Full wwPDB EM Validation Report ⓘ

Dec 29, 2024 – 03:13 PM EST

PDB ID	:	7QVP
EMDB ID	:	EMD-14181
Title	:	Human collided disome (di-ribosome) stalled on XBP1 mRNA
Authors	:	Denk, T.G.; Tesina, P.; Beckmann, R.
Deposited on	:	2022-01-22
Resolution	:	3.00 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp
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:

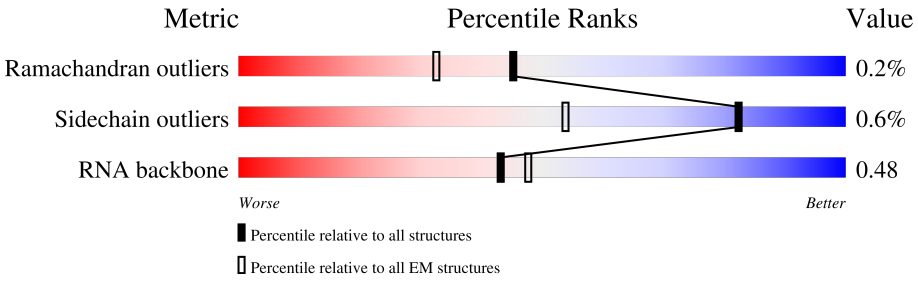
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.00 Å.

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



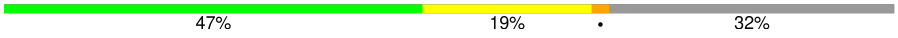
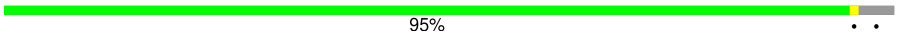
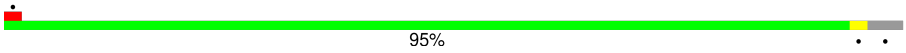
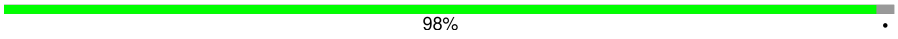
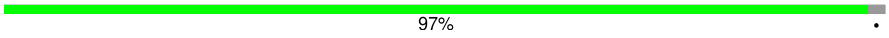
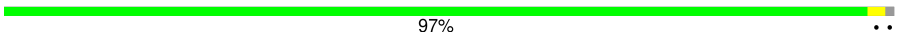
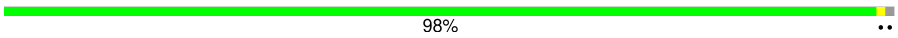
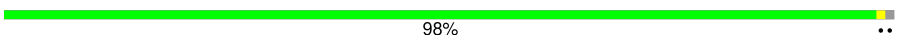
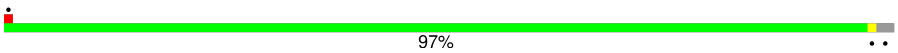
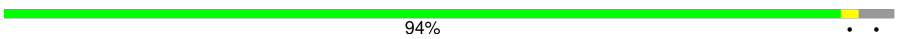
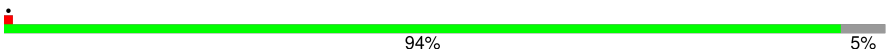
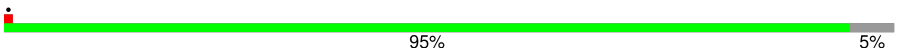
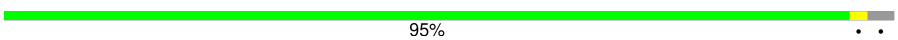
Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A4	14	14% 50% 50%
2	A5	11	55% 45%
3	B4	76	67% 28% 5%
3	D5	76	13% 34% 50% 12% •
4	B5	75	68% 31% •
5	CC	75	5% 59% 37% •
6	L1	157	73% 25% ••
6	L8	157	• 76% 22% ••

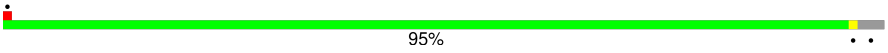
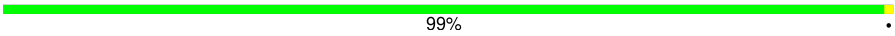
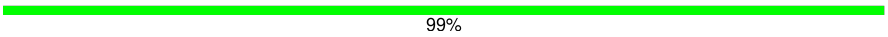
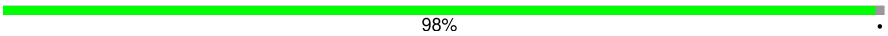
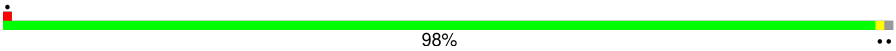
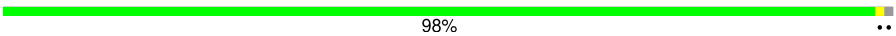
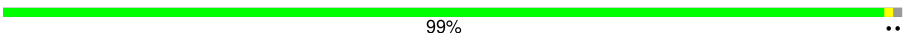
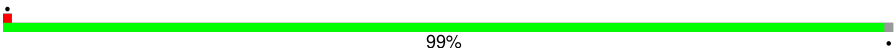
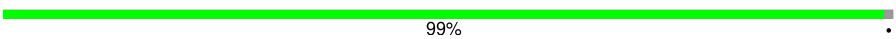
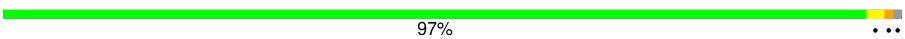
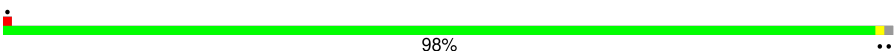
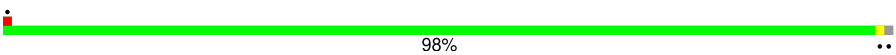
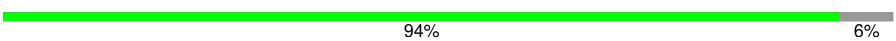
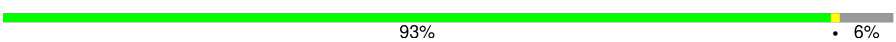
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
7	L5	5227	
7	L6	5227	
8	L7	121	
8	L9	121	
9	LA	257	
9	MA	257	
10	LB	403	
10	MB	403	
11	LC	427	
11	MC	427	
12	LD	297	
12	MD	297	
13	LE	288	
13	ME	288	
14	LF	248	
14	MF	248	
15	LG	266	
15	MG	266	
16	LH	192	
16	MH	192	
17	LI	214	
17	MI	214	
18	LJ	178	
18	MJ	178	
19	LL	211	

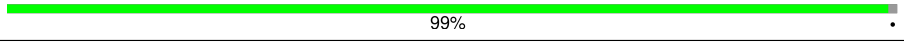
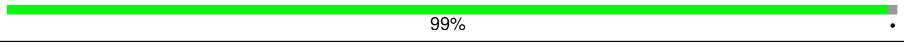
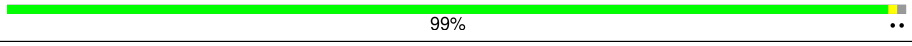
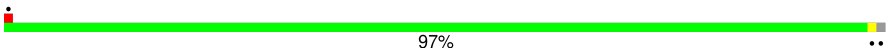
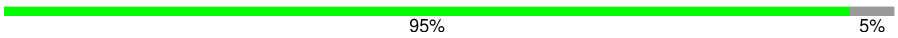
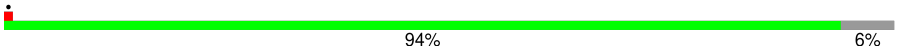
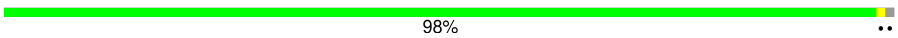
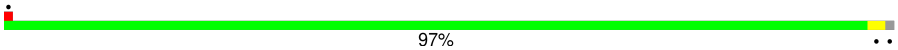
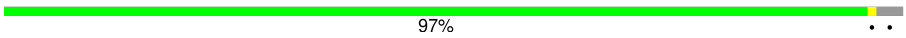
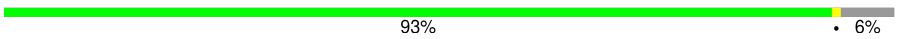
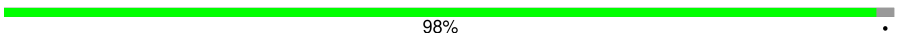
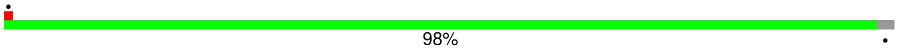
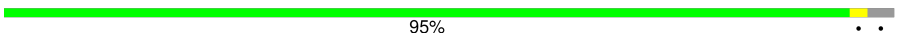
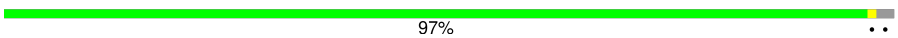
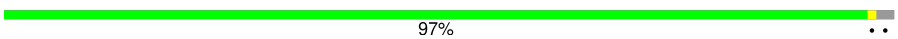
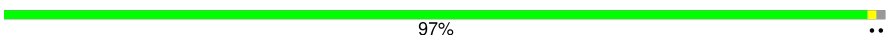
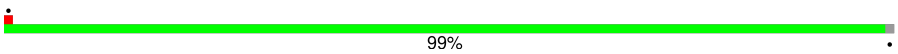
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
19	ML	211	
20	LM	215	
20	MM	215	
21	LN	204	
21	MN	204	
22	LO	203	
22	MO	203	
23	LP	154	
24	LQ	188	
24	MQ	188	
25	LR	196	
25	MR	196	
26	LS	176	
26	MS	176	
27	LT	160	
27	MT	160	
28	LU	128	
28	MU	128	
29	LV	140	
29	MV	140	
30	LW	157	
30	MW	157	
31	LX	156	
31	MX	156	
32	LY	145	

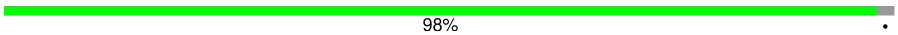
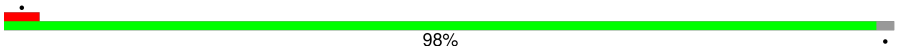
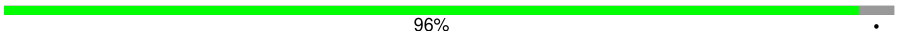
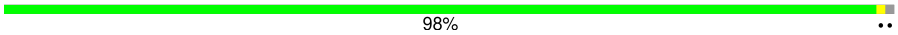
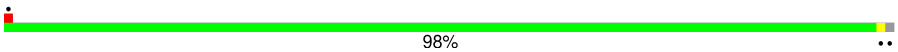
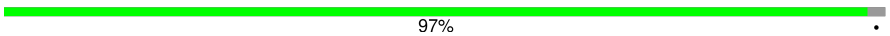
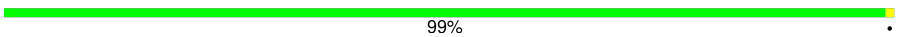
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
32	MY	145	
33	LZ	136	
33	MZ	136	
34	La	148	
34	Ma	148	
35	Lb	159	
35	Mb	159	
36	Lc	115	
36	Mc	115	
37	Ld	125	
37	Md	125	
38	Le	135	
38	Me	135	
39	Lf	110	
39	Mf	110	
40	Lg	117	
40	Mg	117	
41	Lh	123	
41	Mh	123	
42	Li	105	
42	Mi	105	
43	Lj	88	
43	Mj	88	
44	Lk	70	
44	Mk	70	

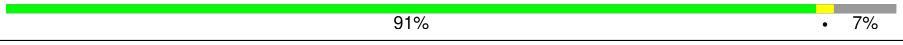
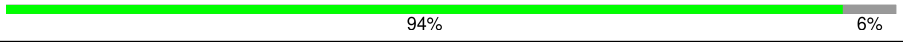
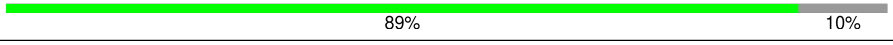
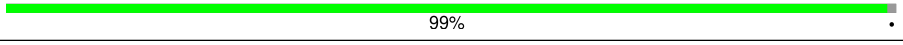
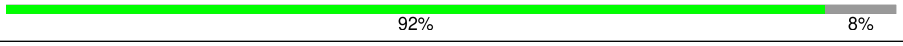
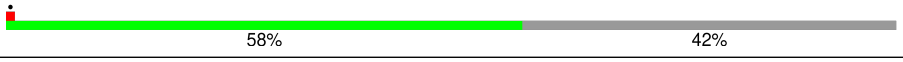
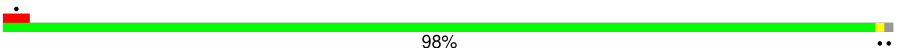
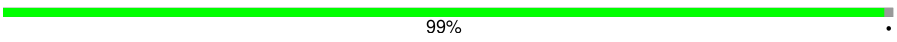
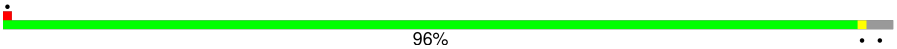
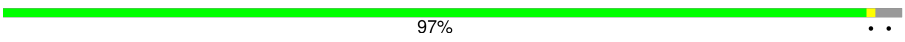
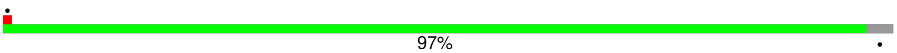
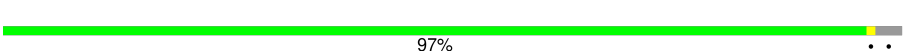
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
45	Ll	51	
45	Ml	51	
46	Lm	128	
46	Mm	128	
47	Ln	25	
47	Mn	25	
48	Lo	106	
48	Mo	106	
49	Lp	92	
49	Mp	92	
50	Lr	137	
50	Mr	137	
51	MP	184	
52	RA	295	
52	SA	295	
53	RB	264	
53	SB	264	
54	RC	293	
54	SC	293	
55	RD	243	
55	SD	243	
56	RE	263	
56	SE	263	
57	RF	204	
57	SF	204	

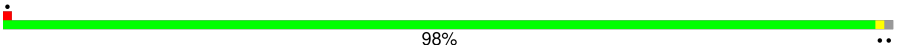
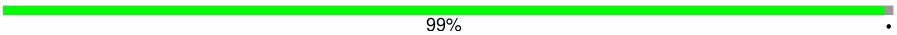
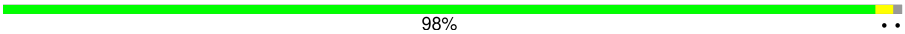
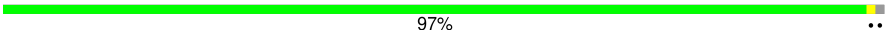
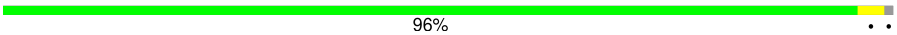
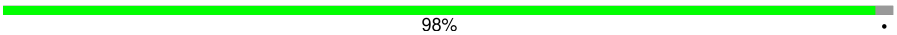
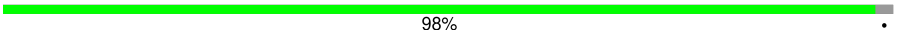
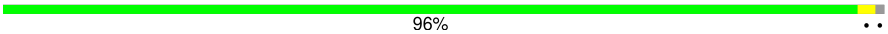
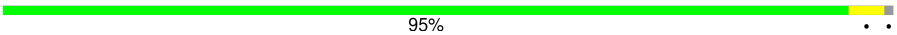
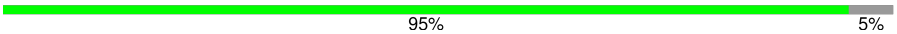
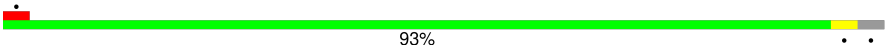
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
58	RG	249	
58	SG	249	
59	RH	194	
59	SH	194	
60	RI	208	
60	SI	208	
61	RJ	194	
61	SJ	194	
62	RK	165	
62	SK	165	
63	RL	158	
63	SL	158	
64	RN	151	
64	SN	151	
65	RO	151	
65	SO	151	
66	RP	145	
66	SP	145	
67	RQ	146	
67	SQ	146	
68	RR	135	
68	SR	135	
69	RS	152	
69	SS	152	
70	RT	145	

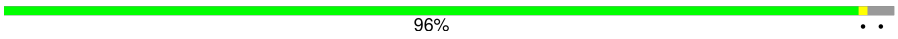
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
70	ST	145	
71	RU	119	
71	SU	119	
72	RV	83	
72	SV	83	
73	RW	130	
73	SW	130	
74	RX	143	
74	SX	143	
75	RY	133	
75	SY	133	
76	RZ	125	
76	SZ	125	
77	Ra	101	
77	Sa	101	
78	Rb	84	
78	Sb	84	
79	Rc	69	
79	Sc	69	
80	Rd	56	
80	Sd	56	
81	Re	59	
81	Se	59	
82	Rf	132	
83	Rg	317	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
83	Sg	317	
84	Rh	156	
85	S2	1869	
85	S3	1869	

2 Entry composition

There are 85 unique types of molecules in this entry. The entry contains 417512 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A4	14	Total	C	N	O	P	0	0
			280	126	28	112	14		

- Molecule 2 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A5	11	Total	C	N	O	P	0	0
			220	99	22	88	11		

- Molecule 3 is a RNA chain called tRNA P/P.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	B4	76	Total	C	N	O	P	0	0
			1622	723	290	533	76		
3	D5	73	Total	C	N	O	P	0	0
			1559	696	283	508	72		

- Molecule 4 is a RNA chain called tRNA P/E.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	B5	75	Total	C	N	O	P	0	0
			1604	717	298	515	74		

- Molecule 5 is a RNA chain called tNRA E/E.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	CC	75	Total	C	N	O	P	0	0
			1589	710	279	525	75		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
CC	11	C	U	conflict	GB 176418

- Molecule 6 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	L1	156	Total	C	N	O	P	0	0
			3314	1480	585	1094	155		
6	L8	156	Total	C	N	O	P	0	0
			3314	1480	585	1094	155		

- Molecule 7 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	L5	3611	Total	C	N	O	P	0	0
			77405	34468	14160	25167	3610		
7	L6	3572	Total	C	N	O	P	0	0
			76565	34095	14005	24894	3571		

- Molecule 8 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	L7	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		
8	L9	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		

- Molecule 9 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	LA	248	Total	C	N	O	S	0	0
			1898	1189	389	314	6		
9	MA	248	Total	C	N	O	S	0	0
			1886	1183	386	311	6		

- Molecule 10 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	LB	395	Total	C	N	O	S	0	0
			3183	2027	597	545	14		
10	MB	393	Total	C	N	O	S	0	0
			3101	1979	583	525	14		

- Molecule 11 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	LC	364	Total	C	N	O	S	0	0
			2884	1814	576	479	15		
11	MC	365	Total	C	N	O	S	0	0
			2894	1819	578	482	15		

- Molecule 12 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	LD	293	Total	C	N	O	S	0	0
			2361	1496	430	421	14		
12	MD	293	Total	C	N	O	S	0	0
			2287	1455	426	392	14		

- Molecule 13 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	LE	219	Total	C	N	O	S	0	0
			1754	1129	334	287	4		
13	ME	220	Total	C	N	O	S	0	0
			1713	1104	326	279	4		

- Molecule 14 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	LF	225	Total	C	N	O	S	0	0
			1870	1202	358	301	9		
14	MF	225	Total	C	N	O	S	0	0
			1844	1189	355	291	9		

- Molecule 15 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	LG	229	Total	C	N	O	S	0	0
			1818	1157	351	306	4		
15	MG	229	Total	C	N	O	S	0	0
			1733	1106	335	288	4		

- Molecule 16 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	LH	190	Total	C	N	O	S	0	0
			1510	950	282	272	6		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
16	MH	189	Total	C	N	O	S	0	0
			1439	910	273	250	6		

- Molecule 17 is a protein called 60S ribosomal protein L10-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	LI	206	Total	C	N	O	S	0	0
			1651	1051	318	268	14		
17	MI	203	Total	C	N	O	S	0	0
			1581	1007	306	254	14		

- Molecule 18 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	LJ	169	Total	C	N	O	S	0	0
			1329	841	250	232	6		
18	MJ	167	Total	C	N	O	S	0	0
			1226	780	228	212	6		

- Molecule 19 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	LL	205	Total	C	N	O	S	0	0
			1630	1020	340	266	4		
19	ML	204	Total	C	N	O	S	0	0
			1580	992	335	249	4		

- Molecule 20 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	LM	139	Total	C	N	O	S	0	0
			1122	720	216	179	7		
20	MM	136	Total	C	N	O	S	0	0
			1097	705	211	174	7		

- Molecule 21 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	LN	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		
21	MN	203	Total	C	N	O	S	0	0
			1693	1068	359	262	4		

- Molecule 22 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	LO	200	Total	C	N	O	S	0	0
			1633	1053	318	257	5		
22	MO	201	Total	C	N	O	S	0	0
			1613	1042	318	248	5		

- Molecule 23 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	LP	153	Total	C	N	O	S	0	0
			1234	771	240	214	9		

- Molecule 24 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	LQ	187	Total	C	N	O	S	0	0
			1502	939	313	245	5		
24	MQ	187	Total	C	N	O	S	0	0
			1493	931	311	246	5		

- Molecule 25 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LR	176	Total	C	N	O	S	0	0
			1452	898	318	227	9		
25	MR	175	Total	C	N	O	S	0	0
			1412	874	312	218	8		

- Molecule 26 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	LS	175	Total	C	N	O	S	0	0
			1452	925	283	234	10		
26	MS	175	Total	C	N	O	S	0	0
			1436	915	281	230	10		

- Molecule 27 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	LT	159	Total	C	N	O	S	0	0
			1282	813	250	213	6		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
27	MT	159	Total	C	N	O	S	0	0
			1268	805	249	209	5		

- Molecule 28 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	LU	101	Total	C	N	O	S	0	0
			799	515	140	142	2		
28	MU	101	Total	C	N	O	S	0	0
			768	497	136	133	2		

- Molecule 29 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	LV	131	Total	C	N	O	S	0	0
			971	613	183	170	5		
29	MV	131	Total	C	N	O	S	0	0
			954	604	180	165	5		

- Molecule 30 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	LW	115	Total	C	N	O	S	0	0
			808	506	160	139	3		
30	MW	115	Total	C	N	O	S	0	0
			784	493	154	135	2		

- Molecule 31 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	LX	120	Total	C	N	O	S	0	0
			981	627	184	169	1		
31	MX	120	Total	C	N	O	S	0	0
			950	611	182	156	1		

- Molecule 32 is a protein called KOW domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	LY	134	Total	C	N	O	S	0	0
			1111	697	225	186	3		
32	MY	134	Total	C	N	O	S	0	0
			1084	681	220	180	3		

- Molecule 33 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	LZ	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		
33	MZ	135	Total	C	N	O	S	0	0
			1082	703	207	169	3		

- Molecule 34 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	La	147	Total	C	N	O	S	0	0
			1154	731	236	184	3		
34	Ma	146	Total	C	N	O	S	0	0
			1145	726	233	183	3		

- Molecule 35 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Lb	75	Total	C	N	O	S	0	0
			590	367	123	97	3		
35	Mb	63	Total	C	N	O	S	0	0
			499	310	107	80	2		

- Molecule 36 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Lc	97	Total	C	N	O	S	0	0
			742	473	130	133	6		
36	Mc	93	Total	C	N	O	S	0	0
			716	456	125	129	6		

- Molecule 37 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Ld	107	Total	C	N	O	S	0	0
			874	554	171	147	2		
37	Md	107	Total	C	N	O	S	0	0
			856	546	168	140	2		

- Molecule 38 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Le	128	Total	C	N	O	S	0	0
			1049	664	215	165	5		
38	Me	127	Total	C	N	O	S	0	0
			1045	661	215	164	5		

- Molecule 39 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Lf	109	Total	C	N	O	S	0	0
			872	552	173	144	3		
39	Mf	109	Total	C	N	O	S	0	0
			864	547	173	141	3		

- Molecule 40 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Lg	114	Total	C	N	O	S	0	0
			889	557	184	142	6		
40	Mg	110	Total	C	N	O	S	0	0
			851	531	175	139	6		

- Molecule 41 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Lh	121	Total	C	N	O	S	0	0
			1006	635	203	167	1		
41	Mh	121	Total	C	N	O	S	0	0
			975	617	200	157	1		

- Molecule 42 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Li	102	Total	C	N	O	S	0	0
			813	510	176	123	4		
42	Mi	101	Total	C	N	O	S	0	0
			797	500	170	122	5		

- Molecule 43 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Lj	86	Total	C	N	O	S	0	0
			705	434	155	111	5		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Mj	86	Total	C	N	O	S	0	0
			701	431	154	111	5		

- Molecule 44 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Lk	69	Total	C	N	O	S	0	0
			542	350	100	91	1		
44	Mk	69	Total	C	N	O	S	0	0
			528	339	99	89	1		

- Molecule 45 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Ll	50	Total	C	N	O	S	0	0
			444	281	98	64	1		
45	Ml	50	Total	C	N	O	S	0	0
			440	278	97	64	1		

- Molecule 46 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Lm	52	Total	C	N	O	S	0	0
			425	264	90	65	6		
46	Mm	50	Total	C	N	O	S	0	0
			393	244	82	61	6		

- Molecule 47 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Ln	24	Total	C	N	O	S	0	0
			230	139	62	26	3		
47	Mn	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 48 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Lo	105	Total	C	N	O	S	0	0
			848	532	173	137	6		
48	Mo	98	Total	C	N	O	S	0	0
			774	488	159	121	6		

- Molecule 49 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	Lp	91	Total	C	N	O	S	0	0
			696	440	135	114	7		
49	Mp	91	Total	C	N	O	S	0	0
			689	436	132	114	7		

- Molecule 50 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	Lr	125	Total	C	N	O	S	0	0
			997	618	207	168	4		
50	Mr	125	Total	C	N	O	S	0	0
			982	609	205	164	4		

- Molecule 51 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	MP	153	Total	C	N	O	S	0	0
			1203	754	238	202	9		

- Molecule 52 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	RA	212	Total	C	N	O	S	0	0
			1575	1016	285	266	8		
52	SA	216	Total	C	N	O	S	0	0
			1671	1068	297	298	8		

- Molecule 53 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	RB	214	Total	C	N	O	S	0	0
			1627	1041	296	277	13		
53	SB	213	Total	C	N	O	S	0	0
			1718	1092	308	304	14		

- Molecule 54 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	RC	217	Total	C	N	O	S	0	0
			1590	1039	276	266	9		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
54	SC	219	Total	C	N	O	S	0	0
			1661	1076	284	291	10		

- Molecule 55 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	RD	215	Total	C	N	O	S	0	0
			1475	950	267	251	7		
55	SD	223	Total	C	N	O	S	0	0
			1580	1016	286	271	7		

- Molecule 56 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	RE	257	Total	C	N	O	S	0	0
			1891	1218	358	307	8		
56	SE	262	Total	C	N	O	S	0	0
			1972	1270	370	324	8		

- Molecule 57 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	RF	180	Total	C	N	O	S	0	0
			1365	861	261	237	6		
57	SF	187	Total	C	N	O	S	0	0
			1416	886	269	254	7		

- Molecule 58 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	RG	213	Total	C	N	O	S	0	0
			1551	972	313	260	6		
58	SG	231	Total	C	N	O	S	0	0
			1634	1026	332	269	7		

- Molecule 59 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	RH	176	Total	C	N	O	S	0	0
			1342	871	249	221	1		
59	SH	183	Total	C	N	O		0	0
			1274	819	242	213			

- Molecule 60 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	RI	187	Total	C	N	O	S	0	0
			1450	910	286	249	5		
60	SI	206	Total	C	N	O	S	0	0
			1574	989	308	272	5		

- Molecule 61 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	RJ	176	Total	C	N	O	S	0	0
			1407	899	280	226	2		
61	SJ	179	Total	C	N	O	S	0	0
			1431	915	290	224	2		

- Molecule 62 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	RK	95	Total	C	N	O	S	0	0
			736	482	131	119	4		
62	SK	96	Total	C	N	O	S	0	0
			726	479	127	115	5		

- Molecule 63 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	RL	140	Total	C	N	O	S	0	0
			1139	725	214	194	6		
63	SL	144	Total	C	N	O	S	0	0
			1143	730	213	194	6		

- Molecule 64 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	RN	150	Total	C	N	O	S	0	0
			1199	766	229	203	1		
64	SN	150	Total	C	N	O	S	0	0
			1182	758	226	197	1		

- Molecule 65 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	RO	135	Total	C	N	O	S	0	0
			1003	615	198	184	6		
65	SO	134	Total	C	N	O	S	0	0
			969	596	194	173	6		

- Molecule 66 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	RP	127	Total	C	N	O	S	0	0
			1001	636	188	170	7		
66	SP	128	Total	C	N	O	S	0	0
			975	617	185	167	6		

- Molecule 67 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	RQ	141	Total	C	N	O	S	0	0
			1078	690	207	178	3		
67	SQ	142	Total	C	N	O	S	0	0
			1071	687	204	177	3		

- Molecule 68 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	RR	125	Total	C	N	O	S	0	0
			879	551	166	159	3		
68	SR	131	Total	C	N	O	S	0	0
			942	600	179	159	4		

- Molecule 69 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	RS	138	Total	C	N	O	S	0	0
			1080	684	220	175	1		
69	SS	141	Total	C	N	O	S	0	0
			1118	706	226	185	1		

- Molecule 70 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	RT	141	Total	C	N	O	S	0	0
			993	624	195	172	2		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
70	ST	143	Total	C	N	O	S	0	0
			1081	679	210	189	3		

- Molecule 71 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	RU	100	Total	C	N	O	S	0	0
			749	470	143	134	2		
71	SU	101	Total	C	N	O	S	0	0
			713	447	137	125	4		

- Molecule 72 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	RV	83	Total	C	N	O	S	0	0
			589	369	111	104	5		
72	SV	83	Total	C	N	O	S	0	0
			618	385	115	113	5		

- Molecule 73 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	RW	129	Total	C	N	O	S	0	0
			1027	655	192	174	6		
73	SW	129	Total	C	N	O	S	0	0
			1026	655	193	172	6		

- Molecule 74 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	RX	141	Total	C	N	O	S	0	0
			1048	663	206	176	3		
74	SX	141	Total	C	N	O	S	0	0
			1078	682	212	181	3		

- Molecule 75 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	RY	113	Total	C	N	O	S	0	0
			855	544	164	143	4		
75	SY	123	Total	C	N	O	S	0	0
			927	588	183	152	4		

- Molecule 76 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	RZ	70	Total	C	N	O	S	0	0
			487	311	90	85	1		
76	SZ	75	Total	C	N	O	S	0	0
			559	361	105	92	1		

- Molecule 77 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Ra	99	Total	C	N	O	S	0	0
			762	478	157	122	5		
77	Sa	99	Total	C	N	O	S	0	0
			781	487	165	124	5		

- Molecule 78 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Rb	83	Total	C	N	O	S	0	0
			617	390	114	109	4		
78	Sb	83	Total	C	N	O	S	0	0
			618	386	118	107	7		

- Molecule 79 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Rc	61	Total	C	N	O	S	0	0
			430	267	83	78	2		
79	Sc	63	Total	C	N	O	S	0	0
			472	289	92	89	2		

- Molecule 80 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Rd	52	Total	C	N	O	S	0	0
			420	264	83	69	4		
80	Sd	53	Total	C	N	O	S	0	0
			433	271	87	70	5		

- Molecule 81 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Re	51	Total	C	N	O	S	0	0
			386	240	83	62	1		
81	Se	57	Total	C	N	O	S	0	0
			426	259	96	70	1		

- Molecule 82 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	Rf	78	Total	C	N	O	S	0	0
			483	307	90	82	4		

- Molecule 83 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Rg	283	Total	C	N	O	S	0	0
			1952	1243	341	359	9		
83	Sg	308	Total	C	N	O	S	0	0
			2172	1388	379	394	11		

- Molecule 84 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	Rh	41	Total	C	N	O	S	0	0
			269	168	54	44	3		

- Molecule 85 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	S2	1714	Total	C	N	O	P	0	0
			36582	16329	6568	11972	1713		
85	S3	1705	Total	C	N	O	P	0	0
			36401	16247	6542	11908	1704		

3 Residue-property plots (i)

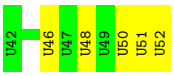
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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: mRNA

Chain A4:

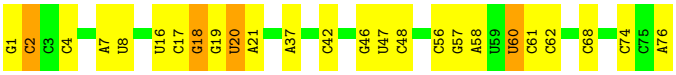
• Molecule 2: mRNA

Chain A5:



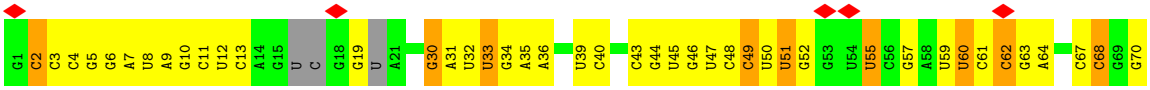
• Molecule 3: tRNA P/P

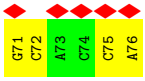
Chain B4:



• Molecule 3: tRNA P/P

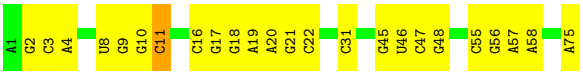
Chain D5:





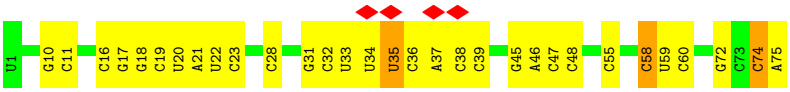
• Molecule 4: tRNA P/E

Chain B5:



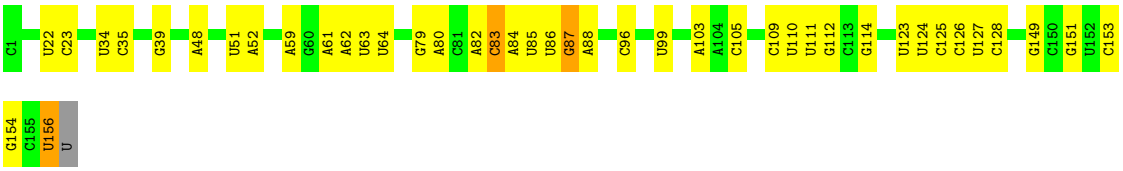
• Molecule 5: tNRA E/E

Chain CC:



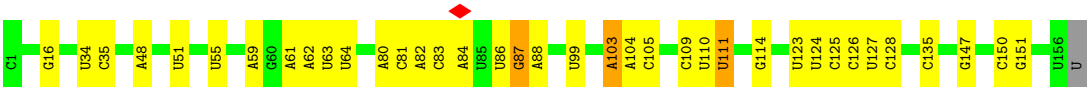
• Molecule 6: 5.8S ribosomal RNA

Chain L1:



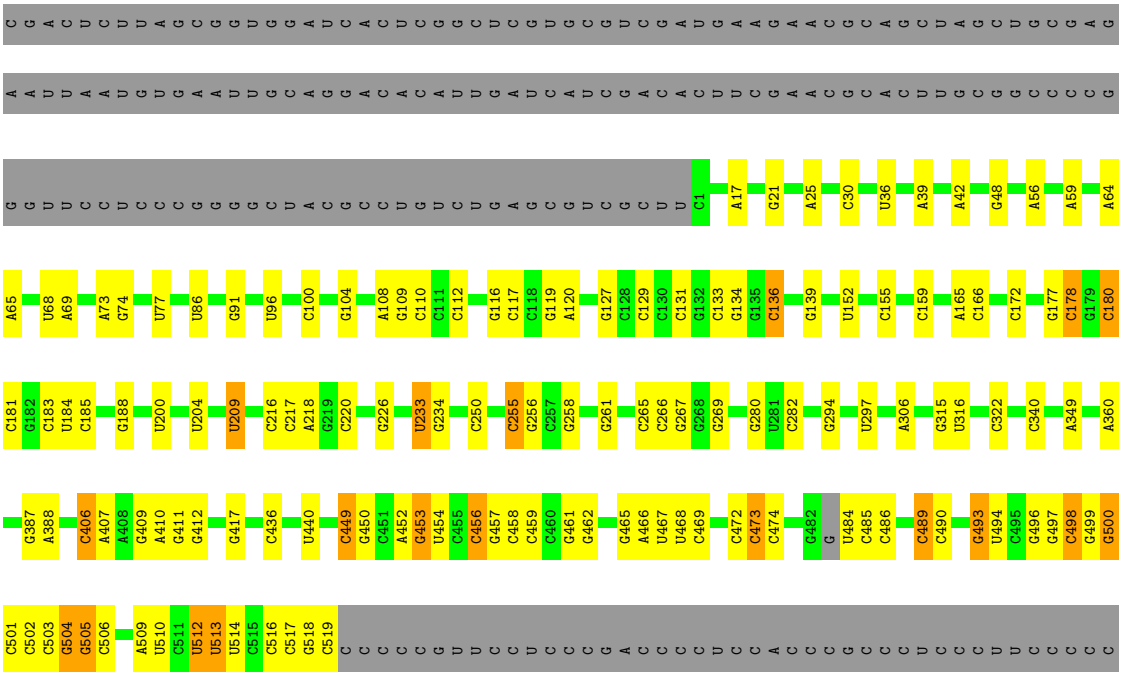
• Molecule 6: 5.8S ribosomal RNA

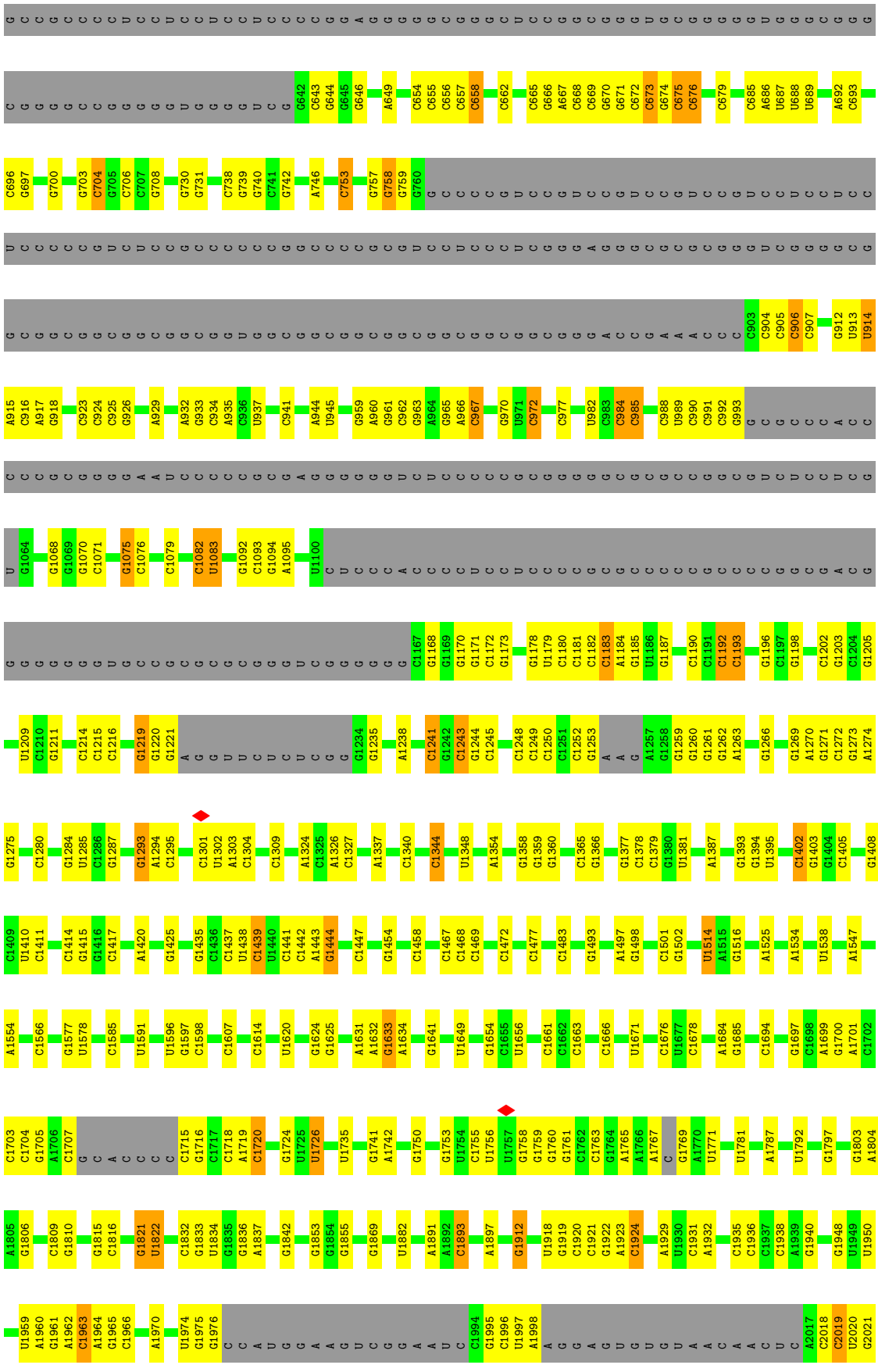
Chain L8:

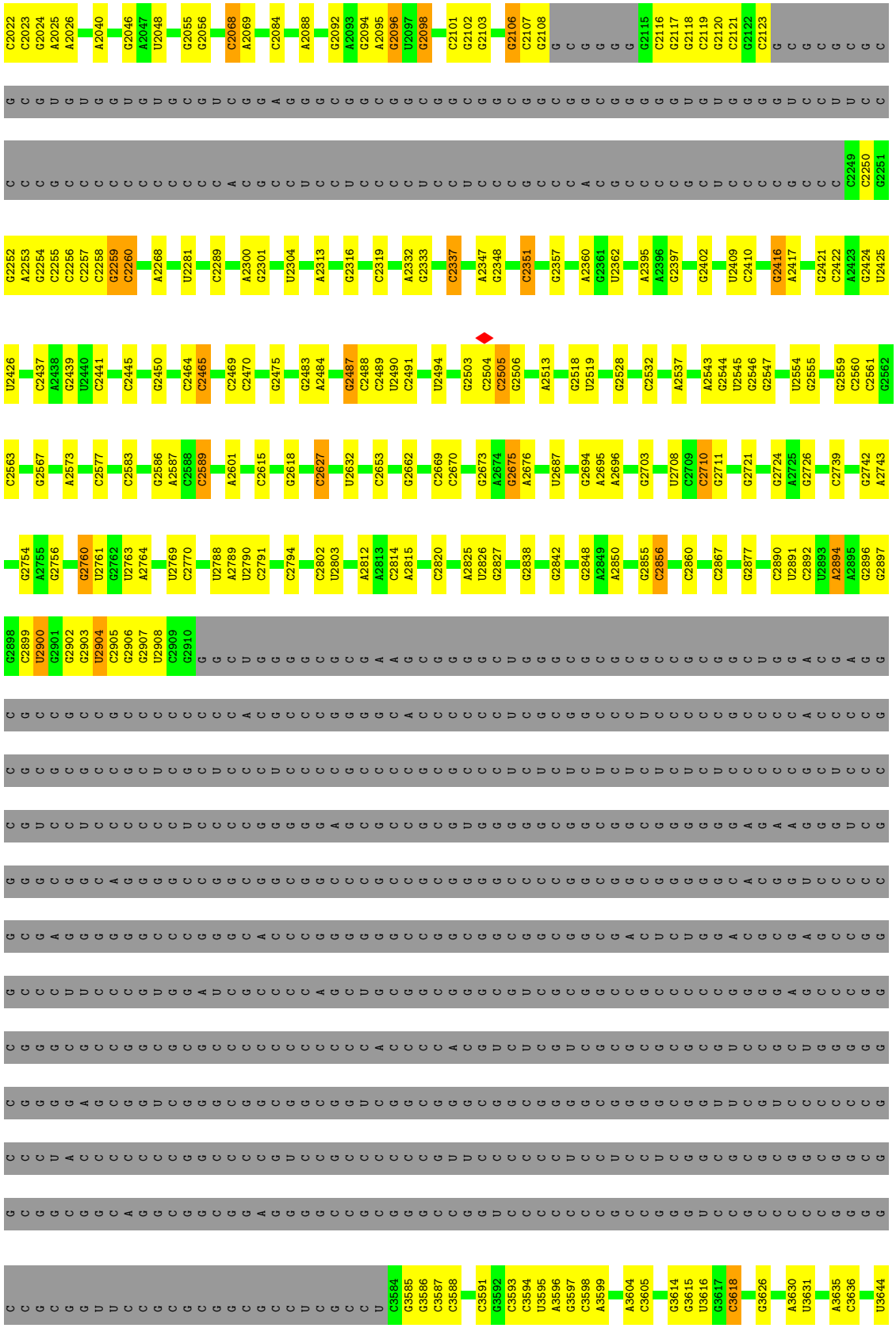


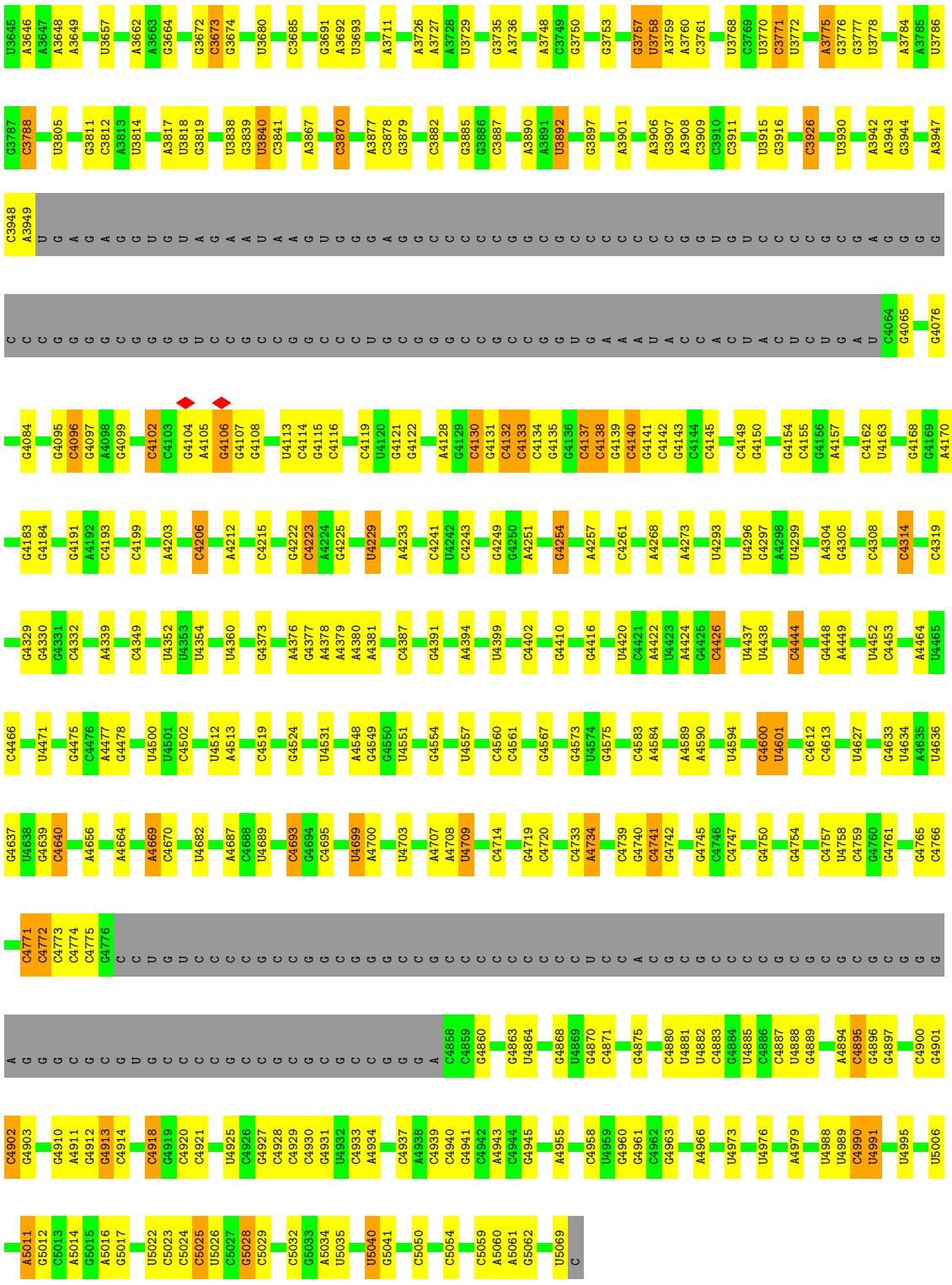
• Molecule 7: 28S ribosomal RNA

Chain L5:



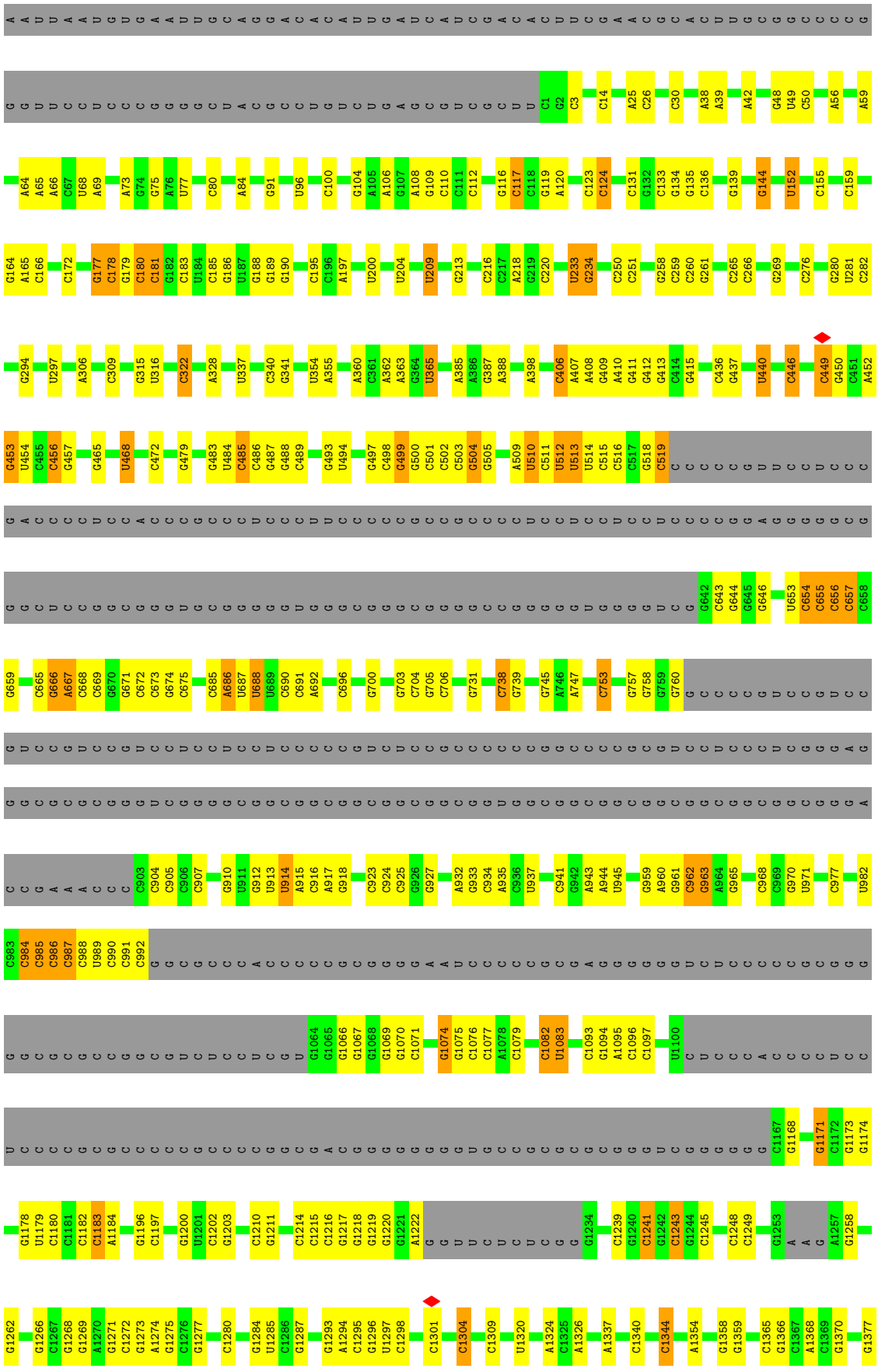


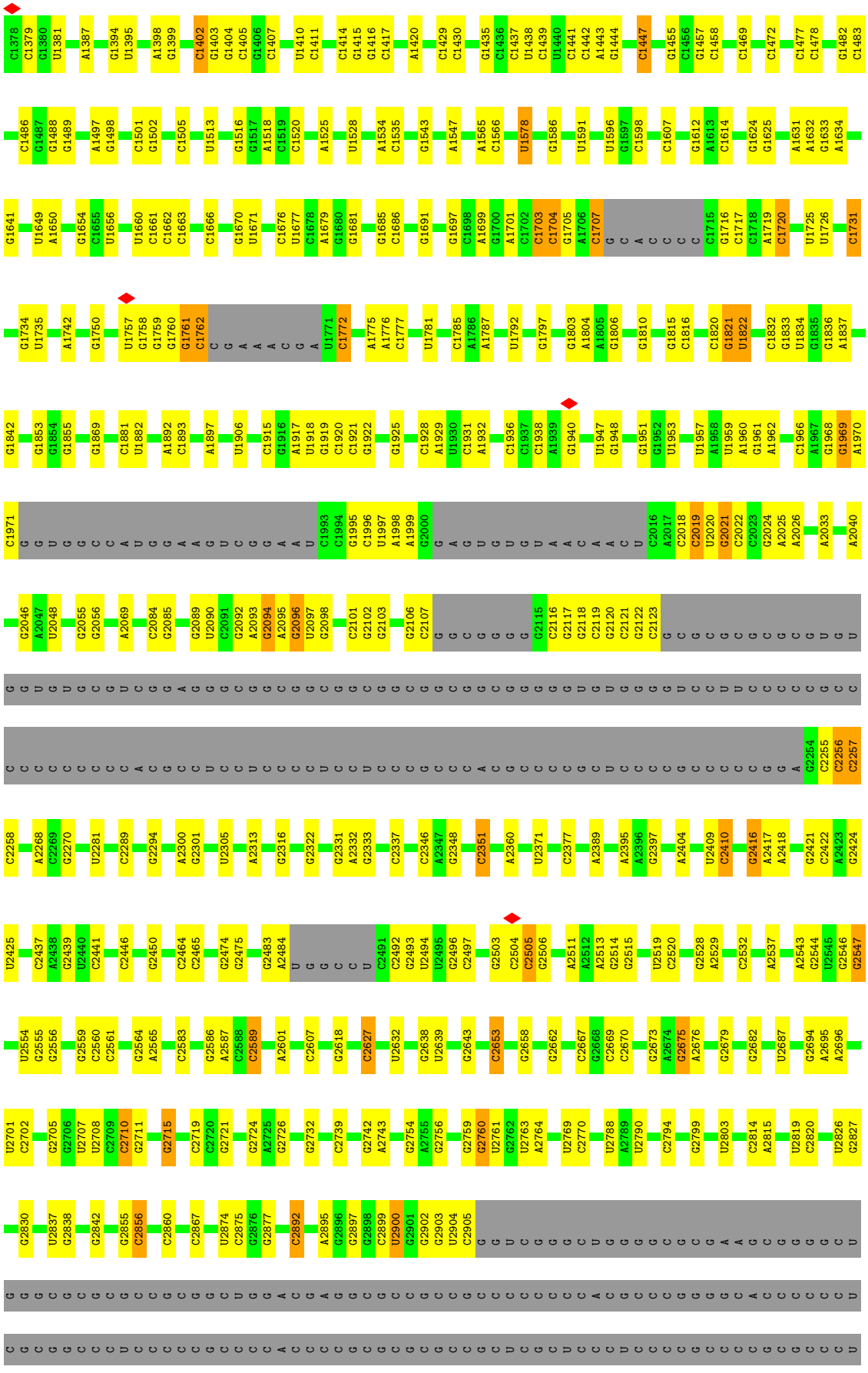


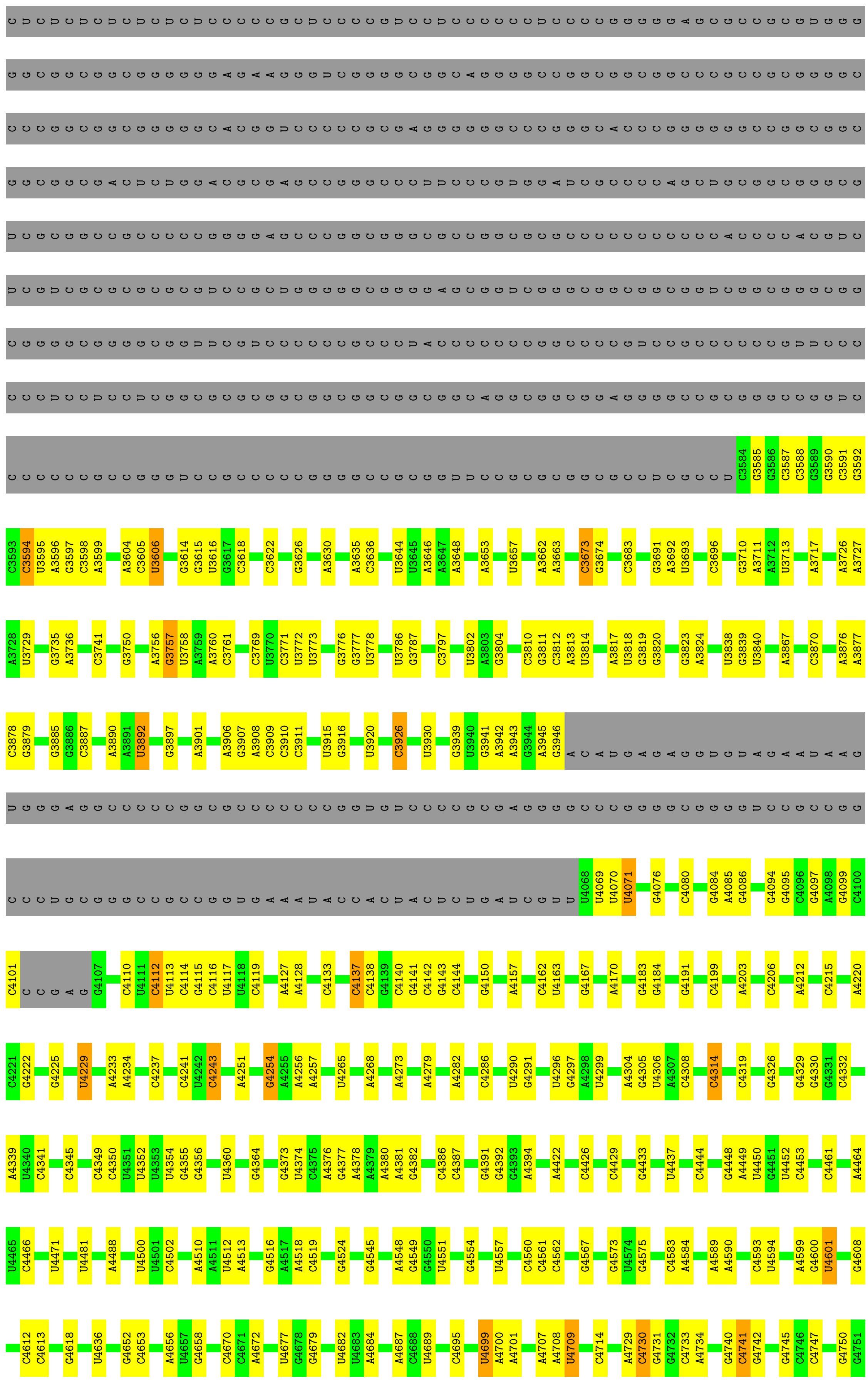


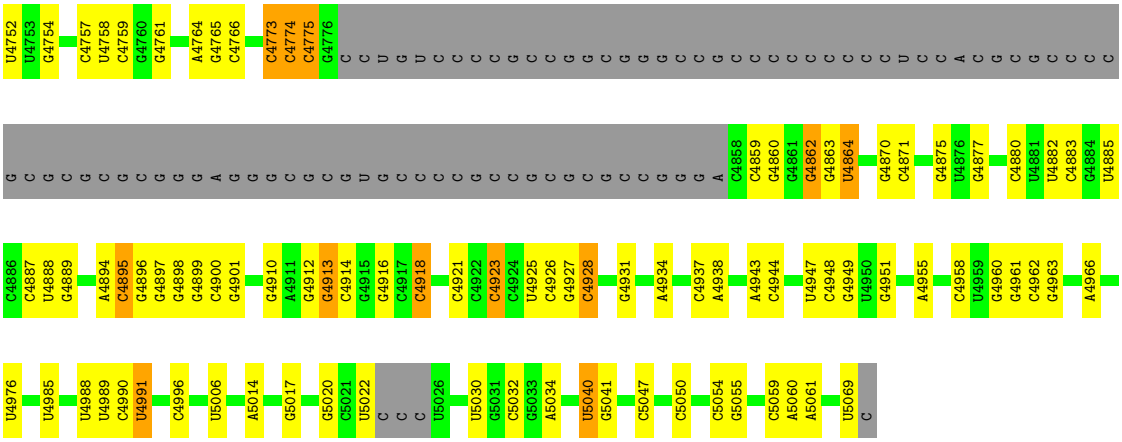
• Molecule 7: 28S ribosomal RNA

Chain L6:



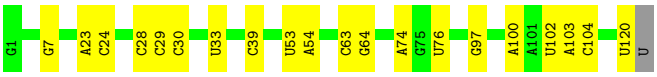



C3584 G3585 G3586 C3587 C3588 G3589 G3590 C3591 G3592
C3593 C3594 U3595 A3596 G3597 C3598 A3599 A3604 C3605 U3606 G3614 G3615 U3616 G3617 C3618 C3622 G3626 A3630 A3635 C3636 U3644 U3645 A3646 A3647 A3648 A3653 U3657 A3662 A3663 C3673 G3674 C3683 G3691 A3692 U3693 C3696 G3710 A3711 A3712 U3713 A3717 A3726 A3727
A3728 U3729 G3735 A3736 C3741 G3750 A3756 G3757 U3758 A3759 A3760 C3761 C3769 U3770 C3771 U3772 U3773 G3776 G3777 U3778 U3786 G3787 C3797 U3802 A3803 G3804 C3810 G3811 C3812 A3813 U3814 A3817 U3818 G3819 G3820 G3823 A3824 U3838 G3839 U3840 A3867 C3870 A3876 A3877
C3878 G3879 G3885 G3886 C3887 A3890 A3891 U3892 G3897 A3901 A3906 G3907 A3908 C3909 C3910 C3911 U3915 G3916 U3920 C3926 U3930 G3939 U3940 G3941 A3942 A3943 G3944 A3945 G3946
U4068 U4069 U4070 U4071 G4076 C4080 G4084 A4085 G4086 G4094 G4095 C4096 G4097 A4098 G4099 C4100
C4101 G4107 C4110 U4111 C4112 U4113 C4114 G4115 C4116 U4117 U4118 C4119 A4127 A4128 C4133 C4137 C4138 G4139 C4140 G4141 C4142 G4143 C4144 G4150 A4157 C4162 U4163 G4167 A4170 G4183 G4184 G4191 C4199 A4203 C4206 A4212 C4215 A4220
C4221 G4222 G4225 U4229 A4233 A4234 C4237 C4241 U4242 C4243 A4251 G4254 A4255 A4256 A4257 U4265 A4268 A4273 A4279 A4282 C4286 U4290 G4291 U4296 G4297 A4298 U4299 A4304 G4305 U4306 A4307 C4308 C4314 C4319 G4326 G4329 G4330 G4331 C4332
A4339 U4340 C4341 C4345 C4349 C4350 U4351 U4352 U4353 U4354 G4355 G4356 U4360 G4364 G4373 U4374 C4375 A4376 G4377 A4378 A4379 A4380 A4381 G4382 C4386 C4387 G4391 G4392 G4393 A4394 A4422 C4426 C4429 G4433 U4437 C4444 G4448 A4449 U4450 G4451 U4452 C4453 C4461 A4464
U4465 C4466 U4471 U4481 A4488 U4500 U4501 C4502 A4510 A4511 U4512 A4513 G4516 A4517 A4518 C4519 G4524 G4545 A4548 G4549 G4550 U4551 G4554 U4557 C4560 C4561 C4562 G4567 G4573 U4574 G4575 C4583 A4584 A4589 A4590 C4593 U4594 A4599 G4600 U4601 G4608
C4612 C4613 G4618 U4636 G4652 C4653 A4656 U4657 G4658 C4670 C4671 A4672 U4677 G4678 G4679 U4682 U4683 A4684 A4687 C4688 U4689 C4695 U4699 A4700 A4701 A4707 A4708 U4709 C4714 A4729 C4730 G4731 G4732 C4733 A4734 G4740 C4741 G4742 G4745 C4746 C4747 G4750 G4751



• Molecule 8: 5S ribosomal RNA

Chain L7:

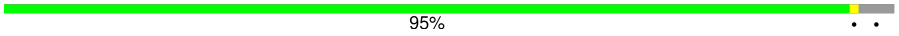


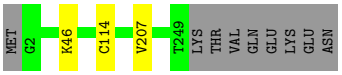
• Molecule 8: 5S ribosomal RNA

Chain L9:

• Molecule 9: 60S ribosomal protein L8

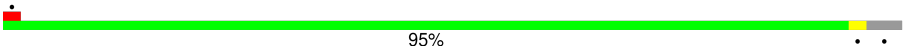
Chain LA:

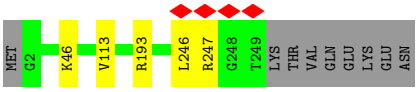




• Molecule 9: 60S ribosomal protein L8

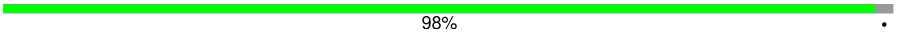
Chain MA:

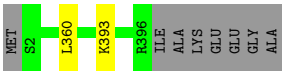




• Molecule 10: 60S ribosomal protein L3

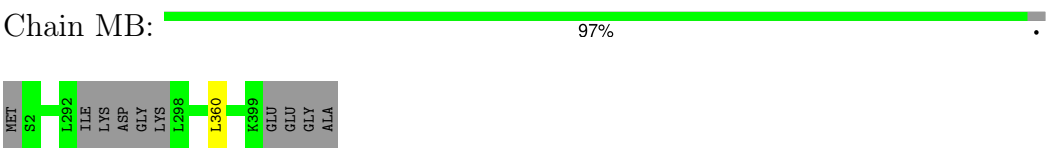
Chain LB:





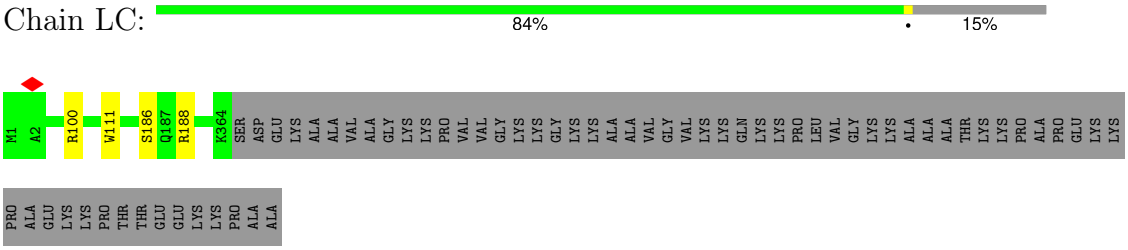
• Molecule 10: 60S ribosomal protein L3

Chain MB:



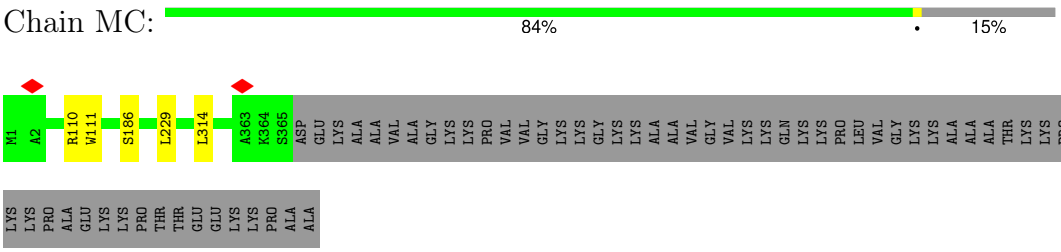
• Molecule 11: 60S ribosomal protein L4

Chain LC:



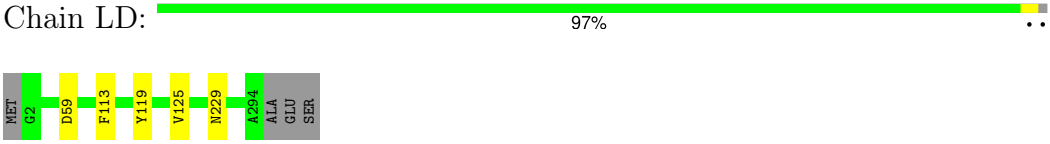
• Molecule 11: 60S ribosomal protein L4

Chain MC:



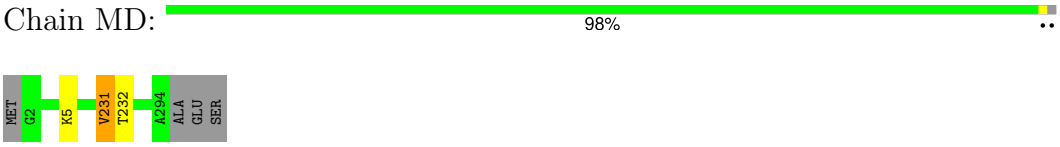
• Molecule 12: 60S ribosomal protein L5

Chain LD:



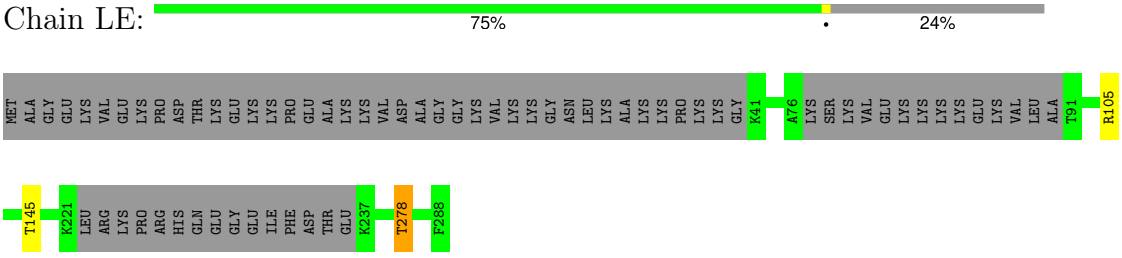
• Molecule 12: 60S ribosomal protein L5

Chain MD:



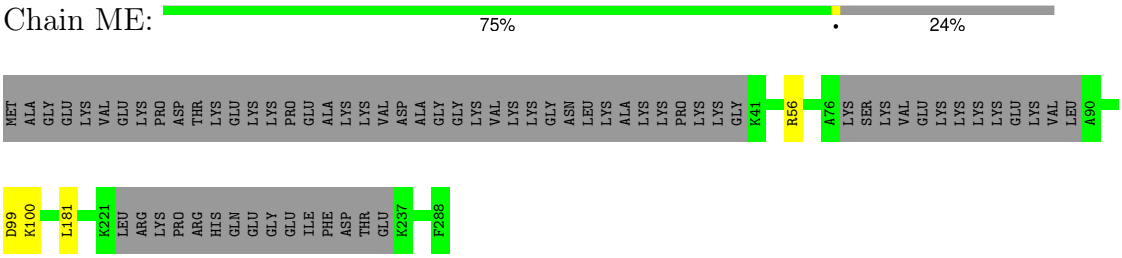
• Molecule 13: 60S ribosomal protein L6

Chain LE:



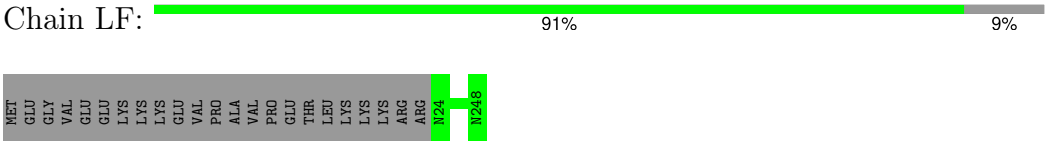
• Molecule 13: 60S ribosomal protein L6

Chain ME:



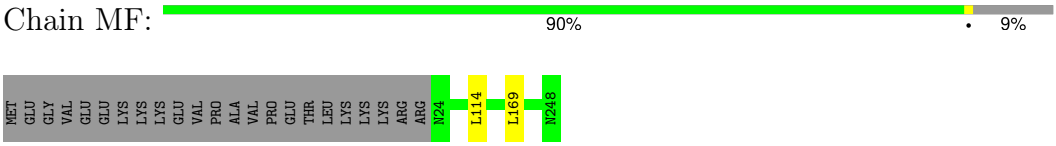
• Molecule 14: 60S ribosomal protein L7

Chain LF:



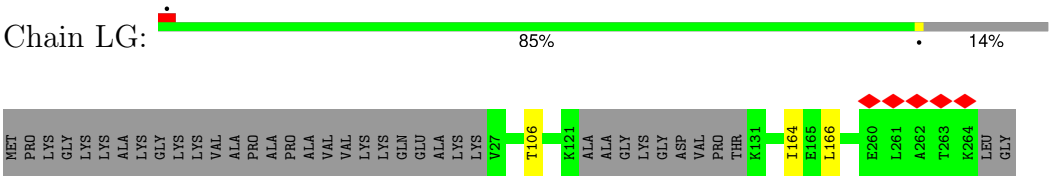
• Molecule 14: 60S ribosomal protein L7

Chain MF:



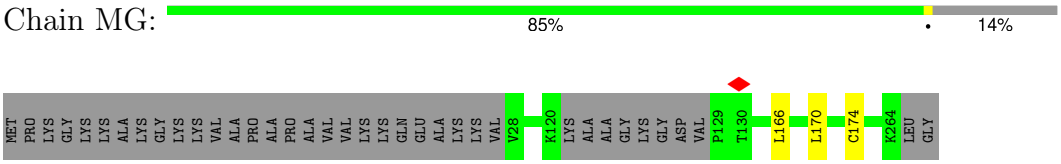
• Molecule 15: 60S ribosomal protein L7a

Chain LG:



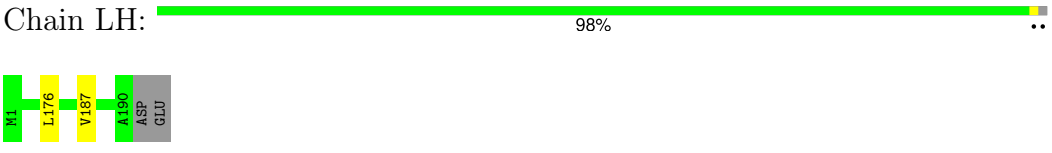
• Molecule 15: 60S ribosomal protein L7a

Chain MG:



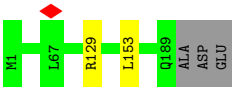
• Molecule 16: 60S ribosomal protein L9

Chain LH:



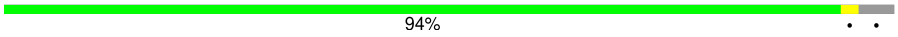
• Molecule 16: 60S ribosomal protein L9

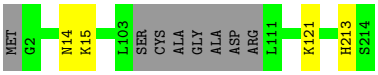
Chain MH:



• Molecule 17: 60S ribosomal protein L10-like

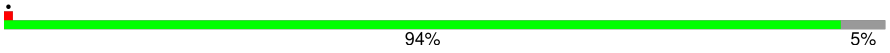
Chain LI:

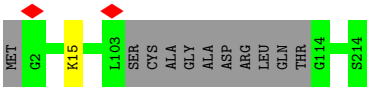




• Molecule 17: 60S ribosomal protein L10-like

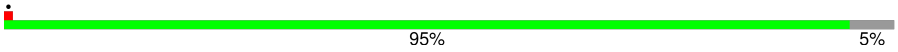
Chain MI:

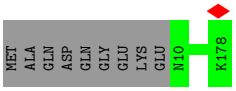




• Molecule 18: 60S ribosomal protein L11

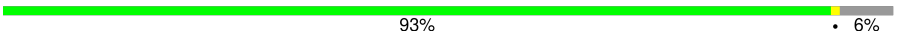
Chain LJ:

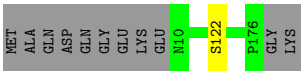




• Molecule 18: 60S ribosomal protein L11

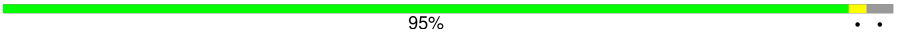
Chain MJ:

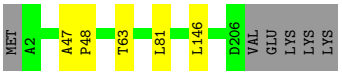




• Molecule 19: 60S ribosomal protein L13

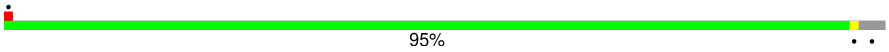
Chain LL:

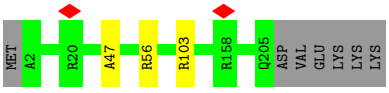




• Molecule 19: 60S ribosomal protein L13

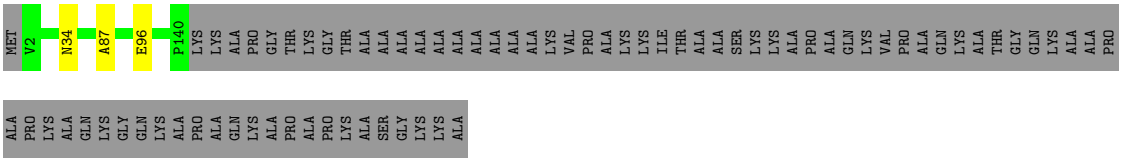
Chain ML:





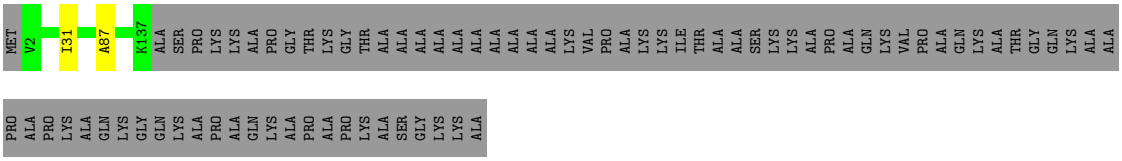
• Molecule 20: 60S ribosomal protein L14

Chain LM:



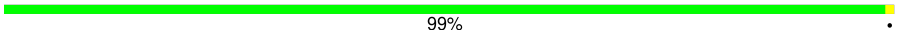
• Molecule 20: 60S ribosomal protein L14

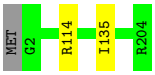
Chain MM:



• Molecule 21: 60S ribosomal protein L15

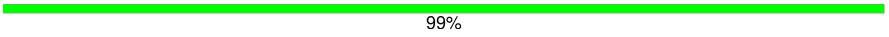
Chain LN:

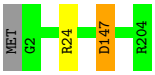




• Molecule 21: 60S ribosomal protein L15

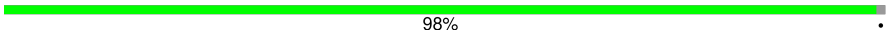
Chain MN:





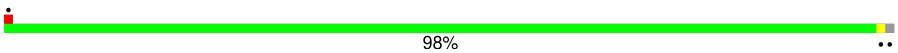
• Molecule 22: 60S ribosomal protein L13a

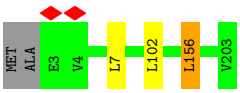
Chain LO:



• Molecule 22: 60S ribosomal protein L13a

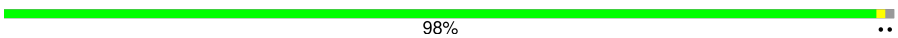
Chain MO:

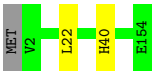




• Molecule 23: 60S ribosomal protein L17

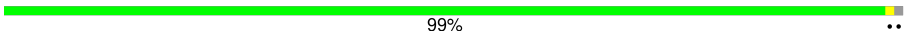
Chain LP:

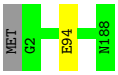




• Molecule 24: 60S ribosomal protein L18

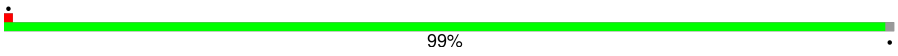
Chain LQ:

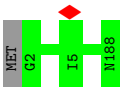




• Molecule 24: 60S ribosomal protein L18

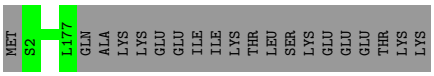
Chain MQ:





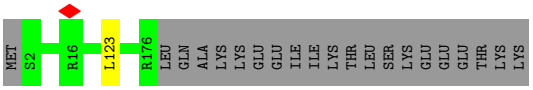
• Molecule 25: 60S ribosomal protein L19

Chain LR:



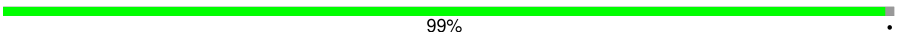
• Molecule 25: 60S ribosomal protein L19

Chain MR:



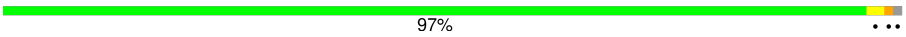
• Molecule 26: 60S ribosomal protein L18a

Chain LS:



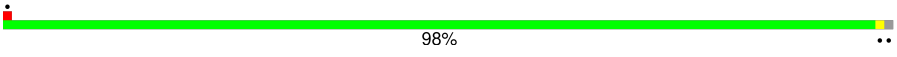
• Molecule 26: 60S ribosomal protein L18a

Chain MS:



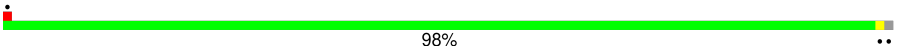
• Molecule 27: 60S ribosomal protein L21

Chain LT:



• Molecule 27: 60S ribosomal protein L21

Chain MT:

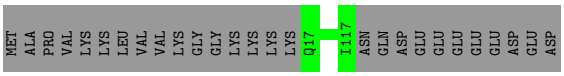


• Molecule 28: 60S ribosomal protein L22

Chain LU:

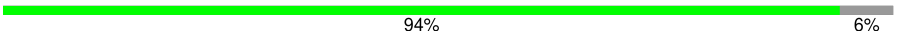
• Molecule 28: 60S ribosomal protein L22

Chain MU:



• Molecule 29: 60S ribosomal protein L23

Chain LV:

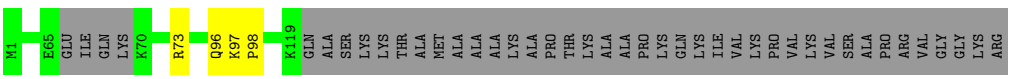


• Molecule 29: 60S ribosomal protein L23

Chain MV:

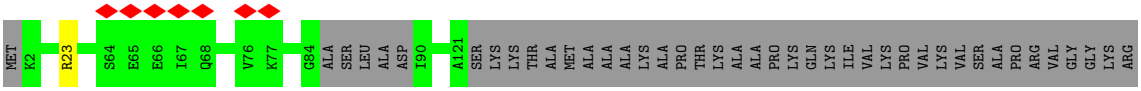
• Molecule 30: 60S ribosomal protein L24

Chain LW:



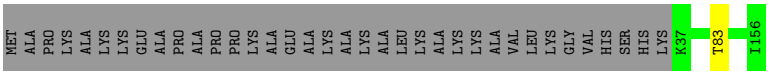
• Molecule 30: 60S ribosomal protein L24

Chain MW:



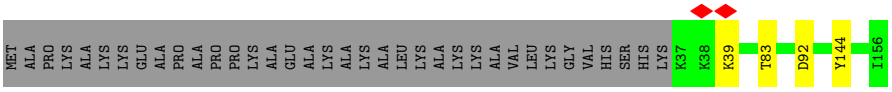
• Molecule 31: 60S ribosomal protein L23a

Chain LX:



• Molecule 31: 60S ribosomal protein L23a

Chain MX:

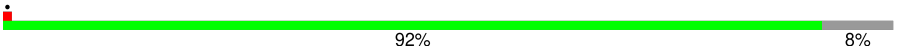


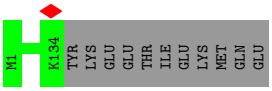
• Molecule 32: KOW domain-containing protein

Chain LY:

• Molecule 32: KOW domain-containing protein

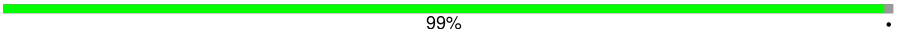
Chain MY:





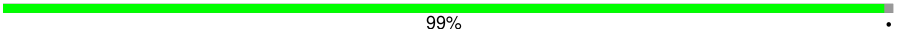
• Molecule 33: 60S ribosomal protein L27

Chain LZ:



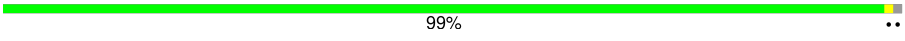
• Molecule 33: 60S ribosomal protein L27

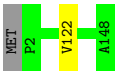
Chain MZ:



• Molecule 34: 60S ribosomal protein L27a

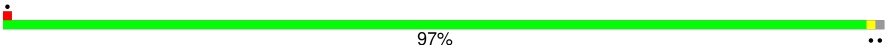
Chain La:

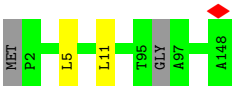




• Molecule 34: 60S ribosomal protein L27a

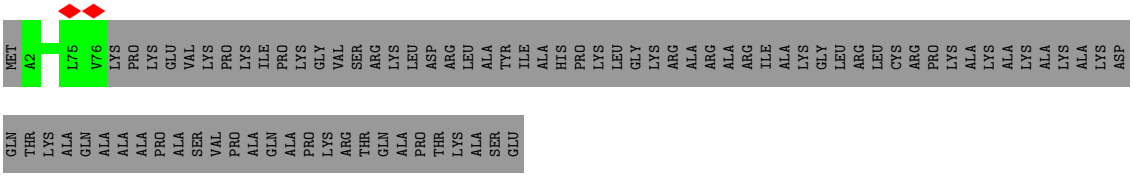
Chain Ma:





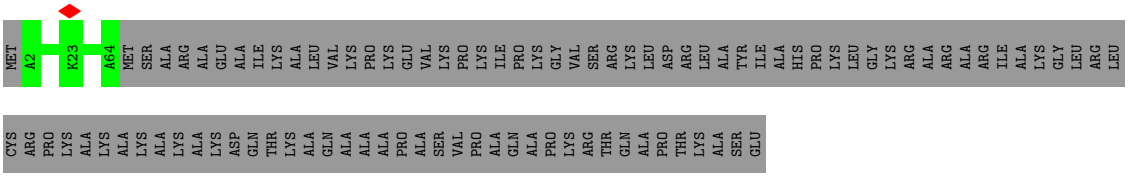
• Molecule 35: 60S ribosomal protein L29

Chain Lb:



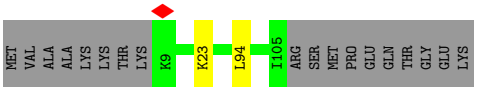
• Molecule 35: 60S ribosomal protein L29

Chain Mb:



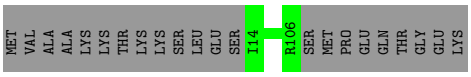
• Molecule 36: 60S ribosomal protein L30

Chain Lc:



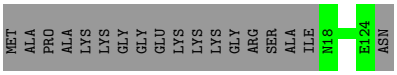
• Molecule 36: 60S ribosomal protein L30

Chain Mc:



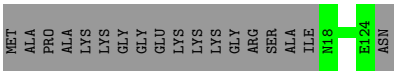
• Molecule 37: 60S ribosomal protein L31

Chain Ld:



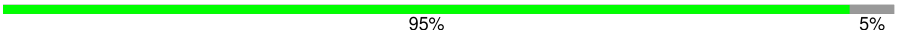
• Molecule 37: 60S ribosomal protein L31

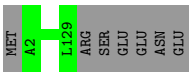
Chain Md:



• Molecule 38: 60S ribosomal protein L32

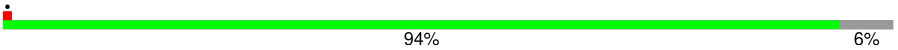
Chain Le:

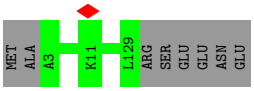




• Molecule 38: 60S ribosomal protein L32

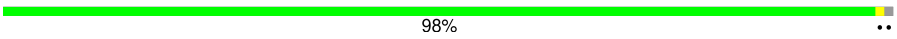
Chain Me:

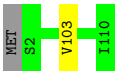




• Molecule 39: 60S ribosomal protein L35a

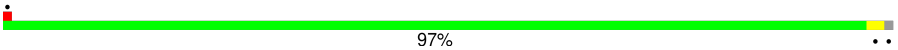
Chain Lf:

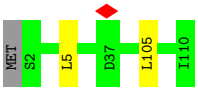




• Molecule 39: 60S ribosomal protein L35a

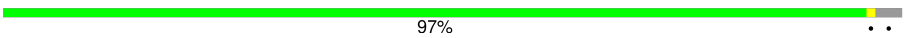
Chain Mf:

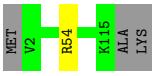




• Molecule 40: 60S ribosomal protein L34

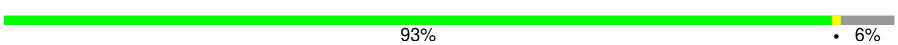
Chain Lg:





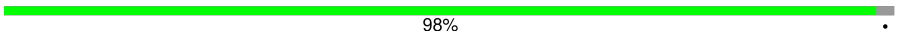
• Molecule 40: 60S ribosomal protein L34

Chain Mg:



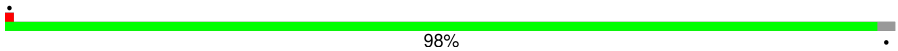
• Molecule 41: 60S ribosomal protein L35

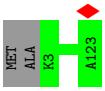
Chain Lh:



• Molecule 41: 60S ribosomal protein L35

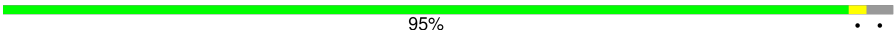
Chain Mh:

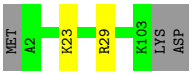




• Molecule 42: 60S ribosomal protein L36

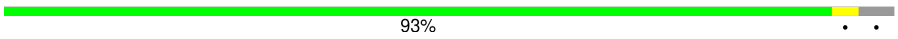
Chain Li:





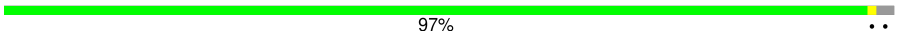
• Molecule 42: 60S ribosomal protein L36

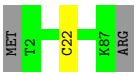
Chain Mi:



• Molecule 43: Ribosomal protein L37

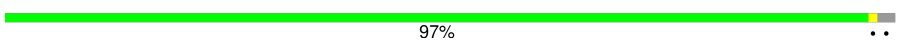
Chain Lj:

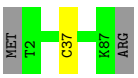




• Molecule 43: Ribosomal protein L37

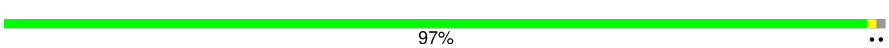
Chain Mj:





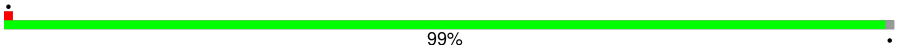
• Molecule 44: 60S ribosomal protein L38

Chain Lk:



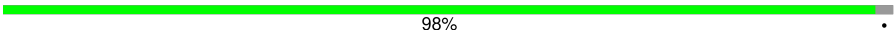
• Molecule 44: 60S ribosomal protein L38

Chain Mk:



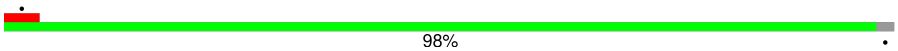
• Molecule 45: 60S ribosomal protein L39

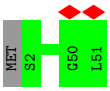
Chain Ll:



• Molecule 45: 60S ribosomal protein L39

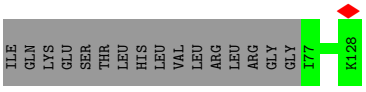
Chain Ml:





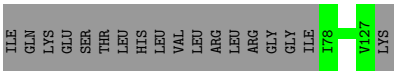
• Molecule 46: Ubiquitin-60S ribosomal protein L40

Chain Lm:



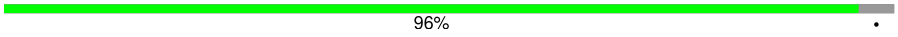
• Molecule 46: Ubiquitin-60S ribosomal protein L40

Chain Mm:



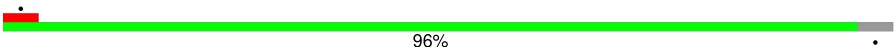
• Molecule 47: 60S ribosomal protein L41

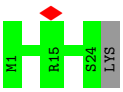
Chain Ln:



• Molecule 47: 60S ribosomal protein L41

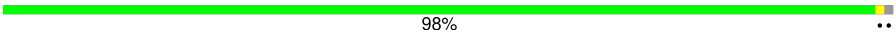
Chain Mn:

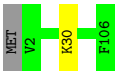




• Molecule 48: 60S ribosomal protein L36a

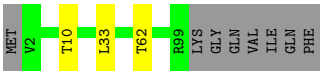
Chain Lo:





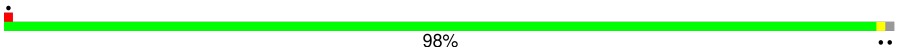
• Molecule 48: 60S ribosomal protein L36a

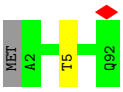
Chain Mo:



• Molecule 49: 60S ribosomal protein L37a

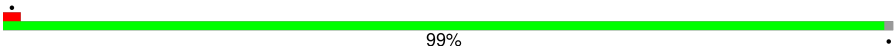
Chain Lp:





• Molecule 49: 60S ribosomal protein L37a

Chain Mp:

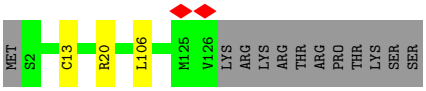


• Molecule 50: 60S ribosomal protein L28

Chain Lr:

• Molecule 50: 60S ribosomal protein L28

Chain Mr:

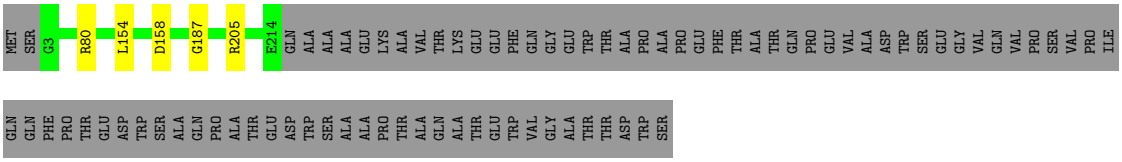


• Molecule 51: 60S ribosomal protein L17

Chain MP:

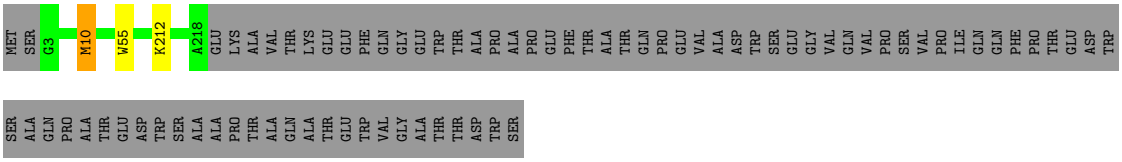
• Molecule 52: 40S ribosomal protein SA

Chain RA:



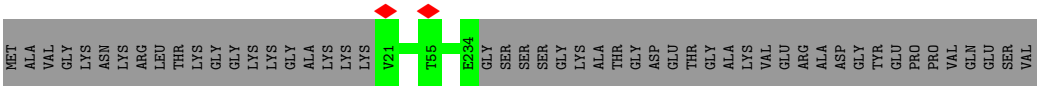
• Molecule 52: 40S ribosomal protein SA

Chain SA:



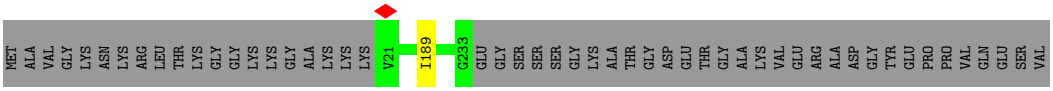
• Molecule 53: 40S ribosomal protein S3a

Chain RB:



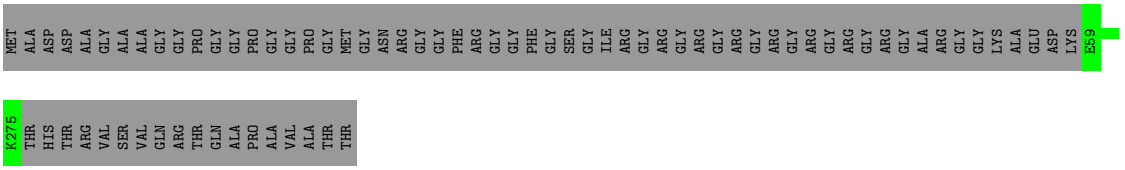
• Molecule 53: 40S ribosomal protein S3a

Chain SB:



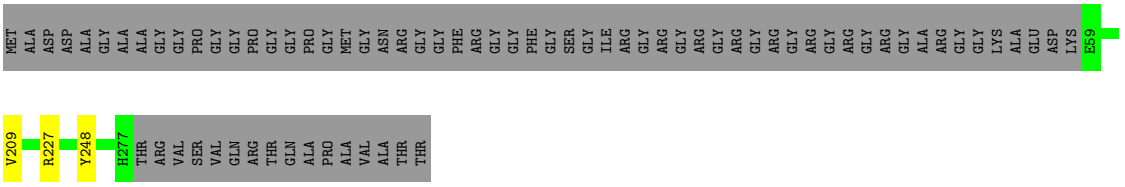
• Molecule 54: 40S ribosomal protein S2

Chain RC:



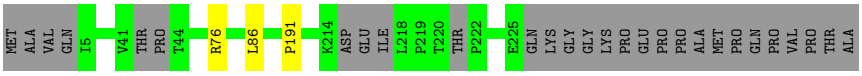
• Molecule 54: 40S ribosomal protein S2

Chain SC:



• Molecule 55: 40S ribosomal protein S3

Chain RD:

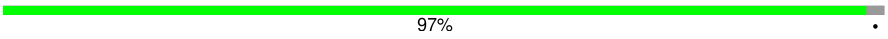


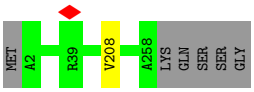
• Molecule 55: 40S ribosomal protein S3

Chain SD:

• Molecule 56: 40S ribosomal protein S4, X isoform

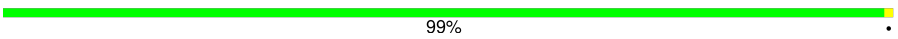
Chain RE:

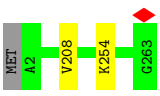




• Molecule 56: 40S ribosomal protein S4, X isoform

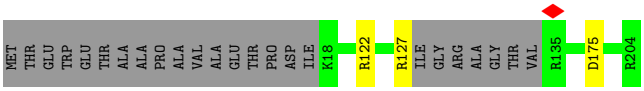
Chain SE:





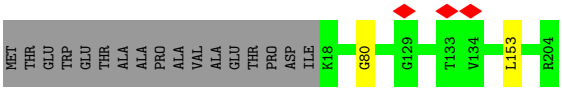
• Molecule 57: 40S ribosomal protein S5

Chain RF:



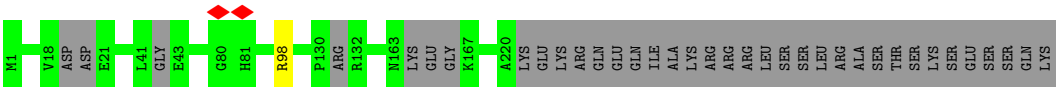
• Molecule 57: 40S ribosomal protein S5

Chain SF:



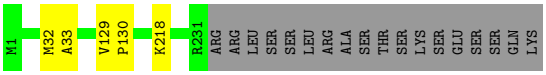
• Molecule 58: 40S ribosomal protein S6

Chain RG:



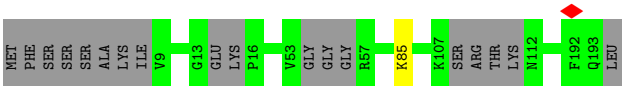
• Molecule 58: 40S ribosomal protein S6

Chain SG:



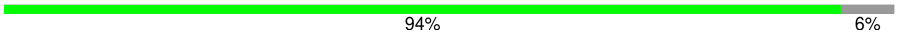
• Molecule 59: 40S ribosomal protein S7

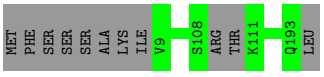
Chain RH:



• Molecule 59: 40S ribosomal protein S7

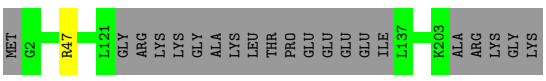
Chain SH:





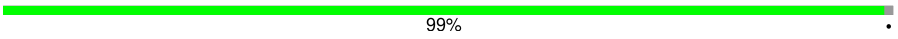
• Molecule 60: 40S ribosomal protein S8

Chain RI:



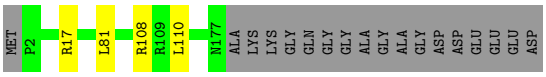
• Molecule 60: 40S ribosomal protein S8

Chain SI:



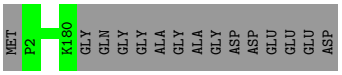
• Molecule 61: 40S ribosomal protein S9

Chain RJ:



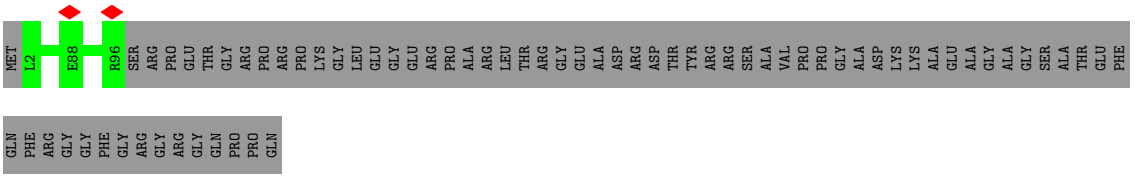
• Molecule 61: 40S ribosomal protein S9

Chain SJ:



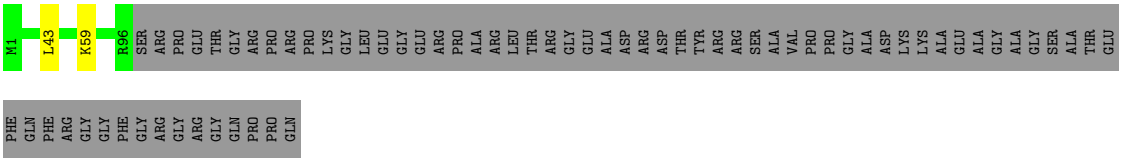
• Molecule 62: 40S ribosomal protein S10

Chain RK:



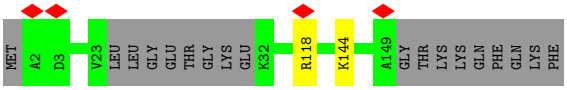
• Molecule 62: 40S ribosomal protein S10

Chain SK:



• Molecule 63: 40S ribosomal protein S11

Chain RL:

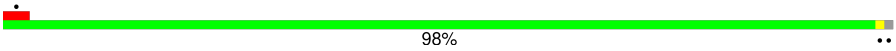


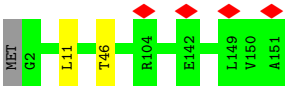
• Molecule 63: 40S ribosomal protein S11

Chain SL:

• Molecule 64: 40S ribosomal protein S13

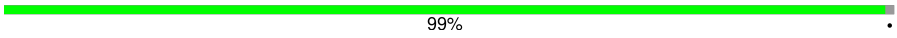
Chain RN:





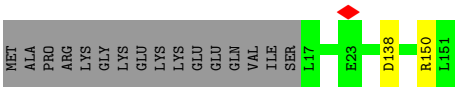
• Molecule 64: 40S ribosomal protein S13

Chain SN:



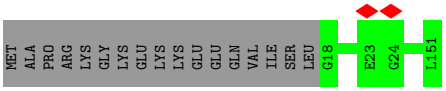
• Molecule 65: 40S ribosomal protein S14

Chain RO:



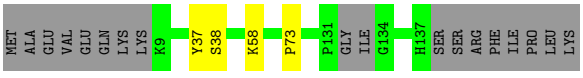
• Molecule 65: 40S ribosomal protein S14

Chain SO:



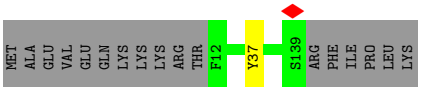
• Molecule 66: 40S ribosomal protein S15

Chain RP:



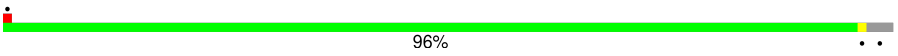
• Molecule 66: 40S ribosomal protein S15

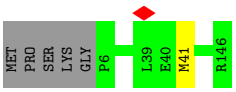
Chain SP:



• Molecule 67: 40S ribosomal protein S16

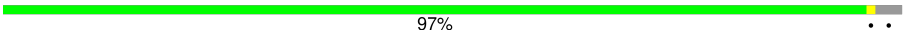
Chain RQ:

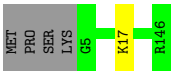




• Molecule 67: 40S ribosomal protein S16

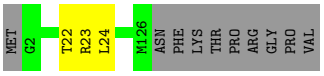
Chain SQ:





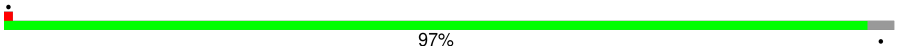
• Molecule 68: 40S ribosomal protein S17

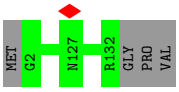
Chain RR:



• Molecule 68: 40S ribosomal protein S17

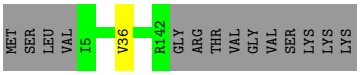
Chain SR:





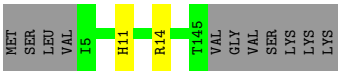
• Molecule 69: 40S ribosomal protein S18

Chain RS:



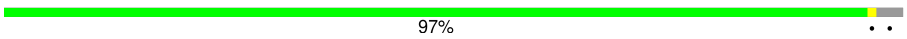
• Molecule 69: 40S ribosomal protein S18

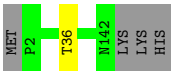
Chain SS:



• Molecule 70: 40S ribosomal protein S19

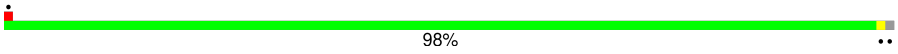
Chain RT:

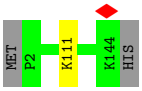




• Molecule 70: 40S ribosomal protein S19

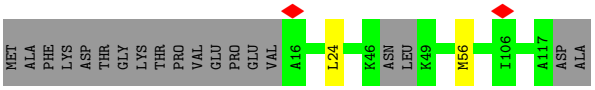
Chain ST:





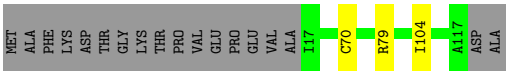
• Molecule 71: 40S ribosomal protein S20

Chain RU:



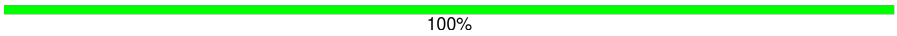
• Molecule 71: 40S ribosomal protein S20

Chain SU:



• Molecule 72: 40S ribosomal protein S21

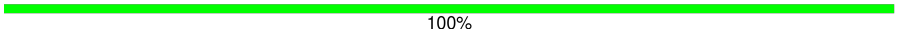
Chain RV:



There are no outlier residues recorded for this chain.

• Molecule 72: 40S ribosomal protein S21

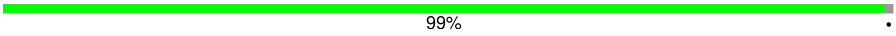
Chain SV:



There are no outlier residues recorded for this chain.

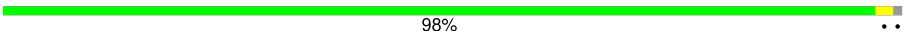
• Molecule 73: 40S ribosomal protein S15a

Chain RW:



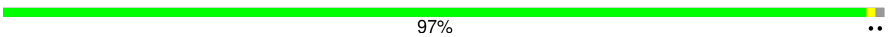
• Molecule 73: 40S ribosomal protein S15a

Chain SW:



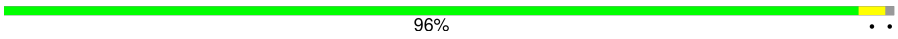
• Molecule 74: 40S ribosomal protein S23

Chain RX:



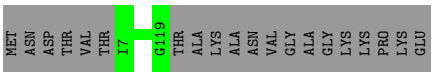
• Molecule 74: 40S ribosomal protein S23

Chain SX:



• Molecule 75: 40S ribosomal protein S24

Chain RY:

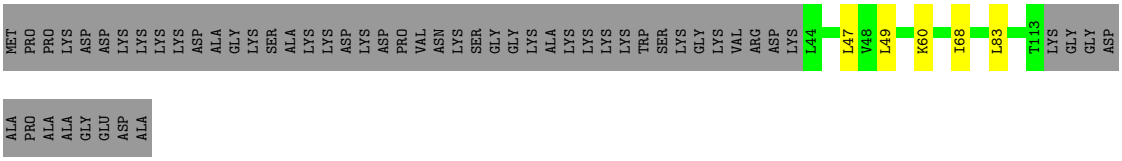


• Molecule 75: 40S ribosomal protein S24

Chain SY:

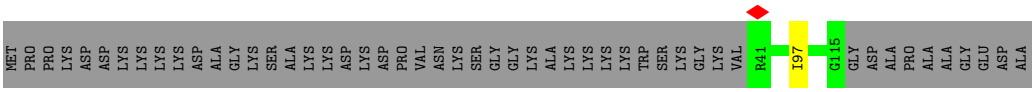
• Molecule 76: 40S ribosomal protein S25

Chain RZ:



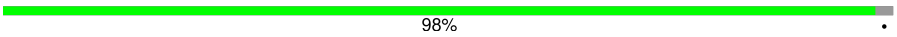
• Molecule 76: 40S ribosomal protein S25

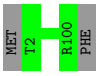
Chain SZ:



• Molecule 77: 40S ribosomal protein S26

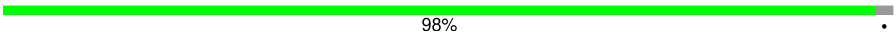
Chain Ra:





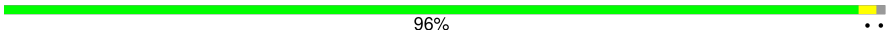
• Molecule 77: 40S ribosomal protein S26

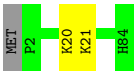
Chain Sa:



• Molecule 78: 40S ribosomal protein S27

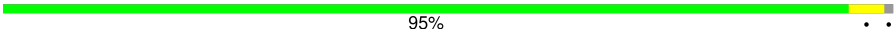
Chain Rb:

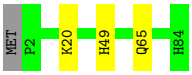




• Molecule 78: 40S ribosomal protein S27

Chain Sb:



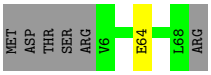


• Molecule 79: 40S ribosomal protein S28

Chain Rc:

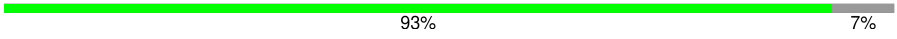
• Molecule 79: 40S ribosomal protein S28

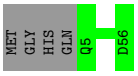
Chain Sc:



• Molecule 80: 40S ribosomal protein S29

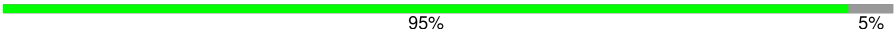
Chain Rd:

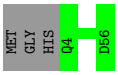




• Molecule 80: 40S ribosomal protein S29

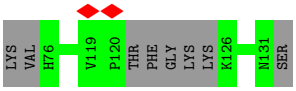
Chain Sd:





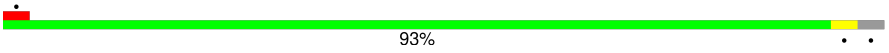
• Molecule 81: 40S ribosomal protein S30

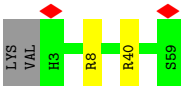
Chain Re:



• Molecule 81: 40S ribosomal protein S30

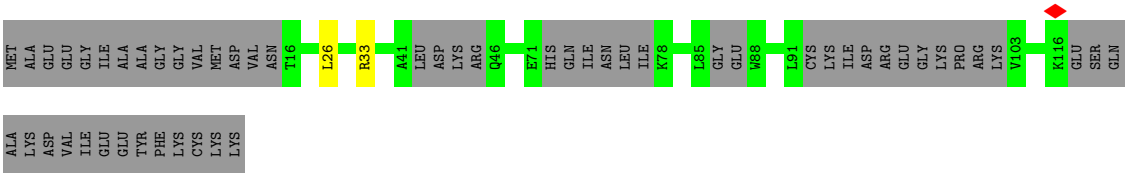
Chain Se:





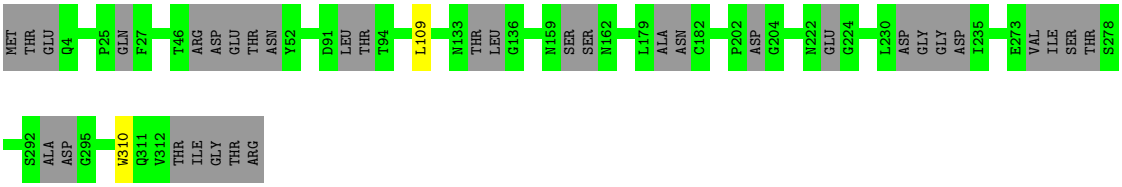
• Molecule 82: 40S ribosomal protein S12

Chain Rf:



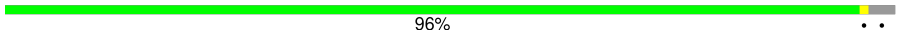
• Molecule 83: Receptor of activated protein C kinase 1

Chain Rg:



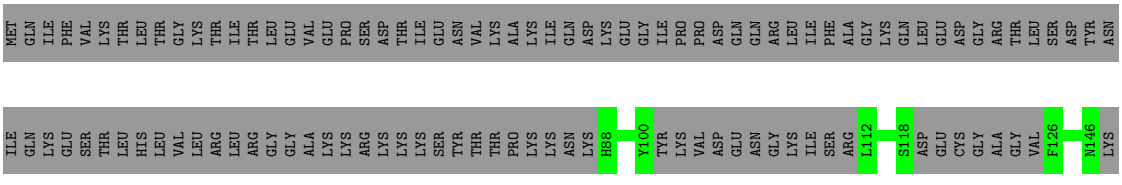
• Molecule 83: Receptor of activated protein C kinase 1

Chain Sg:



• Molecule 84: Ubiquitin-40S ribosomal protein S27a

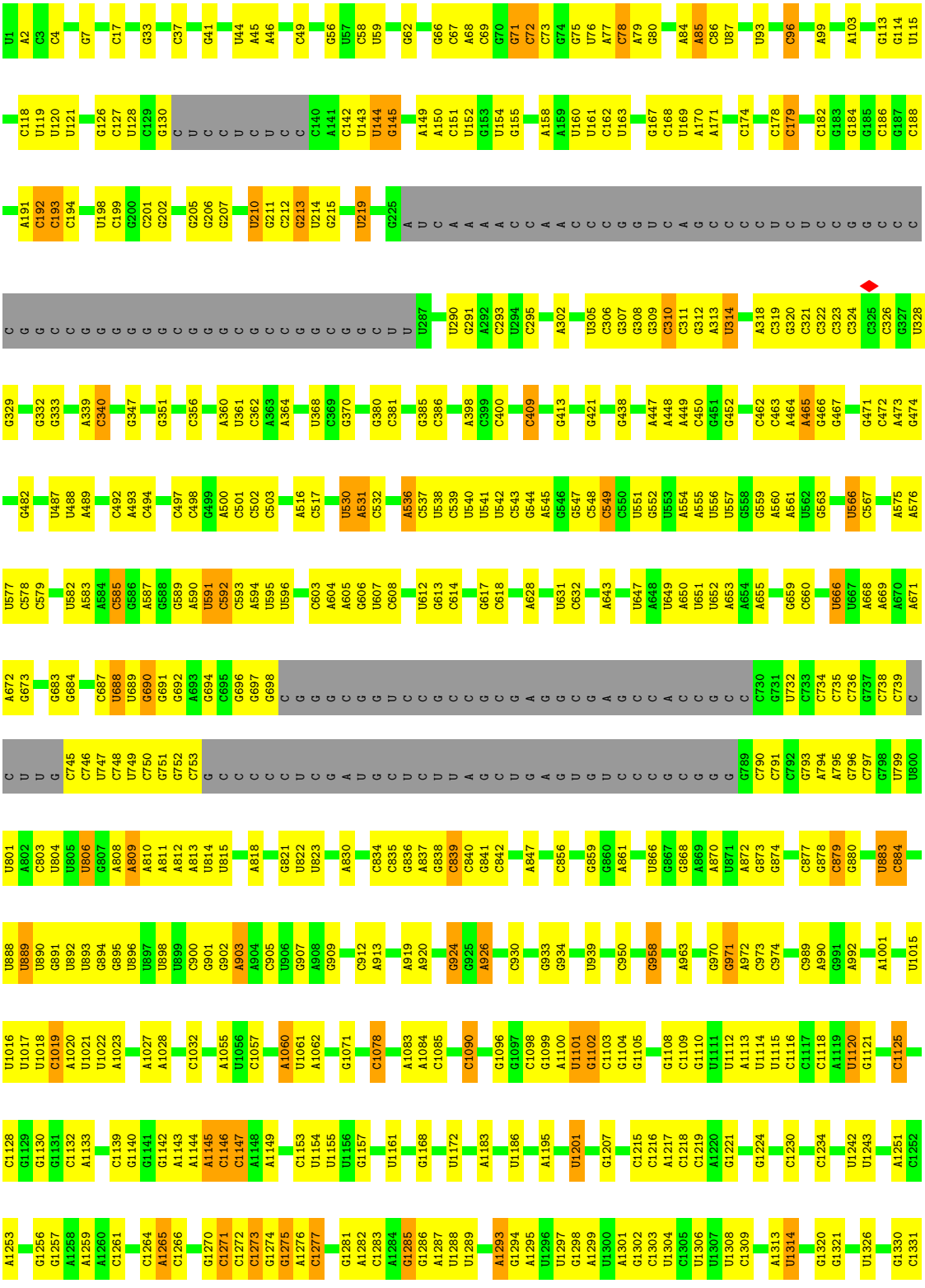
Chain Rh:

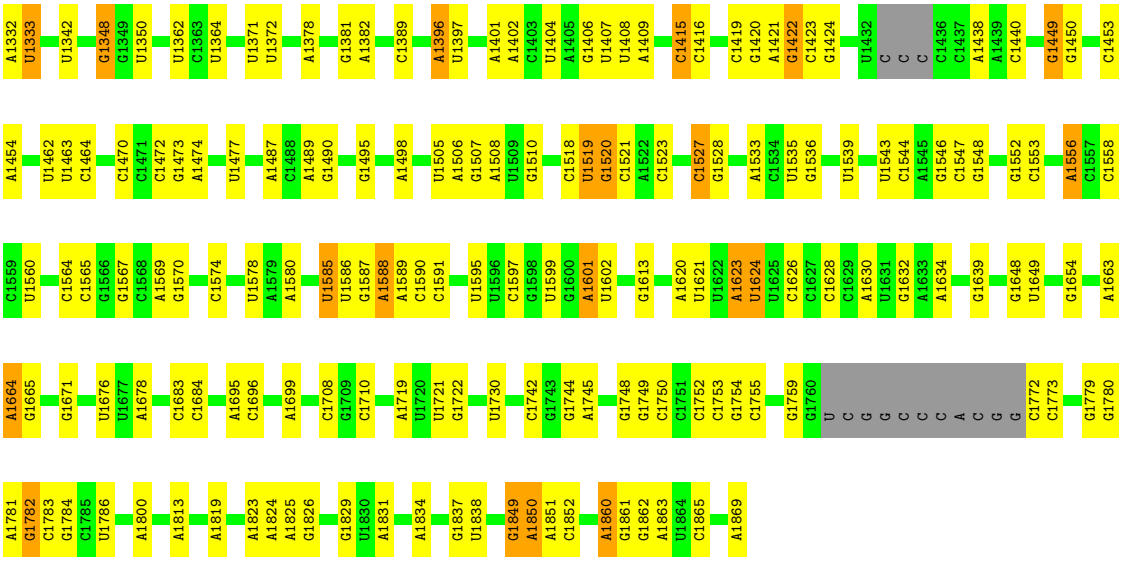


PRO
GLU
ASP
LYS

• Molecule 85: 18S ribosomal RNA

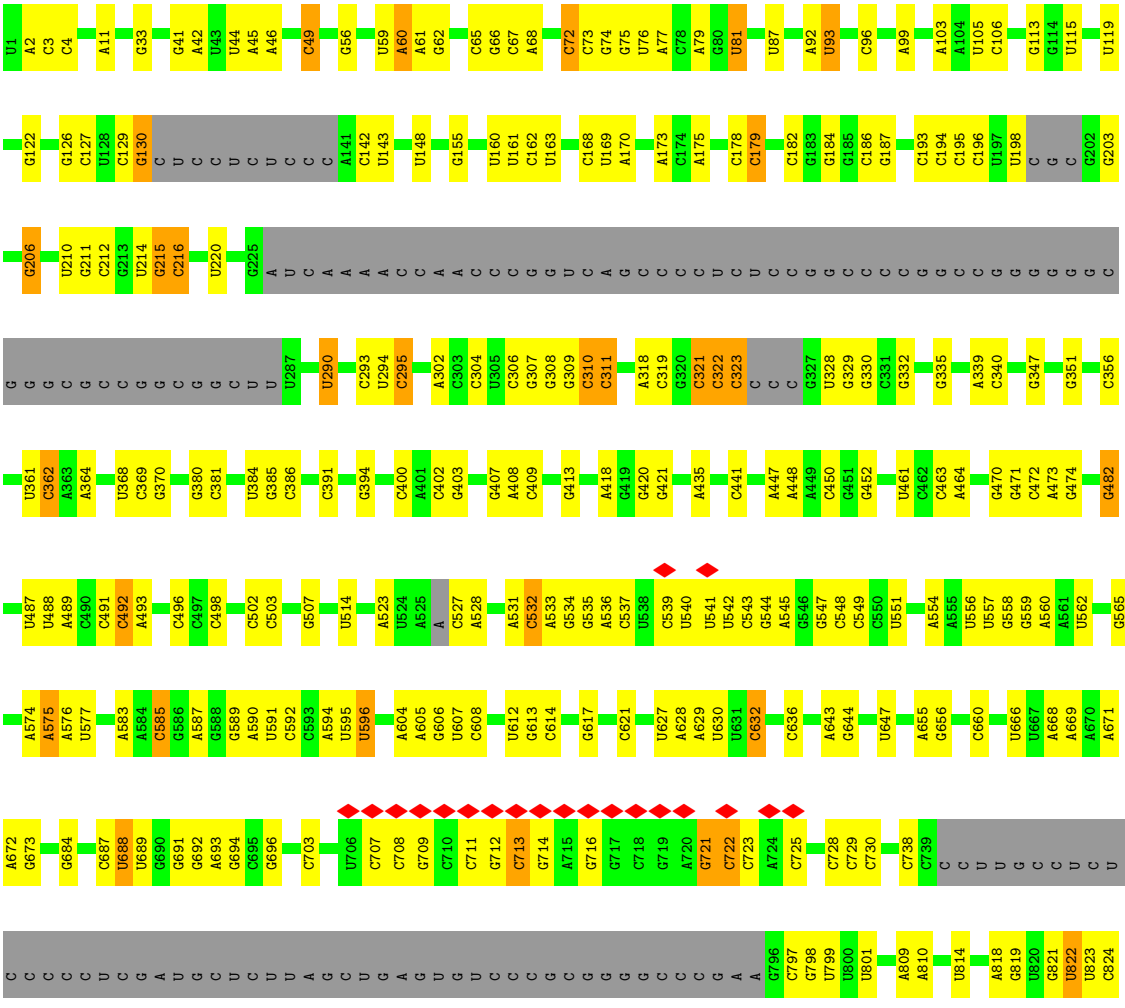
Chain S2:

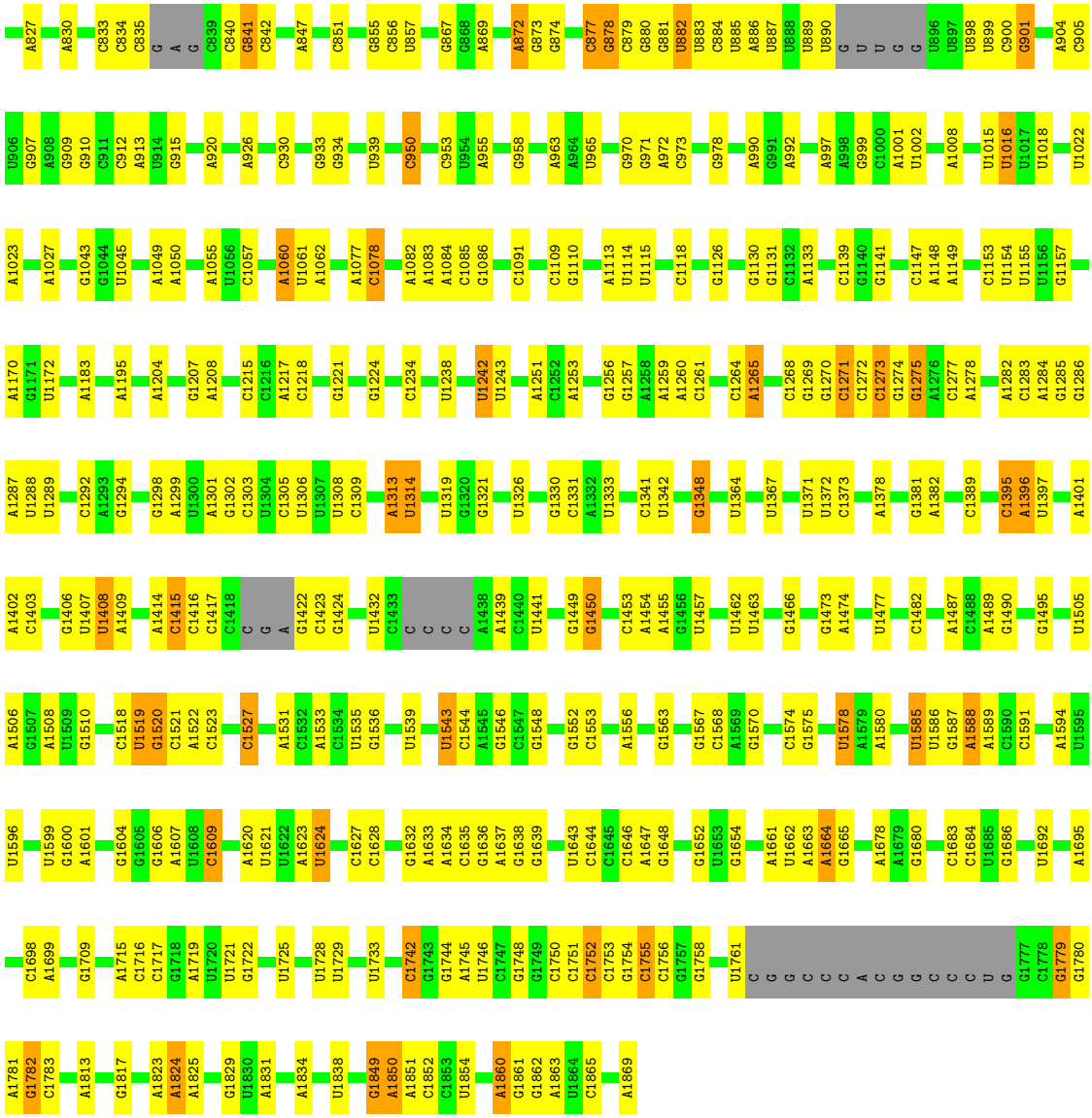




• Molecule 85: 18S ribosomal RNA

Chain S3:




A827 A830 C833 C834 C835 G A G C839 C840 G841 C842 A847 C851 G855 C856 U857 G867 G868 A869 A872 G873 G874 C877 G878 C879 G880 G881 U882 U883 C884 U885 A886 U887 U888 U889 U890 G U U G U896 U897 U898 U899 C900 G901 A904 C905
U906 G907 A908 G909 G910 C911 C912 A913 U914 G915 A920 A926 C930 G933 G934 U939 C950 C953 U954 A955 G958 A963 A964 U965 G970 G971 A972 C973 G978 A990 G991 A992 A997 A998 G999 C1000 A1001 U1002 A1008 U1015 U1016 U1017 U1018 U1022
A1023 A1027 G1043 G1044 U1045 A1049 A1050 A1055 U1056 C1057 A1060 U1061 A1062 A1077 C1078 A1082 A1083 A1084 C1085 G1086 C1091 C1109 G1110 A1113 U1114 U1115 C1118 G1126 G1130 G1131 C1132 A1133 C1139 G1140 G1141 C1147 A1148 A1149 C1153 U1154 U1155 U1156 G1157
A1170 G1171 U1172 A1183 A1195 A1204 G1207 A1208 C1215 C1216 A1217 C1218 G1221 G1224 C1234 U1238 U1242 U1243 A1251 C1252 A1253 G1256 G1257 A1258 A1259 A1260 C1261 C1264 A1265 C1268 G1269 G1270 C1271 C1272 C1273 G1274 G1275 A1276 C1277 A1278 A1282 C1283 A1284 G1285 G1286
A1287 U1288 U1289 C1292 A1293 G1294 G1298 A1299 U1300 A1301 G1302 C1303 U1304 C1305 U1306 U1307 U1308 C1309 A1313 U1314 U1319 G1320 G1321 U1326 G1330 C1331 A1332 U1333 C1341 U1342 G1348 U1364 U1367 U1371 U1372 C1373 A1378 G1381 A1382 C1389 C1395 A1396 U1397 A1401
A1402 C1403 G1406 U1407 U1408 A1409 A1414 C1415 C1416 C1417 C1418 C G A G1422 C1423 G1424 U1432 C1433 C C C C A1438 A1439 C1440 U1441 G1449 G1450 C1453 A1454 A1455 G1456 U1457 U1462 U1463 G1466 G1473 A1474 U1477 C1482 A1487 C1488 A1489 G1490 G1495 U1505
A1506 G1507 A1508 U1509 G1510 C1518 U1519 G1520 C1521 A1522 C1523 C1527 A1531 C1532 A1533 C1534 U1535 G1536 U1539 U1543 C1544 A1545 G1546 C1547 G1548 G1552 C1553 A1556 G1563 G1567 C1568 A1569 G1570 C1574 G1575 U1578 A1579 A1580 U1585 U1586 G1587 A1588 A1589 C1590 C1591 A1594 U1595
U1596 U1599 G1600 A1601 G1604 G1605 G1606 A1607 U1608 C1609 A1620 U1621 U1622 A1623 U1624 C1627 C1628 G1632 A1633 A1634 C1635 G1636 A1637 G1638 G1639 U1643 C1644 C1645 C1646 A1647 G1648 G1652 U1653 G1654 A1661 U1662 A1663 A1664 G1665 A1678 A1679 G1680 C1683 C1684 U1685 G1686 U1692 A1695
C1698 A1699 G1709 A1715 C1716 C1717 G1718 A1719 U1720 U1721 G1722 U1725 U1728 U1729 U1733 C1742 G1743 G1744 A1745 U1746 C1747 G1748 G1749 C1750 C1751 C1752 C1753 G1754 C1755 C1756 G1757 G1758 U1761 C G G C C C A C G G C C C U G G1777 C1778 G1779 G1780
A1781 G1782 C1783 A1813 G1817 A1823 A1824 A1825 G1829 U1830 A1831 A1834 U1838 G1849 A1850 A1851 C1852 C1853 U1854 A1860 G1861 G1862 A1863 U1864 C1865 A1869

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	53848	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	43.6	Depositor
Minimum defocus (nm)	400	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	1.570	Depositor
Minimum map value	-0.176	Depositor
Average map value	0.009	Depositor
Map value standard deviation	0.059	Depositor
Recommended contour level	0.12	Depositor
Map size (Å)	668.8, 668.8, 668.8	wwPDB
Map dimensions	640, 640, 640	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.045, 1.045, 1.045	Depositor

5 Model quality

5.1 Standard geometry

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	A4	0.51	0/307	1.12	0/472
2	A5	0.60	0/241	1.46	4/370 (1.1%)
3	B4	0.70	0/1812	1.19	12/2823 (0.4%)
3	D5	0.53	0/1741	1.55	43/2709 (1.6%)
4	B5	0.58	0/1795	1.14	4/2798 (0.1%)
5	CC	0.51	0/1773	1.16	12/2759 (0.4%)
6	L1	0.80	0/3701	1.09	17/5766 (0.3%)
6	L8	1.02	1/3701 (0.0%)	1.14	26/5766 (0.5%)
7	L5	1.03	3/86579 (0.0%)	1.16	640/135047 (0.5%)
7	L6	0.81	3/85637 (0.0%)	1.17	678/133571 (0.5%)
8	L7	1.01	0/2858	1.14	15/4455 (0.3%)
8	L9	0.77	0/2858	1.13	15/4455 (0.3%)
9	LA	0.53	0/1936	0.62	0/2596
9	MA	0.44	0/1924	0.66	1/2581 (0.0%)
10	LB	0.50	0/3251	0.58	0/4352
10	MB	0.42	0/3168	0.61	1/4253 (0.0%)
11	LC	0.48	0/2938	0.58	0/3947
11	MC	0.40	0/2948	0.60	2/3960 (0.1%)
12	LD	0.47	0/2407	0.58	0/3227
12	MD	0.38	0/2333	0.56	0/3139
13	LE	0.43	0/1788	0.60	0/2399
13	ME	0.38	0/1747	0.63	0/2354
14	LF	0.50	0/1905	0.58	0/2539
14	MF	0.43	0/1879	0.66	2/2507 (0.1%)
15	LG	0.43	0/1849	0.61	2/2496 (0.1%)
15	MG	0.38	0/1765	0.63	2/2400 (0.1%)
16	LH	0.44	0/1529	0.59	0/2058
16	MH	0.38	0/1458	0.65	1/1973 (0.1%)
17	LI	0.48	0/1690	0.55	0/2258
17	MI	0.40	0/1619	0.59	0/2170
18	LJ	0.42	0/1352	0.60	0/1813
18	MJ	0.38	0/1249	0.59	0/1690
19	LL	0.44	0/1661	0.55	1/2229 (0.0%)
19	ML	0.39	0/1611	0.57	0/2167

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
20	LM	0.47	0/1145	0.56	0/1536
20	MM	0.43	0/1119	0.61	0/1501
21	LN	0.51	0/1746	0.57	1/2338 (0.0%)
21	MN	0.43	0/1738	0.60	1/2328 (0.0%)
22	LO	0.50	0/1665	0.52	0/2229
22	MO	0.42	0/1645	0.61	3/2205 (0.1%)
23	LP	0.50	0/1260	0.54	0/1692
24	LQ	0.50	0/1526	0.57	0/2038
24	MQ	0.40	0/1517	0.55	0/2030
25	LR	0.44	0/1468	0.53	0/1945
25	MR	0.36	0/1428	0.63	1/1897 (0.1%)
26	LS	0.52	0/1492	0.55	0/2003
26	MS	0.42	0/1476	0.60	2/1983 (0.1%)
27	LT	0.47	0/1310	0.57	0/1752
27	MT	0.41	0/1296	0.57	0/1734
28	LU	0.42	0/813	0.60	0/1093
28	MU	0.37	0/782	0.63	0/1057
29	LV	0.49	0/985	0.56	0/1323
29	MV	0.44	0/968	0.58	0/1303
30	LW	0.44	0/820	0.56	0/1104
30	MW	0.36	0/798	0.52	0/1081
31	LX	0.46	0/998	0.54	0/1341
31	MX	0.39	0/967	0.65	1/1304 (0.1%)
32	LY	0.48	0/1128	0.58	0/1500
32	MY	0.40	0/1101	0.56	0/1469
33	LZ	0.48	0/1130	0.56	0/1507
33	MZ	0.40	0/1105	0.52	0/1475
34	La	0.48	0/1183	0.55	0/1582
34	Ma	0.39	0/1173	0.57	1/1568 (0.1%)
35	Lb	0.41	0/600	0.57	0/796
35	Mb	0.36	0/509	0.50	0/675
36	Lc	0.50	0/752	0.54	0/1011
36	Mc	0.39	0/726	0.63	0/977
37	Ld	0.47	0/889	0.54	0/1198
37	Md	0.39	0/871	0.57	0/1176
38	Le	0.52	0/1067	0.59	0/1425
38	Me	0.41	0/1063	0.55	0/1418
39	Lf	0.52	0/891	0.63	0/1194
39	Mf	0.45	0/883	0.69	1/1185 (0.1%)
40	Lg	0.50	0/899	0.58	0/1200
40	Mg	0.40	0/861	0.61	0/1153
41	Lh	0.44	0/1014	0.53	0/1340
41	Mh	0.34	0/983	0.53	0/1304

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
42	Li	0.38	0/824	0.55	0/1093
42	Mi	0.34	0/808	0.56	0/1074
43	Lj	0.51	0/720	0.61	0/952
43	Mj	0.41	0/716	0.54	0/948
44	Lk	0.45	0/548	0.60	0/730
44	Mk	0.39	0/534	0.63	0/712
45	Ll	0.44	0/454	0.57	0/599
45	Ml	0.38	0/450	0.52	0/595
46	Lm	0.45	0/431	0.54	0/570
46	Mm	0.38	0/399	0.53	0/532
47	Ln	0.47	0/231	0.50	0/294
47	Mn	0.33	0/231	0.54	0/294
48	Lo	0.48	0/861	0.59	0/1137
48	Mo	0.40	0/787	0.62	1/1042 (0.1%)
49	Lp	0.53	0/706	0.60	0/939
49	Mp	0.44	0/699	0.58	0/931
50	Lr	0.48	0/1012	0.60	0/1358
50	Mr	0.38	0/997	0.57	2/1341 (0.1%)
51	MP	0.40	0/1229	0.59	1/1655 (0.1%)
52	RA	0.36	0/1612	0.56	1/2203 (0.0%)
52	SA	0.43	0/1708	0.58	0/2324
53	RB	0.36	0/1654	0.59	0/2227
53	SB	0.44	0/1745	0.63	0/2337
54	RC	0.40	0/1626	0.62	0/2211
54	SC	0.46	0/1697	0.58	0/2301
55	RD	0.38	0/1499	0.63	1/2041 (0.0%)
55	SD	0.38	0/1606	0.58	1/2181 (0.0%)
56	RE	0.34	0/1933	0.58	0/2623
56	SE	0.43	0/2014	0.61	0/2726
57	RF	0.35	0/1385	0.61	1/1870 (0.1%)
57	SF	0.38	0/1437	0.62	1/1936 (0.1%)
58	RG	0.31	0/1570	0.56	0/2112
58	SG	0.34	0/1657	0.57	0/2247
59	RH	0.32	0/1362	0.58	0/1831
59	SH	0.40	0/1295	0.57	0/1763
60	RI	0.32	0/1477	0.57	0/1990
60	SI	0.43	0/1603	0.57	0/2161
61	RJ	0.35	0/1432	0.63	0/1926
61	SJ	0.39	0/1456	0.55	0/1957
62	RK	0.34	0/759	0.60	0/1036
62	SK	0.40	0/750	0.56	1/1026 (0.1%)
63	RL	0.36	0/1159	0.61	0/1555
63	SL	0.47	0/1163	0.54	0/1562

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
64	RN	0.33	0/1223	0.57	1/1644 (0.1%)
64	SN	0.42	0/1206	0.58	0/1626
65	RO	0.36	0/1016	0.66	1/1363 (0.1%)
65	SO	0.44	0/982	0.62	0/1320
66	RP	0.36	0/1020	0.65	0/1369
66	SP	0.38	0/995	0.54	0/1344
67	RQ	0.34	0/1096	0.61	0/1473
67	SQ	0.40	0/1089	0.60	0/1465
68	RR	0.31	0/890	0.65	1/1207 (0.1%)
68	SR	0.38	0/955	0.61	0/1294
69	RS	0.35	0/1098	0.60	0/1480
69	SS	0.40	0/1136	0.63	0/1528
70	RT	0.33	0/1012	0.53	0/1371
70	ST	0.37	0/1100	0.52	0/1479
71	RU	0.29	0/758	0.61	1/1023 (0.1%)
71	SU	0.35	0/722	0.60	0/983
72	RV	0.35	0/596	0.55	0/800
72	SV	0.42	0/625	0.57	0/837
73	RW	0.34	0/1044	0.53	0/1398
73	SW	0.47	0/1043	0.60	0/1396
74	RX	0.33	0/1066	0.65	1/1434 (0.1%)
74	SX	0.45	0/1096	0.62	0/1467
75	RY	0.33	0/871	0.59	0/1169
75	SY	0.36	0/944	0.56	0/1271
76	RZ	0.31	0/493	0.73	2/672 (0.3%)
76	SZ	0.39	0/565	0.68	1/764 (0.1%)
77	Ra	0.35	0/775	0.55	0/1042
77	Sa	0.46	0/794	0.58	0/1065
78	Rb	0.33	0/631	0.64	0/853
78	Sb	0.39	0/632	0.61	0/851
79	Rc	0.34	0/432	0.78	0/582
79	Sc	0.42	0/474	0.68	1/638 (0.2%)
80	Rd	0.34	0/430	0.52	0/573
80	Sd	0.43	0/443	0.53	0/589
81	Re	0.34	0/390	0.58	0/515
81	Se	0.38	0/431	0.55	0/570
82	Rf	0.26	0/485	0.55	1/661 (0.2%)
83	Rg	0.30	0/1993	0.61	0/2730
83	Sg	0.35	0/2227	0.69	0/3059
84	Rh	0.29	0/270	0.48	0/359
85	S2	0.91	6/40905 (0.0%)	1.24	450/63753 (0.7%)
85	S3	0.70	4/40701 (0.0%)	1.23	386/63428 (0.6%)
All	All	0.74	17/449690 (0.0%)	1.02	2345/663456 (0.4%)

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	LA	0	1
9	MA	0	2
11	MC	0	1
12	LD	0	1
12	MD	0	1
13	LE	0	1
13	ME	0	1
15	MG	0	1
16	LH	0	1
17	LI	0	2
17	MI	0	1
18	MJ	0	1
19	LL	0	2
19	ML	0	1
20	MM	0	1
24	LQ	0	1
26	MS	0	2
27	LT	0	1
29	MV	0	1
31	MX	0	1
39	Lf	0	1
48	Mo	0	1
51	MP	0	1
52	RA	0	1
52	SA	0	1
53	SB	0	1
54	SC	0	1
58	SG	0	2
66	RP	0	1
67	SQ	0	1
68	RR	0	1
69	SS	0	1
71	RU	0	1
71	SU	0	2
74	SX	0	2
76	RZ	0	1
78	Rb	0	1
78	Sb	0	2
79	Rc	0	2

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
83	Rg	0	2
83	Sg	0	1
All	All	0	51

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	L8	62	A	N9-C4	-7.77	1.33	1.37
85	S3	216	C	N3-C4	-7.53	1.28	1.33
85	S2	926	A	C6-N1	-7.27	1.30	1.35
85	S3	215	G	C6-N1	-7.13	1.34	1.39
85	S2	536	A	N9-C4	6.03	1.41	1.37
85	S2	219	U	N3-C4	-6.02	1.33	1.38
7	L6	468	U	C2-N3	-5.98	1.33	1.37
7	L5	4102	C	N3-C4	-5.97	1.29	1.33
85	S2	1015	U	C2-N3	-5.92	1.33	1.37
85	S3	215	G	C6-O6	-5.79	1.19	1.24
85	S3	926	A	C6-N1	-5.58	1.31	1.35
7	L5	4669	A	N9-C4	-5.55	1.34	1.37
85	S2	1130	G	N9-C4	-5.42	1.33	1.38
7	L6	2515	G	N3-C4	-5.27	1.31	1.35
7	L5	2465	C	N1-C6	-5.23	1.34	1.37
85	S2	1556	A	N9-C4	5.19	1.41	1.37
7	L6	2682	G	C2-N3	-5.12	1.28	1.32

All (2345) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S3	310	C	N3-C4-N4	-23.33	101.67	118.00
85	S3	215	G	N1-C6-O6	-21.95	106.73	119.90
7	L6	468	U	C5-C4-O4	20.43	138.16	125.90
85	S3	310	C	C5-C4-N4	19.96	134.17	120.20
7	L6	468	U	N3-C4-O4	-18.11	106.72	119.40
7	L5	4106	G	N1-C6-O6	-13.91	111.56	119.90
85	S3	215	G	C5-C6-O6	13.74	136.84	128.60
7	L6	3594	C	N1-C2-O2	13.63	127.08	118.90
85	S3	1752	C	C2-N1-C1'	12.81	132.89	118.80
85	S2	1145	A	O4'-C1'-N9	12.72	118.38	108.20
7	L6	985	C	N3-C2-O2	-12.57	113.10	121.90
7	L5	4102	C	N3-C4-N4	-12.53	109.23	118.00
7	L5	2710	C	N1-C2-O2	12.37	126.32	118.90
85	S2	1453	C	N1-C2-O2	12.26	126.26	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	2019	C	N3-C2-O2	-12.15	113.40	121.90
7	L6	1761	G	C5-C6-O6	12.07	135.84	128.60
85	S3	1432	U	N3-C2-O2	-11.94	113.84	122.20
7	L5	4102	C	C5-C4-N4	11.91	128.53	120.20
85	S2	501	C	N1-C2-O2	11.75	125.95	118.90
7	L6	3594	C	N3-C2-O2	-11.73	113.69	121.90
7	L6	1761	G	N1-C6-O6	-11.61	112.93	119.90
85	S2	1453	C	C2-N1-C1'	11.51	131.46	118.80
85	S2	1591	C	N1-C2-O2	11.39	125.74	118.90
7	L6	3594	C	C2-N1-C1'	11.24	131.17	118.80
7	L5	967	C	C5-C6-N1	11.17	126.59	121.00
7	L6	1762	C	N1-C2-O2	11.15	125.59	118.90
85	S3	1453	C	N1-C2-O2	11.10	125.56	118.90
85	S2	530	U	N3-C2-O2	-11.08	114.45	122.20
7	L6	3696	C	N3-C2-O2	-10.99	114.21	121.90
3	D5	2	C	N1-C2-O2	10.98	125.49	118.90
85	S2	219	U	C5-C4-O4	10.90	132.44	125.90
3	D5	2	C	C2-N1-C1'	10.87	130.76	118.80
7	L5	1963	C	N1-C2-O2	10.87	125.42	118.90
7	L6	986	C	C6-N1-C2	-10.83	115.97	120.30
7	L5	5040	U	C5-C4-O4	10.83	132.40	125.90
85	S3	310	C	N1-C2-O2	10.77	125.36	118.90
85	S2	592	C	N1-C2-O2	10.74	125.34	118.90
7	L6	3911	C	C6-N1-C2	-10.66	116.03	120.30
7	L5	255	C	N1-C2-O2	10.63	125.28	118.90
7	L6	962	C	N1-C2-O2	10.53	125.22	118.90
85	S2	1015	U	N3-C2-O2	-10.53	114.83	122.20
85	S3	1278	A	N1-C6-N6	-10.52	112.29	118.60
85	S3	1015	U	N3-C2-O2	-10.52	114.84	122.20
3	D5	62	C	N1-C2-O2	10.51	125.21	118.90
7	L6	986	C	N3-C2-O2	-10.50	114.55	121.90
7	L6	513	U	N1-C2-O2	10.49	130.15	122.80
7	L5	967	C	C6-N1-C2	-10.37	116.15	120.30
7	L5	1439	C	N1-C2-O2	10.34	125.11	118.90
7	L6	686	A	N1-C2-N3	-10.33	124.14	129.30
85	S2	1019	C	N3-C2-O2	-10.21	114.75	121.90
7	L6	2653	C	N3-C2-O2	-10.19	114.77	121.90
6	L8	111	U	C2-N1-C1'	10.19	129.93	117.70
7	L6	124	C	N3-C2-O2	-10.15	114.79	121.90
7	L5	4689	U	N3-C2-O2	-10.15	115.09	122.20
6	L8	111	U	N1-C2-O2	10.15	129.90	122.80
85	S2	219	U	C2-N1-C1'	10.14	129.87	117.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S3	1453	C	C2-N1-C1'	10.14	129.95	118.80
85	S2	883	U	N3-C2-O2	-10.14	115.10	122.20
7	L5	2710	C	C2-N1-C1'	10.13	129.94	118.80
7	L6	124	C	C6-N1-C2	-10.09	116.26	120.30
7	L6	4112	C	N3-C2-O2	-10.08	114.85	121.90
85	S2	501	C	C2-N1-C1'	10.07	129.88	118.80
85	S2	219	U	C4-C5-C6	10.02	125.71	119.70
7	L6	2409	U	C2-N1-C1'	10.02	129.73	117.70
7	L5	1243	C	N1-C2-O2	10.00	124.90	118.90
85	S2	555	A	N1-C6-N6	-10.00	112.60	118.60
7	L5	2710	C	N3-C2-O2	-10.00	114.90	121.90
7	L6	4314	C	N3-C2-O2	-9.97	114.92	121.90
7	L6	1969	G	C2-N3-C4	-9.96	106.92	111.90
85	S2	839	C	N1-C2-O2	9.93	124.86	118.90
7	L6	2710	C	N1-C2-O2	9.92	124.85	118.90
7	L6	985	C	N1-C2-O2	9.91	124.85	118.90
7	L5	181	C	N1-C2-O2	9.91	124.84	118.90
85	S2	356	C	N1-C2-O2	9.91	124.84	118.90
85	S2	803	C	N3-C2-O2	-9.86	115.00	121.90
85	S3	215	G	C5-C6-N1	9.85	116.42	111.50
85	S3	1752	C	C6-N1-C1'	-9.80	109.04	120.80
85	S2	1125	C	C2-N1-C1'	9.75	129.53	118.80
7	L5	2409	U	C2-N1-C1'	9.73	129.37	117.70
85	S3	322	C	C6-N1-C2	-9.73	116.41	120.30
85	S2	219	U	N3-C2-O2	-9.72	115.40	122.20
6	L8	111	U	N3-C2-O2	-9.70	115.41	122.20
85	S3	322	C	N3-C2-O2	-9.67	115.13	121.90
85	S3	926	A	N1-C6-N6	-9.66	112.81	118.60
7	L5	1822	U	C2-N1-C1'	9.64	129.26	117.70
85	S2	501	C	N3-C2-O2	-9.64	115.15	121.90
7	L6	4314	C	N1-C2-O2	9.63	124.68	118.90
85	S3	403	G	N1-C6-O6	-9.63	114.12	119.90
7	L6	456	C	O4'-C1'-N1	9.62	115.90	108.20
7	L6	4112	C	N1-C2-O2	9.60	124.66	118.90
7	L6	1241	C	N1-C2-O2	9.58	124.65	118.90
85	S2	1125	C	N1-C2-O2	9.57	124.64	118.90
7	L5	4130	C	N1-C2-O2	9.54	124.63	118.90
7	L6	1762	C	C2-N1-C1'	9.52	129.28	118.80
3	D5	51	U	N3-C2-O2	-9.47	115.57	122.20
7	L6	4928	C	C2-N1-C1'	9.45	129.20	118.80
85	S2	1591	C	N3-C2-O2	-9.44	115.29	121.90
85	S2	356	C	C2-N1-C1'	9.41	129.15	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	839	C	N3-C2-O2	-9.34	115.36	121.90
85	S3	216	C	C6-N1-C2	-9.33	116.57	120.30
21	MN	147	ASP	CB-CG-OD1	9.32	126.69	118.30
7	L6	686	A	N1-C6-N6	-9.31	113.01	118.60
85	S3	1139	C	C2-N1-C1'	9.31	129.04	118.80
3	D5	33	U	N3-C2-O2	-9.28	115.71	122.20
7	L6	322	C	N3-C2-O2	-9.26	115.42	121.90
7	L5	4130	C	N3-C2-O2	-9.25	115.42	121.90
85	S2	1782	G	N3-C4-N9	-9.21	120.47	126.00
7	L6	753	C	C2-N1-C1'	9.20	128.92	118.80
7	L6	4080	C	C6-N1-C2	-9.17	116.63	120.30
68	RR	24	LEU	CA-CB-CG	9.15	136.35	115.30
7	L6	1478	C	N3-C2-O2	-9.13	115.51	121.90
7	L6	489	C	C2-N1-C1'	9.12	128.83	118.80
85	S3	1314	U	C2-N1-C1'	9.10	128.62	117.70
7	L5	5040	U	N3-C4-O4	-9.07	113.05	119.40
3	D5	33	U	N1-C2-O2	9.06	129.14	122.80
7	L6	4229	U	N3-C2-O2	-9.05	115.87	122.20
85	S2	1015	U	C2-N3-C4	-9.05	121.57	127.00
85	S3	1779	G	C6-N1-C2	-9.04	119.67	125.10
7	L5	255	C	N3-C2-O2	-9.03	115.58	121.90
7	L6	2019	C	N1-C2-O2	9.03	124.32	118.90
7	L6	2653	C	C6-N1-C2	-9.02	116.69	120.30
85	S3	216	C	C2-N1-C1'	9.01	128.71	118.80
7	L5	4229	U	N3-C2-O2	-9.01	115.89	122.20
85	S3	216	C	C5-C4-N4	8.98	126.49	120.20
85	S3	216	C	N1-C2-O2	8.98	124.29	118.90
85	S3	216	C	N3-C4-C5	-8.96	118.32	121.90
85	S2	926	A	N1-C2-N3	-8.95	124.82	129.30
7	L5	2409	U	N3-C2-O2	-8.94	115.94	122.20
7	L6	654	C	C2-N1-C1'	8.93	128.63	118.80
7	L5	4773	C	N1-C2-O2	8.93	124.26	118.90
85	S2	1019	C	N1-C2-O2	8.92	124.25	118.90
7	L6	1241	C	C2-N1-C1'	8.92	128.61	118.80
7	L6	1663	C	N3-C2-O2	-8.88	115.68	121.90
85	S2	1591	C	C2-N1-C1'	8.86	128.54	118.80
85	S3	1692	U	N3-C2-O2	-8.85	116.01	122.20
7	L5	77	U	N3-C2-O2	-8.84	116.02	122.20
85	S3	1717	C	C6-N1-C2	-8.83	116.77	120.30
85	S2	647	U	N3-C2-O2	-8.83	116.02	122.20
85	S2	803	C	N1-C2-O2	8.82	124.19	118.90
85	S2	1453	C	C6-N1-C1'	-8.82	110.22	120.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	686	A	C6-N1-C2	8.82	123.89	118.60
85	S2	1453	C	N3-C2-O2	-8.81	115.73	121.90
85	S2	750	C	C6-N1-C2	-8.79	116.78	120.30
6	L1	128	C	C5-C6-N1	8.78	125.39	121.00
3	D5	33	U	C2-N1-C1'	8.76	128.21	117.70
7	L6	656	C	N1-C2-O2	8.75	124.15	118.90
7	L6	2515	G	N3-C2-N2	-8.74	113.78	119.90
85	S3	1314	U	N1-C2-O2	8.73	128.91	122.80
7	L6	1430	C	C6-N1-C2	-8.72	116.81	120.30
85	S3	194	C	N3-C2-O2	-8.70	115.81	121.90
85	S3	688	U	N3-C2-O2	-8.69	116.11	122.20
7	L5	985	C	N3-C2-O2	-8.68	115.82	121.90
7	L6	1477	C	N3-C2-O2	-8.68	115.83	121.90
7	L5	2409	U	N1-C2-O2	8.66	128.86	122.80
85	S2	1147	C	C2-N1-C1'	8.64	128.30	118.80
85	S2	592	C	N3-C2-O2	-8.63	115.86	121.90
7	L6	513	U	N3-C2-O2	-8.62	116.17	122.20
85	S3	1389	C	C2-N1-C1'	8.62	128.28	118.80
85	S3	1319	U	N3-C2-O2	-8.62	116.17	122.20
7	L5	472	C	N1-C2-O2	8.58	124.05	118.90
7	L5	255	C	C2-N1-C1'	8.57	128.23	118.80
7	L5	456	C	O4'-C1'-N1	8.56	115.05	108.20
7	L5	2900	U	N3-C2-O2	-8.53	116.23	122.20
85	S2	647	U	C2-N1-C1'	8.53	127.94	117.70
7	L5	129	C	N3-C2-O2	-8.50	115.95	121.90
85	S2	1147	C	N3-C2-O2	-8.49	115.95	121.90
7	L5	1769	G	N3-C4-N9	8.49	131.10	126.00
3	D5	51	U	N1-C2-O2	8.48	128.74	122.80
7	L6	3594	C	C6-N1-C2	-8.47	116.91	120.30
7	L6	2409	U	N1-C2-O2	8.47	128.73	122.80
85	S2	1624	U	C2-N1-C1'	8.45	127.84	117.70
7	L6	2682	G	C5-C6-O6	8.44	133.66	128.60
2	A5	51	U	C2-N1-C1'	8.43	127.82	117.70
85	S3	1314	U	N3-C2-O2	-8.42	116.31	122.20
7	L6	1096	C	N1-C2-O2	8.41	123.94	118.90
85	S2	1396	A	O5'-P-OP1	8.40	120.78	110.70
3	D5	2	C	N3-C2-O2	-8.38	116.03	121.90
7	L5	1763	C	N1-C2-O2	8.36	123.92	118.90
7	L5	753	C	C2-N1-C1'	8.36	127.99	118.80
7	L5	2627	C	N1-C2-O2	8.36	123.91	118.90
85	S2	1130	G	N3-C4-N9	-8.35	120.99	126.00
85	S3	647	U	N3-C2-O2	-8.35	116.35	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	4133	C	N1-C2-O2	8.34	123.91	118.90
85	S2	536	A	C2-N3-C4	8.34	114.77	110.60
7	L5	1924	C	C6-N1-C2	-8.34	116.97	120.30
7	L6	1762	C	N3-C2-O2	-8.33	116.07	121.90
7	L5	513	U	N1-C2-O2	8.32	128.62	122.80
85	S2	803	C	C6-N1-C2	-8.32	116.97	120.30
85	S2	356	C	N3-C2-O2	-8.31	116.08	121.90
85	S3	1520	G	C4-N9-C1'	8.30	137.29	126.50
85	S2	1019	C	C2-N1-C1'	8.30	127.93	118.80
85	S2	592	C	C2-N1-C1'	8.29	127.92	118.80
85	S3	1717	C	N3-C2-O2	-8.29	116.10	121.90
7	L5	925	C	C6-N1-C2	-8.26	116.99	120.30
85	S2	1261	C	N1-C2-O2	8.26	123.86	118.90
7	L5	5040	U	N3-C2-O2	-8.25	116.42	122.20
85	S3	885	U	C2-N1-C1'	8.25	127.60	117.70
85	S3	926	A	N1-C2-N3	-8.25	125.17	129.30
85	S2	647	U	N1-C2-O2	8.24	128.57	122.80
7	L5	4138	C	N3-C2-O2	-8.24	116.13	121.90
7	L6	1096	C	N3-C2-O2	-8.23	116.14	121.90
7	L5	2627	C	C2-N1-C1'	8.23	127.86	118.80
7	L6	1249	C	N3-C2-O2	-8.23	116.14	121.90
7	L6	2710	C	C2-N1-C1'	8.23	127.85	118.80
7	L5	459	C	N3-C2-O2	-8.22	116.15	121.90
7	L5	1249	C	C6-N1-C2	-8.22	117.01	120.30
7	L6	985	C	C6-N1-C2	-8.22	117.01	120.30
85	S2	194	C	C6-N1-C2	-8.20	117.02	120.30
7	L5	4601	U	N1-C2-O2	8.19	128.53	122.80
7	L6	1239	C	N3-C2-O2	-8.19	116.17	121.90
7	L6	4360	U	N3-C2-O2	-8.19	116.47	122.20
7	L5	963	G	N3-C4-N9	8.18	130.91	126.00
85	S2	1389	C	C2-N1-C1'	8.18	127.80	118.80
7	L5	4991	U	C2-N1-C1'	8.17	127.50	117.70
7	L6	4601	U	C5-C6-N1	8.17	126.78	122.70
7	L5	1769	G	N3-C4-C5	-8.16	124.52	128.60
85	S3	1817	G	N3-C4-N9	-8.16	121.11	126.00
7	L5	181	C	N3-C2-O2	-8.15	116.19	121.90
7	L5	2410	C	C2-N1-C1'	8.15	127.77	118.80
85	S2	745	C	N1-C2-O2	8.14	123.78	118.90
7	L6	1245	C	N1-C2-O2	8.13	123.78	118.90
85	S2	804	U	N3-C2-O2	-8.13	116.51	122.20
3	D5	2	C	C6-N1-C1'	-8.13	111.05	120.80
7	L5	1241	C	N1-C2-O2	8.12	123.77	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	2409	U	N3-C2-O2	-8.11	116.52	122.20
6	L8	128	C	C5-C6-N1	8.11	125.06	121.00
85	S3	1409	A	N1-C6-N6	-8.11	113.73	118.60
7	L5	2410	C	C5-C6-N1	8.10	125.05	121.00
7	L6	987	C	C6-N1-C2	-8.10	117.06	120.30
7	L5	4601	U	C2-N1-C1'	8.09	127.41	117.70
85	S3	403	G	C5-C6-O6	8.09	133.45	128.60
85	S3	901	G	N1-C6-O6	8.08	124.75	119.90
6	L1	128	C	N1-C2-O2	8.07	123.75	118.90
7	L6	2710	C	N3-C2-O2	-8.06	116.26	121.90
7	L6	1969	G	N1-C2-N3	8.06	128.73	123.90
85	S2	1125	C	N3-C2-O2	-8.06	116.26	121.90
7	L5	181	C	C2-N1-C1'	8.05	127.66	118.80
7	L5	1703	C	C2-N1-C1'	8.05	127.65	118.80
7	L6	1663	C	C6-N1-C2	-8.05	117.08	120.30
7	L6	1245	C	C5-C6-N1	8.05	125.02	121.00
85	S2	314	U	N3-C2-O2	-8.05	116.57	122.20
85	S3	1407	U	C5-C6-N1	8.03	126.72	122.70
7	L6	2410	C	C2-N1-C1'	8.03	127.63	118.80
7	L5	4945	G	C5-C6-O6	-8.02	123.79	128.60
85	S3	1624	U	N3-C2-O2	-8.02	116.59	122.20
7	L5	3771	C	C2-N1-C1'	8.02	127.62	118.80
85	S2	1578	U	N3-C2-O2	-8.01	116.60	122.20
8	L7	30	C	C2-N1-C1'	7.98	127.58	118.80
7	L5	2410	C	C6-N1-C2	-7.98	117.11	120.30
85	S3	1779	G	C5-C6-N1	7.97	115.49	111.50
85	S3	179	C	N1-C2-O2	7.97	123.68	118.90
7	L5	1769	G	C4-N9-C1'	7.96	136.85	126.50
7	L6	3636	C	N3-C2-O2	-7.95	116.34	121.90
85	S2	314	U	N1-C2-O2	7.95	128.36	122.80
7	L5	2487	G	N3-C4-N9	-7.93	121.24	126.00
85	S3	310	C	C4-C5-C6	-7.93	113.44	117.40
7	L5	233	U	N3-C2-O2	-7.92	116.66	122.20
85	S2	884	C	C5-C6-N1	7.92	124.96	121.00
85	S2	1098	C	C2-N1-C1'	7.92	127.51	118.80
85	S3	216	C	N3-C2-O2	-7.92	116.36	121.90
7	L6	962	C	N3-C2-O2	-7.91	116.36	121.90
7	L6	1772	C	N3-C4-N4	-7.91	112.46	118.00
7	L5	985	C	C6-N1-C2	-7.91	117.14	120.30
85	S2	1261	C	N3-C2-O2	-7.89	116.38	121.90
7	L6	80	C	N3-C2-O2	-7.89	116.38	121.90
85	S3	1453	C	C5-C6-N1	7.89	124.95	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	1449	G	O4'-C1'-N9	7.89	114.51	108.20
7	L5	1822	U	N1-C2-O2	7.88	128.31	122.80
7	L5	1439	C	C2-N1-C1'	7.87	127.46	118.80
6	L8	64	U	N3-C2-O2	-7.87	116.69	122.20
7	L5	489	C	C2-N1-C1'	7.87	127.45	118.80
7	L5	5040	U	N1-C2-O2	7.87	128.31	122.80
6	L1	64	U	N3-C2-O2	-7.86	116.70	122.20
7	L5	516	C	C6-N1-C2	-7.86	117.16	120.30
85	S3	647	U	C2-N1-C1'	7.84	127.11	117.70
7	L5	2820	C	N1-C2-O2	7.83	123.60	118.90
7	L6	3598	C	C6-N1-C2	-7.82	117.17	120.30
7	L5	1082	C	O4'-C1'-N1	7.82	114.45	108.20
7	L6	1178	G	C4-N9-C1'	7.81	136.65	126.50
85	S3	1147	C	N3-C2-O2	-7.81	116.43	121.90
7	L6	4138	C	C6-N1-C2	-7.81	117.18	120.30
85	S3	1278	A	C5-C6-N6	7.80	129.94	123.70
2	A5	51	U	O4'-C1'-N1	7.79	114.43	108.20
3	D5	55	U	C2-N1-C1'	7.79	127.05	117.70
85	S2	1272	C	C2-N1-C1'	7.79	127.37	118.80
7	L5	1243	C	N3-C2-O2	-7.79	116.45	121.90
7	L6	3757	G	O4'-C1'-N9	7.79	114.43	108.20
7	L5	1963	C	N3-C2-O2	-7.77	116.46	121.90
85	S2	926	A	N1-C6-N6	-7.77	113.94	118.60
7	L6	962	C	C2-N1-C1'	7.77	127.34	118.80
85	S3	1118	C	N1-C2-O2	7.76	123.55	118.90
7	L6	4167	G	N3-C4-N9	-7.75	121.35	126.00
85	S2	1578	U	N1-C2-O2	7.75	128.23	122.80
7	L5	2900	U	N1-C2-O2	7.75	128.22	122.80
7	L6	4864	U	N1-C2-O2	7.74	128.22	122.80
85	S3	885	U	N3-C2-O2	-7.73	116.79	122.20
7	L5	1249	C	N3-C2-O2	-7.71	116.50	121.90
7	L5	4758	U	N1-C2-O2	7.71	128.20	122.80
7	L5	3757	G	O4'-C1'-N9	7.71	114.36	108.20
85	S2	1277	C	C2-N1-C1'	7.71	127.28	118.80
7	L6	1969	G	N1-C2-N2	-7.70	109.27	116.20
7	L5	925	C	N1-C2-O2	7.70	123.52	118.90
7	L5	4689	U	C2-N1-C1'	7.70	126.94	117.70
7	L6	4709	U	C2-N1-C1'	7.70	126.94	117.70
85	S3	195	C	N1-C2-O2	7.69	123.51	118.90
7	L5	4758	U	C2-N1-C1'	7.68	126.92	117.70
7	L6	977	C	C2-N1-C1'	7.68	127.25	118.80
7	L6	2446	C	C6-N1-C2	-7.68	117.23	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	4758	U	N3-C2-O2	-7.67	116.83	122.20
85	S3	178	C	N1-C2-O2	7.67	123.50	118.90
85	S2	1147	C	N1-C2-O2	7.66	123.50	118.90
7	L6	3696	C	C6-N1-C2	-7.66	117.24	120.30
85	S2	1261	C	C2-N1-C1'	7.65	127.22	118.80
15	MG	166	LEU	CA-CB-CG	7.65	132.89	115.30
7	L6	3778	U	N1-C2-O2	7.64	128.15	122.80
3	D5	13	C	C5-C6-N1	7.63	124.82	121.00
7	L6	123	C	N1-C2-O2	7.63	123.48	118.90
85	S3	309	G	N1-C6-O6	-7.62	115.33	119.90
7	L5	4133	C	N3-C2-O2	-7.62	116.56	121.90
3	D5	55	U	N3-C2-O2	-7.62	116.86	122.20
7	L6	1430	C	N3-C2-O2	-7.62	116.56	121.90
7	L6	1245	C	C2-N1-C1'	7.62	127.18	118.80
6	L1	83	C	C5-C6-N1	7.62	124.81	121.00
7	L5	4601	U	N3-C2-O2	-7.62	116.87	122.20
7	L5	4958	C	N3-C2-O2	-7.62	116.57	121.90
7	L5	4773	C	N3-C2-O2	-7.61	116.57	121.90
7	L5	513	U	N3-C2-O2	-7.61	116.88	122.20
85	S3	1218	C	C5-C6-N1	7.60	124.80	121.00
85	S3	1664	A	OP1-P-OP2	-7.58	108.23	119.60
85	S2	958	G	C4-N9-C1'	7.58	136.35	126.50
85	S3	647	U	N1-C2-O2	7.57	128.10	122.80
7	L5	1439	C	N3-C2-O2	-7.57	116.60	121.90
7	L5	4682	U	N3-C2-O2	-7.56	116.91	122.20
7	L6	925	C	C5-C6-N1	7.56	124.78	121.00
7	L5	1079	C	N3-C2-O2	-7.56	116.61	121.90
85	S3	728	C	C5-C6-N1	7.55	124.78	121.00
85	S2	958	G	O4'-C1'-N9	7.55	114.24	108.20
85	S2	1019	C	C6-N1-C2	-7.54	117.28	120.30
85	S2	1125	C	C6-N1-C1'	-7.54	111.75	120.80
7	L6	925	C	C6-N1-C2	-7.54	117.28	120.30
85	S2	866	U	N3-C2-O2	-7.53	116.93	122.20
85	S3	1520	G	N3-C4-N9	7.53	130.52	126.00
7	L6	1245	C	C6-N1-C2	-7.53	117.29	120.30
7	L6	1241	C	N3-C2-O2	-7.51	116.64	121.90
7	L5	4958	C	N1-C2-O2	7.51	123.41	118.90
85	S3	1389	C	C6-N1-C2	-7.51	117.30	120.30
7	L6	4928	C	C6-N1-C2	-7.51	117.30	120.30
85	S3	1139	C	N1-C2-O2	7.50	123.40	118.90
7	L5	2892	C	C2-N1-C1'	7.50	127.05	118.80
85	S3	1520	G	C8-N9-C1'	-7.50	117.25	127.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	1447	C	N3-C2-O2	-7.50	116.65	121.90
7	L5	1245	C	C2-N1-C1'	7.49	127.04	118.80
7	L5	4771	C	C5-C6-N1	7.49	124.75	121.00
7	L6	3594	C	C6-N1-C1'	-7.49	111.81	120.80
7	L6	1243	C	C2-N1-C1'	7.48	127.03	118.80
85	S3	216	C	C2-N3-C4	7.47	123.64	119.90
7	L5	255	C	C6-N1-C2	-7.47	117.31	120.30
85	S3	310	C	C5-C6-N1	7.47	124.73	121.00
85	S2	494	C	N1-C2-O2	7.47	123.38	118.90
3	D5	62	C	N3-C2-O2	-7.46	116.68	121.90
85	S2	1112	U	N1-C2-O2	7.46	128.02	122.80
85	S2	1588	A	O4'-C1'-N9	7.46	114.17	108.20
7	L6	485	C	C2-N1-C1'	7.46	127.00	118.80
8	L9	30	C	N1-C2-O2	7.46	123.38	118.90
7	L6	656	C	N3-C2-O2	-7.46	116.68	121.90
7	L6	686	A	C4-C5-C6	-7.46	113.27	117.00
85	S3	1453	C	N3-C2-O2	-7.46	116.68	121.90
85	S3	901	G	C6-C5-N7	-7.45	125.93	130.40
7	L6	656	C	C2-N1-C1'	7.45	126.99	118.80
7	L6	2900	U	N1-C2-O2	7.45	128.01	122.80
7	L5	453	G	N3-C4-C5	-7.45	124.88	128.60
85	S2	1314	U	C2-N1-C1'	7.45	126.63	117.70
85	S2	119	U	N3-C2-O2	-7.44	116.99	122.20
85	S2	1219	C	N1-C2-O2	7.44	123.37	118.90
85	S2	1591	C	C6-N1-C2	-7.44	117.32	120.30
7	L5	233	U	N1-C2-O2	7.44	128.01	122.80
85	S3	1624	U	N1-C2-O2	7.44	128.00	122.80
7	L6	209	U	C2-N1-C1'	7.42	126.60	117.70
85	S2	1649	U	N1-C2-O2	7.41	127.99	122.80
85	S3	1417	C	N1-C2-O2	7.41	123.35	118.90
85	S2	591	U	N3-C2-O2	-7.41	117.01	122.20
85	S3	688	U	P-O3'-C3'	7.41	128.59	119.70
7	L6	3909	C	N3-C2-O2	-7.40	116.72	121.90
85	S3	730	C	C5-C6-N1	7.40	124.70	121.00
85	S2	1624	U	N3-C2-O2	-7.40	117.02	122.20
85	S3	194	C	C6-N1-C2	-7.39	117.34	120.30
85	S3	1416	C	N3-C2-O2	-7.38	116.73	121.90
85	S3	492	C	N3-C2-O2	-7.38	116.73	121.90
7	L5	675	C	C2-N1-C1'	7.38	126.92	118.80
7	L6	112	C	N3-C2-O2	-7.38	116.74	121.90
7	L5	963	G	C4-N9-C1'	7.37	136.08	126.50
7	L6	4601	U	C2-N1-C1'	7.37	126.54	117.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	1243	C	C2-N1-C1'	7.37	126.91	118.80
7	L6	77	U	N3-C2-O2	-7.36	117.05	122.20
7	L6	2900	U	N3-C2-O2	-7.36	117.05	122.20
6	L1	128	C	C2-N1-C1'	7.35	126.89	118.80
7	L6	3820	G	C5-C6-O6	7.35	133.01	128.60
85	S2	1090	C	C6-N1-C2	-7.35	117.36	120.30
7	L5	1703	C	C6-N1-C2	-7.35	117.36	120.30
7	L6	4758	U	C2-N1-C1'	7.34	126.50	117.70
7	L5	1703	C	N1-C2-O2	7.34	123.30	118.90
85	S2	501	C	C6-N1-C2	-7.33	117.37	120.30
85	S2	194	C	N3-C2-O2	-7.33	116.77	121.90
7	L6	3778	U	N3-C2-O2	-7.33	117.07	122.20
85	S3	1139	C	C6-N1-C1'	-7.32	112.01	120.80
7	L5	4314	C	N1-C2-O2	7.32	123.29	118.90
7	L5	4945	G	C4-C5-N7	7.32	113.73	110.80
85	S2	1057	C	C2-N1-C1'	7.31	126.84	118.80
7	L6	1344	C	C6-N1-C2	-7.31	117.38	120.30
85	S2	1120	U	N1-C2-O2	7.31	127.92	122.80
7	L6	4229	U	N1-C2-O2	7.30	127.91	122.80
7	L6	513	U	C5-C6-N1	7.30	126.35	122.70
85	S3	1450	G	O4'-C1'-N9	7.30	114.04	108.20
7	L6	3820	G	N3-C4-N9	-7.29	121.63	126.00
85	S2	804	U	C2-N1-C1'	7.28	126.44	117.70
85	S3	1482	C	N1-C2-O2	7.28	123.27	118.90
7	L6	753	C	C6-N1-C2	-7.28	117.39	120.30
7	L6	4918	C	C2-N1-C1'	7.27	126.80	118.80
85	S2	1683	C	N1-C2-O2	7.27	123.26	118.90
85	S3	1265	A	C2-N3-C4	7.27	114.23	110.60
7	L5	1241	C	C2-N1-C1'	7.26	126.79	118.80
85	S3	901	G	C5-C6-O6	-7.26	124.24	128.60
7	L6	3598	C	C5-C6-N1	7.25	124.63	121.00
7	L6	3636	C	N1-C2-O2	7.25	123.25	118.90
85	S2	856	C	C2-N1-C1'	7.25	126.77	118.80
3	D5	70	G	N3-C4-N9	7.24	130.35	126.00
7	L5	1755	C	C5-C6-N1	7.24	124.62	121.00
85	S2	823	U	C2-N1-C1'	7.23	126.38	117.70
85	S2	1520	G	C4-N9-C1'	7.23	135.90	126.50
85	S3	585	C	N1-C2-O2	7.23	123.24	118.90
85	S3	215	G	C6-N1-C2	-7.23	120.76	125.10
7	L6	4594	U	N3-C2-O2	-7.22	117.14	122.20
7	L5	513	U	C2-N1-C1'	7.22	126.37	117.70
7	L5	1924	C	C5-C6-N1	7.22	124.61	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	4080	C	N3-C2-O2	-7.22	116.84	121.90
7	L5	209	U	C2-N1-C1'	7.21	126.35	117.70
85	S2	178	C	N1-C2-O2	7.21	123.23	118.90
7	L6	519	C	N1-C2-O2	7.21	123.22	118.90
7	L6	2627	C	C2-N1-C1'	7.20	126.72	118.80
85	S3	926	A	C5-C6-N6	7.20	129.46	123.70
85	S3	1389	C	N1-C2-O2	7.20	123.22	118.90
85	S2	302	A	C6-N1-C2	-7.20	114.28	118.60
7	L6	1082	C	O4'-C1'-N1	7.19	113.95	108.20
39	Mf	105	LEU	CA-CB-CG	7.19	131.84	115.30
7	L5	2351	C	C2-N1-C1'	7.19	126.71	118.80
7	L6	4516	G	C5-C6-O6	7.19	132.91	128.60
85	S2	823	U	N3-C2-O2	-7.19	117.17	122.20
5	CC	55	C	N1-C2-O2	7.18	123.21	118.90
7	L6	654	C	N1-C2-O2	7.18	123.21	118.90
7	L6	2682	G	N3-C4-N9	-7.18	121.69	126.00
7	L6	488	G	N7-C8-N9	7.17	116.69	113.10
85	S2	856	C	C6-N1-C2	-7.17	117.43	120.30
7	L5	472	C	N3-C2-O2	-7.17	116.88	121.90
7	L6	1488	G	N3-C4-N9	-7.17	121.70	126.00
7	L5	2710	C	C6-N1-C1'	-7.16	112.21	120.80
7	L5	4612	C	N1-C2-O2	7.16	123.20	118.90
7	L6	4758	U	N1-C2-O2	7.16	127.81	122.80
85	S2	591	U	N1-C2-O2	7.15	127.81	122.80
7	L5	1671	U	N3-C2-O2	-7.14	117.20	122.20
7	L6	1822	U	C2-N1-C1'	7.14	126.27	117.70
7	L6	4774	C	N3-C2-O2	-7.14	116.90	121.90
7	L6	1344	C	C2-N1-C1'	7.14	126.65	118.80
3	B4	18	G	C4-N9-C1'	7.13	135.77	126.50
7	L5	496	G	N3-C4-N9	-7.13	121.72	126.00
3	D5	2	C	C5-C6-N1	7.13	124.56	121.00
7	L6	26	C	N1-C2-O2	7.13	123.18	118.90
85	S2	1595	U	C2-N1-C1'	7.12	126.25	117.70
7	L5	1822	U	N3-C2-O2	-7.12	117.21	122.20
7	L6	2653	C	C5-C4-N4	7.11	125.17	120.20
85	S2	866	U	C2-N1-C1'	7.10	126.22	117.70
85	S2	1090	C	C2-N1-C1'	7.09	126.60	118.80
85	S2	1558	C	N3-C2-O2	-7.09	116.94	121.90
3	D5	55	U	N1-C2-O2	7.09	127.76	122.80
7	L6	1429	C	N1-C2-O2	7.09	123.15	118.90
7	L5	4613	C	N1-C2-O2	7.08	123.15	118.90
7	L5	516	C	N1-C2-O2	7.08	123.15	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	4996	C	N1-C2-O2	7.08	123.15	118.90
7	L5	2487	G	C8-N9-C1'	7.08	136.20	127.00
7	L5	925	C	N3-C2-O2	-7.08	116.95	121.90
7	L5	2487	G	C4-N9-C1'	-7.07	117.31	126.50
85	S3	1272	C	C2-N1-C1'	7.07	126.58	118.80
7	L6	4714	C	N1-C2-O2	7.07	123.14	118.90
7	L5	1402	C	C2-N1-C1'	7.07	126.58	118.80
85	S3	958	G	O4'-C1'-N9	7.06	113.85	108.20
7	L6	3598	C	N1-C2-O2	7.05	123.13	118.90
85	S3	1453	C	C6-N1-C1'	-7.05	112.33	120.80
7	L6	2819	U	N3-C2-O2	-7.04	117.27	122.20
85	S2	314	U	C2-N1-C1'	7.04	126.15	117.70
7	L6	485	C	N1-C2-O2	7.04	123.12	118.90
7	L5	4132	C	N1-C2-O2	7.03	123.12	118.90
7	L6	112	C	C6-N1-C2	-7.03	117.49	120.30
6	L8	62	A	N3-C4-N9	-7.03	121.78	127.40
7	L5	963	G	N3-C4-C5	-7.03	125.08	128.60
7	L6	2867	C	C2-N1-C1'	7.03	126.53	118.80
7	L6	3909	C	N1-C2-O2	7.03	123.12	118.90
85	S2	1275	G	C4-N9-C1'	7.03	135.64	126.50
8	L7	39	C	N1-C2-O2	7.02	123.11	118.90
85	S2	1520	G	C8-N9-C1'	-7.02	117.87	127.00
85	S3	309	G	C5-C6-N1	7.02	115.01	111.50
7	L5	753	C	C5-C6-N1	7.02	124.51	121.00
7	L5	3598	C	C2-N1-C1'	7.02	126.52	118.80
85	S2	926	A	C6-N1-C2	7.02	122.81	118.60
7	L6	337	U	N3-C2-O2	-7.02	117.29	122.20
7	L5	689	U	N3-C2-O2	-7.01	117.29	122.20
7	L5	3930	U	N1-C2-O2	7.01	127.71	122.80
7	L6	1762	C	C6-N1-C1'	-7.01	112.38	120.80
85	S2	877	C	N1-C2-O2	7.01	123.11	118.90
85	S2	1130	G	N3-C4-C5	7.01	132.10	128.60
85	S3	482	G	OP1-P-OP2	-7.01	109.09	119.60
7	L6	468	U	C2-N3-C4	7.01	131.20	127.00
85	S2	119	U	N1-C2-O2	7.01	127.70	122.80
7	L6	1735	U	N1-C2-O2	7.00	127.70	122.80
22	MO	156	LEU	CA-CB-CG	7.00	131.40	115.30
7	L6	2653	C	N1-C2-N3	7.00	124.10	119.20
7	L6	985	C	C2-N1-C1'	7.00	126.50	118.80
7	L5	4921	C	C2-N1-C1'	6.99	126.49	118.80
85	S3	206	G	C5-C6-O6	6.99	132.79	128.60
7	L6	4137	C	C6-N1-C2	-6.99	117.50	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	1314	U	N3-C2-O2	-6.98	117.31	122.20
7	L5	672	C	C2-N1-C1'	6.97	126.47	118.80
7	L5	1243	C	C6-N1-C2	-6.97	117.51	120.30
85	S2	1015	U	N1-C2-N3	6.97	119.08	114.90
7	L5	4601	U	C5-C6-N1	6.96	126.18	122.70
85	S2	1120	U	C2-N1-C1'	6.96	126.06	117.70
85	S2	1520	G	N3-C4-N9	6.96	130.17	126.00
3	D5	67	C	C6-N1-C2	-6.95	117.52	120.30
85	S2	193	C	N1-C2-O2	6.95	123.07	118.90
7	L5	1703	C	N3-C2-O2	-6.95	117.04	121.90
14	MF	114	LEU	CA-CB-CG	6.95	131.27	115.30
85	S2	1415	C	C2-N1-C1'	6.94	126.44	118.80
7	L6	1239	C	N1-C2-N3	6.94	124.06	119.20
85	S2	219	U	C6-N1-C1'	-6.94	111.48	121.20
7	L5	519	C	N1-C2-O2	6.94	123.06	118.90
7	L6	3909	C	C2-N1-C1'	6.94	126.44	118.80
7	L5	1821	G	C4-N9-C1'	6.94	135.52	126.50
7	L5	3772	U	N3-C2-O2	-6.93	117.34	122.20
85	S2	1022	U	C2-N1-C1'	6.93	126.02	117.70
7	L6	2627	C	N1-C2-O2	6.93	123.06	118.90
85	S3	1218	C	C6-N1-C2	-6.93	117.53	120.30
7	L6	4138	C	C5-C6-N1	6.93	124.47	121.00
85	S3	1683	C	N1-C2-O2	6.93	123.06	118.90
7	L5	453	G	C4-N9-C1'	6.93	135.50	126.50
7	L5	925	C	C5-C6-N1	6.93	124.46	121.00
7	L5	1792	U	N3-C2-O2	-6.92	117.35	122.20
85	S2	1018	U	C2-N1-C1'	6.92	126.01	117.70
85	S2	1314	U	N1-C2-O2	6.92	127.64	122.80
3	B4	2	C	C2-N1-C1'	6.92	126.41	118.80
85	S3	958	G	C4-N9-C1'	6.92	135.49	126.50
7	L6	686	A	C5-C6-N6	6.92	129.23	123.70
7	L5	4945	G	N3-C4-N9	6.91	130.15	126.00
7	L6	1178	G	N3-C4-C5	-6.91	125.14	128.60
8	L9	102	U	N1-C2-O2	6.91	127.64	122.80
7	L5	2494	U	N1-C2-O2	6.90	127.63	122.80
85	S3	950	C	C2-N1-C1'	6.89	126.38	118.80
7	L5	459	C	C6-N1-C2	-6.89	117.54	120.30
3	B4	1	G	OP1-P-OP2	-6.89	109.27	119.60
7	L5	2304	U	N1-C2-O2	6.88	127.62	122.80
85	S2	548	C	N1-C2-O2	6.88	123.03	118.90
85	S3	311	C	N1-C2-O2	6.88	123.03	118.90
7	L6	4996	C	N3-C2-O2	-6.88	117.09	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	1893	C	C2-N1-C1'	6.87	126.36	118.80
7	L6	472	C	N1-C2-O2	6.87	123.02	118.90
85	S3	801	U	N3-C2-O2	-6.87	117.39	122.20
7	L6	80	C	C6-N1-C2	-6.87	117.55	120.30
7	L6	195	C	N1-C2-O2	6.87	123.02	118.90
7	L6	1093	C	C5-C6-N1	6.86	124.43	121.00
7	L5	513	U	C5-C6-N1	6.86	126.13	122.70
7	L5	3892	U	N3-C2-O2	-6.86	117.40	122.20
7	L6	3778	U	C2-N1-C1'	6.86	125.93	117.70
7	L6	4594	U	N1-C2-O2	6.86	127.60	122.80
7	L6	4682	U	N1-C2-O2	6.86	127.60	122.80
85	S3	596	U	C5-C6-N1	6.86	126.13	122.70
7	L6	1781	U	N3-C2-O2	-6.85	117.40	122.20
7	L5	516	C	C2-N1-C1'	6.85	126.34	118.80
7	L6	2528	G	C4-N9-C1'	6.85	135.41	126.50
7	L5	963	G	C8-N9-C1'	-6.84	118.11	127.00
7	L5	500	G	C5-C6-N1	6.83	114.92	111.50
6	L8	51	U	N3-C2-O2	-6.83	117.42	122.20
85	S3	130	G	C4-N9-C1'	6.83	135.38	126.50
85	S3	1389	C	N3-C2-O2	-6.83	117.12	121.90
85	S3	1060	A	O4'-C1'-N9	6.83	113.66	108.20
85	S2	1109	C	C6-N1-C2	-6.83	117.57	120.30
7	L5	2494	U	N3-C2-O2	-6.82	117.42	122.20
85	S3	1854	U	N3-C2-O2	-6.82	117.43	122.20
7	L5	282	C	N1-C2-O2	6.82	122.99	118.90
7	L6	4682	U	N3-C2-O2	-6.82	117.43	122.20
7	L6	2760	G	P-O3'-C3'	6.81	127.88	119.70
7	L5	4887	C	N1-C2-O2	6.81	122.99	118.90
7	L6	123	C	C2-N1-C1'	6.81	126.29	118.80
7	L6	1340	C	C5-C6-N1	6.80	124.40	121.00
85	S3	1755	C	C2-N1-C1'	6.80	126.28	118.80
7	L5	4132	C	C2-N1-C1'	6.80	126.28	118.80
7	L6	4167	G	N9-C4-C5	6.80	108.12	105.40
5	CC	35	U	P-O3'-C3'	6.79	127.85	119.70
7	L6	2446	C	N3-C2-O2	-6.79	117.14	121.90
85	S2	1090	C	C5-C6-N1	6.79	124.40	121.00
7	L5	4939	C	N1-C2-O2	6.79	122.97	118.90
8	L7	30	C	C6-N1-C1'	-6.79	112.65	120.80
7	L5	2351	C	C5-C6-N1	6.79	124.39	121.00
7	L6	2416	G	OP2-P-O3'	6.79	120.13	105.20
7	L6	3909	C	C6-N1-C2	-6.79	117.58	120.30
85	S3	1396	A	O5'-P-OP1	6.79	118.84	110.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	1243	C	N1-C2-O2	6.78	122.97	118.90
7	L5	1769	G	C8-N9-C1'	-6.78	118.19	127.00
8	L9	28	C	C5-C6-N1	6.78	124.39	121.00
7	L5	3930	U	N3-C2-O2	-6.78	117.45	122.20
85	S3	1752	C	C5-C6-N1	6.78	124.39	121.00
7	L6	2409	U	C6-N1-C1'	-6.78	111.72	121.20
85	S3	1409	A	N1-C2-N3	-6.78	125.91	129.30
7	L6	655	C	N3-C2-O2	-6.77	117.16	121.90
7	L6	453	G	C4-N9-C1'	6.76	135.29	126.50
8	L7	30	C	N1-C2-O2	6.76	122.96	118.90
85	S3	532	C	P-O3'-C3'	6.76	127.82	119.70
85	S3	537	C	C6-N1-C2	-6.76	117.59	120.30
7	L5	673	C	C2-N1-C1'	6.76	126.24	118.80
64	RN	11	LEU	CA-CB-CG	6.76	130.85	115.30
85	S3	323	C	N1-C2-O2	6.76	122.96	118.90
7	L5	753	C	C6-N1-C2	-6.76	117.60	120.30
7	L5	906	C	N3-C2-O2	-6.76	117.17	121.90
7	L5	4709	U	N1-C2-O2	6.76	127.53	122.80
76	SZ	97	ILE	CG1-CB-CG2	-6.75	96.55	111.40
7	L6	4682	U	C2-N1-C1'	6.75	125.80	117.70
7	L5	3598	C	C5-C6-N1	6.75	124.37	121.00
85	S2	501	C	C6-N1-C1'	-6.75	112.70	120.80
3	D5	62	C	C2-N1-C1'	6.75	126.22	118.80
76	RZ	47	LEU	CA-CB-CG	6.75	130.82	115.30
85	S2	884	C	C6-N1-C2	-6.75	117.60	120.30
7	L5	453	G	N3-C4-N9	6.73	130.04	126.00
85	S3	309	G	N3-C2-N2	-6.73	115.19	119.90
7	L6	4516	G	N3-C4-N9	-6.73	121.96	126.00
7	L6	753	C	C5-C6-N1	6.73	124.36	121.00
7	L6	4215	C	N1-C2-O2	6.73	122.94	118.90
7	L6	4885	U	N3-C2-O2	-6.73	117.49	122.20
7	L6	4887	C	N1-C2-O2	6.73	122.94	118.90
85	S2	1273	C	P-O3'-C3'	6.72	127.77	119.70
7	L5	2760	G	P-O3'-C3'	6.72	127.76	119.70
85	S2	1109	C	N3-C2-O2	-6.72	117.20	121.90
85	S3	688	U	C6-N1-C2	-6.72	116.97	121.00
7	L6	1249	C	C6-N1-C2	-6.72	117.61	120.30
3	D5	2	C	C6-N1-C2	-6.71	117.61	120.30
85	S3	498	C	N3-C2-O2	-6.71	117.20	121.90
7	L5	4229	U	N1-C2-O2	6.71	127.50	122.80
7	L5	96	U	N3-C2-O2	-6.71	117.50	122.20
85	S3	1834	A	N7-C8-N9	6.71	117.15	113.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	1792	U	N3-C2-O2	-6.71	117.50	122.20
7	L6	282	C	N1-C2-O2	6.70	122.92	118.90
7	L6	195	C	N3-C2-O2	-6.70	117.21	121.90
7	L6	1417	C	C2-N1-C1'	6.70	126.17	118.80
7	L5	1183	C	N1-C2-O2	6.70	122.92	118.90
7	L5	4771	C	C2-N3-C4	6.70	123.25	119.90
7	L5	689	U	N1-C2-O2	6.70	127.49	122.80
85	S3	885	U	N1-C2-O2	6.70	127.49	122.80
85	S3	722	C	P-O3'-C3'	6.69	127.73	119.70
7	L6	691	C	C6-N1-C2	-6.69	117.62	120.30
7	L6	2682	G	N1-C6-O6	-6.69	115.89	119.90
7	L5	4106	G	C5-C6-O6	6.68	132.61	128.60
7	L5	4682	U	N1-C2-O2	6.68	127.48	122.80
85	S2	1860	A	P-O3'-C3'	6.68	127.72	119.70
7	L5	914	U	P-O3'-C3'	6.68	127.72	119.70
7	L6	453	G	N3-C4-C5	-6.68	125.26	128.60
85	S3	194	C	N1-C2-O2	6.68	122.91	118.90
85	S3	1408	U	C5-C6-N1	6.68	126.04	122.70
7	L6	3920	U	N1-C2-O2	6.68	127.48	122.80
85	S2	688	U	P-O3'-C3'	6.67	127.71	119.70
85	S3	1850	A	C8-N9-C4	-6.67	103.13	105.80
7	L6	1477	C	N1-C2-O2	6.67	122.90	118.90
85	S2	530	U	N1-C2-O2	6.67	127.47	122.80
7	L6	2708	U	N1-C2-O2	6.67	127.47	122.80
7	L6	654	C	C5-C6-N1	6.67	124.33	121.00
7	L6	220	C	C2-N1-C1'	6.66	126.13	118.80
7	L6	3930	U	N3-C2-O2	-6.66	117.54	122.20
6	L8	128	C	C6-N1-C2	-6.66	117.64	120.30
7	L6	100	C	N1-C2-O2	6.66	122.89	118.90
7	L6	1671	U	N3-C2-O2	-6.66	117.54	122.20
7	L5	2351	C	C6-N1-C2	-6.66	117.64	120.30
85	S3	1057	C	N3-C2-O2	-6.66	117.24	121.90
3	B4	18	G	N3-C4-N9	6.65	129.99	126.00
7	L6	977	C	C6-N1-C2	-6.65	117.64	120.30
7	L5	1763	C	C2-N1-C1'	6.65	126.11	118.80
7	L5	112	C	C2-N1-C1'	6.65	126.11	118.80
7	L6	1402	C	N3-C2-O2	-6.65	117.25	121.90
7	L6	4502	C	N1-C2-O2	6.64	122.89	118.90
85	S3	1273	C	P-O3'-C3'	6.64	127.67	119.70
7	L6	654	C	C6-N1-C1'	-6.64	112.84	120.80
3	D5	59	U	N1-C2-O2	6.63	127.44	122.80
7	L5	967	C	N1-C2-O2	6.63	122.88	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	1624	U	N1-C2-O2	6.63	127.44	122.80
7	L5	1245	C	C6-N1-C2	-6.63	117.65	120.30
7	L5	3636	C	N3-C2-O2	-6.63	117.26	121.90
7	L6	2019	C	C6-N1-C2	-6.63	117.65	120.30
85	S3	833	C	N1-C2-O2	6.63	122.88	118.90
7	L6	984	C	N1-C2-O2	6.62	122.87	118.90
7	L6	4593	C	N3-C2-O2	-6.62	117.26	121.90
85	S3	1716	C	N1-C2-O2	6.62	122.87	118.90
7	L6	3820	G	C2-N3-C4	-6.62	108.59	111.90
85	S2	1565	C	C6-N1-C2	-6.62	117.65	120.30
7	L6	3930	U	N1-C2-O2	6.62	127.43	122.80
7	L6	220	C	C6-N1-C2	-6.62	117.65	120.30
85	S3	1118	C	C2-N1-C1'	6.62	126.08	118.80
7	L5	472	C	C2-N1-C1'	6.61	126.07	118.80
85	S3	1432	U	N1-C2-O2	6.61	127.43	122.80
7	L6	914	U	P-O3'-C3'	6.60	127.62	119.70
7	L5	4709	U	N3-C2-O2	-6.60	117.58	122.20
7	L6	3741	C	N1-C2-O2	6.60	122.86	118.90
85	S2	1649	U	N3-C2-O2	-6.60	117.58	122.20
7	L6	468	U	C2-N1-C1'	-6.60	109.78	117.70
85	S2	879	C	C2-N1-C1'	6.60	126.06	118.80
85	S2	1565	C	N3-C2-O2	-6.60	117.28	121.90
85	S2	814	U	N3-C2-O2	-6.59	117.58	122.20
7	L6	322	C	C6-N1-C2	-6.59	117.66	120.30
7	L5	672	C	N1-C2-O2	6.59	122.86	118.90
85	S2	1057	C	N3-C2-O2	-6.59	117.29	121.90
85	S3	1277	C	N1-C2-O2	6.59	122.86	118.90
85	S3	965	U	N3-C2-O2	-6.59	117.59	122.20
7	L6	77	U	N1-C2-O2	6.59	127.41	122.80
7	L6	1241	C	C6-N1-C1'	-6.59	112.89	120.80
85	S2	649	U	N3-C2-O2	-6.59	117.59	122.20
7	L5	77	U	N1-C2-O2	6.58	127.41	122.80
6	L8	111	U	C6-N1-C1'	-6.58	111.98	121.20
7	L6	1340	C	C6-N1-C2	-6.58	117.67	120.30
7	L5	1439	C	C5-C6-N1	6.58	124.29	121.00
7	L6	2416	G	P-O3'-C3'	6.58	127.59	119.70
85	S2	72	C	O5'-P-OP1	6.57	118.58	110.70
85	S3	210	U	N3-C2-O2	-6.57	117.60	122.20
7	L6	1578	U	N3-C2-O2	-6.57	117.60	122.20
7	L6	2682	G	N9-C4-C5	6.57	108.03	105.40
8	L9	102	U	N3-C2-O2	-6.57	117.60	122.20
85	S2	1527	C	N1-C2-O2	6.57	122.84	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S3	930	C	C2-N1-C1'	6.56	126.02	118.80
7	L5	4773	C	C2-N1-C1'	6.56	126.02	118.80
7	L5	1183	C	C2-N1-C1'	6.56	126.02	118.80
85	S3	310	C	C2-N1-C1'	6.55	126.00	118.80
7	L5	1439	C	C6-N1-C2	-6.55	117.68	120.30
7	L5	4215	C	N1-C2-O2	6.55	122.83	118.90
85	S3	1348	G	N3-C2-N2	-6.55	115.32	119.90
7	L6	4112	C	C6-N1-C2	-6.54	117.68	120.30
7	L6	4360	U	N1-C2-O2	6.54	127.38	122.80
85	S2	549	C	C2-N1-C1'	6.54	126.00	118.80
85	S2	1304	U	C2-N1-C1'	6.54	125.55	117.70
85	S3	1057	C	C2-N1-C1'	6.54	125.99	118.80
85	S2	823	U	N1-C2-O2	6.54	127.38	122.80
85	S2	1595	U	N1-C2-O2	6.54	127.38	122.80
3	D5	59	U	N3-C2-O2	-6.54	117.62	122.20
7	L5	1245	C	C5-C6-N1	6.54	124.27	121.00
85	S3	178	C	N3-C2-O2	-6.54	117.33	121.90
62	SK	43	LEU	CA-CB-CG	6.54	130.33	115.30
7	L6	4471	U	N3-C2-O2	-6.53	117.63	122.20
85	S3	309	G	C6-N1-C2	-6.53	121.18	125.10
7	L5	4130	C	C2-N1-C1'	6.52	125.97	118.80
85	S2	1272	C	N1-C2-O2	6.52	122.81	118.90
7	L5	1093	C	C5-C6-N1	6.52	124.26	121.00
74	RX	52	LEU	CA-CB-CG	6.52	130.29	115.30
48	Mo	33	LEU	CA-CB-CG	6.52	130.29	115.30
5	CC	55	C	N3-C2-O2	-6.51	117.34	121.90
7	L6	204	U	N1-C2-O2	6.51	127.36	122.80
6	L1	128	C	C6-N1-C2	-6.51	117.70	120.30
85	S3	1015	U	C2-N3-C4	-6.51	123.09	127.00
7	L5	2627	C	N3-C2-O2	-6.50	117.35	121.90
7	L5	2867	C	C2-N1-C1'	6.50	125.95	118.80
7	L6	234	G	N3-C4-N9	6.50	129.90	126.00
85	S2	152	U	N1-C2-O2	6.50	127.35	122.80
85	S2	1018	U	N3-C2-O2	-6.50	117.65	122.20
85	S3	1850	A	N7-C8-N9	6.50	117.05	113.80
7	L6	50	C	N1-C2-O2	6.50	122.80	118.90
7	L5	282	C	N3-C2-O2	-6.49	117.35	121.90
85	S3	1860	A	P-O3'-C3'	6.49	127.49	119.70
7	L5	4902	C	N1-C2-O2	6.49	122.79	118.90
85	S2	1109	C	N1-C2-O2	6.49	122.79	118.90
7	L5	2337	C	C6-N1-C2	-6.48	117.71	120.30
85	S2	1219	C	N3-C2-O2	-6.48	117.36	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	4918	C	C6-N1-C2	-6.48	117.71	120.30
7	L6	2675	G	P-O3'-C3'	6.48	127.47	119.70
7	L6	2803	U	N3-C2-O2	-6.48	117.67	122.20
6	L8	128	C	N1-C2-O2	6.48	122.79	118.90
7	L6	38	A	OP1-P-OP2	-6.48	109.88	119.60
85	S2	632	C	C2-N1-C1'	6.48	125.93	118.80
85	S3	210	U	N1-C2-O2	6.48	127.33	122.80
7	L5	1663	C	C2-N1-C1'	6.48	125.92	118.80
85	S3	130	G	N3-C4-C5	-6.48	125.36	128.60
85	S3	1453	C	C6-N1-C2	-6.48	117.71	120.30
7	L5	2627	C	C6-N1-C2	-6.47	117.71	120.30
7	L6	3911	C	N3-C2-O2	-6.47	117.37	121.90
85	S2	1556	A	C2-N3-C4	6.47	113.84	110.60
7	L5	972	C	N1-C2-O2	6.47	122.78	118.90
7	L5	4612	C	N3-C2-O2	-6.47	117.37	121.90
85	S3	1022	U	C2-N1-C1'	6.47	125.46	117.70
85	S3	1849	G	O4'-C1'-N9	6.47	113.37	108.20
85	S3	81	U	C5-C6-N1	6.46	125.93	122.70
7	L5	2409	U	C6-N1-C1'	-6.46	112.15	121.20
85	S3	356	C	N1-C2-O2	6.46	122.78	118.90
7	L5	2106	G	N3-C4-N9	6.46	129.88	126.00
85	S3	1854	U	N1-C2-O2	6.46	127.32	122.80
85	S2	179	C	N1-C2-O2	6.46	122.77	118.90
85	S2	1120	U	OP1-P-O3'	6.45	119.39	105.20
7	L6	3920	U	N3-C2-O2	-6.45	117.69	122.20
85	S2	803	C	C2-N1-C1'	6.45	125.89	118.80
7	L6	1344	C	C5-C6-N1	6.45	124.22	121.00
7	L6	4758	U	N3-C2-O2	-6.45	117.69	122.20
85	S3	1817	G	N9-C4-C5	6.44	107.98	105.40
7	L5	1671	U	N1-C2-O2	6.44	127.31	122.80
7	L6	4352	U	N3-C2-O2	-6.44	117.69	122.20
7	L5	4739	C	C6-N1-C2	-6.44	117.72	120.30
7	L5	178	C	N1-C2-O2	6.44	122.76	118.90
85	S2	1218	C	C5-C6-N1	6.44	124.22	121.00
85	S3	814	U	N3-C2-O2	-6.44	117.69	122.20
85	S2	356	C	C6-N1-C1'	-6.44	113.08	120.80
7	L6	2820	C	N1-C2-O2	6.43	122.76	118.90
7	L5	4133	C	C2-N1-C1'	6.43	125.87	118.80
7	L6	1726	U	N3-C2-O2	-6.43	117.70	122.20
7	L5	468	U	N3-C2-O2	-6.43	117.70	122.20
7	L6	4461	C	N3-C2-O2	-6.43	117.40	121.90
85	S2	1272	C	C5-C6-N1	6.43	124.21	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	3768	U	N3-C2-O2	-6.43	117.70	122.20
85	S2	930	C	N1-C2-O2	6.43	122.76	118.90
85	S2	1415	C	C6-N1-C2	-6.43	117.73	120.30
7	L5	4314	C	N3-C2-O2	-6.42	117.40	121.90
85	S2	924	G	O5'-P-OP1	-6.42	99.92	105.70
85	S2	1275	G	N3-C4-N9	6.42	129.85	126.00
7	L6	489	C	C6-N1-C1'	-6.42	113.09	120.80
85	S3	49	C	N1-C2-O2	6.42	122.75	118.90
7	L6	1535	C	N1-C2-O2	6.42	122.75	118.90
85	S3	1779	G	N3-C4-N9	6.42	129.85	126.00
7	L6	1822	U	N1-C2-O2	6.42	127.29	122.80
85	S2	903	A	C2-N3-C4	6.42	113.81	110.60
7	L6	2515	G	N9-C4-C5	6.42	107.97	105.40
7	L5	2675	G	P-O3'-C3'	6.41	127.40	119.70
7	L5	1417	C	C2-N1-C1'	6.41	125.85	118.80
65	RO	138	ASP	CB-CG-OD1	6.41	124.07	118.30
3	D5	13	C	C6-N1-C2	-6.40	117.74	120.30
85	S3	1751	C	C6-N1-C2	-6.40	117.74	120.30
7	L6	2560	C	C5-C6-N1	6.40	124.20	121.00
7	L5	3693	U	N1-C2-O2	6.39	127.28	122.80
8	L9	19	C	C2-N1-C1'	6.39	125.83	118.80
85	S2	1057	C	N1-C2-O2	6.39	122.74	118.90
7	L5	1763	C	N3-C2-O2	-6.39	117.43	121.90
7	L5	1344	C	C2-N1-C1'	6.39	125.83	118.80
7	L6	753	C	N1-C2-O2	6.38	122.73	118.90
7	L6	4714	C	N3-C2-O2	-6.38	117.44	121.90
3	D5	50	U	C5-C6-N1	6.37	125.89	122.70
3	B4	18	G	C8-N9-C1'	-6.37	118.72	127.00
7	L5	1781	U	N3-C2-O2	-6.37	117.74	122.20
85	S3	72	C	O5'-P-OP1	6.37	118.34	110.70
7	L5	753	C	N1-C2-O2	6.37	122.72	118.90
7	L5	4106	G	C4-C5-N7	6.37	113.35	110.80
7	L5	1822	U	C5-C6-N1	6.36	125.88	122.70
85	S2	1422	G	N3-C4-C5	-6.36	125.42	128.60
85	S3	688	U	N1-C2-O2	6.36	127.25	122.80
7	L5	1822	U	C6-N1-C1'	-6.36	112.30	121.20
7	L6	4071	U	C2-N1-C1'	6.36	125.33	117.70
7	L5	4583	C	C2-N3-C4	-6.36	116.72	119.90
7	L6	2715	G	N9-C4-C5	6.36	107.94	105.40
7	L6	4885	U	N1-C2-O2	6.36	127.25	122.80
85	S2	1684	C	N1-C2-O2	6.36	122.71	118.90
7	L6	1082	C	N3-C2-O2	-6.36	117.45	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S3	1422	G	C4-N9-C1'	6.36	134.76	126.50
7	L5	3636	C	N1-C2-O2	6.35	122.71	118.90
7	L5	4991	U	N1-C2-O2	6.35	127.25	122.80
7	L5	3771	C	N1-C2-O2	6.35	122.71	118.90
85	S2	1275	G	C8-N9-C1'	-6.35	118.75	127.00
85	S3	1277	C	N3-C2-O2	-6.35	117.46	121.90
85	S2	1782	G	N9-C4-C5	6.35	107.94	105.40
85	S3	822	U	N3-C2-O2	-6.34	117.76	122.20
85	S3	1422	G	N3-C4-N9	6.34	129.81	126.00
85	S2	356	C	C6-N1-C2	-6.34	117.76	120.30
85	S3	1057	C	N1-C2-O2	6.34	122.70	118.90
85	S3	711	C	C2-N1-C1'	6.33	125.77	118.80
7	L5	1656	U	N3-C2-O2	-6.33	117.77	122.20
85	S2	96	C	C2-N1-C1'	6.33	125.76	118.80
85	S3	356	C	C2-N1-C1'	6.33	125.77	118.80
85	S3	1432	U	N1-C2-N3	6.33	118.70	114.90
85	S2	1018	U	N1-C2-O2	6.33	127.23	122.80
85	S2	188	C	C2-N1-C1'	6.33	125.76	118.80
85	S2	591	U	C2-N1-C1'	6.33	125.29	117.70
7	L6	1969	G	C5-C6-O6	6.33	132.40	128.60
7	L5	1893	C	C2-N1-C1'	6.32	125.76	118.80
7	L5	1963	C	C2-N1-C1'	6.32	125.76	118.80
7	L5	4223	C	C2-N1-C1'	6.32	125.76	118.80
7	L6	2715	G	N3-C4-N9	-6.32	122.21	126.00
7	L5	2304	U	N3-C2-O2	-6.32	117.78	122.20
85	S2	814	U	N1-C2-O2	6.32	127.22	122.80
85	S3	179	C	N3-C2-O2	-6.32	117.47	121.90
85	S3	1292	C	N1-C2-O2	6.32	122.69	118.90
5	CC	74	C	C6-N1-C2	-6.32	117.77	120.30
3	D5	13	C	C2-N3-C4	6.31	123.06	119.90
7	L5	417	G	O4'-C1'-N9	6.31	113.25	108.20
7	L6	4752	U	N3-C2-O2	-6.31	117.78	122.20
85	S3	1002	U	N1-C2-O2	6.31	127.22	122.80
7	L5	220	C	C2-N1-C1'	6.31	125.74	118.80
7	L5	1472	C	C2-N1-C1'	6.31	125.74	118.80
7	L5	1598	C	N1-C2-O2	6.30	122.68	118.90
7	L6	337	U	N1-C2-O2	6.30	127.21	122.80
85	S2	498	C	C6-N1-C2	-6.30	117.78	120.30
7	L6	178	C	N3-C2-O2	-6.30	117.49	121.90
7	L5	3636	C	C6-N1-C2	-6.30	117.78	120.30
7	L5	3771	C	C6-N1-C2	-6.29	117.78	120.30
85	S2	494	C	N3-C2-O2	-6.29	117.50	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	592	C	C6-N1-C2	-6.29	117.78	120.30
85	S3	130	G	N3-C4-N9	6.29	129.77	126.00
7	L6	178	C	N1-C2-O2	6.29	122.67	118.90
85	S2	498	C	N3-C2-O2	-6.29	117.50	121.90
85	S2	1389	C	N1-C2-O2	6.29	122.67	118.90
7	L6	1832	C	N1-C2-O2	6.28	122.67	118.90
7	L6	4864	U	N3-C2-O2	-6.28	117.80	122.20
3	D5	30	G	C4-N9-C1'	6.28	134.66	126.50
7	L6	2351	C	C6-N1-C2	-6.28	117.79	120.30
7	L5	498	C	N1-C2-O2	6.27	122.66	118.90
7	L6	1656	U	N3-C2-O2	-6.27	117.81	122.20
7	L6	667	A	P-O3'-C3'	6.27	127.22	119.70
7	L6	3910	C	N1-C2-O2	6.27	122.66	118.90
7	L5	4863	G	C4-C5-N7	6.26	113.31	110.80
7	L6	4928	C	C5-C6-N1	6.26	124.13	121.00
85	S2	152	U	C2-N1-C1'	6.26	125.21	117.70
7	L5	1082	C	OP1-P-O3'	6.26	118.97	105.20
7	L5	4360	U	N3-C2-O2	-6.26	117.82	122.20
7	L5	3911	C	C5-C6-N1	6.25	124.13	121.00
7	L5	4689	U	N1-C2-O2	6.25	127.18	122.80
85	S3	1172	U	N1-C2-O2	6.25	127.18	122.80
7	L5	1832	C	N1-C2-O2	6.25	122.65	118.90
7	L6	4137	C	C5-C6-N1	6.25	124.12	121.00
7	L5	2856	C	N1-C2-O2	6.25	122.65	118.90
85	S2	536	A	N3-C4-N9	6.24	132.40	127.40
85	S3	877	C	C2-N1-C1'	6.24	125.67	118.80
7	L6	1735	U	N3-C2-O2	-6.24	117.83	122.20
7	L5	4913	G	P-O3'-C3'	6.24	127.19	119.70
7	L5	4138	C	C6-N1-C2	-6.24	117.81	120.30
7	L5	4766	C	C6-N1-C2	-6.24	117.81	120.30
85	S2	1130	G	C2-N3-C4	-6.23	108.78	111.90
7	L5	4921	C	N1-C2-O2	6.23	122.64	118.90
85	S3	1078	C	C2-N1-C1'	6.23	125.65	118.80
21	LN	135	ILE	C-N-CA	-6.23	106.13	121.70
85	S3	730	C	C6-N1-C2	-6.23	117.81	120.30
85	S3	926	A	C6-N1-C2	6.23	122.34	118.60
7	L6	1178	G	C2-N3-C4	6.23	115.01	111.90
7	L5	4106	G	C5-C6-N1	6.22	114.61	111.50
7	L5	4766	C	C2-N1-C1'	6.22	125.65	118.80
7	L6	282	C	N3-C2-O2	-6.22	117.54	121.90
85	S3	1779	G	N3-C4-C5	-6.22	125.49	128.60
7	L5	977	C	C2-N1-C1'	6.22	125.64	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	1172	U	N1-C2-O2	6.22	127.16	122.80
2	A5	51	U	C6-N1-C1'	-6.22	112.49	121.20
7	L6	988	C	N1-C2-O2	6.22	122.63	118.90
7	L5	972	C	N3-C2-O2	-6.22	117.55	121.90
85	S3	193	C	N1-C2-O2	6.22	122.63	118.90
3	D5	45	U	C2-N1-C1'	6.21	125.16	117.70
7	L5	1663	C	C6-N1-C2	-6.21	117.81	120.30
7	L5	2528	G	C4-N9-C1'	6.20	134.56	126.50
85	S2	1422	G	N3-C4-N9	6.20	129.72	126.00
85	S2	1261	C	C6-N1-C2	-6.20	117.82	120.30
7	L5	3772	U	C2-N1-C1'	6.20	125.14	117.70
7	L6	512	U	N1-C2-O2	6.20	127.14	122.80
7	L5	4594	U	N3-C2-O2	-6.20	117.86	122.20
7	L5	1458	C	N1-C2-O2	6.19	122.61	118.90
7	L5	1663	C	C5-C6-N1	6.19	124.10	121.00
51	MP	53	LEU	CA-CB-CG	6.19	129.54	115.30
7	L5	4945	G	C6-C5-N7	-6.19	126.69	130.40
7	L6	1478	C	C6-N1-C2	-6.19	117.82	120.30
7	L6	2702	C	N3-C2-O2	-6.19	117.57	121.90
85	S3	950	C	C6-N1-C2	-6.19	117.82	120.30
7	L6	4583	C	C2-N3-C4	-6.19	116.81	119.90
85	S3	930	C	N1-C2-O2	6.19	122.61	118.90
85	S3	1782	G	N3-C4-N9	-6.19	122.29	126.00
7	L6	2607	C	C2-N1-C1'	6.18	125.60	118.80
85	S3	1635	C	C6-N1-C2	-6.18	117.83	120.30
11	MC	314	LEU	CA-CB-CG	6.18	129.51	115.30
85	S2	1265	A	C2-N3-C4	6.18	113.69	110.60
7	L5	4772	C	C5-C6-N1	6.18	124.09	121.00
7	L6	510	U	C2-N1-C1'	6.18	125.11	117.70
85	S2	866	U	N1-C2-O2	6.18	127.12	122.80
7	L5	504	G	P-O3'-C3'	6.17	127.11	119.70
7	L5	4096	C	C5-C6-N1	6.17	124.08	121.00
7	L5	4945	G	N9-C4-C5	-6.17	102.93	105.40
85	S2	1626	C	C2-N1-C1'	6.17	125.59	118.80
85	S3	950	C	C5-C6-N1	6.17	124.08	121.00
7	L6	1245	C	N3-C2-O2	-6.17	117.58	121.90
7	L6	4991	U	C2-N1-C1'	6.17	125.10	117.70
85	S2	877	C	C2-N1-C1'	6.17	125.58	118.80
85	S2	1161	U	N3-C2-O2	-6.17	117.88	122.20
7	L6	4928	C	C6-N1-C1'	-6.16	113.40	120.80
55	RD	86	LEU	CA-CB-CG	6.16	129.48	115.30
7	L6	204	U	N3-C2-O2	-6.16	117.89	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
57	SF	153	LEU	CA-CB-CG	6.16	129.47	115.30
7	L5	1082	C	P-O3'-C3'	6.16	127.09	119.70
85	S3	1453	C	C2-N3-C4	6.16	122.98	119.90
7	L5	2802	C	C6-N1-C2	-6.16	117.84	120.30
8	L7	30	C	N3-C2-O2	-6.16	117.59	121.90
7	L5	1241	C	N3-C2-O2	-6.16	117.59	121.90
85	S3	1118	C	N3-C2-O2	-6.16	117.59	121.90
5	CC	74	C	P-O3'-C3'	6.15	127.08	119.70
25	MR	123	LEU	CA-CB-CG	6.15	129.44	115.30
85	S2	1626	C	C6-N1-C2	-6.15	117.84	120.30
85	S2	1683	C	N3-C2-O2	-6.15	117.59	121.90
7	L5	2820	C	N3-C2-O2	-6.15	117.60	121.90
7	L5	4215	C	N3-C2-O2	-6.15	117.60	121.90
85	S2	1595	U	N3-C2-O2	-6.15	117.90	122.20
7	L5	1632	A	C2-N3-C4	6.14	113.67	110.60
85	S3	1519	U	P-O3'-C3'	6.14	127.07	119.70
7	L6	2528	G	N3-C4-N9	6.14	129.69	126.00
7	L6	1686	C	N3-C2-O2	-6.14	117.61	121.90
85	S2	1519	U	P-O3'-C3'	6.14	127.06	119.70
7	L5	4895	C	N1-C2-O2	6.13	122.58	118.90
85	S3	179	C	C2-N1-C1'	6.13	125.55	118.80
7	L6	4594	U	C2-N1-C1'	6.13	125.06	117.70
7	L5	484	U	N1-C2-O2	6.13	127.09	122.80
7	L5	4399	U	N1-C2-O2	6.13	127.09	122.80
85	S2	1018	U	C5-C6-N1	6.13	125.76	122.70
5	CC	58	C	N1-C2-O2	6.13	122.58	118.90
85	S3	1277	C	C2-N1-C1'	6.12	125.54	118.80
7	L6	1632	A	C2-N3-C4	6.12	113.66	110.60
85	S2	926	A	C5-C6-N6	6.12	128.60	123.70
7	L5	2710	C	C6-N1-C2	-6.12	117.85	120.30
7	L6	1816	C	C2-N1-C1'	6.12	125.53	118.80
7	L6	2708	U	C2-N1-C1'	6.12	125.04	117.70
85	S3	1409	A	C5-C6-N6	6.12	128.60	123.70
7	L6	1178	G	C8-N9-C1'	-6.12	119.05	127.00
7	L6	1656	U	N1-C2-O2	6.12	127.08	122.80
85	S2	152	U	N3-C2-O2	-6.12	117.92	122.20
7	L6	3598	C	N3-C2-O2	-6.12	117.62	121.90
7	L6	4923	C	N1-C2-O2	6.11	122.57	118.90
85	S3	1482	C	N3-C2-O2	-6.11	117.62	121.90
7	L6	4612	C	N1-C2-O2	6.11	122.56	118.90
6	L8	62	A	N3-C4-C5	6.11	131.08	126.80
85	S2	1289	U	N1-C2-O2	6.11	127.08	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	L1	64	U	N1-C2-O2	6.11	127.07	122.80
7	L5	4991	U	N3-C2-O2	-6.10	117.93	122.20
7	L5	209	U	N1-C2-O2	6.10	127.07	122.80
85	S3	4	C	C2-N1-C1'	6.10	125.51	118.80
85	S3	1271	C	N1-C2-O2	6.10	122.56	118.90
7	L5	516	C	N3-C2-O2	-6.10	117.63	121.90
8	L9	28	C	N1-C2-O2	6.10	122.56	118.90
85	S2	302	A	N1-C2-N3	6.10	132.35	129.30
85	S3	1272	C	N1-C2-O2	6.10	122.56	118.90
7	L6	1304	C	N1-C2-O2	6.09	122.56	118.90
7	L6	2410	C	C6-N1-C2	-6.09	117.86	120.30
3	D5	68	C	N3-C2-O2	-6.09	117.64	121.90
7	L6	181	C	N1-C2-O2	6.09	122.56	118.90
7	L6	4913	G	P-O3'-C3'	6.09	127.01	119.70
7	L5	1414	C	C6-N1-C2	-6.08	117.87	120.30
7	L5	4426	C	C2-N1-C1'	6.08	125.49	118.80
85	S3	1314	U	C6-N1-C1'	-6.08	112.68	121.20
7	L5	1340	C	C5-C6-N1	6.08	124.04	121.00
7	L6	4471	U	N1-C2-O2	6.08	127.06	122.80
7	L5	1656	U	N1-C2-O2	6.08	127.06	122.80
7	L6	294	G	N3-C4-N9	6.08	129.65	126.00
7	L5	4918	C	N1-C2-O2	6.08	122.55	118.90
7	L6	4926	C	N1-C2-O2	6.08	122.55	118.90
7	L6	4928	C	N1-C2-O2	6.08	122.55	118.90
85	S2	1147	C	C6-N1-C1'	-6.08	113.51	120.80
7	L5	3930	U	C2-N1-C1'	6.07	124.99	117.70
85	S2	958	G	C8-N9-C1'	-6.07	119.10	127.00
7	L5	4444	C	N1-C2-O2	6.07	122.54	118.90
7	L5	1447	C	C6-N1-C2	-6.07	117.87	120.30
3	B4	18	G	N3-C4-C5	-6.07	125.57	128.60
7	L5	1458	C	N3-C2-O2	-6.07	117.65	121.90
7	L5	4399	U	N3-C2-O2	-6.07	117.95	122.20
85	S2	1590	C	C6-N1-C2	-6.07	117.87	120.30
7	L5	1726	U	N3-C2-O2	-6.07	117.95	122.20
85	S2	745	C	N3-C2-O2	-6.07	117.65	121.90
7	L5	1607	C	N1-C2-O2	6.06	122.54	118.90
85	S3	877	C	C5-C6-N1	6.06	124.03	121.00
7	L6	124	C	N1-C2-O2	6.06	122.54	118.90
7	L6	3920	U	C2-N1-C1'	6.06	124.97	117.70
7	L5	2337	C	C2-N1-C1'	6.06	125.46	118.80
7	L6	1953	U	C2-N1-C1'	6.06	124.97	117.70
85	S3	295	C	C5-C6-N1	6.06	124.03	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	856	C	N1-C2-O2	6.05	122.53	118.90
7	L6	512	U	C2-N1-C1'	6.05	124.96	117.70
7	L6	1607	C	N1-C2-O2	6.05	122.53	118.90
7	L6	1416	G	N3-C4-N9	-6.05	122.37	126.00
85	S3	585	C	N3-C2-O2	-6.05	117.67	121.90
6	L1	87	G	P-O3'-C3'	6.05	126.96	119.70
7	L6	3594	C	C5-C6-N1	6.05	124.02	121.00
7	L6	1735	U	C2-N1-C1'	6.05	124.96	117.70
85	S3	362	C	C5-C4-N4	6.05	124.43	120.20
3	D5	49	C	N1-C2-O2	6.04	122.53	118.90
7	L5	2890	C	N1-C2-O2	6.04	122.53	118.90
7	L6	1607	C	N3-C2-O2	-6.04	117.67	121.90
85	S3	1527	C	C6-N1-C2	-6.04	117.88	120.30
7	L6	1304	C	C2-N1-C1'	6.04	125.45	118.80
7	L6	3804	G	C5-C6-O6	6.04	132.22	128.60
85	S2	1277	C	N1-C2-O2	6.04	122.52	118.90
4	B5	31	C	N1-C2-O2	6.04	122.52	118.90
3	D5	49	C	N3-C2-O2	-6.04	117.67	121.90
7	L6	2337	C	N1-C2-O2	6.04	122.52	118.90
85	S2	1112	U	N3-C2-O2	-6.04	117.97	122.20
7	L5	3770	U	N1-C2-O2	6.04	127.03	122.80
7	L6	963	G	C4-N9-C1'	6.04	134.35	126.50
85	S2	926	A	N9-C4-C5	-6.04	103.39	105.80
7	L6	1505	C	C2-N1-C1'	6.03	125.44	118.80
7	L6	4516	G	N3-C2-N2	-6.03	115.68	119.90
85	S3	1824	A	P-O3'-C3'	6.03	126.94	119.70
7	L5	1720	C	C6-N1-C2	-6.03	117.89	120.30
7	L6	5040	U	C5-C4-O4	-6.03	122.28	125.90
8	L7	76	U	N1-C2-O2	6.03	127.02	122.80
85	S2	1364	U	N3-C2-O2	-6.03	117.98	122.20
85	S3	1002	U	N3-C2-O2	-6.03	117.98	122.20
7	L5	4130	C	C6-N1-C2	-6.03	117.89	120.30
7	L5	4241	C	C2-N1-C1'	6.03	125.43	118.80
85	S2	1289	U	N3-C2-O2	-6.03	117.98	122.20
85	S3	1543	U	N1-C2-O2	6.03	127.02	122.80
85	S2	120	U	N3-C2-O2	-6.02	117.98	122.20
7	L6	2856	C	N1-C2-O2	6.02	122.51	118.90
85	S3	1752	C	C6-N1-C2	-6.02	117.89	120.30
7	L5	4709	U	C2-N1-C1'	6.02	124.92	117.70
7	L6	3797	C	C2-N1-C1'	-6.02	112.18	118.80
85	S2	174	C	N3-C2-O2	-6.02	117.69	121.90
85	S2	647	U	C6-N1-C1'	-6.02	112.78	121.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	3892	U	N3-C2-O2	-6.01	117.99	122.20
6	L8	51	U	N1-C2-O2	6.01	127.01	122.80
85	S2	877	C	N3-C2-O2	-6.01	117.69	121.90
7	L6	489	C	C6-N1-C2	-6.01	117.89	120.30
7	L6	4613	C	N1-C2-O2	6.01	122.51	118.90
7	L5	2892	C	N1-C2-O2	6.01	122.51	118.90
85	S3	1543	U	N3-C2-O2	-6.01	117.99	122.20
7	L6	4241	C	C2-N1-C1'	6.01	125.41	118.80
7	L5	2890	C	C2-N1-C1'	6.00	125.41	118.80
85	S2	178	C	N3-C2-O2	-6.00	117.70	121.90
7	L6	2528	G	C8-N9-C1'	-6.00	119.19	127.00
7	L6	3911	C	C5-C6-N1	6.00	124.00	121.00
7	L6	1243	C	C6-N1-C2	-6.00	117.90	120.30
7	L6	4766	C	C2-N1-C1'	6.00	125.39	118.80
7	L5	1250	C	C6-N1-C2	-5.99	117.90	120.30
85	S3	884	C	C6-N1-C2	-5.99	117.90	120.30
85	S2	555	A	C5-C6-N6	5.99	128.49	123.70
85	S2	950	C	C2-N1-C1'	5.99	125.39	118.80
7	L5	1607	C	N3-C2-O2	-5.99	117.71	121.90
85	S2	856	C	C5-C6-N1	5.99	123.99	121.00
7	L5	516	C	N3-C4-C5	-5.99	119.51	121.90
6	L8	62	A	C4-C5-C6	-5.99	114.01	117.00
85	S2	1272	C	C6-N1-C2	-5.99	117.91	120.30
85	S2	1304	U	N1-C2-O2	5.99	126.99	122.80
85	S2	1348	G	N3-C2-N2	-5.99	115.71	119.90
7	L5	2894	A	C8-N9-C4	-5.98	103.41	105.80
7	L6	753	C	C6-N1-C1'	-5.98	113.62	120.80
85	S3	178	C	C2-N1-C1'	5.98	125.38	118.80
85	S2	1710	C	N1-C2-O2	5.98	122.49	118.90
85	S3	535	G	N7-C8-N9	5.98	116.09	113.10
7	L6	2819	U	N1-C2-O2	5.98	126.98	122.80
7	L5	3771	C	C5-C6-N1	5.97	123.99	121.00
7	L5	4864	U	N1-C2-O2	5.97	126.98	122.80
26	MS	17	LEU	CA-CB-CG	5.97	129.04	115.30
85	S3	1854	U	C2-N1-C1'	5.97	124.87	117.70
7	L6	204	U	C2-N1-C1'	5.97	124.87	117.70
7	L6	2505	C	N1-C2-O2	5.97	122.48	118.90
7	L6	4752	U	N1-C2-O2	5.97	126.98	122.80
85	S2	1585	U	P-O3'-C3'	5.97	126.87	119.70
85	S2	1782	G	N3-C4-C5	5.97	131.59	128.60
85	S2	1275	G	N3-C4-C5	-5.97	125.61	128.60
7	L5	36	U	N3-C2-O2	-5.97	118.02	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	155	C	N3-C2-O2	-5.97	117.72	121.90
85	S2	85	A	P-O3'-C3'	5.96	126.85	119.70
7	L5	4990	C	N1-C2-O2	5.96	122.47	118.90
7	L6	2667	C	N1-C2-O2	5.96	122.47	118.90
7	L5	4206	C	C2-N1-C1'	5.95	125.35	118.80
7	L6	440	U	N3-C2-O2	-5.95	118.03	122.20
85	S2	1101	U	N3-C2-O2	-5.95	118.03	122.20
85	S3	195	C	N3-C2-O2	-5.95	117.73	121.90
5	CC	23	C	N1-C2-O2	5.95	122.47	118.90
7	L5	4613	C	N3-C2-O2	-5.95	117.73	121.90
7	L6	406	C	P-O3'-C3'	5.95	126.84	119.70
85	S3	814	U	N1-C2-O2	5.95	126.97	122.80
7	L5	2627	C	C5-C6-N1	5.95	123.97	121.00
85	S2	1219	C	C2-N1-C1'	5.95	125.34	118.80
7	L5	4420	U	C2-N1-C1'	5.95	124.83	117.70
7	L6	1447	C	C6-N1-C2	-5.95	117.92	120.30
85	S3	321	C	C2-N1-C1'	5.95	125.34	118.80
85	S3	694	G	C4-N9-C1'	5.94	134.23	126.50
7	L6	4167	G	C5-C6-O6	5.94	132.17	128.60
7	L5	255	C	C5-C6-N1	5.94	123.97	121.00
7	L6	1239	C	C6-N1-C2	-5.94	117.92	120.30
85	S3	965	U	N1-C2-O2	5.94	126.96	122.80
7	L6	209	U	C6-N1-C1'	-5.94	112.89	121.20
85	S2	974	C	C6-N1-C2	-5.94	117.92	120.30
7	L6	233	U	N3-C2-O2	-5.94	118.04	122.20
7	L6	2708	U	N3-C2-O2	-5.94	118.04	122.20
85	S3	1520	G	N3-C4-C5	-5.94	125.63	128.60
85	S2	1591	C	C5-C6-N1	5.93	123.97	121.00
85	S3	1139	C	N3-C2-O2	-5.93	117.75	121.90
7	L5	473	C	O4'-C1'-N1	5.93	112.95	108.20
7	L5	675	C	N1-C2-O2	5.93	122.46	118.90
7	L5	484	U	N3-C2-O2	-5.93	118.05	122.20
85	S2	1710	C	N3-C2-O2	-5.93	117.75	121.90
85	S2	809	A	O4'-C1'-N9	5.93	112.94	108.20
85	S2	1850	A	N7-C8-N9	5.93	116.76	113.80
7	L5	209	U	C6-N1-C1'	-5.92	112.91	121.20
7	L6	1686	C	N1-C2-O2	5.92	122.45	118.90
7	L6	1414	C	N1-C2-O2	5.92	122.45	118.90
7	L6	4583	C	O4'-C1'-N1	5.92	112.94	108.20
85	S2	666	U	N1-C2-O2	5.92	126.94	122.80
7	L6	1469	C	C6-N1-C2	-5.92	117.93	120.30
7	L6	1781	U	N1-C2-O2	5.92	126.94	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	1598	C	N1-C2-O2	5.92	122.45	118.90
7	L5	1243	C	C5-C6-N1	5.91	123.96	121.00
7	L5	1821	G	N3-C4-N9	5.91	129.55	126.00
7	L6	26	C	C2-N1-C1'	5.91	125.31	118.80
7	L6	2710	C	C6-N1-C1'	-5.91	113.70	120.80
26	MS	163	HIS	C-N-CA	5.91	136.48	121.70
85	S2	1201	U	N1-C2-O2	5.91	126.94	122.80
7	L5	489	C	C6-N1-C2	-5.91	117.94	120.30
7	L6	2410	C	C5-C6-N1	5.91	123.95	121.00
85	S2	548	C	N3-C2-O2	-5.91	117.76	121.90
85	S3	537	C	N3-C2-O2	-5.91	117.76	121.90
7	L6	1704	C	N1-C2-O2	5.91	122.44	118.90
7	L6	2256	C	N1-C2-O2	5.90	122.44	118.90
7	L6	4895	C	N1-C2-O2	5.90	122.44	118.90
7	L5	1816	C	C6-N1-C2	-5.90	117.94	120.30
7	L6	1772	C	N3-C4-C5	5.90	124.26	121.90
7	L5	449	C	N1-C2-O2	5.90	122.44	118.90
85	S3	1683	C	N3-C2-O2	-5.90	117.77	121.90
7	L5	181	C	C6-N1-C2	-5.90	117.94	120.30
7	L5	1193	C	N1-C2-O2	5.89	122.44	118.90
7	L6	2094	G	C4-N9-C1'	5.89	134.16	126.50
8	L7	24	C	C5-C6-N1	5.89	123.95	121.00
85	S3	901	G	N3-C4-N9	5.89	129.53	126.00
85	S3	1364	U	N1-C2-O2	5.89	126.92	122.80
7	L5	706	C	C2-N1-C1'	5.88	125.27	118.80
7	L5	1083	U	O5'-P-OP1	-5.88	100.41	105.70
7	L6	1704	C	C2-N1-C1'	5.88	125.27	118.80
7	L6	2803	U	N1-C2-O2	5.88	126.92	122.80
7	L6	4918	C	C6-N1-C2	-5.88	117.95	120.30
7	L5	4600	G	P-O3'-C3'	5.88	126.76	119.70
7	L6	234	G	C4-N9-C1'	5.88	134.14	126.50
7	L6	4286	C	C2-N1-C1'	5.88	125.27	118.80
85	S2	659	G	C4-N9-C1'	5.88	134.14	126.50
85	S2	1015	U	C5-C6-N1	-5.88	119.76	122.70
7	L5	468	U	N1-C2-O2	5.87	126.91	122.80
7	L5	4887	C	C2-N1-C1'	5.87	125.26	118.80
85	S2	1518	C	C2-N1-C1'	5.87	125.26	118.80
7	L5	1219	G	C4-N9-C1'	5.87	134.13	126.50
6	L8	103	A	C8-N9-C4	-5.87	103.45	105.80
7	L5	4682	U	C2-N1-C1'	5.87	124.74	117.70
85	S3	1015	U	N1-C2-N3	5.87	118.42	114.90
7	L6	489	C	C5-C6-N1	5.87	123.93	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	2547	G	C8-N9-C1'	5.86	134.62	127.00
85	S3	877	C	C6-N1-C2	-5.86	117.95	120.30
7	L6	1477	C	C6-N1-C2	-5.86	117.95	120.30
85	S2	549	C	C5-C6-N1	5.86	123.93	121.00
7	L5	469	C	N1-C2-O2	5.86	122.42	118.90
7	L5	4199	C	N1-C2-O2	5.86	122.41	118.90
7	L6	4237	C	C2-N1-C1'	5.86	125.24	118.80
7	L5	988	C	N1-C2-O2	5.86	122.41	118.90
7	L5	1821	G	C8-N9-C1'	-5.86	119.39	127.00
85	S3	1585	U	P-O3'-C3'	5.85	126.72	119.70
85	S3	729	C	C5-C6-N1	5.85	123.93	121.00
85	S2	1422	G	C4-N9-C1'	5.85	134.10	126.50
7	L5	1816	C	C2-N1-C1'	5.85	125.23	118.80
85	S3	1265	A	N3-C4-N9	5.85	132.08	127.40
7	L5	1309	C	C5-C6-N1	5.84	123.92	121.00
7	L5	4426	C	N1-C2-O2	5.84	122.41	118.90
85	S2	1172	U	N3-C2-O2	-5.84	118.11	122.20
85	S3	1234	C	C2-N1-C1'	5.84	125.23	118.80
7	L6	2528	G	N3-C4-C5	-5.84	125.68	128.60
85	S3	130	G	C8-N9-C1'	-5.84	119.41	127.00
7	L6	488	G	C5-N7-C8	-5.84	101.38	104.30
85	S2	939	U	N1-C2-O2	5.84	126.89	122.80
7	L5	131	C	C6-N1-C2	-5.83	117.97	120.30
7	L6	2560	C	C2-N1-C1'	5.83	125.22	118.80
7	L5	4106	G	N3-C4-N9	5.83	129.50	126.00
7	L6	453	G	N3-C4-N9	5.83	129.50	126.00
7	L6	4356	G	C5-C6-O6	5.83	132.10	128.60
7	L5	1414	C	N1-C2-O2	5.83	122.40	118.90
57	RF	175	ASP	CB-CG-OD1	5.83	123.55	118.30
7	L5	4132	C	N3-C2-O2	-5.83	117.82	121.90
7	L6	177	G	N3-C4-N9	-5.83	122.50	126.00
7	L6	2820	C	N3-C2-O2	-5.83	117.82	121.90
7	L6	4308	C	N1-C2-O2	5.83	122.40	118.90
7	L6	2900	U	C2-N1-C1'	5.83	124.69	117.70
85	S2	1389	C	C6-N1-C2	-5.83	117.97	120.30
85	S3	1016	U	N3-C2-O2	-5.83	118.12	122.20
85	S2	1364	U	N1-C2-O2	5.82	126.88	122.80
7	L6	1816	C	C6-N1-C2	-5.82	117.97	120.30
85	S3	1520	G	C6-C5-N7	-5.82	126.91	130.40
7	L5	3693	U	N3-C2-O2	-5.82	118.13	122.20
85	S2	144	U	P-O3'-C3'	5.82	126.68	119.70
85	S2	1098	C	N1-C2-O2	5.82	122.39	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S3	1130	G	N3-C4-N9	-5.82	122.51	126.00
7	L6	4689	U	C5-C6-N1	5.81	125.61	122.70
85	S3	1482	C	C6-N1-C2	-5.81	117.97	120.30
85	S2	1453	C	C5-C6-N1	5.81	123.91	121.00
7	L6	2860	C	C6-N1-C2	-5.81	117.98	120.30
7	L5	2899	C	C2-N1-C1'	5.81	125.19	118.80
8	L7	28	C	C6-N1-C2	-5.81	117.98	120.30
82	Rf	26	LEU	CA-CB-CG	5.81	128.66	115.30
7	L5	1309	C	C6-N1-C2	-5.80	117.98	120.30
7	L6	1083	U	O5'-P-OP1	-5.80	100.48	105.70
7	L6	1520	C	C5-C6-N1	5.80	123.90	121.00
7	L6	3926	C	C6-N1-C2	-5.80	117.98	120.30
85	S2	1060	A	O4'-C1'-N9	5.80	112.84	108.20
7	L5	4299	U	N3-C2-O2	-5.80	118.14	122.20
7	L6	1598	C	N3-C2-O2	-5.80	117.84	121.90
7	L5	2281	U	C2-N1-C1'	5.80	124.66	117.70
7	L6	1671	U	N1-C2-O2	5.80	126.86	122.80
85	S3	1817	G	C5-C6-O6	5.80	132.08	128.60
85	S2	883	U	N1-C2-O2	5.80	126.86	122.80
7	L5	2894	A	N7-C8-N9	5.80	116.70	113.80
85	S3	1289	U	N1-C2-O2	5.80	126.86	122.80
7	L6	667	A	OP2-P-O3'	5.79	117.94	105.20
7	L6	4516	G	N1-C6-O6	-5.79	116.42	119.90
85	S3	195	C	C6-N1-C2	-5.79	117.98	120.30
7	L5	1468	C	C6-N1-C2	-5.79	117.98	120.30
7	L6	488	G	C6-C5-N7	-5.79	126.92	130.40
7	L5	1075	G	C4-N9-C1'	5.79	134.02	126.50
7	L5	1514	U	N3-C2-O2	-5.79	118.15	122.20
7	L5	4714	C	N1-C2-O2	5.79	122.37	118.90
8	L7	104	C	N1-C2-O2	5.79	122.37	118.90
85	S3	801	U	N1-C2-O2	5.79	126.85	122.80
7	L6	2547	G	C4-N9-C1'	-5.78	118.98	126.50
7	L6	4350	C	N1-C2-O2	5.78	122.37	118.90
85	S3	1268	C	C2-N1-C1'	5.78	125.16	118.80
7	L6	1171	G	N3-C4-N9	-5.78	122.53	126.00
85	S3	687	C	N1-C2-O2	5.78	122.37	118.90
7	L5	2106	G	N3-C4-C5	-5.78	125.71	128.60
7	L6	988	C	C2-N1-C1'	5.78	125.16	118.80
7	L6	1097	C	N3-C2-O2	-5.78	117.86	121.90
85	S2	1696	C	C2-N1-C1'	5.78	125.15	118.80
85	S3	178	C	C6-N1-C2	-5.78	117.99	120.30
85	S3	311	C	N3-C2-O2	-5.78	117.86	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	322	C	N1-C2-O2	5.77	122.36	118.90
85	S2	1016	U	N1-C2-O2	5.77	126.84	122.80
7	L5	3772	U	N1-C2-O2	5.77	126.84	122.80
7	L6	3622	C	N1-C2-O2	5.77	122.36	118.90
85	S3	96	C	C2-N1-C1'	5.77	125.15	118.80
85	S3	1113	A	N9-C4-C5	-5.77	103.49	105.80
7	L6	4773	C	N1-C2-O2	5.77	122.36	118.90
85	S2	549	C	C6-N1-C2	-5.77	117.99	120.30
7	L6	4137	C	C2-N1-C1'	5.76	125.14	118.80
85	S2	1016	U	N3-C2-O2	-5.76	118.16	122.20
7	L6	14	C	C2-N1-C1'	5.76	125.14	118.80
8	L7	28	C	N1-C2-O2	5.76	122.36	118.90
8	L7	76	U	N3-C2-O2	-5.76	118.17	122.20
7	L6	4199	C	C6-N1-C2	-5.76	118.00	120.30
7	L6	2515	G	N1-C6-O6	-5.76	116.45	119.90
85	S2	178	C	C2-N1-C1'	5.75	125.13	118.80
7	L5	68	U	N3-C2-O2	-5.75	118.17	122.20
85	S3	1172	U	N3-C2-O2	-5.75	118.18	122.20
7	L5	86	U	N3-C2-O2	-5.75	118.18	122.20
7	L6	2351	C	C2-N1-C1'	5.74	125.12	118.80
85	S2	531	A	C4-N9-C1'	5.74	136.64	126.30
7	L5	406	C	P-O3'-C3'	5.74	126.59	119.70
7	L5	3598	C	C6-N1-C2	-5.74	118.00	120.30
7	L6	2515	G	N3-C4-N9	-5.74	122.56	126.00
85	S3	1415	C	N1-C2-O2	5.74	122.34	118.90
7	L5	3909	C	C6-N1-C2	-5.73	118.01	120.30
7	L5	4261	C	C5-C6-N1	5.73	123.87	121.00
7	L6	691	C	N3-C2-O2	-5.73	117.89	121.90
7	L6	987	C	N1-C2-N3	5.73	123.21	119.20
7	L6	4080	C	N1-C2-N3	5.73	123.21	119.20
85	S2	210	U	N1-C2-O2	5.73	126.81	122.80
7	L5	1414	C	C5-C6-N1	5.73	123.86	121.00
85	S2	87	U	N3-C2-O2	-5.73	118.19	122.20
85	S2	210	U	N3-C2-O2	-5.73	118.19	122.20
85	S3	304	C	C6-N1-C2	-5.73	118.01	120.30
8	L9	28	C	C6-N1-C2	-5.73	118.01	120.30
85	S2	883	U	C2-N1-C1'	5.73	124.57	117.70
85	S2	145	G	N3-C4-N9	-5.72	122.56	126.00
7	L5	4703	U	N3-C2-O2	-5.72	118.19	122.20
7	L5	4741	C	N1-C2-O2	5.72	122.33	118.90
7	L5	3778	U	N1-C2-O2	5.72	126.80	122.80
7	L6	1429	C	N3-C2-O2	-5.72	117.90	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	219	U	N1-C2-N3	5.72	118.33	114.90
85	S2	1620	A	C8-N9-C4	-5.72	103.51	105.80
85	S2	310	C	C2-N1-C1'	5.72	125.09	118.80
85	S2	1078	C	C2-N1-C1'	5.72	125.09	118.80
7	L6	2410	C	N1-C2-O2	5.71	122.33	118.90
7	L6	2892	C	C2-N1-C1'	5.71	125.08	118.80
85	S2	1782	G	C6-C5-N7	5.71	133.83	130.40
7	L5	5028	G	C4-N9-C1'	5.71	133.93	126.50
7	L5	676	C	C6-N1-C2	-5.71	118.02	120.30
7	L5	3887	C	C6-N1-C2	-5.71	118.02	120.30
7	L5	4918	C	C2-N1-C1'	5.71	125.08	118.80
7	L5	2894	A	C5-N7-C8	-5.71	101.05	103.90
85	S3	322	C	N1-C2-N3	5.71	123.20	119.20
85	S3	1275	G	N3-C4-N9	5.71	129.43	126.00
7	L6	1183	C	C6-N1-C2	-5.71	118.02	120.30
7	L6	2439	G	C4-N9-C1'	5.71	133.92	126.50
85	S3	1746	U	C2-N1-C1'	5.71	124.55	117.70
7	L5	1250	C	N3-C2-O2	-5.71	117.91	121.90
7	L5	4747	C	C2-N1-C1'	5.71	125.08	118.80
6	L8	64	U	N1-C2-O2	5.70	126.79	122.80
7	L6	234	G	C6-C5-N7	-5.70	126.98	130.40
7	L6	519	C	N3-C2-O2	-5.70	117.91	121.90
7	L6	2560	C	C6-N1-C2	-5.70	118.02	120.30
6	L1	156	U	N1-C2-O2	5.70	126.79	122.80
85	S3	1684	C	N3-C2-O2	-5.70	117.91	121.90
85	S3	1850	A	O4'-C1'-N9	5.70	112.76	108.20
55	SD	177	LEU	CA-CB-CG	5.69	128.40	115.30
7	L6	4071	U	N3-C2-O2	-5.69	118.22	122.20
85	S2	96	C	N1-C2-O2	5.69	122.31	118.90
85	S2	971	G	P-O3'-C3'	5.69	126.53	119.70
85	S3	310	C	C2-N3-C4	5.69	122.75	119.90
7	L5	665	C	N3-C2-O2	-5.69	117.92	121.90
7	L6	468	U	C6-N1-C1'	5.69	129.16	121.20
7	L6	2022	C	C2-N1-C1'	5.69	125.06	118.80
85	S3	1518	C	C2-N1-C1'	5.69	125.06	118.80
85	S2	1527	C	C6-N1-C2	-5.69	118.03	120.30
7	L6	1077	C	N1-C2-O2	5.68	122.31	118.90
7	L5	905	C	N1-C2-O2	5.68	122.31	118.90
85	S2	4	C	C2-N1-C1'	5.68	125.05	118.80
7	L6	4766	C	C6-N1-C2	-5.68	118.03	120.30
85	S2	1022	U	N1-C2-O2	5.68	126.78	122.80
7	L6	2281	U	C5-C6-N1	5.68	125.54	122.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	665	C	C2-N1-C1'	5.68	125.04	118.80
7	L5	1514	U	N1-C2-O2	5.68	126.77	122.80
7	L6	220	C	C5-C6-N1	5.68	123.84	121.00
85	S3	915	G	O4'-C1'-N9	5.68	112.74	108.20
7	L6	3797	C	C6-N1-C1'	5.67	127.61	120.80
85	S2	536	A	N3-C4-C5	-5.67	122.83	126.80
85	S3	1627	C	N3-C2-O2	-5.67	117.93	121.90
3	D5	70	G	N3-C2-N2	5.67	123.87	119.90
7	L5	458	C	N1-C2-O2	5.67	122.30	118.90
7	L6	4352	U	N1-C2-O2	5.67	126.77	122.80
6	L8	87	G	O5'-P-OP1	-5.67	100.60	105.70
85	S2	1277	C	C5-C6-N1	5.67	123.84	121.00
85	S3	958	G	C8-N9-C1'	-5.67	119.63	127.00
85	S2	1057	C	C6-N1-C1'	-5.67	114.00	120.80
85	S3	1348	G	N1-C2-N2	5.67	121.30	116.20
7	L6	3820	G	N9-C4-C5	5.67	107.67	105.40
85	S2	1630	A	N1-C6-N6	-5.67	115.20	118.60
7	L5	1633	G	P-O3'-C3'	5.67	126.50	119.70
7	L6	1183	C	C5-C6-N1	5.67	123.83	121.00
3	B4	20	U	C2-N1-C1'	5.66	124.50	117.70
7	L5	3775	A	N7-C8-N9	5.66	116.63	113.80
7	L6	3693	U	N1-C2-O2	5.66	126.76	122.80
7	L6	4562	C	C6-N1-C2	-5.66	118.03	120.30
7	L5	4772	C	C6-N1-C2	-5.66	118.03	120.30
3	D5	12	U	N1-C2-O2	5.66	126.76	122.80
7	L5	178	C	N3-C2-O2	-5.66	117.94	121.90
85	S3	461	U	N3-C2-O2	-5.66	118.24	122.20
7	L5	2362	U	C2-N1-C1'	5.66	124.49	117.70
7	L5	129	C	C6-N1-C2	-5.66	118.04	120.30
85	S2	219	U	N3-C4-O4	-5.66	115.44	119.40
7	L6	3696	C	N1-C2-O2	5.65	122.29	118.90
7	L6	4254	G	N3-C4-C5	-5.65	125.77	128.60
7	L6	2607	C	C5-C6-N1	5.65	123.83	121.00
7	L6	2653	C	C6-N1-C1'	5.65	127.58	120.80
7	L6	3870	C	C2-N1-C1'	5.65	125.02	118.80
4	B5	31	C	C2-N1-C1'	5.65	125.01	118.80
7	L5	1755	C	C6-N1-C2	-5.64	118.04	120.30
7	L5	2904	U	C2-N1-C1'	5.64	124.47	117.70
85	S2	1623	A	C2-N3-C4	5.64	113.42	110.60
7	L5	5016	A	O4'-C1'-N9	5.64	112.71	108.20
85	S3	1364	U	N3-C2-O2	-5.64	118.25	122.20
7	L5	4308	C	N1-C2-O2	5.64	122.28	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	1620	U	N3-C2-O2	-5.64	118.25	122.20
7	L6	1248	C	N1-C2-O2	5.64	122.28	118.90
8	L9	30	C	N3-C2-O2	-5.64	117.95	121.90
7	L6	1094	G	N3-C4-N9	5.64	129.38	126.00
7	L6	4350	C	N3-C2-O2	-5.64	117.95	121.90
7	L5	4594	U	C2-N1-C1'	5.63	124.46	117.70
7	L5	4739	C	C5-C6-N1	5.63	123.82	121.00
85	S2	632	C	C5-C6-N1	5.63	123.82	121.00
85	S3	1234	C	C6-N1-C2	-5.63	118.05	120.30
7	L6	3693	U	N3-C2-O2	-5.63	118.26	122.20
7	L5	672	C	C6-N1-C1'	-5.63	114.04	120.80
7	L6	1472	C	C2-N1-C1'	5.63	125.00	118.80
7	L6	1772	C	C5-C6-N1	5.63	123.82	121.00
85	S3	186	C	C6-N1-C2	-5.63	118.05	120.30
7	L5	1936	C	N1-C2-O2	5.63	122.28	118.90
7	L5	3598	C	N1-C2-O2	5.63	122.28	118.90
7	L5	4241	C	N1-C2-O2	5.63	122.28	118.90
7	L5	4771	C	C6-N1-C2	-5.63	118.05	120.30
7	L6	4502	C	N3-C2-O2	-5.63	117.96	121.90
85	S3	1834	A	C8-N9-C4	-5.63	103.55	105.80
7	L5	5059	C	N3-C2-O2	-5.63	117.96	121.90
7	L6	2715	G	N3-C2-N2	-5.63	115.96	119.90
7	L6	4461	C	C6-N1-C2	-5.63	118.05	120.30
7	L6	2351	C	C5-C6-N1	5.62	123.81	121.00
8	L7	29	C	C2-N1-C1'	5.62	124.99	118.80
85	S3	1422	G	C8-N9-C1'	-5.62	119.69	127.00
85	S3	1543	U	C2-N1-C1'	5.62	124.45	117.70
7	L6	4392	G	N3-C4-N9	-5.62	122.63	126.00
85	S2	1146	C	C6-N1-C2	-5.62	118.05	120.30
85	S3	1313	A	C2-N3-C4	5.62	113.41	110.60
7	L5	2856	C	N3-C2-O2	-5.62	117.97	121.90
7	L6	155	C	N1-C2-O2	5.62	122.27	118.90
7	L6	2547	G	N3-C4-N9	-5.62	122.63	126.00
7	L6	1822	U	N3-C2-O2	-5.62	118.27	122.20
7	L6	4991	U	N1-C2-O2	5.62	126.73	122.80
85	S3	1755	C	C6-N1-C2	-5.62	118.05	120.30
7	L5	4939	C	N3-C2-O2	-5.61	117.97	121.90
7	L6	30	C	C2-N1-C1'	5.61	124.97	118.80
7	L6	468	U	C4-C5-C6	-5.61	116.33	119.70
85	S2	1624	U	O4'-C1'-N1	5.61	112.69	108.20
7	L5	453	G	C2-N3-C4	5.61	114.70	111.90
7	L5	4773	C	C6-N1-C2	-5.61	118.06	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	513	U	C6-N1-C2	-5.61	117.64	121.00
85	S2	548	C	C2-N1-C1'	5.61	124.97	118.80
7	L5	453	G	C8-N9-C1'	-5.61	119.71	127.00
7	L5	4973	U	N3-C2-O2	-5.61	118.28	122.20
7	L6	1578	U	N1-C2-O2	5.61	126.72	122.80
7	L5	4594	U	N1-C2-O2	5.60	126.72	122.80
7	L6	3673	C	P-O3'-C3'	5.60	126.42	119.70
85	S3	321	C	N1-C2-O2	5.60	122.26	118.90
7	L5	3778	U	N3-C2-O2	-5.60	118.28	122.20
7	L5	4766	C	C5-C6-N1	5.60	123.80	121.00
85	S2	1664	A	P-O3'-C3'	5.60	126.42	119.70
7	L6	233	U	N1-C1'-C2'	5.60	121.28	114.00
85	S2	37	C	C6-N1-C2	-5.60	118.06	120.30
85	S2	577	U	N3-C2-O2	-5.60	118.28	122.20
85	S2	649	U	N1-C2-O2	5.60	126.72	122.80
7	L6	3887	C	N1-C2-O2	5.60	122.26	118.90
85	S2	1098	C	C6-N1-C1'	-5.60	114.08	120.80
85	S2	1527	C	N3-C2-O2	-5.60	117.98	121.90
85	S3	1015	U	N1-C2-O2	5.60	126.72	122.80
8	L9	2	U	N3-C2-O2	-5.59	118.28	122.20
8	L9	29	C	N1-C2-O2	5.59	122.26	118.90
85	S2	801	U	C2-N1-C1'	5.59	124.41	117.70
2	A5	51	U	N3-C2-O2	-5.59	118.29	122.20
7	L5	1597	G	O4'-C1'-N9	5.59	112.67	108.20
7	L5	2494	U	C2-N1-C1'	5.59	124.41	117.70
7	L6	1505	C	C5-C6-N1	5.59	123.80	121.00
7	L5	740	G	N3-C4-N9	-5.59	122.65	126.00
85	S2	1782	G	C8-N9-C1'	5.59	134.27	127.00
7	L6	1077	C	N3-C2-O2	-5.59	117.99	121.90
7	L6	4747	C	C2-N1-C1'	5.59	124.95	118.80
7	L5	1248	C	N1-C2-O2	5.59	122.25	118.90
85	S3	441	C	C2-N1-C1'	5.58	124.94	118.80
85	S2	1684	C	N3-C2-O2	-5.58	117.99	121.90
85	S3	1172	U	C2-N1-C1'	5.58	124.40	117.70
7	L6	4887	C	C2-N1-C1'	5.58	124.94	118.80
85	S3	60	A	O4'-C1'-N9	-5.58	103.73	108.20
85	S3	362	C	N3-C4-N4	-5.58	114.09	118.00
7	L6	2715	G	C5-C6-O6	5.58	131.95	128.60
7	L5	2487	G	N3-C4-C5	5.58	131.39	128.60
7	L5	4772	C	N1-C2-O2	5.58	122.25	118.90
7	L6	4215	C	N3-C2-O2	-5.58	118.00	121.90
85	S2	592	C	C5-C6-N1	5.58	123.79	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	1192	C	N1-C2-O2	5.57	122.24	118.90
7	L5	4918	C	C5-C6-N1	5.57	123.79	121.00
3	D5	12	U	C2-N1-C1'	5.57	124.39	117.70
7	L6	1458	C	N1-C2-O2	5.57	122.24	118.90
7	L5	1726	U	N1-C2-O2	5.57	126.70	122.80
85	S2	1285	G	P-O3'-C3'	5.57	126.39	119.70
85	S2	1389	C	C6-N1-C1'	-5.57	114.11	120.80
85	S2	1591	C	C6-N1-C1'	-5.57	114.12	120.80
85	S3	713	C	N1-C2-O2	5.57	122.24	118.90
85	S3	882	U	C6-N1-C1'	5.57	129.00	121.20
7	L5	117	C	N1-C2-O2	5.57	122.24	118.90
7	L5	1735	U	N1-C2-O2	5.57	126.70	122.80
85	S2	1556	A	N3-C4-N9	5.57	131.85	127.40
85	S3	1367	U	N3-C2-O2	-5.57	118.30	122.20
85	S2	839	C	N3-C4-N4	-5.57	114.10	118.00
85	S2	958	G	N7-C8-N9	5.57	115.88	113.10
85	S3	721	G	P-O3'-C3'	5.57	126.38	119.70
7	L5	112	C	C6-N1-C2	-5.57	118.07	120.30
7	L5	1853	G	C4-N9-C1'	5.57	133.74	126.50
85	S2	1218	C	C6-N1-C2	-5.56	118.07	120.30
6	L1	99	U	N3-C2-O2	-5.56	118.31	122.20
7	L5	4502	C	N1-C2-O2	5.56	122.24	118.90
7	L6	117	C	N1-C2-O2	5.56	122.24	118.90
85	S3	1627	C	N1-C2-O2	5.56	122.24	118.90
7	L6	4299	U	N3-C2-O2	-5.56	118.31	122.20
7	L5	1344	C	C6-N1-C2	-5.56	118.08	120.30
7	L6	4341	C	C6-N1-C2	-5.56	118.08	120.30
85	S3	1275	G	C4-N9-C1'	5.56	133.73	126.50
85	S3	1733	U	N3-C2-O2	-5.56	118.31	122.20
76	RZ	68	ILE	CG1-CB-CG2	-5.56	99.17	111.40
85	S3	1118	C	C6-N1-C2	-5.56	118.08	120.30
85	S2	1161	U	N1-C2-O2	5.56	126.69	122.80
85	S3	1609	C	C6-N1-C2	-5.56	118.08	120.30
7	L5	3892	U	N1-C2-O2	5.55	126.69	122.80
7	L5	436	C	N3-C2-O2	-5.55	118.01	121.90
85	S2	1837	G	N3-C4-N9	-5.55	122.67	126.00
7	L5	4223	C	C6-N1-C2	-5.55	118.08	120.30
7	L6	1720	C	C6-N1-C2	-5.55	118.08	120.30
85	S2	1098	C	N3-C2-O2	-5.55	118.02	121.90
7	L6	68	U	N3-C2-O2	-5.55	118.32	122.20
3	B4	68	C	N3-C2-O2	-5.55	118.02	121.90
7	L5	988	C	N3-C2-O2	-5.55	118.02	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	4887	C	N3-C2-O2	-5.54	118.02	121.90
85	S3	1416	C	C6-N1-C2	-5.54	118.08	120.30
7	L5	676	C	C2-N1-C1'	5.54	124.89	118.80
7	L6	1488	G	N3-C4-C5	5.54	131.37	128.60
85	S2	1186	U	N3-C2-O2	-5.54	118.32	122.20
85	S2	1624	U	C6-N1-C1'	-5.54	113.44	121.20
3	D5	70	G	C4-N9-C1'	5.54	133.70	126.50
7	L6	2281	U	C2-N1-C1'	5.54	124.35	117.70
85	S2	1362	U	N3-C2-O2	-5.54	118.32	122.20
85	S3	1395	C	P-O3'-C3'	5.54	126.35	119.70
85	S3	1409	A	C6-N1-C2	5.54	121.92	118.60
7	L5	4887	C	N3-C2-O2	-5.54	118.03	121.90
7	L5	4921	C	C5-C6-N1	5.54	123.77	121.00
7	L6	152	U	N3-C2-O2	-5.54	118.33	122.20
7	L6	1178	G	C8-N9-C4	-5.54	104.19	106.40
7	L6	4206	C	C2-N1-C1'	5.54	124.89	118.80
85	S2	939	U	N3-C2-O2	-5.54	118.33	122.20
7	L5	1079	C	C2-N3-C4	-5.53	117.13	119.90
7	L6	2022	C	N1-C2-O2	5.53	122.22	118.90
7	L5	4137	C	C2-N1-C1'	5.53	124.88	118.80
7	L6	4926	C	N3-C2-O2	-5.53	118.03	121.90
85	S2	958	G	C6-C5-N7	-5.53	127.08	130.40
85	S3	1381	G	N3-C2-N2	-5.53	116.03	119.90
7	L5	2892	C	C5-C6-N1	5.53	123.76	121.00
85	S2	632	C	C6-N1-C2	-5.53	118.09	120.30
85	S2	1752	C	N1-C2-O2	5.53	122.22	118.90
7	L5	100	C	C6-N1-C2	-5.52	118.09	120.30
7	L6	1488	G	C2-N3-C4	-5.52	109.14	111.90
7	L6	26	C	N3-C2-O2	-5.52	118.04	121.90
7	L6	96	U	N3-C2-O2	-5.52	118.34	122.20
85	S2	1649	U	C5-C4-O4	-5.52	122.59	125.90
85	S3	463	C	N3-C4-N4	-5.52	114.14	118.00
7	L5	2416	G	P-O3'-C3'	5.52	126.32	119.70
7	L6	987	C	C6-N1-C1'	5.52	127.42	120.80
8	L9	30	C	C2-N1-C1'	5.52	124.87	118.80
85	S2	566	U	N3-C2-O2	-5.52	118.34	122.20
85	S3	491	C	N1-C2-O2	5.51	122.21	118.90
85	S2	690	G	C8-N9-C1'	-5.51	119.83	127.00
85	S3	973	C	N1-C2-O2	5.51	122.21	118.90
7	L6	1777	C	C6-N1-C2	-5.51	118.10	120.30
50	Mr	106	LEU	CA-CB-CG	5.51	127.97	115.30
85	S2	465	A	P-O3'-C3'	5.51	126.31	119.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	1201	U	N3-C2-O2	-5.51	118.34	122.20
7	L5	967	C	N3-C2-O2	-5.51	118.04	121.90
7	L5	100	C	N1-C2-O2	5.51	122.20	118.90
7	L6	2560	C	N1-C2-O2	5.51	122.20	118.90
7	L5	2445	C	C6-N1-C2	-5.50	118.10	120.30
7	L6	657	C	C2-N1-C1'	5.50	124.85	118.80
7	L5	658	C	N3-C2-O2	-5.50	118.05	121.90
7	L6	977	C	C5-C6-N1	5.50	123.75	121.00
7	L6	1929	A	C4-N9-C1'	5.50	136.20	126.30
85	S2	1019	C	O4'-C1'-N1	5.50	112.60	108.20
85	S2	1145	A	N3-C4-N9	5.50	131.80	127.40
85	S2	1676	U	N1-C2-O2	5.50	126.65	122.80
7	L6	1239	C	C2-N3-C4	-5.50	117.15	119.90
85	S2	1304	U	N3-C2-O2	-5.50	118.35	122.20
85	S3	728	C	C6-N1-C2	-5.50	118.10	120.30
85	S3	823	U	C2-N1-C1'	5.50	124.30	117.70
7	L6	234	G	C8-N9-C1'	-5.49	119.86	127.00
85	S2	618	C	N3-C2-O2	-5.49	118.05	121.90
85	S3	1742	C	C2-N1-C1'	5.49	124.84	118.80
7	L5	4360	U	N1-C2-O2	5.49	126.64	122.80
34	Ma	5	LEU	CA-CB-CG	5.49	127.93	115.30
85	S3	206	G	N1-C6-O6	-5.49	116.61	119.90
7	L5	1821	G	N3-C4-C5	-5.49	125.86	128.60
7	L5	1929	A	C4-N9-C1'	5.49	136.18	126.30
6	L8	111	U	C5-C6-N1	5.49	125.44	122.70
85	S2	1396	A	O5'-P-OP2	-5.49	100.76	105.70
7	L5	4193	C	N1-C2-O2	5.49	122.19	118.90
3	D5	11	C	C5-C6-N1	5.49	123.74	121.00
7	L6	50	C	N3-C2-O2	-5.49	118.06	121.90
7	L6	2257	C	C2-N1-C1'	5.49	124.83	118.80
6	L1	96	C	N3-C2-O2	-5.48	118.06	121.90
7	L6	3926	C	C5-C6-N1	5.48	123.74	121.00
3	D5	70	G	C8-N9-C1'	-5.48	119.87	127.00
7	L5	704	C	N1-C2-O2	5.48	122.19	118.90
7	L5	2899	C	N1-C2-O2	5.48	122.19	118.90
7	L5	4206	C	C5-C6-N1	5.48	123.74	121.00
7	L5	4703	U	N1-C2-O2	5.48	126.64	122.80
7	L6	1097	C	N1-C2-O2	5.48	122.19	118.90
85	S3	1588	A	O4'-C1'-N9	5.48	112.59	108.20
8	L9	2	U	N1-C2-O2	5.48	126.64	122.80
85	S2	579	C	N1-C2-O2	5.48	122.19	118.90
85	S2	1558	C	N1-C2-O2	5.48	122.19	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S3	49	C	N3-C2-O2	-5.48	118.06	121.90
7	L6	124	C	C5-C6-N1	5.48	123.74	121.00
7	L6	485	C	C6-N1-C1'	-5.48	114.22	120.80
85	S3	1265	A	N3-C4-C5	-5.48	122.97	126.80
5	CC	23	C	N3-C2-O2	-5.48	118.06	121.90
7	L5	4557	U	N3-C2-O2	-5.48	118.37	122.20
7	L6	124	C	C2-N1-C1'	5.48	124.82	118.80
3	B4	68	C	N1-C2-O2	5.47	122.19	118.90
7	L6	489	C	N1-C2-O2	5.47	122.18	118.90
85	S2	577	U	N1-C2-O2	5.47	126.63	122.80
7	L5	86	U	C2-N1-C1'	5.47	124.26	117.70
85	S3	1381	G	N3-C4-N9	-5.47	122.72	126.00
7	L5	2563	C	C6-N1-C2	-5.47	118.11	120.30
7	L6	666	G	O4'-C1'-N9	5.47	112.57	108.20
7	L6	1309	C	C5-C6-N1	5.47	123.73	121.00
85	S2	1032	C	C6-N1-C2	-5.47	118.11	120.30
7	L5	689	U	C2-N1-C1'	5.47	124.26	117.70
7	L6	4714	C	C6-N1-C2	-5.47	118.11	120.30
85	S3	711	C	C6-N1-C2	-5.47	118.11	120.30
7	L6	2899	C	C2-N1-C1'	5.46	124.81	118.80
7	L6	3910	C	C2-N1-C1'	5.46	124.81	118.80
3	D5	33	U	C6-N1-C1'	-5.46	113.56	121.20
7	L5	1219	G	C8-N9-C1'	-5.46	119.91	127.00
7	L5	1538	U	N3-C2-O2	-5.45	118.38	122.20
7	L5	1912	G	C4-N9-C1'	5.45	133.59	126.50
85	S3	1389	C	C6-N1-C1'	-5.45	114.26	120.80
7	L5	1185	G	N3-C2-N2	-5.45	116.08	119.90
7	L5	2096	G	C4-N9-C1'	5.45	133.58	126.50
85	S2	1277	C	C6-N1-C2	-5.45	118.12	120.30
85	S3	636	C	C5-C6-N1	5.45	123.72	121.00
85	S2	497	C	N1-C2-O2	5.45	122.17	118.90
7	L6	4071	U	N1-C2-O2	5.45	126.61	122.80
85	S2	536	A	C5-C6-N1	5.45	120.42	117.70
7	L6	49	U	N3-C2-O2	-5.44	118.39	122.20
7	L6	2702	C	C6-N1-C2	-5.44	118.12	120.30
7	L5	693	C	C2-N1-C1'	5.44	124.79	118.80
7	L6	1821	G	N3-C4-C5	-5.44	125.88	128.60
85	S2	49	C	N1-C2-O2	5.44	122.17	118.90
85	S3	216	C	C4-C5-C6	5.44	120.12	117.40
7	L6	3887	C	N3-C2-O2	-5.44	118.09	121.90
7	L5	1781	U	N1-C2-O2	5.44	126.61	122.80
7	L6	3820	G	N1-C2-N3	5.44	127.16	123.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	815	U	N3-C2-O2	-5.44	118.39	122.20
85	S2	1333	U	N3-C2-O2	-5.44	118.39	122.20
7	L5	1252	C	C2-N1-C1'	5.43	124.78	118.80
7	L6	123	C	N3-C2-O2	-5.43	118.10	121.90
85	S2	1230	C	C6-N1-C2	-5.43	118.13	120.30
85	S2	690	G	C4-N9-C1'	5.43	133.56	126.50
85	S3	1450	G	C8-N9-C1'	5.43	134.06	127.00
7	L6	233	U	N1-C2-O2	5.43	126.60	122.80
7	L6	2820	C	C6-N1-C2	-5.43	118.13	120.30
85	S2	592	C	C6-N1-C1'	-5.43	114.28	120.80
3	D5	67	C	C5-C6-N1	5.43	123.71	121.00
7	L5	180	C	C5-C6-N1	5.43	123.72	121.00
7	L5	181	C	C6-N1-C1'	-5.43	114.28	120.80
7	L6	907	C	C2-N1-C1'	5.43	124.77	118.80
7	L6	4243	C	N1-C2-O2	5.43	122.16	118.90
85	S2	1564	C	N1-C2-O2	5.43	122.16	118.90
85	S2	1623	A	N3-C4-N9	5.43	131.74	127.40
7	L5	2802	C	C5-C6-N1	5.43	123.71	121.00
7	L6	234	G	N3-C4-C5	-5.43	125.89	128.60
7	L5	4973	U	N1-C2-O2	5.43	126.60	122.80
7	L5	2532	C	C2-N1-C1'	5.42	124.77	118.80
7	L5	4471	U	N3-C2-O2	-5.42	118.40	122.20
7	L5	1666	C	C6-N1-C2	-5.42	118.13	120.30
7	L6	4958	C	N3-C2-O2	-5.42	118.10	121.90
7	L6	1505	C	C6-N1-C2	-5.42	118.13	120.30
85	S3	1692	U	N1-C2-O2	5.42	126.59	122.80
7	L5	3673	C	P-O3'-C3'	5.42	126.20	119.70
7	L5	519	C	N3-C2-O2	-5.42	118.11	121.90
7	L5	3882	C	C2-N1-C1'	5.42	124.76	118.80
7	L6	1906	U	N3-C2-O2	-5.42	118.41	122.20
85	S2	578	C	N1-C2-O2	5.42	122.15	118.90
7	L5	4885	U	N1-C2-O2	5.42	126.59	122.80
7	L6	4730	C	C6-N1-C2	-5.42	118.13	120.30
71	RU	24	LEU	CA-CB-CG	5.42	127.76	115.30
7	L6	1178	G	N3-C2-N2	-5.42	116.11	119.90
85	S2	1293	A	N9-C4-C5	-5.42	103.63	105.80
7	L6	1535	C	N3-C2-O2	-5.41	118.11	121.90
85	S3	1057	C	C6-N1-C2	-5.41	118.14	120.30
6	L1	51	U	N1-C2-O2	5.41	126.59	122.80
7	L6	2627	C	C6-N1-C2	-5.41	118.14	120.30
6	L1	83	C	C5-C4-N4	-5.41	116.41	120.20
7	L5	2528	G	C8-N9-C1'	-5.41	119.97	127.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	4601	U	C6-N1-C2	-5.41	117.75	121.00
14	MF	169	LEU	CA-CB-CG	5.41	127.74	115.30
85	S2	1147	C	C6-N1-C2	-5.41	118.14	120.30
7	L5	4308	C	C6-N1-C2	-5.41	118.14	120.30
7	L5	4991	U	C6-N1-C1'	-5.41	113.63	121.20
7	L5	129	C	N1-C2-N3	5.40	122.98	119.20
7	L5	1598	C	N3-C2-O2	-5.40	118.12	121.90
85	S2	877	C	C6-N1-C2	-5.40	118.14	120.30
85	S2	188	C	N1-C2-O2	5.40	122.14	118.90
85	S2	194	C	C5-C6-N1	5.40	123.70	121.00
85	S2	930	C	C2-N1-C1'	5.40	124.74	118.80
85	S3	973	C	C6-N1-C2	-5.40	118.14	120.30
6	L1	83	C	C2-N1-C1'	5.40	124.74	118.80
85	S2	973	C	N1-C2-O2	5.40	122.14	118.90
85	S3	575	A	N7-C8-N9	5.40	116.50	113.80
7	L6	1513	U	C2-N1-C1'	5.40	124.18	117.70
85	S2	1676	U	N3-C2-O2	-5.40	118.42	122.20
85	S3	1417	C	N3-C2-O2	-5.40	118.12	121.90
7	L6	2446	C	N1-C2-N3	5.39	122.98	119.20
7	L5	2347	A	O4'-C1'-N9	-5.39	103.89	108.20
22	MO	102	LEU	CB-CG-CD2	-5.39	101.83	111.00
85	S2	566	U	N1-C2-O2	5.39	126.58	122.80
7	L6	4923	C	N3-C2-O2	-5.39	118.13	121.90
7	L5	220	C	C6-N1-C2	-5.39	118.14	120.30
7	L6	294	G	N9-C4-C5	-5.39	103.24	105.40
7	L6	2653	C	N3-C4-N4	-5.39	114.23	118.00
85	S3	1289	U	N3-C2-O2	-5.39	118.43	122.20
85	S3	1624	U	C2-N1-C1'	5.39	124.17	117.70
3	D5	60	U	P-O3'-C3'	5.39	126.16	119.70
6	L1	87	G	O5'-P-OP1	-5.39	100.85	105.70
7	L5	5025	C	N1-C2-O2	5.39	122.13	118.90
85	S2	178	C	C6-N1-C2	-5.38	118.15	120.30
85	S2	119	U	C2-N1-C1'	5.38	124.16	117.70
7	L6	987	C	N3-C2-O2	-5.38	118.13	121.90
7	L5	2627	C	C6-N1-C1'	-5.38	114.34	120.80
7	L6	3824	A	N9-C4-C5	-5.38	103.65	105.80
6	L8	87	G	P-O3'-C3'	5.38	126.16	119.70
7	L5	4444	C	N3-C2-O2	-5.38	118.14	121.90
7	L6	294	G	C4-C5-N7	5.38	112.95	110.80
7	L5	740	G	C8-N9-C1'	5.38	133.99	127.00
7	L5	2281	U	C5-C6-N1	5.38	125.39	122.70
85	S2	186	C	C6-N1-C2	-5.38	118.15	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	2260	C	N1-C2-O2	5.38	122.12	118.90
7	L5	4880	C	N1-C2-O2	5.38	122.12	118.90
7	L6	3741	C	N3-C2-O2	-5.38	118.14	121.90
85	S3	1751	C	C5-C6-N1	5.37	123.69	121.00
7	L6	449	C	N1-C2-O2	5.37	122.12	118.90
8	L7	104	C	N3-C2-O2	-5.37	118.14	121.90
7	L6	4516	G	N9-C4-C5	5.37	107.55	105.40
7	L5	1832	C	N3-C2-O2	-5.37	118.14	121.90
7	L6	1821	G	C4-N9-C1'	5.37	133.48	126.50
7	L6	2337	C	N3-C2-O2	-5.37	118.14	121.90
7	L6	2607	C	C6-N1-C2	-5.37	118.15	120.30
85	S2	1422	G	C8-N9-C1'	-5.37	120.02	127.00
7	L5	753	C	C6-N1-C1'	-5.37	114.36	120.80
7	L6	706	C	C2-N1-C1'	5.37	124.70	118.80
7	L6	977	C	N1-C2-O2	5.37	122.12	118.90
7	L6	2096	G	C4-N9-C1'	5.37	133.47	126.50
85	S3	1422	G	N3-C4-C5	-5.36	125.92	128.60
7	L5	3631	U	N3-C2-O2	-5.36	118.45	122.20
7	L6	1489	G	C5-C6-O6	5.36	131.82	128.60
85	S3	1684	C	N1-C2-O2	5.36	122.12	118.90
7	L6	4341	C	N1-C2-O2	5.36	122.12	118.90
7	L5	100	C	N3-C2-O2	-5.36	118.15	121.90
7	L5	255	C	C6-N1-C1'	-5.36	114.37	120.80
7	L5	4296	U	N1-C2-O2	5.36	126.55	122.80
7	L6	453	G	C8-N9-C1'	-5.36	120.03	127.00
7	L6	4551	U	N3-C2-O2	-5.36	118.45	122.20
7	L6	4714	C	C2-N1-C1'	5.36	124.69	118.80
85	S2	801	U	N1-C2-O2	5.36	126.55	122.80
7	L6	2410	C	C6-N1-C1'	-5.36	114.37	120.80
7	L6	3606	U	C2-N1-C1'	5.36	124.13	117.70
85	S2	1578	U	C2-N1-C1'	5.36	124.13	117.70
7	L5	4140	C	N1-C2-O2	5.35	122.11	118.90
7	L6	180	C	C6-N1-C2	-5.35	118.16	120.30
3	B4	2	C	C5-C6-N1	5.35	123.67	121.00
16	MH	153	LEU	CA-CB-CG	5.35	127.60	115.30
85	S3	310	C	N3-C4-C5	5.35	124.04	121.90
7	L5	2088	A	C4-N9-C1'	5.35	135.92	126.30
85	S3	1091	C	C6-N1-C2	-5.35	118.16	120.30
7	L6	181	C	N3-C2-O2	-5.35	118.16	121.90
85	S2	1772	C	C6-N1-C2	-5.35	118.16	120.30
7	L5	2904	U	N3-C2-O2	-5.34	118.46	122.20
85	S2	340	C	N1-C2-O2	5.34	122.11	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	4864	U	N3-C2-O2	-5.34	118.46	122.20
7	L6	1821	G	N3-C4-N9	5.34	129.20	126.00
85	S2	1556	A	N3-C4-C5	-5.34	123.06	126.80
7	L5	3618	C	C6-N1-C2	-5.34	118.16	120.30
7	L6	220	C	N1-C2-O2	5.34	122.10	118.90
85	S2	78	C	N1-C2-O2	5.34	122.10	118.90
7	L5	4137	C	N1-C2-O2	5.34	122.10	118.90
7	L6	962	C	C6-N1-C2	-5.34	118.17	120.30
85	S2	1780	G	N3-C4-N9	5.34	129.20	126.00
85	S3	1457	U	C5-C6-N1	5.33	125.37	122.70
7	L5	2632	U	N1-C2-O2	5.33	126.53	122.80
85	S2	1309	C	C5-C6-N1	5.33	123.67	121.00
85	S2	1601	A	P-O3'-C3'	5.33	126.10	119.70
7	L5	505	G	N7-C8-N9	5.33	115.77	113.10
7	L6	984	C	C2-N1-C1'	5.33	124.67	118.80
85	S2	118	C	N1-C2-O2	5.33	122.10	118.90
85	S2	1350	U	N3-C2-O2	-5.33	118.47	122.20
7	L5	675	C	C6-N1-C1'	-5.33	114.40	120.80
7	L6	1726	U	N1-C2-O2	5.33	126.53	122.80
85	S2	1396	A	OP1-P-OP2	-5.33	111.61	119.60
7	L5	4714	C	N3-C2-O2	-5.33	118.17	121.90
85	S3	330	G	N1-C2-N3	5.33	127.09	123.90
7	L6	4921	C	N1-C2-O2	5.32	122.09	118.90
85	S2	1585	U	OP1-P-O3'	5.32	116.91	105.20
85	S3	1319	U	N1-C2-N3	5.32	118.09	114.90
7	L5	984	C	N1-C2-O2	5.32	122.09	118.90
7	L6	453	G	C2-N3-C4	5.32	114.56	111.90
7	L6	1929	A	C2-N3-C4	5.32	113.26	110.60
7	L6	3930	U	C2-N1-C1'	5.32	124.09	117.70
7	L6	4583	C	C2-N1-C1'	-5.32	112.95	118.80
85	S2	179	C	C2-N1-C1'	5.32	124.65	118.80
7	L6	2627	C	C5-C6-N1	5.32	123.66	121.00
4	B5	11	C	C5-C6-N1	5.32	123.66	121.00
7	L5	1703	C	C5-C6-N1	5.31	123.66	121.00
7	L5	4296	U	N3-C2-O2	-5.31	118.48	122.20
85	S3	738	C	C6-N1-C2	-5.31	118.17	120.30
7	L5	86	U	N1-C2-O2	5.31	126.52	122.80
7	L5	1444	G	C4-N9-C1'	5.31	133.40	126.50
7	L5	2505	C	N3-C2-O2	-5.31	118.18	121.90
7	L5	5011	A	C3'-C2'-C1'	5.31	105.75	101.50
85	S2	806	U	N1-C2-O2	5.31	126.52	122.80
85	S3	885	U	C6-N1-C1'	-5.31	113.77	121.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	489	C	C6-N1-C1'	-5.31	114.43	120.80
7	L5	1715	C	N1-C2-O2	5.31	122.08	118.90
7	L5	4133	C	C6-N1-C2	-5.31	118.18	120.30
7	L5	1344	C	C5-C6-N1	5.30	123.65	121.00
7	L5	2632	U	N3-C2-O2	-5.30	118.49	122.20
7	L6	2867	C	N1-C2-O2	5.30	122.08	118.90
85	S2	1309	C	C6-N1-C2	-5.30	118.18	120.30
7	L6	180	C	C5-C6-N1	5.30	123.65	121.00
3	B4	20	U	N1-C2-O2	5.30	126.51	122.80
7	L5	2094	G	N3-C4-C5	-5.30	125.95	128.60
85	S3	1849	G	C4-N9-C1'	5.30	133.39	126.50
7	L5	4640	C	C6-N1-C2	-5.30	118.18	120.30
85	S2	1266	C	C5-C6-N1	5.30	123.65	121.00
7	L6	656	C	C6-N1-C1'	-5.30	114.44	120.80
6	L8	99	U	C2-N1-C1'	5.30	124.06	117.70
7	L5	180	C	C2-N1-C1'	5.29	124.62	118.80
31	MX	92	ASP	CB-CG-OD1	5.29	123.06	118.30
85	S2	1145	A	C2-N3-C4	5.29	113.25	110.60
85	S2	585	C	N1-C2-O2	5.29	122.08	118.90
85	S2	1772	C	C5-C6-N1	5.29	123.65	121.00
85	S2	1849	G	O4'-C1'-N9	5.29	112.43	108.20
85	S3	106	C	C6-N1-C2	-5.29	118.18	120.30
5	CC	55	C	C6-N1-C2	-5.29	118.18	120.30
7	L5	3771	C	C6-N1-C1'	-5.29	114.45	120.80
85	S2	531	A	C8-N9-C1'	-5.29	118.18	127.70
85	S2	1782	G	C5-C6-O6	5.29	131.78	128.60
9	MA	246	LEU	CA-CB-CG	5.29	127.47	115.30
7	L5	2259	G	C4-N9-C1'	-5.29	119.63	126.50
6	L1	51	U	N3-C2-O2	-5.29	118.50	122.20
7	L6	2701	U	C2-N1-C1'	5.29	124.04	117.70
85	S2	1752	C	N3-C2-O2	-5.29	118.20	121.90
85	S3	179	C	C6-N1-C2	-5.29	118.19	120.30
7	L5	489	C	N1-C2-O2	5.28	122.07	118.90
7	L5	972	C	C6-N1-C2	-5.28	118.19	120.30
7	L5	1402	C	C6-N1-C1'	-5.28	114.46	120.80
7	L6	1725	U	N3-C2-O2	-5.28	118.50	122.20
7	L6	2377	C	C6-N1-C2	-5.28	118.19	120.30
7	L6	2856	C	N3-C2-O2	-5.28	118.20	121.90
85	S2	1277	C	C6-N1-C1'	-5.28	114.46	120.80
85	S3	577	U	N1-C2-O2	5.28	126.50	122.80
7	L5	1193	C	N3-C2-O2	-5.28	118.20	121.90
85	S2	193	C	N3-C2-O2	-5.28	118.21	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	883	U	C6-N1-C2	-5.28	117.83	121.00
85	S3	1016	U	N1-C2-O2	5.28	126.50	122.80
85	S3	1278	A	N1-C2-N3	-5.28	126.66	129.30
7	L5	117	C	C2-N1-C1'	5.28	124.60	118.80
7	L5	4863	G	C5-C6-O6	-5.28	125.44	128.60
7	L6	518	G	C4-N9-C1'	5.28	133.36	126.50
85	S2	950	C	C6-N1-C2	-5.28	118.19	120.30
85	S2	193	C	C2-N1-C1'	5.27	124.60	118.80
7	L6	4392	G	N9-C4-C5	5.27	107.51	105.40
85	S2	666	U	N3-C2-O2	-5.27	118.51	122.20
7	L5	3770	U	N3-C2-O2	-5.27	118.51	122.20
85	S3	215	G	N3-C4-C5	-5.27	125.97	128.60
7	L5	2487	G	N3-C2-N2	-5.27	116.21	119.90
7	L5	2439	G	C4-N9-C1'	5.27	133.35	126.50
7	L6	672	C	N1-C2-O2	5.27	122.06	118.90
7	L6	5059	C	N1-C2-O2	5.27	122.06	118.90
7	L6	100	C	N3-C2-O2	-5.26	118.22	121.90
7	L6	1417	C	N1-C2-O2	5.26	122.06	118.90
85	S3	290	U	N3-C2-O2	-5.26	118.52	122.20
85	S3	833	C	N3-C2-O2	-5.26	118.22	121.90
7	L6	4918	C	C5-C6-N1	5.26	123.63	121.00
85	S2	666	U	C2-N1-C1'	5.26	124.02	117.70
85	S3	1395	C	C2-N1-C1'	5.26	124.59	118.80
7	L6	962	C	C6-N1-C1'	-5.26	114.49	120.80
7	L6	1832	C	N3-C2-O2	-5.26	118.22	121.90
85	S2	1696	C	C6-N1-C2	-5.26	118.20	120.30
7	L5	1075	G	N3-C4-N9	5.26	129.15	126.00
7	L5	2892	C	C6-N1-C2	-5.26	118.20	120.30
7	L6	1429	C	C2-N1-C1'	5.26	124.58	118.80
7	L6	1513	U	N3-C2-O2	-5.26	118.52	122.20
7	L6	2439	G	C8-N9-C1'	-5.25	120.17	127.00
7	L6	4775	C	C6-N1-C1'	5.25	127.10	120.80
85	S3	841	G	C2-N3-C4	-5.25	109.27	111.90
85	S3	1273	C	OP2-P-O3'	5.25	116.76	105.20
7	L6	2019	C	N3-C4-N4	-5.25	114.32	118.00
85	S2	1022	U	N3-C2-O2	-5.25	118.52	122.20
85	S3	1756	C	C5-C6-N1	5.25	123.62	121.00
7	L5	1469	C	C6-N1-C2	-5.25	118.20	120.30
7	L5	2362	U	N3-C2-O2	-5.25	118.53	122.20
7	L6	1417	C	C6-N1-C2	-5.25	118.20	120.30
85	S2	930	C	N3-C2-O2	-5.25	118.23	121.90
7	L6	963	G	N3-C4-N9	5.25	129.15	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	618	C	N1-C2-O2	5.25	122.05	118.90
7	L5	2860	C	N1-C2-O2	5.24	122.05	118.90
7	L6	688	U	N3-C2-O2	-5.24	118.53	122.20
7	L6	4138	C	C2-N1-C1'	5.24	124.57	118.80
7	L6	1395	U	N3-C2-O2	-5.24	118.53	122.20
85	S2	801	U	N3-C2-O2	-5.24	118.53	122.20
7	L6	260	C	C6-N1-C2	-5.24	118.20	120.30
7	L6	4758	U	C6-N1-C1'	-5.24	113.87	121.20
7	L5	489	C	C5-C6-N1	5.24	123.62	121.00
7	L5	3788	C	N1-C2-O2	5.24	122.04	118.90
7	L6	446	C	C6-N1-C2	-5.24	118.21	120.30
7	L6	1853	G	C4-N9-C1'	5.24	133.31	126.50
85	S3	1755	C	C5-C6-N1	5.24	123.62	121.00
7	L5	4958	C	C2-N1-C1'	5.23	124.56	118.80
7	L6	26	C	C5-C6-N1	5.23	123.62	121.00
85	S2	494	C	C2-N1-C1'	5.23	124.56	118.80
85	S3	577	U	N3-C2-O2	-5.23	118.54	122.20
7	L5	1924	C	C2-N1-C1'	5.23	124.56	118.80
7	L5	4693	C	N1-C2-O2	5.23	122.04	118.90
7	L5	4758	U	C6-N1-C1'	-5.23	113.88	121.20
7	L6	1488	G	C5-C6-O6	5.23	131.74	128.60
85	S3	1728	U	N3-C2-O2	-5.23	118.54	122.20
7	L5	96	U	N1-C2-O2	5.23	126.46	122.80
7	L5	1241	C	C6-N1-C1'	-5.23	114.52	120.80
7	L6	2281	U	N1-C2-O2	5.23	126.46	122.80
85	S2	188	C	C6-N1-C2	-5.23	118.21	120.30
85	S3	1779	G	C4-N9-C1'	5.23	133.30	126.50
7	L5	4254	G	N3-C4-N9	5.23	129.14	126.00
7	L6	653	U	N1-C2-O2	5.23	126.46	122.80
7	L5	1075	G	C8-N9-C1'	-5.23	120.20	127.00
7	L5	2867	C	C6-N1-C2	-5.23	118.21	120.30
7	L6	1703	C	N1-C2-O2	5.23	122.04	118.90
7	L6	30	C	N1-C2-O2	5.22	122.03	118.90
7	L6	504	G	N3-C4-N9	5.22	129.13	126.00
85	S2	903	A	N3-C4-N9	5.22	131.58	127.40
85	S3	105	U	N3-C2-O2	-5.22	118.55	122.20
15	MG	170	LEU	CA-CB-CG	5.22	127.31	115.30
85	S2	93	U	N3-C2-O2	-5.22	118.55	122.20
7	L5	4352	U	N3-C2-O2	-5.22	118.55	122.20
85	S2	536	A	C4-N9-C1'	5.22	135.70	126.30
7	L5	4106	G	N9-C4-C5	-5.22	103.31	105.40
7	L6	1178	G	N3-C4-N9	5.22	129.13	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	2514	G	N3-C4-N9	5.22	129.13	126.00
7	L5	740	G	C4-N9-C1'	-5.22	119.72	126.50
7	L5	4933	C	N1-C2-O2	5.22	122.03	118.90
7	L6	4699	U	OP1-P-O3'	5.22	116.67	105.20
85	S2	1626	C	C5-C6-N1	5.22	123.61	121.00
85	S3	632	C	C2-N1-C1'	5.22	124.54	118.80
7	L5	436	C	N1-C2-O2	5.21	122.03	118.90
7	L5	665	C	N1-C2-O2	5.21	122.03	118.90
7	L5	2259	G	N3-C4-C5	5.21	131.21	128.60
7	L5	155	C	N3-C2-O2	-5.21	118.25	121.90
7	L5	1402	C	N1-C2-O2	5.21	122.03	118.90
7	L5	1417	C	C6-N1-C2	-5.21	118.22	120.30
85	S2	71	G	P-O3'-C3'	5.21	125.95	119.70
7	L5	676	C	N1-C2-O2	5.21	122.03	118.90
7	L6	1520	C	C6-N1-C2	-5.21	118.22	120.30
7	L6	1666	C	C6-N1-C2	-5.21	118.22	120.30
10	MB	360	LEU	CA-CB-CG	5.21	127.28	115.30
85	S2	548	C	C6-N1-C2	-5.21	118.22	120.30
85	S2	1078	C	C6-N1-C2	-5.21	118.22	120.30
7	L5	2094	G	C2-N3-C4	5.21	114.50	111.90
7	L5	2281	U	N1-C2-O2	5.21	126.45	122.80
7	L5	3870	C	C2-N1-C1'	5.21	124.53	118.80
7	L6	4948	C	N3-C2-O2	-5.21	118.25	121.90
85	S2	1837	G	C8-N9-C1'	5.21	133.77	127.00
7	L6	519	C	C2-N1-C1'	5.21	124.53	118.80
7	L6	1067	G	C6-N1-C2	-5.21	121.98	125.10
85	S2	659	G	C8-N9-C1'	-5.21	120.23	127.00
85	S3	195	C	C2-N1-C1'	5.21	124.53	118.80
85	S3	1242	U	C5-C6-N1	-5.21	120.10	122.70
7	L6	4709	U	C6-N1-C1'	-5.20	113.92	121.20
6	L8	103	A	OP1-P-O3'	5.20	116.65	105.20
85	S2	1102	G	N3-C4-N9	-5.20	122.88	126.00
7	L5	469	C	N3-C2-O2	-5.20	118.26	121.90
7	L5	1185	G	N1-C2-N2	5.20	120.88	116.20
7	L5	4444	C	C6-N1-C2	-5.20	118.22	120.30
85	S3	630	U	N3-C2-O2	-5.20	118.56	122.20
85	S3	841	G	N1-C2-N2	-5.20	111.52	116.20
7	L5	4699	U	C5-C6-N1	-5.20	120.10	122.70
7	L5	2563	C	N1-C2-O2	5.20	122.02	118.90
7	L6	4561	C	C2-N1-C1'	5.20	124.52	118.80
85	S3	193	C	N3-C2-O2	-5.20	118.26	121.90
7	L5	493	G	P-O3'-C3'	5.19	125.93	119.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	96	C	C6-N1-C2	-5.19	118.22	120.30
85	S2	1120	U	N3-C2-O2	-5.19	118.57	122.20
85	S2	1837	G	C4-N9-C1'	-5.19	119.75	126.50
7	L6	3772	U	C2-N1-C1'	5.19	123.93	117.70
85	S2	340	C	N3-C2-O2	-5.19	118.27	121.90
7	L6	2860	C	C5-C6-N1	5.19	123.59	121.00
7	L6	3693	U	C2-N1-C1'	5.19	123.93	117.70
7	L6	2589	C	C6-N1-C2	-5.19	118.22	120.30
85	S2	1708	C	C6-N1-C2	-5.19	118.23	120.30
7	L5	496	G	N3-C4-C5	5.18	131.19	128.60
7	L6	472	C	N3-C2-O2	-5.18	118.27	121.90
7	L6	2667	C	N3-C2-O2	-5.18	118.27	121.90
7	L6	4133	C	C2-N1-C1'	5.18	124.50	118.80
85	S3	1578	U	N1-C2-O2	5.18	126.43	122.80
85	S2	1649	U	N3-C4-O4	5.18	123.03	119.40
7	L5	2589	C	C6-N1-C2	-5.18	118.23	120.30
7	L5	3926	C	C6-N1-C2	-5.18	118.23	120.30
7	L5	4199	C	N3-C2-O2	-5.18	118.27	121.90
7	L5	4420	U	N1-C2-O2	5.18	126.43	122.80
7	L6	2019	C	C6-N1-C1'	5.18	127.02	120.80
85	S2	1019	C	C6-N1-C1'	-5.18	114.58	120.80
85	S2	1518	C	N3-C2-O2	-5.18	118.27	121.90
85	S2	531	A	OP1-P-O3'	5.18	116.59	105.20
7	L5	758	G	C5-C6-O6	5.17	131.70	128.60
7	L5	1809	C	N1-C2-O2	5.17	122.00	118.90
8	L9	102	U	C2-N1-C1'	5.17	123.91	117.70
7	L5	2528	G	N3-C4-N9	5.17	129.10	126.00
7	L5	2094	G	C4-N9-C1'	5.17	133.22	126.50
7	L6	2837	U	N3-C2-O2	-5.17	118.58	122.20
85	S3	1113	A	C4-C5-N7	5.17	113.28	110.70
7	L5	499	G	N3-C4-N9	5.17	129.10	126.00
85	S2	192	C	N1-C2-O2	5.17	122.00	118.90
7	L5	1293	G	N3-C4-C5	-5.17	126.02	128.60
52	RA	154	LEU	CA-CB-CG	5.17	127.19	115.30
85	S2	501	C	C5-C6-N1	5.17	123.58	121.00
85	S2	1022	U	C6-N1-C1'	-5.17	113.96	121.20
85	S2	1272	C	C6-N1-C1'	-5.17	114.60	120.80
85	S3	514	U	N3-C2-O2	-5.17	118.58	122.20
85	S3	834	C	N3-C2-O2	-5.17	118.28	121.90
85	S3	708	C	C5-C6-N1	5.17	123.58	121.00
7	L6	4862	G	C4-N9-C1'	5.17	133.21	126.50
7	L5	2615	C	N1-C2-O2	5.16	122.00	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	1248	C	C5-C6-N1	5.16	123.58	121.00
7	L6	2532	C	C2-N1-C1'	5.16	124.48	118.80
8	L7	28	C	N3-C2-O2	-5.16	118.29	121.90
85	S2	1234	C	N1-C2-O2	5.16	122.00	118.90
85	S3	884	C	N1-C2-O2	5.16	122.00	118.90
7	L6	986	C	C5-C6-N1	5.16	123.58	121.00
7	L6	4741	C	N1-C2-O2	5.16	122.00	118.90
85	S3	1717	C	N1-C2-N3	5.16	122.81	119.20
85	S3	1824	A	OP1-P-O3'	5.16	116.55	105.20
85	S3	1834	A	C5-N7-C8	-5.16	101.32	103.90
5	CC	34	U	C2-N1-C1'	5.16	123.89	117.70
7	L5	1620	U	N1-C2-O2	5.16	126.41	122.80
7	L6	2409	U	C5-C6-N1	5.16	125.28	122.70
19	LL	81	LEU	CA-CB-CG	5.16	127.17	115.30
7	L5	155	C	N1-C2-O2	5.16	121.99	118.90
7	L5	5035	U	N3-C2-O2	-5.16	118.59	122.20
7	L6	963	G	N3-C4-C5	-5.16	126.02	128.60
7	L6	4958	C	N1-C2-O2	5.16	121.99	118.90
7	L5	1912	G	C8-N9-C1'	-5.15	120.30	127.00
7	L6	281	U	N3-C2-O2	-5.15	118.59	122.20
7	L5	1417	C	N1-C2-O2	5.15	121.99	118.90
7	L6	4345	C	C5-C6-N1	5.15	123.58	121.00
85	S2	1381	G	N3-C4-N9	-5.15	122.91	126.00
85	S2	1782	G	C4-N9-C1'	-5.15	119.81	126.50
85	S3	1415	C	C6-N1-C2	-5.15	118.24	120.30
7	L5	2469	C	C4-C5-C6	5.15	119.97	117.40
8	L9	19	C	C5-C6-N1	5.15	123.58	121.00
85	S3	527	C	N3-C2-O2	-5.15	118.30	121.90
7	L5	233	U	N1-C1'-C2'	5.15	120.69	114.00
7	L5	4885	U	N3-C2-O2	-5.15	118.60	122.20
7	L6	988	C	C6-N1-C2	-5.15	118.24	120.30
85	S3	1415	C	N3-C2-O2	-5.15	118.30	121.90
7	L5	2890	C	N3-C2-O2	-5.15	118.30	121.90
7	L6	144	G	N3-C4-N9	-5.15	122.91	126.00
85	S3	1141	G	N3-C4-N9	-5.15	122.91	126.00
7	L6	4701	A	N1-C6-N6	-5.14	115.51	118.60
85	S2	566	U	C2-N1-C1'	5.14	123.87	117.70
7	L5	1348	U	N3-C2-O2	-5.14	118.60	122.20
7	L6	1297	U	N1-C2-O2	5.14	126.40	122.80
7	L6	4356	G	N3-C4-N9	-5.14	122.91	126.00
85	S3	394	G	C4-N9-C1'	5.14	133.19	126.50
3	D5	30	G	N7-C8-N9	5.14	115.67	113.10

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	1395	U	N3-C2-O2	-5.14	118.60	122.20
85	S2	409	C	C6-N1-C2	-5.14	118.24	120.30
5	CC	58	C	C2-N1-C1'	5.14	124.45	118.80
85	S2	1186	U	N1-C2-O2	5.14	126.40	122.80
7	L5	500	G	C6-N1-C2	-5.14	122.02	125.10
7	L5	4902	C	C2-N1-C1'	5.14	124.45	118.80
7	L6	233	U	O4'-C1'-N1	5.14	112.31	108.20
7	L5	180	C	C6-N1-C2	-5.14	118.25	120.30
7	L5	1183	C	C6-N1-C1'	-5.14	114.64	120.80
7	L5	2850	A	C4-N9-C1'	5.14	135.55	126.30
7	L5	36	U	N1-C2-O2	5.13	126.39	122.80
7	L5	2426	U	N3-C2-O2	-5.13	118.61	122.20
7	L6	131	C	C6-N1-C2	-5.13	118.25	120.30
7	L6	2632	U	N3-C2-O2	-5.13	118.61	122.20
7	L5	1755	C	N1-C2-O2	5.13	121.98	118.90
7	L5	2019	C	P-O3'-C3'	5.13	125.86	119.70
7	L5	2561	C	N3-C2-O2	-5.13	118.31	121.90
7	L5	984	C	C2-N1-C1'	5.13	124.44	118.80
7	L6	4653	C	C6-N1-C2	-5.13	118.25	120.30
85	S2	1520	G	C6-C5-N7	-5.13	127.32	130.40
85	S2	87	U	N1-C2-O2	5.12	126.39	122.80
7	L6	3761	C	N1-C2-O2	5.12	121.97	118.90
85	S2	804	U	N1-C2-O2	5.12	126.39	122.80
85	S3	391	C	C6-N1-C2	-5.12	118.25	120.30
3	D5	39	U	C5-C6-N1	5.12	125.26	122.70
7	L6	1707	C	C6-N1-C2	-5.12	118.25	120.30
85	S2	585	C	C2-N1-C1'	5.12	124.44	118.80
85	S2	212	C	N3-C2-O2	-5.12	118.32	121.90
7	L5	178	C	C2-N1-C1'	5.12	124.43	118.80
7	L5	3840	U	N3-C2-O2	-5.12	118.62	122.20
7	L5	1327	C	C6-N1-C2	-5.12	118.25	120.30
7	L6	2021	G	N3-C4-N9	5.12	129.07	126.00
85	S3	105	U	N1-C2-O2	5.12	126.38	122.80
85	S3	1172	U	C5-C6-N1	5.12	125.26	122.70
7	L5	1447	C	C2-N1-C1'	5.11	124.42	118.80
85	S3	196	C	C6-N1-C2	-5.11	118.25	120.30
85	S3	872	A	N9-C4-C5	-5.11	103.75	105.80
85	S3	1415	C	C2-N1-C1'	5.11	124.42	118.80
7	L5	294	G	C4-N9-C1'	5.11	133.14	126.50
7	L5	1477	C	C6-N1-C2	-5.11	118.26	120.30
7	L5	3685	C	C6-N1-C2	-5.11	118.25	120.30
7	L6	14	C	C6-N1-C2	-5.11	118.26	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L6	1735	U	C5-C6-N1	5.11	125.25	122.70
85	S3	666	U	C2-N1-C1'	5.11	123.83	117.70
85	S3	1204	A	O4'-C1'-N9	5.11	112.29	108.20
85	S3	1578	U	N3-C2-O2	-5.11	118.62	122.20
7	L6	3598	C	C2-N1-C1'	5.11	124.42	118.80
22	MO	7	LEU	CA-CB-CG	5.11	127.05	115.30
7	L5	1477	C	C2-N1-C1'	5.11	124.42	118.80
8	L9	14	C	C6-N1-C2	-5.11	118.26	120.30
85	S2	213	G	P-O3'-C3'	5.11	125.83	119.70
85	S2	930	C	C6-N1-C2	-5.11	118.26	120.30
7	L5	322	C	C6-N1-C2	-5.11	118.26	120.30
7	L6	1094	G	C4-N9-C1'	5.11	133.14	126.50
7	L6	2547	G	N3-C2-N2	-5.11	116.33	119.90
7	L6	485	C	N3-C2-O2	-5.10	118.33	121.90
7	L6	962	C	C5-C6-N1	5.10	123.55	121.00
7	L6	123	C	C5-C6-N1	5.10	123.55	121.00
7	L5	2337	C	C5-C6-N1	5.10	123.55	121.00
7	L5	2892	C	C6-N1-C1'	-5.10	114.68	120.80
7	L6	738	C	N1-C2-O2	5.10	121.96	118.90
7	L5	4096	C	C6-N1-C2	-5.10	118.26	120.30
85	S3	687	C	N3-C2-O2	-5.10	118.33	121.90
85	S3	703	C	C5-C6-N1	5.10	123.55	121.00
7	L5	4402	C	N1-C2-O2	5.10	121.96	118.90
6	L8	99	U	N1-C2-O2	5.10	126.37	122.80
85	S2	1649	U	C5-C6-N1	5.10	125.25	122.70
7	L5	4502	C	C6-N1-C2	-5.09	118.26	120.30
7	L6	365	U	N1-C2-O2	5.09	126.36	122.80
85	S3	630	U	N1-C2-O2	5.09	126.36	122.80
7	L5	136	C	N1-C2-O2	5.09	121.95	118.90
7	L6	2900	U	C5-C6-N1	5.09	125.25	122.70
7	L6	2701	U	N3-C2-O2	-5.09	118.64	122.20
85	S2	69	C	C2-N1-C1'	5.09	124.40	118.80
7	L5	2068	C	O4'-C1'-N1	5.09	112.27	108.20
7	L6	1792	U	N1-C2-O2	5.09	126.36	122.80
7	L6	4237	C	C6-N1-C2	-5.09	118.27	120.30
7	L6	2371	U	N3-C2-O2	-5.08	118.64	122.20
7	L6	4429	C	C6-N1-C2	-5.08	118.27	120.30
7	L6	4926	C	C6-N1-C2	-5.08	118.27	120.30
85	S2	579	C	N3-C2-O2	-5.08	118.34	121.90
85	S2	1415	C	C5-C6-N1	5.08	123.54	121.00
85	S3	186	C	C5-C6-N1	5.08	123.54	121.00
7	L6	80	C	N1-C2-N3	5.08	122.76	119.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S3	878	G	C5-C6-O6	-5.08	125.55	128.60
85	S3	1450	G	C4-N9-C1'	-5.08	119.90	126.50
7	L5	1585	C	N3-C2-O2	-5.08	118.34	121.90
7	L6	1430	C	N1-C2-N3	5.08	122.75	119.20
85	S2	1234	C	C2-N1-C1'	5.08	124.39	118.80
3	D5	40	C	C5-C6-N1	5.08	123.54	121.00
7	L5	1340	C	C6-N1-C2	-5.08	118.27	120.30
85	S3	356	C	N3-C2-O2	-5.08	118.35	121.90
11	MC	229	LEU	CB-CG-CD2	-5.07	102.38	111.00
85	S2	1266	C	C6-N1-C2	-5.07	118.27	120.30
85	S3	575	A	C8-N9-C4	-5.07	103.77	105.80
85	S3	1272	C	C6-N1-C1'	-5.07	114.71	120.80
7	L6	2627	C	N3-C2-O2	-5.07	118.35	121.90
6	L8	128	C	C2-N1-C1'	5.07	124.38	118.80
7	L6	2820	C	C2-N1-C1'	5.07	124.38	118.80
85	S2	889	U	N1-C2-O2	5.07	126.35	122.80
7	L5	1577	G	N3-C2-N2	-5.07	116.35	119.90
7	L5	4734	A	O4'-C1'-N9	5.07	112.25	108.20
85	S3	216	C	C6-N1-C1'	-5.07	114.72	120.80
7	L5	204	U	N1-C2-O2	5.07	126.35	122.80
7	L5	4293	U	N3-C2-O2	-5.07	118.65	122.20
7	L6	1094	G	C8-N9-C1'	-5.07	120.41	127.00
7	L6	2019	C	C5-C4-N4	5.07	123.75	120.20
7	L6	3606	U	N1-C2-O2	5.07	126.35	122.80
85	S2	1472	C	C6-N1-C2	-5.07	118.27	120.30
7	L5	4902	C	N3-C2-O2	-5.07	118.36	121.90
7	L6	3926	C	C2-N1-C1'	5.07	124.37	118.80
15	LG	166	LEU	CA-CB-CG	5.07	126.95	115.30
85	S3	498	C	C6-N1-C2	-5.07	118.27	120.30
7	L5	2096	G	C8-N9-C4	-5.06	104.38	106.40
7	L5	3657	U	N3-C2-O2	-5.06	118.66	122.20
85	S2	1090	C	N1-C2-O2	5.06	121.94	118.90
85	S2	1266	C	C2-N1-C1'	5.06	124.37	118.80
7	L5	4669	A	C5-N7-C8	-5.06	101.37	103.90
85	S2	552	G	N3-C4-N9	-5.06	122.96	126.00
7	L6	1662	C	N1-C2-O2	5.06	121.94	118.90
7	L6	2856	C	C6-N1-C2	-5.06	118.28	120.30
8	L7	28	C	C5-C6-N1	5.06	123.53	121.00
85	S2	1112	U	C2-N1-C1'	5.06	123.77	117.70
85	S2	1271	C	N1-C2-O2	5.06	121.94	118.90
7	L6	499	G	N3-C4-N9	5.05	129.03	126.00
4	B5	22	C	C5-C6-N1	5.05	123.53	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	L5	2803	U	N3-C2-O2	-5.05	118.66	122.20
7	L5	4561	C	C2-N1-C1'	5.05	124.36	118.80
85	S3	402	C	C6-N1-C2	-5.05	118.28	120.30
7	L6	1438	U	C2-N1-C1'	5.05	123.76	117.70
15	LG	164	ILE	C-N-CA	5.05	134.32	121.70
85	S2	1782	G	N3-C2-N2	-5.05	116.37	119.90
85	S2	1470	C	N1-C2-O2	5.05	121.93	118.90
85	S3	1729	U	N1-C2-O2	5.05	126.33	122.80
3	B4	60	U	N1-C2-O2	-5.05	119.27	122.80
7	L5	4502	C	N3-C2-O2	-5.05	118.37	121.90
6	L8	55	U	C2-N1-C1'	5.05	123.75	117.70
85	S2	687	C	N1-C2-O2	5.05	121.93	118.90
7	L5	2505	C	N1-C2-O2	5.04	121.93	118.90
7	L6	1906	U	C2-N1-C1'	5.04	123.75	117.70
85	S3	884	C	C5-C6-N1	5.04	123.52	121.00
7	L5	512	U	N1-C2-O2	5.04	126.33	122.80
7	L5	1469	C	N1-C2-O2	5.04	121.93	118.90
7	L6	1243	C	C5-C6-N1	5.04	123.52	121.00
85	S2	1016	U	C2-N1-C1'	5.04	123.75	117.70
85	S2	1628	C	N3-C2-O2	-5.04	118.37	121.90
85	S3	87	U	N3-C2-O2	-5.04	118.67	122.20
85	S3	93	U	N3-C2-O2	-5.04	118.67	122.20
79	Sc	64	GLU	CA-CB-CG	5.04	124.50	113.40
7	L5	4913	G	OP2-P-O3'	5.04	116.29	105.20
7	L6	3657	U	N3-C2-O2	-5.04	118.67	122.20
6	L8	135	C	C2-N1-C1'	5.04	124.34	118.80
85	S2	903	A	C4-N9-C1'	5.04	135.38	126.30
7	L6	4516	G	C4-C5-N7	-5.04	108.78	110.80
85	S2	120	U	N1-C2-O2	5.04	126.33	122.80
85	S2	1834	A	C5-N7-C8	-5.04	101.38	103.90
85	S3	596	U	C2-N1-C1'	5.04	123.75	117.70
85	S3	694	G	C8-N9-C1'	-5.04	120.45	127.00
7	L5	1656	U	C2-N1-C1'	5.04	123.74	117.70
7	L6	1957	U	N3-C2-O2	-5.04	118.67	122.20
5	CC	35	U	OP1-P-O3'	5.04	116.28	105.20
3	D5	40	C	C6-N1-C2	-5.04	118.29	120.30
7	L6	2639	U	C2-N3-C4	-5.03	123.98	127.00
7	L6	4386	C	C6-N1-C2	-5.03	118.29	120.30
85	S2	926	A	C4-C5-N7	5.03	113.22	110.70
7	L5	3805	U	N3-C2-O2	-5.03	118.68	122.20
7	L5	1735	U	N3-C2-O2	-5.03	118.68	122.20
7	L5	4551	U	N3-C2-O2	-5.03	118.68	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S2	1364	U	C2-N1-C1'	5.03	123.74	117.70
7	L6	1074	G	C6-N1-C2	-5.03	122.08	125.10
7	L5	676	C	C5-C6-N1	5.03	123.51	121.00
7	L5	3778	U	C2-N1-C1'	5.03	123.73	117.70
7	L6	657	C	C5-C6-N1	5.03	123.51	121.00
6	L8	62	A	C4-N9-C1'	-5.03	117.25	126.30
85	S2	659	G	N3-C4-N9	5.03	129.02	126.00
7	L5	1809	C	C2-N1-C1'	5.03	124.33	118.80
7	L5	2098	G	C4-N9-C1'	-5.03	119.97	126.50
7	L5	4918	C	N3-C2-O2	-5.03	118.38	121.90
85	S2	883	U	N1-C2-N3	5.03	117.92	114.90
85	S3	1271	C	N3-C2-O2	-5.03	118.38	121.90
85	S3	939	U	N1-C2-O2	5.02	126.32	122.80
7	L5	673	C	C5-C6-N1	5.02	123.51	121.00
7	L6	2632	U	N1-C2-O2	5.02	126.31	122.80
7	L6	3887	C	C6-N1-C2	-5.02	118.29	120.30
85	S2	1275	G	C2-N3-C4	5.02	114.41	111.90
85	S3	309	G	N1-C2-N2	5.02	120.72	116.20
85	S3	1850	A	C5-N7-C8	-5.02	101.39	103.90
7	L5	679	C	C6-N1-C2	-5.02	118.29	120.30
7	L5	1472	C	C6-N1-C2	-5.02	118.29	120.30
85	S3	196	C	N1-C2-O2	5.02	121.91	118.90
7	L5	4557	U	N1-C2-O2	5.02	126.31	122.80
7	L6	2701	U	N1-C2-O2	5.02	126.31	122.80
7	L6	4775	C	C2-N1-C1'	-5.02	113.28	118.80
85	S3	1527	C	N1-C2-O2	5.02	121.91	118.90
7	L5	1447	C	C5-C6-N1	5.02	123.51	121.00
7	L5	1769	G	C2-N3-C4	5.02	114.41	111.90
7	L6	4730	C	C6-N1-C1'	5.02	126.82	120.80
50	Mr	13	CYS	CA-CB-SG	5.02	123.03	114.00
7	L5	3758	U	N3-C2-O2	-5.02	118.69	122.20
7	L6	436	C	N1-C2-O2	5.02	121.91	118.90
85	S3	694	G	N3-C4-N9	5.02	129.01	126.00
7	L6	4137	C	N1-C2-O2	5.01	121.91	118.90
7	L6	4918	C	N1-C2-O2	5.01	121.91	118.90
85	S2	1415	C	N1-C2-O2	5.01	121.91	118.90
85	S3	711	C	C5-C6-N1	5.01	123.51	121.00
7	L5	1467	C	C6-N1-C2	-5.01	118.30	120.30
7	L5	4561	C	N1-C2-O2	5.01	121.91	118.90
7	L6	963	G	C8-N9-C1'	-5.01	120.49	127.00
85	S2	1408	U	N1-C2-O2	5.01	126.31	122.80
85	S2	1527	C	C2-N1-C1'	5.01	124.31	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
85	S3	822	U	N1-C2-O2	5.01	126.31	122.80
85	S3	1716	C	N3-C2-O2	-5.01	118.39	121.90
7	L6	690	C	C2-N3-C4	5.01	122.41	119.90
7	L6	1731	C	C2-N1-C1'	5.01	124.31	118.80
7	L6	1822	U	C5-C6-N1	5.01	125.20	122.70
6	L8	128	C	N3-C2-O2	-5.01	118.39	121.90
7	L6	692	A	C6-N1-C2	5.01	121.60	118.60
7	L6	1455	G	N1-C6-O6	-5.01	116.90	119.90
7	L6	1777	C	C5-C6-N1	5.01	123.50	121.00
85	S2	1389	C	N3-C2-O2	-5.01	118.40	121.90
85	S3	130	G	C2-N3-C4	5.01	114.40	111.90
85	S3	1389	C	C5-C6-N1	5.00	123.50	121.00
7	L5	1094	G	N3-C4-N9	5.00	129.00	126.00
7	L5	2362	U	N1-C2-O2	5.00	126.30	122.80
7	L5	3870	C	N1-C2-O2	5.00	121.90	118.90
85	S3	1275	G	N3-C4-C5	-5.00	126.10	128.60
6	L1	83	C	C4-C5-C6	-5.00	114.90	117.40
7	L6	2561	C	C5-C6-N1	5.00	123.50	121.00
85	S2	530	U	C5-C4-O4	-5.00	122.90	125.90
85	S2	1730	U	N3-C2-O2	-5.00	118.70	122.20
85	S3	402	C	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

All (51) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	LA	46	LYS	Peptide
12	LD	119	TYR	Peptide
13	LE	278	THR	Peptide
16	LH	187	VAL	Peptide
17	LI	14	ASN	Peptide
17	LI	15	LYS	Peptide
19	LL	146	LEU	Peptide
19	LL	47	ALA	Peptide
24	LQ	94	GLU	Peptide
27	LT	137	GLU	Peptide
39	Lf	103	VAL	Peptide
9	MA	247	ARG	Peptide
9	MA	46	LYS	Peptide
11	MC	110	ARG	Peptide
12	MD	231	VAL	Peptide
13	ME	99	ASP	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
15	MG	174	CYS	Peptide
17	MI	15	LYS	Peptide
18	MJ	122	SER	Peptide
19	ML	47	ALA	Peptide
20	MM	31	ILE	Peptide
51	MP	131	ARG	Peptide
26	MS	164	LYS	Peptide
26	MS	17	LEU	Peptide
29	MV	109	LYS	Peptide
31	MX	39	LYS	Peptide
48	Mo	62	THR	Peptide
52	RA	158	ASP	Peptide
66	RP	37	TYR	Peptide
68	RR	22	THR	Peptide
71	RU	56	MET	Peptide
76	RZ	49	LEU	Peptide
78	Rb	21	LYS	Peptide
79	Rc	15	THR	Peptide
79	Rc	55	VAL	Peptide
83	Rg	109	LEU	Peptide
83	Rg	310	TRP	Peptide
52	SA	10	MET	Peptide
53	SB	189	ILE	Peptide
54	SC	227	ARG	Peptide
58	SG	129	VAL	Peptide
58	SG	32	MET	Peptide
67	SQ	17	LYS	Peptide
69	SS	11	HIS	Peptide
71	SU	104	ILE	Peptide
71	SU	70	CYS	Peptide
74	SX	60	LYS	Peptide
74	SX	87	ASN	Peptide
78	Sb	20	LYS	Peptide
78	Sb	49	HIS	Peptide
83	Sg	61	GLY	Peptide

5.2 Too-close contacts (i)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

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 PDB entries followed by that with respect to all EM entries.

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	
9	LA	246/257 (96%)	224 (91%)	22 (9%)	0	100	100
9	MA	246/257 (96%)	219 (89%)	27 (11%)	0	100	100
10	LB	393/403 (98%)	362 (92%)	29 (7%)	2 (0%)	25	61
10	MB	389/403 (96%)	353 (91%)	36 (9%)	0	100	100
11	LC	362/427 (85%)	335 (92%)	25 (7%)	2 (1%)	22	57
11	MC	363/427 (85%)	341 (94%)	20 (6%)	2 (1%)	22	57
12	LD	291/297 (98%)	270 (93%)	18 (6%)	3 (1%)	13	46
12	MD	291/297 (98%)	270 (93%)	19 (6%)	2 (1%)	19	54
13	LE	213/288 (74%)	191 (90%)	22 (10%)	0	100	100
13	ME	214/288 (74%)	201 (94%)	12 (6%)	1 (0%)	25	61
14	LF	223/248 (90%)	211 (95%)	12 (5%)	0	100	100
14	MF	223/248 (90%)	211 (95%)	12 (5%)	0	100	100
15	LG	225/266 (85%)	206 (92%)	18 (8%)	1 (0%)	30	66
15	MG	225/266 (85%)	206 (92%)	19 (8%)	0	100	100
16	LH	188/192 (98%)	172 (92%)	16 (8%)	0	100	100
16	MH	187/192 (97%)	166 (89%)	21 (11%)	0	100	100
17	LI	202/214 (94%)	185 (92%)	16 (8%)	1 (0%)	25	61
17	MI	199/214 (93%)	178 (89%)	21 (11%)	0	100	100
18	LJ	167/178 (94%)	161 (96%)	6 (4%)	0	100	100
18	MJ	165/178 (93%)	155 (94%)	10 (6%)	0	100	100
19	LL	203/211 (96%)	184 (91%)	18 (9%)	1 (0%)	25	61
19	ML	202/211 (96%)	182 (90%)	19 (9%)	1 (0%)	25	61
20	LM	137/215 (64%)	127 (93%)	8 (6%)	2 (2%)	8	36
20	MM	134/215 (62%)	126 (94%)	7 (5%)	1 (1%)	19	54
21	LN	201/204 (98%)	194 (96%)	7 (4%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	MN	201/204 (98%)	192 (96%)	9 (4%)	0	100	100
22	LO	198/203 (98%)	193 (98%)	5 (2%)	0	100	100
22	MO	199/203 (98%)	191 (96%)	8 (4%)	0	100	100
23	LP	151/154 (98%)	142 (94%)	9 (6%)	0	100	100
24	LQ	185/188 (98%)	170 (92%)	15 (8%)	0	100	100
24	MQ	185/188 (98%)	174 (94%)	11 (6%)	0	100	100
25	LR	174/196 (89%)	173 (99%)	1 (1%)	0	100	100
25	MR	173/196 (88%)	171 (99%)	2 (1%)	0	100	100
26	LS	173/176 (98%)	159 (92%)	14 (8%)	0	100	100
26	MS	173/176 (98%)	158 (91%)	13 (8%)	2 (1%)	11	41
27	LT	157/160 (98%)	144 (92%)	12 (8%)	1 (1%)	22	57
27	MT	157/160 (98%)	146 (93%)	11 (7%)	0	100	100
28	LU	99/128 (77%)	94 (95%)	5 (5%)	0	100	100
28	MU	99/128 (77%)	92 (93%)	7 (7%)	0	100	100
29	LV	129/140 (92%)	118 (92%)	11 (8%)	0	100	100
29	MV	129/140 (92%)	120 (93%)	9 (7%)	0	100	100
30	LW	111/157 (71%)	101 (91%)	7 (6%)	3 (3%)	4	22
30	MW	111/157 (71%)	104 (94%)	7 (6%)	0	100	100
31	LX	118/156 (76%)	114 (97%)	4 (3%)	0	100	100
31	MX	118/156 (76%)	105 (89%)	13 (11%)	0	100	100
32	LY	132/145 (91%)	119 (90%)	13 (10%)	0	100	100
32	MY	132/145 (91%)	119 (90%)	13 (10%)	0	100	100
33	LZ	133/136 (98%)	127 (96%)	6 (4%)	0	100	100
33	MZ	133/136 (98%)	127 (96%)	6 (4%)	0	100	100
34	La	145/148 (98%)	134 (92%)	11 (8%)	0	100	100
34	Ma	142/148 (96%)	127 (89%)	15 (11%)	0	100	100
35	Lb	73/159 (46%)	67 (92%)	6 (8%)	0	100	100
35	Mb	61/159 (38%)	56 (92%)	5 (8%)	0	100	100
36	Lc	95/115 (83%)	92 (97%)	2 (2%)	1 (1%)	12	44
36	Mc	91/115 (79%)	85 (93%)	6 (7%)	0	100	100
37	Ld	105/125 (84%)	99 (94%)	6 (6%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	Md	105/125 (84%)	98 (93%)	7 (7%)	0	100	100
38	Le	126/135 (93%)	119 (94%)	7 (6%)	0	100	100
38	Me	125/135 (93%)	120 (96%)	5 (4%)	0	100	100
39	Lf	107/110 (97%)	101 (94%)	6 (6%)	0	100	100
39	Mf	107/110 (97%)	97 (91%)	9 (8%)	1 (1%)	14	49
40	Lg	112/117 (96%)	104 (93%)	8 (7%)	0	100	100
40	Mg	108/117 (92%)	99 (92%)	9 (8%)	0	100	100
41	Lh	119/123 (97%)	115 (97%)	4 (3%)	0	100	100
41	Mh	119/123 (97%)	117 (98%)	2 (2%)	0	100	100
42	Li	100/105 (95%)	95 (95%)	5 (5%)	0	100	100
42	Mi	99/105 (94%)	95 (96%)	4 (4%)	0	100	100
43	Lj	84/88 (96%)	78 (93%)	6 (7%)	0	100	100
43	Mj	84/88 (96%)	82 (98%)	2 (2%)	0	100	100
44	Lk	67/70 (96%)	60 (90%)	7 (10%)	0	100	100
44	Mk	67/70 (96%)	59 (88%)	8 (12%)	0	100	100
45	Ll	48/51 (94%)	46 (96%)	2 (4%)	0	100	100
45	Ml	48/51 (94%)	42 (88%)	6 (12%)	0	100	100
46	Lm	50/128 (39%)	50 (100%)	0	0	100	100
46	Mm	48/128 (38%)	43 (90%)	5 (10%)	0	100	100
47	Ln	22/25 (88%)	22 (100%)	0	0	100	100
47	Mn	22/25 (88%)	22 (100%)	0	0	100	100
48	Lo	103/106 (97%)	98 (95%)	5 (5%)	0	100	100
48	Mo	96/106 (91%)	88 (92%)	8 (8%)	0	100	100
49	Lp	89/92 (97%)	81 (91%)	8 (9%)	0	100	100
49	Mp	89/92 (97%)	85 (96%)	4 (4%)	0	100	100
50	Lr	123/137 (90%)	116 (94%)	7 (6%)	0	100	100
50	Mr	123/137 (90%)	116 (94%)	7 (6%)	0	100	100
51	MP	151/184 (82%)	137 (91%)	14 (9%)	0	100	100
52	RA	210/295 (71%)	196 (93%)	13 (6%)	1 (0%)	25	61
52	SA	214/295 (72%)	204 (95%)	9 (4%)	1 (0%)	25	61
53	RB	212/264 (80%)	202 (95%)	10 (5%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
53	SB	211/264 (80%)	205 (97%)	6 (3%)	0	100	100
54	RC	215/293 (73%)	205 (95%)	10 (5%)	0	100	100
54	SC	217/293 (74%)	207 (95%)	10 (5%)	0	100	100
55	RD	207/243 (85%)	189 (91%)	17 (8%)	1 (0%)	25	61
55	SD	219/243 (90%)	193 (88%)	26 (12%)	0	100	100
56	RE	255/263 (97%)	236 (92%)	19 (8%)	0	100	100
56	SE	260/263 (99%)	238 (92%)	22 (8%)	0	100	100
57	RF	176/204 (86%)	165 (94%)	11 (6%)	0	100	100
57	SF	185/204 (91%)	167 (90%)	17 (9%)	1 (0%)	25	61
58	RG	203/249 (82%)	186 (92%)	17 (8%)	0	100	100
58	SG	229/249 (92%)	206 (90%)	21 (9%)	2 (1%)	14	49
59	RH	168/194 (87%)	150 (89%)	18 (11%)	0	100	100
59	SH	179/194 (92%)	164 (92%)	15 (8%)	0	100	100
60	RI	183/208 (88%)	173 (94%)	10 (6%)	0	100	100
60	SI	204/208 (98%)	193 (95%)	11 (5%)	0	100	100
61	RJ	174/194 (90%)	165 (95%)	7 (4%)	2 (1%)	12	44
61	SJ	177/194 (91%)	168 (95%)	9 (5%)	0	100	100
62	RK	93/165 (56%)	82 (88%)	11 (12%)	0	100	100
62	SK	94/165 (57%)	86 (92%)	8 (8%)	0	100	100
63	RL	136/158 (86%)	124 (91%)	12 (9%)	0	100	100
63	SL	140/158 (89%)	129 (92%)	11 (8%)	0	100	100
64	RN	148/151 (98%)	132 (89%)	16 (11%)	0	100	100
64	SN	148/151 (98%)	137 (93%)	11 (7%)	0	100	100
65	RO	133/151 (88%)	120 (90%)	13 (10%)	0	100	100
65	SO	132/151 (87%)	118 (89%)	14 (11%)	0	100	100
66	RP	123/145 (85%)	112 (91%)	9 (7%)	2 (2%)	8	34
66	SP	126/145 (87%)	120 (95%)	6 (5%)	0	100	100
67	RQ	139/146 (95%)	130 (94%)	9 (6%)	0	100	100
67	SQ	140/146 (96%)	127 (91%)	13 (9%)	0	100	100
68	RR	123/135 (91%)	106 (86%)	16 (13%)	1 (1%)	16	51
68	SR	129/135 (96%)	114 (88%)	15 (12%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
69	RS	136/152 (90%)	117 (86%)	19 (14%)	0	100	100
69	SS	139/152 (91%)	119 (86%)	20 (14%)	0	100	100
70	RT	139/145 (96%)	130 (94%)	9 (6%)	0	100	100
70	ST	141/145 (97%)	137 (97%)	4 (3%)	0	100	100
71	RU	96/119 (81%)	85 (88%)	11 (12%)	0	100	100
71	SU	99/119 (83%)	88 (89%)	11 (11%)	0	100	100
72	RV	81/83 (98%)	76 (94%)	5 (6%)	0	100	100
72	SV	81/83 (98%)	73 (90%)	8 (10%)	0	100	100
73	RW	127/130 (98%)	115 (91%)	12 (9%)	0	100	100
73	SW	127/130 (98%)	119 (94%)	8 (6%)	0	100	100
74	RX	139/143 (97%)	123 (88%)	15 (11%)	1 (1%)	19	54
74	SX	139/143 (97%)	128 (92%)	9 (6%)	2 (1%)	9	37
75	RY	111/133 (84%)	106 (96%)	5 (4%)	0	100	100
75	SY	121/133 (91%)	113 (93%)	8 (7%)	0	100	100
76	RZ	68/125 (54%)	59 (87%)	9 (13%)	0	100	100
76	SZ	73/125 (58%)	66 (90%)	7 (10%)	0	100	100
77	Ra	97/101 (96%)	89 (92%)	8 (8%)	0	100	100
77	Sa	97/101 (96%)	84 (87%)	13 (13%)	0	100	100
78	Rb	81/84 (96%)	66 (82%)	14 (17%)	1 (1%)	11	41
78	Sb	81/84 (96%)	72 (89%)	9 (11%)	0	100	100
79	Rc	59/69 (86%)	48 (81%)	11 (19%)	0	100	100
79	Sc	61/69 (88%)	53 (87%)	8 (13%)	0	100	100
80	Rd	50/56 (89%)	46 (92%)	4 (8%)	0	100	100
80	Sd	51/56 (91%)	50 (98%)	1 (2%)	0	100	100
81	Re	47/59 (80%)	40 (85%)	7 (15%)	0	100	100
81	Se	55/59 (93%)	50 (91%)	5 (9%)	0	100	100
82	Rf	68/132 (52%)	58 (85%)	10 (15%)	0	100	100
83	Rg	259/317 (82%)	220 (85%)	39 (15%)	0	100	100
83	Sg	304/317 (96%)	244 (80%)	58 (19%)	2 (1%)	19	54
84	Rh	35/156 (22%)	33 (94%)	2 (6%)	0	100	100
All	All	21776/25012 (87%)	20084 (92%)	1648 (8%)	44 (0%)	45	77

All (44) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	LC	111	TRP
12	LD	113	PHE
17	LI	213	HIS
20	LM	96	GLU
36	Lc	23	LYS
20	MM	87	ALA
26	MS	164	LYS
66	RP	38	SER
68	RR	23	ARG
10	LB	360	LEU
10	LB	393	LYS
12	LD	229	ASN
20	LM	87	ALA
11	MC	111	TRP
61	RJ	110	LEU
66	RP	73	PRO
78	Rb	20	LYS
57	SF	80	GLY
58	SG	33	ALA
74	SX	88	ASP
11	LC	186	SER
30	LW	96	GLN
30	LW	97	LYS
74	RX	10	ALA
74	SX	10	ALA
15	LG	106	THR
27	LT	129	LYS
11	MC	186	SER
13	ME	100	LYS
26	MS	18	PRO
39	Mf	5	LEU
61	RJ	108	ARG
52	SA	10	MET
83	Sg	100	ARG
12	LD	59	ASP
19	LL	48	PRO
55	RD	191	PRO
83	Sg	186	THR
12	MD	231	VAL
12	MD	232	THR
30	LW	98	PRO
58	SG	130	PRO

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	ML	56	ARG
52	RA	187	GLY

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 PDB entries followed by that with respect to all EM entries.

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
9	LA	190/199 (96%)	188 (99%)	2 (1%)	70 87
9	MA	187/199 (94%)	185 (99%)	2 (1%)	70 87
10	LB	343/349 (98%)	343 (100%)	0	100 100
10	MB	324/349 (93%)	324 (100%)	0	100 100
11	LC	299/348 (86%)	297 (99%)	2 (1%)	81 91
11	MC	301/348 (86%)	301 (100%)	0	100 100
12	LD	241/250 (96%)	240 (100%)	1 (0%)	89 95
12	MD	218/250 (87%)	217 (100%)	1 (0%)	86 94
13	LE	191/252 (76%)	188 (98%)	3 (2%)	58 82
13	ME	179/252 (71%)	177 (99%)	2 (1%)	70 87
14	LF	194/215 (90%)	194 (100%)	0	100 100
14	MF	187/215 (87%)	187 (100%)	0	100 100
15	LG	188/223 (84%)	188 (100%)	0	100 100
15	MG	167/223 (75%)	167 (100%)	0	100 100
16	LH	167/171 (98%)	166 (99%)	1 (1%)	84 93
16	MH	150/171 (88%)	149 (99%)	1 (1%)	81 91
17	LI	172/181 (95%)	171 (99%)	1 (1%)	84 93
17	MI	156/181 (86%)	156 (100%)	0	100 100
18	LJ	136/149 (91%)	136 (100%)	0	100 100
18	MJ	113/149 (76%)	113 (100%)	0	100 100
19	LL	164/177 (93%)	163 (99%)	1 (1%)	84 93
19	ML	152/177 (86%)	151 (99%)	1 (1%)	81 91

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	LM	114/161 (71%)	113 (99%)	1 (1%)	75	89
20	MM	110/161 (68%)	110 (100%)	0	100	100
21	LN	171/172 (99%)	170 (99%)	1 (1%)	84	93
21	MN	169/172 (98%)	167 (99%)	2 (1%)	67	86
22	LO	170/174 (98%)	169 (99%)	1 (1%)	84	93
22	MO	163/174 (94%)	162 (99%)	1 (1%)	84	93
23	LP	132/135 (98%)	130 (98%)	2 (2%)	60	83
24	LQ	161/165 (98%)	161 (100%)	0	100	100
24	MQ	159/165 (96%)	159 (100%)	0	100	100
25	LR	150/175 (86%)	150 (100%)	0	100	100
25	MR	141/175 (81%)	141 (100%)	0	100	100
26	LS	156/157 (99%)	156 (100%)	0	100	100
26	MS	151/157 (96%)	150 (99%)	1 (1%)	81	91
27	LT	135/140 (96%)	135 (100%)	0	100	100
27	MT	130/140 (93%)	128 (98%)	2 (2%)	60	83
28	LU	84/115 (73%)	84 (100%)	0	100	100
28	MU	77/115 (67%)	77 (100%)	0	100	100
29	LV	99/107 (92%)	99 (100%)	0	100	100
29	MV	94/107 (88%)	94 (100%)	0	100	100
30	LW	61/126 (48%)	60 (98%)	1 (2%)	58	82
30	MW	54/126 (43%)	53 (98%)	1 (2%)	52	79
31	LX	107/133 (80%)	106 (99%)	1 (1%)	75	89
31	MX	98/133 (74%)	96 (98%)	2 (2%)	50	78
32	LY	123/135 (91%)	123 (100%)	0	100	100
32	MY	116/135 (86%)	116 (100%)	0	100	100
33	LZ	117/118 (99%)	117 (100%)	0	100	100
33	MZ	109/118 (92%)	109 (100%)	0	100	100
34	La	118/121 (98%)	117 (99%)	1 (1%)	79	90
34	Ma	116/121 (96%)	115 (99%)	1 (1%)	75	89
35	Lb	59/126 (47%)	59 (100%)	0	100	100
35	Mb	49/126 (39%)	49 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
36	Lc	79/97 (81%)	78 (99%)	1 (1%)	65 85
36	Mc	76/97 (78%)	76 (100%)	0	100 100
37	Ld	94/110 (86%)	94 (100%)	0	100 100
37	Md	88/110 (80%)	88 (100%)	0	100 100
38	Le	113/121 (93%)	113 (100%)	0	100 100
38	Me	113/121 (93%)	113 (100%)	0	100 100
39	Lf	87/89 (98%)	87 (100%)	0	100 100
39	Mf	85/89 (96%)	85 (100%)	0	100 100
40	Lg	93/100 (93%)	92 (99%)	1 (1%)	70 87
40	Mg	88/100 (88%)	87 (99%)	1 (1%)	70 87
41	Lh	108/110 (98%)	108 (100%)	0	100 100
41	Mh	100/110 (91%)	100 (100%)	0	100 100
42	Li	81/89 (91%)	79 (98%)	2 (2%)	42 73
42	Mi	79/89 (89%)	76 (96%)	3 (4%)	28 62
43	Lj	73/75 (97%)	72 (99%)	1 (1%)	62 83
43	Mj	72/75 (96%)	71 (99%)	1 (1%)	62 83
44	Lk	57/65 (88%)	56 (98%)	1 (2%)	54 80
44	Mk	52/65 (80%)	52 (100%)	0	100 100
45	Ll	47/48 (98%)	47 (100%)	0	100 100
45	Ml	46/48 (96%)	46 (100%)	0	100 100
46	Lm	47/116 (40%)	47 (100%)	0	100 100
46	Mm	42/116 (36%)	42 (100%)	0	100 100
47	Ln	23/24 (96%)	23 (100%)	0	100 100
47	Mn	23/24 (96%)	23 (100%)	0	100 100
48	Lo	90/94 (96%)	89 (99%)	1 (1%)	70 87
48	Mo	79/94 (84%)	78 (99%)	1 (1%)	65 85
49	Lp	71/75 (95%)	70 (99%)	1 (1%)	62 83
49	Mp	70/75 (93%)	70 (100%)	0	100 100
50	Lr	107/121 (88%)	107 (100%)	0	100 100
50	Mr	103/121 (85%)	102 (99%)	1 (1%)	73 88
51	MP	124/163 (76%)	123 (99%)	1 (1%)	79 90

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	RA	147/243 (60%)	145 (99%)	2 (1%)	62	83
52	SA	170/243 (70%)	168 (99%)	2 (1%)	67	86
53	RB	162/231 (70%)	162 (100%)	0	100	100
53	SB	191/231 (83%)	191 (100%)	0	100	100
54	RC	155/225 (69%)	155 (100%)	0	100	100
54	SC	175/225 (78%)	173 (99%)	2 (1%)	70	87
55	RD	126/202 (62%)	125 (99%)	1 (1%)	79	90
55	SD	145/202 (72%)	144 (99%)	1 (1%)	81	91
56	RE	176/225 (78%)	175 (99%)	1 (1%)	84	93
56	SE	196/225 (87%)	194 (99%)	2 (1%)	73	88
57	RF	133/170 (78%)	131 (98%)	2 (2%)	60	83
57	SF	139/170 (82%)	139 (100%)	0	100	100
58	RG	137/218 (63%)	136 (99%)	1 (1%)	81	91
58	SG	138/218 (63%)	137 (99%)	1 (1%)	81	91
59	RH	134/174 (77%)	133 (99%)	1 (1%)	81	91
59	SH	109/174 (63%)	109 (100%)	0	100	100
60	RI	141/180 (78%)	140 (99%)	1 (1%)	81	91
60	SI	149/180 (83%)	149 (100%)	0	100	100
61	RJ	140/168 (83%)	138 (99%)	2 (1%)	62	83
61	SJ	143/168 (85%)	143 (100%)	0	100	100
62	RK	68/136 (50%)	68 (100%)	0	100	100
62	SK	65/136 (48%)	64 (98%)	1 (2%)	60	83
63	RL	124/142 (87%)	122 (98%)	2 (2%)	58	82
63	SL	121/142 (85%)	120 (99%)	1 (1%)	79	90
64	RN	127/131 (97%)	126 (99%)	1 (1%)	79	90
64	SN	123/131 (94%)	123 (100%)	0	100	100
65	RO	103/119 (87%)	102 (99%)	1 (1%)	73	88
65	SO	95/119 (80%)	95 (100%)	0	100	100
66	RP	103/130 (79%)	102 (99%)	1 (1%)	73	88
66	SP	96/130 (74%)	95 (99%)	1 (1%)	73	88
67	RQ	105/121 (87%)	104 (99%)	1 (1%)	73	88

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
67	SQ	102/121 (84%)	102 (100%)	0	100	100
68	RR	77/122 (63%)	77 (100%)	0	100	100
68	SR	84/122 (69%)	84 (100%)	0	100	100
69	RS	103/132 (78%)	102 (99%)	1 (1%)	73	88
69	SS	110/132 (83%)	109 (99%)	1 (1%)	75	89
70	RT	82/115 (71%)	81 (99%)	1 (1%)	67	86
70	ST	105/115 (91%)	104 (99%)	1 (1%)	73	88
71	RU	78/107 (73%)	78 (100%)	0	100	100
71	SU	68/107 (64%)	67 (98%)	1 (2%)	60	83
72	RV	53/67 (79%)	53 (100%)	0	100	100
72	SV	62/67 (92%)	62 (100%)	0	100	100
73	RW	110/113 (97%)	110 (100%)	0	100	100
73	SW	110/113 (97%)	108 (98%)	2 (2%)	54	80
74	RX	101/115 (88%)	101 (100%)	0	100	100
74	SX	109/115 (95%)	109 (100%)	0	100	100
75	RY	79/115 (69%)	79 (100%)	0	100	100
75	SY	86/115 (75%)	85 (99%)	1 (1%)	67	86
76	RZ	40/103 (39%)	38 (95%)	2 (5%)	20	53
76	SZ	56/103 (54%)	56 (100%)	0	100	100
77	Ra	79/88 (90%)	79 (100%)	0	100	100
77	Sa	83/88 (94%)	83 (100%)	0	100	100
78	Rb	64/76 (84%)	64 (100%)	0	100	100
78	Sb	65/76 (86%)	64 (98%)	1 (2%)	60	83
79	Rc	41/62 (66%)	41 (100%)	0	100	100
79	Sc	51/62 (82%)	51 (100%)	0	100	100
80	Rd	42/49 (86%)	42 (100%)	0	100	100
80	Sd	44/49 (90%)	44 (100%)	0	100	100
81	Re	37/48 (77%)	37 (100%)	0	100	100
81	Se	39/48 (81%)	37 (95%)	2 (5%)	20	53
82	Rf	30/108 (28%)	29 (97%)	1 (3%)	33	67
83	Rg	167/275 (61%)	167 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
83	Sg	199/275 (72%)	198 (100%)	1 (0%)	86 94
84	Rh	17/140 (12%)	17 (100%)	0	100 100
All	All	17231/21296 (81%)	17136 (99%)	95 (1%)	82 93

All (95) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
9	LA	114	CYS
9	LA	207	VAL
11	LC	100	ARG
11	LC	188	ARG
12	LD	125	VAL
13	LE	105	ARG
13	LE	145	THR
13	LE	278	THR
16	LH	176	LEU
17	LI	121	LYS
19	LL	63	THR
20	LM	34	ASN
21	LN	114	ARG
22	LO	117	ARG
23	LP	22	LEU
23	LP	40	HIS
30	LW	73	ARG
31	LX	83	THR
34	La	122	VAL
36	Lc	94	LEU
40	Lg	54	ARG
42	Li	23	LYS
42	Li	29	ARG
43	Lj	22	CYS
44	Lk	16	ARG
48	Lo	30	LYS
49	Lp	5	THR
9	MA	113	VAL
9	MA	193	ARG
12	MD	5	LYS
13	ME	56	ARG
13	ME	181	LEU
16	MH	129	ARG
19	ML	103	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	MN	24	ARG
21	MN	147	ASP
22	MO	156	LEU
51	MP	30	ARG
26	MS	99	ASP
27	MT	117	LYS
27	MT	142	ARG
30	MW	23	ARG
31	MX	83	THR
31	MX	144	TYR
34	Ma	11	LEU
40	Mg	43	LYS
42	Mi	29	ARG
42	Mi	35	LYS
42	Mi	56	ARG
43	Mj	37	CYS
48	Mo	10	THR
50	Mr	20	ARG
52	RA	80	ARG
52	RA	205	ARG
55	RD	76	ARG
56	RE	208	VAL
57	RF	122	ARG
57	RF	127	ARG
58	RG	98	ARG
59	RH	85	LYS
60	RI	47	ARG
61	RJ	17	ARG
61	RJ	81	LEU
63	RL	118	ARG
63	RL	144	LYS
64	RN	46	THR
65	RO	150	ARG
66	RP	58	LYS
67	RQ	41	MET
69	RS	36	VAL
70	RT	36	THR
76	RZ	60	LYS
76	RZ	83	LEU
82	Rf	33	ARG
52	SA	55	TRP
52	SA	212	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
54	SC	209	VAL
54	SC	248	TYR
55	SD	76	ARG
56	SE	208	VAL
56	SE	254	LYS
58	SG	218	LYS
62	SK	59	LYS
63	SL	69	ARG
66	SP	37	TYR
69	SS	14	ARG
70	ST	111	LYS
71	SU	79	ARG
73	SW	28	ARG
73	SW	105	THR
75	SY	4	THR
78	Sb	65	GLN
81	Se	8	ARG
81	Se	40	ARG
83	Sg	12	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (223) such sidechains are listed below:

Mol	Chain	Res	Type
9	LA	50	HIS
9	LA	218	HIS
10	LB	3	HIS
10	LB	25	HIS
10	LB	203	GLN
10	LB	322	HIS
11	LC	38	ASN
11	LC	50	GLN
11	LC	116	ASN
11	LC	231	ASN
12	LD	63	GLN
12	LD	111	ASN
12	LD	191	ASN
12	LD	202	GLN
12	LD	282	GLN
13	LE	167	GLN
14	LF	206	ASN
15	LG	46	GLN
15	LG	81	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
15	LG	112	GLN
15	LG	159	HIS
16	LH	7	ASN
17	LI	144	ASN
17	LI	213	HIS
18	LJ	110	GLN
18	LJ	155	HIS
19	LL	13	HIS
19	LL	19	GLN
19	LL	87	HIS
19	LL	104	ASN
20	LM	48	GLN
20	LM	56	GLN
20	LM	78	GLN
20	LM	125	ASN
22	LO	50	ASN
23	LP	80	GLN
23	LP	97	ASN
23	LP	145	HIS
26	LS	91	HIS
26	LS	163	HIS
28	LU	38	ASN
29	LV	107	ASN
30	LW	63	GLN
31	LX	57	GLN
31	LX	93	ASN
32	LY	24	HIS
32	LY	96	HIS
33	LZ	28	ASN
33	LZ	97	ASN
34	La	14	HIS
34	La	85	GLN
35	Lb	12	GLN
36	Lc	33	GLN
37	Ld	18	ASN
38	Le	117	GLN
39	Lf	55	ASN
41	Lh	96	ASN
42	Li	20	ASN
43	Lj	76	HIS
44	Lk	28	ASN
45	Ll	38	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
45	Ll	43	HIS
48	Lo	51	GLN
50	Lr	6	GLN
50	Lr	30	ASN
50	Lr	100	ASN
9	MA	132	ASN
10	MB	3	HIS
10	MB	25	HIS
10	MB	145	GLN
10	MB	302	ASN
11	MC	48	ASN
11	MC	50	GLN
11	MC	347	HIS
13	ME	182	ASN
13	ME	211	HIS
13	ME	256	GLN
14	MF	39	GLN
14	MF	58	HIS
14	MF	99	ASN
14	MF	126	ASN
15	MG	141	ASN
15	MG	149	ASN
16	MH	79	ASN
16	MH	106	GLN
16	MH	149	ASN
16	MH	162	GLN
18	MJ	23	ASN
18	MJ	65	ASN
18	MJ	167	GLN
19	ML	13	HIS
19	ML	87	HIS
19	ML	159	ASN
21	MN	29	GLN
21	MN	139	HIS
21	MN	199	GLN
22	MO	42	ASN
22	MO	50	ASN
22	MO	180	GLN
51	MP	10	ASN
51	MP	34	GLN
51	MP	40	HIS
51	MP	75	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
51	MP	80	GLN
51	MP	101	ASN
51	MP	137	ASN
51	MP	145	HIS
24	MQ	44	ASN
24	MQ	45	GLN
24	MQ	188	ASN
25	MR	34	ASN
26	MS	50	GLN
26	MS	66	GLN
26	MS	117	HIS
26	MS	163	HIS
27	MT	77	ASN
30	MW	33	ASN
32	MY	14	ASN
32	MY	20	ASN
32	MY	24	HIS
32	MY	72	GLN
32	MY	100	HIS
33	MZ	40	HIS
33	MZ	78	ASN
34	Ma	89	ASN
36	Mc	40	GLN
38	Me	23	HIS
38	Me	52	GLN
38	Me	117	GLN
41	Mh	62	ASN
42	Mi	20	ASN
43	Mj	30	GLN
45	Ml	38	ASN
48	Mo	45	GLN
50	Mr	30	ASN
50	Mr	85	ASN
52	RA	36	GLN
52	RA	110	ASN
52	RA	113	GLN
53	RB	179	ASN
53	RB	186	ASN
54	RC	178	HIS
54	RC	272	HIS
55	RD	165	ASN
56	RE	142	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
56	RE	209	HIS
57	RF	83	ASN
57	RF	186	ASN
57	RF	203	ASN
58	RG	13	GLN
58	RG	81	HIS
59	RH	157	HIS
59	RH	186	ASN
61	RJ	124	HIS
61	RJ	132	GLN
62	RK	32	HIS
62	RK	73	ASN
63	RL	83	GLN
64	RN	101	HIS
65	RO	20	GLN
66	RP	104	GLN
67	RQ	8	GLN
68	RR	26	ASN
68	RR	62	GLN
69	RS	105	ASN
69	RS	125	HIS
70	RT	10	ASN
70	RT	11	GLN
70	RT	51	ASN
70	RT	85	ASN
73	RW	56	HIS
74	RX	20	GLN
74	RX	23	HIS
74	RX	61	GLN
75	RY	63	HIS
75	RY	112	ASN
78	Rb	19	HIS
79	Rc	26	GLN
80	Rd	16	GLN
82	Rf	19	GLN
52	SA	9	GLN
52	SA	29	ASN
52	SA	110	ASN
52	SA	164	ASN
53	SB	159	GLN
53	SB	202	GLN
55	SD	57	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
55	SD	165	ASN
56	SE	179	ASN
56	SE	188	ASN
58	SG	56	ASN
58	SG	202	ASN
59	SH	168	HIS
60	SI	52	ASN
60	SI	165	GLN
61	SJ	134	HIS
61	SJ	156	HIS
62	SK	42	ASN
63	SL	100	ASN
64	SN	36	GLN
64	SN	101	HIS
64	SN	105	ASN
66	SP	41	GLN
66	SP	98	ASN
68	SR	48	ASN
68	SR	62	GLN
69	SS	87	GLN
70	ST	11	GLN
71	SU	28	ASN
74	SX	20	GLN
74	SX	39	ASN
74	SX	61	GLN
75	SY	22	GLN
75	SY	112	ASN
78	Sb	19	HIS
79	Sc	24	GLN
81	Se	37	GLN
81	Se	58	ASN
83	Sg	14	HIS
83	Sg	62	HIS
83	Sg	117	ASN
83	Sg	191	HIS
83	Sg	237	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A4	13/14 (92%)	7 (53%)	0

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	A5	10/11 (90%)	4 (40%)	0
3	B4	75/76 (98%)	23 (30%)	0
3	D5	70/76 (92%)	37 (52%)	2 (2%)
4	B5	74/75 (98%)	22 (29%)	0
5	CC	74/75 (98%)	27 (36%)	2 (2%)
6	L1	155/157 (98%)	37 (23%)	2 (1%)
6	L8	155/157 (98%)	30 (19%)	2 (1%)
7	L5	3594/5227 (68%)	867 (24%)	22 (0%)
7	L6	3553/5227 (67%)	900 (25%)	13 (0%)
8	L7	119/121 (98%)	13 (10%)	0
8	L9	119/121 (98%)	16 (13%)	0
85	S2	1706/1869 (91%)	543 (31%)	20 (1%)
85	S3	1693/1869 (90%)	504 (29%)	14 (0%)
All	All	11410/15075 (75%)	3030 (26%)	77 (0%)

All (3030) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A4	39	U
1	A4	40	U
1	A4	41	U
1	A4	42	U
1	A4	46	U
1	A4	49	U
1	A4	50	U
2	A5	46	U
2	A5	48	U
2	A5	50	U
2	A5	52	U
3	B4	2	C
3	B4	4	C
3	B4	7	A
3	B4	8	U
3	B4	16	U
3	B4	17	C
3	B4	18	G
3	B4	19	G
3	B4	20	U
3	B4	21	A
3	B4	37	A
3	B4	42	C
3	B4	46	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	B4	47	U
3	B4	48	C
3	B4	56	C
3	B4	57	G
3	B4	58	A
3	B4	60	U
3	B4	61	C
3	B4	62	C
3	B4	74	C
3	B4	76	A
4	B5	2	G
4	B5	3	C
4	B5	4	A
4	B5	8	U
4	B5	9	G
4	B5	10	G
4	B5	11	C
4	B5	16	C
4	B5	17	G
4	B5	18	G
4	B5	19	A
4	B5	20	A
4	B5	21	G
4	B5	45	G
4	B5	46	U
4	B5	47	C
4	B5	48	G
4	B5	55	C
4	B5	56	G
4	B5	57	A
4	B5	58	A
4	B5	75	A
5	CC	10	G
5	CC	11	C
5	CC	16	C
5	CC	17	G
5	CC	18	G
5	CC	19	C
5	CC	20	U
5	CC	21	A
5	CC	22	U
5	CC	28	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	CC	31	G
5	CC	32	C
5	CC	33	U
5	CC	35	U
5	CC	36	C
5	CC	37	A
5	CC	38	C
5	CC	39	C
5	CC	45	G
5	CC	46	A
5	CC	47	C
5	CC	48	C
5	CC	58	C
5	CC	59	U
5	CC	60	C
5	CC	72	G
5	CC	75	A
3	D5	2	C
3	D5	3	C
3	D5	4	C
3	D5	5	G
3	D5	6	G
3	D5	7	A
3	D5	8	U
3	D5	9	A
3	D5	10	G
3	D5	19	G
3	D5	30	G
3	D5	31	A
3	D5	32	U
3	D5	33	U
3	D5	34	G
3	D5	35	A
3	D5	36	A
3	D5	43	C
3	D5	44	G
3	D5	46	G
3	D5	47	U
3	D5	48	C
3	D5	49	C
3	D5	51	U
3	D5	52	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	D5	55	U
3	D5	57	G
3	D5	60	U
3	D5	61	C
3	D5	62	C
3	D5	63	G
3	D5	64	A
3	D5	68	C
3	D5	71	G
3	D5	72	C
3	D5	75	C
3	D5	76	A
6	L1	22	U
6	L1	23	C
6	L1	34	U
6	L1	35	C
6	L1	39	G
6	L1	48	A
6	L1	52	A
6	L1	59	A
6	L1	61	A
6	L1	62	A
6	L1	63	U
6	L1	79	G
6	L1	80	A
6	L1	82	A
6	L1	83	C
6	L1	84	A
6	L1	85	U
6	L1	86	U
6	L1	87	G
6	L1	88	A
6	L1	103	A
6	L1	105	C
6	L1	109	C
6	L1	110	U
6	L1	111	U
6	L1	112	G
6	L1	114	G
6	L1	123	U
6	L1	124	U
6	L1	125	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	L1	126	C
6	L1	127	U
6	L1	149	G
6	L1	151	G
6	L1	153	C
6	L1	154	G
6	L1	156	U
7	L5	17	A
7	L5	21	G
7	L5	25	A
7	L5	30	C
7	L5	39	A
7	L5	42	A
7	L5	48	G
7	L5	56	A
7	L5	59	A
7	L5	64	A
7	L5	65	A
7	L5	69	A
7	L5	73	A
7	L5	74	G
7	L5	91	G
7	L5	104	G
7	L5	108	A
7	L5	109	G
7	L5	110	C
7	L5	116	G
7	L5	119	G
7	L5	120	A
7	L5	127	G
7	L5	133	C
7	L5	134	G
7	L5	136	C
7	L5	139	G
7	L5	152	U
7	L5	159	C
7	L5	165	A
7	L5	166	C
7	L5	172	C
7	L5	177	G
7	L5	178	C
7	L5	180	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	183	C
7	L5	184	U
7	L5	185	C
7	L5	188	G
7	L5	200	U
7	L5	209	U
7	L5	216	C
7	L5	217	C
7	L5	218	A
7	L5	226	G
7	L5	233	U
7	L5	234	G
7	L5	250	C
7	L5	255	C
7	L5	256	G
7	L5	258	G
7	L5	261	G
7	L5	265	C
7	L5	266	C
7	L5	267	G
7	L5	269	G
7	L5	280	G
7	L5	297	U
7	L5	306	A
7	L5	315	G
7	L5	316	U
7	L5	340	C
7	L5	349	A
7	L5	360	A
7	L5	387	G
7	L5	388	A
7	L5	407	A
7	L5	409	G
7	L5	410	A
7	L5	411	G
7	L5	412	G
7	L5	440	U
7	L5	449	C
7	L5	450	G
7	L5	452	A
7	L5	453	G
7	L5	454	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	456	C
7	L5	457	G
7	L5	461	G
7	L5	462	G
7	L5	465	G
7	L5	466	A
7	L5	467	U
7	L5	473	C
7	L5	474	C
7	L5	485	C
7	L5	486	C
7	L5	489	C
7	L5	490	C
7	L5	493	G
7	L5	494	U
7	L5	497	G
7	L5	498	C
7	L5	500	G
7	L5	501	C
7	L5	502	C
7	L5	503	C
7	L5	504	G
7	L5	505	G
7	L5	506	C
7	L5	509	A
7	L5	510	U
7	L5	512	U
7	L5	513	U
7	L5	514	U
7	L5	517	C
7	L5	518	G
7	L5	643	C
7	L5	644	G
7	L5	646	G
7	L5	649	A
7	L5	654	C
7	L5	655	C
7	L5	656	C
7	L5	657	C
7	L5	658	C
7	L5	662	C
7	L5	666	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	667	A
7	L5	668	C
7	L5	669	C
7	L5	670	G
7	L5	671	G
7	L5	673	C
7	L5	674	G
7	L5	675	C
7	L5	676	C
7	L5	685	C
7	L5	686	A
7	L5	687	U
7	L5	688	U
7	L5	692	A
7	L5	696	C
7	L5	697	G
7	L5	700	G
7	L5	703	G
7	L5	704	C
7	L5	708	G
7	L5	730	G
7	L5	731	G
7	L5	738	C
7	L5	739	G
7	L5	742	G
7	L5	746	A
7	L5	753	C
7	L5	757	G
7	L5	758	G
7	L5	759	G
7	L5	904	C
7	L5	906	C
7	L5	907	C
7	L5	912	G
7	L5	913	U
7	L5	914	U
7	L5	915	A
7	L5	916	C
7	L5	917	A
7	L5	918	G
7	L5	923	C
7	L5	924	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	926	G
7	L5	929	A
7	L5	932	A
7	L5	933	G
7	L5	934	C
7	L5	935	A
7	L5	937	U
7	L5	941	C
7	L5	944	A
7	L5	945	U
7	L5	959	G
7	L5	960	A
7	L5	961	G
7	L5	962	C
7	L5	965	G
7	L5	966	A
7	L5	967	C
7	L5	970	G
7	L5	972	C
7	L5	982	U
7	L5	984	C
7	L5	985	C
7	L5	989	U
7	L5	990	C
7	L5	991	C
7	L5	992	C
7	L5	993	G
7	L5	1068	G
7	L5	1070	G
7	L5	1071	C
7	L5	1075	G
7	L5	1076	C
7	L5	1082	C
7	L5	1083	U
7	L5	1092	G
7	L5	1095	A
7	L5	1168	G
7	L5	1170	G
7	L5	1171	G
7	L5	1172	C
7	L5	1173	G
7	L5	1178	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	1179	U
7	L5	1180	C
7	L5	1181	C
7	L5	1182	C
7	L5	1183	C
7	L5	1184	A
7	L5	1187	G
7	L5	1190	C
7	L5	1192	C
7	L5	1193	C
7	L5	1196	G
7	L5	1198	G
7	L5	1202	C
7	L5	1203	G
7	L5	1205	G
7	L5	1209	U
7	L5	1211	G
7	L5	1214	C
7	L5	1215	C
7	L5	1216	C
7	L5	1219	G
7	L5	1220	G
7	L5	1221	G
7	L5	1235	G
7	L5	1238	A
7	L5	1241	C
7	L5	1243	C
7	L5	1244	G
7	L5	1253	G
7	L5	1259	G
7	L5	1260	G
7	L5	1261	G
7	L5	1262	G
7	L5	1263	A
7	L5	1266	G
7	L5	1269	G
7	L5	1270	A
7	L5	1271	G
7	L5	1272	C
7	L5	1273	G
7	L5	1274	A
7	L5	1275	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	1280	C
7	L5	1284	G
7	L5	1285	U
7	L5	1287	G
7	L5	1293	G
7	L5	1294	A
7	L5	1295	C
7	L5	1301	C
7	L5	1302	U
7	L5	1303	A
7	L5	1304	C
7	L5	1324	A
7	L5	1326	A
7	L5	1337	A
7	L5	1344	C
7	L5	1354	A
7	L5	1358	G
7	L5	1359	G
7	L5	1360	G
7	L5	1365	C
7	L5	1366	G
7	L5	1377	G
7	L5	1378	C
7	L5	1379	C
7	L5	1381	U
7	L5	1387	A
7	L5	1393	G
7	L5	1394	G
7	L5	1402	C
7	L5	1403	G
7	L5	1405	C
7	L5	1408	G
7	L5	1410	U
7	L5	1411	C
7	L5	1415	G
7	L5	1420	A
7	L5	1425	G
7	L5	1435	G
7	L5	1437	C
7	L5	1438	U
7	L5	1439	C
7	L5	1441	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	1442	C
7	L5	1443	A
7	L5	1444	G
7	L5	1454	G
7	L5	1483	C
7	L5	1493	G
7	L5	1497	A
7	L5	1498	G
7	L5	1501	C
7	L5	1502	G
7	L5	1514	U
7	L5	1516	G
7	L5	1525	A
7	L5	1534	A
7	L5	1547	A
7	L5	1554	A
7	L5	1566	C
7	L5	1578	U
7	L5	1591	U
7	L5	1596	U
7	L5	1614	C
7	L5	1624	G
7	L5	1625	G
7	L5	1631	A
7	L5	1633	G
7	L5	1634	A
7	L5	1641	G
7	L5	1649	U
7	L5	1654	G
7	L5	1661	C
7	L5	1676	C
7	L5	1678	C
7	L5	1684	A
7	L5	1685	G
7	L5	1694	C
7	L5	1697	G
7	L5	1699	A
7	L5	1700	G
7	L5	1701	A
7	L5	1704	C
7	L5	1705	G
7	L5	1707	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	1716	G
7	L5	1718	C
7	L5	1719	A
7	L5	1720	C
7	L5	1724	G
7	L5	1726	U
7	L5	1741	G
7	L5	1742	A
7	L5	1750	G
7	L5	1753	G
7	L5	1756	U
7	L5	1758	G
7	L5	1759	G
7	L5	1760	G
7	L5	1761	G
7	L5	1765	A
7	L5	1767	A
7	L5	1771	U
7	L5	1787	A
7	L5	1797	G
7	L5	1803	G
7	L5	1804	A
7	L5	1806	G
7	L5	1810	G
7	L5	1815	G
7	L5	1821	G
7	L5	1822	U
7	L5	1833	G
7	L5	1834	U
7	L5	1836	G
7	L5	1837	A
7	L5	1842	G
7	L5	1855	G
7	L5	1869	G
7	L5	1882	U
7	L5	1891	A
7	L5	1893	C
7	L5	1897	A
7	L5	1912	G
7	L5	1918	U
7	L5	1919	G
7	L5	1920	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	1921	C
7	L5	1922	G
7	L5	1923	A
7	L5	1924	C
7	L5	1931	C
7	L5	1932	A
7	L5	1935	C
7	L5	1938	C
7	L5	1940	G
7	L5	1948	G
7	L5	1950	U
7	L5	1959	U
7	L5	1960	A
7	L5	1961	G
7	L5	1962	A
7	L5	1963	C
7	L5	1964	A
7	L5	1965	G
7	L5	1966	C
7	L5	1970	A
7	L5	1974	U
7	L5	1975	G
7	L5	1976	G
7	L5	1995	G
7	L5	1996	C
7	L5	1997	U
7	L5	1998	A
7	L5	2018	C
7	L5	2020	U
7	L5	2021	G
7	L5	2022	C
7	L5	2023	C
7	L5	2024	G
7	L5	2025	A
7	L5	2026	A
7	L5	2040	A
7	L5	2046	G
7	L5	2048	U
7	L5	2055	G
7	L5	2056	G
7	L5	2068	C
7	L5	2069	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	2084	C
7	L5	2092	G
7	L5	2095	A
7	L5	2096	G
7	L5	2098	G
7	L5	2101	C
7	L5	2102	G
7	L5	2103	G
7	L5	2106	G
7	L5	2107	C
7	L5	2108	G
7	L5	2116	C
7	L5	2117	G
7	L5	2118	G
7	L5	2119	C
7	L5	2120	G
7	L5	2121	C
7	L5	2123	C
7	L5	2250	C
7	L5	2252	G
7	L5	2253	A
7	L5	2254	G
7	L5	2255	C
7	L5	2256	C
7	L5	2257	C
7	L5	2258	C
7	L5	2259	G
7	L5	2260	C
7	L5	2268	A
7	L5	2289	C
7	L5	2300	A
7	L5	2301	G
7	L5	2313	A
7	L5	2316	G
7	L5	2319	C
7	L5	2332	A
7	L5	2333	G
7	L5	2337	C
7	L5	2348	G
7	L5	2351	C
7	L5	2357	G
7	L5	2360	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	2395	A
7	L5	2397	G
7	L5	2402	G
7	L5	2417	A
7	L5	2421	G
7	L5	2422	C
7	L5	2424	G
7	L5	2425	U
7	L5	2437	C
7	L5	2441	C
7	L5	2450	G
7	L5	2464	C
7	L5	2465	C
7	L5	2470	C
7	L5	2475	G
7	L5	2483	G
7	L5	2484	A
7	L5	2487	G
7	L5	2488	C
7	L5	2489	C
7	L5	2490	U
7	L5	2491	C
7	L5	2503	G
7	L5	2504	C
7	L5	2505	C
7	L5	2506	G
7	L5	2513	A
7	L5	2518	G
7	L5	2519	U
7	L5	2537	A
7	L5	2543	A
7	L5	2544	G
7	L5	2545	U
7	L5	2546	G
7	L5	2547	G
7	L5	2554	U
7	L5	2555	G
7	L5	2559	G
7	L5	2560	C
7	L5	2567	G
7	L5	2573	A
7	L5	2577	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	2583	C
7	L5	2586	G
7	L5	2587	A
7	L5	2589	C
7	L5	2601	A
7	L5	2618	G
7	L5	2627	C
7	L5	2653	C
7	L5	2662	G
7	L5	2669	C
7	L5	2670	C
7	L5	2673	G
7	L5	2675	G
7	L5	2676	A
7	L5	2687	U
7	L5	2694	G
7	L5	2695	A
7	L5	2696	A
7	L5	2703	G
7	L5	2708	U
7	L5	2710	C
7	L5	2711	G
7	L5	2721	G
7	L5	2724	G
7	L5	2726	G
7	L5	2739	C
7	L5	2742	G
7	L5	2743	A
7	L5	2754	G
7	L5	2756	G
7	L5	2761	U
7	L5	2763	U
7	L5	2764	A
7	L5	2769	U
7	L5	2770	C
7	L5	2788	U
7	L5	2789	A
7	L5	2790	U
7	L5	2791	C
7	L5	2794	C
7	L5	2812	A
7	L5	2814	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	2815	A
7	L5	2825	A
7	L5	2826	U
7	L5	2827	G
7	L5	2838	G
7	L5	2842	G
7	L5	2848	G
7	L5	2855	G
7	L5	2856	C
7	L5	2877	G
7	L5	2891	U
7	L5	2894	A
7	L5	2896	G
7	L5	2897	G
7	L5	2900	U
7	L5	2902	G
7	L5	2903	G
7	L5	2904	U
7	L5	2905	C
7	L5	2906	G
7	L5	2907	G
7	L5	2908	U
7	L5	3585	G
7	L5	3586	G
7	L5	3587	C
7	L5	3588	C
7	L5	3591	C
7	L5	3593	C
7	L5	3594	C
7	L5	3595	U
7	L5	3596	A
7	L5	3597	G
7	L5	3599	A
7	L5	3604	A
7	L5	3605	C
7	L5	3615	G
7	L5	3616	U
7	L5	3618	C
7	L5	3626	G
7	L5	3630	A
7	L5	3635	A
7	L5	3644	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	3646	A
7	L5	3648	A
7	L5	3649	A
7	L5	3662	A
7	L5	3664	G
7	L5	3672	G
7	L5	3673	C
7	L5	3674	G
7	L5	3680	U
7	L5	3691	G
7	L5	3692	A
7	L5	3711	A
7	L5	3726	A
7	L5	3727	A
7	L5	3729	U
7	L5	3735	G
7	L5	3736	A
7	L5	3748	A
7	L5	3750	G
7	L5	3753	G
7	L5	3757	G
7	L5	3758	U
7	L5	3759	A
7	L5	3760	A
7	L5	3761	C
7	L5	3771	C
7	L5	3775	A
7	L5	3776	G
7	L5	3777	G
7	L5	3784	A
7	L5	3786	U
7	L5	3788	C
7	L5	3811	G
7	L5	3812	C
7	L5	3814	U
7	L5	3817	A
7	L5	3818	U
7	L5	3819	G
7	L5	3838	U
7	L5	3839	G
7	L5	3840	U
7	L5	3841	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	3867	A
7	L5	3870	C
7	L5	3877	A
7	L5	3878	C
7	L5	3879	G
7	L5	3885	G
7	L5	3890	A
7	L5	3892	U
7	L5	3897	G
7	L5	3901	A
7	L5	3906	A
7	L5	3907	G
7	L5	3908	A
7	L5	3915	U
7	L5	3916	G
7	L5	3926	C
7	L5	3942	A
7	L5	3943	A
7	L5	3944	G
7	L5	3947	A
7	L5	3948	C
7	L5	3949	A
7	L5	4065	G
7	L5	4076	G
7	L5	4084	G
7	L5	4095	G
7	L5	4096	C
7	L5	4097	G
7	L5	4099	G
7	L5	4102	C
7	L5	4104	G
7	L5	4105	A
7	L5	4106	G
7	L5	4107	G
7	L5	4108	G
7	L5	4113	U
7	L5	4114	C
7	L5	4115	G
7	L5	4116	C
7	L5	4119	C
7	L5	4121	G
7	L5	4122	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	4128	A
7	L5	4130	C
7	L5	4131	G
7	L5	4132	C
7	L5	4133	C
7	L5	4134	C
7	L5	4135	G
7	L5	4137	C
7	L5	4138	C
7	L5	4139	G
7	L5	4140	C
7	L5	4141	G
7	L5	4142	C
7	L5	4143	G
7	L5	4145	C
7	L5	4149	C
7	L5	4150	G
7	L5	4154	G
7	L5	4155	C
7	L5	4157	A
7	L5	4162	C
7	L5	4163	U
7	L5	4168	G
7	L5	4170	A
7	L5	4183	G
7	L5	4184	G
7	L5	4191	G
7	L5	4203	A
7	L5	4206	C
7	L5	4212	A
7	L5	4222	G
7	L5	4223	C
7	L5	4225	G
7	L5	4229	U
7	L5	4233	A
7	L5	4243	C
7	L5	4249	G
7	L5	4251	A
7	L5	4254	G
7	L5	4257	A
7	L5	4268	A
7	L5	4273	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	4297	G
7	L5	4304	A
7	L5	4305	G
7	L5	4314	C
7	L5	4319	C
7	L5	4329	G
7	L5	4330	G
7	L5	4332	C
7	L5	4339	A
7	L5	4349	C
7	L5	4354	U
7	L5	4373	G
7	L5	4376	A
7	L5	4377	G
7	L5	4378	A
7	L5	4379	A
7	L5	4380	A
7	L5	4381	A
7	L5	4387	C
7	L5	4391	G
7	L5	4394	A
7	L5	4410	G
7	L5	4416	G
7	L5	4422	A
7	L5	4424	A
7	L5	4426	C
7	L5	4437	U
7	L5	4438	U
7	L5	4444	C
7	L5	4448	G
7	L5	4449	A
7	L5	4452	U
7	L5	4453	C
7	L5	4464	A
7	L5	4466	C
7	L5	4475	G
7	L5	4477	A
7	L5	4478	G
7	L5	4500	U
7	L5	4512	U
7	L5	4513	A
7	L5	4519	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	4524	G
7	L5	4531	U
7	L5	4548	A
7	L5	4549	G
7	L5	4554	G
7	L5	4560	C
7	L5	4567	G
7	L5	4573	G
7	L5	4575	G
7	L5	4584	A
7	L5	4589	A
7	L5	4590	A
7	L5	4600	G
7	L5	4601	U
7	L5	4627	U
7	L5	4634	U
7	L5	4636	U
7	L5	4637	G
7	L5	4639	G
7	L5	4640	C
7	L5	4656	A
7	L5	4664	A
7	L5	4669	A
7	L5	4670	C
7	L5	4687	A
7	L5	4693	C
7	L5	4695	C
7	L5	4700	A
7	L5	4707	A
7	L5	4708	A
7	L5	4709	U
7	L5	4719	G
7	L5	4720	C
7	L5	4733	C
7	L5	4734	A
7	L5	4740	G
7	L5	4741	C
7	L5	4742	G
7	L5	4745	G
7	L5	4750	G
7	L5	4754	G
7	L5	4757	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	4759	C
7	L5	4761	G
7	L5	4765	G
7	L5	4771	C
7	L5	4772	C
7	L5	4774	C
7	L5	4775	C
7	L5	4860	G
7	L5	4868	G
7	L5	4870	G
7	L5	4871	C
7	L5	4875	G
7	L5	4881	U
7	L5	4882	U
7	L5	4883	C
7	L5	4888	U
7	L5	4889	G
7	L5	4894	A
7	L5	4895	C
7	L5	4896	G
7	L5	4897	G
7	L5	4900	C
7	L5	4901	G
7	L5	4902	C
7	L5	4903	G
7	L5	4910	G
7	L5	4911	A
7	L5	4912	G
7	L5	4914	C
7	L5	4918	C
7	L5	4920	C
7	L5	4925	U
7	L5	4927	G
7	L5	4928	C
7	L5	4929	C
7	L5	4930	C
7	L5	4931	G
7	L5	4934	A
7	L5	4937	C
7	L5	4940	C
7	L5	4941	G
7	L5	4943	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	4955	A
7	L5	4960	G
7	L5	4961	G
7	L5	4963	G
7	L5	4966	A
7	L5	4976	U
7	L5	4979	A
7	L5	4988	U
7	L5	4989	U
7	L5	4990	C
7	L5	4991	U
7	L5	4995	U
7	L5	5006	U
7	L5	5011	A
7	L5	5012	G
7	L5	5014	A
7	L5	5017	G
7	L5	5022	U
7	L5	5023	C
7	L5	5024	C
7	L5	5025	C
7	L5	5026	U
7	L5	5028	G
7	L5	5029	C
7	L5	5032	C
7	L5	5034	A
7	L5	5040	U
7	L5	5041	G
7	L5	5050	C
7	L5	5054	C
7	L5	5060	A
7	L5	5061	A
7	L5	5062	G
7	L5	5069	U
7	L6	3	C
7	L6	25	A
7	L6	39	A
7	L6	42	A
7	L6	48	G
7	L6	56	A
7	L6	59	A
7	L6	64	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	65	A
7	L6	66	A
7	L6	69	A
7	L6	73	A
7	L6	75	G
7	L6	84	A
7	L6	91	G
7	L6	104	G
7	L6	106	A
7	L6	108	A
7	L6	109	G
7	L6	110	C
7	L6	116	G
7	L6	117	C
7	L6	119	G
7	L6	120	A
7	L6	124	C
7	L6	133	C
7	L6	134	G
7	L6	135	G
7	L6	136	C
7	L6	139	G
7	L6	144	G
7	L6	152	U
7	L6	159	C
7	L6	164	G
7	L6	165	A
7	L6	166	C
7	L6	172	C
7	L6	177	G
7	L6	178	C
7	L6	179	G
7	L6	180	C
7	L6	181	C
7	L6	183	C
7	L6	185	C
7	L6	186	G
7	L6	188	G
7	L6	189	G
7	L6	190	G
7	L6	197	A
7	L6	200	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	209	U
7	L6	213	G
7	L6	216	C
7	L6	218	A
7	L6	233	U
7	L6	234	G
7	L6	250	C
7	L6	251	C
7	L6	258	G
7	L6	259	C
7	L6	261	G
7	L6	265	C
7	L6	266	C
7	L6	269	G
7	L6	276	C
7	L6	280	G
7	L6	297	U
7	L6	306	A
7	L6	309	C
7	L6	315	G
7	L6	316	U
7	L6	322	C
7	L6	328	A
7	L6	340	C
7	L6	341	G
7	L6	354	U
7	L6	355	A
7	L6	360	A
7	L6	362	A
7	L6	363	A
7	L6	365	U
7	L6	385	A
7	L6	387	G
7	L6	388	A
7	L6	398	A
7	L6	407	A
7	L6	408	A
7	L6	409	G
7	L6	410	A
7	L6	411	G
7	L6	412	G
7	L6	413	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	415	G
7	L6	437	G
7	L6	440	U
7	L6	446	C
7	L6	449	C
7	L6	450	G
7	L6	452	A
7	L6	453	G
7	L6	454	U
7	L6	456	C
7	L6	457	G
7	L6	465	G
7	L6	468	U
7	L6	479	G
7	L6	483	G
7	L6	484	U
7	L6	485	C
7	L6	486	C
7	L6	487	G
7	L6	493	G
7	L6	494	U
7	L6	497	G
7	L6	498	C
7	L6	499	G
7	L6	500	G
7	L6	501	C
7	L6	502	C
7	L6	503	C
7	L6	504	G
7	L6	505	G
7	L6	509	A
7	L6	510	U
7	L6	511	C
7	L6	512	U
7	L6	513	U
7	L6	514	U
7	L6	515	C
7	L6	516	C
7	L6	519	C
7	L6	643	C
7	L6	644	G
7	L6	646	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	654	C
7	L6	655	C
7	L6	656	C
7	L6	657	C
7	L6	659	G
7	L6	665	C
7	L6	666	G
7	L6	667	A
7	L6	668	C
7	L6	669	C
7	L6	671	G
7	L6	673	C
7	L6	674	G
7	L6	675	C
7	L6	685	C
7	L6	686	A
7	L6	687	U
7	L6	688	U
7	L6	696	C
7	L6	700	G
7	L6	703	G
7	L6	704	C
7	L6	705	G
7	L6	731	G
7	L6	738	C
7	L6	739	G
7	L6	745	G
7	L6	747	A
7	L6	753	C
7	L6	757	G
7	L6	758	G
7	L6	760	G
7	L6	904	C
7	L6	905	C
7	L6	910	G
7	L6	912	G
7	L6	913	U
7	L6	914	U
7	L6	915	A
7	L6	916	C
7	L6	917	A
7	L6	918	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	923	C
7	L6	924	C
7	L6	927	G
7	L6	932	A
7	L6	933	G
7	L6	934	C
7	L6	935	A
7	L6	937	U
7	L6	941	C
7	L6	943	A
7	L6	944	A
7	L6	945	U
7	L6	959	G
7	L6	960	A
7	L6	961	G
7	L6	962	C
7	L6	963	G
7	L6	965	G
7	L6	968	C
7	L6	970	G
7	L6	971	U
7	L6	982	U
7	L6	984	C
7	L6	985	C
7	L6	986	C
7	L6	987	C
7	L6	989	U
7	L6	990	C
7	L6	991	C
7	L6	992	C
7	L6	1066	G
7	L6	1069	G
7	L6	1070	G
7	L6	1071	C
7	L6	1074	G
7	L6	1075	G
7	L6	1076	C
7	L6	1079	C
7	L6	1082	C
7	L6	1083	U
7	L6	1095	A
7	L6	1168	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	1171	G
7	L6	1173	G
7	L6	1174	G
7	L6	1179	U
7	L6	1180	C
7	L6	1182	C
7	L6	1183	C
7	L6	1184	A
7	L6	1196	G
7	L6	1197	C
7	L6	1200	G
7	L6	1202	C
7	L6	1203	G
7	L6	1210	C
7	L6	1211	G
7	L6	1214	C
7	L6	1215	C
7	L6	1216	C
7	L6	1217	G
7	L6	1218	G
7	L6	1219	G
7	L6	1220	G
7	L6	1222	A
7	L6	1241	C
7	L6	1243	C
7	L6	1258	G
7	L6	1262	G
7	L6	1266	G
7	L6	1268	G
7	L6	1269	G
7	L6	1271	G
7	L6	1272	C
7	L6	1273	G
7	L6	1274	A
7	L6	1275	G
7	L6	1277	G
7	L6	1280	C
7	L6	1284	G
7	L6	1285	U
7	L6	1287	G
7	L6	1293	G
7	L6	1294	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	1295	C
7	L6	1296	G
7	L6	1298	C
7	L6	1301	C
7	L6	1304	C
7	L6	1320	U
7	L6	1324	A
7	L6	1326	A
7	L6	1337	A
7	L6	1344	C
7	L6	1354	A
7	L6	1358	G
7	L6	1359	G
7	L6	1365	C
7	L6	1366	G
7	L6	1368	A
7	L6	1370	G
7	L6	1377	G
7	L6	1379	C
7	L6	1381	U
7	L6	1387	A
7	L6	1394	G
7	L6	1398	A
7	L6	1399	G
7	L6	1402	C
7	L6	1403	G
7	L6	1404	G
7	L6	1405	C
7	L6	1407	C
7	L6	1410	U
7	L6	1411	C
7	L6	1415	G
7	L6	1420	A
7	L6	1435	G
7	L6	1437	C
7	L6	1439	C
7	L6	1441	C
7	L6	1442	C
7	L6	1443	A
7	L6	1444	G
7	L6	1447	C
7	L6	1457	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	1482	G
7	L6	1483	C
7	L6	1486	C
7	L6	1497	A
7	L6	1498	G
7	L6	1501	C
7	L6	1502	G
7	L6	1516	G
7	L6	1518	A
7	L6	1525	A
7	L6	1528	U
7	L6	1534	A
7	L6	1543	G
7	L6	1547	A
7	L6	1565	A
7	L6	1566	C
7	L6	1578	U
7	L6	1586	G
7	L6	1591	U
7	L6	1596	U
7	L6	1612	G
7	L6	1614	C
7	L6	1624	G
7	L6	1625	G
7	L6	1631	A
7	L6	1633	G
7	L6	1634	A
7	L6	1641	G
7	L6	1649	U
7	L6	1650	A
7	L6	1654	G
7	L6	1660	U
7	L6	1661	C
7	L6	1670	G
7	L6	1676	C
7	L6	1677	U
7	L6	1679	A
7	L6	1681	G
7	L6	1685	G
7	L6	1691	G
7	L6	1697	G
7	L6	1699	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	1701	A
7	L6	1703	C
7	L6	1704	C
7	L6	1705	G
7	L6	1707	C
7	L6	1716	G
7	L6	1717	C
7	L6	1719	A
7	L6	1720	C
7	L6	1731	C
7	L6	1734	G
7	L6	1742	A
7	L6	1750	G
7	L6	1757	U
7	L6	1758	G
7	L6	1759	G
7	L6	1760	G
7	L6	1761	G
7	L6	1762	C
7	L6	1772	C
7	L6	1775	A
7	L6	1776	A
7	L6	1785	C
7	L6	1787	A
7	L6	1797	G
7	L6	1803	G
7	L6	1804	A
7	L6	1806	G
7	L6	1810	G
7	L6	1815	G
7	L6	1820	C
7	L6	1821	G
7	L6	1822	U
7	L6	1833	G
7	L6	1834	U
7	L6	1836	G
7	L6	1837	A
7	L6	1842	G
7	L6	1855	G
7	L6	1869	G
7	L6	1881	C
7	L6	1882	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	1892	A
7	L6	1897	A
7	L6	1915	C
7	L6	1917	A
7	L6	1918	U
7	L6	1919	G
7	L6	1920	C
7	L6	1921	C
7	L6	1922	G
7	L6	1925	G
7	L6	1928	C
7	L6	1931	C
7	L6	1932	A
7	L6	1936	C
7	L6	1938	C
7	L6	1940	G
7	L6	1947	U
7	L6	1948	G
7	L6	1951	G
7	L6	1959	U
7	L6	1960	A
7	L6	1961	G
7	L6	1962	A
7	L6	1966	C
7	L6	1968	G
7	L6	1969	G
7	L6	1970	A
7	L6	1971	C
7	L6	1995	G
7	L6	1996	C
7	L6	1997	U
7	L6	1998	A
7	L6	1999	A
7	L6	2018	C
7	L6	2020	U
7	L6	2021	G
7	L6	2024	G
7	L6	2025	A
7	L6	2026	A
7	L6	2033	A
7	L6	2040	A
7	L6	2046	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	2048	U
7	L6	2055	G
7	L6	2056	G
7	L6	2069	A
7	L6	2084	C
7	L6	2085	G
7	L6	2089	G
7	L6	2090	U
7	L6	2092	G
7	L6	2093	A
7	L6	2094	G
7	L6	2095	A
7	L6	2096	G
7	L6	2097	U
7	L6	2098	G
7	L6	2101	C
7	L6	2102	G
7	L6	2103	G
7	L6	2106	G
7	L6	2107	C
7	L6	2116	C
7	L6	2117	G
7	L6	2118	G
7	L6	2119	C
7	L6	2120	G
7	L6	2121	C
7	L6	2122	G
7	L6	2123	C
7	L6	2255	C
7	L6	2256	C
7	L6	2257	C
7	L6	2258	C
7	L6	2268	A
7	L6	2270	G
7	L6	2289	C
7	L6	2294	G
7	L6	2300	A
7	L6	2301	G
7	L6	2305	U
7	L6	2313	A
7	L6	2316	G
7	L6	2322	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	2331	G
7	L6	2332	A
7	L6	2333	G
7	L6	2346	C
7	L6	2348	G
7	L6	2351	C
7	L6	2360	A
7	L6	2389	A
7	L6	2395	A
7	L6	2397	G
7	L6	2404	A
7	L6	2410	C
7	L6	2416	G
7	L6	2417	A
7	L6	2418	A
7	L6	2421	G
7	L6	2422	C
7	L6	2424	G
7	L6	2425	U
7	L6	2437	C
7	L6	2441	C
7	L6	2450	G
7	L6	2464	C
7	L6	2465	C
7	L6	2474	G
7	L6	2475	G
7	L6	2483	G
7	L6	2484	A
7	L6	2492	C
7	L6	2493	G
7	L6	2494	U
7	L6	2496	G
7	L6	2497	C
7	L6	2503	G
7	L6	2504	C
7	L6	2505	C
7	L6	2506	G
7	L6	2511	A
7	L6	2513	A
7	L6	2519	U
7	L6	2520	C
7	L6	2529	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	2537	A
7	L6	2543	A
7	L6	2544	G
7	L6	2546	G
7	L6	2547	G
7	L6	2554	U
7	L6	2555	G
7	L6	2556	G
7	L6	2559	G
7	L6	2564	G
7	L6	2565	A
7	L6	2583	C
7	L6	2586	G
7	L6	2587	A
7	L6	2589	C
7	L6	2601	A
7	L6	2618	G
7	L6	2627	C
7	L6	2638	G
7	L6	2643	G
7	L6	2653	C
7	L6	2658	G
7	L6	2662	G
7	L6	2669	C
7	L6	2670	C
7	L6	2673	G
7	L6	2676	A
7	L6	2679	G
7	L6	2687	U
7	L6	2694	G
7	L6	2695	A
7	L6	2696	A
7	L6	2705	G
7	L6	2707	U
7	L6	2710	C
7	L6	2711	G
7	L6	2715	G
7	L6	2719	C
7	L6	2721	G
7	L6	2724	G
7	L6	2726	G
7	L6	2732	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	2739	C
7	L6	2742	G
7	L6	2743	A
7	L6	2754	G
7	L6	2756	G
7	L6	2759	G
7	L6	2761	U
7	L6	2763	U
7	L6	2764	A
7	L6	2769	U
7	L6	2770	C
7	L6	2788	U
7	L6	2790	U
7	L6	2794	C
7	L6	2799	G
7	L6	2814	C
7	L6	2815	A
7	L6	2826	U
7	L6	2827	G
7	L6	2830	G
7	L6	2838	G
7	L6	2842	G
7	L6	2855	G
7	L6	2856	C
7	L6	2874	U
7	L6	2875	C
7	L6	2877	G
7	L6	2892	C
7	L6	2895	A
7	L6	2897	G
7	L6	2900	U
7	L6	2902	G
7	L6	2903	G
7	L6	2904	U
7	L6	2905	C
7	L6	3585	G
7	L6	3587	C
7	L6	3588	C
7	L6	3590	G
7	L6	3591	C
7	L6	3592	G
7	L6	3594	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	3595	U
7	L6	3596	A
7	L6	3597	G
7	L6	3599	A
7	L6	3604	A
7	L6	3605	C
7	L6	3606	U
7	L6	3615	G
7	L6	3616	U
7	L6	3618	C
7	L6	3626	G
7	L6	3630	A
7	L6	3635	A
7	L6	3644	U
7	L6	3646	A
7	L6	3648	A
7	L6	3653	A
7	L6	3662	A
7	L6	3663	A
7	L6	3673	C
7	L6	3674	G
7	L6	3683	C
7	L6	3691	G
7	L6	3692	A
7	L6	3710	G
7	L6	3711	A
7	L6	3713	U
7	L6	3717	A
7	L6	3726	A
7	L6	3727	A
7	L6	3729	U
7	L6	3735	G
7	L6	3736	A
7	L6	3750	G
7	L6	3756	A
7	L6	3757	G
7	L6	3758	U
7	L6	3760	A
7	L6	3769	C
7	L6	3771	C
7	L6	3773	U
7	L6	3776	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	3777	G
7	L6	3786	U
7	L6	3787	G
7	L6	3802	U
7	L6	3810	C
7	L6	3811	G
7	L6	3812	C
7	L6	3813	A
7	L6	3814	U
7	L6	3817	A
7	L6	3818	U
7	L6	3819	G
7	L6	3823	G
7	L6	3838	U
7	L6	3839	G
7	L6	3840	U
7	L6	3867	A
7	L6	3876	A
7	L6	3877	A
7	L6	3878	C
7	L6	3879	G
7	L6	3885	G
7	L6	3890	A
7	L6	3892	U
7	L6	3897	G
7	L6	3901	A
7	L6	3906	A
7	L6	3907	G
7	L6	3908	A
7	L6	3915	U
7	L6	3916	G
7	L6	3926	C
7	L6	3939	G
7	L6	3941	G
7	L6	3942	A
7	L6	3943	A
7	L6	3945	A
7	L6	3946	G
7	L6	4069	U
7	L6	4070	U
7	L6	4071	U
7	L6	4076	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	4084	G
7	L6	4085	A
7	L6	4086	G
7	L6	4094	G
7	L6	4095	G
7	L6	4097	G
7	L6	4099	G
7	L6	4101	C
7	L6	4110	C
7	L6	4112	C
7	L6	4113	U
7	L6	4114	C
7	L6	4115	G
7	L6	4116	C
7	L6	4117	U
7	L6	4119	C
7	L6	4127	A
7	L6	4128	A
7	L6	4137	C
7	L6	4140	C
7	L6	4141	G
7	L6	4142	C
7	L6	4143	G
7	L6	4144	C
7	L6	4150	G
7	L6	4157	A
7	L6	4162	C
7	L6	4163	U
7	L6	4170	A
7	L6	4183	G
7	L6	4184	G
7	L6	4191	G
7	L6	4203	A
7	L6	4212	A
7	L6	4220	A
7	L6	4222	G
7	L6	4225	G
7	L6	4229	U
7	L6	4233	A
7	L6	4234	A
7	L6	4243	C
7	L6	4251	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	4254	G
7	L6	4256	A
7	L6	4257	A
7	L6	4265	U
7	L6	4268	A
7	L6	4273	A
7	L6	4279	A
7	L6	4282	A
7	L6	4290	U
7	L6	4291	G
7	L6	4296	U
7	L6	4297	G
7	L6	4304	A
7	L6	4305	G
7	L6	4306	U
7	L6	4314	C
7	L6	4319	C
7	L6	4326	G
7	L6	4329	G
7	L6	4330	G
7	L6	4332	C
7	L6	4339	A
7	L6	4349	C
7	L6	4354	U
7	L6	4355	G
7	L6	4364	G
7	L6	4373	G
7	L6	4374	U
7	L6	4376	A
7	L6	4377	G
7	L6	4378	A
7	L6	4380	A
7	L6	4381	A
7	L6	4382	G
7	L6	4387	C
7	L6	4391	G
7	L6	4394	A
7	L6	4422	A
7	L6	4426	C
7	L6	4433	G
7	L6	4437	U
7	L6	4444	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	4448	G
7	L6	4449	A
7	L6	4450	U
7	L6	4452	U
7	L6	4453	C
7	L6	4464	A
7	L6	4466	C
7	L6	4481	U
7	L6	4488	A
7	L6	4500	U
7	L6	4510	A
7	L6	4512	U
7	L6	4513	A
7	L6	4518	A
7	L6	4519	C
7	L6	4524	G
7	L6	4545	G
7	L6	4548	A
7	L6	4549	G
7	L6	4554	G
7	L6	4557	U
7	L6	4560	C
7	L6	4567	G
7	L6	4573	G
7	L6	4575	G
7	L6	4584	A
7	L6	4589	A
7	L6	4590	A
7	L6	4599	A
7	L6	4600	G
7	L6	4601	U
7	L6	4608	G
7	L6	4618	G
7	L6	4636	U
7	L6	4652	G
7	L6	4656	A
7	L6	4658	G
7	L6	4670	C
7	L6	4672	A
7	L6	4677	U
7	L6	4679	G
7	L6	4684	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	4687	A
7	L6	4695	C
7	L6	4700	A
7	L6	4707	A
7	L6	4708	A
7	L6	4709	U
7	L6	4729	A
7	L6	4730	C
7	L6	4731	G
7	L6	4733	C
7	L6	4734	A
7	L6	4740	G
7	L6	4741	C
7	L6	4742	G
7	L6	4745	G
7	L6	4750	G
7	L6	4754	G
7	L6	4757	C
7	L6	4759	C
7	L6	4761	G
7	L6	4764	A
7	L6	4765	G
7	L6	4773	C
7	L6	4774	C
7	L6	4775	C
7	L6	4859	C
7	L6	4860	G
7	L6	4862	G
7	L6	4863	G
7	L6	4864	U
7	L6	4870	G
7	L6	4871	C
7	L6	4875	G
7	L6	4877	G
7	L6	4880	C
7	L6	4882	U
7	L6	4883	C
7	L6	4888	U
7	L6	4889	G
7	L6	4894	A
7	L6	4895	C
7	L6	4896	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	4897	G
7	L6	4898	G
7	L6	4899	G
7	L6	4900	C
7	L6	4901	G
7	L6	4910	G
7	L6	4912	G
7	L6	4914	C
7	L6	4916	G
7	L6	4918	C
7	L6	4923	C
7	L6	4925	U
7	L6	4927	G
7	L6	4928	C
7	L6	4931	G
7	L6	4934	A
7	L6	4937	C
7	L6	4938	A
7	L6	4943	A
7	L6	4944	C
7	L6	4947	U
7	L6	4949	G
7	L6	4951	G
7	L6	4955	A
7	L6	4960	G
7	L6	4961	G
7	L6	4962	C
7	L6	4963	G
7	L6	4966	A
7	L6	4976	U
7	L6	4985	U
7	L6	4988	U
7	L6	4989	U
7	L6	4990	C
7	L6	4991	U
7	L6	5006	U
7	L6	5014	A
7	L6	5017	G
7	L6	5020	G
7	L6	5022	U
7	L6	5030	U
7	L6	5032	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L6	5034	A
7	L6	5040	U
7	L6	5041	G
7	L6	5047	C
7	L6	5050	C
7	L6	5054	C
7	L6	5055	G
7	L6	5060	A
7	L6	5061	A
7	L6	5069	U
8	L7	7	G
8	L7	23	A
8	L7	33	U
8	L7	53	U
8	L7	54	A
8	L7	63	C
8	L7	64	G
8	L7	74	A
8	L7	97	G
8	L7	100	A
8	L7	102	U
8	L7	103	A
8	L7	120	U
6	L8	16	G
6	L8	34	U
6	L8	35	C
6	L8	48	A
6	L8	59	A
6	L8	61	A
6	L8	63	U
6	L8	80	A
6	L8	81	C
6	L8	82	A
6	L8	83	C
6	L8	84	A
6	L8	86	U
6	L8	87	G
6	L8	88	A
6	L8	103	A
6	L8	104	A
6	L8	105	C
6	L8	109	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	L8	110	U
6	L8	111	U
6	L8	114	G
6	L8	123	U
6	L8	124	U
6	L8	125	C
6	L8	126	C
6	L8	127	U
6	L8	147	G
6	L8	150	C
6	L8	151	G
8	L9	7	G
8	L9	27	G
8	L9	31	G
8	L9	33	U
8	L9	41	G
8	L9	48	G
8	L9	53	U
8	L9	54	A
8	L9	55	A
8	L9	62	U
8	L9	63	C
8	L9	64	G
8	L9	97	G
8	L9	100	A
8	L9	103	A
8	L9	120	U
85	S2	2	A
85	S2	7	G
85	S2	17	C
85	S2	33	G
85	S2	41	G
85	S2	44	U
85	S2	45	A
85	S2	46	A
85	S2	56	G
85	S2	58	C
85	S2	59	U
85	S2	62	G
85	S2	66	G
85	S2	67	C
85	S2	68	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	71	G
85	S2	72	C
85	S2	73	C
85	S2	75	G
85	S2	76	U
85	S2	77	A
85	S2	78	C
85	S2	79	A
85	S2	80	G
85	S2	84	A
85	S2	86	C
85	S2	96	C
85	S2	99	A
85	S2	103	A
85	S2	113	G
85	S2	114	G
85	S2	115	U
85	S2	121	U
85	S2	126	G
85	S2	127	C
85	S2	128	U
85	S2	130	G
85	S2	142	C
85	S2	143	U
85	S2	144	U
85	S2	145	G
85	S2	149	A
85	S2	150	A
85	S2	151	C
85	S2	154	U
85	S2	155	G
85	S2	158	A
85	S2	160	U
85	S2	161	U
85	S2	162	C
85	S2	163	U
85	S2	167	G
85	S2	168	C
85	S2	169	U
85	S2	170	A
85	S2	171	A
85	S2	179	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	182	C
85	S2	184	G
85	S2	191	A
85	S2	192	C
85	S2	193	C
85	S2	198	U
85	S2	199	C
85	S2	201	C
85	S2	202	G
85	S2	205	G
85	S2	206	G
85	S2	207	G
85	S2	210	U
85	S2	211	G
85	S2	214	U
85	S2	215	G
85	S2	219	U
85	S2	290	U
85	S2	291	G
85	S2	293	C
85	S2	295	C
85	S2	305	U
85	S2	306	C
85	S2	307	G
85	S2	308	G
85	S2	309	G
85	S2	310	C
85	S2	311	C
85	S2	312	G
85	S2	313	A
85	S2	314	U
85	S2	318	A
85	S2	319	C
85	S2	320	G
85	S2	321	C
85	S2	322	C
85	S2	323	C
85	S2	324	C
85	S2	326	C
85	S2	328	U
85	S2	329	G
85	S2	332	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	333	G
85	S2	339	A
85	S2	340	C
85	S2	347	G
85	S2	351	G
85	S2	360	A
85	S2	361	U
85	S2	362	C
85	S2	364	A
85	S2	368	U
85	S2	370	G
85	S2	380	G
85	S2	381	C
85	S2	385	G
85	S2	386	C
85	S2	398	A
85	S2	400	C
85	S2	409	C
85	S2	413	G
85	S2	421	G
85	S2	438	G
85	S2	447	A
85	S2	448	A
85	S2	449	A
85	S2	450	C
85	S2	452	G
85	S2	462	C
85	S2	463	C
85	S2	464	A
85	S2	465	A
85	S2	466	G
85	S2	467	G
85	S2	471	G
85	S2	472	C
85	S2	473	A
85	S2	474	G
85	S2	482	G
85	S2	487	U
85	S2	488	U
85	S2	489	A
85	S2	492	C
85	S2	493	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	500	A
85	S2	502	C
85	S2	503	C
85	S2	516	A
85	S2	517	C
85	S2	530	U
85	S2	531	A
85	S2	532	C
85	S2	536	A
85	S2	537	C
85	S2	538	U
85	S2	539	C
85	S2	540	U
85	S2	541	U
85	S2	542	U
85	S2	543	C
85	S2	544	G
85	S2	545	A
85	S2	547	G
85	S2	549	C
85	S2	551	U
85	S2	554	A
85	S2	556	U
85	S2	557	U
85	S2	559	G
85	S2	560	A
85	S2	561	A
85	S2	563	G
85	S2	566	U
85	S2	567	C
85	S2	575	A
85	S2	576	A
85	S2	582	U
85	S2	583	A
85	S2	585	C
85	S2	587	A
85	S2	589	G
85	S2	590	A
85	S2	591	U
85	S2	592	C
85	S2	593	C
85	S2	594	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	595	U
85	S2	596	U
85	S2	603	C
85	S2	604	A
85	S2	605	A
85	S2	606	G
85	S2	607	U
85	S2	608	C
85	S2	612	U
85	S2	613	G
85	S2	614	C
85	S2	617	G
85	S2	628	A
85	S2	631	U
85	S2	643	A
85	S2	650	A
85	S2	651	U
85	S2	652	U
85	S2	653	A
85	S2	655	A
85	S2	660	C
85	S2	666	U
85	S2	668	A
85	S2	669	A
85	S2	671	A
85	S2	672	A
85	S2	673	G
85	S2	683	G
85	S2	684	G
85	S2	688	U
85	S2	689	U
85	S2	690	G
85	S2	691	G
85	S2	692	G
85	S2	694	G
85	S2	696	G
85	S2	697	G
85	S2	698	G
85	S2	732	U
85	S2	734	C
85	S2	735	C
85	S2	736	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	738	C
85	S2	739	C
85	S2	746	C
85	S2	747	U
85	S2	748	C
85	S2	749	U
85	S2	751	G
85	S2	752	G
85	S2	753	C
85	S2	790	C
85	S2	791	C
85	S2	793	G
85	S2	794	A
85	S2	795	A
85	S2	796	G
85	S2	797	C
85	S2	799	U
85	S2	806	U
85	S2	808	A
85	S2	809	A
85	S2	810	A
85	S2	811	A
85	S2	812	A
85	S2	813	A
85	S2	818	A
85	S2	821	G
85	S2	822	U
85	S2	830	A
85	S2	834	C
85	S2	835	C
85	S2	836	G
85	S2	837	A
85	S2	838	G
85	S2	839	C
85	S2	840	C
85	S2	841	G
85	S2	842	C
85	S2	847	A
85	S2	859	G
85	S2	861	A
85	S2	868	G
85	S2	870	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	872	A
85	S2	873	G
85	S2	874	G
85	S2	878	G
85	S2	879	C
85	S2	880	G
85	S2	883	U
85	S2	884	C
85	S2	888	U
85	S2	889	U
85	S2	890	U
85	S2	891	G
85	S2	892	U
85	S2	893	U
85	S2	894	G
85	S2	895	G
85	S2	896	U
85	S2	898	U
85	S2	900	C
85	S2	901	G
85	S2	902	G
85	S2	903	A
85	S2	905	C
85	S2	907	G
85	S2	909	G
85	S2	912	C
85	S2	913	A
85	S2	919	A
85	S2	920	A
85	S2	924	G
85	S2	926	A
85	S2	933	G
85	S2	934	G
85	S2	958	G
85	S2	963	A
85	S2	970	G
85	S2	971	G
85	S2	972	A
85	S2	989	C
85	S2	990	A
85	S2	992	A
85	S2	1001	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	1017	U
85	S2	1019	C
85	S2	1020	A
85	S2	1021	U
85	S2	1023	A
85	S2	1027	A
85	S2	1028	A
85	S2	1055	A
85	S2	1060	A
85	S2	1061	U
85	S2	1062	A
85	S2	1071	G
85	S2	1078	C
85	S2	1083	A
85	S2	1084	A
85	S2	1085	C
85	S2	1090	C
85	S2	1096	G
85	S2	1099	G
85	S2	1100	A
85	S2	1101	U
85	S2	1102	G
85	S2	1103	C
85	S2	1104	G
85	S2	1105	G
85	S2	1108	G
85	S2	1110	G
85	S2	1113	A
85	S2	1114	U
85	S2	1115	U
85	S2	1116	C
85	S2	1118	C
85	S2	1120	U
85	S2	1121	G
85	S2	1125	C
85	S2	1128	C
85	S2	1132	C
85	S2	1133	A
85	S2	1139	C
85	S2	1140	G
85	S2	1142	G
85	S2	1143	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	1144	A
85	S2	1145	A
85	S2	1146	C
85	S2	1147	C
85	S2	1149	A
85	S2	1153	C
85	S2	1154	U
85	S2	1155	U
85	S2	1157	G
85	S2	1168	G
85	S2	1183	A
85	S2	1195	A
85	S2	1201	U
85	S2	1207	G
85	S2	1215	C
85	S2	1216	C
85	S2	1217	A
85	S2	1221	G
85	S2	1224	G
85	S2	1242	U
85	S2	1243	U
85	S2	1251	A
85	S2	1253	A
85	S2	1256	G
85	S2	1257	G
85	S2	1259	A
85	S2	1264	C
85	S2	1265	A
85	S2	1270	G
85	S2	1271	C
85	S2	1273	C
85	S2	1274	G
85	S2	1275	G
85	S2	1276	A
85	S2	1277	C
85	S2	1281	G
85	S2	1282	A
85	S2	1283	C
85	S2	1285	G
85	S2	1286	G
85	S2	1287	A
85	S2	1288	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	1293	A
85	S2	1294	G
85	S2	1295	A
85	S2	1297	U
85	S2	1298	G
85	S2	1299	A
85	S2	1301	A
85	S2	1302	G
85	S2	1303	C
85	S2	1306	U
85	S2	1308	U
85	S2	1313	A
85	S2	1314	U
85	S2	1320	G
85	S2	1321	G
85	S2	1326	U
85	S2	1330	G
85	S2	1331	C
85	S2	1332	A
85	S2	1333	U
85	S2	1342	U
85	S2	1348	G
85	S2	1371	U
85	S2	1372	U
85	S2	1378	A
85	S2	1382	A
85	S2	1396	A
85	S2	1397	U
85	S2	1401	A
85	S2	1402	A
85	S2	1404	U
85	S2	1406	G
85	S2	1407	U
85	S2	1409	A
85	S2	1415	C
85	S2	1416	C
85	S2	1419	C
85	S2	1420	G
85	S2	1421	A
85	S2	1422	G
85	S2	1423	C
85	S2	1424	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	1438	A
85	S2	1440	C
85	S2	1449	G
85	S2	1450	G
85	S2	1454	A
85	S2	1462	U
85	S2	1463	U
85	S2	1464	C
85	S2	1473	G
85	S2	1474	A
85	S2	1477	U
85	S2	1487	A
85	S2	1489	A
85	S2	1490	G
85	S2	1495	G
85	S2	1498	A
85	S2	1505	U
85	S2	1506	A
85	S2	1507	G
85	S2	1508	A
85	S2	1510	G
85	S2	1519	U
85	S2	1520	G
85	S2	1521	C
85	S2	1523	C
85	S2	1527	C
85	S2	1528	G
85	S2	1533	A
85	S2	1535	U
85	S2	1536	G
85	S2	1539	U
85	S2	1543	U
85	S2	1544	C
85	S2	1546	G
85	S2	1547	C
85	S2	1548	G
85	S2	1552	G
85	S2	1553	C
85	S2	1556	A
85	S2	1560	U
85	S2	1567	G
85	S2	1569	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	1570	G
85	S2	1574	C
85	S2	1580	A
85	S2	1585	U
85	S2	1586	U
85	S2	1587	G
85	S2	1588	A
85	S2	1589	A
85	S2	1599	U
85	S2	1601	A
85	S2	1602	U
85	S2	1613	G
85	S2	1621	U
85	S2	1623	A
85	S2	1624	U
85	S2	1632	G
85	S2	1634	A
85	S2	1639	G
85	S2	1648	G
85	S2	1654	G
85	S2	1663	A
85	S2	1664	A
85	S2	1665	G
85	S2	1671	G
85	S2	1678	A
85	S2	1695	A
85	S2	1699	A
85	S2	1719	A
85	S2	1721	U
85	S2	1722	G
85	S2	1742	C
85	S2	1744	G
85	S2	1745	A
85	S2	1748	G
85	S2	1749	G
85	S2	1750	C
85	S2	1753	C
85	S2	1754	G
85	S2	1755	C
85	S2	1759	G
85	S2	1773	C
85	S2	1779	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	1781	A
85	S2	1782	G
85	S2	1783	C
85	S2	1784	G
85	S2	1786	U
85	S2	1800	A
85	S2	1813	A
85	S2	1819	A
85	S2	1823	A
85	S2	1824	A
85	S2	1825	A
85	S2	1826	G
85	S2	1829	G
85	S2	1831	A
85	S2	1838	U
85	S2	1849	G
85	S2	1850	A
85	S2	1851	A
85	S2	1852	C
85	S2	1861	G
85	S2	1862	G
85	S2	1863	A
85	S2	1865	C
85	S2	1869	A
85	S3	2	A
85	S3	3	C
85	S3	11	A
85	S3	33	G
85	S3	41	G
85	S3	42	A
85	S3	44	U
85	S3	45	A
85	S3	46	A
85	S3	49	C
85	S3	56	G
85	S3	59	U
85	S3	60	A
85	S3	61	A
85	S3	62	G
85	S3	65	C
85	S3	66	G
85	S3	67	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	68	A
85	S3	72	C
85	S3	73	C
85	S3	74	G
85	S3	75	G
85	S3	76	U
85	S3	77	A
85	S3	79	A
85	S3	81	U
85	S3	92	A
85	S3	93	U
85	S3	99	A
85	S3	103	A
85	S3	113	G
85	S3	115	U
85	S3	119	U
85	S3	122	G
85	S3	126	G
85	S3	127	C
85	S3	129	C
85	S3	130	G
85	S3	142	C
85	S3	143	U
85	S3	148	U
85	S3	155	G
85	S3	160	U
85	S3	161	U
85	S3	162	C
85	S3	163	U
85	S3	168	C
85	S3	169	U
85	S3	170	A
85	S3	173	A
85	S3	175	A
85	S3	179	C
85	S3	182	C
85	S3	184	G
85	S3	187	G
85	S3	198	U
85	S3	203	G
85	S3	206	G
85	S3	211	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	212	C
85	S3	214	U
85	S3	215	G
85	S3	216	C
85	S3	220	U
85	S3	290	U
85	S3	293	C
85	S3	294	U
85	S3	295	C
85	S3	302	A
85	S3	306	C
85	S3	307	G
85	S3	308	G
85	S3	310	C
85	S3	311	C
85	S3	318	A
85	S3	319	C
85	S3	321	C
85	S3	322	C
85	S3	323	C
85	S3	328	U
85	S3	329	G
85	S3	332	G
85	S3	335	G
85	S3	339	A
85	S3	340	C
85	S3	347	G
85	S3	351	G
85	S3	361	U
85	S3	362	C
85	S3	364	A
85	S3	368	U
85	S3	369	C
85	S3	370	G
85	S3	380	G
85	S3	381	C
85	S3	384	U
85	S3	385	G
85	S3	386	C
85	S3	400	C
85	S3	407	G
85	S3	408	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	409	C
85	S3	413	G
85	S3	418	A
85	S3	420	G
85	S3	421	G
85	S3	435	A
85	S3	447	A
85	S3	448	A
85	S3	450	C
85	S3	452	G
85	S3	464	A
85	S3	470	G
85	S3	471	G
85	S3	472	C
85	S3	473	A
85	S3	474	G
85	S3	482	G
85	S3	487	U
85	S3	488	U
85	S3	489	A
85	S3	492	C
85	S3	493	A
85	S3	496	C
85	S3	502	C
85	S3	503	C
85	S3	507	G
85	S3	523	A
85	S3	528	A
85	S3	531	A
85	S3	532	C
85	S3	533	A
85	S3	534	G
85	S3	536	A
85	S3	539	C
85	S3	540	U
85	S3	541	U
85	S3	542	U
85	S3	543	C
85	S3	544	G
85	S3	545	A
85	S3	547	G
85	S3	548	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	549	C
85	S3	551	U
85	S3	554	A
85	S3	556	U
85	S3	557	U
85	S3	558	G
85	S3	559	G
85	S3	560	A
85	S3	562	U
85	S3	565	G
85	S3	574	A
85	S3	575	A
85	S3	576	A
85	S3	583	A
85	S3	585	C
85	S3	587	A
85	S3	589	G
85	S3	590	A
85	S3	591	U
85	S3	592	C
85	S3	594	A
85	S3	596	U
85	S3	604	A
85	S3	605	A
85	S3	606	G
85	S3	607	U
85	S3	608	C
85	S3	612	U
85	S3	613	G
85	S3	614	C
85	S3	617	G
85	S3	621	C
85	S3	627	U
85	S3	628	A
85	S3	629	A
85	S3	632	C
85	S3	643	A
85	S3	644	G
85	S3	655	A
85	S3	656	G
85	S3	660	C
85	S3	668	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	669	A
85	S3	671	A
85	S3	672	A
85	S3	673	G
85	S3	684	G
85	S3	688	U
85	S3	689	U
85	S3	691	G
85	S3	692	G
85	S3	693	A
85	S3	696	G
85	S3	707	C
85	S3	709	G
85	S3	712	G
85	S3	713	C
85	S3	714	G
85	S3	716	G
85	S3	722	C
85	S3	723	C
85	S3	725	C
85	S3	797	C
85	S3	798	G
85	S3	799	U
85	S3	809	A
85	S3	810	A
85	S3	818	A
85	S3	819	G
85	S3	821	G
85	S3	822	U
85	S3	824	C
85	S3	827	A
85	S3	830	A
85	S3	835	C
85	S3	840	C
85	S3	841	G
85	S3	842	C
85	S3	847	A
85	S3	851	C
85	S3	855	G
85	S3	856	C
85	S3	857	U
85	S3	867	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	869	A
85	S3	872	A
85	S3	873	G
85	S3	874	G
85	S3	877	C
85	S3	878	G
85	S3	879	C
85	S3	880	G
85	S3	881	G
85	S3	882	U
85	S3	883	U
85	S3	886	A
85	S3	887	U
85	S3	889	U
85	S3	890	U
85	S3	898	U
85	S3	899	U
85	S3	900	C
85	S3	901	G
85	S3	904	A
85	S3	905	C
85	S3	907	G
85	S3	909	G
85	S3	910	G
85	S3	912	C
85	S3	913	A
85	S3	920	A
85	S3	933	G
85	S3	934	G
85	S3	950	C
85	S3	953	C
85	S3	955	A
85	S3	963	A
85	S3	970	G
85	S3	971	G
85	S3	972	A
85	S3	978	G
85	S3	990	A
85	S3	992	A
85	S3	997	A
85	S3	999	G
85	S3	1001	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	1008	A
85	S3	1016	U
85	S3	1018	U
85	S3	1023	A
85	S3	1027	A
85	S3	1043	G
85	S3	1045	U
85	S3	1049	A
85	S3	1050	A
85	S3	1055	A
85	S3	1060	A
85	S3	1061	U
85	S3	1062	A
85	S3	1077	A
85	S3	1078	C
85	S3	1082	A
85	S3	1083	A
85	S3	1084	A
85	S3	1085	C
85	S3	1086	G
85	S3	1109	C
85	S3	1110	G
85	S3	1114	U
85	S3	1115	U
85	S3	1126	G
85	S3	1131	G
85	S3	1133	A
85	S3	1148	A
85	S3	1149	A
85	S3	1153	C
85	S3	1154	U
85	S3	1155	U
85	S3	1157	G
85	S3	1170	A
85	S3	1183	A
85	S3	1195	A
85	S3	1207	G
85	S3	1208	A
85	S3	1215	C
85	S3	1217	A
85	S3	1221	G
85	S3	1224	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	1238	U
85	S3	1242	U
85	S3	1243	U
85	S3	1251	A
85	S3	1253	A
85	S3	1256	G
85	S3	1257	G
85	S3	1259	A
85	S3	1260	A
85	S3	1261	C
85	S3	1264	C
85	S3	1265	A
85	S3	1269	G
85	S3	1270	G
85	S3	1271	C
85	S3	1273	C
85	S3	1274	G
85	S3	1275	G
85	S3	1282	A
85	S3	1283	C
85	S3	1284	A
85	S3	1285	G
85	S3	1286	G
85	S3	1287	A
85	S3	1288	U
85	S3	1294	G
85	S3	1298	G
85	S3	1299	A
85	S3	1301	A
85	S3	1302	G
85	S3	1303	C
85	S3	1305	C
85	S3	1306	U
85	S3	1308	U
85	S3	1309	C
85	S3	1313	A
85	S3	1314	U
85	S3	1321	G
85	S3	1326	U
85	S3	1330	G
85	S3	1331	C
85	S3	1333	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	1341	C
85	S3	1342	U
85	S3	1348	G
85	S3	1371	U
85	S3	1372	U
85	S3	1373	C
85	S3	1378	A
85	S3	1382	A
85	S3	1395	C
85	S3	1396	A
85	S3	1397	U
85	S3	1401	A
85	S3	1402	A
85	S3	1403	C
85	S3	1406	G
85	S3	1408	U
85	S3	1414	A
85	S3	1415	C
85	S3	1423	C
85	S3	1424	G
85	S3	1439	A
85	S3	1441	U
85	S3	1449	G
85	S3	1450	G
85	S3	1454	A
85	S3	1455	A
85	S3	1462	U
85	S3	1463	U
85	S3	1466	G
85	S3	1473	G
85	S3	1474	A
85	S3	1477	U
85	S3	1487	A
85	S3	1489	A
85	S3	1490	G
85	S3	1495	G
85	S3	1505	U
85	S3	1506	A
85	S3	1508	A
85	S3	1510	G
85	S3	1519	U
85	S3	1520	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	1521	C
85	S3	1522	A
85	S3	1523	C
85	S3	1527	C
85	S3	1531	A
85	S3	1533	A
85	S3	1535	U
85	S3	1536	G
85	S3	1539	U
85	S3	1543	U
85	S3	1544	C
85	S3	1546	G
85	S3	1548	G
85	S3	1552	G
85	S3	1553	C
85	S3	1556	A
85	S3	1563	G
85	S3	1567	G
85	S3	1568	C
85	S3	1570	G
85	S3	1574	C
85	S3	1575	G
85	S3	1578	U
85	S3	1580	A
85	S3	1585	U
85	S3	1586	U
85	S3	1587	G
85	S3	1588	A
85	S3	1589	A
85	S3	1591	C
85	S3	1594	A
85	S3	1596	U
85	S3	1599	U
85	S3	1600	G
85	S3	1601	A
85	S3	1604	G
85	S3	1606	G
85	S3	1607	A
85	S3	1609	C
85	S3	1620	A
85	S3	1621	U
85	S3	1623	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	1624	U
85	S3	1628	C
85	S3	1632	G
85	S3	1633	A
85	S3	1634	A
85	S3	1636	G
85	S3	1637	A
85	S3	1638	G
85	S3	1639	G
85	S3	1643	U
85	S3	1644	C
85	S3	1646	C
85	S3	1647	A
85	S3	1648	G
85	S3	1652	G
85	S3	1654	G
85	S3	1661	A
85	S3	1662	U
85	S3	1663	A
85	S3	1664	A
85	S3	1665	G
85	S3	1678	A
85	S3	1680	G
85	S3	1686	G
85	S3	1695	A
85	S3	1698	C
85	S3	1699	A
85	S3	1709	G
85	S3	1715	A
85	S3	1719	A
85	S3	1721	U
85	S3	1722	G
85	S3	1725	U
85	S3	1742	C
85	S3	1744	G
85	S3	1745	A
85	S3	1748	G
85	S3	1750	C
85	S3	1752	C
85	S3	1753	C
85	S3	1754	G
85	S3	1755	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S3	1758	G
85	S3	1761	U
85	S3	1779	G
85	S3	1780	G
85	S3	1781	A
85	S3	1782	G
85	S3	1783	C
85	S3	1813	A
85	S3	1823	A
85	S3	1824	A
85	S3	1825	A
85	S3	1829	G
85	S3	1831	A
85	S3	1838	U
85	S3	1849	G
85	S3	1850	A
85	S3	1851	A
85	S3	1852	C
85	S3	1860	A
85	S3	1861	G
85	S3	1862	G
85	S3	1863	A
85	S3	1865	C
85	S3	1869	A

All (77) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
5	CC	35	U
5	CC	74	C
3	D5	34	G
3	D5	60	U
6	L1	86	U
6	L1	87	G
7	L5	406	C
7	L5	493	G
7	L5	504	G
7	L5	914	U
7	L5	1082	C
7	L5	1633	G
7	L5	1676	C
7	L5	2019	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L5	2095	A
7	L5	2416	G
7	L5	2675	G
7	L5	2724	G
7	L5	2760	G
7	L5	2788	U
7	L5	2790	U
7	L5	3614	G
7	L5	3673	C
7	L5	4600	G
7	L5	4633	G
7	L5	4699	U
7	L5	4913	G
7	L5	5011	A
7	L6	406	C
7	L6	667	A
7	L6	914	U
7	L6	1082	C
7	L6	2019	C
7	L6	2416	G
7	L6	2675	G
7	L6	2760	G
7	L6	3614	G
7	L6	3673	C
7	L6	4114	C
7	L6	4699	U
7	L6	4913	G
6	L8	86	U
6	L8	87	G
85	S2	85	A
85	S2	144	U
85	S2	150	A
85	S2	213	G
85	S2	400	C
85	S2	465	A
85	S2	604	A
85	S2	688	U
85	S2	808	A
85	S2	912	C
85	S2	971	G
85	S2	1120	U
85	S2	1273	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
85	S2	1285	G
85	S2	1519	U
85	S2	1585	U
85	S2	1597	C
85	S2	1601	A
85	S2	1664	A
85	S2	1860	A
85	S3	532	C
85	S3	595	U
85	S3	604	A
85	S3	688	U
85	S3	721	G
85	S3	722	C
85	S3	1207	G
85	S3	1273	C
85	S3	1395	C
85	S3	1519	U
85	S3	1585	U
85	S3	1664	A
85	S3	1824	A
85	S3	1860	A

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

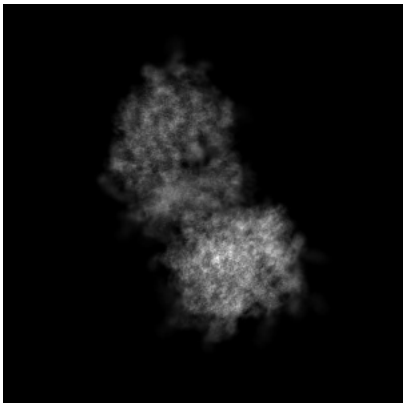
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-14181. These allow visual inspection of the internal detail of the map and identification of artifacts.

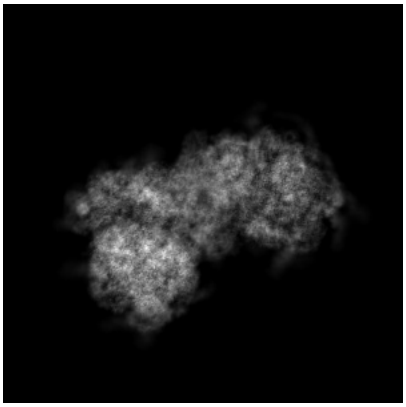
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

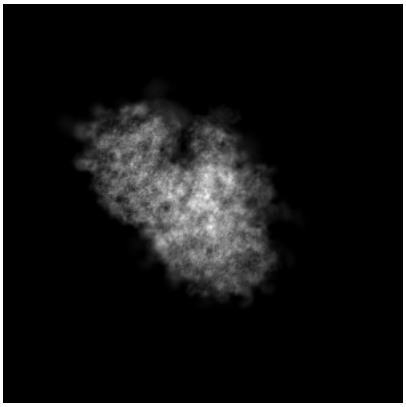
6.1.1 Primary map



X



Y

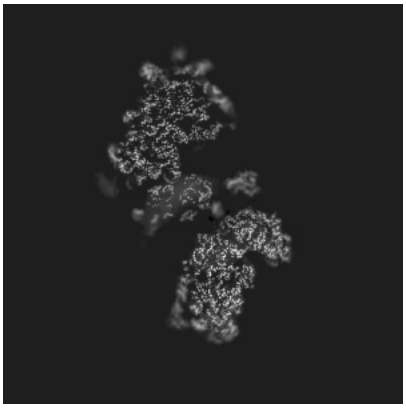


Z

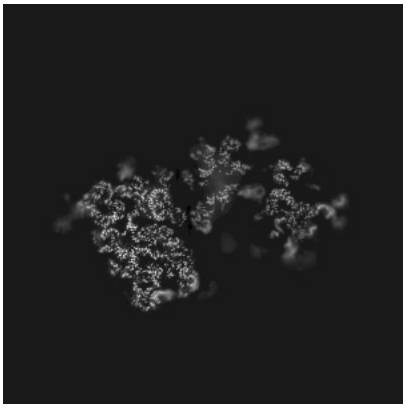
The images above show the map projected in three orthogonal directions.

6.2 Central slices

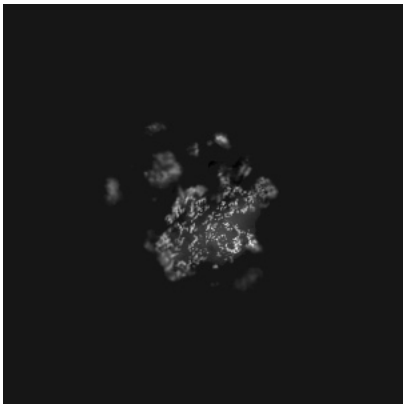
6.2.1 Primary map



X Index: 320



Y Index: 320

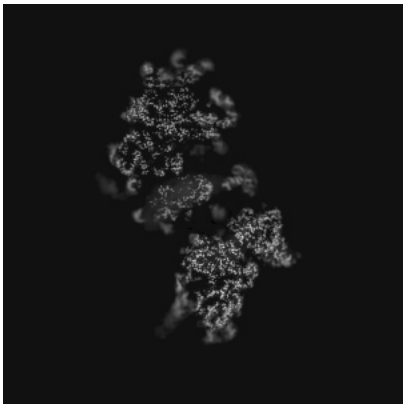


Z Index: 320

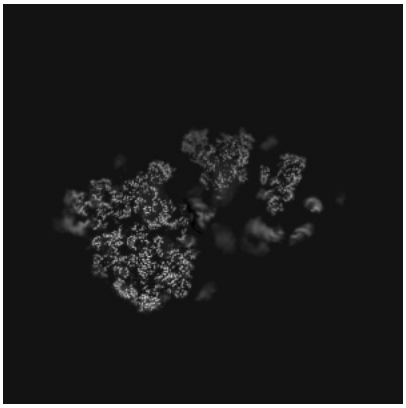
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

6.3.1 Primary map



X Index: 327



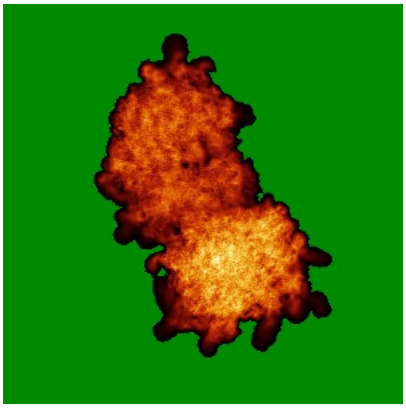
Y Index: 336

Z Index: 231

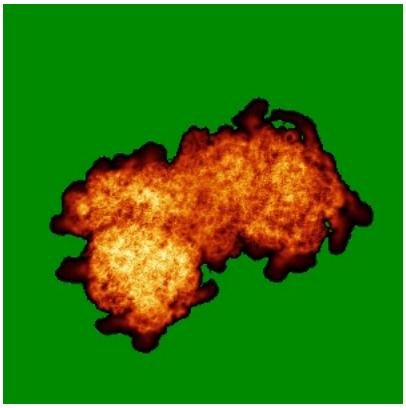
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

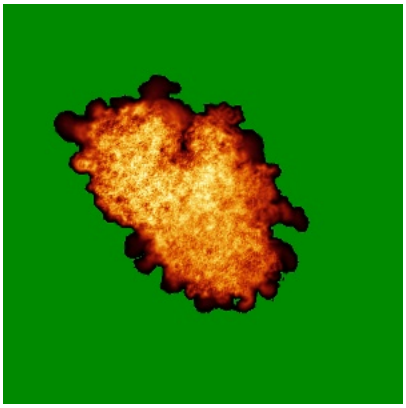
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.12. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

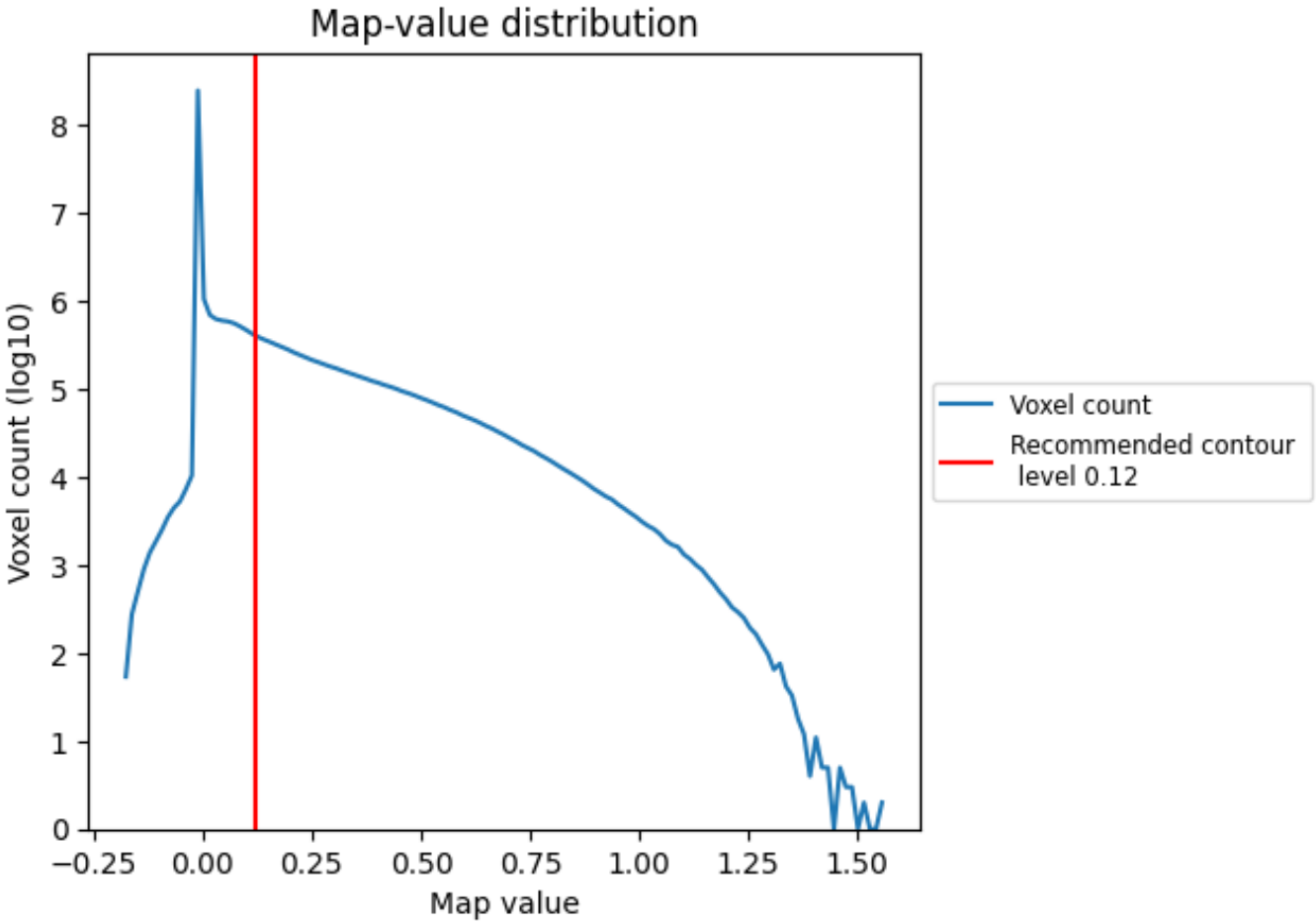
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

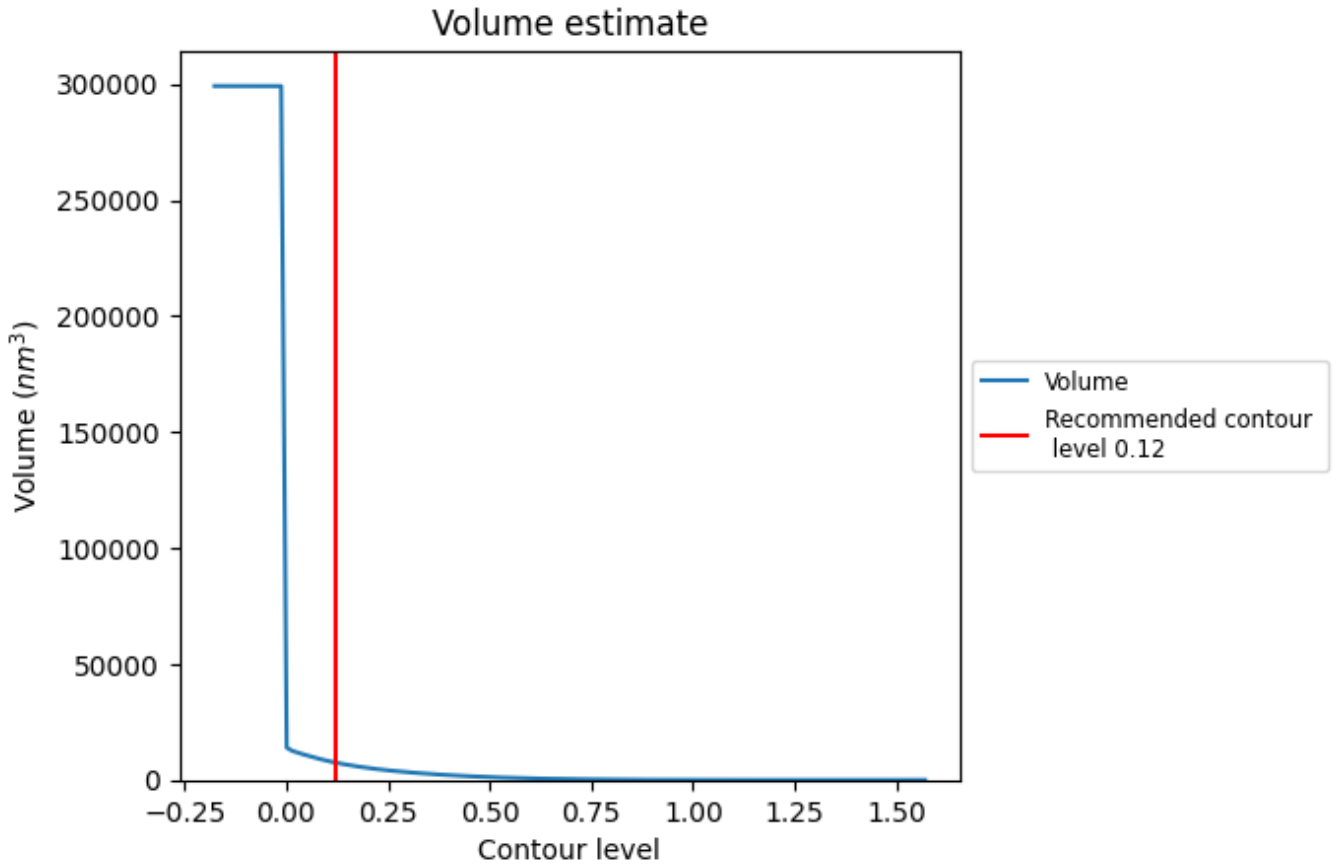
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

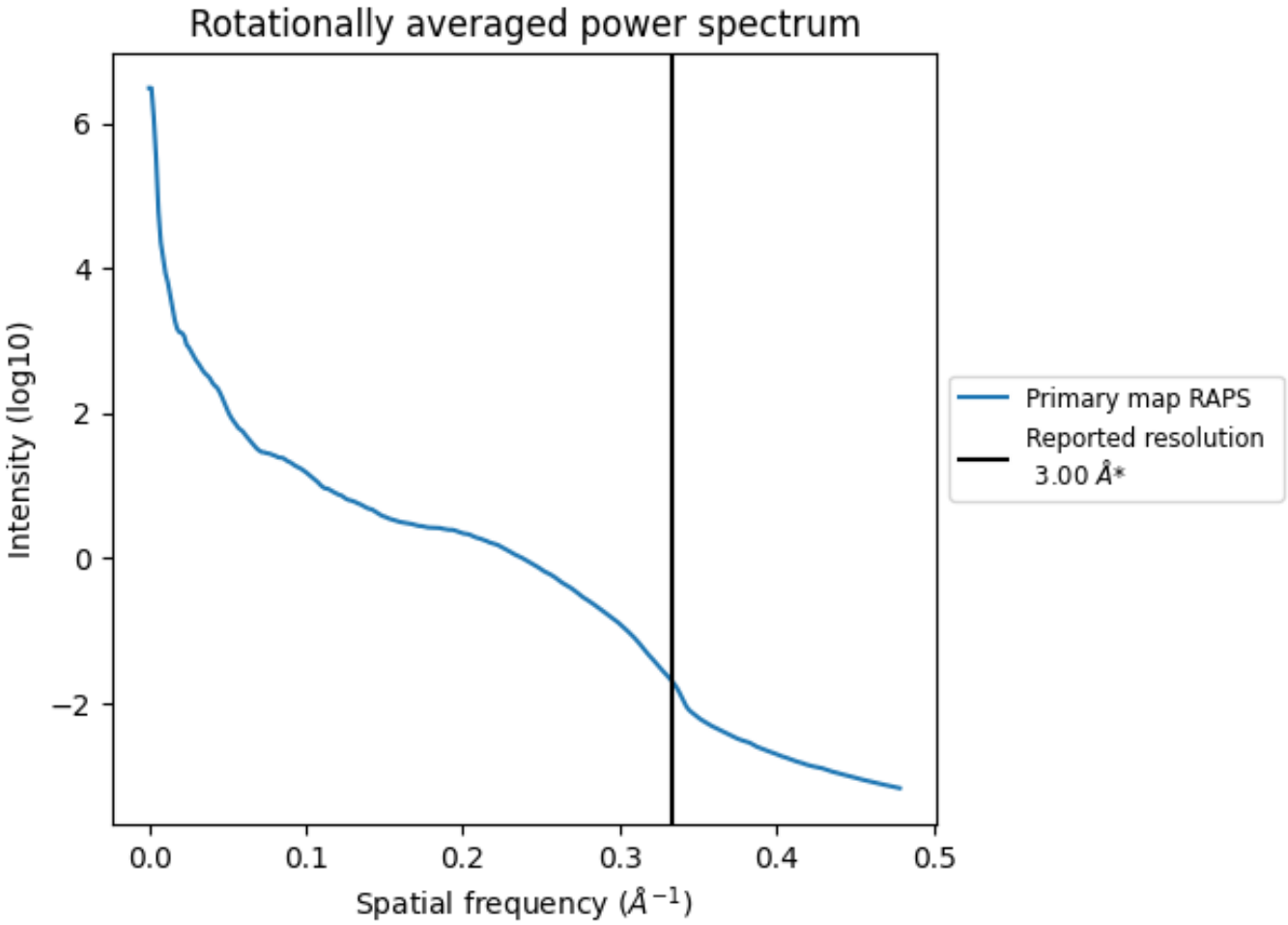
7.2 Volume estimate



The volume at the recommended contour level is 7521 nm^3; this corresponds to an approximate mass of 6794 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

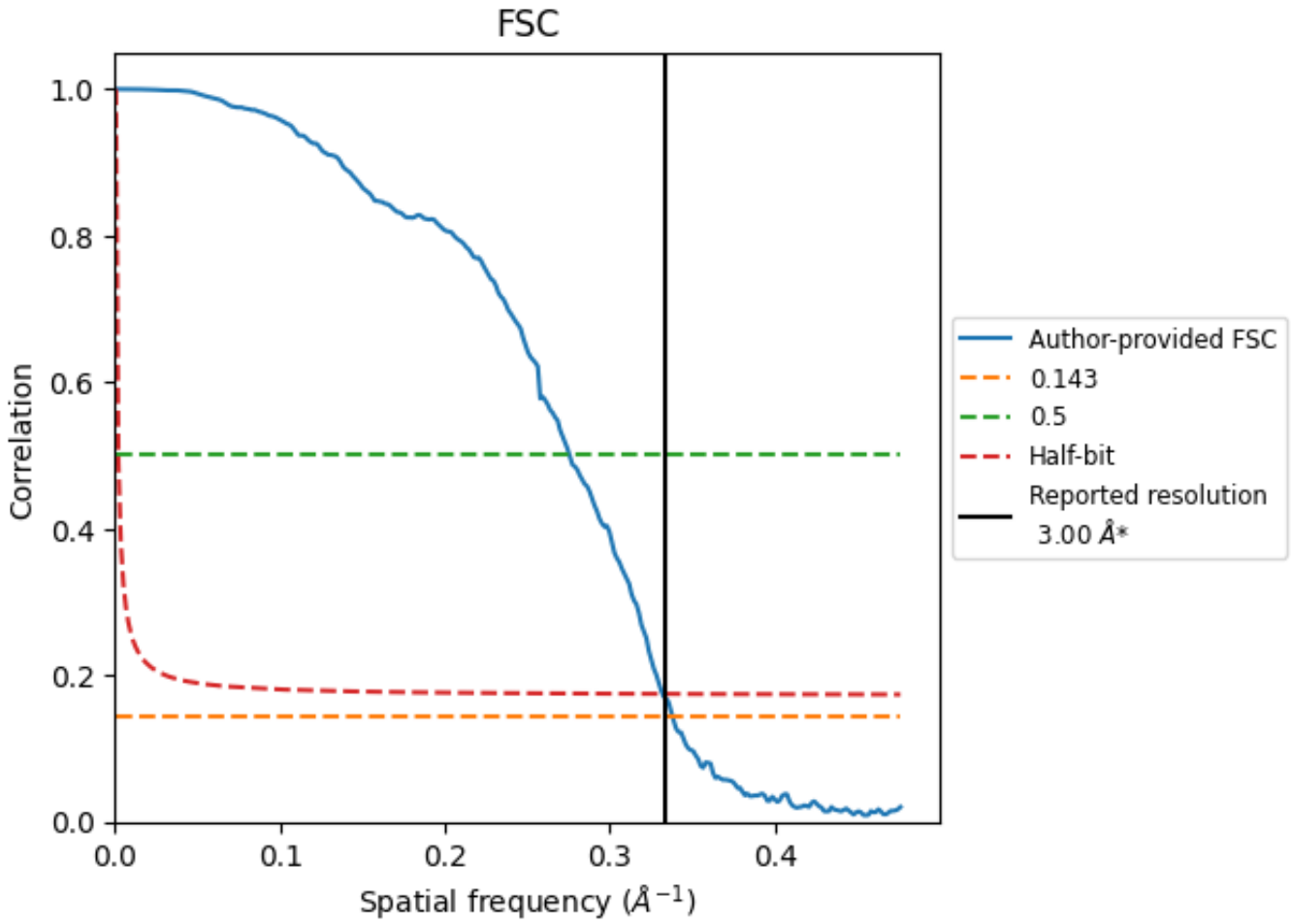


*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8.2 Resolution estimates (i)

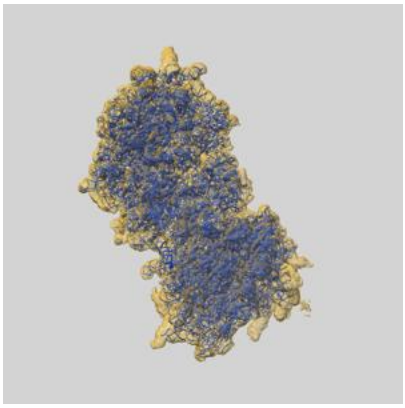
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	2.96	3.63	3.01
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

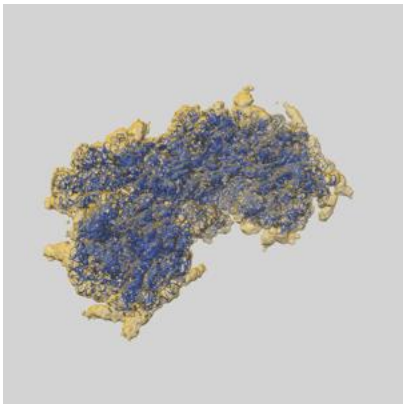
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-14181 and PDB model 7QVP. Per-residue inclusion information can be found in section 3 on page 26.

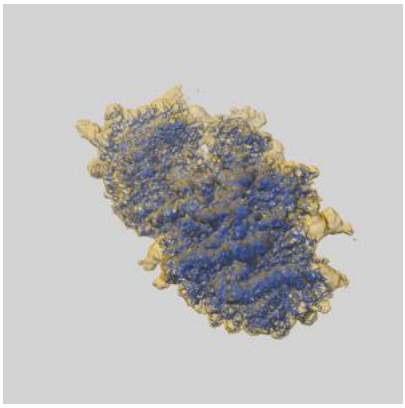
9.1 Map-model overlay



X



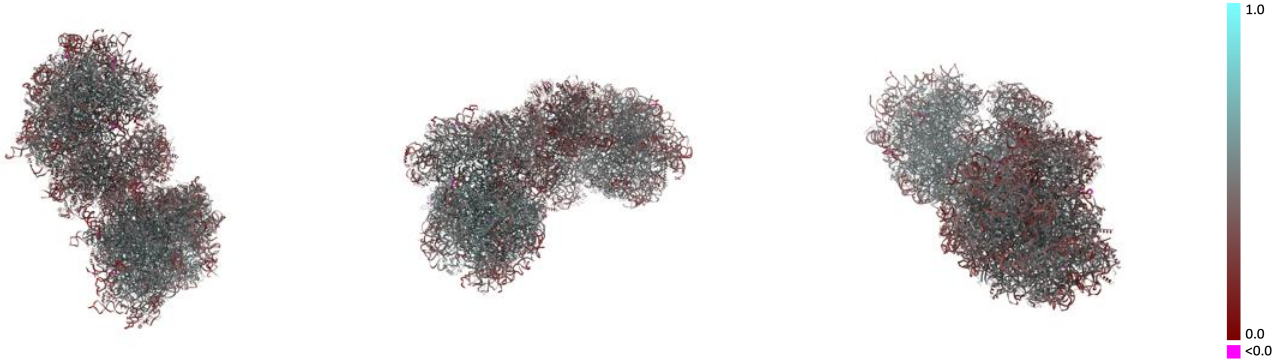
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.12 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

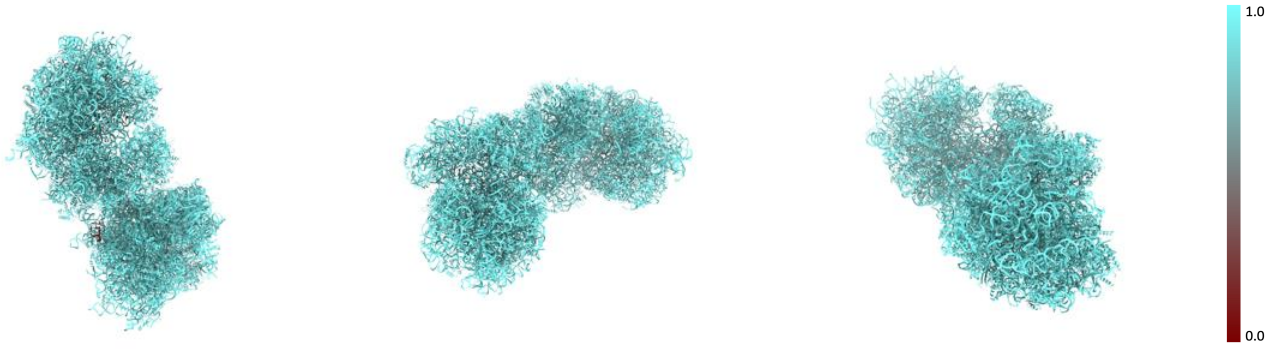
9.2 Q-score mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

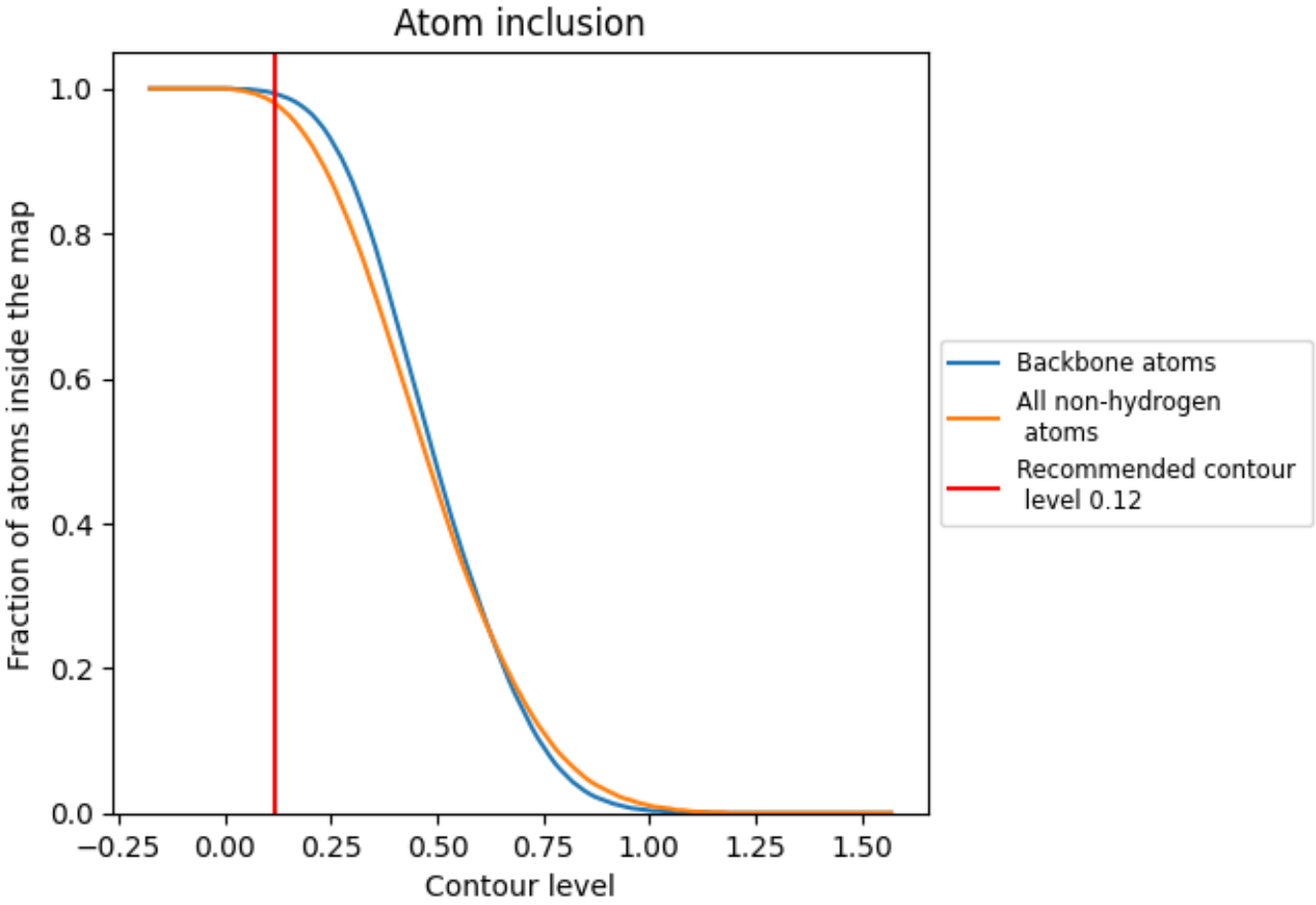
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.12).

9.4 Atom inclusion (i)



At the recommended contour level, 99% of all backbone atoms, 98% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.12) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9790	0.4490
A4	0.8540	0.3350
A5	0.9860	0.3950
B4	0.9830	0.4260
B5	0.9860	0.3010
CC	0.8660	0.2510
D5	0.7960	0.1770
L1	0.9870	0.4450
L5	0.9970	0.4900
L6	0.9910	0.4420
L7	1.0000	0.5190
L8	0.9930	0.4970
L9	0.9990	0.4420
LA	0.9840	0.5510
LB	0.9830	0.5220
LC	0.9850	0.5210
LD	0.9960	0.4660
LE	0.9880	0.4810
LF	0.9830	0.5130
LG	0.9540	0.4520
LH	0.9860	0.4930
LI	0.9760	0.5120
LJ	0.9770	0.4570
LL	0.9740	0.5010
LM	0.9910	0.4810
LN	0.9850	0.5500
LO	0.9890	0.5220
LP	0.9840	0.5360
LQ	0.9830	0.5380
LR	0.9830	0.4920
LS	0.9930	0.5330
LT	0.9720	0.5030
LU	0.9860	0.4480
LV	0.9780	0.5380
LW	0.9730	0.4080

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
LX	0.9800	0.5070
LY	0.9900	0.4970
LZ	0.9920	0.4820
La	0.9900	0.5360
Lb	0.9480	0.4570
Lc	0.9660	0.4990
Ld	0.9780	0.5040
Le	0.9800	0.5450
Lf	0.9830	0.5460
Lg	0.9670	0.5120
Lh	0.9750	0.4760
Li	0.9680	0.4760
Lj	0.9930	0.5360
Lk	0.9660	0.4500
Ll	0.9670	0.5220
Lm	0.9760	0.5050
Ln	0.9670	0.5420
Lo	0.9560	0.5180
Lp	0.9620	0.5210
Lr	0.9880	0.5200
MA	0.8940	0.4880
MB	0.9550	0.4770
MC	0.9370	0.4690
MD	0.9830	0.4140
ME	0.9810	0.4330
MF	0.9230	0.4560
MG	0.9480	0.3970
MH	0.9470	0.4350
MI	0.9410	0.4500
MJ	0.9730	0.4280
ML	0.9410	0.4440
MM	0.9670	0.4310
MN	0.9210	0.4970
MO	0.9220	0.4660
MP	0.9550	0.4920
MQ	0.9150	0.4880
MR	0.9430	0.4210
MS	0.9540	0.4810
MT	0.9260	0.4530
MU	0.9810	0.3800
MV	0.9150	0.4870
MW	0.8780	0.3850

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
MX	0.9270	0.4360
MY	0.9690	0.4400
MZ	0.9690	0.4350
Ma	0.9470	0.4820
Mb	0.9360	0.4500
Mc	0.9460	0.4250
Md	0.9390	0.4540
Me	0.9070	0.4890
Mf	0.9520	0.4910
Mg	0.9000	0.4680
Mh	0.9500	0.4280
Mi	0.9520	0.4110
Mj	0.9430	0.5000
Mk	0.9480	0.3940
Ml	0.8500	0.4650
Mm	0.9420	0.4720
Mn	0.8520	0.3940
Mo	0.9360	0.4780
Mp	0.8930	0.4930
Mr	0.9630	0.4740
RA	0.9860	0.3930
RB	0.9540	0.4130
RC	0.9490	0.4300
RD	0.9230	0.3520
RE	0.9270	0.3620
RF	0.9210	0.3530
RG	0.9540	0.3130
RH	0.9710	0.3220
RI	0.9500	0.3380
RJ	0.9160	0.3250
RK	0.9220	0.2950
RL	0.9320	0.3920
RN	0.9150	0.3670
RO	0.9210	0.3980
RP	0.9670	0.3710
RQ	0.9260	0.3500
RR	0.9580	0.3350
RS	0.9620	0.3640
RT	0.9680	0.3550
RU	0.9160	0.3300
RV	0.9600	0.4210
RW	0.9710	0.3980

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
RX	0.9850	0.4020
RY	0.9360	0.3000
RZ	0.9600	0.2930
Ra	0.9730	0.4230
Rb	0.9840	0.3760
Rc	0.9190	0.3660
Rd	0.9280	0.3820
Re	0.8960	0.3560
Rf	0.9790	0.2200
Rg	0.9800	0.2750
Rh	0.9850	0.2510
S2	0.9970	0.4600
S3	0.9810	0.3930
SA	0.9840	0.4550
SB	0.9230	0.4720
SC	0.9860	0.4890
SD	0.9760	0.4260
SE	0.9900	0.4710
SF	0.9590	0.4180
SG	0.9950	0.3960
SH	0.9920	0.4360
SI	0.9880	0.4840
SJ	0.9850	0.4520
SK	0.9850	0.3710
SL	0.9720	0.5210
SN	0.9630	0.4870
SO	0.9600	0.5020
SP	0.9880	0.4060
SQ	0.9780	0.4370
SR	0.9730	0.4260
SS	0.9850	0.4190
ST	0.9880	0.4130
SU	0.9970	0.4220
SV	0.9900	0.4700
SW	0.9850	0.5060
SX	0.9780	0.5110
SY	0.9880	0.4140
SZ	0.9710	0.3980
Sa	0.9770	0.5030
Sb	0.9640	0.4480
Sc	0.9430	0.4460
Sd	0.9810	0.4560

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
Se	0.9470	0.4330
Sg	0.9740	0.3650