Full wwPDB EM Validation Report ⓘ

Nov 8, 2022 – 09:52 AM EST

PDB ID	:	6MTE
EMDB ID	:	EMD-9242
Title	:	Rabbit 80S ribosome with eEF2 and SERBP1 (rotated state)
Authors	:	Brown, A.; Baird, M.R.; Yip, M.C.J.; Murray, J.; Shao, S.
Deposited on	:	2018-10-19
Resolution	:	3.40 Å(reported)
Based on initial model	:	5LZV

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:

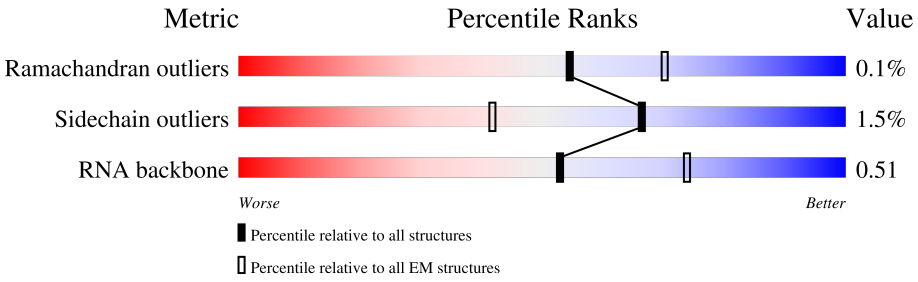
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

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 3.40 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	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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	5	3597	70% 26%
2	7	120	82% 18%
3	8	151	75% 21%
4	A	248	99%
5	B	394	98%
6	C	362	98%
7	D	293	99%
8	E	291	72% 26%

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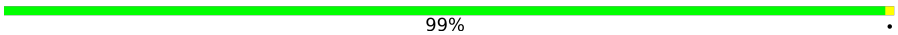
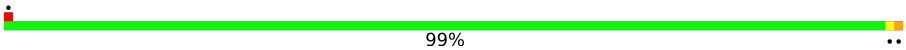
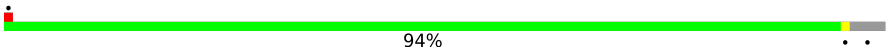
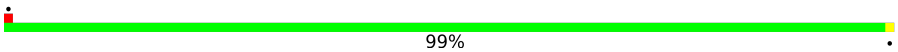
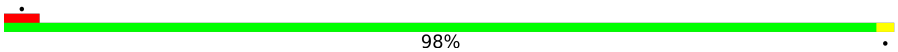
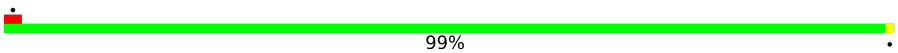
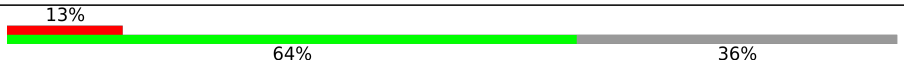
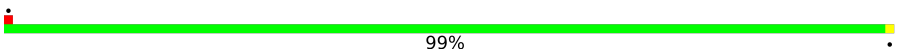
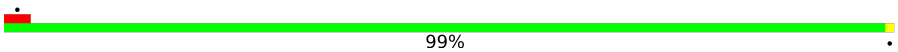
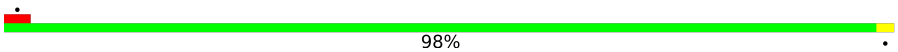
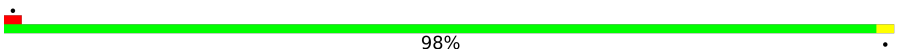
Mol	Chain	Length	Quality of chain
9	F	225	
10	G	319	
11	H	190	
12	I	214	
13	J	170	
14	L	210	
15	M	138	
16	N	203	
17	O	199	
18	P	153	
19	Q	187	
20	R	180	
21	S	176	
22	T	159	
23	U	99	
24	V	131	
25	W	157	
26	X	118	
27	Y	134	
28	Z	135	
29	a	147	
30	b	245	
31	c	98	
32	d	107	
33	e	128	

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Mol	Chain	Length	Quality of chain
34	f	109	99%
35	g	114	97%
36	h	122	99%
37	i	102	96%
38	j	86	98%
39	k	69	100%
40	l	50	98%
41	m	52	98%
42	n	25	96%
43	o	103	97%
44	p	91	100%
45	r	124	98%
46	s	196	99%
47	t	153	29% 97%
48	v	848	6% 97%
49	w	55	20% 100%
50	9	1698	70% 26%
51	AA	217	99%
52	BB	213	7% 96%
53	CC	221	99%
54	DD	228	6% 98%
55	EE	262	97%
56	FF	204	11% 87% 9%
57	GG	237	12% 96%
58	HH	194	6% 94% 5%

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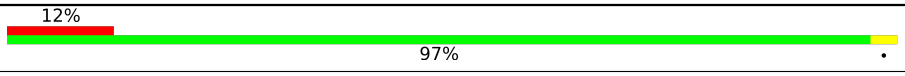
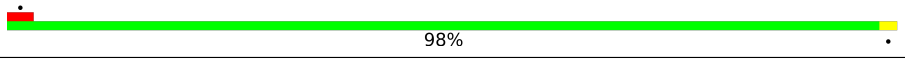
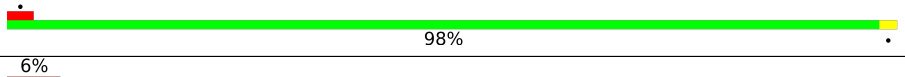
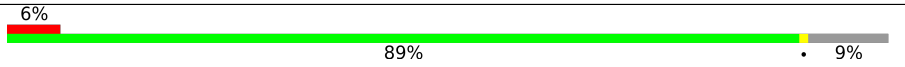
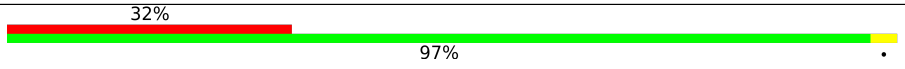
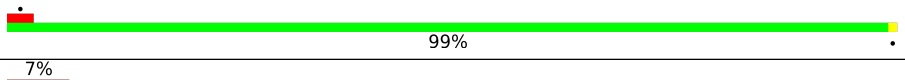
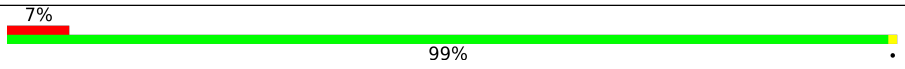
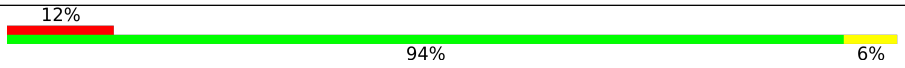
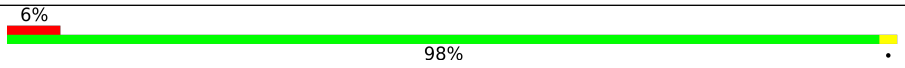
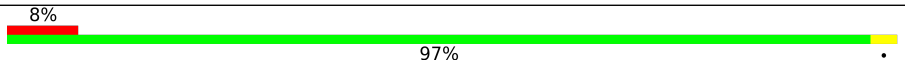
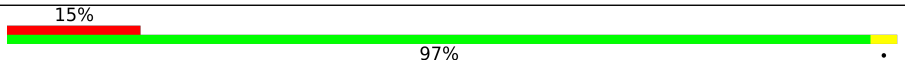
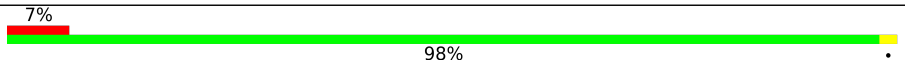
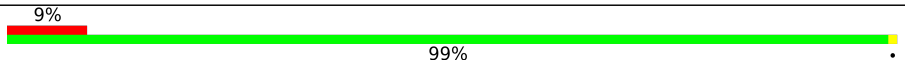
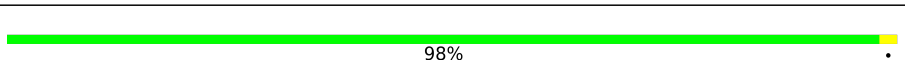
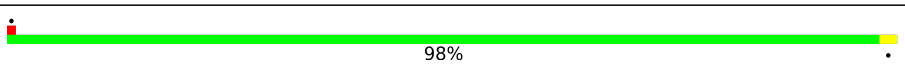
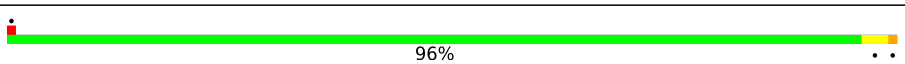
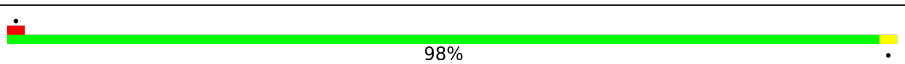
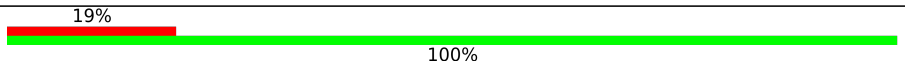
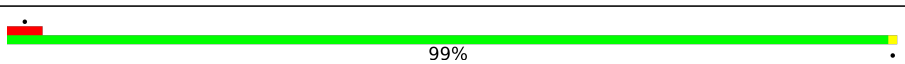
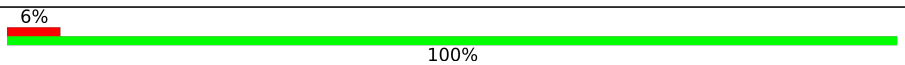
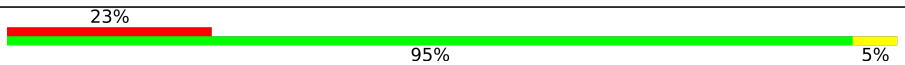
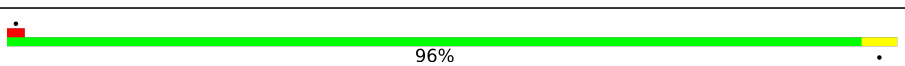
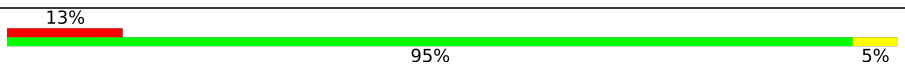
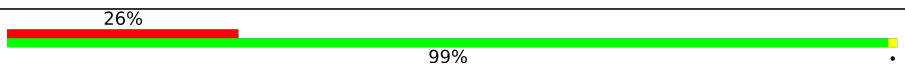
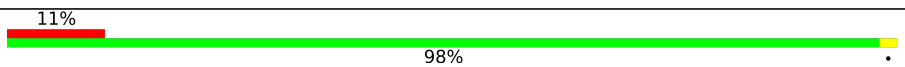
Mol	Chain	Length	Quality of chain
59	II	206	
60	JJ	185	
61	KK	96	
62	LL	158	
63	MM	117	
64	NN	149	
65	OO	136	
66	PP	125	
67	QQ	142	
68	RR	132	
69	SS	144	
70	TT	141	
71	UU	100	
72	VV	83	
73	WW	129	
74	XX	141	
75	YY	124	
76	ZZ	75	
77	aa	101	
78	bb	83	
79	cc	62	
80	dd	55	
81	ee	55	
82	ff	68	
83	gg	313	

2 Entry composition

There are 86 unique types of molecules in this entry. The entry contains 220739 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 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	5	3597	77254	34469	14127	25061	3597	0	0

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	7	120	2558	1141	456	842	119	0	0

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	8	151	3209	1433	564	1062	150	0	0

- Molecule 4 is a protein called uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	A	248	1898	1189	389	314	6	0	0

- Molecule 5 is a protein called uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	B	394	3172	2020	597	542	13	0	0

- Molecule 6 is a protein called uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	C	362	2884	1813	577	480	14	0	0

- Molecule 7 is a protein called uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	293	Total	C	N	O	S	0	0
			2391	1512	438	427	14		

- Molecule 8 is a protein called eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	216	Total	C	N	O	S	0	0
			1729	1115	329	282	3		

- Molecule 9 is a protein called uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	225	Total	C	N	O	S	0	0
			1875	1205	358	303	9		

- Molecule 10 is a protein called eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	233	Total	C	N	O	S	0	0
			1879	1199	361	315	4		

- Molecule 11 is a protein called uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	190	Total	C	N	O	S	0	0
			1516	954	284	272	6		

- Molecule 12 is a protein called uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	205	Total	C	N	O	S	0	0
			1664	1056	321	274	13		

- Molecule 13 is a protein called uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	170	Total	C	N	O	S	0	0
			1362	861	254	241	6		

- Molecule 14 is a protein called eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	L	210	Total	C	N	O	S	0	0
			1702	1065	354	279	4		

- Molecule 15 is a protein called eL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	M	138	Total	C	N	O	S	0	0
			1137	727	221	182	7		

- Molecule 16 is a protein called eL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	N	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 17 is a protein called uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	O	199	Total	C	N	O	S	0	0
			1630	1051	319	255	5		

- Molecule 18 is a protein called uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	P	153	Total	C	N	O	S	0	0
			1242	777	241	215	9		

- Molecule 19 is a protein called eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Q	187	Total	C	N	O	S	0	0
			1515	946	315	250	4		

- Molecule 20 is a protein called eL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	R	180	Total	C	N	O	S	0	0
			1508	933	328	238	9		

- Molecule 21 is a protein called eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	S	176	Total	C	N	O	S	0	0
			1462	930	285	236	11		

- Molecule 22 is a protein called eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	T	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 23 is a protein called eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	U	99	Total	C	N	O	S	0	0
			809	519	141	147	2		

- Molecule 24 is a protein called uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	V	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 25 is a protein called eL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	W	100	Total	C	N	O	S	0	0
			816	512	164	136	4		

- Molecule 26 is a protein called uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	X	118	Total	C	N	O	S	0	0
			967	618	181	167	1		

- Molecule 27 is a protein called uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Y	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 28 is a protein called eL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Z	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 29 is a protein called uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	a	147	Total	C	N	O	S	0	0
			1162	734	239	185	4		

- Molecule 30 is a protein called eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	b	104	Total	C	N	O	S	0	0
			848	527	189	129	3		

- Molecule 31 is a protein called eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	c	98	Total	C	N	O	S	0	0
			761	481	134	140	6		

- Molecule 32 is a protein called eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	d	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

- Molecule 33 is a protein called eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	e	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 34 is a protein called eL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	f	109	Total	C	N	O	S	0	0
			876	555	174	143	4		

- Molecule 35 is a protein called eL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	g	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 36 is a protein called uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	h	122	Total	C	N	O	S	0	0
			1013	640	204	168	1		

- Molecule 37 is a protein called eL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	i	102	Total	C	N	O	S	0	0
			830	520	176	129	5		

- Molecule 38 is a protein called eL37.

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

- Molecule 39 is a protein called eL38.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	k	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

- Molecule 40 is a protein called eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	l	50	Total	C	N	O	S	0	0
			447	286	96	64	1		

- Molecule 41 is a protein called eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	m	52	Total	C	N	O	S	0	0
			430	267	90	67	6		

- Molecule 42 is a protein called eL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	n	25	Total	C	N	O	S	0	0
			239	145	64	27	3		

- Molecule 43 is a protein called eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	o	103	Total	C	N	O	S	0	0
			842	528	172	136	6		

- Molecule 44 is a protein called eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	p	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 45 is a protein called eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	r	124	Total	C	N	O	S	0	0
			994	616	205	167	6		

- Molecule 46 is a protein called uL10.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	s	196	Total	C	N	O	S	0	0
			1507	959	263	276	9		

- Molecule 47 is a protein called uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	t	153	Total	C	N	O	S	0	0
			1160	722	218	217	3		

- Molecule 48 is a protein called eEF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	v	848	Total	C	N	O	S	0	0
			6628	4211	1138	1235	44		

- Molecule 49 is a protein called SERBP1.

Mol	Chain	Residues	Atoms				AltConf	Trace
49	w	55	Total	C	N	O	0	0
			440	263	87	90		

- Molecule 50 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	9	1698	Total	C	N	O	P	0	0
			36291	16217	6509	11868	1697		

- Molecule 51 is a protein called uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	AA	217	Total	C	N	O	S	0	0
			1710	1086	300	316	8		

- Molecule 52 is a protein called eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	BB	213	Total	C	N	O	S	0	0
			1729	1098	309	308	14		

- Molecule 53 is a protein called uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	CC	221	Total	C	N	O	S	0	0
			1716	1111	295	301	9		

- Molecule 54 is a protein called uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	DD	228	Total	C	N	O	S	0	0
			1768	1126	318	316	8		

- Molecule 55 is a protein called eS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	EE	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

- Molecule 56 is a protein called uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	FF	185	Total	C	N	O	S	0	0
			1471	921	277	266	7		

- Molecule 57 is a protein called eS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	GG	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 58 is a protein called eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	HH	185	Total	C	N	O	S	0	0
			1488	952	271	264	1		

- Molecule 59 is a protein called eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	II	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

- Molecule 60 is a protein called uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	JJ	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 61 is a protein called eS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	KK	96	Total	C	N	O	S	0	0
			810	530	143	131	6		

- Molecule 62 is a protein called uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	LL	143	Total	C	N	O	S	0	0
			1175	749	222	198	6		

- Molecule 63 is a protein called eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	MM	117	Total	C	N	O	S	0	0
			908	570	161	169	8		

- Molecule 64 is a protein called uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	NN	149	Total	C	N	O	S	0	0
			1202	770	228	203	1		

- Molecule 65 is a protein called uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	OO	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

- Molecule 66 is a protein called uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	PP	125	Total	C	N	O	S	0	0
			1025	652	192	174	7		

- Molecule 67 is a protein called uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	QQ	142	Total	C	N	O	S	0	0
			1128	717	213	195	3		

- Molecule 68 is a protein called eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	RR	132	Total	C	N	O	S	0	0
			1068	670	199	195	4		

- Molecule 69 is a protein called uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	SS	144	Total	C	N	O	S	0	0
			1190	746	241	202	1		

- Molecule 70 is a protein called eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	TT	141	Total	C	N	O	S	0	0
			1097	688	211	195	3		

- Molecule 71 is a protein called uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	UU	100	Total	C	N	O	S	0	0
			795	498	152	141	4		

- Molecule 72 is a protein called eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	VV	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

- Molecule 73 is a protein called uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	WW	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 74 is a protein called uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	XX	141	Total	C	N	O	S	0	0
			1098	693	219	183	3		

- Molecule 75 is a protein called eS24.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	YY	124	Total	C	N	O	S	0	0
			1011	640	198	168	5		

- Molecule 76 is a protein called eS25.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	ZZ	75	Total	C	N	O	S	0	0
			598	382	111	104	1		

- Molecule 77 is a protein called eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	aa	101	Total	C	N	O	S	0	0
			814	507	170	132	5		

- Molecule 78 is a protein called eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	bb	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

- Molecule 79 is a protein called eS28.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	cc	62	Total	C	N	O	S	0	0
			488	297	97	92	2		

- Molecule 80 is a protein called uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	dd	55	Total	C	N	O	S	0	0
			459	286	94	74	5		

- Molecule 81 is a protein called eS30.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	ee	55	Total	C	N	O	S	0	0
			443	274	97	71	1		

- Molecule 82 is a protein called eS31.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	ff	68	Total	C	N	O	S	0	0
			555	351	103	94	7		

- Molecule 83 is a protein called RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	gg	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 84 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

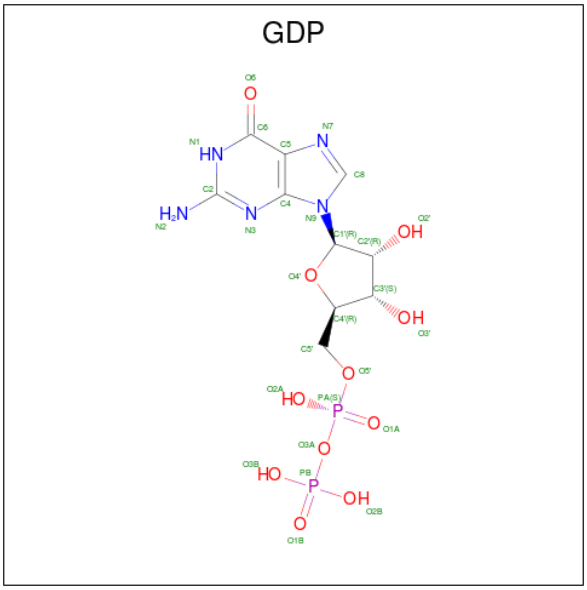
Mol	Chain	Residues	Atoms	AltConf
84	5	200	Total Mg 200 200	0
84	7	7	Total Mg 7 7	0
84	8	6	Total Mg 6 6	0
84	A	1	Total Mg 1 1	0
84	P	1	Total Mg 1 1	0
84	V	1	Total Mg 1 1	0
84	a	1	Total Mg 1 1	0
84	j	1	Total Mg 1 1	0
84	v	1	Total Mg 1 1	0
84	9	78	Total Mg 78 78	0
84	TT	1	Total Mg 1 1	0

- Molecule 85 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	AltConf
85	g	1	Total Zn 1 1	0
85	j	1	Total Zn 1 1	0
85	m	1	Total Zn 1 1	0
85	o	1	Total Zn 1 1	0
85	p	1	Total Zn 1 1	0
85	KK	1	Total Zn 1 1	0
85	aa	1	Total Zn 1 1	0
85	ff	1	Total Zn 1 1	0

- Molecule 86 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula:

$C_{10}H_{15}N_5O_{11}P_2$).



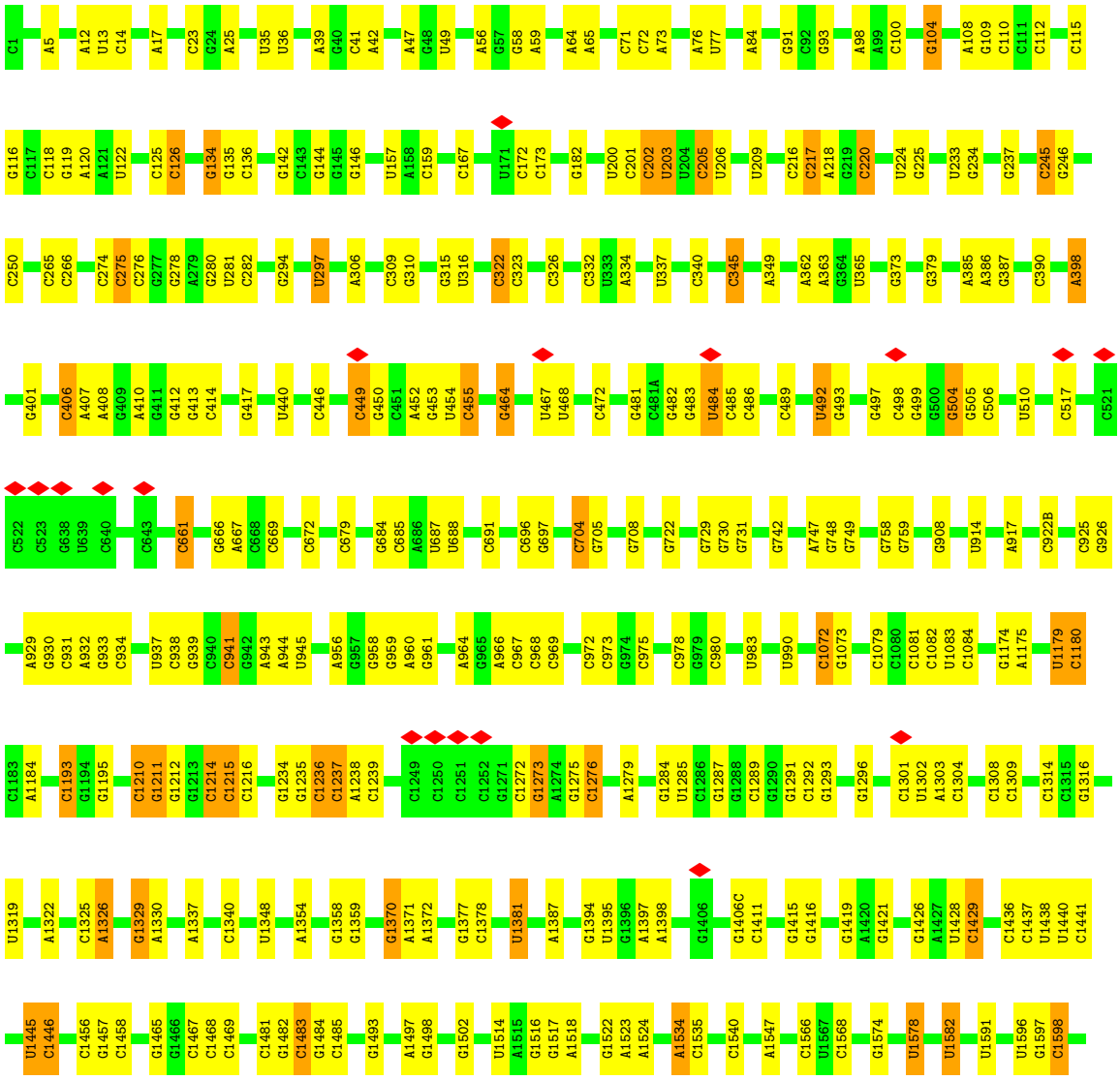
Mol	Chain	Residues	Atoms					AltConf
86	v	1	Total	C	N	O	P	0
			28	10	5	11	2	

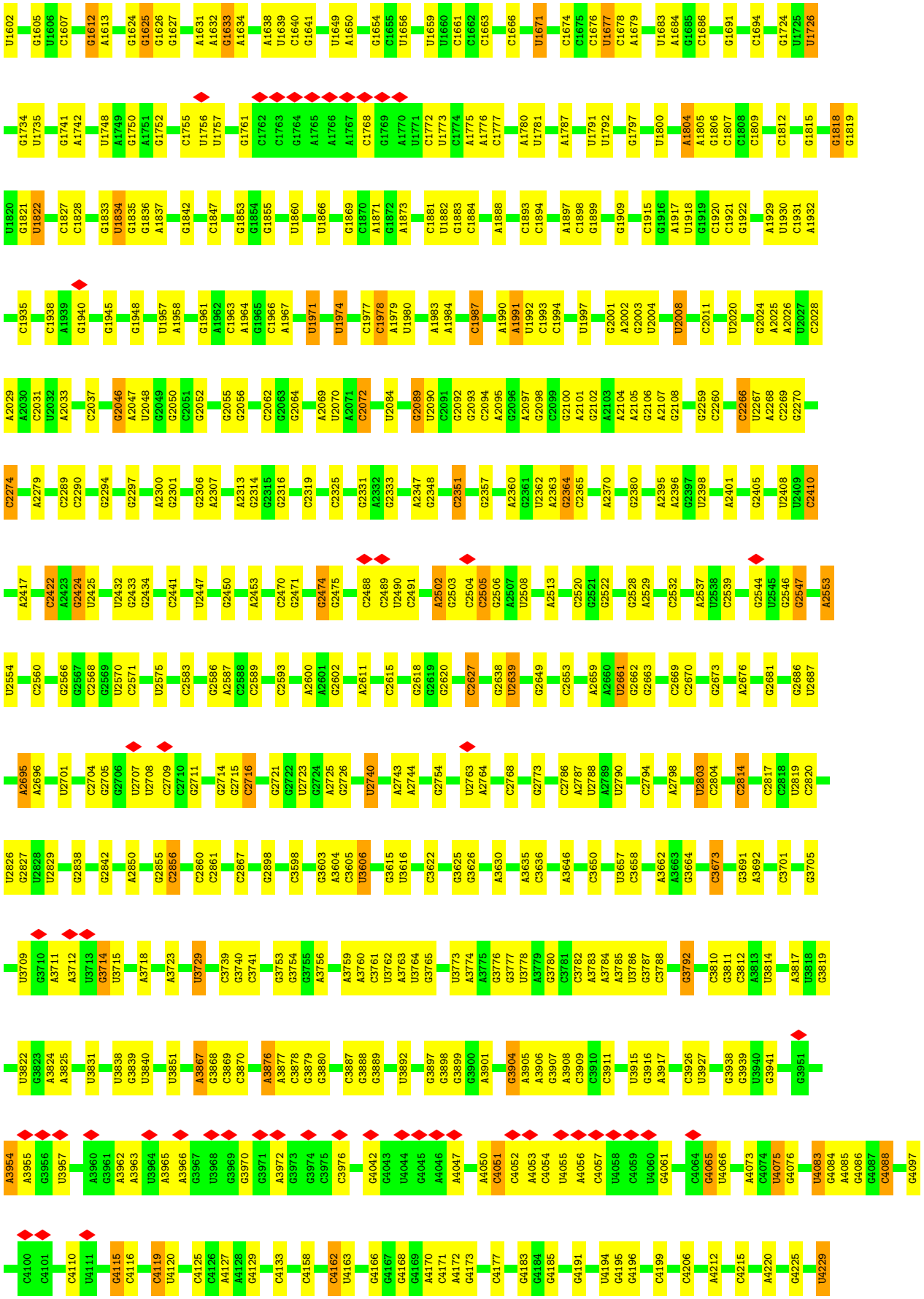
3 Residue-property plots (i)

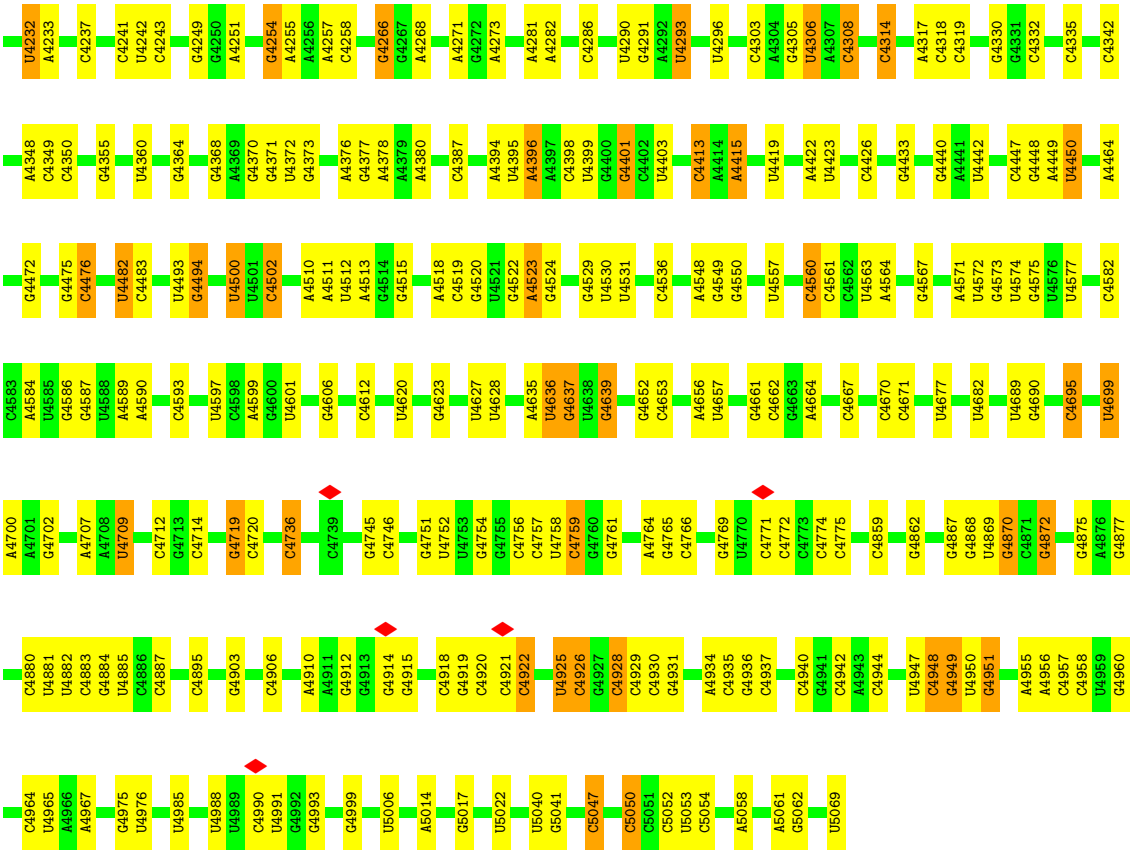
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: 28S rRNA

Chain 5:

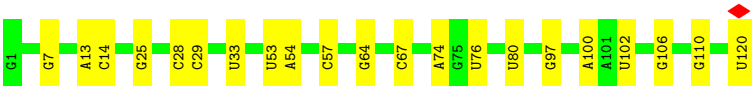



U1602 G1605 U1606 C1607 G1612 A1613 G1624 G1625 G1626 G1627 A1631 A1632 G1633 A1634 A1638 U1639 C1640 G1641 U1649 A1650 G1654 C1655 U1656 U1659 U1660 C1661 C1662 C1663 C1666 U1671 C1674 C1675 C1676 U1677 C1678 A1679 U1683 A1684 G1685 C1686 G1691 C1694 G1724 U1725 U1726
G1734 U1735 G1741 A1742 U1748 A1749 G1750 A1751 G1752 C1755 U1756 U1757 G1761 C1762 C1763 G1764 A1765 A1766 A1767 C1768 G1769 A1770 U1771 C1772 U1773 C1774 A1775 A1776 C1777 A1780 U1781 A1787 U1791 U1792 G1797 U1800 A1804 A1805 G1806 C1807 C1808 C1809 C1812 G1815 G1818 G1819
U1820 G1821 U1822 C1827 C1828 G1833 U1834 G1835 G1836 A1837 G1842 C1847 G1853 G1854 G1855 U1860 U1866 G1869 C1870 A1871 G1872 A1873 C1881 U1882 G1883 C1884 A1888 C1893 C1894 A1897 C1898 G1899 G1909 C1915 G1916 A1917 U1918 G1919 C1920 C1921 G1922 A1929 U1930 C1931 A1932
C1935 C1938 A1939 G1940 G1945 G1948 U1957 A1958 G1961 A1962 C1963 A1964 G1965 C1966 A1967 U1971 U1974 C1977 C1978 A1979 U1980 A1983 A1984 C1987 A1990 A1991 U1992 C1993 C1994 U1997 G2001 A2002 G2003 U2004 U2008 C2011 U2020 G2024 A2025 A2026 U2027 C2028
A2029 A2030 C2031 U2032 A2033 C2037 G2046 A2047 U2048 G2049 G2050 C2051 G2052 G2055 G2056 C2062 G2063 G2064 A2069 U2070 A2071 C2072 U2084 G2089 U2090 C2091 G2092 G2093 C2094 A2095 G2096 A2097 G2098 C2099 G2100 A2101 G2102 A2103 A2104 A2105 G2106 A2107 G2108 G2259 C2260 C2266 U2267 A2268 C2269 G2270
C2274 A2279 C2289 C2290 G2294 G2297 A2300 G2301 G2306 A2307 A2313 G2314 G2315 G2316 C2319 C2325 G2331 A2332 G2333 A2347 G2348 C2351 G2357 A2360 G2361 U2362 A2363 G2364 C2365 A2370 G2380 A2395 A2396 G2397 U2398 A2401 G2405 U2408 U2409 C2410
A2417 C2422 A2423 G2424 U2425 U2432 G2433 G2434 C2441 U2447 G2450 A2453 C2470 G2471 G2474 G2475 C2488 C2489 U2490 C2491 A2502 G2503 C2504 C2505 G2506 A2507 U2508 A2513 C2520 G2521 G2522 G2528 A2529 C2532 A2537 U2538 C2539 G2544 U2545 G2546 G2547 A2553
U2554 C2560 G2566 G2567 C2568 G2569 U2570 C2571 U2575 C2583 G2586 A2587 C2588 C2589 C2593 A2600 A2601 G2602 A2611 C2615 G2618 G2619 G2620 C2627 G2638 U2639 G2649 C2653 A2659 A2660 U2661 G2662 G2663 C2669 C2670 G2673 A2676 G2681 G2686 U2687
A2695 A2696 U2701 C2704 G2705 G2706 U2707 U2708 C2709 C2710 G2711 G2714 G2715 C2716 G2721 G2722 U2723 G2724 A2725 G2726 U2740 A2743 A2744 G2754 U2763 A2764 C2768 G2773 C2786 A2787 U2788 A2789 U2790 C2794 A2798 U2803 C2804 C2814 C2817 C2818 U2819 C2820
U2826 C2827 U2828 U2829 G2838 G2842 A2850 G2855 C2856 C2860 C2861 C2867 G2898 C3598 G3603 A3604 C3605 U3606 G3615 U3616 C3622 G3625 G3626 A3630 A3635 C3636 A3646 C3650 U3657 C3658 A3662 A3663 G3664 C3673 G3691 A3692 C3701 G3705
U3709 G3710 A3711 A3712 U3713 G3714 U3715 A3718 A3723 U3729 C3739 G3740 C3741 G3753 G3754 G3755 A3756 A3759 A3760 C3761 U3762 A3763 U3764 G3765 U3773 A3774 A3775 G3776 G3777 U3778 A3779 G3780 C3781 C3782 A3783 A3784 A3785 U3786 G3787 C3788 G3792 C3810 G3811 C3812 A3813 U3814 A3817 U3818 G3819
U3822 G3823 A3824 A3825 U3831 U3838 G3839 U3840 U3851 A3867 G3868 C3869 C3870 A3876 A3877 C3878 G3879 G3880 C3887 G3888 G3889 U3892 G3897 G3898 G3899 G3900 A3901 G3904 A3905 A3906 G3907 A3908 C3909 C3910 C3911 U3915 G3916 A3917 C3926 U3927 G3938 G3939 U3940 G3941 G3951
A3964 A3955 G3956 U3957 A3960 G3961 A3962 A3963 U3964 A3965 A3966 G3967 U3968 G3969 G3970 G3971 A3972 G3973 G3974 C3975 C3976 G4042 G4043 U4044 G4045 A4046 A4047 A4050 C4051 C4052 A4053 C4054 U4055 A4056 C4057 U4058 C4059 U4060 G4061 C4064 G4065 U4066 A4073 C4074 U4075 G4076 U4083 G4084 A4085 G4086 G4087 C4088 G4097
C4100 C4101 C4110 U4111 G4115 C4116 C4119 U4120 C4125 C4126 A4127 A4128 G4129 C4133 C4158 C4162 U4163 G4166 G4167 G4168 G4169 A4170 C4171 A4172 G4173 C4177 G4183 G4184 G4185 G4191 U4194 G4195 G4196 C4199 C4206 A4212 C4215 A4220 G4225 U4229



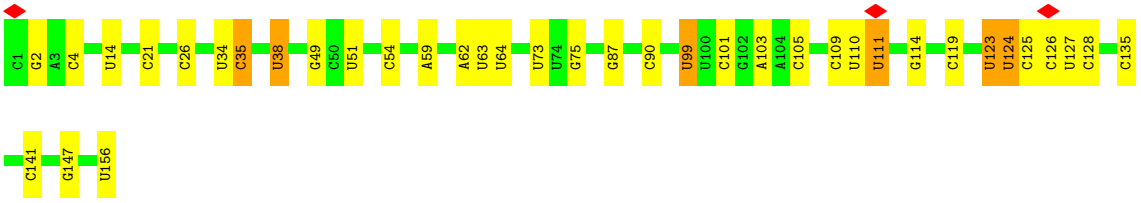
• Molecule 2: 5S rRNA

Chain 7:



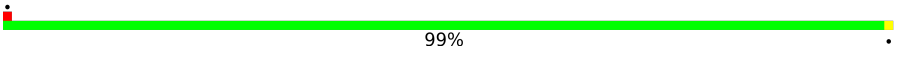
• Molecule 3: 5.8S rRNA

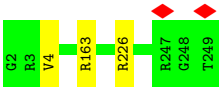
Chain 8:



• Molecule 4: uL2

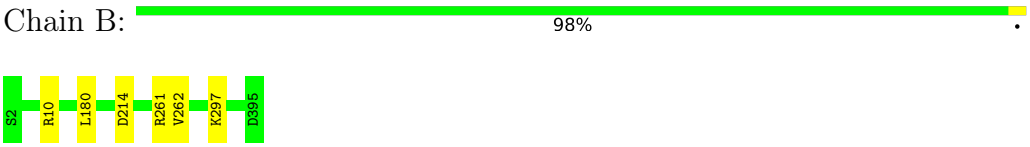
Chain A:





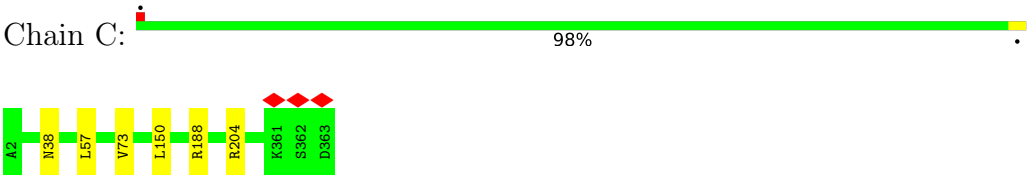
• Molecule 5: uL3

Chain B:



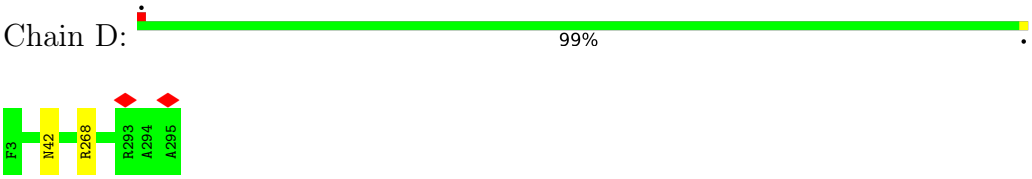
• Molecule 6: uL4

Chain C:



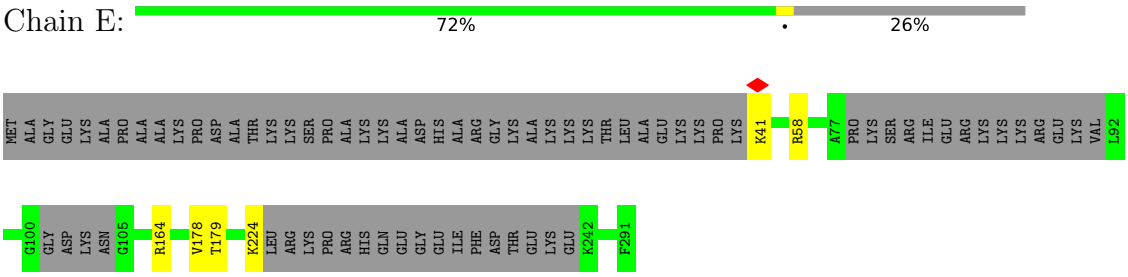
• Molecule 7: uL18

Chain D:



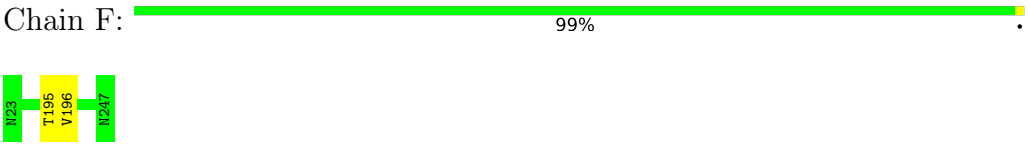
• Molecule 8: eL6

Chain E:



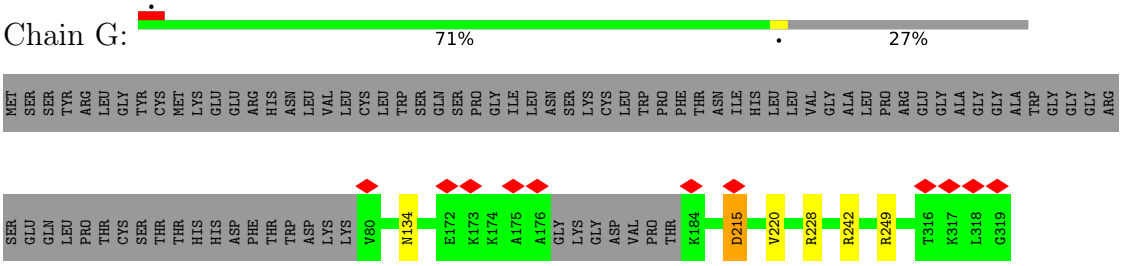
• Molecule 9: uL30

Chain F:



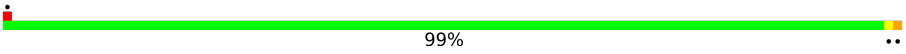
• Molecule 10: eL8

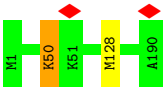
Chain G:



• Molecule 11: uL6

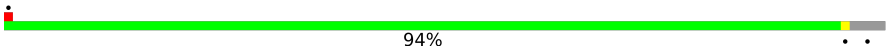
Chain H:

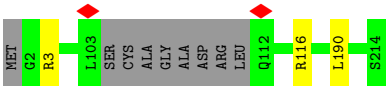




• Molecule 12: uL16

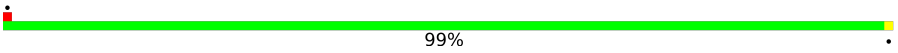
Chain I:





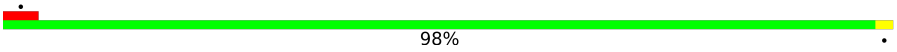
• Molecule 13: uL5

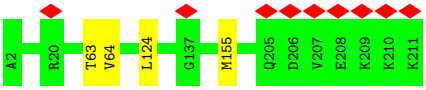
Chain J:



• Molecule 14: eL13

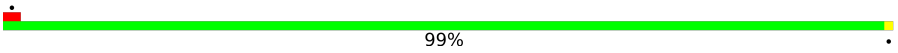
Chain L:

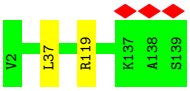




• Molecule 15: eL14

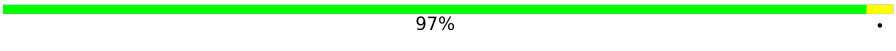
Chain M:





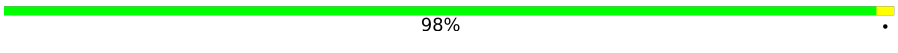
• Molecule 16: eL15

Chain N:



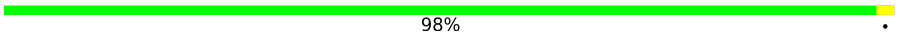
• Molecule 17: uL13

Chain O:



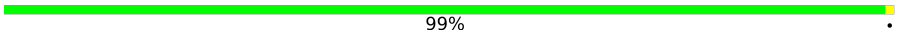
• Molecule 18: uL22

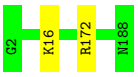
Chain P:



• Molecule 19: eL18

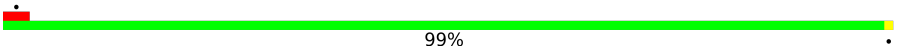
Chain Q:

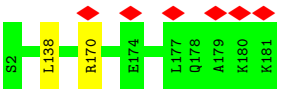




• Molecule 20: eL19

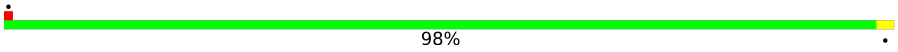
Chain R:

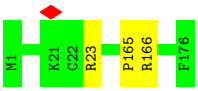




• Molecule 21: eL20

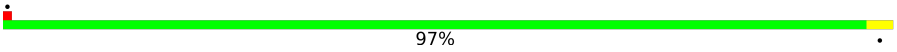
Chain S:

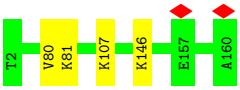




• Molecule 22: eL21

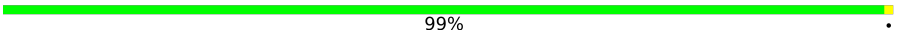
Chain T:





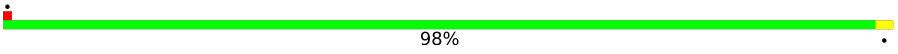
• Molecule 23: eL22

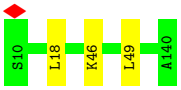
Chain U:



• Molecule 24: uL14

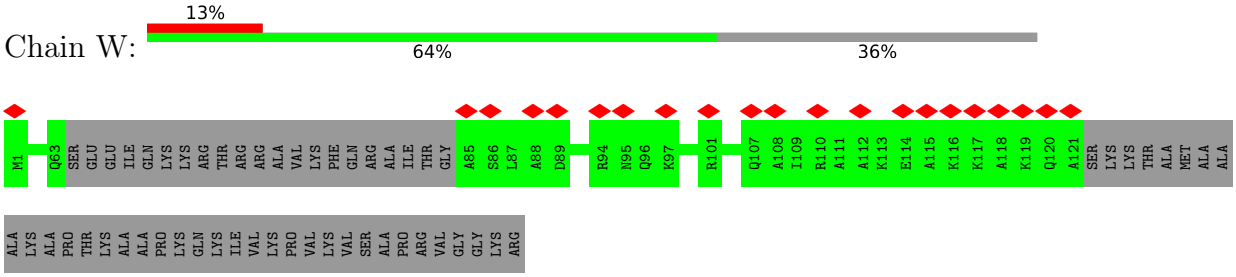
Chain V:





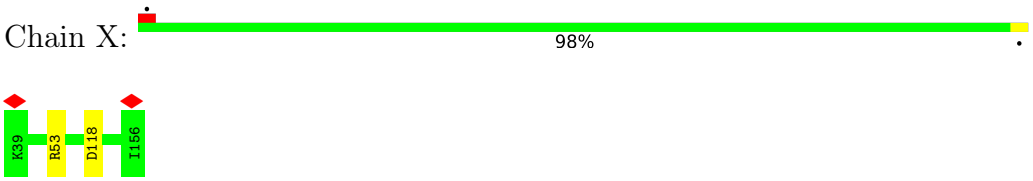
• Molecule 25: eL24

Chain W:



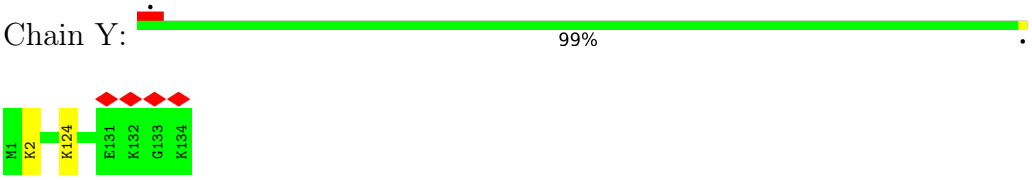
• Molecule 26: uL23

Chain X:



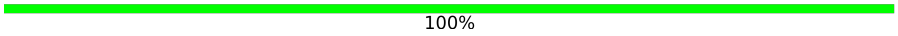
• Molecule 27: uL24

Chain Y:



• Molecule 28: eL27

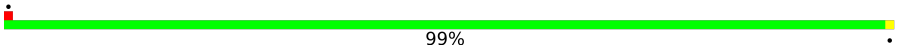
Chain Z:



There are no outlier residues recorded for this chain.

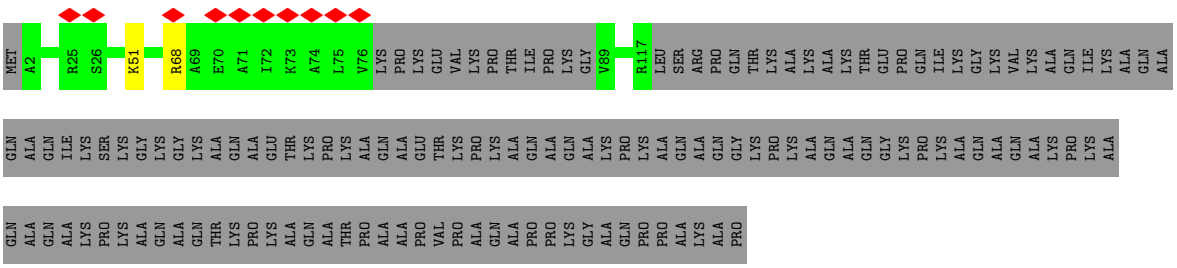
• Molecule 29: uL15

Chain a:



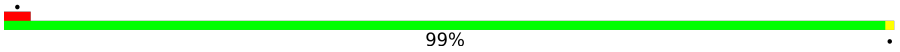
• Molecule 30: eL29

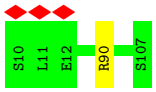
Chain b:



• Molecule 31: eL30

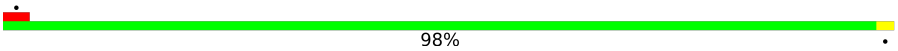
Chain c:

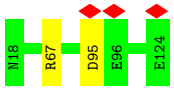




• Molecule 32: eL31

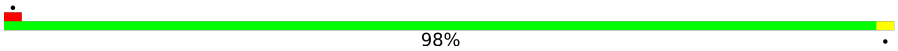
Chain d:

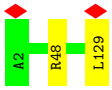




• Molecule 33: eL32

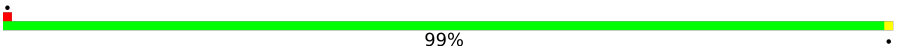
Chain e:





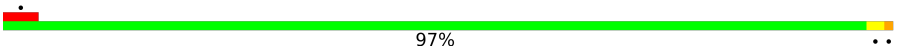
• Molecule 34: eL33

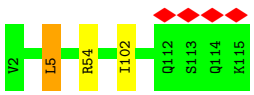
Chain f:



• Molecule 35: eL34

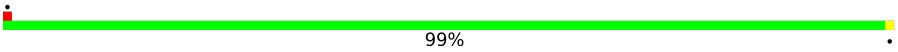
Chain g:

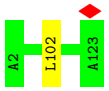




• Molecule 36: uL29

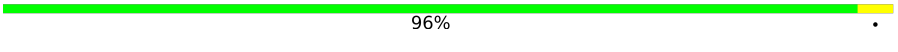
Chain h:



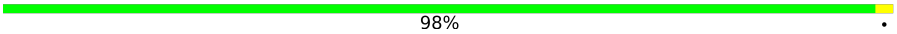


• Molecule 37: eL36

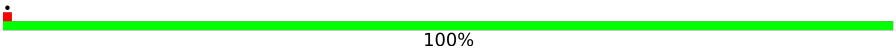
Chain i:



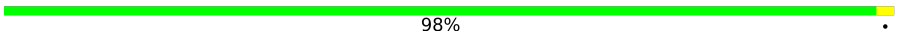
• Molecule 38: eL37

Chain j: 

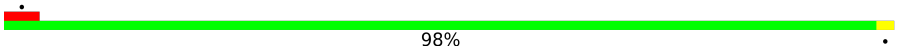
• Molecule 39: eL38

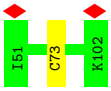
Chain k: 

• Molecule 40: eL39

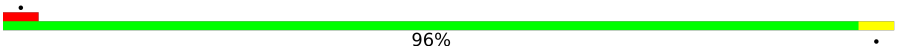
Chain l: 

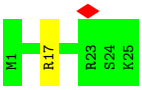
• Molecule 41: eL40

Chain m: 

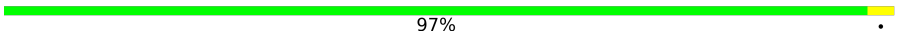


• Molecule 42: eL41

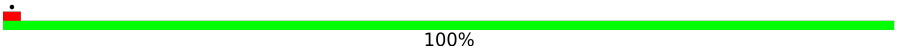
Chain n: 



• Molecule 43: eL42

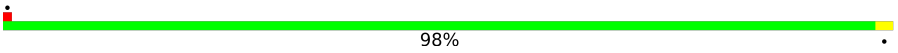
Chain o: 

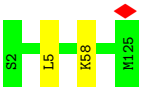
• Molecule 44: eL43

Chain p: 

• Molecule 45: eL28

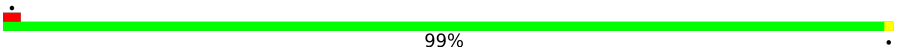
Chain r:

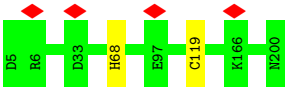




• Molecule 46: uL10

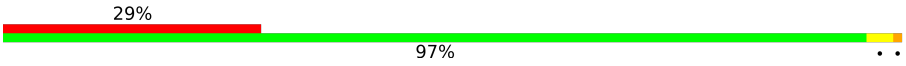
Chain s:

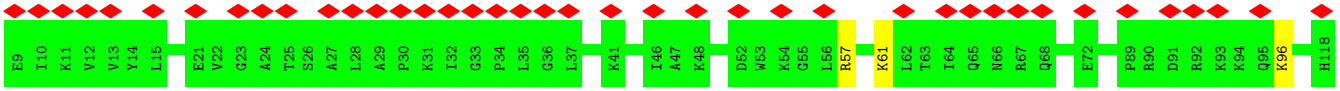


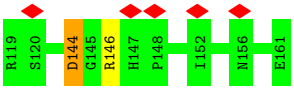


• Molecule 47: uL11

Chain t:

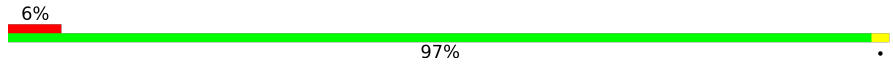


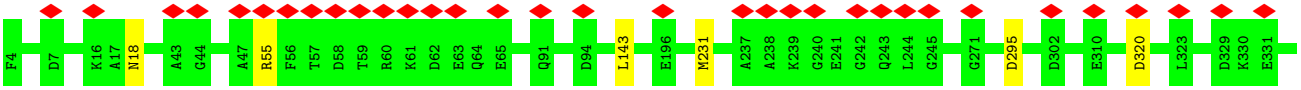


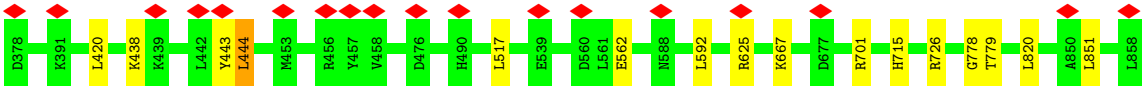


• Molecule 48: eEF2

Chain v:

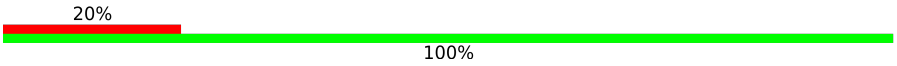


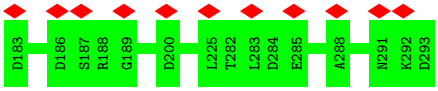




• Molecule 49: SERBP1

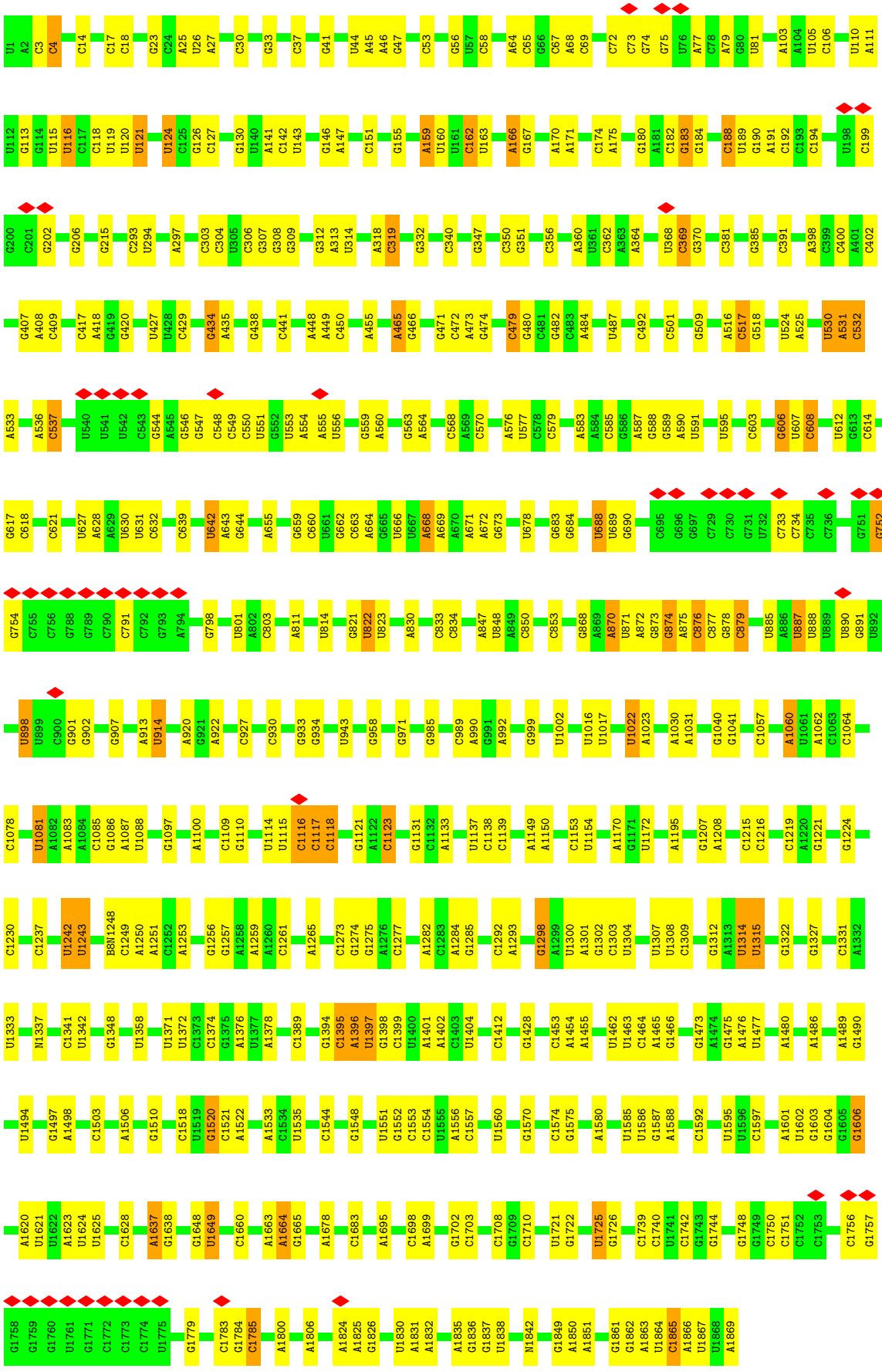
Chain w:





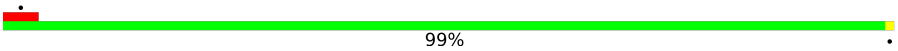
• Molecule 50: 18S rRNA

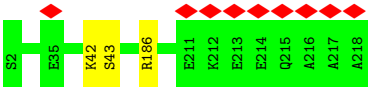
Chain 9:


U1 A2 C3 C4 C14 C17 C18 G23 C24 A25 U26 A27 C30 G33 C37 G41 U44 A45 A46 G47 C53 G56 U57 C58 A64 C65 G66 C67 A68 C69 C72 C73 G74 G75 U76 A77 C78 A79 G80 U81 A103 A104 U105 C106 U110 A111
U112 G113 G114 U115 U116 C117 C118 U119 U120 U121 U124 C125 G126 C127 G130 U140 A141 C142 U143 G146 A147 C151 G155 A159 U160 U161 C162 U163 A166 G167 A170 A171 C174 A175 G180 A181 C182 G183 G184 C188 U189 G190 A191 C192 C193 C194 U198 C199
G200 C201 G202 G206 G215 C293 U294 A297 C303 C304 U305 C306 G307 G308 G309 G312 A313 U314 A318 C319 G332 C340 G347 C350 G351 C356 A360 U361 C362 A363 A364 U368 C369 G370 C381 G385 C391 A398 C399 C400 A401 C402
G407 A408 C409 C417 A418 G419 G420 U427 U428 C429 G434 A435 G438 C441 A448 A449 C450 A455 A465 G466 G471 C472 A473 G474 C479 G480 C481 G482 C483 A484 U487 C492 C501 G509 A516 C517 G518 U524 A525 U530 A531 C532
A533 A536 C537 U540 U541 U542 C543 G544 A545 G546 G547 C548 C549 C550 U551 G552 U553 A554 A555 U556 G559 A560 G563 A564 C568 A569 C570 A576 U577 C578 C579 A583 A584 C585 G586 A587 G588 G589 A590 U591 U595 C603 G606 U607 C608 U612 G613 C614
G617 C618 C621 U627 A628 A629 U630 U631 C632 C639 U642 A643 G644 A655 G659 C660 U661 G662 C663 A664 G665 U666 U667 A668 A669 A670 A671 A672 G673 U678 G683 G684 U688 U689 G690 C695 G696 G697 C729 C730 G731 U732 C733 C734 C735 C736 G751 G752 C753
G754 C755 C756 G788 G789 C790 C791 C792 G793 A794 G798 U801 A802 C803 A811 U814 G821 U822 U823 A830 C833 C834 A847 U848 A849 C850 C853 G868 A869 A870 U871 A872 G873 G874 A875 C876 C877 G878 C879 U885 A886 U887 U888 U889 U890 G891 U892 U893 G894
U898 U899 C900 G901 G902 G907 A913 U914 A920 G921 A922 C927 C930 G933 G934 U943 G958 G971 G985 C989 A990 G991 A992 G999 U1002 U1016 U1017 U1022 A1023 A1030 A1031 G1040 G1041 C1057 A1060 U1061 A1062 C1063 C1064
C1078 U1081 A1082 A1083 A1084 C1085 G1086 A1087 U1088 G1097 A1100 C1109 G1110 U1114 U1115 C1116 C1117 C1118 G1121 A1122 C1123 G1131 C1132 A1133 U1137 C1138 C1139 A1149 A1150 C1153 U1154 A1170 G1171 U1172 A1195 G1207 A1208 C1215 C1216 C1219 A1220 G1221 G1224
C1230 C1237 U1242 U1243 B8U1248 C1249 A1250 A1251 C1252 A1253 G1256 G1257 A1258 A1259 A1260 C1261 A1265 C1273 G1274 G1275 A1276 C1277 A1282 C1283 A1284 G1285 C1292 A1293 G1298 A1299 U1300 A1301 G1302 C1303 U1304 U1307 U1308 C1309 G1312 A1313 U1314 U1315 G1322 G1327 C1331 A1332
U1333 N1337 C1341 U1342 G1348 U1358 U1371 U1372 C1373 C1374 G1375 A1376 U1377 A1378 C1389 G1394 C1395 A1396 U1397 G1398 C1399 U1400 A1401 A1402 C1403 U1404 C1412 G1428 C1453 A1454 A1455 U1462 U1463 C1464 A1465 G1466 G1473 A1474 G1475 A1476 U1477 A1480 A1486 A1489 G1490
U1494 G1497 A1498 C1503 A1506 G1510 C1518 U1519 G1520 C1521 A1522 A1533 C1534 U1535 C1544 G1548 U1551 G1552 C1553 C1554 U1555 A1556 C1557 U1560 G1570 C1574 G1575 A1580 U1585 U1586 G1587 A1588 C1592 U1595 U1596 C1597 A1601 U1602 G1603 G1604 G1605 G1606
A1620 U1621 U1622 A1623 U1624 U1625 C1628 A1637 G1638 G1648 U1649 C1660 A1663 A1664 G1665 A1678 C1683 A1695 C1698 A1699 G1702 C1703 C1708 G1709 C1710 U1721 G1722 U1725 G1726 C1739 C1740 U1741 C1742 G1743 G1744 G1748 G1749 C1750 C1751 C1752 C1753 C1756 G1757
G1758 G1759 G1760 U1761 G1771 C1772 C1773 C1774 U1775 G1779 C1783 G1784 C1785 A1800 A1806 A1824 A1825 G1826 U1830 A1831 A1832 A1835 G1836 G1837 U1838 N1842 G1849 A1850 A1851 G1861 G1862 A1863 U1864 C1865 A1866 U1867 U1868 A1869

• Molecule 51: uS2

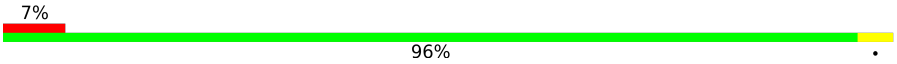
Chain AA:

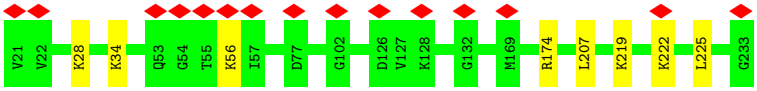




• Molecule 52: eS1

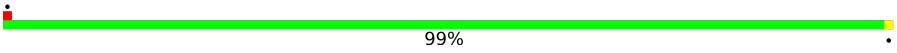
Chain BB:

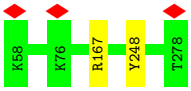




• Molecule 53: uS5

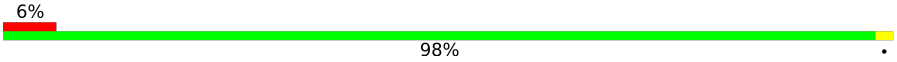
Chain CC:





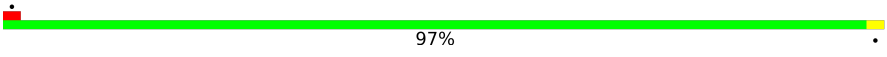
• Molecule 54: uS3

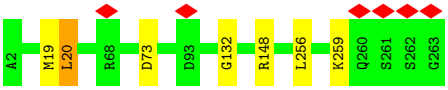
Chain DD:



• Molecule 55: eS4

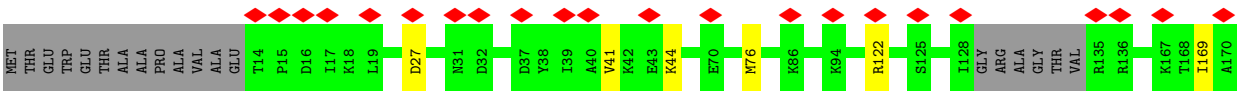
Chain EE:

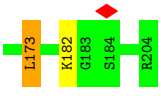




• Molecule 56: uS7

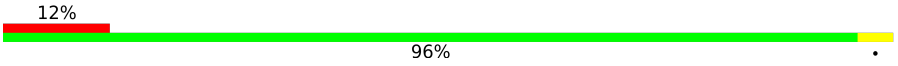
Chain FF:

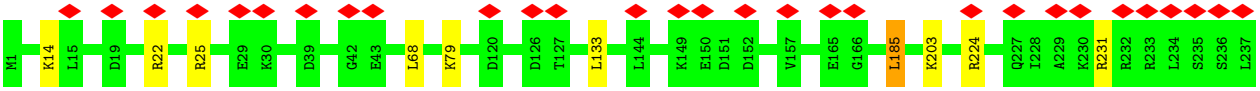




• Molecule 57: eS6

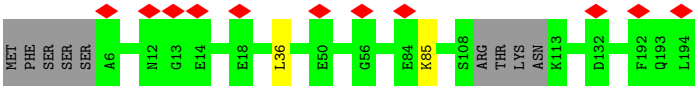
Chain GG:





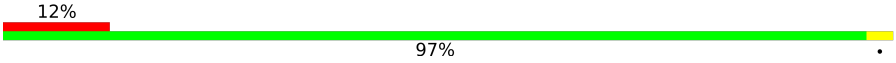
• Molecule 58: eS7

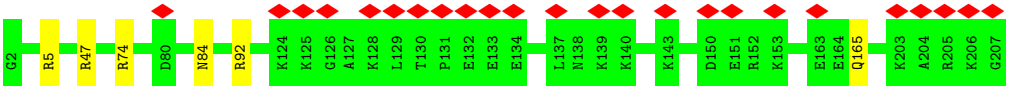
Chain HH:



• Molecule 59: eS8

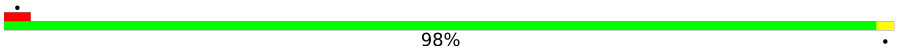
Chain II:

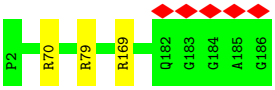




• Molecule 60: uS4

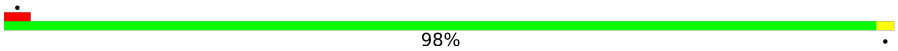
Chain JJ:

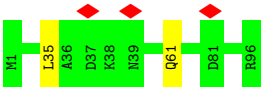




• Molecule 61: eS10

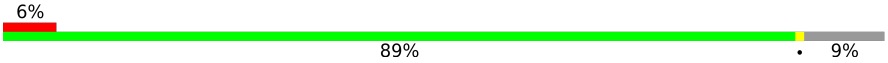
Chain KK:

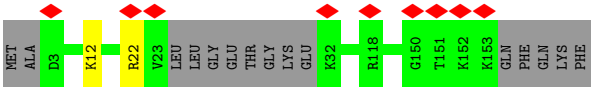




• Molecule 62: uS17

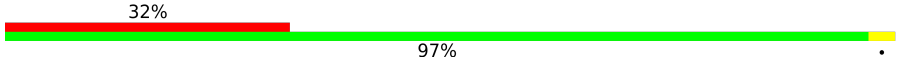
Chain LL:

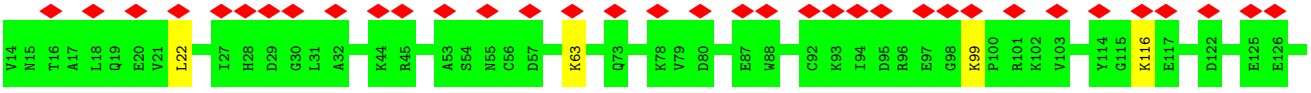




• Molecule 63: eS12

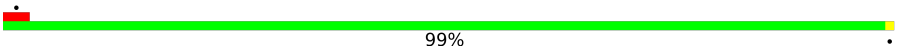
Chain MM:

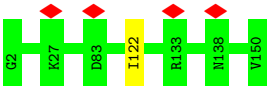




• Molecule 64: uS15

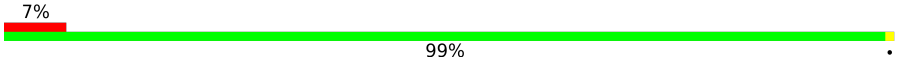
Chain NN:

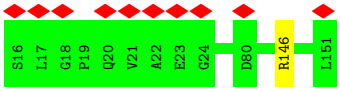




• Molecule 65: uS11

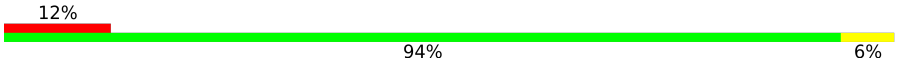
Chain OO:

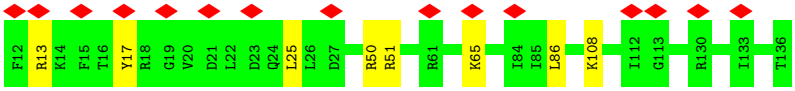




• Molecule 66: uS19

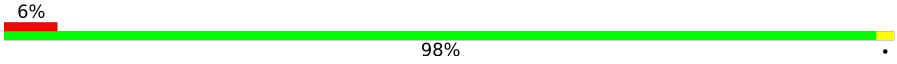
Chain PP:

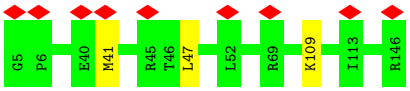




• Molecule 67: uS9

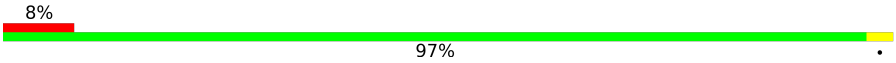
Chain QQ:

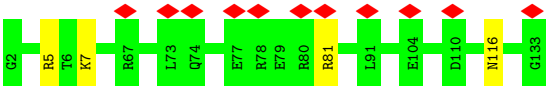




• Molecule 68: eS17

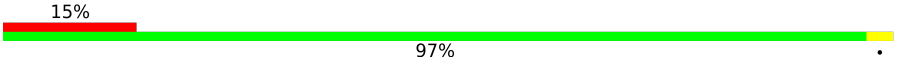
Chain RR:

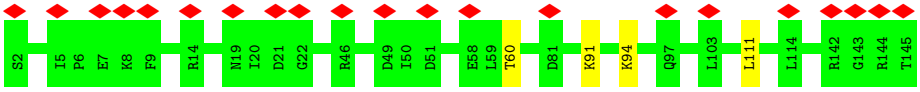




• Molecule 69: uS13

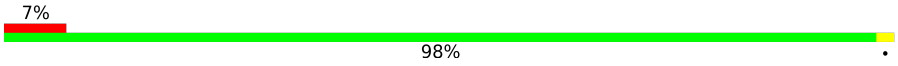
Chain SS:

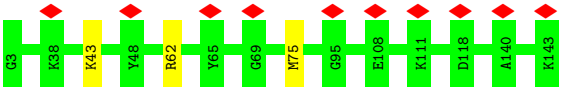




• Molecule 70: eS19

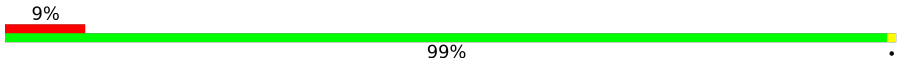
Chain TT:

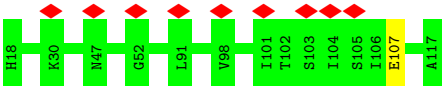




• Molecule 71: uS10

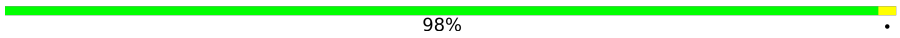
Chain UU:





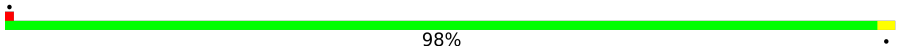
• Molecule 72: eS21

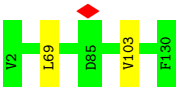
Chain VV:



• Molecule 73: uS8

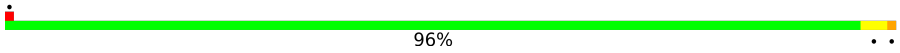
Chain WW:

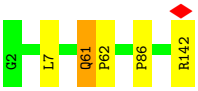




• Molecule 74: uS12

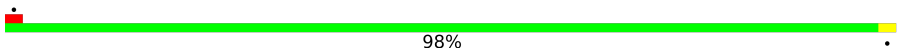
Chain XX:

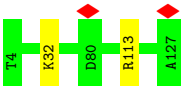




• Molecule 75: eS24

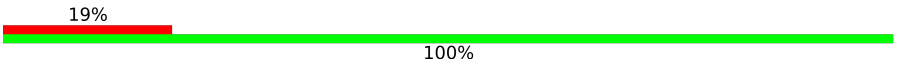
Chain YY:

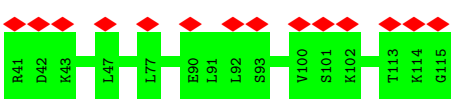




• Molecule 76: eS25

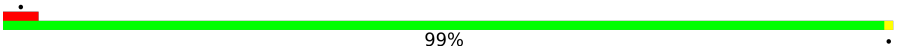
Chain ZZ:

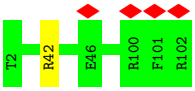




• Molecule 77: eS26

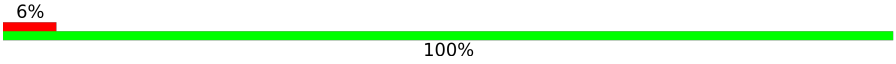
Chain aa:

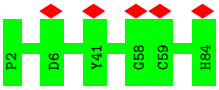




• Molecule 78: eS27

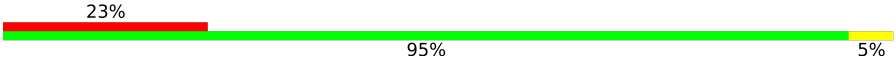
Chain bb:

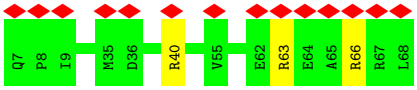




• Molecule 79: eS28

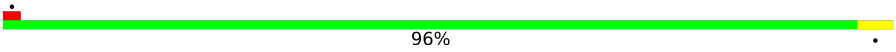
Chain cc:

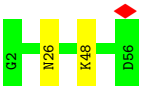




• Molecule 80: uS14

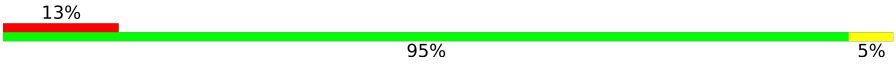
Chain dd:

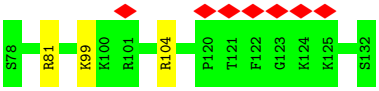




• Molecule 81: eS30

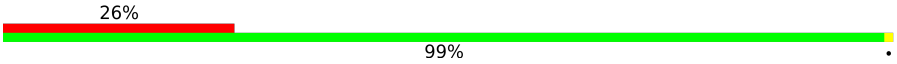
Chain ee:

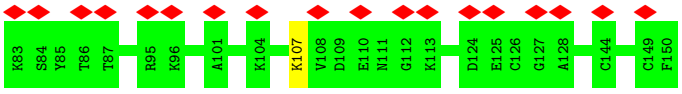




• Molecule 82: eS31

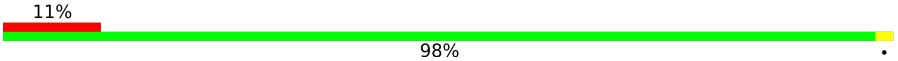
Chain ff:

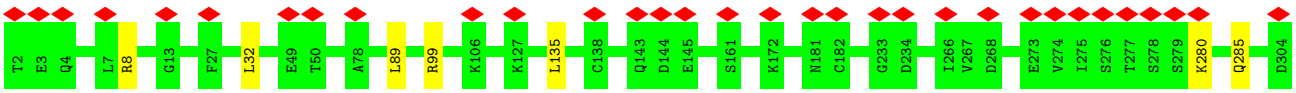




• Molecule 83: RACK1

Chain gg:






R308
I314

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	133480	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 ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	104478	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.679	Depositor
Minimum map value	-0.386	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.023	Depositor
Recommended contour level	0.08	Depositor
Map size (Å)	536.0, 536.0, 536.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.34, 1.34, 1.34	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: DDE, ZN, MHG, BGH, B9B, B8N, P4U, A2M, E3C, OMG, B8K, 5MU, B8H, E7G, OMU, GDP, I4U, B8Q, MG, UR3, OMC, M7A, B9H, 4AC, 1MA, E6G, P7G, 5MC, B8T, 6MZ, MLZ, MA6, 2MG, PSU, 7MG, B8W

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	5	0.80	0/83819	1.15	616/130590 (0.5%)
2	7	0.79	0/2858	1.09	13/4455 (0.3%)
3	8	0.77	0/3559	1.16	39/5543 (0.7%)
4	A	0.51	0/1936	0.62	0/2596
5	B	0.49	0/3240	0.66	2/4339 (0.0%)
6	C	0.47	0/2927	0.62	2/3932 (0.1%)
7	D	0.42	0/2437	0.55	0/3264
8	E	0.39	0/1762	0.64	0/2362
9	F	0.48	0/1911	0.62	0/2549
10	G	0.41	0/1910	0.61	0/2569
11	H	0.50	1/1535 (0.1%)	0.63	0/2063
12	I	0.48	0/1702	0.60	1/2272 (0.0%)
13	J	0.38	0/1385	0.66	1/1852 (0.1%)
14	L	0.42	0/1733	0.63	2/2316 (0.1%)
15	M	0.45	0/1158	0.58	1/1547 (0.1%)
16	N	0.50	0/1746	0.62	0/2338
17	O	0.51	0/1662	0.65	0/2222
18	P	0.49	0/1268	0.61	0/1700
19	Q	0.47	0/1539	0.62	0/2054
20	R	0.41	0/1524	0.65	1/2013 (0.0%)
21	S	0.53	0/1501	0.61	0/2012
22	T	0.47	0/1326	0.57	0/1770
23	U	0.37	0/823	0.64	0/1104
24	V	0.49	0/993	0.63	1/1332 (0.1%)
25	W	0.46	0/829	0.60	0/1099
26	X	0.43	0/984	0.64	1/1323 (0.1%)
27	Y	0.45	0/1132	0.60	0/1504
28	Z	0.46	0/1130	0.59	0/1507
29	a	0.49	0/1191	0.63	0/1590
30	b	0.34	0/861	0.56	0/1138

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
31	c	0.42	0/771	0.60	0/1034
32	d	0.43	0/903	0.61	0/1216
33	e	0.46	0/1071	0.58	1/1429 (0.1%)
34	f	0.51	0/895	0.68	0/1198
35	g	0.46	0/916	0.63	0/1220
36	h	0.41	0/1021	0.58	0/1348
37	i	0.39	0/841	0.59	1/1112 (0.1%)
38	j	0.46	0/720	0.65	0/952
39	k	0.40	0/575	0.58	0/761
40	l	0.40	0/459	0.61	1/608 (0.2%)
41	m	0.49	0/425	0.68	0/561
42	n	0.33	0/240	0.64	0/305
43	o	0.44	0/855	0.58	1/1128 (0.1%)
44	p	0.46	0/718	0.60	0/953
45	r	0.45	0/1010	0.62	1/1354 (0.1%)
46	s	0.33	0/1530	0.59	0/2064
47	t	0.31	0/1174	0.72	1/1582 (0.1%)
48	v	0.40	0/6736	0.69	8/9094 (0.1%)
49	w	0.33	0/447	0.58	0/592
50	9	0.64	0/39723	1.15	274/61870 (0.4%)
51	AA	0.40	0/1747	0.63	0/2374
52	BB	0.37	0/1756	0.72	4/2350 (0.2%)
53	CC	0.47	0/1753	0.64	0/2369
54	DD	0.38	0/1796	0.65	0/2417
55	EE	0.38	0/2118	0.69	5/2849 (0.2%)
56	FF	0.35	0/1492	0.68	2/2005 (0.1%)
57	GG	0.32	0/1946	0.68	3/2590 (0.1%)
58	HH	0.36	0/1510	0.67	1/2022 (0.0%)
59	II	0.36	0/1715	0.65	0/2287
60	JJ	0.39	0/1550	0.63	0/2069
61	KK	0.39	0/834	0.66	1/1125 (0.1%)
62	LL	0.44	0/1195	0.59	0/1597
63	MM	0.32	0/918	0.64	1/1233 (0.1%)
64	NN	0.36	0/1226	0.58	0/1649
65	OO	0.33	0/1029	0.63	0/1380
66	PP	0.34	0/1045	0.66	2/1396 (0.1%)
67	QQ	0.32	0/1146	0.66	1/1534 (0.1%)
68	RR	0.32	0/1082	0.62	0/1452
69	SS	0.32	0/1208	0.67	0/1618
70	TT	0.30	0/1115	0.59	0/1493
71	UU	0.32	0/805	0.61	0/1081
72	VV	0.41	0/643	0.61	0/860
73	WW	0.48	0/1051	0.69	1/1406 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
74	XX	0.46	0/1116	0.64	1/1490 (0.1%)
75	YY	0.33	0/1028	0.56	0/1366
76	ZZ	0.31	0/604	0.69	0/810
77	aa	0.37	0/828	0.56	0/1109
78	bb	0.33	0/665	0.59	0/891
79	cc	0.32	0/490	0.61	0/656
80	dd	0.40	0/470	0.60	0/623
81	ee	0.36	0/447	0.54	0/587
82	ff	0.32	0/567	0.60	0/753
83	gg	0.32	0/2493	0.64	2/3394 (0.1%)
All	All	0.63	1/232799 (0.0%)	0.97	992/340171 (0.3%)

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
6	C	0	1
8	E	0	2
9	F	0	1
10	G	0	1
11	H	0	1
16	N	0	3
21	S	0	1
22	T	0	1
32	d	0	1
35	g	0	1
46	s	0	1
47	t	0	1
48	v	0	4
51	AA	0	2
54	DD	0	1
55	EE	0	1
56	FF	0	1
59	II	0	1
66	PP	0	1
69	SS	0	1
71	UU	0	1
72	VV	0	1
74	XX	0	1
83	gg	0	1
All	All	0	31

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	H	128	MET	C-N	-5.34	1.21	1.34

All (992) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	1116	C	N1-C2-O2	12.69	126.52	118.90
50	9	1116	C	C2-N1-C1'	11.86	131.84	118.80
1	5	4056	A	OP1-P-O3'	-11.48	79.94	105.20
50	9	501	C	N1-C2-O2	11.03	125.52	118.90
1	5	1429	C	N1-C2-O2	10.96	125.47	118.90
50	9	501	C	C2-N1-C1'	10.26	130.09	118.80
50	9	1116	C	N3-C2-O2	-10.15	114.80	121.90
50	9	356	C	N1-C2-O2	10.03	124.92	118.90
50	9	1453	C	N1-C2-O2	9.99	124.89	118.90
50	9	1016	U	N1-C2-O2	9.91	129.74	122.80
50	9	1453	C	C2-N1-C1'	9.86	129.65	118.80
50	9	1520	G	N3-C4-C5	-9.85	123.67	128.60
50	9	1139	C	N1-C2-O2	9.77	124.76	118.90
50	9	356	C	C2-N1-C1'	9.70	129.47	118.80
50	9	1016	U	C2-N1-C1'	9.65	129.28	117.70
1	5	3739	C	N1-C2-O2	9.63	124.68	118.90
1	5	217	C	N1-C2-O2	9.55	124.63	118.90
50	9	293	C	N1-C2-O2	9.50	124.60	118.90
1	5	220	C	N1-C2-O2	9.49	124.59	118.90
1	5	2814	C	N1-C2-O2	9.37	124.52	118.90
1	5	1977	C	N1-C2-O2	9.35	124.51	118.90
1	5	1639	U	C2-N1-C1'	9.33	128.90	117.70
1	5	3788	C	N1-C2-O2	9.28	124.47	118.90
1	5	2505	C	N3-C2-O2	-9.21	115.45	121.90
50	9	1139	C	N3-C2-O2	-9.18	115.47	121.90
50	9	1139	C	C2-N1-C1'	9.16	128.88	118.80
50	9	501	C	N3-C2-O2	-9.16	115.49	121.90
3	8	128	C	N1-C2-O2	9.12	124.37	118.90
50	9	1016	U	N3-C2-O2	-9.05	115.86	122.20
50	9	1303	C	N1-C2-O2	9.03	124.32	118.90
1	5	1381	U	N1-C2-O2	8.97	129.08	122.80
1	5	1236	C	C6-N1-C2	-8.81	116.78	120.30
1	5	2351	C	C6-N1-C2	-8.81	116.78	120.30
1	5	2505	C	C6-N1-C2	-8.79	116.78	120.30
1	5	1429	C	N3-C2-O2	-8.79	115.75	121.90
50	9	1303	C	C2-N1-C1'	8.68	128.34	118.80
1	5	115	C	N1-C2-O2	8.67	124.10	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4880	C	C2-N1-C1'	8.64	128.30	118.80
1	5	2814	C	N3-C2-O2	-8.59	115.88	121.90
1	5	2274	C	C5-C6-N1	8.58	125.29	121.00
50	9	1292	C	N1-C2-O2	8.55	124.03	118.90
1	5	1381	U	N3-C2-O2	-8.51	116.25	122.20
1	5	1483	C	N1-C2-O2	8.46	123.98	118.90
1	5	4056	A	OP2-P-O3'	-8.45	86.61	105.20
1	5	112	C	C2-N1-C1'	8.40	128.04	118.80
1	5	4928	C	N1-C2-O2	8.39	123.94	118.90
1	5	217	C	C2-N1-C1'	8.39	128.03	118.80
1	5	4241	C	N1-C2-O2	8.38	123.93	118.90
1	5	2505	C	N1-C2-O2	8.36	123.92	118.90
50	9	1116	C	C6-N1-C1'	-8.35	110.78	120.80
1	5	332	C	N1-C2-O2	8.32	123.89	118.90
50	9	194	C	N3-C2-O2	-8.32	116.08	121.90
1	5	2325	C	C6-N1-C2	-8.27	116.99	120.30
1	5	4759	C	N1-C2-O2	8.25	123.85	118.90
50	9	1520	G	C8-N9-C4	-8.22	103.11	106.40
1	5	1612	G	N3-C4-N9	8.20	130.92	126.00
50	9	501	C	C6-N1-C2	-8.11	117.06	120.30
1	5	1381	U	C2-N1-C1'	8.08	127.40	117.70
1	5	1429	C	C2-N1-C1'	8.08	127.69	118.80
50	9	1242	U	N1-C2-O2	8.06	128.44	122.80
1	5	2627	C	N1-C2-O2	8.05	123.73	118.90
50	9	1624	U	C2-N1-C1'	8.05	127.36	117.70
1	5	4254	G	N3-C4-C5	-7.98	124.61	128.60
50	9	1520	G	C4-N9-C1'	7.96	136.85	126.50
50	9	293	C	N3-C2-O2	-7.94	116.34	121.90
1	5	115	C	C2-N1-C1'	7.93	127.53	118.80
50	9	356	C	N3-C2-O2	-7.91	116.36	121.90
1	5	1977	C	C2-N1-C1'	7.88	127.47	118.80
50	9	1535	U	C2-N1-C1'	7.88	127.15	117.70
1	5	4752	U	N1-C2-O2	7.86	128.30	122.80
3	8	128	C	N3-C2-O2	-7.84	116.41	121.90
1	5	3788	C	N3-C2-O2	-7.83	116.42	121.90
1	5	2819	U	N3-C2-O2	-7.82	116.73	122.20
50	9	914	U	C2-N1-C1'	7.82	127.08	117.70
1	5	3739	C	N3-C2-O2	-7.81	116.44	121.90
50	9	1520	G	C2-N3-C4	7.80	115.80	111.90
1	5	3911	C	C5-C6-N1	7.77	124.89	121.00
1	5	4928	C	C2-N1-C1'	7.77	127.34	118.80
1	5	4709	U	N1-C2-O2	7.77	128.24	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4119	C	C2-N1-C1'	7.76	127.33	118.80
1	5	100	C	C2-N1-C1'	7.75	127.32	118.80
50	9	1453	C	N3-C2-O2	-7.72	116.49	121.90
1	5	1084	C	C2-N1-C1'	7.72	127.29	118.80
1	5	4714	C	N1-C2-O2	7.70	123.52	118.90
1	5	2008	U	N3-C2-O2	-7.67	116.83	122.20
2	7	29	C	N1-C2-O2	7.67	123.50	118.90
50	9	801	U	N3-C2-O2	-7.64	116.85	122.20
1	5	4502	C	N1-C2-O2	7.62	123.47	118.90
1	5	4869	U	N3-C2-O2	-7.62	116.87	122.20
50	9	183	G	C2-N3-C4	7.62	115.71	111.90
1	5	1445	U	C5-C6-N1	7.58	126.49	122.70
1	5	4653	C	C6-N1-C2	-7.55	117.28	120.30
50	9	1315	U	N3-C2-O2	-7.54	116.92	122.20
1	5	4759	C	C2-N1-C1'	7.54	127.09	118.80
57	GG	68	LEU	CA-CB-CG	7.53	132.62	115.30
1	5	1210	C	N1-C2-O2	7.53	123.42	118.90
50	9	1389	C	N1-C2-O2	7.51	123.41	118.90
1	5	4241	C	N3-C2-O2	-7.50	116.65	121.90
1	5	3739	C	C2-N1-C1'	7.49	127.04	118.80
1	5	4653	C	C5-C6-N1	7.47	124.73	121.00
50	9	853	C	C2-N1-C1'	7.45	127.00	118.80
52	BB	219	LYS	C-N-CA	7.45	140.33	121.70
47	t	144	ASP	CB-CG-OD1	7.45	125.00	118.30
1	5	4752	U	N3-C2-O2	-7.44	116.99	122.20
50	9	801	U	N1-C2-O2	7.43	128.00	122.80
50	9	369	C	C2-N1-C1'	7.42	126.96	118.80
1	5	4880	C	N1-C2-O2	7.41	123.35	118.90
1	5	4930	C	C2-N1-C1'	7.41	126.95	118.80
50	9	356	C	C6-N1-C1'	-7.40	111.92	120.80
50	9	1261	C	N1-C2-O2	7.37	123.32	118.90
50	9	1123	C	C2-N1-C1'	7.35	126.89	118.80
1	5	4709	U	N3-C2-O2	-7.33	117.07	122.20
3	8	119	C	N1-C2-O2	7.32	123.29	118.90
1	5	2410	C	C2-N1-C1'	7.32	126.85	118.80
50	9	293	C	C2-N1-C1'	7.32	126.85	118.80
1	5	126	C	C6-N1-C2	-7.31	117.38	120.30
50	9	1116	C	C6-N1-C2	-7.30	117.38	120.30
1	5	1483	C	N3-C2-O2	-7.29	116.80	121.90
1	5	1893	C	C2-N1-C1'	7.28	126.81	118.80
50	9	369	C	N1-C2-O2	7.25	123.25	118.90
50	9	1396	A	O4'-C1'-N9	7.24	113.99	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	217	C	N3-C2-O2	-7.22	116.85	121.90
1	5	1812	C	C2-N1-C1'	7.21	126.73	118.80
1	5	2274	C	C6-N1-C2	-7.21	117.41	120.30
1	5	4057	C	OP1-P-OP2	7.21	130.42	119.60
50	9	632	C	C6-N1-C2	-7.21	117.42	120.30
1	5	1834	U	C2-N1-C1'	7.21	126.35	117.70
1	5	1411	C	N1-C2-O2	7.20	123.22	118.90
1	5	1977	C	N3-C2-O2	-7.20	116.86	121.90
1	5	2814	C	C2-N1-C1'	7.20	126.72	118.80
1	5	4759	C	N3-C2-O2	-7.18	116.87	121.90
1	5	332	C	N3-C2-O2	-7.18	116.87	121.90
1	5	2568	C	C2-N1-C1'	7.18	126.70	118.80
50	9	570	C	N1-C2-O2	7.18	123.20	118.90
50	9	579	C	N1-C2-O2	7.14	123.18	118.90
1	5	481	G	C4-N9-C1'	7.13	135.77	126.50
1	5	1792	U	N3-C2-O2	-7.12	117.21	122.20
61	KK	35	LEU	CA-CB-CG	7.11	131.66	115.30
1	5	3636	C	N3-C2-O2	-7.11	116.92	121.90
1	5	4266	G	N3-C4-C5	-7.11	125.05	128.60
1	5	1978	C	C2-N1-C1'	7.10	126.61	118.80
1	5	2627	C	N3-C2-O2	-7.09	116.93	121.90
1	5	2046	G	P-O3'-C3'	7.08	128.20	119.70
50	9	914	U	N1-C2-O2	7.08	127.75	122.80
1	5	1656	U	N3-C2-O2	-7.05	117.26	122.20
1	5	2819	U	N1-C2-O2	7.05	127.74	122.80
1	5	115	C	N3-C2-O2	-7.05	116.97	121.90
1	5	2695	A	P-O3'-C3'	7.05	128.16	119.70
1	5	100	C	N1-C2-O2	7.03	123.12	118.90
50	9	1242	U	C2-N1-C1'	7.00	126.10	117.70
1	5	2008	U	N1-C2-O2	7.00	127.70	122.80
50	9	1277	C	C5-C6-N1	6.99	124.50	121.00
1	5	205	C	N1-C2-O2	6.98	123.09	118.90
50	9	1756	C	C2-N1-C1'	6.98	126.48	118.80
1	5	4709	U	C2-N1-C1'	6.97	126.06	117.70
52	BB	34	LYS	C-N-CA	6.97	139.12	121.70
1	5	2627	C	C6-N1-C2	-6.96	117.51	120.30
50	9	1520	G	N3-C4-N9	6.96	130.18	126.00
50	9	1595	U	N1-C2-O2	6.96	127.67	122.80
1	5	4360	U	N3-C2-O2	-6.95	117.34	122.20
1	5	4925	U	P-O3'-C3'	6.95	128.04	119.70
1	5	4948	C	C2-N1-C1'	6.90	126.39	118.80
1	5	1792	U	N1-C2-O2	6.90	127.63	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4557	U	N3-C2-O2	-6.90	117.37	122.20
1	5	4695	C	N1-C2-O2	6.90	123.04	118.90
3	8	141	C	C6-N1-C2	-6.89	117.54	120.30
50	9	1242	U	N3-C2-O2	-6.89	117.38	122.20
1	5	1612	G	C4-N9-C1'	6.87	135.43	126.50
1	5	4286	C	N1-C2-O2	6.87	123.02	118.90
1	5	3876	A	P-O3'-C3'	6.86	127.94	119.70
50	9	1331	C	N1-C2-O2	6.86	123.02	118.90
50	9	1595	U	N3-C2-O2	-6.86	117.40	122.20
50	9	1660	C	C2-N1-C1'	6.86	126.34	118.80
1	5	3657	U	N3-C2-O2	-6.85	117.41	122.20
1	5	1483	C	C2-N1-C1'	6.85	126.33	118.80
1	5	1236	C	C5-C6-N1	6.84	124.42	121.00
1	5	1686	C	C6-N1-C2	-6.84	117.57	120.30
1	5	1966	C	C5-C6-N1	6.83	124.41	121.00
1	5	4869	U	C2-N1-C1'	6.82	125.89	117.70
1	5	4266	G	N3-C4-N9	6.81	130.09	126.00
1	5	1777	C	C2-N1-C1'	6.81	126.29	118.80
1	5	2351	C	C5-C6-N1	6.81	124.40	121.00
5	B	214	ASP	CB-CG-OD1	6.80	124.42	118.30
1	5	1484	G	N3-C4-C5	-6.80	125.20	128.60
50	9	1389	C	C2-N1-C1'	6.80	126.28	118.80
50	9	1315	U	N1-C2-O2	6.79	127.56	122.80
50	9	1453	C	C6-N1-C1'	-6.79	112.65	120.80
1	5	2325	C	C5-C6-N1	6.78	124.39	121.00
50	9	188	C	C2-N1-C1'	6.76	126.24	118.80
50	9	18	C	C5-C6-N1	6.76	124.38	121.00
1	5	77	U	N3-C2-O2	-6.76	117.47	122.20
1	5	4859	C	N1-C2-O2	6.76	122.96	118.90
50	9	183	G	N3-C4-C5	-6.75	125.22	128.60
1	5	4065	G	P-O3'-C3'	6.75	127.80	119.70
50	9	1117	C	N1-C2-O2	6.74	122.94	118.90
56	FF	27	ASP	CB-CG-OD1	6.74	124.37	118.30
1	5	1484	G	N3-C4-N9	6.74	130.04	126.00
50	9	1595	U	C2-N1-C1'	6.74	125.79	117.70
1	5	2351	C	N1-C2-O2	6.73	122.94	118.90
1	5	1671	U	N3-C2-O2	-6.73	117.49	122.20
1	5	2274	C	C2-N1-C1'	6.73	126.20	118.80
1	5	661	C	C6-N1-C2	-6.73	117.61	120.30
1	5	2704	C	C2-N1-C1'	6.73	126.20	118.80
3	8	111	U	N1-C2-O2	6.72	127.51	122.80
1	5	2539	C	C6-N1-C2	-6.72	117.61	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4880	C	C6-N1-C1'	-6.72	112.74	120.80
2	7	67	C	C6-N1-C2	-6.72	117.61	120.30
20	R	138	LEU	CA-CB-CG	6.70	130.72	115.30
1	5	1612	G	C8-N9-C1'	-6.70	118.29	127.00
1	5	4928	C	N3-C2-O2	-6.70	117.21	121.90
1	5	220	C	C2-N1-C1'	6.69	126.16	118.80
1	5	4162	C	N3-C2-O2	-6.69	117.22	121.90
50	9	801	U	C2-N1-C1'	6.68	125.72	117.70
1	5	4162	C	C2-N1-C1'	6.68	126.14	118.80
50	9	501	C	C6-N1-C1'	-6.68	112.79	120.80
50	9	876	C	N1-C2-O2	6.68	122.91	118.90
1	5	1966	C	C6-N1-C2	-6.67	117.63	120.30
1	5	4314	C	N1-C2-O2	6.67	122.90	118.90
1	5	4926	C	C2-N1-C1'	6.67	126.14	118.80
1	5	481	G	N3-C4-N9	6.67	130.00	126.00
1	5	4758	U	N1-C2-O2	6.67	127.47	122.80
50	9	17	C	C6-N1-C2	-6.66	117.64	120.30
1	5	112	C	N1-C2-O2	6.65	122.89	118.90
1	5	1663	C	C5-C6-N1	6.65	124.33	121.00
50	9	1303	C	C6-N1-C1'	-6.65	112.82	120.80
1	5	100	C	N3-C2-O2	-6.64	117.25	121.90
1	5	4119	C	N1-C2-O2	6.64	122.88	118.90
1	5	4423	U	C2-N1-C1'	6.64	125.66	117.70
50	9	1535	U	N1-C2-O2	6.63	127.44	122.80
1	5	2502	A	P-O3'-C3'	6.62	127.65	119.70
2	7	102	U	N1-C2-O2	6.62	127.44	122.80
1	5	1325	C	N3-C2-O2	-6.62	117.26	121.90
50	9	914	U	N3-C2-O2	-6.62	117.56	122.20
50	9	876	C	C2-N1-C1'	6.62	126.08	118.80
50	9	618	C	O5'-P-OP1	-6.62	99.75	105.70
1	5	1485	C	C2-N1-C1'	6.61	126.08	118.80
3	8	64	U	N3-C2-O2	-6.60	117.58	122.20
1	5	4766	C	N1-C2-O2	6.59	122.85	118.90
1	5	220	C	N3-C2-O2	-6.58	117.29	121.90
1	5	4758	U	C2-N1-C1'	6.58	125.60	117.70
1	5	4906	C	N1-C2-O2	6.57	122.84	118.90
50	9	340	C	N1-C2-O2	6.57	122.84	118.90
1	5	4162	C	N1-C2-O2	6.55	122.83	118.90
50	9	570	C	N3-C2-O2	-6.54	117.32	121.90
1	5	4237	C	C5-C6-N1	6.54	124.27	121.00
1	5	4423	U	N3-C2-O2	-6.54	117.62	122.20
1	5	1485	C	N1-C2-O2	6.54	122.82	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1210	C	C2-N1-C1'	6.53	125.99	118.80
1	5	1568	C	C2-N1-C1'	6.53	125.98	118.80
1	5	2325	C	C2-N1-C1'	6.53	125.98	118.80
1	5	3657	U	C2-N1-C1'	6.52	125.53	117.70
1	5	4502	C	C6-N1-C2	-6.51	117.70	120.30
50	9	1453	C	C6-N1-C2	-6.51	117.70	120.30
50	9	1303	C	N3-C2-O2	-6.50	117.35	121.90
1	5	1072	C	P-O3'-C3'	6.50	127.50	119.70
1	5	1193	C	C2-N1-C1'	6.50	125.95	118.80
50	9	1292	C	N3-C2-O2	-6.50	117.35	121.90
1	5	1656	U	N1-C2-O2	6.49	127.34	122.80
1	5	1882	U	C5-C4-O4	-6.49	122.01	125.90
1	5	1309	C	C5-C6-N1	6.48	124.24	121.00
1	5	4758	U	N3-C2-O2	-6.48	117.66	122.20
50	9	752	G	P-O3'-C3'	6.48	127.48	119.70
50	9	1172	U	N1-C2-O2	6.48	127.33	122.80
3	8	141	C	C5-C6-N1	6.48	124.24	121.00
50	9	319	C	O5'-P-OP1	6.47	118.47	110.70
50	9	1453	C	C5-C6-N1	6.47	124.24	121.00
50	9	1592	C	N3-C2-O2	-6.47	117.37	121.90
1	5	1834	U	N1-C2-O2	6.47	127.33	122.80
1	5	472	C	C2-N1-C1'	6.46	125.91	118.80
1	5	167	C	C2-N1-C1'	6.46	125.91	118.80
1	5	1671	U	N1-C2-O2	6.46	127.32	122.80
1	5	2820	C	N1-C2-O2	6.46	122.78	118.90
67	QQ	47	LEU	CA-CB-CG	6.45	130.14	115.30
1	5	2362	U	C2-N1-C1'	6.45	125.44	117.70
50	9	1395	C	OP1-P-O3'	6.45	119.39	105.20
1	5	661	C	C2-N1-C1'	6.45	125.89	118.80
50	9	1624	U	N1-C2-O2	6.45	127.31	122.80
1	5	4502	C	N3-C2-O2	-6.44	117.39	121.90
50	9	4	C	C5-C6-N1	6.43	124.22	121.00
1	5	1639	U	N1-C2-O2	6.43	127.30	122.80
1	5	1834	U	N3-C2-O2	-6.43	117.70	122.20
1	5	481	G	N3-C4-C5	-6.43	125.39	128.60
1	5	472	C	N1-C2-O2	6.42	122.75	118.90
50	9	1606	G	O4'-C1'-N9	6.42	113.34	108.20
1	5	1514	U	C2-N1-C1'	6.40	125.38	117.70
2	7	29	C	N3-C2-O2	-6.40	117.42	121.90
1	5	1308	C	C6-N1-C2	-6.39	117.74	120.30
50	9	1750	C	N1-C2-O2	6.39	122.74	118.90
1	5	1481	C	N1-C2-O2	6.39	122.73	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4237	C	C6-N1-C2	-6.39	117.74	120.30
1	5	3778	U	N3-C2-O2	-6.39	117.73	122.20
50	9	1139	C	C6-N1-C2	-6.39	117.75	120.30
50	9	632	C	C5-C6-N1	6.38	124.19	121.00
1	5	1468	C	C6-N1-C2	-6.38	117.75	120.30
1	5	4254	G	C2-N3-C4	6.38	115.09	111.90
50	9	1123	C	C6-N1-C2	-6.38	117.75	120.30
50	9	4	C	C2-N1-C1'	6.38	125.81	118.80
1	5	2661	U	P-O3'-C3'	6.37	127.34	119.70
50	9	1412	C	C6-N1-C2	-6.35	117.76	120.30
3	8	119	C	N3-C2-O2	-6.35	117.45	121.90
1	5	1484	G	C4-N9-C1'	6.35	134.75	126.50
1	5	2351	C	N3-C2-O2	-6.34	117.46	121.90
1	5	322	C	N1-C2-O2	6.33	122.70	118.90
1	5	2072	C	C6-N1-C2	-6.33	117.77	120.30
1	5	2351	C	C2-N1-C1'	6.33	125.76	118.80
5	B	180	LEU	CA-CB-CG	6.33	129.85	115.30
1	5	2410	C	C5-C6-N1	6.33	124.16	121.00
1	5	1309	C	C6-N1-C2	-6.32	117.77	120.30
1	5	3739	C	C6-N1-C2	-6.32	117.77	120.30
1	5	1514	U	N3-C2-O2	-6.32	117.78	122.20
50	9	853	C	N3-C2-O2	-6.31	117.48	121.90
1	5	1686	C	N3-C2-O2	-6.30	117.49	121.90
1	5	2856	C	N1-C2-O2	6.30	122.68	118.90
1	5	3636	C	C6-N1-C2	-6.30	117.78	120.30
50	9	1637	A	P-O3'-C3'	6.30	127.25	119.70
1	5	2704	C	C5-C6-N1	6.29	124.14	121.00
1	5	4557	U	N1-C2-O2	6.27	127.19	122.80
1	5	1792	U	C2-N1-C1'	6.27	125.23	117.70
50	9	853	C	N1-C2-O2	6.27	122.66	118.90
50	9	1261	C	N3-C2-O2	-6.27	117.51	121.90
1	5	4232	U	P-O3'-C3'	6.27	127.22	119.70
55	EE	20	LEU	CA-CB-CG	6.26	129.70	115.30
50	9	1057	C	C2-N1-C1'	6.26	125.68	118.80
50	9	734	C	C2-N1-C1'	6.25	125.68	118.80
1	5	1612	G	C6-C5-N7	-6.25	126.65	130.40
1	5	4476	C	N3-C2-O2	-6.25	117.53	121.90
1	5	1329	G	C8-N9-C4	-6.24	103.90	106.40
1	5	1990	A	P-O3'-C3'	6.24	127.19	119.70
50	9	402	C	N1-C2-O2	6.24	122.64	118.90
50	9	1016	U	C6-N1-C1'	-6.24	112.47	121.20
1	5	2553	A	O4'-C1'-N9	6.23	113.19	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1639	U	C6-N1-C1'	-6.23	112.48	121.20
1	5	3778	U	N1-C2-O2	6.22	127.16	122.80
50	9	688	U	P-O3'-C3'	6.22	127.17	119.70
50	9	930	C	N1-C2-O2	6.22	122.63	118.90
1	5	4926	C	N1-C2-O2	6.21	122.63	118.90
50	9	1739	C	N1-C2-O2	6.21	122.63	118.90
50	9	887	U	C2-N1-C1'	6.21	125.15	117.70
3	8	111	U	N3-C2-O2	-6.20	117.86	122.20
1	5	112	C	C6-N1-C2	-6.20	117.82	120.30
1	5	2532	C	C2-N1-C1'	6.20	125.62	118.80
50	9	1139	C	C6-N1-C1'	-6.20	113.36	120.80
48	v	320	ASP	CB-CG-OD1	6.20	123.88	118.30
50	9	1277	C	C6-N1-C2	-6.19	117.82	120.30
1	5	1289	C	C6-N1-C2	-6.19	117.82	120.30
83	gg	89	LEU	CA-CB-CG	6.19	129.54	115.30
1	5	4682	U	N1-C2-O2	6.18	127.13	122.80
1	5	323	C	C2-N1-C1'	6.18	125.60	118.80
1	5	4075	U	OP1-P-O3'	6.18	118.80	105.20
1	5	4880	C	N3-C2-O2	-6.18	117.57	121.90
48	v	444	LEU	CA-CB-CG	6.18	129.51	115.30
73	WW	69	LEU	CA-CB-CG	6.18	129.51	115.30
1	5	688	U	N3-C2-O2	-6.17	117.88	122.20
1	5	4601	U	N3-C2-O2	-6.17	117.88	122.20
48	v	851	LEU	CA-CB-CG	6.17	129.49	115.30
1	5	4350	C	C2-N1-C1'	6.17	125.58	118.80
1	5	4682	U	N3-C2-O2	-6.16	117.89	122.20
1	5	484	U	N1-C2-O2	6.16	127.11	122.80
1	5	4286	C	C2-N1-C1'	6.16	125.58	118.80
1	5	4254	G	P-O3'-C3'	6.16	127.09	119.70
1	5	1084	C	C5-C6-N1	6.16	124.08	121.00
1	5	1639	U	N3-C2-O2	-6.15	117.90	122.20
3	8	35	C	C6-N1-C2	-6.15	117.84	120.30
1	5	4413	C	N1-C2-O2	6.14	122.59	118.90
50	9	1078	C	C2-N1-C1'	6.14	125.56	118.80
50	9	1396	A	O5'-P-OP1	-6.14	100.17	105.70
6	C	150	LEU	CB-CG-CD2	-6.14	100.56	111.00
1	5	4413	C	C2-N1-C1'	6.14	125.55	118.80
1	5	3788	C	C2-N1-C1'	6.13	125.55	118.80
1	5	4667	C	C6-N1-C2	-6.13	117.85	120.30
3	8	90	C	C2-N1-C1'	6.13	125.54	118.80
1	5	517	C	C5-C6-N1	6.12	124.06	121.00
1	5	941	C	C2-N1-C1'	6.12	125.53	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	162	C	C6-N1-C2	-6.12	117.85	120.30
50	9	303	C	N1-C2-O2	6.12	122.57	118.90
2	7	29	C	C2-N1-C1'	6.11	125.52	118.80
2	7	102	U	N3-C2-O2	-6.11	117.92	122.20
50	9	1389	C	N3-C2-O2	-6.11	117.62	121.90
1	5	2072	C	C5-C6-N1	6.11	124.05	121.00
50	9	314	U	N3-C2-O2	-6.10	117.93	122.20
1	5	406	C	P-O3'-C3'	6.10	127.02	119.70
1	5	1210	C	N3-C2-O2	-6.10	117.63	121.90
1	5	1666	C	C6-N1-C2	-6.09	117.86	120.30
1	5	481	G	C8-N9-C1'	-6.09	119.08	127.00
50	9	479	C	P-O3'-C3'	6.09	127.00	119.70
50	9	1116	C	C5-C6-N1	6.09	124.04	121.00
50	9	1624	U	N3-C2-O2	-6.08	117.94	122.20
1	5	4266	G	C4-N9-C1'	6.08	134.41	126.50
1	5	1807	C	C2-N1-C1'	6.08	125.49	118.80
50	9	887	U	N1-C2-O2	6.08	127.06	122.80
1	5	1276	C	C6-N1-C2	-6.08	117.87	120.30
50	9	1520	G	N7-C8-N9	6.08	116.14	113.10
1	5	4303	C	N3-C2-O2	-6.07	117.65	121.90
50	9	1123	C	C5-C6-N1	6.07	124.04	121.00
1	5	1882	U	N3-C4-O4	6.07	123.65	119.40
50	9	501	C	C5-C6-N1	6.07	124.03	121.00
50	9	199	C	N1-C2-O2	6.06	122.54	118.90
1	5	1607	C	N1-C2-O2	6.06	122.53	118.90
50	9	531	A	OP1-P-O3'	6.06	118.53	105.20
1	5	1735	U	N1-C2-O2	6.05	127.04	122.80
1	5	5047	C	N3-C2-O2	-6.05	117.66	121.90
50	9	870	A	P-O3'-C3'	6.04	126.95	119.70
50	9	1123	C	N1-C2-O2	6.04	122.53	118.90
1	5	4560	C	C2-N1-C1'	6.03	125.44	118.80
52	BB	207	LEU	CA-CB-CG	6.03	129.18	115.30
1	5	1325	C	N1-C2-O2	6.03	122.52	118.90
1	5	1777	C	N1-C2-O2	6.02	122.51	118.90
1	5	2639	U	C2-N1-C1'	6.02	124.92	117.70
1	5	203	U	C2-N1-C1'	6.01	124.91	117.70
1	5	2528	G	C4-N9-C1'	6.01	134.31	126.50
3	8	21	C	C6-N1-C2	-6.00	117.90	120.30
1	5	1686	C	N1-C2-O2	6.00	122.50	118.90
1	5	3904	G	P-O3'-C3'	6.00	126.90	119.70
50	9	570	C	C2-N1-C1'	6.00	125.40	118.80
24	V	49	LEU	CA-CB-CG	6.00	129.09	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2740	U	C2-N1-C1'	5.99	124.89	117.70
1	5	3778	U	C2-N1-C1'	5.99	124.89	117.70
1	5	1726	U	N3-C2-O2	-5.99	118.01	122.20
1	5	4928	C	C6-N1-C1'	-5.99	113.61	120.80
1	5	4075	U	P-O3'-C3'	5.98	126.88	119.70
1	5	4563	U	C5-C6-N1	5.98	125.69	122.70
50	9	1292	C	C6-N1-C2	-5.98	117.91	120.30
1	5	1893	C	C5-C6-N1	5.97	123.99	121.00
2	7	67	C	C5-C6-N1	5.97	123.98	121.00
1	5	2410	C	C6-N1-C2	-5.97	117.91	120.30
1	5	3709	U	O4'-C1'-N1	5.96	112.97	108.20
2	7	28	C	N1-C2-O2	5.96	122.48	118.90
50	9	124	U	N3-C2-O2	-5.96	118.03	122.20
1	5	517	C	C6-N1-C2	-5.96	117.92	120.30
3	8	111	U	C2-N1-C1'	5.96	124.85	117.70
1	5	2474	G	P-O3'-C3'	5.96	126.85	119.70
1	5	1598	C	N1-C2-O2	5.95	122.47	118.90
1	5	2627	C	C2-N1-C1'	5.95	125.34	118.80
1	5	2008	U	C2-N1-C1'	5.94	124.83	117.70
1	5	4243	C	C2-N1-C1'	5.94	125.33	118.80
13	J	33	LEU	CA-CB-CG	5.94	128.96	115.30
50	9	1535	U	N3-C2-O2	-5.93	118.05	122.20
1	5	1084	C	N1-C2-O2	5.93	122.46	118.90
50	9	630	U	C2-N1-C1'	5.92	124.81	117.70
1	5	4314	C	C6-N1-C2	-5.92	117.93	120.30
1	5	4719	G	OP1-P-O3'	5.92	118.22	105.20
1	5	1809	C	C6-N1-C2	-5.92	117.93	120.30
1	5	1929	A	C2-N3-C4	5.92	113.56	110.60
1	5	1809	C	C2-N1-C1'	5.91	125.30	118.80
1	5	1978	C	C5-C6-N1	5.91	123.96	121.00
50	9	914	U	C6-N1-C1'	-5.91	112.93	121.20
1	5	4752	U	C2-N1-C1'	5.91	124.79	117.70
1	5	2716	C	C6-N1-C2	-5.91	117.94	120.30
1	5	3673	C	N1-C2-O2	5.91	122.44	118.90
50	9	1261	C	C2-N1-C1'	5.91	125.30	118.80
1	5	4206	C	C2-N1-C1'	5.90	125.29	118.80
33	e	129	LEU	CA-CB-CG	5.90	128.88	115.30
50	9	632	C	C2-N1-C1'	5.90	125.29	118.80
1	5	2474	G	OP1-P-O3'	5.90	118.18	105.20
1	5	1514	U	N1-C2-O2	5.90	126.93	122.80
1	5	2716	C	N1-C2-O2	5.89	122.44	118.90
50	9	1660	C	N1-C2-O2	5.89	122.44	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	134	G	P-O3'-C3'	5.89	126.77	119.70
50	9	124	U	N1-C2-O2	5.89	126.92	122.80
57	GG	185	LEU	CA-CB-CG	5.89	128.85	115.30
48	v	420	LEU	CA-CB-CG	5.89	128.84	115.30
1	5	1237	C	C6-N1-C2	-5.88	117.95	120.30
1	5	1987	C	N1-C2-O2	5.88	122.43	118.90
1	5	2089	G	P-O3'-C3'	5.88	126.76	119.70
1	5	220	C	C5-C6-N1	5.88	123.94	121.00
1	5	77	U	N1-C2-O2	5.88	126.91	122.80
50	9	1395	C	P-O3'-C3'	5.87	126.74	119.70
1	5	3709	U	C2-N1-C1'	5.87	124.74	117.70
1	5	1807	C	N1-C2-O2	5.87	122.42	118.90
50	9	579	C	N3-C2-O2	-5.87	117.80	121.90
50	9	402	C	C6-N1-C2	-5.86	117.96	120.30
1	5	323	C	C6-N1-C2	-5.86	117.96	120.30
1	5	4206	C	C6-N1-C2	-5.86	117.96	120.30
1	5	4714	C	N3-C2-O2	-5.85	117.81	121.90
1	5	1597	G	N1-C6-O6	-5.85	116.39	119.90
1	5	1822	U	N1-C2-O2	5.84	126.89	122.80
37	i	33	LEU	CA-CB-CG	5.84	128.74	115.30
1	5	1974	U	C5-C4-O4	-5.84	122.39	125.90
1	5	4493	U	N3-C2-O2	-5.84	118.11	122.20
1	5	3636	C	N1-C2-O2	5.84	122.41	118.90
50	9	1756	C	C6-N1-C2	-5.84	117.96	120.30
1	5	2362	U	N1-C2-O2	5.84	126.89	122.80
1	5	4695	C	N3-C2-O2	-5.84	117.81	121.90
1	5	217	C	C6-N1-C2	-5.84	117.97	120.30
1	5	3954	A	P-O3'-C3'	5.84	126.70	119.70
1	5	1179	U	N1-C2-O2	5.83	126.88	122.80
50	9	1535	U	C5-C6-N1	5.83	125.61	122.70
48	v	143	LEU	CA-CB-CG	5.83	128.71	115.30
1	5	449	C	P-O3'-C3'	5.82	126.69	119.70
3	8	123	U	N1-C2-O2	5.82	126.87	122.80
1	5	1612	G	C4-C5-N7	5.82	113.13	110.80
1	5	1847	C	C5-C6-N1	5.81	123.91	121.00
50	9	1230	C	C5-C6-N1	5.81	123.91	121.00
1	5	4476	C	N1-C2-O2	5.81	122.39	118.90
3	8	119	C	C2-N1-C1'	5.81	125.19	118.80
1	5	1671	U	C2-N1-C1'	5.81	124.67	117.70
1	5	3739	C	C5-C6-N1	5.81	123.91	121.00
1	5	4360	U	N1-C2-O2	5.81	126.87	122.80
3	8	124	U	P-O3'-C3'	5.80	126.67	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	293	C	C6-N1-C2	-5.80	117.98	120.30
1	5	1370	G	P-O3'-C3'	5.80	126.66	119.70
1	5	688	U	N1-C2-O2	5.80	126.86	122.80
50	9	1172	U	N3-C2-O2	-5.79	118.14	122.20
50	9	1277	C	C2-N1-C1'	5.79	125.17	118.80
1	5	661	C	C5-C6-N1	5.79	123.89	121.00
1	5	417	G	O4'-C1'-N9	5.79	112.83	108.20
1	5	112	C	C5-C6-N1	5.78	123.89	121.00
1	5	337	U	N3-C2-O2	-5.78	118.15	122.20
1	5	2704	C	N1-C2-O2	5.78	122.37	118.90
1	5	1853	G	C4-N9-C1'	5.78	134.01	126.50
1	5	4303	C	C2-N1-C1'	5.78	125.16	118.80
50	9	303	C	C6-N1-C2	-5.78	117.99	120.30
1	5	100	C	C6-N1-C2	-5.77	117.99	120.30
1	5	1340	C	C5-C6-N1	5.77	123.89	121.00
1	5	1963	C	N1-C2-O2	5.77	122.36	118.90
1	5	1791	U	N1-C2-O2	5.77	126.84	122.80
1	5	2705	G	C4-N9-C1'	5.77	134.00	126.50
1	5	1411	C	C6-N1-C2	-5.77	117.99	120.30
1	5	2568	C	N1-C2-O2	5.76	122.36	118.90
3	8	21	C	N1-C2-O2	5.76	122.36	118.90
1	5	2410	C	N1-C2-O2	5.76	122.36	118.90
1	5	1411	C	C2-N1-C1'	5.75	125.13	118.80
1	5	23	C	C6-N1-C2	-5.75	118.00	120.30
1	5	4859	C	N3-C2-O2	-5.75	117.87	121.90
1	5	2266	C	P-O3'-C3'	5.75	126.60	119.70
50	9	1624	U	O4'-C1'-N1	5.75	112.80	108.20
1	5	4922	C	C6-N1-C2	-5.74	118.00	120.30
1	5	2532	C	C5-C6-N1	5.74	123.87	121.00
1	5	1179	U	C2-N1-C1'	5.73	124.58	117.70
1	5	4862	G	N1-C6-O6	-5.73	116.46	119.90
1	5	4869	U	C6-N1-C2	-5.73	117.56	121.00
1	5	1804	A	P-O3'-C3'	5.73	126.57	119.70
50	9	1725	U	C2-N1-C1'	5.73	124.57	117.70
1	5	1612	G	N3-C4-C5	-5.72	125.74	128.60
1	5	217	C	P-O3'-C3'	5.72	126.56	119.70
1	5	4766	C	N3-C2-O2	-5.72	117.90	121.90
1	5	282	C	N1-C2-O2	5.72	122.33	118.90
50	9	853	C	C6-N1-C2	-5.71	118.02	120.30
50	9	194	C	N1-C2-O2	5.71	122.33	118.90
1	5	2860	C	C6-N1-C2	-5.70	118.02	120.30
50	9	1172	U	C2-N1-C1'	5.70	124.54	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1578	U	N3-C2-O2	-5.70	118.21	122.20
1	5	1445	U	C2-N1-C1'	5.69	124.53	117.70
1	5	1812	C	N1-C2-O2	5.69	122.31	118.90
50	9	1060	A	O4'-C1'-N9	5.69	112.75	108.20
50	9	577	U	N3-C2-O2	-5.69	118.22	122.20
1	5	4286	C	N3-C2-O2	-5.69	117.92	121.90
1	5	4949	G	O4'-C1'-N9	5.68	112.75	108.20
50	9	1649	U	N1-C2-O2	5.68	126.78	122.80
1	5	1671	U	C5-C6-N1	5.68	125.54	122.70
1	5	4254	G	N3-C4-N9	5.68	129.41	126.00
40	l	49	LEU	CA-CB-CG	5.68	128.36	115.30
1	5	1633	G	P-O3'-C3'	5.68	126.51	119.70
1	5	1929	A	C4-N9-C1'	5.67	136.51	126.30
1	5	112	C	C6-N1-C1'	-5.67	114.00	120.80
1	5	4051	C	N1-C2-O2	5.67	122.30	118.90
55	EE	256	LEU	CA-CB-CG	5.67	128.33	115.30
50	9	124	U	C2-N1-C1'	5.66	124.49	117.70
1	5	217	C	C6-N1-C1'	-5.66	114.01	120.80
1	5	3673	C	C2-N1-C1'	5.65	125.02	118.80
1	5	1607	C	N3-C2-O2	-5.65	117.94	121.90
3	8	54	C	C5-C6-N1	5.65	123.83	121.00
50	9	1016	U	C5-C6-N1	5.65	125.53	122.70
1	5	2814	C	C6-N1-C2	-5.65	118.04	120.30
1	5	2850	A	C2-N3-C4	5.65	113.42	110.60
1	5	1822	U	N3-C2-O2	-5.64	118.25	122.20
50	9	427	U	C2-N1-C1'	5.64	124.47	117.70
1	5	1535	C	N1-C2-O2	5.64	122.28	118.90
50	9	927	C	N3-C2-O2	-5.64	117.95	121.90
1	5	2072	C	C2-N1-C1'	5.63	125.00	118.80
1	5	115	C	C6-N1-C1'	-5.63	114.04	120.80
1	5	1273	G	N3-C4-N9	-5.63	122.62	126.00
50	9	1315	U	C2-N1-C1'	5.63	124.46	117.70
1	5	1827	C	N1-C2-O2	5.63	122.28	118.90
1	5	104	G	N3-C2-N2	-5.63	115.96	119.90
1	5	1429	C	C6-N1-C1'	-5.63	114.05	120.80
1	5	1395	U	N3-C2-O2	-5.63	118.26	122.20
1	5	2362	U	N3-C2-O2	-5.62	118.26	122.20
1	5	390	C	C6-N1-C2	-5.62	118.05	120.30
3	8	128	C	C2-N1-C1'	5.62	124.98	118.80
1	5	2593	C	C6-N1-C2	-5.62	118.05	120.30
1	5	1894	C	C6-N1-C2	-5.62	118.05	120.30
1	5	4413	C	N3-C2-O2	-5.62	117.97	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	958	G	C4-N9-C1'	5.62	133.80	126.50
56	FF	173	LEU	CA-CB-CG	5.62	128.22	115.30
57	GG	133	LEU	CA-CB-CG	5.62	128.22	115.30
1	5	245	C	P-O3'-C3'	5.62	126.44	119.70
1	5	1458	C	N1-C2-O2	5.62	122.27	118.90
45	r	5	LEU	CA-CB-CG	5.62	128.21	115.30
1	5	4662	C	C6-N1-C2	-5.61	118.06	120.30
1	5	1084	C	C6-N1-C2	-5.61	118.06	120.30
1	5	1893	C	N1-C2-O2	5.61	122.27	118.90
1	5	4314	C	N3-C2-O2	-5.61	117.98	121.90
1	5	691	C	C6-N1-C2	-5.60	118.06	120.30
1	5	1977	C	C6-N1-C1'	-5.60	114.08	120.80
50	9	1751	C	N1-C2-O2	5.60	122.26	118.90
1	5	1308	C	C5-C6-N1	5.60	123.80	121.00
1	5	2820	C	N3-C2-O2	-5.60	117.98	121.90
1	5	2867	C	C2-N1-C1'	5.59	124.95	118.80
50	9	465	A	P-O3'-C3'	5.59	126.41	119.70
50	9	930	C	C2-N1-C1'	5.59	124.95	118.80
1	5	2028	C	C2-N1-C1'	5.59	124.95	118.80
1	5	2470	C	N1-C2-O2	5.59	122.25	118.90
3	8	54	C	C6-N1-C2	-5.59	118.06	120.30
1	5	1607	C	C6-N1-C2	-5.58	118.07	120.30
1	5	4948	C	N3-C2-O2	-5.58	117.99	121.90
1	5	4964	C	N1-C2-O2	5.58	122.25	118.90
50	9	1518	C	C2-N1-C1'	5.58	124.94	118.80
1	5	205	C	N3-C2-O2	-5.58	118.00	121.90
1	5	1812	C	C6-N1-C2	-5.58	118.07	120.30
50	9	391	C	C6-N1-C2	-5.58	118.07	120.30
1	5	1381	U	C6-N1-C1'	-5.58	113.39	121.20
50	9	1740	C	N3-C2-O2	-5.58	118.00	121.90
50	9	1708	C	C6-N1-C2	-5.57	118.07	120.30
1	5	1481	C	N3-C2-O2	-5.57	118.00	121.90
1	5	1735	U	N3-C2-O2	-5.57	118.30	122.20
50	9	303	C	N3-C2-O2	-5.57	118.00	121.90
1	5	4942	C	N3-C2-O2	-5.57	118.00	121.90
50	9	1002	U	N1-C2-O2	5.57	126.69	122.80
50	9	1118	C	C2-N1-C1'	5.56	124.92	118.80
1	5	345	C	C5-C6-N1	5.56	123.78	121.00
50	9	874	G	P-O3'-C3'	5.55	126.36	119.70
1	5	3904	G	OP1-P-O3'	5.55	117.41	105.20
1	5	941	C	C6-N1-C2	-5.55	118.08	120.30
50	9	628	A	C2-N3-C4	5.55	113.37	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1632	A	C4-N9-C1'	5.55	136.28	126.30
50	9	1389	C	C6-N1-C2	-5.55	118.08	120.30
43	o	96	ASP	CB-CG-OD1	5.54	123.29	118.30
50	9	1397	U	N1-C2-O2	5.54	126.68	122.80
1	5	4350	C	N1-C2-O2	5.53	122.22	118.90
50	9	65	C	C6-N1-C2	-5.53	118.09	120.30
50	9	1298	G	C4-N9-C1'	5.53	133.69	126.50
50	9	118	C	N1-C2-O2	5.52	122.22	118.90
3	8	99	U	N3-C2-O2	-5.52	118.33	122.20
1	5	390	C	C5-C6-N1	5.52	123.76	121.00
3	8	35	C	C5-C6-N1	5.52	123.76	121.00
1	5	978	C	C2-N1-C1'	5.51	124.86	118.80
3	8	128	C	C6-N1-C2	-5.51	118.09	120.30
50	9	183	G	C4-N9-C1'	5.50	133.65	126.50
50	9	659	G	C4-N9-C1'	5.50	133.65	126.50
50	9	1303	C	O4'-C1'-N1	5.50	112.60	108.20
1	5	2037	C	C6-N1-C2	-5.50	118.10	120.30
1	5	3831	U	C2-N1-C1'	5.50	124.29	117.70
1	5	2547	G	N3-C2-N2	-5.49	116.05	119.90
1	5	4926	C	N3-C2-O2	-5.49	118.06	121.90
50	9	1865	C	C6-N1-C2	-5.49	118.10	120.30
1	5	4399	U	N1-C2-O2	5.49	126.64	122.80
1	5	464	G	N3-C4-N9	5.49	129.29	126.00
1	5	1082	C	C2-N1-C1'	5.49	124.84	118.80
1	5	2639	U	N3-C2-O2	-5.49	118.36	122.20
50	9	434	G	P-O3'-C3'	5.48	126.28	119.70
50	9	577	U	N1-C2-O2	5.48	126.64	122.80
55	EE	19	MET	CG-SD-CE	-5.48	91.43	100.20
50	9	1592	C	N1-C2-O2	5.48	122.19	118.90
1	5	2705	G	N3-C4-N9	5.48	129.29	126.00
50	9	1664	A	P-O3'-C3'	5.47	126.27	119.70
1	5	1468	C	C5-C6-N1	5.47	123.74	121.00
1	5	4593	C	C6-N1-C2	-5.47	118.11	120.30
50	9	183	G	O4'-C1'-N9	5.47	112.58	108.20
1	5	3741	C	N3-C2-O2	-5.47	118.07	121.90
50	9	1551	U	C2-N1-C1'	5.47	124.26	117.70
1	5	1179	U	N3-C2-O2	-5.46	118.38	122.20
50	9	402	C	C5-C6-N1	5.46	123.73	121.00
50	9	1503	C	C6-N1-C2	-5.46	118.12	120.30
1	5	1180	C	N1-C2-O2	5.46	122.17	118.90
1	5	2072	C	N1-C2-O2	5.46	122.17	118.90
50	9	530	U	C2-N1-C1'	5.46	124.25	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	369	C	N3-C2-O2	-5.46	118.08	121.90
1	5	492	U	P-O3'-C3'	5.45	126.24	119.70
1	5	167	C	C5-C6-N1	5.45	123.73	121.00
1	5	4774	C	C6-N1-C2	-5.45	118.12	120.30
1	5	4396	A	N1-C2-N3	-5.45	126.58	129.30
50	9	369	C	C6-N1-C1'	-5.45	114.26	120.80
1	5	1193	C	N1-C2-O2	5.45	122.17	118.90
1	5	3761	C	N1-C2-O2	5.45	122.17	118.90
3	8	21	C	C5-C6-N1	5.45	123.72	121.00
50	9	1002	U	N3-C2-O2	-5.44	118.39	122.20
1	5	484	U	N3-C2-O2	-5.44	118.39	122.20
1	5	4119	C	P-O3'-C3'	5.44	126.23	119.70
50	9	151	C	C2-N1-C1'	5.44	124.78	118.80
1	5	4258	C	C5-C6-N1	5.44	123.72	121.00
1	5	4423	U	N1-C2-O2	5.43	126.60	122.80
3	8	135	C	C2-N1-C1'	5.43	124.78	118.80
1	5	322	C	C5-C6-N1	5.43	123.72	121.00
50	9	876	C	C5-C6-N1	5.43	123.72	121.00
1	5	1428	U	N1-C2-O2	5.43	126.60	122.80
48	v	444	LEU	C-N-CA	5.43	135.27	121.70
1	5	2593	C	N1-C2-O2	5.43	122.16	118.90
50	9	524	U	N3-C2-O2	-5.42	118.41	122.20
3	8	64	U	N1-C2-O2	5.42	126.59	122.80
1	5	484	U	C2-N1-C1'	5.41	124.19	117.70
1	5	4110	C	N1-C2-O2	5.41	122.15	118.90
1	5	205	C	C6-N1-C2	-5.41	118.14	120.30
50	9	1149	A	C2-N3-C4	5.41	113.30	110.60
1	5	1411	C	N3-C2-O2	-5.41	118.12	121.90
1	5	3657	U	N1-C2-O2	5.41	126.58	122.80
50	9	630	U	N1-C2-O2	5.41	126.58	122.80
50	9	887	U	N3-C2-O2	-5.40	118.42	122.20
66	PP	86	LEU	CA-CB-CG	5.40	127.72	115.30
1	5	167	C	C6-N1-C2	-5.40	118.14	120.30
1	5	941	C	C5-C6-N1	5.40	123.70	121.00
1	5	4115	G	P-O3'-C3'	5.40	126.18	119.70
2	7	76	U	N3-C2-O2	-5.40	118.42	122.20
1	5	1340	C	C6-N1-C2	-5.39	118.14	120.30
1	5	4229	U	N1-C2-O2	5.39	126.57	122.80
1	5	118	C	C2-N1-C1'	5.39	124.72	118.80
2	7	57	C	C6-N1-C2	-5.39	118.14	120.30
50	9	142	C	N1-C2-O2	5.39	122.13	118.90
50	9	663	C	C5-C6-N1	5.39	123.69	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	7	28	C	N3-C2-O2	-5.38	118.13	121.90
50	9	1117	C	N3-C2-O2	-5.38	118.13	121.90
50	9	1750	C	N3-C2-O2	-5.38	118.13	121.90
1	5	3714	G	C4-N9-C1'	5.38	133.49	126.50
50	9	850	C	N1-C2-O2	5.38	122.13	118.90
1	5	1735	U	C2-N1-C1'	5.37	124.15	117.70
1	5	49	U	N1-C2-O2	5.37	126.56	122.80
50	9	1314	U	O4'-C1'-N1	5.37	112.50	108.20
55	EE	19	MET	CA-CB-CG	-5.37	104.17	113.30
50	9	1785	C	C2-N1-C1'	5.37	124.70	118.80
1	5	1485	C	N3-C2-O2	-5.37	118.14	121.90
50	9	1520	G	C8-N9-C1'	-5.37	120.02	127.00
50	9	1412	C	C2-N1-C1'	5.36	124.70	118.80
1	5	202	C	C2-N1-C1'	5.36	124.70	118.80
1	5	1289	C	C5-C6-N1	5.36	123.68	121.00
1	5	1481	C	C2-N1-C1'	5.36	124.69	118.80
50	9	630	U	N3-C2-O2	-5.35	118.45	122.20
1	5	1777	C	C5-C6-N1	5.35	123.68	121.00
1	5	1598	C	C2-N1-C1'	5.35	124.69	118.80
50	9	570	C	C6-N1-C2	-5.35	118.16	120.30
50	9	595	U	C2-N1-C1'	5.35	124.12	117.70
1	5	323	C	C5-C6-N1	5.35	123.67	121.00
1	5	1807	C	C6-N1-C2	-5.35	118.16	120.30
1	5	1214	C	N1-C2-O2	5.34	122.11	118.90
1	5	1237	C	N1-C2-O2	5.34	122.11	118.90
48	v	592	LEU	CA-CB-CG	5.34	127.59	115.30
1	5	4919	G	N3-C4-N9	5.34	129.21	126.00
1	5	975	C	C6-N1-C2	-5.34	118.16	120.30
1	5	1894	C	C5-C6-N1	5.34	123.67	121.00
1	5	3870	C	C2-N1-C1'	5.33	124.66	118.80
50	9	733	C	N1-C2-O2	5.33	122.10	118.90
1	5	2528	G	N3-C4-C5	-5.33	125.94	128.60
3	8	4	C	C5-C6-N1	5.32	123.66	121.00
2	7	14	C	C2-N1-C1'	5.32	124.65	118.80
6	C	150	LEU	CA-CB-CG	5.32	127.54	115.30
1	5	390	C	C2-N1-C1'	5.31	124.65	118.80
50	9	927	C	N1-C2-O2	5.31	122.09	118.90
3	8	123	U	N3-C2-O2	-5.31	118.48	122.20
50	9	532	C	P-O3'-C3'	5.31	126.07	119.70
1	5	4399	U	N3-C2-O2	-5.31	118.48	122.20
1	5	4714	C	C2-N1-C1'	5.31	124.64	118.80
1	5	1974	U	N3-C4-O4	5.31	123.11	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4922	C	C2-N1-C1'	5.31	124.64	118.80
1	5	691	C	C5-C6-N1	5.30	123.65	121.00
1	5	978	C	N1-C2-O2	5.30	122.08	118.90
50	9	958	G	O4'-C1'-N9	5.30	112.44	108.20
50	9	1022	U	C2-N1-C1'	5.30	124.06	117.70
1	5	337	U	N1-C2-O2	5.30	126.51	122.80
1	5	275	C	P-O3'-C3'	5.30	126.06	119.70
1	5	2838	G	C4-N9-C1'	5.30	133.39	126.50
1	5	4712	C	C6-N1-C2	-5.30	118.18	120.30
1	5	1915	C	C2-N1-C1'	5.29	124.62	118.80
50	9	1725	U	N1-C2-O2	5.29	126.50	122.80
15	M	37	LEU	CA-CB-CG	5.29	127.46	115.30
50	9	4	C	C6-N1-C2	-5.29	118.19	120.30
50	9	1837	G	N3-C4-N9	-5.29	122.83	126.00
1	5	2528	G	N3-C4-N9	5.29	129.17	126.00
1	5	217	C	C5-C6-N1	5.28	123.64	121.00
50	9	53	C	C6-N1-C2	-5.28	118.19	120.30
1	5	4119	C	C6-N1-C1'	-5.28	114.46	120.80
1	5	4119	C	C6-N1-C2	-5.28	118.19	120.30
50	9	105	U	N3-C2-O2	-5.28	118.50	122.20
1	5	2817	C	C6-N1-C2	-5.28	118.19	120.30
1	5	4229	U	N3-C2-O2	-5.28	118.51	122.20
3	8	26	C	C6-N1-C2	-5.28	118.19	120.30
50	9	606	G	C4-N9-C1'	5.28	133.36	126.50
1	5	1791	U	N3-C2-O2	-5.28	118.51	122.20
1	5	1993	C	N1-C2-O2	5.28	122.07	118.90
1	5	4561	C	C2-N1-C1'	5.28	124.60	118.80
50	9	848	U	N3-C2-O2	-5.28	118.51	122.20
50	9	1397	U	N3-C2-O2	-5.28	118.51	122.20
1	5	220	C	C6-N1-C2	-5.27	118.19	120.30
1	5	4199	C	N1-C2-O2	5.27	122.06	118.90
1	5	661	C	N1-C2-O2	5.27	122.06	118.90
1	5	1540	C	C6-N1-C2	-5.27	118.19	120.30
3	8	54	C	N1-C2-O2	5.27	122.06	118.90
1	5	281	U	N1-C2-O2	5.27	126.49	122.80
1	5	1674	C	C5-C6-N1	5.26	123.63	121.00
1	5	4177	C	C6-N1-C2	-5.26	118.19	120.30
1	5	4493	U	N1-C2-O2	5.26	126.48	122.80
50	9	183	G	C8-N9-C4	-5.26	104.30	106.40
50	9	791	C	N1-C2-O2	5.26	122.06	118.90
1	5	1428	U	C5-C6-N1	5.26	125.33	122.70
1	5	2405	G	C4-C5-N7	5.25	112.90	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4243	C	N1-C2-O2	5.25	122.05	118.90
26	X	118	ASP	CB-CG-OD1	5.25	123.03	118.30
66	PP	25	LEU	CA-CB-CG	5.25	127.38	115.30
50	9	733	C	C6-N1-C2	-5.25	118.20	120.30
50	9	1756	C	N1-C2-O2	5.25	122.05	118.90
3	8	99	U	C2-N1-C1'	5.25	124.00	117.70
1	5	4759	C	C6-N1-C2	-5.25	118.20	120.30
1	5	1792	U	C5-C6-N1	5.24	125.32	122.70
1	5	1084	C	C6-N1-C1'	-5.24	114.51	120.80
1	5	2405	G	C6-C5-N7	-5.24	127.26	130.40
58	HH	36	LEU	CA-CB-CG	5.24	127.36	115.30
1	5	5050	C	C2-N1-C1'	5.24	124.56	118.80
1	5	4951	G	N3-C4-N9	5.24	129.14	126.00
1	5	704	C	C2-N1-C1'	5.23	124.56	118.80
1	5	4177	C	C2-N1-C1'	5.23	124.56	118.80
1	5	1237	C	C2-N1-C1'	5.23	124.56	118.80
1	5	4930	C	C6-N1-C1'	-5.23	114.52	120.80
1	5	1429	C	C6-N1-C2	-5.23	118.21	120.30
1	5	4942	C	N1-C2-O2	5.22	122.03	118.90
1	5	2405	G	N9-C4-C5	-5.22	103.31	105.40
1	5	3911	C	C6-N1-C2	-5.22	118.21	120.30
1	5	2615	C	C6-N1-C2	-5.22	118.21	120.30
1	5	4286	C	C6-N1-C2	-5.22	118.21	120.30
50	9	642	U	P-O3'-C3'	5.22	125.96	119.70
1	5	1428	U	C2-N1-C1'	5.22	123.96	117.70
1	5	2528	G	C8-N9-C1'	-5.22	120.22	127.00
1	5	2701	U	N1-C2-O2	5.22	126.45	122.80
1	5	294	G	C4-N9-C1'	5.21	133.28	126.50
50	9	1660	C	C6-N1-C1'	-5.21	114.54	120.80
1	5	4557	U	C2-N1-C1'	5.21	123.95	117.70
50	9	124	U	C5-C6-N1	5.21	125.31	122.70
50	9	1331	C	N3-C2-O2	-5.21	118.25	121.90
1	5	3657	U	C6-N1-C2	-5.21	117.88	121.00
3	8	21	C	C2-N1-C1'	5.21	124.53	118.80
1	5	1991	A	O5'-P-OP1	5.21	116.95	110.70
1	5	4774	C	C5-C6-N1	5.21	123.60	121.00
1	5	4918	C	N1-C2-O2	5.21	122.02	118.90
50	9	30	C	C6-N1-C2	-5.21	118.22	120.30
50	9	1261	C	C6-N1-C2	-5.21	118.22	120.30
50	9	1620	A	O4'-C1'-N9	5.21	112.36	108.20
1	5	1612	G	N9-C4-C5	-5.20	103.32	105.40
1	5	2716	C	C5-C6-N1	5.20	123.60	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4639	G	C4-N9-C1'	5.20	133.26	126.50
14	L	124	LEU	CA-CB-CG	5.20	127.26	115.30
1	5	2716	C	C2-N1-C1'	5.20	124.52	118.80
1	5	322	C	C6-N1-C2	-5.19	118.22	120.30
50	9	579	C	C2-N1-C1'	5.19	124.51	118.80
50	9	1624	U	C6-N1-C1'	-5.19	113.93	121.20
1	5	1276	C	C5-C6-N1	5.19	123.59	121.00
50	9	199	C	N3-C2-O2	-5.19	118.27	121.90
1	5	49	U	N3-C2-O2	-5.19	118.57	122.20
1	5	322	C	C2-N1-C1'	5.19	124.50	118.80
1	5	4951	G	C4-N9-C1'	5.19	133.24	126.50
1	5	4314	C	C5-C6-N1	5.18	123.59	121.00
1	5	2705	G	C8-N9-C1'	-5.18	120.27	127.00
1	5	1484	G	C8-N9-C1'	-5.18	120.27	127.00
1	5	1893	C	C6-N1-C2	-5.18	118.23	120.30
1	5	2803	U	C5-C6-N1	5.18	125.29	122.70
1	5	3926	C	C6-N1-C2	-5.18	118.23	120.30
74	XX	7	LEU	CA-CB-CG	5.18	127.21	115.30
1	5	4254	G	C8-N9-C4	-5.17	104.33	106.40
1	5	4342	C	C6-N1-C2	-5.17	118.23	120.30
1	5	1237	C	N3-C2-O2	-5.17	118.28	121.90
1	5	4714	C	C6-N1-C2	-5.17	118.23	120.30
1	5	975	C	N1-C2-O2	5.17	122.00	118.90
1	5	2405	G	N3-C4-N9	5.17	129.10	126.00
1	5	2532	C	N1-C2-O2	5.17	122.00	118.90
3	8	101	C	C2-N1-C1'	5.16	124.48	118.80
1	5	4237	C	C2-N1-C1'	5.16	124.47	118.80
1	5	4699	U	OP1-P-O3'	5.16	116.55	105.20
3	8	90	C	C5-C6-N1	5.16	123.58	121.00
50	9	427	U	N3-C2-O2	-5.16	118.59	122.20
1	5	4880	C	O4'-C1'-N1	5.16	112.33	108.20
1	5	492	U	C2-N1-C1'	5.15	123.88	117.70
1	5	4308	C	N1-C2-O2	5.15	121.99	118.90
1	5	4396	A	C6-N1-C2	5.15	121.69	118.60
1	5	4401	G	C4-N9-C1'	5.15	133.19	126.50
50	9	18	C	C6-N1-C2	-5.15	118.24	120.30
50	9	106	C	C6-N1-C2	-5.15	118.24	120.30
50	9	1078	C	C6-N1-C2	-5.15	118.24	120.30
50	9	162	C	C5-C6-N1	5.14	123.57	121.00
1	5	3788	C	C6-N1-C2	-5.14	118.24	120.30
50	9	537	C	N1-C2-O2	5.14	121.98	118.90
1	5	281	U	N3-C2-O2	-5.14	118.60	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1639	U	C5-C6-N1	5.14	125.27	122.70
1	5	2020	U	N3-C2-O2	-5.14	118.60	122.20
50	9	606	G	C4-C5-N7	5.14	112.85	110.80
50	9	879	C	N1-C2-O2	5.13	121.98	118.90
1	5	1216	C	N1-C2-O2	5.13	121.98	118.90
50	9	37	C	C5-C6-N1	5.13	123.57	121.00
1	5	1686	C	C5-C6-N1	5.13	123.57	121.00
1	5	4088	C	N1-C2-O2	5.13	121.98	118.90
50	9	1412	C	C5-C6-N1	5.13	123.56	121.00
1	5	1847	C	C6-N1-C2	-5.13	118.25	120.30
2	7	57	C	C5-C6-N1	5.12	123.56	121.00
1	5	294	G	N3-C4-N9	5.12	129.07	126.00
1	5	2031	C	C6-N1-C2	-5.12	118.25	120.30
1	5	4119	C	N3-C2-O2	-5.12	118.31	121.90
1	5	1446	C	C5-C6-N1	5.12	123.56	121.00
1	5	100	C	C6-N1-C1'	-5.12	114.66	120.80
1	5	122	U	N3-C2-O2	-5.12	118.62	122.20
50	9	1518	C	N3-C2-O2	-5.12	118.32	121.90
55	EE	73	ASP	CB-CG-OD1	5.12	122.91	118.30
1	5	4482	U	N1-C2-O2	5.12	126.38	122.80
1	5	4577	U	N3-C2-O2	-5.12	118.62	122.20
1	5	274	C	C2-N1-C1'	5.11	124.42	118.80
1	5	504	G	P-O3'-C3'	5.11	125.84	119.70
1	5	3714	G	C8-N9-C1'	-5.11	120.35	127.00
1	5	4859	C	C6-N1-C2	-5.11	118.25	120.30
1	5	1978	C	C6-N1-C2	-5.11	118.26	120.30
48	v	517	LEU	CA-CB-CG	5.11	127.05	115.30
1	5	4869	U	N1-C2-O2	5.11	126.38	122.80
1	5	1215	C	N1-C2-O2	5.11	121.96	118.90
1	5	4243	C	C6-N1-C2	-5.11	118.26	120.30
1	5	4759	C	C6-N1-C1'	-5.11	114.67	120.80
50	9	1551	U	N3-C2-O2	-5.11	118.63	122.20
1	5	2532	C	C6-N1-C2	-5.10	118.26	120.30
50	9	639	C	C6-N1-C2	-5.10	118.26	120.30
1	5	1458	C	N3-C2-O2	-5.10	118.33	121.90
1	5	3606	U	C2-N1-C1'	5.10	123.82	117.70
1	5	1978	C	N1-C2-O2	5.10	121.96	118.90
1	5	4215	C	C6-N1-C2	-5.10	118.26	120.30
50	9	1237	C	C6-N1-C2	-5.10	118.26	120.30
1	5	2089	G	OP2-P-O3'	5.09	116.41	105.20
50	9	659	G	C8-N9-C1'	-5.09	120.38	127.00
50	9	898	U	N3-C2-O2	-5.09	118.63	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4476	C	C2-N1-C1'	5.09	124.40	118.80
3	8	119	C	C6-N1-C2	-5.09	118.26	120.30
1	5	41	C	C5-C6-N1	5.09	123.55	121.00
1	5	126	C	N3-C2-O2	-5.09	118.34	121.90
1	5	1990	A	OP1-P-O3'	5.09	116.39	105.20
52	BB	225	LEU	CA-CB-CG	5.09	127.00	115.30
1	5	365	U	N1-C2-O2	5.08	126.36	122.80
1	5	1694	C	C6-N1-C2	-5.08	118.27	120.30
1	5	1971	U	N1-C2-O2	5.08	126.36	122.80
1	5	4930	C	C5-C6-N1	5.08	123.54	121.00
3	8	99	U	N1-C2-O2	5.08	126.36	122.80
1	5	2568	C	C6-N1-C1'	-5.08	114.70	120.80
50	9	391	C	C2-N1-C1'	5.08	124.39	118.80
50	9	803	C	C6-N1-C2	-5.08	118.27	120.30
50	9	1628	C	N1-C2-O2	5.08	121.95	118.90
50	9	1520	G	C6-N1-C2	-5.08	122.05	125.10
1	5	3876	A	OP2-P-O3'	5.08	116.37	105.20
1	5	4612	C	N1-C2-O2	5.08	121.95	118.90
12	I	190	LEU	CA-CB-CG	5.07	126.97	115.30
50	9	1064	C	C6-N1-C2	-5.07	118.27	120.30
50	9	188	C	C6-N1-C1'	-5.07	114.72	120.80
1	5	5047	C	N1-C2-O2	5.07	121.94	118.90
50	9	105	U	N1-C2-O2	5.07	126.35	122.80
1	5	4746	C	N1-C2-O2	5.06	121.94	118.90
1	5	5047	C	C6-N1-C2	-5.06	118.28	120.30
50	9	402	C	N3-C2-O2	-5.06	118.36	121.90
83	gg	32	LEU	CA-CB-CG	5.06	126.94	115.30
50	9	479	C	C6-N1-C2	-5.06	118.28	120.30
1	5	297	U	C5-C6-N1	5.06	125.23	122.70
1	5	4560	C	N3-C2-O2	-5.06	118.36	121.90
3	8	51	U	N3-C2-O2	-5.06	118.66	122.20
3	8	90	C	C6-N1-C2	-5.06	118.28	120.30
50	9	608	C	C5-C6-N1	5.06	123.53	121.00
50	9	1725	U	N3-C2-O2	-5.06	118.66	122.20
1	5	1082	C	N1-C2-O2	5.06	121.93	118.90
1	5	1915	C	N1-C2-O2	5.06	121.93	118.90
50	9	151	C	N1-C2-O2	5.05	121.93	118.90
1	5	1884	C	N1-C2-O2	5.05	121.93	118.90
1	5	2593	C	C5-C6-N1	5.05	123.53	121.00
1	5	4689	U	C5-C6-N1	5.05	125.23	122.70
50	9	438	G	N3-C4-C5	-5.05	126.08	128.60
1	5	1807	C	C5-C6-N1	5.05	123.52	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	8	38	U	C2-N1-C1'	5.04	123.75	117.70
1	5	455	C	C2-N1-C1'	5.04	124.34	118.80
1	5	1211	G	P-O3'-C3'	5.04	125.75	119.70
1	5	4667	C	C2-N1-C1'	5.03	124.34	118.80
1	5	4951	G	C8-N9-C1'	-5.03	120.46	127.00
1	5	679	C	C6-N1-C2	-5.03	118.29	120.30
1	5	1411	C	C5-C6-N1	5.03	123.52	121.00
1	5	1991	A	O5'-P-OP2	-5.03	101.17	105.70
1	5	2701	U	N3-C2-O2	-5.03	118.68	122.20
50	9	1518	C	N1-C2-O2	5.03	121.92	118.90
1	5	4766	C	C2-N1-C1'	5.02	124.33	118.80
1	5	1467	C	C6-N1-C2	-5.02	118.29	120.30
1	5	1429	C	C5-C6-N1	5.02	123.51	121.00
1	5	4314	C	C2-N1-C1'	5.02	124.32	118.80
50	9	585	C	C2-N1-C1'	5.02	124.32	118.80
1	5	1726	U	N1-C2-O2	5.02	126.31	122.80
1	5	1735	U	C5-C6-N1	5.02	125.21	122.70
1	5	14	C	C5-C6-N1	5.01	123.51	121.00
1	5	3622	C	C6-N1-C2	-5.01	118.29	120.30
63	MM	22	LEU	CA-CB-CG	5.01	126.83	115.30
1	5	2704	C	C6-N1-C2	-5.01	118.30	120.30
14	L	155	MET	CA-CB-CG	5.01	121.82	113.30
1	5	1971	U	N3-C2-O2	-5.01	118.69	122.20
1	5	2432	U	N3-C2-O2	-5.01	118.69	122.20
50	9	585	C	C6-N1-C2	-5.01	118.30	120.30
1	5	2290	C	C6-N1-C2	-5.00	118.30	120.30
50	9	1230	C	C6-N1-C2	-5.00	118.30	120.30
1	5	1818	G	C4-N9-C1'	5.00	133.00	126.50
1	5	1977	C	C6-N1-C2	-5.00	118.30	120.30
1	5	4133	C	C2-N1-C1'	5.00	124.30	118.80
1	5	4736	C	C2-N1-C1'	5.00	124.30	118.80

There are no chirality outliers.

All (31) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
51	AA	42	LYS	Peptide
51	AA	43	SER	Peptide
6	C	73	VAL	Peptide
54	DD	153	VAL	Peptide
8	E	178	VAL	Peptide
8	E	179	THR	Peptide

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Mol	Chain	Res	Type	Group
55	EE	132	GLY	Peptide
9	F	195	THR	Peptide
56	FF	41	VAL	Peptide
10	G	215	ASP	Peptide
11	H	50	LYS	Peptide
59	II	92	ARG	Peptide
16	N	184	ILE	Peptide
16	N	76	PRO	Peptide
16	N	78	GLY	Peptide
66	PP	17	TYR	Peptide
21	S	165	PRO	Peptide
69	SS	60	THR	Peptide
22	T	80	VAL	Peptide
71	UU	107	GLU	Peptide
72	VV	32	ILE	Peptide
74	XX	61	GLN	Peptide
32	d	95	ASP	Peptide
35	g	5	LEU	Peptide
83	gg	135	LEU	Peptide
46	s	119	CYS	Peptide
47	t	96	LYS	Peptide
48	v	443	TYR	Peptide
48	v	444	LEU	Peptide
48	v	562	GLU	Peptide
48	v	820	LEU	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	
4	A	246/248 (99%)	221 (90%)	25 (10%)	0	100	100
5	B	392/394 (100%)	365 (93%)	27 (7%)	0	100	100
6	C	359/362 (99%)	339 (94%)	20 (6%)	0	100	100
7	D	291/293 (99%)	279 (96%)	12 (4%)	0	100	100
8	E	208/291 (72%)	198 (95%)	10 (5%)	0	100	100
9	F	223/225 (99%)	212 (95%)	10 (4%)	1 (0%)	34	67
10	G	229/319 (72%)	219 (96%)	10 (4%)	0	100	100
11	H	188/190 (99%)	171 (91%)	17 (9%)	0	100	100
12	I	201/214 (94%)	191 (95%)	10 (5%)	0	100	100
13	J	168/170 (99%)	160 (95%)	8 (5%)	0	100	100
14	L	208/210 (99%)	198 (95%)	8 (4%)	2 (1%)	15	46
15	M	136/138 (99%)	125 (92%)	11 (8%)	0	100	100
16	N	201/203 (99%)	190 (94%)	11 (6%)	0	100	100
17	O	197/199 (99%)	191 (97%)	6 (3%)	0	100	100
18	P	151/153 (99%)	146 (97%)	5 (3%)	0	100	100
19	Q	185/187 (99%)	177 (96%)	8 (4%)	0	100	100
20	R	178/180 (99%)	173 (97%)	5 (3%)	0	100	100
21	S	174/176 (99%)	164 (94%)	9 (5%)	1 (1%)	25	57
22	T	157/159 (99%)	153 (98%)	3 (2%)	1 (1%)	25	57
23	U	97/99 (98%)	92 (95%)	5 (5%)	0	100	100
24	V	129/131 (98%)	127 (98%)	2 (2%)	0	100	100
25	W	96/157 (61%)	89 (93%)	7 (7%)	0	100	100
26	X	116/118 (98%)	108 (93%)	8 (7%)	0	100	100
27	Y	132/134 (98%)	127 (96%)	5 (4%)	0	100	100
28	Z	133/135 (98%)	128 (96%)	5 (4%)	0	100	100
29	a	145/147 (99%)	137 (94%)	8 (6%)	0	100	100
30	b	100/245 (41%)	95 (95%)	5 (5%)	0	100	100
31	c	96/98 (98%)	88 (92%)	8 (8%)	0	100	100
32	d	105/107 (98%)	97 (92%)	8 (8%)	0	100	100
33	e	126/128 (98%)	119 (94%)	7 (6%)	0	100	100
34	f	107/109 (98%)	102 (95%)	5 (5%)	0	100	100
35	g	112/114 (98%)	108 (96%)	4 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	h	120/122 (98%)	119 (99%)	1 (1%)	0	100	100
37	i	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
38	j	84/86 (98%)	77 (92%)	7 (8%)	0	100	100
39	k	67/69 (97%)	66 (98%)	1 (2%)	0	100	100
40	l	48/50 (96%)	43 (90%)	5 (10%)	0	100	100
41	m	49/52 (94%)	46 (94%)	2 (4%)	1 (2%)	7	30
42	n	23/25 (92%)	23 (100%)	0	0	100	100
43	o	101/103 (98%)	97 (96%)	4 (4%)	0	100	100
44	p	89/91 (98%)	87 (98%)	2 (2%)	0	100	100
45	r	122/124 (98%)	116 (95%)	6 (5%)	0	100	100
46	s	194/196 (99%)	178 (92%)	16 (8%)	0	100	100
47	t	151/153 (99%)	128 (85%)	22 (15%)	1 (1%)	22	55
48	v	843/848 (99%)	774 (92%)	68 (8%)	1 (0%)	51	82
49	w	51/55 (93%)	46 (90%)	5 (10%)	0	100	100
51	AA	215/217 (99%)	206 (96%)	9 (4%)	0	100	100
52	BB	211/213 (99%)	203 (96%)	8 (4%)	0	100	100
53	CC	219/221 (99%)	206 (94%)	13 (6%)	0	100	100
54	DD	226/228 (99%)	216 (96%)	10 (4%)	0	100	100
55	EE	260/262 (99%)	244 (94%)	16 (6%)	0	100	100
56	FF	181/204 (89%)	162 (90%)	19 (10%)	0	100	100
57	GG	235/237 (99%)	224 (95%)	11 (5%)	0	100	100
58	HH	181/194 (93%)	173 (96%)	8 (4%)	0	100	100
59	II	204/206 (99%)	185 (91%)	19 (9%)	0	100	100
60	JJ	183/185 (99%)	180 (98%)	3 (2%)	0	100	100
61	KK	94/96 (98%)	86 (92%)	8 (8%)	0	100	100
62	LL	139/158 (88%)	131 (94%)	8 (6%)	0	100	100
63	MM	115/117 (98%)	101 (88%)	14 (12%)	0	100	100
64	NN	147/149 (99%)	138 (94%)	9 (6%)	0	100	100
65	OO	134/136 (98%)	123 (92%)	11 (8%)	0	100	100
66	PP	123/125 (98%)	118 (96%)	5 (4%)	0	100	100
67	QQ	140/142 (99%)	132 (94%)	8 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
68	RR	130/132 (98%)	121 (93%)	9 (7%)	0	100 100
69	SS	142/144 (99%)	135 (95%)	7 (5%)	0	100 100
70	TT	139/141 (99%)	133 (96%)	6 (4%)	0	100 100
71	UU	98/100 (98%)	95 (97%)	3 (3%)	0	100 100
72	VV	81/83 (98%)	76 (94%)	5 (6%)	0	100 100
73	WW	127/129 (98%)	118 (93%)	9 (7%)	0	100 100
74	XX	139/141 (99%)	132 (95%)	4 (3%)	3 (2%)	6 29
75	YY	122/124 (98%)	120 (98%)	2 (2%)	0	100 100
76	ZZ	73/75 (97%)	70 (96%)	3 (4%)	0	100 100
77	aa	99/101 (98%)	90 (91%)	9 (9%)	0	100 100
78	bb	81/83 (98%)	78 (96%)	3 (4%)	0	100 100
79	cc	60/62 (97%)	57 (95%)	3 (5%)	0	100 100
80	dd	53/55 (96%)	48 (91%)	5 (9%)	0	100 100
81	ee	53/55 (96%)	50 (94%)	3 (6%)	0	100 100
82	ff	66/68 (97%)	55 (83%)	11 (17%)	0	100 100
83	gg	311/313 (99%)	282 (91%)	29 (9%)	0	100 100
All	All	12409/13005 (95%)	11674 (94%)	724 (6%)	11 (0%)	54 82

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
14	L	64	VAL
41	m	73	CYS
74	XX	62	PRO
14	L	63	THR
21	S	166	ARG
47	t	144	ASP
48	v	778	GLY
74	XX	61	GLN
74	XX	86	PRO
22	T	81	LYS
9	F	196	VAL

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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
4	A	190/190 (100%)	187 (98%)	3 (2%)	62 81
5	B	342/342 (100%)	338 (99%)	4 (1%)	71 85
6	C	301/301 (100%)	297 (99%)	4 (1%)	69 84
7	D	247/247 (100%)	245 (99%)	2 (1%)	81 91
8	E	190/251 (76%)	186 (98%)	4 (2%)	53 76
9	F	196/196 (100%)	196 (100%)	0	100 100
10	G	200/272 (74%)	194 (97%)	6 (3%)	41 68
11	H	169/169 (100%)	168 (99%)	1 (1%)	86 94
12	I	175/181 (97%)	173 (99%)	2 (1%)	73 86
13	J	143/143 (100%)	143 (100%)	0	100 100
14	L	175/175 (100%)	175 (100%)	0	100 100
15	M	117/117 (100%)	116 (99%)	1 (1%)	78 90
16	N	171/171 (100%)	168 (98%)	3 (2%)	59 79
17	O	171/171 (100%)	167 (98%)	4 (2%)	50 74
18	P	134/134 (100%)	131 (98%)	3 (2%)	52 75
19	Q	164/164 (100%)	162 (99%)	2 (1%)	71 85
20	R	159/159 (100%)	158 (99%)	1 (1%)	86 94
21	S	157/157 (100%)	156 (99%)	1 (1%)	86 94
22	T	139/139 (100%)	137 (99%)	2 (1%)	67 83
23	U	89/89 (100%)	88 (99%)	1 (1%)	73 86
24	V	101/101 (100%)	99 (98%)	2 (2%)	55 77
25	W	82/126 (65%)	82 (100%)	0	100 100
26	X	106/106 (100%)	105 (99%)	1 (1%)	78 90
27	Y	124/124 (100%)	122 (98%)	2 (2%)	62 81
28	Z	117/117 (100%)	117 (100%)	0	100 100
29	a	119/119 (100%)	118 (99%)	1 (1%)	81 91

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
30	b	84/184 (46%)	82 (98%)	2 (2%)	49	74
31	c	84/84 (100%)	83 (99%)	1 (1%)	71	85
32	d	98/98 (100%)	97 (99%)	1 (1%)	76	88
33	e	114/114 (100%)	113 (99%)	1 (1%)	78	90
34	f	88/88 (100%)	87 (99%)	1 (1%)	73	86
35	g	98/98 (100%)	95 (97%)	3 (3%)	40	68
36	h	109/109 (100%)	108 (99%)	1 (1%)	78	90
37	i	86/86 (100%)	83 (96%)	3 (4%)	36	65
38	j	73/73 (100%)	71 (97%)	2 (3%)	44	70
39	k	64/64 (100%)	64 (100%)	0	100	100
40	l	47/47 (100%)	47 (100%)	0	100	100
41	m	47/47 (100%)	47 (100%)	0	100	100
42	n	24/24 (100%)	23 (96%)	1 (4%)	30	59
43	o	91/91 (100%)	89 (98%)	2 (2%)	52	75
44	p	74/74 (100%)	74 (100%)	0	100	100
45	r	108/108 (100%)	107 (99%)	1 (1%)	78	90
46	s	164/164 (100%)	163 (99%)	1 (1%)	86	94
47	t	126/126 (100%)	123 (98%)	3 (2%)	49	74
48	v	722/722 (100%)	712 (99%)	10 (1%)	67	83
49	w	46/46 (100%)	46 (100%)	0	100	100
51	AA	180/181 (99%)	179 (99%)	1 (1%)	86	94
52	BB	194/194 (100%)	190 (98%)	4 (2%)	53	76
53	CC	187/187 (100%)	185 (99%)	2 (1%)	73	86
54	DD	190/190 (100%)	186 (98%)	4 (2%)	53	76
55	EE	224/224 (100%)	221 (99%)	3 (1%)	69	84
56	FF	158/170 (93%)	152 (96%)	6 (4%)	33	61
57	GG	207/207 (100%)	199 (96%)	8 (4%)	32	61
58	HH	165/174 (95%)	164 (99%)	1 (1%)	86	94
59	II	178/178 (100%)	173 (97%)	5 (3%)	43	70
60	JJ	161/161 (100%)	158 (98%)	3 (2%)	57	78
61	KK	87/87 (100%)	86 (99%)	1 (1%)	73	86

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
62	LL	130/142 (92%)	128 (98%)	2 (2%)	65 82
63	MM	99/99 (100%)	96 (97%)	3 (3%)	41 68
64	NN	130/130 (100%)	129 (99%)	1 (1%)	81 91
65	OO	106/106 (100%)	105 (99%)	1 (1%)	78 90
66	PP	111/111 (100%)	106 (96%)	5 (4%)	27 58
67	QQ	117/117 (100%)	115 (98%)	2 (2%)	60 80
68	RR	119/119 (100%)	115 (97%)	4 (3%)	37 65
69	SS	125/125 (100%)	122 (98%)	3 (2%)	49 74
70	TT	111/111 (100%)	108 (97%)	3 (3%)	44 70
71	UU	92/92 (100%)	92 (100%)	0	100 100
72	VV	67/67 (100%)	66 (98%)	1 (2%)	65 82
73	WW	112/112 (100%)	111 (99%)	1 (1%)	78 90
74	XX	113/113 (100%)	112 (99%)	1 (1%)	78 90
75	YY	107/107 (100%)	105 (98%)	2 (2%)	57 78
76	ZZ	66/66 (100%)	66 (100%)	0	100 100
77	aa	88/88 (100%)	87 (99%)	1 (1%)	73 86
78	bb	75/75 (100%)	75 (100%)	0	100 100
79	cc	55/55 (100%)	52 (94%)	3 (6%)	21 51
80	dd	48/48 (100%)	46 (96%)	2 (4%)	30 59
81	ee	46/46 (100%)	43 (94%)	3 (6%)	17 46
82	ff	61/61 (100%)	60 (98%)	1 (2%)	62 81
83	gg	272/272 (100%)	268 (98%)	4 (2%)	65 82
All	All	10806/11123 (97%)	10642 (98%)	164 (2%)	66 82

All (164) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	A	4	VAL
4	A	163	ARG
4	A	226	ARG
5	B	10	ARG
5	B	261	ARG
5	B	262	VAL
5	B	297	LYS

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Mol	Chain	Res	Type
6	C	38	ASN
6	C	57	LEU
6	C	188	ARG
6	C	204	ARG
7	D	42	ASN
7	D	268	ARG
8	E	41	LYS
8	E	58	ARG
8	E	164	ARG
8	E	224	LYS
10	G	134	ASN
10	G	215	ASP
10	G	220	VAL
10	G	228	ARG
10	G	242	ARG
10	G	249	ARG
11	H	50	LYS
12	I	3	ARG
12	I	116	ARG
15	M	119	ARG
16	N	50	ARG
16	N	64	ILE
16	N	162	ARG
17	O	5	GLN
17	O	61	ARG
17	O	85	ARG
17	O	117	ARG
18	P	69	ARG
18	P	97	ASN
18	P	140	MET
19	Q	16	LYS
19	Q	172	ARG
20	R	170	ARG
21	S	23	ARG
22	T	107	LYS
22	T	146	LYS
23	U	81	ARG
24	V	18	LEU
24	V	46	LYS
26	X	53	ARG
27	Y	2	LYS
27	Y	124	LYS

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Mol	Chain	Res	Type
29	a	122	VAL
30	b	51	LYS
30	b	68	ARG
31	c	90	ARG
32	d	67	ARG
33	e	48	ARG
34	f	16	ARG
35	g	5	LEU
35	g	54	ARG
35	g	102	ILE
36	h	102	LEU
37	i	29	ARG
37	i	56	ARG
37	i	99	LYS
38	j	20	ARG
38	j	72	ARG
42	n	17	ARG
43	o	43	ARG
43	o	82	MET
45	r	58	LYS
46	s	68	HIS
47	t	57	ARG
47	t	61	LYS
47	t	146	ARG
48	v	18	ASN
48	v	55	ARG
48	v	231	MET
48	v	295	ASP
48	v	438	LYS
48	v	625	ARG
48	v	667	LYS
48	v	701	ARG
48	v	726	ARG
48	v	779	THR
51	AA	186	ARG
52	BB	28	LYS
52	BB	56	LYS
52	BB	174	ARG
52	BB	222	LYS
53	CC	167	ARG
53	CC	248	TYR
54	DD	45	ARG

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Mol	Chain	Res	Type
54	DD	64	ARG
54	DD	76	ARG
54	DD	113	LEU
55	EE	20	LEU
55	EE	148	ARG
55	EE	259	LYS
56	FF	44	LYS
56	FF	76	MET
56	FF	122	ARG
56	FF	169	ILE
56	FF	173	LEU
56	FF	182	LYS
57	GG	14	LYS
57	GG	22	ARG
57	GG	25	ARG
57	GG	79	LYS
57	GG	185	LEU
57	GG	203	LYS
57	GG	224	ARG
57	GG	231	ARG
58	HH	85	LYS
59	II	5	ARG
59	II	47	ARG
59	II	74	ARG
59	II	84	ASN
59	II	165	GLN
60	JJ	70	ARG
60	JJ	79	ARG
60	JJ	169	ARG
61	KK	61	GLN
62	LL	12	LYS
62	LL	22	ARG
63	MM	63	LYS
63	MM	99	LYS
63	MM	116	LYS
64	NN	122	ILE
65	OO	146	ARG
66	PP	13	ARG
66	PP	50	ARG
66	PP	51	ARG
66	PP	65	LYS
66	PP	108	LYS

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Mol	Chain	Res	Type
67	QQ	41	MET
67	QQ	109	LYS
68	RR	5	ARG
68	RR	7	LYS
68	RR	81	ARG
68	RR	116	ASN
69	SS	91	LYS
69	SS	94	LYS
69	SS	111	LEU
70	TT	43	LYS
70	TT	62	ARG
70	TT	75	MET
72	VV	70	LEU
73	WW	103	VAL
74	XX	142	ARG
75	YY	32	LYS
75	YY	113	ARG
77	aa	42	ARG
79	cc	40	ARG
79	cc	63	ARG
79	cc	66	ARG
80	dd	26	ASN
80	dd	48	LYS
81	ee	81	ARG
81	ee	99	LYS
81	ee	104	ARG
82	ff	107	LYS
83	gg	8	ARG
83	gg	99	ARG
83	gg	280	LYS
83	gg	285	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
7	D	42	ASN
15	M	48	GLN
22	T	69	GLN
55	EE	36	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	5	3520/3597 (97%)	818 (23%)	59 (1%)
2	7	119/120 (99%)	14 (11%)	0
3	8	149/151 (98%)	25 (16%)	1 (0%)
50	9	1670/1698 (98%)	388 (23%)	18 (1%)
All	All	5458/5566 (98%)	1245 (22%)	78 (1%)

All (1245) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	5	5	A
1	5	12	A
1	5	13	U
1	5	17	A
1	5	25	A
1	5	35	U
1	5	36	U
1	5	39	A
1	5	42	A
1	5	47	A
1	5	56	A
1	5	58	G
1	5	59	A
1	5	64	A
1	5	65	A
1	5	71	C
1	5	72	C
1	5	73	A
1	5	76	A
1	5	84	A
1	5	91	G
1	5	93	G
1	5	98	A
1	5	104	G
1	5	108	A
1	5	109	G
1	5	110	C
1	5	116	G
1	5	119	G
1	5	120	A
1	5	126	C
1	5	134	G
1	5	135	G
1	5	136	C

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Mol	Chain	Res	Type
1	5	142	G
1	5	144	G
1	5	146	G
1	5	157	U
1	5	159	C
1	5	172	C
1	5	173	C
1	5	182	G
1	5	200	U
1	5	201	C
1	5	202	C
1	5	203	U
1	5	205	C
1	5	206	U
1	5	209	U
1	5	216	C
1	5	218	A
1	5	220	C
1	5	224	U
1	5	225	G
1	5	233	U
1	5	234	G
1	5	246	G
1	5	250	C
1	5	265	C
1	5	266	C
1	5	275	C
1	5	276	C
1	5	278	G
1	5	280	G
1	5	297	U
1	5	306	A
1	5	309	C
1	5	310	G
1	5	315	G
1	5	316	U
1	5	322	C
1	5	326	C
1	5	334	A
1	5	340	C
1	5	345	C
1	5	349	A

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Mol	Chain	Res	Type
1	5	362	A
1	5	363	A
1	5	379	G
1	5	386	A
1	5	387	G
1	5	398	A2M
1	5	401	G
1	5	407	A
1	5	408	A
1	5	410	A
1	5	412	G
1	5	413	G
1	5	414	C
1	5	440	U
1	5	446	C
1	5	449	C
1	5	450	G
1	5	452	A
1	5	453	G
1	5	454	U
1	5	455	C
1	5	464	G
1	5	467	U
1	5	468	U
1	5	482	G
1	5	483	G
1	5	484	U
1	5	486	C
1	5	489	C
1	5	492	U
1	5	493	G
1	5	497	G
1	5	498	C
1	5	499	G
1	5	505	G
1	5	506	C
1	5	510	U
1	5	661	C
1	5	666	G
1	5	667	A
1	5	669	C
1	5	672	C

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Mol	Chain	Res	Type
1	5	684	G
1	5	685	C
1	5	687	U
1	5	696	C
1	5	697	G
1	5	704	C
1	5	705	G
1	5	708	G
1	5	722	G
1	5	730	G
1	5	731	G
1	5	742	G
1	5	747	A
1	5	748	G
1	5	749	G
1	5	758	G
1	5	759	G
1	5	908	G
1	5	914	U
1	5	917	A
1	5	922(B)	C
1	5	925	C
1	5	926	G
1	5	929	A
1	5	931	C
1	5	932	A
1	5	933	G
1	5	934	C
1	5	937	U
1	5	938	C
1	5	939	G
1	5	941	C
1	5	943	A
1	5	944	A
1	5	945	U
1	5	956	A
1	5	958	G
1	5	959	G
1	5	960	A
1	5	961	G
1	5	964	A
1	5	966	A

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Mol	Chain	Res	Type
1	5	967	C
1	5	968	C
1	5	969	C
1	5	972	C
1	5	973	C
1	5	980	C
1	5	983	U
1	5	990	U
1	5	1072	C
1	5	1073	G
1	5	1079	C
1	5	1081	C
1	5	1083	U
1	5	1175	A
1	5	1179	U
1	5	1180	C
1	5	1184	A
1	5	1193	C
1	5	1195	G
1	5	1210	C
1	5	1211	G
1	5	1212	G
1	5	1214	C
1	5	1215	C
1	5	1234	G
1	5	1235	G
1	5	1236	C
1	5	1237	C
1	5	1238	A
1	5	1239	C
1	5	1272	C
1	5	1273	G
1	5	1275	G
1	5	1276	C
1	5	1279	A
1	5	1284	G
1	5	1285	U
1	5	1287	G
1	5	1292	C
1	5	1293	G
1	5	1296	G
1	5	1301	C

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Mol	Chain	Res	Type
1	5	1302	U
1	5	1303	A
1	5	1304	C
1	5	1314	C
1	5	1319	U
1	5	1326	A2M
1	5	1329	G
1	5	1330	A
1	5	1337	A
1	5	1354	A
1	5	1358	G
1	5	1359	G
1	5	1371	A
1	5	1372	A
1	5	1377	G
1	5	1378	C
1	5	1381	U
1	5	1387	A
1	5	1394	G
1	5	1397	A
1	5	1398	A
1	5	1406(C)	G
1	5	1415	G
1	5	1416	G
1	5	1419	G
1	5	1421	G
1	5	1426	G
1	5	1429	C
1	5	1436	C
1	5	1437	C
1	5	1438	U
1	5	1441	C
1	5	1445	U
1	5	1446	C
1	5	1457	G
1	5	1465	G
1	5	1469	C
1	5	1482	G
1	5	1483	C
1	5	1493	G
1	5	1497	A
1	5	1498	G

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Mol	Chain	Res	Type
1	5	1502	G
1	5	1516	G
1	5	1518	A
1	5	1523	A
1	5	1534	A2M
1	5	1547	A
1	5	1566	C
1	5	1578	U
1	5	1582	PSU
1	5	1591	U
1	5	1596	U
1	5	1598	C
1	5	1602	U
1	5	1612	G
1	5	1613	A
1	5	1624	G
1	5	1625	OMG
1	5	1626	G
1	5	1627	G
1	5	1631	A
1	5	1633	G
1	5	1634	A
1	5	1638	A
1	5	1640	C
1	5	1641	G
1	5	1649	U
1	5	1650	A
1	5	1654	G
1	5	1661	C
1	5	1671	U
1	5	1676	C
1	5	1677	PSU
1	5	1678	C
1	5	1679	A
1	5	1684	A
1	5	1691	G
1	5	1724	G
1	5	1726	U
1	5	1734	G
1	5	1741	G
1	5	1742	A
1	5	1748	U

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Mol	Chain	Res	Type
1	5	1750	G
1	5	1752	G
1	5	1755	C
1	5	1756	U
1	5	1757	U
1	5	1761	G
1	5	1768	C
1	5	1772	C
1	5	1773	U
1	5	1775	A
1	5	1776	A
1	5	1780	A
1	5	1781	U
1	5	1787	A
1	5	1800	U
1	5	1804	A
1	5	1805	A
1	5	1806	G
1	5	1815	G
1	5	1819	G
1	5	1821	G
1	5	1822	U
1	5	1828	C
1	5	1833	G
1	5	1834	U
1	5	1835	G
1	5	1836	G
1	5	1837	A
1	5	1842	G
1	5	1855	G
1	5	1869	G
1	5	1873	A
1	5	1881	C
1	5	1888	A
1	5	1897	A
1	5	1898	C
1	5	1899	G
1	5	1917	A
1	5	1918	U
1	5	1920	C
1	5	1921	C
1	5	1922	G

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Mol	Chain	Res	Type
1	5	1930	U
1	5	1931	C
1	5	1932	A
1	5	1935	C
1	5	1938	C
1	5	1940	G
1	5	1945	G
1	5	1948	G
1	5	1957	U
1	5	1958	A
1	5	1961	G
1	5	1964	A
1	5	1967	A
1	5	1971	U
1	5	1974	U
1	5	1978	C
1	5	1979	A
1	5	1980	U
1	5	1984	A
1	5	1987	C
1	5	1991	A
1	5	1992	U
1	5	1994	C
1	5	1997	U
1	5	2001	G
1	5	2002	A
1	5	2003	G
1	5	2004	U
1	5	2008	U
1	5	2011	C
1	5	2024	G
1	5	2025	A
1	5	2026	A
1	5	2029	A
1	5	2033	A
1	5	2046	G
1	5	2047	A
1	5	2048	U
1	5	2052	G
1	5	2055	G
1	5	2056	G
1	5	2062	C

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Mol	Chain	Res	Type
1	5	2064	G
1	5	2069	A
1	5	2070	U
1	5	2072	C
1	5	2084	U
1	5	2090	U
1	5	2092	G
1	5	2093	G
1	5	2094	C
1	5	2095	A
1	5	2097	A
1	5	2098	G
1	5	2100	G
1	5	2101	A
1	5	2102	G
1	5	2104	A
1	5	2105	A
1	5	2106	G
1	5	2107	A
1	5	2108	G
1	5	2259	G
1	5	2260	C
1	5	2267	U
1	5	2268	A
1	5	2269	C
1	5	2270	G
1	5	2274	C
1	5	2279	A
1	5	2289	C
1	5	2294	G
1	5	2300	A
1	5	2301	G
1	5	2306	G
1	5	2307	A
1	5	2313	A
1	5	2314	G
1	5	2316	G
1	5	2319	C
1	5	2331	G
1	5	2333	G
1	5	2347	A
1	5	2348	G

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Mol	Chain	Res	Type
1	5	2351	C
1	5	2357	G
1	5	2360	A
1	5	2364	OMG
1	5	2370	A
1	5	2395	A
1	5	2396	A
1	5	2398	U
1	5	2408	U
1	5	2410	C
1	5	2417	A
1	5	2422	OMC
1	5	2424	OMG
1	5	2425	U
1	5	2433	G
1	5	2434	G
1	5	2441	C
1	5	2447	U
1	5	2450	G
1	5	2453	A
1	5	2471	G
1	5	2475	G
1	5	2488	C
1	5	2489	C
1	5	2490	U
1	5	2491	C
1	5	2503	G
1	5	2504	C
1	5	2505	C
1	5	2506	G
1	5	2513	A
1	5	2520	C
1	5	2529	A
1	5	2537	A
1	5	2544	G
1	5	2546	G
1	5	2547	G
1	5	2553	A
1	5	2554	U
1	5	2560	C
1	5	2566	G
1	5	2570	U

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Mol	Chain	Res	Type
1	5	2571	C
1	5	2575	U
1	5	2583	C
1	5	2586	G
1	5	2587	A
1	5	2589	C
1	5	2600	A
1	5	2602	G
1	5	2611	A
1	5	2618	G
1	5	2620	G
1	5	2627	C
1	5	2638	G
1	5	2639	U
1	5	2649	G
1	5	2653	C
1	5	2659	A
1	5	2661	U
1	5	2662	G
1	5	2663	G
1	5	2669	C
1	5	2670	C
1	5	2673	G
1	5	2676	A
1	5	2681	G
1	5	2686	G
1	5	2687	U
1	5	2695	A
1	5	2696	A
1	5	2707	U
1	5	2708	U
1	5	2709	C
1	5	2711	G
1	5	2714	G
1	5	2715	G
1	5	2716	C
1	5	2721	G
1	5	2723	U
1	5	2725	A
1	5	2726	G
1	5	2740	U
1	5	2743	A

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Mol	Chain	Res	Type
1	5	2744	A
1	5	2763	U
1	5	2764	A
1	5	2768	C
1	5	2787	A
1	5	2788	U
1	5	2790	U
1	5	2794	C
1	5	2798	A
1	5	2803	U
1	5	2814	C
1	5	2826	U
1	5	2827	G
1	5	2829	U
1	5	2842	G
1	5	2855	G
1	5	2856	C
1	5	2898	G
1	5	3598	C
1	5	3603	G
1	5	3604	A
1	5	3605	C
1	5	3606	U
1	5	3615	G
1	5	3616	U
1	5	3625	G
1	5	3626	G
1	5	3630	A
1	5	3635	A
1	5	3646	A
1	5	3650	C
1	5	3658	C
1	5	3662	A
1	5	3664	G
1	5	3673	C
1	5	3691	G
1	5	3692	A
1	5	3705	G
1	5	3711	A
1	5	3712	A
1	5	3714	G
1	5	3729	PSU

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Mol	Chain	Res	Type
1	5	3740	G
1	5	3753	G
1	5	3754	G
1	5	3756	A
1	5	3759	A
1	5	3760	A
1	5	3763	A
1	5	3765	G
1	5	3773	U
1	5	3774	A
1	5	3776	G
1	5	3777	G
1	5	3780	G
1	5	3783	A
1	5	3784	A
1	5	3786	U
1	5	3787	G
1	5	3792	OMG
1	5	3810	C
1	5	3811	G
1	5	3812	C
1	5	3814	U
1	5	3817	A
1	5	3819	G
1	5	3822	U
1	5	3824	A
1	5	3838	U
1	5	3839	G
1	5	3840	U
1	5	3851	U
1	5	3867	A2M
1	5	3868	G
1	5	3876	A
1	5	3877	A
1	5	3878	C
1	5	3879	G
1	5	3889	G
1	5	3892	U
1	5	3898	G
1	5	3901	A
1	5	3905	A
1	5	3906	A

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Mol	Chain	Res	Type
1	5	3907	G
1	5	3908	A
1	5	3915	U
1	5	3916	G
1	5	3917	A
1	5	3927	U
1	5	3938	G
1	5	3939	G
1	5	3941	G
1	5	3955	A
1	5	3957	U
1	5	3962	A
1	5	3963	A
1	5	3965	A
1	5	3966	A
1	5	3970	G
1	5	3972	A
1	5	3976	C
1	5	4042	G
1	5	4047	A
1	5	4050	A
1	5	4051	C
1	5	4052	C
1	5	4054	C
1	5	4055	U
1	5	4061	G
1	5	4065	G
1	5	4066	U
1	5	4073	A
1	5	4076	G
1	5	4083	5MU
1	5	4084	G
1	5	4085	A
1	5	4086	G
1	5	4088	C
1	5	4097	G
1	5	4116	C
1	5	4119	C
1	5	4120	U
1	5	4125	C
1	5	4127	A
1	5	4158	C

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Mol	Chain	Res	Type
1	5	4162	C
1	5	4163	U
1	5	4166	G
1	5	4168	G
1	5	4170	A
1	5	4171	C
1	5	4172	A
1	5	4173	G
1	5	4183	G
1	5	4191	G
1	5	4195	G
1	5	4212	A
1	5	4225	G
1	5	4229	U
1	5	4233	A
1	5	4242	U
1	5	4249	G
1	5	4251	A
1	5	4254	G
1	5	4255	A
1	5	4257	A
1	5	4266	G
1	5	4268	A
1	5	4271	A
1	5	4273	A
1	5	4281	A
1	5	4282	A
1	5	4290	U
1	5	4291	G
1	5	4293	PSU
1	5	4305	G
1	5	4306	OMU
1	5	4308	C
1	5	4314	C
1	5	4317	A
1	5	4318	C
1	5	4319	C
1	5	4330	G
1	5	4332	C
1	5	4348	A
1	5	4349	C
1	5	4364	G

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Mol	Chain	Res	Type
1	5	4368	G
1	5	4372	U
1	5	4373	G
1	5	4376	A
1	5	4377	G
1	5	4378	A
1	5	4380	A
1	5	4387	C
1	5	4394	A
1	5	4395	U
1	5	4396	A
1	5	4398	C
1	5	4401	G
1	5	4413	C
1	5	4415	1MA
1	5	4419	U
1	5	4422	A
1	5	4426	C
1	5	4433	G
1	5	4440	G
1	5	4448	G
1	5	4449	A
1	5	4450	PSU
1	5	4464	A
1	5	4475	G
1	5	4476	C
1	5	4482	U
1	5	4494	OMG
1	5	4500	PSU
1	5	4502	C
1	5	4510	A
1	5	4511	A
1	5	4512	U
1	5	4513	A
1	5	4515	G
1	5	4518	A
1	5	4519	C
1	5	4520	G
1	5	4522	G
1	5	4523	A2M
1	5	4524	G
1	5	4548	A

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Mol	Chain	Res	Type
1	5	4549	G
1	5	4560	C
1	5	4567	G
1	5	4572	U
1	5	4573	G
1	5	4574	U
1	5	4575	G
1	5	4582	C
1	5	4584	A
1	5	4586	G
1	5	4587	G
1	5	4589	A
1	5	4590	A
1	5	4599	A
1	5	4606	G
1	5	4627	U
1	5	4635	A
1	5	4636	PSU
1	5	4637	OMG
1	5	4639	G
1	5	4652	G
1	5	4656	A
1	5	4657	U
1	5	4661	G
1	5	4664	A
1	5	4670	C
1	5	4677	U
1	5	4695	C
1	5	4700	A
1	5	4702	G
1	5	4707	A
1	5	4709	U
1	5	4719	G
1	5	4720	C
1	5	4736	C
1	5	4745	G
1	5	4751	G
1	5	4754	G
1	5	4756	C
1	5	4757	C
1	5	4759	C
1	5	4761	G

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Mol	Chain	Res	Type
1	5	4764	A
1	5	4765	G
1	5	4769	G
1	5	4771	C
1	5	4772	C
1	5	4775	C
1	5	4867	G
1	5	4868	G
1	5	4870	OMG
1	5	4872	2MG
1	5	4875	G
1	5	4877	G
1	5	4881	U
1	5	4882	U
1	5	4883	C
1	5	4885	U
1	5	4887	C
1	5	4895	C
1	5	4903	G
1	5	4910	A
1	5	4912	G
1	5	4914	G
1	5	4915	G
1	5	4920	C
1	5	4921	C
1	5	4922	C
1	5	4925	U
1	5	4926	C
1	5	4928	C
1	5	4929	C
1	5	4931	G
1	5	4934	A
1	5	4935	C
1	5	4937	C
1	5	4940	C
1	5	4944	C
1	5	4948	C
1	5	4949	G
1	5	4950	U
1	5	4951	G
1	5	4955	A
1	5	4956	A

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Mol	Chain	Res	Type
1	5	4957	C
1	5	4958	C
1	5	4960	G
1	5	4965	U
1	5	4967	A
1	5	4975	G
1	5	4976	U
1	5	4985	U
1	5	4988	U
1	5	4990	C
1	5	4991	U
1	5	4993	G
1	5	4999	G
1	5	5006	U
1	5	5014	A
1	5	5017	G
1	5	5022	U
1	5	5040	U
1	5	5041	G
1	5	5047	C
1	5	5050	C
1	5	5052	C
1	5	5053	U
1	5	5054	C
1	5	5058	A
1	5	5061	A
1	5	5062	G
1	5	5069	U
2	7	7	G
2	7	13	A
2	7	25	G
2	7	33	U
2	7	53	U
2	7	54	A
2	7	64	G
2	7	74	A
2	7	80	U
2	7	97	G
2	7	100	A
2	7	106	G
2	7	110	G
2	7	120	U

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Mol	Chain	Res	Type
3	8	2	G
3	8	34	U
3	8	35	C
3	8	38	U
3	8	49	G
3	8	59	A
3	8	62	A
3	8	63	U
3	8	73	U
3	8	75	G
3	8	87	G
3	8	99	U
3	8	103	A
3	8	105	C
3	8	109	C
3	8	110	U
3	8	111	U
3	8	114	G
3	8	123	U
3	8	124	U
3	8	125	C
3	8	126	C
3	8	127	U
3	8	147	G
3	8	156	U
50	9	3	C
50	9	4	C
50	9	14	C
50	9	23	G
50	9	25	A
50	9	26	U
50	9	33	G
50	9	41	G
50	9	44	U
50	9	45	A
50	9	46	A
50	9	47	G
50	9	56	G
50	9	58	C
50	9	64	A
50	9	67	C
50	9	68	A

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Mol	Chain	Res	Type
50	9	69	C
50	9	72	C
50	9	73	C
50	9	74	G
50	9	75	G
50	9	77	A
50	9	79	A
50	9	81	U
50	9	103	A
50	9	110	U
50	9	111	A
50	9	113	G
50	9	115	U
50	9	116	OMU
50	9	120	U
50	9	121	OMU
50	9	124	U
50	9	126	G
50	9	127	C
50	9	130	G
50	9	141	A
50	9	143	U
50	9	146	G
50	9	147	A
50	9	155	G
50	9	159	A2M
50	9	160	U
50	9	162	C
50	9	163	U
50	9	166	A2M
50	9	167	G
50	9	170	A
50	9	171	A
50	9	175	A
50	9	180	G
50	9	182	C
50	9	183	G
50	9	184	G
50	9	188	C
50	9	189	U
50	9	190	G
50	9	191	A

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Mol	Chain	Res	Type
50	9	192	C
50	9	202	G
50	9	206	G
50	9	215	G
50	9	294	U
50	9	297	A
50	9	304	C
50	9	306	C
50	9	307	G
50	9	308	G
50	9	309	G
50	9	312	G
50	9	313	A
50	9	318	A
50	9	319	C
50	9	332	G
50	9	347	G
50	9	350	C
50	9	351	G
50	9	360	A
50	9	362	C
50	9	364	A
50	9	368	U
50	9	369	C
50	9	370	G
50	9	381	C
50	9	385	G
50	9	398	A
50	9	400	C
50	9	407	G
50	9	408	A
50	9	409	C
50	9	417	C
50	9	418	A
50	9	420	G
50	9	429	C
50	9	435	A
50	9	441	C
50	9	448	A
50	9	449	A
50	9	450	C
50	9	455	A

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Mol	Chain	Res	Type
50	9	465	A
50	9	466	G
50	9	471	G
50	9	472	C
50	9	473	A
50	9	474	G
50	9	480	G
50	9	482	G
50	9	487	U
50	9	492	C
50	9	516	A
50	9	517	OMC
50	9	518	G
50	9	525	A
50	9	530	U
50	9	531	A
50	9	532	C
50	9	533	A
50	9	536	A
50	9	537	C
50	9	544	G
50	9	546	G
50	9	547	G
50	9	548	C
50	9	549	C
50	9	550	C
50	9	551	U
50	9	554	A
50	9	555	A
50	9	556	U
50	9	559	G
50	9	560	A
50	9	563	G
50	9	564	A
50	9	576	A
50	9	583	A
50	9	587	A
50	9	588	G
50	9	589	G
50	9	590	A
50	9	591	U
50	9	603	C

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Mol	Chain	Res	Type
50	9	606	G
50	9	607	U
50	9	608	C
50	9	614	C
50	9	617	G
50	9	621	C
50	9	627	U
50	9	631	U
50	9	643	A
50	9	655	A
50	9	660	C
50	9	662	G
50	9	664	A
50	9	666	U
50	9	668	A2M
50	9	669	A
50	9	671	A
50	9	672	A
50	9	673	G
50	9	678	U
50	9	684	G
50	9	688	U
50	9	689	U
50	9	690	G
50	9	752	G
50	9	753	C
50	9	754	G
50	9	798	G
50	9	811	A
50	9	821	G
50	9	822	PSU
50	9	830	A
50	9	833	C
50	9	834	C
50	9	847	A
50	9	868	G
50	9	870	A
50	9	871	U
50	9	872	A
50	9	873	G
50	9	875	A
50	9	876	C

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Mol	Chain	Res	Type
50	9	877	C
50	9	878	G
50	9	879	C
50	9	885	U
50	9	887	U
50	9	888	U
50	9	890	U
50	9	891	G
50	9	893	U
50	9	894	G
50	9	898	U
50	9	901	G
50	9	902	G
50	9	907	G
50	9	913	A
50	9	914	U
50	9	920	A
50	9	922	A
50	9	933	G
50	9	934	G
50	9	943	U
50	9	971	G
50	9	985	G
50	9	989	C
50	9	990	A
50	9	992	A
50	9	999	G
50	9	1017	U
50	9	1022	U
50	9	1023	A
50	9	1030	A
50	9	1040	G
50	9	1041	G
50	9	1060	A
50	9	1062	A
50	9	1081	PSU
50	9	1083	A
50	9	1085	C
50	9	1086	G
50	9	1087	A
50	9	1088	U
50	9	1097	G

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Mol	Chain	Res	Type
50	9	1100	A
50	9	1109	C
50	9	1110	G
50	9	1114	U
50	9	1115	U
50	9	1116	C
50	9	1117	C
50	9	1118	C
50	9	1121	G
50	9	1123	C
50	9	1131	G
50	9	1133	A
50	9	1138	C
50	9	1150	A
50	9	1153	C
50	9	1154	U
50	9	1170	A
50	9	1195	A
50	9	1207	G
50	9	1208	A
50	9	1215	C
50	9	1216	C
50	9	1221	G
50	9	1224	G
50	9	1242	U
50	9	1243	PSU
50	9	1249	C
50	9	1250	A
50	9	1251	A
50	9	1253	A
50	9	1256	G
50	9	1257	G
50	9	1259	A
50	9	1265	A
50	9	1273	C
50	9	1274	G
50	9	1275	G
50	9	1282	A
50	9	1284	A
50	9	1285	G
50	9	1293	A
50	9	1298	G

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Mol	Chain	Res	Type
50	9	1300	U
50	9	1301	A
50	9	1302	G
50	9	1304	U
50	9	1307	U
50	9	1308	U
50	9	1309	C
50	9	1312	G
50	9	1314	U
50	9	1315	U
50	9	1322	G
50	9	1327	G
50	9	1333	U
50	9	1341	C
50	9	1342	U
50	9	1348	G
50	9	1358	U
50	9	1371	U
50	9	1372	U
50	9	1376	A
50	9	1378	A
50	9	1395	C
50	9	1396	A
50	9	1397	U
50	9	1398	G
50	9	1399	C
50	9	1401	A
50	9	1402	A
50	9	1404	U
50	9	1428	G
50	9	1454	A
50	9	1455	A
50	9	1462	U
50	9	1463	U
50	9	1464	C
50	9	1465	A
50	9	1466	G
50	9	1473	G
50	9	1475	G
50	9	1476	A
50	9	1477	U
50	9	1480	A

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Mol	Chain	Res	Type
50	9	1486	A
50	9	1489	A
50	9	1490	G
50	9	1494	U
50	9	1497	G
50	9	1498	A
50	9	1506	A
50	9	1510	G
50	9	1521	C
50	9	1522	A
50	9	1533	A
50	9	1544	C
50	9	1548	G
50	9	1552	G
50	9	1553	C
50	9	1554	C
50	9	1556	A
50	9	1557	C
50	9	1560	U
50	9	1570	G
50	9	1574	C
50	9	1575	G
50	9	1580	A
50	9	1585	U
50	9	1586	U
50	9	1587	G
50	9	1588	A
50	9	1597	C
50	9	1601	A
50	9	1602	U
50	9	1603	G
50	9	1604	G
50	9	1606	G
50	9	1621	U
50	9	1623	A
50	9	1625	U
50	9	1637	A
50	9	1638	G
50	9	1648	G
50	9	1649	U
50	9	1663	A
50	9	1664	A

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Mol	Chain	Res	Type
50	9	1665	G
50	9	1683	C
50	9	1695	A
50	9	1698	C
50	9	1699	A
50	9	1702	G
50	9	1721	U
50	9	1722	G
50	9	1725	U
50	9	1726	G
50	9	1742	C
50	9	1744	G
50	9	1748	G
50	9	1757	G
50	9	1779	G
50	9	1783	C
50	9	1784	G
50	9	1785	C
50	9	1800	A
50	9	1824	A
50	9	1825	A
50	9	1826	G
50	9	1831	A
50	9	1835	A
50	9	1836	G
50	9	1838	U
50	9	1849	G
50	9	1861	G
50	9	1862	G
50	9	1863	A
50	9	1864	U
50	9	1865	C
50	9	1866	A
50	9	1867	U
50	9	1869	A

All (78) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	5	12	A
1	5	125	C
1	5	134	G

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Mol	Chain	Res	Type
1	5	217	C
1	5	245	C
1	5	275	C
1	5	385	A
1	5	406	C
1	5	449	C
1	5	485	C
1	5	492	U
1	5	504	G
1	5	930	G
1	5	1072	C
1	5	1174	G
1	5	1211	G
1	5	1236	C
1	5	1238	A
1	5	1291	G
1	5	1329	G
1	5	1370	G
1	5	1440	U
1	5	1445	U
1	5	1625	OMG
1	5	1633	G
1	5	1804	A
1	5	1818	G
1	5	1979	A
1	5	1983	A
1	5	2046	G
1	5	2089	G
1	5	2266	C
1	5	2474	G
1	5	2502	A
1	5	2546	G
1	5	2587	A
1	5	2661	U
1	5	2695	A
1	5	3603	G
1	5	3625	G
1	5	3876	A
1	5	3888	G
1	5	3904	G
1	5	3954	A
1	5	4053	A

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Mol	Chain	Res	Type
1	5	4065	G
1	5	4075	U
1	5	4115	G
1	5	4119	C
1	5	4232	U
1	5	4254	G
1	5	4378	A
1	5	4448	G
1	5	4699	U
1	5	4719	G
1	5	4884	G
1	5	4925	U
1	5	4936	G
1	5	4947	U
3	8	124	U
50	9	110	U
50	9	434	G
50	9	465	A
50	9	479	C
50	9	532	C
50	9	553	U
50	9	642	U
50	9	688	U
50	9	752	G
50	9	870	A
50	9	874	G
50	9	1137	U
50	9	1394	G
50	9	1395	C
50	9	1489	A
50	9	1520	G
50	9	1637	A
50	9	1664	A

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

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

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the

expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
1	P7G	5	3880	1	24,28,29	3.87	10 (41%)	27,41,44	1.58	3 (11%)
50	4AC	9	1842	50	21,24,25	3.13	10 (47%)	29,34,37	1.16	4 (13%)
1	I4U	5	4194	1	21,24,25	4.95	16 (76%)	27,34,37	1.18	3 (11%)
50	A2M	9	1678	50	18,25,26	4.83	9 (50%)	18,36,39	2.59	3 (16%)
1	A2M	5	1326	1	18,25,26	4.64	9 (50%)	18,36,39	2.61	3 (16%)
1	B8H	5	1860	1	19,22,23	6.79	6 (31%)	22,32,35	2.26	5 (22%)
1	B8W	5	4185	1	18,26,27	5.21	8 (44%)	21,38,41	6.11	12 (57%)
1	UR3	5	4597	1	19,22,23	2.53	6 (31%)	26,32,35	1.20	3 (11%)
50	M7A	9	1806	50	20,25,26	2.04	3 (15%)	28,37,40	3.73	8 (28%)
48	DDE	v	715	48	14,20,21	1.02	0	14,28,30	1.24	3 (21%)
1	OMG	5	2424	1	18,26,27	2.51	8 (44%)	19,38,41	1.55	4 (21%)
1	PSU	5	1582	1	18,21,22	1.08	1 (5%)	22,30,33	1.72	4 (18%)
1	6MZ	5	4220	1	18,25,26	2.17	4 (22%)	16,36,39	1.81	3 (18%)
1	MHG	5	4371	1	29,32,33	4.01	11 (37%)	34,46,49	2.28	11 (32%)
1	A2M	5	3825	1	18,25,26	4.71	8 (44%)	18,36,39	2.70	3 (16%)
1	OMG	5	3792	1	18,26,27	2.51	8 (44%)	19,38,41	1.60	4 (21%)
1	5MU	5	4083	1	19,22,23	4.67	7 (36%)	28,32,35	3.47	9 (32%)
1	OMG	5	4370	1	18,26,27	2.43	8 (44%)	19,38,41	1.56	4 (21%)
1	PSU	5	4403	1	18,21,22	1.02	1 (5%)	22,30,33	1.83	4 (18%)
50	E3C	9	568	50	18,23,24	3.37	6 (33%)	21,33,36	2.22	5 (23%)
1	PSU	5	4636	1	18,21,22	1.05	2 (11%)	22,30,33	1.97	4 (18%)
50	A2M	9	27	50,84	18,25,26	4.68	9 (50%)	18,36,39	2.69	4 (22%)
50	5MU	9	814	50	19,22,23	4.87	7 (36%)	28,32,35	3.58	12 (42%)
1	PSU	5	4450	84,1	18,21,22	1.07	3 (16%)	22,30,33	1.96	4 (18%)
1	5MC	5	3782	1	18,22,23	3.56	7 (38%)	26,32,35	1.06	1 (3%)
50	5MC	9	1374	50	18,22,23	3.69	7 (38%)	26,32,35	1.34	3 (11%)
1	1MA	5	4415	1	16,25,26	3.91	4 (25%)	18,37,40	1.78	3 (16%)
1	A2M	5	2401	84,1	18,25,26	4.68	10 (55%)	18,36,39	2.73	4 (22%)
1	B8W	5	4472	1	18,26,27	5.33	8 (44%)	21,38,41	5.88	10 (47%)
1	OMG	5	1316	1	18,26,27	2.46	8 (44%)	19,38,41	1.69	4 (21%)
1	BGH	5	3899	84,1	25,29,30	4.24	16 (64%)	31,43,46	2.57	13 (41%)
1	OMG	5	373	1	18,26,27	2.46	8 (44%)	19,38,41	1.68	5 (26%)
50	B8N	9	1248	50,84	24,29,30	2.79	6 (25%)	29,42,45	1.74	5 (17%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	OMU	8	14	3,1	19,22,23	2.84	7 (36%)	26,31,34	1.85	7 (26%)
1	OMC	5	2422	84,1	19,22,23	2.86	7 (36%)	26,31,34	0.98	1 (3%)
1	PSU	5	1683	1	18,21,22	1.11	2 (11%)	22,30,33	1.82	4 (18%)
50	B8Q	9	1219	50	17,22,23	2.92	4 (23%)	22,32,35	2.32	7 (31%)
1	PSU	5	3729	1	18,21,22	1.07	1 (5%)	22,30,33	1.72	4 (18%)
1	OMG	5	4637	1	18,26,27	2.41	8 (44%)	19,38,41	1.49	4 (21%)
50	PSU	9	119	50	18,21,22	0.93	1 (5%)	22,30,33	1.59	4 (18%)
1	A2M	5	1524	1	18,25,26	4.72	10 (55%)	18,36,39	2.75	3 (16%)
1	PSU	5	1677	1	18,21,22	1.12	2 (11%)	22,30,33	1.90	4 (18%)
50	OMG	9	509	50,84	18,26,27	2.46	8 (44%)	19,38,41	1.46	4 (21%)
1	2MG	5	1517	1	18,26,27	2.52	7 (38%)	16,38,41	1.53	4 (25%)
6	MLZ	C	333	6	8,9,10	0.84	0	4,9,11	0.70	0
1	OMU	5	4620	1	19,22,23	2.70	7 (36%)	26,31,34	1.84	5 (19%)
1	B8Q	5	1456	1	17,22,23	2.73	5 (29%)	22,32,35	2.03	4 (18%)
1	OMU	5	4306	1	19,22,23	2.79	8 (42%)	26,31,34	1.75	5 (19%)
50	6MZ	9	1832	50,84	18,25,26	2.23	3 (16%)	16,36,39	1.52	1 (6%)
50	PSU	9	823	50	18,21,22	1.08	1 (5%)	22,30,33	1.81	4 (18%)
1	OMG	5	2364	1	18,26,27	2.47	8 (44%)	19,38,41	1.66	4 (21%)
1	A2M	5	3785	1	18,25,26	4.58	10 (55%)	18,36,39	2.57	3 (16%)
1	B8T	5	4483	1	19,22,23	3.00	8 (42%)	26,31,34	1.05	2 (7%)
50	A2M	9	668	50,84	18,25,26	4.67	8 (44%)	18,36,39	2.70	5 (27%)
1	B8W	5	4529	84,1	18,26,27	5.30	8 (44%)	21,38,41	6.42	10 (47%)
50	OMC	9	1710	50	19,22,23	2.94	7 (36%)	26,31,34	0.93	1 (3%)
1	PSU	5	4442	1	18,21,22	1.06	2 (11%)	22,30,33	1.84	5 (22%)
1	B8W	5	2380	1	18,26,27	5.22	8 (44%)	21,38,41	6.07	7 (33%)
1	PSU	5	4500	1	18,21,22	1.05	3 (16%)	22,30,33	1.91	4 (18%)
1	P7G	5	1909	1	24,28,29	4.12	10 (41%)	27,41,44	1.47	3 (11%)
1	OMC	5	2804	1	19,22,23	2.85	7 (36%)	26,31,34	0.81	0
1	E7G	5	1797	1	24,27,28	3.64	11 (45%)	30,40,43	2.21	10 (33%)
1	E6G	5	4355	1	20,27,28	5.75	9 (45%)	22,39,42	2.14	7 (31%)
1	OMC	5	3701	84,1	19,22,23	2.80	7 (36%)	26,31,34	0.76	0
1	1MA	5	1322	84,1	16,25,26	3.77	4 (25%)	18,37,40	1.76	3 (16%)
50	MA6	9	1851	50	19,26,27	0.98	1 (5%)	18,38,41	2.69	2 (11%)
1	2MG	5	4872	1	18,26,27	2.63	7 (38%)	16,38,41	1.76	4 (25%)
50	OMU	9	116	50	19,22,23	2.88	7 (36%)	26,31,34	1.75	5 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	PSU	5	4628	1	18,21,22	1.13	3 (16%)	22,30,33	2.06	5 (22%)
1	A2M	5	398	1	18,25,26	4.82	8 (44%)	18,36,39	2.56	3 (16%)
1	7MG	5	2522	1	22,26,27	3.45	10 (45%)	29,39,42	1.97	8 (27%)
1	B8T	5	4671	1	19,22,23	2.99	8 (42%)	26,31,34	0.96	1 (3%)
1	OMG	5	4623	1	18,26,27	2.46	8 (44%)	19,38,41	1.64	4 (21%)
1	OMG	5	2773	1	18,26,27	2.50	8 (44%)	19,38,41	1.53	4 (21%)
1	7MG	5	4550	1	22,26,27	3.48	10 (45%)	29,39,42	1.95	10 (34%)
1	OMC	5	3909	1	19,22,23	2.84	7 (36%)	26,31,34	1.26	3 (11%)
1	PSU	5	4531	1	18,21,22	1.09	2 (11%)	22,30,33	1.91	5 (22%)
50	MA6	9	1850	50	19,26,27	1.01	1 (5%)	18,38,41	2.81	3 (16%)
1	OMC	5	2861	1	19,22,23	2.83	7 (36%)	26,31,34	0.89	1 (3%)
50	OMC	9	517	50	19,22,23	2.84	7 (36%)	26,31,34	0.65	0
1	A2M	5	2363	84,1	18,25,26	4.80	10 (55%)	18,36,39	2.67	3 (16%)
1	PSU	5	3764	1	18,21,22	1.03	1 (5%)	22,30,33	1.68	4 (18%)
1	UR3	5	4530	1	19,22,23	2.67	6 (31%)	26,32,35	1.43	4 (15%)
1	OMG	5	2050	1	18,26,27	2.44	8 (44%)	19,38,41	1.48	4 (21%)
1	I4U	5	1659	1	21,24,25	4.95	16 (76%)	27,34,37	1.45	2 (7%)
1	7MG	5	1605	1	22,26,27	3.44	10 (45%)	29,39,42	2.05	9 (31%)
1	5MC	5	4335	1	18,22,23	3.61	7 (38%)	26,32,35	1.21	3 (11%)
50	UR3	9	1830	50	19,22,23	2.71	6 (31%)	26,32,35	1.57	4 (15%)
1	OMC	5	2365	1	19,22,23	2.83	7 (36%)	26,31,34	0.69	0
50	OMU	9	121	50	19,22,23	2.95	8 (42%)	26,31,34	1.76	5 (19%)
1	OMG	5	1883	1	18,26,27	2.50	8 (44%)	19,38,41	1.70	4 (21%)
1	A2M	5	4571	1	18,25,26	4.76	8 (44%)	18,36,39	2.68	4 (22%)
1	B9B	5	237	1	21,28,29	6.35	8 (38%)	23,40,43	2.37	7 (30%)
1	A2M	5	4523	84,1	18,25,26	4.82	10 (55%)	18,36,39	2.61	3 (16%)
1	UR3	5	1866	1	19,22,23	2.52	6 (31%)	26,32,35	1.37	4 (15%)
50	PSU	9	1243	50,84	18,21,22	1.07	1 (5%)	22,30,33	1.82	4 (18%)
1	A2M	5	3867	1	18,25,26	4.70	9 (50%)	18,36,39	2.62	4 (22%)
1	B8K	5	4690	1	24,28,29	4.95	16 (66%)	30,42,45	2.71	11 (36%)
1	5MC	5	4447	1	18,22,23	3.66	7 (38%)	26,32,35	1.08	1 (3%)
1	OMG	5	1522	1	18,26,27	2.44	8 (44%)	19,38,41	1.58	4 (21%)
1	OMG	5	4870	1	18,26,27	2.44	8 (44%)	19,38,41	1.53	4 (21%)
50	PSU	9	612	50	18,21,22	0.98	1 (5%)	22,30,33	1.73	4 (18%)
50	4AC	9	1337	50	21,24,25	3.19	9 (42%)	29,34,37	1.23	3 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	OMC	5	3869	1	19,22,23	2.79	7 (36%)	26,31,34	0.83	1 (3%)
1	OMG	5	4494	1	18,26,27	2.46	8 (44%)	19,38,41	1.55	4 (21%)
50	OMG	9	644	50	18,26,27	2.47	8 (44%)	19,38,41	1.52	4 (21%)
1	B8K	5	3897	1	24,28,29	4.82	17 (70%)	30,42,45	2.49	12 (40%)
1	A2M	5	3723	1	18,25,26	4.86	9 (50%)	18,36,39	2.59	3 (16%)
41	MLZ	m	72	41	8,9,10	0.77	0	4,9,11	0.78	0
50	A2M	9	166	50	18,25,26	4.79	9 (50%)	18,36,39	2.78	4 (22%)
1	E7G	5	2297	1	24,27,28	3.45	11 (45%)	30,40,43	2.12	9 (30%)
1	A2M	5	1534	84,1	18,25,26	4.66	9 (50%)	18,36,39	2.80	4 (22%)
50	A2M	9	1031	50	18,25,26	4.74	8 (44%)	18,36,39	2.78	4 (22%)
1	B9B	5	1574	1	21,28,29	6.30	9 (42%)	23,40,43	1.91	6 (26%)
1	B8H	5	4296	1	19,22,23	6.83	6 (31%)	22,32,35	2.48	5 (22%)
1	A2M	5	1871	84,1	18,25,26	4.70	9 (50%)	18,36,39	2.76	3 (16%)
1	OMC	5	3887	1	19,22,23	2.86	7 (36%)	26,31,34	0.94	1 (3%)
50	OMC	9	174	50	19,22,23	2.95	7 (36%)	26,31,34	0.81	0
1	PSU	5	2508	1	18,21,22	1.00	1 (5%)	22,30,33	1.66	4 (18%)
1	2MG	5	729	1	18,26,27	2.41	7 (38%)	16,38,41	1.43	4 (25%)
50	A2M	9	159	50	18,25,26	4.83	8 (44%)	18,36,39	2.76	4 (22%)
1	B8W	5	4129	1	18,26,27	5.30	8 (44%)	21,38,41	6.40	10 (47%)
1	M7A	5	4564	1	20,25,26	2.06	4 (20%)	28,37,40	3.76	7 (25%)
50	OMC	9	1703	50	19,22,23	2.94	7 (36%)	26,31,34	0.83	1 (3%)
50	A2M	9	484	50	18,25,26	4.71	9 (50%)	18,36,39	2.72	3 (16%)
50	PSU	9	1081	50	18,21,22	1.06	1 (5%)	22,30,33	1.77	5 (22%)
1	PSU	5	3715	1	18,21,22	1.02	1 (5%)	22,30,33	1.69	4 (18%)
1	OMG	5	1625	84,1	18,26,27	2.45	8 (44%)	19,38,41	1.48	4 (21%)
1	B8H	5	3762	1	19,22,23	6.81	6 (31%)	22,32,35	2.48	5 (22%)
50	PSU	9	822	50	18,21,22	1.03	2 (11%)	22,30,33	1.92	5 (22%)
1	PSU	5	4293	1	18,21,22	1.08	2 (11%)	22,30,33	1.75	3 (13%)
1	OMC	5	4536	1	19,22,23	2.81	7 (36%)	26,31,34	1.04	2 (7%)
50	OMG	9	683	50	18,26,27	2.46	8 (44%)	19,38,41	1.55	5 (26%)
1	OMG	5	4196	1	18,26,27	2.41	8 (44%)	19,38,41	1.49	4 (21%)
1	A2M	5	3718	1	18,25,26	4.79	10 (55%)	18,36,39	2.47	3 (16%)
1	B9B	5	2754	84,1	21,28,29	6.35	9 (42%)	23,40,43	2.05	6 (26%)
1	B9H	5	2786	1	20,25,26	2.98	3 (15%)	22,35,38	1.62	2 (9%)
1	P4U	5	1348	84,1	21,24,25	3.38	8 (38%)	27,33,36	1.26	2 (7%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	P7G	5	3880	1	-	2/10/40/41	0/3/3/3
50	4AC	9	1842	50	-	0/11/29/30	0/2/2/2
1	I4U	5	4194	1	-	4/9/29/30	0/2/2/2
50	A2M	9	1678	50	-	0/5/27/28	0/3/3/3
1	A2M	5	1326	1	-	0/5/27/28	0/3/3/3
1	B8H	5	1860	1	-	2/7/25/26	0/2/2/2
1	B8W	5	4185	1	-	4/5/27/28	0/3/3/3
1	UR3	5	4597	1	-	0/7/25/26	0/2/2/2
50	M7A	9	1806	50	-	0/7/37/38	0/3/3/3
48	DDE	v	715	48	-	15/20/21/23	0/1/1/1
1	OMG	5	2424	1	-	2/5/27/28	0/3/3/3
1	PSU	5	1582	1	-	2/7/25/26	0/2/2/2
1	6MZ	5	4220	1	-	0/5/27/28	0/3/3/3
1	MHG	5	4371	1	-	6/16/46/47	0/3/3/3
1	A2M	5	3825	1	-	0/5/27/28	0/3/3/3
1	OMG	5	3792	1	-	2/5/27/28	0/3/3/3
1	5MU	5	4083	1	-	6/7/25/26	0/2/2/2
1	OMG	5	4370	1	-	0/5/27/28	0/3/3/3
1	PSU	5	4403	1	-	2/7/25/26	0/2/2/2
50	E3C	9	568	50	-	4/9/44/45	0/2/2/2
1	PSU	5	4636	1	-	4/7/25/26	0/2/2/2
50	A2M	9	27	50,84	-	0/5/27/28	0/3/3/3
50	5MU	9	814	50	-	0/7/25/26	0/2/2/2
1	PSU	5	4450	84,1	-	4/7/25/26	0/2/2/2
1	5MC	5	3782	1	-	0/7/25/26	0/2/2/2
50	5MC	9	1374	50	-	0/7/25/26	0/2/2/2
1	1MA	5	4415	1	-	2/3/25/26	0/3/3/3
1	A2M	5	2401	84,1	-	2/5/27/28	0/3/3/3
1	B8W	5	4472	1	-	2/5/27/28	0/3/3/3
1	OMG	5	1316	1	-	0/5/27/28	0/3/3/3
1	BGH	5	3899	84,1	-	2/13/43/44	0/3/3/3
1	OMG	5	373	1	-	1/5/27/28	0/3/3/3
50	B8N	9	1248	50,84	-	3/16/34/35	0/2/2/2
3	OMU	8	14	3,1	-	1/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMC	5	2422	84,1	-	1/9/27/28	0/2/2/2
1	PSU	5	1683	1	-	0/7/25/26	0/2/2/2
50	B8Q	9	1219	50	-	0/7/42/43	0/2/2/2
1	PSU	5	3729	1	-	2/7/25/26	0/2/2/2
1	OMG	5	4637	1	-	3/5/27/28	0/3/3/3
50	PSU	9	119	50	-	2/7/25/26	0/2/2/2
1	A2M	5	1524	1	-	0/5/27/28	0/3/3/3
1	PSU	5	1677	1	-	2/7/25/26	0/2/2/2
50	OMG	9	509	50,84	-	0/5/27/28	0/3/3/3
1	2MG	5	1517	1	-	0/5/27/28	0/3/3/3
6	MLZ	C	333	6	-	2/7/8/10	-
1	OMU	5	4620	1	-	0/9/27/28	0/2/2/2
1	B8Q	5	1456	1	-	2/7/42/43	0/2/2/2
1	OMU	5	4306	1	-	0/9/27/28	0/2/2/2
50	6MZ	9	1832	50,84	-	2/5/27/28	0/3/3/3
50	PSU	9	823	50	-	0/7/25/26	0/2/2/2
1	OMG	5	2364	1	-	2/5/27/28	0/3/3/3
1	A2M	5	3785	1	-	2/5/27/28	0/3/3/3
1	B8T	5	4483	1	-	2/7/27/28	0/2/2/2
50	A2M	9	668	50,84	-	4/5/27/28	0/3/3/3
1	B8W	5	4529	84,1	-	2/5/27/28	0/3/3/3
50	OMC	9	1710	50	-	0/9/27/28	0/2/2/2
1	PSU	5	4442	1	-	0/7/25/26	0/2/2/2
1	B8W	5	2380	1	-	5/5/27/28	0/3/3/3
1	PSU	5	4500	1	-	3/7/25/26	0/2/2/2
1	P7G	5	1909	1	-	4/10/40/41	0/3/3/3
1	OMC	5	2804	1	-	0/9/27/28	0/2/2/2
1	E7G	5	1797	1	-	3/9/39/40	0/3/3/3
1	E6G	5	4355	1	-	5/6/28/29	0/3/3/3
1	OMC	5	3701	84,1	-	4/9/27/28	0/2/2/2
1	1MA	5	1322	84,1	-	0/3/25/26	0/3/3/3
50	MA6	9	1851	50	-	3/7/29/30	0/3/3/3
1	2MG	5	4872	1	-	2/5/27/28	0/3/3/3
50	OMU	9	116	50	-	3/9/27/28	0/2/2/2
1	PSU	5	4628	1	-	0/7/25/26	0/2/2/2
1	A2M	5	398	1	-	2/5/27/28	0/3/3/3
1	7MG	5	2522	1	-	0/7/37/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	B8T	5	4671	1	-	0/7/27/28	0/2/2/2
1	OMG	5	4623	1	-	0/5/27/28	0/3/3/3
1	OMG	5	2773	1	-	0/5/27/28	0/3/3/3
1	7MG	5	4550	1	-	0/7/37/38	0/3/3/3
1	OMC	5	3909	1	-	1/9/27/28	0/2/2/2
1	PSU	5	4531	1	-	0/7/25/26	0/2/2/2
50	MA6	9	1850	50	-	1/7/29/30	0/3/3/3
1	OMC	5	2861	1	-	0/9/27/28	0/2/2/2
50	OMC	9	517	50	-	2/9/27/28	0/2/2/2
1	A2M	5	2363	84,1	-	0/5/27/28	0/3/3/3
1	PSU	5	3764	1	-	2/7/25/26	0/2/2/2
1	UR3	5	4530	1	-	1/7/25/26	0/2/2/2
1	OMG	5	2050	1	-	0/5/27/28	0/3/3/3
1	I4U	5	1659	1	-	2/9/29/30	0/2/2/2
1	7MG	5	1605	1	-	0/7/37/38	0/3/3/3
1	5MC	5	4335	1	-	0/7/25/26	0/2/2/2
50	UR3	9	1830	50	-	4/7/25/26	0/2/2/2
1	OMC	5	2365	1	-	0/9/27/28	0/2/2/2
50	OMU	9	121	50	-	2/9/27/28	0/2/2/2
1	OMG	5	1883	1	-	0/5/27/28	0/3/3/3
1	A2M	5	4571	1	-	0/5/27/28	0/3/3/3
1	B9B	5	237	1	-	4/7/29/30	0/3/3/3
1	A2M	5	4523	84,1	-	2/5/27/28	0/3/3/3
1	UR3	5	1866	1	-	0/7/25/26	0/2/2/2
50	PSU	9	1243	50,84	-	2/7/25/26	0/2/2/2
1	A2M	5	3867	1	-	4/5/27/28	0/3/3/3
1	B8K	5	4690	1	-	0/11/41/42	0/3/3/3
1	5MC	5	4447	1	-	4/7/25/26	0/2/2/2
1	OMG	5	1522	1	-	0/5/27/28	0/3/3/3
1	OMG	5	4870	1	-	4/5/27/28	0/3/3/3
50	PSU	9	612	50	-	0/7/25/26	0/2/2/2
50	4AC	9	1337	50	-	0/11/29/30	0/2/2/2
1	OMC	5	3869	1	-	0/9/27/28	0/2/2/2
1	OMG	5	4494	1	-	2/5/27/28	0/3/3/3
50	OMG	9	644	50	-	1/5/27/28	0/3/3/3
1	B8K	5	3897	1	-	3/11/41/42	0/3/3/3
1	A2M	5	3723	1	-	0/5/27/28	0/3/3/3
41	MLZ	m	72	41	-	3/7/8/10	-
50	A2M	9	166	50	-	2/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	E7G	5	2297	1	-	1/9/39/40	0/3/3/3
1	A2M	5	1534	84,1	-	2/5/27/28	0/3/3/3
50	A2M	9	1031	50	-	0/5/27/28	0/3/3/3
1	B9B	5	1574	1	-	4/7/29/30	0/3/3/3
1	B8H	5	4296	1	-	1/7/25/26	0/2/2/2
1	A2M	5	1871	84,1	-	0/5/27/28	0/3/3/3
1	OMC	5	3887	1	-	1/9/27/28	0/2/2/2
50	OMC	9	174	50	-	0/9/27/28	0/2/2/2
1	PSU	5	2508	1	-	0/7/25/26	0/2/2/2
1	2MG	5	729	1	-	2/5/27/28	0/3/3/3
50	A2M	9	159	50	-	3/5/27/28	0/3/3/3
1	B8W	5	4129	1	-	2/5/27/28	0/3/3/3
1	M7A	5	4564	1	-	0/7/37/38	0/3/3/3
50	OMC	9	1703	50	-	2/9/27/28	0/2/2/2
50	A2M	9	484	50	-	0/5/27/28	0/3/3/3
50	PSU	9	1081	50	-	3/7/25/26	0/2/2/2
1	PSU	5	3715	1	-	0/7/25/26	0/2/2/2
1	OMG	5	1625	84,1	-	3/5/27/28	0/3/3/3
1	B8H	5	3762	1	-	0/7/25/26	0/2/2/2
50	PSU	9	822	50	-	2/7/25/26	0/2/2/2
1	PSU	5	4293	1	-	0/7/25/26	0/2/2/2
1	OMC	5	4536	1	-	0/9/27/28	0/2/2/2
50	OMG	9	683	50	-	2/5/27/28	0/3/3/3
1	OMG	5	4196	1	-	0/5/27/28	0/3/3/3
1	A2M	5	3718	1	-	0/5/27/28	0/3/3/3
1	B9B	5	2754	84,1	-	1/7/29/30	0/3/3/3
1	B9H	5	2786	1	-	3/12/47/48	0/2/2/2
1	P4U	5	1348	84,1	-	4/10/29/30	0/2/2/2

All (938) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	2754	B9B	C2'-C1'	-17.99	1.26	1.53
1	5	1574	B9B	C2'-C1'	-17.90	1.26	1.53
1	5	237	B9B	C2'-C1'	-17.83	1.26	1.53
1	5	237	B9B	O4'-C1'	17.18	1.65	1.41
1	5	1574	B9B	O4'-C1'	16.86	1.64	1.41
1	5	2754	B9B	O4'-C1'	16.82	1.64	1.41
1	5	3723	A2M	O4'-C1'	16.60	1.64	1.41
1	5	4523	A2M	O4'-C1'	16.47	1.64	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	9	166	A2M	O4'-C1'	16.42	1.64	1.41
50	9	1678	A2M	O4'-C1'	16.40	1.64	1.41
50	9	159	A2M	O4'-C1'	16.38	1.63	1.41
1	5	398	A2M	O4'-C1'	16.36	1.63	1.41
1	5	3718	A2M	O4'-C1'	16.29	1.63	1.41
1	5	2363	A2M	O4'-C1'	16.12	1.63	1.41
1	5	4296	B8H	C6-C5	-16.12	1.12	1.34
50	9	1031	A2M	O4'-C1'	16.09	1.63	1.41
1	5	4571	A2M	O4'-C1'	16.05	1.63	1.41
1	5	4355	E6G	C2'-C1'	-15.93	1.29	1.53
50	9	484	A2M	O4'-C1'	15.87	1.63	1.41
1	5	1871	A2M	O4'-C1'	15.84	1.63	1.41
1	5	3825	A2M	O4'-C1'	15.82	1.63	1.41
1	5	1524	A2M	O4'-C1'	15.79	1.63	1.41
1	5	3762	B8H	C6-C5	-15.75	1.12	1.34
1	5	1860	B8H	C6-C5	-15.75	1.12	1.34
50	9	27	A2M	O4'-C1'	15.71	1.63	1.41
1	5	2401	A2M	O4'-C1'	15.69	1.63	1.41
1	5	3867	A2M	O4'-C1'	15.64	1.62	1.41
1	5	1534	A2M	O4'-C1'	15.52	1.62	1.41
1	5	1326	A2M	O4'-C1'	15.39	1.62	1.41
50	9	668	A2M	O4'-C1'	15.37	1.62	1.41
1	5	4355	E6G	O4'-C1'	15.25	1.62	1.41
1	5	3785	A2M	O4'-C1'	15.17	1.62	1.41
1	5	4296	B8H	C4-N3	-15.09	1.10	1.38
1	5	3762	B8H	C4-N3	-14.94	1.11	1.38
1	5	1860	B8H	C4-N3	-14.84	1.11	1.38
1	5	4472	B8W	C2'-C1'	-14.64	1.31	1.53
1	5	4529	B8W	C2'-C1'	-14.47	1.31	1.53
1	5	4415	1MA	C2-N3	14.21	1.46	1.29
1	5	4129	B8W	C2'-C1'	-13.98	1.32	1.53
1	5	2380	B8W	C2'-C1'	-13.93	1.32	1.53
1	5	4185	B8W	C2'-C1'	-13.86	1.32	1.53
1	5	4129	B8W	O4'-C1'	13.81	1.60	1.41
1	5	1322	1MA	C2-N3	13.80	1.45	1.29
1	5	3762	B8H	C4-C5	13.78	1.83	1.44
1	5	1860	B8H	C4-C5	13.57	1.82	1.44
1	5	4296	B8H	C4-C5	13.48	1.82	1.44
1	5	2380	B8W	O4'-C1'	13.42	1.59	1.41
1	5	4529	B8W	O4'-C1'	13.40	1.59	1.41
1	5	4472	B8W	O4'-C1'	13.38	1.59	1.41
1	5	4185	B8W	O4'-C1'	13.36	1.59	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	1860	B8H	C6-N1	13.15	1.68	1.36
1	5	3762	B8H	C6-N1	13.12	1.68	1.36
1	5	4296	B8H	C6-N1	12.91	1.68	1.36
1	5	1909	P7G	C8-N9	12.00	1.52	1.46
1	5	4690	B8K	C3'-C4'	-11.50	1.23	1.53
50	9	814	5MU	C2-N1	11.45	1.56	1.38
1	5	1659	I4U	C3'-C2'	-11.30	1.22	1.53
1	5	3897	B8K	C3'-C4'	-11.26	1.24	1.53
1	5	4194	I4U	C3'-C2'	-11.18	1.22	1.53
1	5	4371	MHG	C8-N9	10.64	1.51	1.46
1	5	3880	P7G	C8-N9	10.60	1.51	1.46
1	5	4083	5MU	C6-N1	10.48	1.55	1.38
1	5	1659	I4U	C4-N3	10.47	1.44	1.31
1	5	3899	BGH	C3'-C4'	-10.32	1.26	1.53
50	9	814	5MU	C6-N1	10.27	1.55	1.38
1	5	4194	I4U	C4-N3	10.07	1.44	1.31
1	5	2754	B9B	O6-C6	9.95	1.43	1.35
1	5	1348	P4U	C4-N3	9.75	1.44	1.31
1	5	3899	BGH	O4'-C4'	9.68	1.66	1.45
1	5	1574	B9B	O6-C6	9.59	1.43	1.35
1	5	4690	B8K	C8-N9	9.56	1.51	1.46
1	5	4083	5MU	C2-N1	9.56	1.53	1.38
50	9	814	5MU	C4-C5	9.50	1.60	1.44
1	5	237	B9B	O6-C6	9.49	1.43	1.35
1	5	4447	5MC	C6-C5	9.43	1.50	1.34
1	5	4083	5MU	C4-C5	9.35	1.60	1.44
50	9	1374	5MC	C6-C5	9.34	1.49	1.34
1	5	4371	MHG	C5-N7	9.14	1.45	1.35
1	5	1909	P7G	C5-N7	8.98	1.45	1.35
1	5	2786	B9H	C2-N3	8.89	1.48	1.37
1	5	3782	5MC	C6-C5	8.88	1.49	1.34
1	5	4335	5MC	C6-C5	8.85	1.49	1.34
1	5	3880	P7G	C5-N7	8.81	1.45	1.35
1	5	4083	5MU	C4-N3	-8.59	1.22	1.38
50	9	568	E3C	C2-N3	8.47	1.48	1.37
50	9	814	5MU	C4-N3	-8.42	1.23	1.38
1	5	4194	I4U	O4'-C4'	-8.40	1.26	1.45
50	9	1219	B8Q	C6-C5	8.38	1.52	1.33
1	5	1456	B8Q	C6-C5	8.30	1.52	1.33
1	5	1797	E7G	C5-N7	8.26	1.44	1.35
1	5	3897	B8K	C2'-C1'	-8.17	1.27	1.53
1	5	4371	MHG	C2-N3	8.16	1.47	1.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	4690	B8K	C2'-C1'	-8.11	1.27	1.53
50	9	1832	6MZ	C6-N6	8.10	1.48	1.35
1	5	4550	7MG	C8-N9	7.98	1.50	1.46
1	5	2522	7MG	C8-N9	7.95	1.50	1.46
50	9	668	A2M	O4'-C4'	-7.92	1.27	1.45
1	5	4355	E6G	O4'-C4'	-7.92	1.27	1.45
50	9	1248	B8N	C4-N3	-7.91	1.25	1.40
50	9	568	E3C	C2-N1	7.90	1.49	1.38
1	5	1659	I4U	O4'-C4'	-7.89	1.27	1.45
1	5	2297	E7G	C5-N7	7.87	1.44	1.35
1	5	4550	7MG	C5-N7	7.86	1.44	1.35
1	5	1797	E7G	C8-N9	7.82	1.50	1.46
1	5	2363	A2M	O4'-C4'	-7.74	1.27	1.45
1	5	1524	A2M	O4'-C4'	-7.64	1.27	1.45
1	5	3867	A2M	O4'-C4'	-7.58	1.28	1.45
1	5	2522	7MG	C5-N7	7.57	1.44	1.35
50	9	159	A2M	O4'-C4'	-7.54	1.28	1.45
1	5	1326	A2M	O4'-C4'	-7.52	1.28	1.45
50	9	484	A2M	O4'-C4'	-7.52	1.28	1.45
1	5	2401	A2M	O4'-C4'	-7.51	1.28	1.45
50	9	1678	A2M	O4'-C4'	-7.51	1.28	1.45
1	5	3897	B8K	O4'-C4'	7.51	1.61	1.45
1	5	3825	A2M	O4'-C4'	-7.50	1.28	1.45
1	5	4220	6MZ	C6-N6	7.46	1.47	1.35
1	5	4571	A2M	O4'-C4'	-7.46	1.28	1.45
1	5	4523	A2M	O4'-C4'	-7.45	1.28	1.45
1	5	398	A2M	O4'-C4'	-7.43	1.28	1.45
1	5	1605	7MG	C5-N7	7.42	1.44	1.35
50	9	27	A2M	O4'-C4'	-7.39	1.28	1.45
1	5	1534	A2M	O4'-C4'	-7.38	1.28	1.45
50	9	1031	A2M	O4'-C4'	-7.38	1.28	1.45
1	5	3718	A2M	O4'-C4'	-7.37	1.28	1.45
1	5	1871	A2M	O4'-C4'	-7.34	1.28	1.45
1	5	3897	B8K	C8-N9	7.30	1.50	1.46
1	5	3723	A2M	O4'-C4'	-7.26	1.28	1.45
1	5	3785	A2M	O4'-C4'	-7.25	1.28	1.45
1	5	237	B9B	O4'-C4'	-7.24	1.28	1.45
50	9	1248	B8N	C6-N1	7.22	1.54	1.36
1	5	2754	B9B	C2-N2	7.21	1.48	1.33
50	9	166	A2M	O4'-C4'	-7.21	1.28	1.45
1	5	237	B9B	C2-N2	7.20	1.48	1.33
1	5	1605	7MG	C8-N9	7.16	1.50	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	9	1830	UR3	C2-N1	7.14	1.48	1.38
1	5	4690	B8K	O4'-C4'	7.11	1.60	1.45
1	5	1574	B9B	O4'-C4'	-7.11	1.29	1.45
1	5	2754	B9B	O4'-C4'	-7.06	1.29	1.45
1	5	1574	B9B	C2-N2	7.00	1.47	1.33
1	5	4472	B8W	C3'-C4'	-6.94	1.35	1.53
1	5	4530	UR3	C2-N1	6.93	1.48	1.38
1	5	2786	B9H	C6-C5	6.87	1.48	1.33
1	5	4185	B8W	C3'-C4'	-6.87	1.35	1.53
1	5	4335	5MC	C4-N3	6.82	1.45	1.34
1	5	4129	B8W	C3'-C4'	-6.80	1.35	1.53
50	9	121	OMU	C2-N1	6.78	1.49	1.38
50	9	1842	4AC	C4-N3	6.73	1.44	1.32
1	5	1797	E7G	C8-N7	6.70	1.52	1.45
50	9	568	E3C	C6-C5	6.68	1.48	1.33
1	5	4529	B8W	C3'-C4'	-6.66	1.36	1.53
1	5	4371	MHG	C8-N7	6.66	1.52	1.45
1	5	3782	5MC	C4-N3	6.64	1.45	1.34
50	9	116	OMU	C2-N3	6.62	1.49	1.38
50	9	116	OMU	C2-N1	6.60	1.49	1.38
1	5	2297	E7G	C8-N9	6.57	1.49	1.46
3	8	14	OMU	C2-N3	6.56	1.49	1.38
50	9	1337	4AC	C4-N3	6.56	1.44	1.32
50	9	1374	5MC	C4-N3	6.51	1.45	1.34
1	5	2380	B8W	C3'-C4'	-6.50	1.36	1.53
50	9	121	OMU	C2-N3	6.47	1.49	1.38
1	5	4447	5MC	C4-N3	6.47	1.45	1.34
1	5	2297	E7G	C8-N7	6.45	1.51	1.45
1	5	4306	OMU	C2-N3	6.43	1.49	1.38
1	5	4671	B8T	C4-N3	6.35	1.43	1.32
50	9	1219	B8Q	C2-N3	6.31	1.46	1.35
50	9	1703	OMC	C6-C5	6.30	1.49	1.35
50	9	174	OMC	C6-C5	6.27	1.49	1.35
1	5	1866	UR3	C2-N1	6.27	1.47	1.38
1	5	2786	B9H	C2-N1	6.26	1.47	1.38
1	5	4620	OMU	C2-N3	6.26	1.49	1.38
50	9	1710	OMC	C6-C5	6.26	1.49	1.35
1	5	2804	OMC	C6-C5	6.23	1.49	1.35
50	9	1710	OMC	C2-N3	6.23	1.49	1.36
1	5	3897	B8K	C4-N9	6.22	1.44	1.37
50	9	174	OMC	C2-N3	6.21	1.48	1.36
1	5	4483	B8T	C4-N3	6.17	1.43	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	1517	2MG	C2-N2	6.17	1.47	1.33
3	8	14	OMU	C2-N1	6.15	1.48	1.38
50	9	1337	4AC	C6-C5	6.13	1.49	1.35
1	5	2422	OMC	C6-C5	6.12	1.49	1.35
1	5	4872	2MG	C2-N2	6.11	1.47	1.33
1	5	4371	MHG	C2-N1	6.10	1.46	1.36
50	9	1703	OMC	C2-N3	6.10	1.48	1.36
1	5	4335	5MC	C2-N3	6.10	1.48	1.36
1	5	3782	5MC	C2-N3	6.08	1.48	1.36
1	5	3887	OMC	C6-C5	6.07	1.49	1.35
1	5	3701	OMC	C6-C5	6.06	1.49	1.35
1	5	3869	OMC	C6-C5	6.05	1.49	1.35
1	5	1348	P4U	C6-C5	6.05	1.49	1.35
1	5	4536	OMC	C6-C5	6.05	1.49	1.35
1	5	1659	I4U	C2-N3	6.04	1.48	1.36
1	5	2365	OMC	C6-C5	6.04	1.49	1.35
50	9	1830	UR3	C6-C5	6.03	1.49	1.35
1	5	2861	OMC	C6-C5	6.02	1.49	1.35
1	5	4355	E6G	O6-C6	6.02	1.40	1.35
50	9	517	OMC	C6-C5	6.00	1.49	1.35
1	5	4530	UR3	C6-C5	5.99	1.49	1.35
1	5	4447	5MC	C2-N3	5.98	1.48	1.36
50	9	814	5MU	C6-C5	5.98	1.44	1.34
1	5	4564	M7A	C4-N9	5.98	1.49	1.38
1	5	3909	OMC	C6-C5	5.98	1.49	1.35
1	5	4536	OMC	C2-N3	5.98	1.48	1.36
1	5	4597	UR3	C2-N1	5.98	1.47	1.38
1	5	2422	OMC	C2-N3	5.98	1.48	1.36
50	9	517	OMC	C2-N3	5.97	1.48	1.36
50	9	1374	5MC	C2-N3	5.96	1.48	1.36
1	5	2804	OMC	C2-N3	5.95	1.48	1.36
1	5	4671	B8T	C2-N3	5.94	1.48	1.36
50	9	1842	4AC	C2-N3	5.93	1.48	1.36
1	5	3887	OMC	C2-N3	5.93	1.48	1.36
1	5	4194	I4U	C1'-N1	-5.91	1.30	1.47
1	5	2861	OMC	C2-N3	5.90	1.48	1.36
1	5	1659	I4U	C6-C5	5.90	1.48	1.35
50	9	1337	4AC	C2-N3	5.89	1.48	1.36
1	5	4371	MHG	C2-N2	5.88	1.46	1.33
1	5	1866	UR3	C6-C5	5.86	1.48	1.35
50	9	1806	M7A	C4-N9	5.83	1.49	1.38
50	9	1842	4AC	C6-C5	5.83	1.48	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	2365	OMC	C2-N3	5.83	1.48	1.36
1	5	3701	OMC	C2-N3	5.83	1.48	1.36
1	5	4597	UR3	C6-C5	5.81	1.48	1.35
1	5	4306	OMU	C2-N1	5.79	1.47	1.38
1	5	3869	OMC	C2-N3	5.78	1.48	1.36
1	5	1909	P7G	C2-N1	5.77	1.47	1.33
1	5	2297	E7G	C2-N3	5.77	1.47	1.33
1	5	1605	7MG	C2-N3	5.75	1.47	1.33
1	5	4483	B8T	C6-C5	5.74	1.48	1.35
50	9	1703	OMC	C4-N3	5.74	1.46	1.34
1	5	4483	B8T	C2-N3	5.74	1.48	1.36
50	9	1710	OMC	C4-N3	5.73	1.46	1.34
1	5	1348	P4U	C2-N3	5.73	1.48	1.36
1	5	3899	BGH	C8-N9	5.73	1.49	1.46
1	5	729	2MG	C2-N2	5.73	1.46	1.33
1	5	4083	5MU	C6-C5	5.72	1.44	1.34
1	5	1797	E7G	C2-N3	5.72	1.47	1.33
50	9	174	OMC	C4-N3	5.70	1.46	1.34
1	5	1797	E7G	C4-N9	5.70	1.44	1.37
1	5	4620	OMU	C2-N1	5.70	1.47	1.38
1	5	4194	I4U	C2-N3	5.69	1.47	1.36
50	9	121	OMU	C6-C5	5.68	1.48	1.35
1	5	4671	B8T	C6-C5	5.67	1.48	1.35
1	5	3909	OMC	C2-N3	5.66	1.47	1.36
1	5	3880	P7G	C2-N1	5.65	1.46	1.33
1	5	4194	I4U	C6-C5	5.64	1.48	1.35
1	5	4690	B8K	C4-N9	5.60	1.44	1.37
1	5	4550	7MG	C2-N3	5.59	1.46	1.33
1	5	3887	OMC	C4-N3	5.59	1.45	1.34
50	9	517	OMC	C4-N3	5.59	1.45	1.34
1	5	4129	B8W	C2-N2	5.59	1.45	1.33
1	5	3701	OMC	C4-N3	5.58	1.45	1.34
1	5	4529	B8W	C2-N2	5.56	1.45	1.33
1	5	1909	P7G	C4-N9	5.56	1.43	1.35
1	5	2422	OMC	C4-N3	5.51	1.45	1.34
1	5	2365	OMC	C4-N3	5.50	1.45	1.34
1	5	3880	P7G	C4-N9	5.50	1.43	1.35
1	5	1456	B8Q	C2-N3	5.49	1.44	1.35
1	5	2861	OMC	C4-N3	5.49	1.45	1.34
1	5	2804	OMC	C4-N3	5.48	1.45	1.34
1	5	2522	7MG	C2-N3	5.46	1.46	1.33
1	5	4306	OMU	C6-C5	5.45	1.47	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	4355	E6G	C2-N2	5.45	1.44	1.33
1	5	2297	E7G	C4-N9	5.44	1.44	1.37
1	5	3897	B8K	C3'-C2'	5.44	1.68	1.53
1	5	3880	P7G	C4-N3	5.43	1.47	1.37
1	5	3897	B8K	C2-N3	5.39	1.46	1.33
1	5	3869	OMC	C4-N3	5.39	1.45	1.34
1	5	4185	B8W	C2-N2	5.37	1.44	1.33
1	5	3792	OMG	C2-N3	5.36	1.46	1.33
1	5	1605	7MG	C4-N3	5.36	1.47	1.34
3	8	14	OMU	C6-C5	5.36	1.47	1.35
1	5	1909	P7G	C4-N3	5.35	1.46	1.37
1	5	2380	B8W	C2-N2	5.34	1.44	1.33
1	5	3909	OMC	C4-N3	5.30	1.45	1.34
50	9	1248	B8N	C2-N1	5.30	1.55	1.39
1	5	4690	B8K	C3'-C2'	5.28	1.67	1.53
50	9	644	OMG	C2-N3	5.27	1.46	1.33
1	5	1909	P7G	C8-N7	5.26	1.50	1.45
50	9	116	OMU	C6-C5	5.26	1.47	1.35
1	5	2773	OMG	C2-N3	5.26	1.46	1.33
1	5	1605	7MG	C4-N9	5.26	1.43	1.37
1	5	3899	BGH	C2-N3	5.25	1.45	1.33
1	5	2522	7MG	C4-N3	5.24	1.46	1.34
1	5	4690	B8K	C2-N3	5.24	1.45	1.33
50	9	509	OMG	C2-N3	5.24	1.45	1.33
1	5	4371	MHG	C4-N3	5.23	1.46	1.34
1	5	4194	I4U	C3'-C4'	5.22	1.66	1.53
1	5	1625	OMG	C2-N3	5.21	1.45	1.33
1	5	4870	OMG	C2-N3	5.21	1.45	1.33
1	5	2424	OMG	C2-N3	5.21	1.45	1.33
1	5	4620	OMU	C6-C5	5.21	1.47	1.35
1	5	1860	B8H	C2-N3	5.20	1.47	1.38
1	5	4536	OMC	C4-N3	5.20	1.45	1.34
1	5	3762	B8H	C2-N3	5.20	1.47	1.38
1	5	1522	OMG	C2-N3	5.19	1.45	1.33
1	5	2364	OMG	C2-N3	5.18	1.45	1.33
1	5	4494	OMG	C2-N3	5.17	1.45	1.33
1	5	4550	7MG	C4-N3	5.16	1.46	1.34
1	5	1883	OMG	C2-N3	5.16	1.45	1.33
1	5	3897	B8K	C4-N3	5.15	1.46	1.34
1	5	1316	OMG	C2-N3	5.15	1.45	1.33
1	5	4623	OMG	C2-N3	5.14	1.45	1.33
1	5	4370	OMG	C2-N3	5.12	1.45	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	4196	OMG	C2-N3	5.12	1.45	1.33
1	5	4296	B8H	C2-N3	5.07	1.47	1.38
1	5	4637	OMG	C2-N3	5.06	1.45	1.33
1	5	2050	OMG	C2-N3	5.05	1.45	1.33
1	5	373	OMG	C2-N3	5.04	1.45	1.33
1	5	3899	BGH	C4-N3	5.02	1.46	1.34
1	5	4371	MHG	C4-N9	5.00	1.43	1.37
1	5	1659	I4U	C1'-N1	-5.00	1.33	1.47
1	5	4690	B8K	C4-N3	4.97	1.46	1.34
1	5	4472	B8W	C2-N2	4.96	1.43	1.33
1	5	1517	2MG	C4-N3	4.95	1.49	1.37
1	5	729	2MG	C4-N3	4.93	1.49	1.37
50	9	1830	UR3	C2-N3	4.89	1.48	1.39
50	9	683	OMG	C2-N3	4.89	1.45	1.33
1	5	4597	UR3	C2-N3	4.89	1.48	1.39
1	5	3899	BGH	O4'-C1'	-4.87	1.30	1.42
50	9	1337	4AC	C7-N4	4.87	1.46	1.37
1	5	3792	OMG	C4-N3	4.82	1.49	1.37
50	9	1374	5MC	C2-N1	4.81	1.50	1.40
1	5	2773	OMG	C4-N3	4.81	1.49	1.37
50	9	1248	B8N	C6-C5	4.79	1.41	1.34
1	5	4335	5MC	C4-N4	4.75	1.46	1.34
1	5	1883	OMG	C4-N3	4.74	1.48	1.37
50	9	1374	5MC	C4-N4	4.74	1.46	1.34
50	9	509	OMG	C4-N3	4.74	1.48	1.37
1	5	4870	OMG	C4-N3	4.74	1.48	1.37
1	5	1524	A2M	O3'-C3'	-4.72	1.31	1.43
1	5	4690	B8K	C5-N7	4.72	1.47	1.39
1	5	3897	B8K	C5-N7	4.72	1.47	1.39
1	5	3782	5MC	C4-N4	4.71	1.46	1.34
1	5	2424	OMG	C4-N3	4.71	1.48	1.37
50	9	1842	4AC	C7-N4	4.70	1.45	1.37
1	5	2364	OMG	C2-N2	4.68	1.45	1.34
1	5	373	OMG	C2-N2	4.67	1.45	1.34
1	5	1625	OMG	C4-N3	4.66	1.48	1.37
1	5	3723	A2M	O3'-C3'	-4.66	1.32	1.43
1	5	4550	7MG	C2-N2	4.65	1.45	1.34
1	5	1605	7MG	C2-N2	4.65	1.45	1.34
1	5	398	A2M	O3'-C3'	-4.65	1.32	1.43
1	5	373	OMG	C4-N3	4.65	1.48	1.37
1	5	4196	OMG	C4-N3	4.65	1.48	1.37
1	5	2424	OMG	C2-N2	4.65	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	4447	5MC	C4-N4	4.65	1.46	1.34
50	9	683	OMG	C2-N2	4.64	1.45	1.34
1	5	1326	A2M	O3'-C3'	-4.64	1.32	1.43
1	5	1797	E7G	C4-N3	4.63	1.45	1.34
50	9	166	A2M	O3'-C3'	-4.62	1.32	1.43
1	5	3867	A2M	C6-N6	4.62	1.50	1.34
50	9	1031	A2M	O3'-C3'	-4.62	1.32	1.43
1	5	1883	OMG	C2-N2	4.61	1.45	1.34
50	9	159	A2M	O3'-C3'	-4.60	1.32	1.43
1	5	4415	1MA	C2-N1	4.60	1.44	1.35
1	5	4530	UR3	C2-N3	4.60	1.47	1.39
1	5	3718	A2M	O3'-C3'	-4.60	1.32	1.43
1	5	1909	P7G	C2-N2	4.60	1.45	1.34
1	5	4571	A2M	O3'-C3'	-4.60	1.32	1.43
1	5	4494	OMG	C4-N3	4.59	1.48	1.37
1	5	3825	A2M	O3'-C3'	-4.59	1.32	1.43
1	5	2522	7MG	C2-N2	4.59	1.45	1.34
1	5	4447	5MC	C6-N1	4.59	1.45	1.38
50	9	644	OMG	C4-N3	4.59	1.48	1.37
50	9	1219	B8Q	C2-N1	4.58	1.45	1.38
50	9	27	A2M	O3'-C3'	-4.58	1.32	1.43
1	5	3792	OMG	C2-N2	4.58	1.45	1.34
1	5	4872	2MG	C2-N1	4.58	1.44	1.36
50	9	683	OMG	C4-N3	4.58	1.48	1.37
1	5	4571	A2M	C6-N6	4.58	1.50	1.34
1	5	3880	P7G	C2-N2	4.57	1.45	1.34
1	5	3825	A2M	C6-N6	4.57	1.50	1.34
1	5	2773	OMG	C2-N2	4.56	1.45	1.34
1	5	4494	OMG	C2-N2	4.56	1.45	1.34
1	5	2050	OMG	C4-N3	4.56	1.48	1.37
1	5	1871	A2M	O3'-C3'	-4.56	1.32	1.43
50	9	1678	A2M	C6-N6	4.55	1.50	1.34
50	9	166	A2M	C6-N6	4.55	1.50	1.34
1	5	2364	OMG	C4-N3	4.55	1.48	1.37
1	5	4370	OMG	C4-N3	4.55	1.48	1.37
1	5	398	A2M	C6-N6	4.55	1.50	1.34
50	9	1337	4AC	C4-N4	4.54	1.46	1.39
50	9	1031	A2M	C6-N6	4.54	1.50	1.34
50	9	668	A2M	C6-N6	4.54	1.50	1.34
1	5	3718	A2M	C6-N6	4.54	1.50	1.34
1	5	1316	OMG	C2-N2	4.53	1.45	1.34
1	5	2363	A2M	O3'-C3'	-4.53	1.32	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	2297	E7G	C4-N3	4.53	1.45	1.34
50	9	27	A2M	C6-N6	4.53	1.50	1.34
1	5	4870	OMG	C2-N2	4.52	1.44	1.34
1	5	1871	A2M	C6-N6	4.52	1.50	1.34
50	9	159	A2M	C6-N6	4.52	1.50	1.34
1	5	4623	OMG	C4-N3	4.51	1.48	1.37
1	5	3723	A2M	C6-N6	4.51	1.50	1.34
1	5	4623	OMG	C2-N2	4.51	1.44	1.34
1	5	1625	OMG	C2-N2	4.50	1.44	1.34
1	5	4637	OMG	C4-N3	4.50	1.48	1.37
1	5	3899	BGH	C2-N2	4.50	1.44	1.34
1	5	1522	OMG	C2-N2	4.50	1.44	1.34
50	9	484	A2M	C6-N6	4.50	1.50	1.34
1	5	4523	A2M	C6-N6	4.49	1.50	1.34
1	5	1326	A2M	C6-N6	4.49	1.50	1.34
1	5	1534	A2M	C6-N6	4.49	1.50	1.34
50	9	668	A2M	O3'-C3'	-4.48	1.32	1.43
1	5	2363	A2M	C6-N6	4.48	1.50	1.34
1	5	2401	A2M	C6-N6	4.48	1.50	1.34
1	5	1316	OMG	C4-N3	4.48	1.48	1.37
1	5	4690	B8K	O4'-C1'	4.48	1.52	1.42
1	5	3899	BGH	C4-N9	4.47	1.42	1.37
1	5	4196	OMG	C2-N2	4.47	1.44	1.34
50	9	1806	M7A	C6-N6	4.47	1.45	1.34
50	9	1374	5MC	C6-N1	4.47	1.45	1.38
1	5	3897	B8K	C2-N2	4.47	1.44	1.34
50	9	1678	A2M	O3'-C3'	-4.46	1.32	1.43
1	5	4483	B8T	C4-N4	4.46	1.45	1.35
1	5	4564	M7A	C6-N6	4.46	1.45	1.34
1	5	2401	A2M	O3'-C3'	-4.45	1.32	1.43
1	5	1522	OMG	C4-N3	4.45	1.48	1.37
1	5	1524	A2M	C6-N6	4.45	1.50	1.34
1	5	4690	B8K	C2-N2	4.45	1.44	1.34
1	5	4370	OMG	C2-N2	4.44	1.44	1.34
1	5	1659	I4U	C3'-C4'	4.44	1.64	1.53
50	9	644	OMG	C2-N2	4.43	1.44	1.34
1	5	3867	A2M	O3'-C3'	-4.43	1.32	1.43
1	5	4550	7MG	C4-N9	4.41	1.42	1.37
1	5	2050	OMG	C2-N2	4.38	1.44	1.34
50	9	509	OMG	C2-N2	4.38	1.44	1.34
1	5	4671	B8T	C4-N4	4.38	1.44	1.35
1	5	2522	7MG	C4-N9	4.37	1.42	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	4690	B8K	C71-N7	4.36	1.49	1.39
1	5	4637	OMG	C2-N2	4.32	1.44	1.34
1	5	1534	A2M	O3'-C3'	-4.29	1.32	1.43
1	5	3899	BGH	O2'-C2'	-4.28	1.31	1.42
1	5	3785	A2M	C6-N6	4.25	1.49	1.34
1	5	1348	P4U	O4-C4	4.23	1.39	1.35
50	9	484	A2M	O3'-C3'	-4.23	1.33	1.43
1	5	1866	UR3	C2-N3	4.22	1.47	1.39
1	5	3782	5MC	C6-N1	4.20	1.45	1.38
1	5	4523	A2M	O3'-C3'	-4.19	1.33	1.43
50	9	1842	4AC	C4-N4	4.18	1.45	1.39
1	5	1659	I4U	C5-C4	4.15	1.48	1.43
1	5	4335	5MC	C6-N1	4.15	1.45	1.38
1	5	3880	P7G	C8-N7	4.09	1.49	1.45
1	5	4335	5MC	C2-N1	4.06	1.48	1.40
1	5	1348	P4U	C5-C4	4.06	1.48	1.43
1	5	4194	I4U	C5-C4	4.05	1.48	1.43
1	5	3909	OMC	O2-C2	-4.04	1.16	1.23
1	5	3782	5MC	C2-N1	4.02	1.48	1.40
1	5	2297	E7G	C2-N2	4.02	1.43	1.34
1	5	3897	B8K	O4'-C1'	4.01	1.51	1.42
50	9	1806	M7A	C5-N7	4.01	1.49	1.39
1	5	1659	I4U	O4'-C1'	4.00	1.51	1.42
1	5	237	B9B	O3'-C3'	-3.99	1.33	1.43
1	5	1797	E7G	C2-N2	3.98	1.43	1.34
1	5	1348	P4U	C2-N1	3.97	1.48	1.40
50	9	174	OMC	C4-N4	3.94	1.43	1.33
1	5	1517	2MG	C2-N1	3.94	1.43	1.36
1	5	2422	OMC	C4-N4	3.92	1.43	1.33
1	5	1322	1MA	C2-N1	3.92	1.43	1.35
1	5	4872	2MG	C4-N3	3.90	1.46	1.37
1	5	4671	B8T	C2-N1	3.90	1.48	1.40
50	9	1710	OMC	C4-N4	3.89	1.43	1.33
50	9	1703	OMC	C4-N4	3.89	1.43	1.33
1	5	3897	B8K	C71-N7	3.88	1.48	1.39
1	5	4483	B8T	C2-N1	3.88	1.48	1.40
1	5	2365	OMC	C4-N4	3.87	1.43	1.33
1	5	2861	OMC	C4-N4	3.87	1.43	1.33
50	9	1337	4AC	C2-N1	3.86	1.48	1.40
1	5	4447	5MC	C2-N1	3.85	1.48	1.40
1	5	3701	OMC	C4-N4	3.84	1.43	1.33
50	9	116	OMU	C4-N3	3.84	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	4872	2MG	C6-N1	3.84	1.43	1.37
50	9	1710	OMC	C2-N1	3.83	1.48	1.40
1	5	3899	BGH	C5-N7	3.82	1.46	1.39
1	5	2754	B9B	O3'-C3'	-3.82	1.34	1.43
1	5	3869	OMC	C4-N4	3.81	1.42	1.33
1	5	3887	OMC	C4-N4	3.81	1.42	1.33
3	8	14	OMU	C4-N3	3.79	1.45	1.38
50	9	174	OMC	C2-N1	3.78	1.48	1.40
1	5	2804	OMC	C4-N4	3.78	1.42	1.33
50	9	1337	4AC	C5-C4	3.77	1.48	1.40
50	9	1703	OMC	C2-N1	3.76	1.48	1.40
50	9	517	OMC	C4-N4	3.76	1.42	1.33
50	9	121	OMU	C4-N3	3.75	1.45	1.38
1	5	1574	B9B	O3'-C3'	-3.74	1.34	1.43
1	5	3785	A2M	O3'-C3'	-3.73	1.34	1.43
50	9	1842	4AC	C2-N1	3.72	1.48	1.40
1	5	3909	OMC	C4-N4	3.72	1.42	1.33
1	5	4536	OMC	C4-N4	3.70	1.42	1.33
1	5	729	2MG	C2-N1	3.68	1.42	1.36
1	5	2422	OMC	C2-N1	3.65	1.47	1.40
1	5	3880	P7G	C2-N3	3.65	1.46	1.37
1	5	3909	OMC	C2-N1	3.65	1.47	1.40
1	5	4536	OMC	C2-N1	3.64	1.47	1.40
1	5	2380	B8W	O4'-C4'	3.64	1.53	1.45
1	5	4129	B8W	O4'-C4'	3.63	1.53	1.45
1	5	4529	B8W	O4'-C4'	3.63	1.53	1.45
1	5	3723	A2M	O2'-C2'	3.61	1.51	1.42
1	5	1909	P7G	C2-N3	3.61	1.46	1.37
1	5	4194	I4U	C2-N1	3.61	1.47	1.40
50	9	174	OMC	C6-N1	3.60	1.46	1.38
1	5	2380	B8W	C3'-C2'	3.56	1.63	1.53
1	5	3887	OMC	C2-N1	3.56	1.47	1.40
1	5	4355	E6G	O2'-C2'	3.56	1.51	1.43
1	5	1909	P7G	C5-C4	3.54	1.44	1.37
1	5	3867	A2M	O2'-C2'	3.54	1.51	1.42
1	5	4306	OMU	C4-N3	3.54	1.44	1.38
50	9	1842	4AC	C5-C4	3.53	1.48	1.40
1	5	1797	E7G	C5-C6	3.51	1.52	1.43
1	5	4129	B8W	C3'-C2'	3.51	1.63	1.53
1	5	2365	OMC	C6-N1	3.51	1.46	1.38
50	9	517	OMC	C6-N1	3.49	1.46	1.38
1	5	3880	P7G	C5-C4	3.49	1.44	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	9	1678	A2M	O2'-C2'	3.49	1.51	1.42
50	9	1710	OMC	C6-N1	3.48	1.46	1.38
1	5	4185	B8W	O4'-C4'	3.48	1.52	1.45
1	5	4690	B8K	O6-C6	-3.47	1.17	1.23
1	5	3897	B8K	C2-N1	3.47	1.46	1.37
1	5	4872	2MG	C5-C4	-3.46	1.34	1.43
1	5	4415	1MA	C4-N3	3.46	1.48	1.37
1	5	4371	MHG	C5-C6	3.44	1.52	1.43
1	5	4194	I4U	O4'-C1'	3.44	1.50	1.42
1	5	2297	E7G	C5-C6	3.44	1.52	1.43
50	9	484	A2M	O2'-C2'	3.44	1.51	1.42
1	5	3899	BGH	C5-C6	3.44	1.52	1.43
50	9	517	OMC	C2-N1	3.42	1.47	1.40
1	5	3785	A2M	O2'-C2'	3.42	1.51	1.42
1	5	2861	OMC	C2-N1	3.41	1.47	1.40
50	9	683	OMG	C6-N1	3.41	1.43	1.37
1	5	1605	7MG	C5-C6	3.41	1.52	1.43
50	9	644	OMG	C6-N1	3.41	1.42	1.37
1	5	398	A2M	O2'-C2'	3.41	1.51	1.42
1	5	2773	OMG	C6-N1	3.40	1.42	1.37
1	5	2522	7MG	C2-N1	3.40	1.46	1.37
1	5	4564	M7A	C5-N7	3.40	1.47	1.39
1	5	4620	OMU	C4-N3	3.40	1.44	1.38
50	9	166	A2M	O2'-C2'	3.39	1.51	1.42
1	5	4447	5MC	O2-C2	-3.39	1.17	1.23
1	5	4355	E6G	O3'-C3'	-3.38	1.35	1.43
1	5	2804	OMC	C6-N1	3.38	1.46	1.38
1	5	2861	OMC	O2-C2	-3.37	1.17	1.23
1	5	1605	7MG	C2-N1	3.37	1.46	1.37
50	9	1243	PSU	C6-C5	3.37	1.39	1.35
1	5	2424	OMG	C6-N1	3.36	1.42	1.37
1	5	1326	A2M	O2'-C2'	3.36	1.51	1.42
1	5	3869	OMC	C6-N1	3.35	1.46	1.38
1	5	1534	A2M	C2-N3	3.35	1.37	1.32
1	5	4335	5MC	O2-C2	-3.35	1.17	1.23
1	5	2401	A2M	O2'-C2'	3.35	1.51	1.42
1	5	4194	I4U	O2'-C2'	3.34	1.50	1.43
1	5	3869	OMC	C2-N1	3.34	1.47	1.40
1	5	3718	A2M	O2'-C2'	3.33	1.51	1.42
1	5	4472	B8W	O4'-C4'	3.33	1.52	1.45
50	9	1678	A2M	C2-N3	3.33	1.37	1.32
1	5	2804	OMC	C2-N1	3.33	1.47	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	3899	BGH	C2-N1	3.32	1.45	1.37
1	5	4370	OMG	C6-N1	3.32	1.42	1.37
50	9	668	A2M	O2'-C2'	3.32	1.51	1.42
1	5	2522	7MG	C5-C6	3.31	1.52	1.43
1	5	1883	OMG	C5-C4	-3.31	1.34	1.43
1	5	4623	OMG	C6-N1	3.31	1.42	1.37
1	5	4550	7MG	C5-C6	3.31	1.52	1.43
1	5	3887	OMC	C6-N1	3.31	1.46	1.38
50	9	509	OMG	C6-N1	3.31	1.42	1.37
1	5	2297	E7G	C2-N1	3.30	1.45	1.37
1	5	4185	B8W	C3'-C2'	3.30	1.62	1.53
1	5	3701	OMC	C6-N1	3.30	1.46	1.38
50	9	159	A2M	O2'-C2'	3.30	1.51	1.42
1	5	1659	I4U	C2-N1	3.29	1.47	1.40
1	5	1797	E7G	C2-N1	3.29	1.45	1.37
1	5	3785	A2M	C5-C4	-3.29	1.32	1.40
50	9	1703	OMC	C6-N1	3.29	1.45	1.38
1	5	1871	A2M	O2'-C2'	3.28	1.51	1.42
1	5	1316	OMG	C5-C4	-3.28	1.34	1.43
1	5	4620	OMU	O4-C4	-3.27	1.18	1.24
1	5	3701	OMC	C2-N1	3.26	1.47	1.40
1	5	4550	7MG	C2-N1	3.26	1.45	1.37
1	5	1517	2MG	O6-C6	-3.25	1.16	1.23
1	5	4571	A2M	O2'-C2'	3.24	1.50	1.42
1	5	2365	OMC	O2-C2	-3.24	1.17	1.23
50	9	27	A2M	C2-N3	3.24	1.37	1.32
1	5	1860	B8H	O4-C4	-3.23	1.17	1.23
50	9	668	A2M	C5-C4	-3.23	1.32	1.40
1	5	4536	OMC	C6-N1	3.23	1.45	1.38
1	5	3825	A2M	O2'-C2'	3.23	1.50	1.42
1	5	2804	OMC	O2-C2	-3.23	1.17	1.23
1	5	373	OMG	C6-N1	3.22	1.42	1.37
1	5	4690	B8K	C2-N1	3.22	1.45	1.37
50	9	159	A2M	C2-N3	3.22	1.37	1.32
1	5	3785	A2M	C2-N3	3.22	1.37	1.32
50	9	166	A2M	C2-N3	3.22	1.37	1.32
1	5	2363	A2M	O2'-C2'	3.22	1.50	1.42
1	5	4872	2MG	O6-C6	-3.22	1.16	1.23
1	5	4571	A2M	C2-N3	3.21	1.37	1.32
1	5	4296	B8H	O4-C4	-3.21	1.17	1.23
1	5	1534	A2M	O2'-C2'	3.21	1.50	1.42
1	5	1456	B8Q	C2-N1	3.20	1.43	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	2050	OMG	C5-C4	-3.20	1.34	1.43
1	5	1316	OMG	C6-N1	3.19	1.42	1.37
1	5	4494	OMG	C6-N1	3.19	1.42	1.37
1	5	2364	OMG	C6-N1	3.19	1.42	1.37
1	5	4472	B8W	C5-C4	-3.19	1.32	1.40
1	5	2422	OMC	C6-N1	3.19	1.45	1.38
1	5	398	A2M	C2-N3	3.19	1.37	1.32
1	5	3897	B8K	C5-C6	3.19	1.51	1.43
1	5	4483	B8T	O2-C2	-3.17	1.17	1.23
1	5	2365	OMC	C2-N1	3.17	1.46	1.40
1	5	4494	OMG	C5-C4	-3.17	1.35	1.43
1	5	4870	OMG	C6-N1	3.17	1.42	1.37
50	9	1703	OMC	O2-C2	-3.16	1.17	1.23
1	5	3887	OMC	O2-C2	-3.16	1.17	1.23
1	5	373	OMG	C5-C4	-3.16	1.35	1.43
1	5	4529	B8W	C3'-C2'	3.16	1.62	1.53
3	8	14	OMU	O4-C4	-3.16	1.18	1.24
1	5	4306	OMU	O4-C4	-3.16	1.18	1.24
50	9	1031	A2M	O2'-C2'	3.16	1.50	1.42
1	5	4523	A2M	C2-N3	3.16	1.37	1.32
1	5	1534	A2M	C5-C4	-3.15	1.32	1.40
1	5	1625	OMG	C6-N1	3.15	1.42	1.37
1	5	1524	A2M	O2'-C2'	3.14	1.50	1.42
1	5	4523	A2M	O2'-C2'	3.14	1.50	1.42
1	5	3909	OMC	C6-N1	3.14	1.45	1.38
1	5	4536	OMC	O2-C2	-3.13	1.17	1.23
1	5	2861	OMC	C6-N1	3.13	1.45	1.38
1	5	4483	B8T	C5-C4	3.13	1.47	1.40
50	9	1081	PSU	C6-C5	3.13	1.39	1.35
1	5	3762	B8H	O4-C4	-3.12	1.17	1.23
1	5	4194	I4U	O4-C41	-3.12	1.39	1.47
1	5	1659	I4U	O2'-C2'	3.11	1.50	1.43
1	5	729	2MG	O6-C6	-3.11	1.17	1.23
1	5	2050	OMG	C6-N1	3.11	1.42	1.37
1	5	1683	PSU	C6-C5	3.11	1.38	1.35
50	9	668	A2M	C2-N3	3.11	1.37	1.32
50	9	568	E3C	C4-N3	3.11	1.53	1.48
1	5	1522	OMG	C6-N1	3.10	1.42	1.37
1	5	3729	PSU	C6-C5	3.10	1.38	1.35
1	5	4523	A2M	C5-C4	-3.10	1.32	1.40
1	5	4671	B8T	C5-C4	3.09	1.47	1.40
1	5	3723	A2M	C2-N3	3.09	1.37	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	2422	OMC	O2-C2	-3.08	1.18	1.23
50	9	484	A2M	C2-N3	3.08	1.37	1.32
50	9	116	OMU	O4-C4	-3.08	1.18	1.24
1	5	3764	PSU	C6-C5	3.07	1.38	1.35
1	5	2380	B8W	C5-C4	-3.07	1.32	1.40
1	5	4637	OMG	C5-C4	-3.07	1.35	1.43
1	5	4371	MHG	C6-N1	3.07	1.44	1.38
50	9	823	PSU	C6-C5	3.07	1.38	1.35
1	5	1883	OMG	C6-N1	3.07	1.42	1.37
1	5	2363	A2M	C2-N3	3.07	1.37	1.32
1	5	1326	A2M	C2-N3	3.07	1.37	1.32
1	5	4637	OMG	C6-N1	3.07	1.42	1.37
50	9	1374	5MC	O2-C2	-3.06	1.18	1.23
50	9	1337	4AC	C6-N1	3.06	1.45	1.38
1	5	2363	A2M	C5-C4	-3.06	1.32	1.40
1	5	3897	B8K	O6-C6	-3.06	1.17	1.23
50	9	683	OMG	C5-C4	-3.05	1.35	1.43
1	5	4872	2MG	C5-C6	3.05	1.53	1.47
1	5	4220	6MZ	C5-C4	-3.05	1.32	1.40
1	5	1659	I4U	O4-C41	-3.05	1.40	1.47
1	5	3792	OMG	C6-N1	3.05	1.42	1.37
1	5	4196	OMG	C6-N1	3.04	1.42	1.37
1	5	1582	PSU	C6-C5	3.04	1.38	1.35
1	5	4623	OMG	C5-C4	-3.04	1.35	1.43
1	5	4293	PSU	C6-C5	3.04	1.38	1.35
1	5	3867	A2M	C5-C4	-3.03	1.32	1.40
1	5	4690	B8K	C5-C6	3.02	1.51	1.43
1	5	4571	A2M	C5-C4	-3.02	1.32	1.40
1	5	1517	2MG	C5-C4	-3.02	1.35	1.43
1	5	4671	B8T	O2-C2	-3.02	1.18	1.23
1	5	2401	A2M	C2-N3	3.02	1.37	1.32
1	5	3715	PSU	C6-C5	3.01	1.38	1.35
1	5	1522	OMG	C5-C4	-3.01	1.35	1.43
1	5	1659	I4U	O2-C2	-3.01	1.18	1.23
1	5	3880	P7G	O6-C6	-3.01	1.19	1.23
1	5	2522	7MG	C6-N1	3.01	1.44	1.38
1	5	1524	A2M	C5-C4	-3.00	1.33	1.40
1	5	2401	A2M	C5-C4	-3.00	1.33	1.40
1	5	2364	OMG	C5-C4	-3.00	1.35	1.43
50	9	1842	4AC	C6-N1	3.00	1.45	1.38
1	5	3825	A2M	C2-N3	3.00	1.36	1.32
50	9	121	OMU	O4-C4	-2.99	1.18	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	4483	B8T	C6-N1	2.99	1.45	1.38
1	5	1659	I4U	C6-N1	2.99	1.45	1.38
1	5	1322	1MA	C4-N3	2.99	1.46	1.37
1	5	729	2MG	C5-C4	-2.99	1.35	1.43
50	9	568	E3C	C6-N1	2.98	1.45	1.38
1	5	4355	E6G	C5-C4	-2.98	1.33	1.40
1	5	3785	A2M	C3'-C4'	2.97	1.60	1.53
1	5	1871	A2M	C5-C4	-2.97	1.33	1.40
1	5	3899	BGH	O6-C6	-2.96	1.18	1.23
1	5	2424	OMG	C5-C4	-2.95	1.35	1.43
50	9	1031	A2M	C2-N3	2.95	1.36	1.32
1	5	3867	A2M	C2-N3	2.95	1.36	1.32
50	9	119	PSU	C6-C5	2.95	1.38	1.35
1	5	2508	PSU	C6-C5	2.95	1.38	1.35
50	9	1031	A2M	C5-C4	-2.94	1.33	1.40
50	9	159	A2M	C5-C4	-2.94	1.33	1.40
1	5	4185	B8W	C5-C4	-2.93	1.33	1.40
1	5	4370	OMG	C5-C4	-2.93	1.35	1.43
1	5	1517	2MG	C6-N1	2.93	1.42	1.37
1	5	3825	A2M	C5-C4	-2.92	1.33	1.40
1	5	3782	5MC	O2-C2	-2.92	1.18	1.23
1	5	1326	A2M	C5-C4	-2.92	1.33	1.40
1	5	3869	OMC	O2-C2	-2.91	1.18	1.23
1	5	4220	6MZ	C2-N3	2.91	1.36	1.32
50	9	644	OMG	C5-C4	-2.91	1.35	1.43
50	9	27	A2M	C5-C4	-2.91	1.33	1.40
1	5	1456	B8Q	O2-C2	-2.91	1.17	1.22
50	9	517	OMC	O2-C2	-2.90	1.18	1.23
1	5	1871	A2M	C2-N3	2.90	1.36	1.32
1	5	3718	A2M	C2-N3	2.90	1.36	1.32
50	9	822	PSU	C6-C5	2.89	1.38	1.35
50	9	1710	OMC	O2-C2	-2.89	1.18	1.23
1	5	4531	PSU	C6-C5	2.89	1.38	1.35
50	9	27	A2M	O2'-C2'	2.89	1.50	1.42
1	5	1883	OMG	O6-C6	-2.88	1.17	1.23
50	9	1842	4AC	O2-C2	-2.88	1.18	1.23
1	5	3899	BGH	C6-N1	2.88	1.44	1.38
1	5	4870	OMG	C5-C4	-2.88	1.35	1.43
1	5	1348	P4U	O2-C2	-2.87	1.18	1.23
1	5	3792	OMG	C5-C4	-2.87	1.35	1.43
1	5	4083	5MU	O4-C4	-2.87	1.18	1.23
1	5	4550	7MG	C6-N1	2.87	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	4530	UR3	C6-N1	2.86	1.44	1.38
1	5	1605	7MG	C6-N1	2.85	1.44	1.38
1	5	3899	BGH	C71-N7	2.85	1.45	1.39
1	5	4442	PSU	C6-C5	2.85	1.38	1.35
50	9	174	OMC	O2-C2	-2.85	1.18	1.23
1	5	4083	5MU	O2-C2	-2.84	1.17	1.23
1	5	1524	A2M	C2-N3	2.84	1.36	1.32
1	5	3897	B8K	C6-N1	2.84	1.44	1.38
1	5	398	A2M	C5-C4	-2.82	1.33	1.40
50	9	1832	6MZ	C5-C4	-2.82	1.33	1.40
1	5	1659	I4U	O4-C4	2.82	1.40	1.35
1	5	4194	I4U	O2-C2	-2.82	1.18	1.23
1	5	3723	A2M	C5-C4	-2.82	1.33	1.40
50	9	1337	4AC	O2-C2	-2.81	1.18	1.23
1	5	1677	PSU	O4'-C1'	-2.81	1.40	1.43
1	5	1348	P4U	C6-N1	2.81	1.44	1.38
50	9	484	A2M	C5-C4	-2.81	1.33	1.40
1	5	4306	OMU	O2-C2	-2.81	1.17	1.23
1	5	4196	OMG	C5-C4	-2.80	1.35	1.43
1	5	3701	OMC	O2-C2	-2.80	1.18	1.23
50	9	814	5MU	O4-C4	-2.79	1.18	1.23
1	5	2773	OMG	C5-C6	2.79	1.53	1.47
1	5	3792	OMG	C5-C6	2.78	1.53	1.47
1	5	4529	B8W	C5-C4	-2.78	1.33	1.40
1	5	1625	OMG	C5-C4	-2.78	1.36	1.43
1	5	4628	PSU	C6-C5	2.78	1.38	1.35
1	5	2773	OMG	C5-C4	-2.78	1.36	1.43
1	5	2424	OMG	C5-C6	2.77	1.53	1.47
1	5	1909	P7G	O6-C6	-2.77	1.19	1.23
1	5	1522	OMG	C5-C6	2.76	1.53	1.47
50	9	1830	UR3	C6-N1	2.76	1.44	1.38
1	5	4472	B8W	C3'-C2'	2.75	1.60	1.53
50	9	121	OMU	O2-C2	-2.75	1.18	1.23
50	9	1219	B8Q	O2-C2	-2.74	1.17	1.22
1	5	4403	PSU	C6-C5	2.74	1.38	1.35
50	9	683	OMG	C5-C6	2.73	1.53	1.47
50	9	509	OMG	C5-C6	2.73	1.52	1.47
1	5	3718	A2M	C5-C4	-2.71	1.33	1.40
50	9	166	A2M	C5-C4	-2.71	1.33	1.40
1	5	4597	UR3	C6-N1	2.71	1.44	1.38
1	5	1605	7MG	O6-C6	-2.71	1.18	1.23
1	5	4620	OMU	O2-C2	-2.69	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	2754	B9B	O2'-C2'	2.68	1.49	1.43
1	5	4671	B8T	C6-N1	2.68	1.44	1.38
1	5	4129	B8W	C5-C4	-2.67	1.33	1.40
50	9	509	OMG	C5-C4	-2.66	1.36	1.43
1	5	1866	UR3	C6-N1	2.65	1.44	1.38
1	5	1322	1MA	C5-C4	-2.65	1.36	1.43
1	5	3792	OMG	O6-C6	-2.65	1.17	1.23
1	5	4550	7MG	O6-C6	-2.65	1.18	1.23
3	8	14	OMU	O2-C2	-2.64	1.18	1.23
1	5	1574	B9B	C5-C4	-2.64	1.33	1.40
50	9	644	OMG	C5-C6	2.64	1.52	1.47
1	5	237	B9B	O2'-C2'	2.63	1.49	1.43
50	9	1678	A2M	C5-C4	-2.63	1.34	1.40
1	5	1574	B9B	O2'-C2'	2.62	1.49	1.43
50	9	121	OMU	C6-N1	2.62	1.44	1.38
1	5	1797	E7G	C6-N1	2.61	1.43	1.38
1	5	1625	OMG	C5-C6	2.60	1.52	1.47
1	5	4500	PSU	C6-C5	2.60	1.38	1.35
1	5	2364	OMG	O6-C6	-2.58	1.18	1.23
1	5	4690	B8K	C6-N1	2.58	1.43	1.38
1	5	2773	OMG	C2-N1	2.58	1.44	1.37
1	5	2050	OMG	C5-C6	2.57	1.52	1.47
1	5	1316	OMG	C5-C6	2.56	1.52	1.47
1	5	4870	OMG	C5-C6	2.56	1.52	1.47
1	5	4196	OMG	C5-C6	2.56	1.52	1.47
50	9	814	5MU	O2-C2	-2.56	1.18	1.23
1	5	729	2MG	C6-N1	2.55	1.41	1.37
1	5	4637	OMG	C5-C6	2.54	1.52	1.47
1	5	4371	MHG	O6-C6	-2.54	1.18	1.23
1	5	4636	PSU	C6-C5	2.54	1.38	1.35
50	9	1850	MA6	C5-C4	-2.53	1.34	1.40
1	5	2424	OMG	C2-N1	2.52	1.43	1.37
1	5	2522	7MG	O6-C6	-2.52	1.18	1.23
1	5	4194	I4U	C6-N1	2.52	1.44	1.38
1	5	2050	OMG	O6-C6	-2.52	1.18	1.23
1	5	2424	OMG	O6-C6	-2.52	1.18	1.23
1	5	2754	B9B	C5-C4	-2.51	1.34	1.40
1	5	3899	BGH	O5'-C5'	-2.51	1.38	1.44
50	9	116	OMU	O2-C2	-2.50	1.18	1.23
1	5	2297	E7G	C6-N1	2.50	1.43	1.38
50	9	1851	MA6	C5-C4	-2.50	1.34	1.40
50	9	683	OMG	C2-N1	2.50	1.43	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	1517	2MG	C5-C6	2.49	1.52	1.47
1	5	4637	OMG	O6-C6	-2.49	1.18	1.23
1	5	237	B9B	C5-C4	-2.48	1.34	1.40
1	5	4370	OMG	C5-C6	2.48	1.52	1.47
1	5	4370	OMG	C2-N1	2.48	1.43	1.37
50	9	509	OMG	C2-N1	2.48	1.43	1.37
1	5	2050	OMG	C2-N1	2.48	1.43	1.37
50	9	644	OMG	C2-N1	2.46	1.43	1.37
1	5	1866	UR3	O4-C4	-2.45	1.18	1.23
50	9	1832	6MZ	C2-N3	2.45	1.36	1.32
1	5	2364	OMG	C2-N1	2.45	1.43	1.37
1	5	4370	OMG	O6-C6	-2.44	1.18	1.23
50	9	612	PSU	C6-C5	2.44	1.38	1.35
1	5	4623	OMG	C5-C6	2.43	1.52	1.47
50	9	116	OMU	C6-N1	2.42	1.43	1.38
50	9	644	OMG	O6-C6	-2.42	1.18	1.23
1	5	1625	OMG	C2-N1	2.42	1.43	1.37
1	5	2364	OMG	C5-C6	2.41	1.52	1.47
1	5	1316	OMG	O6-C6	-2.41	1.18	1.23
1	5	4415	1MA	C5-C4	-2.41	1.36	1.43
1	5	4623	OMG	C2-N1	2.41	1.43	1.37
1	5	4306	OMU	C6-N1	2.40	1.43	1.38
3	8	14	OMU	C6-N1	2.39	1.43	1.38
1	5	1522	OMG	O6-C6	-2.39	1.18	1.23
50	9	509	OMG	O6-C6	-2.38	1.18	1.23
1	5	4637	OMG	C2-N1	2.38	1.43	1.37
1	5	729	2MG	C5-C6	2.38	1.52	1.47
1	5	373	OMG	C5-C6	2.37	1.52	1.47
1	5	4623	OMG	O6-C6	-2.37	1.18	1.23
1	5	373	OMG	C2-N1	2.36	1.43	1.37
1	5	4472	B8W	O5'-C5'	-2.35	1.39	1.44
1	5	4597	UR3	O2-C2	-2.35	1.18	1.22
50	9	1830	UR3	O4-C4	-2.35	1.18	1.23
1	5	4530	UR3	O2-C2	-2.35	1.18	1.22
1	5	4494	OMG	C2-N1	2.34	1.43	1.37
1	5	4494	OMG	O6-C6	-2.34	1.18	1.23
1	5	373	OMG	O6-C6	-2.34	1.18	1.23
50	9	159	A2M	C5'-C4'	2.34	1.58	1.51
1	5	4494	OMG	C5-C6	2.34	1.52	1.47
1	5	1883	OMG	C5-C6	2.34	1.52	1.47
50	9	1830	UR3	O2-C2	-2.33	1.18	1.22
50	9	683	OMG	O6-C6	-2.33	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	3723	A2M	C3'-C4'	2.32	1.58	1.53
1	5	1534	A2M	O5'-C5'	-2.32	1.39	1.44
1	5	3792	OMG	C2-N1	2.32	1.43	1.37
1	5	4530	UR3	O4-C4	-2.32	1.18	1.23
1	5	4196	OMG	O6-C6	-2.32	1.18	1.23
1	5	4450	PSU	C6-C5	2.32	1.38	1.35
1	5	1797	E7G	O6-C6	-2.31	1.19	1.23
1	5	1625	OMG	O6-C6	-2.31	1.18	1.23
1	5	4597	UR3	O4-C4	-2.31	1.18	1.23
1	5	4870	OMG	C2-N1	2.30	1.43	1.37
1	5	1866	UR3	O2-C2	-2.30	1.18	1.22
50	9	1678	A2M	C3'-C4'	2.29	1.58	1.53
1	5	2773	OMG	O6-C6	-2.28	1.18	1.23
50	9	484	A2M	C3'-C4'	2.28	1.58	1.53
1	5	2297	E7G	O6-C6	-2.28	1.19	1.23
1	5	4450	PSU	C4-C5	-2.28	1.37	1.44
1	5	1326	A2M	C3'-C4'	2.26	1.58	1.53
1	5	1316	OMG	C2-N1	2.26	1.43	1.37
1	5	1534	A2M	C3'-C4'	2.26	1.58	1.53
50	9	1678	A2M	C5'-C4'	2.26	1.58	1.51
50	9	121	OMU	C5-C4	2.25	1.48	1.43
1	5	4529	B8W	O5'-C5'	-2.25	1.39	1.44
50	9	1248	B8N	O4-C4	-2.24	1.18	1.23
1	5	4194	I4U	O4-C4	2.24	1.39	1.35
1	5	3867	A2M	C3'-C4'	2.24	1.58	1.53
1	5	1522	OMG	C2-N1	2.24	1.43	1.37
1	5	1524	A2M	O5'-C5'	-2.23	1.39	1.44
1	5	4870	OMG	O6-C6	-2.22	1.18	1.23
1	5	4196	OMG	C2-N1	2.20	1.43	1.37
1	5	1677	PSU	C4-C5	-2.20	1.37	1.44
1	5	4185	B8W	O5'-C5'	-2.19	1.39	1.44
1	5	4220	6MZ	C6-N1	-2.19	1.30	1.34
1	5	4523	A2M	C5'-C4'	2.19	1.58	1.51
1	5	4194	I4U	O5'-C5'	-2.18	1.39	1.44
1	5	3825	A2M	O5'-C5'	-2.18	1.39	1.44
1	5	4628	PSU	C4-C5	-2.17	1.38	1.44
1	5	1883	OMG	C2-N1	2.17	1.43	1.37
1	5	1683	PSU	C4-C5	-2.16	1.38	1.44
1	5	4636	PSU	C4-C5	-2.16	1.38	1.44
1	5	3723	A2M	C5'-C4'	2.16	1.58	1.51
1	5	1574	B9B	C5'-C4'	2.16	1.58	1.51
1	5	3897	B8K	C5-C4	2.16	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	4500	PSU	C4-C5	-2.16	1.38	1.44
1	5	4571	A2M	C5'-C4'	2.15	1.58	1.51
1	5	4355	E6G	O5'-C5'	-2.14	1.39	1.44
1	5	2401	A2M	C3'-C4'	2.14	1.58	1.53
1	5	398	A2M	C3'-C4'	2.14	1.58	1.53
1	5	4523	A2M	C3'-C4'	2.14	1.58	1.53
1	5	2363	A2M	C5'-C4'	2.13	1.58	1.51
50	9	27	A2M	O5'-C5'	-2.13	1.39	1.44
1	5	3867	A2M	C5'-C4'	2.13	1.58	1.51
50	9	1842	4AC	O7-C7	-2.12	1.18	1.23
50	9	668	A2M	O5'-C5'	-2.12	1.39	1.44
1	5	2363	A2M	C5-N7	-2.12	1.32	1.39
1	5	1871	A2M	C3'-C4'	2.12	1.58	1.53
1	5	4564	M7A	C8-N9	-2.12	1.40	1.45
1	5	2401	A2M	C5'-C4'	2.11	1.58	1.51
1	5	3718	A2M	C5'-C4'	2.11	1.58	1.51
1	5	2754	B9B	C5'-C4'	2.11	1.58	1.51
50	9	484	A2M	C5'-C4'	2.10	1.58	1.51
50	9	568	E3C	O2-C2	-2.10	1.18	1.22
1	5	4620	OMU	C6-N1	2.10	1.43	1.38
1	5	4628	PSU	O4'-C1'	-2.10	1.40	1.43
1	5	2363	A2M	O5'-C5'	-2.09	1.39	1.44
50	9	1248	B8N	O2-C2	-2.09	1.18	1.22
1	5	4306	OMU	C5-C4	2.09	1.48	1.43
50	9	166	A2M	C3'-C4'	2.07	1.58	1.53
50	9	27	A2M	C5'-C4'	2.07	1.58	1.51
1	5	4129	B8W	O5'-C5'	-2.07	1.39	1.44
50	9	166	A2M	C5'-C4'	2.07	1.58	1.51
1	5	3785	A2M	O5'-C5'	-2.06	1.39	1.44
1	5	1659	I4U	O5'-C5'	-2.06	1.39	1.44
1	5	1871	A2M	C5'-C4'	2.05	1.58	1.51
1	5	3718	A2M	C3'-C4'	2.05	1.58	1.53
1	5	3785	A2M	C5-N7	-2.04	1.32	1.39
1	5	1524	A2M	C5'-C4'	2.03	1.57	1.51
50	9	822	PSU	O4'-C1'	-2.03	1.41	1.43
50	9	1031	A2M	O5'-C5'	-2.03	1.39	1.44
1	5	4531	PSU	O4'-C1'	-2.02	1.41	1.43
1	5	2380	B8W	O5'-C5'	-2.02	1.39	1.44
1	5	4500	PSU	O4'-C1'	-2.02	1.41	1.43
1	5	3718	A2M	C5-N7	-2.02	1.32	1.39
1	5	4450	PSU	O4'-C1'	-2.02	1.41	1.43
1	5	1326	A2M	C5'-C4'	2.02	1.57	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	1456	B8Q	C4-N3	-2.01	1.45	1.48
1	5	4293	PSU	C4-C5	-2.01	1.38	1.44
1	5	1524	A2M	C3'-C4'	2.01	1.58	1.53
1	5	2401	A2M	O5'-C5'	-2.01	1.39	1.44
1	5	4442	PSU	O4'-C1'	-2.00	1.41	1.43
1	5	4523	A2M	O5'-C5'	-2.00	1.39	1.44

All (595) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4529	B8W	N2-C2-N3	17.10	145.65	117.79
1	5	4129	B8W	N2-C2-N3	16.96	145.43	117.79
1	5	4185	B8W	N2-C2-N3	16.75	145.08	117.79
1	5	2380	B8W	N2-C2-N3	16.70	145.01	117.79
1	5	4472	B8W	N2-C2-N3	15.95	143.78	117.79
1	5	4529	B8W	N2-C2-N1	-14.85	94.16	117.25
1	5	2380	B8W	N2-C2-N1	-14.75	94.31	117.25
1	5	4129	B8W	N2-C2-N1	-14.55	94.62	117.25
1	5	4185	B8W	N2-C2-N1	-14.32	94.98	117.25
1	5	4472	B8W	N2-C2-N1	-14.02	95.44	117.25
1	5	2380	B8W	C1'-N9-C4	13.57	150.49	126.64
1	5	4129	B8W	C1'-N9-C4	13.54	150.43	126.64
1	5	4529	B8W	C1'-N9-C4	13.10	149.66	126.64
1	5	4564	M7A	C5-C6-N6	12.94	145.83	123.74
1	5	4472	B8W	C1'-N9-C4	12.87	149.25	126.64
50	9	1806	M7A	C5-C6-N6	12.79	145.58	123.74
1	5	4185	B8W	C1'-N9-C4	11.74	147.27	126.64
50	9	814	5MU	C5-C4-N3	11.60	125.21	115.31
1	5	4083	5MU	C5-C4-N3	11.31	124.96	115.31
1	5	4564	M7A	N6-C6-N1	-10.94	94.38	118.35
50	9	1806	M7A	N6-C6-N1	-10.94	94.39	118.35
50	9	1850	MA6	N1-C6-N6	-10.10	106.42	117.06
1	5	4083	5MU	C5-C6-N1	-10.03	113.02	123.34
50	9	814	5MU	C5-C6-N1	-9.79	113.27	123.34
50	9	1851	MA6	N1-C6-N6	-9.65	106.90	117.06
1	5	4529	B8W	O6-C6-C5	8.55	128.24	116.01
1	5	4129	B8W	O6-C6-C5	8.28	127.84	116.01
50	9	1031	A2M	C5-C6-N6	8.04	132.56	120.35
50	9	484	A2M	C5-C6-N6	8.01	132.53	120.35
50	9	159	A2M	C5-C6-N6	7.91	132.38	120.35
1	5	1871	A2M	C5-C6-N6	7.87	132.31	120.35
1	5	1524	A2M	C5-C6-N6	7.79	132.19	120.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	3825	A2M	C5-C6-N6	7.76	132.15	120.35
1	5	4185	B8W	O6-C6-C5	7.74	127.08	116.01
50	9	166	A2M	C5-C6-N6	7.65	131.98	120.35
1	5	4571	A2M	C5-C6-N6	7.62	131.93	120.35
1	5	1534	A2M	C5-C6-N6	7.55	131.83	120.35
1	5	3718	A2M	C5-C6-N6	7.53	131.80	120.35
50	9	668	A2M	C5-C6-N6	7.53	131.79	120.35
1	5	3867	A2M	C5-C6-N6	7.53	131.79	120.35
1	5	2363	A2M	C5-C6-N6	7.52	131.77	120.35
1	5	3723	A2M	C5-C6-N6	7.51	131.77	120.35
1	5	2401	A2M	C5-C6-N6	7.49	131.73	120.35
1	5	4523	A2M	C5-C6-N6	7.41	131.61	120.35
1	5	398	A2M	C5-C6-N6	7.40	131.59	120.35
1	5	1326	A2M	C5-C6-N6	7.37	131.56	120.35
50	9	27	A2M	C5-C6-N6	7.35	131.52	120.35
50	9	1678	A2M	C5-C6-N6	7.28	131.41	120.35
1	5	3762	B8H	C4-N3-C2	-7.24	117.98	127.35
1	5	4296	B8H	C4-N3-C2	-7.20	118.03	127.35
1	5	3785	A2M	C5-C6-N6	6.93	130.88	120.35
1	5	1860	B8H	C4-N3-C2	-6.52	118.92	127.35
1	5	4371	MHG	C2-N3-C4	6.50	120.10	112.04
1	5	4690	B8K	C72-C71-N7	6.38	128.45	118.86
1	5	2786	B9H	C31-N3-C2	6.36	125.16	117.21
1	5	4296	B8H	N3-C2-N1	6.32	121.97	115.14
1	5	3762	B8H	N3-C2-N1	6.25	121.90	115.14
1	5	2401	A2M	N3-C2-N1	-6.13	119.10	128.68
50	9	166	A2M	N3-C2-N1	-6.12	119.11	128.68
1	5	1871	A2M	N3-C2-N1	-6.12	119.12	128.68
1	5	4690	B8K	C5-C6-N1	6.08	121.71	110.99
50	9	568	E3C	C1'-N1-C2	6.05	127.20	116.99
1	5	4472	B8W	O6-C6-C5	5.91	124.46	116.01
50	9	1806	M7A	N3-C2-N1	-5.85	119.45	128.60
1	5	4571	A2M	N3-C2-N1	-5.84	119.55	128.68
50	9	1031	A2M	N3-C2-N1	-5.83	119.56	128.68
1	5	1797	E7G	C4-C5-N7	5.83	110.09	104.91
1	5	3723	A2M	N3-C2-N1	-5.82	119.58	128.68
1	5	1524	A2M	N3-C2-N1	-5.77	119.66	128.68
1	5	4523	A2M	N3-C2-N1	-5.74	119.71	128.68
1	5	3880	P7G	C4-C5-N7	5.73	109.69	106.67
1	5	1534	A2M	N3-C2-N1	-5.72	119.74	128.68
50	9	1850	MA6	N3-C2-N1	-5.70	119.76	128.68
1	5	3899	BGH	C5-C6-N1	5.69	121.01	110.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	1678	A2M	N3-C2-N1	-5.68	119.80	128.68
50	9	484	A2M	N3-C2-N1	-5.67	119.82	128.68
1	5	398	A2M	N3-C2-N1	-5.66	119.83	128.68
50	9	1851	MA6	N3-C2-N1	-5.64	119.86	128.68
50	9	27	A2M	N3-C2-N1	-5.63	119.88	128.68
1	5	1326	A2M	N3-C2-N1	-5.63	119.88	128.68
1	5	3785	A2M	N3-C2-N1	-5.61	119.92	128.68
1	5	4564	M7A	N3-C2-N1	-5.60	119.83	128.60
1	5	2363	A2M	N3-C2-N1	-5.58	119.96	128.68
1	5	3897	B8K	C72-C71-N7	5.57	127.24	118.86
1	5	3825	A2M	N3-C2-N1	-5.57	119.97	128.68
1	5	4564	M7A	N3-C4-N9	5.57	133.90	126.87
50	9	159	A2M	N3-C2-N1	-5.56	119.98	128.68
1	5	3897	B8K	C5-C6-N1	5.56	120.79	110.99
50	9	1832	6MZ	N3-C2-N1	-5.55	120.00	128.68
50	9	668	A2M	N3-C2-N1	-5.49	120.10	128.68
1	5	237	B9B	N3-C2-N1	-5.48	119.92	127.22
1	5	4185	B8W	N3-C2-N1	-5.46	119.94	127.22
1	5	1322	1MA	N1-C2-N3	-5.46	119.66	126.02
1	5	1456	B8Q	C31-N3-C4	5.46	122.47	114.25
1	5	4129	B8W	N3-C2-N1	-5.45	119.95	127.22
1	5	1909	P7G	C4-C5-N7	5.44	109.54	106.67
1	5	1524	A2M	N6-C6-N1	-5.43	107.30	118.57
1	5	4220	6MZ	N3-C2-N1	-5.42	120.21	128.68
3	8	14	OMU	C4-N3-C2	-5.42	119.43	126.58
1	5	4306	OMU	C4-N3-C2	-5.41	119.44	126.58
1	5	2297	E7G	C4-C5-N7	5.41	109.72	104.91
1	5	4620	OMU	C4-N3-C2	-5.41	119.44	126.58
1	5	4628	PSU	N1-C2-N3	5.40	121.25	115.13
50	9	159	A2M	N6-C6-N1	-5.40	107.37	118.57
1	5	1534	A2M	N6-C6-N1	-5.38	107.42	118.57
1	5	2401	A2M	N6-C6-N1	-5.37	107.42	118.57
50	9	1031	A2M	N6-C6-N1	-5.37	107.43	118.57
1	5	4415	1MA	N1-C2-N3	-5.36	119.77	126.02
1	5	237	B9B	O6-C6-N1	-5.35	115.50	120.12
1	5	3825	A2M	N6-C6-N1	-5.33	107.50	118.57
1	5	4355	E6G	N3-C2-N1	-5.32	120.12	127.22
1	5	3867	A2M	N3-C2-N1	-5.32	120.36	128.68
50	9	1219	B8Q	N3-C2-N1	5.30	123.36	117.13
1	5	4529	B8W	N3-C2-N1	-5.29	120.16	127.22
50	9	484	A2M	N6-C6-N1	-5.29	107.60	118.57
1	5	4690	B8K	C4-C5-N7	5.29	109.61	104.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1871	A2M	N6-C6-N1	-5.27	107.63	118.57
50	9	121	OMU	C4-N3-C2	-5.25	119.65	126.58
50	9	166	A2M	N6-C6-N1	-5.25	107.69	118.57
1	5	1860	B8H	N3-C2-N1	5.23	120.80	115.14
1	5	3899	BGH	C72-C71-N7	5.23	126.72	118.86
1	5	4571	A2M	N6-C6-N1	-5.22	107.74	118.57
1	5	4450	PSU	C4-N3-C2	-5.21	118.83	126.34
50	9	668	A2M	N6-C6-N1	-5.19	107.79	118.57
1	5	1605	7MG	C5-C6-N1	5.17	120.10	110.99
1	5	4371	MHG	C5-C6-N1	5.16	120.08	110.99
1	5	2754	B9B	N3-C2-N1	-5.14	120.36	127.22
1	5	3867	A2M	N6-C6-N1	-5.13	107.94	118.57
50	9	116	OMU	C4-N3-C2	-5.11	119.83	126.58
1	5	2363	A2M	N6-C6-N1	-5.11	107.97	118.57
1	5	4636	PSU	C4-N3-C2	-5.10	118.99	126.34
1	5	1797	E7G	C5-C6-N1	5.10	119.98	110.99
50	9	1219	B8Q	C31-N3-C4	5.08	121.90	114.25
50	9	1248	B8N	C5-C4-N3	5.06	125.55	116.17
1	5	3785	A2M	N6-C6-N1	-5.05	108.10	118.57
1	5	1456	B8Q	N3-C2-N1	5.05	123.06	117.13
1	5	4628	PSU	C4-N3-C2	-5.04	119.08	126.34
1	5	4529	B8W	O6-C6-N1	-5.04	112.04	119.03
50	9	27	A2M	N6-C6-N1	-5.03	108.13	118.57
1	5	4523	A2M	N6-C6-N1	-5.03	108.14	118.57
1	5	398	A2M	N6-C6-N1	-5.03	108.14	118.57
1	5	1677	PSU	C4-N3-C2	-5.03	119.10	126.34
1	5	4371	MHG	C4-C5-N7	5.00	109.36	104.91
1	5	1326	A2M	N6-C6-N1	-5.00	108.20	118.57
50	9	814	5MU	N3-C2-N1	5.00	121.52	114.89
1	5	4500	PSU	C4-N3-C2	-4.96	119.20	126.34
50	9	1678	A2M	N6-C6-N1	-4.94	108.31	118.57
50	9	1243	PSU	N1-C2-N3	4.94	120.72	115.13
1	5	4550	7MG	C5-C6-N1	4.93	119.68	110.99
1	5	4403	PSU	N1-C2-N3	4.93	120.71	115.13
1	5	1574	B9B	N3-C2-N1	-4.92	120.66	127.22
1	5	2297	E7G	C5-C6-N1	4.92	119.66	110.99
1	5	2380	B8W	N3-C2-N1	-4.90	120.68	127.22
1	5	3718	A2M	N6-C6-N1	-4.90	108.40	118.57
50	9	822	PSU	C4-N3-C2	-4.90	119.28	126.34
1	5	3723	A2M	N6-C6-N1	-4.90	108.40	118.57
1	5	3897	B8K	C4-C5-N7	4.88	109.25	104.91
1	5	4531	PSU	C4-N3-C2	-4.88	119.31	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	822	PSU	N1-C2-N3	4.85	120.62	115.13
1	5	4472	B8W	N3-C2-N1	-4.83	120.78	127.22
1	5	4636	PSU	N1-C2-N3	4.81	120.58	115.13
1	5	2522	7MG	C5-C6-N1	4.80	119.46	110.99
50	9	1806	M7A	N3-C4-N9	4.80	132.93	126.87
50	9	814	5MU	O4-C4-C5	-4.79	119.35	124.90
1	5	4531	PSU	N1-C2-N3	4.79	120.56	115.13
1	5	4500	PSU	N1-C2-N3	4.78	120.55	115.13
1	5	3718	A2M	N3-C2-N1	-4.78	121.21	128.68
50	9	1219	B8Q	O2-C2-N3	-4.76	115.95	122.95
1	5	4293	PSU	C4-N3-C2	-4.71	119.55	126.34
1	5	4442	PSU	N1-C2-N3	4.69	120.45	115.13
1	5	237	B9B	C2-N3-C4	4.69	120.71	115.36
1	5	4129	B8W	O6-C6-N1	-4.69	112.53	119.03
1	5	4450	PSU	N1-C2-N3	4.66	120.41	115.13
1	5	4442	PSU	C4-N3-C2	-4.66	119.63	126.34
50	9	823	PSU	C4-N3-C2	-4.66	119.63	126.34
50	9	814	5MU	C4-N3-C2	-4.66	121.32	127.35
50	9	1081	PSU	N1-C2-N3	4.63	120.38	115.13
1	5	3899	BGH	C2-N3-C4	4.59	120.48	112.30
1	5	1683	PSU	C4-N3-C2	-4.59	119.73	126.34
1	5	1683	PSU	N1-C2-N3	4.58	120.32	115.13
50	9	568	E3C	O2-C2-N3	-4.56	116.29	122.07
1	5	4083	5MU	N3-C2-N1	4.55	120.93	114.89
50	9	823	PSU	N1-C2-N3	4.55	120.28	115.13
1	5	4415	1MA	C5-C6-N1	4.52	120.64	113.90
1	5	1659	I4U	C5-C4-N3	-4.52	118.04	124.91
1	5	4293	PSU	N1-C2-N3	4.50	120.23	115.13
1	5	2380	B8W	O6-C6-C5	4.50	122.44	116.01
50	9	1219	B8Q	C1'-N1-C2	4.49	124.57	116.99
50	9	612	PSU	C4-N3-C2	-4.47	119.90	126.34
1	5	1677	PSU	N1-C2-N3	4.46	120.18	115.13
1	5	3729	PSU	C4-N3-C2	-4.45	119.92	126.34
50	9	1243	PSU	C4-N3-C2	-4.45	119.92	126.34
1	5	4403	PSU	C4-N3-C2	-4.45	119.93	126.34
1	5	1605	7MG	C2-N3-C4	4.44	120.22	112.30
1	5	3729	PSU	N1-C2-N3	4.44	120.16	115.13
50	9	1248	B8N	C4-N3-C2	-4.44	119.85	125.46
1	5	2508	PSU	C4-N3-C2	-4.43	119.95	126.34
1	5	3715	PSU	N1-C2-N3	4.43	120.15	115.13
1	5	2380	B8W	C3'-C2'-C1'	4.42	107.64	100.98
1	5	4690	B8K	C2-N3-C4	4.40	120.15	112.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	1081	PSU	C4-N3-C2	-4.38	120.03	126.34
1	5	4550	7MG	C2-N3-C4	4.38	120.10	112.30
1	5	2297	E7G	C2-N3-C4	4.37	120.09	112.30
1	5	1797	E7G	C2-N3-C4	4.35	120.06	112.30
1	5	3715	PSU	C4-N3-C2	-4.35	120.07	126.34
1	5	1582	PSU	N1-C2-N3	4.35	120.06	115.13
1	5	3764	PSU	C4-N3-C2	-4.32	120.11	126.34
1	5	3764	PSU	N1-C2-N3	4.32	120.03	115.13
50	9	612	PSU	N1-C2-N3	4.30	120.01	115.13
1	5	2508	PSU	N1-C2-N3	4.24	119.93	115.13
1	5	4083	5MU	O4-C4-C5	-4.23	119.99	124.90
50	9	1830	UR3	C1'-N1-C2	4.22	124.11	116.99
1	5	2522	7MG	C2-N3-C4	4.21	119.81	112.30
1	5	1883	OMG	C5-C6-N1	4.18	121.34	113.95
1	5	3899	BGH	C5-C4-N9	4.17	111.76	106.35
50	9	1830	UR3	C4-N3-C2	-4.14	120.66	124.56
1	5	4083	5MU	C4-N3-C2	-4.10	122.04	127.35
1	5	1582	PSU	C4-N3-C2	-4.10	120.43	126.34
1	5	4355	E6G	C2-N3-C4	4.08	120.02	115.36
50	9	121	OMU	N3-C2-N1	4.07	120.29	114.89
1	5	4872	2MG	CM2-N2-C2	-4.07	114.88	123.86
1	5	4690	B8K	C5-C4-N9	4.01	111.55	106.35
1	5	3897	B8K	C2-N3-C4	4.01	119.44	112.30
1	5	4690	B8K	N9-C8-N7	4.00	108.70	103.33
1	5	4129	B8W	C2-N3-C4	3.99	119.92	115.36
1	5	4185	B8W	O6-C6-N1	-3.99	113.49	119.03
1	5	4529	B8W	C3'-C2'-C1'	3.99	106.99	100.98
1	5	3899	BGH	C4-C5-N7	3.99	108.46	104.91
1	5	1605	7MG	C5-C4-N3	-3.98	120.55	128.13
1	5	3899	BGH	N9-C8-N7	3.97	108.66	103.33
50	9	568	E3C	C31-N3-C2	3.96	122.54	117.44
1	5	2364	OMG	C5-C6-N1	3.96	120.95	113.95
1	5	4597	UR3	C4-N3-C2	-3.96	120.84	124.56
1	5	4306	OMU	N3-C2-N1	3.92	120.10	114.89
1	5	4620	OMU	N3-C2-N1	3.92	120.09	114.89
1	5	4371	MHG	C2-N1-C6	-3.91	119.98	124.48
1	5	1316	OMG	C5-C6-N1	3.91	120.85	113.95
1	5	4530	UR3	C4-N3-C2	-3.90	120.89	124.56
1	5	4355	E6G	C61-O6-C6	-3.89	113.71	117.56
1	5	1322	1MA	C5-C6-N1	3.88	119.69	113.90
1	5	237	B9B	C3'-C2'-C1'	3.88	106.82	100.98
1	5	2297	E7G	C5-C4-N3	-3.85	120.79	128.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	3792	OMG	C5-C6-N1	3.84	120.72	113.95
1	5	2754	B9B	N2-C2-N3	3.83	124.04	117.79
50	9	119	PSU	N1-C2-N3	3.83	119.47	115.13
1	5	4335	5MC	C5-C6-N1	-3.83	119.40	123.34
1	5	2754	B9B	C2-N3-C4	3.83	119.73	115.36
1	5	4872	2MG	C5-C6-N1	3.82	120.70	113.95
1	5	4371	MHG	C5-C4-N3	-3.82	120.85	128.13
1	5	1574	B9B	C2-N3-C4	3.78	119.67	115.36
1	5	1517	2MG	C5-C6-N1	3.77	120.60	113.95
1	5	1348	P4U	C5-C4-N3	-3.76	119.18	124.91
1	5	1797	E7G	C5-C4-N3	-3.76	120.97	128.13
3	8	14	OMU	N3-C2-N1	3.73	119.83	114.89
1	5	2380	B8W	C2-N3-C4	3.72	119.61	115.36
1	5	3897	B8K	N9-C8-N7	3.72	108.32	103.33
1	5	4447	5MC	C5-C6-N1	-3.72	119.52	123.34
1	5	4529	B8W	C2-N3-C4	3.72	119.60	115.36
1	5	1860	B8H	C5-C4-N3	3.67	124.89	116.58
50	9	568	E3C	C6-N1-C2	-3.66	118.51	121.79
1	5	4083	5MU	O2-C2-N1	-3.65	117.93	122.79
1	5	4623	OMG	C5-C6-N1	3.65	120.40	113.95
1	5	1522	OMG	C5-C6-N1	3.63	120.36	113.95
1	5	1456	B8Q	O2-C2-N3	-3.63	117.62	122.95
1	5	2424	OMG	C5-C6-N1	3.62	120.34	113.95
1	5	4296	B8H	O2-C2-N1	-3.62	118.80	122.87
1	5	4550	7MG	C5-C4-N9	3.61	111.04	106.35
3	8	14	OMU	C5-C4-N3	3.61	120.24	114.84
1	5	4494	OMG	C5-C6-N1	3.61	120.33	113.95
1	5	4564	M7A	C2-N3-C4	3.60	120.27	111.75
1	5	2522	7MG	C5-C4-N3	-3.59	121.28	128.13
50	9	119	PSU	C4-N3-C2	-3.59	121.16	126.34
50	9	1374	5MC	O2-C2-N3	-3.59	116.49	122.33
1	5	1574	B9B	C1'-N9-C4	-3.58	120.34	126.64
1	5	373	OMG	C5-C6-N1	3.58	120.27	113.95
1	5	3909	OMC	O2-C2-N3	-3.58	116.51	122.33
1	5	1316	OMG	C2-N1-C6	-3.57	118.52	125.10
50	9	116	OMU	N3-C2-N1	3.56	119.62	114.89
1	5	3762	B8H	C5-C4-N3	3.56	124.62	116.58
1	5	4550	7MG	C5-C4-N3	-3.53	121.40	128.13
1	5	4472	B8W	C2-N3-C4	3.53	119.39	115.36
1	5	4870	OMG	C5-C6-N1	3.52	120.17	113.95
1	5	237	B9B	N2-C2-N3	3.52	123.53	117.79
1	5	4196	OMG	C5-C6-N1	3.51	120.16	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2773	OMG	C5-C6-N1	3.51	120.16	113.95
1	5	4370	OMG	C5-C6-N1	3.51	120.15	113.95
1	5	4620	OMU	C5-C4-N3	3.51	120.09	114.84
1	5	2522	7MG	C5-C4-N9	3.51	110.90	106.35
1	5	1883	OMG	C2-N1-C6	-3.51	118.64	125.10
50	9	683	OMG	C5-C6-N1	3.49	120.12	113.95
50	9	1806	M7A	C4-N9-C1'	-3.47	118.35	126.60
50	9	644	OMG	C5-C6-N1	3.47	120.09	113.95
1	5	4185	B8W	C2-N3-C4	3.46	119.30	115.36
1	5	4296	B8H	C5-C4-N3	3.45	124.39	116.58
1	5	1866	UR3	C6-N1-C2	-3.45	118.70	121.79
50	9	814	5MU	C5M-C5-C6	-3.43	118.27	122.85
1	5	4637	OMG	C5-C6-N1	3.43	120.00	113.95
50	9	116	OMU	C5-C4-N3	3.41	119.95	114.84
1	5	4355	E6G	O6-C6-N1	3.40	123.06	120.12
1	5	729	2MG	C5-C6-N1	3.39	119.93	113.95
1	5	3909	OMC	C1'-N1-C2	3.39	125.97	118.42
50	9	1806	M7A	C2-N3-C4	3.37	119.70	111.75
1	5	1625	OMG	C5-C6-N1	3.36	119.89	113.95
50	9	121	OMU	C5-C4-N3	3.36	119.87	114.84
1	5	4623	OMG	C2-N1-C6	-3.35	118.92	125.10
1	5	1534	A2M	O4'-C1'-C2'	-3.35	100.77	106.59
1	5	3792	OMG	C2-N1-C6	-3.35	118.94	125.10
1	5	3899	BGH	C5-C4-N3	-3.34	121.76	128.13
1	5	2364	OMG	C2-N1-C6	-3.34	118.95	125.10
50	9	509	OMG	C5-C6-N1	3.32	119.82	113.95
1	5	1522	OMG	C2-N1-C6	-3.32	118.98	125.10
1	5	1866	UR3	C1'-N1-C2	3.32	122.59	116.99
1	5	4370	OMG	C2-N1-C6	-3.31	119.00	125.10
1	5	4083	5MU	C5M-C5-C6	-3.30	118.44	122.85
1	5	3782	5MC	C5-C6-N1	-3.30	119.95	123.34
1	5	4371	MHG	C5-C4-N9	3.28	110.61	106.35
1	5	2050	OMG	C5-C6-N1	3.28	119.75	113.95
1	5	4306	OMU	C5-C4-N3	3.28	119.75	114.84
1	5	3899	BGH	C2'-C1'-N9	-3.28	107.47	114.14
1	5	4530	UR3	C1'-N1-C2	3.27	122.51	116.99
50	9	644	OMG	C2-N1-C6	-3.27	119.08	125.10
1	5	4628	PSU	O2-C2-N1	-3.27	119.19	122.79
1	5	2050	OMG	C2-N1-C6	-3.26	119.09	125.10
1	5	2754	B9B	C1'-N9-C4	-3.24	120.94	126.64
1	5	3762	B8H	O2-C2-N1	-3.23	119.23	122.87
1	5	4690	B8K	C5-C4-N3	-3.22	122.00	128.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	116	OMU	O4-C4-C5	-3.22	119.50	125.16
3	8	14	OMU	O4-C4-C5	-3.22	119.50	125.16
1	5	4620	OMU	O4-C4-C5	-3.21	119.51	125.16
1	5	4129	B8W	C3'-C2'-C1'	3.21	105.81	100.98
50	9	1374	5MC	C5-C6-N1	-3.21	120.04	123.34
1	5	4185	B8W	C3'-C2'-C1'	3.20	105.79	100.98
1	5	4637	OMG	C2-N1-C6	-3.17	119.27	125.10
1	5	4220	6MZ	C1'-N9-C4	-3.16	121.08	126.64
50	9	509	OMG	C2-N1-C6	-3.16	119.27	125.10
1	5	2297	E7G	C5-C4-N9	3.16	110.45	106.35
50	9	1830	UR3	C6-N1-C2	-3.16	118.96	121.79
1	5	2522	7MG	C4-C5-N7	3.16	109.91	105.53
1	5	1860	B8H	O2-C2-N1	-3.15	119.33	122.87
1	5	1625	OMG	C2-N1-C6	-3.14	119.31	125.10
1	5	1605	7MG	C5-C4-N9	3.13	110.42	106.35
1	5	4450	PSU	C6-C5-C4	3.13	120.39	118.20
1	5	2424	OMG	C2-N1-C6	-3.12	119.35	125.10
1	5	3897	B8K	C5-C4-N9	3.11	110.39	106.35
1	5	1797	E7G	C5-C4-N9	3.11	110.38	106.35
1	5	4564	M7A	C5-C4-N3	-3.10	119.34	126.62
50	9	1248	B8N	N3-C2-N1	3.10	121.14	116.76
1	5	1883	OMG	O6-C6-C5	-3.10	118.32	124.37
1	5	4196	OMG	C2-N1-C6	-3.09	119.40	125.10
1	5	3897	B8K	C5-C4-N3	-3.08	122.25	128.13
1	5	4083	5MU	C5M-C5-C4	3.08	122.16	118.77
50	9	822	PSU	O2-C2-N1	-3.07	119.41	122.79
1	5	4494	OMG	C2-N1-C6	-3.05	119.47	125.10
1	5	4194	I4U	C5-C4-N3	-3.04	120.28	124.91
1	5	4870	OMG	C2-N1-C6	-3.04	119.50	125.10
1	5	1683	PSU	O2-C2-N1	-3.04	119.45	122.79
1	5	2773	OMG	C2-N1-C6	-3.03	119.52	125.10
1	5	4185	B8W	C2-N1-C6	3.03	120.94	116.08
1	5	1605	7MG	C4-C5-N7	3.02	109.72	105.53
50	9	568	E3C	C1'-N1-C6	-3.01	114.28	120.84
1	5	2522	7MG	N9-C8-N7	3.00	107.67	103.38
1	5	4531	PSU	C6-C5-C4	2.99	120.29	118.20
1	5	1348	P4U	O2-C2-N3	-2.98	117.48	122.33
1	5	4306	OMU	O2-C2-N1	-2.97	118.83	122.79
1	5	373	OMG	C2-N1-C6	-2.97	119.63	125.10
1	5	4403	PSU	C6-N1-C2	-2.96	119.66	122.68
1	5	4690	B8K	C6-C5-C4	-2.95	116.54	122.62
1	5	2754	B9B	O6-C6-N1	-2.94	117.58	120.12

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1866	UR3	O2-C2-N3	-2.94	117.19	121.34
50	9	1806	M7A	C71-N7-C5	-2.93	112.77	124.01
50	9	814	5MU	C1'-N1-C2	2.92	122.85	117.57
50	9	612	PSU	O2-C2-N1	-2.91	119.59	122.79
1	5	4129	B8W	C2-N1-C6	2.91	120.75	116.08
50	9	1337	4AC	C5-C4-N3	-2.90	117.93	122.59
1	5	4529	B8W	C2-N1-C6	2.89	120.73	116.08
1	5	1866	UR3	C4-N3-C2	-2.89	121.84	124.56
1	5	4530	UR3	C6-N1-C2	-2.88	119.21	121.79
1	5	2364	OMG	O6-C6-C5	-2.88	118.75	124.37
1	5	4636	PSU	O2-C2-N1	-2.88	119.62	122.79
1	5	1582	PSU	C6-N1-C2	-2.87	119.75	122.68
1	5	4690	B8K	C2-N1-C6	-2.86	119.89	125.10
1	5	1797	E7G	C2-N1-C6	-2.84	119.92	125.10
1	5	4550	7MG	C4-C5-N7	2.84	109.47	105.53
1	5	4500	PSU	O2-C2-N1	-2.83	119.67	122.79
50	9	1219	B8Q	C6-N1-C2	-2.83	119.25	121.79
1	5	1909	P7G	N9-C8-N7	2.83	107.43	103.38
1	5	1456	B8Q	C6-N1-C2	-2.82	119.26	121.79
50	9	814	5MU	O2-C2-N3	-2.82	116.25	121.50
1	5	4628	PSU	C6-N1-C2	-2.82	119.80	122.68
50	9	1842	4AC	C6-C5-C4	2.81	120.40	116.96
50	9	683	OMG	C2-N1-C6	-2.80	119.94	125.10
1	5	4872	2MG	C8-N7-C5	2.80	108.32	102.99
50	9	1248	B8N	C31-N3-C4	2.80	121.43	117.31
1	5	1574	B9B	C3'-C2'-C1'	2.79	105.18	100.98
1	5	2297	E7G	C2-N1-C6	-2.79	120.02	125.10
1	5	3897	B8K	O4'-C1'-C2'	-2.78	100.58	106.64
50	9	116	OMU	C1'-N1-C2	2.78	122.60	117.57
1	5	4335	5MC	CM5-C5-C6	-2.78	119.14	122.85
1	5	3899	BGH	C2-N1-C6	-2.77	120.04	125.10
1	5	1605	7MG	N9-C8-N7	2.77	107.34	103.38
1	5	1517	2MG	O6-C6-C5	-2.76	118.98	124.37
1	5	4450	PSU	O2-C2-N1	-2.76	119.76	122.79
50	9	119	PSU	O2-C2-N1	-2.76	119.76	122.79
50	9	814	5MU	C5M-C5-C4	2.74	121.79	118.77
1	5	4129	B8W	C4-C5-N7	-2.74	106.55	109.40
1	5	2050	OMG	C8-N7-C5	2.73	108.20	102.99
1	5	4636	PSU	C6-C5-C4	2.73	120.11	118.20
1	5	4531	PSU	O2-C2-N1	-2.73	119.78	122.79
1	5	1522	OMG	C8-N7-C5	2.73	108.19	102.99
1	5	1605	7MG	C2-N1-C6	-2.72	120.14	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	3897	B8K	C6-C5-C4	-2.72	117.02	122.62
1	5	4536	OMC	O2-C2-N3	-2.71	117.92	122.33
1	5	1582	PSU	O2-C2-N1	-2.71	119.81	122.79
1	5	4623	OMG	C8-N7-C5	2.71	108.14	102.99
50	9	119	PSU	C6-N1-C2	-2.70	119.92	122.68
1	5	4637	OMG	C8-N7-C5	2.70	108.14	102.99
1	5	3899	BGH	C6-C5-C4	-2.69	117.07	122.62
1	5	373	OMG	CM2-O2'-C2'	-2.69	107.47	114.52
1	5	2422	OMC	O2-C2-N3	-2.69	117.96	122.33
1	5	3729	PSU	O2-C2-N1	-2.68	119.83	122.79
50	9	1243	PSU	O2-C2-N1	-2.68	119.84	122.79
1	5	1316	OMG	C8-N7-C5	2.67	108.08	102.99
50	9	1842	4AC	C5-C4-N3	-2.67	118.29	122.59
1	5	2773	OMG	C8-N7-C5	2.67	108.07	102.99
1	5	3880	P7G	N9-C8-N7	2.66	107.19	103.38
1	5	1797	E7G	N9-C8-N7	2.66	107.19	103.38
50	9	121	OMU	O4-C4-C5	-2.66	120.48	125.16
1	5	4472	B8W	O6-C6-N1	-2.66	115.34	119.03
1	5	3792	OMG	C8-N7-C5	2.65	108.04	102.99
1	5	1316	OMG	O6-C6-C5	-2.65	119.19	124.37
1	5	2424	OMG	C8-N7-C5	2.65	108.03	102.99
1	5	4083	5MU	O4-C4-N3	-2.65	115.05	120.12
50	9	1243	PSU	C6-N1-C2	-2.65	119.98	122.68
1	5	3715	PSU	O2-C2-N1	-2.64	119.89	122.79
1	5	4403	PSU	O2-C2-N1	-2.63	119.89	122.79
1	5	4671	B8T	C6-C5-C4	2.63	120.18	116.96
1	5	3729	PSU	C6-N1-C2	-2.63	120.00	122.68
1	5	4564	M7A	C4-N9-C1'	-2.62	120.38	126.60
50	9	1337	4AC	C6-C5-C4	2.61	120.16	116.96
1	5	4494	OMG	O6-C6-C5	-2.60	119.29	124.37
50	9	823	PSU	O2-C2-N1	-2.60	119.93	122.79
1	5	4623	OMG	O6-C6-C5	-2.60	119.30	124.37
50	9	509	OMG	C8-N7-C5	2.59	107.93	102.99
1	5	4870	OMG	C8-N7-C5	2.59	107.92	102.99
50	9	27	A2M	C3'-C2'-C1'	2.58	107.75	102.89
1	5	3897	B8K	C2-N1-C6	-2.58	120.40	125.10
1	5	1625	OMG	C8-N7-C5	2.58	107.90	102.99
50	9	644	OMG	C8-N7-C5	2.58	107.90	102.99
1	5	4185	B8W	O4'-C4'-C3'	-2.58	100.02	105.11
1	5	3762	B8H	O4-C4-N3	-2.57	115.18	120.12
1	5	373	OMG	C8-N7-C5	2.57	107.89	102.99
1	5	4494	OMG	C8-N7-C5	2.57	107.88	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	9	683	OMG	C8-N7-C5	2.56	107.87	102.99
1	5	3764	PSU	O2-C2-N1	-2.56	119.97	122.79
1	5	4620	OMU	O2-C2-N1	-2.55	119.39	122.79
1	5	4371	MHG	N1-C2-N3	-2.55	120.01	123.95
1	5	4196	OMG	C8-N7-C5	2.55	107.85	102.99
1	5	1683	PSU	C6-N1-C2	-2.55	120.08	122.68
50	9	814	5MU	C6-N1-C2	-2.54	118.72	121.30
50	9	1710	OMC	O2-C2-N3	-2.54	118.20	122.33
1	5	4690	B8K	O6-C6-C5	-2.54	121.31	127.54
1	5	4185	B8W	C4-C5-N7	-2.53	106.76	109.40
50	9	1081	PSU	C6-N1-C2	-2.53	120.10	122.68
1	5	4370	OMG	O6-C6-C5	-2.52	119.46	124.37
1	5	373	OMG	O6-C6-C5	-2.51	119.47	124.37
1	5	1574	B9B	O6-C6-N1	-2.51	117.96	120.12
1	5	2786	B9H	O2-C2-N1	-2.50	116.86	122.72
1	5	1860	B8H	O4-C4-N3	-2.50	115.32	120.12
1	5	4355	E6G	N2-C2-N1	2.50	121.14	117.25
50	9	1081	PSU	O2-C2-N1	-2.50	120.04	122.79
1	5	4483	B8T	O2-C2-N3	-2.49	118.28	122.33
1	5	1659	I4U	C5'-C4'-C3'	-2.49	105.86	115.18
1	5	4483	B8T	C6-C5-C4	2.49	120.00	116.96
50	9	644	OMG	O6-C6-C5	-2.48	119.53	124.37
1	5	4442	PSU	C6-N1-C2	-2.48	120.15	122.68
1	5	4529	B8W	C4-C5-N7	-2.47	106.82	109.40
1	5	4442	PSU	O2-C2-N1	-2.47	120.07	122.79
1	5	1909	P7G	C5-C4-N3	-2.47	119.65	124.00
1	5	4530	UR3	O2-C2-N3	-2.47	117.87	121.34
50	9	1219	B8Q	C31-N3-C2	2.46	121.36	117.79
1	5	4306	OMU	O4-C4-C5	-2.45	120.85	125.16
1	5	1677	PSU	O2-C2-N1	-2.45	120.09	122.79
50	9	814	5MU	O4-C4-N3	-2.45	115.43	120.12
1	5	1883	OMG	C8-N7-C5	2.44	107.64	102.99
1	5	4370	OMG	C8-N7-C5	2.44	107.64	102.99
1	5	4355	E6G	C2-N1-C6	2.44	119.99	116.08
1	5	2364	OMG	C8-N7-C5	2.43	107.62	102.99
3	8	14	OMU	C1'-N1-C2	2.41	121.94	117.57
1	5	2522	7MG	C2-N1-C6	-2.41	120.71	125.10
1	5	1322	1MA	C8-N7-C5	2.40	107.56	102.99
1	5	1574	B9B	N2-C2-N3	2.40	121.70	117.79
50	9	1806	M7A	C5-C4-N3	-2.40	120.99	126.62
1	5	4220	6MZ	C9-N6-C6	-2.40	120.81	122.87
1	5	3792	OMG	O6-C6-C5	-2.40	119.69	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1605	7MG	N9-C4-N3	2.39	129.04	125.47
1	5	4371	MHG	C21-N2-C2	-2.39	118.59	123.86
50	9	668	A2M	C3'-C2'-C1'	2.38	107.36	102.89
50	9	822	PSU	O4'-C1'-C2'	2.38	108.50	105.14
1	5	4550	7MG	N9-C8-N7	2.38	106.78	103.38
1	5	729	2MG	C8-N7-C5	2.38	107.52	102.99
1	5	4690	B8K	C3'-C2'-C1'	2.37	105.92	101.43
1	5	2754	B9B	C3'-C2'-C1'	2.36	104.53	100.98
1	5	4296	B8H	O4-C4-N3	-2.36	115.59	120.12
50	9	166	A2M	C5'-C4'-C3'	-2.36	106.34	115.18
1	5	4472	B8W	C3'-C2'-C1'	2.36	104.53	100.98
1	5	1797	E7G	O6-C6-C5	-2.36	121.75	127.54
1	5	4472	B8W	O4'-C4'-C3'	-2.36	100.45	105.11
1	5	4415	1MA	C8-N7-C5	2.35	107.47	102.99
48	v	715	DDE	CAU-CBW-CBI	-2.35	106.53	111.20
1	5	4597	UR3	C1'-N1-C2	2.35	120.96	116.99
1	5	2424	OMG	O6-C6-C5	-2.35	119.79	124.37
1	5	3764	PSU	C6-N1-C2	-2.34	120.29	122.68
50	9	121	OMU	C1'-N1-C2	2.34	121.80	117.57
1	5	3715	PSU	C6-N1-C2	-2.33	120.30	122.68
1	5	729	2MG	O6-C6-C5	-2.33	119.82	124.37
50	9	1842	4AC	O7-C7-CM7	-2.33	117.74	122.06
1	5	2297	E7G	N9-C8-N7	2.33	106.70	103.38
1	5	3887	OMC	O2-C2-N3	-2.32	118.56	122.33
1	5	1517	2MG	C8-N7-C5	2.32	107.41	102.99
1	5	4500	PSU	C6-N1-C2	-2.32	120.31	122.68
50	9	159	A2M	O4'-C4'-C3'	-2.31	100.54	105.11
50	9	683	OMG	O6-C6-C5	-2.31	119.86	124.37
1	5	3897	B8K	O6-C6-C5	-2.31	121.88	127.54
1	5	2773	OMG	O6-C6-C5	-2.31	119.87	124.37
1	5	2522	7MG	O6-C6-C5	-2.30	121.89	127.54
1	5	4550	7MG	O6-C6-C5	-2.30	121.89	127.54
1	5	1625	OMG	O6-C6-C5	-2.30	119.87	124.37
1	5	2050	OMG	O6-C6-C5	-2.30	119.87	124.37
1	5	4355	E6G	C3'-C2'-C1'	2.30	104.45	100.98
1	5	4371	MHG	O6-C6-C5	-2.30	121.90	127.54
50	9	509	OMG	O6-C6-C5	-2.28	119.91	124.37
50	9	814	5MU	C6-C5-C4	2.28	119.94	118.03
1	5	4628	PSU	C6-C5-C4	2.28	119.79	118.20
1	5	3880	P7G	C71-N7-C5	2.28	129.91	124.52
1	5	4872	2MG	O6-C6-C5	-2.27	119.93	124.37
3	8	14	OMU	CM2-O2'-C2'	2.27	120.49	114.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4194	I4U	O4'-C1'-C2'	-2.27	101.69	106.64
1	5	729	2MG	CM2-N2-C2	-2.27	118.85	123.86
50	9	823	PSU	C6-N1-C2	-2.26	120.37	122.68
1	5	2297	E7G	O6-C6-C5	-2.26	122.00	127.54
1	5	4550	7MG	C2-N1-C6	-2.25	121.00	125.10
1	5	1605	7MG	O6-C6-C5	-2.23	122.06	127.54
50	9	1337	4AC	O7-C7-CM7	-2.23	117.92	122.06
1	5	2508	PSU	O2-C2-N1	-2.23	120.34	122.79
1	5	4371	MHG	C71-C72-C73	-2.21	108.00	114.20
1	5	2297	E7G	N9-C4-N3	2.20	128.76	125.47
1	5	4196	OMG	O6-C6-C5	-2.20	120.08	124.37
1	5	4536	OMC	C1'-N1-C2	2.20	123.33	118.42
1	5	3897	B8K	O3'-C3'-C4'	-2.20	104.70	111.05
1	5	4870	OMG	O6-C6-C5	-2.18	120.11	124.37
50	9	1374	5MC	O2-C2-N1	2.18	123.39	118.89
1	5	1797	E7G	C8-N7-C71	2.17	125.67	120.50
1	5	4335	5MC	C1'-N1-C6	-2.17	117.51	121.12
1	5	3909	OMC	C1'-N1-C6	-2.17	116.10	120.84
1	5	3899	BGH	C5'-C4'-C3'	-2.17	107.04	115.18
1	5	1522	OMG	O6-C6-C5	-2.17	120.13	124.37
1	5	1517	2MG	CM2-N2-C2	-2.17	119.07	123.86
50	9	1248	B8N	O4'-C1'-C2'	2.16	108.19	105.14
1	5	2861	OMC	O2-C2-N3	-2.16	118.83	122.33
1	5	4442	PSU	O4'-C1'-C2'	2.14	108.17	105.14
50	9	1219	B8Q	C1'-N1-C6	-2.14	116.17	120.84
1	5	3869	OMC	O2-C2-N3	-2.14	118.85	122.33
50	9	1830	UR3	O2-C2-N3	-2.13	118.33	121.34
1	5	237	B9B	C2-N1-C6	2.13	119.50	116.08
1	5	4293	PSU	C6-N1-C2	-2.13	120.51	122.68
1	5	1797	E7G	N9-C4-N3	2.12	128.64	125.47
1	5	237	B9B	C1'-N9-C4	-2.12	122.91	126.64
50	9	1703	OMC	O2-C2-N3	-2.12	118.89	122.33
1	5	4550	7MG	N1-C2-N3	-2.12	119.37	123.32
50	9	822	PSU	C6-N1-C2	-2.11	120.52	122.68
1	5	4531	PSU	C6-N1-C2	-2.11	120.52	122.68
1	5	4637	OMG	O6-C6-C5	-2.11	120.25	124.37
1	5	4194	I4U	C2'-C3'-C4'	2.10	106.72	102.64
1	5	4597	UR3	C6-N1-C2	-2.08	119.92	121.79
50	9	668	A2M	C5'-C4'-C3'	-2.08	107.39	115.18
1	5	4472	B8W	C2-N1-C6	2.07	119.40	116.08
3	8	14	OMU	O2-C2-N1	-2.07	120.04	122.79
50	9	612	PSU	O4'-C1'-C2'	2.06	108.05	105.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	4571	A2M	C5'-C4'-C3'	-2.06	107.46	115.18
1	5	4371	MHG	N9-C4-N3	2.05	128.54	125.47
1	5	3867	A2M	C3'-C2'-C1'	2.05	106.75	102.89
1	5	1677	PSU	O4'-C1'-C2'	2.05	108.03	105.14
48	v	715	DDE	CBW-CBI-NAD	2.04	117.88	115.28
48	v	715	DDE	CAC-NCB-CBW	2.04	115.60	110.51
50	9	683	OMG	N1-C2-N3	-2.04	119.50	123.32
50	9	1842	4AC	N4-C4-N3	2.04	117.28	113.85
1	5	2508	PSU	C6-N1-C2	-2.04	120.60	122.68
1	5	2401	A2M	C3'-C2'-C1'	2.04	106.72	102.89
1	5	4185	B8W	C5-C6-N1	-2.04	119.38	123.26
50	9	1081	PSU	O4'-C1'-C2'	2.03	108.01	105.14
50	9	1031	A2M	C5'-C4'-C3'	-2.03	107.58	115.18
1	5	3899	BGH	O4'-C4'-C3'	-2.03	101.10	105.11
1	5	4550	7MG	C6-C5-C4	-2.02	118.45	122.62
50	9	1850	MA6	C4-C5-N7	-2.01	107.30	109.40
1	5	3899	BGH	O6-C6-C5	-2.01	122.62	127.54

There are no chirality outliers.

All (216) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	5	237	B9B	C5-C6-O6-C61
1	5	237	B9B	N1-C6-O6-C61
1	5	237	B9B	C3'-C4'-C5'-O5'
1	5	237	B9B	O4'-C4'-C5'-O5'
1	5	1348	P4U	N3-C4-O4-C41
1	5	1582	PSU	C3'-C4'-C5'-O5'
1	5	1582	PSU	O4'-C4'-C5'-O5'
1	5	1625	OMG	C3'-C4'-C5'-O5'
1	5	2364	OMG	O4'-C4'-C5'-O5'
1	5	2364	OMG	C3'-C4'-C5'-O5'
1	5	2380	B8W	C5-C6-O6-C61
1	5	2380	B8W	N1-C6-O6-C61
1	5	2380	B8W	C3'-C4'-C5'-O5'
1	5	2424	OMG	C3'-C4'-C5'-O5'
1	5	3701	OMC	C2'-C1'-N1-C2
1	5	3701	OMC	C2'-C1'-N1-C6
1	5	3785	A2M	O4'-C4'-C5'-O5'
1	5	3792	OMG	O4'-C4'-C5'-O5'
1	5	3897	B8K	O4'-C4'-C5'-O5'
1	5	3899	BGH	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
1	5	3899	BGH	O4'-C4'-C5'-O5'
1	5	4083	5MU	C2'-C1'-N1-C2
1	5	4083	5MU	C2'-C1'-N1-C6
1	5	4129	B8W	C5-C6-O6-C61
1	5	4129	B8W	N1-C6-O6-C61
1	5	4185	B8W	C5-C6-O6-C61
1	5	4185	B8W	N1-C6-O6-C61
1	5	4194	I4U	O4'-C4'-C5'-O5'
1	5	4355	E6G	O4'-C4'-C5'-O5'
1	5	4355	E6G	C5-C6-O6-C61
1	5	4355	E6G	N1-C6-O6-C61
1	5	4403	PSU	O4'-C1'-C5-C4
1	5	4403	PSU	O4'-C1'-C5-C6
1	5	4415	1MA	C3'-C4'-C5'-O5'
1	5	4447	5MC	C2'-C1'-N1-C6
1	5	4450	PSU	C2'-C1'-C5-C6
1	5	4450	PSU	O4'-C4'-C5'-O5'
1	5	4472	B8W	C5-C6-O6-C61
1	5	4472	B8W	N1-C6-O6-C61
1	5	4500	PSU	C3'-C4'-C5'-O5'
1	5	4500	PSU	O4'-C4'-C5'-O5'
1	5	4523	A2M	O4'-C4'-C5'-O5'
1	5	4529	B8W	C5-C6-O6-C61
1	5	4529	B8W	N1-C6-O6-C61
1	5	4636	PSU	C2'-C1'-C5-C6
1	5	4636	PSU	C3'-C4'-C5'-O5'
1	5	4637	OMG	C1'-C2'-O2'-CM2
1	5	4870	OMG	O4'-C4'-C5'-O5'
1	5	4870	OMG	C3'-C4'-C5'-O5'
3	8	14	OMU	C1'-C2'-O2'-CM2
6	C	333	MLZ	N-CA-CB-CG
6	C	333	MLZ	C-CA-CB-CG
41	m	72	MLZ	N-CA-CB-CG
48	v	715	DDE	O-C-CA-CB
48	v	715	DDE	CBI-CBW-NCB-CAB
48	v	715	DDE	CBI-CBW-NCB-CAC
48	v	715	DDE	CBI-CBW-NCB-CAA
48	v	715	DDE	CAU-CBW-NCB-CAB
48	v	715	DDE	CAU-CBW-NCB-CAC
48	v	715	DDE	CAU-CBW-NCB-CAA
48	v	715	DDE	CAT-CAU-CBW-CBI
50	9	116	OMU	C1'-C2'-O2'-CM2

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Mol	Chain	Res	Type	Atoms
50	9	116	OMU	C3'-C4'-C5'-O5'
50	9	116	OMU	O4'-C4'-C5'-O5'
50	9	121	OMU	C3'-C4'-C5'-O5'
50	9	121	OMU	O4'-C4'-C5'-O5'
50	9	159	A2M	C3'-C4'-C5'-O5'
50	9	166	A2M	C3'-C4'-C5'-O5'
50	9	568	E3C	O4'-C1'-N1-C2
50	9	568	E3C	O4'-C1'-N1-C6
50	9	1248	B8N	N3-C31-C32-C33
50	9	1830	UR3	O4'-C1'-N1-C2
50	9	1832	6MZ	C5-C6-N6-C9
50	9	1832	6MZ	N1-C6-N6-C9
50	9	1851	MA6	O4'-C4'-C5'-O5'
50	9	1851	MA6	C3'-C4'-C5'-O5'
1	5	4447	5MC	C2'-C1'-N1-C2
1	5	398	A2M	O4'-C4'-C5'-O5'
1	5	1348	P4U	C3'-C4'-C5'-O5'
1	5	1797	E7G	C3'-C4'-C5'-O5'
1	5	1797	E7G	O4'-C4'-C5'-O5'
1	5	2380	B8W	O4'-C4'-C5'-O5'
1	5	2424	OMG	O4'-C4'-C5'-O5'
1	5	3729	PSU	C3'-C4'-C5'-O5'
1	5	3729	PSU	O4'-C4'-C5'-O5'
1	5	3792	OMG	C3'-C4'-C5'-O5'
1	5	3880	P7G	O4'-C4'-C5'-O5'
1	5	3897	B8K	C3'-C4'-C5'-O5'
1	5	4185	B8W	O4'-C4'-C5'-O5'
1	5	4194	I4U	C3'-C4'-C5'-O5'
1	5	4355	E6G	C3'-C4'-C5'-O5'
1	5	4371	MHG	O4'-C4'-C5'-O5'
1	5	4523	A2M	C3'-C4'-C5'-O5'
1	5	4636	PSU	O4'-C4'-C5'-O5'
1	5	4637	OMG	O4'-C4'-C5'-O5'
50	9	159	A2M	O4'-C4'-C5'-O5'
50	9	668	A2M	O4'-C4'-C5'-O5'
50	9	668	A2M	C3'-C4'-C5'-O5'
50	9	1081	PSU	O4'-C4'-C5'-O5'
50	9	1830	UR3	O4'-C1'-N1-C6
1	5	1348	P4U	O4'-C4'-C5'-O5'
1	5	2401	A2M	C3'-C4'-C5'-O5'
1	5	3764	PSU	C3'-C4'-C5'-O5'
1	5	3764	PSU	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
1	5	3785	A2M	C3'-C4'-C5'-O5'
1	5	3867	A2M	O4'-C4'-C5'-O5'
1	5	3867	A2M	C3'-C4'-C5'-O5'
1	5	3880	P7G	C3'-C4'-C5'-O5'
1	5	4415	1MA	O4'-C4'-C5'-O5'
1	5	4450	PSU	C3'-C4'-C5'-O5'
1	5	4637	OMG	C3'-C4'-C5'-O5'
50	9	119	PSU	O4'-C4'-C5'-O5'
50	9	166	A2M	O4'-C4'-C5'-O5'
50	9	568	E3C	C3'-C4'-C5'-O5'
50	9	568	E3C	O4'-C4'-C5'-O5'
50	9	683	OMG	O4'-C4'-C5'-O5'
50	9	1081	PSU	C3'-C4'-C5'-O5'
50	9	1703	OMC	O4'-C4'-C5'-O5'
50	9	1830	UR3	O4'-C4'-C5'-O5'
50	9	1830	UR3	C3'-C4'-C5'-O5'
1	5	4371	MHG	C2'-C1'-N9-C8
1	5	398	A2M	C3'-C4'-C5'-O5'
50	9	517	OMC	C3'-C4'-C5'-O5'
1	5	1574	B9B	O6-C61-C62-C63
1	5	1456	B8Q	C3'-C4'-C5'-O5'
50	9	1243	PSU	O4'-C4'-C5'-O5'
1	5	1348	P4U	O4-C41-C42-C43
1	5	2297	E7G	C72-C71-N7-C8
1	5	1456	B8Q	O4'-C4'-C5'-O5'
1	5	1625	OMG	O4'-C4'-C5'-O5'
1	5	4494	OMG	O4'-C4'-C5'-O5'
50	9	517	OMC	O4'-C4'-C5'-O5'
50	9	683	OMG	C3'-C4'-C5'-O5'
1	5	1909	P7G	C72-C71-N7-C8
48	v	715	DDE	N-CA-CB-CG
41	m	72	MLZ	C-CA-CB-CG
1	5	4355	E6G	C62-C61-O6-C6
50	9	1850	MA6	C5-C6-N6-C9
50	9	1851	MA6	C5-C6-N6-C9
1	5	1574	B9B	O4'-C4'-C5'-O5'
1	5	4371	MHG	C3'-C4'-C5'-O5'
1	5	2786	B9H	C32-C31-N3-C2
1	5	1909	P7G	O4'-C4'-C5'-O5'
1	5	4494	OMG	C3'-C4'-C5'-O5'
1	5	729	2MG	O4'-C4'-C5'-O5'
1	5	4483	B8T	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
50	9	668	A2M	C1'-C2'-O2'-CM'
48	v	715	DDE	CAT-CAU-CBW-NCB
50	9	644	OMG	C4'-C5'-O5'-P
1	5	4483	B8T	C3'-C4'-C5'-O5'
48	v	715	DDE	C-CA-CB-CG
50	9	159	A2M	C4'-C5'-O5'-P
1	5	4083	5MU	C3'-C4'-C5'-O5'
1	5	4083	5MU	O4'-C4'-C5'-O5'
50	9	119	PSU	C3'-C4'-C5'-O5'
50	9	822	PSU	C3'-C4'-C5'-O5'
50	9	1703	OMC	C3'-C4'-C5'-O5'
1	5	1625	OMG	C4'-C5'-O5'-P
1	5	4447	5MC	O4'-C1'-N1-C2
1	5	2786	B9H	O4'-C4'-C5'-O5'
1	5	4083	5MU	O4'-C1'-N1-C6
1	5	4447	5MC	O4'-C1'-N1-C6
1	5	3887	OMC	C4'-C5'-O5'-P
1	5	3897	B8K	C4'-C5'-O5'-P
50	9	1081	PSU	C4'-C5'-O5'-P
1	5	3701	OMC	O4'-C1'-N1-C6
48	v	715	DDE	CA-CB-CG-ND1
41	m	72	MLZ	CD-CE-NZ-CM
1	5	373	OMG	C4'-C5'-O5'-P
1	5	2754	B9B	C4'-C5'-O5'-P
1	5	4500	PSU	C4'-C5'-O5'-P
1	5	4870	OMG	C4'-C5'-O5'-P
1	5	1797	E7G	C72-C71-N7-C8
48	v	715	DDE	NAD-CBI-CBW-NCB
1	5	4530	UR3	C4'-C5'-O5'-P
1	5	4872	2MG	O4'-C4'-C5'-O5'
1	5	3701	OMC	O4'-C1'-N1-C2
1	5	4371	MHG	C72-C71-N7-C8
1	5	1677	PSU	O4'-C1'-C5-C4
1	5	1860	B8H	O4'-C1'-C5-C4
50	9	1248	B8N	O4'-C1'-C5-C4
1	5	4870	OMG	C3'-C2'-O2'-CM2
50	9	668	A2M	C3'-C2'-O2'-CM'
1	5	2401	A2M	O4'-C4'-C5'-O5'
50	9	1243	PSU	C3'-C4'-C5'-O5'
1	5	4083	5MU	O4'-C1'-N1-C2
1	5	2380	B8W	C4'-C5'-O5'-P
1	5	1909	P7G	C72-C71-N7-C5

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Mol	Chain	Res	Type	Atoms
1	5	4371	MHG	C72-C71-N7-C5
1	5	729	2MG	C3'-C4'-C5'-O5'
1	5	4185	B8W	C3'-C4'-C5'-O5'
50	9	822	PSU	O4'-C4'-C5'-O5'
1	5	3867	A2M	C1'-C2'-O2'-CM'
48	v	715	DDE	CAU-CAT-CE1-ND1
1	5	2422	OMC	O4'-C4'-C5'-O5'
1	5	1677	PSU	O4'-C1'-C5-C6
1	5	1860	B8H	O4'-C1'-C5-C6
1	5	4450	PSU	O4'-C1'-C5-C6
1	5	4636	PSU	O4'-C1'-C5-C6
50	9	1248	B8N	C31-C32-C33-N34
1	5	3909	OMC	C2'-C1'-N1-C2
1	5	1909	P7G	C3'-C4'-C5'-O5'
1	5	4296	B8H	C3'-C4'-C5'-O5'
1	5	1659	I4U	C42-C41-O4-C4
1	5	1659	I4U	C43-C41-O4-C4
1	5	4194	I4U	C42-C41-O4-C4
1	5	4194	I4U	C43-C41-O4-C4
1	5	1574	B9B	C62-C61-O6-C6
1	5	1534	A2M	O4'-C4'-C5'-O5'
1	5	1574	B9B	C3'-C4'-C5'-O5'
1	5	4872	2MG	C3'-C4'-C5'-O5'
48	v	715	DDE	CA-CB-CG-CD2
1	5	2786	B9H	C32-C31-N3-C4
1	5	1534	A2M	C4'-C5'-O5'-P
1	5	3867	A2M	C4'-C5'-O5'-P
1	5	4371	MHG	O4'-C1'-N9-C8

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 307 ligands modelled in this entry, 306 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
86	GDP	v	900	-	24,30,30	0.96	1 (4%)	30,47,47	1.33	4 (13%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
86	GDP	v	900	-	-	0/12/32/32	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
86	v	900	GDP	C6-N1	-2.63	1.34	1.37

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
86	v	900	GDP	PA-O3A-PB	-3.89	119.47	132.83
86	v	900	GDP	C5-C6-N1	2.53	118.42	113.95
86	v	900	GDP	C8-N7-C5	2.32	107.41	102.99
86	v	900	GDP	O6-C6-C5	-2.10	120.27	124.37

There are no chirality outliers.

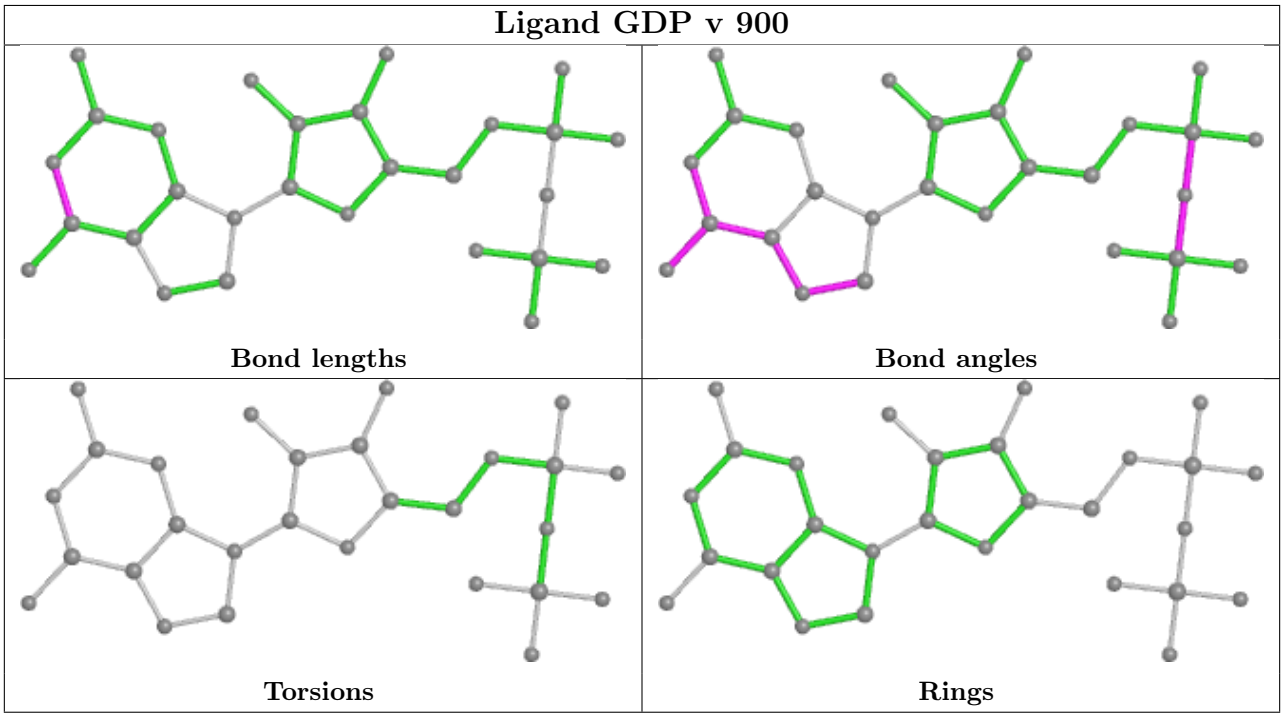
There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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

in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	5	49
50	9	18
49	w	1
48	v	1
3	8	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	w	225:LEU	C	282:THR	N	57.95

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	5	2113:G	O3'	2258:C	P	39.61
1	5	1252:C	O3'	1271:G	P	35.94
1	5	1405:C	O3'	1406:G	P	22.80
1	5	1406(C):G	O3'	1411:C	P	20.78
1	5	1406:G	O3'	1406(A):G	P	20.04
1	5	1219:G	O3'	1233:G	P	19.33
1	9	1761:U	O3'	1771:G	P	18.12
1	5	523:C	O3'	638:G	P	17.67
1	9	834:C	O3'	841:G	P	17.65
1	5	1411:C	O3'	1411(A):G	P	17.43
1	5	4138:C	O3'	4146:G	P	17.42
1	9	697:G	O3'	729:C	P	17.13
1	9	756:C	O3'	788:G	P	17.03
1	5	990:U	O3'	1064:G	P	16.93
1	5	4101:C	O3'	4107:G	P	16.67
1	9	323:C	O3'	329:G	P	16.66
1	v	47:ALA	C	55:ARG	N	16.62
1	5	3976:C	O3'	4039:G	P	15.89
1	9	130:G	O3'	140:U	P	15.53
1	9	1417:C	O3'	1423:C	P	15.32
1	5	4777:C	O3'	4859:C	P	14.68
1	5	5022:U	O3'	5028:G	P	14.56
1	5	1696:C	O3'	1720:C	P	14.38
1	5	760:G	O3'	904:C	P	14.02
1	5	1364:U	O3'	1368:A	P	13.67
1	5	922:C	O3'	922(A):G	P	13.19
1	5	737:C	O3'	738:C	P	13.16
1	5	2901:G	O3'	3597:G	P	12.84
1	5	182:G	O3'	189:G	P	12.76
1	5	970:G	O3'	971:U	P	12.41
1	5	971:U	O3'	971(A):G	P	12.06
1	8	79:G	O3'	85:U	P	12.06
1	5	934:C	O3'	935:A	P	11.68
1	5	481:G	O3'	481(A):C	P	11.01
1	5	921:C	O3'	922:C	P	10.36
1	9	745:C	O3'	749:U	P	9.60
1	5	4729:A	O3'	4735:G	P	9.45
1	5	1180:C	O3'	1183:C	P	8.76
1	9	225:G	O3'	287:U	P	7.98
1	5	738(A):C	O3'	739:G	P	6.89
1	5	512:U	O3'	515:C	P	6.76
1	5	935:A	O3'	935(A):G	P	6.65

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	9	1432:U	O3'	1438:A	P	6.59
1	5	480:C	O3'	481:G	P	6.54
1	5	500:G	O3'	504:G	P	6.11
1	5	3955:A	O3'	3956:G	P	5.97
1	5	922(B):C	O3'	923:C	P	5.49
1	9	798:G	O3'	799:U	P	5.40
1	5	3945:A	O3'	3946:G	P	4.92
1	5	1239:C	O3'	1244:G	P	4.90
1	5	1100:U	O3'	1168:G	P	4.87
1	9	322:C	O3'	323:C	P	4.79
1	9	304:C	O3'	305:U	P	4.65
1	9	736:C	O3'	743:U	P	4.64
1	5	4740:G	O3'	4743:G	P	4.62
1	5	170:C	O3'	171:U	P	4.58
1	5	4899:G	O3'	4902:C	P	3.71
1	9	309:G	O3'	310:C	P	3.69
1	5	738:C	O3'	738(A):C	P	3.66
1	5	4055:U	O3'	4056:A	P	3.51
1	5	5020:G	O3'	5021:C	P	3.47
1	5	3947:A	O3'	3948:C	P	3.25
1	5	751:G	O3'	752:G	P	3.24
1	9	902:G	O3'	903:A	P	3.24
1	5	1438:U	O3'	1440:U	P	3.23
1	9	903:A	O3'	904:A	P	3.22
1	5	267:G	O3'	268:G	P	3.19
1	9	1295:A	O3'	1296:U	P	3.17
1	5	935(A):G	O3'	936:C	P	3.16

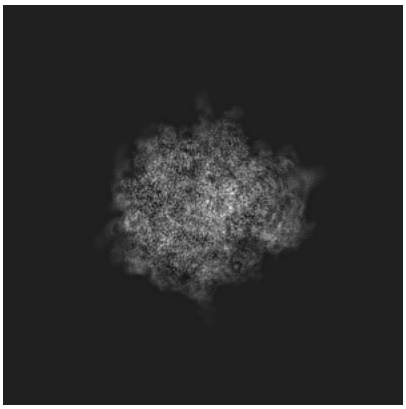
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-9242. These allow visual inspection of the internal detail of the map and identification of artifacts.

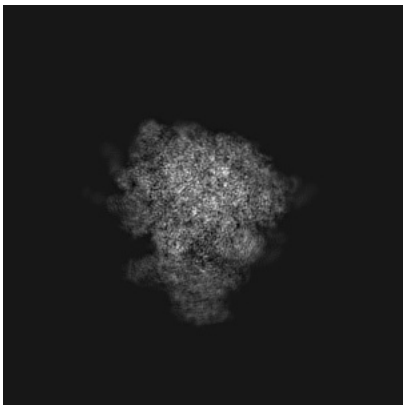
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

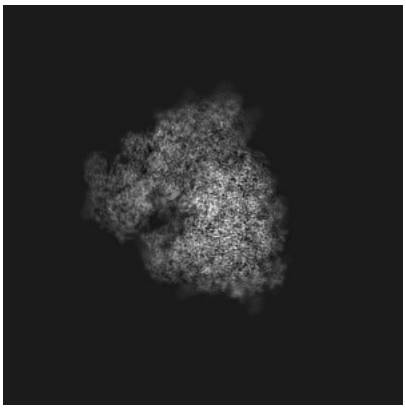
6.1.1 Primary map



X

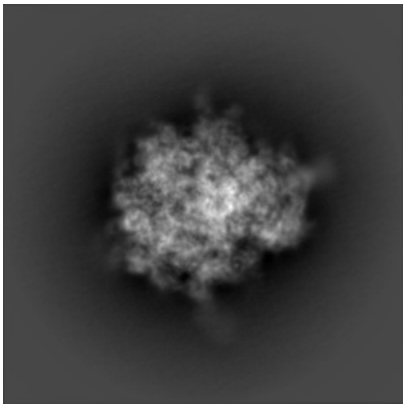


Y

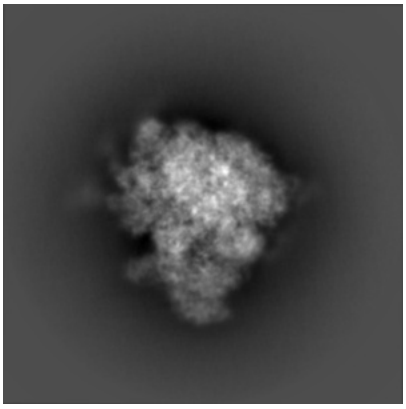


Z

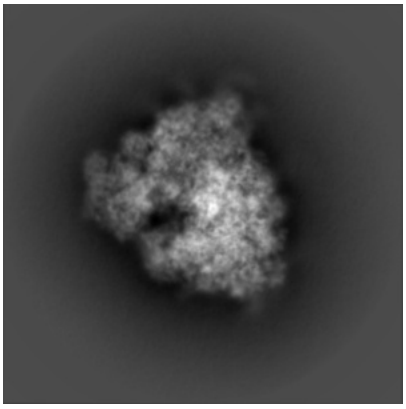
6.1.2 Raw map



X



Y

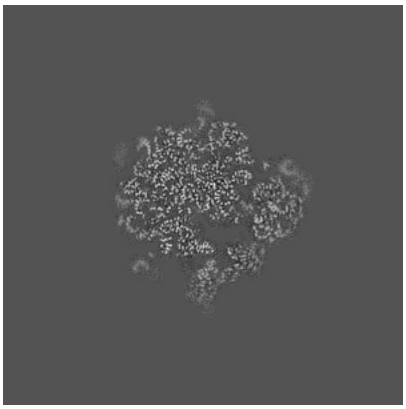


Z

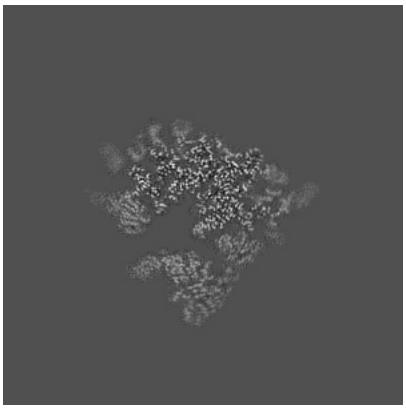
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

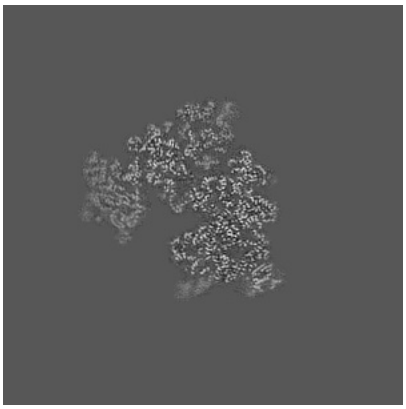
6.2.1 Primary map



X Index: 200

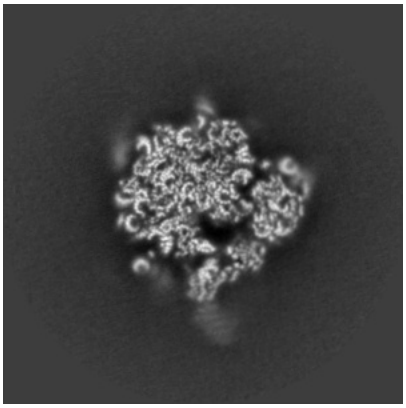


Y Index: 200

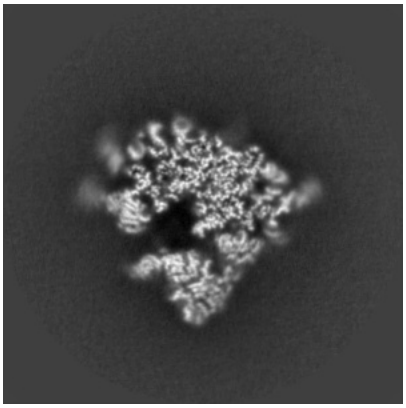


Z Index: 200

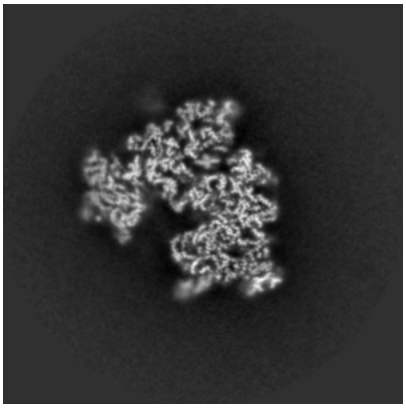
6.2.2 Raw map



X Index: 200



Y Index: 200

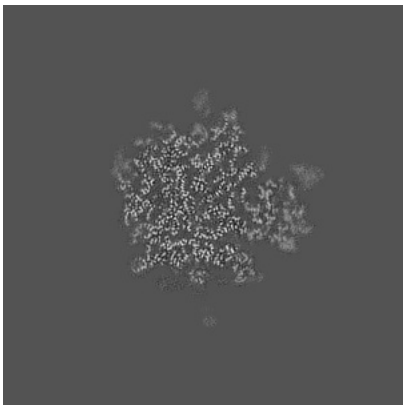


Z Index: 200

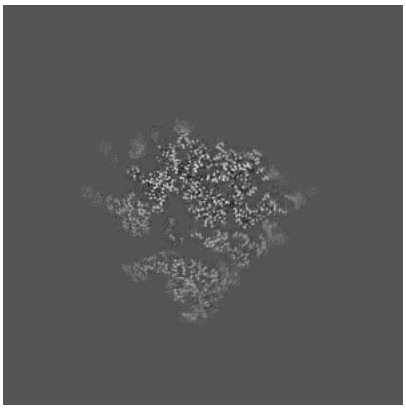
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

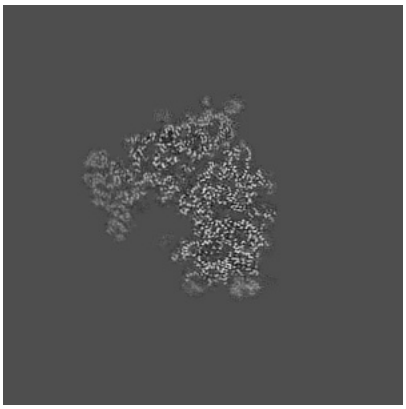
6.3.1 Primary map



X Index: 213

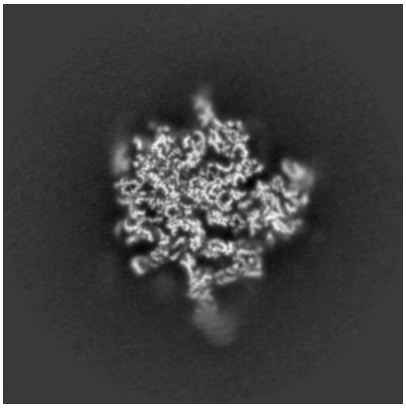


Y Index: 206

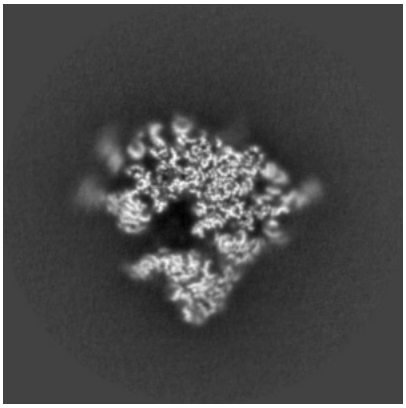


Z Index: 210

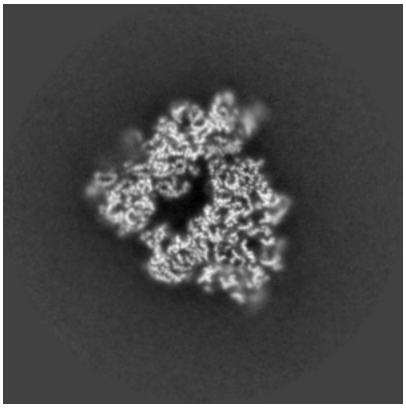
6.3.2 Raw map



X Index: 206



Y Index: 201

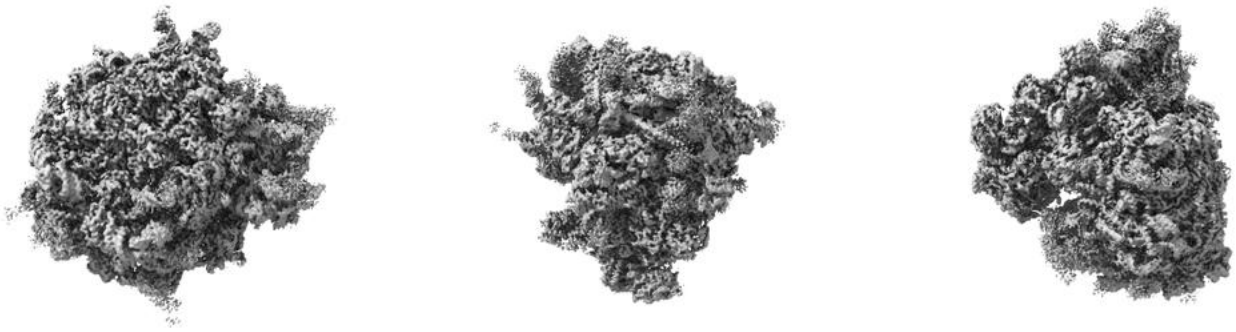


Z Index: 176

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

6.4 Orthogonal surface views (i)

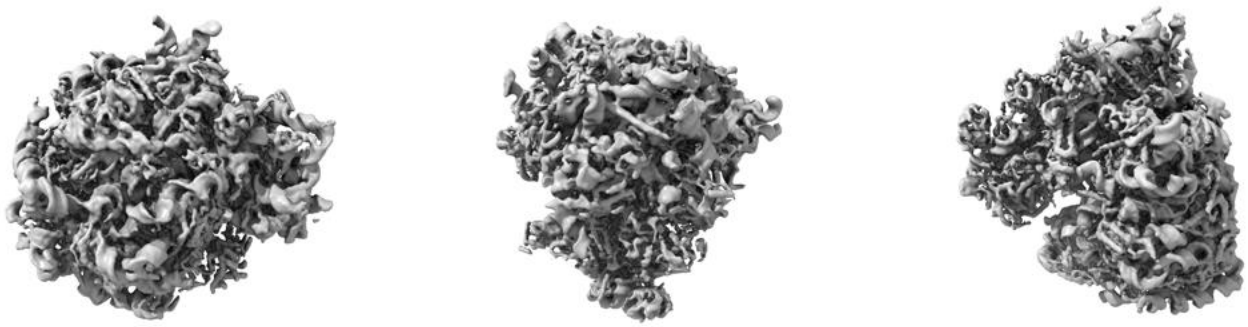
6.4.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.08. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map



X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

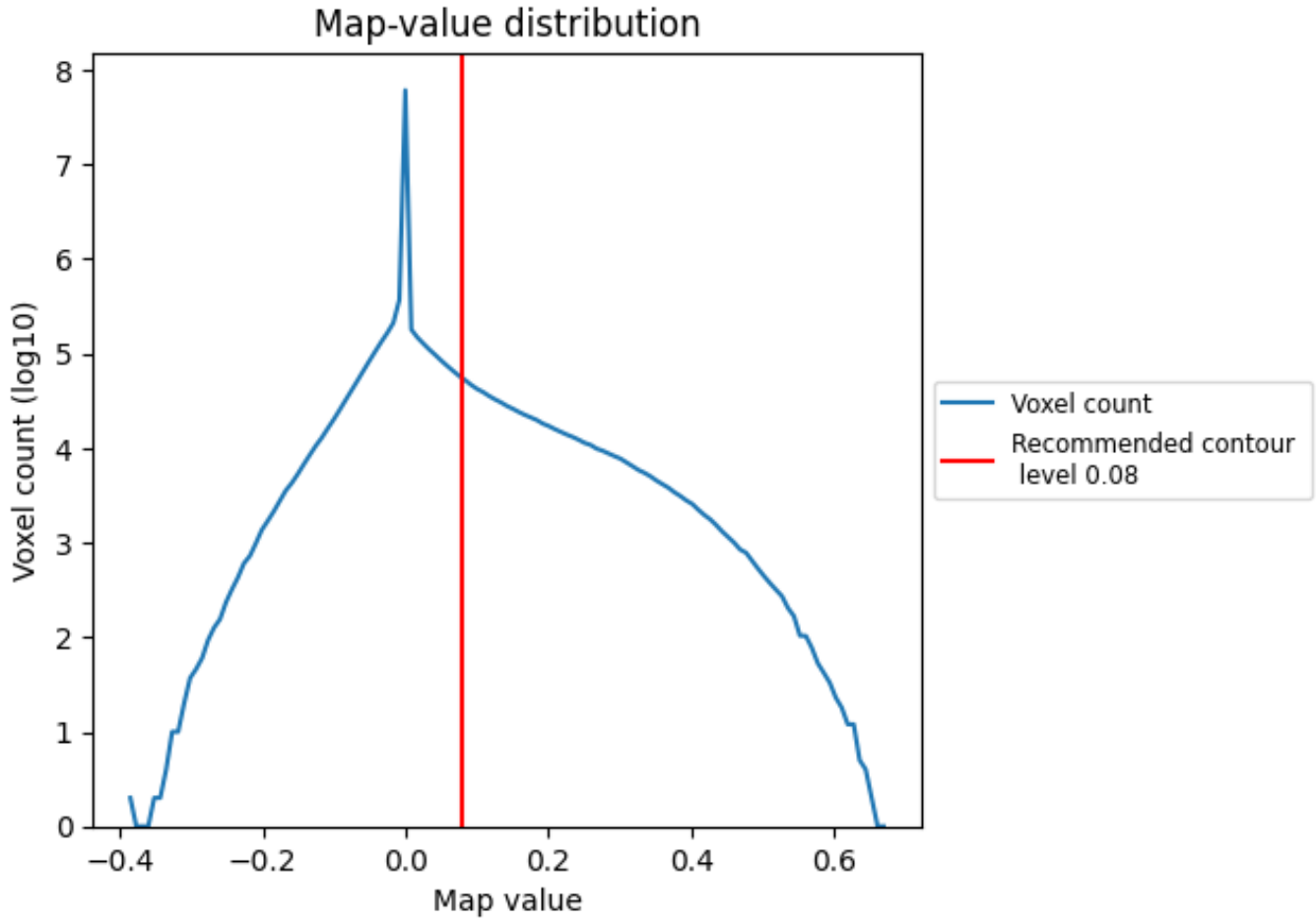
6.5 Mask visualisation (i)

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

7 Map analysis

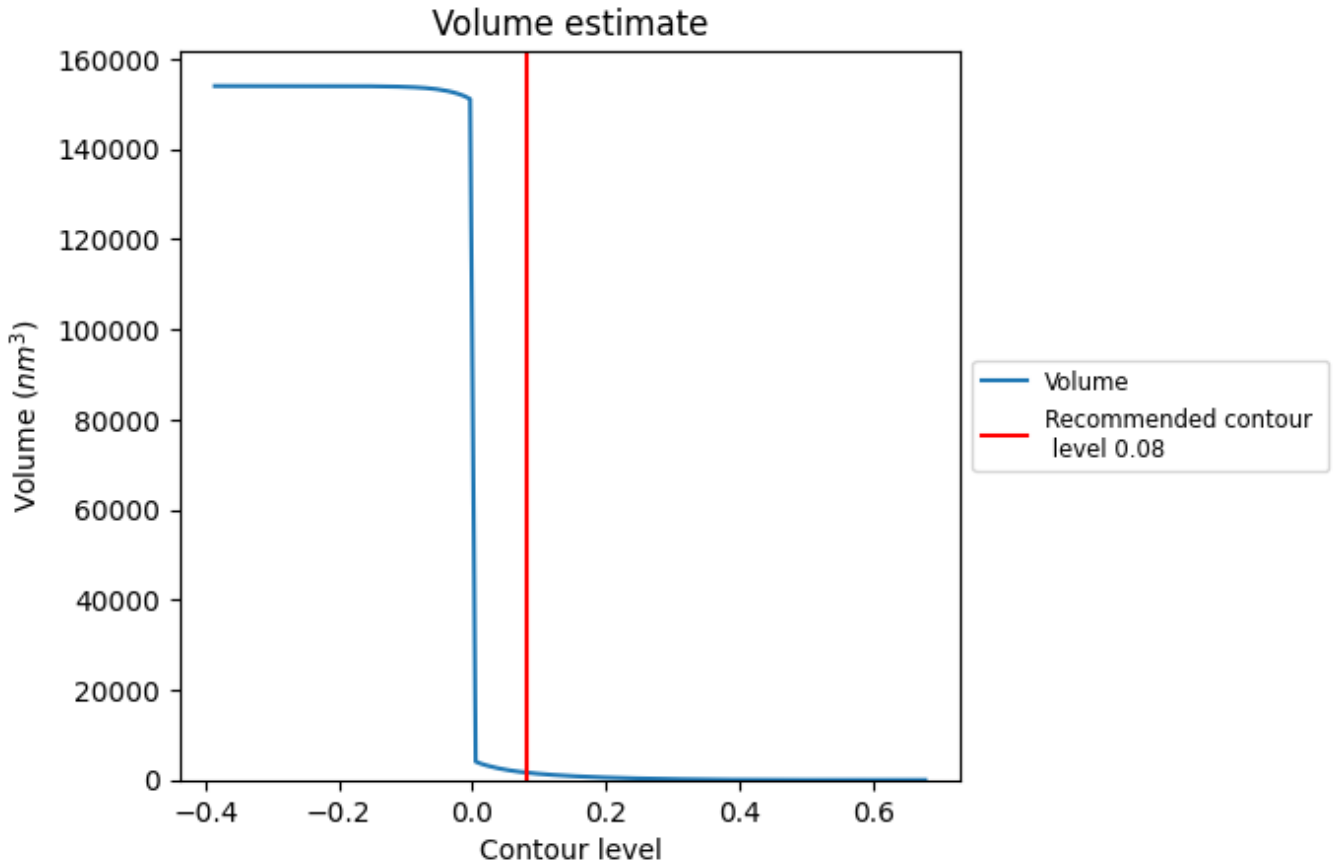
This section contains the results of statistical analysis of the map.

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.

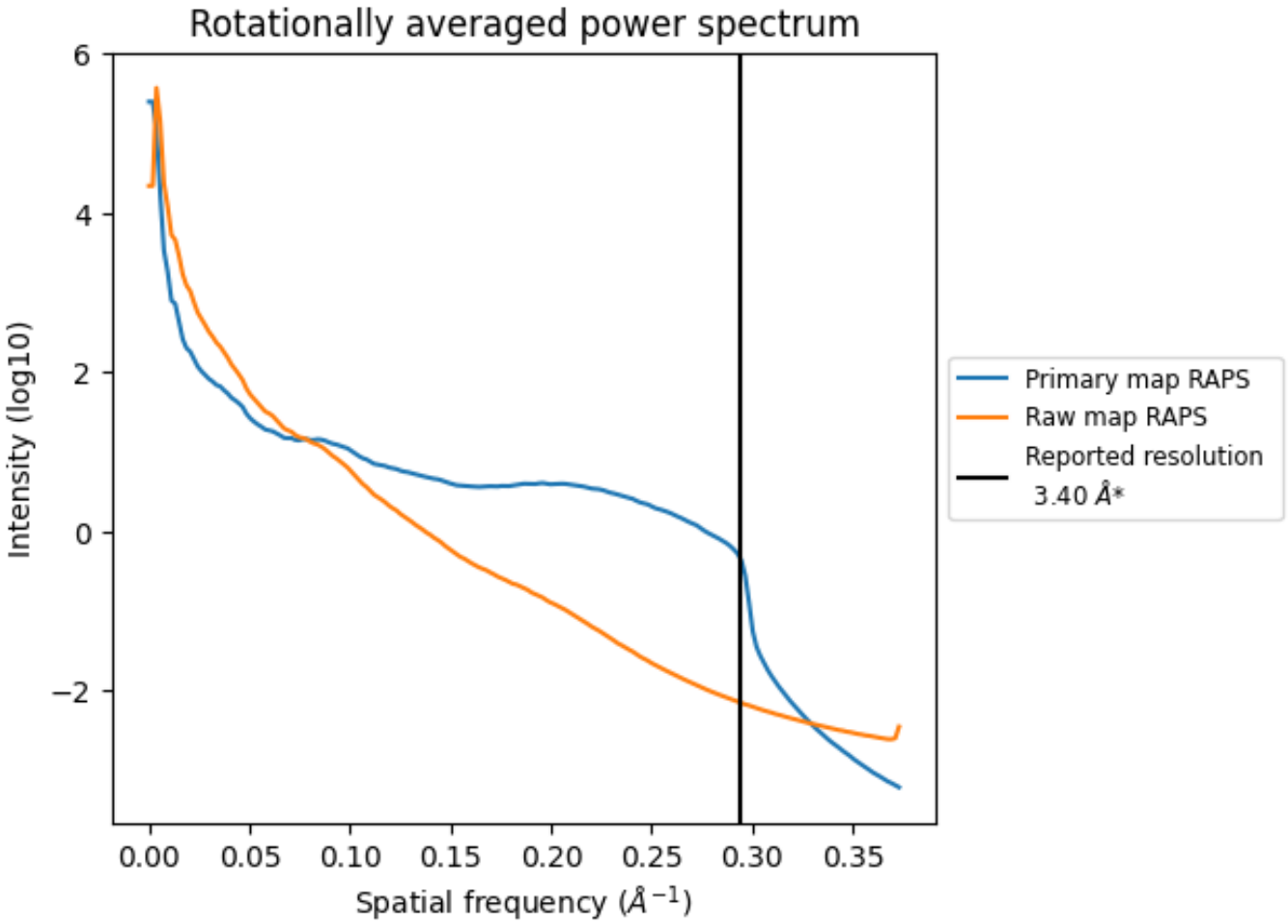
7.2 Volume estimate



The volume at the recommended contour level is 1651 nm^3; this corresponds to an approximate mass of 1492 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)

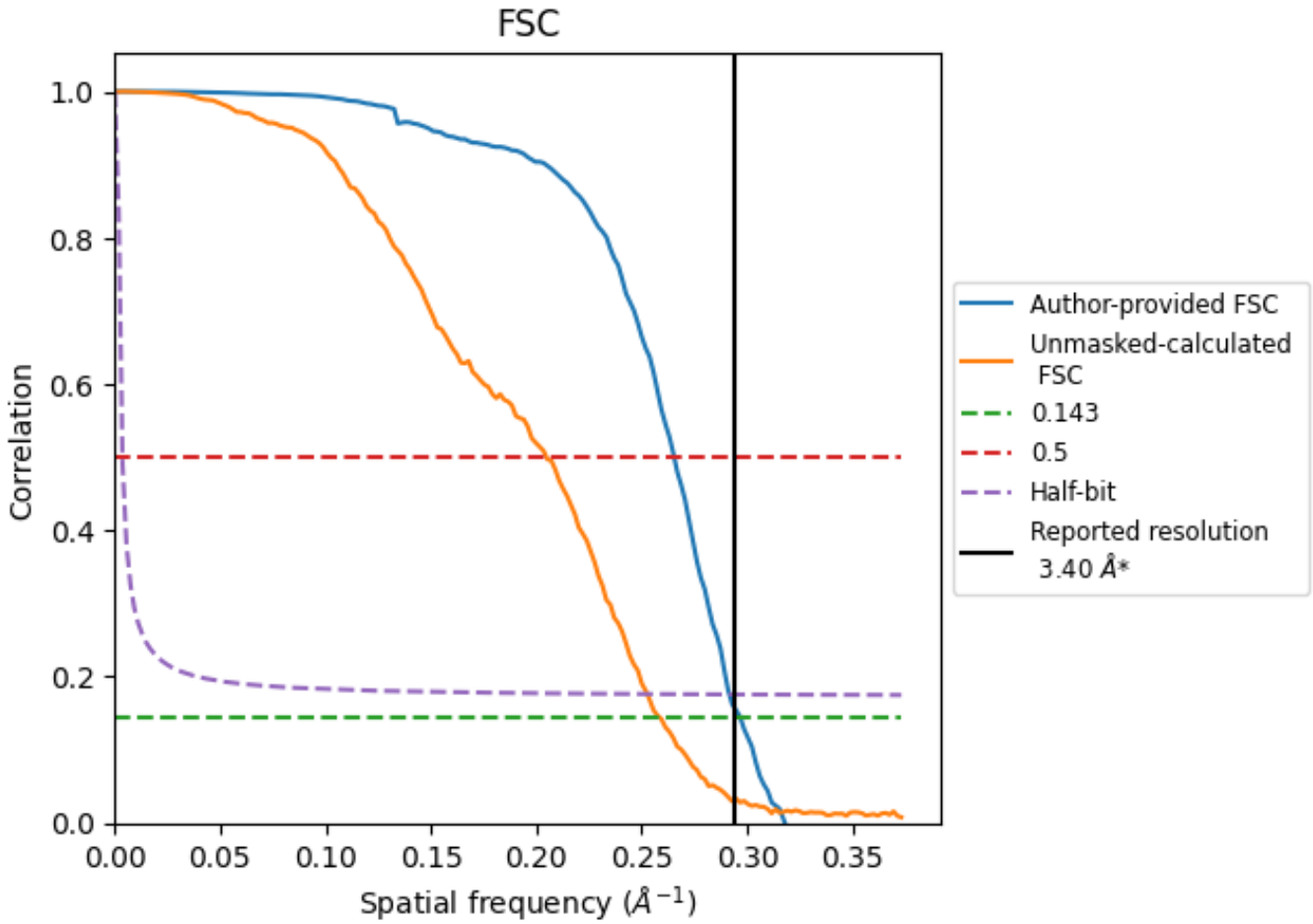


*Reported resolution corresponds to spatial frequency of 0.294 Å^{-1}

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 0.294 Å^{-1}

8.2 Resolution estimates (i)

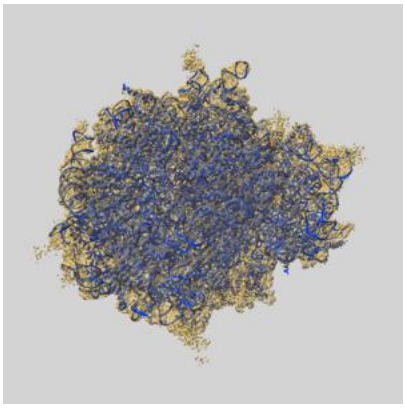
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.37	3.77	3.43
Unmasked-calculated*	3.86	4.89	3.96

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.86 differs from the reported value 3.4 by more than 10 %

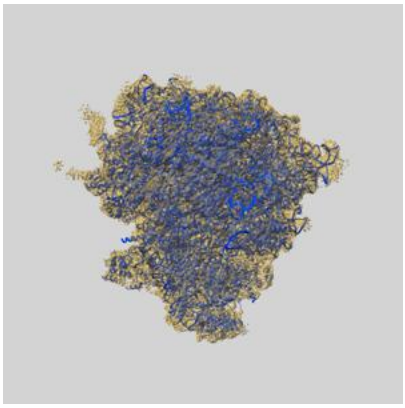
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-9242 and PDB model 6MTE. Per-residue inclusion information can be found in section 3 on page 20.

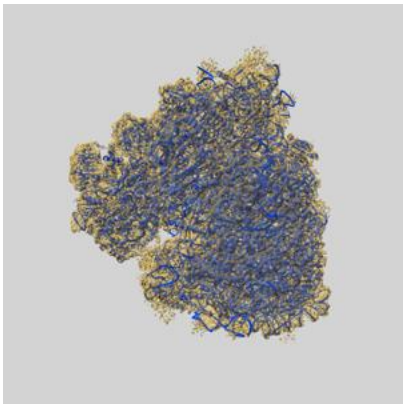
9.1 Map-model overlay



X



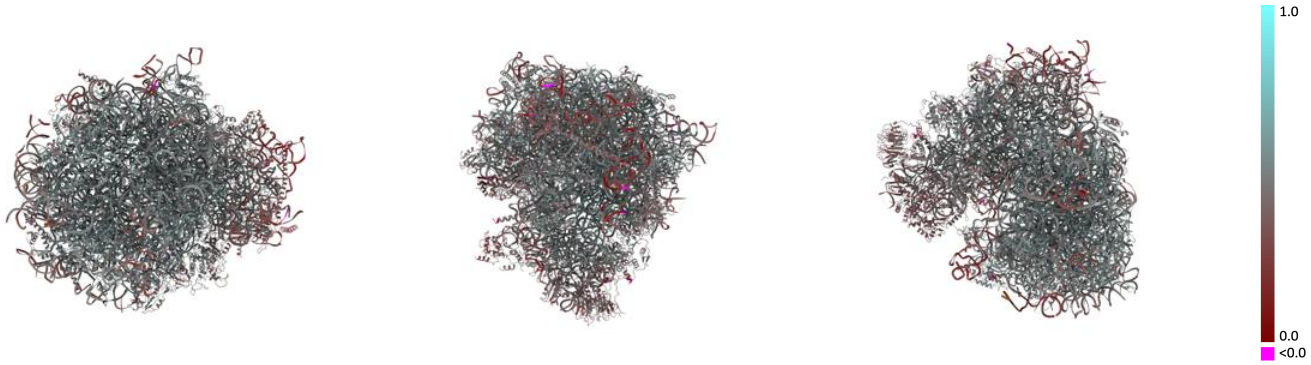
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.08 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.

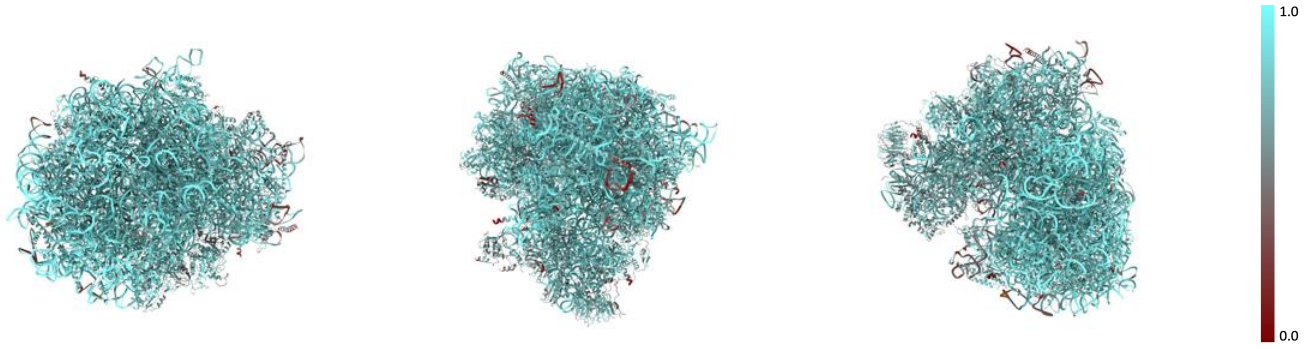
9.2 Q-score mapped to coordinate model (i)



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.

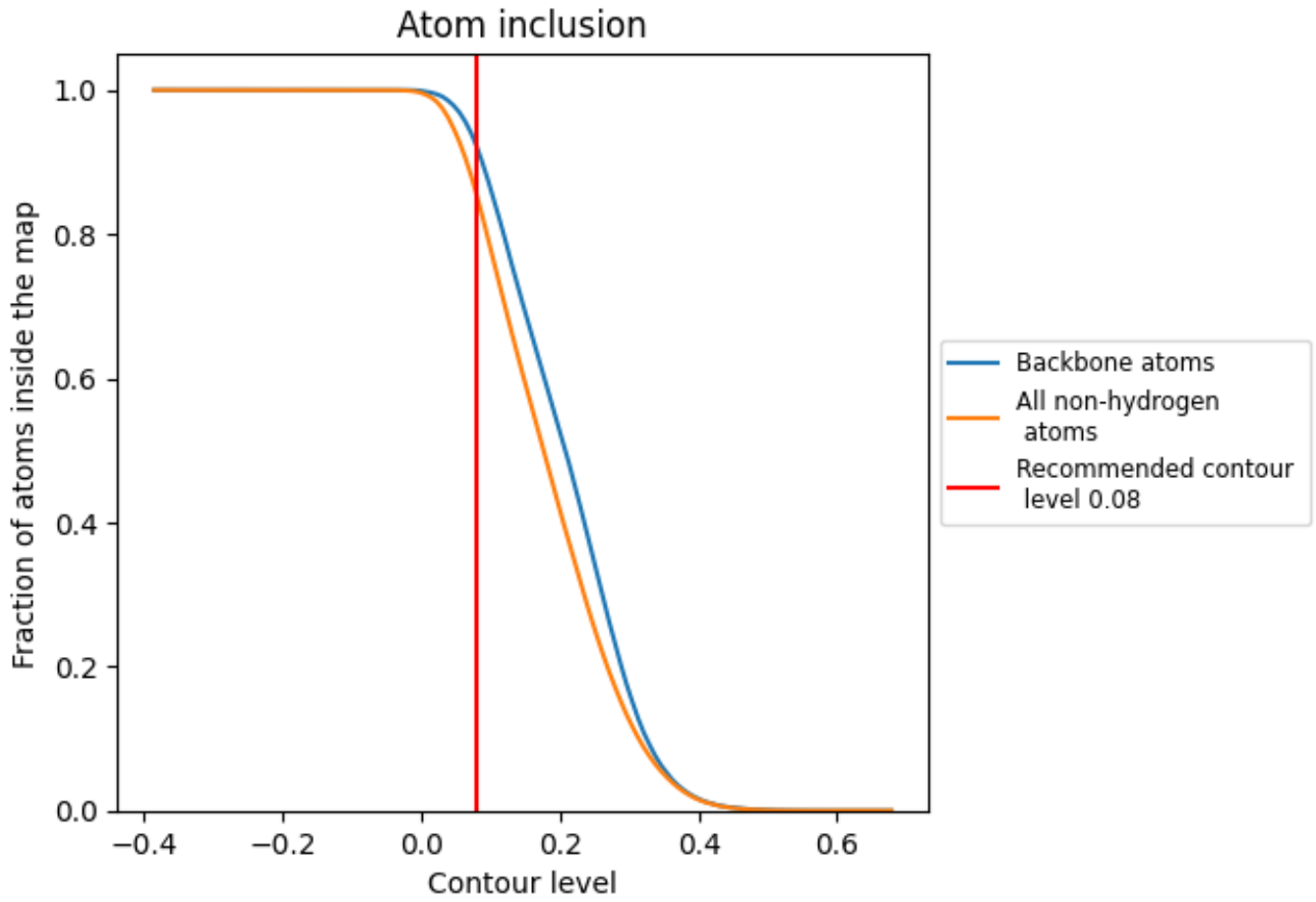
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.08).

9.4 Atom inclusion (i)



At the recommended contour level, 92% of all backbone atoms, 85% 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 (0.08) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8539	0.4760
5	0.9157	0.4870
7	0.9626	0.5120
8	0.9260	0.4850
9	0.8930	0.4420
A	0.8584	0.5490
AA	0.7837	0.4740
B	0.8837	0.5420
BB	0.7010	0.4310
C	0.8661	0.5310
CC	0.8254	0.5120
D	0.8465	0.5020
DD	0.7130	0.4450
E	0.8541	0.5080
EE	0.7990	0.4840
F	0.8583	0.5320
FF	0.6034	0.3480
G	0.7973	0.4890
GG	0.6663	0.3620
H	0.8512	0.5290
HH	0.7242	0.4390
I	0.8525	0.5330
II	0.7240	0.4290
J	0.8259	0.4880
JJ	0.8102	0.4880
KK	0.7509	0.4370
L	0.8286	0.5080
LL	0.7737	0.4820
M	0.8608	0.5280
MM	0.5280	0.2930
N	0.8914	0.5470
NN	0.7693	0.4710
O	0.8738	0.5320
OO	0.7356	0.4470
P	0.8558	0.5340

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Chain	Atom inclusion	Q-score
PP	0.6707	0.3650
Q	0.8593	0.5360
QQ	0.6822	0.3980
R	0.8140	0.5060
RR	0.6744	0.4170
S	0.8835	0.5440
SS	0.6524	0.3520
T	0.8361	0.5270
TT	0.6807	0.3710
U	0.8015	0.4710
UU	0.7158	0.4240
V	0.8539	0.5480
VV	0.8135	0.4980
W	0.6743	0.4520
WW	0.8446	0.5270
X	0.8245	0.5210
XX	0.8394	0.5340
Y	0.8442	0.5140
YY	0.7625	0.4410
Z	0.8462	0.5110
ZZ	0.5712	0.3140
a	0.8813	0.5420
aa	0.7647	0.4840
b	0.7374	0.4590
bb	0.7340	0.4710
c	0.8091	0.4910
cc	0.5723	0.3790
d	0.8320	0.5150
dd	0.8231	0.4670
e	0.8545	0.5450
ee	0.7441	0.4750
f	0.8907	0.5500
ff	0.5896	0.3200
g	0.8276	0.5230
gg	0.6550	0.3720
h	0.8325	0.5160
i	0.8178	0.4960
j	0.9036	0.5430
k	0.8025	0.4920
l	0.8431	0.5220
m	0.8657	0.5360
n	0.7569	0.5070

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Chain	Atom inclusion	Q-score
o	0.8397	0.5420
p	0.8041	0.5270
r	0.8777	0.5310
s	0.7502	0.4490
t	0.5360	0.3330
v	0.7431	0.4550
w	0.6215	0.4480