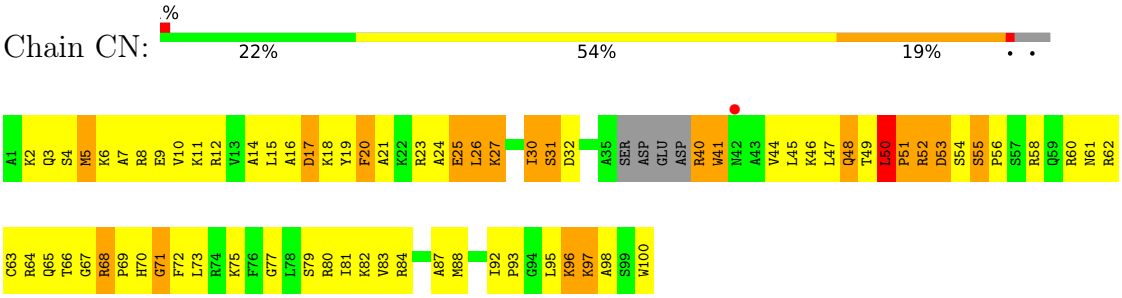
• Molecule 13: 30S ribosomal protein S14

Chain AN:



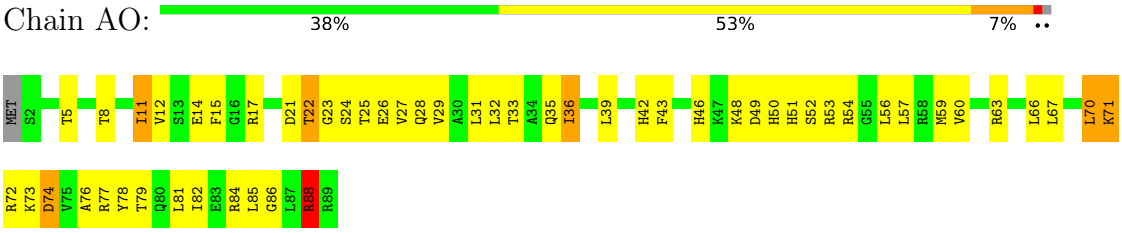
• Molecule 13: 30S ribosomal protein S14

Chain CN:



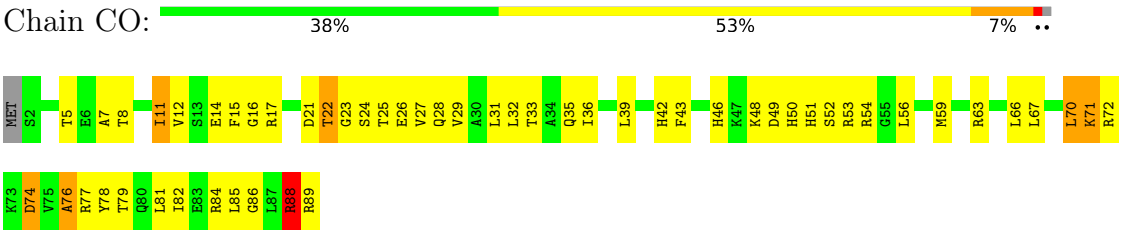
• Molecule 14: 30S ribosomal protein S15

Chain AO:



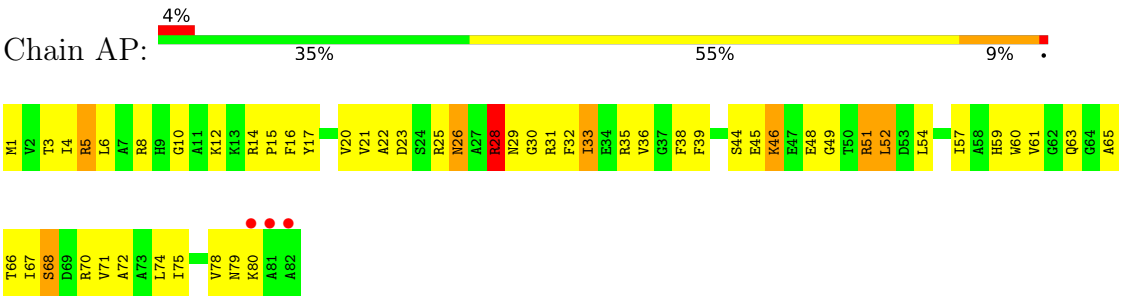
• Molecule 14: 30S ribosomal protein S15

Chain CO:



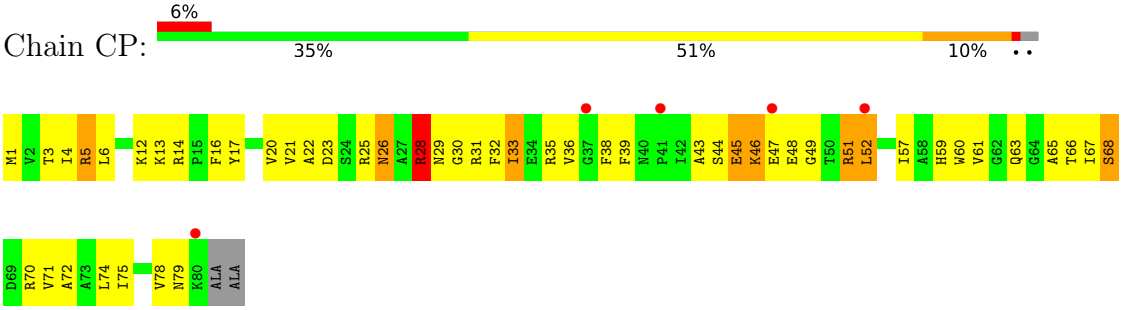
• Molecule 15: 30S ribosomal protein S16

Chain AP:



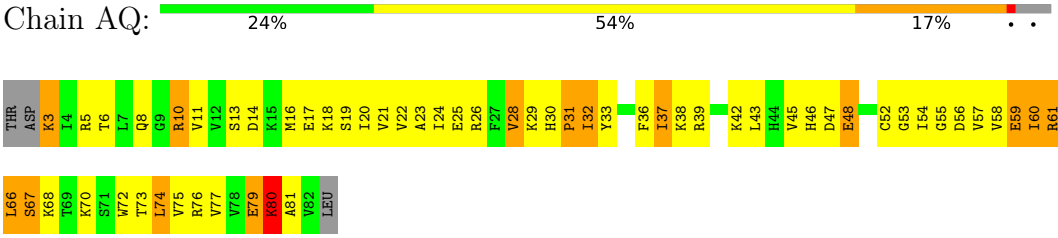
• Molecule 15: 30S ribosomal protein S16

Chain CP:



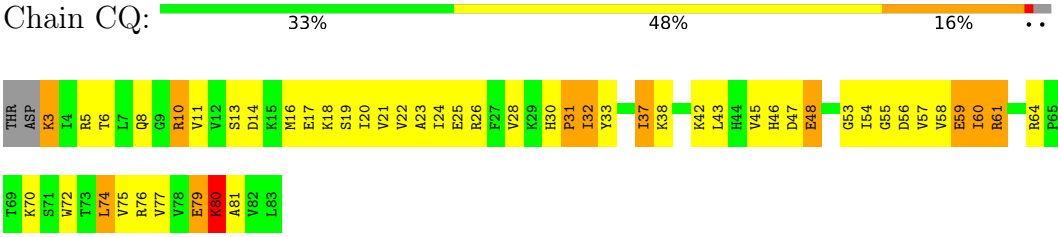
• Molecule 16: 30S ribosomal protein S17

Chain AQ:



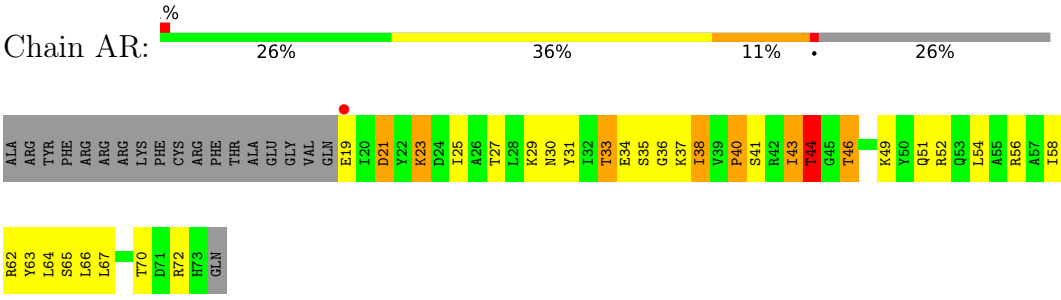
• Molecule 16: 30S ribosomal protein S17

Chain CQ:



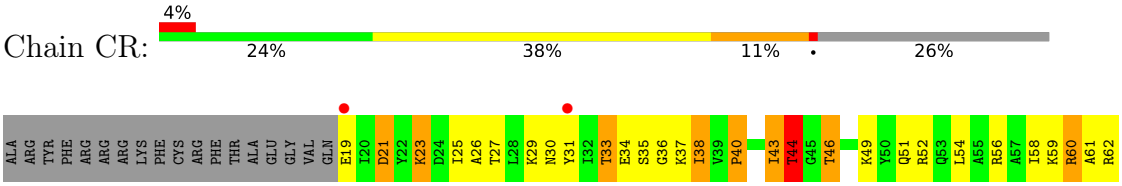
• Molecule 17: 30S ribosomal protein S18

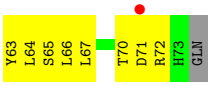
Chain AR:



• Molecule 17: 30S ribosomal protein S18

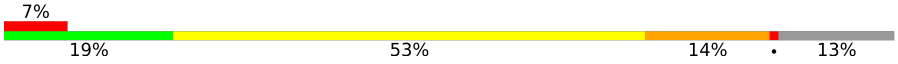
Chain CR:

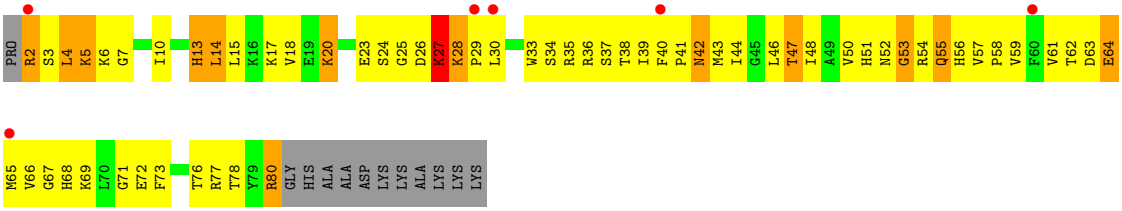




• Molecule 18: 30S ribosomal protein S19

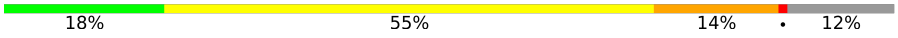
Chain AS:

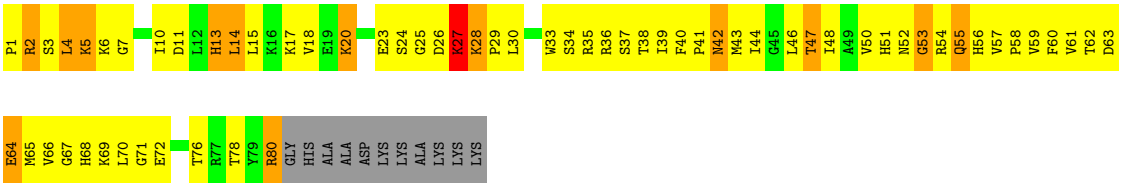




• Molecule 18: 30S ribosomal protein S19

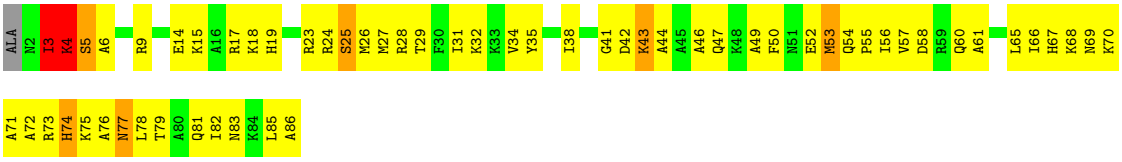
Chain CS:





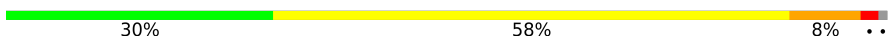
• Molecule 19: 30S ribosomal protein S20

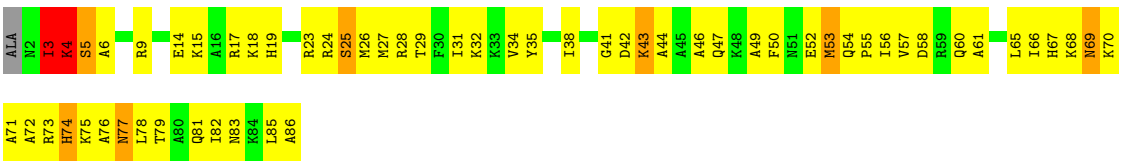
Chain AT:



• Molecule 19: 30S ribosomal protein S20

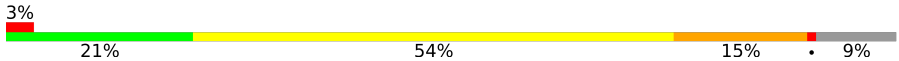
Chain CT:

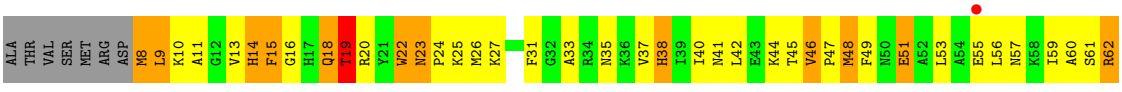


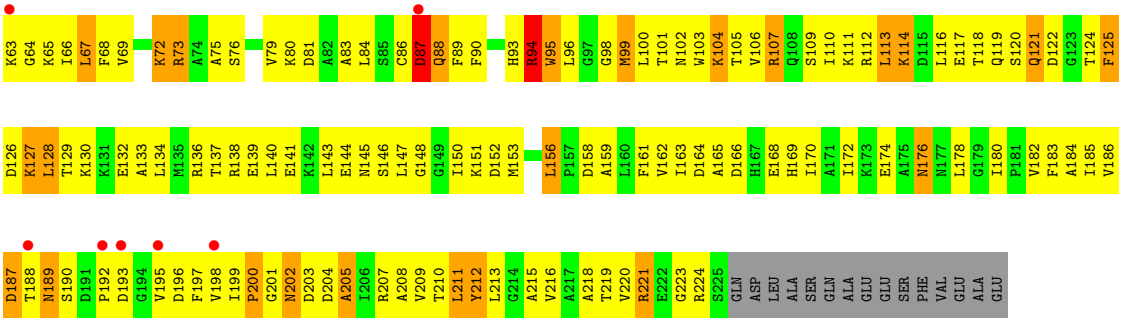


• Molecule 20: 30S ribosomal protein S2

Chain AB:

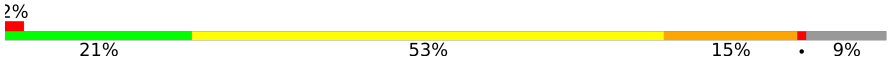


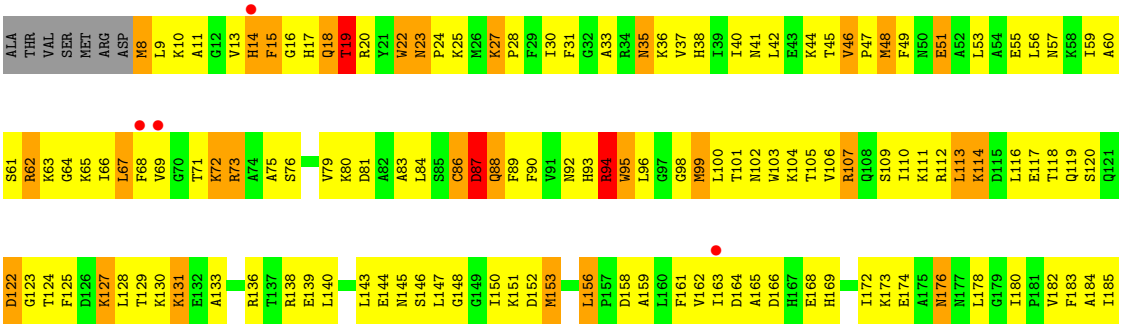




• Molecule 20: 30S ribosomal protein S2

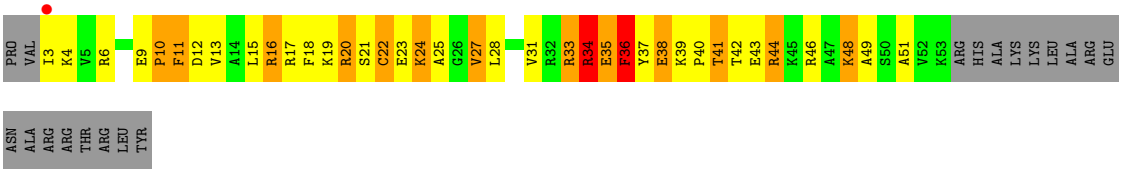
Chain CB:





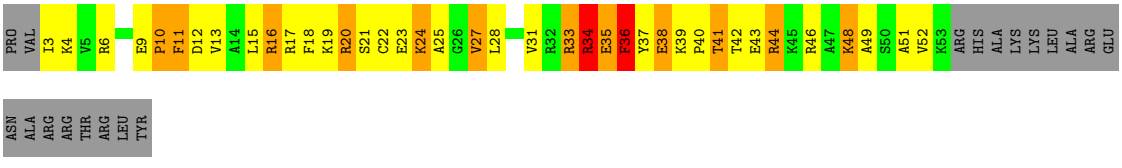
• Molecule 21: 30S ribosomal protein S21

Chain AU:



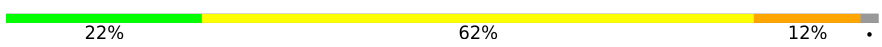
• Molecule 21: 30S ribosomal protein S21

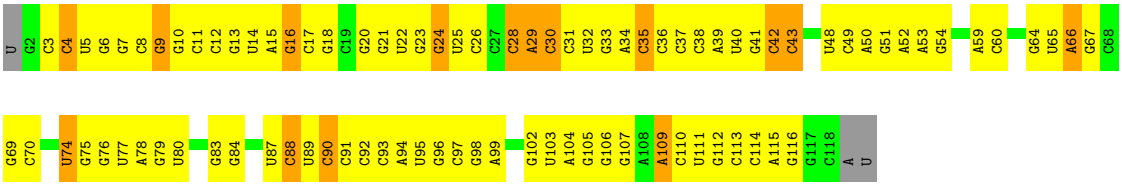
Chain CU:



• Molecule 22: 5S rRNA

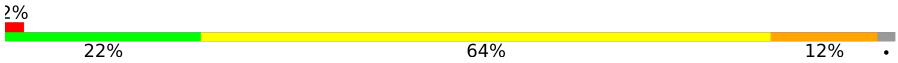
Chain BA:

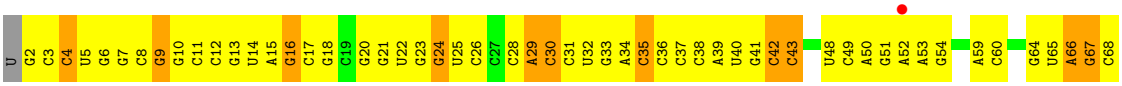


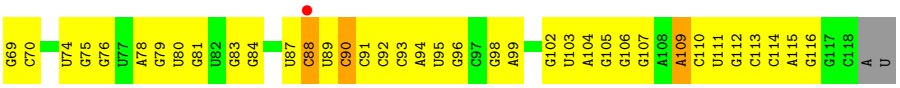


• Molecule 22: 5S rRNA

Chain DA:

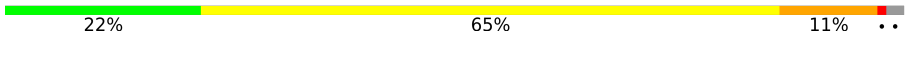


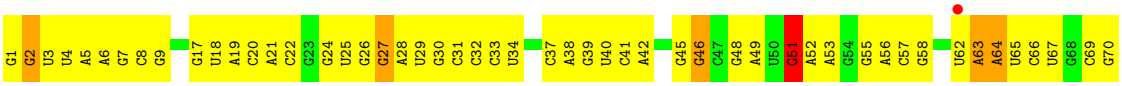


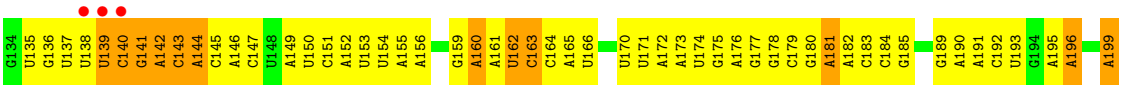


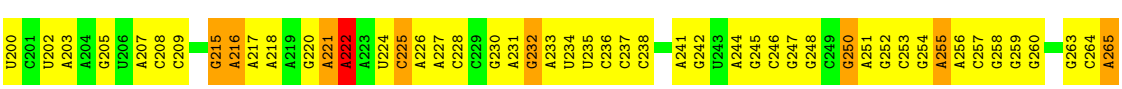
• Molecule 23: 23S rRNA

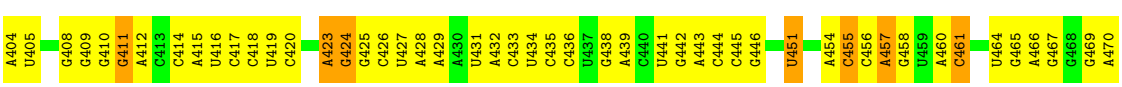
Chain BB:

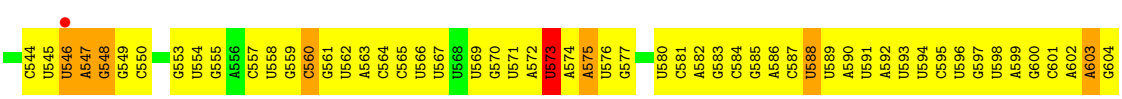


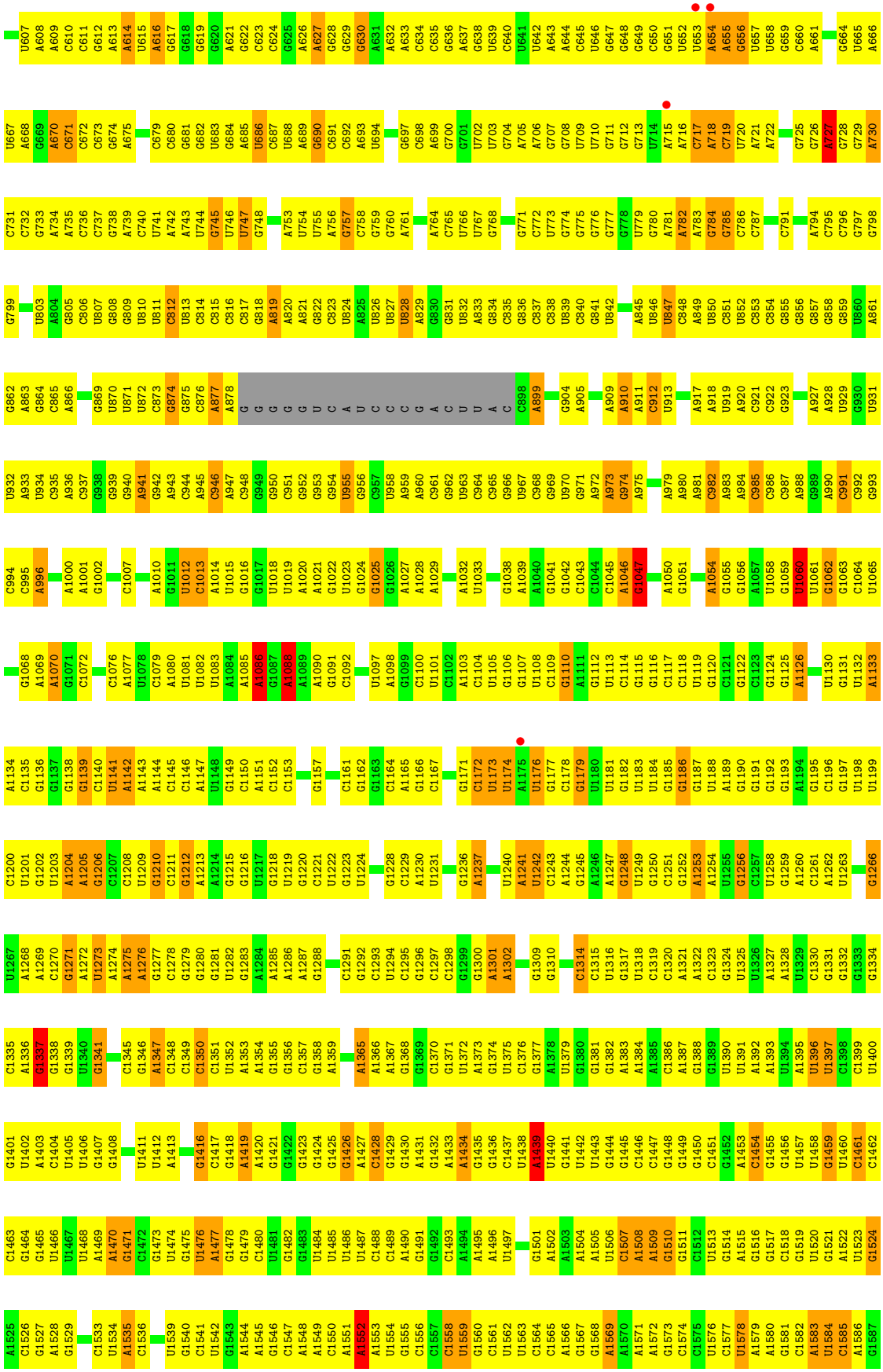


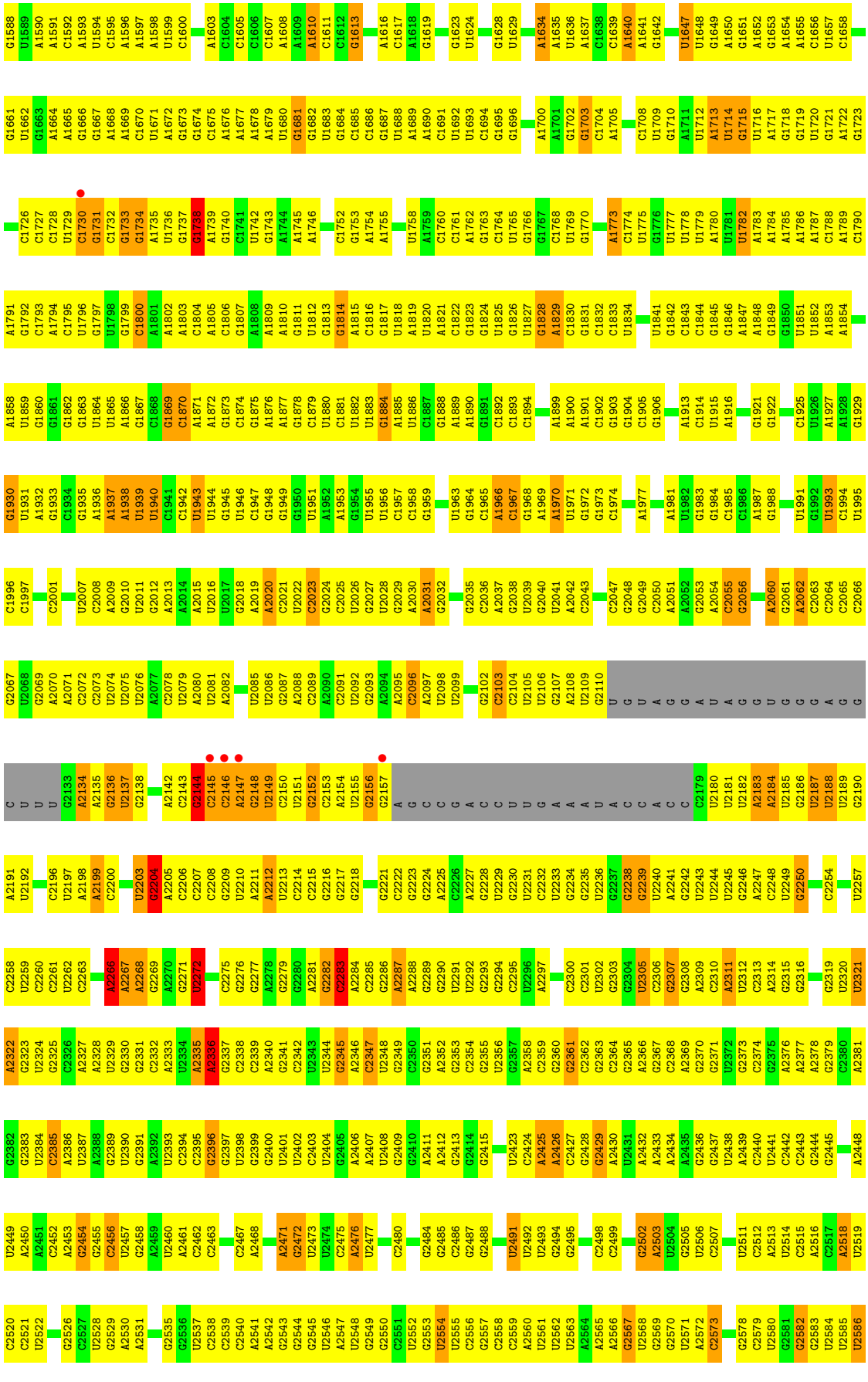


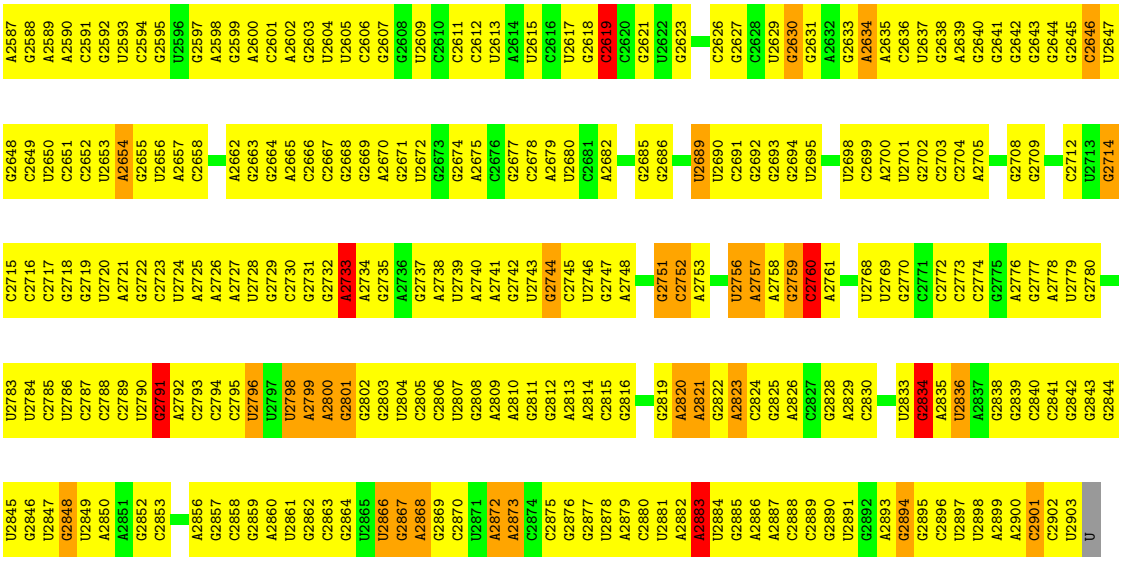






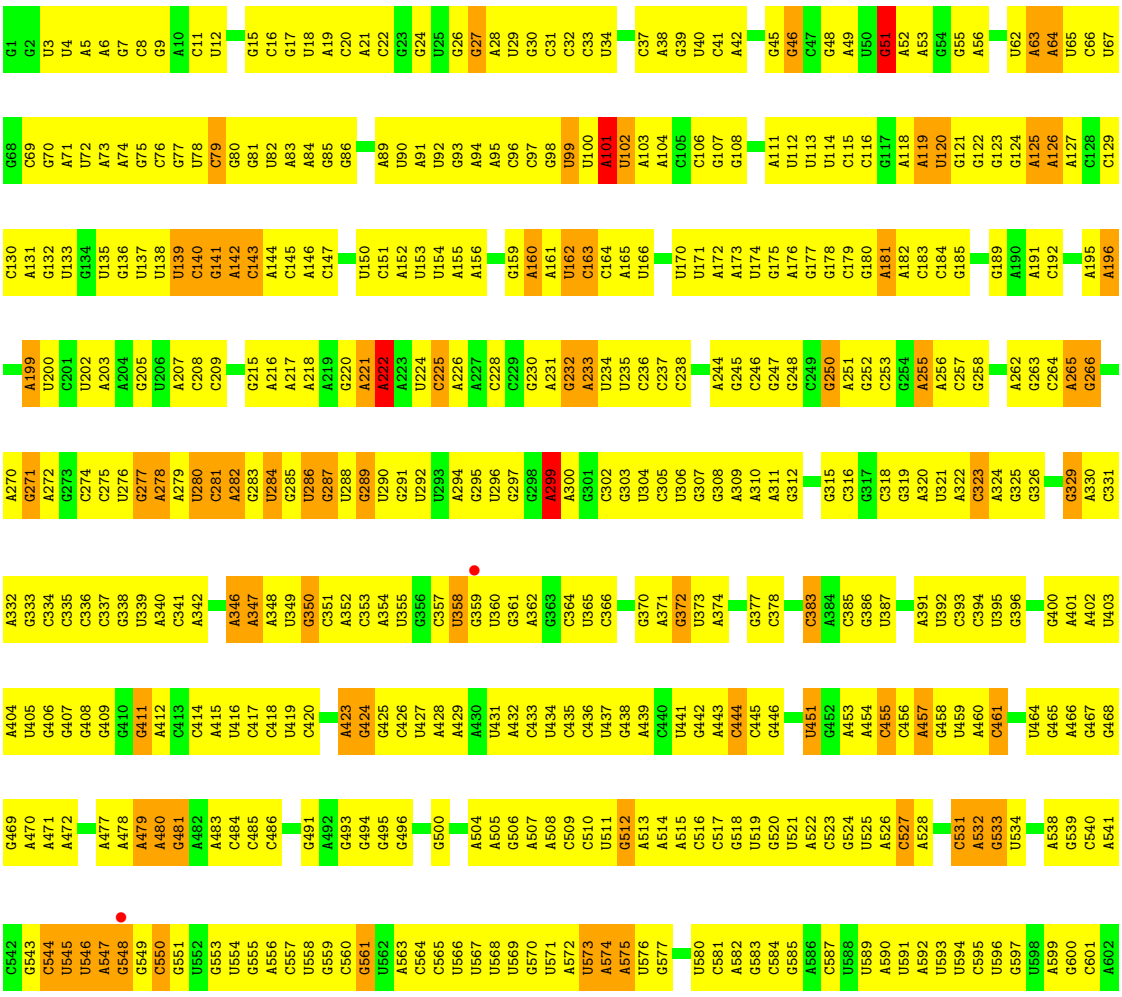


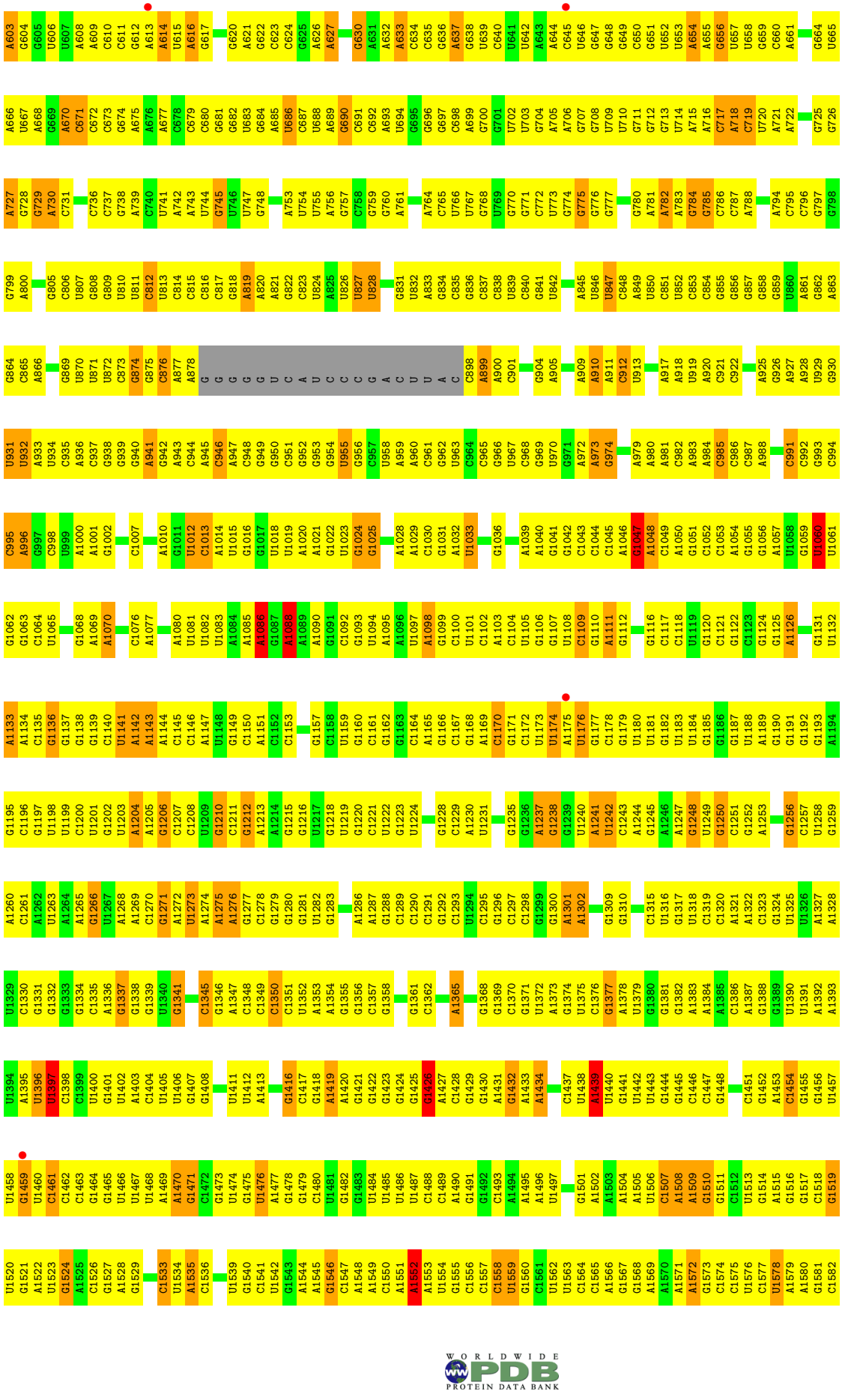


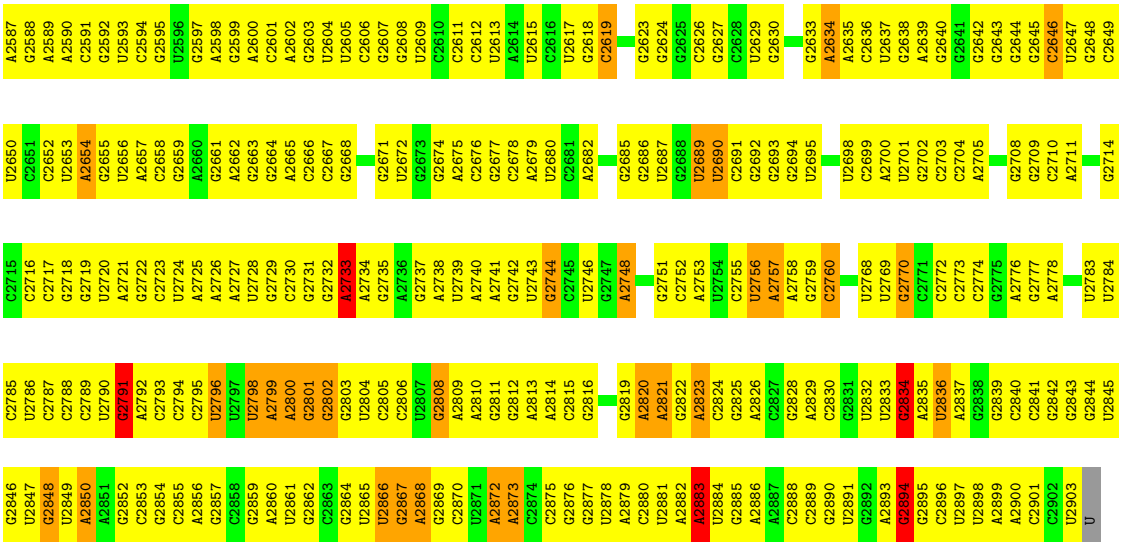


• Molecule 23: 23S rRNA

Chain DB:

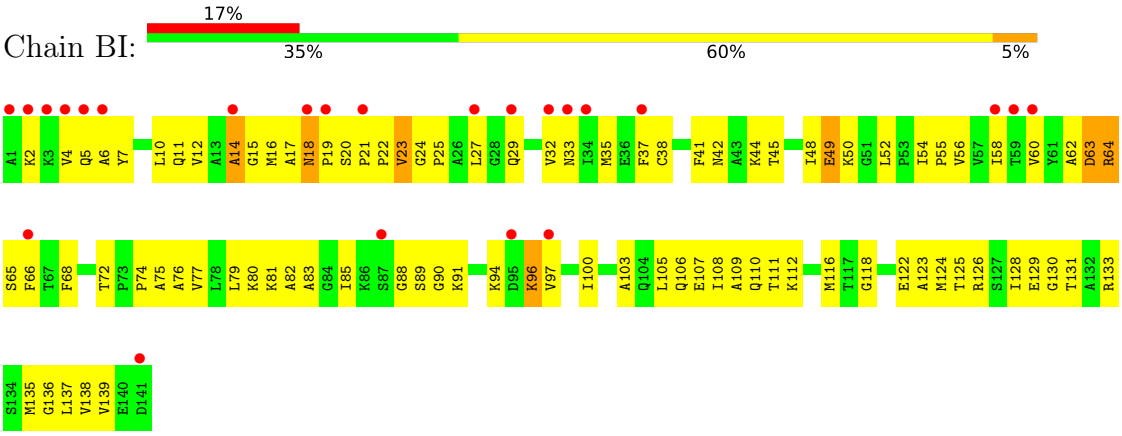






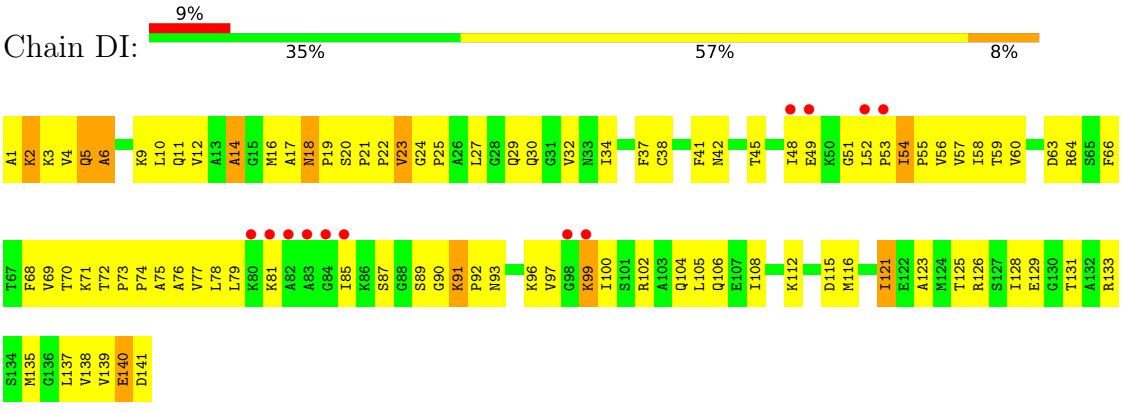
• Molecule 24: 50S ribosomal protein L11

Chain BI:



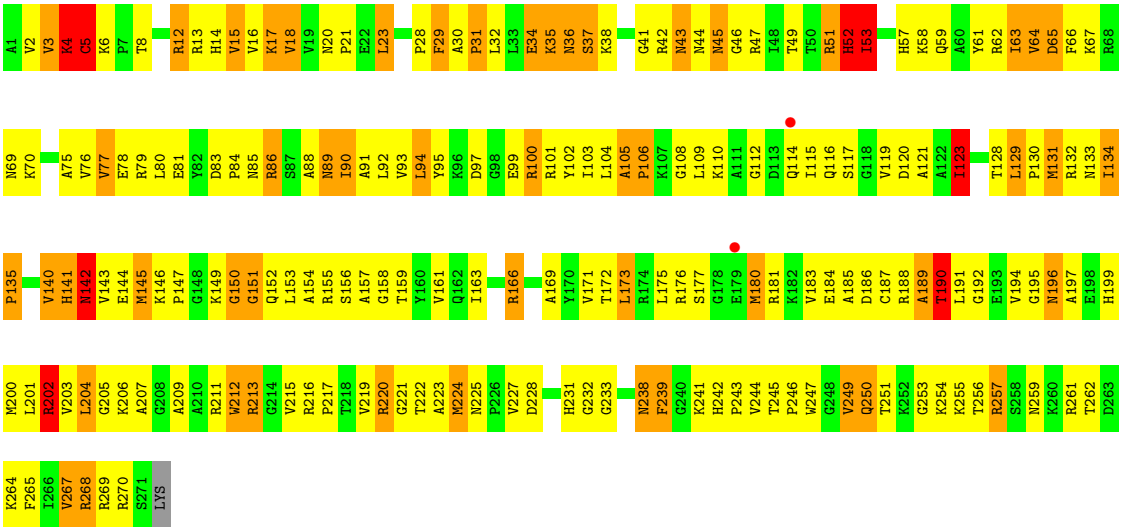
• Molecule 24: 50S ribosomal protein L11

Chain DI:



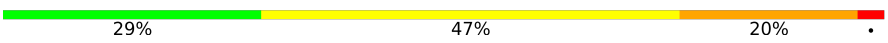
• Molecule 25: 50S ribosomal protein L2

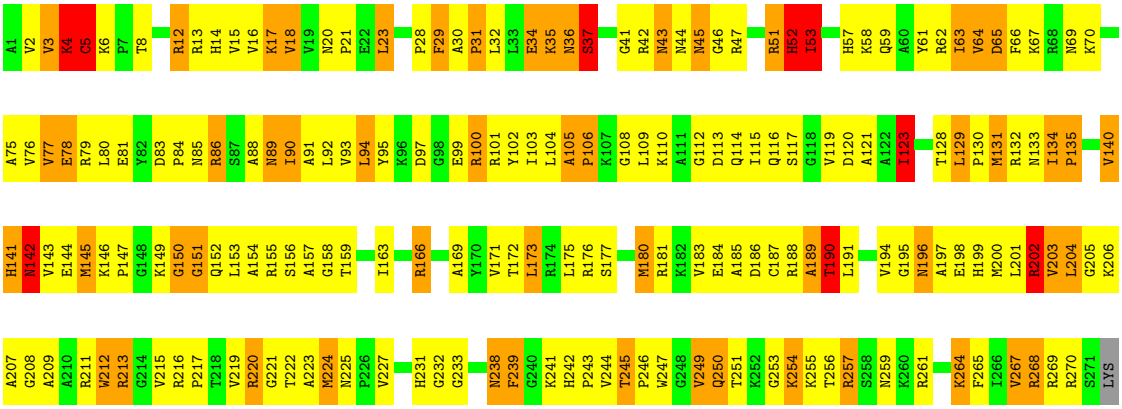
Chain BC:



• Molecule 25: 50S ribosomal protein L2

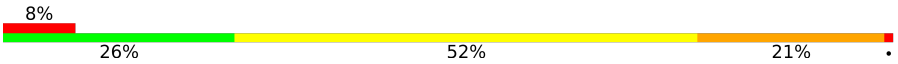
Chain DC:

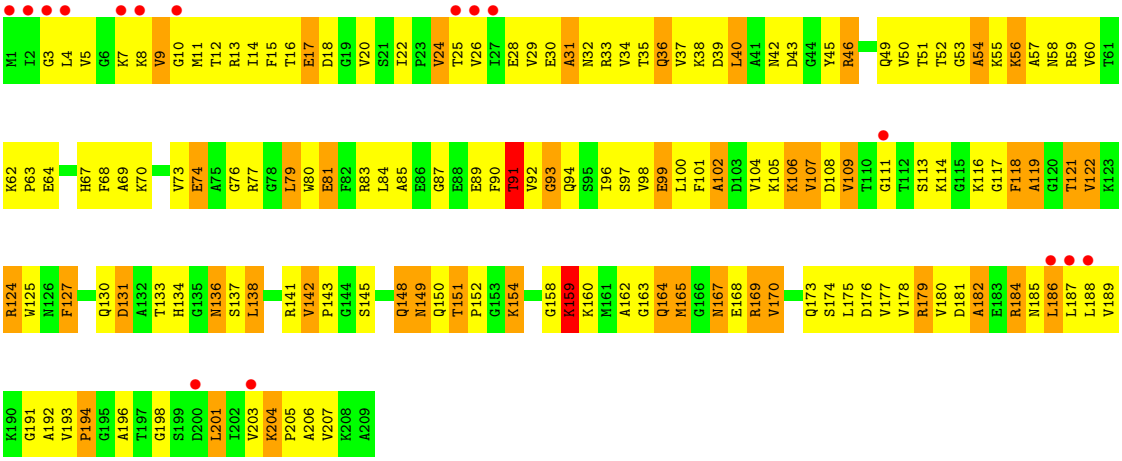




• Molecule 26: 50S ribosomal protein L3

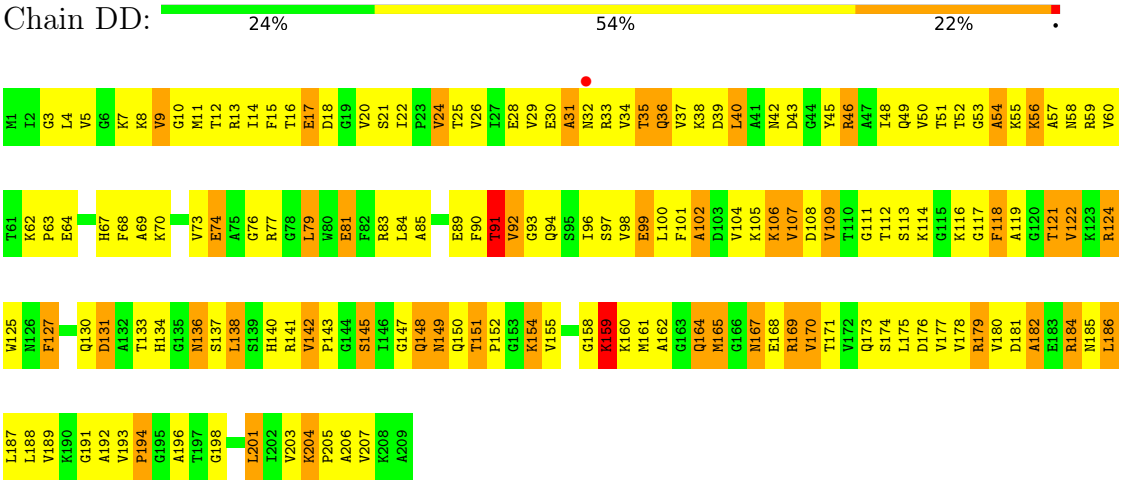
Chain BD:





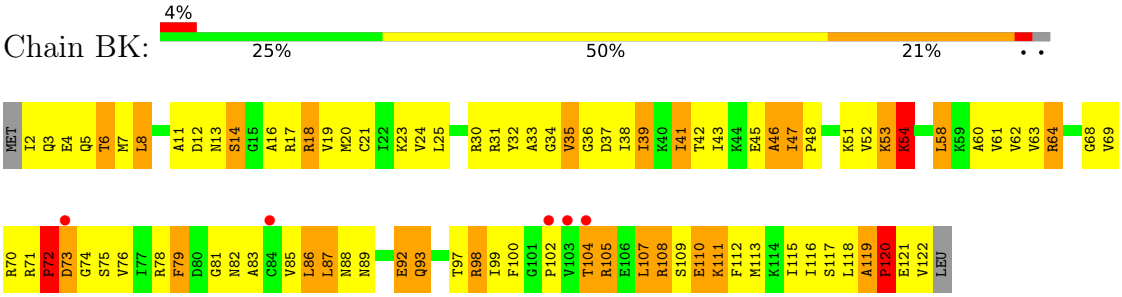
• Molecule 26: 50S ribosomal protein L3

Chain DD:



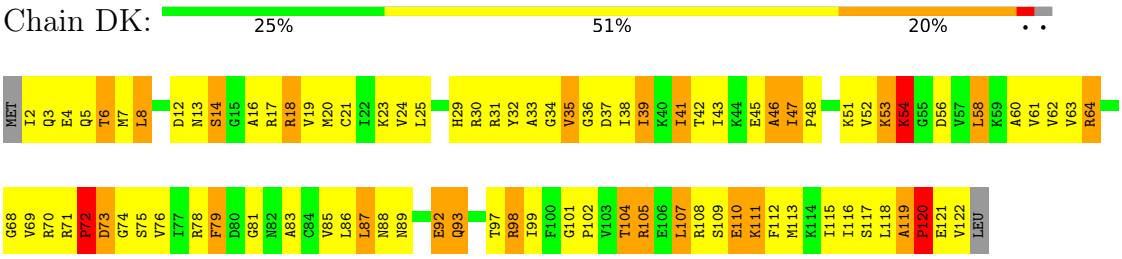
• Molecule 27: 50S ribosomal protein L14

Chain BK:



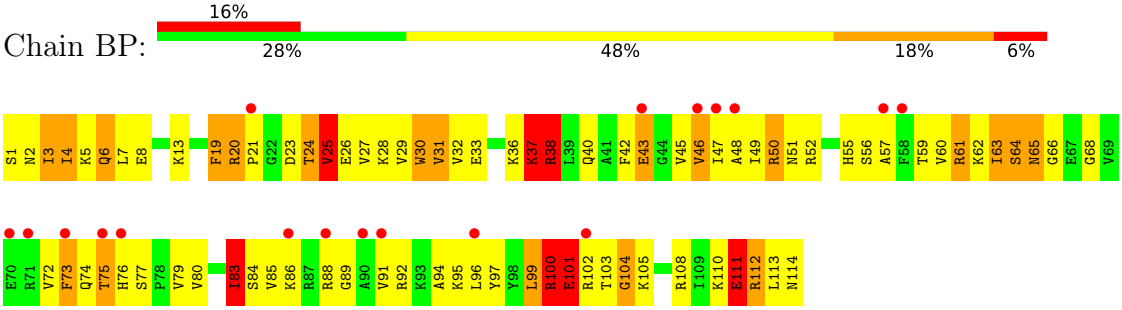
• Molecule 27: 50S ribosomal protein L14

Chain DK:



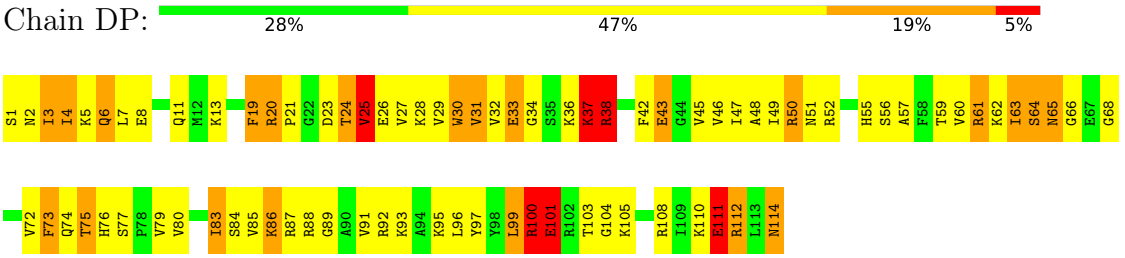
• Molecule 28: 50S ribosomal protein L19

Chain BP:



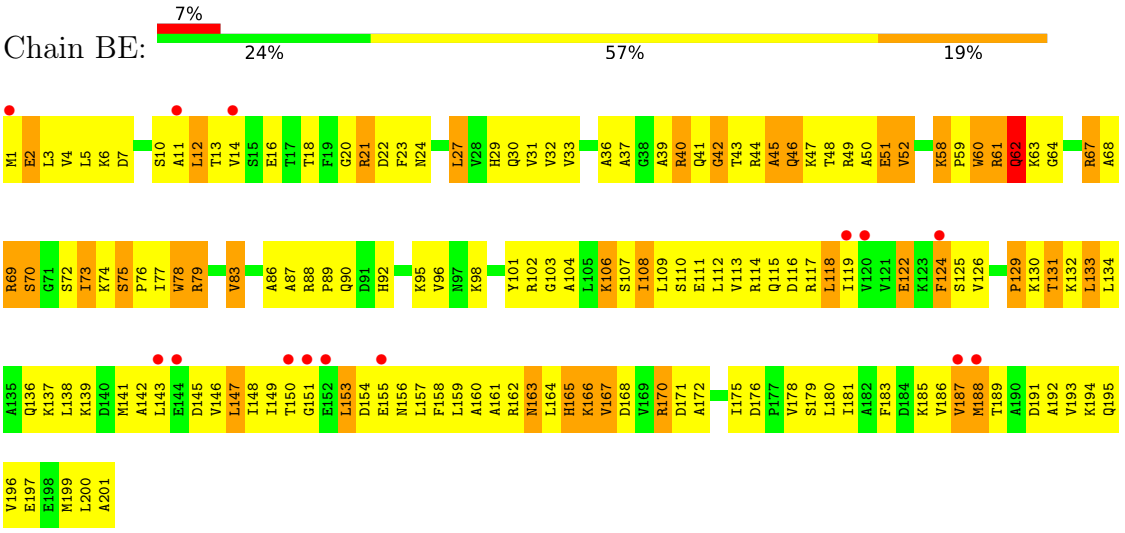
• Molecule 28: 50S ribosomal protein L19

Chain DP:



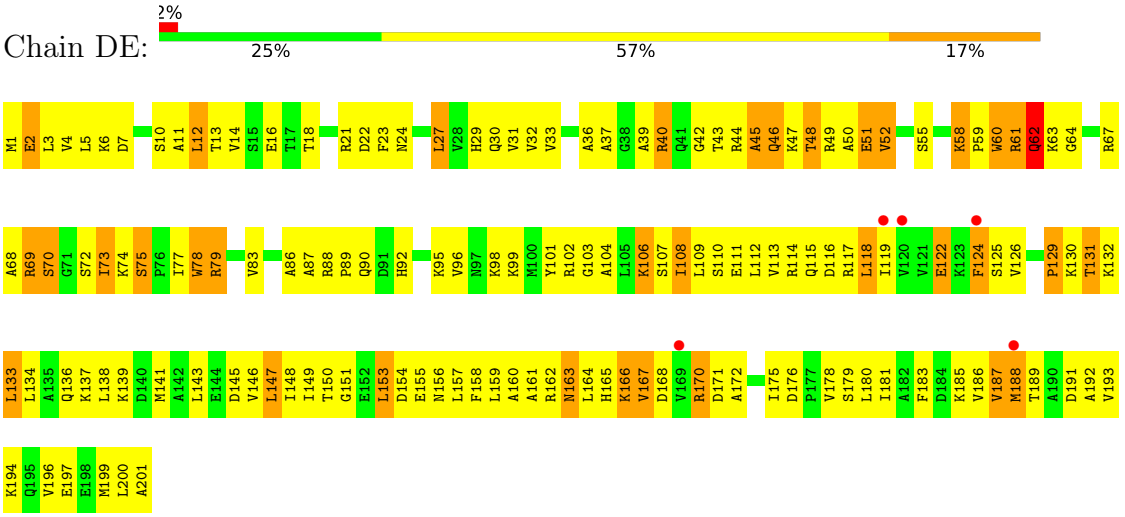
• Molecule 29: 50S ribosomal protein L4

Chain BE:



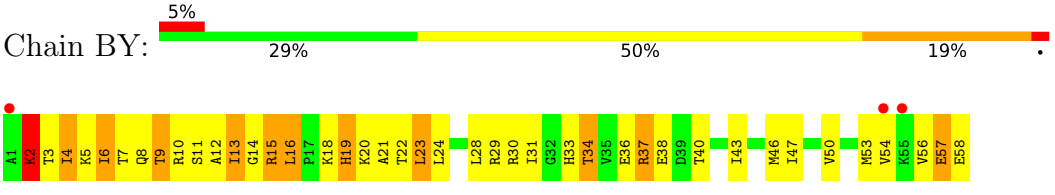
• Molecule 29: 50S ribosomal protein L4

Chain DE:



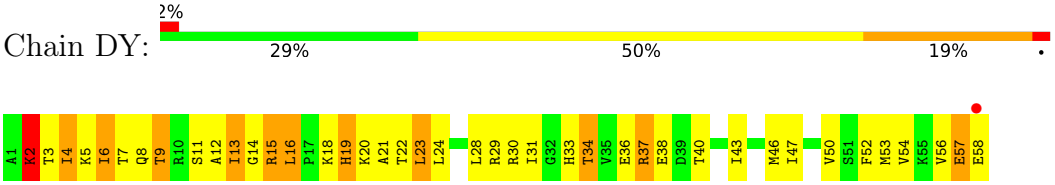
• Molecule 30: 50S ribosomal protein L30

Chain BY:



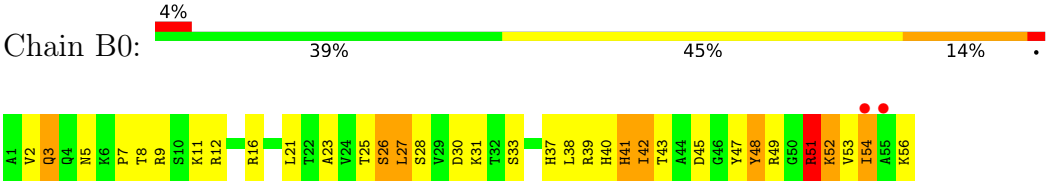
• Molecule 30: 50S ribosomal protein L30

Chain DY:



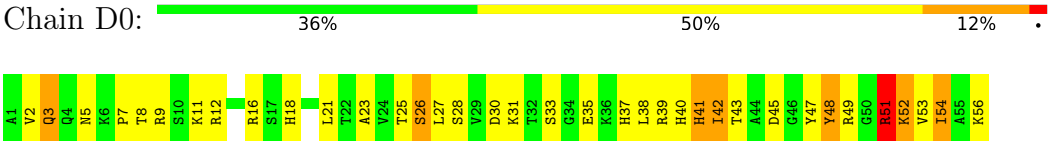
• Molecule 31: 50S ribosomal protein L32

Chain B0:



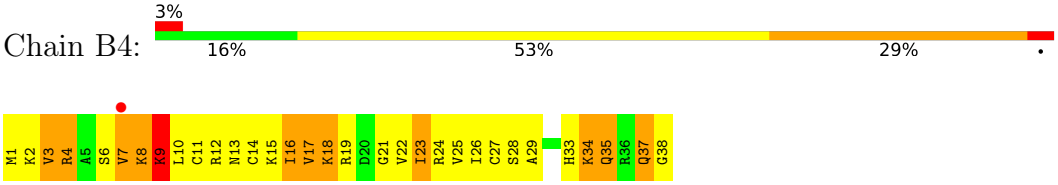
• Molecule 31: 50S ribosomal protein L32

Chain D0:



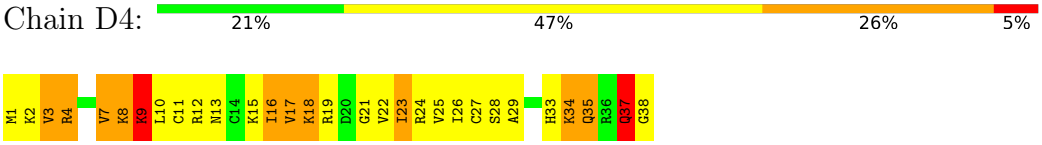
• Molecule 32: 50S ribosomal protein L36

Chain B4:



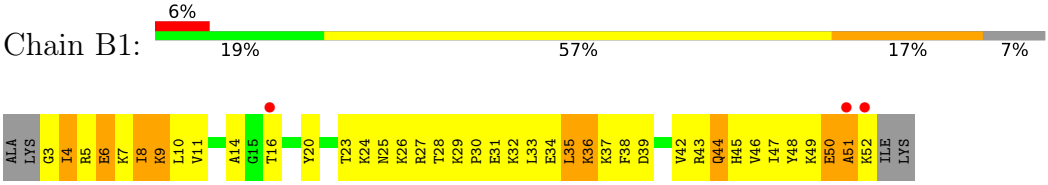
• Molecule 32: 50S ribosomal protein L36

Chain D4:



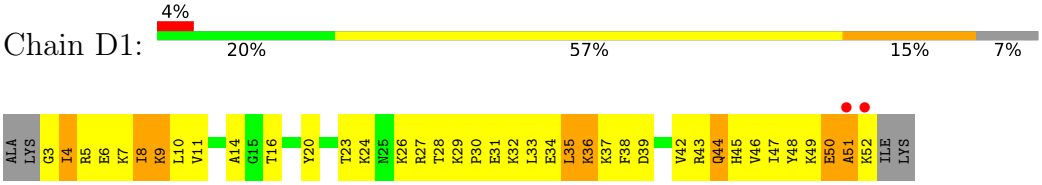
• Molecule 33: 50S ribosomal protein L33

Chain B1:



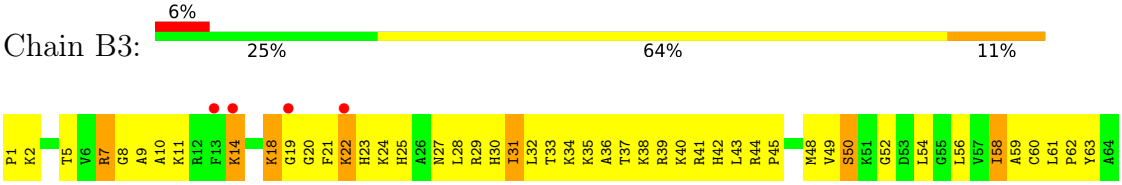
• Molecule 33: 50S ribosomal protein L33

Chain D1:



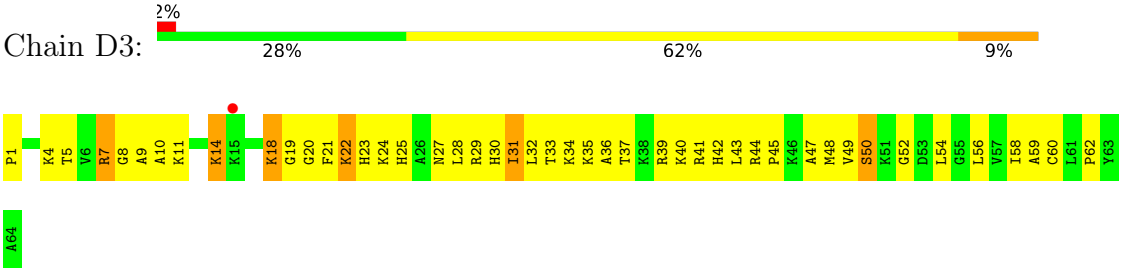
• Molecule 34: 50S ribosomal protein L35

Chain B3:



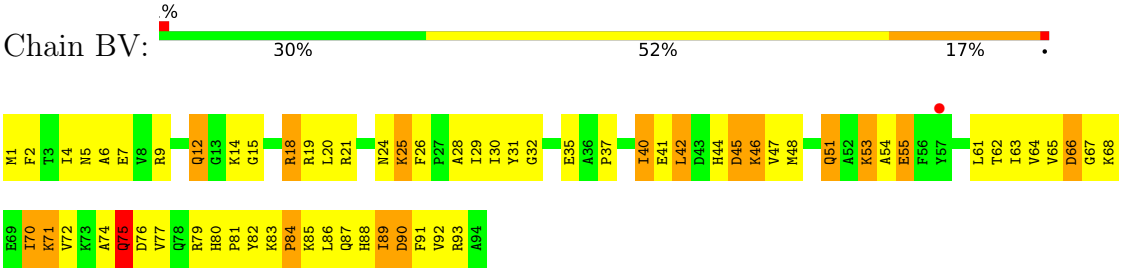
• Molecule 34: 50S ribosomal protein L35

Chain D3:



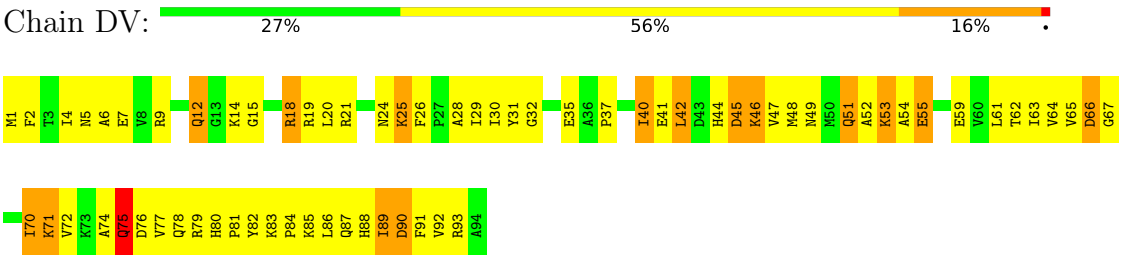
• Molecule 35: 50S ribosomal protein L25

Chain BV:



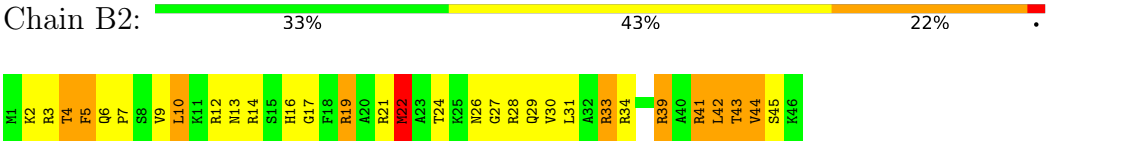
• Molecule 35: 50S ribosomal protein L25

Chain DV:



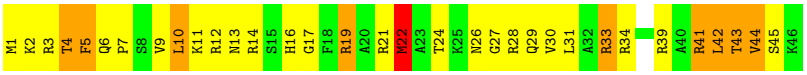
• Molecule 36: 50S ribosomal protein L34

Chain B2:



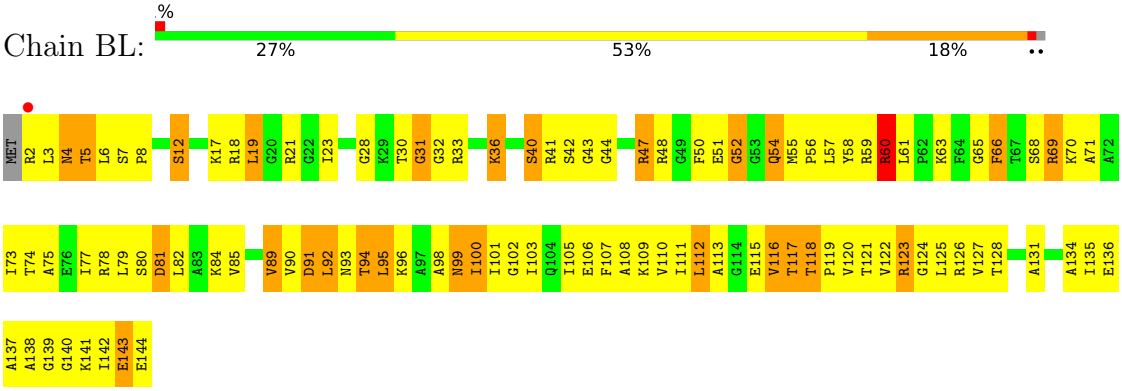
• Molecule 36: 50S ribosomal protein L34

Chain D2:



• Molecule 37: 50S ribosomal protein L15

Chain BL:

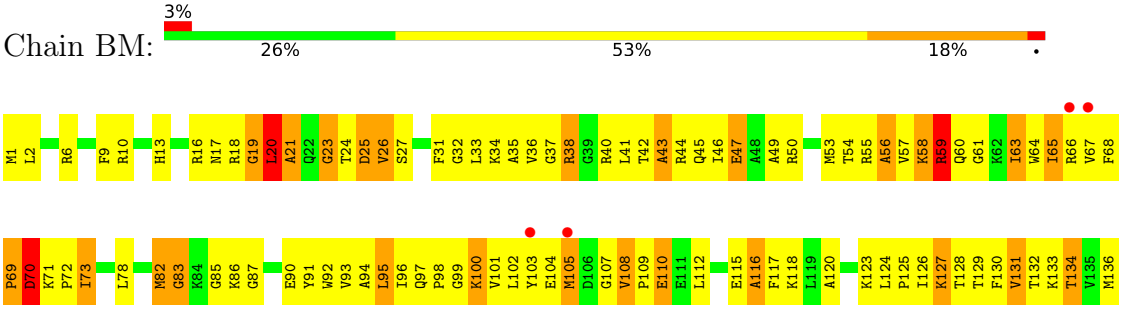


• Molecule 37: 50S ribosomal protein L15

Chain DL:

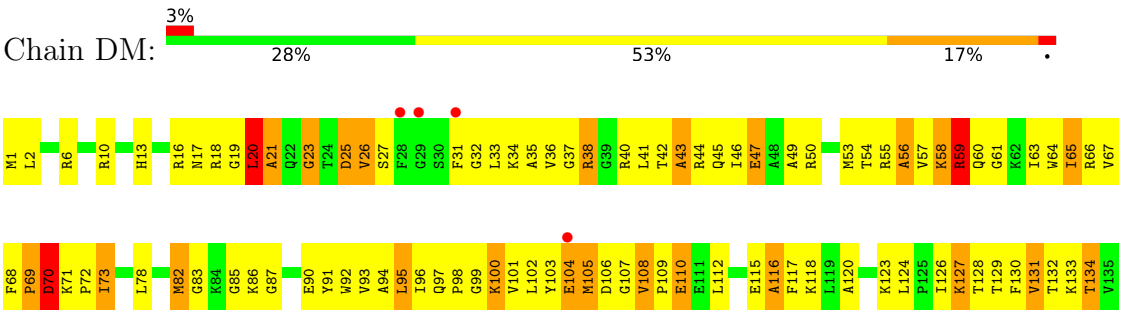
• Molecule 38: 50S ribosomal protein L16

Chain BM:



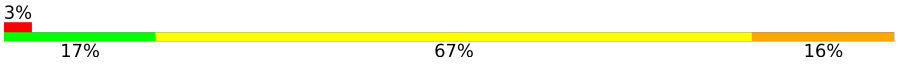
• Molecule 38: 50S ribosomal protein L16

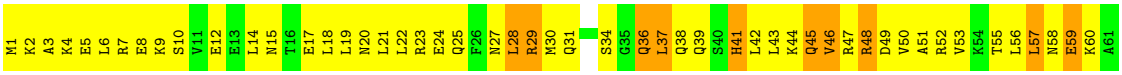
Chain DM:



• Molecule 39: 50S ribosomal protein L29

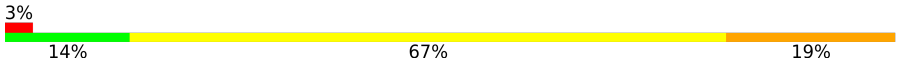
Chain BX:

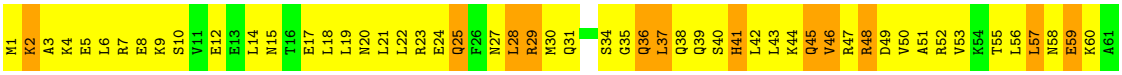




• Molecule 39: 50S ribosomal protein L29

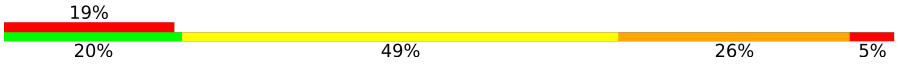
Chain DX:

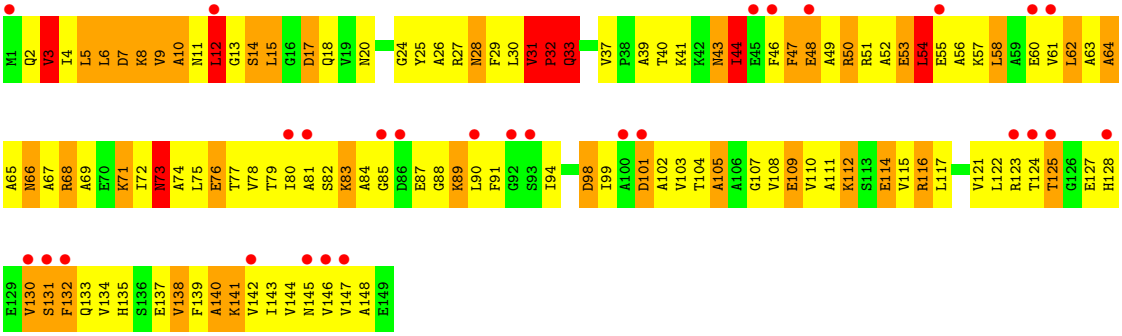




• Molecule 40: 50S ribosomal protein L9

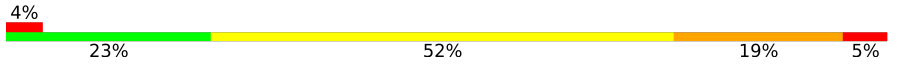
Chain BH:

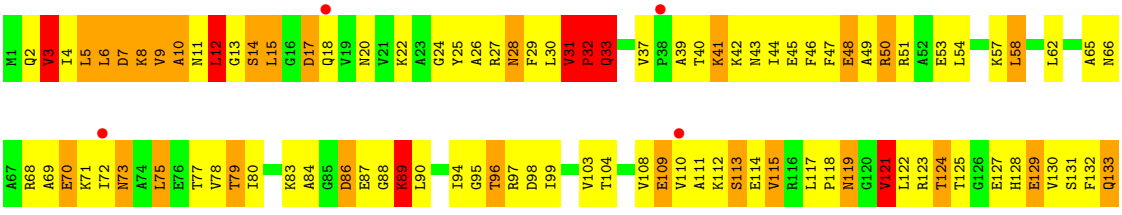


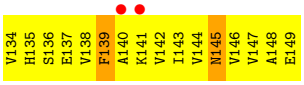


• Molecule 40: 50S ribosomal protein L9

Chain DH:

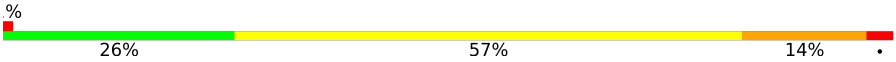


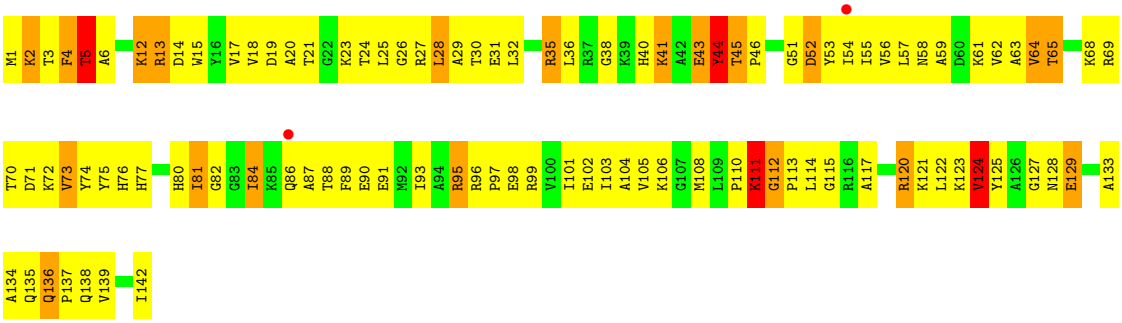




• Molecule 41: 50S ribosomal protein L13

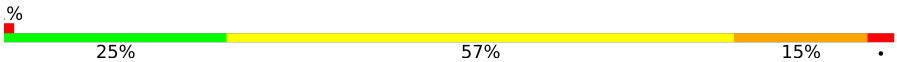
Chain BJ:

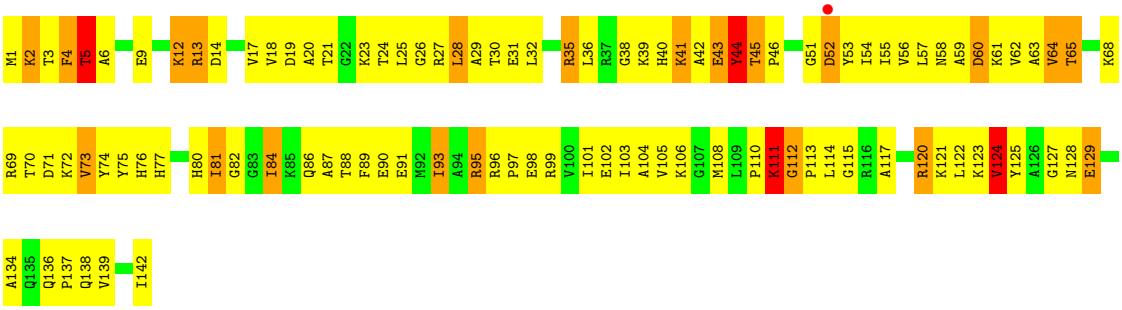




• Molecule 41: 50S ribosomal protein L13

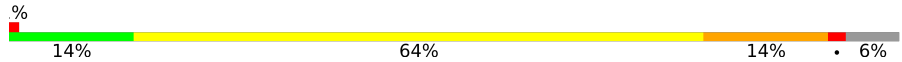
Chain DJ:

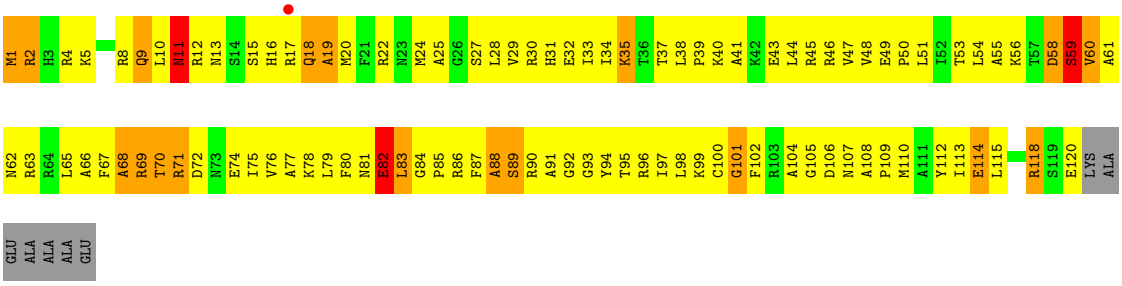




• Molecule 42: 50S ribosomal protein L17

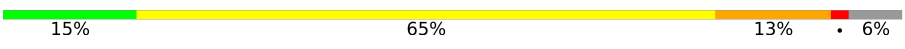
Chain BN:





• Molecule 42: 50S ribosomal protein L17

Chain DN:



M1 R2 H3 R4 K5 R8 Q9 L10 N11 R12 N13 S14 S15 H16 R17 Q18 A19 M20 F21 R22 N23 M24 A25 G26 S27 L28 V29 R30 H31 E32 I33 I34 K35 T36 T37 L38 P39 K40 A41 K42 E43 L44 R45 R46 V47 V48 E49 P50 L51 I52 T53 L54 A55 K56 T57 D58 S59 V60 A61

N62 R63 R64 L65 A66 F67 A68 R69 T70 R71 D72 N73 E74 I75 V76 A77 K78 L79 F80 N81 E82 L83 G84 P85 R86 F87 A88 S89 R90 A91 G92 G93 Y94 T95 R96 I97 L98 K99 C100 G101 F102 R103 A104 G105 D106 N107 A108 P109 M110 A111 Y112 I113 E114 L115 R118 S119 E120 LYS ALA

GLU ALA ALA ALA GLU

- Molecule 43: 50S ribosomal protein L18

Chain BO: 7% 25% 59% 15%

MET D2 K3 K4 S5 A6 R7 I8 R9 R10 A11 T12 R13 A14 R15 R16 K17 L18 Q19 E20 L21 G22 A23 T24 R25 L26 V27 V28 H29 R30 T31 H34 I35 Y36 A37 Q38 V39 I40 A41 P42 N43 V47 L48 V49 A50 A51 S52 T53 V54 E55 K56 A57 I58 A59 E60 Q61 L62 K63

Y64 T65 G66 N67 K68 D69 A70 A71 A72 A73 V74 G75 V78 A79 E80 R81 A82 L83 I87 K88 D89 V90 S91 F92 D93 R94 S95 G96 F97 Q98 Y99 H100 G101 R102 V103 Q104 A105 L106 A107 D108 A109 A110 R111 E112 A113 G114 L115 Q116 F117

- Molecule 43: 50S ribosomal protein L18

Chain DO: 2% 23% 62% 14%

MET D2 K3 K4 S5 A6 R7 I8 R9 R10 A11 T12 R13 A14 R15 R16 K17 L18 Q19 E20 L21 G22 A23 T24 R25 L26 V27 V28 H29 R30 T31 I35 Y36 V39 I40 A41 P42 N43 V47 L48 V49 A50 A51 S52 T53 V54 E55 K56 A57 I58 A59 E60 Q61 L62 T65 G66

N67 K68 D69 A70 A71 A72 A73 V74 G75 K76 A77 V78 A79 E80 R81 A82 L83 I87 K88 D89 V90 S91 F92 D93 R94 S95 G96 F97 Q98 Y99 H100 G101 R102 V103 Q104 A105 L106 A107 D108 A109 A110 R111 E112 A113 G114 L115 Q116 F117

- Molecule 44: 50S ribosomal protein L20

Chain BQ: 21% 66% 13%

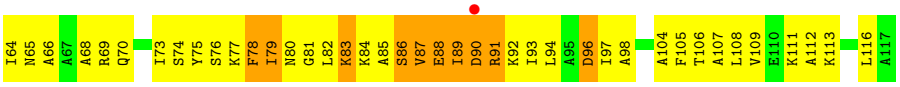
A1 R2 V3 K4 R5 G6 V7 I8 A9 R10 A11 R12 H13 K14 K15 I16 L17 K18 Q19 A20 K21 G22 Y23 Y24 G25 A26 R27 S28 R29 V30 Y31 R32 V33 A34 F35 Q36 A37 V38 I39 K40 A41 G42 Q43 Y44 D48 R49 R50 Q51 R52 K53 R54 Q55 F56 R57 Q58 L59 W60 I61 A62

R63 I64 N65 A66 A67 A68 R69 Q70 I73 S74 Y75 S76 K77 F78 I79 N80 G81 L82 K83 K84 A85 S86 V87 E88 I89 D90 R91 K92 I93 L94 A95 D96 I97 A98 A104 F105 T106 A107 L108 V109 E110 K111 A112 K113 L116 A117

- Molecule 44: 50S ribosomal protein L20

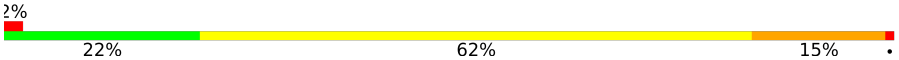
Chain DQ: % 20% 65% 15%

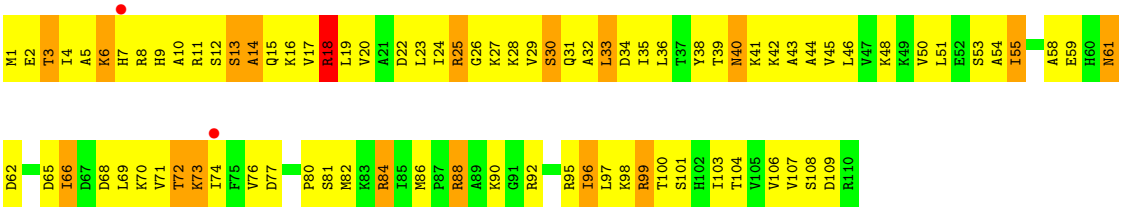
A1 R2 V3 K4 R5 G6 V7 I8 A9 R10 A11 R12 H13 K14 K15 I16 L17 K18 Q19 A20 K21 G22 Y23 Y24 G25 A26 R27 S28 R29 V30 Y31 R32 V33 A34 F35 Q36 A37 V38 I39 K40 Q43 Y44 A45 R49 R50 Q51 R52 K53 R54 Q55 F56 R57 Q58 L59 W60 I61 A62 R63



• Molecule 45: 50S ribosomal protein L22

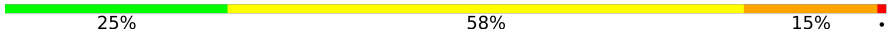
Chain BS:

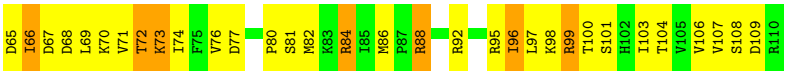




• Molecule 45: 50S ribosomal protein L22

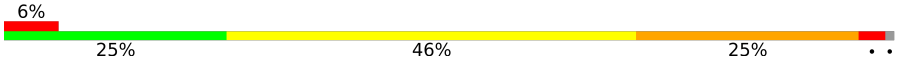
Chain DS:

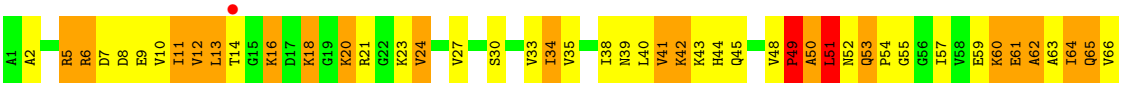


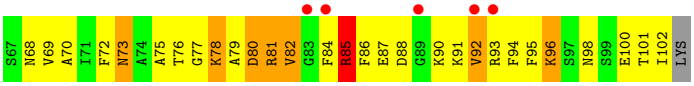


• Molecule 46: 50S ribosomal protein L24

Chain BU:

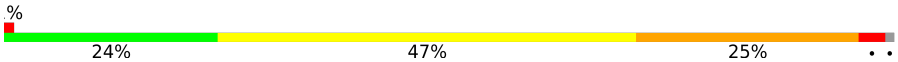


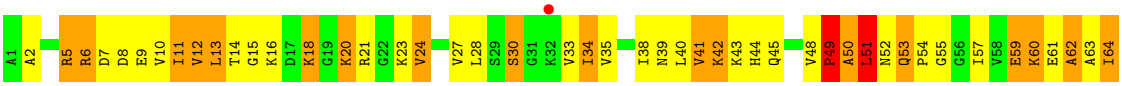


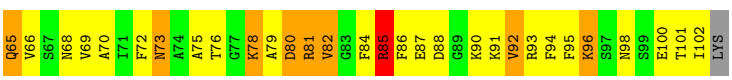


• Molecule 46: 50S ribosomal protein L24

Chain DU:

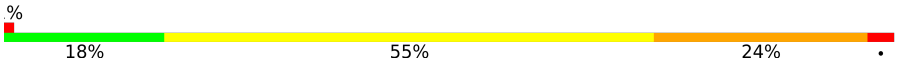


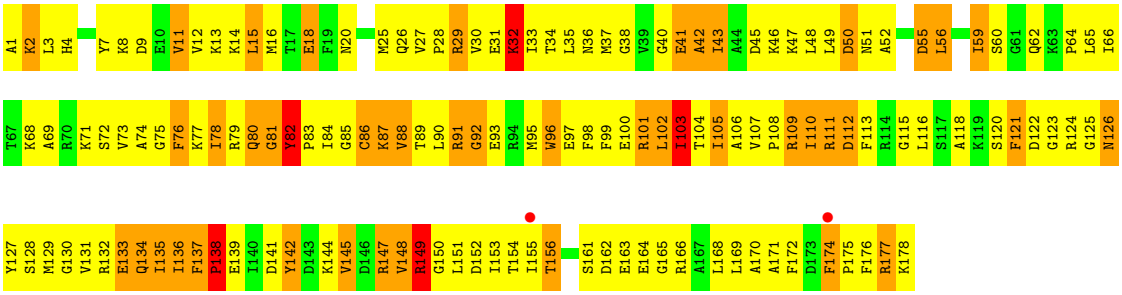




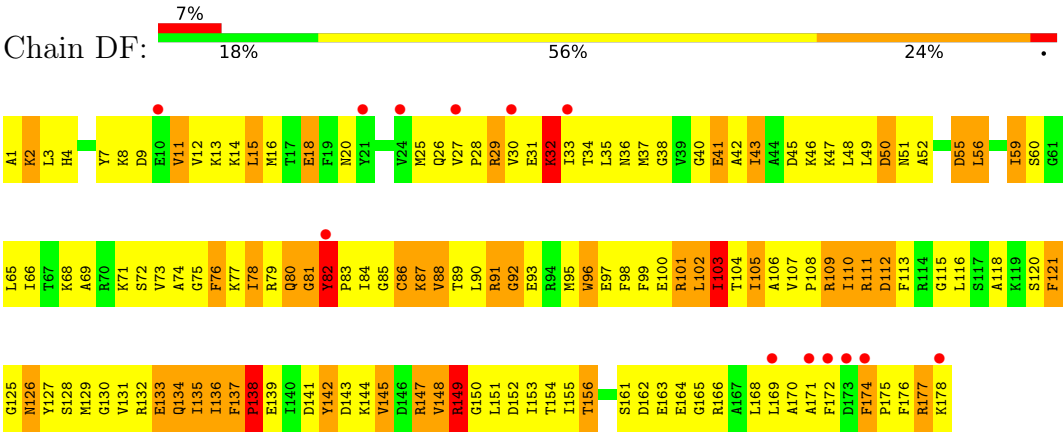
• Molecule 47: 50S ribosomal protein L5

Chain BF:

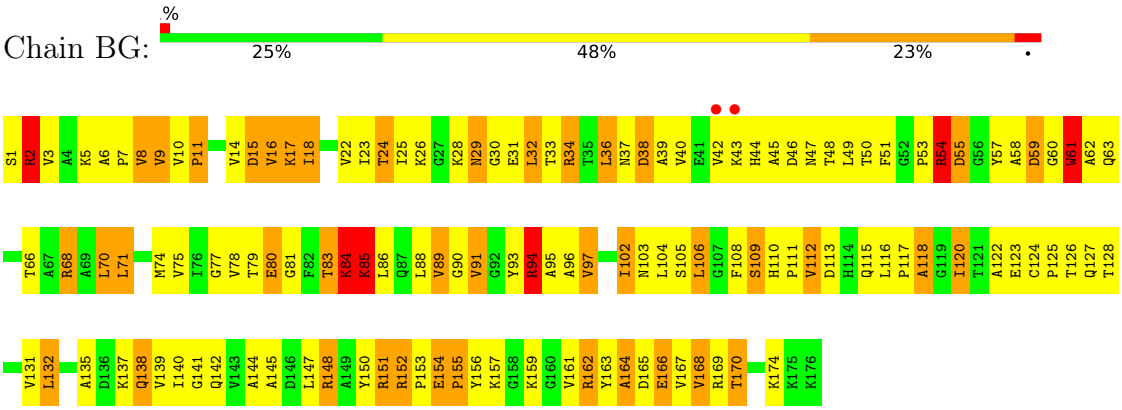




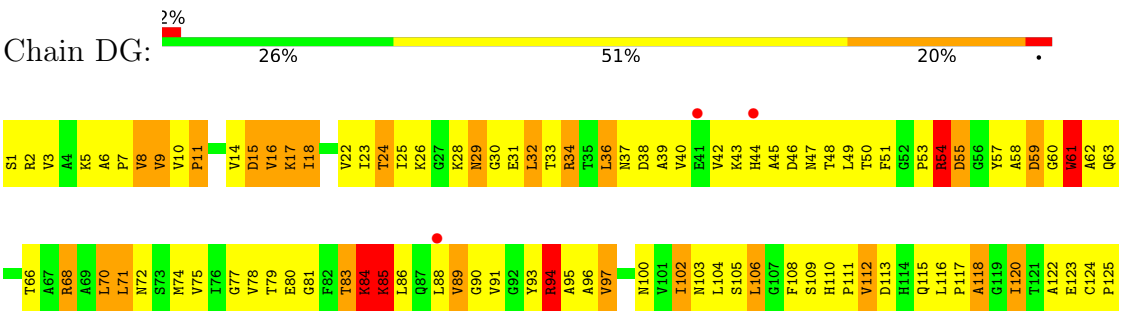
• Molecule 47: 50S ribosomal protein L5



• Molecule 48: 50S ribosomal protein L6

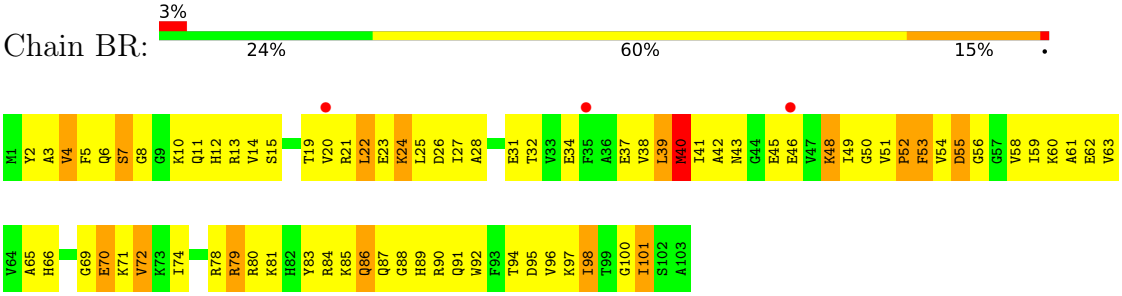


• Molecule 48: 50S ribosomal protein L6



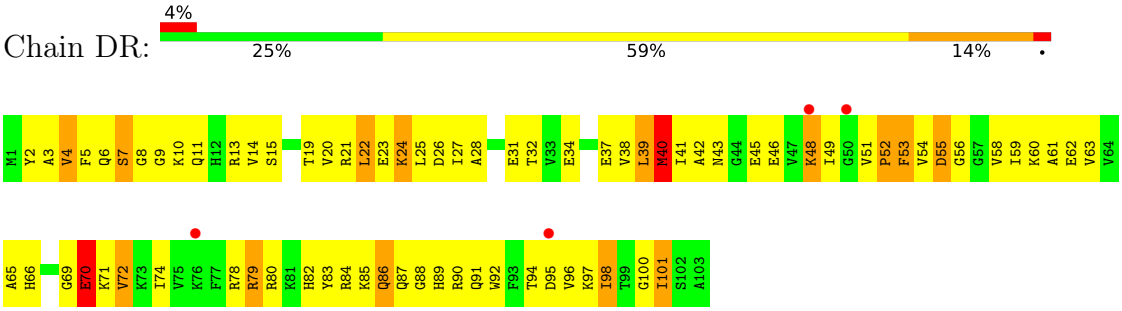
• Molecule 49: 50S ribosomal protein L21

Chain BR:



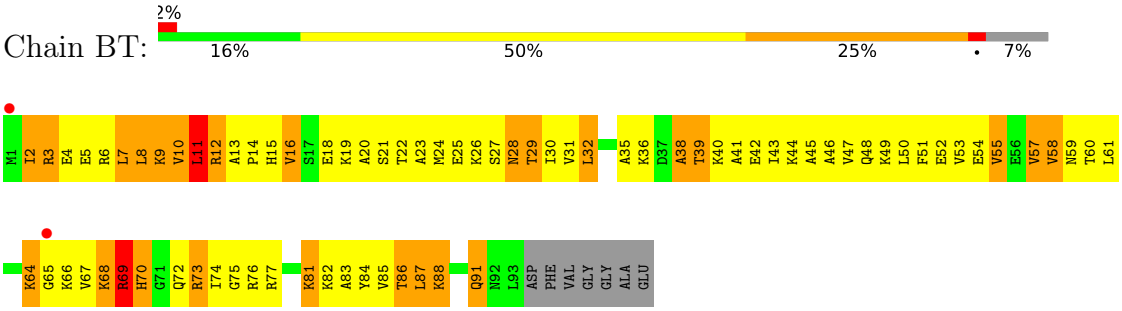
• Molecule 49: 50S ribosomal protein L21

Chain DR:



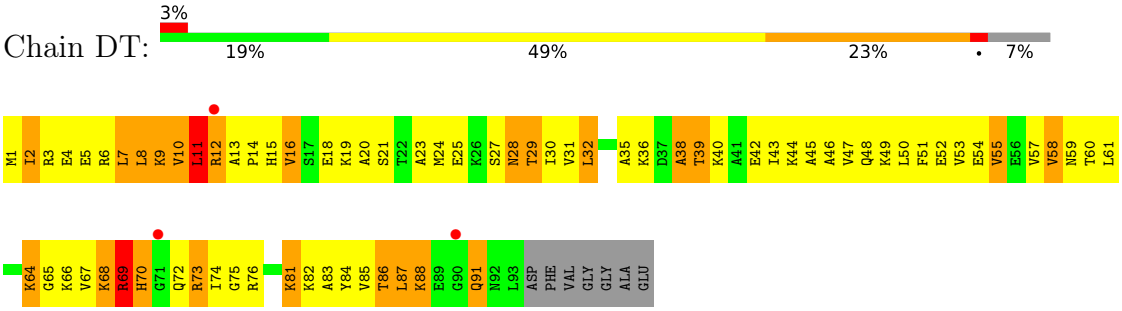
• Molecule 50: 50S ribosomal protein L23

Chain BT:



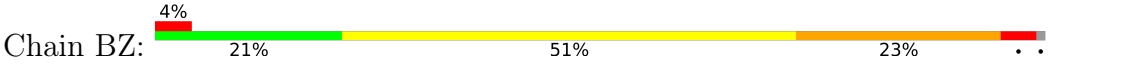
• Molecule 50: 50S ribosomal protein L23

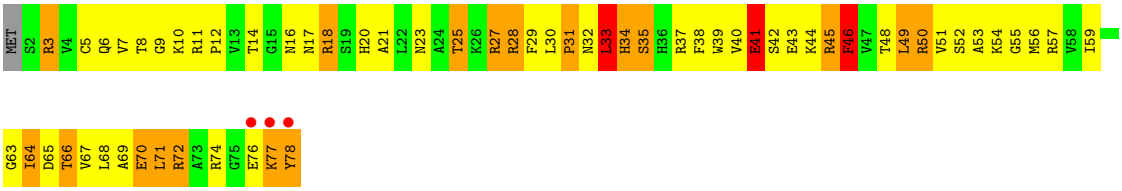
Chain DT:



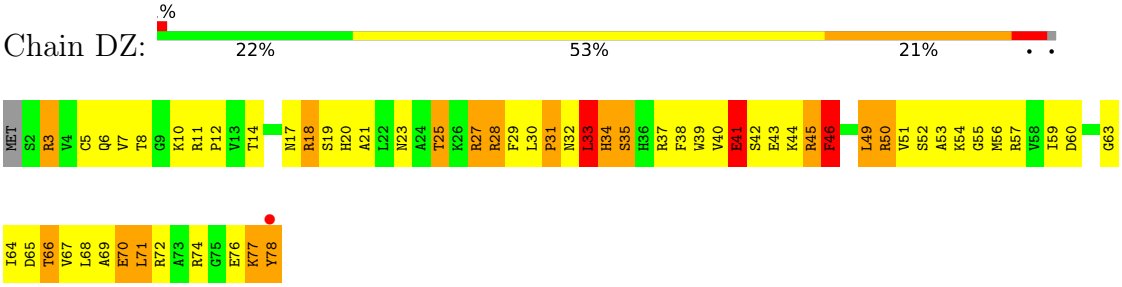
• Molecule 51: 50S ribosomal protein L28

Chain BZ:

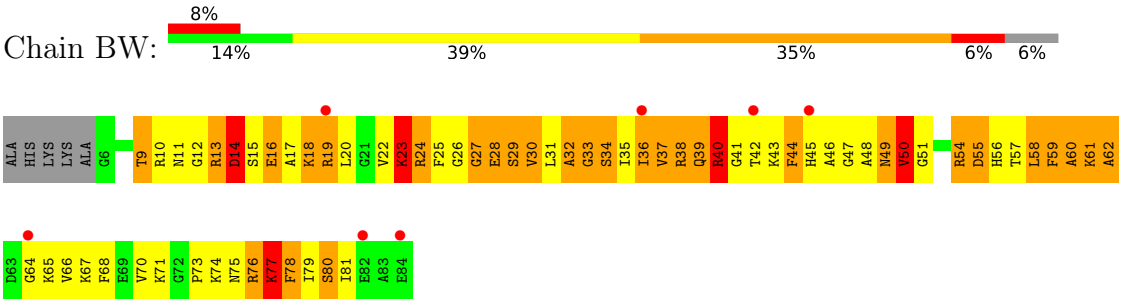




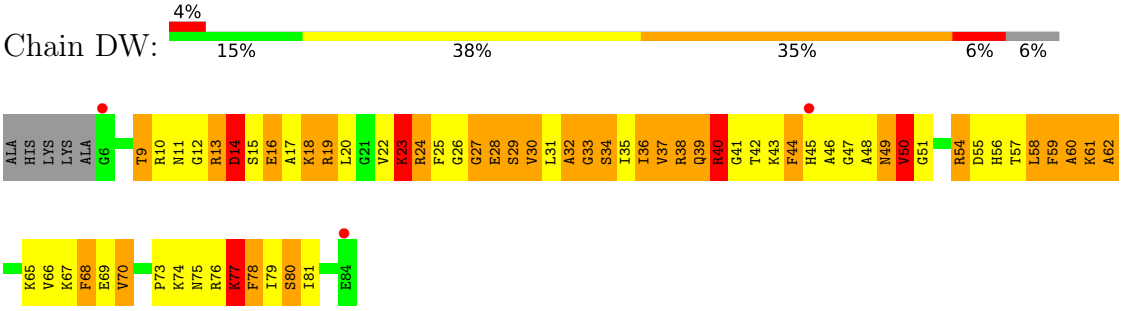
• Molecule 51: 50S ribosomal protein L28



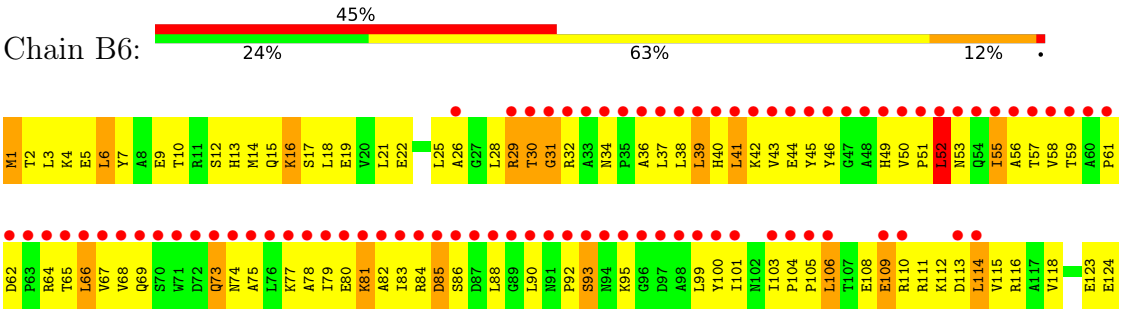
• Molecule 52: 50S ribosomal protein L27



• Molecule 52: 50S ribosomal protein L27

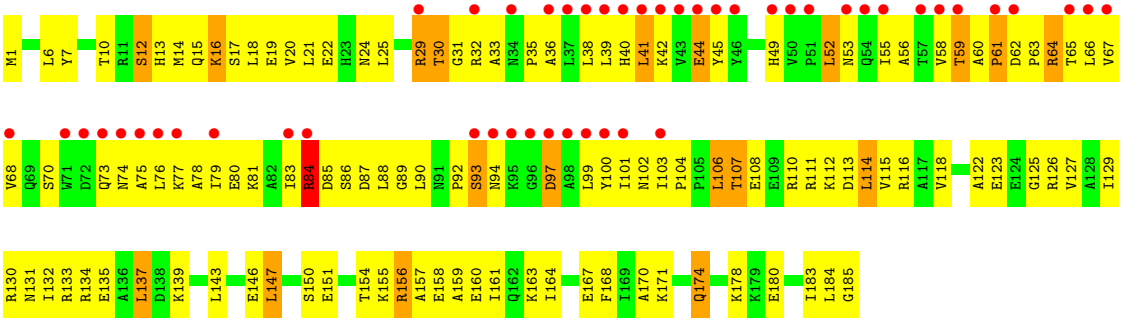


• Molecule 53: 50S ribosomal protein RRF



• Molecule 53: 50S ribosomal protein RRF

Chain D6:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	208.54Å 378.89Å 736.90Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 4.00 138.07 – 4.15	Depositor EDS
% Data completeness (in resolution range)	87.4 (40.00-4.00) 87.4 (138.07-4.15)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.14 (at 4.15Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.261 , 0.305 0.232 , 0.271	Depositor DCC
R_{free} test set	18876 reflections (4.93%)	wwPDB-VP
Wilson B-factor (Å^2)	133.1	Xtriage
Anisotropy	0.323	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.22 , 74.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	287083	wwPDB-VP
Average B, all atoms (Å^2)	72.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.69% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	AA	0.29	3/36762 (0.0%)	0.78	21/57350 (0.0%)
1	CA	0.29	4/36762 (0.0%)	0.78	22/57350 (0.0%)
2	AC	0.23	0/1651	0.44	0/2225
2	CC	0.23	0/1651	0.44	0/2225
3	AD	0.23	0/1665	0.44	0/2227
3	CD	0.23	0/1665	0.44	0/2227
4	AE	0.23	0/1118	0.46	0/1504
4	CE	0.23	0/1118	0.46	0/1504
5	AF	0.24	0/835	0.45	0/1128
5	CF	0.24	0/835	0.45	0/1128
6	AG	0.23	0/1187	0.46	0/1591
6	CG	0.23	0/1211	0.46	0/1624
7	AH	0.23	0/989	0.44	0/1326
7	CH	0.23	0/989	0.44	0/1326
8	AI	0.24	0/1034	0.46	0/1375
8	CI	0.24	0/1033	0.46	0/1375
9	AJ	0.22	0/796	0.48	0/1077
9	CJ	0.22	0/796	0.48	0/1077
10	AK	0.24	0/893	0.46	0/1205
10	CK	0.24	0/893	0.46	0/1205
11	AL	0.22	0/969	0.50	0/1300
11	CL	0.22	0/969	0.50	0/1300
12	AM	0.21	0/892	0.46	0/1193
12	CM	0.21	0/884	0.46	0/1181
13	AN	0.24	0/785	0.45	0/1043
13	CN	0.24	0/785	0.45	0/1043
14	AO	0.23	0/722	0.47	0/964
14	CO	0.23	0/722	0.47	0/964
15	AP	0.25	0/659	0.46	0/884
15	CP	0.25	0/648	0.47	0/870
16	AQ	0.24	0/657	0.47	0/881
16	CQ	0.24	0/666	0.47	0/892

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	AR	0.23	0/462	0.46	0/621
17	CR	0.23	0/462	0.46	0/621
18	AS	0.25	0/652	0.47	0/877
18	CS	0.25	0/660	0.48	0/888
19	AT	0.23	0/671	0.39	0/888
19	CT	0.23	0/671	0.39	0/888
20	AB	0.25	0/1735	0.45	0/2338
20	CB	0.25	0/1735	0.45	0/2338
21	AU	0.26	0/430	0.48	0/570
21	CU	0.26	0/430	0.48	0/570
22	BA	0.28	0/2803	0.76	1/4371 (0.0%)
22	DA	0.28	0/2803	0.76	0/4371
23	BB	0.28	6/68314 (0.0%)	0.78	48/106569 (0.0%)
23	DB	0.30	6/68314 (0.0%)	0.79	48/106569 (0.0%)
24	BI	0.24	0/1046	0.47	0/1410
24	DI	0.25	0/1046	0.48	0/1410
25	BC	0.22	0/2121	0.48	0/2852
25	DC	0.22	0/2121	0.48	0/2852
26	BD	0.24	0/1586	0.49	0/2134
26	DD	0.24	0/1586	0.49	0/2134
27	BK	0.24	0/939	0.55	0/1258
27	DK	0.24	0/939	0.55	0/1258
28	BP	0.24	0/929	0.51	0/1242
28	DP	0.24	0/929	0.51	0/1242
29	BE	0.24	0/1571	0.51	0/2113
29	DE	0.24	0/1571	0.51	0/2113
30	BY	0.23	0/453	0.49	0/605
30	DY	0.23	0/453	0.49	0/605
31	B0	0.22	0/450	0.55	0/599
31	D0	0.23	0/450	0.55	0/599
32	B4	0.23	0/303	0.47	0/397
32	D4	0.23	0/303	0.47	0/397
33	B1	0.27	0/416	0.49	0/554
33	D1	0.27	0/416	0.49	0/554
34	B3	0.24	0/513	0.48	0/676
34	D3	0.24	0/513	0.48	0/676
35	BV	0.25	0/766	0.43	0/1025
35	DV	0.25	0/766	0.43	0/1025
36	B2	0.25	0/380	0.48	0/498
36	D2	0.25	0/380	0.48	0/498
37	BL	0.23	0/1054	0.48	0/1403
37	DL	0.23	0/1054	0.48	0/1403
38	BM	0.25	0/1093	0.48	0/1460

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	DM	0.25	0/1093	0.48	0/1460
39	BX	0.24	0/510	0.53	0/677
39	DX	0.24	0/510	0.53	0/677
40	BH	0.25	0/1122	0.48	0/1515
40	DH	0.25	0/1122	0.48	0/1515
41	BJ	0.24	0/1152	0.48	0/1551
41	DJ	0.23	0/1152	0.48	0/1551
42	BN	0.24	0/973	0.51	0/1301
42	DN	0.24	0/973	0.51	0/1301
43	BO	0.23	0/902	0.49	0/1209
43	DO	0.23	0/902	0.49	0/1209
44	BQ	0.25	0/960	0.49	0/1278
44	DQ	0.26	0/960	0.49	0/1278
45	BS	0.22	0/864	0.52	0/1156
45	DS	0.22	0/864	0.52	0/1156
46	BU	0.25	0/787	0.47	0/1051
46	DU	0.25	0/787	0.47	0/1051
47	BF	0.26	0/1444	0.52	0/1937
47	DF	0.26	0/1444	0.52	0/1937
48	BG	0.23	0/1343	0.47	0/1816
48	DG	0.23	0/1343	0.47	0/1816
49	BR	0.25	0/829	0.50	0/1107
49	DR	0.25	0/829	0.50	0/1107
50	BT	0.23	0/744	0.55	0/994
50	DT	0.22	0/744	0.55	0/994
51	BZ	0.25	0/635	0.51	0/848
51	DZ	0.25	0/635	0.52	0/848
52	BW	0.28	0/603	0.51	0/797
52	DW	0.28	0/603	0.51	0/797
53	B6	0.23	0/1497	0.52	1/2017 (0.0%)
53	D6	0.30	0/1497	0.58	1/2017 (0.0%)
All	All	0.28	19/309353 (0.0%)	0.71	142/462003 (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
1	AA	0	16
1	CA	0	17
23	BB	0	35

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Mol	Chain	#Chirality outliers	#Planarity outliers
23	DB	0	47
All	All	0	115

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	BB	1086	A	C5-C6	-16.56	1.26	1.41
23	DB	1086	A	C5-C6	-16.53	1.26	1.41
23	DB	1088	A	C6-N1	-10.57	1.28	1.35
23	BB	1088	A	C6-N1	-10.52	1.28	1.35
1	CA	1213	A	P-OP1	-9.61	1.32	1.49

The worst 5 of 142 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	CA	1213	A	O5'-P-OP1	-31.90	72.42	110.70
1	AA	1213	A	O5'-P-OP2	-30.12	74.56	110.70
23	DB	2204	G	O5'-P-OP1	-29.74	75.02	110.70
23	BB	2204	G	O5'-P-OP2	-28.90	76.02	110.70
23	BB	2791	G	O5'-P-OP1	-28.07	77.02	110.70

There are no chirality outliers.

5 of 115 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AA	187	G	Sidechain
1	AA	281	G	Sidechain
1	AA	324	G	Sidechain
1	AA	437	U	Sidechain
1	AA	86	G	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	32831	0	16521	1290	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	CA	32831	0	16521	1350	0
2	AC	1624	0	1699	140	0
2	CC	1624	0	1699	146	0
3	AD	1643	0	1710	174	0
3	CD	1643	0	1710	170	0
4	AE	1105	0	1148	95	0
4	CE	1105	0	1148	96	0
5	AF	817	0	808	96	0
5	CF	817	0	808	94	0
6	AG	1174	0	1230	112	0
6	CG	1196	0	1246	106	0
7	AH	979	0	1034	95	0
7	CH	979	0	1034	96	0
8	AI	1022	0	1070	149	0
8	CI	1021	0	1070	149	0
9	AJ	786	0	828	77	0
9	CJ	786	0	828	80	0
10	AK	877	0	887	111	0
10	CK	877	0	887	114	0
11	AL	955	0	1019	92	0
11	CL	955	0	1019	91	0
12	AM	883	0	944	119	0
12	CM	876	0	937	120	0
13	AN	774	0	827	121	0
13	CN	774	0	827	131	0
14	AO	714	0	734	60	0
14	CO	714	0	734	54	0
15	AP	649	0	666	56	0
15	CP	638	0	656	57	0
16	AQ	648	0	691	71	0
16	CQ	657	0	702	67	0
17	AR	455	0	478	51	0
17	CR	455	0	478	56	0
18	AS	637	0	665	85	0
18	CS	644	0	675	87	0
19	AT	665	0	714	68	0
19	CT	665	0	714	70	0
20	AB	1704	0	1732	220	0
20	CB	1704	0	1732	211	0
21	AU	425	0	449	79	0
21	CU	425	0	449	89	0
22	BA	2507	0	1270	106	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	DA	2507	0	1270	108	0
23	BB	60995	0	30678	2536	0
23	DB	60995	0	30678	2543	0
24	BI	1032	0	1088	119	0
24	DI	1032	0	1088	181	0
25	BC	2082	0	2157	239	0
25	DC	2082	0	2157	241	0
26	BD	1565	0	1616	206	0
26	DD	1565	0	1616	216	0
27	BK	930	0	1000	122	0
27	DK	930	0	1000	122	0
28	BP	917	0	965	102	0
28	DP	917	0	965	108	0
29	BE	1552	0	1619	194	0
29	DE	1552	0	1619	181	0
30	BY	449	0	491	49	0
30	DY	449	0	491	55	0
31	B0	444	0	461	49	0
31	D0	444	0	461	47	0
32	B4	302	0	340	38	0
32	D4	302	0	340	44	0
33	B1	409	0	440	58	0
33	D1	409	0	440	54	0
34	B3	504	0	574	51	0
34	D3	504	0	574	48	0
35	BV	753	0	780	97	0
35	DV	753	0	780	102	0
36	B2	377	0	418	38	0
36	D2	377	0	418	38	0
37	BL	1045	0	1117	148	0
37	DL	1045	0	1117	153	0
38	BM	1074	0	1157	129	0
38	DM	1074	0	1157	121	0
39	BX	509	0	543	55	0
39	DX	509	0	543	60	0
40	BH	1111	0	1148	186	0
40	DH	1111	0	1148	158	0
41	BJ	1129	0	1162	136	0
41	DJ	1129	0	1162	137	0
42	BN	960	0	1000	130	0
42	DN	960	0	1000	129	0
43	BO	892	0	923	94	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	DO	892	0	923	96	0
44	BQ	947	0	1022	171	0
44	DQ	947	0	1022	178	0
45	BS	857	0	922	101	0
45	DS	857	0	922	101	0
46	BU	779	0	834	114	0
46	DU	779	0	834	109	0
47	BF	1420	0	1460	223	0
47	DF	1420	0	1460	216	0
48	BG	1323	0	1374	218	0
48	DG	1323	0	1374	195	0
49	BR	816	0	839	113	0
49	DR	816	0	839	128	0
50	BT	738	0	807	125	0
50	DT	738	0	807	121	0
51	BZ	625	0	652	82	0
51	DZ	625	0	652	82	0
52	BW	596	0	610	120	0
52	DW	596	0	610	126	0
53	B6	1478	0	1526	192	0
53	D6	1478	0	1526	150	0
54	AA	60	0	0	0	0
54	BB	110	0	0	0	0
54	CA	61	0	0	0	0
54	CE	1	0	0	0	0
54	DB	111	0	0	0	0
55	AA	31	0	39	0	0
55	BB	31	0	39	2	0
55	CA	31	0	39	3	0
55	DB	31	0	39	0	0
56	B4	1	0	0	0	0
56	D4	1	0	0	0	0
57	AA	287	0	0	1	0
57	AE	3	0	0	0	0
57	AK	1	0	0	0	0
57	AL	3	0	0	0	0
57	AN	4	0	0	0	0
57	AT	2	0	0	0	0
57	BB	492	0	0	8	0
57	BC	6	0	0	0	0
57	BD	1	0	0	0	0
57	BE	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	BL	3	0	0	0	0
57	BT	1	0	0	0	0
57	CA	296	0	0	2	0
57	CE	3	0	0	0	0
57	CK	1	0	0	0	0
57	CL	3	0	0	0	0
57	CN	4	0	0	0	0
57	CT	2	0	0	0	0
57	DB	500	0	0	7	0
57	DC	6	0	0	0	0
57	DE	2	0	0	0	0
57	DL	2	0	0	0	0
57	DR	1	0	0	0	0
57	DT	1	0	0	0	0
All	All	287083	0	193870	17818	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 37.

The worst 5 of 17818 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)
23:DB:1099:G:H8	24:DI:3:LYS:N	1.36	1.20
40:BH:31:VAL:HB	40:BH:32:PRO:HD2	1.23	1.17
21:CU:36:PHE:HB3	21:CU:40:PRO:HD3	1.28	1.14
21:AU:36:PHE:HB3	21:AU:40:PRO:HD3	1.29	1.11
25:DC:144:GLU:HA	25:DC:151:GLY:HA2	1.33	1.11

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	AC	204/232 (88%)	151 (74%)	38 (19%)	15 (7%)	1 15
2	CC	204/232 (88%)	152 (74%)	37 (18%)	15 (7%)	1 15
3	AD	203/205 (99%)	151 (74%)	39 (19%)	13 (6%)	1 18
3	CD	203/205 (99%)	148 (73%)	42 (21%)	13 (6%)	1 18
4	AE	148/166 (89%)	117 (79%)	25 (17%)	6 (4%)	3 25
4	CE	148/166 (89%)	117 (79%)	25 (17%)	6 (4%)	3 25
5	AF	98/135 (73%)	64 (65%)	25 (26%)	9 (9%)	1 11
5	CF	98/135 (73%)	65 (66%)	24 (24%)	9 (9%)	1 11
6	AG	148/178 (83%)	106 (72%)	33 (22%)	9 (6%)	1 19
6	CG	150/178 (84%)	112 (75%)	29 (19%)	9 (6%)	1 19
7	AH	127/129 (98%)	98 (77%)	23 (18%)	6 (5%)	2 23
7	CH	127/129 (98%)	96 (76%)	25 (20%)	6 (5%)	2 23
8	AI	125/129 (97%)	99 (79%)	17 (14%)	9 (7%)	1 16
8	CI	125/129 (97%)	98 (78%)	18 (14%)	9 (7%)	1 16
9	AJ	96/103 (93%)	70 (73%)	13 (14%)	13 (14%)	0 4
9	CJ	96/103 (93%)	71 (74%)	12 (12%)	13 (14%)	0 4
10	AK	115/128 (90%)	87 (76%)	22 (19%)	6 (5%)	2 21
10	CK	115/128 (90%)	87 (76%)	22 (19%)	6 (5%)	2 21
11	AL	121/123 (98%)	73 (60%)	33 (27%)	15 (12%)	0 5
11	CL	121/123 (98%)	75 (62%)	31 (26%)	15 (12%)	0 5
12	AM	112/117 (96%)	79 (70%)	24 (21%)	9 (8%)	1 14
12	CM	111/117 (95%)	76 (68%)	25 (22%)	10 (9%)	1 12
13	AN	92/100 (92%)	59 (64%)	26 (28%)	7 (8%)	1 14
13	CN	92/100 (92%)	60 (65%)	24 (26%)	8 (9%)	1 12
14	AO	86/89 (97%)	59 (69%)	22 (26%)	5 (6%)	1 19
14	CO	86/89 (97%)	60 (70%)	22 (26%)	4 (5%)	2 23
15	AP	80/82 (98%)	59 (74%)	16 (20%)	5 (6%)	1 18
15	CP	78/82 (95%)	56 (72%)	16 (20%)	6 (8%)	1 14
16	AQ	78/83 (94%)	58 (74%)	15 (19%)	5 (6%)	1 18
16	CQ	79/83 (95%)	59 (75%)	15 (19%)	5 (6%)	1 18
17	AR	53/74 (72%)	41 (77%)	9 (17%)	3 (6%)	1 19
17	CR	53/74 (72%)	41 (77%)	9 (17%)	3 (6%)	1 19

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
18	AS	77/91 (85%)	60 (78%)	12 (16%)	5 (6%)	1 18
18	CS	78/91 (86%)	61 (78%)	11 (14%)	6 (8%)	1 14
19	AT	83/86 (96%)	63 (76%)	15 (18%)	5 (6%)	1 19
19	CT	83/86 (96%)	62 (75%)	16 (19%)	5 (6%)	1 19
20	AB	216/240 (90%)	142 (66%)	57 (26%)	17 (8%)	1 14
20	CB	216/240 (90%)	134 (62%)	65 (30%)	17 (8%)	1 14
21	AU	49/70 (70%)	28 (57%)	11 (22%)	10 (20%)	0 2
21	CU	49/70 (70%)	28 (57%)	12 (24%)	9 (18%)	0 2
24	BI	139/141 (99%)	120 (86%)	14 (10%)	5 (4%)	3 28
24	DI	139/141 (99%)	114 (82%)	20 (14%)	5 (4%)	3 28
25	BC	269/272 (99%)	155 (58%)	66 (24%)	48 (18%)	0 2
25	DC	269/272 (99%)	155 (58%)	65 (24%)	49 (18%)	0 2
26	BD	207/209 (99%)	122 (59%)	54 (26%)	31 (15%)	0 3
26	DD	207/209 (99%)	124 (60%)	51 (25%)	32 (16%)	0 3
27	BK	119/123 (97%)	78 (66%)	24 (20%)	17 (14%)	0 3
27	DK	119/123 (97%)	78 (66%)	24 (20%)	17 (14%)	0 3
28	BP	112/114 (98%)	61 (54%)	32 (29%)	19 (17%)	0 3
28	DP	112/114 (98%)	61 (54%)	34 (30%)	17 (15%)	0 3
29	BE	199/201 (99%)	125 (63%)	50 (25%)	24 (12%)	0 5
29	DE	199/201 (99%)	125 (63%)	51 (26%)	23 (12%)	0 6
30	BY	56/58 (97%)	39 (70%)	12 (21%)	5 (9%)	1 12
30	DY	56/58 (97%)	39 (70%)	12 (21%)	5 (9%)	1 12
31	B0	54/56 (96%)	39 (72%)	8 (15%)	7 (13%)	0 4
31	D0	54/56 (96%)	39 (72%)	8 (15%)	7 (13%)	0 4
32	B4	36/38 (95%)	16 (44%)	10 (28%)	10 (28%)	0 0
32	D4	36/38 (95%)	16 (44%)	10 (28%)	10 (28%)	0 0
33	B1	48/54 (89%)	37 (77%)	7 (15%)	4 (8%)	1 13
33	D1	48/54 (89%)	36 (75%)	8 (17%)	4 (8%)	1 13
34	B3	62/64 (97%)	35 (56%)	21 (34%)	6 (10%)	0 10
34	D3	62/64 (97%)	34 (55%)	22 (36%)	6 (10%)	0 10
35	BV	92/94 (98%)	64 (70%)	22 (24%)	6 (6%)	1 18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
35	DV	92/94 (98%)	62 (67%)	24 (26%)	6 (6%)	1 18
36	B2	44/46 (96%)	30 (68%)	10 (23%)	4 (9%)	1 12
36	D2	44/46 (96%)	30 (68%)	10 (23%)	4 (9%)	1 12
37	BL	141/144 (98%)	89 (63%)	31 (22%)	21 (15%)	0 3
37	DL	141/144 (98%)	89 (63%)	32 (23%)	20 (14%)	0 3
38	BM	134/136 (98%)	84 (63%)	29 (22%)	21 (16%)	0 3
38	DM	134/136 (98%)	83 (62%)	31 (23%)	20 (15%)	0 3
39	BX	61/63 (97%)	36 (59%)	17 (28%)	8 (13%)	0 4
39	DX	61/63 (97%)	36 (59%)	17 (28%)	8 (13%)	0 4
40	BH	147/149 (99%)	76 (52%)	46 (31%)	25 (17%)	0 3
40	DH	147/149 (99%)	91 (62%)	33 (22%)	23 (16%)	0 3
41	BJ	140/142 (99%)	85 (61%)	37 (26%)	18 (13%)	0 4
41	DJ	140/142 (99%)	85 (61%)	36 (26%)	19 (14%)	0 4
42	BN	118/127 (93%)	76 (64%)	29 (25%)	13 (11%)	0 7
42	DN	118/127 (93%)	77 (65%)	28 (24%)	13 (11%)	0 7
43	BO	114/117 (97%)	74 (65%)	29 (25%)	11 (10%)	0 10
43	DO	114/117 (97%)	75 (66%)	27 (24%)	12 (10%)	0 8
44	BQ	115/117 (98%)	75 (65%)	31 (27%)	9 (8%)	1 14
44	DQ	115/117 (98%)	75 (65%)	29 (25%)	11 (10%)	0 10
45	BS	108/110 (98%)	68 (63%)	29 (27%)	11 (10%)	0 9
45	DS	108/110 (98%)	66 (61%)	31 (29%)	11 (10%)	0 9
46	BU	100/103 (97%)	58 (58%)	23 (23%)	19 (19%)	0 2
46	DU	100/103 (97%)	59 (59%)	22 (22%)	19 (19%)	0 2
47	BF	176/178 (99%)	103 (58%)	44 (25%)	29 (16%)	0 3
47	DF	176/178 (99%)	105 (60%)	42 (24%)	29 (16%)	0 3
48	BG	174/176 (99%)	99 (57%)	42 (24%)	33 (19%)	0 2
48	DG	174/176 (99%)	101 (58%)	41 (24%)	32 (18%)	0 2
49	BR	101/103 (98%)	72 (71%)	20 (20%)	9 (9%)	1 12
49	DR	101/103 (98%)	74 (73%)	18 (18%)	9 (9%)	1 12
50	BT	91/100 (91%)	48 (53%)	23 (25%)	20 (22%)	0 1
50	DT	91/100 (91%)	46 (50%)	27 (30%)	18 (20%)	0 2

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
51	BZ	75/78 (96%)	50 (67%)	13 (17%)	12 (16%)	0 3
51	DZ	75/78 (96%)	50 (67%)	13 (17%)	12 (16%)	0 3
52	BW	77/84 (92%)	28 (36%)	23 (30%)	26 (34%)	0 0
52	DW	77/84 (92%)	28 (36%)	24 (31%)	25 (32%)	0 0
53	B6	183/185 (99%)	162 (88%)	16 (9%)	5 (3%)	5 34
53	D6	183/185 (99%)	152 (83%)	24 (13%)	7 (4%)	3 27
All	All	11607/12284 (94%)	7731 (67%)	2581 (22%)	1295 (11%)	0 7

5 of 1295 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AC	14	VAL
2	AC	54	ILE
2	AC	205	GLU
3	AD	24	VAL
3	AD	25	ARG

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	AC	170/189 (90%)	144 (85%)	26 (15%)	2 16
2	CC	170/189 (90%)	143 (84%)	27 (16%)	2 16
3	AD	172/172 (100%)	146 (85%)	26 (15%)	3 17
3	CD	172/172 (100%)	147 (86%)	25 (14%)	3 18
4	AE	113/125 (90%)	95 (84%)	18 (16%)	2 16
4	CE	113/125 (90%)	96 (85%)	17 (15%)	3 17
5	AF	87/116 (75%)	76 (87%)	11 (13%)	4 22
5	CF	87/116 (75%)	76 (87%)	11 (13%)	4 22
6	AG	123/146 (84%)	105 (85%)	18 (15%)	3 18
6	CG	125/146 (86%)	106 (85%)	19 (15%)	3 16

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
7	AH	104/104 (100%)	96 (92%)	8 (8%)	13 40
7	CH	104/104 (100%)	97 (93%)	7 (7%)	16 44
8	AI	105/106 (99%)	91 (87%)	14 (13%)	4 21
8	CI	105/106 (99%)	89 (85%)	16 (15%)	3 16
9	AJ	86/90 (96%)	76 (88%)	10 (12%)	5 24
9	CJ	86/90 (96%)	76 (88%)	10 (12%)	5 24
10	AK	90/98 (92%)	77 (86%)	13 (14%)	3 18
10	CK	90/98 (92%)	75 (83%)	15 (17%)	2 14
11	AL	103/103 (100%)	86 (84%)	17 (16%)	2 14
11	CL	103/103 (100%)	85 (82%)	18 (18%)	2 12
12	AM	92/95 (97%)	77 (84%)	15 (16%)	2 15
12	CM	91/95 (96%)	76 (84%)	15 (16%)	2 14
13	AN	79/83 (95%)	62 (78%)	17 (22%)	1 6
13	CN	79/83 (95%)	62 (78%)	17 (22%)	1 6
14	AO	76/77 (99%)	69 (91%)	7 (9%)	9 32
14	CO	76/77 (99%)	69 (91%)	7 (9%)	9 32
15	AP	65/65 (100%)	59 (91%)	6 (9%)	9 32
15	CP	65/65 (100%)	59 (91%)	6 (9%)	9 32
16	AQ	74/77 (96%)	61 (82%)	13 (18%)	2 12
16	CQ	75/77 (97%)	63 (84%)	12 (16%)	2 15
17	AR	48/64 (75%)	40 (83%)	8 (17%)	2 14
17	CR	48/64 (75%)	39 (81%)	9 (19%)	1 10
18	AS	70/78 (90%)	56 (80%)	14 (20%)	1 8
18	CS	71/78 (91%)	57 (80%)	14 (20%)	1 8
19	AT	65/65 (100%)	55 (85%)	10 (15%)	2 16
19	CT	65/65 (100%)	55 (85%)	10 (15%)	2 16
20	AB	180/198 (91%)	148 (82%)	32 (18%)	2 12
20	CB	180/198 (91%)	150 (83%)	30 (17%)	2 14
21	AU	44/60 (73%)	32 (73%)	12 (27%)	0 3
21	CU	44/60 (73%)	32 (73%)	12 (27%)	0 3
24	BI	109/109 (100%)	107 (98%)	2 (2%)	59 77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
24	DI	109/109 (100%)	103 (94%)	6 (6%)	21 50
25	BC	216/217 (100%)	179 (83%)	37 (17%)	2 13
25	DC	216/217 (100%)	176 (82%)	40 (18%)	1 10
26	BD	164/164 (100%)	135 (82%)	29 (18%)	2 12
26	DD	164/164 (100%)	134 (82%)	30 (18%)	1 11
27	BK	102/104 (98%)	80 (78%)	22 (22%)	1 6
27	DK	102/104 (98%)	81 (79%)	21 (21%)	1 7
28	BP	99/99 (100%)	80 (81%)	19 (19%)	1 9
28	DP	99/99 (100%)	80 (81%)	19 (19%)	1 9
29	BE	165/165 (100%)	143 (87%)	22 (13%)	4 21
29	DE	165/165 (100%)	142 (86%)	23 (14%)	3 20
30	BY	48/48 (100%)	38 (79%)	10 (21%)	1 6
30	DY	48/48 (100%)	38 (79%)	10 (21%)	1 6
31	B0	47/47 (100%)	38 (81%)	9 (19%)	1 9
31	D0	47/47 (100%)	38 (81%)	9 (19%)	1 9
32	B4	34/34 (100%)	28 (82%)	6 (18%)	2 12
32	D4	34/34 (100%)	29 (85%)	5 (15%)	3 18
33	B1	45/48 (94%)	40 (89%)	5 (11%)	6 26
33	D1	45/48 (94%)	41 (91%)	4 (9%)	9 34
34	B3	51/51 (100%)	45 (88%)	6 (12%)	5 24
34	D3	51/51 (100%)	46 (90%)	5 (10%)	8 29
35	BV	78/78 (100%)	64 (82%)	14 (18%)	2 11
35	DV	78/78 (100%)	64 (82%)	14 (18%)	2 11
36	B2	38/38 (100%)	28 (74%)	10 (26%)	0 3
36	D2	38/38 (100%)	28 (74%)	10 (26%)	0 3
37	BL	102/103 (99%)	91 (89%)	11 (11%)	6 27
37	DL	102/103 (99%)	91 (89%)	11 (11%)	6 27
38	BM	109/109 (100%)	87 (80%)	22 (20%)	1 7
38	DM	109/109 (100%)	87 (80%)	22 (20%)	1 7
39	BX	55/55 (100%)	46 (84%)	9 (16%)	2 14
39	DX	55/55 (100%)	46 (84%)	9 (16%)	2 14

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
40	BH	114/114 (100%)	79 (69%)	35 (31%)	0 2
40	DH	114/114 (100%)	89 (78%)	25 (22%)	1 6
41	BJ	116/116 (100%)	100 (86%)	16 (14%)	3 20
41	DJ	116/116 (100%)	100 (86%)	16 (14%)	3 20
42	BN	100/103 (97%)	84 (84%)	16 (16%)	2 15
42	DN	100/103 (97%)	84 (84%)	16 (16%)	2 15
43	BO	86/87 (99%)	71 (83%)	15 (17%)	2 12
43	DO	86/87 (99%)	72 (84%)	14 (16%)	2 15
44	BQ	89/89 (100%)	79 (89%)	10 (11%)	6 25
44	DQ	89/89 (100%)	79 (89%)	10 (11%)	6 25
45	BS	93/93 (100%)	77 (83%)	16 (17%)	2 13
45	DS	93/93 (100%)	77 (83%)	16 (17%)	2 13
46	BU	83/84 (99%)	65 (78%)	18 (22%)	1 6
46	DU	83/84 (99%)	65 (78%)	18 (22%)	1 6
47	BF	149/149 (100%)	117 (78%)	32 (22%)	1 6
47	DF	149/149 (100%)	117 (78%)	32 (22%)	1 6
48	BG	137/137 (100%)	110 (80%)	27 (20%)	1 8
48	DG	137/137 (100%)	112 (82%)	25 (18%)	1 11
49	BR	84/84 (100%)	71 (84%)	13 (16%)	2 16
49	DR	84/84 (100%)	70 (83%)	14 (17%)	2 14
50	BT	80/84 (95%)	64 (80%)	16 (20%)	1 8
50	DT	80/84 (95%)	64 (80%)	16 (20%)	1 8
51	BZ	67/68 (98%)	53 (79%)	14 (21%)	1 6
51	DZ	67/68 (98%)	56 (84%)	11 (16%)	2 14
52	BW	59/62 (95%)	42 (71%)	17 (29%)	0 2
52	DW	59/62 (95%)	42 (71%)	17 (29%)	0 2
53	B6	157/157 (100%)	137 (87%)	20 (13%)	4 22
53	D6	157/157 (100%)	134 (85%)	23 (15%)	3 18
All	All	9647/10014 (96%)	8066 (84%)	1581 (16%)	2 14

5 of 1581 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
10	CK	29	THR
26	DD	84	LEU
11	CL	77	SER
10	CK	28	ASN
19	CT	5	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 320 such sidechains are listed below:

Mol	Chain	Res	Type
26	DD	126	ASN
43	DO	61	GLN
27	DK	89	ASN
37	DL	4	ASN
48	DG	29	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1529/1542 (99%)	244 (15%)	21 (1%)
1	CA	1529/1542 (99%)	235 (15%)	19 (1%)
22	BA	116/120 (96%)	17 (14%)	0
22	DA	116/120 (96%)	16 (13%)	0
23	BB	2837/2904 (97%)	457 (16%)	17 (0%)
23	DB	2837/2904 (97%)	435 (15%)	22 (0%)
All	All	8964/9132 (98%)	1404 (15%)	79 (0%)

5 of 1404 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	9	G
1	AA	14	U
1	AA	32	A
1	AA	39	G
1	AA	47	C

5 of 79 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
23	DB	63	A
23	DB	2148	G
23	DB	139	U

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Mol	Chain	Res	Type
23	DB	1205	A
23	DB	2756	U

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 349 ligands modelled in this entry, 345 are monoatomic - leaving 4 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	LLL	BB	3111	-	29,33,33	2.33	11 (37%)	34,49,49	1.20	4 (11%)
55	LLL	AA	1661	-	29,33,33	2.37	11 (37%)	34,49,49	1.26	4 (11%)
55	LLL	CA	1662	-	29,33,33	2.37	11 (37%)	34,49,49	1.26	4 (11%)
55	LLL	DB	3112	-	29,33,33	2.38	12 (41%)	34,49,49	1.23	5 (14%)

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	LLL	BB	3111	-	-	1/11/65/65	0/3/3/3
55	LLL	AA	1661	-	-	1/11/65/65	0/3/3/3
55	LLL	CA	1662	-	-	1/11/65/65	0/3/3/3
55	LLL	DB	3112	-	-	1/11/65/65	0/3/3/3

The worst 5 of 45 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	CA	1662	LLL	O53-C53	6.36	1.52	1.43
55	AA	1661	LLL	O53-C53	6.34	1.52	1.43
55	DB	3112	LLL	O53-C53	6.32	1.52	1.43
55	BB	3111	LLL	O53-C53	6.27	1.52	1.43
55	CA	1662	LLL	O53-C13	4.57	1.51	1.41

The worst 5 of 17 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	CA	1662	LLL	C53-O53-C13	3.78	117.62	111.53
55	DB	3112	LLL	C53-O53-C13	3.76	117.59	111.53
55	AA	1661	LLL	C53-O53-C13	3.68	117.45	111.53
55	BB	3111	LLL	C53-O53-C13	3.68	117.45	111.53
55	AA	1661	LLL	C13-O62-C62	2.64	124.50	117.96

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
55	AA	1661	LLL	C23-C33-N33-C93
55	BB	3111	LLL	C23-C33-N33-C93
55	CA	1662	LLL	C23-C33-N33-C93
55	DB	3112	LLL	C23-C33-N33-C93

There are no ring outliers.

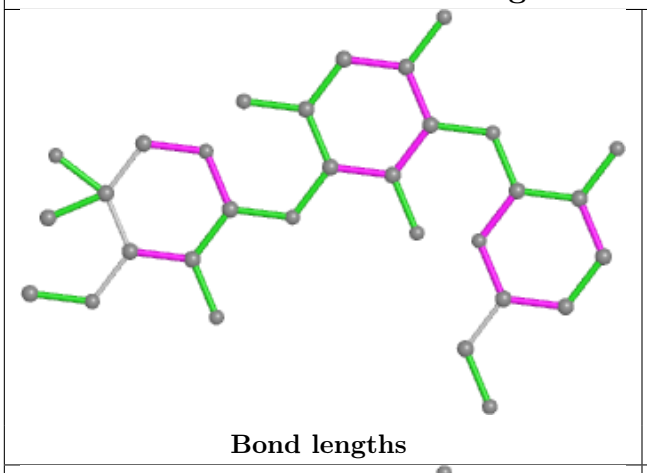
2 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
55	BB	3111	LLL	2	0
55	CA	1662	LLL	3	0

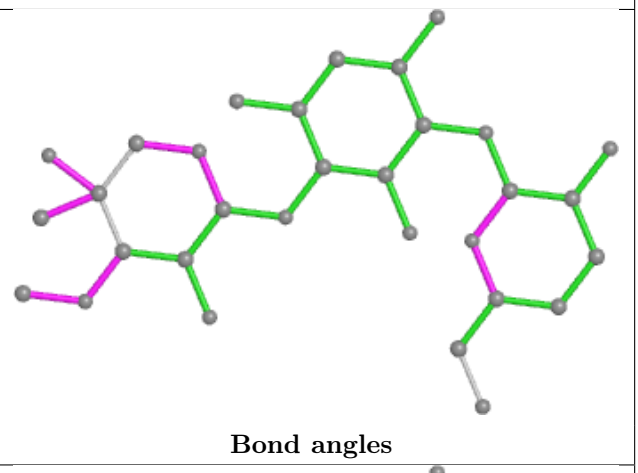
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 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.

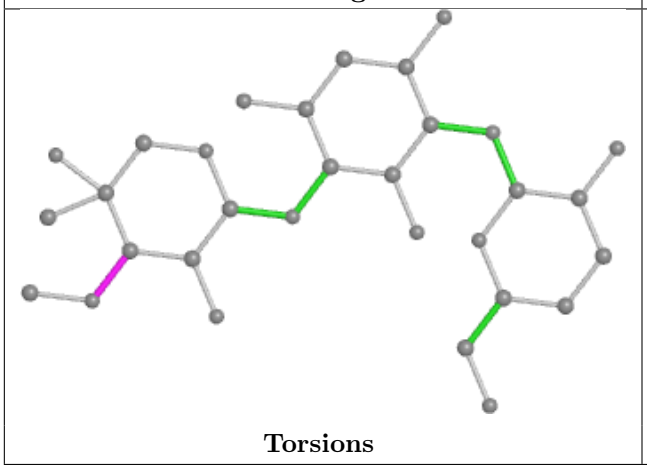
Ligand LLL BB 3111



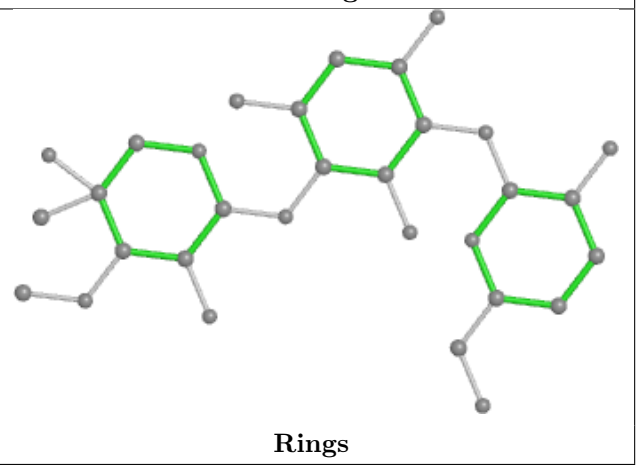
Bond lengths



Bond angles

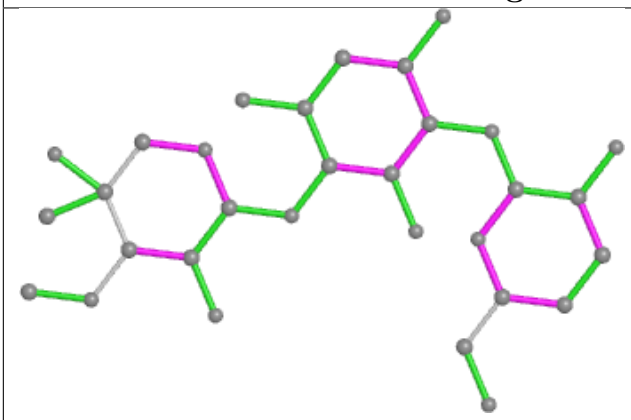


Torsions

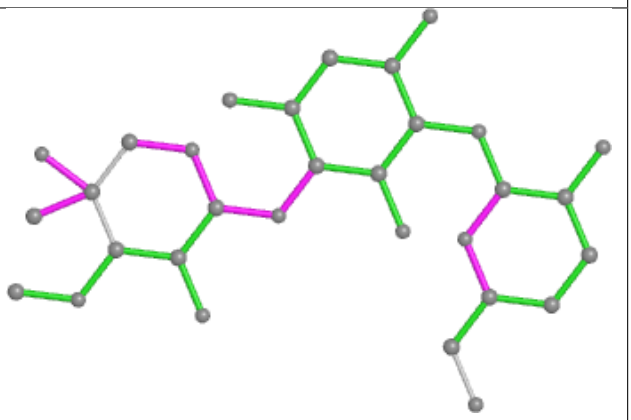


Rings

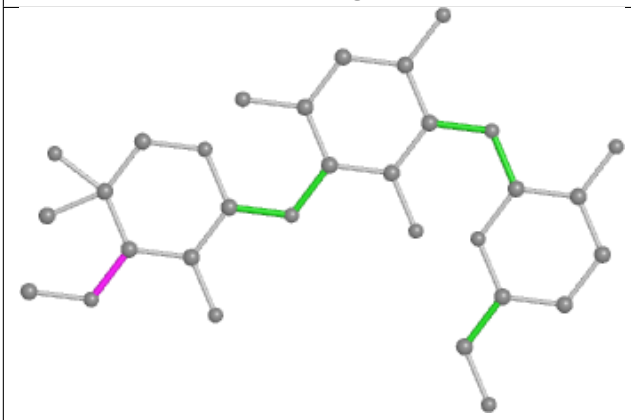
Ligand LLL AA 1661



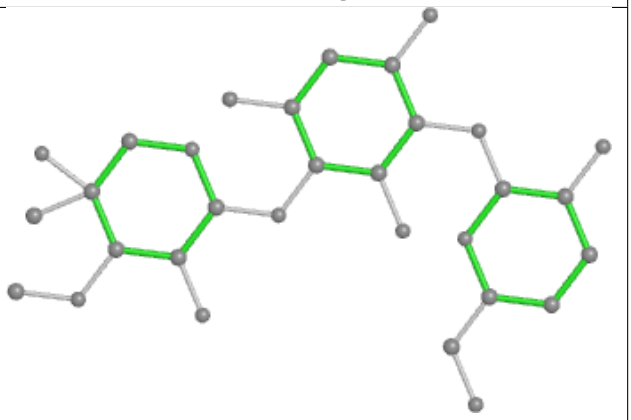
Bond lengths



Bond angles

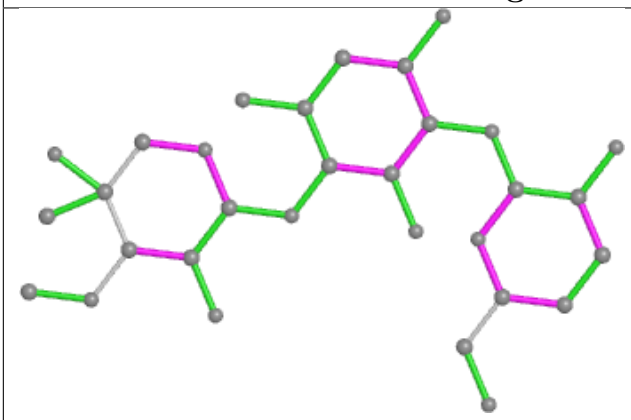


Torsions

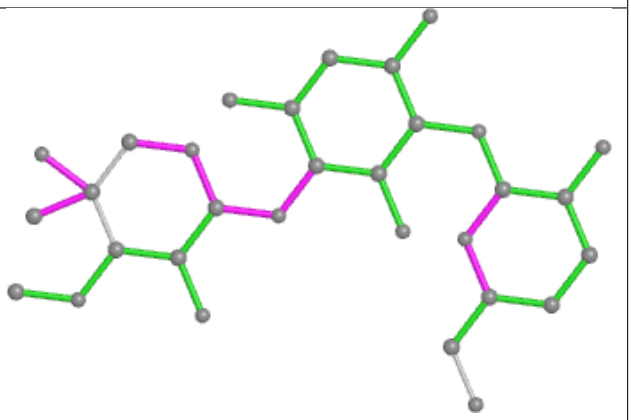


Rings

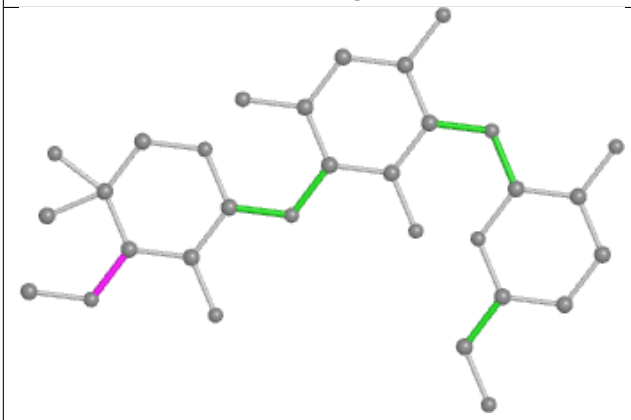
Ligand LLL CA 1662



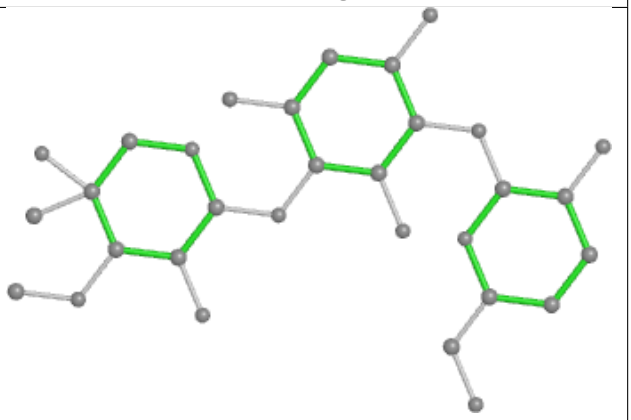
Bond lengths



Bond angles

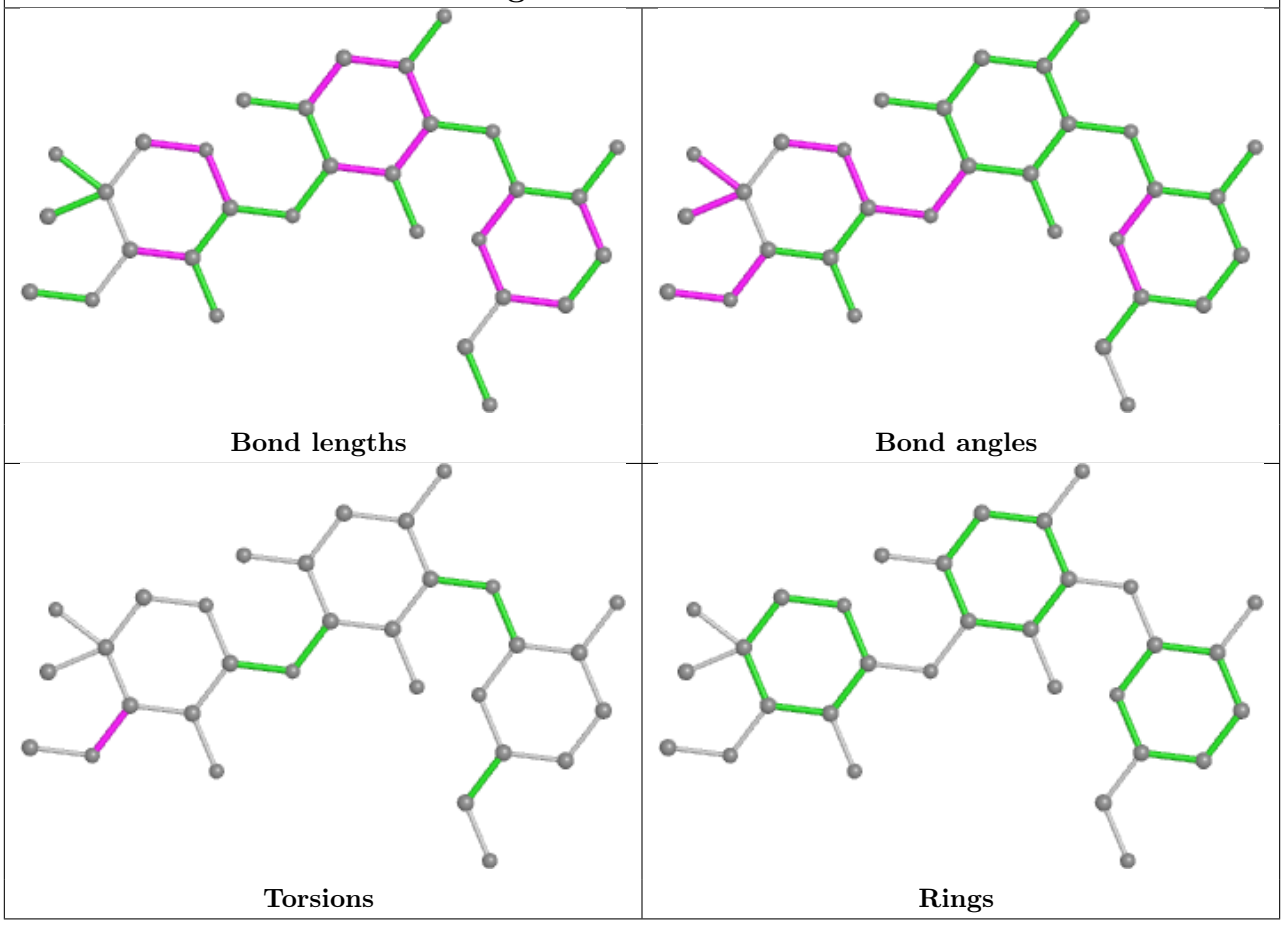


Torsions



Rings

Ligand LLL DB 3112



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, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	AA	1530/1542 (99%)	-0.34	8 (0%) 91 85	13, 75, 157, 180	0
1	CA	1530/1542 (99%)	-0.40	1 (0%) 95 94	8, 52, 139, 180	0
2	AC	206/232 (88%)	-0.19	3 (1%) 73 64	5, 72, 147, 180	0
2	CC	206/232 (88%)	-0.10	1 (0%) 91 85	6, 72, 131, 180	0
3	AD	205/205 (100%)	0.19	8 (3%) 39 31	20, 95, 159, 180	0
3	CD	205/205 (100%)	-0.17	0 100 100	5, 56, 145, 180	0
4	AE	150/166 (90%)	0.16	3 (2%) 65 56	7, 69, 146, 180	0
4	CE	150/166 (90%)	0.16	3 (2%) 65 56	5, 49, 112, 180	0
5	AF	100/135 (74%)	0.24	6 (6%) 21 17	5, 69, 150, 177	0
5	CF	100/135 (74%)	-0.01	1 (1%) 82 74	5, 72, 143, 166	0
6	AG	150/178 (84%)	0.01	4 (2%) 54 44	20, 97, 159, 175	0
6	CG	152/178 (85%)	-0.14	1 (0%) 87 82	29, 85, 147, 180	0
7	AH	129/129 (100%)	0.26	8 (6%) 20 17	26, 80, 143, 177	0
7	CH	129/129 (100%)	0.00	0 100 100	6, 49, 117, 174	0
8	AI	127/129 (98%)	0.01	2 (1%) 72 62	18, 89, 171, 180	0
8	CI	127/129 (98%)	-0.05	2 (1%) 72 62	22, 92, 160, 180	0
9	AJ	98/103 (95%)	0.21	2 (2%) 65 56	16, 92, 169, 180	0
9	CJ	98/103 (95%)	0.30	5 (5%) 28 24	26, 87, 153, 180	0
10	AK	117/128 (91%)	-0.16	0 100 100	7, 59, 119, 180	0
10	CK	117/128 (91%)	-0.19	2 (1%) 70 60	5, 52, 120, 180	0
11	AL	123/123 (100%)	0.10	3 (2%) 59 49	14, 78, 152, 180	0
11	CL	123/123 (100%)	-0.05	0 100 100	5, 46, 127, 170	0
12	AM	114/117 (97%)	-0.18	0 100 100	40, 114, 180, 180	0
12	CM	113/117 (96%)	-0.23	0 100 100	27, 100, 173, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	AN	96/100 (96%)	-0.01	0 100 100	8, 86, 158, 180	0
13	CN	96/100 (96%)	0.08	1 (1%) 82 74	14, 87, 147, 178	0
14	AO	88/89 (98%)	-0.35	0 100 100	5, 76, 128, 180	0
14	CO	88/89 (98%)	-0.20	0 100 100	10, 63, 132, 159	0
15	AP	82/82 (100%)	0.67	3 (3%) 41 32	24, 94, 154, 180	0
15	CP	80/82 (97%)	0.43	5 (6%) 20 16	5, 46, 128, 180	0
16	AQ	80/83 (96%)	0.02	0 100 100	36, 96, 168, 180	0
16	CQ	81/83 (97%)	0.02	0 100 100	5, 52, 135, 180	0
17	AR	55/74 (74%)	-0.05	1 (1%) 68 59	14, 70, 148, 180	0
17	CR	55/74 (74%)	0.39	3 (5%) 25 21	12, 64, 136, 180	0
18	AS	79/91 (86%)	0.40	6 (7%) 13 11	44, 120, 176, 180	0
18	CS	80/91 (87%)	-0.18	0 100 100	34, 107, 180, 180	0
19	AT	85/86 (98%)	-0.20	0 100 100	34, 101, 168, 180	0
19	CT	85/86 (98%)	-0.40	0 100 100	5, 62, 140, 180	0
20	AB	218/240 (90%)	0.13	8 (3%) 41 32	18, 97, 160, 180	0
20	CB	218/240 (90%)	0.11	6 (2%) 53 42	16, 93, 160, 180	0
21	AU	51/70 (72%)	0.00	1 (1%) 65 56	27, 89, 171, 180	0
21	CU	51/70 (72%)	-0.11	0 100 100	23, 81, 137, 180	0
22	BA	117/120 (97%)	-0.42	0 100 100	49, 85, 136, 180	0
22	DA	117/120 (97%)	-0.35	2 (1%) 70 60	36, 88, 148, 180	0
23	BB	2841/2904 (97%)	-0.16	14 (0%) 91 85	6, 60, 150, 180	0
23	DB	2841/2904 (97%)	-0.20	8 (0%) 94 90	5, 46, 154, 180	0
24	BI	141/141 (100%)	0.97	24 (17%) 1 2	72, 166, 180, 180	0
24	DI	141/141 (100%)	0.58	12 (8%) 10 9	63, 162, 180, 180	0
25	BC	271/272 (99%)	0.09	2 (0%) 87 82	5, 47, 107, 156	0
25	DC	271/272 (99%)	0.03	0 100 100	5, 38, 99, 145	0
26	BD	209/209 (100%)	0.38	16 (7%) 13 11	8, 72, 145, 180	0
26	DD	209/209 (100%)	0.10	1 (0%) 91 85	5, 51, 131, 180	0
27	BK	121/123 (98%)	0.62	5 (4%) 37 30	16, 62, 142, 180	0
27	DK	121/123 (98%)	0.24	0 100 100	5, 42, 103, 180	0
28	BP	114/114 (100%)	1.10	18 (15%) 2 2	28, 86, 155, 173	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
28	DP	114/114 (100%)	-0.22	0 100 100	5, 52, 119, 161	0
29	BE	201/201 (100%)	0.34	14 (6%) 16 13	5, 76, 143, 180	0
29	DE	201/201 (100%)	0.08	5 (2%) 57 47	5, 66, 138, 180	0
30	BY	58/58 (100%)	0.28	3 (5%) 27 24	22, 84, 137, 180	0
30	DY	58/58 (100%)	-0.05	1 (1%) 70 60	10, 66, 149, 158	0
31	B0	56/56 (100%)	0.16	2 (3%) 42 34	5, 81, 149, 180	0
31	D0	56/56 (100%)	-0.25	0 100 100	9, 54, 119, 180	0
32	B4	38/38 (100%)	0.08	1 (2%) 56 46	5, 71, 153, 168	0
32	D4	38/38 (100%)	-0.01	0 100 100	17, 62, 132, 171	0
33	B1	50/54 (92%)	0.40	3 (6%) 21 17	32, 87, 132, 174	0
33	D1	50/54 (92%)	0.17	2 (4%) 38 30	24, 73, 125, 155	0
34	B3	64/64 (100%)	0.59	4 (6%) 20 16	19, 64, 105, 133	0
34	D3	64/64 (100%)	0.14	1 (1%) 72 62	6, 49, 107, 180	0
35	BV	94/94 (100%)	-0.11	1 (1%) 80 72	37, 92, 143, 180	0
35	DV	94/94 (100%)	-0.09	0 100 100	27, 94, 160, 180	0
36	B2	46/46 (100%)	0.00	0 100 100	5, 50, 123, 143	0
36	D2	46/46 (100%)	-0.12	0 100 100	7, 43, 103, 180	0
37	BL	143/144 (99%)	0.25	1 (0%) 87 82	7, 72, 131, 180	0
37	DL	143/144 (99%)	0.12	0 100 100	5, 61, 128, 162	0
38	BM	136/136 (100%)	0.08	4 (2%) 51 41	16, 68, 144, 165	0
38	DM	136/136 (100%)	0.22	4 (2%) 51 41	5, 63, 134, 171	0
39	BX	63/63 (100%)	0.26	2 (3%) 47 37	24, 92, 169, 180	0
39	DX	63/63 (100%)	-0.09	2 (3%) 47 37	38, 94, 166, 180	0
40	BH	149/149 (100%)	1.22	28 (18%) 1 1	13, 125, 180, 180	0
40	DH	149/149 (100%)	0.38	6 (4%) 38 30	5, 109, 171, 180	0
41	BJ	142/142 (100%)	0.03	2 (1%) 75 65	13, 77, 132, 166	0
41	DJ	142/142 (100%)	-0.13	1 (0%) 87 82	5, 65, 128, 180	0
42	BN	120/127 (94%)	0.06	1 (0%) 86 79	5, 68, 136, 180	0
42	DN	120/127 (94%)	-0.38	0 100 100	5, 44, 116, 141	0
43	BO	116/117 (99%)	0.39	8 (6%) 16 13	29, 94, 144, 180	0
43	DO	116/117 (99%)	-0.10	2 (1%) 70 60	5, 93, 156, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
44	BQ	117/117 (100%)	-0.37	0 100 100	5, 72, 134, 171	0
44	DQ	117/117 (100%)	0.05	1 (0%) 84 77	5, 50, 131, 156	0
45	BS	110/110 (100%)	0.44	2 (1%) 68 59	5, 67, 129, 180	0
45	DS	110/110 (100%)	0.29	0 100 100	5, 50, 120, 157	0
46	BU	102/103 (99%)	0.71	6 (5%) 22 18	13, 88, 148, 177	0
46	DU	102/103 (99%)	-0.00	1 (0%) 82 74	26, 93, 154, 180	0
47	BF	178/178 (100%)	0.29	2 (1%) 80 72	39, 115, 174, 180	0
47	DF	178/178 (100%)	0.60	13 (7%) 15 12	22, 106, 175, 180	0
48	BG	176/176 (100%)	0.23	2 (1%) 80 72	8, 102, 172, 180	0
48	DG	176/176 (100%)	0.03	3 (1%) 70 60	32, 104, 164, 180	0
49	BR	103/103 (100%)	0.14	3 (2%) 51 41	18, 99, 151, 173	0
49	DR	103/103 (100%)	0.29	4 (3%) 39 31	5, 85, 144, 180	0
50	BT	93/100 (93%)	0.23	2 (2%) 62 52	13, 83, 160, 180	0
50	DT	93/100 (93%)	0.31	3 (3%) 47 37	15, 79, 167, 180	0
51	BZ	77/78 (98%)	0.29	3 (3%) 39 31	12, 57, 112, 152	0
51	DZ	77/78 (98%)	-0.13	1 (1%) 77 68	5, 56, 101, 131	0
52	BW	79/84 (94%)	0.60	7 (8%) 9 8	19, 88, 139, 180	0
52	DW	79/84 (94%)	0.03	3 (3%) 40 32	5, 79, 143, 180	0
53	B6	185/185 (100%)	2.72	83 (44%) 0 0	23, 123, 180, 180	0
53	D6	185/185 (100%)	1.06	49 (26%) 0 0	5, 104, 180, 180	0
All	All	20787/21416 (97%)	0.00	485 (2%) 60 51	5, 69, 159, 180	0

The worst 5 of 485 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
53	B6	96	GLY	15.3
53	B6	97	ASP	15.0
53	B6	98	ALA	13.2
53	B6	88	LEU	10.7
53	B6	94	ASN	10.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} 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	AA	1625	1/1	0.26	0.88	84,84,84,84	1
54	MG	AA	1608	1/1	0.48	0.29	147,147,147,147	0
54	MG	BB	3033	1/1	0.48	0.65	141,141,141,141	0
54	MG	AA	1635	1/1	0.52	0.09	103,103,103,103	0
54	MG	CA	1627	1/1	0.52	0.33	69,69,69,69	1
54	MG	AA	1622	1/1	0.53	0.39	163,163,163,163	0
54	MG	AA	1626	1/1	0.54	0.18	49,49,49,49	1
54	MG	AA	1647	1/1	0.55	0.99	180,180,180,180	0
54	MG	DB	3060	1/1	0.55	0.10	104,104,104,104	0
54	MG	BB	3042	1/1	0.56	0.12	135,135,135,135	0
54	MG	AA	1639	1/1	0.60	0.34	134,134,134,134	0
54	MG	AA	1632	1/1	0.65	0.26	62,62,62,62	0
54	MG	AA	1619	1/1	0.65	0.25	180,180,180,180	0
54	MG	AA	1637	1/1	0.66	2.40	151,151,151,151	0
54	MG	DB	3066	1/1	0.68	0.30	158,158,158,158	0
54	MG	DB	3059	1/1	0.69	0.23	166,166,166,166	0
54	MG	AA	1659	1/1	0.69	0.45	180,180,180,180	0
54	MG	AA	1650	1/1	0.69	0.14	122,122,122,122	0
54	MG	BB	3093	1/1	0.70	0.37	131,131,131,131	0
54	MG	CA	1619	1/1	0.70	0.19	70,70,70,70	0
54	MG	CA	1614	1/1	0.71	0.16	90,90,90,90	0
54	MG	AA	1614	1/1	0.71	0.11	113,113,113,113	0
54	MG	AA	1656	1/1	0.71	0.79	161,161,161,161	0
54	MG	AA	1646	1/1	0.73	0.18	104,104,104,104	0
54	MG	AA	1602	1/1	0.73	0.18	147,147,147,147	0
54	MG	AA	1657	1/1	0.76	0.42	124,124,124,124	0
54	MG	CA	1623	1/1	0.76	0.08	173,173,173,173	0
54	MG	BB	3080	1/1	0.79	0.20	77,77,77,77	0
54	MG	AA	1627	1/1	0.79	0.19	68,68,68,68	0
54	MG	BB	3079	1/1	0.79	0.20	63,63,63,63	0
54	MG	BB	3097	1/1	0.80	0.07	88,88,88,88	0
54	MG	CE	201	1/1	0.80	0.22	113,113,113,113	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
54	MG	DB	3057	1/1	0.80	0.10	77,77,77,77	0
54	MG	BB	3013	1/1	0.81	0.18	92,92,92,92	0
54	MG	CA	1641	1/1	0.81	0.17	42,42,42,42	0
54	MG	AA	1613	1/1	0.81	0.08	71,71,71,71	0
54	MG	DB	3034	1/1	0.81	0.20	69,69,69,69	0
54	MG	BB	3043	1/1	0.82	0.08	122,122,122,122	0
54	MG	CA	1616	1/1	0.83	0.14	88,88,88,88	0
54	MG	DB	3058	1/1	0.83	0.85	162,162,162,162	0
54	MG	CA	1658	1/1	0.83	0.34	53,53,53,53	0
54	MG	AA	1623	1/1	0.83	0.65	73,73,73,73	1
54	MG	CA	1635	1/1	0.83	0.14	98,98,98,98	0
54	MG	BB	3010	1/1	0.84	0.13	40,40,40,40	0
54	MG	CA	1643	1/1	0.84	0.07	32,32,32,32	0
55	LLL	DB	3112	31/31	0.84	0.34	121,121,121,121	0
54	MG	DB	3100	1/1	0.85	0.21	46,46,46,46	0
54	MG	AA	1620	1/1	0.85	0.06	113,113,113,113	0
54	MG	CA	1638	1/1	0.86	0.11	98,98,98,98	0
54	MG	DB	3030	1/1	0.86	0.17	10,10,10,10	0
54	MG	AA	1651	1/1	0.86	0.09	112,112,112,112	0
54	MG	BB	3019	1/1	0.86	0.09	40,40,40,40	0
54	MG	AA	1658	1/1	0.86	0.09	85,85,85,85	0
55	LLL	BB	3111	31/31	0.87	0.26	107,107,107,107	0
54	MG	AA	1606	1/1	0.87	0.08	47,47,47,47	0
54	MG	DB	3029	1/1	0.88	0.14	59,59,59,59	0
54	MG	BB	3081	1/1	0.88	0.17	16,16,16,16	0
54	MG	BB	3049	1/1	0.88	0.15	35,35,35,35	0
54	MG	DB	3055	1/1	0.88	0.13	41,41,41,41	0
54	MG	DB	3013	1/1	0.88	0.14	41,41,41,41	0
54	MG	DB	3026	1/1	0.88	0.18	54,54,54,54	0
54	MG	BB	3053	1/1	0.89	0.07	79,79,79,79	0
54	MG	CA	1629	1/1	0.89	0.12	65,65,65,65	1
54	MG	BB	3092	1/1	0.89	0.08	45,45,45,45	0
54	MG	BB	3008	1/1	0.89	0.20	75,75,75,75	0
54	MG	DB	3015	1/1	0.89	0.10	24,24,24,24	0
54	MG	AA	1645	1/1	0.89	0.09	95,95,95,95	0
54	MG	BB	3057	1/1	0.90	0.36	65,65,65,65	0
54	MG	DB	3072	1/1	0.90	0.09	54,54,54,54	0
54	MG	DB	3033	1/1	0.90	0.12	43,43,43,43	0
54	MG	BB	3072	1/1	0.90	0.14	79,79,79,79	0
54	MG	BB	3037	1/1	0.90	0.11	44,44,44,44	0
54	MG	BB	3078	1/1	0.91	0.21	101,101,101,101	0
54	MG	AA	1601	1/1	0.91	0.12	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
54	MG	CA	1621	1/1	0.91	0.53	110,110,110,110	0
54	MG	BB	3061	1/1	0.91	0.10	56,56,56,56	0
54	MG	CA	1646	1/1	0.91	0.08	99,99,99,99	0
54	MG	CA	1649	1/1	0.91	0.14	127,127,127,127	0
54	MG	DB	3074	1/1	0.91	0.09	17,17,17,17	0
54	MG	CA	1609	1/1	0.91	0.04	84,84,84,84	0
54	MG	DB	3052	1/1	0.91	0.24	113,113,113,113	0
54	MG	AA	1649	1/1	0.91	0.06	82,82,82,82	0
54	MG	CA	1659	1/1	0.92	0.09	90,90,90,90	0
54	MG	DB	3053	1/1	0.92	0.09	80,80,80,80	0
54	MG	CA	1660	1/1	0.92	0.10	63,63,63,63	0
54	MG	AA	1615	1/1	0.92	0.23	106,106,106,106	0
54	MG	DB	3006	1/1	0.92	0.14	15,15,15,15	0
54	MG	BB	3088	1/1	0.92	0.08	36,36,36,36	0
54	MG	BB	3018	1/1	0.92	0.18	50,50,50,50	0
54	MG	DB	3064	1/1	0.92	0.10	19,19,19,19	0
54	MG	BB	3003	1/1	0.92	0.09	51,51,51,51	0
54	MG	AA	1630	1/1	0.92	0.11	88,88,88,88	0
54	MG	BB	3108	1/1	0.92	0.22	44,44,44,44	0
54	MG	CA	1657	1/1	0.92	0.24	89,89,89,89	0
54	MG	AA	1641	1/1	0.92	0.04	69,69,69,69	0
54	MG	DB	3045	1/1	0.92	0.07	68,68,68,68	0
54	MG	DB	3003	1/1	0.93	0.16	33,33,33,33	0
54	MG	CA	1620	1/1	0.93	0.14	37,37,37,37	0
54	MG	CA	1642	1/1	0.93	0.13	108,108,108,108	0
54	MG	CA	1606	1/1	0.93	0.13	138,138,138,138	0
54	MG	AA	1624	1/1	0.93	0.10	77,77,77,77	0
54	MG	CA	1624	1/1	0.93	0.12	56,56,56,56	0
54	MG	BB	3017	1/1	0.93	0.17	73,73,73,73	0
54	MG	CA	1615	1/1	0.93	0.09	180,180,180,180	0
54	MG	BB	3035	1/1	0.93	0.13	82,82,82,82	0
54	MG	DB	3035	1/1	0.93	0.19	75,75,75,75	0
54	MG	DB	3080	1/1	0.93	0.08	5,5,5,5	0
54	MG	DB	3037	1/1	0.93	0.17	54,54,54,54	0
54	MG	CA	1636	1/1	0.93	0.05	92,92,92,92	0
54	MG	BB	3004	1/1	0.93	0.19	73,73,73,73	0
54	MG	BB	3065	1/1	0.94	0.06	5,5,5,5	0
54	MG	AA	1660	1/1	0.94	0.08	37,37,37,37	0
54	MG	BB	3100	1/1	0.94	0.22	151,151,151,151	0
54	MG	DB	3061	1/1	0.94	0.09	69,69,69,69	0
54	MG	CA	1652	1/1	0.94	0.17	65,65,65,65	0
54	MG	CA	1654	1/1	0.94	0.10	59,59,59,59	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
54	MG	DB	3042	1/1	0.94	0.07	23,23,23,23	0
54	MG	AA	1631	1/1	0.94	0.12	88,88,88,88	0
54	MG	DB	3020	1/1	0.94	0.20	13,13,13,13	0
54	MG	DB	3093	1/1	0.94	0.17	10,10,10,10	0
54	MG	DB	3097	1/1	0.94	0.18	64,64,64,64	0
54	MG	DB	3022	1/1	0.94	0.08	71,71,71,71	0
54	MG	DB	3106	1/1	0.94	0.18	64,64,64,64	0
54	MG	DB	3110	1/1	0.94	0.18	38,38,38,38	0
54	MG	AA	1644	1/1	0.94	0.13	98,98,98,98	0
55	LLL	CA	1662	31/31	0.94	0.22	14,14,14,14	0
54	MG	CA	1628	1/1	0.94	0.07	44,44,44,44	0
56	ZN	D4	101	1/1	0.94	0.07	45,45,45,45	0
54	MG	DB	3038	1/1	0.95	0.15	37,37,37,37	0
54	MG	CA	1651	1/1	0.95	0.11	38,38,38,38	0
54	MG	BB	3024	1/1	0.95	0.06	44,44,44,44	0
54	MG	BB	3026	1/1	0.95	0.21	43,43,43,43	0
54	MG	BB	3067	1/1	0.95	0.13	24,24,24,24	0
54	MG	BB	3027	1/1	0.95	0.13	42,42,42,42	0
54	MG	BB	3031	1/1	0.95	0.13	63,63,63,63	0
54	MG	AA	1648	1/1	0.95	0.07	40,40,40,40	0
54	MG	AA	1654	1/1	0.95	0.07	82,82,82,82	0
54	MG	AA	1655	1/1	0.95	0.06	54,54,54,54	0
54	MG	CA	1625	1/1	0.95	0.18	6,6,6,6	0
54	MG	BB	3038	1/1	0.95	0.23	152,152,152,152	0
54	MG	BB	3001	1/1	0.95	0.07	29,29,29,29	0
54	MG	DB	3016	1/1	0.95	0.07	25,25,25,25	0
54	MG	AA	1636	1/1	0.95	0.06	93,93,93,93	0
54	MG	BB	3095	1/1	0.95	0.11	81,81,81,81	0
54	MG	DB	3081	1/1	0.95	0.11	19,19,19,19	0
54	MG	DB	3083	1/1	0.95	0.17	83,83,83,83	0
54	MG	DB	3089	1/1	0.95	0.19	61,61,61,61	0
54	MG	DB	3024	1/1	0.95	0.14	45,45,45,45	0
54	MG	BB	3048	1/1	0.95	0.10	7,7,7,7	0
54	MG	BB	3099	1/1	0.95	0.16	56,56,56,56	0
54	MG	AA	1618	1/1	0.95	0.13	93,93,93,93	0
54	MG	DB	3109	1/1	0.95	0.09	83,83,83,83	0
54	MG	BB	3050	1/1	0.95	0.10	33,33,33,33	0
55	LLL	AA	1661	31/31	0.95	0.21	21,21,21,21	0
54	MG	BB	3110	1/1	0.95	0.09	40,40,40,40	0
54	MG	BB	3020	1/1	0.95	0.09	36,36,36,36	0
54	MG	DB	3036	1/1	0.95	0.08	20,20,20,20	0
56	ZN	B4	101	1/1	0.95	0.09	64,64,64,64	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
54	MG	BB	3022	1/1	0.95	0.29	37,37,37,37	0
54	MG	BB	3047	1/1	0.96	0.13	116,116,116,116	0
54	MG	DB	3050	1/1	0.96	0.14	123,123,123,123	0
54	MG	BB	3009	1/1	0.96	0.14	96,96,96,96	0
54	MG	BB	3002	1/1	0.96	0.08	30,30,30,30	0
54	MG	DB	3054	1/1	0.96	0.06	29,29,29,29	0
54	MG	BB	3086	1/1	0.96	0.17	18,18,18,18	0
54	MG	BB	3034	1/1	0.96	0.24	59,59,59,59	0
54	MG	CA	1661	1/1	0.96	0.10	48,48,48,48	0
54	MG	BB	3051	1/1	0.96	0.18	65,65,65,65	0
54	MG	AA	1607	1/1	0.96	0.07	42,42,42,42	0
54	MG	BB	3054	1/1	0.96	0.14	46,46,46,46	0
54	MG	DB	3063	1/1	0.96	0.06	19,19,19,19	0
54	MG	DB	3008	1/1	0.96	0.14	17,17,17,17	0
54	MG	CA	1626	1/1	0.96	0.23	41,41,41,41	1
54	MG	DB	3068	1/1	0.96	0.17	22,22,22,22	0
54	MG	BB	3036	1/1	0.96	0.13	62,62,62,62	0
54	MG	BB	3014	1/1	0.96	0.13	58,58,58,58	0
54	MG	DB	3017	1/1	0.96	0.10	5,5,5,5	0
54	MG	AA	1603	1/1	0.96	0.10	14,14,14,14	0
54	MG	CA	1633	1/1	0.96	0.14	50,50,50,50	0
54	MG	DB	3085	1/1	0.96	0.13	49,49,49,49	0
54	MG	CA	1634	1/1	0.96	0.10	23,23,23,23	0
54	MG	DB	3090	1/1	0.96	0.31	64,64,64,64	0
54	MG	DB	3092	1/1	0.96	0.15	56,56,56,56	0
54	MG	BB	3103	1/1	0.96	0.09	20,20,20,20	0
54	MG	DB	3095	1/1	0.96	0.12	88,88,88,88	0
54	MG	DB	3027	1/1	0.96	0.17	28,28,28,28	0
54	MG	BB	3107	1/1	0.96	0.08	30,30,30,30	0
54	MG	DB	3104	1/1	0.96	0.19	71,71,71,71	0
54	MG	BB	3041	1/1	0.96	0.15	8,8,8,8	0
54	MG	DB	3032	1/1	0.96	0.09	51,51,51,51	0
54	MG	BB	3071	1/1	0.96	0.09	89,89,89,89	0
54	MG	AA	1612	1/1	0.96	0.12	88,88,88,88	0
54	MG	CA	1607	1/1	0.96	0.07	83,83,83,83	0
54	MG	CA	1608	1/1	0.96	0.09	139,139,139,139	0
54	MG	BB	3077	1/1	0.96	0.07	83,83,83,83	0
54	MG	CA	1610	1/1	0.96	0.07	75,75,75,75	0
54	MG	BB	3029	1/1	0.96	0.11	17,17,17,17	0
54	MG	DB	3039	1/1	0.97	0.08	69,69,69,69	0
54	MG	CA	1648	1/1	0.97	0.19	14,14,14,14	0
54	MG	AA	1617	1/1	0.97	0.12	100,100,100,100	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
54	MG	DB	3046	1/1	0.97	0.07	11,11,11,11	0
54	MG	AA	1621	1/1	0.97	0.17	26,26,26,26	0
54	MG	AA	1605	1/1	0.97	0.09	47,47,47,47	0
54	MG	AA	1642	1/1	0.97	0.12	41,41,41,41	0
54	MG	CA	1656	1/1	0.97	0.05	11,11,11,11	0
54	MG	BB	3074	1/1	0.97	0.14	13,13,13,13	0
54	MG	CA	1611	1/1	0.97	0.06	57,57,57,57	0
54	MG	BB	3075	1/1	0.97	0.16	29,29,29,29	0
54	MG	BB	3039	1/1	0.97	0.07	5,5,5,5	0
54	MG	BB	3021	1/1	0.97	0.10	51,51,51,51	0
54	MG	AA	1652	1/1	0.97	0.08	90,90,90,90	0
54	MG	DB	3062	1/1	0.97	0.04	67,67,67,67	0
54	MG	DB	3001	1/1	0.97	0.09	6,6,6,6	0
54	MG	BB	3023	1/1	0.97	0.20	11,11,11,11	0
54	MG	DB	3065	1/1	0.97	0.06	45,45,45,45	0
54	MG	BB	3044	1/1	0.97	0.08	52,52,52,52	0
54	MG	DB	3067	1/1	0.97	0.13	16,16,16,16	0
54	MG	DB	3007	1/1	0.97	0.11	13,13,13,13	0
54	MG	AA	1653	1/1	0.97	0.18	87,87,87,87	0
54	MG	DB	3011	1/1	0.97	0.27	33,33,33,33	0
54	MG	BB	3005	1/1	0.97	0.19	20,20,20,20	0
54	MG	BB	3091	1/1	0.97	0.10	37,37,37,37	0
54	MG	AA	1643	1/1	0.97	0.03	29,29,29,29	0
54	MG	BB	3028	1/1	0.97	0.15	61,61,61,61	0
54	MG	DB	3018	1/1	0.97	0.10	22,22,22,22	0
54	MG	AA	1633	1/1	0.97	0.03	48,48,48,48	0
54	MG	BB	3052	1/1	0.97	0.08	36,36,36,36	0
54	MG	DB	3023	1/1	0.97	0.10	17,17,17,17	0
54	MG	CA	1630	1/1	0.97	0.28	52,52,52,52	0
54	MG	DB	3025	1/1	0.97	0.17	42,42,42,42	0
54	MG	AA	1634	1/1	0.97	0.07	67,67,67,67	0
54	MG	DB	3102	1/1	0.97	0.09	22,22,22,22	0
54	MG	BB	3032	1/1	0.97	0.21	49,49,49,49	0
54	MG	DB	3105	1/1	0.97	0.08	30,30,30,30	0
54	MG	BB	3056	1/1	0.97	0.06	31,31,31,31	0
54	MG	DB	3108	1/1	0.97	0.10	5,5,5,5	0
54	MG	AA	1616	1/1	0.97	0.06	42,42,42,42	0
54	MG	BB	3058	1/1	0.97	0.09	11,11,11,11	0
54	MG	DB	3111	1/1	0.97	0.18	32,32,32,32	0
54	MG	CA	1640	1/1	0.97	0.08	5,5,5,5	0
54	MG	AA	1628	1/1	0.97	0.12	59,59,59,59	0
54	MG	CA	1603	1/1	0.97	0.09	29,29,29,29	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
54	MG	CA	1604	1/1	0.97	0.27	16,16,16,16	0
54	MG	CA	1605	1/1	0.97	0.12	18,18,18,18	0
54	MG	CA	1647	1/1	0.97	0.07	65,65,65,65	0
54	MG	CA	1644	1/1	0.98	0.07	68,68,68,68	0
54	MG	CA	1645	1/1	0.98	0.10	66,66,66,66	0
54	MG	BB	3062	1/1	0.98	0.05	27,27,27,27	0
54	MG	DB	3040	1/1	0.98	0.09	18,18,18,18	0
54	MG	DB	3041	1/1	0.98	0.08	34,34,34,34	0
54	MG	BB	3082	1/1	0.98	0.19	5,5,5,5	0
54	MG	DB	3044	1/1	0.98	0.07	21,21,21,21	0
54	MG	BB	3083	1/1	0.98	0.21	28,28,28,28	0
54	MG	BB	3084	1/1	0.98	0.20	77,77,77,77	0
54	MG	DB	3047	1/1	0.98	0.11	19,19,19,19	0
54	MG	DB	3049	1/1	0.98	0.07	9,9,9,9	0
54	MG	BB	3063	1/1	0.98	0.14	28,28,28,28	0
54	MG	DB	3051	1/1	0.98	0.20	32,32,32,32	0
54	MG	BB	3087	1/1	0.98	0.22	114,114,114,114	0
54	MG	CA	1653	1/1	0.98	0.04	51,51,51,51	0
54	MG	BB	3064	1/1	0.98	0.08	37,37,37,37	0
54	MG	CA	1612	1/1	0.98	0.07	72,72,72,72	0
54	MG	CA	1613	1/1	0.98	0.11	40,40,40,40	0
54	MG	BB	3089	1/1	0.98	0.19	25,25,25,25	0
54	MG	BB	3090	1/1	0.98	0.10	91,91,91,91	0
54	MG	AA	1610	1/1	0.98	0.06	62,62,62,62	0
54	MG	CA	1617	1/1	0.98	0.08	5,5,5,5	0
54	MG	CA	1618	1/1	0.98	0.12	30,30,30,30	0
54	MG	BB	3066	1/1	0.98	0.15	25,25,25,25	0
54	MG	DB	3002	1/1	0.98	0.08	6,6,6,6	0
54	MG	AA	1640	1/1	0.98	0.09	56,56,56,56	0
54	MG	DB	3005	1/1	0.98	0.16	45,45,45,45	0
54	MG	BB	3094	1/1	0.98	0.13	47,47,47,47	0
54	MG	CA	1622	1/1	0.98	0.10	18,18,18,18	0
54	MG	DB	3069	1/1	0.98	0.20	14,14,14,14	0
54	MG	DB	3070	1/1	0.98	0.10	38,38,38,38	0
54	MG	DB	3071	1/1	0.98	0.05	37,37,37,37	0
54	MG	BB	3069	1/1	0.98	0.14	10,10,10,10	0
54	MG	DB	3073	1/1	0.98	0.21	67,67,67,67	0
54	MG	DB	3009	1/1	0.98	0.17	18,18,18,18	0
54	MG	DB	3075	1/1	0.98	0.12	35,35,35,35	0
54	MG	DB	3076	1/1	0.98	0.14	104,104,104,104	0
54	MG	DB	3077	1/1	0.98	0.08	15,15,15,15	0
54	MG	DB	3079	1/1	0.98	0.12	34,34,34,34	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
54	MG	DB	3010	1/1	0.98	0.09	16,16,16,16	0
54	MG	BB	3096	1/1	0.98	0.15	67,67,67,67	0
54	MG	DB	3082	1/1	0.98	0.08	57,57,57,57	0
54	MG	DB	3012	1/1	0.98	0.09	12,12,12,12	0
54	MG	DB	3084	1/1	0.98	0.14	16,16,16,16	0
54	MG	BB	3070	1/1	0.98	0.19	59,59,59,59	0
54	MG	DB	3086	1/1	0.98	0.20	52,52,52,52	0
54	MG	DB	3088	1/1	0.98	0.16	46,46,46,46	0
54	MG	BB	3098	1/1	0.98	0.16	16,16,16,16	0
54	MG	BB	3007	1/1	0.98	0.07	53,53,53,53	0
54	MG	AA	1611	1/1	0.98	0.09	77,77,77,77	0
54	MG	BB	3101	1/1	0.98	0.05	5,5,5,5	0
54	MG	DB	3094	1/1	0.98	0.10	55,55,55,55	0
54	MG	DB	3019	1/1	0.98	0.06	5,5,5,5	0
54	MG	BB	3102	1/1	0.98	0.04	31,31,31,31	0
54	MG	DB	3099	1/1	0.98	0.20	5,5,5,5	0
54	MG	CA	1631	1/1	0.98	0.09	40,40,40,40	0
54	MG	CA	1632	1/1	0.98	0.08	18,18,18,18	0
54	MG	DB	3103	1/1	0.98	0.11	42,42,42,42	0
54	MG	AA	1604	1/1	0.98	0.09	19,19,19,19	0
54	MG	BB	3106	1/1	0.98	0.11	39,39,39,39	0
54	MG	BB	3055	1/1	0.98	0.19	53,53,53,53	0
54	MG	DB	3107	1/1	0.98	0.07	11,11,11,11	0
54	MG	BB	3046	1/1	0.98	0.08	64,64,64,64	0
54	MG	DB	3028	1/1	0.98	0.18	58,58,58,58	0
54	MG	CA	1637	1/1	0.98	0.07	92,92,92,92	0
54	MG	BB	3109	1/1	0.98	0.07	59,59,59,59	0
54	MG	DB	3031	1/1	0.98	0.07	24,24,24,24	0
54	MG	CA	1639	1/1	0.98	0.07	7,7,7,7	0
54	MG	AA	1638	1/1	0.98	0.07	20,20,20,20	0
54	MG	CA	1601	1/1	0.98	0.17	5,5,5,5	0
54	MG	BB	3012	1/1	0.98	0.09	53,53,53,53	0
54	MG	BB	3030	1/1	0.98	0.04	70,70,70,70	0
54	MG	DB	3087	1/1	0.99	0.15	75,75,75,75	0
54	MG	DB	3014	1/1	0.99	0.12	43,43,43,43	0
54	MG	BB	3025	1/1	0.99	0.06	42,42,42,42	0
54	MG	BB	3040	1/1	0.99	0.12	27,27,27,27	0
54	MG	DB	3091	1/1	0.99	0.14	5,5,5,5	0
54	MG	BB	3059	1/1	0.99	0.11	60,60,60,60	0
54	MG	BB	3085	1/1	0.99	0.11	43,43,43,43	0
54	MG	BB	3060	1/1	0.99	0.08	22,22,22,22	0
54	MG	BB	3073	1/1	0.99	0.23	38,38,38,38	0

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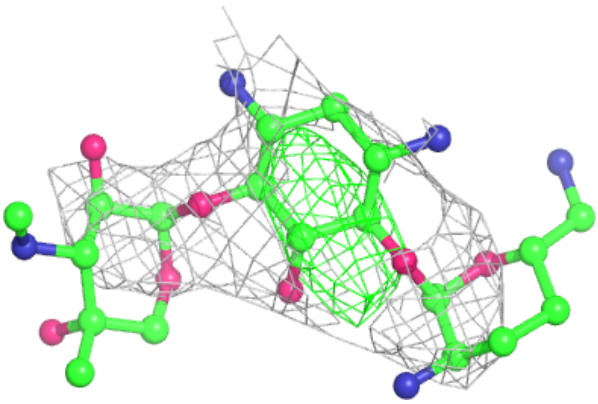
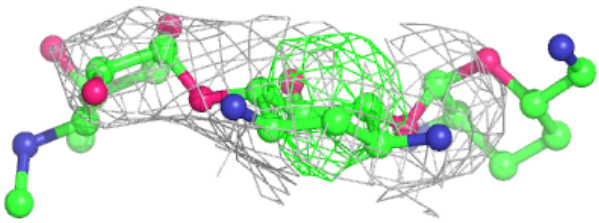
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
54	MG	DB	3096	1/1	0.99	0.16	20,20,20,20	0
54	MG	DB	3043	1/1	0.99	0.08	32,32,32,32	0
54	MG	DB	3098	1/1	0.99	0.17	28,28,28,28	0
54	MG	DB	3021	1/1	0.99	0.08	51,51,51,51	0
54	MG	BB	3006	1/1	0.99	0.08	20,20,20,20	0
54	MG	DB	3101	1/1	0.99	0.25	25,25,25,25	0
54	MG	AA	1609	1/1	0.99	0.11	5,5,5,5	0
54	MG	BB	3104	1/1	0.99	0.16	28,28,28,28	0
54	MG	DB	3048	1/1	0.99	0.08	34,34,34,34	0
54	MG	BB	3105	1/1	0.99	0.05	60,60,60,60	0
54	MG	DB	3004	1/1	0.99	0.13	69,69,69,69	0
54	MG	BB	3076	1/1	0.99	0.06	20,20,20,20	0
54	MG	BB	3015	1/1	0.99	0.08	42,42,42,42	0
54	MG	DB	3078	1/1	0.99	0.08	32,32,32,32	0
54	MG	BB	3016	1/1	0.99	0.13	91,91,91,91	0
54	MG	CA	1650	1/1	0.99	0.07	33,33,33,33	0
54	MG	BB	3045	1/1	0.99	0.04	38,38,38,38	0
54	MG	DB	3056	1/1	0.99	0.12	12,12,12,12	0
54	MG	BB	3011	1/1	0.99	0.21	29,29,29,29	0
54	MG	AA	1629	1/1	0.99	0.05	26,26,26,26	0
54	MG	CA	1602	1/1	0.99	0.12	11,11,11,11	0
54	MG	CA	1655	1/1	0.99	0.07	25,25,25,25	0
54	MG	BB	3068	1/1	1.00	0.05	61,61,61,61	0

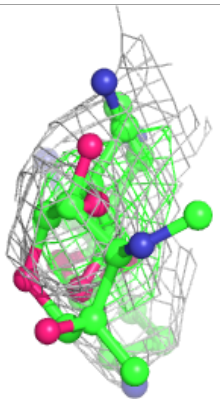
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around LLL DB 3112:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

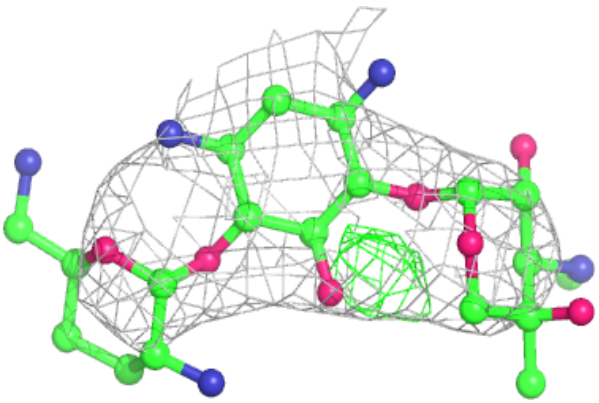


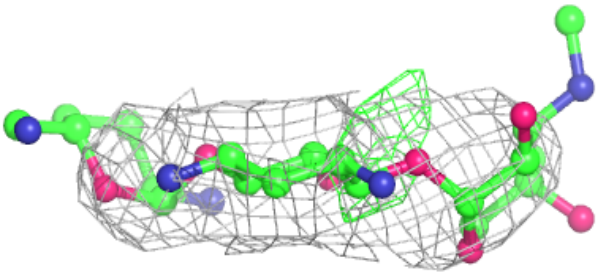


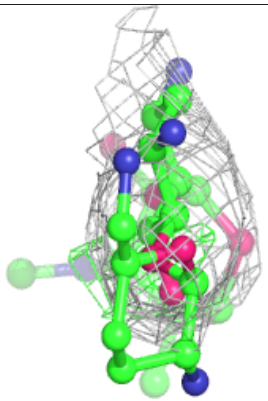


Electron density around LLL BB 3111:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

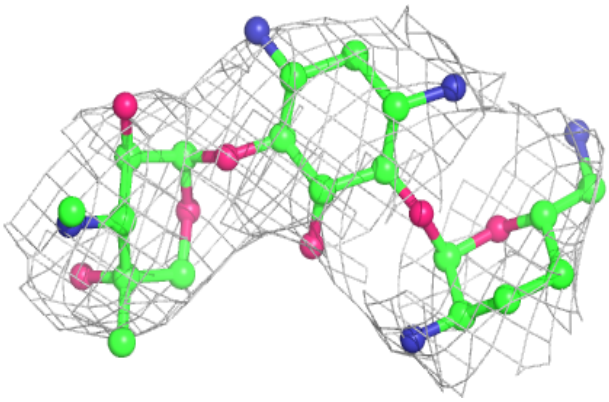


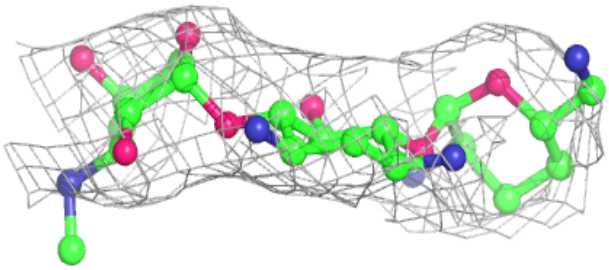


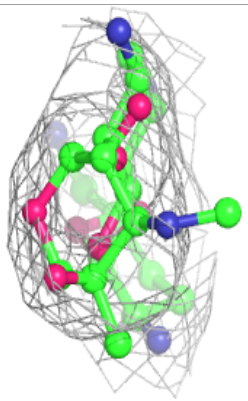


Electron density around LLL CA 1662:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

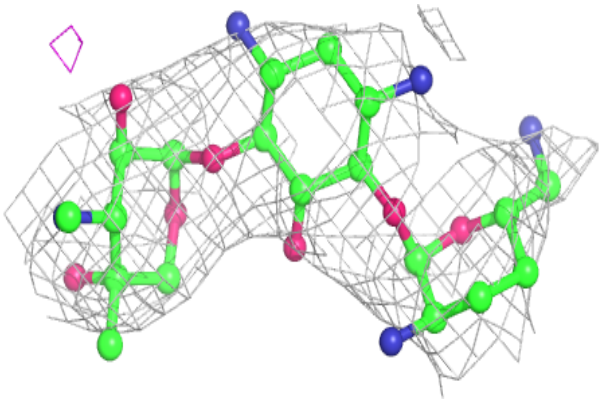


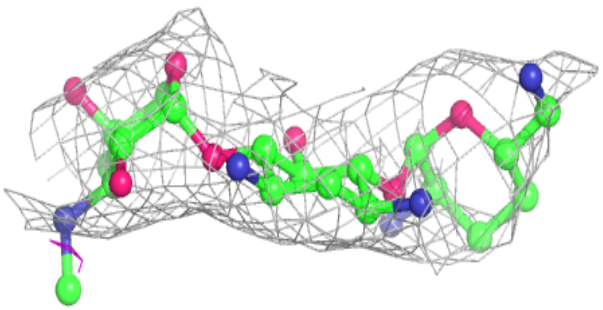


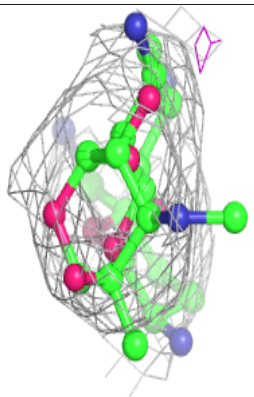


Electron density around LLL AA 1661:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)







6.5 Other polymers (i)

There are no such residues in this entry.