



# wwPDB X-ray Structure Validation Summary Report ⓘ

Sep 14, 2023 – 06:17 AM EDT

PDB ID : 4V57  
Title : Crystal structure of the bacterial ribosome from Escherichia coli in complex with spectinomycin and neomycin.  
Authors : Borovinskaya, M.A.; Shoji, S.; Holton, J.M.; Fredrick, K.; Cate, J.H.D.  
Deposited on : 2007-07-21  
Resolution : 3.50 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

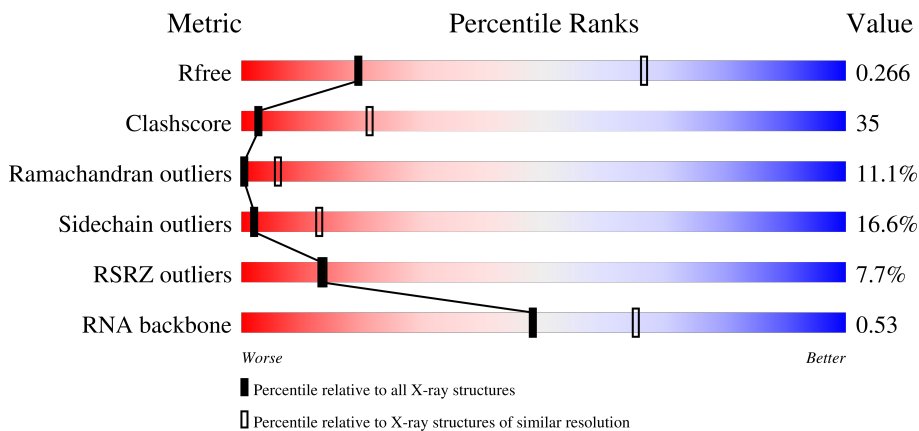
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.50 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	1659 (3.60-3.40)
Clashscore	141614	1036 (3.58-3.42)
Ramachandran outliers	138981	1005 (3.58-3.42)
Sidechain outliers	138945	1006 (3.58-3.42)
RSRZ outliers	127900	1559 (3.60-3.40)
RNA backbone	3102	1002 (4.00-3.00)

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	AA	1542	 23% 62% 14% ..
1	CA	1542	 24% 62% 14% .
2	AC	232	 9% 20% 48% 18% . 11%
2	CC	232	 6% 28% 46% 14% . 11%

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Mol	Chain	Length	Quality of chain
3	AD	205	
3	CD	205	
4	AE	166	
4	CE	166	
5	AF	135	
5	CF	135	
6	AG	178	
6	CG	178	
7	AH	129	
7	CH	129	
8	AI	129	
8	CI	129	
9	AJ	103	
9	CJ	103	
10	AK	128	
10	CK	128	
11	AL	123	
11	CL	123	
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13	CP	82	
14	AQ	83	
14	CQ	83	
15	AR	74	

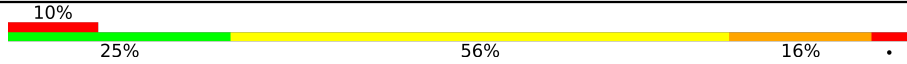
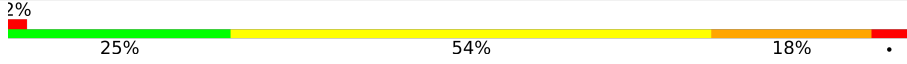
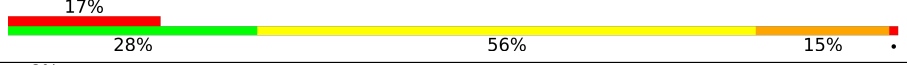
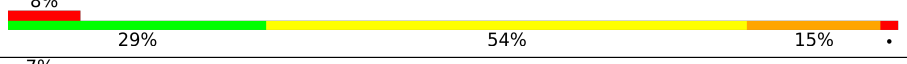
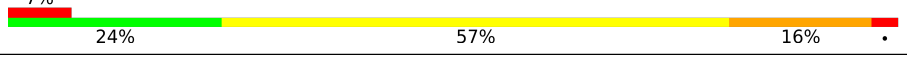
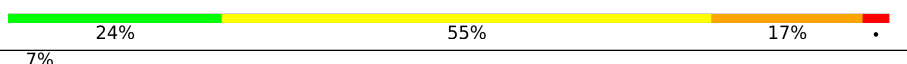
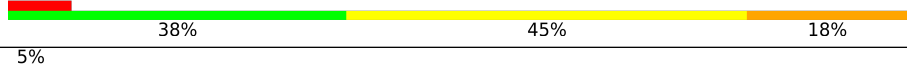
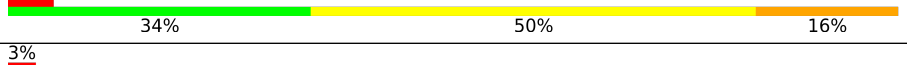
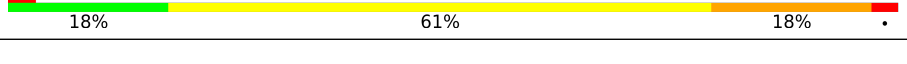
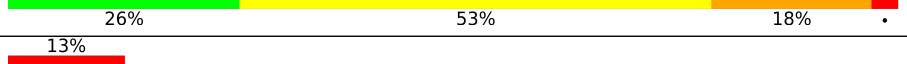
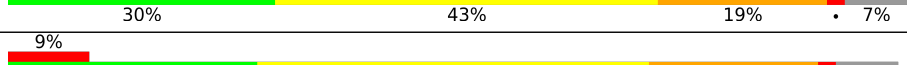
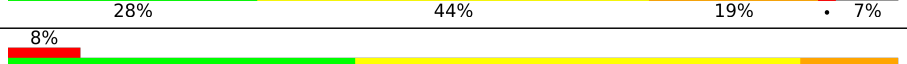
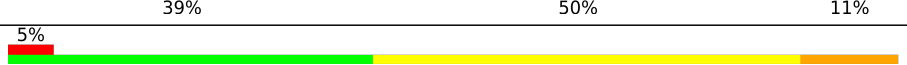
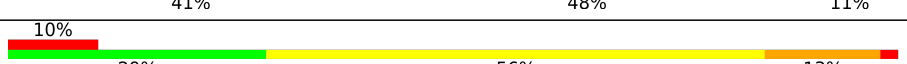
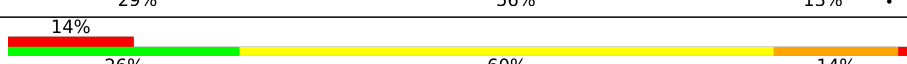
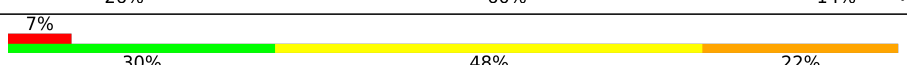
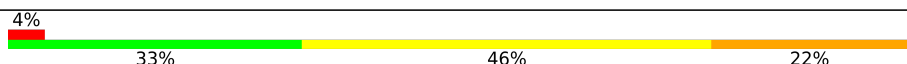
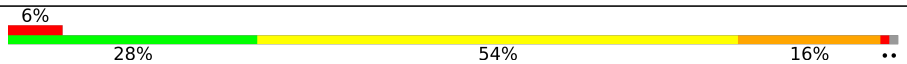
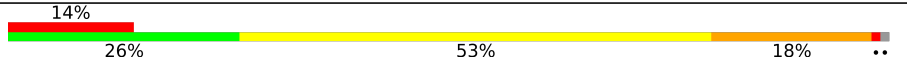

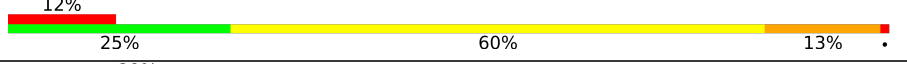
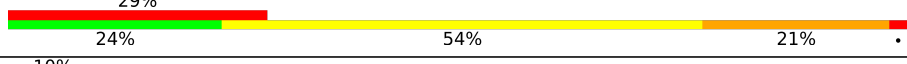
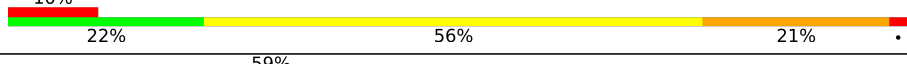


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Mol	Chain	Length	Quality of chain
15	CR	74	
16	AS	91	
16	CS	91	
17	AT	86	
17	CT	86	
18	AB	240	
18	CB	240	
19	AU	70	
19	CU	70	
20	AO	89	
20	CO	89	
21	AN	100	
21	CN	100	
22	BA	120	
22	DA	120	
23	BB	2904	
23	DB	2904	
24	BI	141	
24	DI	141	
25	BC	272	
25	DC	272	
26	BD	209	
26	DD	209	
27	BK	123	
27	DK	123	

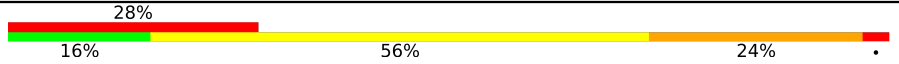

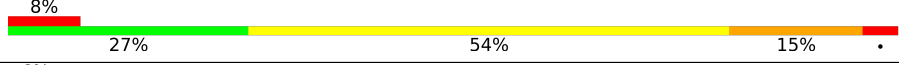
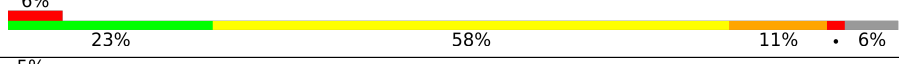
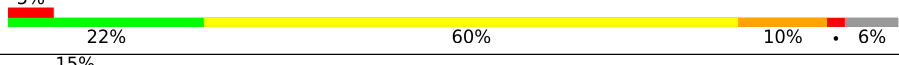
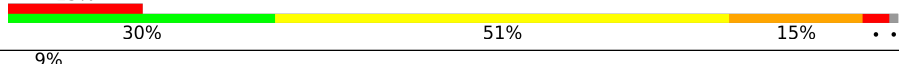
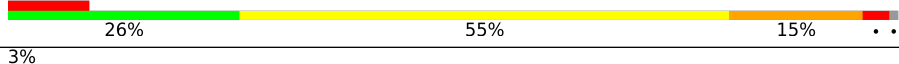
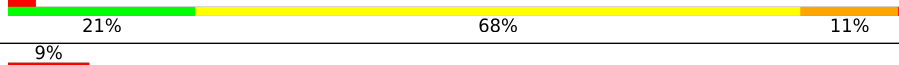
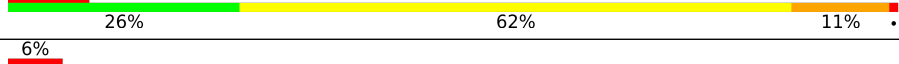
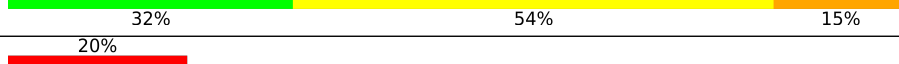

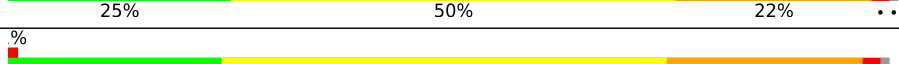
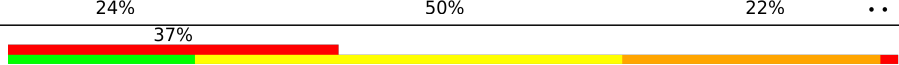
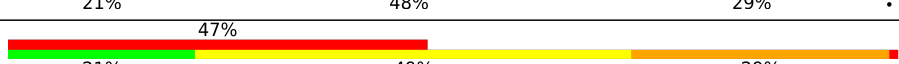
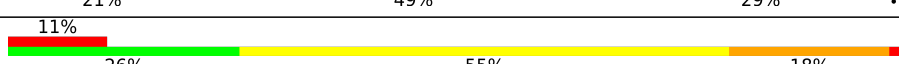
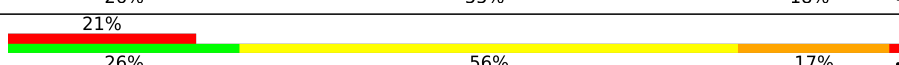
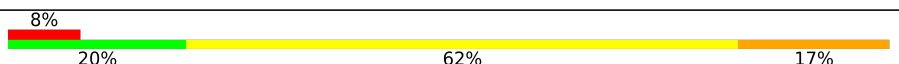
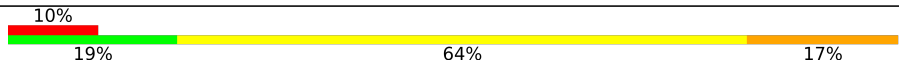
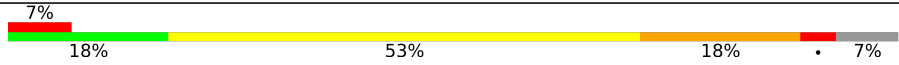
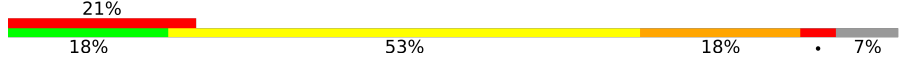
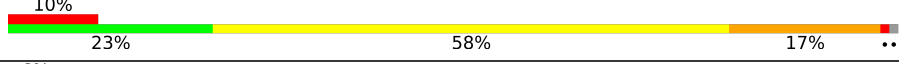
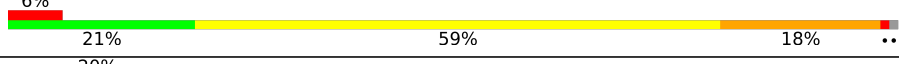

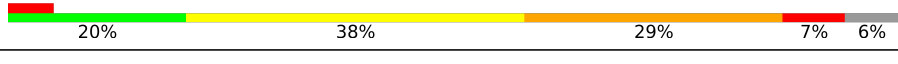

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Mol	Chain	Length	Quality of chain
28	BP	114	
28	DP	114	
29	BE	201	
29	DE	201	
30	BY	58	
30	DY	58	
31	B0	56	
31	D0	56	
32	B4	38	
32	D4	38	
33	B1	54	
33	D1	54	
34	B3	64	
34	D3	64	
35	BV	94	
35	DV	94	
36	B2	46	
36	D2	46	
37	BL	144	
37	DL	144	
38	BM	136	
38	DM	136	
39	BX	63	
39	DX	63	
40	BH	149	

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Mol	Chain	Length	Quality of chain
40	DH	149	
41	BJ	142	
41	DJ	142	
42	BN	127	
42	DN	127	
43	BO	117	
43	DO	117	
44	BQ	117	
44	DQ	117	
45	BS	110	
45	DS	110	
46	BU	103	
46	DU	103	
47	BF	178	
47	DF	178	
48	BG	176	
48	DG	176	
49	BR	103	
49	DR	103	
50	BT	100	
50	DT	100	
51	BZ	78	
51	DZ	78	
52	BW	84	
52	DW	84	

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:

<b>Mol</b>	<b>Type</b>	<b>Chain</b>	<b>Res</b>	<b>Chirality</b>	<b>Geometry</b>	<b>Clashes</b>	<b>Electron density</b>
53	NMY	BB	3001	-	-	-	X
53	NMY	DB	3001	-	-	-	X
54	MG	CA	1650	-	-	-	X
54	MG	DB	3059	-	-	-	X

## 2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 284201 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 13 is a protein called 30S ribosomal protein S16.

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

- Molecule 14 is a protein called 30S ribosomal protein S17.

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

- Molecule 15 is a protein called 30S ribosomal protein S18.

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

- Molecule 16 is a protein called 30S ribosomal protein S19.

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

- Molecule 17 is a protein called 30S ribosomal protein S20.

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

- Molecule 18 is a protein called 30S ribosomal protein S2.

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

- Molecule 19 is a protein called 30S ribosomal protein S21.

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

- Molecule 20 is a protein called 30S ribosomal protein S15.

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

- Molecule 21 is a protein called 30S ribosomal protein S14.

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

- 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			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BA	120	U	-	insertion	GB 85674274
DA	120	U	-	insertion	GB 85674274

- 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			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BB	2903	U	-	insertion	GB 85674274
BB	2904	U	-	insertion	GB 85674274
DB	2903	U	-	insertion	GB 85674274
DB	2904	U	-	insertion	GB 85674274

- 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
			Total	C	N	O	S			
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
			Total	C	N	O	S			
26	BD	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			
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
			Total	C	N	O	S			
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
			Total	C	N	O	S			
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
			Total	C	N	O	S			
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			

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

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

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

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

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

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

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

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



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

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

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

- 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			

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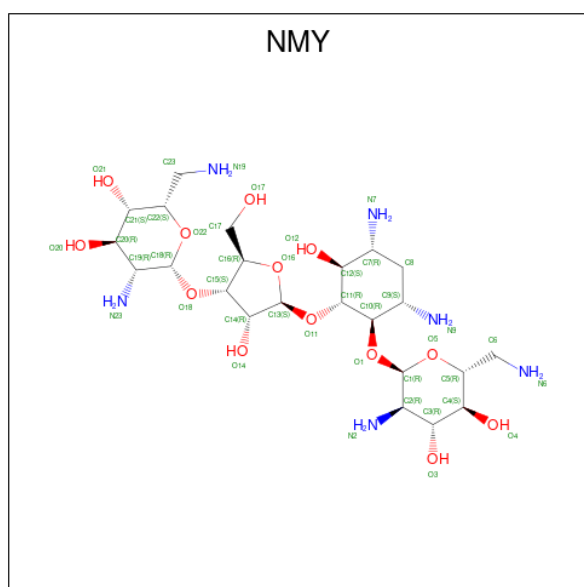
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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
51	DZ	77	Total 625	C 388	N 129	O 106	S 2	0	0	0

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

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

- Molecule 53 is NEOMYCIN (three-letter code: NMY) (formula:  $C_{23}H_{46}N_6O_{13}$ ).

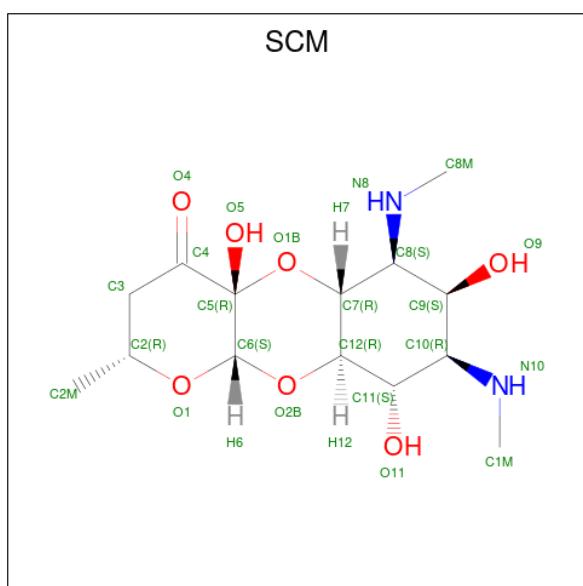


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
53	AA	1	Total 42	C 23	N 6	O 13	0	0
53	BB	1	Total 42	C 23	N 6	O 13	0	0
53	CA	1	Total 42	C 23	N 6	O 13	0	0
53	DB	1	Total 42	C 23	N 6	O 13	0	0

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

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
54	AA	60	Total Mg 60 60	0	0
54	BB	110	Total Mg 110 110	0	0
54	CA	59	Total Mg 59 59	0	0
54	DB	111	Total Mg 111 111	0	0

- Molecule 55 is SPECTINOMYCIN (three-letter code: SCM) (formula:  $C_{14}H_{24}N_2O_7$ ).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
55	AA	1	Total C N O 23 14 2 7	0	0
55	CA	1	Total C N O 23 14 2 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	290	Total O 290 290	0	0
57	AE	1	Total O 1 1	0	0
57	AK	1	Total O 1 1	0	0
57	AL	4	Total O 4 4	0	0
57	AP	1	Total O 1 1	0	0
57	AT	2	Total O 2 2	0	0
57	AN	1	Total O 1 1	0	0
57	BB	492	Total O 492 492	0	0
57	BC	7	Total O 7 7	0	0
57	BD	1	Total O 1 1	0	0
57	BE	4	Total O 4 4	0	0
57	BL	2	Total O 2 2	0	0
57	BH	1	Total O 1 1	0	0
57	CA	282	Total O 282 282	0	0
57	CE	2	Total O 2 2	0	0
57	CL	4	Total O 4 4	0	0
57	CP	1	Total O 1 1	0	0
57	CT	1	Total O 1 1	0	0
57	CI	1	Total O 1 1	0	0
57	CN	3	Total O 3 3	0	0
57	DB	501	Total O 501 501	0	0
57	DC	4	Total O 4 4	0	0

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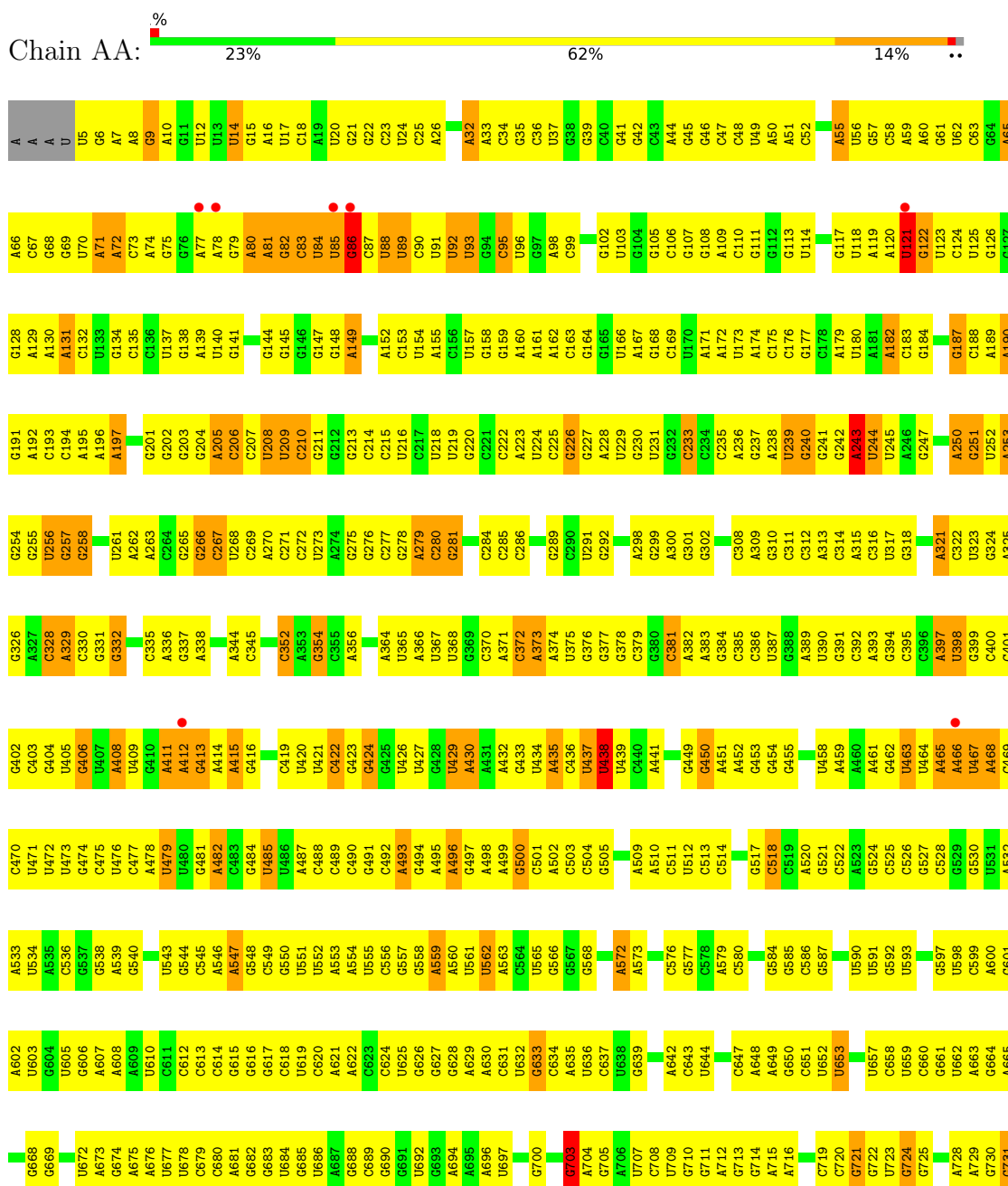
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	DD	1	Total O 1 1	0	0
57	DE	2	Total O 2 2	0	0
57	DL	1	Total O 1 1	0	0
57	DN	2	Total O 2 2	0	0
57	DR	1	Total O 1 1	0	0

### 3 Residue-property plots

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

- Molecule 1: 16S rRNA



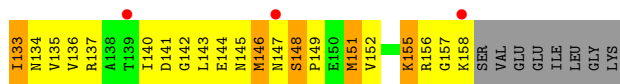


U1086	U1090	U1091	A1092	A1093	G1094	U1095	C1096	C1097	C1098	C1099	C1100	A1101	A1102	C1103	G1104	C1105	C1106	C1107	G1108	C1109	A1110	A1111	C1112	C1113	C1114	U1115	U1116	A1117	A1118	C1119	C1120	U1121	U1122	U1123	G1124	U1125	U1126	G1127	C1128	A1129	C1130	G1131	C1132	G1133	G1134	U1135	C1136	C1137	G1138	G1139	C1140	C1141	G1142	G1143	G1144	A1145	A1146	C1147	U1148																																																																																																																																																																																																																																																																																																																																							
A889	G890	U891	A892	C893	C894	C895	C896	C897	A900	A901	G902	G903	U904	U905	A906	A907	A908	A909	C910	U911	U912	A913	A914	G917	U918	U919	U920	U921	G922	A923	A924	A925	C926	A927	C928	C929	C930	C931	C932	C933	A934	A935	C936	C937	A938	C939	C940	G941	A946	G947	C948	U949	U950	C951	U952	C953	U954	U955	U956	U957	A958																																																																																																																																																																																																																																																																																																																																					
A959	U960	U961	A964	A965	G966	A967	A968	A969	C970	G971	C972	G973	A974	A975	G976	A977	A978	C979	U981	U982	A983	C984	C985	U986	U987	U988	U989	U990	U991	U992	A993	A994	C995	A996	U997	C998	C999	A1000	C1001	G1002	G1003	A1004	A1005	G1006	U1007	U1008	U1009	U1010	C1011	A1012	C1013	U1014	U1015	A1016	U1017	U1018	U1019																																																																																																																																																																																																																																																																																																																																									
A1022	U1023	G1024	U1025	G1026	C1027	C1028	A1029	C1030	C1031	G1032	G1033	A1036	C1037	U1040	G1041	A1042	G1043	G1047	U1048	U1049	G1050	C1051	U1052	U1053	C1054	A1055	U1056	U1057	C1058	U1059	U1060	G1061	U1062	C1063	U1064	U1065	C1066	A1067	G1068	C1069	U1070	C1071	U1072	U1073	G1074	U1075	C1076	G1077	U1078	A1081	A1082	U1083	G1084	U1085																																																																																																																																																																																																																																																																																																																																												
A816	C817	A818	A819	U820	C821	G824	A825	C826	U827	U828	G833	U834	U835	U836	U837	C840	C841	U842	U843	C844	A845	G846	C847	C848	U854	G856	C859	A860	C861	U862	U863	A864	A865	C866	G867	C868	C869	U870	U871	U875	C876	C877	A878	C879	C880	C881	C882	C883	U884	C885	C886	C887	U888																																																																																																																																																																																																																																																																																																																																													
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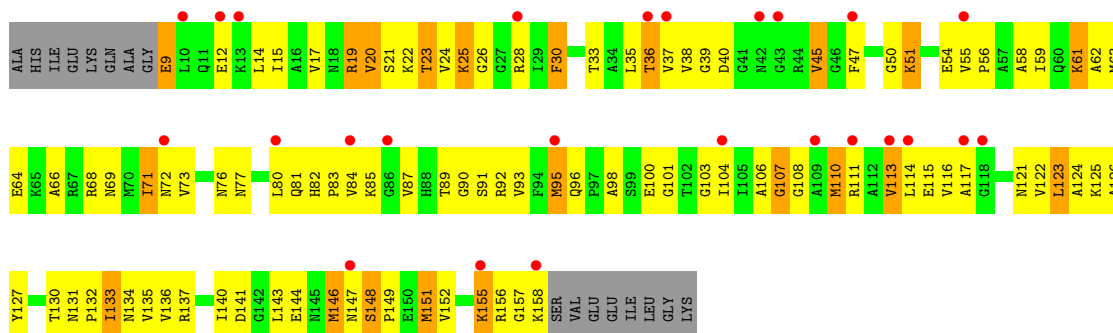




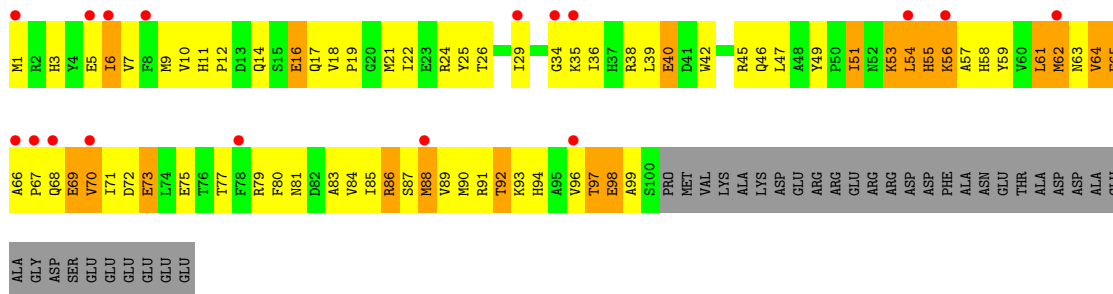
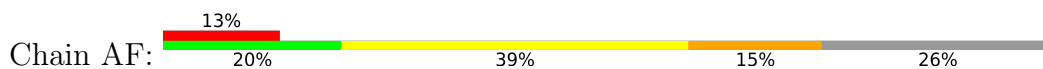




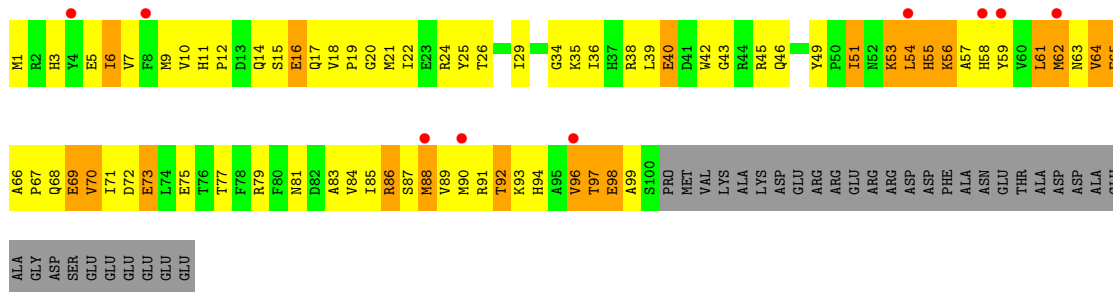
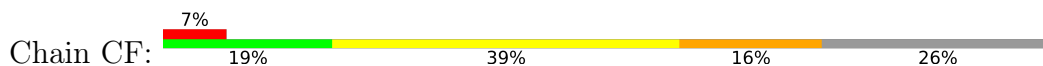
- Molecule 4: 30S ribosomal protein S5



- Molecule 5: 30S ribosomal protein S6

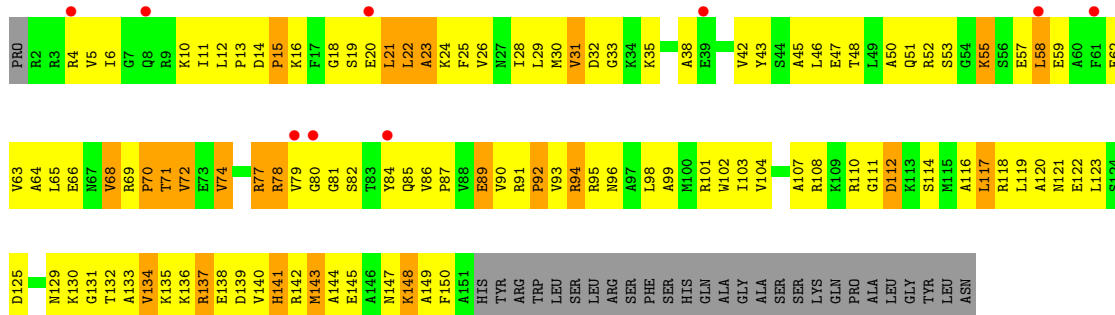


- Molecule 5: 30S ribosomal protein S6

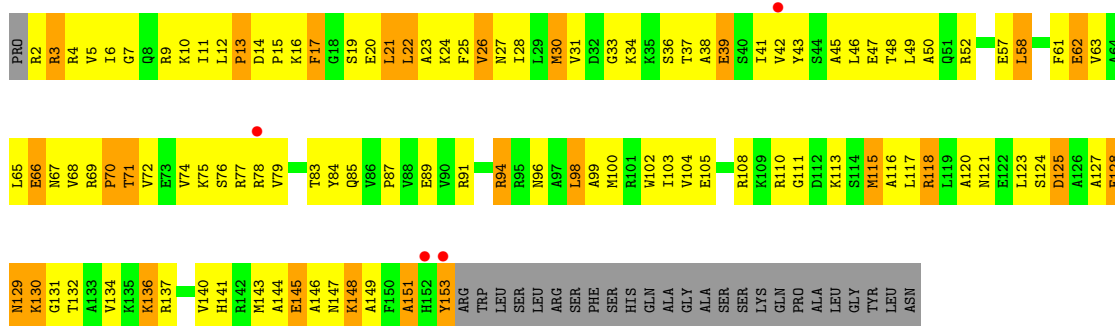


- Molecule 6: 30S ribosomal protein S7

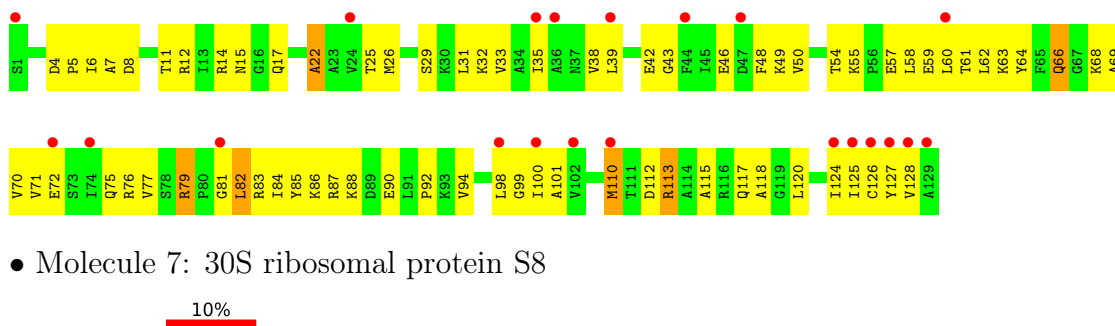




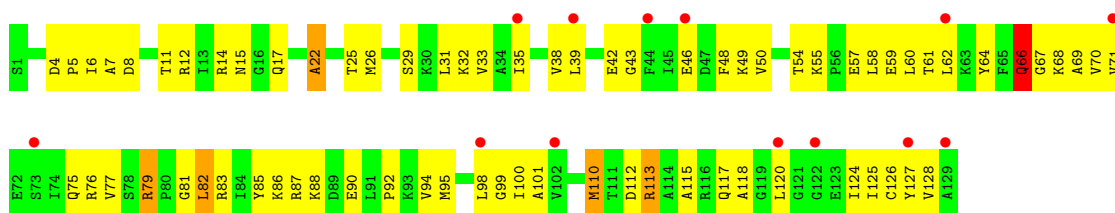
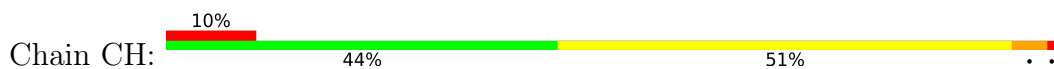
- Molecule 6: 30S ribosomal protein S7



- Molecule 7: 30S ribosomal protein S8



- Molecule 7: 30S ribosomal protein S8

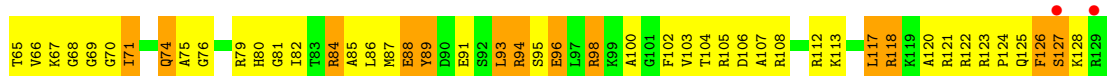
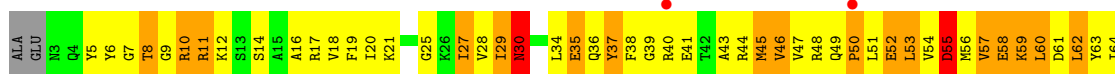


- Molecule 8: 30S ribosomal protein S9

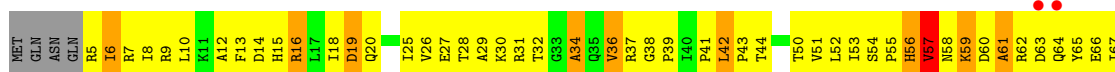




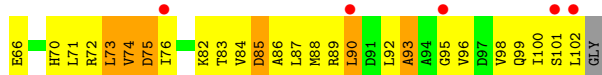
• Molecule 8: 30S ribosomal protein S9



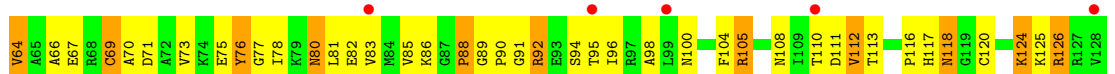
• Molecule 9: 30S ribosomal protein S10



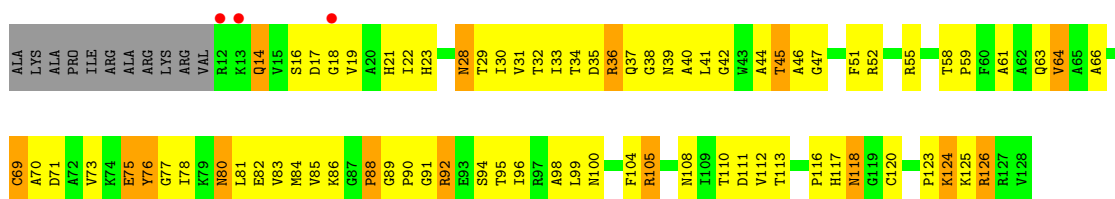
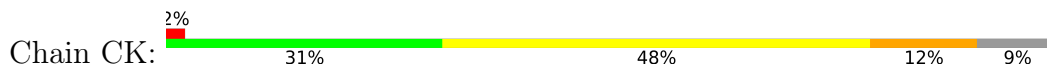
• Molecule 9: 30S ribosomal protein S10



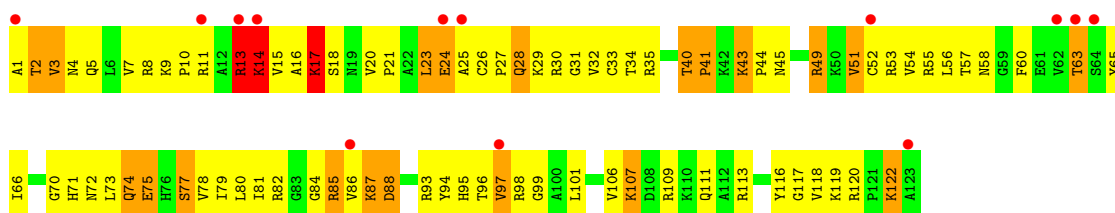
• Molecule 10: 30S ribosomal protein S11



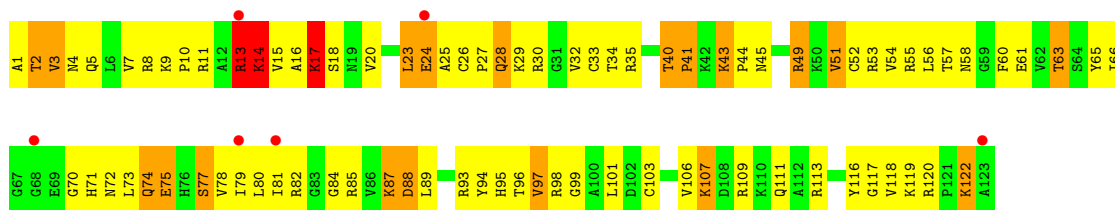
- Molecule 10: 30S ribosomal protein S11



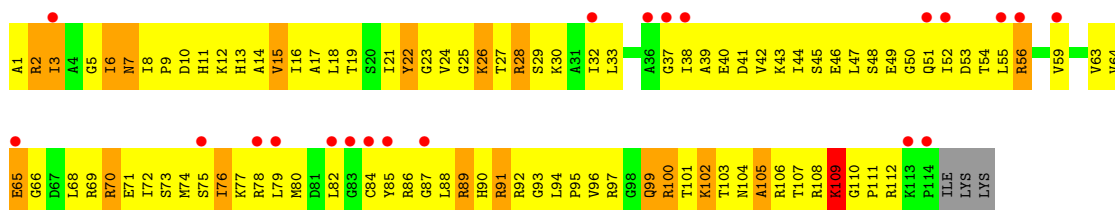
- Molecule 11: 30S ribosomal protein S12



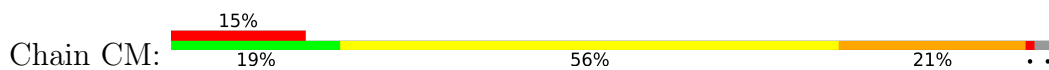
- Molecule 11: 30S ribosomal protein S12

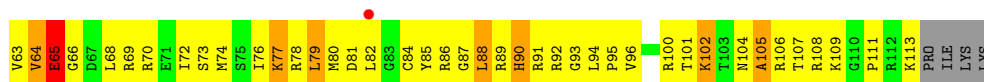


- Molecule 12: 30S ribosomal protein S13

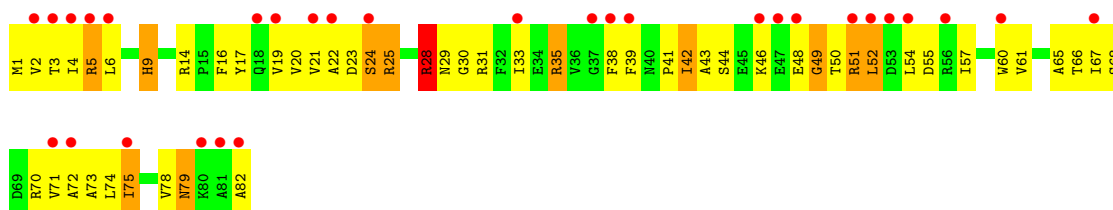


- Molecule 12: 30S ribosomal protein S13

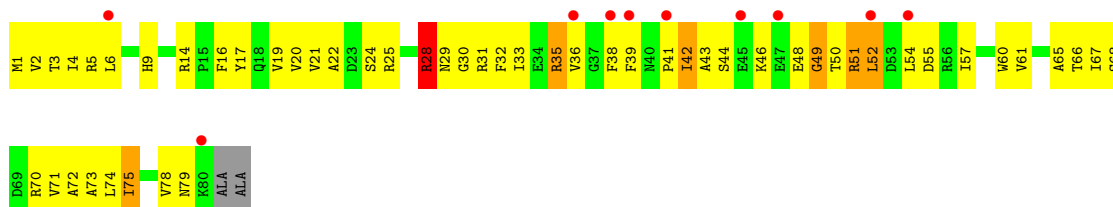




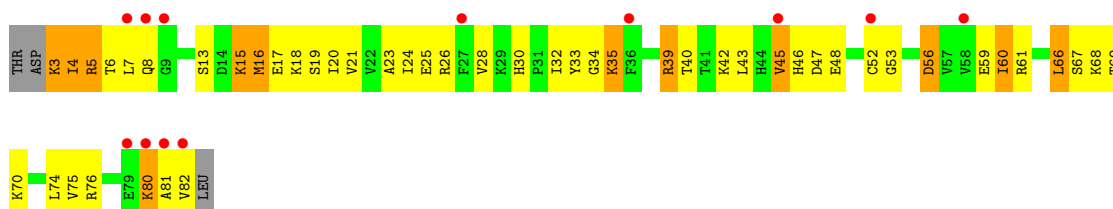
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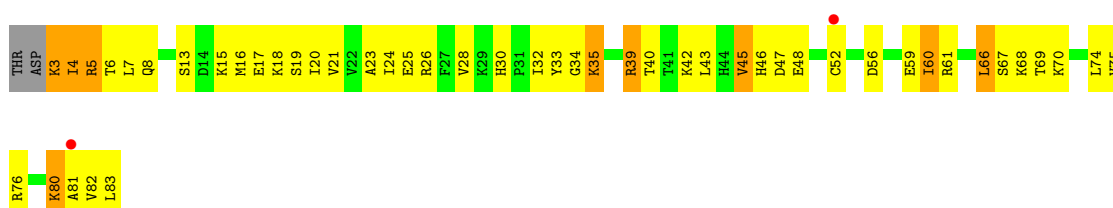
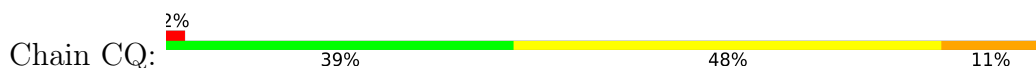
- Molecule 13: 30S ribosomal protein S16



- Molecule 14: 30S ribosomal protein S17



- Molecule 14: 30S ribosomal protein S17

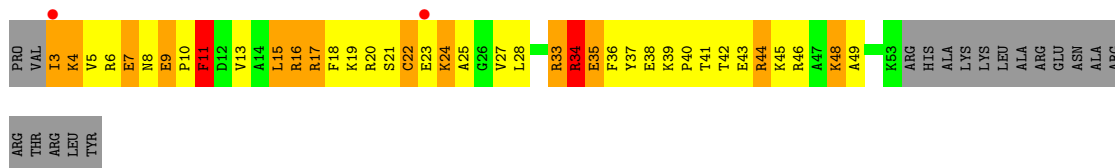


- Molecule 15: 30S ribosomal protein S18

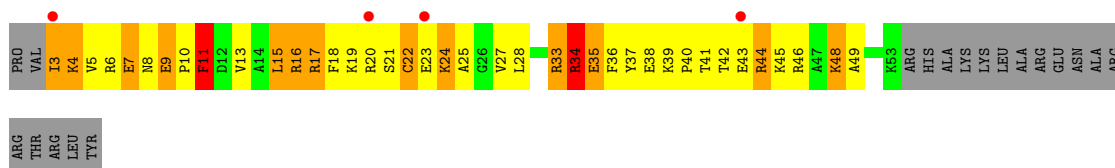




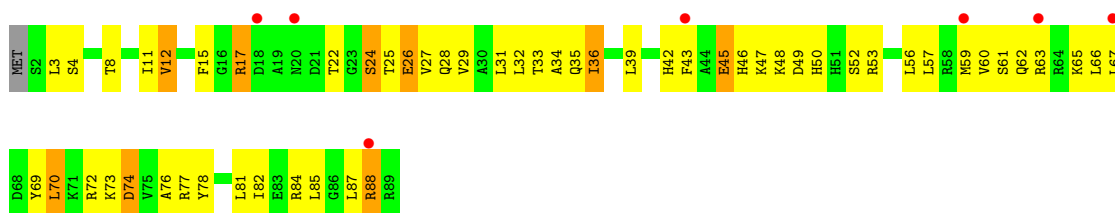




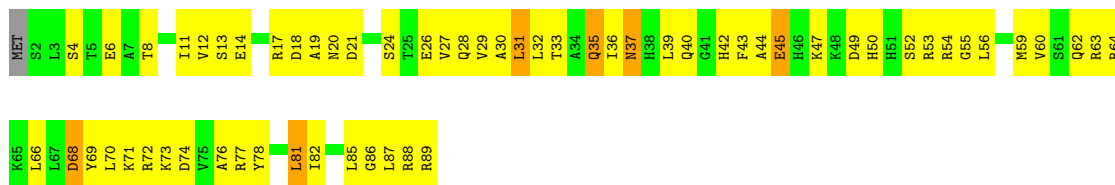
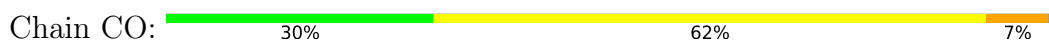
• Molecule 19: 30S ribosomal protein S21



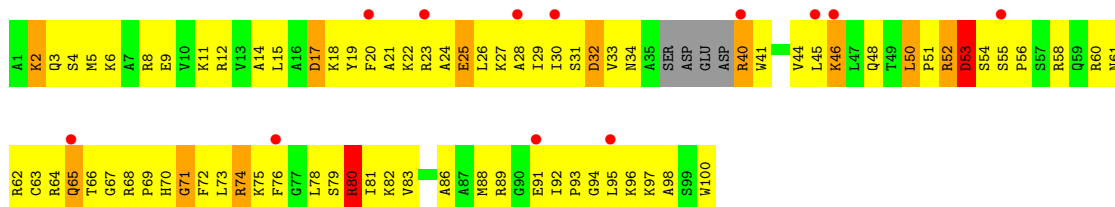
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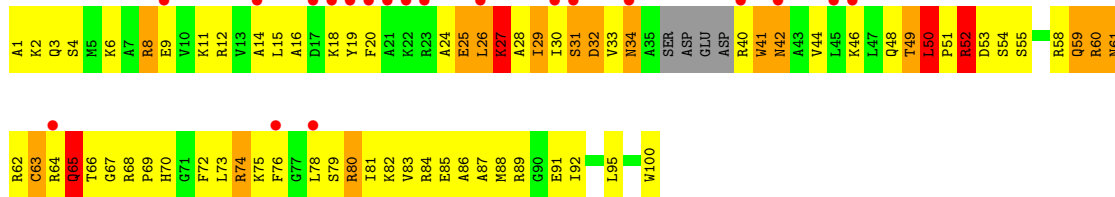
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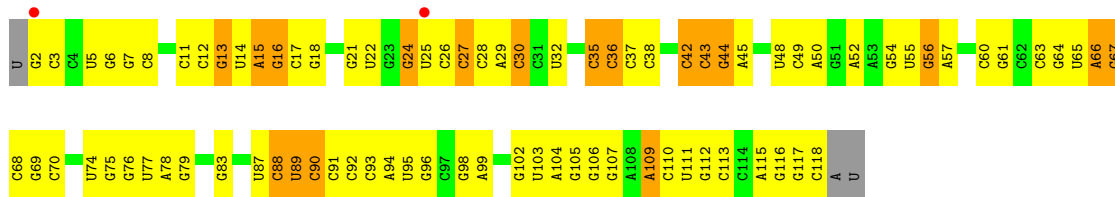
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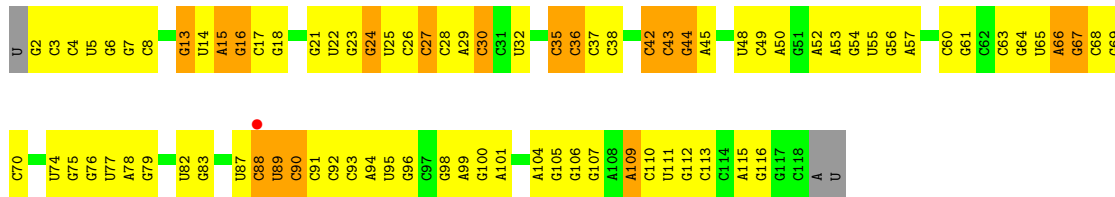
• Molecule 21: 30S ribosomal protein S14



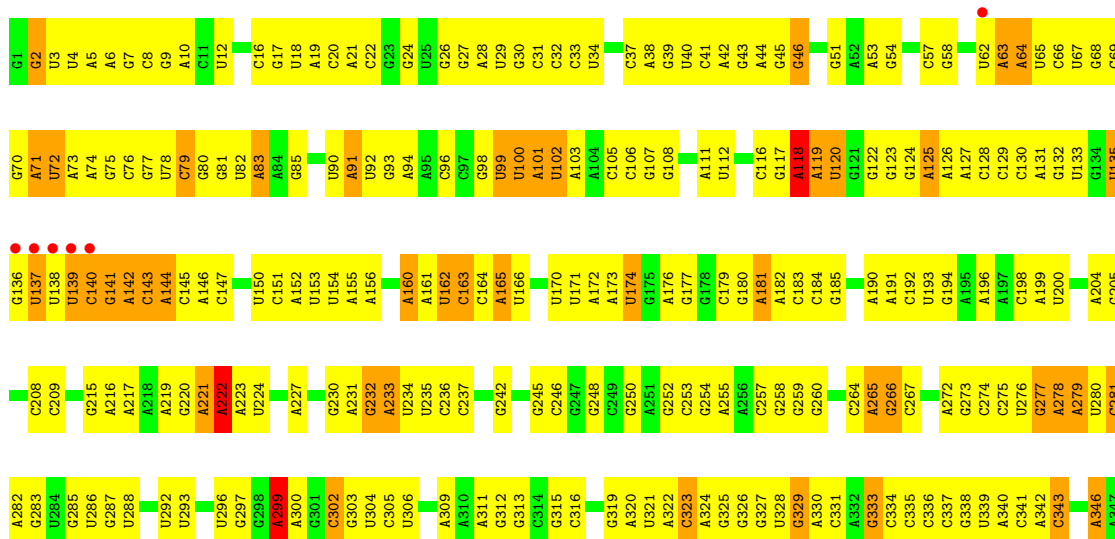
• Molecule 22: 5S rRNA



• Molecule 22: 5S rRNA

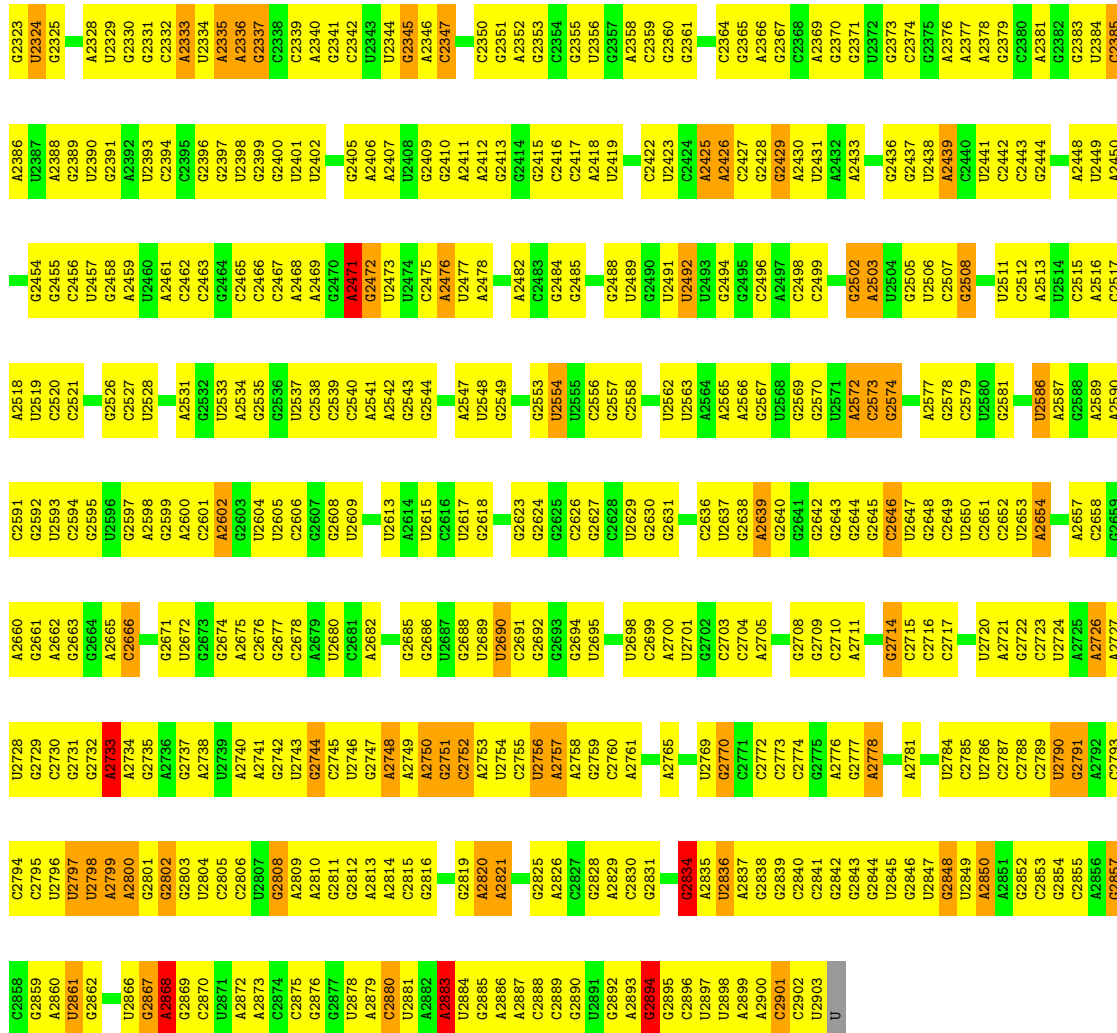


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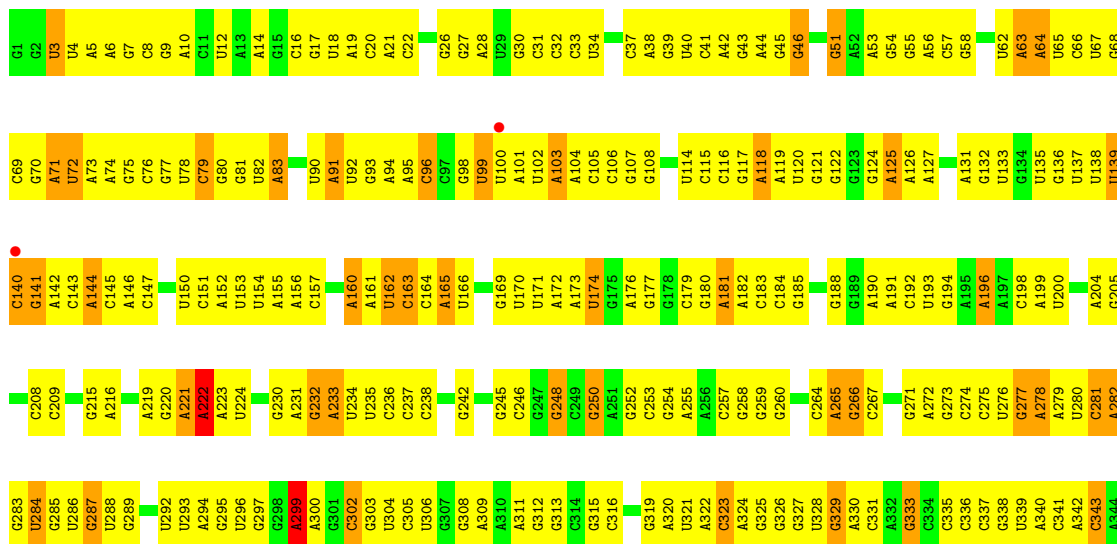




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• Molecule 23: 23S rRNA

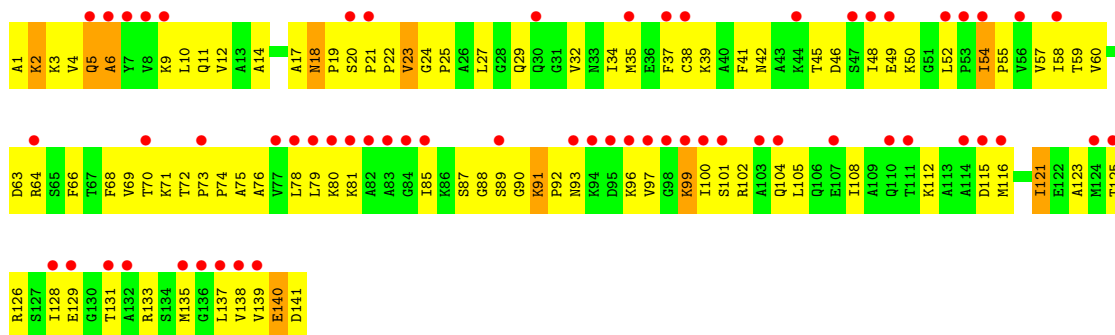


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A1321	G1177	U1108	G1034	G1177	A910	G1034	A972	U845	C765	U694	A627	C564	G426	G357
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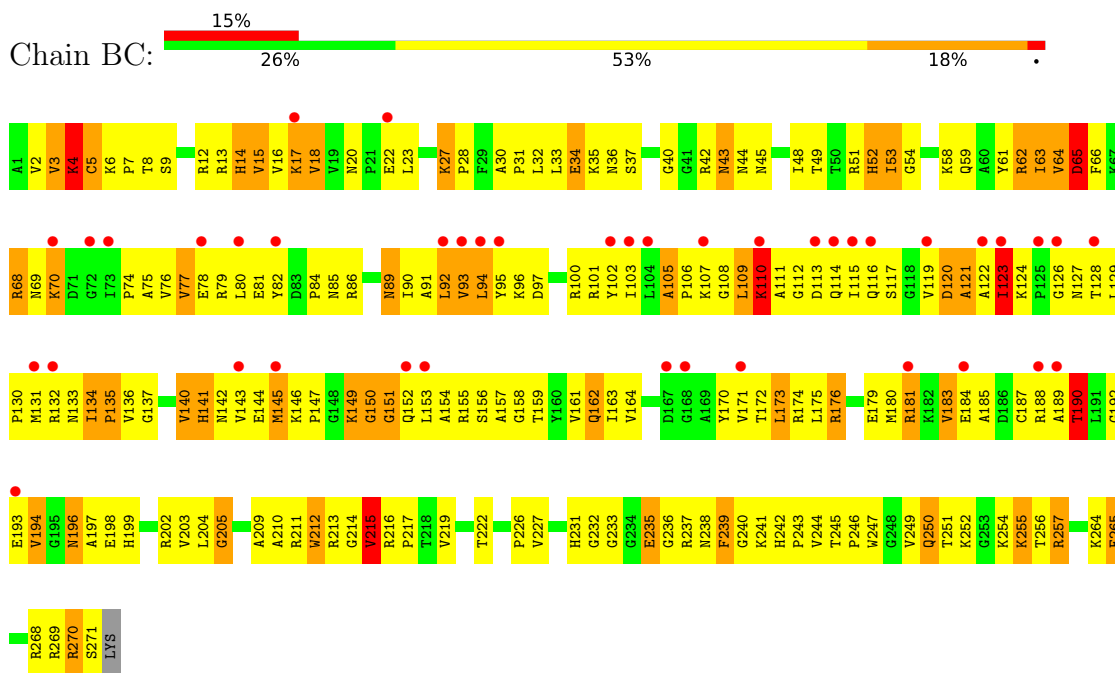
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C2295	G1419	U1481	A1548	C2295	A1617	U1684	A1816	A1899	C1966	A2037	A2102	A	C	C2295
U2296	A1420	G1482	A1549	U2296	C1618	A1685	A1817	A1900	G1967	G2038	C2103	C	C	U2296
A2297	A1421	U1484	A1550	A2297	G1619	U1686	A1818	A1901	U1971	G2040	U2105	U	C	A2297
U2299	G1422	U1485	A1552	U2299	A1552	U1688	A1819	A1902	G1972	U2041	U2106	U	C	U2299
C2300	G1423	U1486	A1553	C2300	A1553	A1689	U1820	C1903	G1973	A2042	U2107	G	C	C2300
C2301	G1424	U1487	A1554	C2301	A1554	A1690	A1821	G1904	C1974	C2043	A2108	A	C	C2301
U2302	G1425	U1488	G1555	U2302	U1624	U1691	A1822	C1905	C1974	C2044	U2109	A	C	U2302
G2303	G1426	C1489	C1525	G2303	C1625	A1688	U1825	G1906	U1977	G2047	U	A	C	G2303
U2304	U1427	A1490	C1558	U2304	A1626	A1689	G1826	G1907	G1978	G2048	U	A	C	U2304
C2305	G1428	G1491	U1559	C2305	A1626	A1699	G1827	G1908	U1979	G2049	U	A	C	C2305
U2305	G1429	U1492	C1560	U2305	U1629	A1700	A1827	C1909	G1980	C2050	U	A	C	U2305
G2307	G1430	C1493	C1561	G2307	A1701	A1701	G1828	G1906	A1981	U2051	U	A	C	G2307
U2302	A1431	A1494	U1563	U2302	A1634	C1704	A1829	G1907	A1978	G2047	U	A	C	U2302
G2303	A1432	A1495	C1564	G2303	A1635	A1705	C1830	G1908	U1979	G2048	U	A	C	G2303
U2305	A1433	A1496	C1565	U2305	U1636	G1706	C1831	C1909	G1980	G2049	U	A	C	U2305
C1499	A1494	A1496	C1566	C1499	A1637	C1707	C1832	G1910	A1981	C2051	U	A	C	C1499
G1500	C1499	G1500	G1568	G1500	C1639	C1708	C1836	U1911						G1500



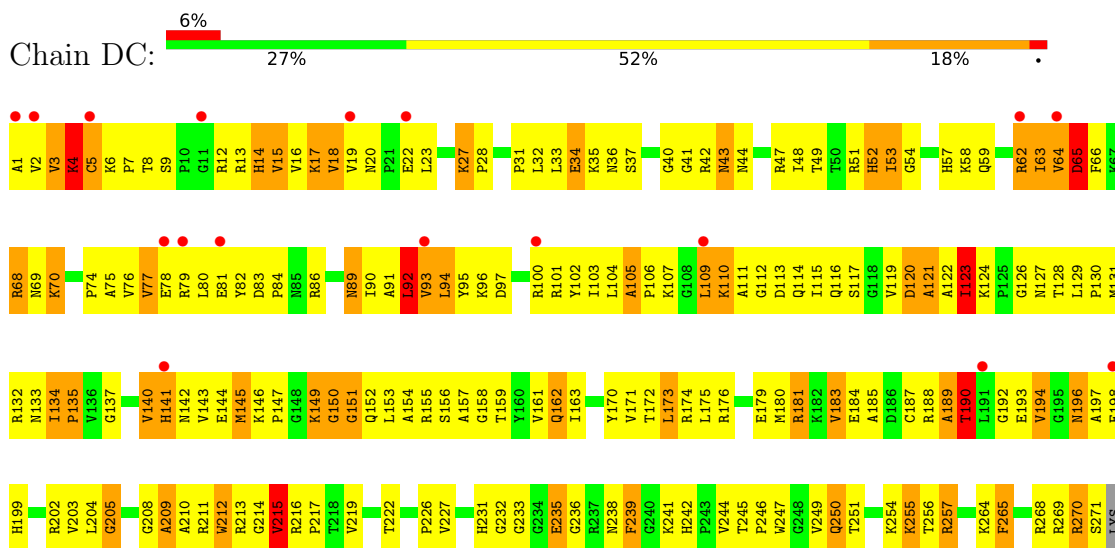




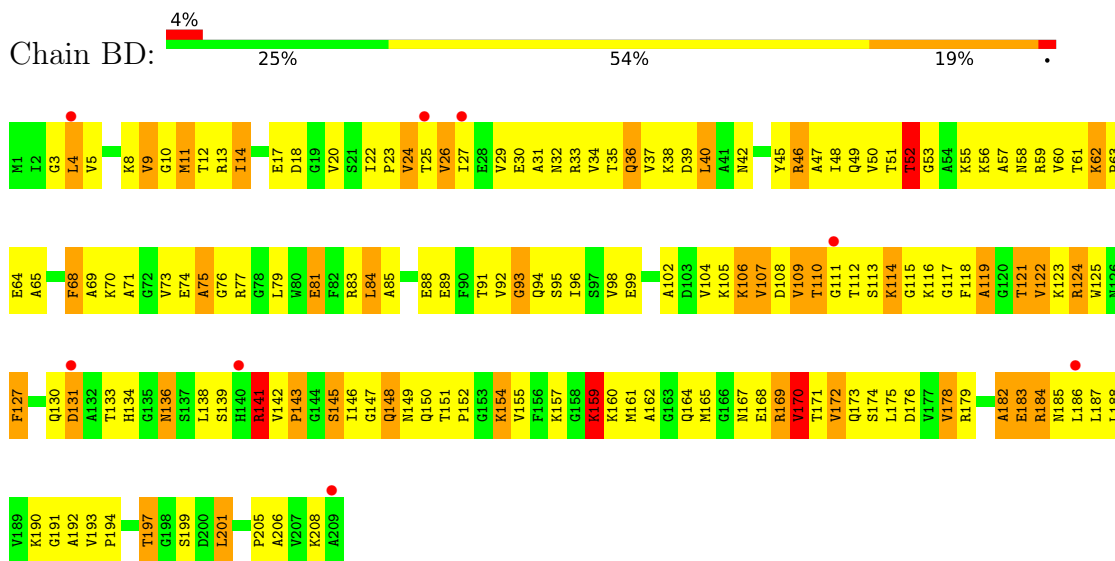
- Molecule 25: 50S ribosomal protein L2



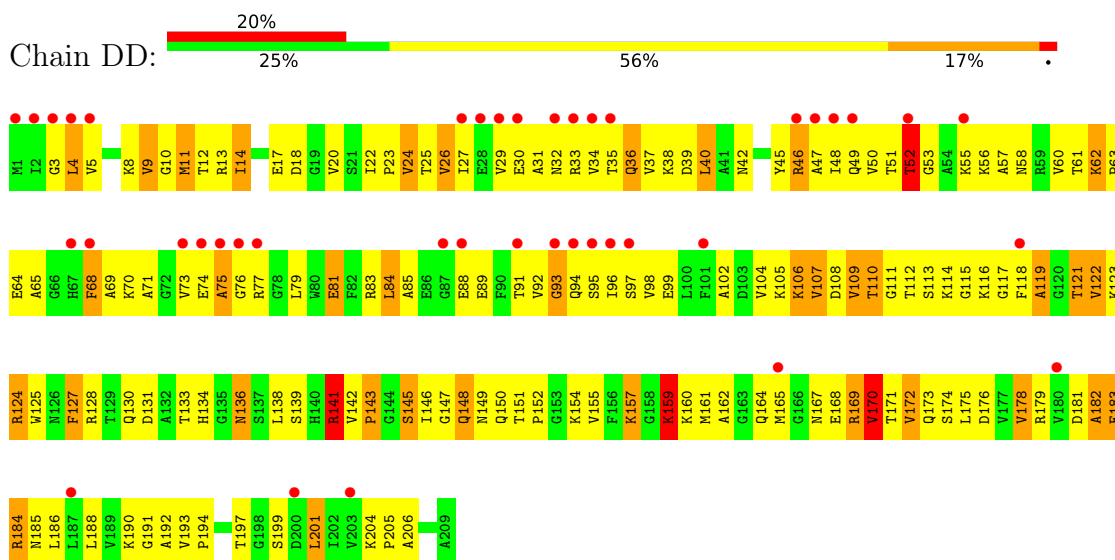
- Molecule 25: 50S ribosomal protein L2



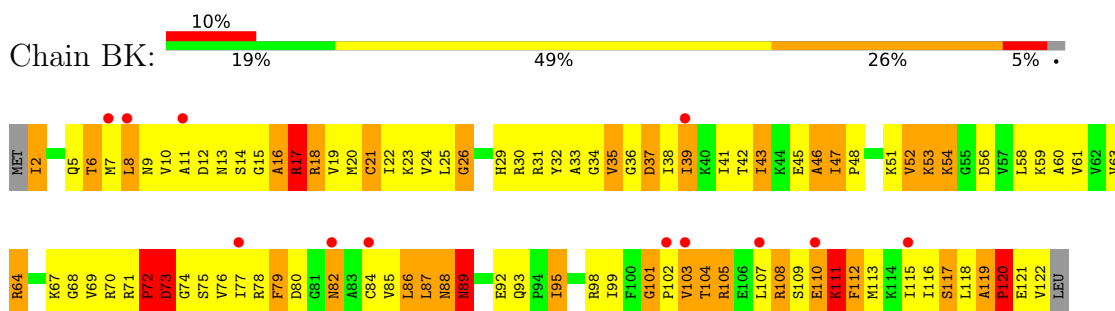
- Molecule 26: 50S ribosomal protein L3



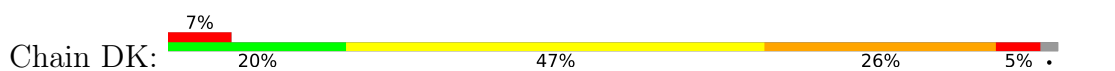
• Molecule 26: 50S ribosomal protein L3

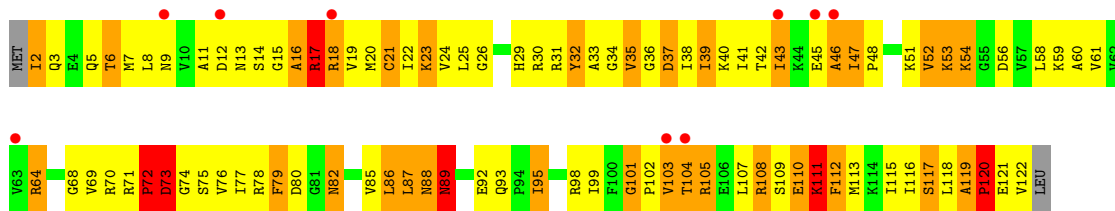


• Molecule 27: 50S ribosomal protein L14

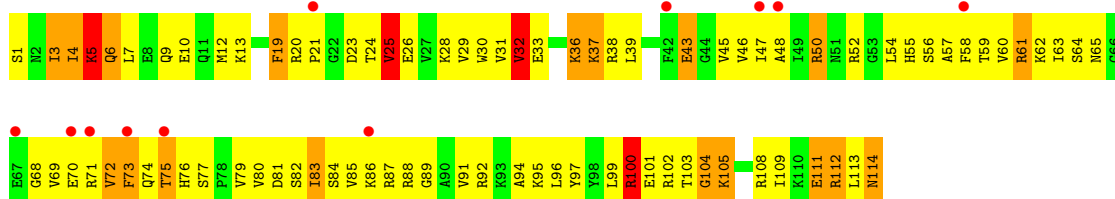


• Molecule 27: 50S ribosomal protein L14

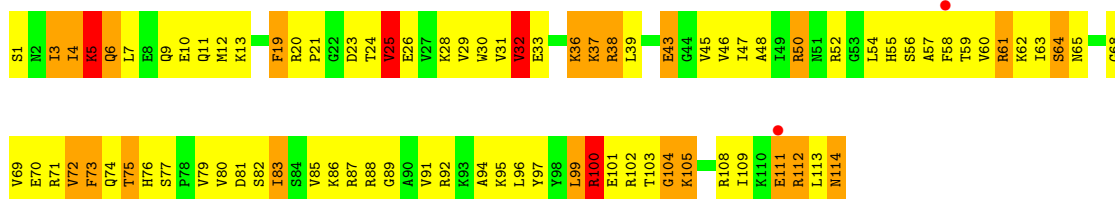




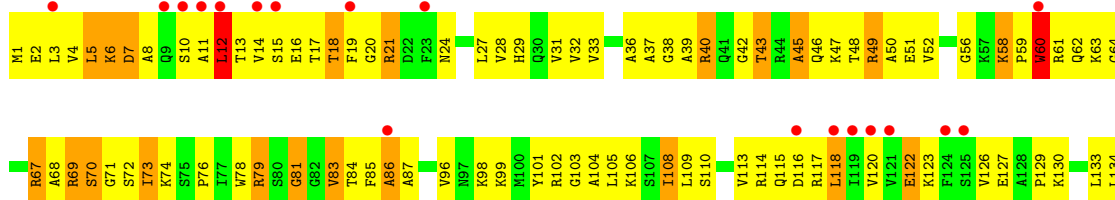
• Molecule 28: 50S ribosomal protein L19



• Molecule 28: 50S ribosomal protein L19

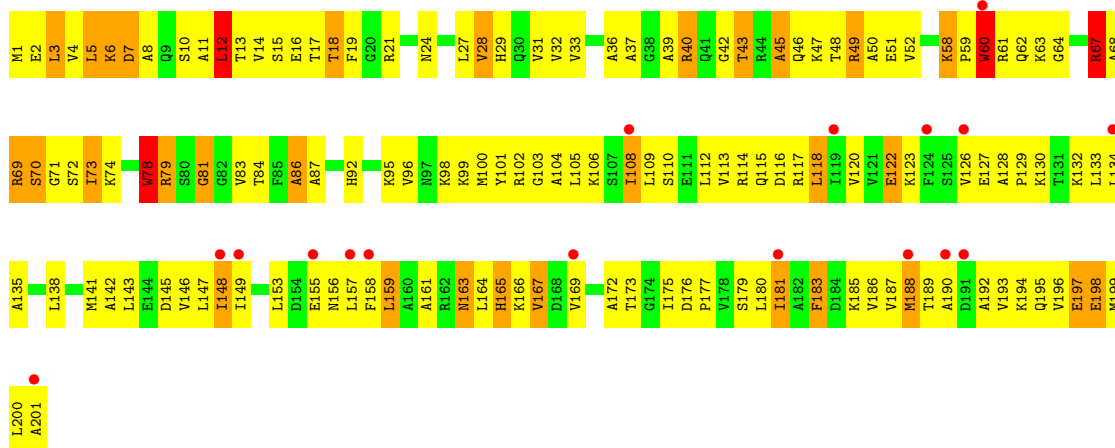


• Molecule 29: 50S ribosomal protein L4



• Molecule 29: 50S ribosomal protein L4





- Molecule 30: 50S ribosomal protein L30



- Molecule 30: 50S ribosomal protein L30



- Molecule 31: 50S ribosomal protein L32



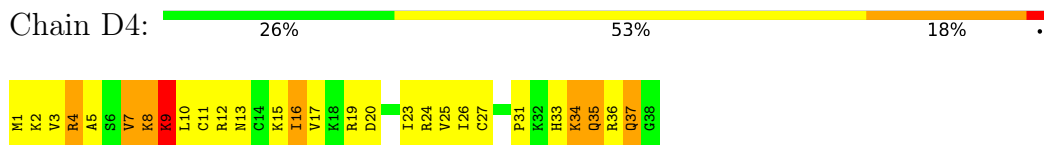
- Molecule 31: 50S ribosomal protein L32



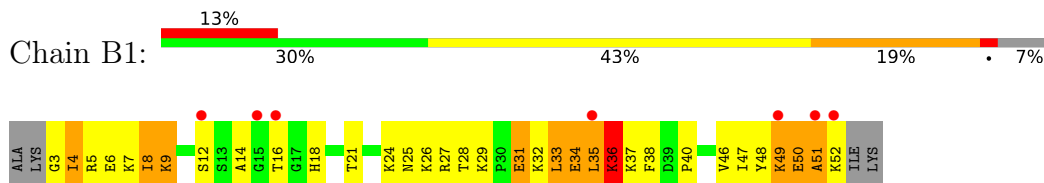
- Molecule 32: 50S ribosomal protein L36



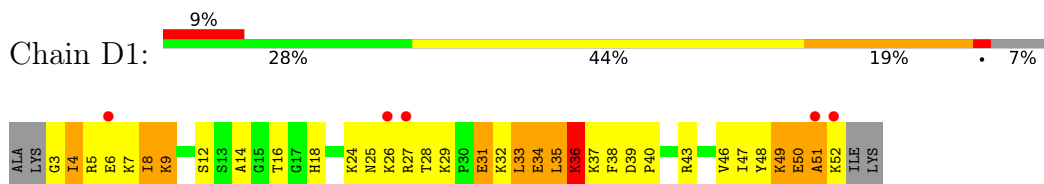
- Molecule 32: 50S ribosomal protein L36



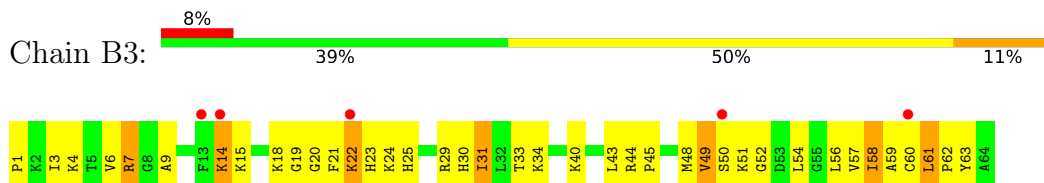
- Molecule 33: 50S ribosomal protein L33



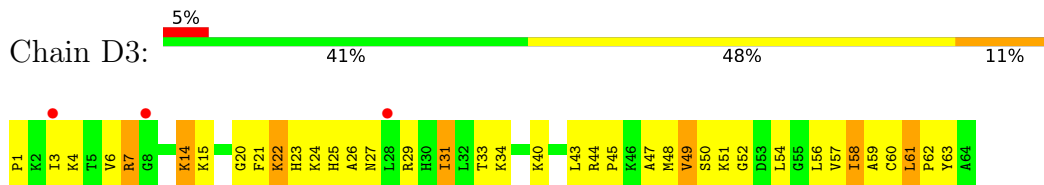
- Molecule 33: 50S ribosomal protein L33



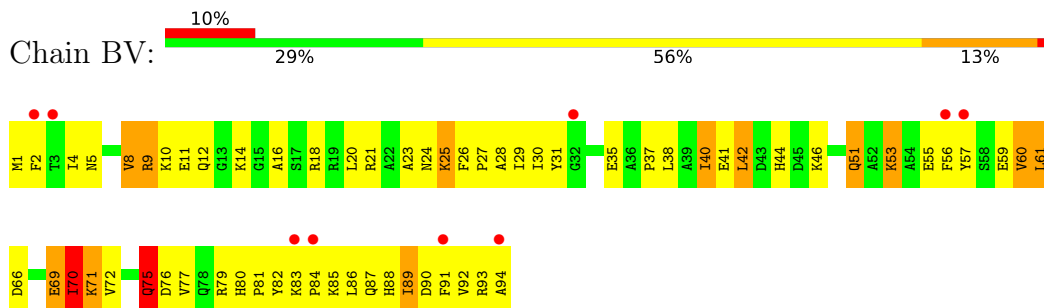
- Molecule 34: 50S ribosomal protein L35



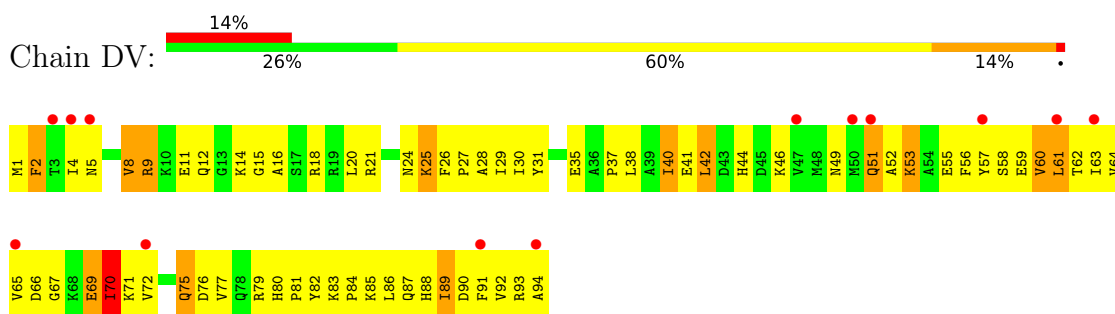
- Molecule 34: 50S ribosomal protein L35



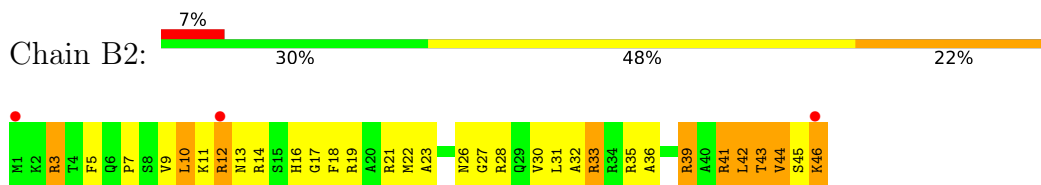
- Molecule 35: 50S ribosomal protein L25



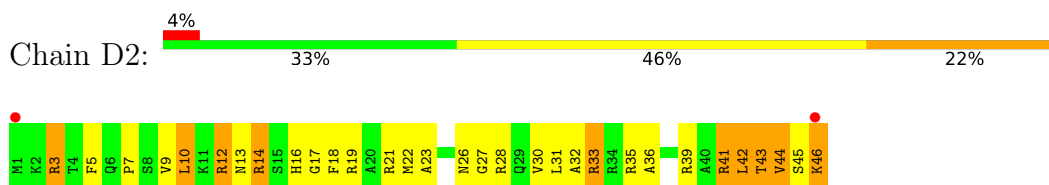
- Molecule 35: 50S ribosomal protein L25



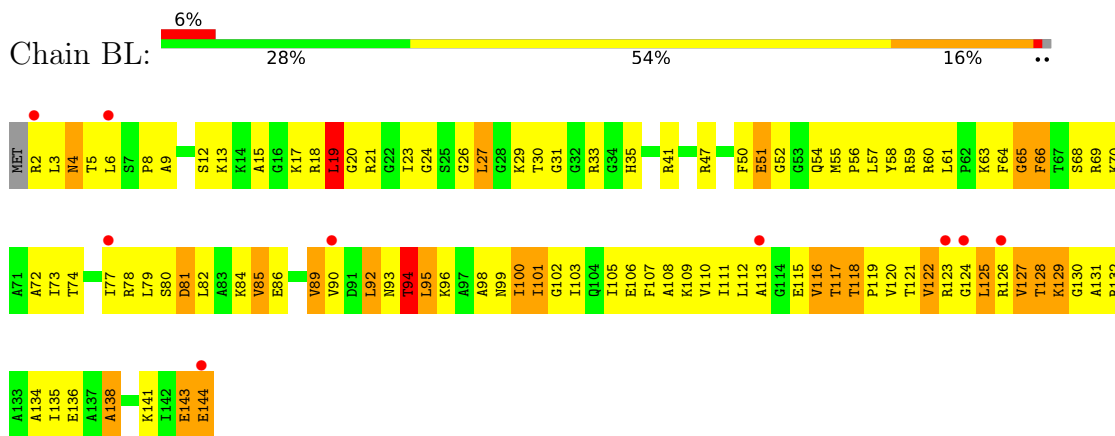
• Molecule 36: 50S ribosomal protein L34



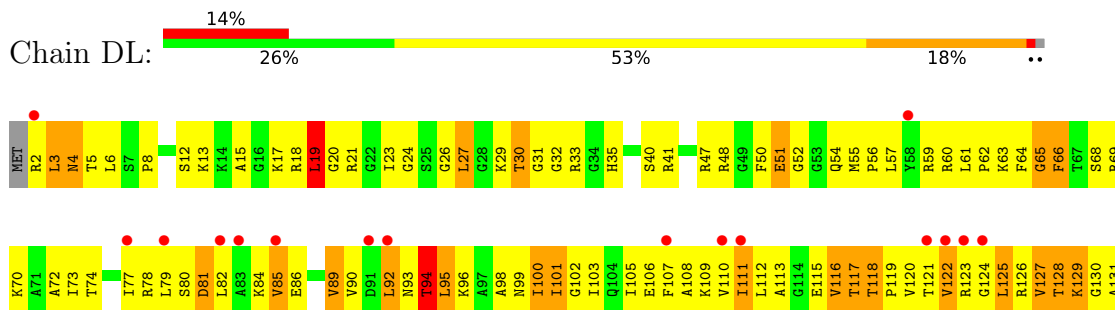
• Molecule 36: 50S ribosomal protein L34



• Molecule 37: 50S ribosomal protein L15

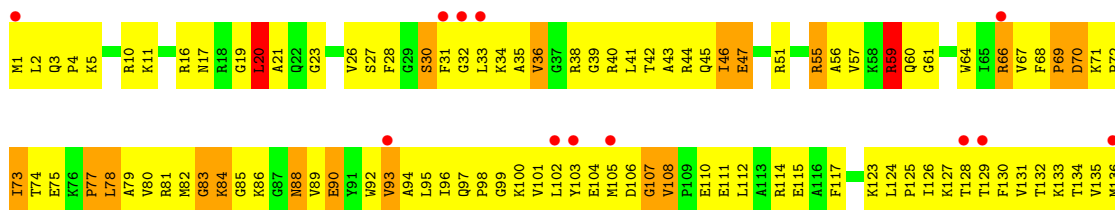


• Molecule 37: 50S ribosomal protein L15

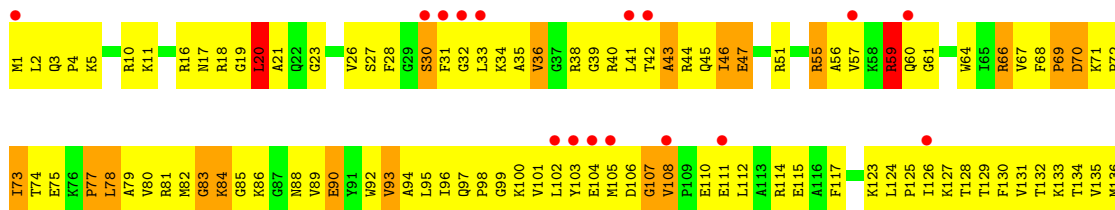




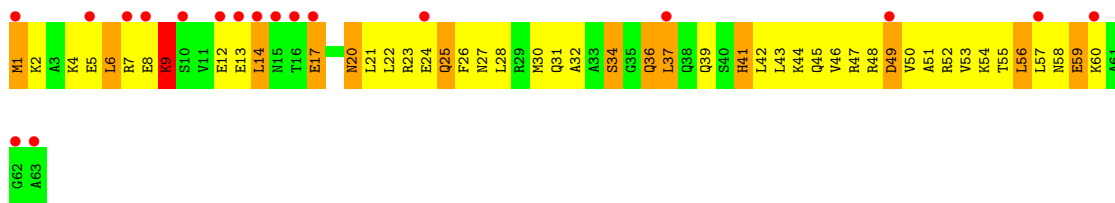
• Molecule 38: 50S ribosomal protein L16



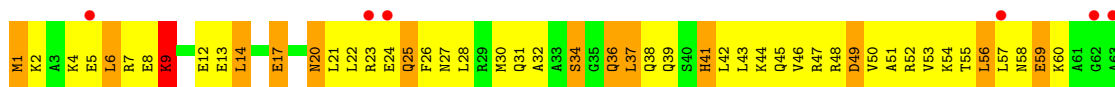
• Molecule 38: 50S ribosomal protein L16



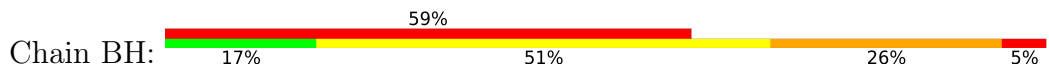
• Molecule 39: 50S ribosomal protein L29



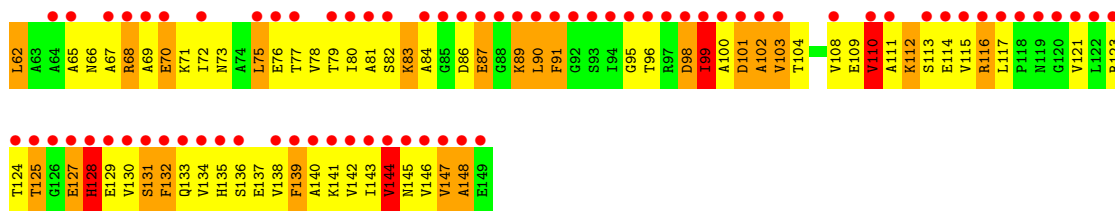
• Molecule 39: 50S ribosomal protein L29



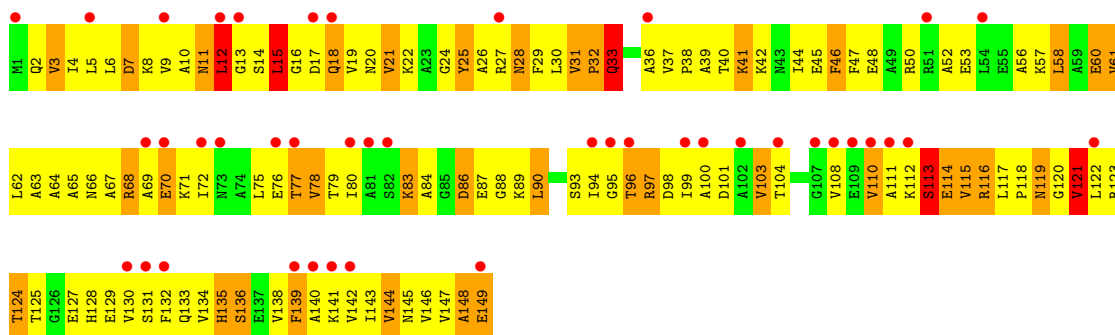
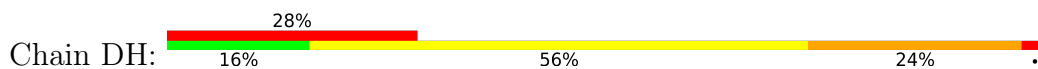
• Molecule 40: 50S ribosomal protein L9



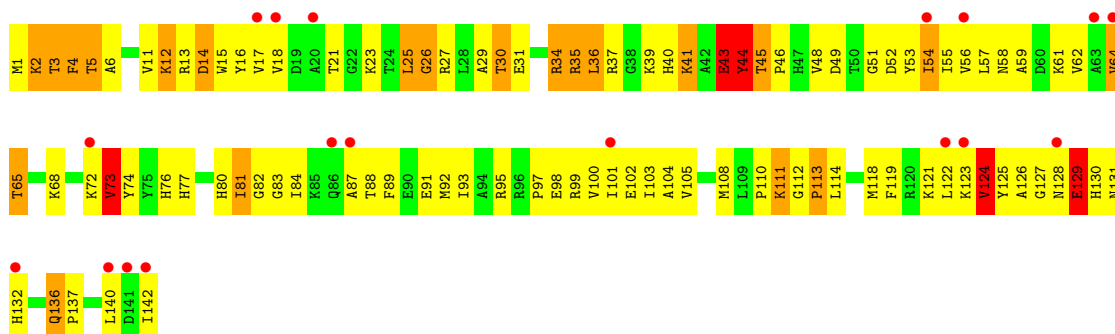




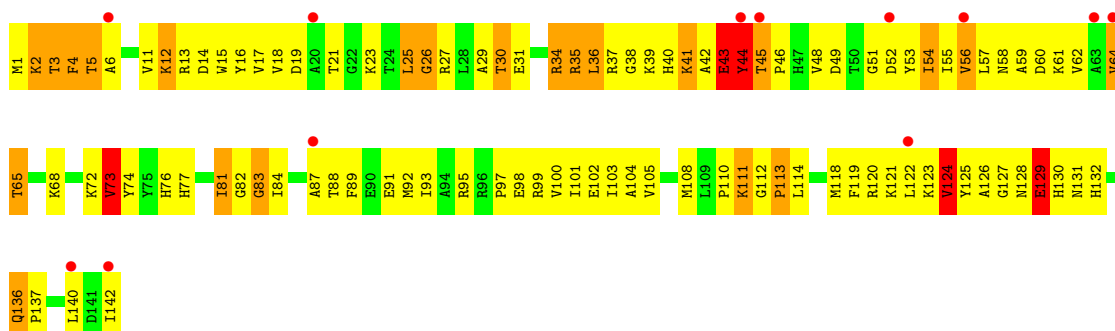
• Molecule 40: 50S ribosomal protein L9



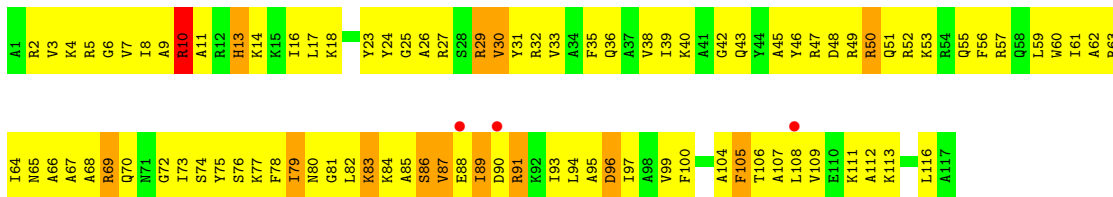
• Molecule 41: 50S ribosomal protein L13



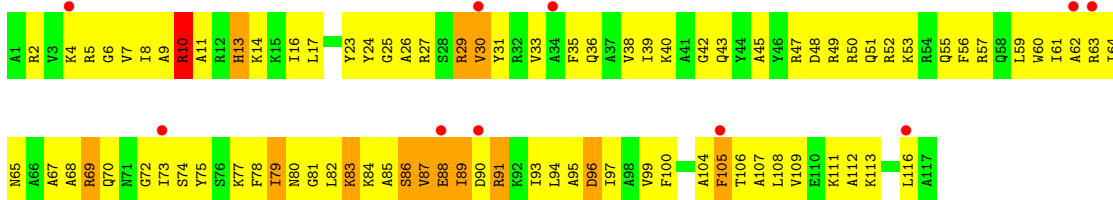
• Molecule 41: 50S ribosomal protein L13



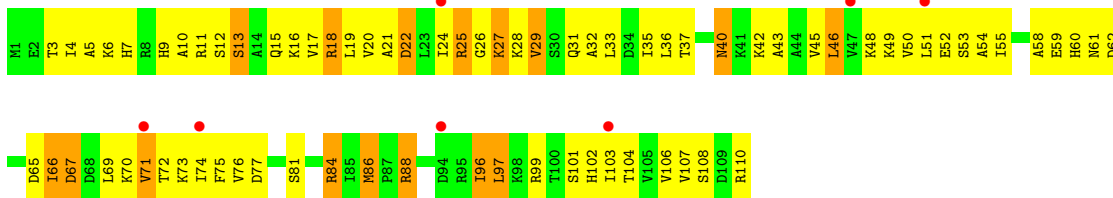




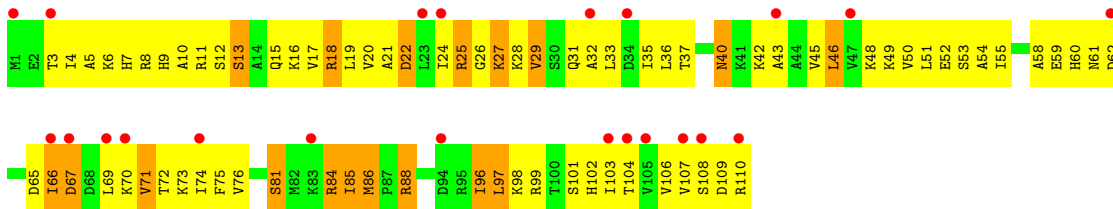
- Molecule 44: 50S ribosomal protein L20



- Molecule 45: 50S ribosomal protein L22

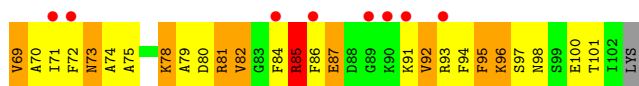


- Molecule 45: 50S ribosomal protein L22



- Molecule 46: 50S ribosomal protein L24

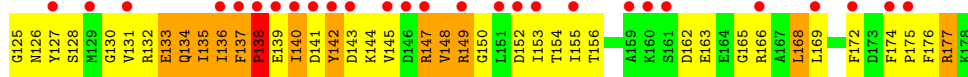
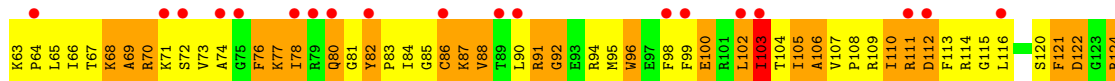
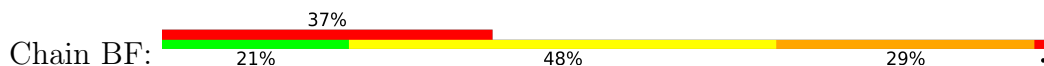




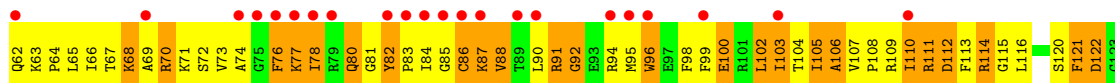
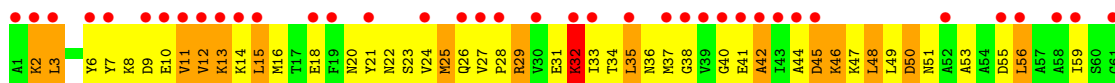
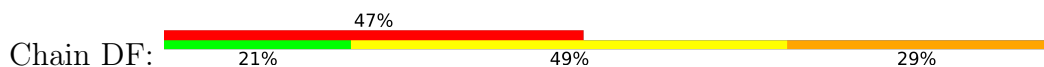
• Molecule 46: 50S ribosomal protein L24



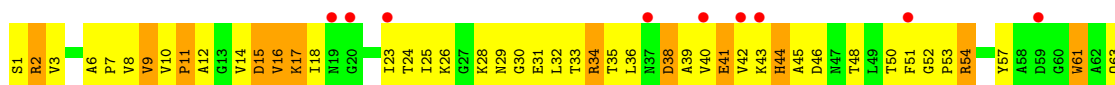
• Molecule 47: 50S ribosomal protein L5

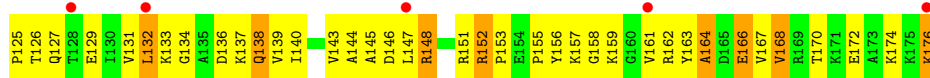


• Molecule 47: 50S ribosomal protein L5

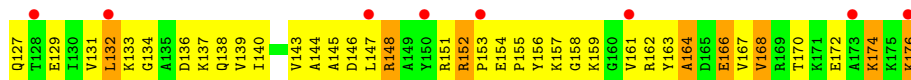
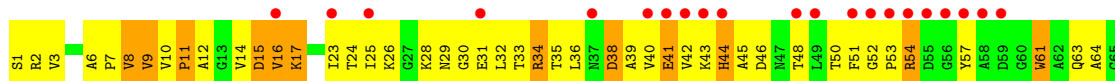


• Molecule 48: 50S ribosomal protein L6

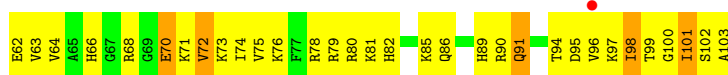
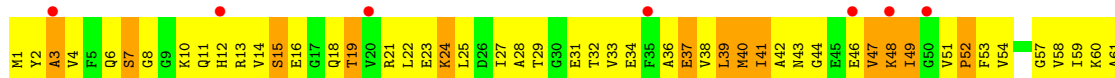




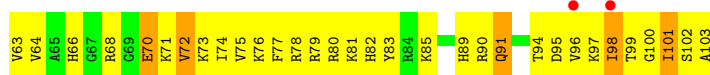
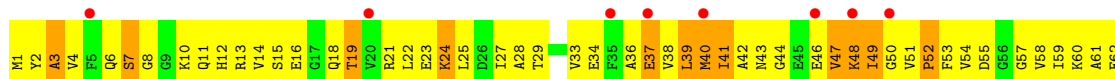
• Molecule 48: 50S ribosomal protein L6



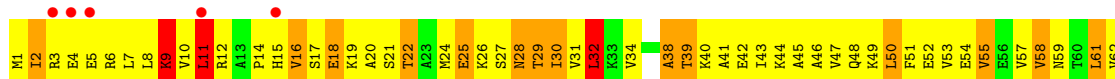
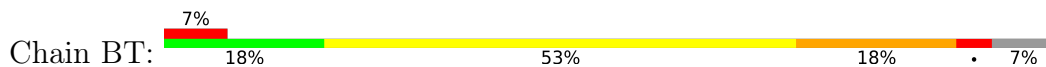
• Molecule 49: 50S ribosomal protein L21

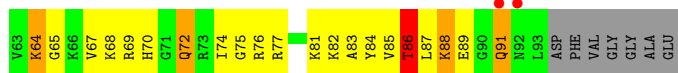


• Molecule 49: 50S ribosomal protein L21

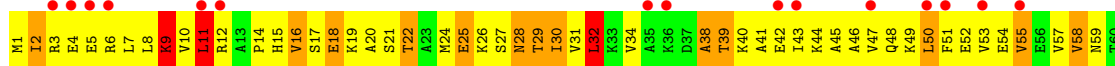
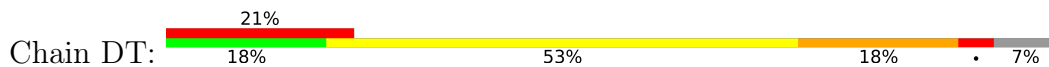


• Molecule 50: 50S ribosomal protein L23

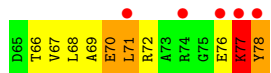
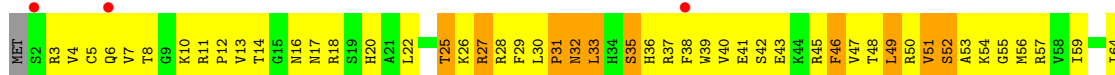




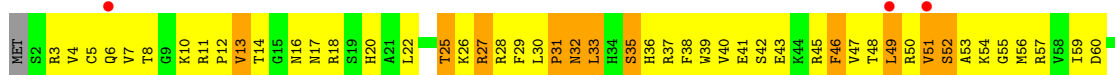
• Molecule 50: 50S ribosomal protein L23



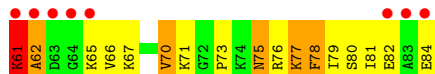
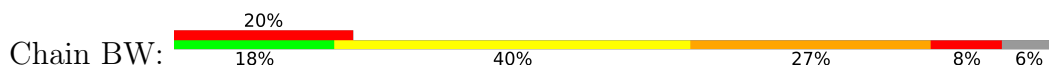
• Molecule 51: 50S ribosomal protein L28



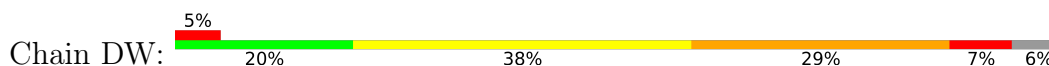
• Molecule 51: 50S ribosomal protein L28



• Molecule 52: 50S ribosomal protein L27



• Molecule 52: 50S ribosomal protein L27





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	208.85Å 379.20Å 739.28Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	70.00 – 3.50 182.94 – 3.53	Depositor EDS
% Data completeness (in resolution range)	(Not available) (70.00-3.50) 73.0 (182.94-3.53)	Depositor EDS
$R_{merge}$	0.10	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.69 (at 3.49Å)	Xtrriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.264 , 0.306 0.228 , 0.266	Depositor DCC
$R_{free}$ test set	25277 reflections (4.85%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	132.6	Xtrriage
Anisotropy	0.194	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.25 , 79.5	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	284201	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	71.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.41% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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



## 5 Model quality i

### 5.1 Standard geometry i

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	AA	0.26	1/36762 (0.0%)	0.75	9/57350 (0.0%)
1	CA	0.32	2/36762 (0.0%)	0.77	8/57350 (0.0%)
2	AC	0.23	0/1651	0.45	0/2225
2	CC	0.23	0/1651	0.46	0/2225
3	AD	0.23	0/1665	0.43	0/2227
3	CD	0.23	0/1665	0.43	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	0.44	0/1128
5	CF	0.24	0/835	0.44	0/1128
6	AG	0.23	0/1187	0.44	0/1591
6	CG	0.23	0/1211	0.45	0/1624
7	AH	0.23	0/989	0.45	0/1326
7	CH	0.23	0/989	0.44	0/1326
8	AI	0.24	0/1034	0.44	0/1375
8	CI	0.24	0/1034	0.45	0/1375
9	AJ	0.22	0/796	0.48	0/1077
9	CJ	0.23	0/796	0.47	0/1077
10	AK	0.24	0/893	0.45	0/1205
10	CK	0.24	0/893	0.45	0/1205
11	AL	0.22	0/969	0.48	0/1300
11	CL	0.22	0/969	0.48	0/1300
12	AM	0.21	0/892	0.46	0/1193
12	CM	0.21	0/884	0.45	0/1181
13	AP	0.25	0/659	0.46	0/884
13	CP	0.25	0/648	0.46	0/870
14	AQ	0.24	0/657	0.46	0/881
14	CQ	0.24	0/666	0.46	0/892
15	AR	0.23	0/462	0.44	0/621
15	CR	0.23	0/462	0.45	0/621
16	AS	0.25	0/652	0.45	0/877
16	CS	0.25	0/660	0.49	0/888

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	AT	0.24	0/671	0.40	0/888
17	CT	0.23	0/671	0.40	0/888
18	AB	0.25	0/1735	0.44	0/2338
18	CB	0.25	0/1735	0.45	0/2338
19	AU	0.26	0/430	0.46	0/570
19	CU	0.26	0/430	0.46	0/570
20	AO	0.23	0/722	0.44	0/964
20	CO	0.23	0/722	0.43	0/964
21	AN	0.24	0/785	0.43	0/1043
21	CN	0.24	0/785	0.45	0/1043
22	BA	0.25	0/2803	0.75	0/4371
22	DA	0.25	0/2803	0.74	0/4371
23	BB	0.28	6/68314 (0.0%)	0.77	42/106569 (0.0%)
23	DB	0.28	6/68314 (0.0%)	0.77	41/106569 (0.0%)
24	BI	0.24	0/1046	0.46	0/1410
24	DI	0.25	0/1046	0.47	0/1410
25	BC	0.22	0/2121	0.47	0/2852
25	DC	0.22	0/2121	0.47	0/2852
26	BD	0.24	0/1586	0.47	0/2134
26	DD	0.24	0/1586	0.47	0/2134
27	BK	0.23	0/939	0.52	0/1258
27	DK	0.23	0/939	0.52	0/1258
28	BP	0.24	0/929	0.49	0/1242
28	DP	0.24	0/929	0.49	0/1242
29	BE	0.24	0/1571	0.49	0/2113
29	DE	0.24	0/1571	0.49	0/2113
30	BY	0.24	0/453	0.48	0/605
30	DY	0.24	0/453	0.48	0/605
31	B0	0.22	0/450	0.51	0/599
31	D0	0.22	0/450	0.51	0/599
32	B4	0.23	0/303	0.44	0/397
32	D4	0.23	0/303	0.44	0/397
33	B1	0.27	0/416	0.47	0/554
33	D1	0.27	0/416	0.47	0/554
34	B3	0.24	0/513	0.47	0/676
34	D3	0.24	0/513	0.47	0/676
35	BV	0.25	0/766	0.43	0/1025
35	DV	0.25	0/766	0.43	0/1025
36	B2	0.26	0/380	0.47	0/498
36	D2	0.26	0/380	0.47	0/498
37	BL	0.23	0/1054	0.47	0/1403
37	DL	0.23	0/1054	0.47	0/1403
38	BM	0.25	0/1093	0.47	0/1460

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
38	DM	0.25	0/1093	0.47	0/1460
39	BX	0.24	0/510	0.52	0/677
39	DX	0.24	0/510	0.52	0/677
40	BH	0.25	0/1122	0.45	0/1515
40	DH	0.25	0/1122	0.46	0/1515
41	BJ	0.23	0/1152	0.47	0/1551
41	DJ	0.23	0/1152	0.47	0/1551
42	BN	0.24	0/973	0.49	0/1301
42	DN	0.24	0/973	0.49	0/1301
43	BO	0.23	0/902	0.47	0/1209
43	DO	0.23	0/902	0.47	0/1209
44	BQ	0.25	0/960	0.46	0/1278
44	DQ	0.25	0/960	0.46	0/1278
45	BS	0.21	0/864	0.50	0/1156
45	DS	0.21	0/864	0.50	0/1156
46	BU	0.25	0/787	0.45	0/1051
46	DU	0.25	0/787	0.45	0/1051
47	BF	0.25	0/1444	0.50	0/1937
47	DF	0.25	0/1444	0.50	0/1937
48	BG	0.23	0/1343	0.46	0/1816
48	DG	0.23	0/1343	0.46	0/1816
49	BR	0.25	0/829	0.46	0/1107
49	DR	0.25	0/829	0.46	0/1107
50	BT	0.22	0/744	0.51	0/994
50	DT	0.22	0/744	0.51	0/994
51	BZ	0.25	0/635	0.48	0/848
51	DZ	0.25	0/635	0.48	0/848
52	BW	0.28	0/603	0.48	0/797
52	DW	0.27	0/603	0.48	0/797
All	All	0.27	15/306360 (0.0%)	0.70	100/457969 (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	13
1	CA	0	20
23	BB	0	44
23	DB	0	43
All	All	0	120

The worst 5 of 15 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	BB	1086	A	C5-C6	-15.92	1.26	1.41
23	DB	1086	A	C5-C6	-15.80	1.26	1.41
23	BB	1088	A	C6-N1	-10.61	1.28	1.35
23	DB	1088	A	C6-N1	-10.48	1.28	1.35
23	DB	1060	U	C2-N3	7.81	1.43	1.37

The worst 5 of 100 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	DB	2204	G	O5'-P-OP1	-29.68	75.09	110.70
23	BB	2204	G	O5'-P-OP2	-28.72	76.23	110.70
23	DB	2791	G	O5'-P-OP2	-27.53	77.67	110.70
23	BB	2791	G	O5'-P-OP1	-27.53	77.67	110.70
23	DB	2791	G	O5'-P-OP1	17.94	132.23	110.70

There are no chirality outliers.

5 of 120 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AA	187	G	Sidechain
1	AA	281	G	Sidechain
1	AA	437	U	Sidechain
1	AA	438	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	1291	0
1	CA	32831	0	16521	1302	0
2	AC	1624	0	1699	189	0
2	CC	1624	0	1699	189	0
3	AD	1643	0	1710	127	0
3	CD	1643	0	1710	128	0
4	AE	1105	0	1148	94	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	CE	1105	0	1148	93	0
5	AF	817	0	808	95	0
5	CF	817	0	808	91	0
6	AG	1174	0	1230	150	0
6	CG	1196	0	1246	114	0
7	AH	979	0	1034	68	0
7	CH	979	0	1034	70	0
8	AI	1022	0	1070	146	0
8	CI	1022	0	1070	136	0
9	AJ	786	0	828	100	0
9	CJ	786	0	828	98	0
10	AK	877	0	887	108	0
10	CK	877	0	887	97	0
11	AL	955	0	1019	96	0
11	CL	955	0	1019	97	0
12	AM	883	0	944	160	0
12	CM	876	0	937	116	0
13	AP	649	0	666	58	0
13	CP	638	0	656	50	0
14	AQ	648	0	691	63	0
14	CQ	657	0	702	59	0
15	AR	455	0	478	40	0
15	CR	455	0	478	43	0
16	AS	637	0	665	107	0
16	CS	644	0	675	106	0
17	AT	665	0	714	60	0
17	CT	665	0	714	64	0
18	AB	1704	0	1732	193	0
18	CB	1704	0	1732	210	0
19	AU	425	0	449	74	0
19	CU	425	0	449	67	0
20	AO	714	0	734	65	0
20	CO	714	0	734	50	0
21	AN	774	0	827	109	0
21	CN	774	0	827	113	0
22	BA	2507	0	1270	104	0
22	DA	2507	0	1270	107	0
23	BB	60995	0	30679	2216	0
23	DB	60995	0	30678	2313	0
24	BI	1032	0	1088	112	0
24	DI	1032	0	1088	176	0
25	BC	2082	0	2157	217	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	DC	2082	0	2157	218	0
26	BD	1565	0	1616	206	0
26	DD	1565	0	1616	207	0
27	BK	930	0	1000	130	0
27	DK	930	0	1000	138	0
28	BP	917	0	965	115	0
28	DP	917	0	965	118	0
29	BE	1552	0	1619	199	0
29	DE	1552	0	1619	183	0
30	BY	449	0	491	58	0
30	DY	449	0	491	57	0
31	B0	444	0	461	35	0
31	D0	444	0	461	40	0
32	B4	302	0	340	42	0
32	D4	302	0	340	39	0
33	B1	409	0	440	34	0
33	D1	409	0	440	38	0
34	B3	504	0	574	50	0
34	D3	504	0	574	44	0
35	BV	753	0	780	102	0
35	DV	753	0	780	100	0
36	B2	377	0	418	48	0
36	D2	377	0	418	45	0
37	BL	1045	0	1117	139	0
37	DL	1045	0	1117	153	0
38	BM	1074	0	1157	116	0
38	DM	1074	0	1157	115	0
39	BX	509	0	543	63	0
39	DX	509	0	543	67	0
40	BH	1111	0	1148	193	0
40	DH	1111	0	1148	179	0
41	BJ	1129	0	1162	130	0
41	DJ	1129	0	1162	127	0
42	BN	960	0	1000	115	0
42	DN	960	0	1000	114	0
43	BO	892	0	923	93	0
43	DO	892	0	923	102	0
44	BQ	947	0	1022	143	0
44	DQ	947	0	1022	143	0
45	BS	857	0	922	86	0
45	DS	857	0	922	92	0
46	BU	779	0	834	110	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	DU	779	0	834	111	0
47	BF	1420	0	1460	223	0
47	DF	1420	0	1460	216	0
48	BG	1323	0	1374	188	0
48	DG	1323	0	1374	178	0
49	BR	816	0	839	110	0
49	DR	816	0	839	105	0
50	BT	738	0	807	107	0
50	DT	738	0	807	116	0
51	BZ	625	0	652	68	0
51	DZ	625	0	652	67	0
52	BW	596	0	610	134	0
52	DW	596	0	610	127	0
53	AA	42	0	46	0	0
53	BB	42	0	46	0	0
53	CA	42	0	46	0	0
53	DB	42	0	46	1	0
54	AA	60	0	0	0	0
54	BB	110	0	0	0	0
54	CA	59	0	0	0	0
54	DB	111	0	0	0	0
55	AA	23	0	24	5	0
55	CA	23	0	24	1	0
56	B4	1	0	0	0	0
56	D4	1	0	0	0	0
57	AA	290	0	0	2	0
57	AE	1	0	0	0	0
57	AK	1	0	0	0	0
57	AL	4	0	0	0	0
57	AN	1	0	0	0	0
57	AP	1	0	0	0	0
57	AT	2	0	0	0	0
57	BB	492	0	0	4	0
57	BC	7	0	0	0	0
57	BD	1	0	0	0	0
57	BE	4	0	0	0	0
57	BH	1	0	0	0	0
57	BL	2	0	0	0	0
57	CA	282	0	0	2	0
57	CE	2	0	0	0	0
57	CI	1	0	0	0	0
57	CL	4	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	CN	3	0	0	0	0
57	CP	1	0	0	0	0
57	CT	1	0	0	0	0
57	DB	501	0	0	14	0
57	DC	4	0	0	0	0
57	DD	1	0	0	0	0
57	DE	2	0	0	0	0
57	DL	1	0	0	0	0
57	DN	2	0	0	0	0
57	DR	1	0	0	0	0
All	All	284201	0	190895	16740	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 35.

The worst 5 of 16740 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	1.32	1.27
23:BB:2305:U:H1'	47:BF:132:ARG:HA	1.33	1.10
40:BH:125:THR:HA	40:BH:146:VAL:HB	1.28	1.10
18:CB:69:VAL:HG23	18:CB:162:VAL:HB	1.34	1.09
23:DB:1098:A:H3'	24:DI:3:LYS:HA	1.32	1.08

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%)	130 (64%)	44 (22%)	30 (15%)	<b>0</b> <b>3</b>
2	CC	204/232 (88%)	137 (67%)	49 (24%)	18 (9%)	<b>1</b> <b>8</b>

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	AD	203/205 (99%)	153 (75%)	40 (20%)	10 (5%)	2	19
3	CD	203/205 (99%)	153 (75%)	40 (20%)	10 (5%)	2	19
4	AE	148/166 (89%)	116 (78%)	24 (16%)	8 (5%)	2	17
4	CE	148/166 (89%)	114 (77%)	25 (17%)	9 (6%)	1	15
5	AF	98/135 (73%)	63 (64%)	25 (26%)	10 (10%)	0	7
5	CF	98/135 (73%)	64 (65%)	24 (24%)	10 (10%)	0	7
6	AG	148/178 (83%)	110 (74%)	30 (20%)	8 (5%)	2	17
6	CG	150/178 (84%)	111 (74%)	28 (19%)	11 (7%)	1	11
7	AH	127/129 (98%)	92 (72%)	31 (24%)	4 (3%)	4	30
7	CH	127/129 (98%)	92 (72%)	31 (24%)	4 (3%)	4	30
8	AI	125/129 (97%)	80 (64%)	35 (28%)	10 (8%)	1	10
8	CI	125/129 (97%)	80 (64%)	34 (27%)	11 (9%)	1	8
9	AJ	96/103 (93%)	59 (62%)	25 (26%)	12 (12%)	0	5
9	CJ	96/103 (93%)	64 (67%)	22 (23%)	10 (10%)	0	7
10	AK	115/128 (90%)	87 (76%)	23 (20%)	5 (4%)	2	22
10	CK	115/128 (90%)	86 (75%)	24 (21%)	5 (4%)	2	22
11	AL	121/123 (98%)	69 (57%)	37 (31%)	15 (12%)	0	5
11	CL	121/123 (98%)	72 (60%)	34 (28%)	15 (12%)	0	5
12	AM	112/117 (96%)	74 (66%)	25 (22%)	13 (12%)	0	5
12	CM	111/117 (95%)	78 (70%)	21 (19%)	12 (11%)	0	6
13	AP	80/82 (98%)	53 (66%)	20 (25%)	7 (9%)	1	8
13	CP	78/82 (95%)	52 (67%)	19 (24%)	7 (9%)	1	8
14	AQ	78/83 (94%)	59 (76%)	15 (19%)	4 (5%)	2	19
14	CQ	79/83 (95%)	57 (72%)	18 (23%)	4 (5%)	2	19
15	AR	53/74 (72%)	40 (76%)	13 (24%)	0	100	100
15	CR	53/74 (72%)	41 (77%)	11 (21%)	1 (2%)	8	40
16	AS	77/91 (85%)	49 (64%)	24 (31%)	4 (5%)	2	18
16	CS	78/91 (86%)	57 (73%)	16 (20%)	5 (6%)	1	14
17	AT	83/86 (96%)	62 (75%)	16 (19%)	5 (6%)	1	15
17	CT	83/86 (96%)	63 (76%)	15 (18%)	5 (6%)	1	15
18	AB	216/240 (90%)	135 (62%)	56 (26%)	25 (12%)	0	5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
18	CB	216/240 (90%)	145 (67%)	52 (24%)	19 (9%)	1	8
19	AU	49/70 (70%)	29 (59%)	14 (29%)	6 (12%)	0	5
19	CU	49/70 (70%)	29 (59%)	14 (29%)	6 (12%)	0	5
20	AO	86/89 (97%)	62 (72%)	18 (21%)	6 (7%)	1	12
20	CO	86/89 (97%)	60 (70%)	25 (29%)	1 (1%)	13	50
21	AN	92/100 (92%)	53 (58%)	30 (33%)	9 (10%)	0	7
21	CN	92/100 (92%)	49 (53%)	31 (34%)	12 (13%)	0	4
24	BI	139/141 (99%)	118 (85%)	17 (12%)	4 (3%)	4	31
24	DI	139/141 (99%)	115 (83%)	19 (14%)	5 (4%)	3	26
25	BC	269/272 (99%)	163 (61%)	63 (23%)	43 (16%)	0	2
25	DC	269/272 (99%)	162 (60%)	61 (23%)	46 (17%)	0	2
26	BD	207/209 (99%)	118 (57%)	57 (28%)	32 (16%)	0	3
26	DD	207/209 (99%)	118 (57%)	58 (28%)	31 (15%)	0	3
27	BK	119/123 (97%)	70 (59%)	27 (23%)	22 (18%)	0	2
27	DK	119/123 (97%)	69 (58%)	29 (24%)	21 (18%)	0	2
28	BP	112/114 (98%)	66 (59%)	29 (26%)	17 (15%)	0	3
28	DP	112/114 (98%)	66 (59%)	29 (26%)	17 (15%)	0	3
29	BE	199/201 (99%)	124 (62%)	51 (26%)	24 (12%)	0	5
29	DE	199/201 (99%)	124 (62%)	48 (24%)	27 (14%)	0	4
30	BY	56/58 (97%)	39 (70%)	12 (21%)	5 (9%)	1	8
30	DY	56/58 (97%)	40 (71%)	11 (20%)	5 (9%)	1	8
31	B0	54/56 (96%)	36 (67%)	12 (22%)	6 (11%)	0	6
31	D0	54/56 (96%)	36 (67%)	12 (22%)	6 (11%)	0	6
32	B4	36/38 (95%)	20 (56%)	9 (25%)	7 (19%)	0	2
32	D4	36/38 (95%)	21 (58%)	8 (22%)	7 (19%)	0	2
33	B1	48/54 (89%)	35 (73%)	9 (19%)	4 (8%)	1	9
33	D1	48/54 (89%)	35 (73%)	9 (19%)	4 (8%)	1	9
34	B3	62/64 (97%)	39 (63%)	17 (27%)	6 (10%)	0	7
34	D3	62/64 (97%)	39 (63%)	18 (29%)	5 (8%)	1	9
35	BV	92/94 (98%)	60 (65%)	22 (24%)	10 (11%)	0	6
35	DV	92/94 (98%)	59 (64%)	23 (25%)	10 (11%)	0	6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	B2	44/46 (96%)	25 (57%)	16 (36%)	3 (7%)	1	13
36	D2	44/46 (96%)	24 (54%)	16 (36%)	4 (9%)	1	8
37	BL	141/144 (98%)	78 (55%)	44 (31%)	19 (14%)	0	4
37	DL	141/144 (98%)	78 (55%)	42 (30%)	21 (15%)	0	3
38	BM	134/136 (98%)	90 (67%)	28 (21%)	16 (12%)	0	5
38	DM	134/136 (98%)	91 (68%)	26 (19%)	17 (13%)	0	4
39	BX	61/63 (97%)	35 (57%)	22 (36%)	4 (7%)	1	13
39	DX	61/63 (97%)	35 (57%)	22 (36%)	4 (7%)	1	13
40	BH	147/149 (99%)	74 (50%)	42 (29%)	31 (21%)	0	1
40	DH	147/149 (99%)	86 (58%)	38 (26%)	23 (16%)	0	2
41	BJ	140/142 (99%)	88 (63%)	33 (24%)	19 (14%)	0	4
41	DJ	140/142 (99%)	88 (63%)	32 (23%)	20 (14%)	0	3
42	BN	118/127 (93%)	74 (63%)	31 (26%)	13 (11%)	0	6
42	DN	118/127 (93%)	74 (63%)	32 (27%)	12 (10%)	0	7
43	BO	114/117 (97%)	79 (69%)	26 (23%)	9 (8%)	1	10
43	DO	114/117 (97%)	79 (69%)	25 (22%)	10 (9%)	1	8
44	BQ	115/117 (98%)	76 (66%)	32 (28%)	7 (6%)	1	15
44	DQ	115/117 (98%)	75 (65%)	33 (29%)	7 (6%)	1	15
45	BS	108/110 (98%)	67 (62%)	28 (26%)	13 (12%)	0	5
45	DS	108/110 (98%)	67 (62%)	28 (26%)	13 (12%)	0	5
46	BU	100/103 (97%)	50 (50%)	35 (35%)	15 (15%)	0	3
46	DU	100/103 (97%)	54 (54%)	31 (31%)	15 (15%)	0	3
47	BF	176/178 (99%)	102 (58%)	48 (27%)	26 (15%)	0	3
47	DF	176/178 (99%)	102 (58%)	48 (27%)	26 (15%)	0	3
48	BG	174/176 (99%)	111 (64%)	40 (23%)	23 (13%)	0	4
48	DG	174/176 (99%)	110 (63%)	40 (23%)	24 (14%)	0	3
49	BR	101/103 (98%)	59 (58%)	31 (31%)	11 (11%)	0	6
49	DR	101/103 (98%)	59 (58%)	31 (31%)	11 (11%)	0	6
50	BT	91/100 (91%)	49 (54%)	25 (28%)	17 (19%)	0	2
50	DT	91/100 (91%)	47 (52%)	27 (30%)	17 (19%)	0	2
51	BZ	75/78 (96%)	50 (67%)	17 (23%)	8 (11%)	0	6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
51	DZ	75/78 (96%)	48 (64%)	19 (25%)	8 (11%)	0	6
52	BW	77/84 (92%)	26 (34%)	26 (34%)	25 (32%)	0	0
52	DW	77/84 (92%)	26 (34%)	25 (32%)	26 (34%)	0	0
All	All	11241/11914 (94%)	7227 (64%)	2767 (25%)	1247 (11%)	0	6

5 of 1247 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AC	11	LEU
2	AC	14	VAL
2	AC	25	THR
2	AC	54	ILE
2	AC	83	VAL

### 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%)	137 (81%)	33 (19%)	1	7
2	CC	170/189 (90%)	139 (82%)	31 (18%)	1	9
3	AD	172/172 (100%)	153 (89%)	19 (11%)	6	29
3	CD	172/172 (100%)	154 (90%)	18 (10%)	7	31
4	AE	113/125 (90%)	90 (80%)	23 (20%)	1	6
4	CE	113/125 (90%)	91 (80%)	22 (20%)	1	7
5	AF	87/116 (75%)	75 (86%)	12 (14%)	3	20
5	CF	87/116 (75%)	74 (85%)	13 (15%)	3	17
6	AG	123/146 (84%)	104 (85%)	19 (15%)	2	16
6	CG	125/146 (86%)	102 (82%)	23 (18%)	1	8
7	AH	104/104 (100%)	96 (92%)	8 (8%)	13	42
7	CH	104/104 (100%)	97 (93%)	7 (7%)	16	48
8	AI	105/106 (99%)	88 (84%)	17 (16%)	2	14

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	CI	105/106 (99%)	77 (73%)	28 (27%)	0	3
9	AJ	86/90 (96%)	74 (86%)	12 (14%)	3	19
9	CJ	86/90 (96%)	75 (87%)	11 (13%)	4	22
10	AK	90/98 (92%)	77 (86%)	13 (14%)	3	18
10	CK	90/98 (92%)	76 (84%)	14 (16%)	2	16
11	AL	103/103 (100%)	84 (82%)	19 (18%)	1	8
11	CL	103/103 (100%)	84 (82%)	19 (18%)	1	8
12	AM	92/95 (97%)	79 (86%)	13 (14%)	3	19
12	CM	91/95 (96%)	70 (77%)	21 (23%)	1	4
13	AP	65/65 (100%)	56 (86%)	9 (14%)	3	20
13	CP	65/65 (100%)	56 (86%)	9 (14%)	3	20
14	AQ	74/77 (96%)	65 (88%)	9 (12%)	5	23
14	CQ	75/77 (97%)	66 (88%)	9 (12%)	5	24
15	AR	48/64 (75%)	42 (88%)	6 (12%)	4	23
15	CR	48/64 (75%)	42 (88%)	6 (12%)	4	23
16	AS	70/78 (90%)	48 (69%)	22 (31%)	0	2
16	CS	71/78 (91%)	53 (75%)	18 (25%)	0	3
17	AT	65/65 (100%)	56 (86%)	9 (14%)	3	20
17	CT	65/65 (100%)	56 (86%)	9 (14%)	3	20
18	AB	180/198 (91%)	149 (83%)	31 (17%)	2	11
18	CB	180/198 (91%)	141 (78%)	39 (22%)	1	5
19	AU	44/60 (73%)	33 (75%)	11 (25%)	0	4
19	CU	44/60 (73%)	33 (75%)	11 (25%)	0	4
20	AO	76/77 (99%)	69 (91%)	7 (9%)	9	36
20	CO	76/77 (99%)	64 (84%)	12 (16%)	2	15
21	AN	79/83 (95%)	69 (87%)	10 (13%)	4	22
21	CN	79/83 (95%)	64 (81%)	15 (19%)	1	8
24	BI	109/109 (100%)	108 (99%)	1 (1%)	78	90
24	DI	109/109 (100%)	103 (94%)	6 (6%)	21	54
25	BC	216/217 (100%)	184 (85%)	32 (15%)	3	17
25	DC	216/217 (100%)	184 (85%)	32 (15%)	3	17

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
26	BD	164/164 (100%)	136 (83%)	28 (17%)	2	12
26	DD	164/164 (100%)	136 (83%)	28 (17%)	2	12
27	BK	102/104 (98%)	74 (72%)	28 (28%)	0	3
27	DK	102/104 (98%)	73 (72%)	29 (28%)	0	3
28	BP	99/99 (100%)	83 (84%)	16 (16%)	2	14
28	DP	99/99 (100%)	83 (84%)	16 (16%)	2	14
29	BE	165/165 (100%)	146 (88%)	19 (12%)	5	26
29	DE	165/165 (100%)	145 (88%)	20 (12%)	5	24
30	BY	48/48 (100%)	38 (79%)	10 (21%)	1	6
30	DY	48/48 (100%)	37 (77%)	11 (23%)	1	4
31	B0	47/47 (100%)	38 (81%)	9 (19%)	1	8
31	D0	47/47 (100%)	38 (81%)	9 (19%)	1	8
32	B4	34/34 (100%)	31 (91%)	3 (9%)	10	38
32	D4	34/34 (100%)	31 (91%)	3 (9%)	10	38
33	B1	45/48 (94%)	35 (78%)	10 (22%)	1	5
33	D1	45/48 (94%)	35 (78%)	10 (22%)	1	5
34	B3	51/51 (100%)	48 (94%)	3 (6%)	19	53
34	D3	51/51 (100%)	48 (94%)	3 (6%)	19	53
35	BV	78/78 (100%)	65 (83%)	13 (17%)	2	12
35	DV	78/78 (100%)	65 (83%)	13 (17%)	2	12
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%)	85 (83%)	17 (17%)	2	12
37	DL	102/103 (99%)	85 (83%)	17 (17%)	2	12
38	BM	109/109 (100%)	93 (85%)	16 (15%)	3	18
38	DM	109/109 (100%)	93 (85%)	16 (15%)	3	18
39	BX	55/55 (100%)	43 (78%)	12 (22%)	1	5
39	DX	55/55 (100%)	43 (78%)	12 (22%)	1	5
40	BH	114/114 (100%)	83 (73%)	31 (27%)	0	3
40	DH	114/114 (100%)	87 (76%)	27 (24%)	1	4
41	BJ	116/116 (100%)	100 (86%)	16 (14%)	3	20

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	DJ	116/116 (100%)	100 (86%)	16 (14%)	3	20
42	BN	100/103 (97%)	86 (86%)	14 (14%)	3	19
42	DN	100/103 (97%)	85 (85%)	15 (15%)	3	17
43	BO	86/87 (99%)	68 (79%)	18 (21%)	1	6
43	DO	86/87 (99%)	67 (78%)	19 (22%)	1	5
44	BQ	89/89 (100%)	77 (86%)	12 (14%)	4	21
44	DQ	89/89 (100%)	77 (86%)	12 (14%)	4	21
45	BS	93/93 (100%)	85 (91%)	8 (9%)	10	38
45	DS	93/93 (100%)	83 (89%)	10 (11%)	6	30
46	BU	83/84 (99%)	68 (82%)	15 (18%)	1	9
46	DU	83/84 (99%)	68 (82%)	15 (18%)	1	9
47	BF	149/149 (100%)	111 (74%)	38 (26%)	0	3
47	DF	149/149 (100%)	112 (75%)	37 (25%)	0	4
48	BG	137/137 (100%)	114 (83%)	23 (17%)	2	12
48	DG	137/137 (100%)	113 (82%)	24 (18%)	2	10
49	BR	84/84 (100%)	71 (84%)	13 (16%)	2	16
49	DR	84/84 (100%)	72 (86%)	12 (14%)	3	19
50	BT	80/84 (95%)	66 (82%)	14 (18%)	2	10
50	DT	80/84 (95%)	66 (82%)	14 (18%)	2	10
51	BZ	67/68 (98%)	57 (85%)	10 (15%)	3	17
51	DZ	67/68 (98%)	56 (84%)	11 (16%)	2	13
52	BW	59/62 (95%)	44 (75%)	15 (25%)	0	3
52	DW	59/62 (95%)	44 (75%)	15 (25%)	0	3
All	All	9333/9700 (96%)	7780 (83%)	1553 (17%)	2	13

5 of 1553 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
6	CG	21	LEU
26	DD	106	LYS
8	CI	45	MET
6	CG	17	PHE
18	CB	8	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 349 such sidechains are listed below:

Mol	Chain	Res	Type
18	CB	35	ASN
35	DV	87	GLN
20	CO	38	HIS
27	DK	13	ASN
39	DX	41	HIS

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1529/1542 (99%)	285 (18%)	20 (1%)
1	CA	1529/1542 (99%)	255 (16%)	20 (1%)
22	BA	116/120 (96%)	21 (18%)	1 (0%)
22	DA	116/120 (96%)	20 (17%)	1 (0%)
23	BB	2837/2904 (97%)	444 (15%)	16 (0%)
23	DB	2838/2904 (97%)	437 (15%)	20 (0%)
All	All	8965/9132 (98%)	1462 (16%)	78 (0%)

5 of 1462 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	9	G
1	AA	14	U
1	AA	15	G
1	AA	32	A
1	AA	39	G

5 of 78 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
22	DA	66	A
23	DB	2324	U
23	DB	139	U
23	DB	1301	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 348 ligands modelled in this entry, 342 are monoatomic - leaving 6 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
53	NMY	CA	1601	-	45,45,45	2.03	13 (28%)	63,67,67	1.19	6 (9%)
53	NMY	BB	3001	-	45,45,45	2.05	12 (26%)	63,67,67	1.22	7 (11%)
55	SCM	CA	1661	-	23,25,25	1.66	7 (30%)	26,39,39	1.32	3 (11%)
53	NMY	DB	3001	-	45,45,45	2.07	13 (28%)	63,67,67	1.23	6 (9%)
55	SCM	AA	1662	-	23,25,25	1.65	7 (30%)	26,39,39	1.32	3 (11%)
53	NMY	AA	1601	-	45,45,45	2.11	13 (28%)	63,67,67	1.16	6 (9%)

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
53	NMY	CA	1601	-	-	4/18/94/94	0/4/4/4
53	NMY	BB	3001	-	-	6/18/94/94	0/4/4/4
55	SCM	CA	1661	-	-	2/4/57/57	0/3/3/3
53	NMY	DB	3001	-	-	5/18/94/94	0/4/4/4
55	SCM	AA	1662	-	-	2/4/57/57	0/3/3/3
53	NMY	AA	1601	-	-	4/18/94/94	0/4/4/4

The worst 5 of 65 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	DB	3001	NMY	C23-C22	5.18	1.59	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	BB	3001	NMY	C23-C22	5.14	1.59	1.52
53	AA	1601	NMY	C23-C22	5.13	1.59	1.52
53	CA	1601	NMY	C23-C22	5.11	1.59	1.52
53	AA	1601	NMY	C3-C2	4.80	1.59	1.53

The worst 5 of 31 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	AA	1662	SCM	C1M-N10-C10	-4.65	107.61	114.38
55	CA	1661	SCM	C1M-N10-C10	-4.63	107.64	114.38
53	DB	3001	NMY	O11-C13-O16	4.05	115.82	111.43
53	BB	3001	NMY	O18-C18-C19	3.61	114.44	108.22
53	CA	1601	NMY	O18-C18-C19	3.59	114.41	108.22

There are no chirality outliers.

5 of 23 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
53	AA	1601	NMY	C14-C13-O11-C11
53	AA	1601	NMY	O16-C13-O11-C11
53	BB	3001	NMY	O16-C13-O11-C11
53	BB	3001	NMY	O16-C16-C17-O17
53	DB	3001	NMY	C4-C5-C6-N6

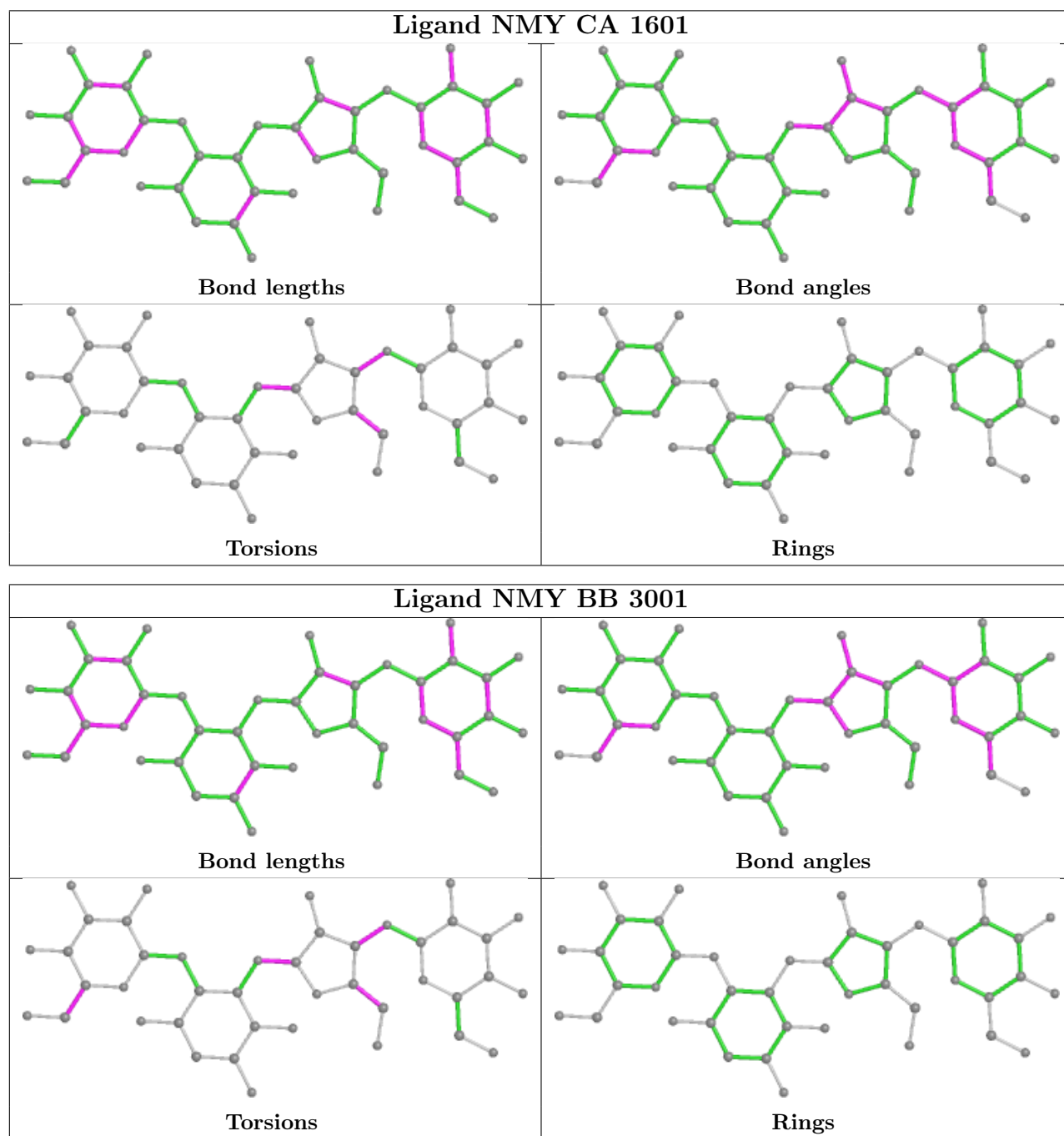
There are no ring outliers.

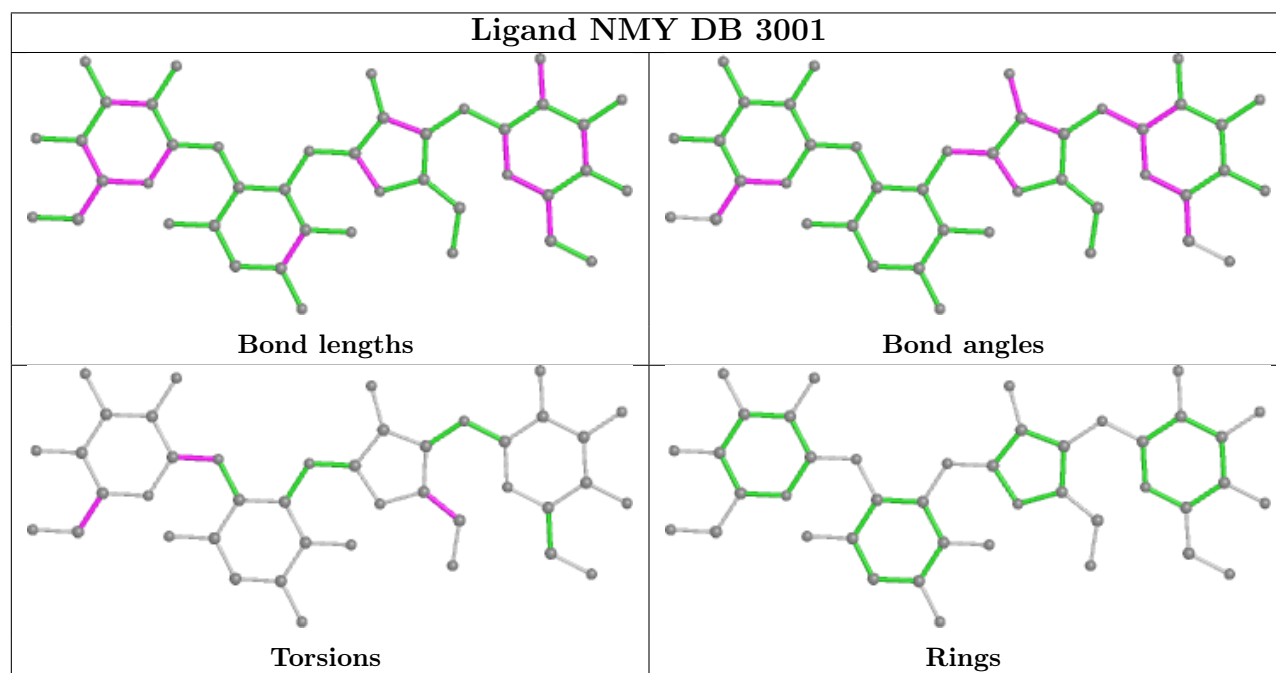
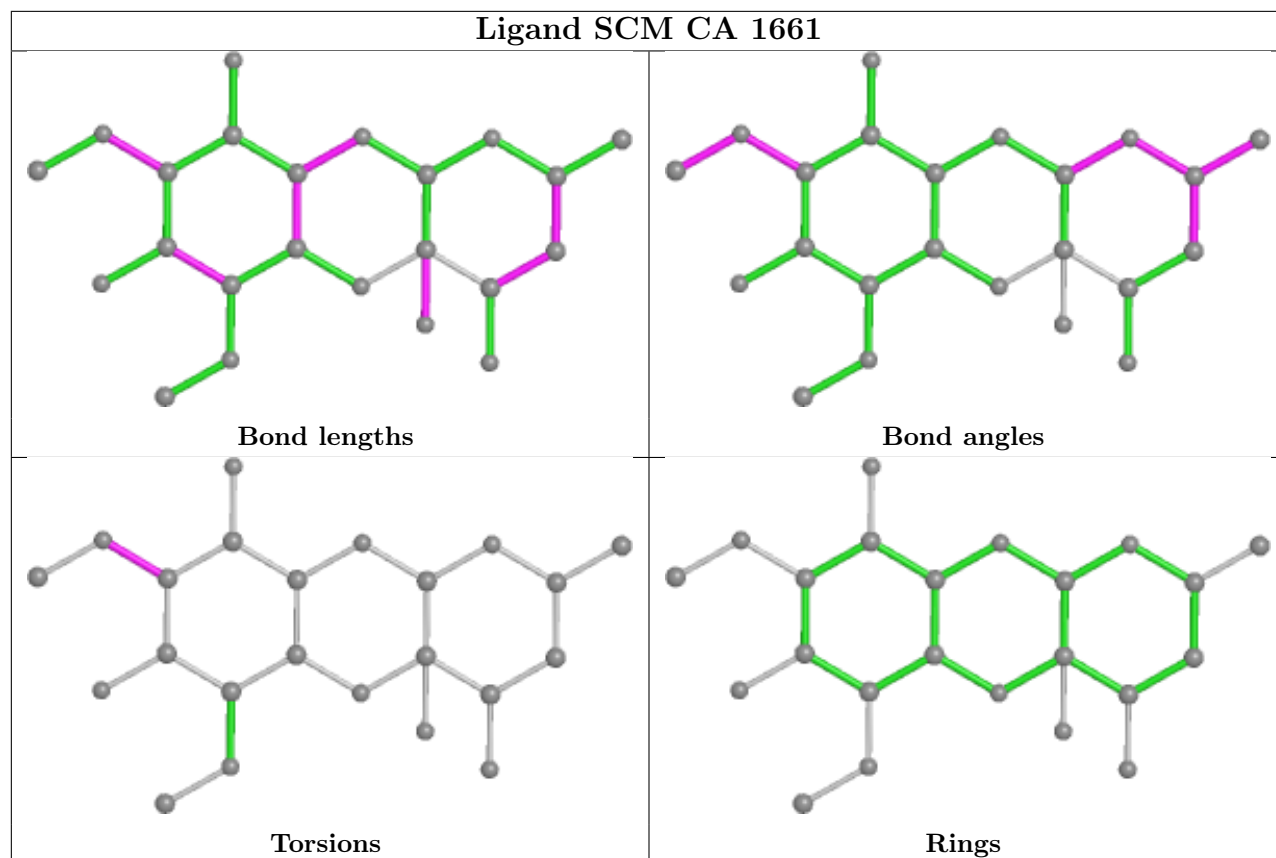
3 monomers are involved in 7 short contacts:

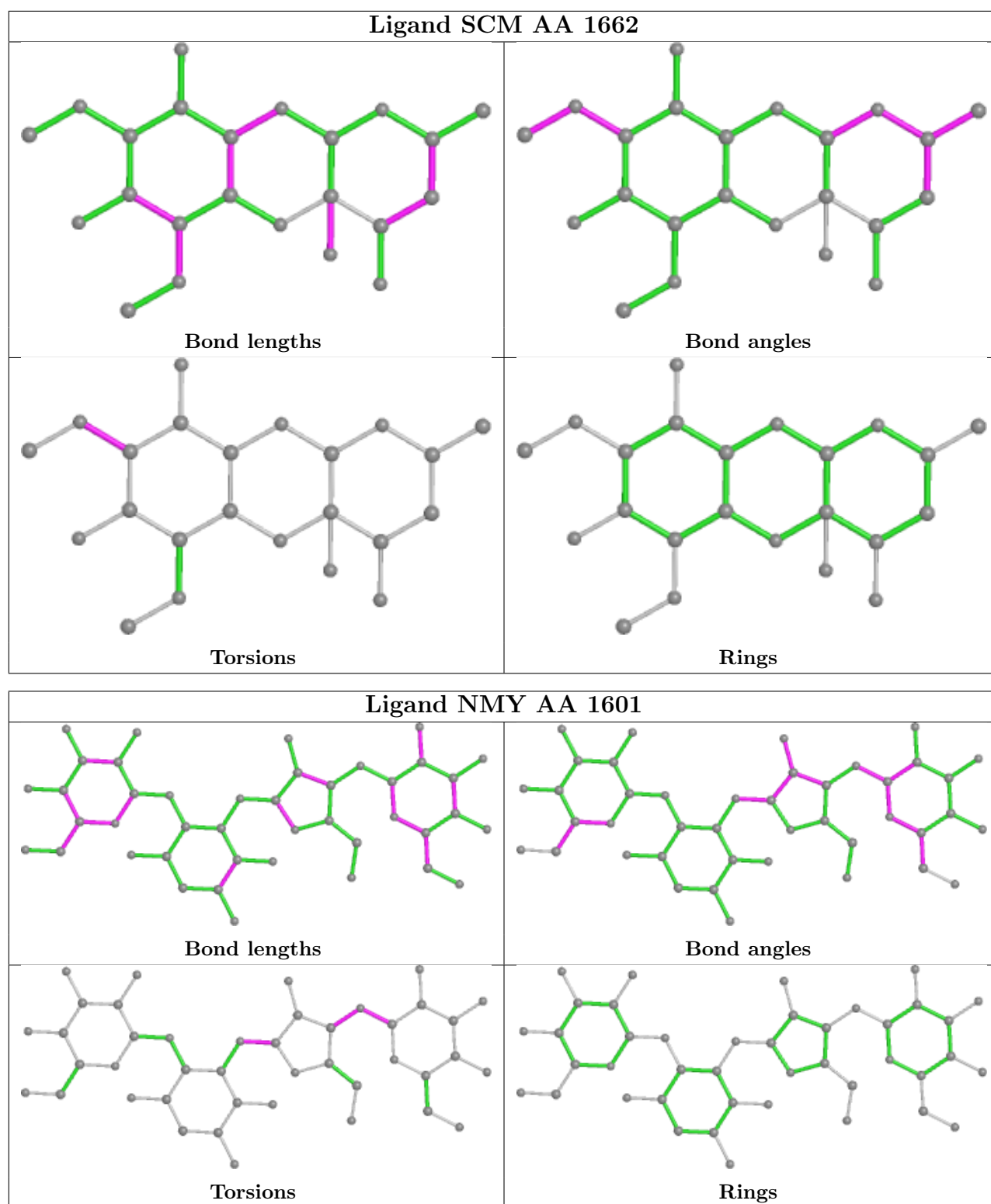
Mol	Chain	Res	Type	Clashes	Symm-Clashes
55	CA	1661	SCM	1	0
53	DB	3001	NMY	1	0
55	AA	1662	SCM	5	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier.

The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.







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

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.

## 6 Fit of model and data i

### 6.1 Protein, DNA and RNA chains i

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	AA	1530/1542 (99%)	-0.79	8 (0%) 91 88	16, 81, 159, 180	0
1	CA	1530/1542 (99%)	-0.72	1 (0%) 95 95	9, 57, 133, 180	0
2	AC	206/232 (88%)	0.45	20 (9%) 7 8	9, 76, 136, 180	0
2	CC	206/232 (88%)	0.28	15 (7%) 15 15	7, 75, 127, 180	0
3	AD	205/205 (100%)	0.60	25 (12%) 4 5	24, 92, 157, 180	0
3	CD	205/205 (100%)	0.50	15 (7%) 15 15	10, 64, 139, 180	0
4	AE	150/166 (90%)	0.50	14 (9%) 8 9	11, 74, 139, 176	0
4	CE	150/166 (90%)	0.80	25 (16%) 1 2	5, 61, 132, 180	0
5	AF	100/135 (74%)	1.04	17 (17%) 1 2	11, 86, 144, 172	0
5	CF	100/135 (74%)	0.56	9 (9%) 9 10	7, 83, 173, 180	0
6	AG	150/178 (84%)	0.23	9 (6%) 21 19	23, 104, 153, 180	0
6	CG	152/178 (85%)	-0.04	4 (2%) 56 49	27, 90, 147, 180	0
7	AH	129/129 (100%)	0.91	21 (16%) 1 2	13, 88, 155, 180	0
7	CH	129/129 (100%)	0.57	13 (10%) 7 7	5, 61, 127, 180	0
8	AI	127/129 (98%)	0.45	16 (12%) 3 5	36, 91, 150, 180	0
8	CI	127/129 (98%)	0.07	4 (3%) 49 43	20, 92, 148, 180	0
9	AJ	98/103 (95%)	0.40	4 (4%) 37 33	22, 94, 151, 180	0
9	CJ	98/103 (95%)	0.75	12 (12%) 4 5	17, 89, 156, 180	0
10	AK	117/128 (91%)	0.05	6 (5%) 28 25	14, 67, 124, 180	0
10	CK	117/128 (91%)	0.07	3 (2%) 56 49	5, 56, 125, 178	0
11	AL	123/123 (100%)	0.49	13 (10%) 6 7	19, 80, 133, 180	0
11	CL	123/123 (100%)	0.18	6 (4%) 29 26	7, 51, 135, 180	0
12	AM	114/117 (97%)	0.71	21 (18%) 1 1	56, 120, 166, 180	0
12	CM	113/117 (96%)	0.59	17 (15%) 2 3	38, 109, 165, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	AP	82/82 (100%)	2.15	30 (36%) 0 0	38, 91, 152, 180	0
13	CP	80/82 (97%)	0.50	10 (12%) 3 5	6, 63, 141, 180	0
14	AQ	80/83 (96%)	0.85	12 (15%) 2 3	37, 99, 151, 180	0
14	CQ	81/83 (97%)	0.54	2 (2%) 57 51	17, 71, 129, 180	0
15	AR	55/74 (74%)	0.54	2 (3%) 42 38	16, 76, 149, 180	0
15	CR	55/74 (74%)	0.41	4 (7%) 15 15	21, 66, 126, 180	0
16	AS	79/91 (86%)	1.60	30 (37%) 0 0	55, 121, 180, 180	0
16	CS	80/91 (87%)	1.05	18 (22%) 0 0	70, 109, 174, 180	0
17	AT	85/86 (98%)	-0.22	0 100 100	49, 106, 179, 180	0
17	CT	85/86 (98%)	-0.07	2 (2%) 59 53	18, 65, 143, 159	0
18	AB	218/240 (90%)	0.23	17 (7%) 13 13	22, 94, 153, 180	0
18	CB	218/240 (90%)	0.75	34 (15%) 2 2	19, 102, 160, 180	0
19	AU	51/70 (72%)	0.25	2 (3%) 39 35	29, 101, 151, 180	0
19	CU	51/70 (72%)	0.42	4 (7%) 13 13	24, 113, 155, 180	0
20	AO	88/89 (98%)	0.52	7 (7%) 12 12	18, 83, 137, 179	0
20	CO	88/89 (98%)	-0.11	0 100 100	7, 60, 118, 161	0
21	AN	96/100 (96%)	0.71	12 (12%) 3 5	12, 98, 151, 180	0
21	CN	96/100 (96%)	0.87	20 (20%) 1 1	12, 81, 150, 180	0
22	BA	117/120 (97%)	-0.26	2 (1%) 70 64	35, 74, 117, 167	0
22	DA	117/120 (97%)	-0.56	1 (0%) 84 79	36, 86, 127, 180	0
23	BB	2841/2904 (97%)	-0.48	28 (0%) 82 77	6, 54, 148, 180	0
23	DB	2841/2904 (97%)	-0.49	15 (0%) 91 88	5, 48, 146, 180	0
24	BI	141/141 (100%)	2.72	78 (55%) 0 0	95, 172, 180, 180	0
24	DI	141/141 (100%)	2.06	61 (43%) 0 0	91, 179, 180, 180	0
25	BC	271/272 (99%)	0.80	41 (15%) 2 3	5, 50, 103, 180	0
25	DC	271/272 (99%)	0.44	17 (6%) 20 18	5, 40, 100, 146	0
26	BD	209/209 (100%)	0.08	8 (3%) 40 36	7, 68, 146, 180	0
26	DD	209/209 (100%)	0.85	41 (19%) 1 1	5, 49, 129, 180	0
27	BK	121/123 (98%)	0.68	12 (9%) 7 8	7, 69, 139, 180	0
27	DK	121/123 (98%)	0.74	9 (7%) 14 14	5, 41, 118, 180	0
28	BP	114/114 (100%)	0.51	11 (9%) 8 8	26, 85, 142, 175	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
28	DP	114/114 (100%)	0.32	2 (1%) 68 62	5, 49, 103, 145	0
29	BE	201/201 (100%)	0.86	34 (16%) 1 2	5, 63, 143, 180	0
29	DE	201/201 (100%)	0.42	17 (8%) 10 11	5, 70, 144, 180	0
30	BY	58/58 (100%)	0.41	4 (6%) 16 16	20, 62, 140, 180	0
30	DY	58/58 (100%)	-0.17	0 100 100	5, 66, 116, 142	0
31	B0	56/56 (100%)	0.16	4 (7%) 16 15	20, 80, 163, 180	0
31	D0	56/56 (100%)	0.21	3 (5%) 25 23	12, 58, 116, 165	0
32	B4	38/38 (100%)	0.16	1 (2%) 56 49	5, 75, 120, 137	0
32	D4	38/38 (100%)	-0.35	0 100 100	7, 60, 114, 135	0
33	B1	50/54 (92%)	1.27	7 (14%) 2 3	15, 70, 135, 180	0
33	D1	50/54 (92%)	0.65	5 (10%) 7 8	20, 69, 142, 157	0
34	B3	64/64 (100%)	0.48	5 (7%) 13 13	13, 50, 102, 148	0
34	D3	64/64 (100%)	0.33	3 (4%) 31 28	5, 42, 88, 133	0
35	BV	94/94 (100%)	0.54	9 (9%) 8 8	21, 89, 143, 180	0
35	DV	94/94 (100%)	0.29	13 (13%) 2 3	9, 96, 151, 169	0
36	B2	46/46 (100%)	0.49	3 (6%) 18 17	5, 43, 120, 143	0
36	D2	46/46 (100%)	0.14	2 (4%) 35 31	10, 43, 103, 159	0
37	BL	143/144 (99%)	0.29	9 (6%) 20 18	8, 67, 133, 172	0
37	DL	143/144 (99%)	0.59	20 (13%) 2 3	5, 56, 119, 164	0
38	BM	136/136 (100%)	0.56	12 (8%) 10 10	9, 59, 117, 170	0
38	DM	136/136 (100%)	0.61	16 (11%) 4 5	7, 60, 116, 137	0
39	BX	63/63 (100%)	1.32	18 (28%) 0 0	6, 86, 135, 180	0
39	DX	63/63 (100%)	0.64	6 (9%) 8 8	38, 106, 178, 180	0
40	BH	149/149 (100%)	2.92	88 (59%) 0 0	26, 134, 177, 180	0
40	DH	149/149 (100%)	1.37	42 (28%) 0 0	11, 112, 162, 180	0
41	BJ	142/142 (100%)	0.53	18 (12%) 3 4	5, 74, 127, 180	0
41	DJ	142/142 (100%)	0.62	12 (8%) 10 11	5, 59, 125, 180	0
42	BN	120/127 (94%)	0.39	8 (6%) 17 16	20, 65, 126, 180	0
42	DN	120/127 (94%)	0.18	6 (5%) 28 25	5, 43, 103, 180	0
43	BO	116/117 (99%)	0.63	18 (15%) 2 2	12, 77, 140, 180	0
43	DO	116/117 (99%)	0.41	10 (8%) 10 11	32, 85, 152, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	BQ	117/117 (100%)	-0.27	3 (2%) 56 49	6, 57, 133, 175	0
44	DQ	117/117 (100%)	0.35	10 (8%) 10 11	5, 52, 112, 161	0
45	BS	110/110 (100%)	0.48	7 (6%) 19 18	5, 50, 125, 180	0
45	DS	110/110 (100%)	0.98	22 (20%) 1 1	5, 52, 131, 180	0
46	BU	102/103 (99%)	0.82	11 (10%) 5 6	5, 70, 146, 180	0
46	DU	102/103 (99%)	0.02	1 (0%) 82 77	22, 97, 158, 180	0
47	BF	178/178 (100%)	1.52	65 (36%) 0 0	52, 123, 180, 180	0
47	DF	178/178 (100%)	2.24	84 (47%) 0 0	33, 110, 176, 180	0
48	BG	176/176 (100%)	0.61	19 (10%) 5 6	26, 104, 165, 180	0
48	DG	176/176 (100%)	0.88	37 (21%) 1 1	26, 98, 169, 180	0
49	BR	103/103 (100%)	0.35	8 (7%) 13 13	11, 76, 142, 180	0
49	DR	103/103 (100%)	0.52	10 (9%) 7 8	13, 79, 144, 180	0
50	BT	93/100 (93%)	0.60	7 (7%) 14 14	16, 75, 150, 180	0
50	DT	93/100 (93%)	1.00	21 (22%) 0 0	13, 79, 154, 180	0
51	BZ	77/78 (98%)	0.64	8 (10%) 6 7	5, 53, 122, 137	0
51	DZ	77/78 (98%)	0.20	5 (6%) 18 17	5, 47, 124, 144	0
52	BW	79/84 (94%)	1.15	17 (21%) 0 1	8, 74, 121, 180	0
52	DW	79/84 (94%)	0.10	4 (5%) 28 25	9, 77, 144, 164	0
All	All	20417/21046 (97%)	0.11	1562 (7%) 13 13	5, 69, 155, 180	0

The worst 5 of 1562 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
13	AP	82	ALA	19.5
24	BI	49	GLU	12.0
13	AP	81	ALA	11.9
47	DF	75	GLY	11.0
40	BH	142	VAL	10.8

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

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

### 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
54	MG	AA	1636	1/1	0.09	0.15	121,121,121,121	0
54	MG	DB	3061	1/1	0.28	0.17	117,117,117,117	0
54	MG	CA	1652	1/1	0.29	0.12	128,128,128,128	0
54	MG	BB	3043	1/1	0.29	0.23	145,145,145,145	0
54	MG	AA	1660	1/1	0.38	0.40	148,148,148,148	0
54	MG	CA	1650	1/1	0.39	0.50	180,180,180,180	0
54	MG	DB	3060	1/1	0.49	0.08	96,96,96,96	0
54	MG	DB	3067	1/1	0.49	0.09	137,137,137,137	0
54	MG	AA	1638	1/1	0.53	0.31	126,126,126,126	0
54	MG	AA	1626	1/1	0.53	0.24	87,87,87,87	1
53	NMY	BB	3001	42/42	0.58	0.68	89,89,89,89	42
54	MG	CA	1647	1/1	0.61	0.08	153,153,153,153	0
54	MG	DB	3059	1/1	0.63	0.80	180,180,180,180	0
54	MG	AA	1607	1/1	0.66	0.12	93,93,93,93	0
54	MG	AA	1623	1/1	0.68	0.19	157,157,157,157	0
54	MG	CA	1633	1/1	0.69	0.07	48,48,48,48	0
54	MG	AA	1618	1/1	0.69	0.20	160,160,160,160	0
53	NMY	DB	3001	42/42	0.70	0.51	68,68,68,68	42
54	MG	CA	1653	1/1	0.71	0.10	96,96,96,96	0
54	MG	AA	1621	1/1	0.73	0.05	82,82,82,82	0
54	MG	AA	1620	1/1	0.73	0.12	132,132,132,132	0
54	MG	BB	3094	1/1	0.75	0.08	75,75,75,75	0
54	MG	AA	1653	1/1	0.77	0.11	110,110,110,110	0
54	MG	DB	3014	1/1	0.77	0.15	80,80,80,80	0
54	MG	CA	1654	1/1	0.80	0.09	82,82,82,82	0
54	MG	CA	1609	1/1	0.80	0.07	110,110,110,110	0
54	MG	AA	1657	1/1	0.81	0.23	95,95,95,95	0
54	MG	AA	1640	1/1	0.81	0.15	110,110,110,110	0
54	MG	AA	1647	1/1	0.82	0.12	133,133,133,133	0
54	MG	DB	3030	1/1	0.82	0.15	81,81,81,81	0
54	MG	CA	1614	1/1	0.82	0.34	139,139,139,139	0
54	MG	CA	1617	1/1	0.82	0.07	83,83,83,83	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
54	MG	BB	3034	1/1	0.82	0.40	130,130,130,130	0
54	MG	CA	1643	1/1	0.82	0.11	75,75,75,75	0
54	MG	AA	1658	1/1	0.83	0.26	120,120,120,120	0
54	MG	CA	1648	1/1	0.83	0.05	69,69,69,69	0
54	MG	BB	3081	1/1	0.83	0.09	77,77,77,77	0
54	MG	DB	3054	1/1	0.84	0.11	80,80,80,80	0
54	MG	BB	3086	1/1	0.84	0.16	18,18,18,18	0
54	MG	AA	1625	1/1	0.84	0.20	102,102,102,102	0
54	MG	CA	1651	1/1	0.84	0.46	161,161,161,161	0
54	MG	BB	3101	1/1	0.84	0.23	157,157,157,157	0
54	MG	CA	1649	1/1	0.85	0.08	92,92,92,92	0
54	MG	BB	3079	1/1	0.85	0.08	68,68,68,68	0
54	MG	DB	3045	1/1	0.85	0.05	32,32,32,32	0
54	MG	AA	1634	1/1	0.85	0.10	88,88,88,88	0
54	MG	DB	3031	1/1	0.86	0.16	21,21,21,21	0
54	MG	DB	3035	1/1	0.86	0.09	80,80,80,80	0
54	MG	AA	1645	1/1	0.86	0.08	67,67,67,67	0
54	MG	AA	1646	1/1	0.86	0.08	89,89,89,89	0
53	NMY	AA	1601	42/42	0.86	0.23	75,75,75,75	0
54	MG	AA	1648	1/1	0.86	0.40	110,110,110,110	0
54	MG	DB	3027	1/1	0.86	0.12	72,72,72,72	0
54	MG	AA	1609	1/1	0.86	0.11	107,107,107,107	0
54	MG	DB	3074	1/1	0.86	0.12	29,29,29,29	0
54	MG	DB	3084	1/1	0.86	0.16	109,109,109,109	0
54	MG	DB	3091	1/1	0.86	0.06	55,55,55,55	0
54	MG	BB	3093	1/1	0.87	0.07	32,32,32,32	0
54	MG	AA	1659	1/1	0.87	0.05	111,111,111,111	0
54	MG	CA	1618	1/1	0.87	0.15	104,104,104,104	0
54	MG	CA	1656	1/1	0.87	0.09	135,135,135,135	0
54	MG	AA	1603	1/1	0.87	0.07	100,100,100,100	0
54	MG	BB	3069	1/1	0.87	0.07	41,41,41,41	0
54	MG	CA	1630	1/1	0.88	0.10	81,81,81,81	0
54	MG	DB	3023	1/1	0.88	0.07	7,7,7,7	0
54	MG	CA	1613	1/1	0.88	0.18	108,108,108,108	0
54	MG	BB	3044	1/1	0.88	0.15	118,118,118,118	0
54	MG	AA	1652	1/1	0.88	0.04	101,101,101,101	0
54	MG	AA	1651	1/1	0.88	0.07	97,97,97,97	0
54	MG	CA	1626	1/1	0.88	0.08	117,117,117,117	0
54	MG	DB	3046	1/1	0.88	0.08	104,104,104,104	0
54	MG	DB	3016	1/1	0.89	0.10	53,53,53,53	0
54	MG	AA	1615	1/1	0.89	0.10	123,123,123,123	0
54	MG	BB	3039	1/1	0.89	0.09	107,107,107,107	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	BB	3027	1/1	0.89	0.14	42,42,42,42	0
54	MG	CA	1646	1/1	0.90	0.03	52,52,52,52	0
54	MG	BB	3048	1/1	0.90	0.09	145,145,145,145	0
54	MG	DB	3036	1/1	0.90	0.10	85,85,85,85	0
54	MG	BB	3095	1/1	0.90	0.08	36,36,36,36	0
53	NMY	CA	1601	42/42	0.90	0.22	47,47,47,47	0
54	MG	DB	3051	1/1	0.90	0.11	67,67,67,67	0
54	MG	CA	1645	1/1	0.90	0.08	70,70,70,70	0
54	MG	DB	3093	1/1	0.90	0.12	98,98,98,98	0
54	MG	CA	1635	1/1	0.91	0.07	64,64,64,64	0
54	MG	BB	3005	1/1	0.91	0.07	29,29,29,29	0
54	MG	BB	3045	1/1	0.91	0.13	42,42,42,42	0
54	MG	BB	3036	1/1	0.91	0.05	26,26,26,26	0
54	MG	BB	3050	1/1	0.91	0.07	16,16,16,16	0
54	MG	DB	3073	1/1	0.91	0.07	62,62,62,62	0
54	MG	BB	3058	1/1	0.91	0.17	63,63,63,63	0
54	MG	AA	1650	1/1	0.91	0.06	105,105,105,105	0
54	MG	BB	3029	1/1	0.91	0.22	21,21,21,21	0
54	MG	DB	3053	1/1	0.91	0.07	90,90,90,90	0
54	MG	DB	3094	1/1	0.91	0.15	5,5,5,5	0
54	MG	DB	3096	1/1	0.91	0.07	115,115,115,115	0
54	MG	BB	3011	1/1	0.92	0.10	62,62,62,62	0
54	MG	BB	3038	1/1	0.92	0.13	46,46,46,46	0
54	MG	BB	3014	1/1	0.92	0.06	11,11,11,11	0
54	MG	CA	1607	1/1	0.92	0.16	129,129,129,129	0
54	MG	BB	3024	1/1	0.92	0.15	12,12,12,12	0
54	MG	AA	1655	1/1	0.92	0.06	73,73,73,73	0
54	MG	BB	3082	1/1	0.92	0.11	34,34,34,34	0
54	MG	AA	1622	1/1	0.92	0.06	24,24,24,24	0
54	MG	AA	1616	1/1	0.92	0.14	113,113,113,113	0
54	MG	CA	1619	1/1	0.92	0.08	53,53,53,53	0
54	MG	DB	3056	1/1	0.93	0.11	34,34,34,34	0
54	MG	DB	3024	1/1	0.93	0.07	32,32,32,32	0
54	MG	AA	1654	1/1	0.93	0.09	49,49,49,49	0
54	MG	BB	3062	1/1	0.93	0.08	38,38,38,38	0
54	MG	BB	3007	1/1	0.93	0.06	37,37,37,37	0
54	MG	DB	3071	1/1	0.93	0.14	93,93,93,93	0
54	MG	CA	1644	1/1	0.93	0.08	49,49,49,49	0
54	MG	AA	1614	1/1	0.93	0.05	66,66,66,66	0
54	MG	BB	3080	1/1	0.93	0.10	44,44,44,44	0
54	MG	DB	3007	1/1	0.93	0.14	9,9,9,9	0
54	MG	AA	1633	1/1	0.93	0.14	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	CA	1628	1/1	0.93	0.09	41,41,41,41	0
54	MG	BB	3054	1/1	0.93	0.07	46,46,46,46	0
54	MG	DB	3112	1/1	0.93	0.23	87,87,87,87	0
54	MG	AA	1643	1/1	0.94	0.13	43,43,43,43	0
54	MG	BB	3083	1/1	0.94	0.13	5,5,5,5	0
54	MG	BB	3025	1/1	0.94	0.11	32,32,32,32	0
54	MG	BB	3066	1/1	0.94	0.06	10,10,10,10	0
54	MG	BB	3035	1/1	0.94	0.06	41,41,41,41	0
54	MG	BB	3072	1/1	0.94	0.08	54,54,54,54	0
54	MG	BB	3096	1/1	0.94	0.08	5,5,5,5	0
54	MG	CA	1629	1/1	0.94	0.10	57,57,57,57	0
54	MG	DB	3075	1/1	0.94	0.17	58,58,58,58	0
54	MG	DB	3037	1/1	0.94	0.09	23,23,23,23	0
54	MG	BB	3099	1/1	0.94	0.12	23,23,23,23	0
54	MG	BB	3052	1/1	0.94	0.12	67,67,67,67	0
54	MG	AA	1661	1/1	0.94	0.11	62,62,62,62	0
54	MG	CA	1608	1/1	0.94	0.04	31,31,31,31	0
54	MG	DB	3101	1/1	0.94	0.12	20,20,20,20	0
54	MG	BB	3056	1/1	0.94	0.15	23,23,23,23	0
55	SCM	CA	1661	23/23	0.94	0.16	37,37,37,37	0
54	MG	BB	3002	1/1	0.95	0.08	19,19,19,19	0
54	MG	BB	3004	1/1	0.95	0.06	31,31,31,31	0
54	MG	DB	3028	1/1	0.95	0.10	17,17,17,17	0
54	MG	DB	3029	1/1	0.95	0.04	30,30,30,30	0
54	MG	BB	3084	1/1	0.95	0.16	61,61,61,61	0
54	MG	BB	3030	1/1	0.95	0.08	16,16,16,16	0
54	MG	DB	3033	1/1	0.95	0.07	82,82,82,82	0
54	MG	BB	3088	1/1	0.95	0.25	87,87,87,87	0
54	MG	BB	3089	1/1	0.95	0.07	7,7,7,7	0
54	MG	CA	1634	1/1	0.95	0.12	75,75,75,75	0
54	MG	DB	3038	1/1	0.95	0.20	10,10,10,10	0
54	MG	BB	3091	1/1	0.95	0.05	105,105,105,105	0
54	MG	CA	1638	1/1	0.95	0.10	123,123,123,123	0
54	MG	DB	3049	1/1	0.95	0.06	66,66,66,66	0
54	MG	CA	1641	1/1	0.95	0.14	61,61,61,61	0
54	MG	BB	3053	1/1	0.95	0.07	30,30,30,30	0
54	MG	BB	3031	1/1	0.95	0.06	53,53,53,53	0
54	MG	BB	3032	1/1	0.95	0.12	38,38,38,38	0
54	MG	DB	3058	1/1	0.95	0.08	39,39,39,39	0
54	MG	AA	1606	1/1	0.95	0.19	56,56,56,56	0
54	MG	BB	3098	1/1	0.95	0.09	85,85,85,85	0
54	MG	AA	1604	1/1	0.95	0.13	43,43,43,43	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
54	MG	DB	3066	1/1	0.95	0.06	32,32,32,32	0
54	MG	BB	3009	1/1	0.95	0.08	80,80,80,80	0
54	MG	DB	3068	1/1	0.95	0.11	36,36,36,36	0
54	MG	CA	1604	1/1	0.95	0.07	66,66,66,66	0
54	MG	CA	1606	1/1	0.95	0.06	7,7,7,7	0
54	MG	BB	3067	1/1	0.95	0.09	26,26,26,26	0
54	MG	AA	1605	1/1	0.95	0.09	46,46,46,46	0
54	MG	DB	3079	1/1	0.95	0.12	80,80,80,80	0
54	MG	AA	1613	1/1	0.95	0.08	80,80,80,80	0
54	MG	CA	1610	1/1	0.95	0.09	103,103,103,103	0
54	MG	CA	1659	1/1	0.95	0.06	45,45,45,45	0
54	MG	DB	3004	1/1	0.95	0.12	41,41,41,41	0
54	MG	BB	3075	1/1	0.95	0.08	6,6,6,6	0
54	MG	DB	3097	1/1	0.95	0.15	12,12,12,12	0
54	MG	BB	3018	1/1	0.95	0.15	31,31,31,31	0
54	MG	AA	1624	1/1	0.95	0.32	13,13,13,13	1
54	MG	AA	1637	1/1	0.95	0.03	62,62,62,62	0
56	ZN	D4	101	1/1	0.95	0.08	40,40,40,40	0
54	MG	CA	1616	1/1	0.96	0.07	15,15,15,15	0
54	MG	AA	1617	1/1	0.96	0.11	47,47,47,47	0
54	MG	BB	3040	1/1	0.96	0.18	44,44,44,44	0
54	MG	DB	3052	1/1	0.96	0.12	40,40,40,40	0
54	MG	AA	1608	1/1	0.96	0.07	53,53,53,53	0
54	MG	CA	1622	1/1	0.96	0.11	44,44,44,44	0
54	MG	CA	1623	1/1	0.96	0.12	21,21,21,21	0
54	MG	BB	3068	1/1	0.96	0.11	65,65,65,65	0
54	MG	CA	1627	1/1	0.96	0.07	40,40,40,40	0
54	MG	DB	3005	1/1	0.96	0.14	23,23,23,23	0
54	MG	AA	1602	1/1	0.96	0.06	28,28,28,28	0
54	MG	DB	3062	1/1	0.96	0.06	75,75,75,75	0
54	MG	DB	3012	1/1	0.96	0.14	32,32,32,32	0
54	MG	AA	1628	1/1	0.96	0.07	53,53,53,53	0
54	MG	BB	3047	1/1	0.96	0.11	66,66,66,66	0
54	MG	DB	3018	1/1	0.96	0.15	5,5,5,5	0
54	MG	BB	3078	1/1	0.96	0.15	47,47,47,47	0
54	MG	BB	3100	1/1	0.96	0.11	34,34,34,34	0
54	MG	AA	1629	1/1	0.96	0.09	55,55,55,55	0
54	MG	BB	3108	1/1	0.96	0.14	36,36,36,36	0
54	MG	CA	1639	1/1	0.96	0.06	108,108,108,108	0
54	MG	DB	3085	1/1	0.96	0.13	12,12,12,12	0
54	MG	BB	3049	1/1	0.96	0.05	24,24,24,24	0
54	MG	AA	1639	1/1	0.96	0.05	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	DB	3032	1/1	0.96	0.14	5,5,5,5	0
54	MG	DB	3095	1/1	0.96	0.05	39,39,39,39	0
54	MG	AA	1631	1/1	0.96	0.04	84,84,84,84	0
54	MG	BB	3015	1/1	0.96	0.03	32,32,32,32	0
54	MG	DB	3100	1/1	0.96	0.15	6,6,6,6	0
54	MG	BB	3017	1/1	0.96	0.08	43,43,43,43	0
54	MG	DB	3102	1/1	0.96	0.17	6,6,6,6	0
54	MG	DB	3110	1/1	0.96	0.09	17,17,17,17	0
54	MG	BB	3085	1/1	0.96	0.15	43,43,43,43	0
55	SCM	AA	1662	23/23	0.96	0.14	23,23,23,23	0
54	MG	AA	1641	1/1	0.96	0.15	88,88,88,88	0
56	ZN	B4	101	1/1	0.96	0.08	49,49,49,49	0
54	MG	BB	3022	1/1	0.96	0.09	35,35,35,35	0
54	MG	DB	3040	1/1	0.97	0.08	78,78,78,78	0
54	MG	DB	3043	1/1	0.97	0.09	32,32,32,32	0
54	MG	BB	3073	1/1	0.97	0.06	35,35,35,35	0
54	MG	AA	1656	1/1	0.97	0.14	95,95,95,95	0
54	MG	CA	1621	1/1	0.97	0.10	34,34,34,34	0
54	MG	DB	3050	1/1	0.97	0.12	6,6,6,6	0
54	MG	AA	1630	1/1	0.97	0.08	36,36,36,36	0
54	MG	CA	1655	1/1	0.97	0.06	52,52,52,52	0
54	MG	BB	3012	1/1	0.97	0.17	33,33,33,33	0
54	MG	CA	1657	1/1	0.97	0.06	14,14,14,14	0
54	MG	CA	1658	1/1	0.97	0.14	50,50,50,50	0
54	MG	DB	3057	1/1	0.97	0.09	11,11,11,11	0
54	MG	CA	1624	1/1	0.97	0.07	21,21,21,21	0
54	MG	BB	3041	1/1	0.97	0.17	34,34,34,34	0
54	MG	BB	3057	1/1	0.97	0.05	15,15,15,15	0
54	MG	DB	3006	1/1	0.97	0.14	13,13,13,13	0
54	MG	BB	3103	1/1	0.97	0.13	25,25,25,25	0
54	MG	DB	3008	1/1	0.97	0.15	41,41,41,41	0
54	MG	DB	3009	1/1	0.97	0.09	49,49,49,49	0
54	MG	DB	3011	1/1	0.97	0.09	9,9,9,9	0
54	MG	DB	3069	1/1	0.97	0.08	8,8,8,8	0
54	MG	BB	3105	1/1	0.97	0.17	18,18,18,18	0
54	MG	BB	3106	1/1	0.97	0.20	11,11,11,11	0
54	MG	DB	3015	1/1	0.97	0.07	37,37,37,37	0
54	MG	BB	3107	1/1	0.97	0.07	30,30,30,30	0
54	MG	DB	3017	1/1	0.97	0.10	29,29,29,29	0
54	MG	BB	3003	1/1	0.97	0.10	17,17,17,17	0
54	MG	DB	3022	1/1	0.97	0.09	5,5,5,5	0
54	MG	DB	3087	1/1	0.97	0.10	11,11,11,11	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	DB	3088	1/1	0.97	0.16	37,37,37,37	0
54	MG	BB	3109	1/1	0.97	0.07	19,19,19,19	0
54	MG	DB	3092	1/1	0.97	0.16	12,12,12,12	0
54	MG	BB	3111	1/1	0.97	0.12	90,90,90,90	0
54	MG	DB	3026	1/1	0.97	0.08	16,16,16,16	0
54	MG	BB	3060	1/1	0.97	0.06	5,5,5,5	0
54	MG	CA	1640	1/1	0.97	0.13	43,43,43,43	0
54	MG	AA	1649	1/1	0.97	0.10	31,31,31,31	0
54	MG	DB	3098	1/1	0.97	0.17	41,41,41,41	0
54	MG	AA	1627	1/1	0.97	0.11	5,5,5,5	1
54	MG	BB	3006	1/1	0.97	0.09	9,9,9,9	0
54	MG	BB	3020	1/1	0.97	0.08	28,28,28,28	0
54	MG	DB	3104	1/1	0.97	0.11	31,31,31,31	0
54	MG	DB	3105	1/1	0.97	0.10	41,41,41,41	0
54	MG	DB	3106	1/1	0.97	0.16	53,53,53,53	0
54	MG	BB	3021	1/1	0.97	0.15	30,30,30,30	0
54	MG	BB	3090	1/1	0.97	0.10	54,54,54,54	0
54	MG	BB	3070	1/1	0.97	0.08	9,9,9,9	0
54	MG	BB	3071	1/1	0.97	0.08	33,33,33,33	0
54	MG	AA	1632	1/1	0.97	0.11	29,29,29,29	0
54	MG	DB	3039	1/1	0.97	0.11	19,19,19,19	0
54	MG	AA	1611	1/1	0.98	0.04	73,73,73,73	0
54	MG	BB	3028	1/1	0.98	0.05	24,24,24,24	0
54	MG	AA	1642	1/1	0.98	0.04	51,51,51,51	0
54	MG	DB	3063	1/1	0.98	0.04	50,50,50,50	0
54	MG	DB	3065	1/1	0.98	0.07	20,20,20,20	0
54	MG	DB	3025	1/1	0.98	0.11	47,47,47,47	0
54	MG	BB	3102	1/1	0.98	0.09	10,10,10,10	0
54	MG	CA	1620	1/1	0.98	0.09	62,62,62,62	0
54	MG	AA	1619	1/1	0.98	0.06	48,48,48,48	0
54	MG	DB	3070	1/1	0.98	0.15	38,38,38,38	0
54	MG	BB	3104	1/1	0.98	0.12	6,6,6,6	0
54	MG	BB	3008	1/1	0.98	0.18	81,81,81,81	0
54	MG	BB	3065	1/1	0.98	0.09	24,24,24,24	0
54	MG	BB	3046	1/1	0.98	0.10	50,50,50,50	0
54	MG	DB	3077	1/1	0.98	0.12	28,28,28,28	0
54	MG	DB	3078	1/1	0.98	0.11	24,24,24,24	0
54	MG	AA	1644	1/1	0.98	0.09	42,42,42,42	0
54	MG	DB	3080	1/1	0.98	0.09	46,46,46,46	0
54	MG	DB	3081	1/1	0.98	0.08	35,35,35,35	0
54	MG	DB	3082	1/1	0.98	0.07	9,9,9,9	0
54	MG	DB	3083	1/1	0.98	0.06	37,37,37,37	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
54	MG	BB	3010	1/1	0.98	0.06	123,123,123,123	0
54	MG	BB	3110	1/1	0.98	0.15	61,61,61,61	0
54	MG	DB	3086	1/1	0.98	0.11	41,41,41,41	0
54	MG	CA	1660	1/1	0.98	0.07	77,77,77,77	0
54	MG	DB	3002	1/1	0.98	0.13	5,5,5,5	0
54	MG	DB	3089	1/1	0.98	0.10	13,13,13,13	0
54	MG	AA	1635	1/1	0.98	0.06	86,86,86,86	0
54	MG	CA	1632	1/1	0.98	0.05	31,31,31,31	0
54	MG	DB	3041	1/1	0.98	0.09	9,9,9,9	0
54	MG	AA	1610	1/1	0.98	0.10	5,5,5,5	0
54	MG	DB	3044	1/1	0.98	0.07	11,11,11,11	0
54	MG	CA	1605	1/1	0.98	0.06	12,12,12,12	0
54	MG	BB	3051	1/1	0.98	0.05	34,34,34,34	0
54	MG	DB	3047	1/1	0.98	0.08	27,27,27,27	0
54	MG	DB	3048	1/1	0.98	0.16	14,14,14,14	0
54	MG	BB	3092	1/1	0.98	0.11	5,5,5,5	0
54	MG	DB	3010	1/1	0.98	0.12	8,8,8,8	0
54	MG	DB	3103	1/1	0.98	0.13	14,14,14,14	0
54	MG	BB	3037	1/1	0.98	0.20	35,35,35,35	0
54	MG	BB	3013	1/1	0.98	0.11	81,81,81,81	0
54	MG	BB	3026	1/1	0.98	0.17	68,68,68,68	0
54	MG	DB	3109	1/1	0.98	0.08	33,33,33,33	0
54	MG	CA	1612	1/1	0.98	0.07	25,25,25,25	0
54	MG	DB	3111	1/1	0.98	0.09	36,36,36,36	0
54	MG	DB	3055	1/1	0.98	0.09	22,22,22,22	0
54	MG	BB	3076	1/1	0.98	0.16	33,33,33,33	0
54	MG	BB	3055	1/1	0.98	0.06	46,46,46,46	0
54	MG	CA	1615	1/1	0.98	0.07	29,29,29,29	0
54	MG	DB	3020	1/1	0.98	0.10	6,6,6,6	0
54	MG	CA	1603	1/1	0.99	0.15	25,25,25,25	0
54	MG	BB	3019	1/1	0.99	0.11	44,44,44,44	0
54	MG	DB	3003	1/1	0.99	0.07	21,21,21,21	0
54	MG	BB	3087	1/1	0.99	0.20	23,23,23,23	0
54	MG	CA	1642	1/1	0.99	0.12	49,49,49,49	0
54	MG	BB	3023	1/1	0.99	0.21	12,12,12,12	0
54	MG	BB	3077	1/1	0.99	0.09	5,5,5,5	0
54	MG	DB	3090	1/1	0.99	0.25	99,99,99,99	0
54	MG	AA	1612	1/1	0.99	0.06	70,70,70,70	0
54	MG	DB	3034	1/1	0.99	0.11	5,5,5,5	0
54	MG	CA	1625	1/1	0.99	0.06	36,36,36,36	0
54	MG	BB	3059	1/1	0.99	0.05	13,13,13,13	0
54	MG	DB	3064	1/1	0.99	0.04	34,34,34,34	0

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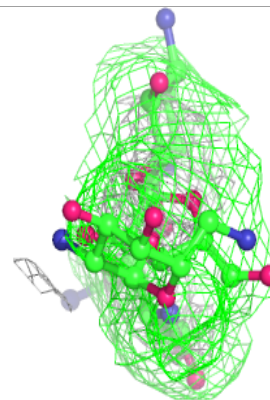
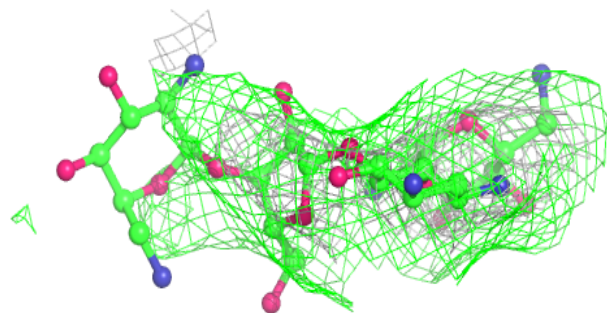
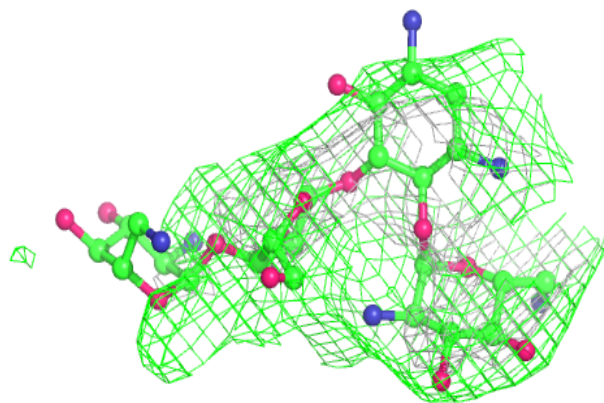
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	BB	3033	1/1	0.99	0.05	25,25,25,25	0
54	MG	CA	1611	1/1	0.99	0.10	5,5,5,5	0
54	MG	DB	3013	1/1	0.99	0.17	12,12,12,12	0
54	MG	DB	3099	1/1	0.99	0.13	9,9,9,9	0
54	MG	BB	3061	1/1	0.99	0.11	5,5,5,5	0
54	MG	BB	3016	1/1	0.99	0.09	31,31,31,31	0
54	MG	DB	3042	1/1	0.99	0.09	17,17,17,17	0
54	MG	CA	1631	1/1	0.99	0.15	43,43,43,43	0
54	MG	DB	3072	1/1	0.99	0.08	36,36,36,36	0
54	MG	BB	3063	1/1	0.99	0.10	7,7,7,7	0
54	MG	BB	3064	1/1	0.99	0.07	10,10,10,10	0
54	MG	DB	3108	1/1	0.99	0.06	27,27,27,27	0
54	MG	DB	3019	1/1	0.99	0.08	25,25,25,25	0
54	MG	DB	3076	1/1	0.99	0.05	22,22,22,22	0
54	MG	BB	3097	1/1	0.99	0.07	5,5,5,5	0
54	MG	DB	3021	1/1	0.99	0.13	5,5,5,5	0
54	MG	BB	3074	1/1	0.99	0.09	28,28,28,28	0
54	MG	CA	1636	1/1	0.99	0.07	37,37,37,37	0
54	MG	CA	1637	1/1	0.99	0.08	26,26,26,26	0
54	MG	CA	1602	1/1	0.99	0.04	7,7,7,7	0
54	MG	DB	3107	1/1	1.00	0.07	20,20,20,20	0
54	MG	BB	3042	1/1	1.00	0.10	10,10,10,10	0

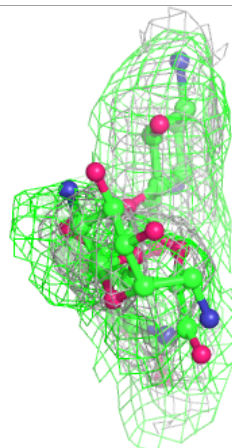
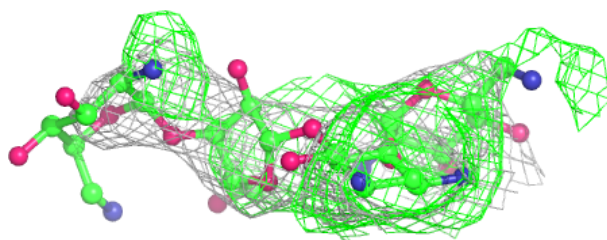
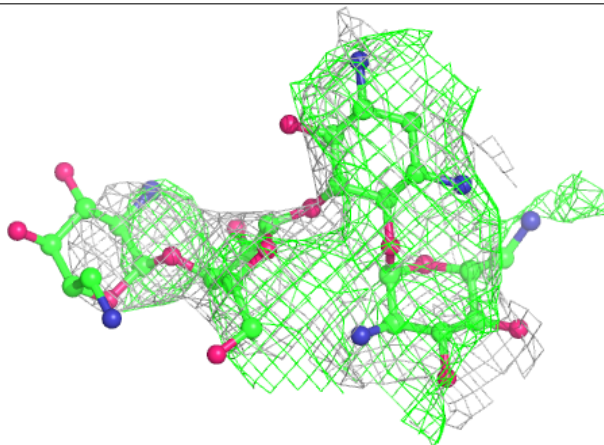
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

**Electron density around NMY BB 3001:**

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

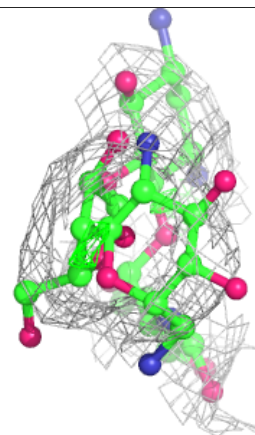
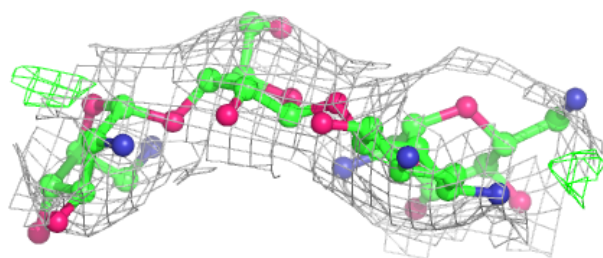
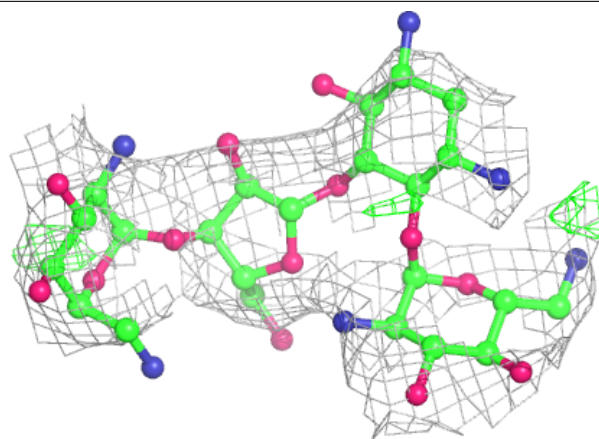
**Electron density around NMY DB 3001:**

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

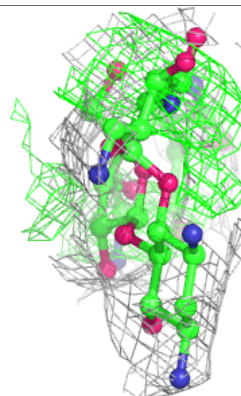
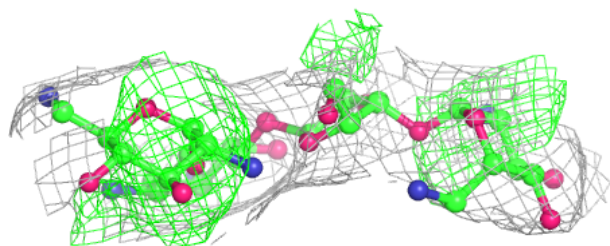
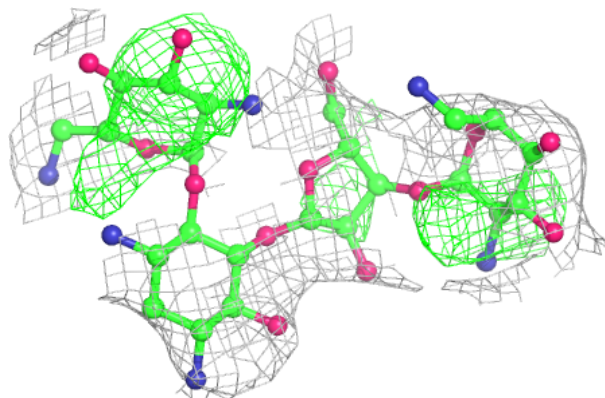


**Electron density around NMY AA 1601:**

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

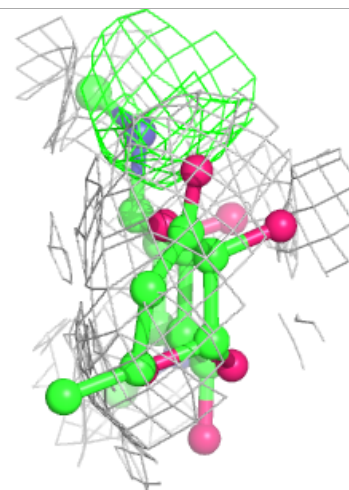
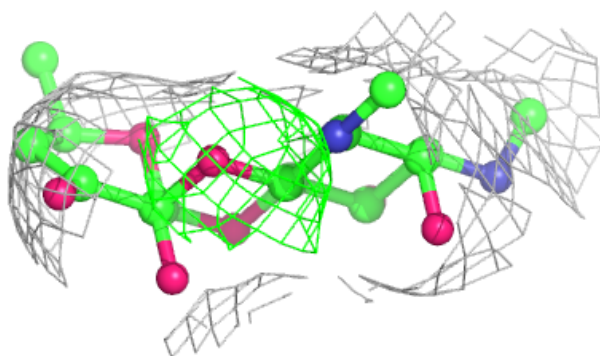
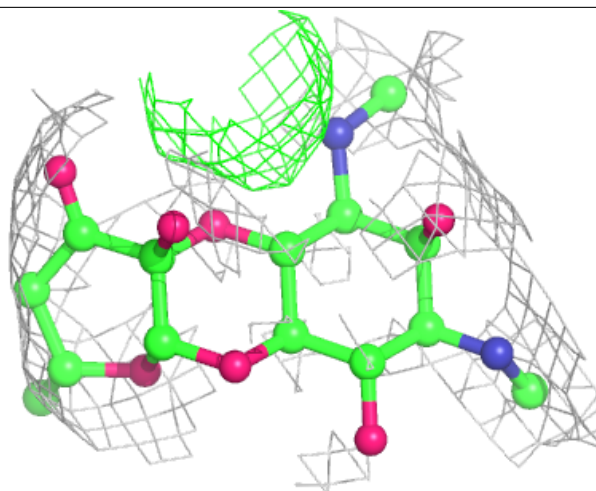
**Electron density around NMY CA 1601:**

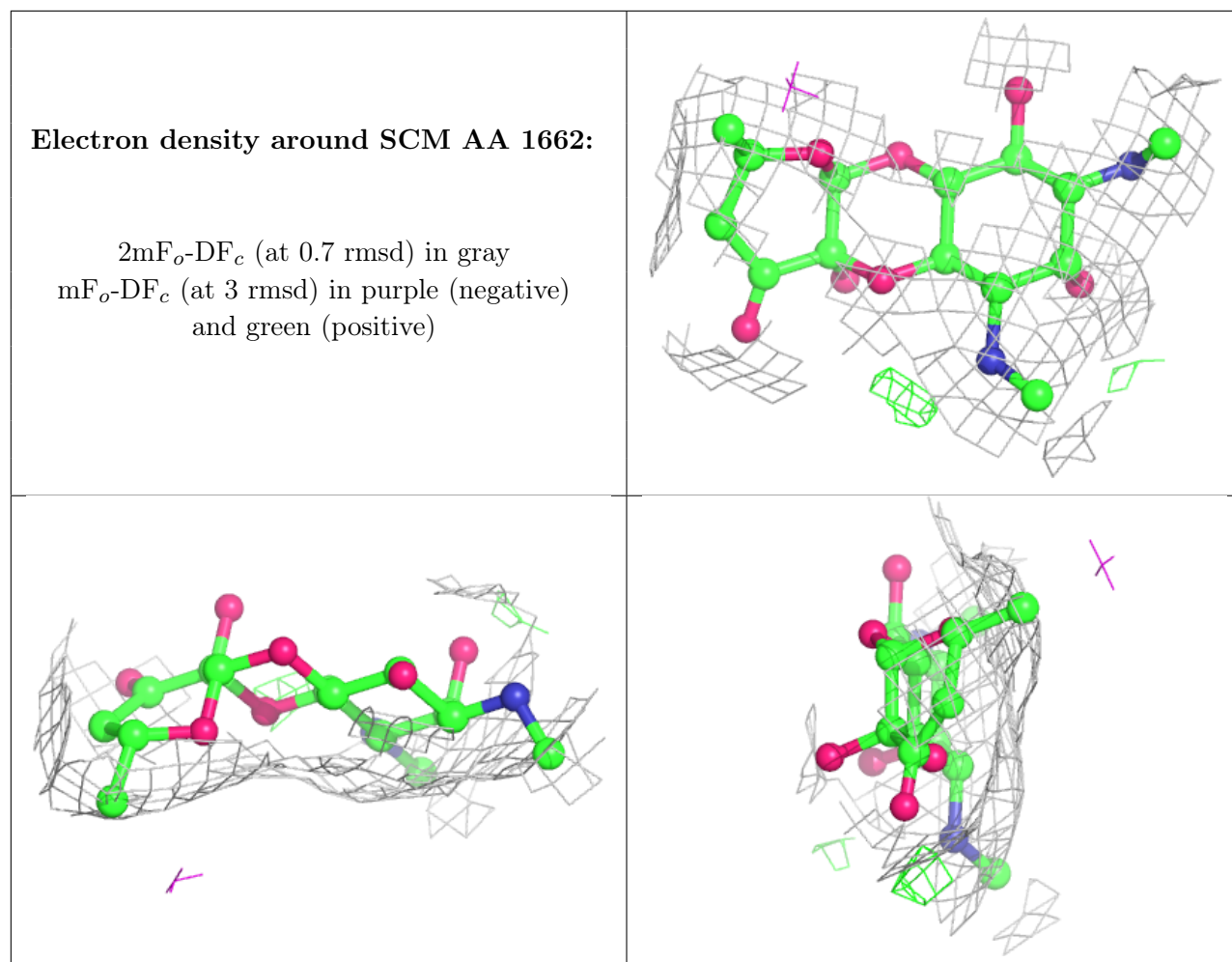
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around SCM CA 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.