Full wwPDB X-ray Structure Validation Report ⓘ

Oct 5, 2023 – 06:08 PM EDT

PDB ID	:	6N1D
Title	:	X-ray Crystal complex showing Spontaneous Ribosomal Translocation of mRNA and tRNAs into a Chimeric Hybrid State
Authors	:	Noller, H.F.; Donohue, J.P.; Lancaster, L.; Zhou, J.
Deposited on	:	2018-11-08
Resolution	:	3.20 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

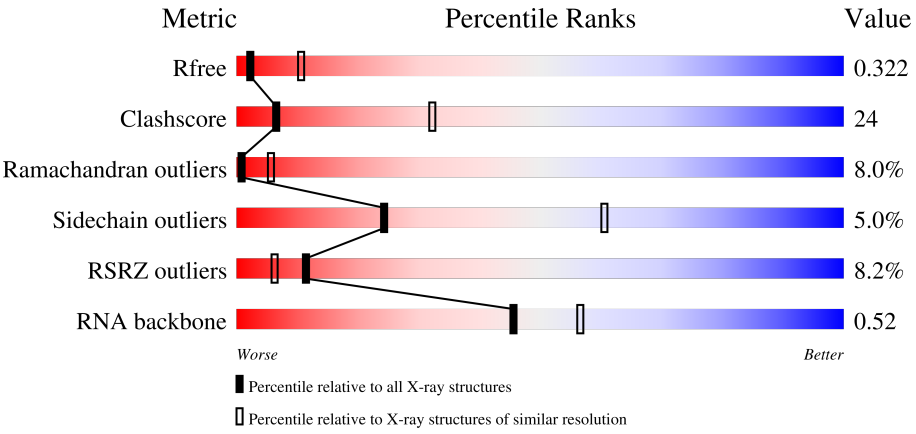
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.20 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	1133 (3.20-3.20)
Clashscore	141614	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)
RSRZ outliers	127900	1095 (3.20-3.20)
RNA backbone	3102	1010 (3.50-2.90)

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

Mol	Chain	Length	Quality of chain
1	A16S	1518	3% 77% 22%
1	B16S	1518	3% 78% 21%
2	A23S	2881	% 77% 22%
2	B23S	2881	% 78% 22%

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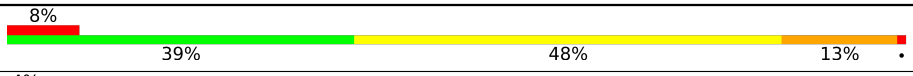
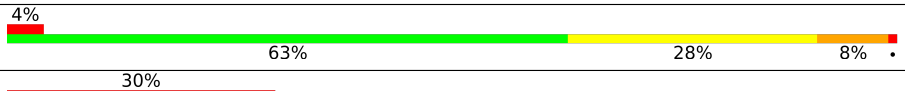
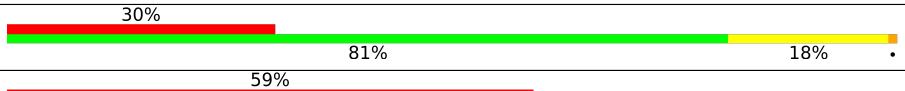
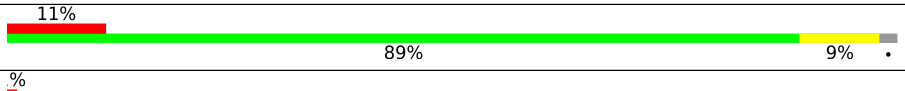
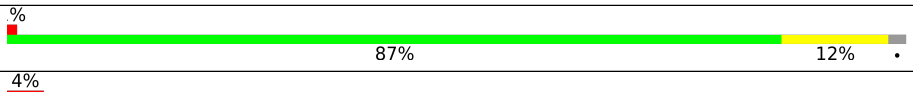
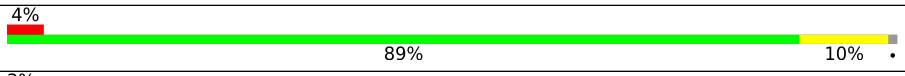
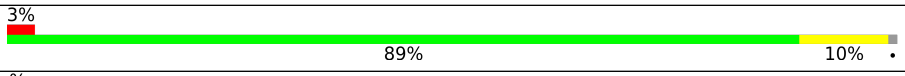
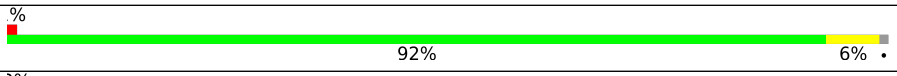
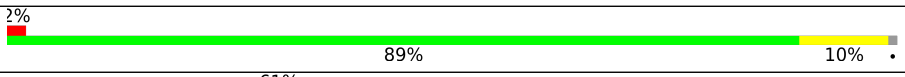
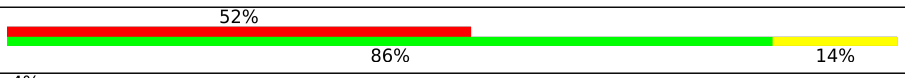
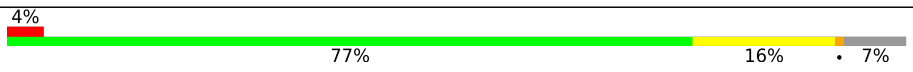
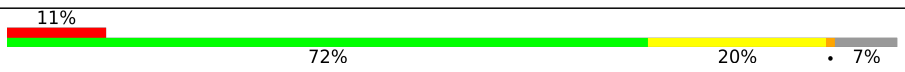
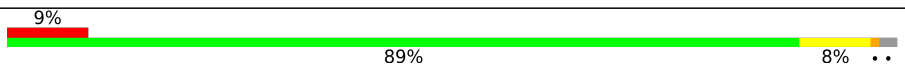
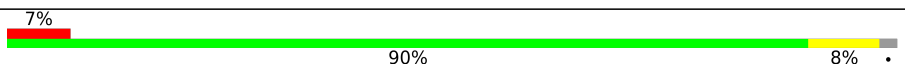
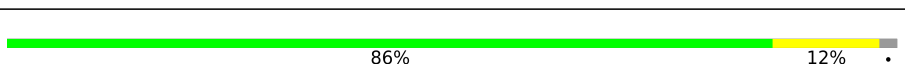
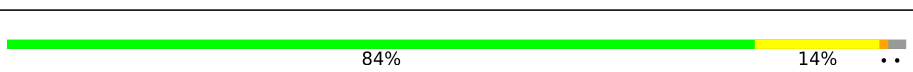
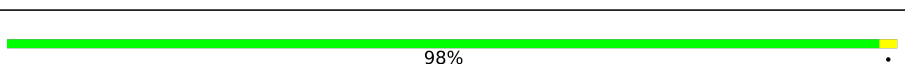
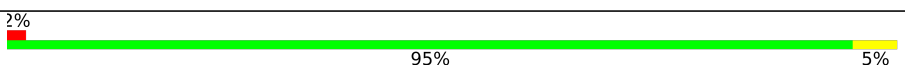
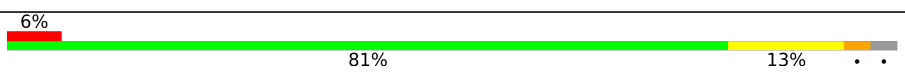
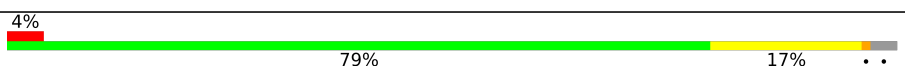
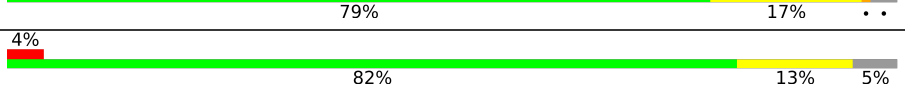
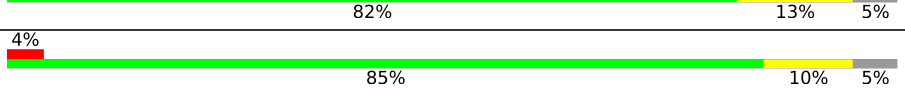
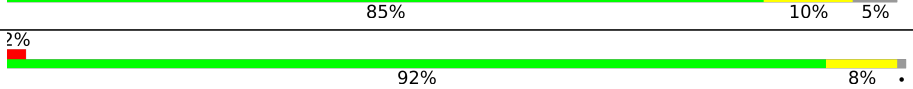
Mol	Chain	Length	Quality of chain
3	A5S	119	
3	B5S	119	
4	AL01	228	
4	BL01	228	
5	AL02	276	
5	BL02	276	
6	AL03	206	
6	BL03	206	
7	AL04	205	
7	BL04	205	
8	AL05	181	
8	BL05	181	
9	AL06	180	
9	BL06	180	
10	AL09	148	
10	BL09	148	
11	AL13	140	
11	BL13	140	
12	AL14	122	
12	BL14	122	
13	AL15	150	
13	BL15	150	
14	AL16	141	
14	BL16	141	
15	AL17	118	

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Mol	Chain	Length	Quality of chain
15	BL17	118	6% 86% 12%
16	AL18	111	53% 78% 10% 12%
16	BL18	111	28% 72% 14% 12%
17	AL19	146	% 84% 10% 6%
17	BL19	146	85% 9% 6%
18	AL20	118	5% 92% 6%
18	BL20	118	% 88% 11%
19	AL21	101	3% 87% 13%
19	BL21	101	92% 7%
20	AL22	113	4% 90% 9%
20	BL22	113	93% 5%
21	AL23	96	7% 91% 5%
21	BL23	96	7% 89% 7%
22	AL24	110	34% 76% 13% 9%
22	BL24	110	9% 76% 14% 9%
23	AL25	206	25% 83% 7% 9%
23	BL25	206	% 83% 8% 9%
24	AL27	84	61% 82% 14%
24	BL27	84	44% 81% 17%
25	AL28	98	2% 83% 6% 10%
25	BL28	98	10% 77% 13% 10%
26	AL29	72	4% 78% 8% 14%
26	BL29	72	6% 81% 6% 14%
27	AL30	60	20% 92% 7%
27	BL30	60	3% 93% 5%

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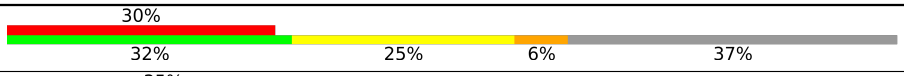
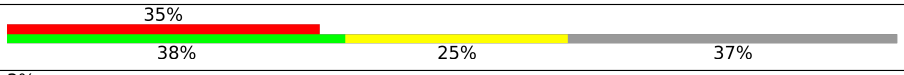
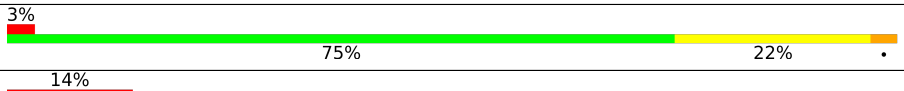
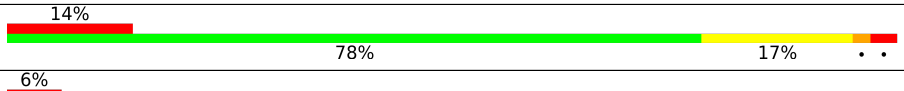
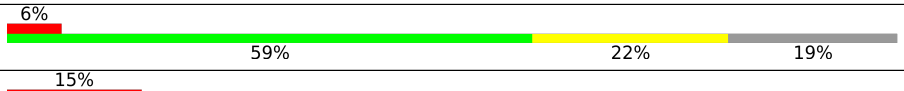
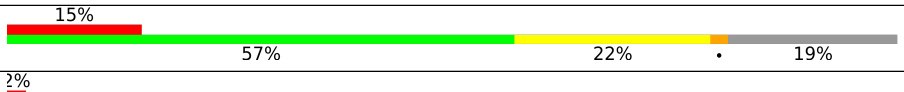
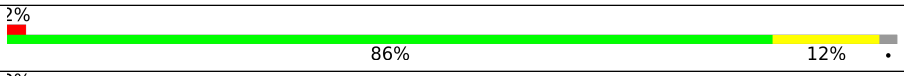
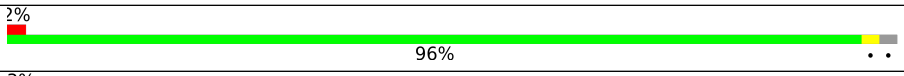
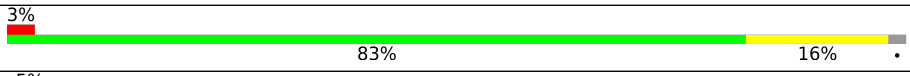
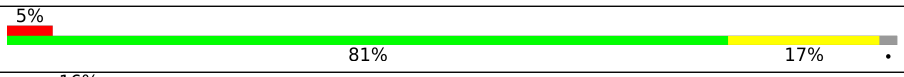
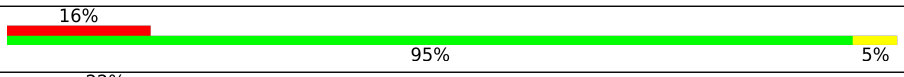
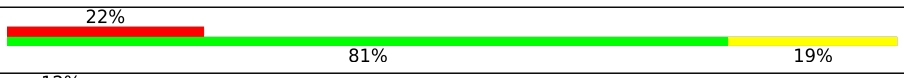
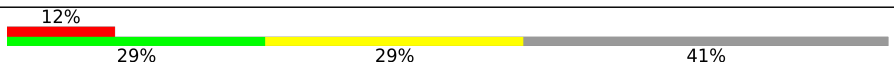
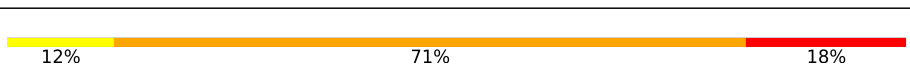
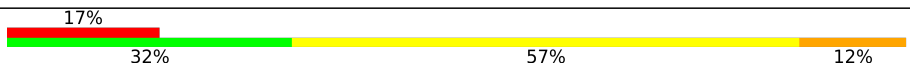
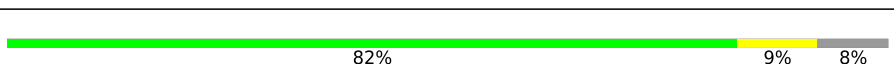
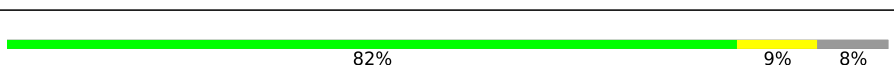
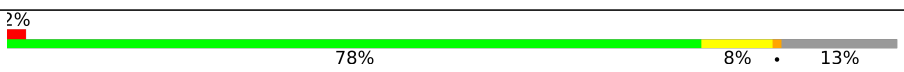
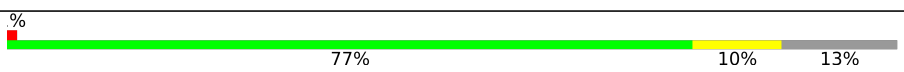
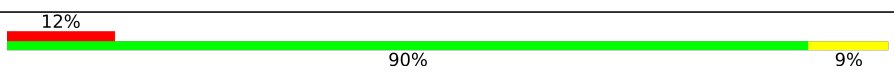
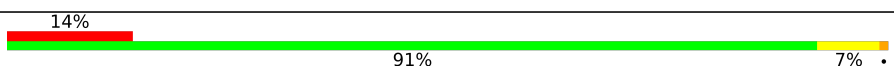
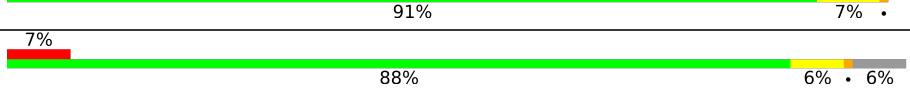
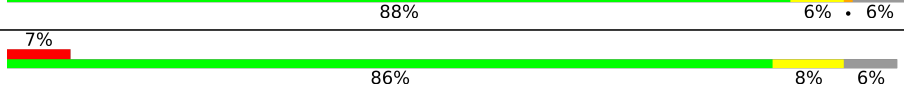
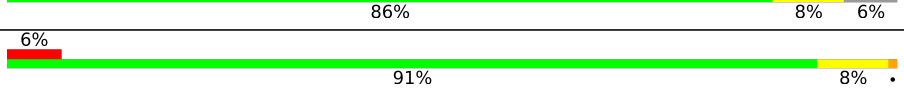
Mol	Chain	Length	Quality of chain
28	AL31	71	
28	BL31	71	
29	AL32	59	
29	BL32	59	
30	AL33	54	
30	BL33	54	
31	AL34	49	
31	BL34	49	
32	AL35	64	
32	BL35	64	
33	AL36	37	
33	BL36	37	
34	AMRN	17	
34	BMRN	17	
35	APTN	76	
35	BPTN	76	
36	AS02	255	
36	BS02	255	
37	AS03	238	
37	BS03	238	
38	AS04	208	
38	BS04	208	
39	AS05	161	
39	BS05	161	
40	AS06	101	

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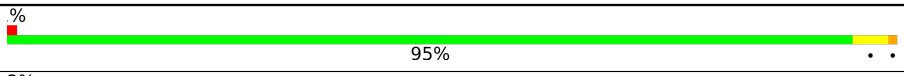
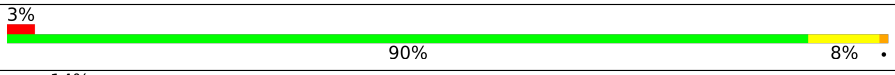
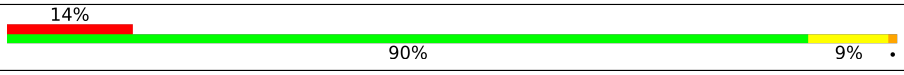
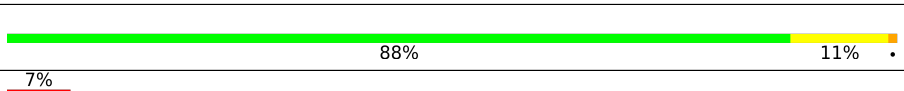
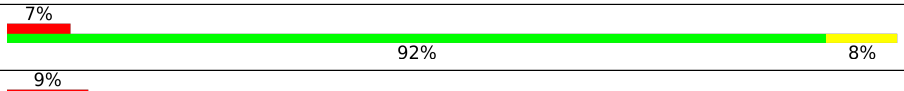
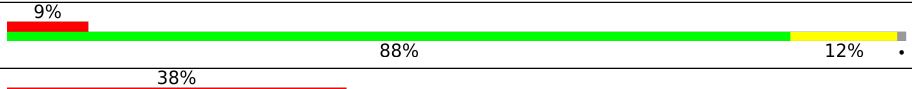
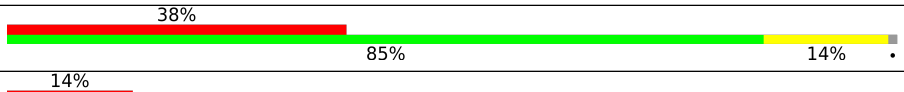
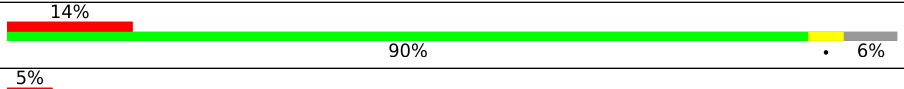
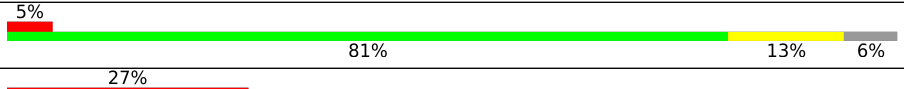
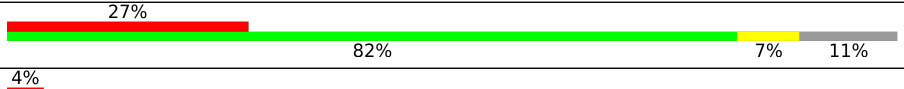
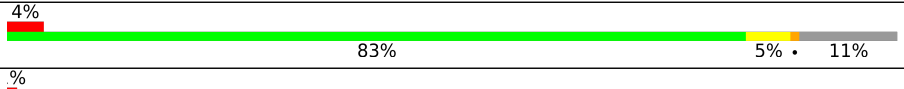
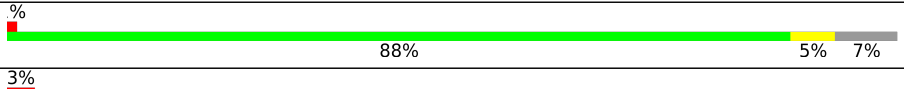
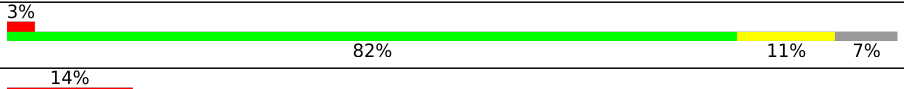
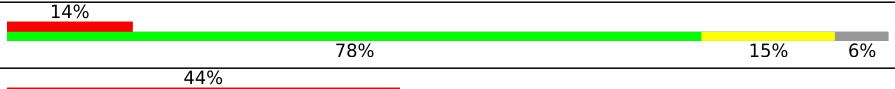
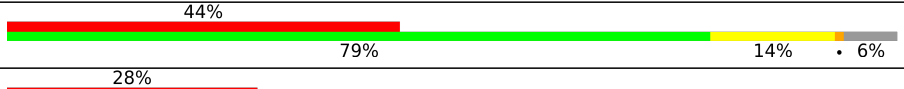
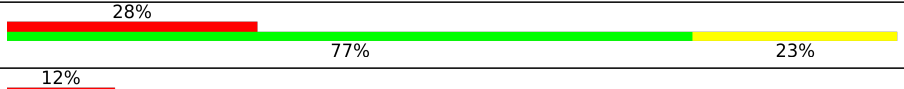
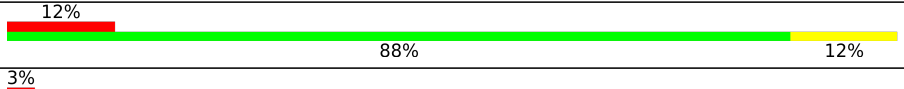
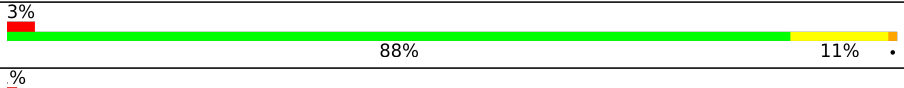
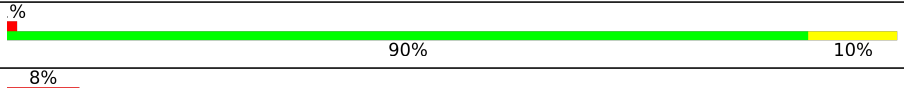
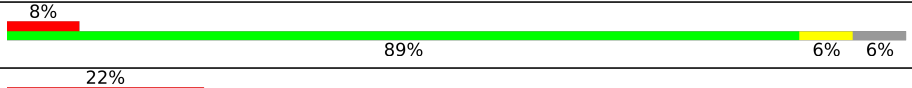
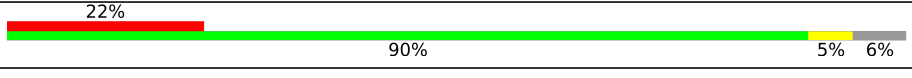
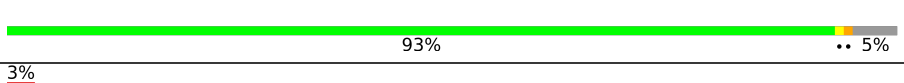
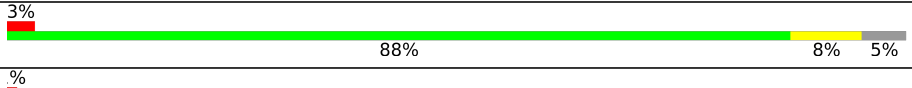
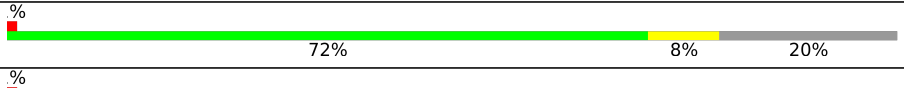
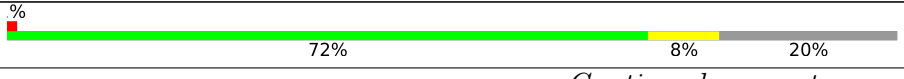
Mol	Chain	Length	Quality of chain
40	BS06	101	
41	AS07	155	
41	BS07	155	
42	AS08	138	
42	BS08	138	
43	AS09	128	
43	BS09	128	
44	AS10	104	
44	BS10	104	
45	AS11	128	
45	BS11	128	
46	AS12	131	
46	BS12	131	
47	AS13	125	
47	BS13	125	
48	AS14	60	
48	BS14	60	
49	AS15	88	
49	BS15	88	
50	AS16	88	
50	BS16	88	
51	AS17	104	
51	BS17	104	
52	AS18	87	
52	BS18	87	

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Mol	Chain	Length	Quality of chain
53	AS19	92	51% 70% 14% 15%
53	BS19	92	38% 73% 11% 15%
54	AS20	105	17% 88% 7% 6%
54	BS20	105	3% 83% 11% 6%
55	ATHX	26	62% 62% 23% 8% 8%
55	BTHX	26	81% 85% 8% 8%
56	BATN	85	59% 9% 39% 52%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
56	5MU	BATN	54	-	-	-	X
56	PSU	BATN	55	-	-	-	X
57	MG	A23S	2911	-	-	-	X
57	MG	AL02	302	-	-	-	X
57	MG	AL34	100	-	-	-	X
57	MG	BL23	101	-	-	-	X

2 Entry composition (i)

There are 58 unique types of molecules in this entry. The entry contains 295025 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A16S	1517	Total	C	N	O	P	0	0	0
			32600	14510	6031	10542	1517			
1	B16S	1517	Total	C	N	O	P	0	0	0
			32600	14510	6031	10542	1517			

- Molecule 2 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	A23S	2879	Total	C	N	O	P	0	0	0
			61999	27595	11586	19940	2878			
2	B23S	2879	Total	C	N	O	P	0	0	0
			62000	27595	11586	19941	2878			

- Molecule 3 is a RNA chain called 5s rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A5S	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			
3	B5S	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			

- Molecule 4 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AL01	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			
4	BL01	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			

- Molecule 5 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AL02	271	Total	C	N	O	S	0	0	0
			2104	1329	416	356	3			
5	BL02	271	Total	C	N	O	S	0	0	0
			2104	1329	416	356	3			

- Molecule 6 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AL03	204	Total	C	N	O	S	0	0	0
			1563	988	299	270	6			
6	BL03	204	Total	C	N	O	S	0	0	0
			1563	988	299	270	6			

- Molecule 7 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AL04	202	Total	C	N	O	S	0	0	0
			1586	1011	297	275	3			
7	BL04	202	Total	C	N	O	S	0	0	0
			1586	1011	297	275	3			

- Molecule 8 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AL05	181	Total	C	N	O	S	0	0	0
			1475	943	268	260	4			
8	BL05	181	Total	C	N	O	S	0	0	0
			1475	943	268	260	4			

- Molecule 9 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AL06	167	Total	C	N	O	S	0	0	0
			1282	814	239	228	1			
9	BL06	167	Total	C	N	O	S	0	0	0
			1282	814	239	228	1			

- Molecule 10 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AL09	145	Total	C	N	O	S	0	0	0
			1131	724	199	207	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	BL09	145	Total	C	N	O	S	0	0	0
			1132	724	200	207	1			

- Molecule 11 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AL13	137	Total	C	N	O	S	0	0	0
			1096	707	205	181	3			
11	BL13	137	Total	C	N	O	S	0	0	0
			1096	707	205	181	3			

- Molecule 12 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AL14	122	Total	C	N	O	S	0	0	0
			932	587	171	170	4			
12	BL14	122	Total	C	N	O	S	0	0	0
			932	587	171	170	4			

- Molecule 13 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AL15	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			
13	BL15	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

- Molecule 14 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AL16	134	Total	C	N	O	S	0	0	0
			1064	680	201	178	5			
14	BL16	134	Total	C	N	O	S	0	0	0
			1064	680	201	178	5			

- Molecule 15 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
15	AL17	117	Total	C	N	O	0	0	0
			960	599	202	159			
15	BL17	117	Total	C	N	O	0	0	0
			960	599	202	159			

- Molecule 16 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
16	AL18	98	Total	C	N	O	0	0	0
			770	486	154	130			
16	BL18	98	Total	C	N	O	0	0	0
			770	486	154	130			

- Molecule 17 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AL19	137	Total	C	N	O	S	0	0	0
			1143	713	234	195	1			
17	BL19	137	Total	C	N	O	S	0	0	0
			1143	713	234	195	1			

- Molecule 18 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	AL20	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			
18	BL20	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 19 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AL21	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
19	BL21	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 20 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AL22	112	Total	C	N	O	S	0	0	0
			890	560	175	153	2			
20	BL22	112	Total	C	N	O	S	0	0	0
			890	560	175	153	2			

- Molecule 21 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	AL23	92	Total 725	C 471	N 131	O 123	0	0	0
21	BL23	92	Total 725	C 471	N 131	O 123	0	0	0

- Molecule 22 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AL24	100	Total 775	C 500	N 148	O 123	S 4	0	0	0
22	BL24	100	Total 775	C 500	N 148	O 123	S 4	0	0	0

- Molecule 23 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	AL25	187	Total 1482	C 945	N 264	O 271	S 2	0	0	0
23	BL25	187	Total 1482	C 945	N 264	O 271	S 2	0	0	0

- Molecule 24 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	AL27	82	Total 647	C 401	N 136	O 109	S 1	0	0	0
24	BL27	82	Total 647	C 401	N 136	O 109	S 1	0	0	0

- Molecule 25 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
25	AL28	88	Total 694	C 435	N 141	O 118	0	0	0
25	BL28	88	Total 694	C 435	N 141	O 118	0	0	0

- Molecule 26 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	AL29	62	Total 520	C 325	N 102	O 91	S 2	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	BL29	62	Total	C	N	O	S	0	0	0
			520	325	102	91	2			

- Molecule 27 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	AL30	59	Total	C	N	O	S	0	0	0
			467	298	90	78	1			
27	BL30	59	Total	C	N	O	S	0	0	0
			467	298	90	78	1			

- Molecule 28 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	AL31	45	Total	C	N	O	S	0	0	0
			351	224	61	62	4			
28	BL31	45	Total	C	N	O	S	0	0	0
			351	224	61	62	4			

- Molecule 29 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	AL32	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
29	BL32	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 30 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	AL33	44	Total	C	N	O	S	0	0	0
			380	235	77	64	4			
30	BL33	44	Total	C	N	O	S	0	0	0
			380	235	77	64	4			

- Molecule 31 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	AL34	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			
31	BL34	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

- Molecule 32 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	AL35	63	Total	C	N	O	S	0	0	0
			507	326	101	78	2			
32	BL35	63	Total	C	N	O	S	0	0	0
			507	326	101	78	2			

- Molecule 33 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	AL36	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
33	BL36	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 34 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	AMRN	10	Total	C	N	O	P	0	0	0
			223	99	47	67	10			
34	BMRN	17	Total	C	N	O	P	0	0	0
			373	167	76	113	17			

- Molecule 35 is a RNA chain called P-tRNA.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
35	APTN	76	Total	C	N	O	P	S	0	0	0
			1631	728	292	534	76	1			
35	BPTN	76	Total	C	N	O	P	S	0	0	0
			1631	728	292	534	76	1			

- Molecule 36 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	AS02	234	Total	C	N	O	S	0	0	0
			1900	1213	341	341	5			
36	BS02	234	Total	C	N	O	S	0	0	0
			1900	1213	341	341	5			

- Molecule 37 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	AS03	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			
37	BS03	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			

- Molecule 38 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	AS04	208	Total	C	N	O	S	0	0	0
			1665	1043	329	286	7			
38	BS04	208	Total	C	N	O	S	0	0	0
			1665	1043	329	286	7			

- Molecule 39 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	AS05	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			
39	BS05	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			

- Molecule 40 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	AS06	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
40	BS06	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 41 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	AS07	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
41	BS07	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 42 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	AS08	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	BS08	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 43 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
43	AS09	127	Total	C	N	O	0	0	0
			1011	639	198	174			
43	BS09	127	Total	C	N	O	0	0	0
			1011	639	198	174			

- Molecule 44 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	AS10	98	Total	C	N	O	S	0	0	0
			794	499	156	138	1			
44	BS10	98	Total	C	N	O	S	0	0	0
			794	499	156	138	1			

- Molecule 45 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	AS11	114	Total	C	N	O	S	0	0	0
			842	522	159	158	3			
45	BS11	114	Total	C	N	O	S	0	0	0
			842	522	159	158	3			

- Molecule 46 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	AS12	122	Total	C	N	O	S	0	0	0
			956	603	193	159	1			
46	BS12	122	Total	C	N	O	S	0	0	0
			956	603	193	159	1			

- Molecule 47 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	AS13	117	Total	C	N	O	S	0	0	0
			933	577	192	162	2			
47	BS13	117	Total	C	N	O	S	0	0	0
			933	577	192	162	2			

- Molecule 48 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	AS14	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
48	BS14	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 49 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	AS15	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
49	BS15	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 50 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	AS16	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			
50	BS16	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			

- Molecule 51 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	AS17	99	Total	C	N	O	S	0	0	0
			823	528	152	141	2			
51	BS17	99	Total	C	N	O	S	0	0	0
			823	528	152	141	2			

- Molecule 52 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
52	AS18	70	Total	C	N	O	0	0	0
			574	367	112	95			
52	BS18	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 53 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	AS19	78	Total 629	C 403	N 114	O 110	S 2	0	0	0
53	BS19	78	Total 629	C 403	N 114	O 110	S 2	0	0	0

- Molecule 54 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	AS20	99	Total 762	C 469	N 162	O 129	S 2	0	0	0
54	BS20	99	Total 762	C 469	N 162	O 129	S 2	0	0	0

- Molecule 55 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
55	ATHX	24	Total 208	C 128	N 50	O 30	0	0	0
55	BTHX	24	Total 208	C 128	N 50	O 30	0	0	0

- Molecule 56 is a RNA chain called A tRNA.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
56	BATN	85	Total 1824	C 821	N 323	O 594	P 85	S 1	0	0	0

- Molecule 57 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	A16S	33	Total 33	Mg 33	0	0
57	A23S	73	Total 73	Mg 73	0	0
57	A5S	3	Total 3	Mg 3	0	0
57	AL01	2	Total 2	Mg 2	0	0
57	AL02	2	Total 2	Mg 2	0	0
57	AL04	3	Total 3	Mg 3	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	AL06	1	Total Mg 1 1	0	0
57	AL14	1	Total Mg 1 1	0	0
57	AL15	2	Total Mg 2 2	0	0
57	AL17	2	Total Mg 2 2	0	0
57	AL20	1	Total Mg 1 1	0	0
57	AL21	3	Total Mg 3 3	0	0
57	AL23	2	Total Mg 2 2	0	0
57	AL24	1	Total Mg 1 1	0	0
57	AL27	1	Total Mg 1 1	0	0
57	AL28	2	Total Mg 2 2	0	0
57	AL33	3	Total Mg 3 3	0	0
57	AL34	1	Total Mg 1 1	0	0
57	AS02	1	Total Mg 1 1	0	0
57	AS03	1	Total Mg 1 1	0	0
57	AS06	2	Total Mg 2 2	0	0
57	AS08	1	Total Mg 1 1	0	0
57	B16S	32	Total Mg 32 32	0	0
57	B23S	133	Total Mg 133 133	0	0
57	B5S	5	Total Mg 5 5	0	0
57	BATN	1	Total Mg 1 1	0	0
57	BL01	2	Total Mg 2 2	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	BL02	5	Total Mg 5 5	0	0
57	BL03	1	Total Mg 1 1	0	0
57	BL04	1	Total Mg 1 1	0	0
57	BL15	3	Total Mg 3 3	0	0
57	BL16	3	Total Mg 3 3	0	0
57	BL18	3	Total Mg 3 3	0	0
57	BL19	2	Total Mg 2 2	0	0
57	BL20	1	Total Mg 1 1	0	0
57	BL21	1	Total Mg 1 1	0	0
57	BL22	1	Total Mg 1 1	0	0
57	BL23	1	Total Mg 1 1	0	0
57	BL24	2	Total Mg 2 2	0	0
57	BL25	1	Total Mg 1 1	0	0
57	BL28	2	Total Mg 2 2	0	0
57	BL29	5	Total Mg 5 5	0	0
57	BL30	1	Total Mg 1 1	0	0
57	BL31	1	Total Mg 1 1	0	0
57	BL32	1	Total Mg 1 1	0	0
57	BL33	3	Total Mg 3 3	0	0
57	BL34	2	Total Mg 2 2	0	0
57	BL35	1	Total Mg 1 1	0	0

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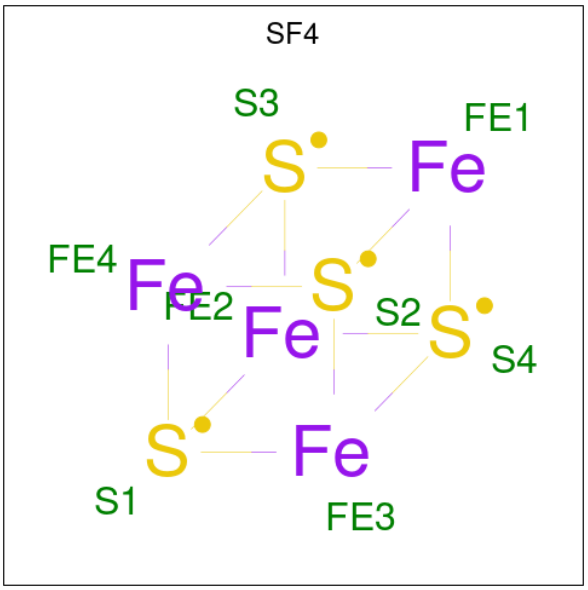
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	BL36	1	Total Mg 1 1	0	0
57	BS16	1	Total Mg 1 1	0	0
57	BS17	1	Total Mg 1 1	0	0
57	BTHX	1	Total Mg 1 1	0	0

- Molecule 58 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4).



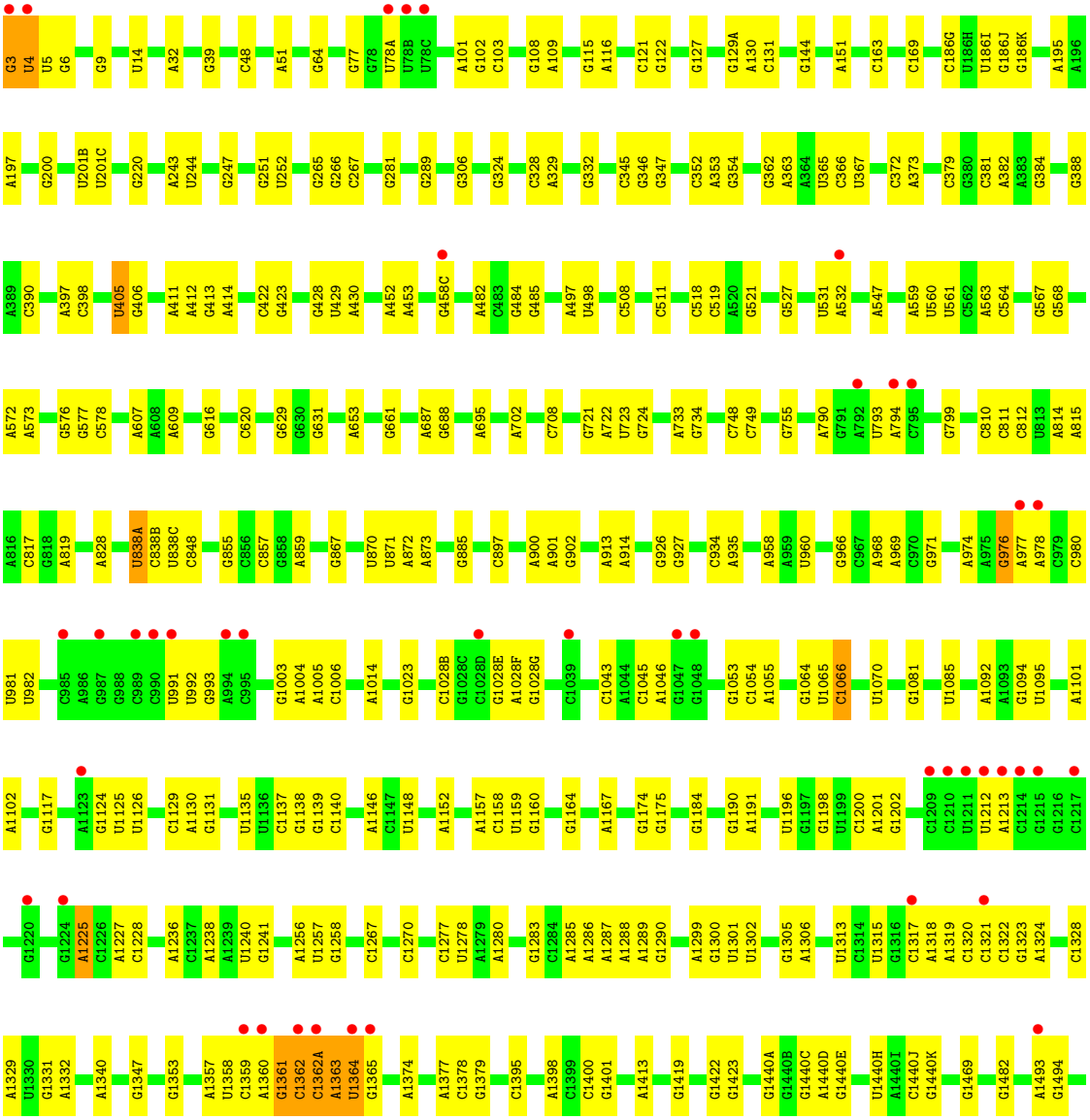
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
58	AS04	1	Total Fe S 8 4 4	0	0
58	BS04	1	Total Fe S 8 4 4	0	0

3 Residue-property plots (i)

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

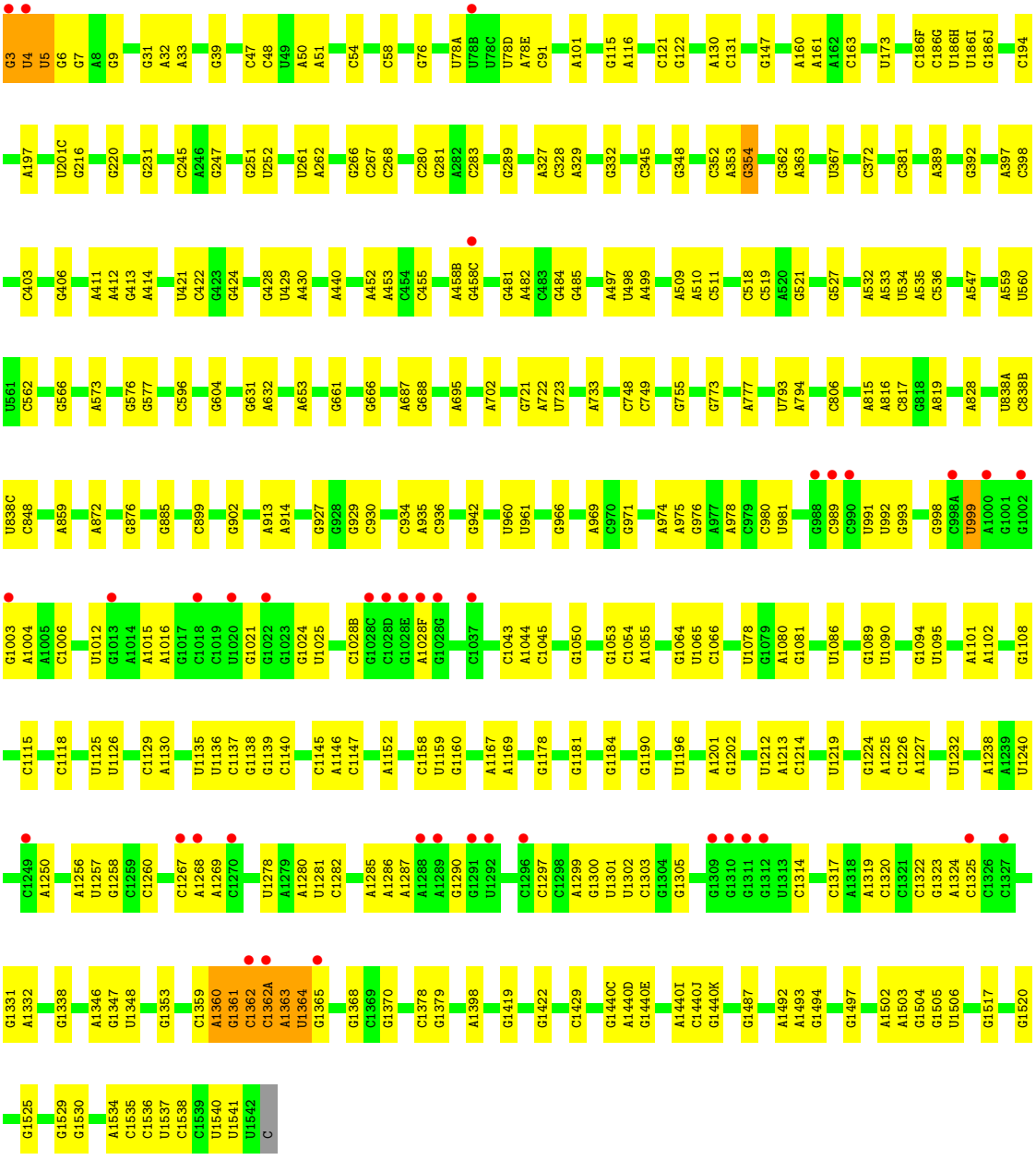
- Molecule 1: 16S rRNA

Chain A16S:



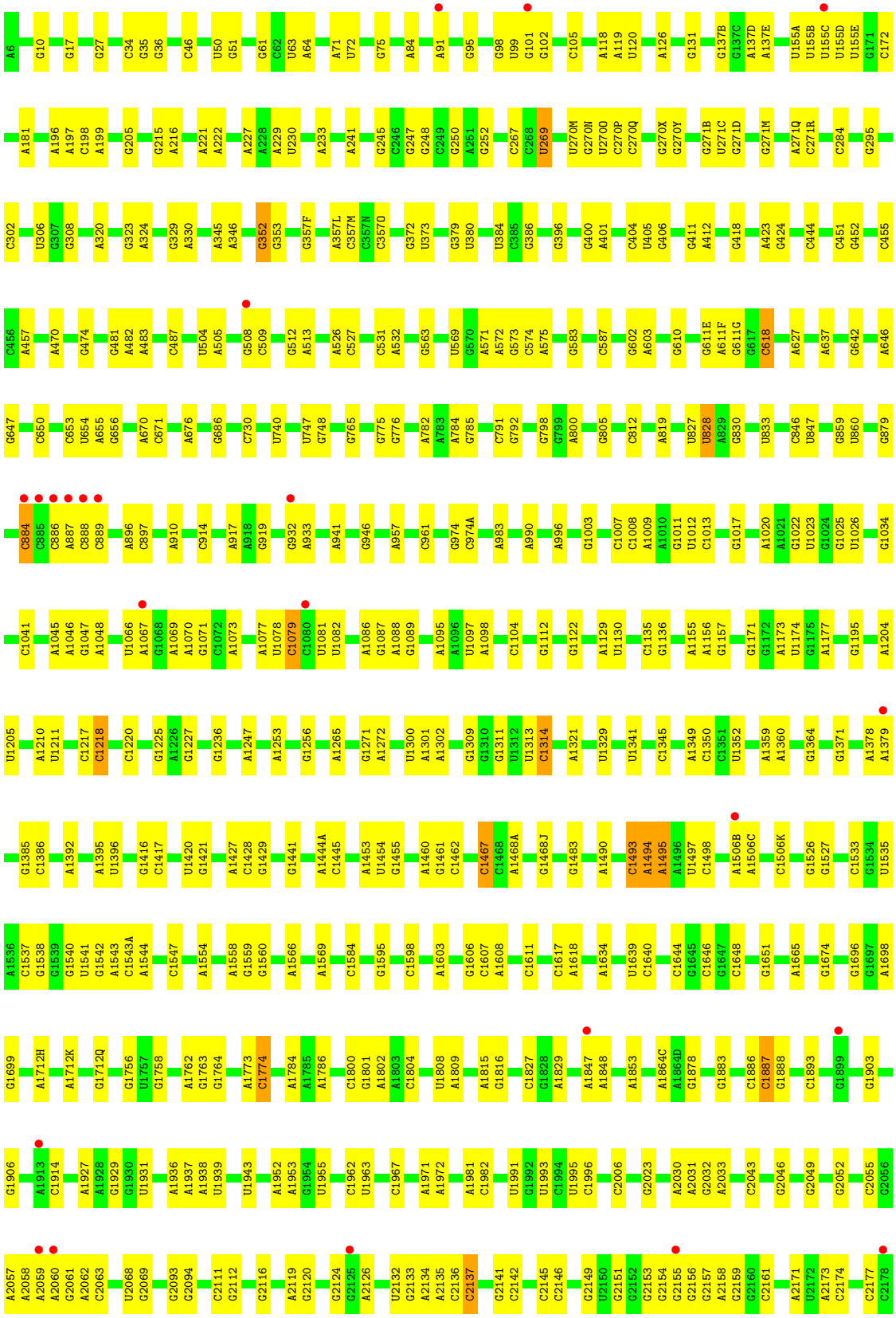
• Molecule 1: 16S rRNA

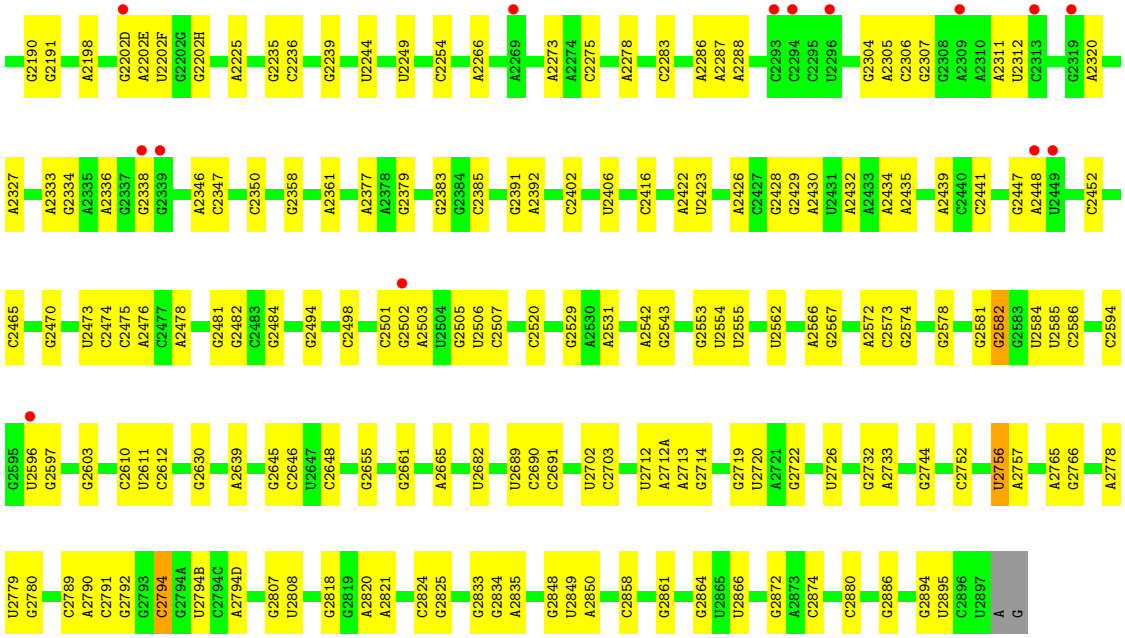
Chain B16S:



• Molecule 2: 23S rRNA

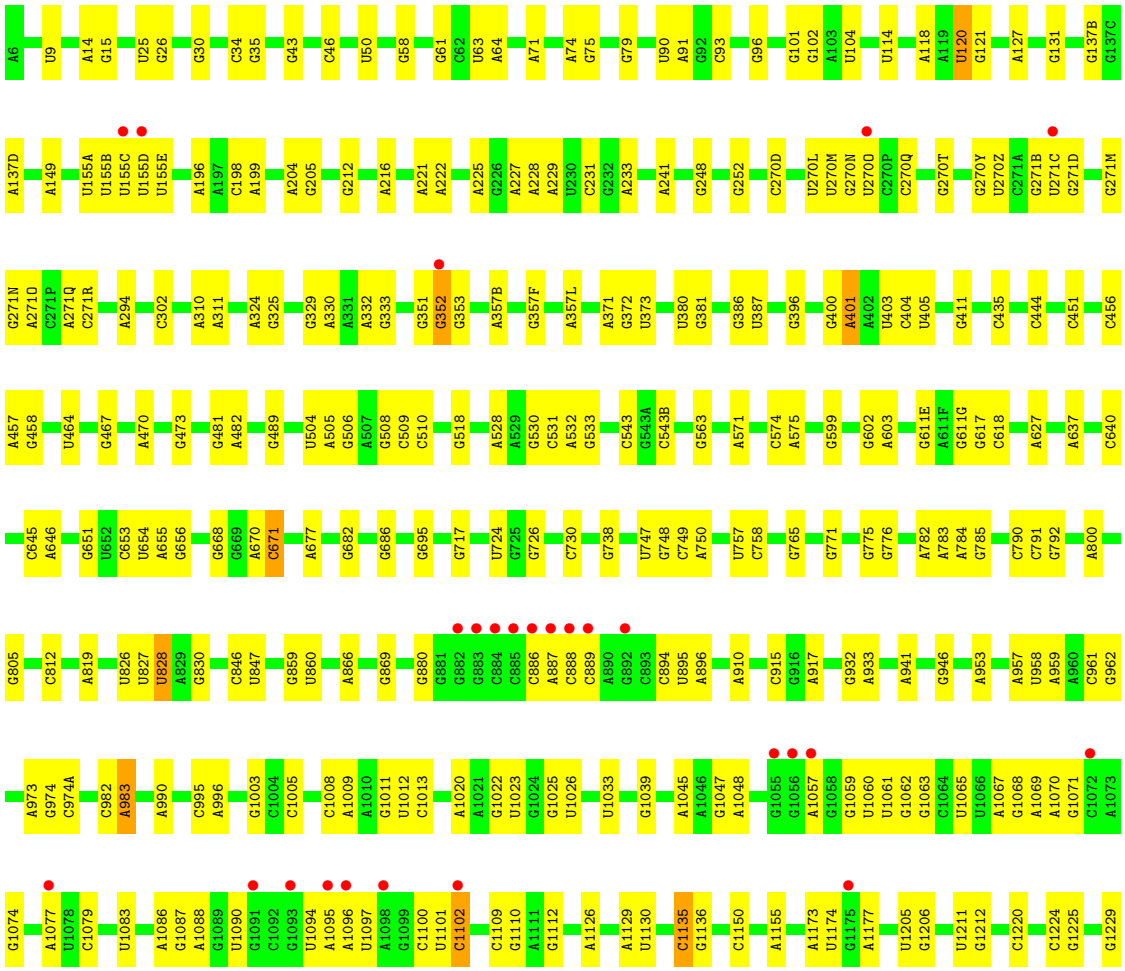
Chain A23S:

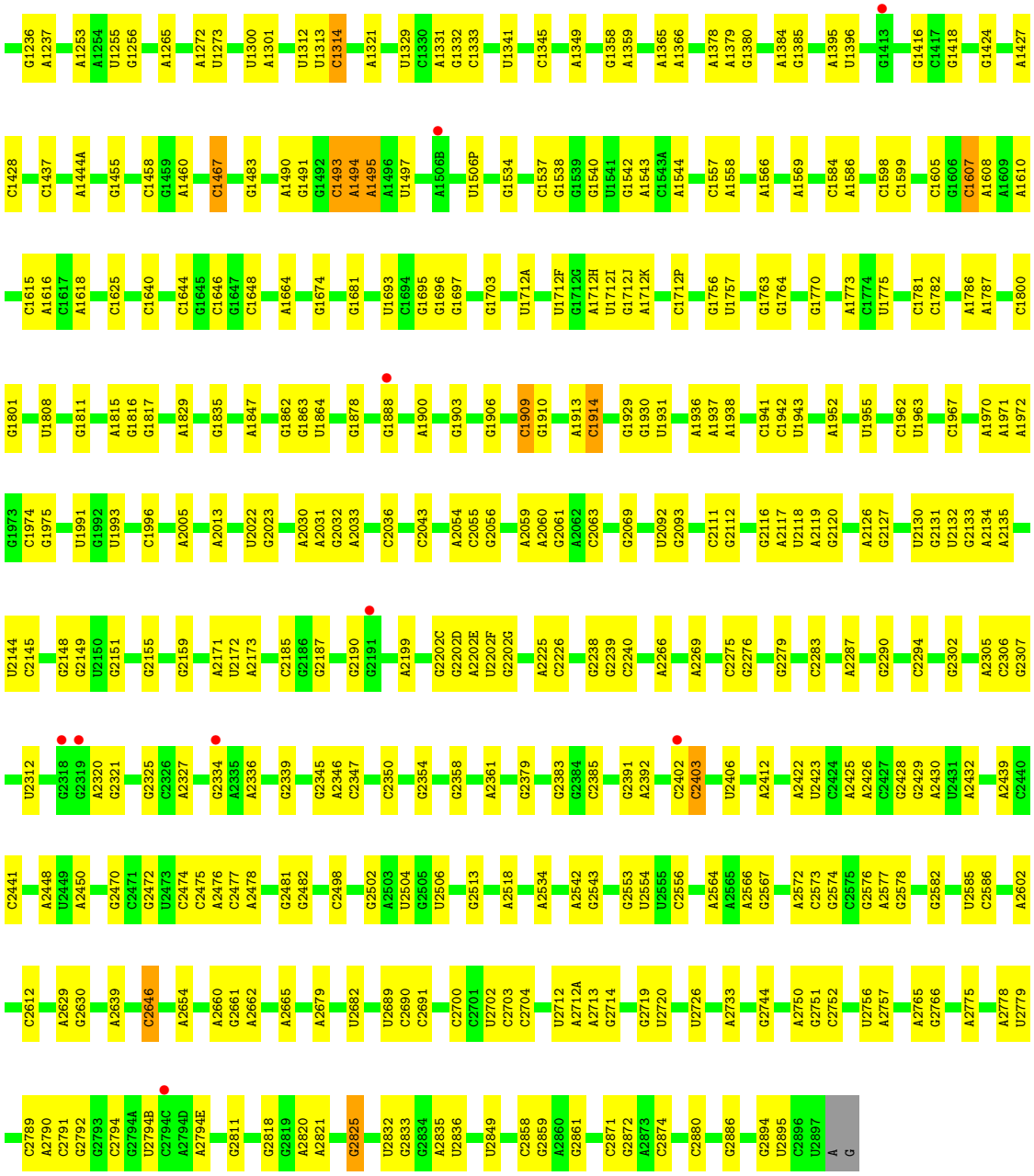

A6 G10 G17 G27 C34 G35 G36 C46 U50 G51 G61 C62 U63 A64 A71 U72 G75 A84 A91 G95 G98 U99 G101 G102 C105 A118 A119 U120 A126 G131 G137B G137C A137D A137E U155A U155B U155C U155D U155E G171 C172
A181 A196 A197 C198 A199 G205 G215 A216 A221 A222 A227 A228 A229 U230 A233 A241 G245 C246 G247 G248 C249 G250 A251 G252 C267 C268 U269 U270M G270N U270O C270P C270Q G270X G270Y G271B U271C G271D G271M A271Q C271R C284 G295
C302 U306 G307 G308 A320 G323 A324 G329 A330 A345 A346 G352 G353 G357F A357L C357N C357N C3570 G372 U373 G379 U380 U384 C385 G386 G396 G400 A401 C404 U405 G406 G411 A412 G418 A423 G424 C444 C451 C452 C455
C456 A457 A470 G474 G481 A482 A483 C487 U504 A505 G508 C509 G512 A513 A526 C527 C531 A532 G563 U569 G570 A571 A572 G573 C574 A575 G583 C587 G602 A603 G610 G611E A611F G611G G617 C618 A627 A637 G642 A646
G647 C650 C653 U654 A655 G656 A670 C671 A676 G686 C730 U740 U747 G748 G765 G775 G776 A782 A783 A784 G785 C791 G792 G798 G799 A800 G805 C812 A819 U827 U828 A829 G830 U833 C846 U847 G859 U860 G879
C884 C885 C886 A887 C888 C889 A896 C897 A910 C914 A917 A918 G919 G932 A933 A941 G946 A957 C961 G974 C974A A983 A990 A996 G1003 C1007 C1008 A1009 A1010 G1011 U1012 C1013 G1017 A1020 A1021 G1022 U1023 G1024 G1025 U1026 G1034
C1041 A1045 A1046 G1047 A1048 U1066 A1067 G1068 A1069 A1070 G1071 C1072 A1073 A1077 U1078 C1079 C1080 U1081 U1082 A1086 G1087 A1088 G1089 A1095 A1096 U1097 A1098 C1104 G1112 G1122 A1129 U1130 C1135 G1136 A1155 A1156 G1157 G1171 G1172 A1173 U1174 G1175 A1177 G1195 A1204
U1205 A1210 U1211 C1217 C1218 C1220 G1225 A1226 G1227 G1236 A1247 A1253 G1256 A1265 G1271 A1272 U1300 A1301 A1302 G1309 C1310 G1311 U1312 U1313 C1314 A1321 U1329 U1341 C1345 A1349 C1350 C1351 U1352 A1359 A1360 G1364 G1371 A1378 A1379
G1385 C1386 A1392 A1395 U1396 G1416 C1417 U1420 G1421 A1427 C1428 G1429 G1441 A1444A C1445 A1453 U1454 G1455 A1460 G1461 C1462 C1467 C1468 A1468A G1468J G1483 A1490 C1493 A1494 A1495 A1496 U1497 C1498 A1506B A1506C C1506K G1526 G1527 C1533 G1534 U1535
A1536 C1537 G1538 G1539 G1540 U1541 G1542 A1543 C1543A A1544 C1547 A1554 A1558 G1559 G1560 A1566 A1569 C1584 G1595 C1598 A1603 G1606 C1607 A1608 C1611 C1617 A1618 A1634 U1639 C1640 C1644 G1645 C1646 G1647 C1648 G1651 A1665 G1674 G1696 G1697 A1698
G1699 A1712H A1712K G1712Q G1756 U1757 G1758 A1762 G1763 G1764 A1773 C1774 A1784 A1785 A1786 C1800 G1801 A1802 A1803 C1804 U1808 A1809 A1815 G1816 C1827 G1828 A1829 A1847 A1848 A1853 A1864C A1864D G1878 G1883 C1886 C1887 G1888 C1893 G1899 G1903
G1906 A1913 C1914 A1927 A1928 G1929 G1930 U1931 A1936 A1937 A1938 U1939 U1943 A1952 A1953 C1954 U1955 C1962 U1963 C1967 A1971 A1972 A1981 C1982 U1991 C1992 U1993 C1994 U1995 C1996 C2006 G2023 A2030 A2031 G2032 A2033 C2043 G2046 G2049 G2052 C2055 G2056
A2057 A2058 A2059 A2060 G2061 A2062 C2063 U2068 G2069 G2093 G2094 C2111 G2112 G2116 A2119 G2120 G2124 G2125 A2126 U2132 G2133 A2134 A2135 C2136 C2137 G2141 C2142 C2145 C2146 G2149 U2150 G2151 G2152 G2153 G2154 G2155 G2156 G2157 A2158 G2159 G2160 C2161 A2171 U2172 A2173 C2174 C2177 C2178



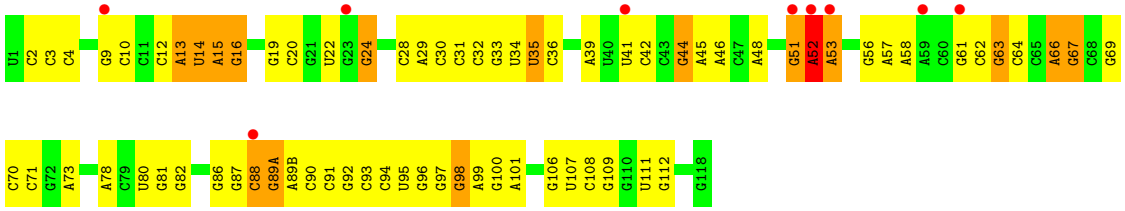
- Molecule 2: 23S rRNA

Chain B23S:



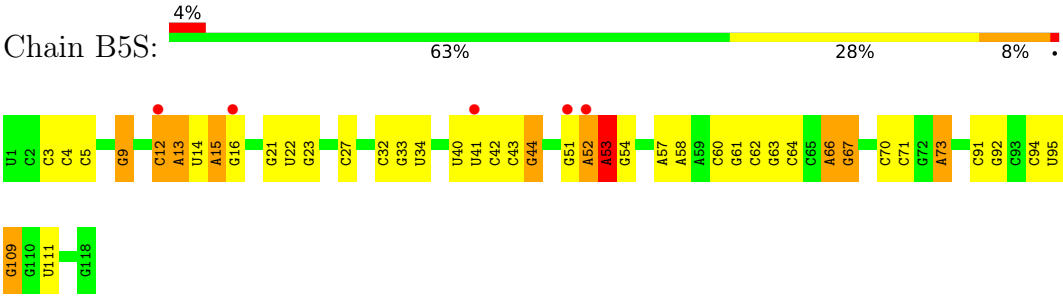


• Molecule 3: 5s rRNA



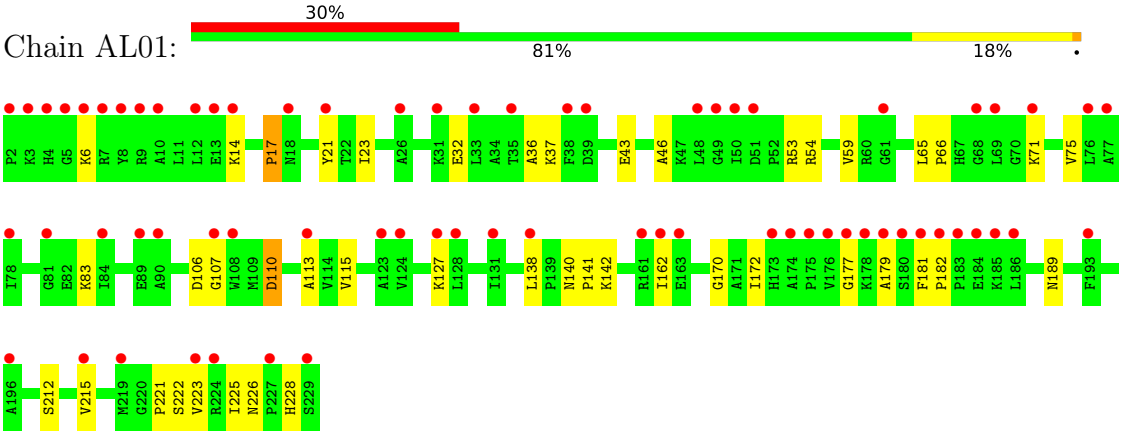
• Molecule 3: 5s rRNA

Chain B5S:



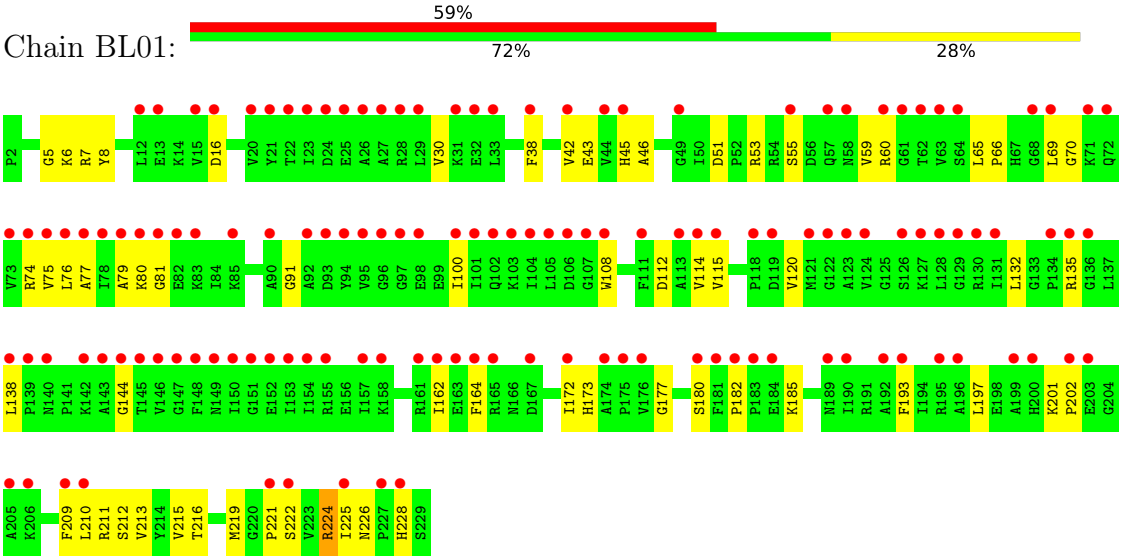
• Molecule 4: 50S ribosomal protein L1

Chain AL01:



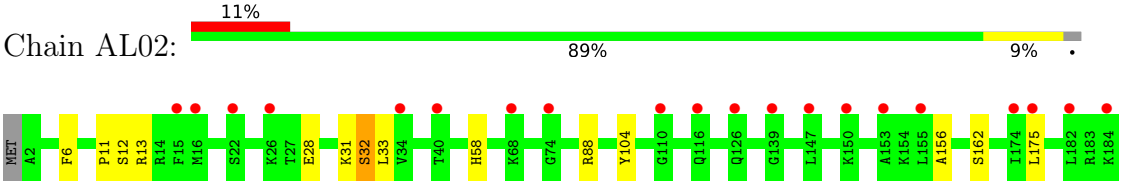
• Molecule 4: 50S ribosomal protein L1

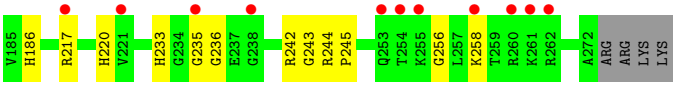
Chain BL01:



• Molecule 5: 50S ribosomal protein L2

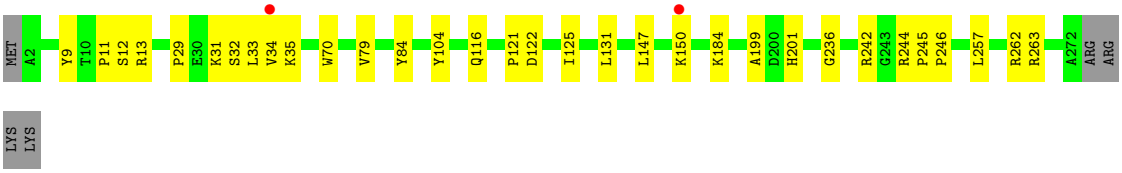
Chain AL02:





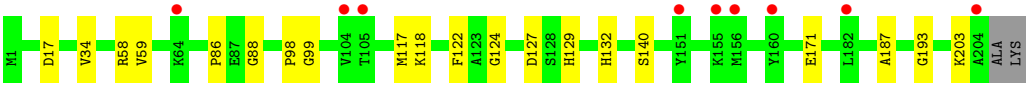
• Molecule 5: 50S ribosomal protein L2

Chain BL02:



• Molecule 6: 50S ribosomal protein L3

Chain AL03:

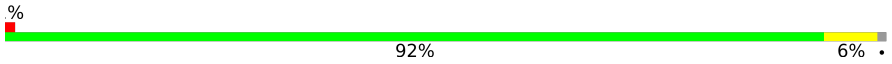


• Molecule 6: 50S ribosomal protein L3

Chain BL03:

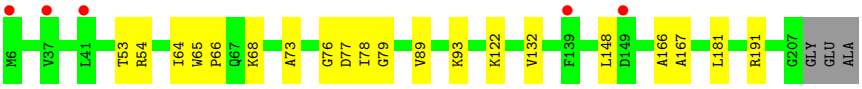
• Molecule 7: 50S ribosomal protein L4

Chain AL04:



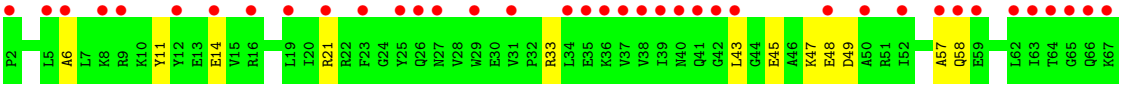
• Molecule 7: 50S ribosomal protein L4

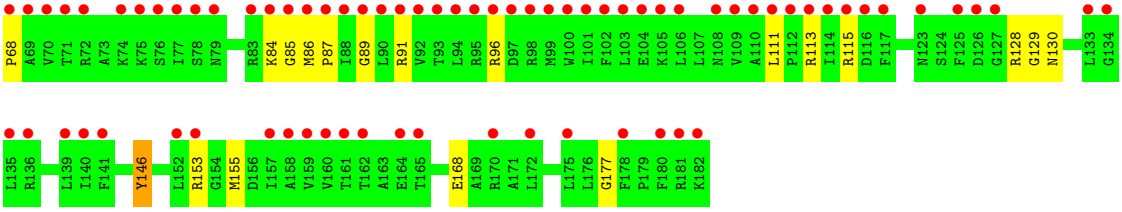
Chain BL04:



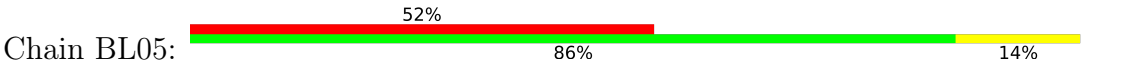
• Molecule 8: 50S ribosomal protein L5

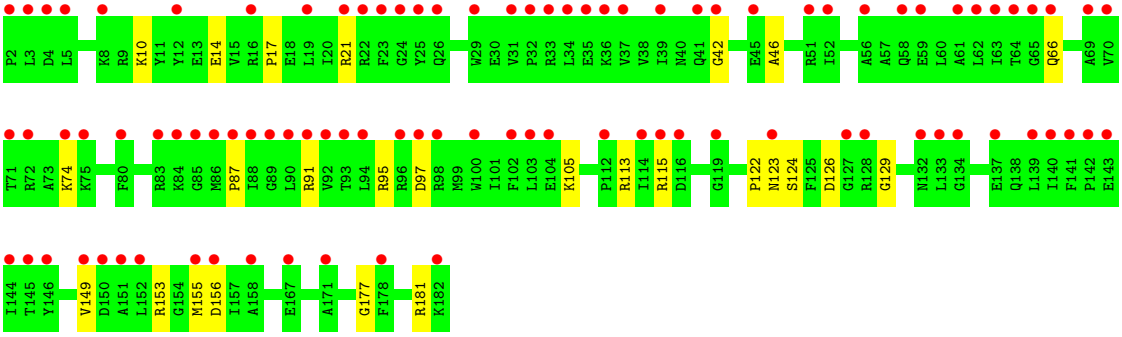
Chain AL05:



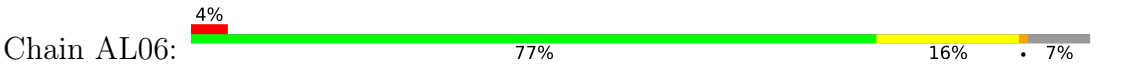


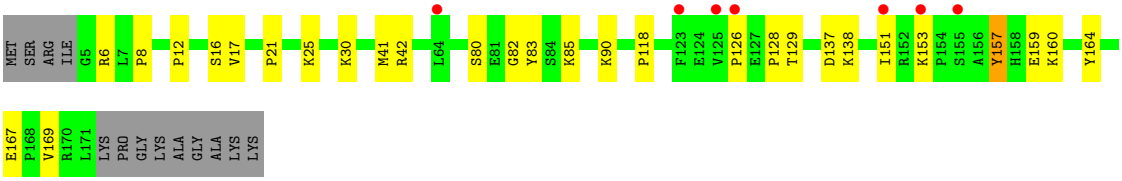
• Molecule 8: 50S ribosomal protein L5



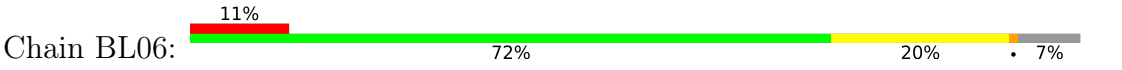


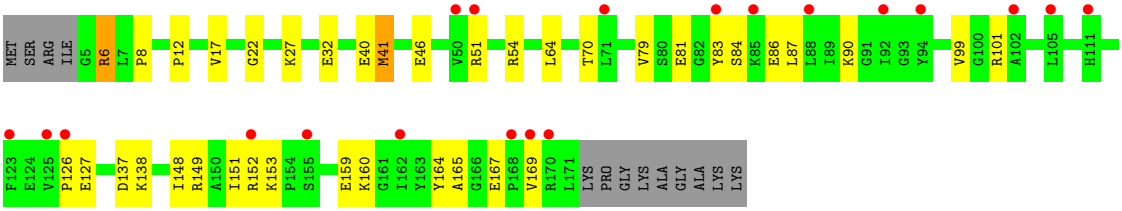
• Molecule 9: 50S ribosomal protein L6



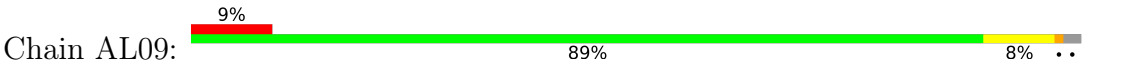


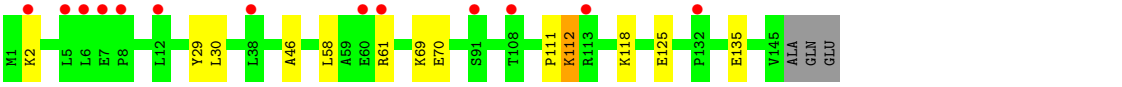
• Molecule 9: 50S ribosomal protein L6





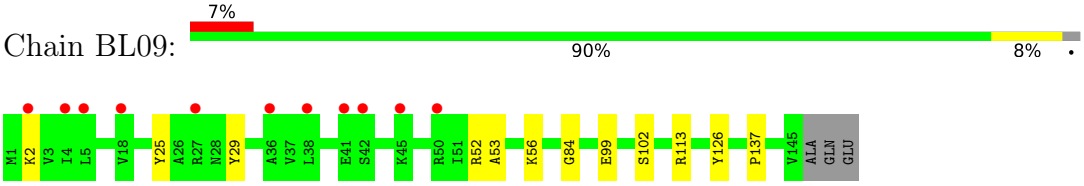
• Molecule 10: 50S ribosomal protein L9





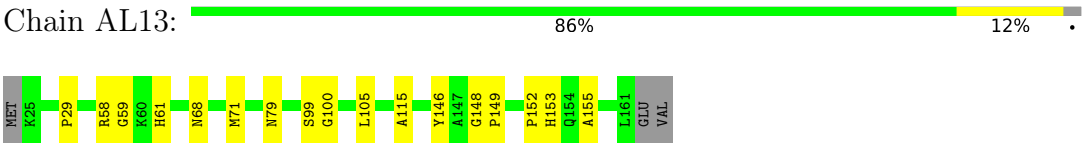
• Molecule 10: 50S ribosomal protein L9

Chain BL09:



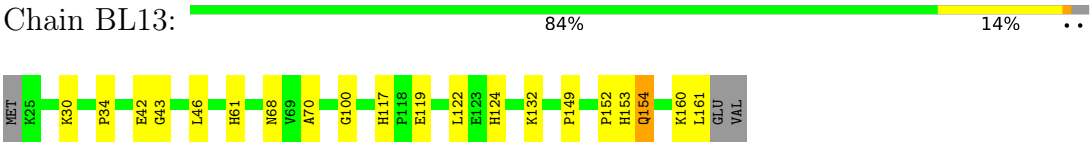
• Molecule 11: 50S ribosomal protein L13

Chain AL13:



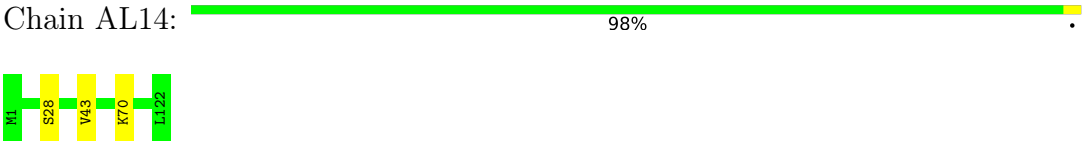
• Molecule 11: 50S ribosomal protein L13

Chain BL13:



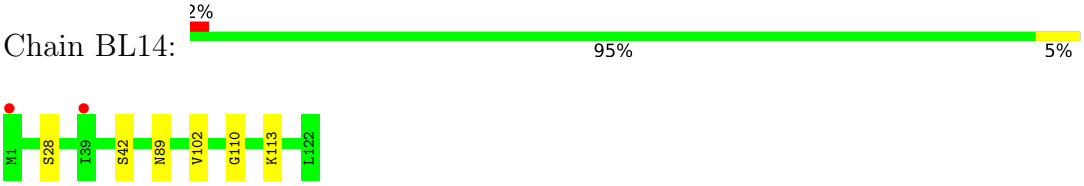
• Molecule 12: 50S ribosomal protein L14

Chain AL14:



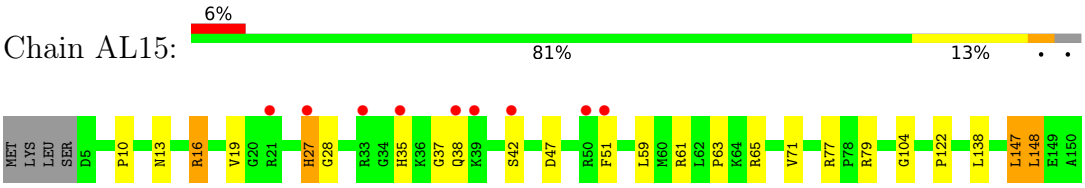
• Molecule 12: 50S ribosomal protein L14

Chain BL14:



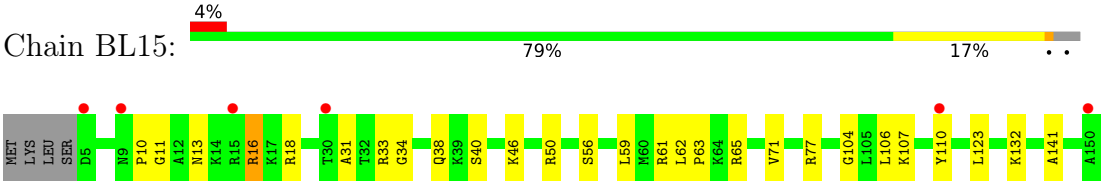
• Molecule 13: 50S ribosomal protein L15

Chain AL15:



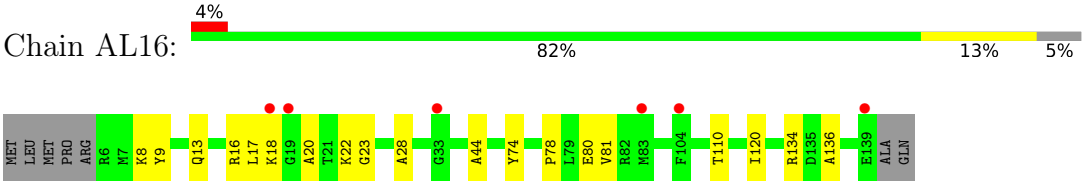
• Molecule 13: 50S ribosomal protein L15

Chain BL15:



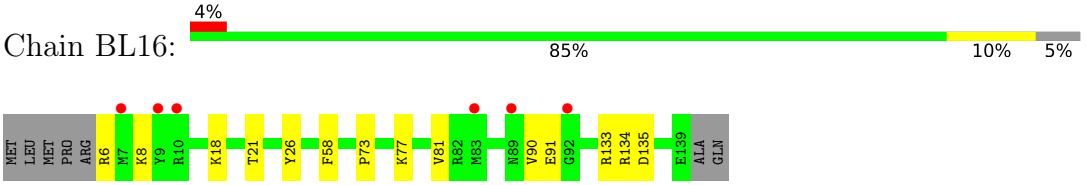
• Molecule 14: 50S ribosomal protein L16

Chain AL16:



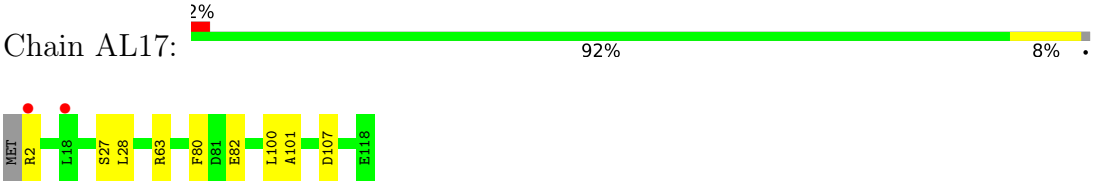
• Molecule 14: 50S ribosomal protein L16

Chain BL16:



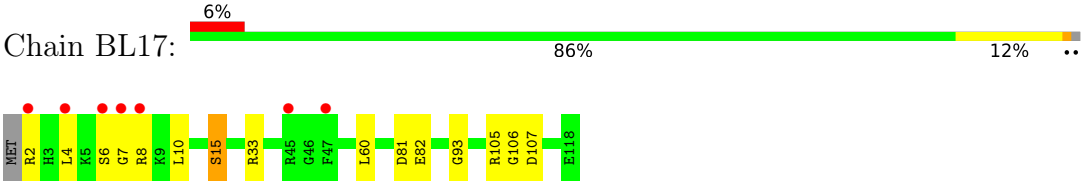
• Molecule 15: 50S ribosomal protein L17

Chain AL17:



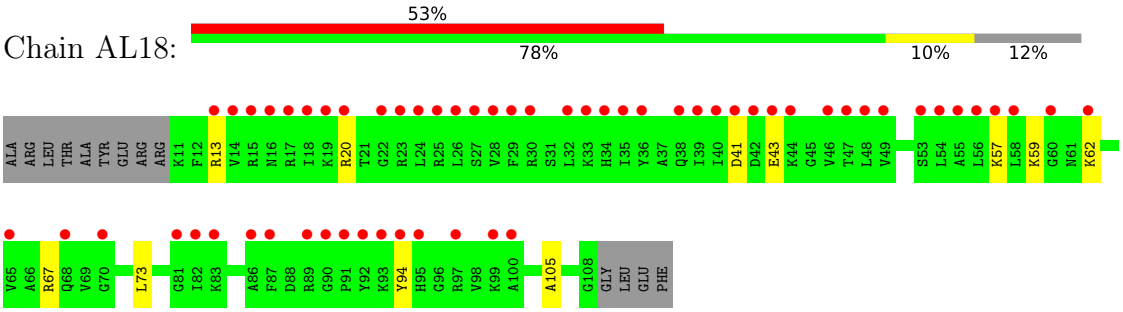
• Molecule 15: 50S ribosomal protein L17

Chain BL17:



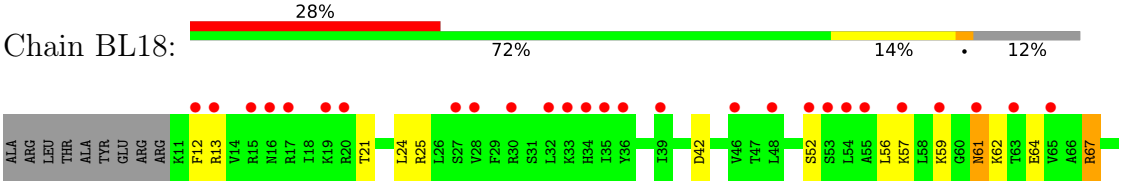
• Molecule 16: 50S ribosomal protein L18

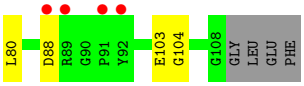
Chain AL18:



• Molecule 16: 50S ribosomal protein L18

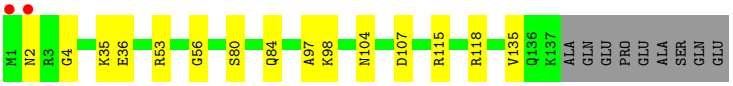
Chain BL18:





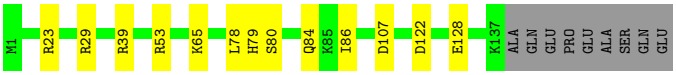
• Molecule 17: 50S ribosomal protein L19

Chain AL19:



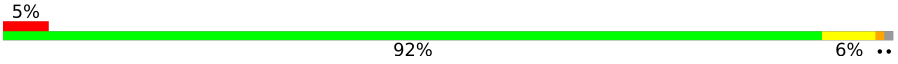
• Molecule 17: 50S ribosomal protein L19

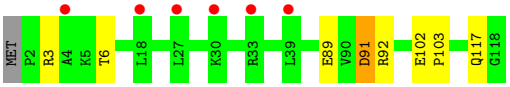
Chain BL19:



• Molecule 18: 50S ribosomal protein L20

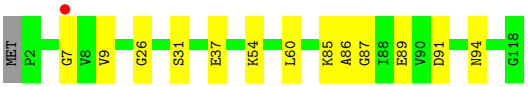
Chain AL20:





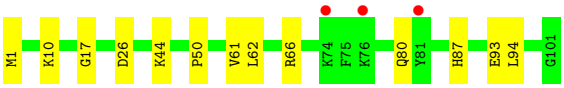
• Molecule 18: 50S ribosomal protein L20

Chain BL20:



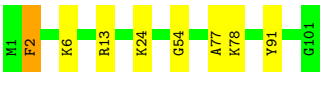
• Molecule 19: 50S ribosomal protein L21

Chain AL21:



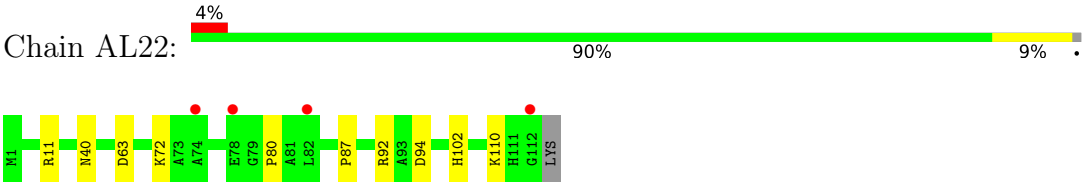
• Molecule 19: 50S ribosomal protein L21

Chain BL21:



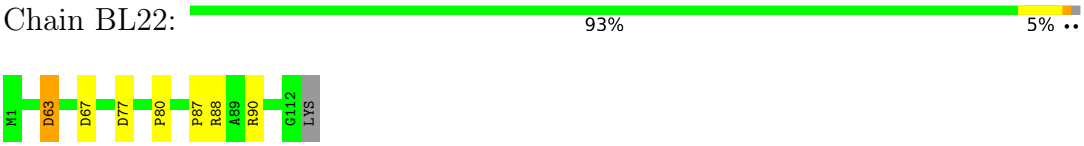
• Molecule 20: 50S ribosomal protein L22

Chain AL22:



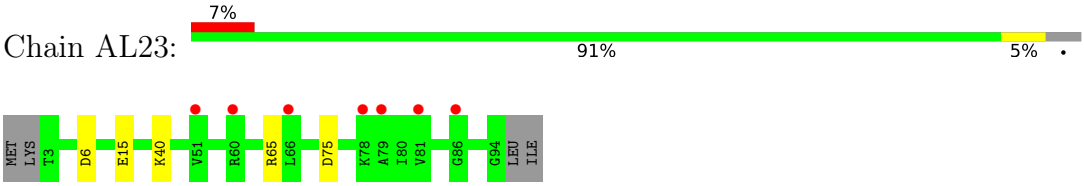
• Molecule 20: 50S ribosomal protein L22

Chain BL22:



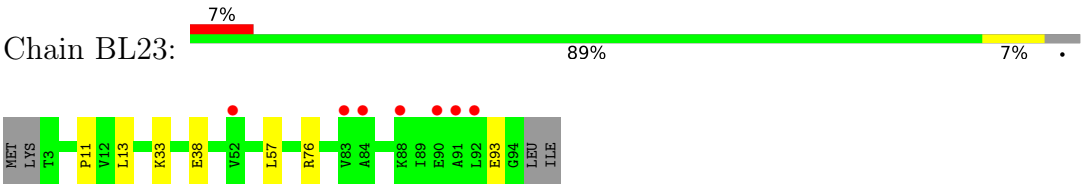
• Molecule 21: 50S ribosomal protein L23

Chain AL23:



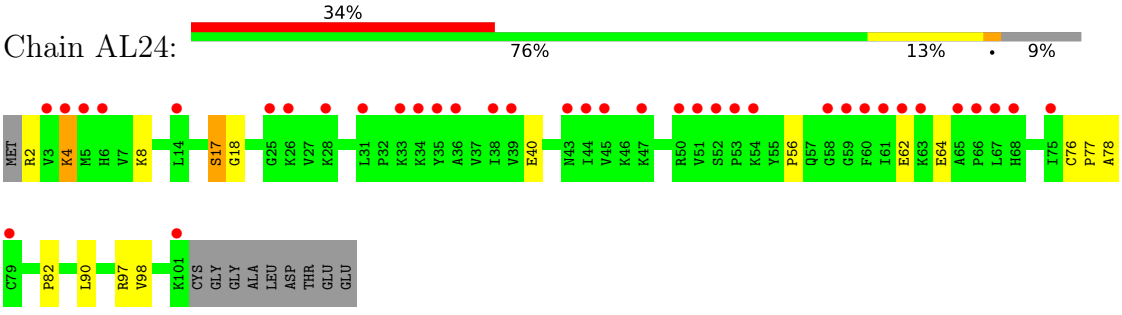
• Molecule 21: 50S ribosomal protein L23

Chain BL23:



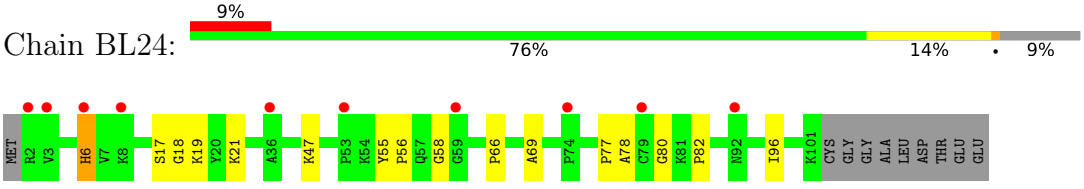
• Molecule 22: 50S ribosomal protein L24

Chain AL24:



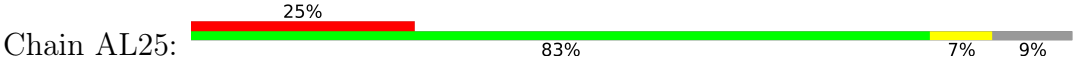
• Molecule 22: 50S ribosomal protein L24

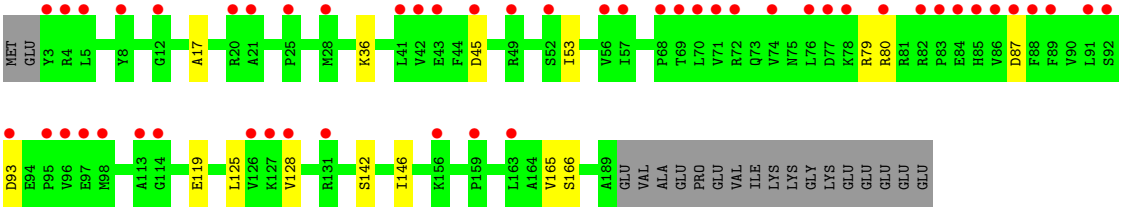
Chain BL24:



• Molecule 23: 50S ribosomal protein L25

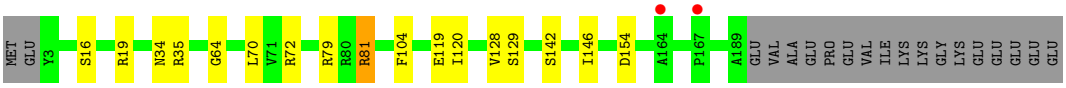
Chain AL25:





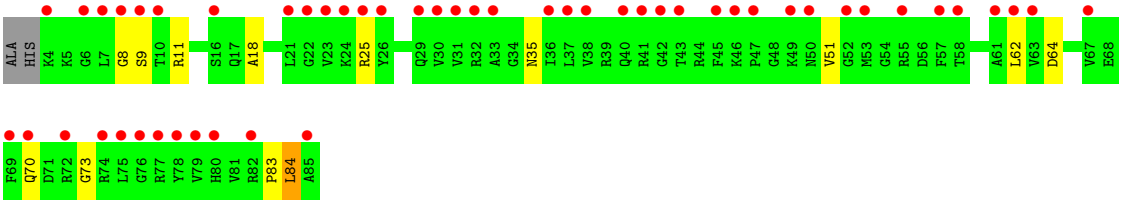
• Molecule 23: 50S ribosomal protein L25

Chain BL25:



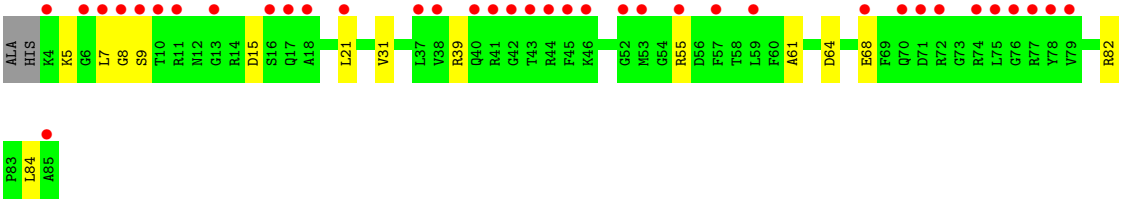
• Molecule 24: 50S ribosomal protein L27

Chain AL27:



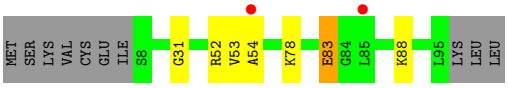
• Molecule 24: 50S ribosomal protein L27

Chain BL27:



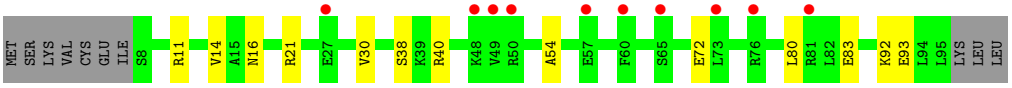
• Molecule 25: 50S ribosomal protein L28

Chain AL28:



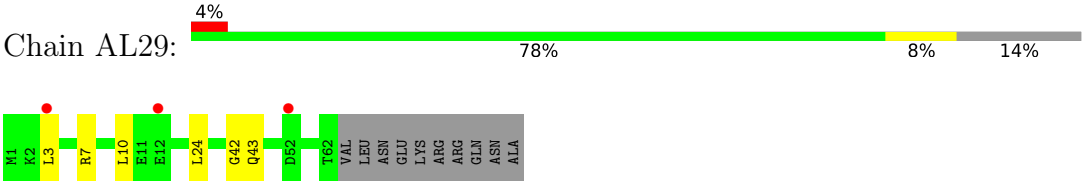
• Molecule 25: 50S ribosomal protein L28

Chain BL28:



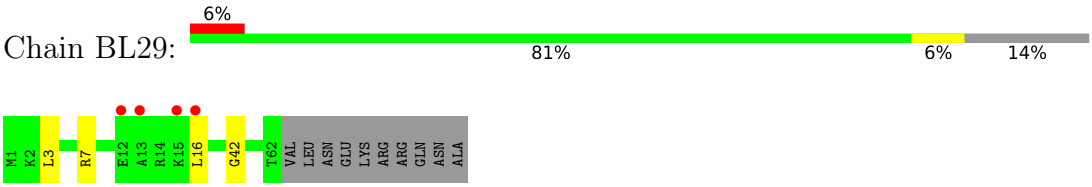
• Molecule 26: 50S ribosomal protein L29

Chain AL29:



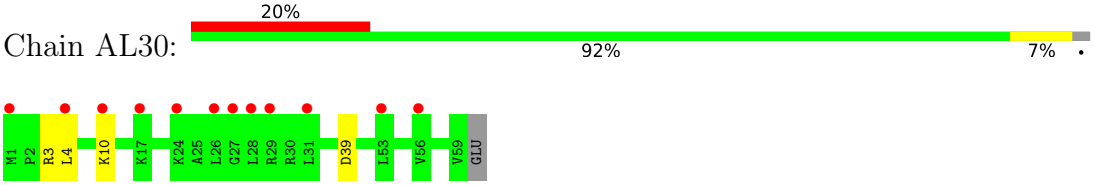
• Molecule 26: 50S ribosomal protein L29

Chain BL29:



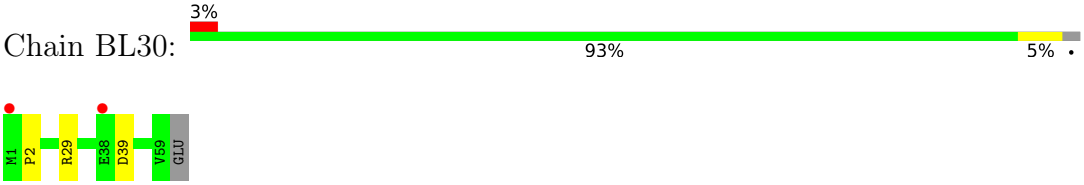
• Molecule 27: 50S ribosomal protein L30

Chain AL30:



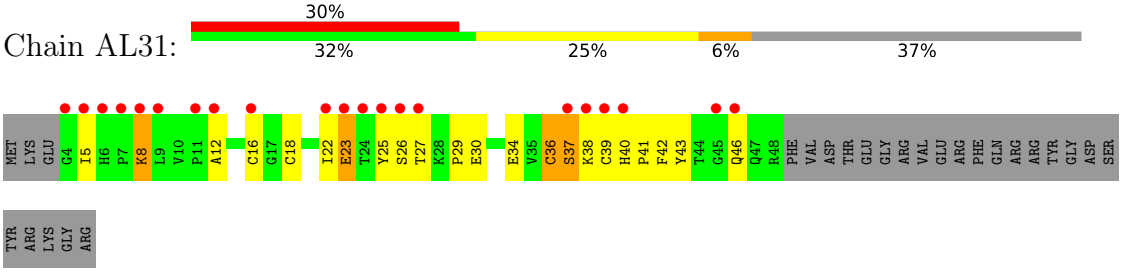
• Molecule 27: 50S ribosomal protein L30

Chain BL30:



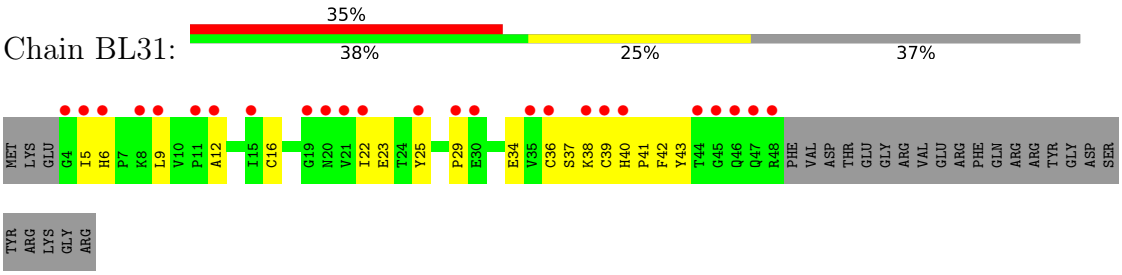
• Molecule 28: 50S ribosomal protein L31

Chain AL31:



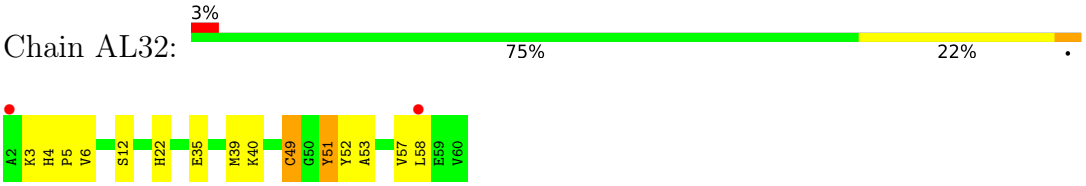
• Molecule 28: 50S ribosomal protein L31

Chain BL31:



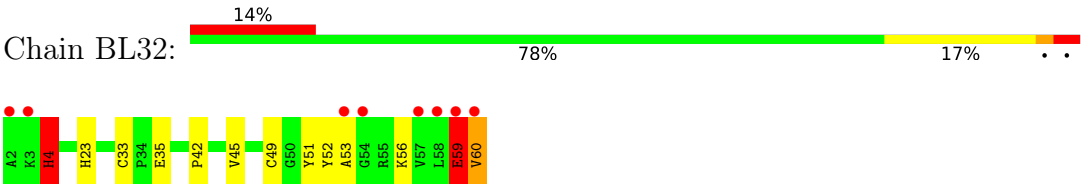
• Molecule 29: 50S ribosomal protein L32

Chain AL32:



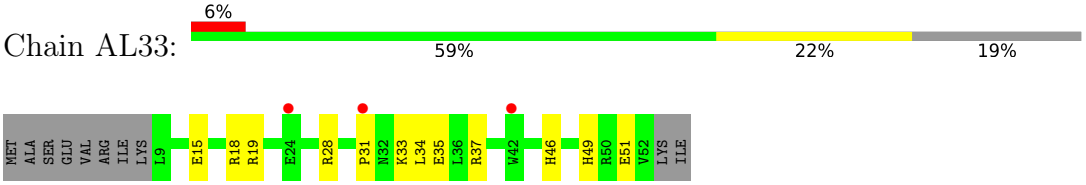
• Molecule 29: 50S ribosomal protein L32

Chain BL32:



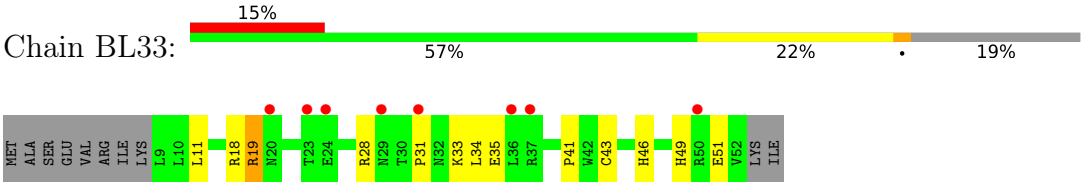
• Molecule 30: 50S ribosomal protein L33

Chain AL33:



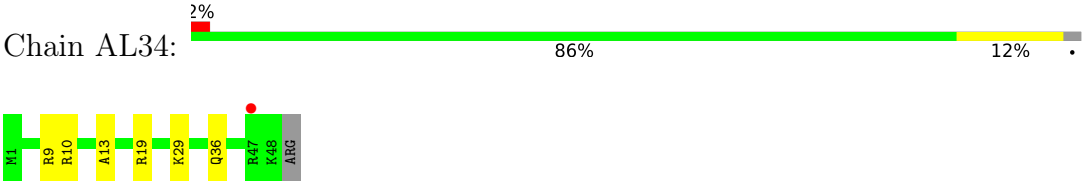
• Molecule 30: 50S ribosomal protein L33

Chain BL33:



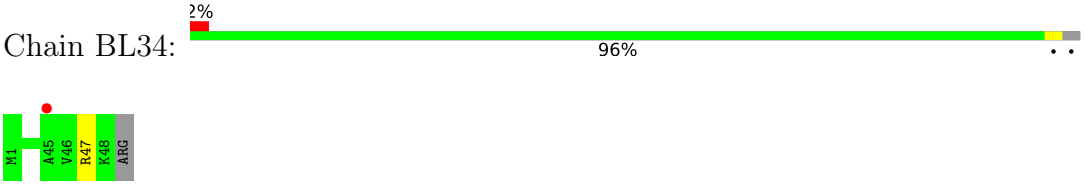
• Molecule 31: 50S ribosomal protein L34

Chain AL34:



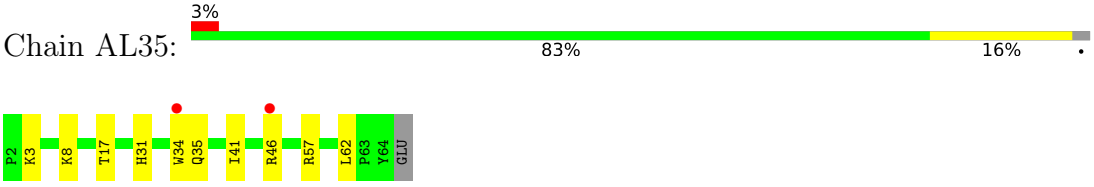
• Molecule 31: 50S ribosomal protein L34

Chain BL34:



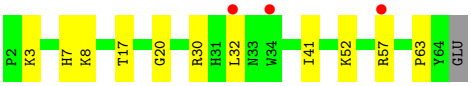
• Molecule 32: 50S ribosomal protein L35

Chain AL35:



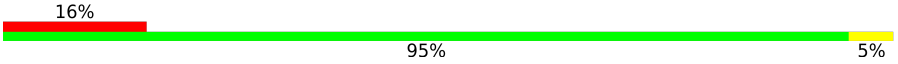
• Molecule 32: 50S ribosomal protein L35

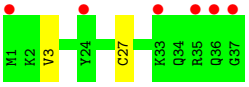
Chain BL35:



• Molecule 33: 50S ribosomal protein L36

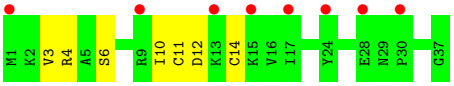
Chain AL36:





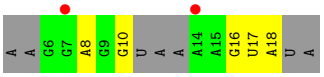
• Molecule 33: 50S ribosomal protein L36

Chain BL36:



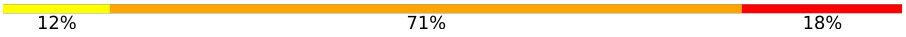
• Molecule 34: mRNA

Chain AMRN:



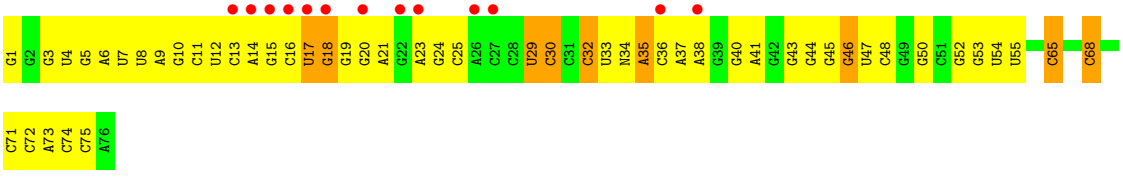
• Molecule 34: mRNA

Chain BMRN:



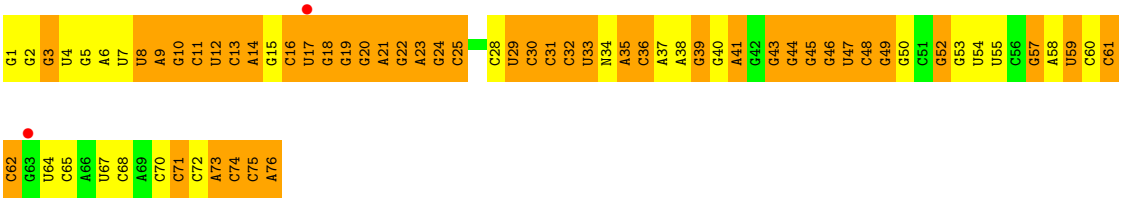
• Molecule 35: P-tRNA

Chain APTN:



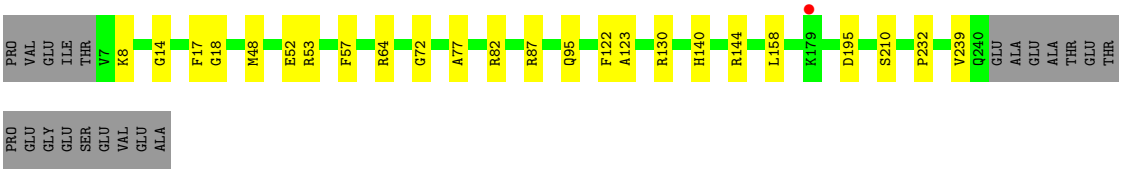
• Molecule 35: P-tRNA

Chain BPTN:



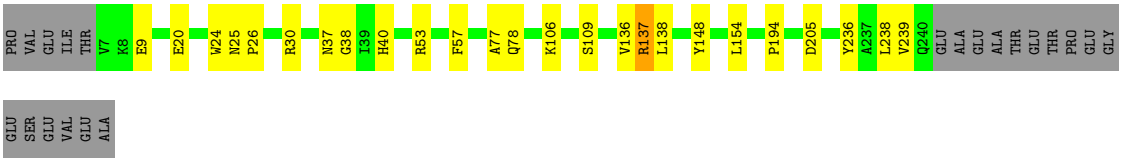
• Molecule 36: 30S ribosomal protein S2

Chain AS02:



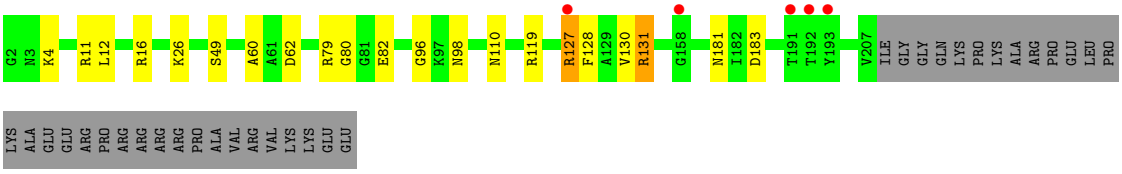
• Molecule 36: 30S ribosomal protein S2

Chain BS02:



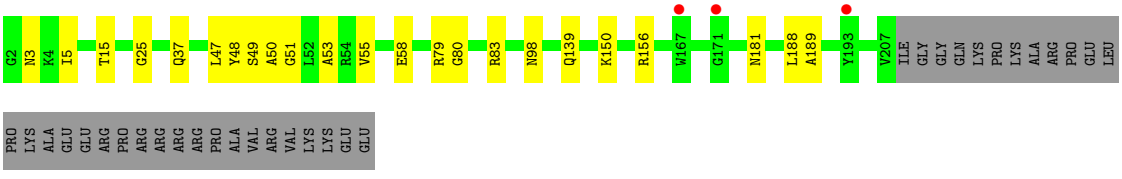
• Molecule 37: 30S ribosomal protein S3

Chain AS03:



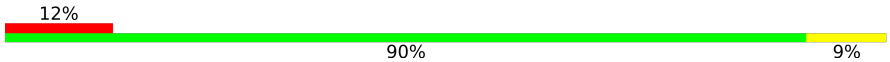
• Molecule 37: 30S ribosomal protein S3

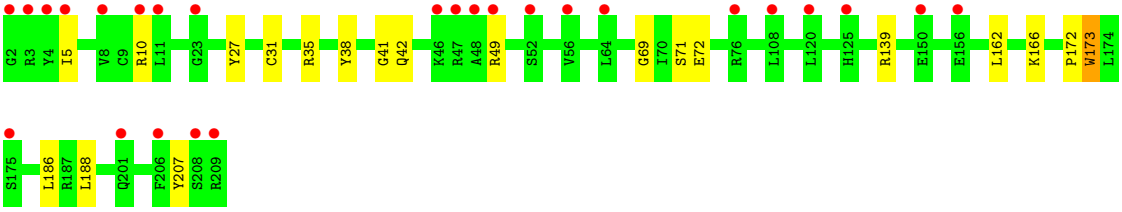
Chain BS03:



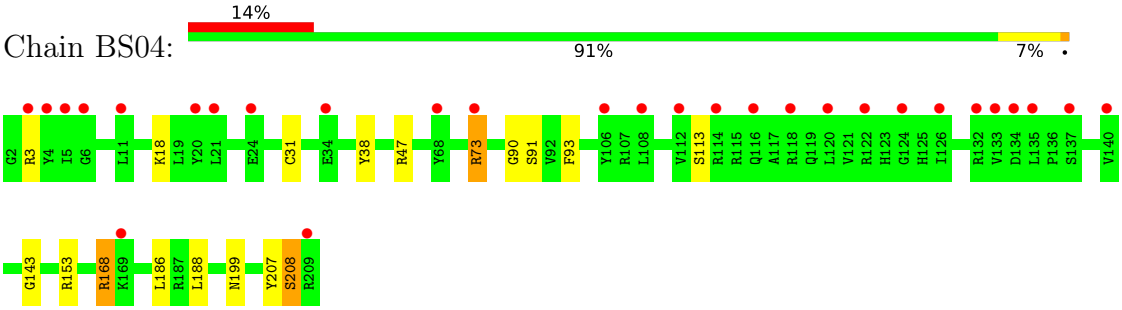
• Molecule 38: 30S ribosomal protein S4

Chain AS04:

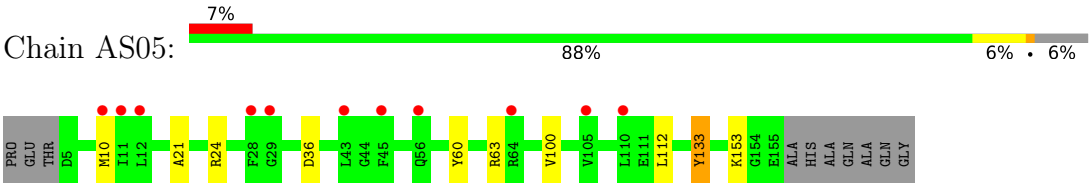




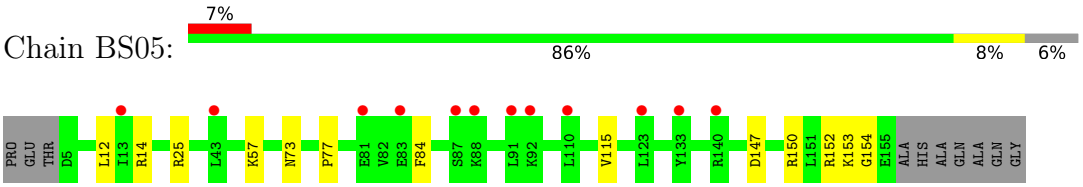
• Molecule 38: 30S ribosomal protein S4



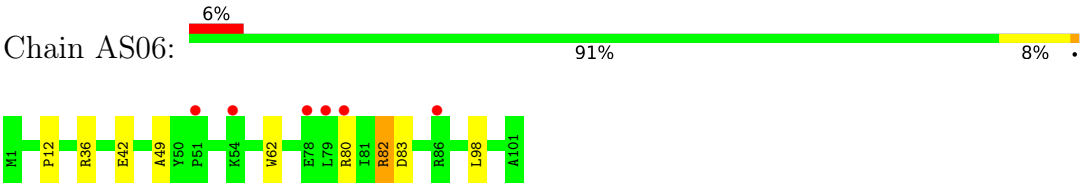
• Molecule 39: 30S ribosomal protein S5



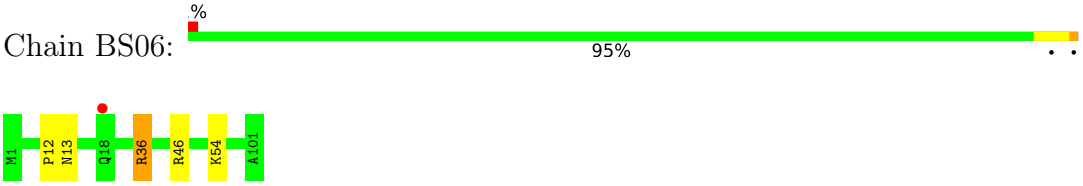
• Molecule 39: 30S ribosomal protein S5



• Molecule 40: 30S ribosomal protein S6

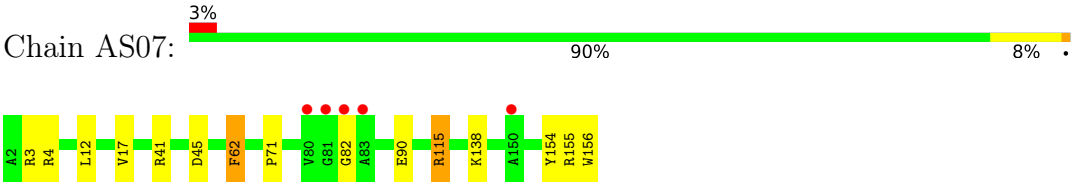


• Molecule 40: 30S ribosomal protein S6



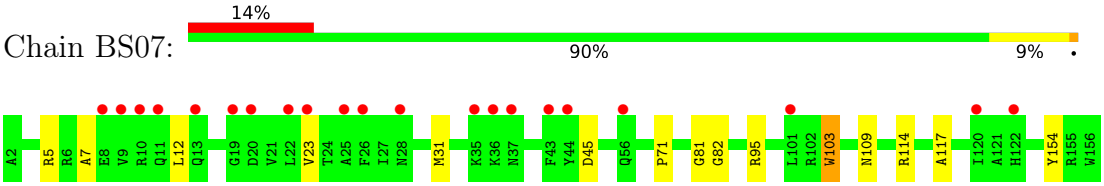
• Molecule 41: 30S ribosomal protein S7

Chain AS07:



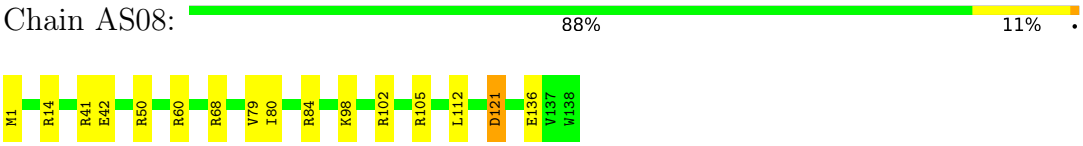
• Molecule 41: 30S ribosomal protein S7

Chain BS07:



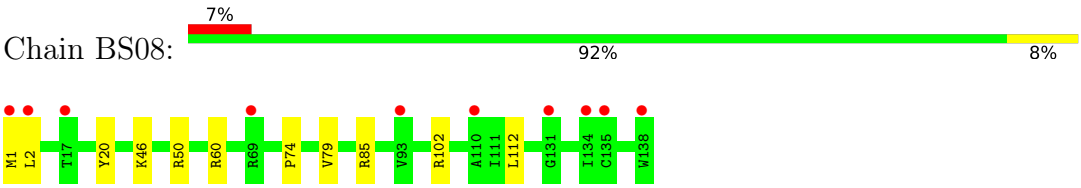
• Molecule 42: 30S ribosomal protein S8

Chain AS08:



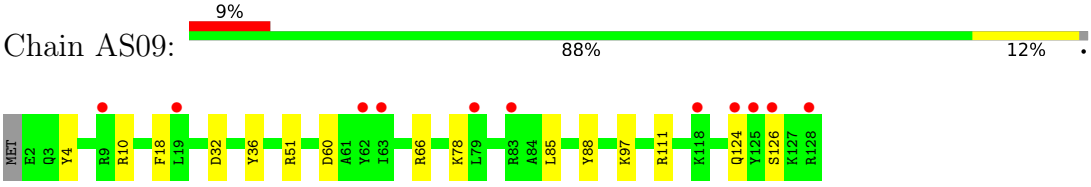
• Molecule 42: 30S ribosomal protein S8

Chain BS08:



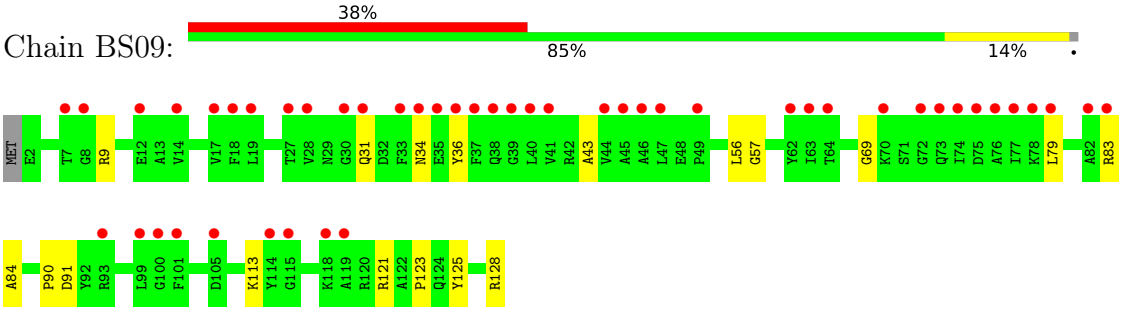
• Molecule 43: 30S ribosomal protein S9

Chain AS09:



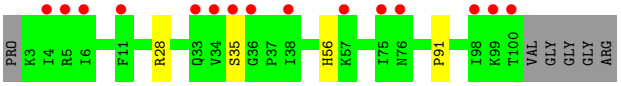
• Molecule 43: 30S ribosomal protein S9

Chain BS09:



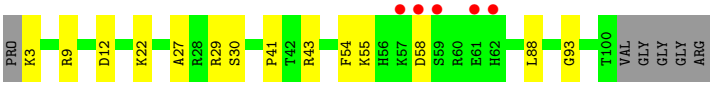
• Molecule 44: 30S ribosomal protein S10

Chain AS10:



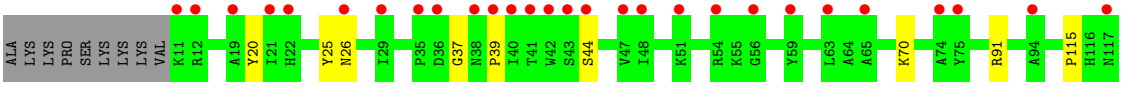
• Molecule 44: 30S ribosomal protein S10

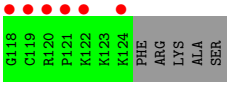
Chain BS10:



• Molecule 45: 30S ribosomal protein S11

Chain AS11:



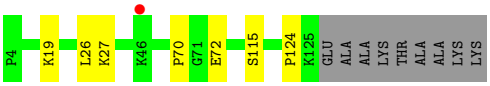


• Molecule 45: 30S ribosomal protein S11

Chain BS11:

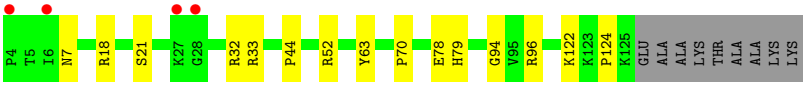
• Molecule 46: 30S ribosomal protein S12

Chain AS12:



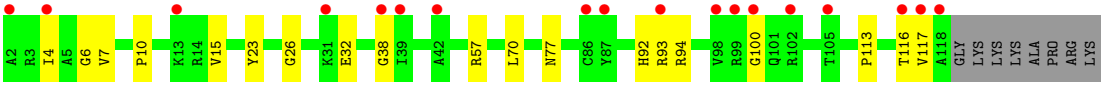
• Molecule 46: 30S ribosomal protein S12

Chain BS12:

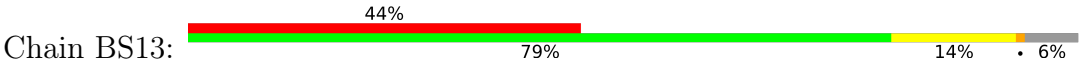


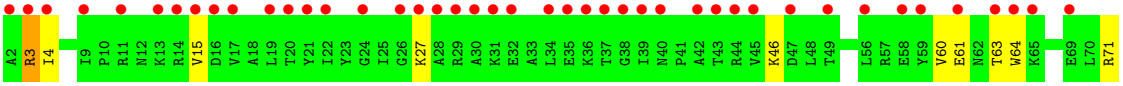
• Molecule 47: 30S ribosomal protein S13

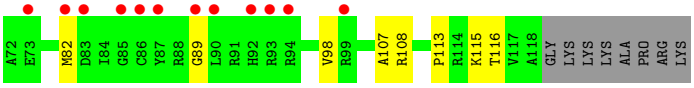
Chain AS13:



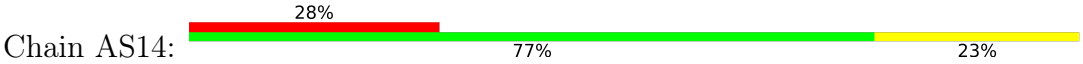
• Molecule 47: 30S ribosomal protein S13

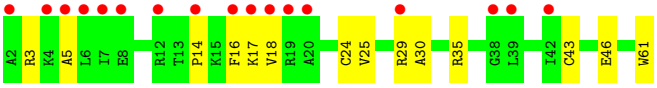




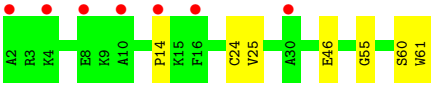


• Molecule 48: 30S ribosomal protein S14 type Z

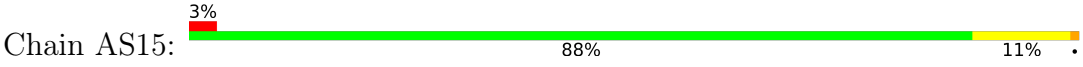


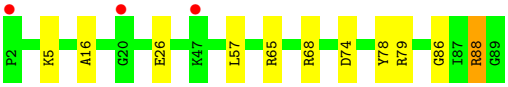


• Molecule 48: 30S ribosomal protein S14 type Z

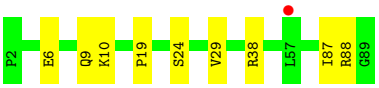


• Molecule 49: 30S ribosomal protein S15

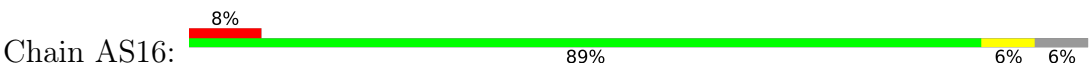


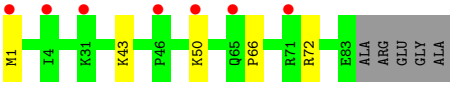


• Molecule 49: 30S ribosomal protein S15



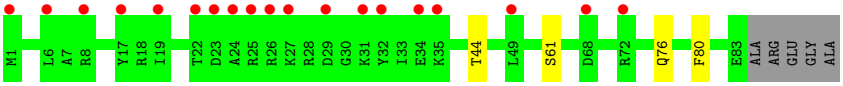
• Molecule 50: 30S ribosomal protein S16





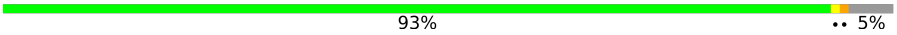
• Molecule 50: 30S ribosomal protein S16

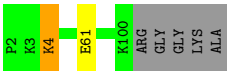
Chain BS16:



• Molecule 51: 30S ribosomal protein S17

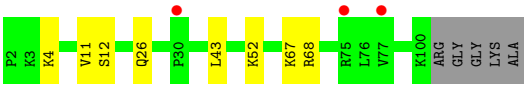
Chain AS17:





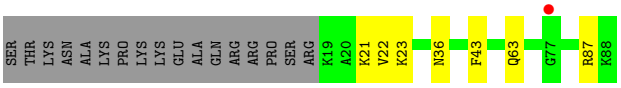
• Molecule 51: 30S ribosomal protein S17

Chain BS17:



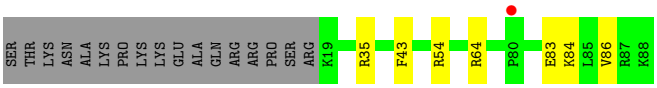
• Molecule 52: 30S ribosomal protein S18

Chain AS18:



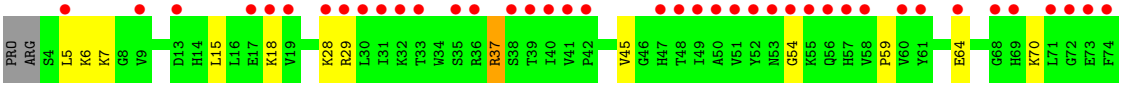
• Molecule 52: 30S ribosomal protein S18

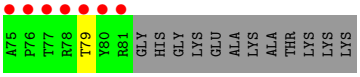
Chain BS18:



• Molecule 53: 30S ribosomal protein S19

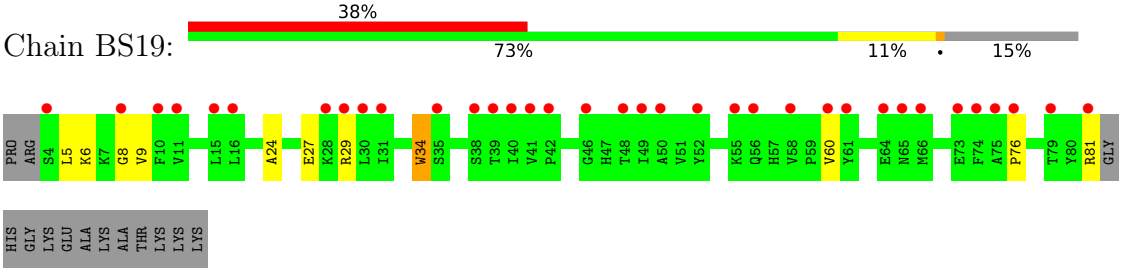
Chain AS19:





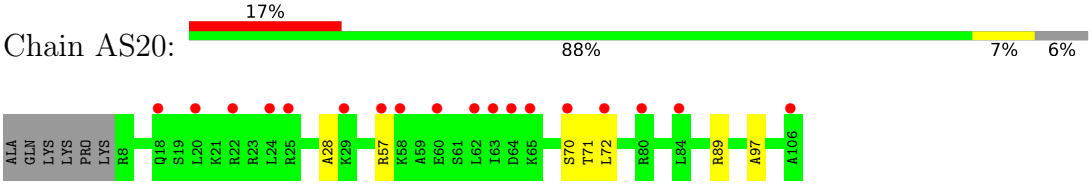
• Molecule 53: 30S ribosomal protein S19

Chain BS19:



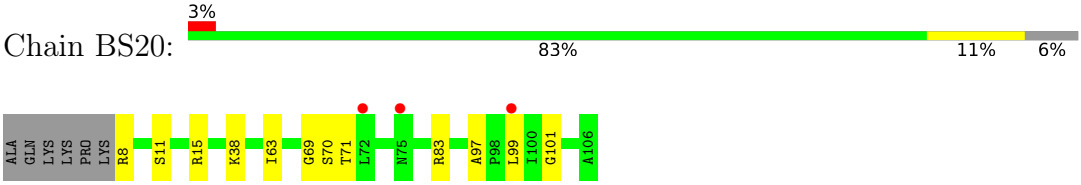
• Molecule 54: 30S ribosomal protein S20

Chain AS20:



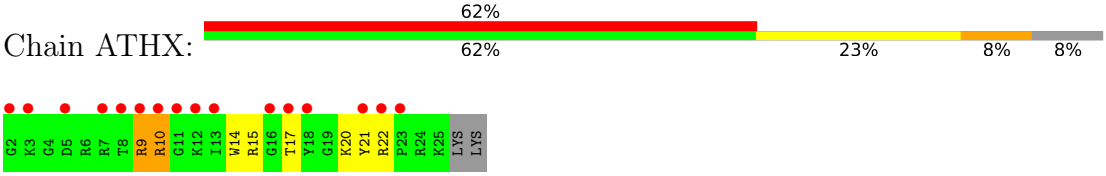
• Molecule 54: 30S ribosomal protein S20

Chain BS20:



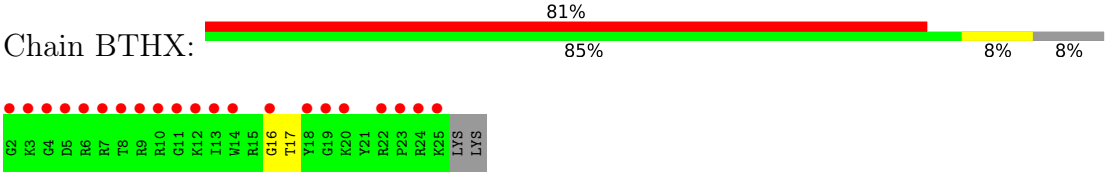
• Molecule 55: 30S ribosomal protein Thx

Chain ATHX:



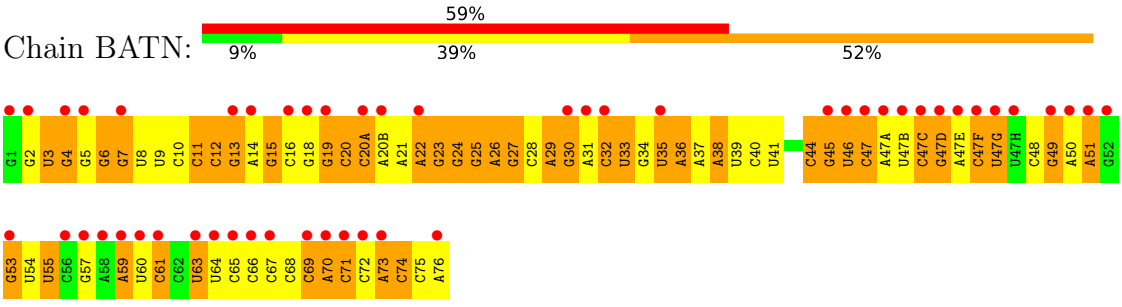
• Molecule 55: 30S ribosomal protein Thx

Chain BTHX:



• Molecule 56: A tRNA

Chain BATN:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	207.45Å 442.87Å 613.00Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	100.00 – 3.20 252.03 – 2.61	Depositor EDS
% Data completeness (in resolution range)	95.5 (100.00-3.20) 78.2 (252.03-2.61)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.28	Depositor
$< I/\sigma(I) >$ [1]	0.95 (at 2.62Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.268 , 0.321 0.269 , 0.322	Depositor DCC
R_{free} test set	65984 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	78.9	Xtriage
Anisotropy	0.124	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.28 , 60.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.37$, $< L^2 > = 0.20$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.86	EDS
Total number of atoms	295025	wwPDB-VP
Average B, all atoms (Å^2)	90.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.78% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: MIA, 6MZ, PSU, MG, 4SU, QUO, CM0, SF4, 5MU, G7M

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	A16S	0.71	33/36490 (0.1%)	0.99	80/56951 (0.1%)
1	B16S	0.71	30/36490 (0.1%)	0.99	69/56951 (0.1%)
2	A23S	0.74	3/69437 (0.0%)	0.95	75/108394 (0.1%)
2	B23S	0.83	9/69438 (0.0%)	0.96	76/108396 (0.1%)
3	A5S	0.69	3/2853 (0.1%)	0.98	10/4451 (0.2%)
3	B5S	0.74	2/2853 (0.1%)	1.00	13/4451 (0.3%)
4	AL01	0.28	0/1774	0.52	0/2391
4	BL01	0.28	0/1774	0.51	0/2391
5	AL02	0.48	1/2154 (0.0%)	0.55	0/2905
5	BL02	0.49	0/2154	0.54	0/2905
6	AL03	0.41	0/1596	0.52	0/2153
6	BL03	0.45	0/1596	0.54	0/2153
7	AL04	0.38	0/1621	0.49	0/2194
7	BL04	0.43	0/1621	0.50	0/2194
8	AL05	0.31	0/1500	0.52	0/2017
8	BL05	0.32	0/1500	0.51	0/2017
9	AL06	0.64	0/1307	0.79	0/1769
9	BL06	0.58	0/1307	0.80	0/1769
10	AL09	0.31	0/1146	0.47	0/1551
10	BL09	0.32	0/1147	0.50	0/1552
11	AL13	0.37	0/1123	0.48	0/1515
11	BL13	0.41	0/1123	0.51	0/1515
12	AL14	0.45	0/942	0.51	0/1268
12	BL14	0.46	0/942	0.51	0/1268
13	AL15	0.35	0/1131	0.59	0/1504
13	BL15	0.37	0/1131	0.58	0/1504
14	AL16	0.38	0/1084	0.50	0/1449
14	BL16	0.42	0/1084	0.51	0/1449
15	AL17	0.40	0/974	0.51	0/1302
15	BL17	0.40	0/974	0.53	0/1302
16	AL18	0.36	0/778	0.48	0/1036
16	BL18	0.36	0/778	0.51	0/1036

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
17	AL19	0.39	0/1157	0.52	0/1544
17	BL19	0.42	0/1157	0.48	0/1544
18	AL20	0.36	0/982	0.44	0/1306
18	BL20	0.45	0/982	0.46	0/1306
19	AL21	0.37	0/790	0.55	0/1057
19	BL21	0.41	0/790	0.56	0/1057
20	AL22	0.39	0/901	0.47	0/1209
20	BL22	0.43	0/901	0.51	0/1209
21	AL23	0.40	0/739	0.48	0/993
21	BL23	0.41	0/739	0.53	1/993 (0.1%)
22	AL24	0.34	0/788	0.53	0/1051
22	BL24	0.37	0/788	0.49	0/1051
23	AL25	0.34	0/1514	0.47	0/2056
23	BL25	0.37	0/1514	0.49	0/2056
24	AL27	0.99	0/655	1.13	3/870 (0.3%)
24	BL27	1.03	1/655 (0.2%)	1.31	2/870 (0.2%)
25	AL28	0.37	0/701	0.53	0/932
25	BL28	0.39	0/701	0.55	0/932
26	AL29	0.30	0/522	0.47	0/690
26	BL29	0.33	0/522	0.48	0/690
27	AL30	0.33	0/472	0.48	0/634
27	BL30	0.36	0/472	0.47	0/634
28	AL31	0.85	1/360 (0.3%)	0.96	0/488
28	BL31	0.98	3/360 (0.8%)	1.00	2/488 (0.4%)
29	AL32	1.15	3/473 (0.6%)	1.13	1/639 (0.2%)
29	BL32	1.74	6/473 (1.3%)	1.41	9/639 (1.4%)
30	AL33	0.37	0/387	0.63	0/518
30	BL33	0.38	0/387	0.57	0/518
31	AL34	0.38	0/426	0.51	0/561
31	BL34	0.47	0/426	0.48	0/561
32	AL35	0.38	0/515	0.52	0/679
32	BL35	0.39	0/515	0.59	0/679
33	AL36	0.38	0/310	0.59	1/407 (0.2%)
33	BL36	0.52	0/310	0.63	0/407
34	AMRN	0.47	0/250	0.86	0/387
34	BMRN	1.58	6/420 (1.4%)	3.17	57/654 (8.7%)
35	APTN	0.68	2/1672 (0.1%)	1.30	17/2599 (0.7%)
35	BPTN	1.57	33/1672 (2.0%)	2.69	160/2599 (6.2%)
36	AS02	0.33	0/1935	0.47	0/2609
36	BS02	0.31	0/1935	0.45	0/2609
37	AS03	0.33	0/1636	0.47	0/2205
37	BS03	0.32	0/1636	0.47	0/2205
38	AS04	0.40	0/1695	0.47	0/2274

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	BS04	0.37	0/1695	0.47	0/2274
39	AS05	0.38	0/1171	0.49	0/1576
39	BS05	0.36	0/1171	0.50	0/1576
40	AS06	0.38	0/856	0.50	0/1154
40	BS06	0.37	0/856	0.47	0/1154
41	AS07	0.30	0/1276	0.43	0/1709
41	BS07	0.29	0/1276	0.43	0/1709
42	AS08	0.40	0/1136	0.47	0/1527
42	BS08	0.39	0/1136	0.49	0/1527
43	AS09	0.31	0/1029	0.51	0/1378
43	BS09	0.31	0/1029	0.48	0/1378
44	AS10	0.29	0/807	0.46	0/1085
44	BS10	0.29	0/807	0.49	0/1085
45	AS11	0.34	0/856	0.48	0/1157
45	BS11	0.32	0/856	0.46	0/1157
46	AS12	0.40	0/972	0.50	0/1301
46	BS12	0.39	0/972	0.52	0/1301
47	AS13	0.29	0/943	0.49	0/1265
47	BS13	0.29	0/943	0.48	0/1265
48	AS14	0.34	0/501	0.51	0/664
48	BS14	0.34	0/501	0.46	0/664
49	AS15	0.35	0/745	0.45	0/992
49	BS15	0.34	0/745	0.46	0/992
50	AS16	0.35	0/716	0.48	0/963
50	BS16	0.38	0/716	0.54	0/963
51	AS17	0.42	0/836	0.48	0/1117
51	BS17	0.41	0/836	0.48	0/1117
52	AS18	0.35	0/579	0.52	0/768
52	BS18	0.32	0/579	0.52	0/768
53	AS19	0.29	0/642	0.49	0/865
53	BS19	0.30	0/642	0.47	0/865
54	AS20	0.29	0/764	0.47	0/1006
54	BS20	0.29	0/764	0.46	0/1006
55	ATHX	0.35	0/212	0.68	1/277 (0.4%)
55	BTHX	0.31	0/212	0.51	0/277
56	BATN	1.35	20/1899 (1.1%)	2.63	197/2952 (6.7%)
All	All	0.69	156/319733 (0.0%)	0.92	774/477946 (0.2%)

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
9	AL06	0	1
15	BL17	0	1
22	BL24	0	1
24	AL27	0	1
24	BL27	0	1
28	AL31	0	2
29	AL32	0	2
29	BL32	0	2
34	BMRN	0	3
43	BS09	0	1
All	All	0	15

All (156) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	BL32	60	VAL	CB-CG2	-19.93	1.10	1.52
29	BL32	59	GLU	CB-CG	17.61	1.85	1.52
1	B16S	4	U	C2-N3	15.46	1.48	1.37
1	B16S	3	G	C5-C6	14.63	1.56	1.42
1	B16S	3	G	N9-C4	13.83	1.49	1.38
1	B16S	3	G	C5-C4	13.02	1.47	1.38
1	A16S	3	G	N9-C4	12.12	1.47	1.38
56	BATN	67	C	N1-C2	-12.07	1.28	1.40
1	B16S	3	G	C6-N1	11.65	1.47	1.39
1	A16S	3	G	C5-C4	11.25	1.46	1.38
1	B16S	3	G	C6-O6	11.19	1.34	1.24
35	APTN	38	A	O3'-P	-11.16	1.47	1.61
35	BPTN	1	G	OP3-P	-10.86	1.48	1.61
56	BATN	15	G	C5-C4	10.68	1.45	1.38
35	APTN	1	G	OP3-P	-10.67	1.48	1.61
1	B16S	4	U	N3-C4	10.62	1.48	1.38
29	BL32	59	GLU	CG-CD	10.49	1.67	1.51
35	BPTN	24	G	O3'-P	-10.03	1.49	1.61
35	BPTN	12	U	C3'-O3'	9.94	1.56	1.42
1	B16S	4	U	N1-C2	9.59	1.47	1.38
29	BL32	60	VAL	CB-CG1	9.47	1.72	1.52
1	A16S	4	U	P-O5'	9.08	1.68	1.59
35	BPTN	18	G	O3'-P	-9.01	1.50	1.61
35	BPTN	32	C	C4'-C3'	-8.91	1.43	1.53
1	A16S	1361	G	C5-C4	8.70	1.44	1.38
1	B16S	3	G	N7-C5	8.49	1.44	1.39
1	A16S	3	G	C6-N1	8.44	1.45	1.39
3	A5S	52	A	N9-C4	8.27	1.42	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	BPTN	24	G	C4'-C3'	-8.22	1.44	1.53
35	BPTN	48	C	O3'-P	-8.21	1.51	1.61
1	B16S	1360	A	N9-C4	8.14	1.42	1.37
35	BPTN	31	C	O3'-P	-8.09	1.51	1.61
35	BPTN	24	G	C3'-O3'	-8.08	1.30	1.42
56	BATN	15	G	N9-C4	-8.02	1.31	1.38
3	B5S	52	A	N9-C4	7.93	1.42	1.37
1	A16S	1360	A	N9-C4	7.74	1.42	1.37
2	A23S	1495	A	C5-C4	7.72	1.44	1.38
35	BPTN	31	C	C3'-O3'	7.69	1.52	1.42
1	A16S	3	G	N1-C2	7.49	1.43	1.37
1	A16S	4	U	N1-C6	7.49	1.44	1.38
56	BATN	47(E)	A	N9-C4	7.49	1.42	1.37
56	BATN	32	C	N1-C2	-7.38	1.32	1.40
35	BPTN	11	C	N1-C2	-7.33	1.32	1.40
1	B16S	3	G	C2-N3	7.25	1.38	1.32
1	A16S	1361	G	C5-C6	7.23	1.49	1.42
1	A16S	3	G	O3'-P	7.19	1.69	1.61
1	A16S	3	G	P-O5'	7.14	1.66	1.59
35	BPTN	32	C	O3'-P	-7.14	1.52	1.61
1	A16S	1364	U	C5-C6	-7.10	1.27	1.34
2	B23S	2825	G	C1'-N9	-7.07	1.36	1.46
1	A16S	3	G	C5-C6	7.05	1.49	1.42
56	BATN	76	A	N3-C4	7.04	1.39	1.34
35	BPTN	57	G	O3'-P	-6.97	1.52	1.61
2	B23S	352	G	N9-C4	6.95	1.43	1.38
35	BPTN	16	C	N1-C2	-6.94	1.33	1.40
2	B23S	352	G	C5-C6	6.92	1.49	1.42
2	B23S	352	G	N7-C5	6.91	1.43	1.39
29	BL32	33	CYS	CB-SG	6.91	1.94	1.82
35	BPTN	16	C	O3'-P	-6.84	1.52	1.61
3	A5S	53	A	N9-C4	6.81	1.42	1.37
1	B16S	4	U	C4-O4	6.72	1.29	1.23
56	BATN	73	A	N9-C4	6.69	1.41	1.37
35	BPTN	12	U	O3'-P	6.66	1.69	1.61
56	BATN	76	A	C6-N1	6.59	1.40	1.35
35	BPTN	36	C	N1-C2	-6.53	1.33	1.40
28	BL31	36	CYS	CB-SG	6.51	1.93	1.82
1	B16S	5	U	P-O5'	6.51	1.66	1.59
1	A16S	3	G	C2-N3	6.51	1.38	1.32
1	B16S	4	U	N1-C6	6.47	1.43	1.38
56	BATN	30	G	N7-C5	6.47	1.43	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	BMRN	4	A	O3'-P	-6.46	1.53	1.61
28	BL31	6	HIS	C-N	6.35	1.46	1.34
1	A16S	4	U	C4-C5	6.30	1.49	1.43
34	BMRN	11	U	P-O5'	6.30	1.66	1.59
2	A23S	2825	G	C1'-N9	-6.29	1.38	1.46
2	B23S	401	A	N9-C4	-6.28	1.34	1.37
1	B16S	4	U	C2-O2	6.24	1.27	1.22
1	B16S	3	G	C8-N7	6.17	1.34	1.30
35	BPTN	32	C	C5-C6	-6.16	1.29	1.34
1	B16S	3	G	N3-C4	6.15	1.39	1.35
24	BL27	68	GLU	CG-CD	6.14	1.61	1.51
35	BPTN	17	U	C2'-C1'	6.10	1.60	1.53
56	BATN	33	U	C3'-O3'	-6.08	1.33	1.42
1	B16S	1361	G	C5-C4	6.07	1.42	1.38
29	AL32	35	GLU	CG-CD	6.05	1.61	1.51
1	A16S	1364	U	C4-O4	-6.03	1.18	1.23
29	AL32	35	GLU	CB-CG	6.02	1.63	1.52
1	B16S	3	G	N1-C2	6.02	1.42	1.37
2	B23S	352	G	N3-C4	6.00	1.39	1.35
56	BATN	47	C	N1-C2	5.98	1.46	1.40
1	A16S	1362	C	C2-N3	5.97	1.40	1.35
35	BPTN	32	C	C2-N3	5.97	1.40	1.35
1	A16S	1361	G	N9-C4	5.97	1.42	1.38
56	BATN	47(E)	A	N3-C4	5.95	1.38	1.34
28	BL31	16	CYS	CB-SG	5.94	1.92	1.82
1	A16S	3	G	N3-C4	5.87	1.39	1.35
35	BPTN	76	A	N9-C4	5.87	1.41	1.37
2	B23S	983	A	N9-C4	-5.85	1.34	1.37
29	AL32	6	VAL	CB-CG1	5.82	1.65	1.52
56	BATN	47	C	C2-N3	5.80	1.40	1.35
34	BMRN	10	G	C4'-C3'	5.80	1.59	1.53
1	B16S	1361	G	N1-C2	5.80	1.42	1.37
35	BPTN	18	G	C3'-O3'	-5.74	1.34	1.42
35	BPTN	20	G	N9-C4	5.74	1.42	1.38
35	BPTN	48	C	N1-C2	-5.72	1.34	1.40
1	B16S	1360	A	N3-C4	5.71	1.38	1.34
35	BPTN	46	G7M	O3'-P	-5.70	1.54	1.61
1	A16S	3	G	C8-N7	5.68	1.34	1.30
34	BMRN	7	G	O3'-P	-5.66	1.54	1.61
56	BATN	23	G	N3-C4	5.62	1.39	1.35
56	BATN	31	A	N9-C4	5.60	1.41	1.37
1	A16S	3	G	C3'-O3'	5.60	1.50	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	BPTN	17	U	C4'-C3'	-5.58	1.47	1.52
5	AL02	6	PHE	C-N	-5.57	1.21	1.34
1	A16S	5	U	C4-C5	5.57	1.48	1.43
1	A16S	5	U	P-O5'	5.54	1.65	1.59
3	B5S	52	A	N3-C4	5.54	1.38	1.34
2	B23S	351	G	N9-C4	5.54	1.42	1.38
29	BL32	35	GLU	CG-CD	5.53	1.60	1.51
56	BATN	23	G	C6-N1	-5.52	1.35	1.39
1	B16S	1364	U	C2-N3	-5.49	1.33	1.37
1	A16S	1361	G	C8-N7	5.49	1.34	1.30
1	A16S	4	U	N1-C2	5.48	1.43	1.38
1	B16S	4	U	O3'-P	5.48	1.67	1.61
2	A23S	1495	A	C6-N1	-5.43	1.31	1.35
1	B16S	4	U	P-O5'	5.40	1.65	1.59
1	A16S	1362	C	N1-C6	5.38	1.40	1.37
1	A16S	4	U	C5-C6	5.37	1.39	1.34
56	BATN	31	A	O3'-P	-5.36	1.54	1.61
1	B16S	1361	G	C5-C6	5.34	1.47	1.42
1	A16S	1362(A)	C	P-O5'	5.34	1.65	1.59
1	A16S	4	U	C5'-C4'	5.33	1.57	1.51
56	BATN	75	C	N3-C4	5.32	1.37	1.33
1	A16S	3	G	N9-C8	5.31	1.41	1.37
1	A16S	3	G	C6-O6	5.31	1.28	1.24
34	BMRN	11	U	C5'-C4'	5.30	1.57	1.51
1	B16S	3	G	P-O5'	5.30	1.65	1.59
3	A5S	52	A	N3-C4	5.29	1.38	1.34
2	B23S	351	G	N9-C8	5.28	1.41	1.37
28	AL31	36	CYS	CB-SG	5.26	1.91	1.82
1	B16S	4	U	C5-C6	5.22	1.38	1.34
35	BPTN	44	G	O3'-P	-5.19	1.54	1.61
35	BPTN	32	C	C3'-O3'	-5.19	1.34	1.42
1	A16S	3	G	C4'-C3'	5.16	1.58	1.53
34	BMRN	10	G	O3'-P	5.16	1.67	1.61
1	B16S	1361	G	C6-N1	5.15	1.43	1.39
56	BATN	61	C	N1-C2	5.14	1.45	1.40
35	BPTN	17	U	C3'-O3'	5.13	1.49	1.42
1	B16S	1360	A	N9-C8	5.10	1.41	1.37
35	BPTN	43	G	O3'-P	-5.09	1.55	1.61
1	B16S	4	U	C3'-O3'	5.09	1.49	1.42
35	BPTN	25	C	N1-C2	-5.03	1.35	1.40
35	BPTN	75	C	N3-C4	5.03	1.37	1.33
56	BATN	38	A	N7-C5	-5.03	1.36	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	BPTN	36	C	O5'-C5'	5.01	1.52	1.44
1	A16S	1364	U	C4-C5	-5.00	1.39	1.43

All (774) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	BMRN	16	G	N9-C1'-C2'	-31.99	72.41	114.00
35	BPTN	32	C	O4'-C4'-C3'	-29.66	74.34	104.00
35	APTN	35	A	P-O3'-C3'	28.14	153.47	119.70
34	BMRN	12	A	N9-C1'-C2'	-27.96	77.65	114.00
1	A16S	1364	U	C5-C4-O4	-24.36	111.28	125.90
34	BMRN	17	U	N1-C1'-C2'	-21.88	85.56	114.00
35	BPTN	14	A	C3'-C2'-C1'	-21.09	84.63	101.50
56	BATN	67	C	C6-N1-C2	20.54	128.52	120.30
35	BPTN	32	C	C3'-C2'-C1'	-20.39	85.19	101.50
35	BPTN	16	C	P-O3'-C3'	19.94	143.63	119.70
1	B16S	4	U	C5-C6-N1	19.48	132.44	122.70
56	BATN	75	C	C6-N1-C2	-19.09	112.66	120.30
35	BPTN	32	C	O4'-C1'-N1	18.82	123.26	108.20
35	BPTN	11	C	O4'-C4'-C3'	-18.38	85.62	104.00
1	A16S	1364	U	C4-C5-C6	-18.28	108.73	119.70
1	B16S	3	G	C4-C5-N7	-18.09	103.56	110.80
1	B16S	3	G	C8-N9-C4	-17.82	99.27	106.40
1	B16S	3	G	C2-N3-C4	17.82	120.81	111.90
1	A16S	3	G	C8-N9-C4	-17.77	99.29	106.40
35	BPTN	28	C	P-O3'-C3'	-16.95	99.36	119.70
1	B16S	3	G	N3-C4-C5	-16.94	120.13	128.60
35	BPTN	14	A	O4'-C4'-C3'	-16.08	87.92	104.00
35	BPTN	18	G	P-O3'-C3'	-15.95	100.56	119.70
24	BL27	7	LEU	CA-CB-CG	15.87	151.80	115.30
1	A16S	1364	U	C5-C6-N1	15.45	130.42	122.70
56	BATN	67	C	C5-C6-N1	-15.34	113.33	121.00
56	BATN	47	C	C6-N1-C2	-15.13	114.25	120.30
1	A16S	1361	G	C8-N9-C4	-15.08	100.37	106.40
1	A16S	1364	U	N3-C4-C5	14.84	123.50	114.60
56	BATN	23	G	N3-C4-N9	14.79	134.87	126.00
1	B16S	3	G	N9-C4-C5	14.78	111.31	105.40
56	BATN	32	C	O4'-C4'-C3'	-14.72	89.28	104.00
35	BPTN	32	C	P-O3'-C3'	-14.55	102.24	119.70
1	A16S	1364	U	C6-N1-C1'	-14.27	101.22	121.20
1	A16S	1361	G	N9-C4-C5	14.24	111.10	105.40
56	BATN	28	C	C6-N1-C2	-14.15	114.64	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B16S	4	U	C6-N1-C2	-14.14	112.52	121.00
1	A16S	3	G	N3-C4-C5	-13.83	121.68	128.60
1	A16S	1364	U	C2-N1-C1'	13.68	134.12	117.70
35	BPTN	48	C	P-O3'-C3'	13.38	135.76	119.70
2	A23S	1495	A	N9-C4-C5	13.38	111.15	105.80
1	B16S	1364	U	N3-C4-O4	-13.33	110.07	119.40
56	BATN	75	C	N3-C4-N4	13.30	127.31	118.00
2	A23S	1495	A	C5-C6-N6	13.27	134.31	123.70
56	BATN	23	G	N3-C2-N2	13.22	129.15	119.90
1	A16S	1361	G	C4-C5-N7	-13.18	105.53	110.80
35	BPTN	11	C	C3'-C2'-C1'	-13.16	90.97	101.50
56	BATN	67	C	C2-N1-C1'	-12.98	104.52	118.80
1	A16S	4	U	C5-C6-N1	12.70	129.05	122.70
1	B16S	4	U	N3-C4-O4	12.34	128.04	119.40
35	BPTN	32	C	C6-N1-C1'	-12.24	106.11	120.80
2	A23S	1495	A	C8-N9-C4	-12.15	100.94	105.80
56	BATN	61	C	C2-N1-C1'	12.15	132.17	118.80
1	B16S	1363	A	N1-C6-N6	12.12	125.87	118.60
1	A16S	3	G	N7-C8-N9	12.10	119.15	113.10
56	BATN	23	G	N9-C4-C5	-12.10	100.56	105.40
56	BATN	15	G	N3-C4-N9	11.95	133.17	126.00
56	BATN	75	C	N3-C4-C5	-11.94	117.12	121.90
34	BMRN	11	U	P-O3'-C3'	-11.91	105.41	119.70
56	BATN	75	C	N1-C2-O2	-11.88	111.77	118.90
35	BPTN	14	A	N9-C1'-C2'	-11.88	98.55	114.00
2	A23S	1495	A	C5-C6-N1	-11.80	111.80	117.70
2	B23S	352	G	C2-N3-C4	11.73	117.76	111.90
35	BPTN	17	U	C3'-C2'-C1'	-11.72	92.12	101.50
56	BATN	47(E)	A	N9-C4-C5	-11.66	101.14	105.80
1	A16S	1360	A	C8-N9-C4	-11.52	101.19	105.80
1	A16S	1364	U	N1-C2-N3	-11.33	108.10	114.90
35	BPTN	16	C	O3'-P-O5'	-11.33	82.48	104.00
56	BATN	23	G	C4-C5-N7	11.28	115.31	110.80
35	BPTN	32	C	C2-N1-C1'	11.18	131.10	118.80
2	A23S	1495	A	C4-C5-N7	-11.15	105.12	110.70
35	BPTN	17	U	O4'-C4'-C3'	-11.07	92.93	104.00
56	BATN	47(E)	A	N3-C4-N9	11.05	136.24	127.40
1	B16S	3	G	C5-C6-O6	11.04	135.22	128.60
56	BATN	47(E)	A	N1-C2-N3	-11.03	123.78	129.30
56	BATN	13	G	N3-C4-N9	-10.98	119.41	126.00
34	BMRN	4	A	C4'-C3'-C2'	10.90	113.50	102.60
1	B16S	1362	C	C6-N1-C2	-10.89	115.94	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	BPTN	11	C	P-O3'-C3'	-10.87	106.66	119.70
56	BATN	47(F)	C	C6-N1-C2	-10.81	115.98	120.30
56	BATN	15	G	N3-C4-C5	-10.71	123.25	128.60
56	BATN	28	C	C5-C6-N1	10.67	126.34	121.00
2	A23S	1495	A	C2-N3-C4	-10.67	105.27	110.60
56	BATN	47	C	C5-C6-N1	10.67	126.33	121.00
1	B16S	1364	U	C2-N1-C1'	-10.66	104.90	117.70
56	BATN	47	C	C2-N1-C1'	10.66	130.53	118.80
35	BPTN	17	U	C2'-C3'-O3'	10.61	132.85	109.50
1	B16S	1364	U	C6-N1-C2	10.60	127.36	121.00
2	A23S	1495	A	N1-C2-N3	10.60	134.60	129.30
56	BATN	11	C	C2-N1-C1'	-10.57	107.17	118.80
34	BMRN	8	A	N9-C1'-C2'	-10.55	100.28	114.00
1	A16S	1362	C	C6-N1-C2	-10.54	116.08	120.30
1	B16S	1360	A	O5'-P-OP2	-10.54	96.22	105.70
35	BPTN	35	A	O3'-P-O5'	10.47	123.89	104.00
1	B16S	1361	G	C4-C5-N7	-10.43	106.63	110.80
1	B16S	1360	A	C8-N9-C4	-10.38	101.65	105.80
56	BATN	33	U	C4'-C3'-C2'	10.30	112.90	102.60
35	BPTN	18	G	C3'-C2'-C1'	-10.30	93.26	101.50
35	APTN	17	U	OP1-P-O3'	-10.26	82.63	105.20
34	BMRN	4	A	N9-C4-C5	-10.25	101.70	105.80
1	A16S	1362	C	N3-C4-C5	-10.25	117.80	121.90
1	B16S	3	G	N7-C8-N9	10.23	118.22	113.10
56	BATN	23	G	C6-C5-N7	-10.22	124.27	130.40
56	BATN	13	G	C6-C5-N7	10.21	136.53	130.40
1	A16S	4	U	C6-N1-C2	-10.16	114.91	121.00
56	BATN	12	C	N1-C2-O2	10.14	124.98	118.90
29	BL32	60	VAL	CA-CB-CG2	-9.94	96.00	110.90
35	APTN	17	U	OP2-P-O3'	-9.93	83.36	105.20
2	B23S	1495	A	N9-C4-C5	9.93	109.77	105.80
24	AL27	84	LEU	CA-CB-CG	9.85	137.96	115.30
1	A16S	3	G	C2-N3-C4	9.82	116.81	111.90
2	B23S	352	G	N1-C6-O6	-9.82	114.01	119.90
56	BATN	23	G	N1-C2-N2	-9.80	107.38	116.20
35	BPTN	17	U	P-O5'-C5'	-9.79	105.23	120.90
1	B16S	1364	U	N3-C4-C5	9.77	120.46	114.60
35	BPTN	40	G	C6-C5-N7	-9.73	124.56	130.40
35	BPTN	17	U	C5'-C4'-O4'	9.69	120.73	109.10
2	B23S	1495	A	C8-N9-C4	-9.68	101.93	105.80
56	BATN	12	C	N3-C4-N4	-9.63	111.26	118.00
1	B16S	4	U	N3-C4-C5	-9.61	108.84	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	BATN	47(E)	A	C6-C5-N7	-9.60	125.58	132.30
1	A16S	3	G	N9-C4-C5	9.51	109.21	105.40
35	BPTN	24	G	O4'-C4'-C3'	-9.48	94.52	104.00
35	BPTN	24	G	C3'-C2'-C1'	-9.46	93.93	101.50
56	BATN	71	C	C5-C6-N1	9.46	125.73	121.00
2	B23S	351	G	C8-N9-C4	-9.43	102.63	106.40
34	BMRN	15	A	P-O3'-C3'	-9.41	108.40	119.70
1	B16S	1362	C	N3-C4-C5	-9.40	118.14	121.90
35	APTN	32	C	C2-N1-C1'	9.37	129.11	118.80
56	BATN	15	G	C8-N9-C4	9.33	110.13	106.40
56	BATN	73	A	C2-N3-C4	9.31	115.26	110.60
2	B23S	1493	C	N1-C2-O2	9.23	124.44	118.90
3	A5S	52	A	C5-N7-C8	9.22	108.51	103.90
2	B23S	351	G	N1-C6-O6	9.18	125.41	119.90
34	BMRN	11	U	C3'-C2'-C1'	-9.18	94.16	101.50
56	BATN	61	C	C6-N1-C2	-9.10	116.66	120.30
2	B23S	352	G	C4-C5-N7	-9.07	107.17	110.80
56	BATN	11	C	C6-N1-C1'	9.01	131.62	120.80
56	BATN	12	C	N3-C2-O2	-9.00	115.60	121.90
2	A23S	1494	A	C8-N9-C4	-8.97	102.21	105.80
35	BPTN	35	A	P-O3'-C3'	8.97	130.47	119.70
1	B16S	3	G	N1-C6-O6	-8.96	114.52	119.90
35	BPTN	29	U	C3'-C2'-C1'	-8.92	94.37	101.50
35	APTN	35	A	OP2-P-O3'	-8.89	85.64	105.20
35	BPTN	71	C	C6-N1-C2	-8.87	116.75	120.30
35	BPTN	11	C	O4'-C1'-N1	8.84	115.27	108.20
56	BATN	4	G	C6-C5-N7	-8.80	125.12	130.40
35	BPTN	24	G	C4'-C3'-C2'	8.80	111.40	102.60
29	AL32	40	LYS	CD-CE-NZ	8.71	131.73	111.70
2	B23S	352	G	C6-C5-N7	8.70	135.62	130.40
56	BATN	20(A)	C	N1-C2-O2	8.67	124.10	118.90
56	BATN	45	G	N9-C4-C5	8.66	108.86	105.40
35	BPTN	30	C	C6-N1-C2	8.63	123.75	120.30
1	B16S	1362(A)	C	C6-N1-C2	-8.61	116.86	120.30
35	BPTN	52	G	N9-C4-C5	-8.61	101.96	105.40
35	BPTN	18	G	O4'-C4'-C3'	-8.57	95.42	104.00
35	APTN	32	C	N1-C2-O2	8.56	124.04	118.90
34	BMRN	4	A	N9-C1'-C2'	-8.56	102.58	112.00
56	BATN	13	G	C8-N9-C1'	8.52	138.07	127.00
1	B16S	1364	U	C4-C5-C6	-8.51	114.59	119.70
35	BPTN	13	C	P-O3'-C3'	-8.46	109.55	119.70
1	A16S	4	U	N3-C2-O2	-8.43	116.30	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	BATN	47(E)	A	C4-C5-N7	8.42	114.91	110.70
56	BATN	71	C	C6-N1-C2	-8.40	116.94	120.30
56	BATN	12	C	N3-C4-C5	8.36	125.25	121.90
35	BPTN	35	A	C2'-C3'-O3'	-8.36	91.11	109.50
35	BPTN	24	G	P-O3'-C3'	-8.34	109.69	119.70
56	BATN	20(A)	C	N3-C2-O2	-8.33	116.07	121.90
35	BPTN	29	U	O4'-C4'-C3'	-8.30	95.70	104.00
34	BMRN	10	G	O4'-C4'-C3'	-8.28	95.72	104.00
1	A16S	1364	U	N3-C4-O4	8.28	125.20	119.40
34	BMRN	12	A	C3'-C2'-C1'	-8.25	94.90	101.50
56	BATN	32	C	P-O3'-C3'	-8.23	109.82	119.70
35	BPTN	17	U	C5-C6-N1	8.22	126.81	122.70
1	B16S	5	U	O4'-C1'-N1	8.19	114.75	108.20
56	BATN	13	G	C4-N9-C1'	-8.19	115.85	126.50
1	B16S	1360	A	N7-C8-N9	8.19	117.89	113.80
1	A16S	1361	G	N7-C8-N9	8.19	117.19	113.10
1	B16S	1362	C	N1-C2-O2	-8.14	114.01	118.90
1	B16S	4	U	C2-N3-C4	8.12	131.87	127.00
1	A16S	5	U	O5'-P-OP2	-8.10	98.41	105.70
35	BPTN	12	U	C4'-C3'-C2'	-8.08	94.52	102.60
56	BATN	23	G	N3-C4-C5	-8.08	124.56	128.60
3	B5S	52	A	N1-C6-N6	8.08	123.44	118.60
3	B5S	53	A	C8-N9-C4	-8.06	102.58	105.80
35	BPTN	40	G	N3-C4-N9	8.04	130.83	126.00
56	BATN	4	G	N9-C1'-C2'	8.04	124.45	114.00
56	BATN	61	C	C6-N1-C1'	-8.04	111.16	120.80
56	BATN	61	C	N1-C2-O2	8.00	123.70	118.90
56	BATN	74	C	N3-C4-C5	-8.00	118.70	121.90
35	APTN	35	A	C4'-C3'-O3'	7.98	128.97	113.00
56	BATN	74	C	C6-N1-C2	-7.97	117.11	120.30
2	A23S	828	U	C2-N1-C1'	7.93	127.22	117.70
56	BATN	75	C	C6-N1-C1'	7.88	130.26	120.80
56	BATN	75	C	C5-C6-N1	7.88	124.94	121.00
1	B16S	1360	A	C2-N3-C4	7.88	114.54	110.60
1	B16S	1361	G	C5-C6-N1	-7.88	107.56	111.50
1	A16S	4	U	OP1-P-OP2	-7.86	107.81	119.60
2	A23S	1495	A	N1-C6-N6	-7.86	113.89	118.60
2	A23S	1887	C	N3-C2-O2	-7.86	116.40	121.90
56	BATN	53	G	C6-C5-N7	7.84	135.10	130.40
34	BMRN	4	A	P-O5'-C5'	-7.82	108.38	120.90
1	A16S	1361	G	N3-C4-C5	-7.82	124.69	128.60
35	BPTN	39	G	C8-N9-C4	-7.81	103.28	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	BMRN	10	G	P-O3'-C3'	7.80	129.06	119.70
35	BPTN	10	G	C8-N9-C4	-7.80	103.28	106.40
56	BATN	76	A	N1-C2-N3	-7.80	125.40	129.30
1	A16S	3	G	C4-C5-N7	-7.79	107.69	110.80
3	B5S	52	A	C8-N9-C4	-7.75	102.70	105.80
56	BATN	15	G	C2-N3-C4	7.75	115.78	111.90
1	A16S	3	G	C4-C5-C6	7.68	123.41	118.80
34	BMRN	12	A	C4'-C3'-C2'	7.66	110.26	102.60
1	A16S	838(A)	U	N1-C2-O2	7.65	128.16	122.80
56	BATN	4	G	OP1-P-OP2	-7.64	108.14	119.60
35	BPTN	9	A	N7-C8-N9	7.64	117.62	113.80
1	A16S	1361	G	C5-C6-O6	7.64	133.18	128.60
29	BL32	59	GLU	CB-CG-CD	7.63	134.81	114.20
34	BMRN	4	A	C8-N9-C4	7.63	108.85	105.80
35	APTN	18	G	OP1-P-OP2	7.63	131.04	119.60
56	BATN	46	U	C2-N3-C4	-7.62	122.43	127.00
35	BPTN	20	G	OP1-P-OP2	-7.61	108.19	119.60
56	BATN	6	G	N3-C4-N9	-7.59	121.45	126.00
35	BPTN	11	C	N1-C1'-C2'	-7.58	103.66	112.00
1	A16S	838(A)	U	C2-N1-C1'	7.58	126.79	117.70
29	BL32	60	VAL	N-CA-C	7.57	131.44	111.00
56	BATN	4	G	C2'-C3'-O3'	7.55	126.11	109.50
1	A16S	838(A)	U	N3-C2-O2	-7.53	116.93	122.20
34	BMRN	14	A	P-O3'-C3'	7.53	128.73	119.70
56	BATN	53	G	N9-C4-C5	7.50	108.40	105.40
34	BMRN	19	U	N1-C1'-C2'	7.50	123.75	114.00
56	BATN	13	G	N9-C4-C5	7.47	108.39	105.40
35	BPTN	48	C	OP1-P-OP2	-7.47	108.39	119.60
35	BPTN	17	U	N1-C1'-C2'	7.47	123.71	114.00
1	B16S	1362	C	C6-N1-C1'	7.46	129.75	120.80
1	A16S	1362(A)	C	C2-N3-C4	7.45	123.63	119.90
35	BPTN	12	U	P-O3'-C3'	7.45	128.65	119.70
56	BATN	73	A	C8-N9-C4	-7.45	102.82	105.80
56	BATN	72	C	C6-N1-C2	-7.43	117.33	120.30
34	BMRN	4	A	O4'-C1'-N9	-7.40	102.28	108.20
1	A16S	1364	U	N1-C1'-C2'	-7.40	103.86	112.00
56	BATN	47(E)	A	C8-N9-C1'	-7.38	114.42	127.70
35	BPTN	49	G	OP1-P-OP2	-7.37	108.55	119.60
35	BPTN	74	C	C2-N3-C4	7.37	123.58	119.90
56	BATN	45	G	C8-N9-C4	-7.36	103.46	106.40
2	A23S	2137	C	C2-N1-C1'	7.34	126.88	118.80
2	B23S	351	G	C5-C6-O6	-7.34	124.19	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B16S	3	G	C4-N9-C1'	7.34	136.04	126.50
56	BATN	61	C	C5-C6-N1	7.33	124.67	121.00
35	BPTN	40	G	N7-C8-N9	7.31	116.76	113.10
35	BPTN	68	C	C6-N1-C2	-7.31	117.38	120.30
56	BATN	74	C	C5-C6-N1	7.29	124.65	121.00
3	B5S	52	A	C5-C6-N6	-7.29	117.87	123.70
2	B23S	828	U	C2-N1-C1'	7.29	126.44	117.70
35	BPTN	24	G	P-O5'-C5'	-7.29	109.24	120.90
56	BATN	69	C	C2-N1-C1'	7.27	126.80	118.80
56	BATN	31	A	OP1-P-OP2	-7.24	108.74	119.60
35	BPTN	19	G	O4'-C1'-N9	-7.23	102.41	108.20
1	B16S	1360	A	C5-C6-N6	-7.23	117.92	123.70
35	APTN	32	C	C6-N1-C1'	-7.22	112.14	120.80
34	BMRN	12	A	OP1-P-OP2	-7.21	108.78	119.60
35	BPTN	17	U	C4'-C3'-C2'	-7.19	95.41	102.60
56	BATN	47(E)	A	C4-N9-C1'	7.16	139.19	126.30
56	BATN	35	U	OP1-P-OP2	-7.15	108.87	119.60
35	BPTN	35	A	N9-C1'-C2'	-7.14	104.15	112.00
56	BATN	13	G	N3-C4-C5	7.13	132.17	128.60
2	B23S	1494	A	C2-N3-C4	7.13	114.17	110.60
3	B5S	51	G	C4-C5-N7	7.13	113.65	110.80
1	A16S	3	G	C4-N9-C1'	7.12	135.76	126.50
56	BATN	4	G	O3'-P-O5'	-7.12	90.47	104.00
1	A16S	1364	U	O3'-P-O5'	7.12	117.52	104.00
35	BPTN	16	C	C6-N1-C2	7.12	123.15	120.30
2	A23S	1495	A	N3-C4-N9	-7.11	121.71	127.40
56	BATN	71	C	C2-N3-C4	7.11	123.45	119.90
56	BATN	49	G	C6-C5-N7	7.11	134.66	130.40
1	B16S	4	U	OP1-P-OP2	-7.07	109.00	119.60
35	BPTN	47	U	OP1-P-OP2	-7.07	109.00	119.60
35	BPTN	73	A	N1-C6-N6	-7.07	114.36	118.60
56	BATN	2	G	C3'-C2'-C1'	-7.04	95.87	101.50
35	BPTN	29	U	P-O3'-C3'	7.03	128.14	119.70
1	B16S	3	G	C6-C5-N7	7.03	134.62	130.40
56	BATN	47(C)	C	C6-N1-C2	-7.02	117.49	120.30
1	A16S	1360	A	N7-C8-N9	7.02	117.31	113.80
35	BPTN	36	C	OP1-P-OP2	-7.02	109.07	119.60
56	BATN	4	G	N3-C4-N9	7.01	130.21	126.00
2	A23S	1495	A	C4-C5-C6	7.01	120.51	117.00
35	BPTN	36	C	P-O5'-C5'	-7.01	109.68	120.90
56	BATN	47(E)	A	C2-N3-C4	7.01	114.11	110.60
56	BATN	49	G	N1-C6-O6	-7.00	115.70	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A16S	5	U	OP1-P-O3'	6.98	120.55	105.20
2	B23S	373	U	C2-N1-C1'	6.98	126.07	117.70
3	A5S	51	G	C8-N9-C4	-6.97	103.61	106.40
1	B16S	1363	A	C6-C5-N7	-6.96	127.43	132.30
1	A16S	1362	C	C6-N1-C1'	6.96	129.15	120.80
55	ATHX	21	TYR	C-N-CA	6.96	139.09	121.70
29	BL32	59	GLU	CA-CB-CG	6.95	128.70	113.40
1	B16S	1363	A	C5-C6-N1	-6.95	114.23	117.70
2	B23S	2874	C	C2-N1-C1'	6.95	126.44	118.80
1	A16S	1361	G	N3-C2-N2	-6.95	115.04	119.90
35	BPTN	62	C	N1-C2-O2	6.94	123.06	118.90
2	A23S	1313	U	C2-N1-C1'	6.93	126.01	117.70
35	BPTN	16	C	OP1-P-OP2	-6.92	109.22	119.60
34	BMRN	17	U	O4'-C1'-C2'	6.91	113.82	107.60
3	A5S	52	A	C4-C5-N7	-6.90	107.25	110.70
1	B16S	1361	G	N9-C4-C5	6.90	108.16	105.40
35	APTN	30	C	C5-C6-N1	6.90	124.45	121.00
35	BPTN	18	G	OP1-P-OP2	-6.88	109.28	119.60
56	BATN	26	A	O4'-C1'-N9	6.88	113.70	108.20
56	BATN	28	C	O4'-C1'-N1	6.88	113.70	108.20
56	BATN	25	G	C6-C5-N7	-6.87	126.28	130.40
56	BATN	22	A	N9-C4-C5	-6.87	103.05	105.80
1	A16S	4	U	C4-C5-C6	-6.85	115.59	119.70
34	BMRN	16	G	P-O3'-C3'	-6.85	111.48	119.70
2	A23S	1495	A	OP2-P-O3'	6.84	120.24	105.20
35	BPTN	41	A	OP1-P-OP2	-6.83	109.35	119.60
56	BATN	32	C	OP1-P-OP2	-6.83	109.35	119.60
34	BMRN	11	U	OP1-P-OP2	-6.82	109.37	119.60
56	BATN	47	C	N3-C4-C5	-6.82	119.17	121.90
1	B16S	1362(A)	C	C6-N1-C1'	6.81	128.98	120.80
35	BPTN	16	C	OP1-P-O3'	6.81	120.17	105.20
35	BPTN	21	A	OP1-P-OP2	-6.79	109.41	119.60
1	A16S	1362	C	C5-C6-N1	6.79	124.39	121.00
3	A5S	52	A	N3-C4-C5	-6.78	122.05	126.80
56	BATN	75	C	N1-C2-N3	6.78	123.94	119.20
35	BPTN	3	G	N9-C1'-C2'	-6.78	104.54	112.00
56	BATN	12	C	O4'-C1'-N1	6.77	113.62	108.20
34	BMRN	17	U	OP1-P-OP2	-6.76	109.45	119.60
2	B23S	1495	A	N1-C2-N3	6.76	132.68	129.30
2	A23S	1893	C	N3-C2-O2	-6.75	117.17	121.90
34	BMRN	13	A	OP1-P-OP2	-6.75	109.47	119.60
35	BPTN	32	C	N1-C2-O2	6.74	122.94	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	BPTN	25	C	OP1-P-OP2	-6.74	109.49	119.60
56	BATN	4	G	N9-C4-C5	-6.73	102.71	105.40
35	BPTN	17	U	P-O3'-C3'	6.71	127.75	119.70
56	BATN	24	G	C5-C6-N1	-6.70	108.15	111.50
35	BPTN	12	U	OP1-P-OP2	-6.67	109.59	119.60
35	BPTN	71	C	C5-C6-N1	6.64	124.32	121.00
35	APTN	35	A	OP1-P-O3'	6.64	119.81	105.20
56	BATN	50	A	N9-C4-C5	-6.64	103.14	105.80
1	B16S	3	G	C5-N7-C8	6.62	107.61	104.30
56	BATN	75	C	C5-C4-N4	-6.62	115.57	120.20
35	BPTN	39	G	C4-C5-C6	6.61	122.77	118.80
2	B23S	1493	C	N3-C2-O2	-6.61	117.28	121.90
56	BATN	38	A	OP1-P-OP2	-6.59	109.72	119.60
56	BATN	30	G	OP1-P-OP2	-6.58	109.72	119.60
56	BATN	29	A	N9-C4-C5	-6.58	103.17	105.80
2	A23S	2137	C	C6-N1-C2	-6.57	117.67	120.30
2	B23S	373	U	N3-C2-O2	-6.57	117.60	122.20
34	BMRN	16	G	OP1-P-OP2	-6.57	109.74	119.60
34	BMRN	20	A	O4'-C4'-C3'	6.57	111.36	106.10
35	BPTN	9	A	C8-N9-C4	-6.57	103.17	105.80
35	BPTN	11	C	OP1-P-OP2	-6.56	109.76	119.60
3	A5S	51	G	O5'-P-OP2	-6.56	99.80	105.70
29	BL32	60	VAL	CA-CB-CG1	6.56	120.73	110.90
56	BATN	73	A	N3-C4-C5	-6.55	122.21	126.80
56	BATN	45	G	C4-C5-N7	-6.55	108.18	110.80
2	B23S	352	G	N3-C4-C5	-6.54	125.33	128.60
34	BMRN	12	A	O4'-C1'-C2'	6.54	113.49	107.60
35	BPTN	29	U	OP1-P-OP2	-6.53	109.81	119.60
29	BL32	33	CYS	CA-CB-SG	6.53	125.75	114.00
56	BATN	33	U	OP1-P-OP2	-6.52	109.82	119.60
35	BPTN	30	C	P-O5'-C5'	-6.52	110.47	120.90
34	BMRN	11	U	O4'-C4'-C3'	-6.51	97.49	104.00
35	BPTN	45	G	OP1-P-OP2	-6.51	109.83	119.60
35	BPTN	17	U	C2-N1-C1'	6.51	125.51	117.70
56	BATN	5	G	N3-C4-N9	6.50	129.90	126.00
35	BPTN	32	C	N1-C2-N3	-6.49	114.66	119.20
56	BATN	47(E)	A	N1-C6-N6	6.49	122.49	118.60
56	BATN	7	G	N3-C4-N9	6.49	129.89	126.00
35	BPTN	16	C	OP2-P-O3'	6.48	119.45	105.20
35	BPTN	40	G	OP1-P-OP2	-6.48	109.88	119.60
34	BMRN	9	G	P-O3'-C3'	6.47	127.47	119.70
34	BMRN	8	A	OP1-P-OP2	-6.47	109.90	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A23S	2594	C	N1-C2-O2	6.45	122.77	118.90
2	A23S	1493	C	C5-C6-N1	6.45	124.22	121.00
2	A23S	828	U	N3-C2-O2	-6.43	117.70	122.20
2	B23S	114	U	C2-N1-C1'	6.43	125.42	117.70
1	A16S	810	C	N1-C2-O2	6.43	122.76	118.90
56	BATN	68	C	C2-N1-C1'	6.42	125.86	118.80
34	BMRN	19	U	OP1-P-OP2	-6.40	110.00	119.60
35	BPTN	2	G	C5-C6-O6	-6.40	124.76	128.60
2	A23S	1774	C	N1-C2-O2	6.40	122.74	118.90
35	BPTN	59	U	OP1-P-OP2	-6.40	110.01	119.60
35	BPTN	30	C	OP1-P-OP2	-6.39	110.02	119.60
2	B23S	1314	C	C2-N1-C1'	6.39	125.83	118.80
1	A16S	1362	C	O4'-C1'-N1	6.38	113.30	108.20
56	BATN	28	C	C6-N1-C1'	6.37	128.45	120.80
56	BATN	47(G)	U	N1-C2-O2	6.37	127.26	122.80
35	BPTN	58	A	OP1-P-OP2	-6.37	110.05	119.60
56	BATN	71	C	C2-N1-C1'	6.37	125.80	118.80
34	BMRN	16	G	O4'-C1'-C2'	6.36	113.33	107.60
35	BPTN	20	G	N3-C4-N9	6.35	129.81	126.00
34	BMRN	10	G	OP1-P-OP2	-6.35	110.07	119.60
56	BATN	22	A	C6-C5-N7	-6.34	127.86	132.30
1	B16S	1362(A)	C	C5-C4-N4	6.34	124.64	120.20
56	BATN	5	G	N9-C4-C5	-6.33	102.87	105.40
34	BMRN	18	A	OP1-P-OP2	-6.33	110.11	119.60
1	B16S	1360	A	C5-C6-N1	6.33	120.86	117.70
34	BMRN	20	A	OP1-P-OP2	-6.32	110.12	119.60
56	BATN	29	A	OP1-P-OP2	-6.32	110.12	119.60
35	BPTN	39	G	N9-C4-C5	6.32	107.93	105.40
1	A16S	1363	A	N7-C8-N9	6.31	116.96	113.80
34	BMRN	14	A	OP1-P-OP2	-6.31	110.14	119.60
56	BATN	4	G	C4-C5-N7	6.30	113.32	110.80
35	BPTN	40	G	C4-C5-N7	6.30	113.32	110.80
35	BPTN	10	G	OP1-P-OP2	-6.29	110.17	119.60
28	BL31	9	LEU	CA-CB-CG	6.28	129.75	115.30
35	BPTN	39	G	OP1-P-OP2	-6.28	110.18	119.60
1	A16S	1360	A	N9-C4-C5	6.28	108.31	105.80
2	B23S	352	G	O5'-P-OP2	6.27	118.23	110.70
35	BPTN	29	U	C2'-C3'-O3'	6.26	123.72	113.70
2	A23S	828	U	N1-C2-O2	6.26	127.18	122.80
34	BMRN	19	U	O4'-C1'-N1	-6.26	103.19	108.20
34	BMRN	20	A	P-O5'-C5'	-6.25	110.90	120.90
2	B23S	198	C	C2-N1-C1'	6.25	125.67	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B5S	51	G	OP1-P-OP2	-6.25	110.23	119.60
56	BATN	47(F)	C	N3-C4-C5	-6.25	119.40	121.90
35	BPTN	18	G	C4'-C3'-C2'	6.24	108.84	102.60
2	A23S	1494	A	C2-N3-C4	6.24	113.72	110.60
35	BPTN	52	G	C8-N9-C4	6.23	108.89	106.40
1	B16S	1363	A	C6-N1-C2	6.23	122.34	118.60
35	BPTN	32	C	C6-N1-C2	6.22	122.79	120.30
56	BATN	69	C	N1-C2-O2	6.22	122.63	118.90
56	BATN	13	G	C4-C5-N7	-6.21	108.32	110.80
35	BPTN	61	C	C5-C6-N1	6.20	124.10	121.00
56	BATN	47(E)	A	C5-C6-N6	-6.20	118.74	123.70
56	BATN	36	A	OP1-P-OP2	-6.19	110.31	119.60
35	BPTN	31	C	OP1-P-OP2	-6.19	110.31	119.60
56	BATN	53	G	N3-C4-N9	-6.19	122.29	126.00
35	BPTN	61	C	C6-N1-C2	-6.19	117.83	120.30
2	A23S	1774	C	N3-C2-O2	-6.18	117.57	121.90
1	B16S	1363	A	C4-C5-N7	6.18	113.79	110.70
1	A16S	1362(A)	C	C6-N1-C1'	6.17	128.21	120.80
1	A16S	1363	A	N1-C6-N6	6.17	122.30	118.60
1	B16S	1361	G	C5-C6-O6	6.17	132.30	128.60
56	BATN	46	U	N3-C4-C5	6.17	118.30	114.60
2	A23S	352	G	OP2-P-O3'	6.16	118.74	105.20
34	BMRN	9	G	OP1-P-OP2	-6.14	110.39	119.60
2	A23S	1314	C	C2-N1-C1'	6.14	125.56	118.80
2	B23S	1495	A	C4-C5-N7	-6.14	107.63	110.70
35	BPTN	19	G	OP1-P-OP2	-6.13	110.40	119.60
2	A23S	1886	C	N3-C2-O2	-6.13	117.61	121.90
1	A16S	810	C	C2-N1-C1'	6.13	125.54	118.80
35	BPTN	17	U	C6-N1-C2	-6.13	117.32	121.00
2	B23S	1313	U	C2-N1-C1'	6.12	125.05	117.70
1	A16S	1363	A	C5-N7-C8	-6.12	100.84	103.90
56	BATN	70	A	C8-N9-C4	-6.12	103.35	105.80
2	A23S	1494	A	N9-C1'-C2'	6.11	121.95	114.00
56	BATN	13	G	C4-C5-C6	-6.11	115.13	118.80
35	BPTN	33	U	OP1-P-OP2	-6.11	110.44	119.60
35	BPTN	70	C	C6-N1-C2	-6.09	117.86	120.30
56	BATN	2	G	OP1-P-OP2	-6.08	110.47	119.60
35	BPTN	9	A	C4-N9-C1'	6.08	137.24	126.30
35	BPTN	22	G	OP1-P-OP2	-6.08	110.49	119.60
35	BPTN	36	C	C4'-C3'-O3'	6.08	125.15	113.00
2	A23S	1417	C	C2-N1-C1'	6.07	125.48	118.80
2	B23S	351	G	C2-N3-C4	6.07	114.93	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A23S	269	U	C2-N1-C1'	6.07	124.98	117.70
56	BATN	71	C	N3-C4-C5	-6.06	119.47	121.90
3	A5S	52	A	C4-C5-C6	6.06	120.03	117.00
35	BPTN	23	A	OP1-P-OP2	-6.05	110.52	119.60
2	A23S	2137	C	N1-C2-O2	6.05	122.53	118.90
3	B5S	53	A	N7-C8-N9	6.04	116.82	113.80
56	BATN	23	G	C5-C6-N1	6.04	114.52	111.50
1	A16S	379	C	N1-C2-O2	6.04	122.52	118.90
56	BATN	15	G	N9-C4-C5	-6.03	102.99	105.40
35	BPTN	17	U	OP1-P-OP2	-6.03	110.56	119.60
1	B16S	194	C	N3-C2-O2	-6.02	117.68	121.90
56	BATN	75	C	C4-C5-C6	6.01	120.41	117.40
35	BPTN	58	A	P-O5'-C5'	-6.01	111.29	120.90
2	A23S	2137	C	C5-C6-N1	6.01	124.00	121.00
3	A5S	2	C	C2-N1-C1'	6.01	125.41	118.80
2	A23S	2244	U	N3-C4-O4	6.00	123.60	119.40
34	BMRN	17	U	O4'-C4'-C3'	6.00	110.90	106.10
2	B23S	671	C	C2-N1-C1'	6.00	125.40	118.80
2	A23S	1494	A	N7-C8-N9	5.99	116.80	113.80
34	BMRN	15	A	OP1-P-OP2	-5.99	110.61	119.60
1	A16S	3	G	OP1-P-OP2	-5.99	110.61	119.60
35	BPTN	17	U	C5'-C4'-C3'	-5.98	106.43	116.00
56	BATN	32	C	C3'-C2'-C1'	-5.98	96.72	101.50
35	BPTN	74	C	N3-C4-C5	-5.97	119.51	121.90
56	BATN	47(E)	A	N3-C4-C5	-5.97	122.62	126.80
1	A16S	1362	C	C2-N3-C4	5.96	122.88	119.90
35	BPTN	32	C	C5'-C4'-C3'	-5.96	106.46	116.00
2	A23S	2648	C	C2-N1-C1'	5.96	125.35	118.80
35	BPTN	10	G	C4'-C3'-C2'	5.96	108.56	102.60
2	A23S	1494	A	OP1-P-O3'	5.95	118.29	105.20
2	B23S	352	G	C5-C6-O6	5.94	132.17	128.60
34	BMRN	16	G	C1'-O4'-C4'	-5.94	105.14	109.90
34	BMRN	4	A	OP1-P-OP2	-5.94	110.69	119.60
1	A16S	3	G	O5'-P-OP1	5.94	117.83	110.70
1	B16S	1364	U	C5-C4-O4	5.94	129.46	125.90
2	B23S	352	G	N1-C2-N3	-5.93	120.34	123.90
34	BMRN	4	A	O4'-C1'-C2'	5.93	112.94	107.60
56	BATN	61	C	N3-C2-O2	-5.92	117.75	121.90
34	BMRN	16	G	C3'-C2'-C1'	-5.90	96.78	101.50
56	BATN	22	A	N1-C6-N6	5.90	122.14	118.60
35	BPTN	40	G	C4-N9-C1'	5.90	134.17	126.50
2	A23S	1007	C	N1-C2-O2	5.89	122.44	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	BATN	23	G	C8-N9-C1'	-5.89	119.35	127.00
56	BATN	32	C	N3-C4-C5	-5.88	119.55	121.90
2	A23S	1527	G	C8-N9-C4	-5.88	104.05	106.40
56	BATN	47(F)	C	C5-C6-N1	5.87	123.94	121.00
35	BPTN	39	G	P-O3'-C3'	-5.87	112.65	119.70
2	B23S	1605	C	C2-N1-C1'	5.87	125.26	118.80
56	BATN	3	U	OP1-P-OP2	-5.86	110.81	119.60
3	B5S	52	A	C2-N3-C4	5.86	113.53	110.60
56	BATN	76	A	C2-N3-C4	5.86	113.53	110.60
35	APTN	65	C	C2-N1-C1'	5.85	125.24	118.80
2	B23S	352	G	C5-N7-C8	5.84	107.22	104.30
35	BPTN	17	U	N3-C4-O4	5.84	123.49	119.40
2	B23S	1914	C	N1-C2-O2	5.83	122.40	118.90
56	BATN	28	C	N3-C4-C5	-5.83	119.57	121.90
2	B23S	2874	C	C6-N1-C1'	-5.83	113.81	120.80
35	BPTN	14	A	OP1-P-OP2	-5.82	110.87	119.60
35	BPTN	38	A	OP1-P-OP2	-5.82	110.87	119.60
1	B16S	1043	C	N1-C2-O2	5.81	122.39	118.90
35	BPTN	20	G	N9-C1'-C2'	-5.81	105.61	112.00
35	BPTN	49	G	O5'-C5'-C4'	-5.81	100.66	111.70
2	B23S	828	U	N1-C2-O2	5.81	126.86	122.80
3	B5S	53	A	N1-C6-N6	5.80	122.08	118.60
35	BPTN	13	C	OP1-P-OP2	-5.79	110.91	119.60
56	BATN	32	C	P-O5'-C5'	-5.79	111.63	120.90
56	BATN	6	G	N9-C4-C5	5.79	107.72	105.40
56	BATN	76	A	O4'-C1'-N9	5.78	112.83	108.20
35	APTN	32	C	N3-C2-O2	-5.78	117.85	121.90
3	B5S	53	A	O5'-P-OP2	-5.78	100.50	105.70
35	BPTN	24	G	C5'-C4'-O4'	5.78	116.03	109.10
2	A23S	1218	C	C2-N1-C1'	5.77	125.15	118.80
34	BMRN	11	U	N1-C1'-C2'	-5.76	105.66	112.00
56	BATN	13	G	O4'-C1'-N9	5.76	112.81	108.20
56	BATN	63	U	C5-C4-O4	-5.76	122.45	125.90
35	BPTN	57	G	C8-N9-C1'	-5.76	119.52	127.00
35	BPTN	52	G	N3-C4-N9	5.74	129.44	126.00
3	B5S	53	A	C5-C6-N6	-5.73	119.11	123.70
1	B16S	194	C	N1-C2-O2	5.73	122.34	118.90
1	A16S	976	G	N3-C4-N9	5.72	129.44	126.00
1	A16S	5	U	C2-N1-C1'	-5.71	110.84	117.70
56	BATN	50	A	N1-C2-N3	-5.71	126.44	129.30
56	BATN	11	C	N1-C2-O2	-5.71	115.47	118.90
2	B23S	231	C	C2-N1-C1'	5.71	125.08	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B16S	1360	A	N3-C4-C5	-5.71	122.81	126.80
2	A23S	884	C	N1-C2-O2	5.70	122.32	118.90
56	BATN	69	C	C5-C6-N1	5.70	123.85	121.00
1	A16S	4	U	OP2-P-O3'	5.70	117.73	105.20
29	BL32	59	GLU	OE1-CD-OE2	-5.70	116.46	123.30
56	BATN	7	G	C4-N9-C1'	5.70	133.91	126.50
56	BATN	24	G	N1-C6-O6	5.70	123.32	119.90
1	B16S	1006	C	C6-N1-C2	-5.69	118.02	120.30
1	A16S	810	C	N3-C2-O2	-5.69	117.92	121.90
34	BMRN	17	U	C6-N1-C2	5.68	124.41	121.00
35	BPTN	32	C	OP1-P-OP2	-5.67	111.09	119.60
56	BATN	4	G	O4'-C1'-N9	-5.67	103.66	108.20
29	BL32	4	HIS	CB-CA-C	5.67	121.73	110.40
1	A16S	252	U	C2-N1-C1'	5.66	124.49	117.70
35	BPTN	40	G	N3-C4-C5	-5.66	125.77	128.60
1	A16S	1066	C	N1-C2-O2	5.66	122.29	118.90
34	BMRN	4	A	C5'-C4'-O4'	5.66	115.89	109.10
1	A16S	1362(A)	C	C2-N1-C1'	-5.66	112.58	118.80
2	A23S	2756	U	C5-C4-O4	-5.65	122.51	125.90
3	B5S	52	A	N7-C8-N9	5.65	116.63	113.80
56	BATN	25	G	C8-N9-C4	-5.65	104.14	106.40
56	BATN	25	G	N7-C8-N9	5.64	115.92	113.10
2	B23S	1495	A	O5'-P-OP2	5.64	117.47	110.70
56	BATN	11	C	O4'-C1'-N1	5.64	112.71	108.20
1	A16S	405	U	C2-N1-C1'	5.64	124.47	117.70
56	BATN	70	A	C5-C6-N1	-5.64	114.88	117.70
1	A16S	1361	G	C4-C5-C6	5.63	122.18	118.80
2	B23S	351	G	N1-C2-N3	-5.63	120.52	123.90
56	BATN	28	C	N1-C2-O2	-5.63	115.52	118.90
34	BMRN	10	G	C3'-C2'-C1'	-5.63	97.00	101.50
1	A16S	3	G	P-O3'-C3'	5.62	126.44	119.70
2	B23S	1625	C	C2-N1-C1'	5.62	124.98	118.80
35	BPTN	16	C	C5'-C4'-C3'	-5.62	107.01	116.00
2	B23S	748	G	N1-C6-O6	-5.61	116.53	119.90
3	A5S	51	G	C2-N3-C4	5.60	114.70	111.90
24	AL27	62	LEU	CB-CG-CD2	-5.59	101.50	111.00
2	A23S	1493	C	O5'-P-OP1	-5.58	100.68	105.70
35	BPTN	23	A	N9-C1'-C2'	-5.58	105.86	112.00
2	A23S	269	U	N1-C2-O2	5.58	126.70	122.80
2	B23S	352	G	O5'-P-OP1	-5.57	100.68	105.70
56	BATN	53	G	C2-N3-C4	5.57	114.69	111.90
3	A5S	52	A	N3-C4-N9	5.57	131.85	127.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B23S	828	U	N3-C2-O2	-5.57	118.30	122.20
35	BPTN	24	G	OP1-P-OP2	-5.57	111.25	119.60
35	BPTN	43	G	N9-C1'-C2'	-5.57	105.88	112.00
33	AL36	27	CYS	CA-CB-SG	5.56	124.01	114.00
56	BATN	63	U	C2-N1-C1'	5.55	124.36	117.70
1	A16S	379	C	N3-C2-O2	-5.54	118.02	121.90
2	B23S	120	U	C5-C4-O4	-5.54	122.58	125.90
2	A23S	487	C	N1-C2-O2	5.53	122.22	118.90
35	BPTN	40	G	C4-C5-C6	5.53	122.12	118.80
1	B16S	1364	U	P-O3'-C3'	-5.53	113.07	119.70
35	BPTN	28	C	N1-C2-O2	5.53	122.22	118.90
35	APTN	68	C	C2-N1-C1'	5.52	124.88	118.80
1	B16S	1043	C	N3-C2-O2	-5.52	118.04	121.90
3	B5S	51	G	C5-N7-C8	-5.52	101.54	104.30
34	BMRN	4	A	C3'-C2'-C1'	-5.52	97.08	101.50
2	A23S	2416	C	C2-N1-C1'	5.52	124.87	118.80
2	A23S	1495	A	N9-C1'-C2'	-5.51	105.93	112.00
35	BPTN	30	C	C3'-C2'-C1'	-5.51	97.09	101.50
56	BATN	20(A)	C	C6-N1-C2	-5.50	118.10	120.30
35	BPTN	32	C	C5'-C4'-O4'	5.50	115.70	109.10
1	B16S	1224	G	N3-C4-N9	-5.50	122.70	126.00
35	BPTN	32	C	O3'-P-O5'	-5.50	93.56	104.00
56	BATN	22	A	N3-C4-N9	5.49	131.79	127.40
34	BMRN	17	U	P-O3'-C3'	-5.49	113.11	119.70
35	BPTN	47	U	N1-C1'-C2'	-5.49	105.96	112.00
1	A16S	1364	U	N1-C2-O2	5.48	126.64	122.80
2	B23S	401	A	C2-N3-C4	-5.48	107.86	110.60
35	BPTN	24	G	OP2-P-O3'	5.48	117.25	105.20
1	A16S	3	G	N1-C6-O6	5.47	123.18	119.90
2	B23S	1135	C	N1-C2-O2	5.46	122.18	118.90
1	A16S	1363	A	N1-C2-N3	5.45	132.03	129.30
2	B23S	1150	C	N1-C2-O2	5.45	122.17	118.90
56	BATN	53	G	C8-N9-C1'	5.45	134.09	127.00
56	BATN	49	G	C2-N3-C4	5.45	114.62	111.90
2	A23S	1893	C	N1-C2-O2	5.44	122.17	118.90
1	B16S	1362	C	N1-C2-N3	5.44	123.01	119.20
2	A23S	1313	U	N3-C2-O2	-5.44	118.39	122.20
2	B23S	351	G	N7-C8-N9	5.44	115.82	113.10
56	BATN	74	C	C2-N3-C4	5.43	122.62	119.90
2	B23S	1494	A	C5-C6-N1	5.43	120.41	117.70
56	BATN	68	C	C6-N1-C1'	-5.43	114.29	120.80
2	B23S	1598	C	C2-N1-C1'	5.42	124.77	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A16S	1361	G	C5-C6-N1	-5.42	108.79	111.50
2	A23S	2244	U	C5-C4-O4	-5.42	122.65	125.90
2	A23S	2416	C	N1-C2-O2	5.42	122.15	118.90
1	B16S	1314	C	C5-C6-N1	5.42	123.71	121.00
56	BATN	5	G	C6-C5-N7	-5.42	127.15	130.40
2	B23S	2339	G	C6-C5-N7	-5.42	127.15	130.40
2	B23S	640	C	C2-N1-C1'	5.42	124.76	118.80
56	BATN	20(B)	A	O4'-C1'-N9	5.41	112.53	108.20
1	B16S	5	U	O5'-P-OP2	5.41	117.19	110.70
1	B16S	1364	U	OP1-P-O3'	-5.41	93.30	105.20
34	BMRN	4	A	C4-C5-N7	5.41	113.40	110.70
28	BL31	5	ILE	C-N-CA	5.40	135.20	121.70
2	B23S	2700	C	C2-N1-C1'	5.39	124.73	118.80
35	BPTN	52	G	C4-C5-N7	5.39	112.96	110.80
2	B23S	352	G	N9-C4-C5	5.39	107.56	105.40
35	BPTN	17	U	N3-C4-C5	-5.39	111.37	114.60
56	BATN	49	G	N9-C4-C5	5.38	107.55	105.40
2	A23S	1007	C	N3-C2-O2	-5.38	118.13	121.90
56	BATN	65	C	C6-N1-C2	-5.37	118.15	120.30
35	APTN	29	U	C3'-C2'-C1'	5.37	105.79	101.50
2	B23S	2646	C	C2-N1-C1'	5.36	124.69	118.80
56	BATN	33	U	O4'-C4'-C3'	-5.36	98.64	104.00
35	BPTN	70	C	N1-C2-N3	5.34	122.94	119.20
35	BPTN	32	C	C5-C6-N1	5.34	123.67	121.00
1	B16S	1362(A)	C	N3-C4-C5	-5.34	119.77	121.90
35	BPTN	11	C	C5'-C4'-O4'	5.34	115.50	109.10
2	A23S	1313	U	N1-C2-O2	5.33	126.53	122.80
56	BATN	6	G	C5-C6-O6	5.33	131.80	128.60
56	BATN	7	G	C8-N9-C1'	-5.33	120.06	127.00
1	A16S	3	G	N3-C2-N2	-5.33	116.17	119.90
2	A23S	1467	C	C2-N1-C1'	5.33	124.66	118.80
24	BL27	39	ARG	NE-CZ-NH1	5.33	122.96	120.30
56	BATN	57	G	OP1-P-OP2	-5.32	111.61	119.60
2	A23S	1495	A	C5-N7-C8	5.32	106.56	103.90
2	B23S	1607	C	C2-N1-C1'	5.32	124.65	118.80
2	B23S	543	C	C2-N1-C1'	5.31	124.64	118.80
2	A23S	2006	C	C2-N1-C1'	5.31	124.64	118.80
1	B16S	1364	U	N1-C2-N3	-5.31	111.72	114.90
35	APTN	35	A	O3'-P-O5'	5.30	114.08	104.00
2	B23S	1005	C	C2-N1-C1'	5.30	124.63	118.80
2	B23S	198	C	N1-C2-O2	5.29	122.07	118.90
1	A16S	1313	U	C5-C4-O4	-5.29	122.73	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B16S	1363	A	N9-C4-C5	-5.29	103.69	105.80
29	BL32	45	VAL	C-N-CA	-5.29	108.48	121.70
56	BATN	33	U	O4'-C1'-N1	-5.29	103.97	108.20
56	BATN	27	G	C8-N9-C4	-5.28	104.29	106.40
2	B23S	114	U	C6-N1-C1'	-5.28	113.81	121.20
56	BATN	53	G	C4-C5-N7	-5.28	108.69	110.80
2	B23S	2403	C	N1-C2-O2	5.28	122.06	118.90
35	BPTN	38	A	C3'-C2'-C1'	-5.27	97.28	101.50
2	B23S	2744	G	O4'-C1'-N9	5.27	112.42	108.20
56	BATN	69	C	C6-N1-C1'	-5.27	114.48	120.80
56	BATN	24	G	C6-C5-N7	-5.26	127.24	130.40
56	BATN	59	A	O4'-C1'-N9	5.26	112.41	108.20
2	A23S	2794	C	C2-N1-C1'	5.25	124.57	118.80
2	A23S	1345	C	C2-N1-C1'	5.25	124.57	118.80
35	BPTN	45	G	C3'-C2'-C1'	5.25	105.70	101.50
56	BATN	73	A	C5-C6-N1	5.25	120.32	117.70
2	B23S	351	G	N1-C2-N2	5.24	120.92	116.20
2	B23S	510	C	C2-N1-C1'	5.24	124.57	118.80
56	BATN	6	G	C8-N9-C1'	5.24	133.82	127.00
56	BATN	44	C	C6-N1-C2	-5.24	118.20	120.30
56	BATN	63	U	N3-C4-O4	5.24	123.07	119.40
35	BPTN	17	U	O3'-P-O5'	5.24	113.95	104.00
1	B16S	354	G	C8-N9-C1'	-5.24	120.19	127.00
2	B23S	2403	C	C2-N1-C1'	5.24	124.56	118.80
35	BPTN	43	G	O3'-P-O5'	5.23	113.93	104.00
24	AL27	64	ASP	C-N-CA	-5.22	111.33	122.30
56	BATN	30	G	N3-C4-N9	-5.22	122.87	126.00
1	A16S	1225	A	O4'-C1'-N9	5.22	112.38	108.20
35	BPTN	75	C	N1-C2-O2	5.21	122.03	118.90
2	B23S	758	C	N3-C2-O2	-5.21	118.25	121.90
34	BMRN	4	A	C4'-C3'-O3'	-5.20	98.47	109.40
2	B23S	1914	C	C2-N1-C1'	5.20	124.52	118.80
56	BATN	70	A	N7-C8-N9	5.20	116.40	113.80
1	A16S	5	U	O5'-P-OP1	5.19	116.93	110.70
1	A16S	1066	C	C2-N1-C1'	5.19	124.51	118.80
2	A23S	2594	C	C2-N1-C1'	5.19	124.51	118.80
1	A16S	976	G	C6-C5-N7	-5.19	127.29	130.40
35	APTN	30	C	C6-N1-C2	-5.18	118.23	120.30
2	B23S	198	C	C6-N1-C1'	-5.18	114.58	120.80
35	BPTN	60	C	C6-N1-C2	-5.18	118.23	120.30
1	A16S	3	G	N3-C4-N9	5.18	129.11	126.00
2	A23S	647	G	C4-N9-C1'	5.18	133.23	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B23S	1467	C	C2-N1-C1'	5.18	124.50	118.80
56	BATN	20	C	N1-C2-O2	5.17	122.00	118.90
2	A23S	1079	C	C2-N1-C1'	5.17	124.48	118.80
2	A23S	828	U	C6-N1-C1'	-5.16	113.98	121.20
2	A23S	1157	G	N3-C4-N9	5.16	129.09	126.00
2	B23S	2294	C	C2-N1-C1'	5.16	124.47	118.80
1	A16S	1362(A)	C	C5-C4-N4	5.15	123.81	120.20
2	A23S	2597	G	C4-N9-C1'	5.15	133.20	126.50
1	B16S	1364	U	O3'-P-O5'	5.15	113.78	104.00
1	A16S	4	U	P-O5'-C5'	5.15	129.13	120.90
2	A23S	1804	C	C6-N1-C2	-5.14	118.24	120.30
2	B23S	1102	C	N1-C2-O2	5.14	121.98	118.90
2	B23S	2704	C	C2-N1-C1'	5.14	124.45	118.80
2	A23S	2582	G	N1-C2-N2	-5.13	111.58	116.20
56	BATN	7	G	N3-C4-C5	-5.13	126.03	128.60
56	BATN	45	G	P-O3'-C3'	5.13	125.85	119.70
1	B16S	806	C	N1-C2-O2	5.12	121.97	118.90
34	BMRN	4	A	C2'-C3'-O3'	-5.12	98.23	109.50
3	A5S	52	A	C2-N3-C4	5.12	113.16	110.60
35	BPTN	31	C	P-O3'-C3'	5.12	125.84	119.70
2	A23S	198	C	C2-N1-C1'	5.11	124.42	118.80
35	BPTN	52	G	N3-C2-N2	5.11	123.48	119.90
1	B16S	5	U	OP1-P-OP2	-5.11	111.93	119.60
2	B23S	2290	G	N3-C4-N9	5.11	129.07	126.00
1	B16S	354	G	C4-N9-C1'	5.11	133.14	126.50
56	BATN	47	C	N3-C4-N4	5.11	121.58	118.00
34	BMRN	4	A	P-O3'-C3'	-5.11	113.57	119.70
21	BL23	13	LEU	CA-CB-CG	5.10	127.03	115.30
2	A23S	2874	C	C2-N1-C1'	5.09	124.40	118.80
35	BPTN	33	U	C5-C6-N1	5.09	125.25	122.70
35	BPTN	57	G	C4-N9-C1'	5.09	133.12	126.50
2	A23S	2137	C	N3-C2-O2	-5.09	118.34	121.90
1	B16S	4	U	C2-N1-C1'	5.09	123.80	117.70
2	A23S	1494	A	N9-C4-C5	5.08	107.83	105.80
2	A23S	1217	C	C2-N1-C1'	5.08	124.39	118.80
56	BATN	20(A)	C	C2-N1-C1'	5.08	124.39	118.80
2	A23S	618	C	C2-N1-C1'	5.08	124.39	118.80
2	A23S	1598	C	N1-C2-O2	5.08	121.95	118.90
2	B23S	1494	A	C8-N9-C4	-5.07	103.77	105.80
56	BATN	76	A	C5-C6-N6	-5.07	119.65	123.70
2	B23S	2794	C	N3-C2-O2	-5.07	118.35	121.90
2	A23S	1218	C	C6-N1-C1'	-5.06	114.73	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	BATN	75	C	OP1-P-O3'	5.06	116.33	105.20
2	B23S	1607	C	N1-C2-O2	5.06	121.94	118.90
56	BATN	51	A	C5-C6-N1	5.06	120.23	117.70
35	BPTN	17	U	C2-N3-C4	5.05	130.03	127.00
56	BATN	20	C	C2-N1-C1'	5.05	124.35	118.80
56	BATN	47(D)	G	N9-C4-C5	5.05	107.42	105.40
1	A16S	1277	C	N3-C2-O2	-5.04	118.37	121.90
56	BATN	30	G	C6-C5-N7	5.04	133.42	130.40
2	B23S	1909	C	C2-N1-C1'	5.04	124.34	118.80
56	BATN	19	G	OP2-P-O3'	5.03	116.27	105.20
1	A16S	365	U	C2-N1-C1'	5.03	123.73	117.70
56	BATN	23	G	C4-N9-C1'	5.03	133.04	126.50
56	BATN	74	C	N3-C4-N4	5.03	121.52	118.00
1	B16S	3	G	C4-C5-C6	5.03	121.82	118.80
2	B23S	1775	U	N3-C4-O4	5.03	122.92	119.40
1	B16S	1314	C	C6-N1-C2	-5.02	118.29	120.30
56	BATN	47(E)	A	C4-C5-C6	5.02	119.51	117.00
2	B23S	352	G	P-O3'-C3'	5.02	125.72	119.70
35	BPTN	43	G	P-O3'-C3'	5.02	125.72	119.70
2	A23S	1462	C	N3-C2-O2	-5.00	118.40	121.90
35	BPTN	2	G	C4-C5-N7	5.00	112.80	110.80
35	BPTN	45	G	N7-C8-N9	5.00	115.60	113.10
34	BMRN	18	A	C8-N9-C4	-5.00	103.80	105.80
35	BPTN	16	C	C1'-O4'-C4'	-5.00	105.90	109.90

There are no chirality outliers.

All (15) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	AL06	157	TYR	Peptide
24	AL27	8	GLY	Peptide
28	AL31	37	SER	Peptide
28	AL31	42	PHE	Peptide
29	AL32	3	LYS	Peptide
29	AL32	39	MET	Peptide
15	BL17	10	LEU	Peptide
22	BL24	6	HIS	Peptide
24	BL27	8	GLY	Peptide
29	BL32	59	GLU	Peptide,Mainchain
34	BMRN	11	U	Sidechain
34	BMRN	17	U	Sidechain
34	BMRN	8	A	Sidechain

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Mol	Chain	Res	Type	Group
43	BS09	128	ARG	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	A16S	32600	0	0	0	0
1	B16S	32600	0	0	0	1
2	A23S	61999	0	0	0	1
2	B23S	62000	0	0	0	0
3	A5S	2551	0	1295	68	0
3	B5S	2551	0	1295	30	0
4	AL01	1742	0	0	0	0
4	BL01	1742	0	0	0	0
5	AL02	2104	0	0	0	0
5	BL02	2104	0	0	0	0
6	AL03	1563	0	0	0	0
6	BL03	1563	0	0	0	0
7	AL04	1586	0	0	0	0
7	BL04	1586	0	0	0	0
8	AL05	1475	0	0	0	0
8	BL05	1475	0	0	0	0
9	AL06	1282	0	0	0	0
9	BL06	1282	0	0	0	0
10	AL09	1131	0	0	0	0
10	BL09	1132	0	0	0	0
11	AL13	1096	0	0	0	0
11	BL13	1096	0	0	0	0
12	AL14	932	0	0	0	0
12	BL14	932	0	0	0	0
13	AL15	1114	0	0	0	0
13	BL15	1114	0	0	0	0
14	AL16	1064	0	0	0	0
14	BL16	1064	0	0	0	0
15	AL17	960	0	0	0	0
15	BL17	960	0	0	0	0
16	AL18	770	0	0	0	0
16	BL18	770	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
17	AL19	1143	0	0	0	0
17	BL19	1143	0	0	0	0
18	AL20	964	0	0	0	0
18	BL20	964	0	0	0	3
19	AL21	779	0	0	0	0
19	BL21	779	0	0	0	3
20	AL22	890	0	0	0	0
20	BL22	890	0	0	0	0
21	AL23	725	0	0	0	0
21	BL23	725	0	0	0	0
22	AL24	775	0	0	0	0
22	BL24	775	0	0	0	0
23	AL25	1482	0	0	0	0
23	BL25	1482	0	0	0	0
24	AL27	647	0	0	0	0
24	BL27	647	0	0	0	0
25	AL28	694	0	0	0	0
25	BL28	694	0	0	0	0
26	AL29	520	0	0	0	0
26	BL29	520	0	0	0	0
27	AL30	467	0	0	0	0
27	BL30	467	0	0	0	0
28	AL31	351	0	0	0	0
28	BL31	351	0	0	0	0
29	AL32	459	0	0	0	0
29	BL32	459	0	0	0	6
30	AL33	380	0	0	0	0
30	BL33	380	0	0	0	0
31	AL34	418	0	0	0	0
31	BL34	418	0	0	0	0
32	AL35	507	0	0	0	0
32	BL35	507	0	0	0	0
33	AL36	307	0	0	0	0
33	BL36	307	0	0	0	0
34	AMRN	223	0	0	0	0
34	BMRN	373	0	0	0	0
35	APTN	1631	0	0	0	0
35	BPTN	1631	0	0	0	0
36	AS02	1900	0	0	0	0
36	BS02	1900	0	0	0	0
37	AS03	1612	0	0	0	0
37	BS03	1612	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	AS04	1665	0	0	0	0
38	BS04	1665	0	0	0	0
39	AS05	1155	0	0	0	0
39	BS05	1155	0	0	0	0
40	AS06	843	0	0	0	0
40	BS06	843	0	0	0	0
41	AS07	1257	0	0	0	0
41	BS07	1257	0	0	0	0
42	AS08	1116	0	0	0	0
42	BS08	1116	0	0	0	0
43	AS09	1011	0	0	0	0
43	BS09	1011	0	0	0	0
44	AS10	794	0	0	0	0
44	BS10	794	0	0	0	0
45	AS11	842	0	0	0	0
45	BS11	842	0	0	0	0
46	AS12	956	0	0	0	0
46	BS12	956	0	0	0	0
47	AS13	933	0	0	0	0
47	BS13	933	0	0	0	0
48	AS14	492	0	0	0	0
48	BS14	492	0	0	0	0
49	AS15	734	0	0	0	0
49	BS15	734	0	0	0	0
50	AS16	700	0	0	0	0
50	BS16	700	0	0	0	0
51	AS17	823	0	0	0	0
51	BS17	823	0	0	0	0
52	AS18	574	0	0	0	0
52	BS18	574	0	0	0	0
53	AS19	629	0	0	0	0
53	BS19	629	0	0	0	0
54	AS20	762	0	0	0	0
54	BS20	762	0	0	0	0
55	ATHX	208	0	0	0	0
55	BTHX	208	0	0	0	0
56	BATN	1824	0	0	0	0
57	A16S	33	0	0	0	0
57	A23S	73	0	0	0	0
57	A5S	3	0	0	0	0
57	AL01	2	0	0	0	0
57	AL02	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	AL04	3	0	0	0	0
57	AL06	1	0	0	0	0
57	AL14	1	0	0	0	0
57	AL15	2	0	0	0	0
57	AL17	2	0	0	0	0
57	AL20	1	0	0	0	0
57	AL21	3	0	0	0	0
57	AL23	2	0	0	0	0
57	AL24	1	0	0	0	0
57	AL27	1	0	0	0	0
57	AL28	2	0	0	0	0
57	AL33	3	0	0	0	0
57	AL34	1	0	0	0	0
57	AS02	1	0	0	0	0
57	AS03	1	0	0	0	0
57	AS06	2	0	0	0	0
57	AS08	1	0	0	0	0
57	B16S	32	0	0	0	0
57	B23S	133	0	0	0	0
57	B5S	5	0	0	0	0
57	BATN	1	0	0	0	0
57	BL01	2	0	0	0	0
57	BL02	5	0	0	0	0
57	BL03	1	0	0	0	0
57	BL04	1	0	0	0	0
57	BL15	3	0	0	0	0
57	BL16	3	0	0	0	0
57	BL18	3	0	0	0	0
57	BL19	2	0	0	0	0
57	BL20	1	0	0	0	0
57	BL21	1	0	0	0	0
57	BL22	1	0	0	0	0
57	BL23	1	0	0	0	0
57	BL24	2	0	0	0	0
57	BL25	1	0	0	0	0
57	BL28	2	0	0	0	0
57	BL29	5	0	0	0	0
57	BL30	1	0	0	0	0
57	BL31	1	0	0	0	0
57	BL32	1	0	0	0	0
57	BL33	3	0	0	0	0
57	BL34	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	BL35	1	0	0	0	0
57	BL36	1	0	0	0	0
57	BS16	1	0	0	0	0
57	BS17	1	0	0	0	0
57	BTHX	1	0	0	0	0
58	AS04	8	0	0	0	0
58	BS04	8	0	0	0	0
All	All	295025	0	2590	98	7

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 24.

All (98) 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)
3:A5S:78:A:N6	3:A5S:98:G:H21	1.42	1.17
3:A5S:78:A:H62	3:A5S:98:G:N2	1.43	1.16
3:B5S:40:U:N3	3:B5S:44:G:OP2	1.97	0.97
3:B5S:13:A:O2'	3:B5S:15:A:OP2	1.90	0.88
3:B5S:14:U:OP2	3:B5S:70:C:O2'	2.02	0.76
3:A5S:87:G:N1	3:A5S:89(A):G:OP2	2.21	0.72
3:B5S:5:C:OP1	3:B5S:61:G:O2'	2.06	0.71
3:A5S:81:G:N1	3:A5S:95:U:N3	2.37	0.71
3:B5S:12:C:O2'	3:B5S:13:A:OP2	2.10	0.69
3:A5S:80:U:O2	3:A5S:96:G:O6	2.11	0.68
3:A5S:13:A:N1	3:A5S:69:G:O2'	2.22	0.66
3:A5S:57:A:OP2	3:A5S:58:A:OP2	2.14	0.66
3:A5S:81:G:O6	3:A5S:95:U:O2	2.14	0.65
3:A5S:14:U:H4'	3:A5S:15:A:OP2	1.97	0.65
3:B5S:57:A:OP2	3:B5S:58:A:OP2	2.16	0.64
3:A5S:14:U:H3'	3:A5S:15:A:H2	1.63	0.63
3:B5S:3:C:H2'	3:B5S:4:C:C6	2.35	0.61
3:A5S:111:U:H2'	3:A5S:112:G:H8	1.65	0.61
3:A5S:14:U:OP2	3:A5S:70:C:O2'	2.17	0.61
3:B5S:32:C:H2'	3:B5S:33:G:H8	1.66	0.60
3:A5S:9:G:H1	3:A5S:111:U:H3	1.50	0.60
3:A5S:91:C:H2'	3:A5S:92:G:H8	1.68	0.59
3:A5S:78:A:H62	3:A5S:98:G:H21	0.68	0.58
3:A5S:33:G:N2	3:A5S:35:U:O4	2.34	0.57
3:B5S:5:C:O2'	3:B5S:27:C:O2	2.23	0.56
3:B5S:9:G:H1	3:B5S:111:U:H3	1.53	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A5S:51:G:N3	3:A5S:52:A:N7	2.55	0.55
3:A5S:66:A:O2'	3:A5S:67:G:O5'	2.24	0.55
3:B5S:66:A:O2'	3:B5S:67:G:O5'	2.20	0.55
3:A5S:81:G:O6	3:A5S:95:U:C2	2.60	0.54
3:A5S:22:U:H3	3:A5S:61:G:H1	1.56	0.54
3:A5S:97:G:H5'	3:A5S:98:G:OP2	2.08	0.54
3:A5S:45:A:C4	3:A5S:46:A:C8	2.96	0.53
3:B5S:32:C:H2'	3:B5S:33:G:C8	2.45	0.52
3:A5S:14:U:H3'	3:A5S:15:A:C2	2.44	0.52
3:A5S:14:U:O3'	3:A5S:107:U:O2'	2.28	0.52
3:A5S:86:G:H2'	3:A5S:87:G:H8	1.76	0.51
3:A5S:87:G:C6	3:A5S:89(A):G:OP2	2.64	0.51
3:A5S:88:C:HO2'	3:A5S:89(A):G:P	2.33	0.51
3:B5S:21:G:H2'	3:B5S:22:U:O4'	2.11	0.51
3:B5S:66:A:HO2'	3:B5S:67:G:P	2.33	0.50
3:A5S:51:G:C4	3:A5S:52:A:N7	2.79	0.50
3:A5S:62:C:H2'	3:A5S:63:G:H8	1.77	0.50
3:A5S:9:G:H2'	3:A5S:10:C:H6	1.77	0.50
3:A5S:3:C:H2'	3:A5S:4:C:H6	1.77	0.50
3:A5S:106:G:H2'	3:A5S:107:U:O4'	2.12	0.50
3:A5S:28:C:H2'	3:A5S:29:A:C8	2.46	0.49
3:A5S:32:C:H2'	3:A5S:33:G:H8	1.76	0.49
3:B5S:32:C:C2	3:B5S:33:G:C8	3.00	0.49
3:A5S:28:C:H2'	3:A5S:29:A:H8	1.78	0.49
3:A5S:87:G:O6	3:A5S:90:C:N4	2.46	0.49
3:A5S:80:U:C2	3:A5S:96:G:O6	2.66	0.49
3:A5S:66:A:O2'	3:A5S:67:G:C8	2.62	0.49
3:B5S:3:C:H2'	3:B5S:4:C:H6	1.78	0.48
3:A5S:35:U:H2'	3:A5S:36:C:C6	2.49	0.48
3:B5S:3:C:H2'	3:B5S:4:C:C5	2.49	0.48
3:A5S:88:C:O2'	3:A5S:89(A):G:OP1	2.23	0.48
3:A5S:39:A:C2	3:A5S:44:G:C2	3.02	0.47
3:A5S:31:C:C2	3:A5S:32:C:C5	3.03	0.47
3:A5S:13:A:O2'	3:A5S:15:A:OP2	2.33	0.47
3:A5S:62:C:H2'	3:A5S:63:G:C8	2.50	0.46
3:A5S:51:G:H2'	3:A5S:52:A:N7	2.31	0.46
3:B5S:60:C:C2	3:B5S:61:G:C8	3.04	0.45
3:A5S:44:G:C2	3:A5S:48:A:C2	3.05	0.45
3:B5S:14:U:OP2	3:B5S:71:C:H5'	2.16	0.45
3:A5S:14:U:OP2	3:A5S:71:C:H5'	2.18	0.44
3:A5S:93:C:H2'	3:A5S:94:C:H6	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A5S:99:A:C4	3:A5S:100:G:C8	3.06	0.44
3:B5S:94:C:H2'	3:B5S:95:U:C6	2.53	0.44
3:A5S:91:C:H2'	3:A5S:92:G:C8	2.52	0.44
3:A5S:63:G:H2'	3:A5S:64:C:C6	2.53	0.43
3:A5S:81:G:N2	3:A5S:95:U:O4	2.48	0.43
3:A5S:92:G:C2	3:A5S:93:C:C5	3.06	0.43
3:B5S:15:A:H1'	3:B5S:109:G:N7	2.34	0.43
3:A5S:9:G:N2	3:A5S:111:U:O2	2.46	0.43
3:B5S:91:C:H2'	3:B5S:92:G:C8	2.55	0.42
3:A5S:61:G:C6	3:A5S:62:C:C4	3.08	0.42
3:A5S:81:G:C6	3:A5S:95:U:N3	2.87	0.42
3:A5S:19:G:H2'	3:A5S:20:C:O4'	2.19	0.42
3:A5S:15:A:O2'	3:A5S:16:G:OP1	2.35	0.42
3:B5S:73:A:C5	3:B5S:104:A:C2	3.08	0.42
3:A5S:15:A:OP1	3:A5S:107:U:O2'	2.38	0.41
3:B5S:52:A:O2'	3:B5S:53:A:OP2	2.38	0.41
3:B5S:53:A:H2'	3:B5S:54:G:H8	1.84	0.41
3:A5S:66:A:N3	3:A5S:108:C:N4	2.68	0.41
3:B5S:22:U:H2'	3:B5S:23:G:H8	1.85	0.41
3:B5S:34:U:O4	3:B5S:44:G:O2'	2.22	0.41
3:A5S:3:C:C2	3:A5S:4:C:C5	3.08	0.41
3:A5S:35:U:OP2	3:A5S:36:C:OP2	2.39	0.41
3:A5S:100:G:H3'	3:A5S:101:A:H8	1.85	0.41
3:B5S:62:C:H2'	3:B5S:63:G:H8	1.86	0.41
3:B5S:63:G:H2'	3:B5S:64:C:C6	2.56	0.40
3:A5S:30:C:C4	3:A5S:31:C:C6	3.09	0.40
3:A5S:56:G:H4'	3:A5S:57:A:C8	2.57	0.40
3:A5S:24:G:C2	3:A5S:56:G:C2	3.09	0.40
3:A5S:15:A:P	3:A5S:107:U:HO2'	2.44	0.40
3:A5S:87:G:C2	3:A5S:89(A):G:OP2	2.75	0.40
3:B5S:40:U:C2	3:B5S:43:C:OP2	2.75	0.40

All (7) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A23S:2154:G:N2	1:B16S:999:U:OP2[4_545]	1.96	0.24
18:BL20:89:GLU:N	29:BL32:60:VAL:O[4_455]	1.96	0.24
19:BL21:6:LYS:CE	29:BL32:59:GLU:OE2[4_455]	2.02	0.18
19:BL21:6:LYS:NZ	29:BL32:59:GLU:N[4_455]	2.04	0.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:BL20:89:GLU:OE2	29:BL32:59:GLU:O[4_455]	2.10	0.10
19:BL21:6:LYS:NZ	29:BL32:59:GLU:CB[4_455]	2.14	0.06
18:BL20:89:GLU:O	29:BL32:60:VAL:CA[4_455]	2.19	0.01

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
4	AL01	226/228 (99%)	116 (51%)	74 (33%)	36 (16%)	0 0
4	BL01	226/228 (99%)	108 (48%)	67 (30%)	51 (23%)	0 0
5	AL02	269/276 (98%)	213 (79%)	39 (14%)	17 (6%)	1 10
5	BL02	269/276 (98%)	198 (74%)	47 (18%)	24 (9%)	1 4
6	AL03	202/206 (98%)	145 (72%)	39 (19%)	18 (9%)	1 4
6	BL03	202/206 (98%)	152 (75%)	36 (18%)	14 (7%)	1 8
7	AL04	200/205 (98%)	162 (81%)	28 (14%)	10 (5%)	2 16
7	BL04	200/205 (98%)	154 (77%)	32 (16%)	14 (7%)	1 8
8	AL05	179/181 (99%)	120 (67%)	40 (22%)	19 (11%)	0 2
8	BL05	179/181 (99%)	120 (67%)	45 (25%)	14 (8%)	1 6
9	AL06	165/180 (92%)	99 (60%)	41 (25%)	25 (15%)	0 1
9	BL06	165/180 (92%)	95 (58%)	37 (22%)	33 (20%)	0 0
10	AL09	143/148 (97%)	116 (81%)	19 (13%)	8 (6%)	2 14
10	BL09	143/148 (97%)	106 (74%)	31 (22%)	6 (4%)	3 20
11	AL13	135/140 (96%)	102 (76%)	19 (14%)	14 (10%)	0 3
11	BL13	135/140 (96%)	106 (78%)	15 (11%)	14 (10%)	0 3
12	AL14	120/122 (98%)	97 (81%)	20 (17%)	3 (2%)	5 32
12	BL14	120/122 (98%)	99 (82%)	16 (13%)	5 (4%)	3 20
13	AL15	144/150 (96%)	90 (62%)	37 (26%)	17 (12%)	0 2

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
13	BL15	144/150 (96%)	85 (59%)	42 (29%)	17 (12%)	0 2
14	AL16	132/141 (94%)	89 (67%)	28 (21%)	15 (11%)	0 2
14	BL16	132/141 (94%)	103 (78%)	19 (14%)	10 (8%)	1 7
15	AL17	115/118 (98%)	92 (80%)	18 (16%)	5 (4%)	2 20
15	BL17	115/118 (98%)	89 (77%)	18 (16%)	8 (7%)	1 8
16	AL18	96/111 (86%)	68 (71%)	21 (22%)	7 (7%)	1 7
16	BL18	96/111 (86%)	67 (70%)	16 (17%)	13 (14%)	0 1
17	AL19	135/146 (92%)	97 (72%)	29 (22%)	9 (7%)	1 9
17	BL19	135/146 (92%)	107 (79%)	23 (17%)	5 (4%)	3 22
18	AL20	115/118 (98%)	92 (80%)	17 (15%)	6 (5%)	2 15
18	BL20	115/118 (98%)	82 (71%)	25 (22%)	8 (7%)	1 8
19	AL21	99/101 (98%)	73 (74%)	18 (18%)	8 (8%)	1 5
19	BL21	99/101 (98%)	79 (80%)	16 (16%)	4 (4%)	3 21
20	AL22	110/113 (97%)	79 (72%)	25 (23%)	6 (6%)	2 14
20	BL22	110/113 (97%)	81 (74%)	24 (22%)	5 (4%)	2 18
21	AL23	90/96 (94%)	74 (82%)	14 (16%)	2 (2%)	6 35
21	BL23	90/96 (94%)	77 (86%)	10 (11%)	3 (3%)	4 25
22	AL24	98/110 (89%)	54 (55%)	32 (33%)	12 (12%)	0 2
22	BL24	98/110 (89%)	56 (57%)	29 (30%)	13 (13%)	0 1
23	AL25	185/206 (90%)	143 (77%)	32 (17%)	10 (5%)	2 14
23	BL25	185/206 (90%)	144 (78%)	32 (17%)	9 (5%)	2 17
24	AL27	80/84 (95%)	62 (78%)	11 (14%)	7 (9%)	1 4
24	BL27	80/84 (95%)	60 (75%)	11 (14%)	9 (11%)	0 2
25	AL28	86/98 (88%)	59 (69%)	22 (26%)	5 (6%)	1 13
25	BL28	86/98 (88%)	60 (70%)	18 (21%)	8 (9%)	0 3
26	AL29	60/72 (83%)	48 (80%)	8 (13%)	4 (7%)	1 9
26	BL29	60/72 (83%)	45 (75%)	12 (20%)	3 (5%)	2 16
27	AL30	57/60 (95%)	49 (86%)	7 (12%)	1 (2%)	8 41
27	BL30	57/60 (95%)	51 (90%)	4 (7%)	2 (4%)	3 24
28	AL31	43/71 (61%)	16 (37%)	8 (19%)	19 (44%)	0 0
28	BL31	43/71 (61%)	16 (37%)	15 (35%)	12 (28%)	0 0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
29	AL32	57/59 (97%)	36 (63%)	12 (21%)	9 (16%)	0 1
29	BL32	57/59 (97%)	43 (75%)	8 (14%)	6 (10%)	0 3
30	AL33	42/54 (78%)	27 (64%)	8 (19%)	7 (17%)	0 0
30	BL33	42/54 (78%)	23 (55%)	11 (26%)	8 (19%)	0 0
31	AL34	46/49 (94%)	39 (85%)	5 (11%)	2 (4%)	2 20
31	BL34	46/49 (94%)	43 (94%)	2 (4%)	1 (2%)	6 35
32	AL35	61/64 (95%)	44 (72%)	11 (18%)	6 (10%)	0 3
32	BL35	61/64 (95%)	40 (66%)	13 (21%)	8 (13%)	0 1
33	AL36	35/37 (95%)	30 (86%)	4 (11%)	1 (3%)	4 28
33	BL36	35/37 (95%)	28 (80%)	2 (6%)	5 (14%)	0 1
36	AS02	232/255 (91%)	189 (82%)	27 (12%)	16 (7%)	1 8
36	BS02	232/255 (91%)	174 (75%)	42 (18%)	16 (7%)	1 8
37	AS03	204/238 (86%)	150 (74%)	39 (19%)	15 (7%)	1 7
37	BS03	204/238 (86%)	144 (71%)	43 (21%)	17 (8%)	1 5
38	AS04	206/208 (99%)	171 (83%)	24 (12%)	11 (5%)	2 15
38	BS04	206/208 (99%)	159 (77%)	35 (17%)	12 (6%)	1 13
39	AS05	149/161 (92%)	122 (82%)	19 (13%)	8 (5%)	2 14
39	BS05	149/161 (92%)	122 (82%)	21 (14%)	6 (4%)	3 21
40	AS06	99/101 (98%)	79 (80%)	15 (15%)	5 (5%)	2 15
40	BS06	99/101 (98%)	79 (80%)	17 (17%)	3 (3%)	4 28
41	AS07	153/155 (99%)	119 (78%)	25 (16%)	9 (6%)	1 12
41	BS07	153/155 (99%)	110 (72%)	33 (22%)	10 (6%)	1 10
42	AS08	136/138 (99%)	107 (79%)	22 (16%)	7 (5%)	2 15
42	BS08	136/138 (99%)	115 (85%)	15 (11%)	6 (4%)	2 19
43	AS09	125/128 (98%)	94 (75%)	28 (22%)	3 (2%)	6 34
43	BS09	125/128 (98%)	92 (74%)	21 (17%)	12 (10%)	0 3
44	AS10	96/104 (92%)	83 (86%)	11 (12%)	2 (2%)	7 37
44	BS10	96/104 (92%)	76 (79%)	12 (12%)	8 (8%)	1 5
45	AS11	112/128 (88%)	87 (78%)	21 (19%)	4 (4%)	3 23
45	BS11	112/128 (88%)	89 (80%)	18 (16%)	5 (4%)	2 18
46	AS12	120/131 (92%)	86 (72%)	29 (24%)	5 (4%)	3 20

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
46	BS12	120/131 (92%)	84 (70%)	28 (23%)	8 (7%)	1 9
47	AS13	115/125 (92%)	72 (63%)	27 (24%)	16 (14%)	0 1
47	BS13	115/125 (92%)	81 (70%)	20 (17%)	14 (12%)	0 2
48	AS14	58/60 (97%)	37 (64%)	12 (21%)	9 (16%)	0 1
48	BS14	58/60 (97%)	45 (78%)	8 (14%)	5 (9%)	1 4
49	AS15	86/88 (98%)	74 (86%)	8 (9%)	4 (5%)	2 17
49	BS15	86/88 (98%)	70 (81%)	9 (10%)	7 (8%)	1 5
50	AS16	81/88 (92%)	63 (78%)	17 (21%)	1 (1%)	13 49
50	BS16	81/88 (92%)	65 (80%)	13 (16%)	3 (4%)	3 22
51	AS17	97/104 (93%)	79 (81%)	16 (16%)	2 (2%)	7 37
51	BS17	97/104 (93%)	75 (77%)	19 (20%)	3 (3%)	4 26
52	AS18	68/87 (78%)	52 (76%)	12 (18%)	4 (6%)	1 12
52	BS18	68/87 (78%)	55 (81%)	10 (15%)	3 (4%)	2 19
53	AS19	76/92 (83%)	46 (60%)	20 (26%)	10 (13%)	0 1
53	BS19	76/92 (83%)	53 (70%)	15 (20%)	8 (10%)	0 3
54	AS20	97/105 (92%)	72 (74%)	20 (21%)	5 (5%)	2 15
54	BS20	97/105 (92%)	75 (77%)	14 (14%)	8 (8%)	1 5
55	ATHX	22/26 (85%)	5 (23%)	13 (59%)	4 (18%)	0 0
55	BTHX	22/26 (85%)	13 (59%)	7 (32%)	2 (9%)	1 3
All	All	11714/12532 (94%)	8611 (74%)	2167 (18%)	936 (8%)	1 6

All (936) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	AL01	141	PRO
4	AL01	172	ILE
4	AL01	181	PHE
4	AL01	182	PRO
4	AL01	225	ILE
5	AL02	28	GLU
5	AL02	235	GLY
5	AL02	242	ARG
5	AL02	244	ARG
5	AL02	258	LYS
6	AL03	17	ASP

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Mol	Chain	Res	Type
7	AL04	83	PHE
8	AL05	84	LYS
8	AL05	129	GLY
9	AL06	25	LYS
9	AL06	83	TYR
9	AL06	90	LYS
9	AL06	137	ASP
9	AL06	138	LYS
9	AL06	153	LYS
9	AL06	169	VAL
10	AL09	111	PRO
11	AL13	58	ARG
11	AL13	59	GLY
11	AL13	153	HIS
11	AL13	155	ALA
12	AL14	28	SER
13	AL15	10	PRO
13	AL15	65	ARG
13	AL15	147	LEU
13	AL15	148	LEU
14	AL16	18	LYS
14	AL16	20	ALA
14	AL16	110	THR
16	AL18	13	ARG
16	AL18	43	GLU
16	AL18	94	TYR
18	AL20	91	ASP
20	AL22	63	ASP
22	AL24	17	SER
22	AL24	40	GLU
22	AL24	56	PRO
22	AL24	62	GLU
23	AL25	17	ALA
23	AL25	165	VAL
24	AL27	18	ALA
24	AL27	83	PRO
25	AL28	54	ALA
25	AL28	83	GLU
27	AL30	39	ASP
28	AL31	5	ILE
28	AL31	12	ALA
28	AL31	18	CYS

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Mol	Chain	Res	Type
28	AL31	30	GLU
28	AL31	39	CYS
28	AL31	40	HIS
28	AL31	41	PRO
29	AL32	4	HIS
29	AL32	49	CYS
29	AL32	52	TYR
29	AL32	57	VAL
32	AL35	17	THR
32	AL35	62	LEU
36	AS02	8	LYS
36	AS02	82	ARG
38	AS04	166	LYS
39	AS05	21	ALA
40	AS06	42	GLU
42	AS08	121	ASP
43	AS09	85	LEU
44	AS10	56	HIS
44	AS10	91	PRO
47	AS13	6	GLY
47	AS13	7	VAL
47	AS13	23	TYR
47	AS13	38	GLY
47	AS13	77	ASN
48	AS14	14	PRO
48	AS14	17	LYS
52	AS18	87	ARG
55	ATHX	10	ARG
4	BL01	6	LYS
4	BL01	69	LEU
4	BL01	74	ARG
4	BL01	81	GLY
4	BL01	115	VAL
4	BL01	180	SER
4	BL01	182	PRO
4	BL01	185	LYS
4	BL01	193	PHE
4	BL01	215	VAL
4	BL01	222	SER
5	BL02	32	SER
5	BL02	242	ARG
5	BL02	244	ARG

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Mol	Chain	Res	Type
6	BL03	17	ASP
6	BL03	60	ASN
7	BL04	64	ILE
8	BL05	66	GLN
8	BL05	123	ASN
9	BL06	6	ARG
9	BL06	81	GLU
9	BL06	83	TYR
9	BL06	84	SER
9	BL06	87	LEU
9	BL06	126	PRO
9	BL06	152	ARG
9	BL06	153	LYS
9	BL06	159	GLU
9	BL06	160	LYS
9	BL06	164	TYR
9	BL06	165	ALA
10	BL09	53	ALA
11	BL13	100	GLY
11	BL13	149	PRO
12	BL14	28	SER
13	BL15	65	ARG
14	BL16	133	ARG
16	BL18	21	THR
17	BL19	107	ASP
18	BL20	26	GLY
18	BL20	60	LEU
18	BL20	91	ASP
19	BL21	77	ALA
19	BL21	78	LYS
20	BL22	63	ASP
21	BL23	11	PRO
22	BL24	77	PRO
22	BL24	82	PRO
23	BL25	81	ARG
23	BL25	128	VAL
24	BL27	9	SER
24	BL27	55	ARG
24	BL27	61	ALA
24	BL27	82	ARG
25	BL28	16	ASN
28	BL31	34	GLU

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Mol	Chain	Res	Type
28	BL31	38	LYS
28	BL31	39	CYS
28	BL31	40	HIS
29	BL32	49	CYS
29	BL32	56	LYS
30	BL33	31	PRO
32	BL35	7	HIS
33	BL36	11	CYS
36	BS02	9	GLU
36	BS02	37	ASN
36	BS02	78	GLN
36	BS02	136	VAL
36	BS02	137	ARG
37	BS03	3	ASN
37	BS03	15	THR
37	BS03	49	SER
37	BS03	189	ALA
38	BS04	168	ARG
41	BS07	31	MET
42	BS08	46	LYS
43	BS09	43	ALA
43	BS09	125	TYR
44	BS10	30	SER
46	BS12	124	PRO
47	BS13	98	VAL
47	BS13	108	ARG
48	BS14	14	PRO
50	BS16	76	GLN
53	BS19	27	GLU
4	AL01	17	PRO
4	AL01	21	TYR
4	AL01	23	ILE
4	AL01	36	ALA
4	AL01	37	LYS
4	AL01	66	PRO
4	AL01	71	LYS
4	AL01	115	VAL
4	AL01	170	GLY
4	AL01	223	VAL
4	AL01	226	ASN
5	AL02	12	SER
5	AL02	32	SER

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Mol	Chain	Res	Type
5	AL02	33	LEU
5	AL02	243	GLY
6	AL03	58	ARG
6	AL03	59	VAL
6	AL03	88	GLY
6	AL03	118	LYS
6	AL03	140	SER
6	AL03	187	ALA
6	AL03	203	LYS
7	AL04	54	ARG
7	AL04	86	GLY
7	AL04	89	VAL
8	AL05	48	GLU
8	AL05	49	ASP
8	AL05	146	TYR
8	AL05	168	GLU
9	AL06	12	PRO
9	AL06	16	SER
9	AL06	80	SER
9	AL06	129	THR
9	AL06	151	ILE
9	AL06	157	TYR
9	AL06	160	LYS
9	AL06	164	TYR
11	AL13	99	SER
13	AL15	13	ASN
13	AL15	28	GLY
13	AL15	38	GLN
14	AL16	8	LYS
14	AL16	17	LEU
14	AL16	23	GLY
14	AL16	78	PRO
14	AL16	136	ALA
15	AL17	80	PHE
15	AL17	101	ALA
16	AL18	59	LYS
16	AL18	105	ALA
17	AL19	84	GLN
17	AL19	97	ALA
18	AL20	6	THR
18	AL20	117	GLN
19	AL21	26	ASP

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Mol	Chain	Res	Type
19	AL21	50	PRO
19	AL21	93	GLU
20	AL22	40	ASN
22	AL24	64	GLU
22	AL24	78	ALA
23	AL25	119	GLU
23	AL25	146	ILE
24	AL27	9	SER
24	AL27	73	GLY
25	AL28	78	LYS
28	AL31	8	LYS
28	AL31	22	ILE
28	AL31	29	PRO
28	AL31	46	GLN
29	AL32	51	TYR
29	AL32	53	ALA
30	AL33	28	ARG
30	AL33	34	LEU
30	AL33	35	GLU
30	AL33	46	HIS
36	AS02	14	GLY
36	AS02	52	GLU
36	AS02	53	ARG
36	AS02	95	GLN
36	AS02	123	ALA
36	AS02	232	PRO
36	AS02	239	VAL
37	AS03	11	ARG
37	AS03	49	SER
37	AS03	96	GLY
37	AS03	127	ARG
37	AS03	130	VAL
38	AS04	5	ILE
38	AS04	42	GLN
38	AS04	71	SER
38	AS04	139	ARG
38	AS04	186	LEU
41	AS07	4	ARG
41	AS07	154	TYR
42	AS08	42	GLU
42	AS08	79	VAL
45	AS11	70	LYS

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Mol	Chain	Res	Type
45	AS11	91	ARG
46	AS12	72	GLU
46	AS12	124	PRO
47	AS13	4	ILE
47	AS13	10	PRO
47	AS13	100	GLY
48	AS14	16	PHE
48	AS14	30	ALA
49	AS15	16	ALA
49	AS15	78	TYR
52	AS18	23	LYS
53	AS19	5	LEU
53	AS19	7	LYS
53	AS19	64	GLU
54	AS20	71	THR
55	ATHX	17	THR
4	BL01	66	PRO
4	BL01	76	LEU
4	BL01	79	ALA
4	BL01	100	ILE
4	BL01	112	ASP
4	BL01	135	ARG
4	BL01	162	ILE
4	BL01	172	ILE
4	BL01	212	SER
4	BL01	213	VAL
4	BL01	225	ILE
5	BL02	31	LYS
5	BL02	33	LEU
5	BL02	79	VAL
5	BL02	121	PRO
5	BL02	122	ASP
5	BL02	199	ALA
6	BL03	144	ARG
6	BL03	173	VAL
6	BL03	192	ASN
7	BL04	89	VAL
7	BL04	148	LEU
8	BL05	10	LYS
8	BL05	122	PRO
8	BL05	177	GLY
9	BL06	46	GLU

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Mol	Chain	Res	Type
9	BL06	64	LEU
9	BL06	86	GLU
9	BL06	90	LYS
9	BL06	137	ASP
9	BL06	138	LYS
9	BL06	148	ILE
10	BL09	2	LYS
11	BL13	46	LEU
11	BL13	154	GLN
13	BL15	18	ARG
13	BL15	34	GLY
13	BL15	46	LYS
13	BL15	59	LEU
14	BL16	8	LYS
14	BL16	18	LYS
14	BL16	21	THR
16	BL18	13	ARG
16	BL18	52	SER
16	BL18	57	LYS
16	BL18	61	ASN
16	BL18	88	ASP
16	BL18	104	GLY
17	BL19	79	HIS
17	BL19	86	ILE
18	BL20	7	GLY
18	BL20	86	ALA
18	BL20	87	GLY
19	BL21	2	PHE
20	BL22	80	PRO
20	BL22	88	ARG
22	BL24	56	PRO
23	BL25	34	ASN
23	BL25	119	GLU
23	BL25	120	ILE
23	BL25	142	SER
25	BL28	30	VAL
25	BL28	54	ALA
25	BL28	83	GLU
27	BL30	2	PRO
29	BL32	4	HIS
30	BL33	41	PRO
31	BL34	47	ARG

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Mol	Chain	Res	Type
32	BL35	8	LYS
32	BL35	41	ILE
32	BL35	63	PRO
36	BS02	38	GLY
36	BS02	236	TYR
37	BS03	47	LEU
37	BS03	53	ALA
37	BS03	55	VAL
37	BS03	83	ARG
38	BS04	3	ARG
38	BS04	18	LYS
38	BS04	90	GLY
38	BS04	91	SER
38	BS04	186	LEU
38	BS04	199	ASN
38	BS04	207	TYR
38	BS04	208	SER
39	BS05	77	PRO
39	BS05	115	VAL
40	BS06	13	ASN
41	BS07	81	GLY
41	BS07	117	ALA
42	BS08	2	LEU
42	BS08	60	ARG
42	BS08	74	PRO
43	BS09	83	ARG
43	BS09	91	ASP
44	BS10	55	LYS
44	BS10	88	LEU
45	BS11	91	ARG
45	BS11	95	ILE
46	BS12	33	ARG
47	BS13	61	GLU
47	BS13	82	MET
47	BS13	113	PRO
49	BS15	9	GLN
49	BS15	88	ARG
50	BS16	44	THR
52	BS18	84	LYS
53	BS19	34	TRP
54	BS20	11	SER
54	BS20	71	THR

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Mol	Chain	Res	Type
54	BS20	101	GLY
55	BTHX	16	GLY
4	AL01	43	GLU
4	AL01	54	ARG
4	AL01	110	ASP
4	AL01	138	LEU
4	AL01	142	LYS
4	AL01	179	ALA
4	AL01	228	HIS
5	AL02	233	HIS
5	AL02	236	GLY
5	AL02	256	GLY
6	AL03	117	MET
7	AL04	139	PHE
7	AL04	181	LEU
8	AL05	6	ALA
8	AL05	14	GLU
8	AL05	45	GLU
8	AL05	87	PRO
8	AL05	96	ARG
8	AL05	111	LEU
9	AL06	82	GLY
10	AL09	29	TYR
10	AL09	30	LEU
10	AL09	112	LYS
10	AL09	125	GLU
11	AL13	68	ASN
11	AL13	79	ASN
11	AL13	105	LEU
11	AL13	149	PRO
12	AL14	70	LYS
13	AL15	16	ARG
13	AL15	27	HIS
13	AL15	35	HIS
13	AL15	42	SER
14	AL16	134	ARG
15	AL17	107	ASP
17	AL19	2	ASN
17	AL19	4	GLY
18	AL20	89	GLU
18	AL20	102	GLU
19	AL21	61	VAL

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Mol	Chain	Res	Type
19	AL21	80	GLN
21	AL23	15	GLU
22	AL24	4	LYS
23	AL25	79	ARG
26	AL29	43	GLN
28	AL31	37	SER
30	AL33	18	ARG
30	AL33	31	PRO
30	AL33	51	GLU
31	AL34	13	ALA
36	AS02	18	GLY
36	AS02	77	ALA
36	AS02	122	PHE
37	AS03	60	ALA
37	AS03	98	ASN
38	AS04	41	GLY
38	AS04	173	TRP
39	AS05	60	TYR
39	AS05	133	TYR
40	AS06	12	PRO
40	AS06	80	ARG
41	AS07	90	GLU
42	AS08	68	ARG
42	AS08	80	ILE
45	AS11	37	GLY
46	AS12	27	LYS
46	AS12	70	PRO
46	AS12	115	SER
47	AS13	15	VAL
47	AS13	26	GLY
47	AS13	57	ARG
47	AS13	70	LEU
48	AS14	5	ALA
51	AS17	4	LYS
53	AS19	6	LYS
53	AS19	37	ARG
55	ATHX	9	ARG
4	BL01	43	GLU
4	BL01	46	ALA
4	BL01	60	ARG
4	BL01	108	TRP
4	BL01	216	THR

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Mol	Chain	Res	Type
4	BL01	221	PRO
5	BL02	12	SER
6	BL03	56	PRO
6	BL03	89	ASP
6	BL03	99	GLY
6	BL03	122	PHE
7	BL04	78	ILE
7	BL04	166	ALA
7	BL04	167	ALA
7	BL04	181	LEU
8	BL05	42	GLY
8	BL05	74	LYS
8	BL05	87	PRO
9	BL06	27	LYS
9	BL06	41	MET
9	BL06	169	VAL
11	BL13	30	LYS
11	BL13	43	GLY
11	BL13	68	ASN
11	BL13	119	GLU
11	BL13	124	HIS
13	BL15	10	PRO
13	BL15	31	ALA
13	BL15	33	ARG
14	BL16	134	ARG
15	BL17	4	LEU
15	BL17	15	SER
15	BL17	82	GLU
16	BL18	56	LEU
18	BL20	9	VAL
22	BL24	17	SER
23	BL25	79	ARG
24	BL27	5	LYS
24	BL27	15	ASP
24	BL27	21	LEU
24	BL27	84	LEU
25	BL28	92	LYS
26	BL29	3	LEU
28	BL31	22	ILE
28	BL31	23	GLU
28	BL31	29	PRO
30	BL33	19	ARG

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Mol	Chain	Res	Type
30	BL33	35	GLU
30	BL33	51	GLU
33	BL36	12	ASP
36	BS02	77	ALA
36	BS02	138	LEU
37	BS03	25	GLY
37	BS03	50	ALA
37	BS03	80	GLY
37	BS03	156	ARG
38	BS04	153	ARG
39	BS05	152	ARG
39	BS05	153	LYS
43	BS09	79	LEU
43	BS09	84	ALA
43	BS09	123	PRO
44	BS10	27	ALA
44	BS10	93	GLY
46	BS12	18	ARG
46	BS12	78	GLU
47	BS13	3	ARG
47	BS13	63	THR
47	BS13	107	ALA
48	BS14	55	GLY
49	BS15	10	LYS
51	BS17	67	LYS
52	BS18	86	VAL
54	BS20	99	LEU
55	BTHX	17	THR
4	AL01	46	ALA
4	AL01	59	VAL
4	AL01	65	LEU
4	AL01	107	GLY
4	AL01	222	SER
5	AL02	156	ALA
6	AL03	122	PHE
6	AL03	132	HIS
7	AL04	122	LYS
8	AL05	43	LEU
8	AL05	57	ALA
9	AL06	8	PRO
9	AL06	118	PRO
9	AL06	159	GLU

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Mol	Chain	Res	Type
10	AL09	46	ALA
10	AL09	70	GLU
11	AL13	115	ALA
13	AL15	71	VAL
13	AL15	122	PRO
14	AL16	28	ALA
15	AL17	82	GLU
16	AL18	62	LYS
17	AL19	35	LYS
19	AL21	17	GLY
19	AL21	44	LYS
19	AL21	62	LEU
20	AL22	80	PRO
20	AL22	110	LYS
21	AL23	6	ASP
22	AL24	18	GLY
22	AL24	77	PRO
22	AL24	90	LEU
23	AL25	80	ARG
23	AL25	93	ASP
23	AL25	142	SER
24	AL27	11	ARG
24	AL27	84	LEU
26	AL29	3	LEU
26	AL29	10	LEU
28	AL31	23	GLU
28	AL31	25	TYR
28	AL31	26	SER
28	AL31	38	LYS
28	AL31	43	TYR
29	AL32	5	PRO
29	AL32	22	HIS
29	AL32	58	LEU
31	AL34	36	GLN
32	AL35	35	GLN
36	AS02	64	ARG
36	AS02	72	GLY
37	AS03	62	ASP
37	AS03	181	ASN
38	AS04	69	GLY
39	AS05	100	VAL
39	AS05	153	LYS

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Mol	Chain	Res	Type
40	AS06	49	ALA
41	AS07	71	PRO
41	AS07	115	ARG
41	AS07	155	ARG
42	AS08	98	LYS
43	AS09	78	LYS
47	AS13	94	ARG
47	AS13	116	THR
48	AS14	3	ARG
48	AS14	46	GLU
52	AS18	36	ASN
54	AS20	28	ALA
4	BL01	45	HIS
4	BL01	77	ALA
4	BL01	210	LEU
4	BL01	224	ARG
5	BL02	13	ARG
5	BL02	116	GLN
5	BL02	147	LEU
5	BL02	236	GLY
5	BL02	245	PRO
5	BL02	246	PRO
6	BL03	52	LEU
6	BL03	131	ALA
7	BL04	77	ASP
9	BL06	22	GLY
9	BL06	40	GLU
9	BL06	149	ARG
10	BL09	99	GLU
11	BL13	42	GLU
11	BL13	160	LYS
12	BL14	89	ASN
12	BL14	113	LYS
13	BL15	16	ARG
13	BL15	38	GLN
13	BL15	56	SER
13	BL15	71	VAL
13	BL15	104	GLY
13	BL15	141	ALA
14	BL16	81	VAL
15	BL17	93	GLY
15	BL17	107	ASP

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Mol	Chain	Res	Type
16	BL18	24	LEU
16	BL18	64	GLU
16	BL18	67	ARG
16	BL18	103	GLU
17	BL19	84	GLN
18	BL20	37	GLU
20	BL22	90	ARG
22	BL24	19	LYS
22	BL24	58	GLY
22	BL24	69	ALA
25	BL28	11	ARG
28	BL31	12	ALA
28	BL31	25	TYR
28	BL31	37	SER
29	BL32	42	PRO
29	BL32	51	TYR
29	BL32	53	ALA
30	BL33	28	ARG
32	BL35	17	THR
33	BL36	14	CYS
36	BS02	20	GLU
36	BS02	109	SER
37	BS03	150	LYS
37	BS03	188	LEU
38	BS04	73	ARG
39	BS05	73	ASN
39	BS05	154	GLY
40	BS06	36	ARG
41	BS07	5	ARG
41	BS07	7	ALA
41	BS07	103	TRP
42	BS08	20	TYR
43	BS09	90	PRO
45	BS11	115	PRO
46	BS12	94	GLY
47	BS13	27	LYS
47	BS13	116	THR
48	BS14	46	GLU
48	BS14	60	SER
50	BS16	80	PHE
51	BS17	4	LYS
51	BS17	11	VAL

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Mol	Chain	Res	Type
52	BS18	54	ARG
54	BS20	83	ARG
4	AL01	113	ALA
4	AL01	140	ASN
4	AL01	162	ILE
4	AL01	212	SER
4	AL01	215	VAL
4	AL01	221	PRO
5	AL02	13	ARG
5	AL02	31	LYS
6	AL03	86	PRO
6	AL03	129	HIS
7	AL04	127	GLU
8	AL05	11	TYR
9	AL06	41	MET
9	AL06	128	PRO
10	AL09	58	LEU
13	AL15	19	VAL
14	AL16	13	GLN
14	AL16	80	GLU
14	AL16	120	ILE
15	AL17	100	LEU
16	AL18	57	LYS
17	AL19	107	ASP
22	AL24	82	PRO
22	AL24	98	VAL
23	AL25	128	VAL
26	AL29	42	GLY
28	AL31	27	THR
28	AL31	34	GLU
36	AS02	158	LEU
36	AS02	210	SER
37	AS03	12	LEU
37	AS03	80	GLY
37	AS03	82	GLU
37	AS03	131	ARG
38	AS04	207	TYR
39	AS05	36	ASP
39	AS05	112	LEU
40	AS06	82	ARG
41	AS07	62	PHE
42	AS08	105	ARG

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Mol	Chain	Res	Type
47	AS13	117	VAL
49	AS15	88	ARG
52	AS18	22	VAL
53	AS19	28	LYS
53	AS19	79	THR
54	AS20	72	LEU
54	AS20	89	ARG
55	ATHX	14	TRP
4	BL01	51	ASP
4	BL01	59	VAL
4	BL01	114	VAL
4	BL01	228	HIS
5	BL02	35	LYS
5	BL02	70	TRP
5	BL02	262	ARG
6	BL03	86	PRO
7	BL04	53	THR
7	BL04	73	ALA
8	BL05	14	GLU
8	BL05	17	PRO
8	BL05	124	SER
8	BL05	129	GLY
9	BL06	17	VAL
9	BL06	79	VAL
10	BL09	29	TYR
10	BL09	137	PRO
11	BL13	70	ALA
14	BL16	90	VAL
14	BL16	91	GLU
15	BL17	8	ARG
15	BL17	106	GLY
16	BL18	62	LYS
20	BL22	87	PRO
21	BL23	93	GLU
22	BL24	18	GLY
22	BL24	78	ALA
25	BL28	93	GLU
28	BL31	42	PHE
30	BL33	33	LYS
30	BL33	46	HIS
32	BL35	3	LYS
33	BL36	10	ILE

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Mol	Chain	Res	Type
36	BS02	106	LYS
42	BS08	79	VAL
43	BS09	34	ASN
44	BS10	29	ARG
44	BS10	41	PRO
44	BS10	54	PHE
46	BS12	122	LYS
47	BS13	4	ILE
49	BS15	6	GLU
49	BS15	87	ILE
53	BS19	5	LEU
53	BS19	24	ALA
53	BS19	60	VAL
5	AL02	11	PRO
6	AL03	98	PRO
8	AL05	68	PRO
9	AL06	17	VAL
9	AL06	167	GLU
11	AL13	152	PRO
13	AL15	37	GLY
14	AL16	44	ALA
14	AL16	81	VAL
17	AL19	115	ARG
20	AL22	11	ARG
20	AL22	87	PRO
25	AL28	31	GLY
32	AL35	3	LYS
32	AL35	31	HIS
33	AL36	3	VAL
37	AS03	26	LYS
37	AS03	110	ASN
39	AS05	63	ARG
41	AS07	17	VAL
43	AS09	32	ASP
51	AS17	61	GLU
4	BL01	5	GLY
4	BL01	42	VAL
4	BL01	55	SER
4	BL01	164	PHE
4	BL01	177	GLY
5	BL02	29	PRO
5	BL02	150	LYS

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Mol	Chain	Res	Type
6	BL03	18	ASP
8	BL05	46	ALA
9	BL06	70	THR
9	BL06	151	ILE
9	BL06	167	GLU
12	BL14	110	GLY
13	BL15	106	LEU
14	BL16	135	ASP
17	BL19	78	LEU
21	BL23	38	GLU
22	BL24	55	TYR
22	BL24	80	GLY
22	BL24	96	ILE
23	BL25	64	GLY
26	BL29	16	LEU
27	BL30	39	ASP
32	BL35	52	LYS
33	BL36	3	VAL
36	BS02	238	LEU
37	BS03	181	ASN
41	BS07	23	VAL
41	BS07	71	PRO
41	BS07	114	ARG
43	BS09	56	LEU
43	BS09	69	GLY
45	BS11	59	TYR
45	BS11	113	PRO
48	BS14	25	VAL
54	BS20	63	ILE
54	BS20	69	GLY
6	AL03	99	GLY
6	AL03	193	GLY
18	AL20	103	PRO
23	AL25	53	ILE
24	AL27	51	VAL
38	AS04	172	PRO
41	AS07	82	GLY
49	AS15	86	GLY
50	AS16	66	PRO
53	AS19	59	PRO
4	BL01	16	ASP
5	BL02	34	VAL

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Mol	Chain	Res	Type
24	BL27	31	VAL
28	BL31	41	PRO
36	BS02	26	PRO
36	BS02	239	VAL
37	BS03	5	ILE
46	BS12	44	PRO
54	BS20	97	ALA
7	AL04	92	PRO
11	AL13	148	GLY
13	AL15	63	PRO
32	AL35	41	ILE
48	AS14	18	VAL
53	AS19	54	GLY
4	BL01	65	LEU
4	BL01	91	GLY
4	BL01	144	GLY
4	BL01	202	PRO
7	BL04	76	GLY
9	BL06	8	PRO
13	BL15	11	GLY
13	BL15	63	PRO
14	BL16	73	PRO
15	BL17	7	GLY
32	BL35	20	GLY
37	BS03	51	GLY
40	BS06	12	PRO
41	BS07	82	GLY
47	BS13	15	VAL
53	BS19	9	VAL
53	BS19	76	PRO
4	AL01	75	VAL
11	AL13	100	GLY
25	AL28	53	VAL
47	AS13	113	PRO
53	AS19	45	VAL
4	BL01	70	GLY
7	BL04	132	VAL
9	BL06	12	PRO
9	BL06	99	VAL
11	BL13	152	PRO
23	BL25	146	ILE
25	BL28	14	VAL

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Mol	Chain	Res	Type
43	BS09	57	GLY
46	BS12	70	PRO
53	BS19	8	GLY
6	AL03	34	VAL
6	AL03	124	GLY
8	AL05	85	GLY
8	AL05	177	GLY
9	AL06	21	PRO
11	AL13	29	PRO
12	AL14	43	VAL
17	AL19	56	GLY
17	AL19	135	VAL
45	AS11	115	PRO
48	AS14	25	VAL
54	AS20	97	ALA
4	BL01	30	VAL
4	BL01	75	VAL
4	BL01	120	VAL
4	BL01	138	LEU
5	BL02	11	PRO
7	BL04	79	GLY
8	BL05	149	VAL
10	BL09	84	GLY
12	BL14	102	VAL
22	BL24	66	PRO
26	BL29	42	GLY
36	BS02	194	PRO
38	BS04	143	GLY
47	BS13	60	VAL
47	BS13	89	GLY
49	BS15	19	PRO
4	AL01	177	GLY
7	AL04	147	GLY
8	AL05	89	GLY
13	AL15	104	GLY
5	BL02	125	ILE
6	BL03	98	PRO
7	BL04	66	PRO
11	BL13	34	PRO
19	BL21	54	GLY
49	BS15	29	VAL
5	AL02	245	PRO

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Mol	Chain	Res	Type
9	AL06	126	PRO

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
4	AL01	180/180 (100%)	170 (94%)	10 (6%)	21 57
4	BL01	180/180 (100%)	166 (92%)	14 (8%)	12 43
5	AL02	213/218 (98%)	204 (96%)	9 (4%)	30 65
5	BL02	213/218 (98%)	205 (96%)	8 (4%)	33 67
6	AL03	165/166 (99%)	163 (99%)	2 (1%)	71 88
6	BL03	165/166 (99%)	159 (96%)	6 (4%)	35 69
7	AL04	161/162 (99%)	158 (98%)	3 (2%)	57 81
7	BL04	161/162 (99%)	155 (96%)	6 (4%)	34 68
8	AL05	155/155 (100%)	142 (92%)	13 (8%)	11 39
8	BL05	155/155 (100%)	143 (92%)	12 (8%)	13 44
9	AL06	139/148 (94%)	135 (97%)	4 (3%)	42 74
9	BL06	139/148 (94%)	132 (95%)	7 (5%)	24 60
10	AL09	121/124 (98%)	115 (95%)	6 (5%)	24 60
10	BL09	122/124 (98%)	116 (95%)	6 (5%)	25 61
11	AL13	116/119 (98%)	113 (97%)	3 (3%)	46 76
11	BL13	116/119 (98%)	109 (94%)	7 (6%)	19 54
12	AL14	100/100 (100%)	100 (100%)	0	100 100
12	BL14	100/100 (100%)	99 (99%)	1 (1%)	76 90
13	AL15	112/116 (97%)	101 (90%)	11 (10%)	8 31
13	BL15	112/116 (97%)	101 (90%)	11 (10%)	8 31
14	AL16	105/111 (95%)	101 (96%)	4 (4%)	33 67
14	BL16	105/111 (95%)	101 (96%)	4 (4%)	33 67
15	AL17	100/101 (99%)	96 (96%)	4 (4%)	31 66

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
15	BL17	100/101 (99%)	93 (93%)	7 (7%)	15 48
16	AL18	77/87 (88%)	73 (95%)	4 (5%)	23 59
16	BL18	77/87 (88%)	70 (91%)	7 (9%)	9 34
17	AL19	121/128 (94%)	115 (95%)	6 (5%)	24 60
17	BL19	121/128 (94%)	113 (93%)	8 (7%)	16 51
18	AL20	93/94 (99%)	90 (97%)	3 (3%)	39 71
18	BL20	93/94 (99%)	89 (96%)	4 (4%)	29 64
19	AL21	82/82 (100%)	77 (94%)	5 (6%)	18 54
19	BL21	82/82 (100%)	78 (95%)	4 (5%)	25 61
20	AL22	91/92 (99%)	87 (96%)	4 (4%)	28 64
20	BL22	91/92 (99%)	88 (97%)	3 (3%)	38 71
21	AL23	74/78 (95%)	71 (96%)	3 (4%)	30 66
21	BL23	74/78 (95%)	71 (96%)	3 (4%)	30 66
22	AL24	84/91 (92%)	78 (93%)	6 (7%)	14 47
22	BL24	84/91 (92%)	81 (96%)	3 (4%)	35 69
23	AL25	162/179 (90%)	157 (97%)	5 (3%)	40 72
23	BL25	162/179 (90%)	153 (94%)	9 (6%)	21 57
24	AL27	65/66 (98%)	62 (95%)	3 (5%)	27 63
24	BL27	65/66 (98%)	64 (98%)	1 (2%)	65 85
25	AL28	73/83 (88%)	70 (96%)	3 (4%)	30 66
25	BL28	73/83 (88%)	68 (93%)	5 (7%)	16 49
26	AL29	58/67 (87%)	56 (97%)	2 (3%)	37 70
26	BL29	58/67 (87%)	57 (98%)	1 (2%)	60 83
27	AL30	51/52 (98%)	48 (94%)	3 (6%)	19 54
27	BL30	51/52 (98%)	50 (98%)	1 (2%)	55 80
28	AL31	40/63 (64%)	36 (90%)	4 (10%)	7 30
28	BL31	40/63 (64%)	39 (98%)	1 (2%)	47 77
29	AL32	51/51 (100%)	48 (94%)	3 (6%)	19 54
29	BL32	51/51 (100%)	48 (94%)	3 (6%)	19 54
30	AL33	43/52 (83%)	38 (88%)	5 (12%)	5 24
30	BL33	43/52 (83%)	37 (86%)	6 (14%)	3 16

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
31	AL34	41/42 (98%)	37 (90%)	4 (10%)	8 31
31	BL34	41/42 (98%)	41 (100%)	0	100 100
32	AL35	53/54 (98%)	49 (92%)	4 (8%)	13 45
32	BL35	53/54 (98%)	50 (94%)	3 (6%)	20 56
33	AL36	34/34 (100%)	34 (100%)	0	100 100
33	BL36	34/34 (100%)	32 (94%)	2 (6%)	19 54
36	AS02	202/219 (92%)	194 (96%)	8 (4%)	31 66
36	BS02	202/219 (92%)	192 (95%)	10 (5%)	24 60
37	AS03	160/187 (86%)	152 (95%)	8 (5%)	24 60
37	BS03	160/187 (86%)	154 (96%)	6 (4%)	33 67
38	AS04	171/180 (95%)	161 (94%)	10 (6%)	20 55
38	BS04	171/180 (95%)	162 (95%)	9 (5%)	22 58
39	AS05	116/122 (95%)	113 (97%)	3 (3%)	46 76
39	BS05	116/122 (95%)	109 (94%)	7 (6%)	19 54
40	AS06	90/90 (100%)	85 (94%)	5 (6%)	21 57
40	BS06	90/90 (100%)	87 (97%)	3 (3%)	38 71
41	AS07	126/126 (100%)	118 (94%)	8 (6%)	18 52
41	BS07	126/126 (100%)	120 (95%)	6 (5%)	25 61
42	AS08	119/119 (100%)	109 (92%)	10 (8%)	11 39
42	BS08	119/119 (100%)	114 (96%)	5 (4%)	30 65
43	AS09	98/99 (99%)	86 (88%)	12 (12%)	5 22
43	BS09	98/99 (99%)	93 (95%)	5 (5%)	24 60
44	AS10	88/91 (97%)	86 (98%)	2 (2%)	50 78
44	BS10	88/91 (97%)	82 (93%)	6 (7%)	16 49
45	AS11	86/98 (88%)	81 (94%)	5 (6%)	20 55
45	BS11	86/98 (88%)	82 (95%)	4 (5%)	26 62
46	AS12	103/108 (95%)	101 (98%)	2 (2%)	57 81
46	BS12	103/108 (95%)	96 (93%)	7 (7%)	16 49
47	AS13	94/100 (94%)	91 (97%)	3 (3%)	39 71
47	BS13	94/100 (94%)	89 (95%)	5 (5%)	22 58
48	AS14	49/49 (100%)	44 (90%)	5 (10%)	7 29

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
48	BS14	49/49 (100%)	47 (96%)	2 (4%)	30 66
49	AS15	79/79 (100%)	71 (90%)	8 (10%)	7 29
49	BS15	79/79 (100%)	77 (98%)	2 (2%)	47 77
50	AS16	72/74 (97%)	68 (94%)	4 (6%)	21 57
50	BS16	72/74 (97%)	71 (99%)	1 (1%)	67 86
51	AS17	94/96 (98%)	93 (99%)	1 (1%)	73 88
51	BS17	94/96 (98%)	89 (95%)	5 (5%)	22 58
52	AS18	61/76 (80%)	58 (95%)	3 (5%)	25 61
52	BS18	61/76 (80%)	57 (93%)	4 (7%)	16 51
53	AS19	69/79 (87%)	64 (93%)	5 (7%)	14 47
53	BS19	69/79 (87%)	65 (94%)	4 (6%)	20 55
54	AS20	76/81 (94%)	74 (97%)	2 (3%)	46 76
54	BS20	76/81 (94%)	72 (95%)	4 (5%)	22 58
55	ATHX	19/21 (90%)	14 (74%)	5 (26%)	0 2
55	BTHX	19/21 (90%)	19 (100%)	0	100 100
All	All	9865/10378 (95%)	9372 (95%)	493 (5%)	24 60

All (493) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	AL01	6	LYS
4	AL01	14	LYS
4	AL01	17	PRO
4	AL01	32	GLU
4	AL01	53	ARG
4	AL01	83	LYS
4	AL01	106	ASP
4	AL01	110	ASP
4	AL01	127	LYS
4	AL01	189	ASN
5	AL02	32	SER
5	AL02	58	HIS
5	AL02	88	ARG
5	AL02	104	TYR
5	AL02	162	SER
5	AL02	175	LEU
5	AL02	186	HIS

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Mol	Chain	Res	Type
5	AL02	217	ARG
5	AL02	220	HIS
6	AL03	127	ASP
6	AL03	171	GLU
7	AL04	13	SER
7	AL04	95	ARG
7	AL04	106	ARG
8	AL05	21	ARG
8	AL05	33	ARG
8	AL05	47	LYS
8	AL05	58	GLN
8	AL05	86	MET
8	AL05	91	ARG
8	AL05	113	ARG
8	AL05	115	ARG
8	AL05	128	ARG
8	AL05	130	ASN
8	AL05	146	TYR
8	AL05	153	ARG
8	AL05	155	MET
9	AL06	6	ARG
9	AL06	30	LYS
9	AL06	42	ARG
9	AL06	85	LYS
10	AL09	2	LYS
10	AL09	61	ARG
10	AL09	69	LYS
10	AL09	112	LYS
10	AL09	118	LYS
10	AL09	135	GLU
11	AL13	61	HIS
11	AL13	71	MET
11	AL13	146	TYR
13	AL15	16	ARG
13	AL15	27	HIS
13	AL15	47	ASP
13	AL15	51	PHE
13	AL15	59	LEU
13	AL15	61	ARG
13	AL15	77	ARG
13	AL15	79	ARG
13	AL15	138	LEU

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Mol	Chain	Res	Type
13	AL15	147	LEU
13	AL15	148	LEU
14	AL16	9	TYR
14	AL16	16	ARG
14	AL16	22	LYS
14	AL16	74	TYR
15	AL17	2	ARG
15	AL17	27	SER
15	AL17	28	LEU
15	AL17	63	ARG
16	AL18	20	ARG
16	AL18	41	ASP
16	AL18	67	ARG
16	AL18	73	LEU
17	AL19	36	GLU
17	AL19	53	ARG
17	AL19	80	SER
17	AL19	98	LYS
17	AL19	104	ASN
17	AL19	118	ARG
18	AL20	3	ARG
18	AL20	91	ASP
18	AL20	92	ARG
19	AL21	1	MET
19	AL21	10	LYS
19	AL21	66	ARG
19	AL21	87	HIS
19	AL21	94	LEU
20	AL22	72	LYS
20	AL22	92	ARG
20	AL22	94	ASP
20	AL22	102	HIS
21	AL23	40	LYS
21	AL23	65	ARG
21	AL23	75	ASP
22	AL24	2	ARG
22	AL24	4	LYS
22	AL24	8	LYS
22	AL24	17	SER
22	AL24	76	CYS
22	AL24	97	ARG
23	AL25	36	LYS

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Mol	Chain	Res	Type
23	AL25	45	ASP
23	AL25	87	ASP
23	AL25	125	LEU
23	AL25	166	SER
24	AL27	25	ARG
24	AL27	35	ASN
24	AL27	70	GLN
25	AL28	52	ARG
25	AL28	83	GLU
25	AL28	88	LYS
26	AL29	7	ARG
26	AL29	24	LEU
27	AL30	3	ARG
27	AL30	4	LEU
27	AL30	10	LYS
28	AL31	8	LYS
28	AL31	16	CYS
28	AL31	23	GLU
28	AL31	36	CYS
29	AL32	12	SER
29	AL32	49	CYS
29	AL32	51	TYR
30	AL33	15	GLU
30	AL33	19	ARG
30	AL33	33	LYS
30	AL33	37	ARG
30	AL33	49	HIS
31	AL34	9	ARG
31	AL34	10	ARG
31	AL34	19	ARG
31	AL34	29	LYS
32	AL35	8	LYS
32	AL35	34	TRP
32	AL35	46	ARG
32	AL35	57	ARG
36	AS02	17	PHE
36	AS02	48	MET
36	AS02	57	PHE
36	AS02	87	ARG
36	AS02	130	ARG
36	AS02	140	HIS
36	AS02	144	ARG

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Mol	Chain	Res	Type
36	AS02	195	ASP
37	AS03	4	LYS
37	AS03	16	ARG
37	AS03	79	ARG
37	AS03	119	ARG
37	AS03	127	ARG
37	AS03	128	PHE
37	AS03	131	ARG
37	AS03	183	ASP
38	AS04	10	ARG
38	AS04	27	TYR
38	AS04	31	CYS
38	AS04	35	ARG
38	AS04	38	TYR
38	AS04	49	ARG
38	AS04	72	GLU
38	AS04	162	LEU
38	AS04	173	TRP
38	AS04	188	LEU
39	AS05	10	MET
39	AS05	24	ARG
39	AS05	133	TYR
40	AS06	36	ARG
40	AS06	62	TRP
40	AS06	82	ARG
40	AS06	83	ASP
40	AS06	98	LEU
41	AS07	3	ARG
41	AS07	12	LEU
41	AS07	41	ARG
41	AS07	45	ASP
41	AS07	62	PHE
41	AS07	115	ARG
41	AS07	138	LYS
41	AS07	156	TRP
42	AS08	1	MET
42	AS08	14	ARG
42	AS08	41	ARG
42	AS08	50	ARG
42	AS08	60	ARG
42	AS08	84	ARG
42	AS08	102	ARG

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Mol	Chain	Res	Type
42	AS08	112	LEU
42	AS08	121	ASP
42	AS08	136	GLU
43	AS09	4	TYR
43	AS09	10	ARG
43	AS09	18	PHE
43	AS09	36	TYR
43	AS09	51	ARG
43	AS09	60	ASP
43	AS09	66	ARG
43	AS09	88	TYR
43	AS09	97	LYS
43	AS09	111	ARG
43	AS09	124	GLN
43	AS09	126	SER
44	AS10	28	ARG
44	AS10	35	SER
45	AS11	20	TYR
45	AS11	25	TYR
45	AS11	26	ASN
45	AS11	39	PRO
45	AS11	44	SER
46	AS12	19	LYS
46	AS12	26	LEU
47	AS13	32	GLU
47	AS13	92	HIS
47	AS13	93	ARG
48	AS14	24	CYS
48	AS14	29	ARG
48	AS14	35	ARG
48	AS14	43	CYS
48	AS14	61	TRP
49	AS15	5	LYS
49	AS15	26	GLU
49	AS15	57	LEU
49	AS15	65	ARG
49	AS15	68	ARG
49	AS15	74	ASP
49	AS15	79	ARG
49	AS15	88	ARG
50	AS16	1	MET
50	AS16	43	LYS

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Mol	Chain	Res	Type
50	AS16	50	LYS
50	AS16	72	ARG
51	AS17	4	LYS
52	AS18	21	LYS
52	AS18	43	PHE
52	AS18	63	GLN
53	AS19	15	LEU
53	AS19	18	LYS
53	AS19	29	ARG
53	AS19	37	ARG
53	AS19	70	LYS
54	AS20	57	ARG
54	AS20	70	SER
55	ATHX	9	ARG
55	ATHX	10	ARG
55	ATHX	15	ARG
55	ATHX	20	LYS
55	ATHX	22	ARG
4	BL01	7	ARG
4	BL01	8	TYR
4	BL01	38	PHE
4	BL01	53	ARG
4	BL01	80	LYS
4	BL01	132	LEU
4	BL01	173	HIS
4	BL01	197	LEU
4	BL01	201	LYS
4	BL01	209	PHE
4	BL01	211	ARG
4	BL01	219	MET
4	BL01	224	ARG
4	BL01	226	ASN
5	BL02	9	TYR
5	BL02	84	TYR
5	BL02	104	TYR
5	BL02	131	LEU
5	BL02	184	LYS
5	BL02	201	HIS
5	BL02	257	LEU
5	BL02	263	ARG
6	BL03	108	SER
6	BL03	118	LYS

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Mol	Chain	Res	Type
6	BL03	132	HIS
6	BL03	133	LYS
6	BL03	149	ARG
6	BL03	159	HIS
7	BL04	54	ARG
7	BL04	65	TRP
7	BL04	68	LYS
7	BL04	93	LYS
7	BL04	122	LYS
7	BL04	191	ARG
8	BL05	21	ARG
8	BL05	91	ARG
8	BL05	95	ARG
8	BL05	97	ASP
8	BL05	105	LYS
8	BL05	113	ARG
8	BL05	115	ARG
8	BL05	126	ASP
8	BL05	153	ARG
8	BL05	155	MET
8	BL05	156	ASP
8	BL05	181	ARG
9	BL06	6	ARG
9	BL06	32	GLU
9	BL06	41	MET
9	BL06	51	ARG
9	BL06	54	ARG
9	BL06	101	ARG
9	BL06	127	GLU
10	BL09	25	TYR
10	BL09	52	ARG
10	BL09	56	LYS
10	BL09	102	SER
10	BL09	113	ARG
10	BL09	126	TYR
11	BL13	61	HIS
11	BL13	117	HIS
11	BL13	122	LEU
11	BL13	132	LYS
11	BL13	153	HIS
11	BL13	154	GLN
11	BL13	161	LEU

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Mol	Chain	Res	Type
12	BL14	42	SER
13	BL15	13	ASN
13	BL15	16	ARG
13	BL15	40	SER
13	BL15	50	ARG
13	BL15	61	ARG
13	BL15	62	LEU
13	BL15	77	ARG
13	BL15	107	LYS
13	BL15	110	TYR
13	BL15	123	LEU
13	BL15	132	LYS
14	BL16	6	ARG
14	BL16	26	TYR
14	BL16	58	PHE
14	BL16	77	LYS
15	BL17	2	ARG
15	BL17	6	SER
15	BL17	15	SER
15	BL17	33	ARG
15	BL17	60	LEU
15	BL17	81	ASP
15	BL17	105	ARG
16	BL18	12	PHE
16	BL18	25	ARG
16	BL18	42	ASP
16	BL18	59	LYS
16	BL18	61	ASN
16	BL18	67	ARG
16	BL18	80	LEU
17	BL19	23	ARG
17	BL19	29	ARG
17	BL19	39	ARG
17	BL19	53	ARG
17	BL19	65	LYS
17	BL19	80	SER
17	BL19	122	ASP
17	BL19	128	GLU
18	BL20	31	SER
18	BL20	54	LYS
18	BL20	85	LYS
18	BL20	94	ASN

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Mol	Chain	Res	Type
19	BL21	2	PHE
19	BL21	13	ARG
19	BL21	24	LYS
19	BL21	91	TYR
20	BL22	63	ASP
20	BL22	67	ASP
20	BL22	77	ASP
21	BL23	33	LYS
21	BL23	57	LEU
21	BL23	76	ARG
22	BL24	6	HIS
22	BL24	21	LYS
22	BL24	47	LYS
23	BL25	16	SER
23	BL25	19	ARG
23	BL25	35	ARG
23	BL25	70	LEU
23	BL25	72	ARG
23	BL25	81	ARG
23	BL25	104	PHE
23	BL25	129	SER
23	BL25	154	ASP
24	BL27	64	ASP
25	BL28	21	ARG
25	BL28	38	SER
25	BL28	40	ARG
25	BL28	72	GLU
25	BL28	80	LEU
26	BL29	7	ARG
27	BL30	29	ARG
28	BL31	43	TYR
29	BL32	4	HIS
29	BL32	23	HIS
29	BL32	52	TYR
30	BL33	11	LEU
30	BL33	18	ARG
30	BL33	19	ARG
30	BL33	34	LEU
30	BL33	43	CYS
30	BL33	49	HIS
32	BL35	30	ARG
32	BL35	32	LEU

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Mol	Chain	Res	Type
32	BL35	57	ARG
33	BL36	4	ARG
33	BL36	6	SER
36	BS02	24	TRP
36	BS02	25	ASN
36	BS02	30	ARG
36	BS02	40	HIS
36	BS02	53	ARG
36	BS02	57	PHE
36	BS02	137	ARG
36	BS02	148	TYR
36	BS02	154	LEU
36	BS02	205	ASP
37	BS03	37	GLN
37	BS03	48	TYR
37	BS03	58	GLU
37	BS03	79	ARG
37	BS03	98	ASN
37	BS03	139	GLN
38	BS04	31	CYS
38	BS04	38	TYR
38	BS04	47	ARG
38	BS04	73	ARG
38	BS04	93	PHE
38	BS04	113	SER
38	BS04	168	ARG
38	BS04	188	LEU
38	BS04	208	SER
39	BS05	12	LEU
39	BS05	14	ARG
39	BS05	25	ARG
39	BS05	57	LYS
39	BS05	84	PHE
39	BS05	147	ASP
39	BS05	150	ARG
40	BS06	36	ARG
40	BS06	46	ARG
40	BS06	54	LYS
41	BS07	12	LEU
41	BS07	45	ASP
41	BS07	95	ARG
41	BS07	103	TRP

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Mol	Chain	Res	Type
41	BS07	109	ASN
41	BS07	154	TYR
42	BS08	1	MET
42	BS08	50	ARG
42	BS08	85	ARG
42	BS08	102	ARG
42	BS08	112	LEU
43	BS09	9	ARG
43	BS09	31	GLN
43	BS09	36	TYR
43	BS09	113	LYS
43	BS09	121	ARG
44	BS10	3	LYS
44	BS10	9	ARG
44	BS10	12	ASP
44	BS10	22	LYS
44	BS10	43	ARG
44	BS10	58	ASP
45	BS11	11	LYS
45	BS11	44	SER
45	BS11	59	TYR
45	BS11	124	LYS
46	BS12	7	ASN
46	BS12	21	SER
46	BS12	32	ARG
46	BS12	52	ARG
46	BS12	63	TYR
46	BS12	79	HIS
46	BS12	96	ARG
47	BS13	3	ARG
47	BS13	46	LYS
47	BS13	64	TRP
47	BS13	71	ARG
47	BS13	115	LYS
48	BS14	24	CYS
48	BS14	61	TRP
49	BS15	24	SER
49	BS15	38	ARG
50	BS16	61	SER
51	BS17	12	SER
51	BS17	26	GLN
51	BS17	43	LEU

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Mol	Chain	Res	Type
51	BS17	52	LYS
51	BS17	68	ARG
52	BS18	35	ARG
52	BS18	43	PHE
52	BS18	64	ARG
52	BS18	83	GLU
53	BS19	6	LYS
53	BS19	29	ARG
53	BS19	34	TRP
53	BS19	81	ARG
54	BS20	8	ARG
54	BS20	15	ARG
54	BS20	38	LYS
54	BS20	70	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A16S	1517/1518 (99%)	322 (21%)	22 (1%)
1	B16S	1517/1518 (99%)	321 (21%)	26 (1%)
2	A23S	2874/2881 (99%)	618 (21%)	33 (1%)
2	B23S	2875/2881 (99%)	610 (21%)	32 (1%)
3	A5S	118/119 (99%)	23 (19%)	3 (2%)
3	B5S	118/119 (99%)	12 (10%)	1 (0%)
34	AMRN	8/17 (47%)	5 (62%)	0
34	BMRN	17/17 (100%)	16 (94%)	8 (47%)
35	APTN	72/76 (94%)	38 (52%)	12 (16%)
35	BPTN	72/76 (94%)	54 (75%)	21 (29%)
56	BATN	82/85 (96%)	58 (70%)	10 (12%)
All	All	9270/9307 (99%)	2077 (22%)	168 (1%)

All (2077) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A16S	4	U
1	A16S	6	G
1	A16S	9	G
1	A16S	14	U

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Mol	Chain	Res	Type
1	A16S	32	A
1	A16S	39	G
1	A16S	48	C
1	A16S	51	A
1	A16S	64	G
1	A16S	77	G
1	A16S	78(A)	U
1	A16S	101	A
1	A16S	103	C
1	A16S	108	G
1	A16S	109	A
1	A16S	116	A
1	A16S	121	C
1	A16S	122	G
1	A16S	127	G
1	A16S	129(A)	G
1	A16S	130	A
1	A16S	131	C
1	A16S	144	G
1	A16S	151	A
1	A16S	163	C
1	A16S	169	C
1	A16S	186(G)	C
1	A16S	186(I)	U
1	A16S	186(J)	G
1	A16S	186(K)	G
1	A16S	195	A
1	A16S	197	A
1	A16S	200	G
1	A16S	201(B)	U
1	A16S	201(C)	U
1	A16S	220	G
1	A16S	244	U
1	A16S	247	G
1	A16S	251	G
1	A16S	265	G
1	A16S	267	C
1	A16S	281	G
1	A16S	289	G
1	A16S	306	G
1	A16S	324	G
1	A16S	328	C

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Mol	Chain	Res	Type
1	A16S	329	A
1	A16S	332	G
1	A16S	345	C
1	A16S	346	G
1	A16S	347	G
1	A16S	352	C
1	A16S	353	A
1	A16S	354	G
1	A16S	362	G
1	A16S	363	A
1	A16S	366	C
1	A16S	367	U
1	A16S	372	C
1	A16S	373	A
1	A16S	381	C
1	A16S	382	A
1	A16S	384	G
1	A16S	388	G
1	A16S	390	C
1	A16S	397	A
1	A16S	398	C
1	A16S	405	U
1	A16S	406	G
1	A16S	411	A
1	A16S	412	A
1	A16S	413	G
1	A16S	414	A
1	A16S	422	C
1	A16S	423	G
1	A16S	428	G
1	A16S	429	U
1	A16S	430	A
1	A16S	452	A
1	A16S	453	A
1	A16S	458(C)	G
1	A16S	482	A
1	A16S	484	G
1	A16S	485	G
1	A16S	497	A
1	A16S	498	U
1	A16S	508	C
1	A16S	511	C

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Mol	Chain	Res	Type
1	A16S	518	C
1	A16S	519	C
1	A16S	521	G
1	A16S	527	G
1	A16S	531	U
1	A16S	532	A
1	A16S	547	A
1	A16S	559	A
1	A16S	560	U
1	A16S	561	U
1	A16S	563	A
1	A16S	564	C
1	A16S	568	G
1	A16S	572	A
1	A16S	573	A
1	A16S	576	G
1	A16S	577	G
1	A16S	578	C
1	A16S	607	A
1	A16S	609	A
1	A16S	616	G
1	A16S	620	C
1	A16S	629	G
1	A16S	631	G
1	A16S	653	A
1	A16S	661	G
1	A16S	687	A
1	A16S	688	G
1	A16S	695	A
1	A16S	702	A
1	A16S	708	C
1	A16S	721	G
1	A16S	722	A
1	A16S	723	U
1	A16S	724	G
1	A16S	733	A
1	A16S	734	G
1	A16S	748	C
1	A16S	749	C
1	A16S	755	G
1	A16S	790	A
1	A16S	793	U

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Mol	Chain	Res	Type
1	A16S	794	A
1	A16S	799	G
1	A16S	811	C
1	A16S	812	C
1	A16S	814	A
1	A16S	815	A
1	A16S	817	C
1	A16S	819	A
1	A16S	828	A
1	A16S	838(A)	U
1	A16S	838(B)	C
1	A16S	838(C)	U
1	A16S	848	C
1	A16S	855	G
1	A16S	857	C
1	A16S	859	A
1	A16S	867	G
1	A16S	870	U
1	A16S	871	U
1	A16S	872	A
1	A16S	873	A
1	A16S	885	G
1	A16S	897	C
1	A16S	900	A
1	A16S	901	A
1	A16S	902	G
1	A16S	914	A
1	A16S	926	G
1	A16S	927	G
1	A16S	934	C
1	A16S	935	A
1	A16S	958	A
1	A16S	960	U
1	A16S	966	G
1	A16S	968	A
1	A16S	969	A
1	A16S	971	G
1	A16S	974	A
1	A16S	976	G
1	A16S	977	A
1	A16S	978	A
1	A16S	981	U

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Mol	Chain	Res	Type
1	A16S	982	U
1	A16S	991	U
1	A16S	992	U
1	A16S	993	G
1	A16S	1003	G
1	A16S	1004	A
1	A16S	1005	A
1	A16S	1006	C
1	A16S	1014	A
1	A16S	1023	G
1	A16S	1028(B)	C
1	A16S	1028(E)	G
1	A16S	1028(F)	A
1	A16S	1028(G)	G
1	A16S	1043	C
1	A16S	1045	C
1	A16S	1046	A
1	A16S	1053	G
1	A16S	1054	C
1	A16S	1055	A
1	A16S	1064	G
1	A16S	1065	U
1	A16S	1066	C
1	A16S	1070	U
1	A16S	1081	G
1	A16S	1085	U
1	A16S	1092	A
1	A16S	1094	G
1	A16S	1095	U
1	A16S	1101	A
1	A16S	1102	A
1	A16S	1117	G
1	A16S	1124	G
1	A16S	1125	U
1	A16S	1126	U
1	A16S	1129	C
1	A16S	1130	A
1	A16S	1131	G
1	A16S	1135	U
1	A16S	1137	C
1	A16S	1138	G
1	A16S	1139	G

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Mol	Chain	Res	Type
1	A16S	1140	C
1	A16S	1146	A
1	A16S	1148	U
1	A16S	1152	A
1	A16S	1157	A
1	A16S	1158	C
1	A16S	1159	U
1	A16S	1160	G
1	A16S	1164	G
1	A16S	1167	A
1	A16S	1174	G
1	A16S	1175	G
1	A16S	1184	G
1	A16S	1190	G
1	A16S	1191	A
1	A16S	1196	U
1	A16S	1198	G
1	A16S	1200	C
1	A16S	1202	G
1	A16S	1212	U
1	A16S	1213	A
1	A16S	1225	A
1	A16S	1227	A
1	A16S	1228	C
1	A16S	1236	A
1	A16S	1238	A
1	A16S	1240	U
1	A16S	1241	G
1	A16S	1256	A
1	A16S	1257	U
1	A16S	1258	G
1	A16S	1267	C
1	A16S	1270	C
1	A16S	1278	U
1	A16S	1280	A
1	A16S	1283	G
1	A16S	1286	A
1	A16S	1287	A
1	A16S	1288	A
1	A16S	1290	G
1	A16S	1299	A
1	A16S	1300	G

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Mol	Chain	Res	Type
1	A16S	1301	U
1	A16S	1302	U
1	A16S	1305	G
1	A16S	1306	A
1	A16S	1315	U
1	A16S	1317	C
1	A16S	1318	A
1	A16S	1319	A
1	A16S	1320	C
1	A16S	1321	C
1	A16S	1322	C
1	A16S	1323	G
1	A16S	1324	A
1	A16S	1328	C
1	A16S	1329	A
1	A16S	1331	G
1	A16S	1332	A
1	A16S	1340	A
1	A16S	1347	G
1	A16S	1353	G
1	A16S	1357	A
1	A16S	1358	U
1	A16S	1359	C
1	A16S	1361	G
1	A16S	1362(A)	C
1	A16S	1363	A
1	A16S	1364	U
1	A16S	1365	G
1	A16S	1374	A
1	A16S	1377	A
1	A16S	1378	C
1	A16S	1379	G
1	A16S	1395	C
1	A16S	1398	A
1	A16S	1400	C
1	A16S	1401	G
1	A16S	1413	A
1	A16S	1419	G
1	A16S	1422	G
1	A16S	1423	G
1	A16S	1440(A)	G
1	A16S	1440(C)	G

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Mol	Chain	Res	Type
1	A16S	1440(D)	A
1	A16S	1440(E)	G
1	A16S	1440(H)	U
1	A16S	1440(J)	C
1	A16S	1440(K)	G
1	A16S	1469	G
1	A16S	1482	G
1	A16S	1493	A
1	A16S	1494	G
1	A16S	1499	A
1	A16S	1502	A
1	A16S	1503	A
1	A16S	1504	G
1	A16S	1505	G
1	A16S	1506	U
1	A16S	1507	A
1	A16S	1517	G
1	A16S	1520	G
1	A16S	1529	G
1	A16S	1530	G
1	A16S	1535	C
1	A16S	1536	C
1	A16S	1537	U
1	A16S	1541	U
2	A23S	10	G
2	A23S	17	G
2	A23S	27	G
2	A23S	34	C
2	A23S	35	G
2	A23S	36	G
2	A23S	46	C
2	A23S	50	U
2	A23S	51	G
2	A23S	61	G
2	A23S	63	U
2	A23S	64	A
2	A23S	71	A
2	A23S	72	U
2	A23S	75	G
2	A23S	84	A
2	A23S	91	A
2	A23S	95	G

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Mol	Chain	Res	Type
2	A23S	98	G
2	A23S	99	U
2	A23S	101	G
2	A23S	102	G
2	A23S	105	C
2	A23S	118	A
2	A23S	119	A
2	A23S	120	U
2	A23S	126	A
2	A23S	131	G
2	A23S	137(B)	G
2	A23S	137(D)	A
2	A23S	137(E)	A
2	A23S	155(A)	U
2	A23S	155(B)	U
2	A23S	155(C)	U
2	A23S	155(D)	U
2	A23S	155(E)	U
2	A23S	172	C
2	A23S	181	A
2	A23S	196	A
2	A23S	197	A
2	A23S	199	A
2	A23S	205	G
2	A23S	215	G
2	A23S	216	A
2	A23S	221	A
2	A23S	222	A
2	A23S	227	A
2	A23S	229	A
2	A23S	230	U
2	A23S	233	A
2	A23S	241	A
2	A23S	245	G
2	A23S	247	G
2	A23S	248	G
2	A23S	250	G
2	A23S	252	G
2	A23S	267	C
2	A23S	269	U
2	A23S	270(M)	U
2	A23S	270(N)	G

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Mol	Chain	Res	Type
2	A23S	270(O)	U
2	A23S	270(P)	C
2	A23S	270(Q)	C
2	A23S	270(Y)	G
2	A23S	271(B)	G
2	A23S	271(C)	U
2	A23S	271(D)	G
2	A23S	271(M)	G
2	A23S	271(Q)	A
2	A23S	271(R)	C
2	A23S	284	C
2	A23S	295	G
2	A23S	302	C
2	A23S	306	U
2	A23S	308	G
2	A23S	320	A
2	A23S	323	G
2	A23S	324	A
2	A23S	329	G
2	A23S	330	A
2	A23S	345	A
2	A23S	346	A
2	A23S	352	G
2	A23S	353	G
2	A23S	357(F)	G
2	A23S	357(L)	A
2	A23S	357(M)	C
2	A23S	357(O)	C
2	A23S	372	G
2	A23S	373	U
2	A23S	379	G
2	A23S	380	U
2	A23S	384	U
2	A23S	386	G
2	A23S	396	G
2	A23S	401	A
2	A23S	404	C
2	A23S	405	U
2	A23S	406	G
2	A23S	411	G
2	A23S	412	A
2	A23S	418	G

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Mol	Chain	Res	Type
2	A23S	423	A
2	A23S	424	G
2	A23S	444	C
2	A23S	451	C
2	A23S	452	G
2	A23S	455	C
2	A23S	457	A
2	A23S	470	A
2	A23S	474	G
2	A23S	481	G
2	A23S	482	A
2	A23S	483	A
2	A23S	504	U
2	A23S	505	A
2	A23S	508	G
2	A23S	509	C
2	A23S	512	G
2	A23S	513	A
2	A23S	526	A
2	A23S	527	C
2	A23S	531	C
2	A23S	532	A
2	A23S	563	G
2	A23S	569	U
2	A23S	571	A
2	A23S	572	A
2	A23S	573	G
2	A23S	574	C
2	A23S	575	A
2	A23S	583	G
2	A23S	587	C
2	A23S	602	G
2	A23S	603	A
2	A23S	610	G
2	A23S	611(E)	G
2	A23S	611(F)	A
2	A23S	611(G)	G
2	A23S	618	C
2	A23S	627	A
2	A23S	637	A
2	A23S	642	G
2	A23S	646	A

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Mol	Chain	Res	Type
2	A23S	650	C
2	A23S	653	C
2	A23S	654	U
2	A23S	655	A
2	A23S	656	G
2	A23S	670	A
2	A23S	671	C
2	A23S	676	A
2	A23S	686	G
2	A23S	730	C
2	A23S	740	U
2	A23S	747	U
2	A23S	748	G
2	A23S	765	G
2	A23S	775	G
2	A23S	776	G
2	A23S	782	A
2	A23S	784	A
2	A23S	785	G
2	A23S	791	C
2	A23S	792	G
2	A23S	798	G
2	A23S	800	A
2	A23S	805	G
2	A23S	812	C
2	A23S	819	A
2	A23S	827	U
2	A23S	828	U
2	A23S	830	G
2	A23S	833	U
2	A23S	846	C
2	A23S	847	U
2	A23S	859	G
2	A23S	860	U
2	A23S	879	G
2	A23S	884	C
2	A23S	886	C
2	A23S	887	A
2	A23S	888	C
2	A23S	889	C
2	A23S	896	A
2	A23S	897	C

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Mol	Chain	Res	Type
2	A23S	910	A
2	A23S	914	C
2	A23S	917	A
2	A23S	919	G
2	A23S	932	G
2	A23S	933	A
2	A23S	941	A
2	A23S	946	G
2	A23S	957	A
2	A23S	961	C
2	A23S	974	G
2	A23S	974(A)	C
2	A23S	983	A
2	A23S	990	A
2	A23S	996	A
2	A23S	1003	G
2	A23S	1008	C
2	A23S	1009	A
2	A23S	1011	G
2	A23S	1012	U
2	A23S	1013	C
2	A23S	1017	G
2	A23S	1020	A
2	A23S	1022	G
2	A23S	1023	U
2	A23S	1025	G
2	A23S	1026	U
2	A23S	1034	G
2	A23S	1041	C
2	A23S	1045	A
2	A23S	1046	A
2	A23S	1047	G
2	A23S	1048	A
2	A23S	1066	U
2	A23S	1067	A
2	A23S	1069	A
2	A23S	1070	A
2	A23S	1071	G
2	A23S	1073	A
2	A23S	1077	A
2	A23S	1078	U
2	A23S	1079	C

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Mol	Chain	Res	Type
2	A23S	1081	U
2	A23S	1082	U
2	A23S	1086	A
2	A23S	1087	G
2	A23S	1088	A
2	A23S	1089	G
2	A23S	1095	A
2	A23S	1097	U
2	A23S	1098	A
2	A23S	1104	C
2	A23S	1112	G
2	A23S	1122	G
2	A23S	1129	A
2	A23S	1130	U
2	A23S	1135	C
2	A23S	1136	G
2	A23S	1155	A
2	A23S	1156	A
2	A23S	1171	G
2	A23S	1173	A
2	A23S	1174	U
2	A23S	1177	A
2	A23S	1195	G
2	A23S	1204	A
2	A23S	1205	U
2	A23S	1210	A
2	A23S	1211	U
2	A23S	1218	C
2	A23S	1220	C
2	A23S	1225	G
2	A23S	1227	G
2	A23S	1236	G
2	A23S	1247	A
2	A23S	1253	A
2	A23S	1256	G
2	A23S	1265	A
2	A23S	1271	G
2	A23S	1272	A
2	A23S	1300	U
2	A23S	1301	A
2	A23S	1302	A
2	A23S	1309	G

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Mol	Chain	Res	Type
2	A23S	1311	G
2	A23S	1314	C
2	A23S	1321	A
2	A23S	1329	U
2	A23S	1341	U
2	A23S	1349	A
2	A23S	1350	C
2	A23S	1352	U
2	A23S	1359	A
2	A23S	1360	A
2	A23S	1364	G
2	A23S	1371	G
2	A23S	1378	A
2	A23S	1379	A
2	A23S	1385	G
2	A23S	1386	C
2	A23S	1392	A
2	A23S	1395	A
2	A23S	1396	U
2	A23S	1416	G
2	A23S	1420	U
2	A23S	1421	G
2	A23S	1427	A
2	A23S	1428	C
2	A23S	1429	G
2	A23S	1441	G
2	A23S	1444(A)	A
2	A23S	1445	C
2	A23S	1453	A
2	A23S	1454	U
2	A23S	1455	G
2	A23S	1460	A
2	A23S	1461	G
2	A23S	1467	C
2	A23S	1468(A)	A
2	A23S	1468(J)	G
2	A23S	1483	G
2	A23S	1490	A
2	A23S	1494	A
2	A23S	1495	A
2	A23S	1497	U
2	A23S	1498	C

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Mol	Chain	Res	Type
2	A23S	1506(B)	A
2	A23S	1506(C)	A
2	A23S	1506(K)	C
2	A23S	1526	G
2	A23S	1533	C
2	A23S	1535	U
2	A23S	1537	C
2	A23S	1538	G
2	A23S	1540	G
2	A23S	1541	U
2	A23S	1542	G
2	A23S	1543	A
2	A23S	1543(A)	C
2	A23S	1544	A
2	A23S	1547	C
2	A23S	1554	A
2	A23S	1558	A
2	A23S	1559	G
2	A23S	1560	G
2	A23S	1566	A
2	A23S	1569	A
2	A23S	1584	C
2	A23S	1595	G
2	A23S	1603	A
2	A23S	1606	G
2	A23S	1607	C
2	A23S	1608	A
2	A23S	1611	C
2	A23S	1617	C
2	A23S	1618	A
2	A23S	1634	A
2	A23S	1639	U
2	A23S	1640	C
2	A23S	1644	C
2	A23S	1646	C
2	A23S	1648	C
2	A23S	1651	G
2	A23S	1665	A
2	A23S	1674	G
2	A23S	1696	G
2	A23S	1698	A
2	A23S	1699	G

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Mol	Chain	Res	Type
2	A23S	1712(H)	A
2	A23S	1712(K)	A
2	A23S	1712(Q)	G
2	A23S	1756	G
2	A23S	1758	G
2	A23S	1762	A
2	A23S	1763	G
2	A23S	1764	G
2	A23S	1773	A
2	A23S	1774	C
2	A23S	1784	A
2	A23S	1786	A
2	A23S	1800	C
2	A23S	1801	G
2	A23S	1802	A
2	A23S	1808	U
2	A23S	1809	A
2	A23S	1815	A
2	A23S	1816	G
2	A23S	1827	C
2	A23S	1829	A
2	A23S	1847	A
2	A23S	1848	A
2	A23S	1853	A
2	A23S	1864(C)	A
2	A23S	1878	G
2	A23S	1883	G
2	A23S	1887	C
2	A23S	1888	G
2	A23S	1903	G
2	A23S	1906	G
2	A23S	1914	C
2	A23S	1927	A
2	A23S	1929	G
2	A23S	1931	U
2	A23S	1936	A
2	A23S	1937	A
2	A23S	1938	A
2	A23S	1939	U
2	A23S	1943	U
2	A23S	1952	A
2	A23S	1953	A

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Mol	Chain	Res	Type
2	A23S	1955	U
2	A23S	1962	C
2	A23S	1963	U
2	A23S	1967	C
2	A23S	1971	A
2	A23S	1972	A
2	A23S	1981	A
2	A23S	1982	C
2	A23S	1991	U
2	A23S	1993	U
2	A23S	1995	U
2	A23S	1996	C
2	A23S	2023	G
2	A23S	2030	A
2	A23S	2031	A
2	A23S	2032	G
2	A23S	2033	A
2	A23S	2043	C
2	A23S	2046	G
2	A23S	2049	G
2	A23S	2052	G
2	A23S	2055	C
2	A23S	2057	A
2	A23S	2058	A
2	A23S	2059	A
2	A23S	2060	A
2	A23S	2061	G
2	A23S	2062	A
2	A23S	2063	C
2	A23S	2068	U
2	A23S	2069	G
2	A23S	2093	G
2	A23S	2094	G
2	A23S	2111	C
2	A23S	2112	G
2	A23S	2116	G
2	A23S	2119	A
2	A23S	2120	G
2	A23S	2124	G
2	A23S	2126	A
2	A23S	2132	U
2	A23S	2133	G

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Mol	Chain	Res	Type
2	A23S	2134	A
2	A23S	2135	A
2	A23S	2136	C
2	A23S	2137	C
2	A23S	2141	G
2	A23S	2142	C
2	A23S	2145	C
2	A23S	2146	C
2	A23S	2149	G
2	A23S	2151	G
2	A23S	2153	G
2	A23S	2155	G
2	A23S	2156	G
2	A23S	2157	G
2	A23S	2158	A
2	A23S	2159	G
2	A23S	2161	C
2	A23S	2171	A
2	A23S	2173	A
2	A23S	2174	C
2	A23S	2177	C
2	A23S	2190	G
2	A23S	2191	G
2	A23S	2198	A
2	A23S	2202(D)	G
2	A23S	2202(E)	A
2	A23S	2202(F)	U
2	A23S	2202(H)	G
2	A23S	2225	A
2	A23S	2235	G
2	A23S	2236	C
2	A23S	2239	G
2	A23S	2249	U
2	A23S	2254	C
2	A23S	2266	A
2	A23S	2273	A
2	A23S	2275	C
2	A23S	2278	A
2	A23S	2283	C
2	A23S	2286	A
2	A23S	2287	A
2	A23S	2288	A

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Mol	Chain	Res	Type
2	A23S	2304	G
2	A23S	2305	A
2	A23S	2306	C
2	A23S	2307	G
2	A23S	2311	A
2	A23S	2312	U
2	A23S	2320	A
2	A23S	2327	A
2	A23S	2333	A
2	A23S	2334	G
2	A23S	2336	A
2	A23S	2338	G
2	A23S	2346	A
2	A23S	2347	C
2	A23S	2350	C
2	A23S	2358	G
2	A23S	2361	A
2	A23S	2377	A
2	A23S	2379	G
2	A23S	2383	G
2	A23S	2385	C
2	A23S	2391	G
2	A23S	2392	A
2	A23S	2402	C
2	A23S	2406	U
2	A23S	2422	A
2	A23S	2423	U
2	A23S	2426	A
2	A23S	2428	G
2	A23S	2429	G
2	A23S	2430	A
2	A23S	2432	A
2	A23S	2434	A
2	A23S	2435	A
2	A23S	2439	A
2	A23S	2441	C
2	A23S	2447	G
2	A23S	2448	A
2	A23S	2452	C
2	A23S	2465	C
2	A23S	2470	G
2	A23S	2473	U

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Mol	Chain	Res	Type
2	A23S	2475	C
2	A23S	2476	A
2	A23S	2478	A
2	A23S	2482	G
2	A23S	2484	G
2	A23S	2494	G
2	A23S	2498	C
2	A23S	2501	C
2	A23S	2502	G
2	A23S	2503	A
2	A23S	2505	G
2	A23S	2506	U
2	A23S	2507	C
2	A23S	2520	C
2	A23S	2529	G
2	A23S	2531	A
2	A23S	2542	A
2	A23S	2543	G
2	A23S	2553	G
2	A23S	2554	U
2	A23S	2555	U
2	A23S	2562	U
2	A23S	2566	A
2	A23S	2567	G
2	A23S	2572	A
2	A23S	2573	C
2	A23S	2574	G
2	A23S	2578	G
2	A23S	2581	G
2	A23S	2582	G
2	A23S	2584	U
2	A23S	2585	U
2	A23S	2586	C
2	A23S	2596	U
2	A23S	2603	G
2	A23S	2610	C
2	A23S	2611	U
2	A23S	2612	C
2	A23S	2630	G
2	A23S	2639	A
2	A23S	2645	G
2	A23S	2646	C

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Mol	Chain	Res	Type
2	A23S	2655	G
2	A23S	2661	G
2	A23S	2665	A
2	A23S	2682	U
2	A23S	2689	U
2	A23S	2690	C
2	A23S	2691	C
2	A23S	2702	U
2	A23S	2703	C
2	A23S	2712	U
2	A23S	2712(A)	A
2	A23S	2713	A
2	A23S	2714	G
2	A23S	2720	U
2	A23S	2722	G
2	A23S	2726	U
2	A23S	2732	G
2	A23S	2733	A
2	A23S	2744	G
2	A23S	2752	C
2	A23S	2757	A
2	A23S	2765	A
2	A23S	2766	G
2	A23S	2778	A
2	A23S	2779	U
2	A23S	2780	G
2	A23S	2789	C
2	A23S	2790	A
2	A23S	2791	C
2	A23S	2792	G
2	A23S	2794	C
2	A23S	2794(B)	U
2	A23S	2794(D)	A
2	A23S	2807	G
2	A23S	2808	U
2	A23S	2818	G
2	A23S	2820	A
2	A23S	2821	A
2	A23S	2824	C
2	A23S	2833	G
2	A23S	2834	G
2	A23S	2835	A

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Mol	Chain	Res	Type
2	A23S	2848	G
2	A23S	2849	U
2	A23S	2850	A
2	A23S	2858	C
2	A23S	2861	G
2	A23S	2864	G
2	A23S	2866	U
2	A23S	2872	G
2	A23S	2880	C
2	A23S	2886	G
2	A23S	2894	G
2	A23S	2895	U
3	A5S	12	C
3	A5S	13	A
3	A5S	14	U
3	A5S	15	A
3	A5S	16	G
3	A5S	24	G
3	A5S	34	U
3	A5S	35	U
3	A5S	41	U
3	A5S	42	C
3	A5S	44	G
3	A5S	52	A
3	A5S	53	A
3	A5S	63	G
3	A5S	66	A
3	A5S	67	G
3	A5S	73	A
3	A5S	82	G
3	A5S	88	C
3	A5S	89(A)	G
3	A5S	89(B)	A
3	A5S	98	G
3	A5S	109	G
34	AMRN	8	A
34	AMRN	10	G
34	AMRN	16	G
34	AMRN	17	U
34	AMRN	18	A
35	APTN	3	G
35	APTN	4	U

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Mol	Chain	Res	Type
35	APTN	5	G
35	APTN	6	A
35	APTN	7	U
35	APTN	9	A
35	APTN	10	G
35	APTN	12	U
35	APTN	13	C
35	APTN	15	G
35	APTN	16	C
35	APTN	17	U
35	APTN	18	G
35	APTN	19	G
35	APTN	20	G
35	APTN	21	A
35	APTN	23	A
35	APTN	24	G
35	APTN	25	C
35	APTN	30	C
35	APTN	32	C
35	APTN	33	U
35	APTN	35	A
35	APTN	36	C
35	APTN	41	A
35	APTN	44	G
35	APTN	45	G
35	APTN	46	G7M
35	APTN	47	U
35	APTN	48	C
35	APTN	50	G
35	APTN	53	G
35	APTN	65	C
35	APTN	68	C
35	APTN	72	C
35	APTN	73	A
35	APTN	74	C
35	APTN	75	C
1	B16S	4	U
1	B16S	5	U
1	B16S	6	G
1	B16S	7	G
1	B16S	9	G
1	B16S	31	G

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Mol	Chain	Res	Type
1	B16S	32	A
1	B16S	33	A
1	B16S	39	G
1	B16S	47	C
1	B16S	48	C
1	B16S	50	A
1	B16S	51	A
1	B16S	54	C
1	B16S	58	C
1	B16S	76	G
1	B16S	78(A)	U
1	B16S	78(E)	A
1	B16S	91	C
1	B16S	101	A
1	B16S	116	A
1	B16S	121	C
1	B16S	122	G
1	B16S	130	A
1	B16S	131	C
1	B16S	147	G
1	B16S	160	A
1	B16S	161	A
1	B16S	163	C
1	B16S	173	U
1	B16S	186(F)	C
1	B16S	186(G)	C
1	B16S	186(H)	U
1	B16S	186(I)	U
1	B16S	186(J)	G
1	B16S	197	A
1	B16S	201(C)	U
1	B16S	216	G
1	B16S	220	G
1	B16S	231	G
1	B16S	245	C
1	B16S	247	G
1	B16S	251	G
1	B16S	252	U
1	B16S	261	U
1	B16S	262	A
1	B16S	266	G
1	B16S	267	C

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Mol	Chain	Res	Type
1	B16S	268	C
1	B16S	280	C
1	B16S	281	G
1	B16S	283	C
1	B16S	289	G
1	B16S	327	A
1	B16S	328	C
1	B16S	329	A
1	B16S	332	G
1	B16S	345	C
1	B16S	348	G
1	B16S	352	C
1	B16S	353	A
1	B16S	354	G
1	B16S	362	G
1	B16S	363	A
1	B16S	367	U
1	B16S	372	C
1	B16S	381	C
1	B16S	389	A
1	B16S	392	G
1	B16S	397	A
1	B16S	398	C
1	B16S	403	C
1	B16S	406	G
1	B16S	411	A
1	B16S	412	A
1	B16S	413	G
1	B16S	414	A
1	B16S	421	U
1	B16S	422	C
1	B16S	424	G
1	B16S	429	U
1	B16S	430	A
1	B16S	440	A
1	B16S	452	A
1	B16S	453	A
1	B16S	455	C
1	B16S	458(B)	A
1	B16S	458(C)	G
1	B16S	481	G
1	B16S	482	A

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Mol	Chain	Res	Type
1	B16S	484	G
1	B16S	485	G
1	B16S	497	A
1	B16S	498	U
1	B16S	499	A
1	B16S	509	A
1	B16S	510	A
1	B16S	511	C
1	B16S	518	C
1	B16S	519	C
1	B16S	521	G
1	B16S	527	G
1	B16S	532	A
1	B16S	533	A
1	B16S	534	U
1	B16S	535	A
1	B16S	536	C
1	B16S	547	A
1	B16S	559	A
1	B16S	560	U
1	B16S	562	C
1	B16S	566	G
1	B16S	573	A
1	B16S	576	G
1	B16S	577	G
1	B16S	596	C
1	B16S	604	G
1	B16S	631	G
1	B16S	632	A
1	B16S	653	A
1	B16S	661	G
1	B16S	666	G
1	B16S	687	A
1	B16S	688	G
1	B16S	695	A
1	B16S	702	A
1	B16S	721	G
1	B16S	722	A
1	B16S	723	U
1	B16S	733	A
1	B16S	748	C
1	B16S	749	C

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Mol	Chain	Res	Type
1	B16S	755	G
1	B16S	773	G
1	B16S	777	A
1	B16S	793	U
1	B16S	794	A
1	B16S	815	A
1	B16S	816	A
1	B16S	817	C
1	B16S	819	A
1	B16S	828	A
1	B16S	838(A)	U
1	B16S	838(B)	C
1	B16S	838(C)	U
1	B16S	848	C
1	B16S	859	A
1	B16S	872	A
1	B16S	876	G
1	B16S	885	G
1	B16S	899	C
1	B16S	902	G
1	B16S	914	A
1	B16S	927	G
1	B16S	930	C
1	B16S	934	C
1	B16S	935	A
1	B16S	936	C
1	B16S	942	G
1	B16S	960	U
1	B16S	961	U
1	B16S	966	G
1	B16S	969	A
1	B16S	971	G
1	B16S	974	A
1	B16S	975	A
1	B16S	976	G
1	B16S	978	A
1	B16S	980	C
1	B16S	981	U
1	B16S	989	C
1	B16S	991	U
1	B16S	992	U
1	B16S	993	G

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Mol	Chain	Res	Type
1	B16S	998	G
1	B16S	999	U
1	B16S	1003	G
1	B16S	1004	A
1	B16S	1012	U
1	B16S	1015	A
1	B16S	1016	A
1	B16S	1021	G
1	B16S	1024	G
1	B16S	1025	U
1	B16S	1028(B)	C
1	B16S	1028(F)	A
1	B16S	1044	A
1	B16S	1045	C
1	B16S	1050	G
1	B16S	1053	G
1	B16S	1054	C
1	B16S	1055	A
1	B16S	1064	G
1	B16S	1065	U
1	B16S	1066	C
1	B16S	1078	U
1	B16S	1080	A
1	B16S	1081	G
1	B16S	1086	U
1	B16S	1089	G
1	B16S	1090	U
1	B16S	1094	G
1	B16S	1095	U
1	B16S	1101	A
1	B16S	1102	A
1	B16S	1108	G
1	B16S	1115	C
1	B16S	1118	C
1	B16S	1125	U
1	B16S	1126	U
1	B16S	1129	C
1	B16S	1130	A
1	B16S	1135	U
1	B16S	1136	U
1	B16S	1137	C
1	B16S	1138	G

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Mol	Chain	Res	Type
1	B16S	1139	G
1	B16S	1140	C
1	B16S	1146	A
1	B16S	1147	C
1	B16S	1152	A
1	B16S	1158	C
1	B16S	1159	U
1	B16S	1160	G
1	B16S	1167	A
1	B16S	1169	A
1	B16S	1178	G
1	B16S	1181	G
1	B16S	1184	G
1	B16S	1190	G
1	B16S	1196	U
1	B16S	1202	G
1	B16S	1212	U
1	B16S	1213	A
1	B16S	1214	C
1	B16S	1219	U
1	B16S	1225	A
1	B16S	1226	C
1	B16S	1227	A
1	B16S	1232	U
1	B16S	1238	A
1	B16S	1240	U
1	B16S	1250	A
1	B16S	1256	A
1	B16S	1257	U
1	B16S	1258	G
1	B16S	1260	C
1	B16S	1267	C
1	B16S	1268	A
1	B16S	1269	A
1	B16S	1278	U
1	B16S	1280	A
1	B16S	1281	U
1	B16S	1282	C
1	B16S	1286	A
1	B16S	1287	A
1	B16S	1290	G
1	B16S	1297	C

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Mol	Chain	Res	Type
1	B16S	1299	A
1	B16S	1300	G
1	B16S	1301	U
1	B16S	1302	U
1	B16S	1303	C
1	B16S	1305	G
1	B16S	1317	C
1	B16S	1319	A
1	B16S	1320	C
1	B16S	1322	C
1	B16S	1323	G
1	B16S	1324	A
1	B16S	1325	C
1	B16S	1331	G
1	B16S	1332	A
1	B16S	1338	G
1	B16S	1346	A
1	B16S	1347	G
1	B16S	1348	U
1	B16S	1353	G
1	B16S	1359	C
1	B16S	1360	A
1	B16S	1361	G
1	B16S	1362(A)	C
1	B16S	1363	A
1	B16S	1364	U
1	B16S	1365	G
1	B16S	1368	G
1	B16S	1370	G
1	B16S	1378	C
1	B16S	1379	G
1	B16S	1398	A
1	B16S	1419	G
1	B16S	1422	G
1	B16S	1429	C
1	B16S	1440(C)	G
1	B16S	1440(D)	A
1	B16S	1440(E)	G
1	B16S	1440(I)	A
1	B16S	1440(J)	C
1	B16S	1440(K)	G
1	B16S	1487	G

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Mol	Chain	Res	Type
1	B16S	1492	A
1	B16S	1493	A
1	B16S	1494	G
1	B16S	1497	G
1	B16S	1502	A
1	B16S	1503	A
1	B16S	1504	G
1	B16S	1505	G
1	B16S	1506	U
1	B16S	1517	G
1	B16S	1520	G
1	B16S	1525	G
1	B16S	1529	G
1	B16S	1530	G
1	B16S	1534	A
1	B16S	1535	C
1	B16S	1536	C
1	B16S	1537	U
1	B16S	1538	C
1	B16S	1540	U
1	B16S	1541	U
2	B23S	9	U
2	B23S	14	A
2	B23S	15	G
2	B23S	25	U
2	B23S	26	G
2	B23S	30	G
2	B23S	34	C
2	B23S	35	G
2	B23S	43	G
2	B23S	46	C
2	B23S	50	U
2	B23S	58	G
2	B23S	61	G
2	B23S	63	U
2	B23S	64	A
2	B23S	71	A
2	B23S	74	A
2	B23S	75	G
2	B23S	79	G
2	B23S	90	U
2	B23S	91	A

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Mol	Chain	Res	Type
2	B23S	93	C
2	B23S	96	G
2	B23S	101	G
2	B23S	102	G
2	B23S	104	U
2	B23S	118	A
2	B23S	120	U
2	B23S	121	G
2	B23S	127	A
2	B23S	131	G
2	B23S	137(B)	G
2	B23S	137(D)	A
2	B23S	149	A
2	B23S	155(A)	U
2	B23S	155(B)	U
2	B23S	155(C)	U
2	B23S	155(D)	U
2	B23S	155(E)	U
2	B23S	196	A
2	B23S	199	A
2	B23S	204	A
2	B23S	205	G
2	B23S	212	G
2	B23S	216	A
2	B23S	221	A
2	B23S	222	A
2	B23S	225	A
2	B23S	227	A
2	B23S	228	A
2	B23S	229	A
2	B23S	233	A
2	B23S	241	A
2	B23S	248	G
2	B23S	252	G
2	B23S	270(D)	C
2	B23S	270(L)	U
2	B23S	270(M)	U
2	B23S	270(N)	G
2	B23S	270(O)	U
2	B23S	270(Q)	C
2	B23S	270(T)	G
2	B23S	270(Y)	G

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Mol	Chain	Res	Type
2	B23S	270(Z)	U
2	B23S	271(C)	U
2	B23S	271(D)	G
2	B23S	271(M)	G
2	B23S	271(N)	G
2	B23S	271(O)	A
2	B23S	271(Q)	A
2	B23S	271(R)	C
2	B23S	294	A
2	B23S	302	C
2	B23S	310	A
2	B23S	311	A
2	B23S	324	A
2	B23S	325	G
2	B23S	329	G
2	B23S	330	A
2	B23S	332	A
2	B23S	333	G
2	B23S	352	G
2	B23S	353	G
2	B23S	357(B)	A
2	B23S	357(F)	G
2	B23S	357(L)	A
2	B23S	371	A
2	B23S	372	G
2	B23S	380	U
2	B23S	381	G
2	B23S	386	G
2	B23S	387	U
2	B23S	396	G
2	B23S	400	G
2	B23S	401	A
2	B23S	403	U
2	B23S	404	C
2	B23S	405	U
2	B23S	411	G
2	B23S	435	C
2	B23S	444	C
2	B23S	451	C
2	B23S	456	C
2	B23S	457	A
2	B23S	458	G

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Mol	Chain	Res	Type
2	B23S	464	U
2	B23S	467	G
2	B23S	470	A
2	B23S	473	G
2	B23S	481	G
2	B23S	482	A
2	B23S	489	G
2	B23S	504	U
2	B23S	505	A
2	B23S	506	G
2	B23S	508	G
2	B23S	509	C
2	B23S	518	G
2	B23S	528	A
2	B23S	530	G
2	B23S	531	C
2	B23S	532	A
2	B23S	533	G
2	B23S	543(B)	C
2	B23S	563	G
2	B23S	571	A
2	B23S	574	C
2	B23S	575	A
2	B23S	599	G
2	B23S	602	G
2	B23S	603	A
2	B23S	611(E)	G
2	B23S	611(G)	G
2	B23S	617	G
2	B23S	618	C
2	B23S	627	A
2	B23S	637	A
2	B23S	645	C
2	B23S	646	A
2	B23S	651	G
2	B23S	653	C
2	B23S	654	U
2	B23S	655	A
2	B23S	656	G
2	B23S	668	G
2	B23S	670	A
2	B23S	671	C

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Mol	Chain	Res	Type
2	B23S	677	A
2	B23S	682	G
2	B23S	686	G
2	B23S	695	G
2	B23S	717	G
2	B23S	724	U
2	B23S	726	G
2	B23S	730	C
2	B23S	738	G
2	B23S	747	U
2	B23S	749	C
2	B23S	750	A
2	B23S	757	U
2	B23S	765	G
2	B23S	771	G
2	B23S	776	G
2	B23S	782	A
2	B23S	783	A
2	B23S	784	A
2	B23S	785	G
2	B23S	790	C
2	B23S	791	C
2	B23S	792	G
2	B23S	800	A
2	B23S	805	G
2	B23S	812	C
2	B23S	819	A
2	B23S	826	U
2	B23S	827	U
2	B23S	828	U
2	B23S	830	G
2	B23S	846	C
2	B23S	847	U
2	B23S	859	G
2	B23S	860	U
2	B23S	866	A
2	B23S	869	G
2	B23S	880	G
2	B23S	886	C
2	B23S	887	A
2	B23S	888	C
2	B23S	889	C

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Mol	Chain	Res	Type
2	B23S	894	C
2	B23S	895	U
2	B23S	896	A
2	B23S	910	A
2	B23S	915	C
2	B23S	917	A
2	B23S	932	G
2	B23S	933	A
2	B23S	941	A
2	B23S	946	G
2	B23S	953	A
2	B23S	957	A
2	B23S	958	U
2	B23S	959	A
2	B23S	961	C
2	B23S	962	G
2	B23S	973	A
2	B23S	974	G
2	B23S	974(A)	C
2	B23S	982	C
2	B23S	983	A
2	B23S	990	A
2	B23S	995	C
2	B23S	996	A
2	B23S	1003	G
2	B23S	1008	C
2	B23S	1009	A
2	B23S	1011	G
2	B23S	1012	U
2	B23S	1013	C
2	B23S	1020	A
2	B23S	1022	G
2	B23S	1023	U
2	B23S	1025	G
2	B23S	1026	U
2	B23S	1033	U
2	B23S	1039	G
2	B23S	1045	A
2	B23S	1047	G
2	B23S	1048	A
2	B23S	1057	A
2	B23S	1059	G

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Mol	Chain	Res	Type
2	B23S	1060	U
2	B23S	1061	U
2	B23S	1062	G
2	B23S	1063	G
2	B23S	1065	U
2	B23S	1067	A
2	B23S	1068	G
2	B23S	1069	A
2	B23S	1070	A
2	B23S	1071	G
2	B23S	1074	G
2	B23S	1077	A
2	B23S	1079	C
2	B23S	1083	U
2	B23S	1086	A
2	B23S	1087	G
2	B23S	1088	A
2	B23S	1090	U
2	B23S	1094	U
2	B23S	1095	A
2	B23S	1096	A
2	B23S	1097	U
2	B23S	1100	C
2	B23S	1101	U
2	B23S	1102	C
2	B23S	1109	C
2	B23S	1110	G
2	B23S	1112	G
2	B23S	1126	A
2	B23S	1129	A
2	B23S	1130	U
2	B23S	1135	C
2	B23S	1136	G
2	B23S	1155	A
2	B23S	1173	A
2	B23S	1174	U
2	B23S	1177	A
2	B23S	1205	U
2	B23S	1206	G
2	B23S	1211	U
2	B23S	1212	G
2	B23S	1220	C

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Mol	Chain	Res	Type
2	B23S	1224	C
2	B23S	1225	G
2	B23S	1229	G
2	B23S	1236	G
2	B23S	1237	A
2	B23S	1253	A
2	B23S	1255	U
2	B23S	1256	G
2	B23S	1265	A
2	B23S	1272	A
2	B23S	1273	U
2	B23S	1300	U
2	B23S	1301	A
2	B23S	1312	U
2	B23S	1314	C
2	B23S	1321	A
2	B23S	1329	U
2	B23S	1331	A
2	B23S	1332	G
2	B23S	1333	C
2	B23S	1341	U
2	B23S	1345	C
2	B23S	1349	A
2	B23S	1358	G
2	B23S	1359	A
2	B23S	1365	A
2	B23S	1366	A
2	B23S	1378	A
2	B23S	1379	A
2	B23S	1380	G
2	B23S	1384	A
2	B23S	1385	G
2	B23S	1395	A
2	B23S	1396	U
2	B23S	1416	G
2	B23S	1418	G
2	B23S	1424	G
2	B23S	1427	A
2	B23S	1428	C
2	B23S	1437	C
2	B23S	1444(A)	A
2	B23S	1455	G

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Mol	Chain	Res	Type
2	B23S	1458	C
2	B23S	1460	A
2	B23S	1467	C
2	B23S	1483	G
2	B23S	1490	A
2	B23S	1491	G
2	B23S	1493	C
2	B23S	1494	A
2	B23S	1495	A
2	B23S	1497	U
2	B23S	1506(P)	U
2	B23S	1534	G
2	B23S	1537	C
2	B23S	1538	G
2	B23S	1540	G
2	B23S	1542	G
2	B23S	1543	A
2	B23S	1544	A
2	B23S	1557	C
2	B23S	1558	A
2	B23S	1566	A
2	B23S	1569	A
2	B23S	1584	C
2	B23S	1586	A
2	B23S	1599	C
2	B23S	1607	C
2	B23S	1608	A
2	B23S	1610	A
2	B23S	1615	C
2	B23S	1616	A
2	B23S	1618	A
2	B23S	1640	C
2	B23S	1644	C
2	B23S	1646	C
2	B23S	1648	C
2	B23S	1664	A
2	B23S	1674	G
2	B23S	1681	G
2	B23S	1693	U
2	B23S	1695	G
2	B23S	1696	G
2	B23S	1697	G

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Mol	Chain	Res	Type
2	B23S	1703	G
2	B23S	1712(A)	U
2	B23S	1712(F)	U
2	B23S	1712(H)	A
2	B23S	1712(I)	U
2	B23S	1712(J)	G
2	B23S	1712(K)	A
2	B23S	1712(P)	C
2	B23S	1756	G
2	B23S	1757	U
2	B23S	1763	G
2	B23S	1764	G
2	B23S	1770	G
2	B23S	1773	A
2	B23S	1781	C
2	B23S	1782	C
2	B23S	1786	A
2	B23S	1787	A
2	B23S	1800	C
2	B23S	1801	G
2	B23S	1808	U
2	B23S	1811	G
2	B23S	1815	A
2	B23S	1816	G
2	B23S	1817	G
2	B23S	1829	A
2	B23S	1835	G
2	B23S	1847	A
2	B23S	1862	G
2	B23S	1863	G
2	B23S	1864	U
2	B23S	1878	G
2	B23S	1888	G
2	B23S	1900	A
2	B23S	1903	G
2	B23S	1906	G
2	B23S	1909	C
2	B23S	1910	G
2	B23S	1913	A
2	B23S	1914	C
2	B23S	1929	G
2	B23S	1930	G

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Mol	Chain	Res	Type
2	B23S	1931	U
2	B23S	1936	A
2	B23S	1937	A
2	B23S	1938	A
2	B23S	1941	C
2	B23S	1942	C
2	B23S	1943	U
2	B23S	1952	A
2	B23S	1955	U
2	B23S	1962	C
2	B23S	1963	U
2	B23S	1967	C
2	B23S	1970	A
2	B23S	1971	A
2	B23S	1972	A
2	B23S	1975	G
2	B23S	1991	U
2	B23S	1993	U
2	B23S	1996	C
2	B23S	2005	A
2	B23S	2013	A
2	B23S	2022	U
2	B23S	2023	G
2	B23S	2030	A
2	B23S	2031	A
2	B23S	2033	A
2	B23S	2036	C
2	B23S	2043	C
2	B23S	2054	A
2	B23S	2055	C
2	B23S	2056	G
2	B23S	2059	A
2	B23S	2060	A
2	B23S	2061	G
2	B23S	2063	C
2	B23S	2069	G
2	B23S	2092	U
2	B23S	2093	G
2	B23S	2111	C
2	B23S	2112	G
2	B23S	2116	G
2	B23S	2117	A

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Mol	Chain	Res	Type
2	B23S	2118	U
2	B23S	2119	A
2	B23S	2120	G
2	B23S	2126	A
2	B23S	2127	G
2	B23S	2130	U
2	B23S	2131	G
2	B23S	2132	U
2	B23S	2133	G
2	B23S	2134	A
2	B23S	2135	A
2	B23S	2144	U
2	B23S	2145	C
2	B23S	2148	G
2	B23S	2149	G
2	B23S	2151	G
2	B23S	2155	G
2	B23S	2159	G
2	B23S	2172	U
2	B23S	2173	A
2	B23S	2185	C
2	B23S	2187	G
2	B23S	2190	G
2	B23S	2199	A
2	B23S	2202(C)	G
2	B23S	2202(D)	G
2	B23S	2202(E)	A
2	B23S	2202(F)	U
2	B23S	2202(G)	G
2	B23S	2226	C
2	B23S	2238	G
2	B23S	2239	G
2	B23S	2240	C
2	B23S	2266	A
2	B23S	2269	A
2	B23S	2275	C
2	B23S	2276	G
2	B23S	2279	G
2	B23S	2283	C
2	B23S	2287	A
2	B23S	2302	G
2	B23S	2305	A

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Mol	Chain	Res	Type
2	B23S	2306	C
2	B23S	2307	G
2	B23S	2312	U
2	B23S	2320	A
2	B23S	2321	G
2	B23S	2325	G
2	B23S	2327	A
2	B23S	2334	G
2	B23S	2336	A
2	B23S	2345	G
2	B23S	2346	A
2	B23S	2347	C
2	B23S	2350	C
2	B23S	2354	G
2	B23S	2358	G
2	B23S	2361	A
2	B23S	2379	G
2	B23S	2383	G
2	B23S	2385	C
2	B23S	2391	G
2	B23S	2392	A
2	B23S	2402	C
2	B23S	2403	C
2	B23S	2406	U
2	B23S	2412	A
2	B23S	2422	A
2	B23S	2423	U
2	B23S	2425	A
2	B23S	2426	A
2	B23S	2428	G
2	B23S	2429	G
2	B23S	2430	A
2	B23S	2432	A
2	B23S	2439	A
2	B23S	2441	C
2	B23S	2448	A
2	B23S	2450	A
2	B23S	2470	G
2	B23S	2472	G
2	B23S	2475	C
2	B23S	2476	A
2	B23S	2477	C

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Mol	Chain	Res	Type
2	B23S	2478	A
2	B23S	2482	G
2	B23S	2498	C
2	B23S	2502	G
2	B23S	2504	U
2	B23S	2506	U
2	B23S	2513	G
2	B23S	2518	A
2	B23S	2534	A
2	B23S	2542	A
2	B23S	2543	G
2	B23S	2553	G
2	B23S	2554	U
2	B23S	2556	C
2	B23S	2564	A
2	B23S	2566	A
2	B23S	2567	G
2	B23S	2572	A
2	B23S	2573	C
2	B23S	2574	G
2	B23S	2576	G
2	B23S	2577	A
2	B23S	2578	G
2	B23S	2582	G
2	B23S	2585	U
2	B23S	2586	C
2	B23S	2602	A
2	B23S	2612	C
2	B23S	2629	A
2	B23S	2630	G
2	B23S	2639	A
2	B23S	2646	C
2	B23S	2654	A
2	B23S	2660	A
2	B23S	2661	G
2	B23S	2662	A
2	B23S	2665	A
2	B23S	2679	A
2	B23S	2682	U
2	B23S	2689	U
2	B23S	2690	C
2	B23S	2691	C

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Mol	Chain	Res	Type
2	B23S	2702	U
2	B23S	2703	C
2	B23S	2712	U
2	B23S	2712(A)	A
2	B23S	2713	A
2	B23S	2714	G
2	B23S	2720	U
2	B23S	2726	U
2	B23S	2733	A
2	B23S	2750	A
2	B23S	2751	G
2	B23S	2752	C
2	B23S	2757	A
2	B23S	2765	A
2	B23S	2766	G
2	B23S	2775	A
2	B23S	2778	A
2	B23S	2779	U
2	B23S	2789	C
2	B23S	2790	A
2	B23S	2791	C
2	B23S	2792	G
2	B23S	2794(B)	U
2	B23S	2794(E)	A
2	B23S	2811	G
2	B23S	2818	G
2	B23S	2820	A
2	B23S	2821	A
2	B23S	2825	G
2	B23S	2832	U
2	B23S	2833	G
2	B23S	2835	A
2	B23S	2836	U
2	B23S	2849	U
2	B23S	2858	C
2	B23S	2859	G
2	B23S	2861	G
2	B23S	2871	C
2	B23S	2872	G
2	B23S	2880	C
2	B23S	2886	G
2	B23S	2894	G

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Mol	Chain	Res	Type
2	B23S	2895	U
3	B5S	9	G
3	B5S	12	C
3	B5S	13	A
3	B5S	15	A
3	B5S	16	G
3	B5S	41	U
3	B5S	42	C
3	B5S	44	G
3	B5S	53	A
3	B5S	67	G
3	B5S	73	A
3	B5S	109	G
56	BATN	3	U
56	BATN	4	G
56	BATN	6	G
56	BATN	7	G
56	BATN	8	U
56	BATN	9	U
56	BATN	10	C
56	BATN	11	C
56	BATN	12	C
56	BATN	13	G
56	BATN	14	A
56	BATN	15	G
56	BATN	16	C
56	BATN	18	G
56	BATN	19	G
56	BATN	20	C
56	BATN	20(A)	C
56	BATN	21	A
56	BATN	22	A
56	BATN	23	G
56	BATN	24	G
56	BATN	25	G
56	BATN	26	A
56	BATN	27	G
56	BATN	29	A
56	BATN	30	G
56	BATN	32	C
56	BATN	33	U
56	BATN	35	U

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Mol	Chain	Res	Type
56	BATN	36	A
56	BATN	38	A
56	BATN	40	C
56	BATN	41	U
56	BATN	44	C
56	BATN	45	G
56	BATN	46	U
56	BATN	47	C
56	BATN	47(A)	A
56	BATN	47(B)	U
56	BATN	47(C)	C
56	BATN	47(D)	G
56	BATN	47(F)	C
56	BATN	47(G)	U
56	BATN	49	G
56	BATN	51	A
56	BATN	53	G
56	BATN	55	PSU
56	BATN	59	A
56	BATN	60	U
56	BATN	61	C
56	BATN	63	U
56	BATN	64	U
56	BATN	66	C
56	BATN	69	C
56	BATN	70	A
56	BATN	71	C
56	BATN	73	A
56	BATN	74	C
34	BMRN	5	A
34	BMRN	6	G
34	BMRN	7	G
34	BMRN	8	A
34	BMRN	9	G
34	BMRN	10	G
34	BMRN	11	U
34	BMRN	12	A
34	BMRN	13	A
34	BMRN	14	A
34	BMRN	15	A
34	BMRN	16	G
34	BMRN	17	U

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Mol	Chain	Res	Type
34	BMRN	18	A
34	BMRN	19	U
34	BMRN	20	A
35	BPTN	4	U
35	BPTN	5	G
35	BPTN	6	A
35	BPTN	7	U
35	BPTN	8	4SU
35	BPTN	9	A
35	BPTN	10	G
35	BPTN	11	C
35	BPTN	12	U
35	BPTN	13	C
35	BPTN	14	A
35	BPTN	15	G
35	BPTN	16	C
35	BPTN	17	U
35	BPTN	18	G
35	BPTN	19	G
35	BPTN	20	G
35	BPTN	21	A
35	BPTN	22	G
35	BPTN	23	A
35	BPTN	24	G
35	BPTN	25	C
35	BPTN	29	U
35	BPTN	30	C
35	BPTN	31	C
35	BPTN	32	C
35	BPTN	33	U
35	BPTN	35	A
35	BPTN	36	C
35	BPTN	39	G
35	BPTN	41	A
35	BPTN	43	G
35	BPTN	44	G
35	BPTN	45	G
35	BPTN	46	G7M
35	BPTN	47	U
35	BPTN	48	C
35	BPTN	49	G
35	BPTN	50	G

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Mol	Chain	Res	Type
35	BPTN	52	G
35	BPTN	53	G
35	BPTN	57	G
35	BPTN	59	U
35	BPTN	61	C
35	BPTN	62	C
35	BPTN	64	U
35	BPTN	65	C
35	BPTN	67	U
35	BPTN	71	C
35	BPTN	72	C
35	BPTN	73	A
35	BPTN	74	C
35	BPTN	75	C
35	BPTN	76	A

All (168) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A16S	3	G
1	A16S	102	G
1	A16S	115	G
1	A16S	243	A
1	A16S	266	G
1	A16S	328	C
1	A16S	428	G
1	A16S	429	U
1	A16S	567	G
1	A16S	687	A
1	A16S	722	A
1	A16S	748	C
1	A16S	913	A
1	A16S	980	C
1	A16S	1101	A
1	A16S	1201	A
1	A16S	1285	A
1	A16S	1289	A
1	A16S	1300	G
1	A16S	1358	U
1	A16S	1362	C
1	A16S	1504	G
2	A23S	155(B)	U

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Mol	Chain	Res	Type
2	A23S	155(C)	U
2	A23S	270(X)	G
2	A23S	271(B)	G
2	A23S	271(Q)	A
2	A23S	352	G
2	A23S	357(L)	A
2	A23S	400	G
2	A23S	481	G
2	A23S	512	G
2	A23S	784	A
2	A23S	1210	A
2	A23S	1225	G
2	A23S	1300	U
2	A23S	1427	A
2	A23S	1493	C
2	A23S	1494	A
2	A23S	1558	A
2	A23S	1808	U
2	A23S	1971	A
2	A23S	2119	A
2	A23S	2133	G
2	A23S	2136	C
2	A23S	2202(E)	A
2	A23S	2311	A
2	A23S	2333	A
2	A23S	2474	C
2	A23S	2475	C
2	A23S	2481	G
2	A23S	2689	U
2	A23S	2719	G
2	A23S	2756	U
2	A23S	2789	C
3	A5S	52	A
3	A5S	66	A
3	A5S	88	C
35	APTN	3	G
35	APTN	11	C
35	APTN	14	A
35	APTN	16	C
35	APTN	29	U
35	APTN	35	A
35	APTN	40	G

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Mol	Chain	Res	Type
35	APTN	43	G
35	APTN	52	G
35	APTN	71	C
35	APTN	72	C
35	APTN	73	A
1	B16S	3	G
1	B16S	78(D)	U
1	B16S	115	G
1	B16S	328	C
1	B16S	352	C
1	B16S	353	A
1	B16S	428	G
1	B16S	429	U
1	B16S	497	A
1	B16S	687	A
1	B16S	748	C
1	B16S	913	A
1	B16S	929	G
1	B16S	1064	G
1	B16S	1101	A
1	B16S	1145	C
1	B16S	1201	A
1	B16S	1257	U
1	B16S	1285	A
1	B16S	1300	G
1	B16S	1362	C
1	B16S	1362(A)	C
1	B16S	1363	A
1	B16S	1504	G
1	B16S	1534	A
1	B16S	1535	C
2	B23S	25	U
2	B23S	155(B)	U
2	B23S	155(C)	U
2	B23S	271(B)	G
2	B23S	271(N)	G
2	B23S	271(Q)	A
2	B23S	352	G
2	B23S	481	G
2	B23S	775	G
2	B23S	784	A
2	B23S	790	C

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Mol	Chain	Res	Type
2	B23S	1022	G
2	B23S	1060	U
2	B23S	1379	A
2	B23S	1427	A
2	B23S	1493	C
2	B23S	1494	A
2	B23S	1974	C
2	B23S	2032	G
2	B23S	2119	A
2	B23S	2126	A
2	B23S	2130	U
2	B23S	2133	G
2	B23S	2171	A
2	B23S	2225	A
2	B23S	2239	G
2	B23S	2474	C
2	B23S	2481	G
2	B23S	2660	A
2	B23S	2689	U
2	B23S	2719	G
2	B23S	2756	U
3	B5S	66	A
56	BATN	3	U
56	BATN	6	G
56	BATN	19	G
56	BATN	20	C
56	BATN	27	G
56	BATN	32	C
56	BATN	45	G
56	BATN	48	C
56	BATN	60	U
56	BATN	69	C
34	BMRN	4	A
34	BMRN	7	G
34	BMRN	10	G
34	BMRN	12	A
34	BMRN	13	A
34	BMRN	14	A
34	BMRN	16	G
34	BMRN	19	U
35	BPTN	3	G
35	BPTN	6	A

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Mol	Chain	Res	Type
35	BPTN	10	G
35	BPTN	11	C
35	BPTN	12	U
35	BPTN	14	A
35	BPTN	15	G
35	BPTN	16	C
35	BPTN	17	U
35	BPTN	18	G
35	BPTN	20	G
35	BPTN	23	A
35	BPTN	29	U
35	BPTN	32	C
35	BPTN	43	G
35	BPTN	47	U
35	BPTN	48	C
35	BPTN	52	G
35	BPTN	64	U
35	BPTN	71	C
35	BPTN	73	A

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

17 non-standard protein/DNA/RNA residues are modelled in this entry.

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	$\#\|Z\| > 2$
56	PSU	BATN	55	56	18,21,22	1.31	1 (5%)	22,30,33	1.78	7 (31%)
35	PSU	BPTN	55	35	18,21,22	1.18	1 (5%)	22,30,33	1.86	4 (18%)
56	PSU	BATN	39	56	18,21,22	1.73	3 (16%)	22,30,33	1.84	4 (18%)
56	QUO	BATN	34	56	29,35,36	1.56	5 (17%)	31,52,55	1.74	7 (22%)
35	6MZ	BPTN	37	35	18,25,26	1.51	3 (16%)	16,36,39	1.73	4 (25%)
56	MIA	BATN	37	56	24,31,32	2.20	6 (25%)	26,44,47	4.00	12 (46%)
35	4SU	BPTN	8	35	18,21,22	3.78	9 (50%)	26,30,33	2.80	7 (26%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
35	5MU	BPTN	54	35	19,22,23	4.88	7 (36%)	28,32,35	3.54	11 (39%)
35	CM0	BPTN	34	35	22,26,27	2.25	7 (31%)	28,37,40	2.41	12 (42%)
35	4SU	APTN	8	35	18,21,22	3.59	7 (38%)	26,30,33	2.37	5 (19%)
35	G7M	APTN	46	35	20,26,27	2.47	7 (35%)	17,39,42	1.22	1 (5%)
35	5MU	APTN	54	35	19,22,23	4.88	7 (36%)	28,32,35	3.60	9 (32%)
35	CM0	APTN	34	35	22,26,27	4.02	7 (31%)	28,37,40	1.86	5 (17%)
35	PSU	APTN	55	35	18,21,22	1.00	1 (5%)	22,30,33	1.90	4 (18%)
35	G7M	BPTN	46	35	20,26,27	1.53	3 (15%)	17,39,42	1.43	2 (11%)
56	5MU	BATN	54	56	19,22,23	4.97	7 (36%)	28,32,35	3.32	10 (35%)
35	6MZ	APTN	37	35	18,25,26	2.46	3 (16%)	16,36,39	2.47	5 (31%)

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
56	PSU	BATN	55	56	-	3/7/25/26	0/2/2/2
35	PSU	BPTN	55	35	-	0/7/25/26	0/2/2/2
56	PSU	BATN	39	56	-	0/7/25/26	0/2/2/2
56	QUO	BATN	34	56	-	1/6/43/44	0/4/4/4
35	6MZ	BPTN	37	35	-	2/5/27/28	0/3/3/3
56	MIA	BATN	37	56	-	1/11/33/34	0/3/3/3
35	4SU	BPTN	8	35	-	0/7/25/26	0/2/2/2
35	5MU	BPTN	54	35	-	0/7/25/26	0/2/2/2
35	CM0	BPTN	34	35	-	6/12/30/31	0/2/2/2
35	4SU	APTN	8	35	-	0/7/25/26	0/2/2/2
35	G7M	APTN	46	35	-	1/3/25/26	0/3/3/3
35	5MU	APTN	54	35	-	4/7/25/26	0/2/2/2
35	CM0	APTN	34	35	-	9/12/30/31	0/2/2/2
35	PSU	APTN	55	35	-	0/7/25/26	0/2/2/2
35	G7M	BPTN	46	35	-	1/3/25/26	0/3/3/3
56	5MU	BATN	54	56	-	2/7/25/26	0/2/2/2
35	6MZ	APTN	37	35	-	2/5/27/28	0/3/3/3

All (84) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	APTN	34	CM0	C6-C5	13.63	1.49	1.34
56	BATN	54	5MU	C6-N1	11.65	1.57	1.38
35	APTN	54	5MU	C2-N1	11.47	1.56	1.38
35	BPTN	54	5MU	C2-N1	11.33	1.56	1.38
56	BATN	54	5MU	C2-N1	10.81	1.55	1.38
35	BPTN	54	5MU	C6-N1	10.50	1.56	1.38
35	APTN	54	5MU	C6-N1	10.35	1.55	1.38
56	BATN	54	5MU	C4-C5	10.30	1.61	1.44
35	APTN	54	5MU	C4-C5	10.00	1.61	1.44
35	BPTN	54	5MU	C4-C5	9.90	1.61	1.44
35	APTN	37	6MZ	C6-N6	9.53	1.50	1.35
35	BPTN	8	4SU	C2-N1	8.75	1.52	1.38
35	APTN	8	4SU	C4-N3	8.06	1.46	1.37
35	APTN	54	5MU	C4-N3	-8.01	1.24	1.38
35	BPTN	54	5MU	C4-N3	-7.88	1.24	1.38
35	BPTN	8	4SU	C4-N3	7.54	1.45	1.37
56	BATN	54	5MU	C4-N3	-7.35	1.25	1.38
56	BATN	37	MIA	C13-C14	7.31	1.53	1.32
35	APTN	8	4SU	C2-N1	7.14	1.49	1.38
35	APTN	34	CM0	C2-N3	6.93	1.50	1.38
35	APTN	34	CM0	C2-N1	6.77	1.49	1.38
35	BPTN	34	CM0	C6-C5	6.55	1.41	1.34
56	BATN	54	5MU	C6-C5	6.39	1.45	1.34
35	APTN	34	CM0	C6-N1	6.23	1.48	1.38
35	BPTN	54	5MU	C6-C5	6.22	1.44	1.34
56	BATN	34	QUO	C5-C7	6.06	1.50	1.39
35	APTN	46	G7M	C2-N3	5.90	1.47	1.33
35	APTN	54	5MU	C6-C5	5.88	1.44	1.34
35	BPTN	8	4SU	C6-C5	5.85	1.48	1.35
35	BPTN	8	4SU	C2-N3	5.81	1.48	1.38
35	APTN	8	4SU	C6-C5	5.80	1.48	1.35
35	APTN	8	4SU	C2-N3	5.69	1.48	1.38
35	BPTN	46	G7M	C8-N9	5.43	1.43	1.33
35	APTN	8	4SU	C4-S4	-5.27	1.58	1.68
35	BPTN	8	4SU	C4-S4	-4.97	1.59	1.68
35	APTN	46	G7M	C4-N3	4.96	1.49	1.37
56	BATN	55	PSU	C6-C5	4.54	1.40	1.35
56	BATN	39	PSU	C6-C5	4.45	1.40	1.35
35	APTN	46	G7M	C2-N2	4.36	1.44	1.34
56	BATN	37	MIA	O4'-C1'	4.30	1.47	1.41
35	BPTN	34	CM0	C6-N1	4.28	1.45	1.38
35	APTN	34	CM0	C4-N3	4.19	1.46	1.38
56	BATN	39	PSU	C2'-C1'	4.14	1.59	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	BPTN	55	PSU	C6-C5	4.13	1.40	1.35
35	BPTN	37	6MZ	C6-N6	4.05	1.41	1.35
35	APTN	46	G7M	C6-N1	3.66	1.43	1.37
35	APTN	46	G7M	C5-C6	3.48	1.54	1.45
35	BPTN	37	6MZ	C2-N3	3.35	1.37	1.32
35	APTN	8	4SU	C5-C4	3.31	1.46	1.42
35	BPTN	34	CM0	C1'-N1	3.26	1.57	1.47
35	BPTN	8	4SU	O2-C2	-3.26	1.17	1.23
56	BATN	39	PSU	O4'-C1'	-3.15	1.39	1.43
56	BATN	37	MIA	C4-N3	-3.08	1.30	1.35
35	APTN	55	PSU	C6-C5	3.04	1.38	1.35
56	BATN	37	MIA	C2-S10	2.90	1.78	1.75
35	BPTN	34	CM0	O3'-C3'	2.78	1.49	1.43
35	BPTN	34	CM0	O5-C5	2.77	1.42	1.36
35	APTN	54	5MU	O4-C4	-2.68	1.18	1.23
56	BATN	34	QUO	O2'-C2'	-2.65	1.36	1.43
35	APTN	46	G7M	C2-N1	2.61	1.44	1.37
56	BATN	54	5MU	O4-C4	-2.54	1.18	1.23
35	APTN	8	4SU	O2-C2	-2.52	1.18	1.23
35	BPTN	54	5MU	O2-C2	-2.48	1.18	1.23
35	BPTN	54	5MU	O4-C4	-2.43	1.19	1.23
35	BPTN	37	6MZ	C2-N1	2.41	1.38	1.33
35	BPTN	46	G7M	C6-N1	2.37	1.41	1.37
56	BATN	34	QUO	C5-C4	-2.36	1.37	1.40
35	BPTN	8	4SU	C5-C4	2.36	1.45	1.42
35	APTN	34	CM0	O5-C5	2.31	1.41	1.36
35	APTN	54	5MU	O2-C2	-2.27	1.18	1.23
35	BPTN	8	4SU	C3'-C2'	-2.27	1.47	1.53
35	APTN	46	G7M	O6-C6	-2.25	1.18	1.23
56	BATN	37	MIA	C6-N1	2.23	1.35	1.32
35	BPTN	8	4SU	C6-N1	2.22	1.43	1.38
56	BATN	54	5MU	O2-C2	-2.21	1.19	1.23
35	BPTN	34	CM0	O5-C7	-2.21	1.39	1.44
35	BPTN	46	G7M	O4'-C1'	-2.21	1.38	1.41
35	APTN	34	CM0	O5-C7	-2.19	1.39	1.44
56	BATN	34	QUO	C6-N1	2.18	1.41	1.37
35	APTN	37	6MZ	C9-N6	-2.15	1.41	1.45
35	APTN	37	6MZ	O4'-C1'	2.10	1.44	1.41
56	BATN	34	QUO	C5-C6	-2.07	1.42	1.47
35	BPTN	34	CM0	C2'-C3'	2.04	1.58	1.53
56	BATN	37	MIA	C3'-C4'	2.03	1.58	1.53

All (109) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	BATN	54	5MU	C5-C4-N3	11.90	125.47	115.31
35	APTN	54	5MU	C5-C4-N3	11.80	125.38	115.31
56	BATN	37	MIA	C12-N6-C6	-11.47	105.56	122.55
35	BPTN	54	5MU	C5-C4-N3	10.84	124.56	115.31
56	BATN	37	MIA	C12-C13-C14	-10.47	106.76	127.14
35	APTN	54	5MU	C5-C6-N1	-9.97	113.08	123.34
35	BPTN	54	5MU	C5-C6-N1	-9.95	113.10	123.34
35	BPTN	8	4SU	C4-N3-C2	-8.84	118.75	127.34
35	APTN	8	4SU	C4-N3-C2	-8.31	119.27	127.34
56	BATN	54	5MU	C5-C6-N1	-7.50	115.62	123.34
35	APTN	37	6MZ	C1'-N9-C4	-6.22	115.71	126.64
35	BPTN	8	4SU	C5-C4-N3	6.21	120.45	114.69
56	BATN	37	MIA	C2-N3-C4	6.00	123.59	115.32
35	BPTN	34	CM0	C6-N1-C2	-5.70	115.52	121.30
35	APTN	8	4SU	C5-C4-N3	5.67	119.95	114.69
35	BPTN	8	4SU	C5-C4-S4	-5.43	117.47	124.47
56	BATN	54	5MU	C5M-C5-C4	5.34	124.65	118.77
35	BPTN	54	5MU	N3-C2-N1	5.15	121.73	114.89
35	APTN	34	CM0	C4-N3-C2	-5.12	120.72	127.35
56	BATN	37	MIA	C15-C14-C13	-5.10	107.90	122.65
35	APTN	55	PSU	C4-N3-C2	-5.03	119.08	126.34
56	BATN	54	5MU	O4-C4-C5	-5.03	119.07	124.90
35	BPTN	55	PSU	N1-C2-N3	4.94	120.73	115.13
35	APTN	37	6MZ	C2-N1-C6	4.84	120.74	116.59
35	BPTN	55	PSU	C4-N3-C2	-4.79	119.44	126.34
35	BPTN	34	CM0	C7-O5-C5	-4.76	111.35	117.58
56	BATN	39	PSU	C6-C5-C4	-4.75	114.88	118.20
35	BPTN	54	5MU	C4-N3-C2	-4.72	121.25	127.35
35	BPTN	54	5MU	O4-C4-C5	-4.64	119.52	124.90
56	BATN	37	MIA	C16-C14-C13	-4.64	109.23	122.65
35	APTN	55	PSU	N1-C2-N3	4.60	120.34	115.13
35	APTN	34	CM0	N3-C2-N1	4.60	121.00	114.89
56	BATN	34	QUO	C3'-C2'-C1'	-4.59	94.07	100.98
35	APTN	54	5MU	O4-C4-C5	-4.59	119.58	124.90
35	BPTN	8	4SU	N3-C2-N1	4.57	120.96	114.89
35	APTN	54	5MU	C4-N3-C2	-4.57	121.44	127.35
35	BPTN	34	CM0	C2'-C1'-N1	4.32	125.46	113.22
35	APTN	54	5MU	N3-C2-N1	4.29	120.59	114.89
35	BPTN	54	5MU	C5M-C5-C6	-4.27	117.15	122.85
56	BATN	39	PSU	N1-C2-N3	4.22	119.92	115.13
35	APTN	54	5MU	C5M-C5-C6	-4.22	117.21	122.85
56	BATN	37	MIA	C3'-C2'-C1'	4.20	107.31	100.98
35	APTN	37	6MZ	N3-C2-N1	-4.12	122.24	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	APTN	8	4SU	C5-C4-S4	-4.09	119.20	124.47
35	APTN	54	5MU	C5M-C5-C4	3.93	123.09	118.77
35	APTN	8	4SU	N3-C2-N1	3.90	120.07	114.89
56	BATN	37	MIA	C4-C5-N7	-3.86	105.38	109.40
35	BPTN	46	G7M	O6-C6-N1	-3.83	116.13	120.65
35	BPTN	34	CM0	O4'-C4'-C3'	3.77	112.58	105.11
35	APTN	34	CM0	C6-N1-C2	-3.71	117.54	121.30
56	BATN	37	MIA	C1'-N9-C4	-3.61	120.29	126.64
35	BPTN	37	6MZ	C2-N1-C6	3.59	119.67	116.59
35	BPTN	34	CM0	O3'-C3'-C2'	3.56	123.35	111.82
35	APTN	46	G7M	C2-N1-C6	-3.36	118.91	125.10
56	BATN	34	QUO	O6-C6-N1	-3.35	116.69	120.65
56	BATN	54	5MU	C5M-C5-C6	-3.29	118.46	122.85
56	BATN	39	PSU	C4-N3-C2	-3.28	121.61	126.34
56	BATN	54	5MU	N3-C2-N1	3.26	119.22	114.89
35	BPTN	54	5MU	C5M-C5-C4	3.26	122.36	118.77
35	BPTN	37	6MZ	C3'-C2'-C1'	3.24	105.86	100.98
56	BATN	37	MIA	O3'-C3'-C4'	3.24	120.41	111.05
56	BATN	55	PSU	C6-N1-C2	-3.23	119.38	122.68
56	BATN	55	PSU	O2-C2-N1	-3.19	119.27	122.79
56	BATN	34	QUO	C15-C16-C12	3.17	108.59	103.78
56	BATN	37	MIA	N3-C2-N1	-3.10	121.29	126.98
35	BPTN	34	CM0	O4'-C1'-C2'	-3.08	99.94	106.64
56	BATN	39	PSU	O2-C2-N1	-3.03	119.46	122.79
35	APTN	34	CM0	C7-O5-C5	-2.98	113.67	117.58
35	BPTN	54	5MU	C6-C5-C4	2.95	120.49	118.03
35	BPTN	34	CM0	C1'-N1-C6	2.94	126.02	121.12
35	BPTN	37	6MZ	C1'-N9-C4	-2.90	121.54	126.64
56	BATN	54	5MU	C4-N3-C2	-2.89	123.61	127.35
56	BATN	55	PSU	C6-C5-C4	-2.84	116.21	118.20
56	BATN	55	PSU	C4-N3-C2	-2.76	122.36	126.34
56	BATN	34	QUO	C10-N11-C12	2.76	120.70	114.90
35	BPTN	8	4SU	C1'-N1-C2	2.71	122.47	117.57
35	BPTN	54	5MU	O2-C2-N1	-2.71	119.19	122.79
56	BATN	34	QUO	O6-C6-C5	2.68	129.58	123.98
35	APTN	55	PSU	O2-C2-N1	-2.67	119.85	122.79
35	APTN	54	5MU	O4-C4-N3	-2.65	115.04	120.12
35	BPTN	46	G7M	O4'-C1'-C2'	2.61	110.74	106.93
35	APTN	54	5MU	C1'-N1-C2	2.60	122.27	117.57
35	BPTN	37	6MZ	C9-N6-C6	2.59	125.11	122.87
35	BPTN	34	CM0	C2'-C3'-C4'	-2.56	97.66	102.64
35	BPTN	55	PSU	O2-C2-N1	-2.56	119.97	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	BATN	55	PSU	N1-C2-N3	2.55	118.02	115.13
35	APTN	37	6MZ	O5'-C5'-C4'	-2.53	100.38	108.99
56	BATN	54	5MU	O4-C4-N3	-2.43	115.47	120.12
35	BPTN	34	CM0	C4-N3-C2	2.42	130.49	127.35
35	APTN	55	PSU	C6-C5-C4	2.42	119.89	118.20
35	BPTN	55	PSU	C6-N1-C2	-2.41	120.22	122.68
35	APTN	8	4SU	O2-C2-N1	-2.41	119.59	122.79
35	BPTN	54	5MU	C6-N1-C2	-2.40	118.86	121.30
56	BATN	34	QUO	C16-C12-C13	2.38	106.72	103.18
35	APTN	34	CM0	C1'-N1-C2	2.38	121.88	117.57
35	BPTN	8	4SU	O2-C2-N1	-2.32	119.70	122.79
56	BATN	37	MIA	O2'-C2'-C1'	2.32	119.41	110.85
56	BATN	34	QUO	C15-C14-C13	2.29	107.55	103.91
35	BPTN	8	4SU	C6-N1-C2	-2.26	118.10	120.99
56	BATN	55	PSU	O3'-C3'-C4'	2.25	117.57	111.05
35	BPTN	34	CM0	C3'-C2'-C1'	2.22	105.65	101.43
35	BPTN	54	5MU	O4-C4-N3	-2.19	115.92	120.12
56	BATN	37	MIA	O4'-C4'-C3'	2.16	109.39	105.11
56	BATN	55	PSU	O4-C4-C5	-2.14	118.46	124.05
35	BPTN	34	CM0	C5'-C4'-C3'	-2.11	107.28	115.18
35	BPTN	34	CM0	O5'-C5'-C4'	2.08	116.08	108.99
56	BATN	54	5MU	C6-N1-C2	-2.08	119.19	121.30
35	APTN	37	6MZ	C5'-C4'-C3'	-2.03	107.58	115.18
56	BATN	54	5MU	O2-C2-N1	-2.02	120.10	122.79

There are no chirality outliers.

All (32) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
56	BATN	37	MIA	C12-C13-C14-C16
35	APTN	34	CM0	C3'-C4'-C5'-O5'
35	BPTN	34	CM0	O4'-C1'-N1-C2
35	BPTN	34	CM0	O4'-C1'-N1-C6
35	BPTN	34	CM0	C3'-C4'-C5'-O5'
35	APTN	37	6MZ	C5-C6-N6-C9
35	APTN	37	6MZ	N1-C6-N6-C9
35	BPTN	37	6MZ	N1-C6-N6-C9
35	APTN	46	G7M	C4'-C5'-O5'-P
35	BPTN	46	G7M	C4'-C5'-O5'-P
35	APTN	34	CM0	O5-C7-C8-O8
35	APTN	34	CM0	O5-C7-C8-O9
35	APTN	34	CM0	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
35	BPTN	34	CM0	O4'-C4'-C5'-O5'
35	APTN	54	5MU	O4'-C4'-C5'-O5'
56	BATN	55	PSU	C3'-C4'-C5'-O5'
56	BATN	55	PSU	O4'-C4'-C5'-O5'
35	APTN	54	5MU	C3'-C4'-C5'-O5'
35	APTN	34	CM0	C6-C5-O5-C7
56	BATN	54	5MU	O4'-C4'-C5'-O5'
35	APTN	34	CM0	C4-C5-O5-C7
56	BATN	34	QUO	C4'-C5'-O5'-P
35	APTN	34	CM0	C8-C7-O5-C5
35	BPTN	34	CM0	C8-C7-O5-C5
56	BATN	54	5MU	C3'-C4'-C5'-O5'
35	APTN	54	5MU	C2'-C1'-N1-C6
56	BATN	55	PSU	O4'-C1'-C5-C4
35	BPTN	34	CM0	C4-C5-O5-C7
35	APTN	34	CM0	C2'-C1'-N1-C6
35	BPTN	37	6MZ	C5-C6-N6-C9
35	APTN	34	CM0	C2'-C1'-N1-C2
35	APTN	54	5MU	C2'-C1'-N1-C2

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 361 ligands modelled in this entry, 359 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
58	SF4	BS04	501	38	0,12,12	-	-	-		

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
58	SF4	AS04	501	38	0,12,12	-	-	-		

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
58	SF4	BS04	501	38	-	-	0/6/5/5
58	SF4	AS04	501	38	-	-	0/6/5/5

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	B23S	3
2	A23S	3
35	BPTN	1
35	APTN	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B23S	1141(A):C	O3'	1141:U	P	9.81
1	A23S	1141(A):C	O3'	1141:U	P	9.19
1	B23S	1140:C	O3'	1141(A):C	P	7.44

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A23S	1140:C	O3'	1141(A):C	P	7.28
1	B23S	1141:U	O3'	1142:A	P	6.83
1	A23S	1141:U	O3'	1142:A	P	5.75
1	BPTN	37:6MZ	O3'	38:A	P	2.91
1	APTN	37:6MZ	O3'	38:A	P	2.33

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A16S	1517/1518 (99%)	-0.01	44 (2%) 51 36	55, 88, 161, 216	0
1	B16S	1517/1518 (99%)	-0.00	39 (2%) 56 40	49, 90, 173, 240	0
2	A23S	2879/2881 (99%)	-0.11	37 (1%) 77 65	36, 76, 173, 238	0
2	B23S	2879/2881 (99%)	0.04	35 (1%) 79 67	28, 63, 165, 232	0
3	A5S	119/119 (100%)	0.49	9 (7%) 13 7	73, 99, 117, 126	0
3	B5S	119/119 (100%)	0.35	5 (4%) 36 23	46, 84, 106, 122	0
4	AL01	228/228 (100%)	1.77	69 (30%) 0 0	131, 167, 179, 191	0
4	BL01	228/228 (100%)	3.10	135 (59%) 0 0	126, 162, 178, 184	0
5	AL02	271/276 (98%)	0.82	31 (11%) 5 3	37, 56, 77, 85	0
5	BL02	271/276 (98%)	-0.05	2 (0%) 87 81	30, 51, 69, 77	0
6	AL03	204/206 (99%)	0.01	9 (4%) 34 21	50, 76, 97, 107	0
6	BL03	204/206 (99%)	0.01	7 (3%) 45 29	39, 66, 92, 107	0
7	AL04	202/205 (98%)	-0.18	3 (1%) 73 61	51, 85, 108, 120	0
7	BL04	202/205 (98%)	0.08	5 (2%) 57 43	34, 67, 91, 103	0
8	AL05	181/181 (100%)	3.17	111 (61%) 0 0	89, 121, 139, 147	0
8	BL05	181/181 (100%)	2.68	94 (51%) 0 0	82, 110, 138, 151	0
9	AL06	167/180 (92%)	0.04	7 (4%) 36 23	114, 151, 173, 182	0
9	BL06	167/180 (92%)	0.88	20 (11%) 4 2	116, 150, 172, 179	0
10	AL09	145/148 (97%)	0.06	13 (8%) 9 5	75, 112, 133, 140	0
10	BL09	145/148 (97%)	0.00	11 (7%) 13 7	78, 101, 118, 127	0
11	AL13	137/140 (97%)	-0.23	0 100 100	66, 87, 116, 122	0
11	BL13	137/140 (97%)	-0.15	0 100 100	48, 66, 91, 105	0
12	AL14	122/122 (100%)	-0.17	0 100 100	51, 63, 77, 85	0
12	BL14	122/122 (100%)	0.05	2 (1%) 72 59	38, 58, 73, 81	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	AL15	146/150 (97%)	0.02	9 (6%) 20 11	56, 88, 107, 125	0
13	BL15	146/150 (97%)	0.17	6 (4%) 37 24	45, 77, 98, 123	0
14	AL16	134/141 (95%)	0.19	6 (4%) 33 21	60, 82, 103, 109	0
14	BL16	134/141 (95%)	0.23	6 (4%) 33 21	52, 69, 83, 95	0
15	AL17	117/118 (99%)	0.01	2 (1%) 70 57	50, 69, 83, 92	0
15	BL17	117/118 (99%)	0.18	7 (5%) 21 12	43, 59, 76, 83	0
16	AL18	98/111 (88%)	2.56	59 (60%) 0 0	68, 83, 95, 102	0
16	BL18	98/111 (88%)	1.58	31 (31%) 0 0	47, 69, 94, 101	0
17	AL19	137/146 (93%)	-0.38	2 (1%) 73 61	54, 77, 113, 121	0
17	BL19	137/146 (93%)	-0.31	0 100 100	52, 68, 116, 134	0
18	AL20	117/118 (99%)	0.07	6 (5%) 28 16	50, 84, 101, 108	0
18	BL20	117/118 (99%)	-0.25	1 (0%) 84 75	42, 59, 74, 92	0
19	AL21	101/101 (100%)	-0.22	3 (2%) 50 34	65, 98, 111, 116	0
19	BL21	101/101 (100%)	-0.20	0 100 100	46, 72, 92, 98	0
20	AL22	112/113 (99%)	0.15	4 (3%) 42 27	54, 69, 98, 135	0
20	BL22	112/113 (99%)	-0.39	0 100 100	40, 56, 82, 113	0
21	AL23	92/96 (95%)	0.67	7 (7%) 13 7	48, 71, 96, 108	0
21	BL23	92/96 (95%)	0.19	7 (7%) 13 7	43, 58, 97, 115	0
22	AL24	100/110 (90%)	1.71	37 (37%) 0 0	83, 98, 123, 132	0
22	BL24	100/110 (90%)	0.40	10 (10%) 7 4	60, 80, 116, 141	0
23	AL25	187/206 (90%)	1.20	51 (27%) 0 0	86, 102, 123, 129	0
23	BL25	187/206 (90%)	-0.20	2 (1%) 80 69	65, 91, 108, 121	0
24	AL27	82/84 (97%)	2.84	51 (62%) 0 0	54, 66, 93, 105	0
24	BL27	82/84 (97%)	2.33	37 (45%) 0 0	51, 63, 95, 101	0
25	AL28	88/98 (89%)	0.16	2 (2%) 60 47	52, 78, 107, 121	0
25	BL28	88/98 (89%)	0.64	10 (11%) 5 3	44, 70, 95, 106	0
26	AL29	62/72 (86%)	0.16	3 (4%) 30 18	66, 86, 114, 125	0
26	BL29	62/72 (86%)	0.20	4 (6%) 18 11	40, 74, 102, 114	0
27	AL30	59/60 (98%)	0.79	12 (20%) 1 1	67, 89, 107, 124	0
27	BL30	59/60 (98%)	0.02	2 (3%) 45 29	46, 68, 90, 114	0
28	AL31	45/71 (63%)	2.20	21 (46%) 0 0	124, 142, 151, 157	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
28	BL31	45/71 (63%)	3.38	25 (55%) 0 0	123, 143, 150, 157	0
29	AL32	59/59 (100%)	0.22	2 (3%) 45 29	50, 67, 133, 140	0
29	BL32	59/59 (100%)	0.33	8 (13%) 3 2	42, 63, 126, 135	0
30	AL33	44/54 (81%)	0.08	3 (6%) 17 10	61, 77, 87, 90	0
30	BL33	44/54 (81%)	0.99	8 (18%) 1 1	44, 72, 78, 88	0
31	AL34	48/49 (97%)	-0.06	1 (2%) 63 49	36, 52, 67, 85	0
31	BL34	48/49 (97%)	-0.14	1 (2%) 63 49	29, 39, 62, 69	0
32	AL35	63/64 (98%)	0.36	2 (3%) 47 31	54, 67, 76, 88	0
32	BL35	63/64 (98%)	0.11	3 (4%) 30 18	46, 57, 69, 81	0
33	AL36	37/37 (100%)	0.97	6 (16%) 1 1	70, 80, 95, 115	0
33	BL36	37/37 (100%)	0.96	8 (21%) 0 1	58, 72, 93, 95	0
34	AMRN	10/17 (58%)	1.50	2 (20%) 1 1	108, 136, 165, 166	0
34	BMRN	17/17 (100%)	0.26	0 100 100	109, 144, 173, 178	0
35	APTN	70/76 (92%)	0.99	13 (18%) 1 1	77, 172, 208, 231	0
35	BPTN	70/76 (92%)	0.20	2 (2%) 51 36	70, 140, 172, 182	0
36	AS02	234/255 (91%)	-0.27	1 (0%) 92 89	82, 108, 131, 141	0
36	BS02	234/255 (91%)	-0.39	0 100 100	91, 110, 133, 146	0
37	AS03	206/238 (86%)	-0.19	5 (2%) 59 44	76, 98, 117, 123	0
37	BS03	206/238 (86%)	-0.26	3 (1%) 73 61	83, 106, 123, 132	0
38	AS04	208/208 (100%)	0.85	26 (12%) 3 2	53, 78, 93, 108	0
38	BS04	208/208 (100%)	0.71	29 (13%) 2 1	63, 85, 98, 105	0
39	AS05	151/161 (93%)	0.36	11 (7%) 15 9	59, 76, 96, 102	0
39	BS05	151/161 (93%)	0.44	12 (7%) 12 6	61, 80, 97, 112	0
40	AS06	101/101 (100%)	0.23	6 (5%) 22 13	68, 88, 99, 103	0
40	BS06	101/101 (100%)	-0.21	1 (0%) 82 72	74, 88, 101, 106	0
41	AS07	155/155 (100%)	-0.18	5 (3%) 47 31	101, 122, 141, 158	0
41	BS07	155/155 (100%)	0.41	21 (13%) 3 2	108, 125, 136, 142	0
42	AS08	138/138 (100%)	-0.39	0 100 100	65, 78, 86, 90	0
42	BS08	138/138 (100%)	0.33	10 (7%) 15 9	64, 82, 96, 108	0
43	AS09	127/128 (99%)	0.52	11 (8%) 10 5	97, 133, 144, 150	0
43	BS09	127/128 (99%)	2.06	48 (37%) 0 0	100, 134, 146, 152	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
44	AS10	98/104 (94%)	0.97	15 (15%) 2 1	99, 122, 143, 158	0
44	BS10	98/104 (94%)	-0.02	5 (5%) 28 16	98, 120, 137, 142	0
45	AS11	114/128 (89%)	1.48	34 (29%) 0 0	68, 97, 117, 120	0
45	BS11	114/128 (89%)	-0.01	5 (4%) 34 21	56, 98, 120, 129	0
46	AS12	122/131 (93%)	-0.01	1 (0%) 86 78	56, 74, 88, 98	0
46	BS12	122/131 (93%)	-0.15	4 (3%) 46 30	56, 78, 93, 98	0
47	AS13	117/125 (93%)	0.93	18 (15%) 2 1	115, 132, 144, 166	0
47	BS13	117/125 (93%)	2.31	55 (47%) 0 0	121, 139, 152, 156	0
48	AS14	60/60 (100%)	1.38	17 (28%) 0 0	93, 112, 144, 153	0
48	BS14	60/60 (100%)	0.61	7 (11%) 4 2	95, 112, 148, 156	0
49	AS15	88/88 (100%)	-0.10	3 (3%) 45 29	55, 75, 89, 94	0
49	BS15	88/88 (100%)	-0.01	1 (1%) 80 69	57, 74, 95, 104	0
50	AS16	83/88 (94%)	0.55	7 (8%) 11 6	70, 82, 105, 117	0
50	BS16	83/88 (94%)	1.11	19 (22%) 0 0	66, 78, 99, 124	0
51	AS17	99/104 (95%)	-0.57	0 100 100	56, 70, 83, 91	0
51	BS17	99/104 (95%)	0.29	3 (3%) 50 34	59, 71, 82, 87	0
52	AS18	70/87 (80%)	-0.02	1 (1%) 75 63	68, 82, 100, 108	0
52	BS18	70/87 (80%)	-0.15	1 (1%) 75 63	69, 93, 110, 120	0
53	AS19	78/92 (84%)	2.69	47 (60%) 0 0	124, 135, 144, 152	0
53	BS19	78/92 (84%)	1.95	35 (44%) 0 0	111, 130, 142, 145	0
54	AS20	99/105 (94%)	0.95	18 (18%) 1 1	75, 94, 112, 122	0
54	BS20	99/105 (94%)	0.06	3 (3%) 50 34	64, 84, 105, 112	0
55	ATHX	24/26 (92%)	4.24	16 (66%) 0 0	134, 153, 159, 163	0
55	BTHX	24/26 (92%)	9.19	21 (87%) 0 0	139, 155, 161, 170	0
56	BATN	80/85 (94%)	3.42	50 (62%) 0 0	104, 171, 217, 231	0
All	All	21191/21839 (97%)	0.31	1745 (8%) 11 6	28, 83, 162, 240	0

All (1745) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	AL01	3	LYS	27.8
55	BTHX	19	GLY	25.2
4	AL01	5	GLY	24.6

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Mol	Chain	Res	Type	RSRZ
22	AL24	59	GLY	19.6
56	BATN	47(E)	A	19.2
55	BTHX	9	ARG	18.8
4	BL01	81	GLY	17.8
55	BTHX	8	THR	17.6
56	BATN	47(F)	C	17.3
55	BTHX	4	GLY	16.9
4	BL01	96	GLY	16.6
28	BL31	6	HIS	15.8
43	BS09	34	ASN	14.4
55	BTHX	11	GLY	14.0
56	BATN	47(B)	U	13.3
8	BL05	2	PRO	13.1
4	AL01	4	HIS	13.1
55	BTHX	22	ARG	13.0
2	B23S	888	C	12.2
43	BS09	37	PHE	12.2
8	AL05	65	GLY	12.1
55	BTHX	10	ARG	11.9
55	BTHX	7	ARG	11.8
9	BL06	125	VAL	11.6
53	AS19	81	ARG	11.4
4	AL01	175	PRO	11.3
55	BTHX	25	LYS	11.3
55	BTHX	13	ILE	11.2
2	A23S	887	A	10.9
55	BTHX	23	PRO	10.9
8	AL05	75	LYS	10.6
4	BL01	62	THR	10.5
4	BL01	95	VAL	10.5
4	BL01	21	TYR	10.5
38	AS04	2	GLY	10.3
55	ATHX	23	PRO	10.3
56	BATN	47(C)	C	10.2
8	AL05	69	ALA	10.2
8	BL05	86	MET	10.2
8	BL05	85	GLY	10.2
4	BL01	26	ALA	10.1
4	AL01	181	PHE	10.0
8	BL05	75	LYS	10.0
55	ATHX	8	THR	10.0
24	BL27	8	GLY	9.9

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Mol	Chain	Res	Type	RSRZ
4	AL01	2	PRO	9.9
4	BL01	175	PRO	9.8
48	AS14	2	ALA	9.7
28	BL31	9	LEU	9.7
28	BL31	46	GLN	9.6
8	BL05	35	GLU	9.6
8	AL05	64	THR	9.5
47	BS13	42	ALA	9.5
55	ATHX	9	ARG	9.5
4	BL01	129	GLY	9.2
8	AL05	2	PRO	9.2
43	BS09	63	ILE	9.1
47	BS13	27	LYS	9.1
8	AL05	116	ASP	9.1
8	AL05	72	ARG	9.0
56	BATN	47(G)	U	8.9
28	BL31	47	GLN	8.8
43	BS09	39	GLY	8.8
28	BL31	8	LYS	8.7
29	BL32	60	VAL	8.7
30	BL33	31	PRO	8.7
22	AL24	50	ARG	8.7
24	AL27	6	GLY	8.6
4	BL01	158	LYS	8.6
8	BL05	112	PRO	8.6
8	AL05	94	LEU	8.6
2	B23S	887	A	8.5
4	BL01	61	GLY	8.4
8	AL05	74	LYS	8.4
8	AL05	97	ASP	8.4
4	AL01	9	ARG	8.3
4	BL01	73	VAL	8.3
4	BL01	79	ALA	8.3
2	A23S	884	C	8.3
43	BS09	27	THR	8.3
4	BL01	163	GLU	8.2
44	AS10	75	ILE	8.1
35	APTN	17	U	8.1
47	AS13	117	VAL	8.1
4	BL01	162	ILE	8.1
4	BL01	225	ILE	8.0
55	BTHX	12	LYS	8.0

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Mol	Chain	Res	Type	RSRZ
4	AL01	177	GLY	8.0
55	BTHX	6	ARG	7.9
4	BL01	150	ILE	7.9
28	BL31	48	ARG	7.9
56	BATN	47	C	7.9
47	BS13	83	ASP	7.9
47	BS13	90	LEU	7.9
47	BS13	26	GLY	7.9
45	AS11	11	LYS	7.8
4	AL01	68	GLY	7.8
56	BATN	47(D)	G	7.8
1	B16S	1028(D)	C	7.8
2	A23S	886	C	7.7
56	BATN	16	C	7.7
28	AL31	8	LYS	7.7
24	BL27	10	THR	7.7
44	BS10	58	ASP	7.7
4	BL01	202	PRO	7.7
16	AL18	19	LYS	7.6
4	BL01	145	THR	7.6
47	BS13	13	LYS	7.6
8	BL05	93	THR	7.5
2	A23S	888	C	7.5
55	ATHX	2	GLY	7.5
8	AL05	87	PRO	7.4
53	BS19	55	LYS	7.4
8	AL05	34	LEU	7.4
8	AL05	140	ILE	7.4
24	BL27	9	SER	7.4
4	BL01	82	GLU	7.3
8	AL05	36	LYS	7.3
4	BL01	144	GLY	7.3
56	BATN	47(A)	A	7.3
16	AL18	27	SER	7.3
1	A16S	1214	C	7.3
4	AL01	8	TYR	7.3
2	A23S	889	C	7.2
24	AL27	78	TYR	7.2
43	BS09	7	THR	7.2
44	BS10	59	SER	7.1
28	AL31	9	LEU	7.1
13	BL15	30	THR	7.1

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Mol	Chain	Res	Type	RSRZ
4	AL01	178	LYS	7.0
24	BL27	7	LEU	7.0
8	AL05	35	GLU	7.0
55	ATHX	16	GLY	7.0
8	AL05	41	GLN	7.0
4	BL01	176	VAL	7.0
8	AL05	139	LEU	7.0
43	BS09	75	ASP	6.9
2	A23S	1506(B)	A	6.9
4	AL01	6	LYS	6.9
4	BL01	80	LYS	6.9
4	BL01	157	ILE	6.9
56	BATN	46	U	6.8
8	BL05	52	ILE	6.8
47	AS13	42	ALA	6.8
43	BS09	45	ALA	6.8
4	BL01	203	GLU	6.8
44	AS10	34	VAL	6.8
8	AL05	68	PRO	6.8
41	AS07	81	GLY	6.8
35	APTN	16	C	6.7
24	BL27	76	GLY	6.7
8	AL05	50	ALA	6.7
55	ATHX	22	ARG	6.7
27	BL30	1	MET	6.7
4	BL01	143	ALA	6.7
48	AS14	19	ARG	6.7
29	BL32	59	GLU	6.7
16	AL18	20	ARG	6.7
8	AL05	66	GLN	6.7
43	BS09	64	THR	6.7
8	AL05	88	ILE	6.6
48	BS14	2	ALA	6.6
8	BL05	3	LEU	6.6
4	BL01	147	GLY	6.6
23	AL25	92	SER	6.6
4	BL01	97	GLY	6.5
55	BTHX	2	GLY	6.5
4	AL01	182	PRO	6.5
29	AL32	2	ALA	6.5
4	BL01	27	ALA	6.5
16	AL18	33	LYS	6.4

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Mol	Chain	Res	Type	RSRZ
16	BL18	59	LYS	6.4
1	B16S	1267	C	6.4
4	BL01	119	ASP	6.4
9	BL06	126	PRO	6.4
53	AS19	58	VAL	6.3
4	BL01	118	PRO	6.3
22	AL24	61	ILE	6.3
1	A16S	1493	A	6.3
16	AL18	30	ARG	6.3
23	AL25	96	VAL	6.3
56	BATN	1	G	6.2
47	AS13	118	ALA	6.2
4	AL01	49	GLY	6.2
8	BL05	70	VAL	6.2
8	BL05	41	GLN	6.2
8	AL05	86	MET	6.2
8	AL05	96	ARG	6.2
45	AS11	118	GLY	6.2
53	AS19	55	LYS	6.2
2	A23S	2060	A	6.2
24	BL27	71	ASP	6.2
4	AL01	179	ALA	6.2
4	BL01	85	LYS	6.2
2	B23S	1093	G	6.2
8	AL05	85	GLY	6.2
47	BS13	85	GLY	6.2
4	BL01	49	GLY	6.1
24	AL27	32	ARG	6.1
8	AL05	70	VAL	6.1
4	AL01	176	VAL	6.1
13	AL15	33	ARG	6.1
8	BL05	178	PHE	6.1
1	B16S	1028(E)	G	6.1
55	BTHX	24	ARG	6.1
8	BL05	34	LEU	6.0
9	BL06	155	SER	6.0
8	AL05	71	THR	6.0
1	B16S	3	G	6.0
43	BS09	38	GLN	6.0
4	AL01	183	PRO	6.0
8	AL05	84	LYS	6.0
55	ATHX	3	LYS	6.0

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Mol	Chain	Res	Type	RSRZ
47	BS13	28	ALA	6.0
53	AS19	52	TYR	5.9
8	AL05	113	ARG	5.9
8	BL05	26	GLN	5.9
24	BL27	78	TYR	5.9
4	AL01	219	MET	5.9
56	BATN	61	C	5.9
4	BL01	78	ILE	5.9
53	BS19	49	ILE	5.9
23	AL25	91	LEU	5.9
6	BL03	60	ASN	5.8
8	AL05	102	PHE	5.8
28	AL31	22	ILE	5.8
48	AS14	20	ALA	5.8
24	AL27	76	GLY	5.8
56	BATN	64	U	5.8
44	AS10	98	ILE	5.8
47	BS13	31	LYS	5.8
4	BL01	100	ILE	5.8
16	AL18	81	GLY	5.8
9	BL06	83	TYR	5.7
41	BS07	37	ASN	5.7
4	BL01	221	PRO	5.7
28	BL31	40	HIS	5.7
4	BL01	200	HIS	5.7
55	BTHX	14	TRP	5.7
43	BS09	35	GLU	5.7
47	BS13	44	ARG	5.7
28	BL31	39	CYS	5.6
47	BS13	43	THR	5.6
16	AL18	32	LEU	5.6
8	BL05	42	GLY	5.6
28	AL31	12	ALA	5.6
24	AL27	53	MET	5.6
24	BL27	75	LEU	5.5
53	AS19	54	GLY	5.5
45	AS11	40	ILE	5.5
47	BS13	39	ILE	5.5
29	AL32	58	LEU	5.5
47	BS13	37	THR	5.5
8	AL05	37	VAL	5.5
8	BL05	65	GLY	5.5

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Mol	Chain	Res	Type	RSRZ
8	AL05	165	THR	5.5
24	BL27	72	ARG	5.5
28	AL31	4	GLY	5.5
27	AL30	1	MET	5.5
24	AL27	10	THR	5.5
4	BL01	151	GLY	5.5
53	AS19	76	PRO	5.4
8	AL05	98	ARG	5.4
53	AS19	41	VAL	5.4
16	AL18	25	ARG	5.4
28	BL31	19	GLY	5.4
8	BL05	116	ASP	5.4
8	AL05	99	MET	5.4
24	AL27	21	LEU	5.4
56	BATN	18	G	5.4
28	AL31	26	SER	5.4
43	BS09	74	ILE	5.3
4	BL01	31	LYS	5.3
55	BTHX	3	LYS	5.3
1	A16S	1362(A)	C	5.3
47	BS13	40	ASN	5.3
28	AL31	37	SER	5.3
4	BL01	142	LYS	5.3
47	BS13	36	LYS	5.3
9	BL06	170	ARG	5.3
8	BL05	119	GLY	5.3
53	AS19	80	TYR	5.3
8	AL05	67	LYS	5.3
4	BL01	28	ARG	5.3
8	AL05	93	THR	5.2
29	BL32	2	ALA	5.2
16	BL18	53	SER	5.2
43	BS09	46	ALA	5.2
8	AL05	95	ARG	5.2
1	B16S	1362(A)	C	5.2
4	BL01	72	GLN	5.2
43	AS09	126	SER	5.2
8	AL05	25	TYR	5.2
8	BL05	96	ARG	5.2
53	AS19	28	LYS	5.2
24	BL27	4	LYS	5.2
43	BS09	73	GLN	5.2

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Mol	Chain	Res	Type	RSRZ
8	BL05	72	ARG	5.2
4	BL01	77	ALA	5.2
16	AL18	87	PHE	5.2
43	AS09	125	TYR	5.2
53	BS19	61	TYR	5.2
8	AL05	164	GLU	5.1
56	BATN	69	C	5.2
8	AL05	127	GLY	5.1
53	BS19	74	PHE	5.1
8	AL05	115	ARG	5.1
56	BATN	50	A	5.1
8	BL05	87	PRO	5.1
24	AL27	75	LEU	5.1
8	BL05	63	ILE	5.1
53	BS19	76	PRO	5.1
2	B23S	155(C)	U	5.1
16	AL18	41	ASP	5.1
8	BL05	141	PHE	5.1
8	AL05	92	VAL	5.1
8	BL05	139	LEU	5.1
53	BS19	48	THR	5.1
48	AS14	18	VAL	5.1
16	AL18	15	ARG	5.0
24	AL27	79	VAL	5.0
4	AL01	71	LYS	5.0
14	BL16	10	ARG	5.0
8	AL05	76	SER	5.0
8	BL05	74	LYS	5.0
54	AS20	72	LEU	5.0
16	BL18	92	TYR	5.0
24	AL27	37	LEU	5.0
8	BL05	89	GLY	5.0
9	BL06	111	HIS	5.0
16	AL18	92	TYR	5.0
53	BS19	60	VAL	5.0
46	BS12	27	LYS	5.0
8	BL05	115	ARG	4.9
9	BL06	169	VAL	4.9
53	AS19	68	GLY	4.9
28	BL31	38	LYS	4.9
2	B23S	886	C	4.9
14	BL16	89	ASN	4.9

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Mol	Chain	Res	Type	RSRZ
8	AL05	160	VAL	4.9
43	BS09	36	TYR	4.9
54	AS20	70	SER	4.9
28	BL31	44	THR	4.9
33	AL36	37	GLY	4.9
26	BL29	15	LYS	4.9
53	AS19	29	ARG	4.9
1	A16S	1360	A	4.9
5	AL02	255	LYS	4.9
24	BL27	70	GLN	4.9
55	ATHX	11	GLY	4.9
4	AL01	39	ASP	4.9
24	AL27	23	VAL	4.9
43	BS09	79	LEU	4.8
55	ATHX	5	ASP	4.8
43	BS09	33	PHE	4.8
47	BS13	35	GLU	4.8
47	BS13	59	TYR	4.8
8	AL05	114	ILE	4.8
24	AL27	46	LYS	4.8
4	BL01	69	LEU	4.8
54	AS20	65	LYS	4.8
4	BL01	122	GLY	4.8
24	BL27	85	ALA	4.8
53	AS19	56	GLN	4.8
5	BL02	34	VAL	4.8
8	BL05	37	VAL	4.8
8	BL05	156	ASP	4.8
41	BS07	13	GLN	4.8
4	BL01	139	PRO	4.8
4	BL01	174	ALA	4.8
8	AL05	90	LEU	4.8
45	AS11	12	ARG	4.8
47	BS13	4	ILE	4.8
47	BS13	47	ASP	4.8
24	AL27	25	ARG	4.8
53	AS19	79	THR	4.8
43	AS09	63	ILE	4.8
4	AL01	61	GLY	4.8
4	BL01	128	LEU	4.7
56	BATN	51	A	4.7
26	BL29	12	GLU	4.7

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Mol	Chain	Res	Type	RSRZ
8	BL05	142	PRO	4.7
16	AL18	40	ILE	4.7
1	B16S	1325	C	4.7
8	AL05	135	LEU	4.7
22	AL24	47	LYS	4.7
56	BATN	47(H)	U	4.7
53	AS19	74	PHE	4.7
4	BL01	205	ALA	4.7
10	BL09	41	GLU	4.7
48	AS14	8	GLU	4.7
47	BS13	20	THR	4.7
43	BS09	17	VAL	4.7
2	B23S	884	C	4.7
4	BL01	57	GLN	4.7
8	BL05	84	LYS	4.7
24	BL27	45	PHE	4.7
23	AL25	43	GLU	4.7
16	BL18	33	LYS	4.7
4	BL01	181	PHE	4.6
8	AL05	63	ILE	4.6
47	BS13	16	ASP	4.6
47	AS13	100	GLY	4.6
24	AL27	26	TYR	4.6
4	BL01	83	LYS	4.6
28	BL31	4	GLY	4.6
45	AS11	35	PRO	4.6
16	AL18	46	VAL	4.6
4	BL01	138	LEU	4.6
24	AL27	30	VAL	4.6
24	AL27	85	ALA	4.6
8	BL05	24	GLY	4.6
56	BATN	56	C	4.6
4	BL01	71	LYS	4.6
18	AL20	18	LEU	4.6
23	AL25	84	GLU	4.6
16	BL18	65	VAL	4.5
8	AL05	152	LEU	4.5
47	BS13	58	GLU	4.5
55	ATHX	7	ARG	4.5
8	BL05	102	PHE	4.5
43	BS09	119	ALA	4.5
56	BATN	32	C	4.5

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Mol	Chain	Res	Type	RSRZ
43	BS09	70	LYS	4.5
8	AL05	59	GLU	4.5
41	AS07	82	GLY	4.5
43	BS09	78	LYS	4.5
45	AS11	75	TYR	4.5
8	AL05	91	ARG	4.5
4	BL01	92	ALA	4.5
4	BL01	199	ALA	4.5
8	BL05	80	PHE	4.5
47	BS13	2	ALA	4.5
16	BL18	34	HIS	4.5
35	APTN	18	G	4.5
4	BL01	130	ARG	4.5
14	AL16	18	LYS	4.5
24	AL27	74	ARG	4.5
4	BL01	76	LEU	4.5
8	AL05	125	PHE	4.5
16	BL18	16	ASN	4.5
56	BATN	65	C	4.5
24	BL27	74	ARG	4.4
4	AL01	185	LYS	4.4
8	BL05	25	TYR	4.4
2	B23S	352	G	4.4
4	BL01	32	GLU	4.4
8	AL05	39	ILE	4.4
4	BL01	228	HIS	4.4
8	AL05	159	VAL	4.4
42	BS08	1	MET	4.4
53	AS19	32	LYS	4.4
23	AL25	87	ASP	4.4
4	AL01	180	SER	4.4
24	AL27	4	LYS	4.4
47	BS13	69	GLU	4.4
56	BATN	71	C	4.4
30	BL33	37	ARG	4.4
25	AL28	85	LEU	4.4
24	AL27	45	PHE	4.4
43	BS09	18	PHE	4.4
4	BL01	13	GLU	4.4
16	AL18	26	LEU	4.4
13	BL15	150	ALA	4.4
4	BL01	180	SER	4.3

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Mol	Chain	Res	Type	RSRZ
21	AL23	60	ARG	4.3
48	AS14	16	PHE	4.3
53	AS19	13	ASP	4.3
25	BL28	57	GLU	4.3
8	BL05	182	LYS	4.3
25	BL28	73	LEU	4.3
4	BL01	60	ARG	4.3
24	AL27	47	PRO	4.3
43	BS09	8	GLY	4.3
4	BL01	192	ALA	4.3
48	AS14	4	LYS	4.3
5	AL02	217	ARG	4.3
53	BS19	28	LYS	4.3
4	BL01	183	PRO	4.3
23	AL25	89	PHE	4.3
4	BL01	15	VAL	4.3
8	BL05	97	ASP	4.3
23	AL25	68	PRO	4.3
24	AL27	70	GLN	4.3
38	AS04	64	LEU	4.3
16	AL18	39	ILE	4.3
53	BS19	40	ILE	4.3
4	AL01	223	VAL	4.3
4	BL01	123	ALA	4.3
14	BL16	9	TYR	4.2
56	BATN	31	A	4.2
38	AS04	49	ARG	4.2
39	BS05	87	SER	4.2
55	ATHX	10	ARG	4.2
4	AL01	163	GLU	4.2
16	BL18	27	SER	4.2
24	AL27	82	ARG	4.2
10	BL09	42	SER	4.2
45	AS11	19	ALA	4.2
4	BL01	140	ASN	4.2
8	AL05	182	LYS	4.2
22	AL24	67	LEU	4.2
38	AS04	208	SER	4.2
53	AS19	71	LEU	4.2
4	BL01	210	LEU	4.2
4	BL01	189	ASN	4.2
16	AL18	82	ILE	4.2

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Mol	Chain	Res	Type	RSRZ
24	AL27	29	GLN	4.2
8	BL05	83	ARG	4.2
53	AS19	31	ILE	4.2
4	BL01	22	THR	4.2
53	AS19	33	THR	4.2
1	A16S	977	A	4.2
56	BATN	53	G	4.2
39	AS05	12	LEU	4.2
2	B23S	889	C	4.1
2	B23S	1095	A	4.1
2	B23S	1888	G	4.1
4	AL01	48	LEU	4.1
3	A5S	52	A	4.1
28	BL31	20	ASN	4.1
47	BS13	21	TYR	4.1
53	BS19	64	GLU	4.1
53	AS19	75	ALA	4.1
2	B23S	885	C	4.1
28	BL31	29	PRO	4.1
53	AS19	77	THR	4.1
22	AL24	51	VAL	4.1
54	AS20	29	LYS	4.1
47	BS13	30	ALA	4.1
28	AL31	7	PRO	4.1
4	BL01	29	LEU	4.1
53	AS19	60	VAL	4.1
4	AL01	162	ILE	4.1
9	AL06	153	LYS	4.1
56	BATN	52	G	4.1
8	BL05	64	THR	4.1
8	AL05	141	PHE	4.1
2	B23S	1175	G	4.1
8	BL05	150	ASP	4.1
4	BL01	113	ALA	4.1
53	BS19	42	PRO	4.1
4	BL01	115	VAL	4.1
1	B16S	4	U	4.1
45	AS11	42	TRP	4.1
37	BS03	171	GLY	4.1
8	AL05	134	GLY	4.0
26	BL29	13	ALA	4.0
38	BS04	34	GLU	4.0

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Mol	Chain	Res	Type	RSRZ
41	AS07	80	VAL	4.0
8	BL05	88	ILE	4.0
53	AS19	61	TYR	4.0
16	BL18	35	ILE	4.0
50	BS16	25	ARG	4.0
4	AL01	124	VAL	4.0
23	AL25	97	GLU	4.0
37	AS03	193	TYR	4.0
38	BS04	11	LEU	4.0
16	BL18	32	LEU	4.0
1	A16S	1362	C	4.0
48	AS14	14	PRO	4.0
16	AL18	23	ARG	4.0
16	AL18	18	ILE	4.0
38	AS04	11	LEU	4.0
45	AS11	63	LEU	4.0
56	BATN	72	C	4.0
8	BL05	151	ALA	4.0
8	BL05	144	ILE	4.0
47	AS13	39	ILE	4.0
50	BS16	32	TYR	4.0
1	B16S	1002	G	4.0
55	BTHX	20	LYS	4.0
8	BL05	140	ILE	4.0
44	AS10	35	SER	4.0
43	BS09	72	GLY	4.0
45	AS11	122	LYS	4.0
1	A16S	3	G	4.0
47	BS13	32	GLU	4.0
4	AL01	215	VAL	4.0
8	BL05	132	ASN	4.0
28	AL31	45	GLY	4.0
22	AL24	34	LYS	4.0
5	AL02	34	VAL	3.9
4	BL01	58	ASN	3.9
5	AL02	261	LYS	3.9
8	AL05	136	ARG	3.9
16	AL18	29	PHE	3.9
8	AL05	5	LEU	3.9
24	BL27	11	ARG	3.9
45	AS11	38	ASN	3.9
48	BS14	16	PHE	3.9

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Mol	Chain	Res	Type	RSRZ
34	AMRN	7	G	3.9
55	ATHX	21	TYR	3.9
4	BL01	94	TYR	3.9
8	AL05	103	LEU	3.9
47	BS13	24	GLY	3.9
41	AS07	150	ALA	3.9
22	AL24	79	CYS	3.9
45	AS11	48	ILE	3.9
24	AL27	77	ARG	3.9
8	BL05	32	PRO	3.9
40	AS06	51	PRO	3.9
27	AL30	28	LEU	3.9
56	BATN	13	G	3.9
4	AL01	50	ILE	3.9
22	AL24	75	ILE	3.9
8	AL05	106	LEU	3.9
47	AS13	102	ARG	3.9
28	AL31	23	GLU	3.9
25	BL28	27	GLU	3.9
47	AS13	13	LYS	3.9
16	BL18	15	ARG	3.9
28	BL31	22	ILE	3.9
47	BS13	11	ARG	3.9
43	BS09	105	ASP	3.9
24	BL27	42	GLY	3.8
43	BS09	101	PHE	3.8
15	AL17	2	ARG	3.8
1	A16S	1212	U	3.8
4	BL01	104	ILE	3.8
22	AL24	35	TYR	3.8
47	AS13	87	TYR	3.8
49	AS15	47	LYS	3.8
55	ATHX	17	THR	3.8
1	A16S	1210	C	3.8
4	BL01	20	VAL	3.8
22	AL24	31	LEU	3.8
24	BL27	38	VAL	3.8
45	AS11	41	THR	3.8
16	BL18	52	SER	3.8
42	BS08	2	LEU	3.8
47	BS13	82	MET	3.8
33	BL36	13	LYS	3.8

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Mol	Chain	Res	Type	RSRZ
13	BL15	5	ASP	3.8
1	B16S	1018	C	3.8
16	AL18	86	ALA	3.8
53	BS19	4	SER	3.8
55	BTHX	16	GLY	3.8
38	AS04	150	GLU	3.8
8	AL05	105	LYS	3.8
28	AL31	5	ILE	3.8
56	BATN	66	C	3.8
43	BS09	30	GLY	3.8
47	AS13	86	CYS	3.8
8	BL05	145	THR	3.8
22	AL24	52	SER	3.8
24	BL27	46	LYS	3.8
4	AL01	186	LEU	3.8
50	BS16	68	ASP	3.8
1	A16S	1215	G	3.8
24	AL27	24	LYS	3.8
53	AS19	64	GLU	3.8
39	AS05	29	GLY	3.8
47	AS13	31	LYS	3.8
1	A16S	1213	A	3.8
4	AL01	12	LEU	3.8
8	AL05	117	PHE	3.8
4	BL01	24	ASP	3.7
4	BL01	98	GLU	3.7
8	BL05	69	ALA	3.7
22	BL24	59	GLY	3.7
53	AS19	72	GLY	3.7
10	BL09	50	ARG	3.7
8	BL05	133	LEU	3.7
23	AL25	28	MET	3.7
48	BS14	10	ALA	3.7
8	AL05	100	TRP	3.7
53	AS19	5	LEU	3.7
23	AL25	42	VAL	3.7
24	AL27	67	VAL	3.7
22	AL24	6	HIS	3.7
56	BATN	45	G	3.7
2	B23S	1506(B)	A	3.7
48	AS14	6	LEU	3.7
16	BL18	57	LYS	3.7

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Mol	Chain	Res	Type	RSRZ
45	AS11	124	LYS	3.7
4	BL01	68	GLY	3.7
28	BL31	11	PRO	3.7
50	BS16	24	ALA	3.7
53	BS19	79	THR	3.7
8	BL05	62	LEU	3.7
53	BS19	81	ARG	3.7
4	BL01	108	TRP	3.7
47	AS13	116	THR	3.7
48	BS14	4	LYS	3.7
16	AL18	55	ALA	3.7
16	AL18	60	GLY	3.6
1	B16S	1362	C	3.6
8	BL05	12	TYR	3.6
23	AL25	126	VAL	3.6
4	BL01	126	SER	3.6
8	BL05	39	ILE	3.6
21	BL23	91	ALA	3.6
38	BS04	132	ARG	3.6
8	BL05	127	GLY	3.6
56	BATN	22	A	3.6
16	AL18	17	ARG	3.6
16	BL18	30	ARG	3.6
8	BL05	149	VAL	3.6
22	AL24	33	LYS	3.6
38	AS04	48	ALA	3.6
26	AL29	3	LEU	3.6
4	BL01	222	SER	3.6
24	BL27	13	GLY	3.6
17	AL19	1	MET	3.6
8	BL05	36	LYS	3.6
41	BS07	36	LYS	3.6
23	AL25	113	ALA	3.6
43	BS09	12	GLU	3.6
53	AS19	38	SER	3.6
1	B16S	458(C)	G	3.6
16	AL18	24	LEU	3.6
27	AL30	10	LYS	3.6
4	BL01	102	GLN	3.6
24	AL27	69	PHE	3.6
8	AL05	52	ILE	3.6
24	BL27	55	ARG	3.6

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Mol	Chain	Res	Type	RSRZ
50	AS16	4	ILE	3.6
53	AS19	17	GLU	3.6
53	AS19	57	HIS	3.6
3	A5S	53	A	3.6
56	BATN	70	A	3.6
10	AL09	8	PRO	3.6
22	BL24	53	PRO	3.6
10	BL09	18	VAL	3.6
39	BS05	92	LYS	3.6
47	AS13	2	ALA	3.6
48	BS14	30	ALA	3.6
23	AL25	21	ALA	3.6
13	AL15	35	HIS	3.6
13	BL15	110	TYR	3.6
53	BS19	41	VAL	3.5
1	B16S	1028(C)	G	3.5
23	AL25	4	ARG	3.5
13	BL15	9	ASN	3.5
2	A23S	1847	A	3.5
8	BL05	16	ARG	3.5
23	AL25	85	HIS	3.5
8	AL05	157	ILE	3.5
16	BL18	54	LEU	3.5
47	BS13	93	ARG	3.5
55	BTHX	18	TYR	3.5
7	AL04	70	THR	3.5
54	BS20	72	LEU	3.5
5	AL02	110	GLY	3.5
4	BL01	103	LYS	3.5
8	AL05	38	VAL	3.5
35	APTN	22	G	3.5
1	B16S	1270	C	3.5
39	BS05	91	LEU	3.5
23	BL25	164	ALA	3.5
44	AS10	33	GLN	3.5
47	BS13	64	TRP	3.5
53	AS19	49	ILE	3.5
4	BL01	93	ASP	3.5
16	AL18	35	ILE	3.5
22	AL24	36	ALA	3.5
30	BL33	24	GLU	3.5
53	AS19	48	THR	3.5

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Mol	Chain	Res	Type	RSRZ
24	AL27	31	VAL	3.5
24	AL27	63	VAL	3.5
38	BS04	112	VAL	3.4
47	BS13	15	VAL	3.4
4	AL01	138	LEU	3.4
8	AL05	133	LEU	3.4
24	AL27	36	ILE	3.4
24	AL27	72	ARG	3.4
28	BL31	5	ILE	3.4
47	AS13	93	ARG	3.4
4	BL01	107	GLY	3.4
55	BTHX	5	ASP	3.4
53	AS19	50	ALA	3.4
40	AS06	80	ARG	3.4
1	A16S	1211	U	3.4
2	A23S	2313	C	3.4
16	AL18	34	HIS	3.4
8	AL05	8	LYS	3.4
16	BL18	17	ARG	3.4
45	AS11	43	SER	3.4
8	BL05	152	LEU	3.4
16	AL18	42	ASP	3.4
8	AL05	181	ARG	3.4
28	BL31	35	VAL	3.4
4	AL01	78	ILE	3.4
50	AS16	71	ARG	3.4
53	BS19	29	ARG	3.4
4	AL01	123	ALA	3.4
56	BATN	20(A)	C	3.4
4	BL01	25	GLU	3.4
8	BL05	91	ARG	3.4
8	BL05	51	ARG	3.4
24	BL27	40	GLN	3.4
14	AL16	33	GLY	3.4
56	BATN	60	U	3.4
45	AS11	119	CYS	3.4
56	BATN	73	A	3.4
23	AL25	76	LEU	3.4
24	AL27	40	GLN	3.4
54	AS20	106	ALA	3.3
4	BL01	101	ILE	3.3
47	BS13	87	TYR	3.3

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Mol	Chain	Res	Type	RSRZ
1	B16S	1268	A	3.3
16	AL18	43	GLU	3.3
54	AS20	64	ASP	3.3
16	AL18	36	TYR	3.3
16	AL18	62	LYS	3.3
19	AL21	81	TYR	3.3
4	BL01	206	LYS	3.3
23	AL25	56	VAL	3.3
24	BL27	43	THR	3.3
35	APTN	14	A	3.3
4	AL01	31	LYS	3.3
28	AL31	39	CYS	3.3
24	AL27	9	SER	3.3
38	BS04	4	TYR	3.3
53	AS19	39	THR	3.3
10	AL09	12	LEU	3.3
22	BL24	8	LYS	3.3
8	BL05	143	GLU	3.3
30	AL33	31	PRO	3.3
47	AS13	105	THR	3.3
3	A5S	9	G	3.3
16	BL18	19	LYS	3.3
5	AL02	139	GLY	3.3
50	BS16	17	TYR	3.3
4	AL01	35	THR	3.3
23	AL25	70	LEU	3.3
2	A23S	932	G	3.3
54	AS20	58	LYS	3.3
4	BL01	23	ILE	3.3
8	BL05	92	VAL	3.3
8	AL05	42	GLY	3.2
8	AL05	101	ILE	3.2
28	AL31	24	THR	3.2
38	BS04	134	ASP	3.2
4	BL01	164	PHE	3.2
9	BL06	123	PHE	3.2
39	BS05	88	LYS	3.2
43	BS09	41	VAL	3.2
46	AS12	46	LYS	3.2
4	BL01	135	ARG	3.2
16	BL18	13	ARG	3.2
22	AL24	45	VAL	3.2

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Mol	Chain	Res	Type	RSRZ
24	AL27	38	VAL	3.2
1	B16S	1028(G)	G	3.2
22	AL24	62	GLU	3.2
35	APTN	13	C	3.2
8	AL05	58	GLN	3.2
44	AS10	38	ILE	3.2
15	BL17	47	PHE	3.2
7	BL04	6	MET	3.2
9	BL06	85	LYS	3.2
24	AL27	80	HIS	3.2
53	AS19	69	HIS	3.2
16	AL18	58	LEU	3.2
8	AL05	162	THR	3.2
13	AL15	39	LYS	3.2
53	BS19	73	GLU	3.2
23	AL25	45	ASP	3.2
8	AL05	83	ARG	3.2
39	AS05	43	LEU	3.2
4	AL01	10	ALA	3.2
23	AL25	8	TYR	3.2
53	BS19	39	THR	3.2
4	AL01	33	LEU	3.2
16	AL18	90	GLY	3.2
8	BL05	71	THR	3.2
43	BS09	82	ALA	3.2
10	AL09	113	ARG	3.2
38	BS04	118	ARG	3.2
5	AL02	254	THR	3.2
4	AL01	174	ALA	3.2
9	BL06	168	PRO	3.2
8	AL05	175	LEU	3.2
28	AL31	6	HIS	3.2
5	AL02	175	LEU	3.2
10	BL09	27	ARG	3.2
16	AL18	14	VAL	3.2
16	AL18	28	VAL	3.2
24	AL27	61	ALA	3.2
42	BS08	110	ALA	3.2
1	A16S	794	A	3.2
2	A23S	2502	G	3.2
43	AS09	62	TYR	3.2
22	AL24	4	LYS	3.1

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Mol	Chain	Res	Type	RSRZ
4	BL01	154	ILE	3.1
4	BL01	161	ARG	3.1
4	BL01	193	PHE	3.1
51	BS17	75	ARG	3.1
53	BS19	75	ALA	3.1
53	AS19	47	HIS	3.1
8	AL05	9	ARG	3.1
20	AL22	112	GLY	3.1
45	AS11	120	ARG	3.1
45	AS11	74	ALA	3.1
4	AL01	227	PRO	3.1
16	AL18	91	PRO	3.1
38	BS04	124	GLY	3.1
2	A23S	2448	A	3.1
8	AL05	161	THR	3.1
44	AS10	4	ILE	3.1
53	AS19	51	VAL	3.1
8	BL05	158	ALA	3.1
23	AL25	80	ARG	3.1
53	BS19	56	GLN	3.1
6	BL03	106	GLY	3.1
45	AS11	117	ASN	3.1
29	BL32	3	LYS	3.1
38	BS04	133	VAL	3.1
47	BS13	14	ARG	3.1
28	BL31	25	TYR	3.1
38	BS04	169	LYS	3.1
1	B16S	990	C	3.1
56	BATN	4	G	3.1
8	AL05	48	GLU	3.1
16	AL18	13	ARG	3.1
38	AS04	3	ARG	3.1
5	AL02	147	LEU	3.1
5	AL02	253	GLN	3.1
7	AL04	69	HIS	3.1
53	AS19	53	ASN	3.1
38	BS04	21	LEU	3.1
41	BS07	101	LEU	3.1
16	AL18	97	ARG	3.1
28	BL31	45	GLY	3.1
4	BL01	152	GLU	3.1
17	AL19	2	ASN	3.1

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Mol	Chain	Res	Type	RSRZ
24	AL27	33	ALA	3.1
53	BS19	8	GLY	3.1
29	BL32	58	LEU	3.1
8	BL05	33	ARG	3.1
16	BL18	20	ARG	3.1
39	BS05	133	TYR	3.1
4	BL01	127	LYS	3.1
40	AS06	78	GLU	3.1
33	BL36	1	MET	3.1
24	AL27	41	ARG	3.1
56	BATN	67	C	3.1
44	BS10	57	LYS	3.0
47	AS13	38	GLY	3.0
6	BL03	167	VAL	3.0
43	BS09	14	VAL	3.0
50	BS16	26	ARG	3.0
8	AL05	158	ALA	3.0
4	AL01	107	GLY	3.0
43	BS09	118	LYS	3.0
45	AS11	56	GLY	3.0
50	AS16	46	PRO	3.0
4	BL01	74	ARG	3.0
35	BPTN	17	U	3.0
2	B23S	2319	G	3.0
53	BS19	65	ASN	3.0
43	BS09	40	LEU	3.0
10	BL09	45	LYS	3.0
41	AS07	83	ALA	3.0
4	AL01	161	ARG	3.0
50	BS16	23	ASP	3.0
1	A16S	990	C	3.0
6	AL03	155	LYS	3.0
38	BS04	68	TYR	3.0
4	BL01	148	PHE	3.0
41	BS07	43	PHE	3.0
1	A16S	995	C	3.0
47	BS13	63	THR	3.0
38	AS04	4	TYR	3.0
8	AL05	19	LEU	3.0
4	BL01	121	MET	3.0
8	BL05	100	TRP	3.0
4	BL01	155	ARG	3.0

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Mol	Chain	Res	Type	RSRZ
5	AL02	153	ALA	3.0
10	BL09	36	ALA	3.0
15	BL17	4	LEU	3.0
20	AL22	82	LEU	3.0
28	AL31	40	HIS	3.0
23	AL25	88	PHE	3.0
8	AL05	40	ASN	3.0
31	BL34	45	ALA	3.0
38	BS04	137	SER	3.0
48	AS14	38	GLY	3.0
16	BL18	46	VAL	3.0
26	BL29	16	LEU	3.0
43	AS09	79	LEU	3.0
2	A23S	101	G	3.0
24	BL27	59	LEU	3.0
43	BS09	93	ARG	3.0
8	AL05	112	PRO	3.0
8	AL05	6	ALA	3.0
2	A23S	1913	A	3.0
15	BL17	6	SER	3.0
53	BS19	66	MET	3.0
32	BL35	34	TRP	3.0
4	BL01	75	VAL	3.0
4	BL01	106	ASP	3.0
24	BL27	77	ARG	3.0
23	AL25	41	LEU	3.0
53	AS19	35	SER	3.0
47	BS13	86	CYS	3.0
38	AS04	156	GLU	3.0
8	BL05	98	ARG	2.9
10	BL09	38	LEU	2.9
20	AL22	78	GLU	2.9
35	APTN	38	A	2.9
4	AL01	90	ALA	2.9
4	BL01	124	VAL	2.9
23	AL25	156	LYS	2.9
8	AL05	79	ASN	2.9
1	B16S	989	C	2.9
5	AL02	74	GLY	2.9
13	AL15	38	GLN	2.9
21	BL23	90	GLU	2.9
33	AL36	35	ARG	2.9

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Mol	Chain	Res	Type	RSRZ
35	APTN	36	C	2.9
42	BS08	131	GLY	2.9
4	BL01	114	VAL	2.9
22	BL24	3	VAL	2.9
38	AS04	56	VAL	2.9
45	AS11	65	ALA	2.9
8	AL05	23	PHE	2.9
3	A5S	41	U	2.9
15	BL17	2	ARG	2.9
15	BL17	8	ARG	2.9
38	BS04	114	ARG	2.9
1	A16S	458(C)	G	2.9
38	AS04	120	LEU	2.9
8	BL05	146	TYR	2.9
23	AL25	72	ARG	2.9
23	AL25	131	ARG	2.9
24	BL27	44	ARG	2.9
25	BL28	76	ARG	2.9
47	BS13	29	ARG	2.9
50	AS16	50	LYS	2.9
8	BL05	171	ALA	2.9
4	AL01	108	TRP	2.9
24	BL27	6	GLY	2.9
2	A23S	91	A	2.9
45	AS11	36	ASP	2.9
7	BL04	41	LEU	2.9
8	AL05	78	SER	2.9
9	AL06	155	SER	2.9
23	AL25	83	PRO	2.9
24	AL27	22	GLY	2.9
7	AL04	132	VAL	2.9
16	BL18	36	TYR	2.9
41	BS07	22	LEU	2.9
46	BS12	6	ILE	2.9
3	A5S	23	G	2.9
1	A16S	991	U	2.9
4	BL01	184	GLU	2.9
22	AL24	43	ASN	2.9
10	BL09	5	LEU	2.9
16	BL18	12	PHE	2.9
1	B16S	1312	G	2.9
4	BL01	63	VAL	2.9

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Mol	Chain	Res	Type	RSRZ
16	AL18	48	LEU	2.9
53	BS19	16	LEU	2.9
38	AS04	206	PHE	2.9
9	BL06	51	ARG	2.9
9	AL06	126	PRO	2.9
23	AL25	127	LYS	2.9
24	BL27	16	SER	2.9
45	AS11	29	ILE	2.9
2	A23S	508	G	2.9
23	AL25	49	ARG	2.9
43	AS09	83	ARG	2.9
56	BATN	5	G	2.9
44	AS10	76	ASN	2.8
5	AL02	262	ARG	2.8
8	BL05	128	ARG	2.8
4	BL01	16	ASP	2.8
8	AL05	109	VAL	2.8
44	BS10	62	HIS	2.8
53	AS19	19	VAL	2.8
54	AS20	57	ARG	2.8
54	AS20	80	ARG	2.8
43	BS09	76	ALA	2.8
2	B23S	2402	C	2.8
47	BS13	56	LEU	2.8
45	AS11	39	PRO	2.8
1	B16S	1000	A	2.8
33	BL36	15	LYS	2.8
1	A16S	1517	G	2.8
3	B5S	41	U	2.8
2	A23S	2178	C	2.8
45	AS11	47	VAL	2.8
23	AL25	159	PRO	2.8
2	A23S	2155	G	2.8
13	AL15	21	ARG	2.8
47	BS13	38	GLY	2.8
13	AL15	51	PHE	2.8
22	AL24	44	ILE	2.8
9	BL06	152	ARG	2.8
38	AS04	10	ARG	2.8
42	BS08	69	ARG	2.8
4	AL01	193	PHE	2.8
4	AL01	113	ALA	2.8

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Mol	Chain	Res	Type	RSRZ
29	BL32	53	ALA	2.8
28	BL31	21	VAL	2.8
4	AL01	76	LEU	2.8
16	AL18	22	GLY	2.8
22	BL24	79	CYS	2.8
54	AS20	18	GLN	2.8
47	AS13	98	VAL	2.8
27	AL30	17	LYS	2.8
27	AL30	24	LYS	2.8
4	BL01	182	PRO	2.8
43	BS09	49	PRO	2.8
33	AL36	24	TYR	2.8
22	BL24	2	ARG	2.8
28	AL31	16	CYS	2.8
30	BL33	20	ASN	2.8
50	BS16	35	LYS	2.8
22	AL24	58	GLY	2.8
1	B16S	1292	U	2.8
2	B23S	1057	A	2.8
23	AL25	86	VAL	2.8
47	BS13	45	VAL	2.8
22	AL24	38	ILE	2.8
14	BL16	7	MET	2.8
8	BL05	90	LEU	2.8
2	A23S	2319	G	2.8
21	BL23	88	LYS	2.8
23	AL25	57	ILE	2.8
30	BL33	50	ARG	2.8
38	AS04	209	ARG	2.8
4	AL01	196	ALA	2.8
8	BL05	56	ALA	2.8
33	AL36	36	GLN	2.7
8	AL05	27	ASN	2.7
18	AL20	4	ALA	2.7
47	BS13	73	GLU	2.7
16	AL18	56	LEU	2.7
38	AS04	47	ARG	2.7
53	AS19	18	LYS	2.7
3	B5S	51	G	2.7
41	BS07	26	PHE	2.7
1	B16S	1289	A	2.7
1	A16S	989	C	2.7

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Mol	Chain	Res	Type	RSRZ
1	B16S	998(A)	C	2.7
5	AL02	258	LYS	2.7
37	AS03	192	THR	2.7
24	AL27	8	GLY	2.7
4	BL01	42	VAL	2.7
53	BS19	11	VAL	2.7
8	AL05	153	ARG	2.7
45	AS11	54	ARG	2.7
5	AL02	182	LEU	2.7
8	BL05	155	MET	2.7
56	BATN	14	A	2.7
4	AL01	131	ILE	2.7
45	AS11	51	LYS	2.7
1	A16S	1359	C	2.7
1	B16S	1296	C	2.7
39	BS05	123	LEU	2.7
45	AS11	44	SER	2.7
24	AL27	52	GLY	2.7
8	AL05	77	ILE	2.7
8	BL05	114	ILE	2.7
16	AL18	89	ARG	2.7
44	AS10	5	ARG	2.7
56	BATN	59	A	2.7
1	B16S	1291	G	2.7
2	A23S	2339	G	2.7
10	AL09	91	SER	2.7
16	BL18	48	LEU	2.7
43	BS09	19	LEU	2.7
6	AL03	64	LYS	2.7
24	AL27	57	PHE	2.7
54	AS20	25	ARG	2.7
16	AL18	38	GLN	2.7
24	AL27	62	LEU	2.7
12	BL14	1	MET	2.7
23	AL25	82	ARG	2.7
37	AS03	191	THR	2.7
8	AL05	172	LEU	2.7
38	AS04	108	LEU	2.7
38	AS04	201	GLN	2.7
44	AS10	57	LYS	2.7
50	BS16	1	MET	2.7
1	A16S	994	A	2.7

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Mol	Chain	Res	Type	RSRZ
4	AL01	13	GLU	2.7
8	AL05	110	ALA	2.7
14	AL16	139	GLU	2.7
5	AL02	40	THR	2.7
2	A23S	2293	C	2.7
8	BL05	94	LEU	2.7
47	BS13	19	LEU	2.7
23	AL25	128	VAL	2.7
1	A16S	1364	U	2.7
8	BL05	4	ASP	2.7
5	AL02	15	PHE	2.7
2	B23S	1091	G	2.7
8	BL05	104	GLU	2.7
47	BS13	9	ILE	2.7
21	AL23	66	LEU	2.6
53	BS19	30	LEU	2.6
7	BL04	149	ASP	2.6
24	AL27	43	THR	2.6
39	AS05	10	MET	2.6
4	BL01	195	ARG	2.6
9	BL06	88	LEU	2.6
53	BS19	52	TYR	2.6
13	AL15	42	SER	2.6
30	BL33	29	ASN	2.6
33	AL36	1	MET	2.6
43	AS09	124	GLN	2.6
9	AL06	151	ILE	2.6
16	AL18	100	ALA	2.6
41	BS07	44	TYR	2.6
2	A23S	885	C	2.6
1	B16S	1311	G	2.6
2	B23S	2191	G	2.6
47	AS13	99	ARG	2.6
23	AL25	25	PRO	2.6
46	BS12	4	PRO	2.6
47	BS13	34	LEU	2.6
54	AS20	62	LEU	2.6
37	AS03	158	GLY	2.6
53	BS19	35	SER	2.6
4	BL01	165	ARG	2.6
4	AL01	69	LEU	2.6
30	BL33	23	THR	2.6

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Mol	Chain	Res	Type	RSRZ
45	BS11	75	TYR	2.6
13	AL15	27	HIS	2.6
28	BL31	36	CYS	2.6
16	AL18	70	GLY	2.6
24	BL27	52	GLY	2.6
4	BL01	172	ILE	2.6
4	BL01	111	PHE	2.6
16	AL18	95	HIS	2.6
39	BS05	83	GLU	2.6
18	AL20	27	LEU	2.6
54	AS20	24	LEU	2.6
1	A16S	1028(D)	C	2.6
25	BL28	50	ARG	2.6
21	BL23	83	VAL	2.6
22	AL24	25	GLY	2.6
38	BS04	135	LEU	2.6
43	BS09	47	LEU	2.6
18	AL20	33	ARG	2.6
47	BS13	94	ARG	2.6
35	APTN	23	A	2.6
1	A16S	795	C	2.6
29	BL32	54	GLY	2.6
39	BS05	81	GLU	2.6
41	BS07	122	HIS	2.6
41	BS07	35	LYS	2.6
22	AL24	65	ALA	2.6
1	A16S	1224	G	2.6
1	A16S	1365	G	2.6
6	BL03	105	THR	2.6
21	AL23	78	LYS	2.6
41	BS07	23	VAL	2.6
1	A16S	1317	C	2.6
4	BL01	153	ILE	2.6
16	BL18	89	ARG	2.6
25	BL28	81	ARG	2.6
49	BS15	57	LEU	2.6
45	BS11	11	LYS	2.6
24	BL27	21	LEU	2.6
50	BS16	6	LEU	2.6
1	B16S	1022	G	2.6
4	BL01	90	ALA	2.6
22	AL24	54	LYS	2.6

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Mol	Chain	Res	Type	RSRZ
50	BS16	27	LYS	2.6
55	ATHX	18	TYR	2.6
24	AL27	16	SER	2.6
29	BL32	57	VAL	2.6
46	BS12	28	GLY	2.6
53	BS19	38	SER	2.6
53	AS19	78	ARG	2.6
43	BS09	31	GLN	2.5
1	B16S	988	G	2.5
16	BL18	28	VAL	2.5
16	AL18	93	LYS	2.5
16	BL18	63	THR	2.5
8	AL05	104	GLU	2.5
8	BL05	137	GLU	2.5
21	BL23	84	ALA	2.5
23	AL25	20	ARG	2.5
38	BS04	3	ARG	2.5
43	BS09	83	ARG	2.5
4	BL01	44	VAL	2.5
6	BL03	104	VAL	2.5
2	A23S	2309	A	2.5
2	B23S	1055	G	2.5
8	AL05	108	ASN	2.5
8	AL05	178	PHE	2.5
22	AL24	5	MET	2.5
16	AL18	57	LYS	2.5
14	AL16	83	MET	2.5
40	BS06	18	GLN	2.5
43	BS09	100	GLY	2.5
38	AS04	52	SER	2.5
33	BL36	28	GLU	2.5
4	BL01	45	HIS	2.5
28	AL31	46	GLN	2.5
2	B23S	892	G	2.5
4	BL01	55	SER	2.5
15	BL17	7	GLY	2.5
8	AL05	62	LEU	2.5
54	AS20	20	LEU	2.5
2	B23S	1072	C	2.5
24	BL27	57	PHE	2.5
35	APTN	26	A	2.5
42	BS08	134	ILE	2.5

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Mol	Chain	Res	Type	RSRZ
48	AS14	7	ILE	2.5
28	BL31	30	GLU	2.5
50	BS16	31	LYS	2.5
4	BL01	64	SER	2.5
5	AL02	116	GLN	2.5
8	AL05	29	TRP	2.5
38	BS04	5	ILE	2.5
1	A16S	978	A	2.5
8	AL05	26	GLN	2.5
38	AS04	125	HIS	2.5
4	BL01	209	PHE	2.5
39	AS05	45	PHE	2.5
50	AS16	31	LYS	2.5
54	BS20	75	ASN	2.5
10	AL09	38	LEU	2.5
22	AL24	66	PRO	2.5
39	BS05	110	LEU	2.5
48	AS14	5	ALA	2.5
56	BATN	76	A	2.5
5	AL02	68	LYS	2.5
16	AL18	83	LYS	2.5
9	AL06	125	VAL	2.5
47	BS13	65	LYS	2.5
2	B23S	2794(C)	C	2.5
33	BL36	17	ILE	2.5
22	AL24	3	VAL	2.5
39	AS05	110	LEU	2.5
44	AS10	100	THR	2.5
19	AL21	76	LYS	2.5
25	BL28	60	PHE	2.5
40	AS06	86	ARG	2.5
48	BS14	8	GLU	2.5
2	A23S	2294	C	2.4
23	AL25	12	GLY	2.4
23	AL25	74	VAL	2.4
30	BL33	36	LEU	2.4
6	AL03	151	TYR	2.4
21	BL23	92	LEU	2.4
38	BS04	6	GLY	2.4
1	A16S	985	C	2.4
2	A23S	2269	A	2.4
39	AS05	64	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
24	BL27	68	GLU	2.4
5	AL02	235	GLY	2.4
16	AL18	49	VAL	2.4
16	BL18	55	ALA	2.4
1	A16S	1209	C	2.4
41	BS07	11	GLN	2.4
47	AS13	4	ILE	2.4
50	AS16	1	MET	2.4
21	AL23	51	VAL	2.4
16	AL18	53	SER	2.4
4	AL01	127	LYS	2.4
55	ATHX	13	ILE	2.4
16	BL18	91	PRO	2.4
22	BL24	74	PRO	2.4
4	AL01	51	ASP	2.4
21	AL23	86	GLY	2.4
24	AL27	7	LEU	2.4
23	AL25	77	ASP	2.4
26	AL29	52	ASP	2.4
28	AL31	27	THR	2.4
43	BS09	115	GLY	2.4
4	AL01	21	TYR	2.4
28	AL31	25	TYR	2.4
2	A23S	2125	G	2.4
8	BL05	167	GLU	2.4
35	APTN	20	G	2.4
56	BATN	19	G	2.4
27	AL30	29	ARG	2.4
22	AL24	14	LEU	2.4
4	BL01	134	PRO	2.4
1	B16S	1020	U	2.4
2	B23S	1102	C	2.4
5	AL02	260	ARG	2.4
41	BS07	120	ILE	2.4
53	AS19	40	ILE	2.4
3	B5S	52	A	2.4
21	BL23	52	VAL	2.4
38	AS04	46	LYS	2.4
4	BL01	38	PHE	2.4
23	AL25	95	PRO	2.4
16	AL18	94	TYR	2.4
38	BS04	24	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
45	AS11	22	HIS	2.4
4	BL01	190	ILE	2.4
1	A16S	1217	C	2.4
23	AL25	5	LEU	2.4
5	AL02	16	MET	2.4
43	BS09	28	VAL	2.4
1	B16S	1288	A	2.4
49	AS15	2	PRO	2.4
4	BL01	196	ALA	2.4
8	BL05	61	ALA	2.4
8	BL05	103	LEU	2.4
24	AL27	49	LYS	2.4
27	AL30	53	LEU	2.4
44	AS10	99	LYS	2.4
53	AS19	30	LEU	2.4
4	AL01	81	GLY	2.4
39	AS05	28	PHE	2.4
38	BS04	122	ARG	2.4
50	BS16	8	ARG	2.4
23	AL25	69	THR	2.4
54	BS20	99	LEU	2.4
2	A23S	2449	U	2.4
6	AL03	156	MET	2.4
35	BPTN	63	G	2.4
41	BS07	56	GLN	2.4
38	BS04	20	TYR	2.4
4	AL01	173	HIS	2.4
3	A5S	59	A	2.3
4	BL01	146	VAL	2.3
27	AL30	27	GLY	2.3
56	BATN	20(B)	A	2.3
56	BATN	58	A	2.3
8	BL05	23	PHE	2.3
1	A16S	78(C)	U	2.3
2	B23S	1056	G	2.3
9	BL06	102	ALA	2.3
39	BS05	13	ILE	2.3
39	BS05	43	LEU	2.3
34	AMRN	14	A	2.3
2	B23S	270(O)	U	2.3
6	AL03	160	TYR	2.3
43	BS09	62	TYR	2.3

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Mol	Chain	Res	Type	RSRZ
4	AL01	224	ARG	2.3
15	AL17	18	LEU	2.3
8	BL05	66	GLN	2.3
2	B23S	155(D)	U	2.3
8	BL05	31	VAL	2.3
41	BS07	9	VAL	2.3
22	BL24	92	ASN	2.3
8	AL05	126	ASP	2.3
16	BL18	88	ASP	2.3
4	AL01	77	ALA	2.3
8	AL05	12	TYR	2.3
9	AL06	64	LEU	2.3
56	BATN	30	G	2.3
1	A16S	78(B)	U	2.3
44	AS10	6	ILE	2.3
39	AS05	105	VAL	2.3
3	B5S	16	G	2.3
4	AL01	229	SER	2.3
24	AL27	42	GLY	2.3
38	AS04	175	SER	2.3
52	AS18	77	GLY	2.3
10	AL09	60	GLU	2.3
48	AS14	12	ARG	2.3
41	BS07	25	ALA	2.3
48	AS14	42	ILE	2.3
2	A23S	1080	C	2.3
10	AL09	7	GLU	2.3
51	BS17	30	PRO	2.3
23	AL25	78	LYS	2.3
41	BS07	28	ASN	2.3
23	AL25	93	ASP	2.3
41	BS07	20	ASP	2.3
8	AL05	89	GLY	2.3
5	AL02	184	LYS	2.3
41	BS07	8	GLU	2.3
4	BL01	33	LEU	2.3
4	BL01	105	LEU	2.3
35	APTN	27	C	2.3
8	BL05	123	ASN	2.3
2	A23S	1067	A	2.3
2	A23S	1899	G	2.3
2	A23S	2059	A	2.3

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Mol	Chain	Res	Type	RSRZ
2	B23S	1098	A	2.3
36	AS02	179	LYS	2.3
56	BATN	57	G	2.3
24	BL27	53	MET	2.3
38	BS04	126	ILE	2.3
8	AL05	180	PHE	2.3
23	AL25	98	MET	2.3
38	AS04	76	ARG	2.3
6	AL03	204	ALA	2.3
22	BL24	36	ALA	2.3
25	BL28	48	LYS	2.3
4	AL01	18	ASN	2.3
47	BS13	49	THR	2.3
33	BL36	30	PRO	2.3
5	AL02	22	SER	2.3
22	AL24	39	VAL	2.3
25	BL28	65	SER	2.3
1	A16S	4	U	2.2
18	AL20	39	LEU	2.2
32	AL35	46	ARG	2.2
32	BL35	32	LEU	2.2
53	BS19	10	PHE	2.2
53	BS19	50	ALA	2.2
15	BL17	45	ARG	2.2
2	B23S	882	G	2.2
3	A5S	61	G	2.2
4	BL01	149	ASN	2.2
16	AL18	16	ASN	2.2
38	BS04	106	TYR	2.2
50	AS16	65	GLN	2.2
24	BL27	41	ARG	2.2
10	BL09	2	LYS	2.2
43	BS09	99	LEU	2.2
1	A16S	532	A	2.2
45	AS11	26	ASN	2.2
51	BS17	77	VAL	2.2
2	A23S	155(C)	U	2.2
2	A23S	2338	G	2.2
24	AL27	55	ARG	2.2
26	AL29	12	GLU	2.2
35	APTN	15	G	2.2
22	AL24	101	LYS	2.2

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Mol	Chain	Res	Type	RSRZ
8	BL05	29	TRP	2.2
53	BS19	15	LEU	2.2
9	AL06	123	PHE	2.2
39	BS05	140	ARG	2.2
52	BS18	80	PRO	2.2
10	AL09	6	LEU	2.2
22	BL24	6	HIS	2.2
47	BS13	92	HIS	2.2
2	B23S	2318	G	2.2
9	BL06	50	VAL	2.2
16	AL18	65	VAL	2.2
27	AL30	56	VAL	2.2
32	BL35	57	ARG	2.2
37	BS03	193	TYR	2.2
45	AS11	94	ALA	2.2
53	BS19	46	GLY	2.2
1	A16S	792	A	2.2
2	B23S	1077	A	2.2
2	B23S	1096	A	2.2
22	AL24	68	HIS	2.2
14	BL16	83	MET	2.2
6	AL03	104	VAL	2.2
19	AL21	74	LYS	2.2
30	AL33	24	GLU	2.2
1	A16S	1220	G	2.2
1	B16S	1013	G	2.2
2	B23S	2334	G	2.2
8	BL05	58	GLN	2.2
4	AL01	38	PHE	2.2
10	AL09	61	ARG	2.2
16	AL18	44	LYS	2.2
22	AL24	60	PHE	2.2
38	BS04	140	VAL	2.2
45	AS11	21	ILE	2.2
56	BATN	35	U	2.2
56	BATN	63	U	2.2
1	A16S	1321	C	2.2
4	BL01	12	LEU	2.2
8	BL05	19	LEU	2.2
1	B16S	1310	G	2.2
10	BL09	4	ILE	2.2
4	BL01	136	GLY	2.2

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Mol	Chain	Res	Type	RSRZ
9	BL06	71	LEU	2.2
23	AL25	163	LEU	2.2
38	BS04	209	ARG	2.2
53	AS19	42	PRO	2.2
16	AL18	47	THR	2.2
16	BL18	61	ASN	2.2
28	BL31	15	ILE	2.2
42	BS08	17	THR	2.2
37	BS03	167	TRP	2.2
48	AS14	17	LYS	2.2
4	BL01	227	PRO	2.2
9	BL06	92	ILE	2.2
38	AS04	5	ILE	2.2
1	B16S	1037	C	2.2
5	AL02	238	GLY	2.2
38	AS04	23	GLY	2.2
43	AS09	128	ARG	2.2
5	AL02	155	LEU	2.2
8	AL05	43	LEU	2.2
23	AL25	52	SER	2.2
24	BL27	18	ALA	2.2
1	A16S	78(A)	U	2.2
2	B23S	271(C)	U	2.2
1	B16S	1309	G	2.2
2	B23S	1413	G	2.2
48	BS14	14	PRO	2.2
27	BL30	38	GLU	2.2
8	BL05	21	ARG	2.2
38	BS04	73	ARG	2.2
3	B5S	12	C	2.1
1	B16S	78(B)	U	2.1
8	AL05	21	ARG	2.1
13	AL15	50	ARG	2.1
13	BL15	15	ARG	2.1
45	BS11	108	ILE	2.1
50	BS16	19	ILE	2.1
53	BS19	31	ILE	2.1
54	AS20	63	ILE	2.1
22	AL24	28	LYS	2.1
6	AL03	182	LEU	2.1
9	BL06	105	LEU	2.1
16	AL18	54	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
24	AL27	50	ASN	2.1
33	BL36	24	TYR	2.1
54	AS20	84	LEU	2.1
21	AL23	79	ALA	2.1
24	BL27	17	GLN	2.1
39	AS05	11	ILE	2.1
45	AS11	121	PRO	2.1
50	BS16	72	ARG	2.1
40	AS06	79	LEU	2.1
50	BS16	22	THR	2.1
2	A23S	2202(D)	G	2.1
48	AS14	29	ARG	2.1
56	BATN	49	G	2.1
8	AL05	14	GLU	2.1
38	BS04	116	GLN	2.1
18	BL20	7	GLY	2.1
23	BL25	167	PRO	2.1
20	AL22	74	ALA	2.1
42	BS08	135	CYS	2.1
43	BS09	44	VAL	2.1
53	AS19	9	VAL	2.1
8	BL05	5	LEU	2.1
1	A16S	1039	C	2.1
3	A5S	88	C	2.1
5	AL02	150	LYS	2.1
9	BL06	94	TYR	2.1
25	AL28	54	ALA	2.1
28	BL31	12	ALA	2.1
4	AL01	84	ILE	2.1
23	AL25	71	VAL	2.1
42	BS08	93	VAL	2.1
45	BS11	112	THR	2.1
50	BS16	49	LEU	2.1
4	AL01	14	LYS	2.1
33	BL36	9	ARG	2.1
3	A5S	51	G	2.1
1	B16S	1327	C	2.1
16	BL18	39	ILE	2.1
21	AL23	81	VAL	2.1
8	BL05	8	LYS	2.1
4	AL01	26	ALA	2.1
50	BS16	29	ASP	2.1

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Mol	Chain	Res	Type	RSRZ
53	AS19	73	GLU	2.1
2	A23S	1379	A	2.1
4	BL01	131	ILE	2.1
1	A16S	987	G	2.1
1	B16S	1003	G	2.1
1	B16S	1365	G	2.1
8	AL05	170	ARG	2.1
18	AL20	30	LYS	2.1
44	AS10	36	GLY	2.1
47	BS13	3	ARG	2.1
23	AL25	3	TYR	2.1
5	AL02	221	VAL	2.1
27	AL30	4	LEU	2.1
30	AL33	42	TRP	2.1
31	AL34	47	ARG	2.1
41	BS07	19	GLY	2.1
49	AS15	20	GLY	2.1
2	A23S	2596	U	2.1
7	BL04	139	PHE	2.1
8	AL05	123	ASN	2.1
1	B16S	1249	C	2.1
44	BS10	61	GLU	2.1
50	BS16	34	GLU	2.1
54	AS20	60	GLU	2.1
5	AL02	26	LYS	2.1
8	AL05	16	ARG	2.1
9	BL06	162	ILE	2.1
47	BS13	22	ILE	2.1
4	AL01	128	LEU	2.1
8	AL05	111	LEU	2.1
48	AS14	39	LEU	2.1
6	AL03	105	THR	2.1
1	B16S	1028(F)	A	2.1
4	AL01	7	ARG	2.1
8	AL05	57	ALA	2.1
22	AL24	53	PRO	2.1
43	BS09	114	TYR	2.1
47	BS13	17	VAL	2.1
53	AS19	36	ARG	2.1
1	A16S	1047	G	2.1
27	AL30	26	LEU	2.1
56	BATN	2	G	2.1

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Mol	Chain	Res	Type	RSRZ
8	BL05	45	GLU	2.1
43	AS09	118	LYS	2.1
55	ATHX	12	LYS	2.1
24	AL27	58	THR	2.1
8	AL05	31	VAL	2.1
1	A16S	1123	A	2.1
27	AL30	31	LEU	2.1
38	BS04	108	LEU	2.1
43	AS09	19	LEU	2.1
10	AL09	132	PRO	2.0
12	BL14	39	ILE	2.0
14	AL16	19	GLY	2.0
47	BS13	89	GLY	2.0
5	BL02	150	LYS	2.0
8	BL05	22	ARG	2.0
14	AL16	104	PHE	2.0
33	AL36	33	LYS	2.0
32	AL35	34	TRP	2.0
39	AS05	56	GLN	2.0
42	BS08	138	TRP	2.0
43	AS09	9	ARG	2.0
8	BL05	59	GLU	2.0
47	BS13	61	GLU	2.0
45	BS11	117	ASN	2.0
2	B23S	883	G	2.0
22	AL24	63	LYS	2.0
56	BATN	7	G	2.0
54	AS20	22	ARG	2.0
4	BL01	167	ASP	2.0
5	AL02	126	GLN	2.0
6	BL03	132	HIS	2.0
24	BL27	79	VAL	2.0
25	BL28	49	VAL	2.0
38	AS04	8	VAL	2.0
53	BS19	58	VAL	2.0
10	AL09	5	LEU	2.0
14	BL16	92	GLY	2.0
28	AL31	38	LYS	2.0
40	AS06	54	LYS	2.0
37	AS03	127	ARG	2.0
2	A23S	2296	U	2.0
1	A16S	1048	G	2.0

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Mol	Chain	Res	Type	RSRZ
4	AL01	89	GLU	2.0
16	AL18	68	GLN	2.0
10	AL09	2	LYS	2.0
22	AL24	26	LYS	2.0
24	BL27	37	LEU	2.0
41	BS07	10	ARG	2.0
28	AL31	11	PRO	2.0
44	AS10	11	PHE	2.0
10	AL09	108	THR	2.0
4	AL01	184	GLU	2.0
7	BL04	37	VAL	2.0
5	AL02	174	ILE	2.0
6	BL03	195	LEU	2.0
45	AS11	59	TYR	2.0
43	BS09	77	ILE	2.0
47	BS13	99	ARG	2.0
8	BL05	134	GLY	2.0
23	AL25	114	GLY	2.0
16	AL18	99	LYS	2.0
38	BS04	120	LEU	2.0

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	PSU	BATN	39	20/21	0.52	0.29	140,150,156,157	0
56	PSU	BATN	55	20/21	0.58	0.41	138,155,160,163	0
56	QUO	BATN	34	32/33	0.60	0.24	125,131,141,145	0
56	5MU	BATN	54	21/22	0.70	0.61	126,150,160,164	0
35	G7M	APTN	46	24/25	0.70	0.37	175,184,204,220	0
35	5MU	BPTN	54	21/22	0.72	0.36	128,135,141,147	0
35	6MZ	BPTN	37	23/24	0.73	0.17	65,76,84,98	0
56	MIA	BATN	37	29/30	0.73	0.22	133,139,142,148	0
35	4SU	APTN	8	20/21	0.73	0.27	179,188,195,198	0
35	4SU	BPTN	8	20/21	0.74	0.16	145,150,159,163	0
35	5MU	APTN	54	21/22	0.75	0.18	155,167,169,170	0
35	6MZ	APTN	37	23/24	0.77	0.30	115,122,128,133	0
35	PSU	BPTN	55	20/21	0.79	0.21	132,146,156,160	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
35	PSU	APTN	55	20/21	0.81	0.16	163,176,182,183	0
35	CM0	APTN	34	25/26	0.83	0.35	119,126,131,132	0
35	G7M	BPTN	46	24/25	0.83	0.16	144,157,172,188	0
35	CM0	BPTN	34	25/26	0.87	0.18	96,104,116,117	0

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A5S	201	1/1	0.50	0.20	98,98,98,98	0
57	MG	B23S	2924	1/1	0.50	0.18	62,62,62,62	0
57	MG	A23S	2947	1/1	0.51	0.16	47,47,47,47	0
57	MG	B23S	2906	1/1	0.57	0.20	37,37,37,37	0
57	MG	A23S	2910	1/1	0.63	0.22	83,83,83,83	0
57	MG	B23S	2976	1/1	0.64	0.18	46,46,46,46	0
57	MG	AL02	302	1/1	0.65	0.85	50,50,50,50	0
57	MG	B23S	2949	1/1	0.66	0.20	31,31,31,31	0
57	MG	A23S	2940	1/1	0.66	0.21	63,63,63,63	0
57	MG	BL30	101	1/1	0.66	0.10	72,72,72,72	0
57	MG	B16S	1608	1/1	0.67	0.16	56,56,56,56	0
57	MG	B23S	3025	1/1	0.67	0.33	45,45,45,45	0
57	MG	AL14	201	1/1	0.67	0.25	58,58,58,58	0
57	MG	BL01	302	1/1	0.68	0.15	90,90,90,90	0
57	MG	AL15	202	1/1	0.69	0.17	61,61,61,61	0
57	MG	A16S	1603	1/1	0.69	0.17	57,57,57,57	0
57	MG	BATN	101	1/1	0.69	0.22	80,80,80,80	0
57	MG	B16S	1624	1/1	0.69	0.16	56,56,56,56	0
57	MG	B23S	2959	1/1	0.69	0.13	69,69,69,69	0
57	MG	AS06	202	1/1	0.71	0.13	68,68,68,68	0
57	MG	A23S	2936	1/1	0.72	0.15	40,40,40,40	0
57	MG	B5S	203	1/1	0.72	0.17	58,58,58,58	0
57	MG	B23S	2990	1/1	0.72	0.37	51,51,51,51	0
57	MG	B23S	3011	1/1	0.72	0.14	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	B23S	3015	1/1	0.72	0.10	50,50,50,50	0
57	MG	BL15	202	1/1	0.73	0.11	64,64,64,64	0
57	MG	B16S	1629	1/1	0.73	0.20	82,82,82,82	0
57	MG	B23S	2972	1/1	0.74	0.14	62,62,62,62	0
57	MG	B23S	2989	1/1	0.75	0.15	56,56,56,56	0
57	MG	BL15	203	1/1	0.75	0.40	48,48,48,48	0
57	MG	A23S	2927	1/1	0.75	0.15	37,37,37,37	0
57	MG	AL04	301	1/1	0.76	0.10	57,57,57,57	0
57	MG	B23S	2953	1/1	0.76	0.17	44,44,44,44	0
57	MG	AL17	202	1/1	0.76	0.10	47,47,47,47	0
57	MG	B23S	3000	1/1	0.76	0.15	35,35,35,35	0
57	MG	B23S	3010	1/1	0.76	0.23	56,56,56,56	0
57	MG	B23S	2932	1/1	0.76	0.14	43,43,43,43	0
57	MG	B23S	2974	1/1	0.76	0.17	45,45,45,45	0
57	MG	B16S	1603	1/1	0.77	0.27	57,57,57,57	0
57	MG	B23S	2936	1/1	0.77	0.10	54,54,54,54	0
57	MG	A23S	2959	1/1	0.77	0.12	57,57,57,57	0
57	MG	BL31	101	1/1	0.77	0.17	78,78,78,78	0
57	MG	A16S	1610	1/1	0.78	0.22	74,74,74,74	0
57	MG	BL01	301	1/1	0.78	0.14	105,105,105,105	0
57	MG	A23S	2970	1/1	0.78	0.25	73,73,73,73	0
57	MG	AL34	100	1/1	0.78	0.41	55,55,55,55	0
57	MG	B23S	2963	1/1	0.78	0.18	37,37,37,37	0
57	MG	BL23	101	1/1	0.78	0.65	46,46,46,46	0
57	MG	B23S	3031	1/1	0.78	0.13	53,53,53,53	0
57	MG	A23S	2911	1/1	0.78	0.65	40,40,40,40	0
57	MG	B23S	2908	1/1	0.79	0.18	32,32,32,32	0
57	MG	B23S	2960	1/1	0.79	0.25	59,59,59,59	0
57	MG	A23S	2962	1/1	0.79	0.20	50,50,50,50	0
57	MG	B5S	204	1/1	0.79	0.10	55,55,55,55	0
57	MG	BL33	102	1/1	0.79	0.10	51,51,51,51	0
57	MG	AL23	101	1/1	0.80	0.09	57,57,57,57	0
57	MG	AL23	102	1/1	0.80	0.33	73,73,73,73	0
57	MG	BL22	201	1/1	0.80	0.14	34,34,34,34	0
57	MG	B16S	1627	1/1	0.80	0.13	85,85,85,85	0
57	MG	A23S	2953	1/1	0.80	0.09	62,62,62,62	0
57	MG	A23S	2969	1/1	0.80	0.08	47,47,47,47	0
57	MG	A16S	1601	1/1	0.80	0.11	47,47,47,47	0
57	MG	A23S	2916	1/1	0.81	0.15	36,36,36,36	0
57	MG	B23S	3009	1/1	0.81	0.36	46,46,46,46	0
57	MG	AL06	201	1/1	0.81	0.12	67,67,67,67	0
57	MG	B16S	1630	1/1	0.81	0.11	58,58,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	AL01	301	1/1	0.81	0.17	105,105,105,105	0
57	MG	A16S	1625	1/1	0.81	0.19	62,62,62,62	0
57	MG	B23S	3026	1/1	0.81	0.20	42,42,42,42	0
57	MG	B23S	2986	1/1	0.81	0.09	55,55,55,55	0
57	MG	B23S	2956	1/1	0.81	0.18	42,42,42,42	0
57	MG	B23S	2918	1/1	0.81	0.44	34,34,34,34	0
57	MG	B23S	2951	1/1	0.82	0.11	50,50,50,50	0
57	MG	B16S	1610	1/1	0.82	0.16	70,70,70,70	0
57	MG	A16S	1626	1/1	0.82	0.07	58,58,58,58	0
57	MG	B23S	2934	1/1	0.82	0.17	24,24,24,24	0
57	MG	BL18	201	1/1	0.82	0.30	57,57,57,57	0
57	MG	BL19	202	1/1	0.82	0.10	63,63,63,63	0
57	MG	A16S	1619	1/1	0.82	0.14	42,42,42,42	0
57	MG	B23S	2961	1/1	0.82	0.36	42,42,42,42	0
57	MG	B23S	2996	1/1	0.82	0.13	40,40,40,40	0
57	MG	B23S	2962	1/1	0.82	0.24	50,50,50,50	0
57	MG	A16S	1613	1/1	0.82	0.18	78,78,78,78	0
57	MG	B16S	1622	1/1	0.83	0.19	44,44,44,44	0
57	MG	B16S	1604	1/1	0.83	0.07	58,58,58,58	0
57	MG	BL16	201	1/1	0.83	0.46	52,52,52,52	0
57	MG	B23S	2984	1/1	0.83	0.15	41,41,41,41	0
57	MG	B23S	3021	1/1	0.83	0.12	63,63,63,63	0
57	MG	BL34	101	1/1	0.83	0.48	41,41,41,41	0
57	MG	A5S	202	1/1	0.84	0.69	70,70,70,70	0
57	MG	B23S	2955	1/1	0.84	0.36	45,45,45,45	0
57	MG	A23S	2925	1/1	0.84	0.10	44,44,44,44	0
57	MG	B23S	2958	1/1	0.84	0.15	40,40,40,40	0
57	MG	B23S	3002	1/1	0.84	0.22	43,43,43,43	0
57	MG	B23S	3003	1/1	0.84	0.11	46,46,46,46	0
57	MG	B23S	3007	1/1	0.84	0.23	34,34,34,34	0
57	MG	B23S	2910	1/1	0.84	0.36	59,59,59,59	0
57	MG	B16S	1626	1/1	0.84	0.14	61,61,61,61	0
57	MG	B16S	1631	1/1	0.84	0.13	40,40,40,40	0
57	MG	BL03	301	1/1	0.84	0.43	51,51,51,51	0
57	MG	BL02	303	1/1	0.85	0.69	60,60,60,60	0
57	MG	B23S	3016	1/1	0.85	0.32	47,47,47,47	0
57	MG	AS03	301	1/1	0.85	0.15	67,67,67,67	0
57	MG	B23S	3022	1/1	0.85	0.21	46,46,46,46	0
57	MG	A16S	1622	1/1	0.85	0.13	68,68,68,68	0
57	MG	A16S	1607	1/1	0.85	0.12	51,51,51,51	0
57	MG	AL04	302	1/1	0.85	0.16	73,73,73,73	0
57	MG	B23S	3032	1/1	0.85	0.19	47,47,47,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	B16S	1628	1/1	0.85	0.15	78,78,78,78	0
57	MG	B16S	1605	1/1	0.85	0.13	30,30,30,30	0
57	MG	A23S	2941	1/1	0.85	0.13	46,46,46,46	0
57	MG	AL01	302	1/1	0.85	0.18	93,93,93,93	0
57	MG	B23S	2939	1/1	0.85	0.12	57,57,57,57	0
57	MG	B23S	2979	1/1	0.86	0.20	51,51,51,51	0
57	MG	BL02	301	1/1	0.86	0.13	31,31,31,31	0
57	MG	B23S	2937	1/1	0.86	0.14	52,52,52,52	0
57	MG	A16S	1611	1/1	0.86	0.10	52,52,52,52	0
57	MG	B23S	2915	1/1	0.86	0.10	34,34,34,34	0
57	MG	B16S	1613	1/1	0.86	0.14	61,61,61,61	0
57	MG	B23S	2994	1/1	0.86	0.11	53,53,53,53	0
57	MG	BL16	202	1/1	0.86	0.08	45,45,45,45	0
57	MG	AL28	101	1/1	0.86	0.26	44,44,44,44	0
57	MG	B23S	2998	1/1	0.86	0.19	51,51,51,51	0
57	MG	B23S	2964	1/1	0.86	0.25	62,62,62,62	0
57	MG	B23S	2967	1/1	0.86	0.12	64,64,64,64	0
57	MG	BL29	104	1/1	0.86	0.22	46,46,46,46	0
57	MG	BL29	105	1/1	0.86	0.22	58,58,58,58	0
57	MG	AL33	103	1/1	0.86	0.18	48,48,48,48	0
57	MG	A16S	1614	1/1	0.86	0.16	42,42,42,42	0
57	MG	B23S	3008	1/1	0.86	0.14	53,53,53,53	0
57	MG	A23S	2943	1/1	0.86	0.11	52,52,52,52	0
57	MG	B23S	3019	1/1	0.87	0.12	51,51,51,51	0
57	MG	A23S	2907	1/1	0.87	0.18	51,51,51,51	0
57	MG	A16S	1624	1/1	0.87	0.10	50,50,50,50	0
57	MG	B23S	2916	1/1	0.87	0.15	43,43,43,43	0
57	MG	A16S	1605	1/1	0.87	0.16	78,78,78,78	0
57	MG	B23S	3027	1/1	0.87	0.14	39,39,39,39	0
57	MG	B23S	3028	1/1	0.87	0.10	69,69,69,69	0
57	MG	B23S	2954	1/1	0.87	0.14	56,56,56,56	0
57	MG	A16S	1612	1/1	0.87	0.53	54,54,54,54	0
57	MG	B23S	2926	1/1	0.87	0.22	41,41,41,41	0
57	MG	B16S	1618	1/1	0.87	0.28	61,61,61,61	0
57	MG	B5S	205	1/1	0.87	0.13	38,38,38,38	0
57	MG	B23S	2933	1/1	0.87	0.08	60,60,60,60	0
57	MG	AL04	303	1/1	0.87	0.11	78,78,78,78	0
57	MG	B16S	1623	1/1	0.87	0.18	46,46,46,46	0
57	MG	A23S	2921	1/1	0.87	0.11	35,35,35,35	0
57	MG	B16S	1611	1/1	0.88	0.06	63,63,63,63	0
57	MG	B23S	2944	1/1	0.88	0.08	41,41,41,41	0
57	MG	B23S	2948	1/1	0.88	0.12	32,32,32,32	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A23S	2971	1/1	0.88	0.09	102,102,102,102	0
57	MG	B23S	2928	1/1	0.88	0.18	35,35,35,35	0
57	MG	B23S	2931	1/1	0.88	0.09	33,33,33,33	0
57	MG	A16S	1608	1/1	0.88	0.17	79,79,79,79	0
57	MG	A23S	2964	1/1	0.88	0.10	52,52,52,52	0
57	MG	A23S	2951	1/1	0.88	0.12	50,50,50,50	0
57	MG	B23S	2917	1/1	0.88	0.16	50,50,50,50	0
57	MG	B23S	2983	1/1	0.88	0.13	46,46,46,46	0
57	MG	A23S	2961	1/1	0.88	0.16	61,61,61,61	0
57	MG	AL02	301	1/1	0.89	0.37	51,51,51,51	0
57	MG	A23S	2966	1/1	0.89	0.07	46,46,46,46	0
57	MG	BL15	201	1/1	0.89	0.17	46,46,46,46	0
57	MG	A23S	2912	1/1	0.89	0.19	39,39,39,39	0
57	MG	A23S	2938	1/1	0.89	0.17	35,35,35,35	0
57	MG	B23S	2999	1/1	0.89	0.10	35,35,35,35	0
57	MG	A23S	2901	1/1	0.89	0.21	33,33,33,33	0
57	MG	A23S	2972	1/1	0.89	0.15	50,50,50,50	0
57	MG	BL19	201	1/1	0.89	0.13	68,68,68,68	0
57	MG	A16S	1620	1/1	0.89	0.10	48,48,48,48	0
57	MG	B23S	3006	1/1	0.89	0.10	70,70,70,70	0
57	MG	B23S	2977	1/1	0.89	0.11	63,63,63,63	0
57	MG	BL28	101	1/1	0.89	0.15	55,55,55,55	0
57	MG	A16S	1630	1/1	0.89	0.08	55,55,55,55	0
57	MG	A23S	2963	1/1	0.89	0.15	58,58,58,58	0
57	MG	B23S	2938	1/1	0.89	0.10	45,45,45,45	0
57	MG	B23S	2985	1/1	0.89	0.08	42,42,42,42	0
57	MG	A16S	1633	1/1	0.89	0.10	48,48,48,48	0
57	MG	B23S	2942	1/1	0.89	0.09	41,41,41,41	0
57	MG	BTHX	101	1/1	0.89	0.08	117,117,117,117	0
57	MG	B23S	3017	1/1	0.90	0.07	46,46,46,46	0
57	MG	A23S	2919	1/1	0.90	0.58	44,44,44,44	0
57	MG	B23S	2919	1/1	0.90	0.17	33,33,33,33	0
57	MG	AL21	201	1/1	0.90	0.30	49,49,49,49	0
57	MG	B23S	3023	1/1	0.90	0.17	54,54,54,54	0
57	MG	B16S	1612	1/1	0.90	0.09	61,61,61,61	0
57	MG	B23S	2973	1/1	0.90	0.15	54,54,54,54	0
57	MG	A16S	1604	1/1	0.90	0.12	56,56,56,56	0
57	MG	B23S	2930	1/1	0.90	0.09	54,54,54,54	0
57	MG	BL21	201	1/1	0.90	0.14	69,69,69,69	0
57	MG	B16S	1617	1/1	0.90	0.13	53,53,53,53	0
57	MG	B23S	2905	1/1	0.90	0.14	31,31,31,31	0
57	MG	B16S	1601	1/1	0.90	0.23	58,58,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BL29	101	1/1	0.90	0.15	46,46,46,46	0
57	MG	B16S	1621	1/1	0.90	0.11	38,38,38,38	0
57	MG	A16S	1631	1/1	0.90	0.09	46,46,46,46	0
57	MG	AL24	201	1/1	0.90	0.08	63,63,63,63	0
57	MG	B23S	3013	1/1	0.90	0.15	77,77,77,77	0
57	MG	BL32	101	1/1	0.90	0.21	84,84,84,84	0
57	MG	B23S	3014	1/1	0.90	0.12	48,48,48,48	0
57	MG	A16S	1617	1/1	0.90	0.20	61,61,61,61	0
57	MG	A23S	2935	1/1	0.90	0.18	58,58,58,58	0
57	MG	B23S	2987	1/1	0.91	0.11	32,32,32,32	0
57	MG	A16S	1606	1/1	0.91	0.09	29,29,29,29	0
57	MG	BL18	202	1/1	0.91	0.39	45,45,45,45	0
57	MG	B23S	2952	1/1	0.91	0.07	42,42,42,42	0
57	MG	B23S	3033	1/1	0.91	0.18	67,67,67,67	0
57	MG	B23S	2993	1/1	0.91	0.20	43,43,43,43	0
57	MG	A16S	1618	1/1	0.91	0.14	65,65,65,65	0
57	MG	B23S	2995	1/1	0.91	0.20	57,57,57,57	0
57	MG	A23S	2926	1/1	0.91	0.12	64,64,64,64	0
57	MG	AL17	201	1/1	0.91	0.15	51,51,51,51	0
57	MG	B23S	3018	1/1	0.91	0.06	35,35,35,35	0
57	MG	A16S	1616	1/1	0.91	0.07	62,62,62,62	0
57	MG	A23S	2973	1/1	0.91	0.08	46,46,46,46	0
57	MG	B23S	2943	1/1	0.91	0.13	50,50,50,50	0
57	MG	A23S	2933	1/1	0.91	0.32	58,58,58,58	0
57	MG	B23S	2946	1/1	0.91	0.11	46,46,46,46	0
57	MG	B16S	1614	1/1	0.91	0.10	46,46,46,46	0
57	MG	A23S	2967	1/1	0.91	0.08	60,60,60,60	0
57	MG	A16S	1615	1/1	0.92	0.23	51,51,51,51	0
57	MG	B23S	2997	1/1	0.92	0.23	49,49,49,49	0
57	MG	A23S	2942	1/1	0.92	0.17	38,38,38,38	0
57	MG	A23S	2965	1/1	0.92	0.11	62,62,62,62	0
57	MG	B23S	2929	1/1	0.92	0.13	38,38,38,38	0
57	MG	A23S	2928	1/1	0.92	0.26	32,32,32,32	0
57	MG	AS08	201	1/1	0.92	0.28	43,43,43,43	0
57	MG	B23S	3004	1/1	0.92	0.26	58,58,58,58	0
57	MG	A23S	2945	1/1	0.92	0.24	45,45,45,45	0
57	MG	BL02	304	1/1	0.92	0.11	45,45,45,45	0
57	MG	A23S	2908	1/1	0.92	0.12	52,52,52,52	0
57	MG	A23S	2948	1/1	0.92	0.10	60,60,60,60	0
57	MG	B23S	2968	1/1	0.92	0.13	38,38,38,38	0
57	MG	B23S	2971	1/1	0.92	0.13	45,45,45,45	0
57	MG	A23S	2950	1/1	0.92	0.16	34,34,34,34	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	B23S	3012	1/1	0.92	0.07	54,54,54,54	0
57	MG	A23S	2934	1/1	0.92	0.09	39,39,39,39	0
57	MG	B16S	1632	1/1	0.92	0.09	50,50,50,50	0
57	MG	A23S	2920	1/1	0.92	0.16	56,56,56,56	0
57	MG	B23S	2941	1/1	0.92	0.14	35,35,35,35	0
57	MG	B23S	2978	1/1	0.92	0.09	39,39,39,39	0
57	MG	A16S	1632	1/1	0.92	0.10	65,65,65,65	0
57	MG	A23S	2960	1/1	0.92	0.08	56,56,56,56	0
57	MG	A5S	203	1/1	0.92	0.13	58,58,58,58	0
57	MG	B23S	2911	1/1	0.92	0.18	38,38,38,38	0
57	MG	BL29	103	1/1	0.92	0.16	30,30,30,30	0
57	MG	A16S	1627	1/1	0.92	0.13	47,47,47,47	0
57	MG	B23S	3024	1/1	0.92	0.12	47,47,47,47	0
57	MG	B16S	1616	1/1	0.92	0.17	44,44,44,44	0
57	MG	AL27	101	1/1	0.92	0.20	40,40,40,40	0
57	MG	A16S	1623	1/1	0.92	0.17	42,42,42,42	0
57	MG	B16S	1619	1/1	0.92	0.09	50,50,50,50	0
57	MG	B23S	2921	1/1	0.92	0.23	56,56,56,56	0
57	MG	BL35	101	1/1	0.92	0.23	58,58,58,58	0
57	MG	B23S	2923	1/1	0.92	0.13	53,53,53,53	0
57	MG	A23S	2906	1/1	0.93	0.08	41,41,41,41	0
57	MG	A23S	2952	1/1	0.93	0.12	43,43,43,43	0
57	MG	B23S	2940	1/1	0.93	0.31	44,44,44,44	0
57	MG	B23S	2903	1/1	0.93	0.11	34,34,34,34	0
57	MG	A16S	1629	1/1	0.93	0.41	93,93,93,93	0
57	MG	AL28	102	1/1	0.93	0.09	50,50,50,50	0
57	MG	A23S	2955	1/1	0.93	0.49	58,58,58,58	0
57	MG	B23S	2966	1/1	0.93	0.14	51,51,51,51	0
57	MG	BL25	301	1/1	0.93	0.11	46,46,46,46	0
57	MG	A23S	2929	1/1	0.93	0.11	52,52,52,52	0
57	MG	B23S	2947	1/1	0.93	0.14	41,41,41,41	0
57	MG	AS02	301	1/1	0.93	0.12	90,90,90,90	0
57	MG	B23S	2912	1/1	0.93	0.22	27,27,27,27	0
57	MG	B23S	2913	1/1	0.93	0.12	28,28,28,28	0
57	MG	A23S	2930	1/1	0.93	0.08	44,44,44,44	0
57	MG	BL02	305	1/1	0.93	0.09	59,59,59,59	0
57	MG	A23S	2932	1/1	0.93	0.13	43,43,43,43	0
57	MG	B23S	2935	1/1	0.93	0.10	30,30,30,30	0
57	MG	A23S	2949	1/1	0.93	0.58	71,71,71,71	0
57	MG	A23S	2902	1/1	0.93	0.18	45,45,45,45	0
57	MG	B23S	2981	1/1	0.93	0.09	31,31,31,31	0
57	MG	B23S	3005	1/1	0.94	0.24	50,50,50,50	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	AL20	201	1/1	0.94	0.12	75,75,75,75	0
57	MG	BL16	203	1/1	0.94	0.16	69,69,69,69	0
57	MG	B16S	1602	1/1	0.94	0.15	44,44,44,44	0
57	MG	B23S	3029	1/1	0.94	0.23	43,43,43,43	0
57	MG	B23S	2920	1/1	0.94	0.14	31,31,31,31	0
57	MG	A23S	2958	1/1	0.94	0.11	50,50,50,50	0
57	MG	B23S	2988	1/1	0.94	0.11	51,51,51,51	0
57	MG	B23S	2950	1/1	0.94	0.35	33,33,33,33	0
57	MG	B16S	1615	1/1	0.94	0.17	65,65,65,65	0
57	MG	BL24	201	1/1	0.94	0.21	89,89,89,89	0
57	MG	B23S	2991	1/1	0.94	0.04	63,63,63,63	0
57	MG	A23S	2903	1/1	0.94	0.19	41,41,41,41	0
57	MG	B23S	2925	1/1	0.94	0.18	46,46,46,46	0
57	MG	A16S	1602	1/1	0.94	0.08	37,37,37,37	0
57	MG	B23S	2927	1/1	0.94	0.14	58,58,58,58	0
57	MG	B16S	1606	1/1	0.94	0.27	65,65,65,65	0
57	MG	B23S	2957	1/1	0.94	0.22	23,23,23,23	0
57	MG	A23S	2924	1/1	0.94	0.05	46,46,46,46	0
57	MG	A23S	2954	1/1	0.94	0.09	40,40,40,40	0
57	MG	BL33	101	1/1	0.94	0.29	57,57,57,57	0
57	MG	BL04	301	1/1	0.94	0.25	55,55,55,55	0
57	MG	B23S	2980	1/1	0.94	0.38	47,47,47,47	0
57	MG	A16S	1609	1/1	0.94	0.15	71,71,71,71	0
57	MG	B23S	2945	1/1	0.94	0.18	35,35,35,35	0
57	MG	A23S	2968	1/1	0.95	0.19	51,51,51,51	0
57	MG	AL33	102	1/1	0.95	0.07	45,45,45,45	0
57	MG	BL24	202	1/1	0.95	0.09	53,53,53,53	0
57	MG	A23S	2956	1/1	0.95	0.22	66,66,66,66	0
57	MG	AL21	203	1/1	0.95	0.09	86,86,86,86	0
57	MG	BL28	102	1/1	0.95	0.17	41,41,41,41	0
57	MG	A23S	2957	1/1	0.95	0.12	53,53,53,53	0
57	MG	B23S	2914	1/1	0.95	0.24	31,31,31,31	0
57	MG	B23S	3001	1/1	0.95	0.14	32,32,32,32	0
57	MG	B5S	201	1/1	0.95	0.28	47,47,47,47	0
57	MG	B23S	2970	1/1	0.95	0.09	57,57,57,57	0
57	MG	A23S	2913	1/1	0.95	0.08	47,47,47,47	0
57	MG	AS06	201	1/1	0.95	0.12	82,82,82,82	0
57	MG	B23S	2902	1/1	0.95	0.16	24,24,24,24	0
57	MG	A23S	2944	1/1	0.95	0.18	46,46,46,46	0
57	MG	A23S	2917	1/1	0.95	0.16	52,52,52,52	0
57	MG	A23S	2914	1/1	0.95	0.12	59,59,59,59	0
57	MG	BS17	201	1/1	0.95	0.09	66,66,66,66	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	B23S	2907	1/1	0.95	0.12	31,31,31,31	0
57	MG	A23S	2905	1/1	0.96	0.08	38,38,38,38	0
57	MG	B23S	2901	1/1	0.96	0.22	43,43,43,43	0
57	MG	BL29	102	1/1	0.96	0.15	23,23,23,23	0
57	MG	B16S	1625	1/1	0.96	0.08	52,52,52,52	0
57	MG	AL15	201	1/1	0.96	0.12	74,74,74,74	0
57	MG	B23S	2904	1/1	0.96	0.14	40,40,40,40	0
57	MG	BL02	302	1/1	0.96	0.07	65,65,65,65	0
57	MG	B23S	2992	1/1	0.96	0.18	32,32,32,32	0
57	MG	B23S	3030	1/1	0.96	0.07	61,61,61,61	0
57	MG	A23S	2922	1/1	0.96	0.13	58,58,58,58	0
57	MG	B23S	2969	1/1	0.96	0.23	67,67,67,67	0
57	MG	BL33	103	1/1	0.96	0.18	61,61,61,61	0
57	MG	A23S	2923	1/1	0.96	0.12	61,61,61,61	0
57	MG	A23S	2918	1/1	0.96	0.24	65,65,65,65	0
57	MG	A23S	2915	1/1	0.96	0.09	40,40,40,40	0
57	MG	A23S	2909	1/1	0.96	0.13	40,40,40,40	0
57	MG	A23S	2939	1/1	0.97	0.16	55,55,55,55	0
57	MG	B23S	2965	1/1	0.97	0.13	43,43,43,43	0
57	MG	B16S	1620	1/1	0.97	0.16	76,76,76,76	0
57	MG	B16S	1607	1/1	0.97	0.15	60,60,60,60	0
57	MG	A16S	1628	1/1	0.97	0.06	38,38,38,38	0
57	MG	B5S	202	1/1	0.97	0.08	58,58,58,58	0
57	MG	A23S	2937	1/1	0.97	0.12	78,78,78,78	0
57	MG	A23S	2931	1/1	0.97	0.10	40,40,40,40	0
57	MG	BL34	102	1/1	0.97	0.28	38,38,38,38	0
57	MG	B23S	2922	1/1	0.97	0.13	31,31,31,31	0
57	MG	BL36	101	1/1	0.97	0.19	62,62,62,62	0
57	MG	BS16	101	1/1	0.97	0.19	71,71,71,71	0
57	MG	BL20	201	1/1	0.97	0.06	44,44,44,44	0
57	MG	AL21	202	1/1	0.97	0.06	77,77,77,77	0
57	MG	B23S	2975	1/1	0.98	0.15	37,37,37,37	0
57	MG	A23S	2904	1/1	0.98	0.14	48,48,48,48	0
57	MG	B23S	3020	1/1	0.98	0.09	53,53,53,53	0
57	MG	AL33	101	1/1	0.98	0.11	60,60,60,60	0
58	SF4	BS04	501	8/8	0.98	0.23	76,98,101,103	0
57	MG	B23S	2982	1/1	0.99	0.21	74,74,74,74	0
57	MG	A23S	2946	1/1	0.99	0.03	63,63,63,63	0
57	MG	B16S	1609	1/1	0.99	0.18	65,65,65,65	0
57	MG	A16S	1621	1/1	0.99	0.09	63,63,63,63	0
57	MG	B23S	2909	1/1	0.99	0.14	32,32,32,32	0
58	SF4	AS04	501	8/8	0.99	0.21	60,86,91,92	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	BL18	203	1/1	0.99	0.13	80,80,80,80	0

6.5 Other polymers (i)

There are no such residues in this entry.