



Full wwPDB EM Validation Report ⓘ

Nov 6, 2023 – 12:23 PM JST

PDB ID : 8INF
EMDB ID : EMD-35597
Title : human nuclear pre-60S ribosomal particle - State F'
Authors : Zhang, Y.; Gao, N.
Deposited on : 2023-03-09
Resolution : 3.00 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

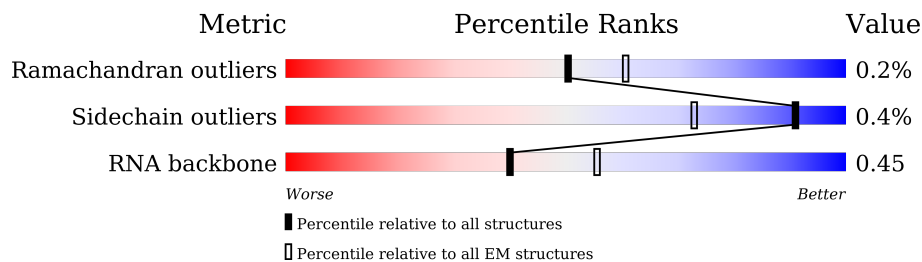
EMDB validation analysis : 0.0.1.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

1 Overall quality at a glance

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

The reported resolution of this entry is 3.00 Å.

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



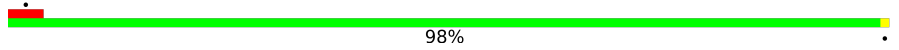


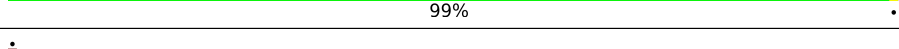
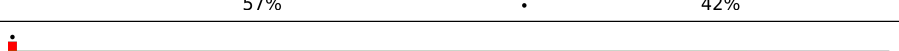

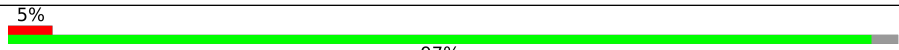

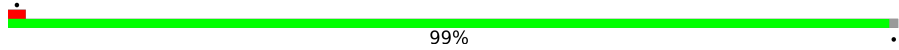
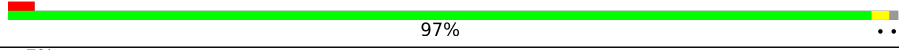
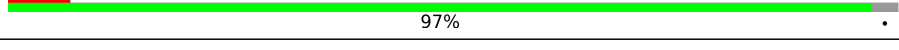
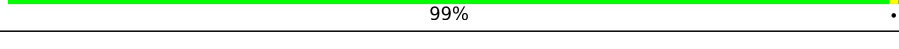
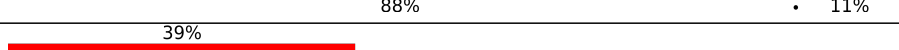
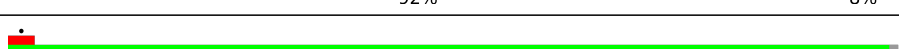
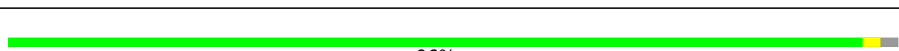
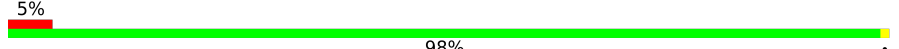

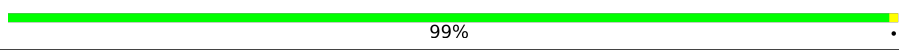
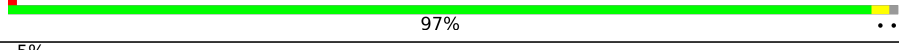
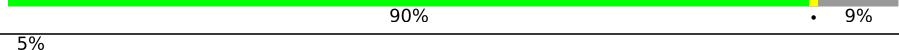
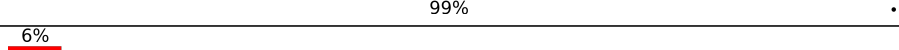




Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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 $\leq 5\%$. 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	u	490	
2	f	687	
3	q	217	
4	t	293	
5	3	255	
6	2	5054	
7	4	634	
8	5	120	


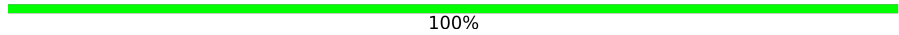
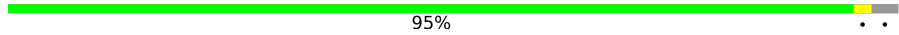

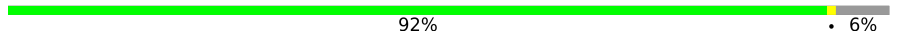

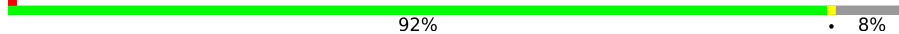
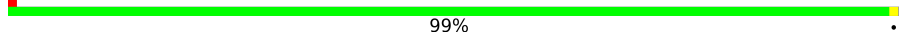

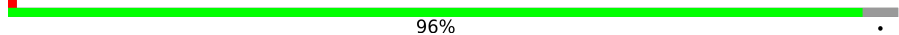

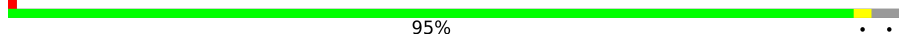
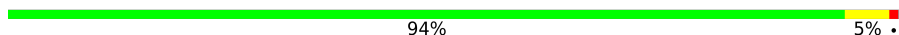


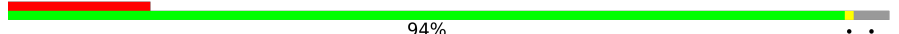









Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
9	6	245	 98%
10	7	163	 85% 15%
11	9	134	 69% 28%
12	B	403	 99%
13	C	159	 57% 42%
14	D	427	 83% 16%
15	E	115	 84% 15% 6%
16	F	117	 97%
17	G	266	 90% 9% 11%
18	H	123	 99%
19	I	192	 97%
20	K	105	 97% 7%
21	L	148	 99%
22	M	97	 88% 11%
23	N	178	 92% 8% 39%
24	O	70	 99%
25	P	51	 96%
26	Q	211	 98% 5%
27	S	215	 62% 37%
28	U	204	 99%
29	V	203	 97%
30	W	106	 90% 9% 5%
31	X	92	 99% 5%
32	Y	184	 89% 9% 6%
33	Z	188	 99%




Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
34	a	196	
35	b	176	
36	c	160	
37	d	128	
38	e	140	
39	g	156	
40	h	145	
41	i	136	
42	j	125	
43	k	135	
44	l	137	
45	m	257	
46	n	110	
47	o	288	
48	p	248	
49	r	297	
50	z	129	
51	A	731	
52	R	203	
53	J	239	
54	T	99	
55	y	165	
56	v	588	
57	8	156	
58	1	123	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
59	s	260	
60	w	478	
61	x	120	

2 Entry composition [i](#)

There are 64 unique types of molecules in this entry. The entry contains 169278 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 protein called Ribosomal L1 domain-containing protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	u	239	1924	1232	338	348	6	0	0

- Molecule 2 is a protein called Protein SDA1 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	f	554	4536	2890	810	804	32	0	0

- Molecule 3 is a protein called 60S ribosomal protein L10a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	q	212	1708	1092	308	300	8	0	0

- Molecule 4 is a protein called MKI67 FHA domain-interacting nucleolar phosphoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	t	134	1135	734	200	197	4	0	0

- Molecule 5 is a protein called 60S ribosomal protein L7-like 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	3	229	1892	1223	356	309	4	0	0

- Molecule 6 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	2	3654	77711	34626	14137	25295	3653	0	0

- Molecule 7 is a protein called GTP-binding protein 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	4	611	5016	3151	918	920	27	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
8	5	120	2558	1141	456	842	119	0	0

- Molecule 9 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	6	244	1852	1149	318	372	13	0	0

- Molecule 10 is a protein called Probable ribosome biogenesis protein RLP24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	7	139	1184	754	229	191	10	0	0

- Molecule 11 is a protein called Zinc finger protein 593.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	9	97	787	481	168	134	4	0	0

- Molecule 12 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	B	402	3244	2065	609	556	14	1	0

- Molecule 13 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	C	93	764	476	167	117	4	0	0

- Molecule 14 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	D	358	2853	1797	570	473	13	0	0

- Molecule 15 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	E	98	764	485	135	138	6	0	0

- Molecule 16 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	F	113	897	560	185	146	6	0	0

- Molecule 17 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	G	241	1935	1233	374	324	4	1	0

- Molecule 18 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	H	122	1015	641	205	168	1	0	0

- Molecule 19 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	I	190	1518	956	284	272	6	0	0

- Molecule 20 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	K	102	832	521	177	129	5	0	0

- Molecule 21 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	L	147	Total	C	N	O	S	0	0
			1162	736	237	186	3		

- Molecule 22 is a protein called 60S ribosomal protein L37.

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

- Molecule 23 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	N	164	Total	C	N	O	S	0	0
			1310	830	243	232	5		

- Molecule 24 is a protein called 60S ribosomal protein L38.

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

- Molecule 25 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	P	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 26 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Q	210	Total	C	N	O	S	0	0
			1701	1064	352	281	4		

- Molecule 27 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	S	135	Total	C	N	O	S	0	0
			1111	713	213	178	7		

- Molecule 28 is a protein called 60S ribosomal protein L15.

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

- Molecule 29 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	V	201	1650	1063	321	261	5	0	0

- Molecule 30 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	W	96	785	492	159	128	6	0	0

- Molecule 31 is a protein called 60S ribosomal protein L37a.

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

- Molecule 32 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	Y	167	1355	848	260	238	9	0	0

- Molecule 33 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	Z	187	1513	944	314	250	5	0	0

- Molecule 34 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	a	148	1239	772	266	192	9	0	0

- Molecule 35 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	b	176	1461	930	284	236	11	0	0

- Molecule 36 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	c	155	1264	801	248	210	5	0	0

- Molecule 37 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	d	104	850	542	149	157	2	0	0

- Molecule 38 is a protein called 60S ribosomal protein L23.

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

- Molecule 39 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	g	143	1156	740	220	195	1	0	0

- Molecule 40 is a protein called 60S ribosomal protein L26.

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

- Molecule 41 is a protein called 60S ribosomal protein L27.

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

- Molecule 42 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	j	111	Total	C	N	O	S	0	0
			918	578	178	160	2		

- Molecule 43 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	k	129	Total	C	N	O	S	0	0
			1064	673	220	166	5		

- Molecule 44 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	l	125	Total	C	N	O	S	0	0
			1002	622	207	168	5		

- Molecule 45 is a protein called 60S ribosomal protein L8.

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

- Molecule 46 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	n	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 47 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	o	235	Total	C	N	O	S	0	0
			1897	1217	360	316	4		

- Molecule 48 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	p	225	Total	C	N	O	S	1	0
			1878	1207	361	301	9		

- Molecule 49 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	r	284	2312	1463	420	415	14	0	0

- Molecule 50 is a protein called Protein LLP homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	z	67	581	363	128	88	2	0	0

- Molecule 51 is a protein called G Protein Nucleolar 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	A	333	2672	1710	457	497	8	0	0

- Molecule 52 is a protein called Translation machinery-associated protein 16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	R	153	1296	810	248	233	5	0	0

- Molecule 53 is a protein called mRNA turnover protein 4 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	J	223	1809	1140	309	349	11	0	0

- Molecule 54 is a protein called Leydig cell tumor 10 kDa protein homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	T	45	354	221	75	57	1	0	0

- Molecule 55 is a protein called 60S ribosomal protein L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
55	y	165	1250	779	232	234	5	0	0

- Molecule 56 is a protein called Pescadillo homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
56	v	404	3317	2140	582	582	13	0	0

- Molecule 57 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
57	8	154	3278	1463	580	1081	154	0	0

- Molecule 58 is a protein called Uncharacterized protein C11orf98.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
58	1	74	622	385	142	95	0	0

- Molecule 59 is a protein called Ribosome biogenesis protein NSA2 homolog.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
59	s	35	316	196	68	52	0	0

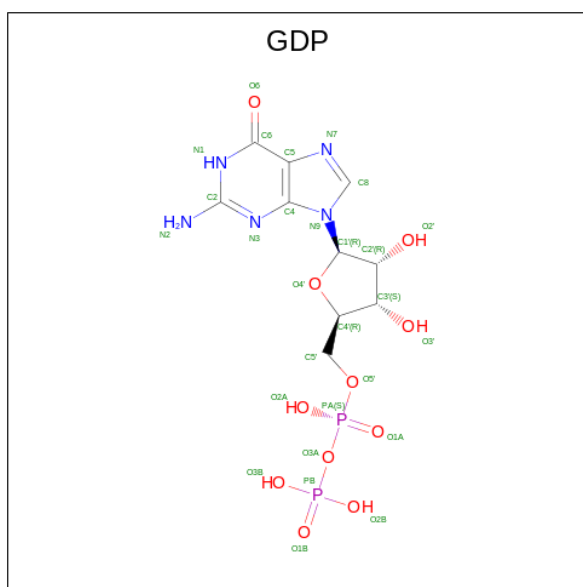
- Molecule 60 is a protein called Ribosome biogenesis protein NOP53.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
60	w	388	3214	2002	646	564	2	0	0

- Molecule 61 is a RNA chain called Internal Transcribed Spacer 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
61	x	57	684	285	1	341	57	0	0

- Molecule 62 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: C₁₀H₁₅N₅O₁₁P₂).



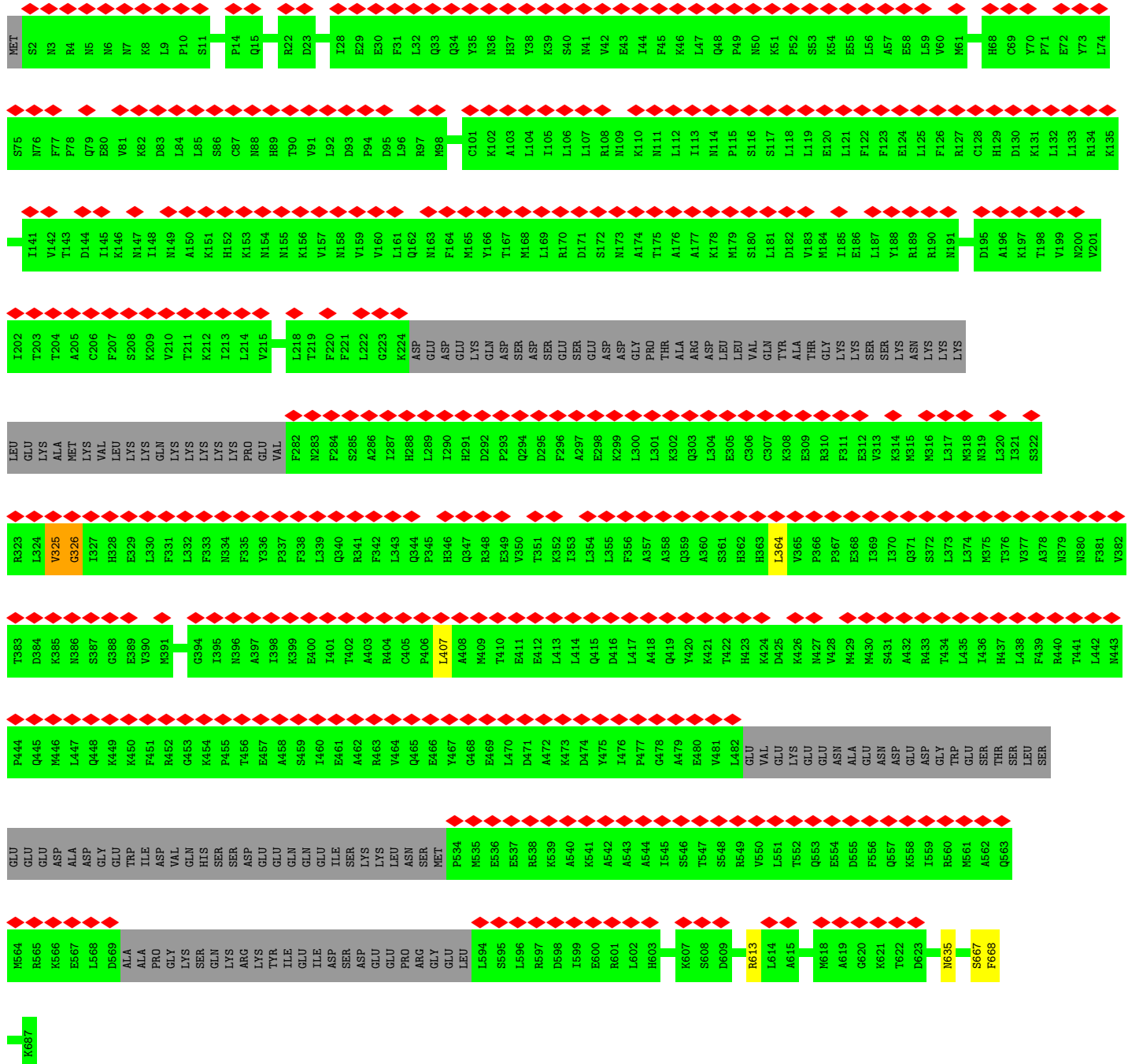
Mol	Chain	Residues	Atoms					AltConf
62	A	1	Total	C	N	O	P	0
			28	10	5	11	2	

- Molecule 63 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

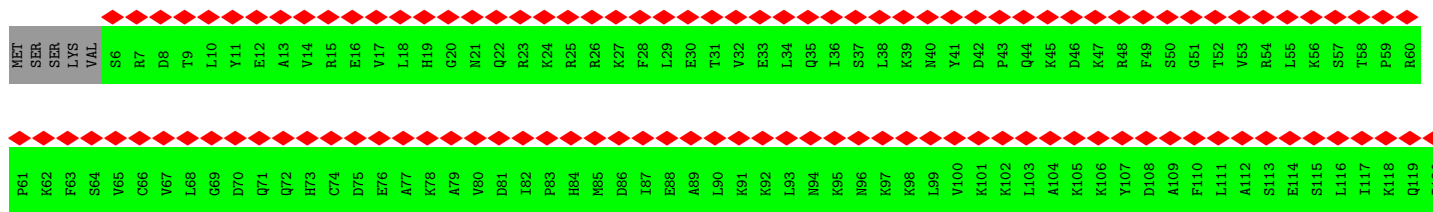
Mol	Chain	Residues	Atoms		AltConf
63	A	1	Total	Mg	0
			1	1	

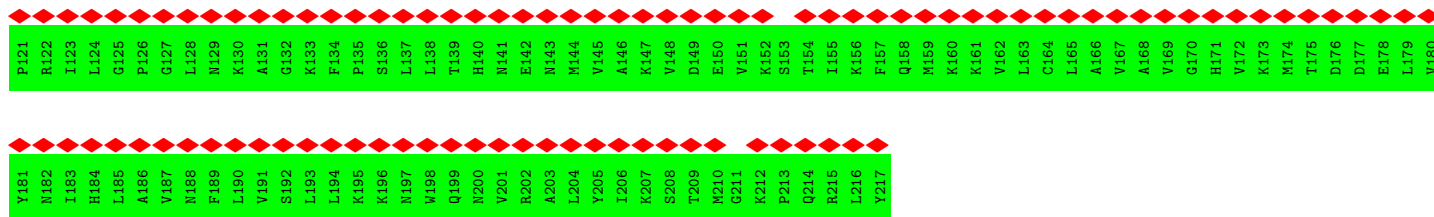
- Molecule 64 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		AltConf
64	A	1	Total	K	0
			1	1	

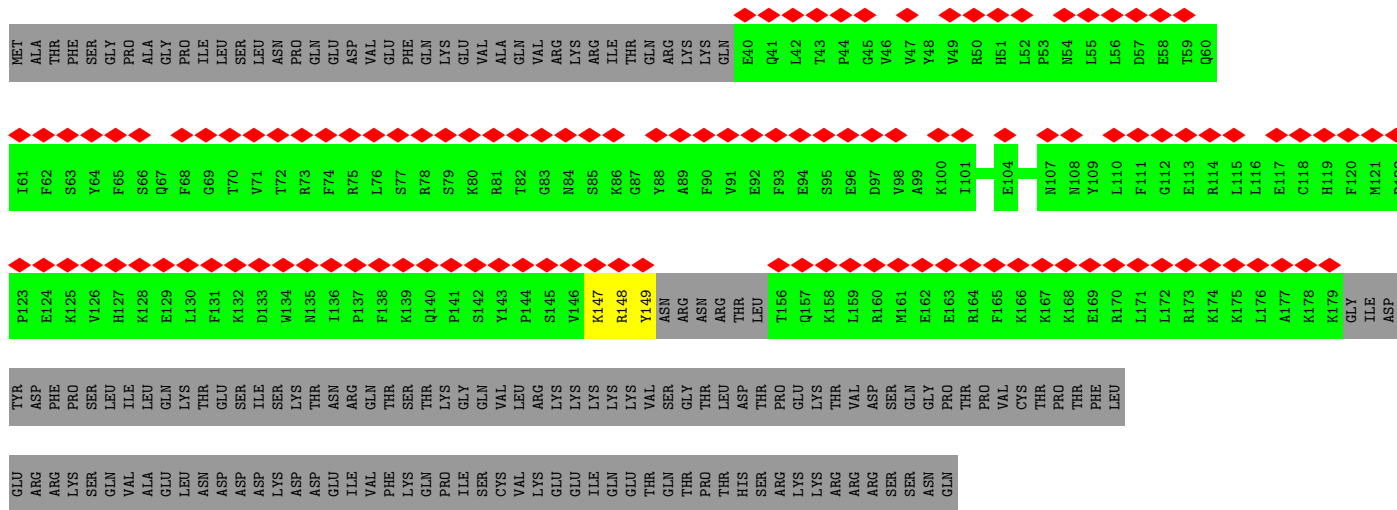
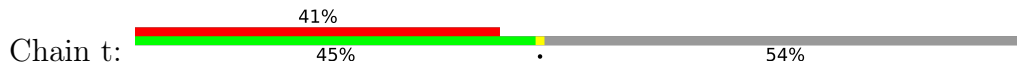


- Molecule 3: 60S ribosomal protein L10a

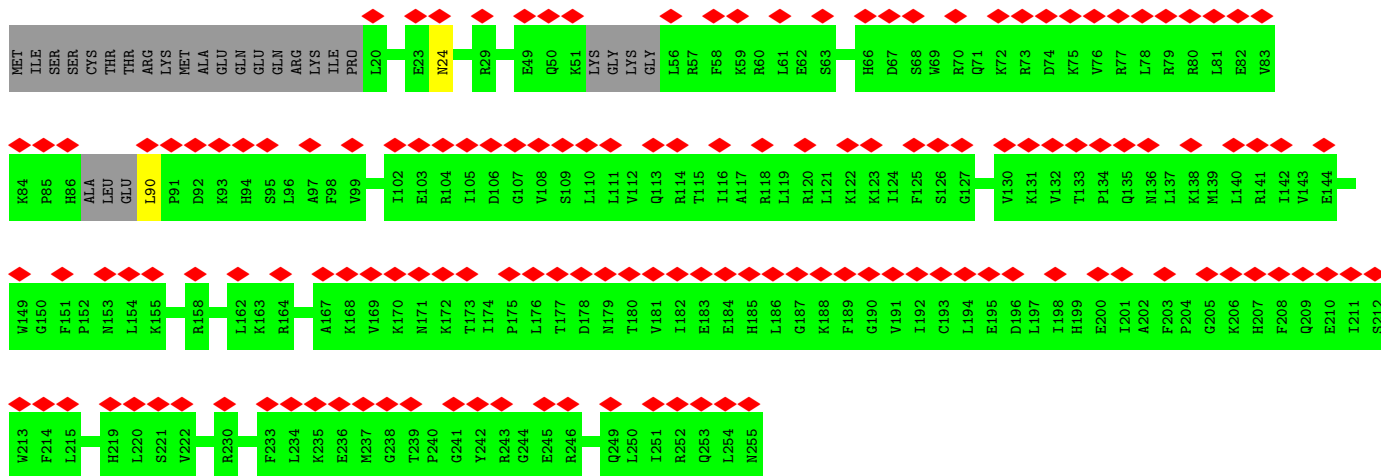
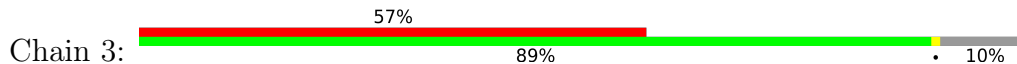




• Molecule 4: MKI67 FHA domain-interacting nucleolar phosphoprotein



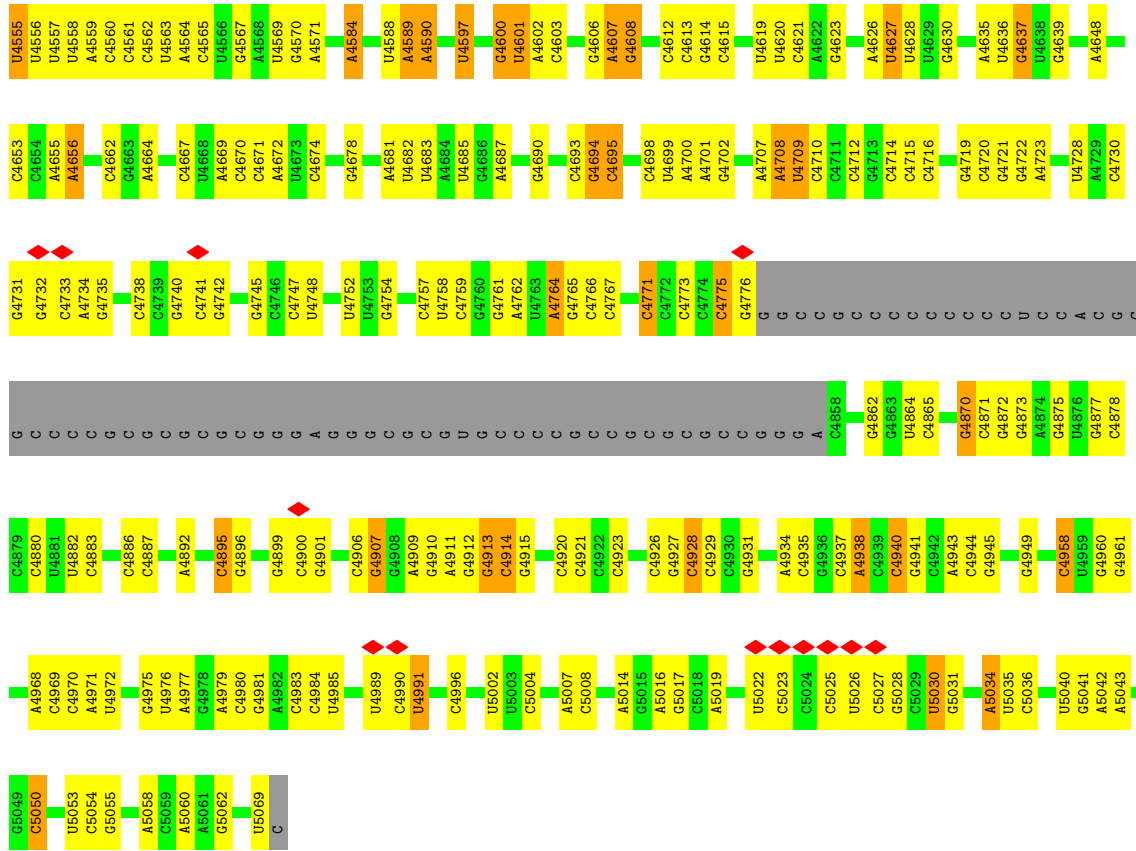
• Molecule 5: 60S ribosomal protein L7-like 1



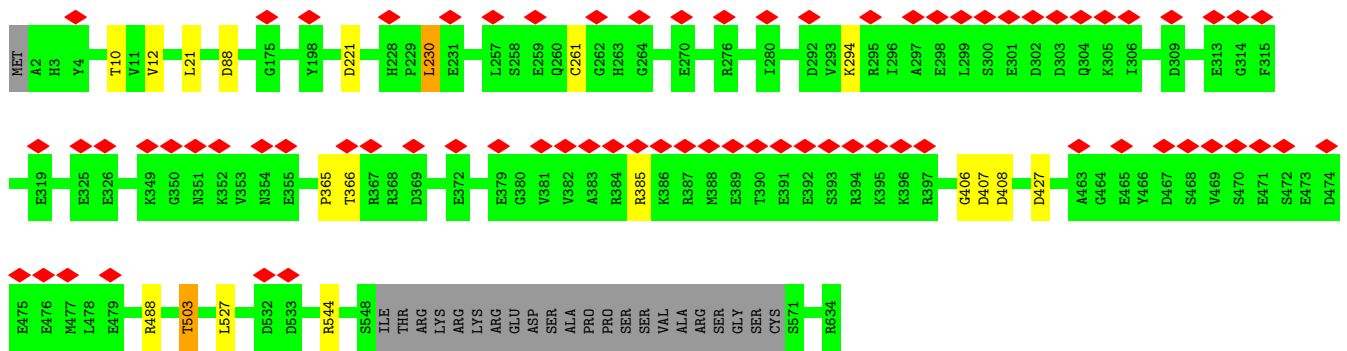
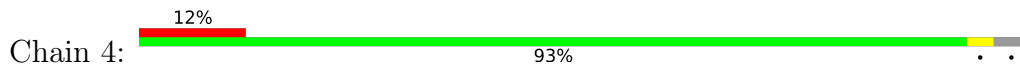
• Molecule 6: 28S rRNA



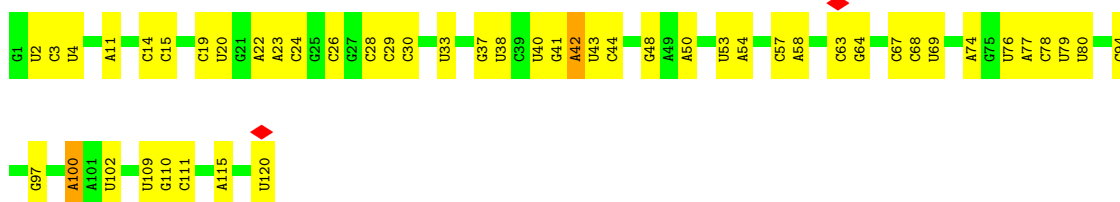
U4482	C4502	G4249	U4060	G4000	A3928	A3846	G3776	G3698	U3607	C
C4483	A4503	G4250	G4061	C4001	G3929	C3846	G	C3699	G3615	C
A4484	C4504	A4251	A4062	G4002	U3930	C3847	U	C3700	U3616	C
C4485	C4505	G4254	U4063	A4003	G3938	U3851	A	C3701	G3617	C
C4486	C4506	A4255	G4064	G4004	G3939	A3852	C	A3702	C3618	C
A4487	C4507	A4256	G4065	G4005	G3940	U3853	C	G3710	C	C
A4488	C4508	A4257	C4074	G4006	A3947	C3854	A	A3711	A3621	C
G4489	C4509	U4157	U4075	G4007	C3948	C3855	A	A3712	C3622	C
C4490	C4510	A4157	A4076	G4008	A3949	A3856	U	U3713	C3623	C
U4493	C4511	C4162	G4077	C4009	U3950	A3861	G	G3714	G	C
G4494	C4512	U4163	U4083	G4010	G3951	A3862	C	G3626	G	C
U4498	C4513	A4170	G4084	C4010	A3952	C3863	C	A3718	C	C
C4502	A4514	A4171	U4088	G4011	G3953	C3864	U	U3721	C	C
A4503	C4515	C4172	G4094	G4012	A3954	A3865	C	G3722	C	C
C4504	C4516	G4183	G4095	G4013	G3955	C3866	G	A3723	G	C
C4505	C4517	G4184	G4096	G4014	G3956	C3867	U	A3724	G	C
C4506	C4518	G4185	G4097	G4015	G3957	C3868	C	A3727	U	C
A4507	C4519	A4191	A4098	G4016	U3957	C3869	U	A3728	C	C
C4508	C4520	U4192	G4099	G4017	G3958	A3876	U	U3729	C	C
C4509	C4521	C4193	A4099	G4018	U3959	A3877	C	U3734	C	C
A4510	C4522	U4194	G4100	G4019	G3960	C3878	A	G3735	C	C
U4512	C4523	A4196	C4101	G4020	G3961	C3879	U	A3736	C	C
A4513	C4524	G4197	C4102	G4021	A3962	G3880	U	C3739	C	C
C4518	C4525	U4199	C4103	C4022	A3963	C3881	G	G3740	C	C
C4519	C4526	A4199	C4104	G4023	U3964	C3882	U	C3741	C	A
G4522	C4527	C4200	G4104	G4024	A3965	C3887	A	G3745	C	C
A4523	C4528	U4201	A4105	C4025	A3966	A3890	C	A3746	C	C
G4524	C4529	U4202	G4106	G4026	G3967	A3891	G	U3657	C	C
C4525	C4530	A4203	U4107	G4027	U3968	C3892	C	C3662	C	C
U4526	C4531	C4204	G4108	G4028	G3969	C3893	G	A3644	C	C
G4527	C4532	U4206	C4109	C4029	G3970	G3894	U	A3646	C	C
G4528	C4533	C4206	C4110	C4030	A3972	C3895	A	A3647	C	C
G4529	C4534	U4212	U4111	G4031	G3973	G3899	G	A3648	C	C
U4530	C4535	A4213	C4112	U4032	G3974	G3900	A	G3649	C	C
U4531	C4536	U4214	U4113	G4033	C3975	A3901	A	C3651	C	C
C4537	C4537	C4215	U4114	C4034	G3976	A3902	U	G3652	C	C
G4538	C4538	U4220	C4115	G4034	C3977	G3903	G	A3651	C	C
A4544	C4539	C4221	G4116	G4035	C3977	A3904	A	A3652	C	C
G4545	C4540	U4225	U4117	G4036	C3978	A3905	G	U3657	C	C
A4546	C4541	G4226	U4118	C4037	C3978	A3906	A	C3667	C	C
C4547	C4542	U4227	U4119	G4038	G3980	U3912	G	C3670	C	C
A4548	C4543	G4228	U4120	C4039	G3981	G3915	C	G3671	C	C
G4549	C4544	U4229	G4121	G4040	G3982	C3919	U	G3672	C	C
G4550	C4545	A4233	C4122	C4041	G3983	G3922	C	C3673	C	C
A4553	C4546	U4234	G4123	G4042	C3984	A3923	U	G3674	C	C
C4554	C4547	A4235	U4124	U4043	C3985	C3924	G	G3675	C	C
A4480	C4548	G4236	C4125	G4044	C3986	U3925	A	U3680	C	C
U4481	C4549	U4237	U4126	U4045	C3987	C3926	U	C3683	C	C
U4482	C4550	G4238	A4127	G4046	C3988	U3927	G	U3688	C	C
U4483	C4551	C4137	C4138	A4047	C3989	C3926	C	G3689	C	C
U4484	C4552	G4139	G4139	A4048	C3990	C3926	C	U3690	C	C
U4485	C4553	C4140	C4140	A4049	G3991	C3926	C	G3691	C	C
U4486	C4554	G4141	G4141	A4050	G3992	C3926	C	C3692	C	C
U4487	C4555	C4142	C4142	C4051	U3993	C3926	C	G3693	C	C
U4488	C4556	G4143	G4143	C4052	U3994	C3926	C	U3694	C	C
U4489	C4557	C4144	C4144	C4053	U3995	C3926	C	G3695	C	C
U4490	C4558	G4145	G4145	C4054	C3996	C3926	C	U3697	C	C
U4491	C4559	A4247	A4247	C4055	C3997	C3926	C	C3699	C	C
U4492	C4560	G4248	G4248	C4056	C3998	C3926	C	U3699	C	C
U4493	C4561	C4137	C4137	C4057	C3999	C3926	C	C3699	C	C
U4494	C4562	G4138	G4138	C4058	C4059	C3926	C	U3699	C	C
U4495	C4563	C4139	C4139	C4059	C4060	C3926	C	U3699	C	C
U4496	C4564	G4140	G4140	C4060	C4061	C3926	C	U3699	C	C
U4497	C4565	C4141	C4141	C4061	C4062	C3926	C	U3699	C	C
U4498	C4566	G4142	G4142	C4062	C4063	C3926	C	U3699	C	C
U4499	C4567	C4143	C4143	C4063	C4064	C3926	C	U3699	C	C
U4500	C4568	G4144	G4144	C4064	C4065	C3926	C	U3699	C	C
U4501	C4569	C4145	C4145	C4065	C4066	C3926	C	U3699	C	C
U4502	C4570	G4146	G4146	C4066	C4067	C3926	C	U3699	C	C
U4503	C4571	U4249	U4249	C4067	C4068	C3926	C	U3699	C	C
U4504	C4572	A4249	A4249	C4068	C4069	C3926	C	U3699	C	C
U4505	C4573	C4146	C4146	C4069	C4070	C3926	C	U3699	C	C
U4506	C4574	G4147	G4147	C4070	C4071	C3926	C	U3699	C	C
U4507	C4575	C4147	C4147	C4071	C4072	C3926	C	U3699	C	C
U4508	C4576	G4148	G4148	C4072	C4073	C3926	C	U3699	C	C
U4509	C4577	U4250	U4250	C4073	C4074	C3926	C	U3699	C	C
U4510	C4578	A4250	A4250	C4074	C4075	C3926	C	U3699	C	C
U4511	C4579	C4148	C4148	C4075	C4076	C3926	C	U3699	C	C
U4512	C4580	G4149	G4149	C4076	C4077	C3926	C	U3699	C	C
U4513	C4581	C4149	C4149	C4077	C4078	C3926	C	U3699	C	C
C4518	C4582	U4251	U4251	C4078	C4079	C3926	C	U3699	C	C
C4519	C4583	A4251	A4251	C4079	C4080	C3926	C	U3699	C	C
C4522	C4584	C4149	C4149	C4080	C4081	C3926	C	U3699	C	C
A4523	C4585	G4150	G4150	C4081	C4082	C3926	C	U3699	C	C
G4524	C4586	U4252	U4252	C4082	C4083	C3926	C	U3699	C	C
C4525	C4587	A4252	A4252	C4083	C4084	C3926	C	U3699	C	C
U4526	C4588	U4253	U4253	C4084	C4085	C3926	C	U3699	C	C
G4527	C4589	C4150	C4150	C4085	C4086	C3926	C	U3699	C	C
G4528	C4590	G4151	G4151	C4086	C4087	C3926	C	U3699	C	C
G4529	C4591	U4254	U4254	C4087	C4088	C3926	C	U3699	C	C
U4530	C4592	A4253	A4253	C4088	C4089	C3926	C	U3699	C	C
U4531	C4593	C4151	C4151	C4089	C4090	C3926	C	U3699	C	C
U4532	C4594	U4255	U4255	C4090	C4091	C3926	C	U3699	C	C
A4533	C4595	A4254	A4254	C4091	C4092	C3926	C	U3699	C	C
G4534	C4596	U4256	U4256	C4092	C4093	C3926	C	U3699	C	C
A4535	C4597	C4152	C4152	C4093	C4094	C3926	C	U3699	C	C
C4536	C4598	U4257	U4257	C4094	C4095	C3926	C	U3699	C	C
C4537	C4599	A4255	A4255	C4095	C4096	C3926	C	U3699	C	C
G4538	C4600	C4152	C4152	C4096	C4097	C3926	C	U3699	C	C
A4544	C4601	U4258	U4258	C4097	C4098	C3926	C	U3699	C	C
G4545	C4602	C4153	C4153	C4098	C4099	C3926	C	U3699	C	C
G4546	C4603	G4153	G4153	C4099	C4100	C3926	C	U3699	C	C
C4547	C4604	U4259	U4259	C4100	C4101	C3926	C	U3699	C	C
A4548	C4605	A4256	A4256	C4101	C4102	C3926	C	U3699	C	C
G4549	C4606	U4260	U4260	C4102	C4103	C3926	C	U3699	C	C
G4550	C4607	C4154	C4154	C4103	C4104	C3926	C	U3699	C	C
A4553	C4608	U4261	U4261	C4104	C4105	C3926	C	U3699	C	C
C4554	C4609	A4257	A4257	C4105	C4106	C3926	C	U3699	C	C
A4479	C4610	C4154	C4154	C4106	C4107	C3926	C	U3699	C	C
A4480	C4611	G4155	G4155	C4107	C4108	C3926	C	U3699	C	C
U4481	C4612	U4262	U4262	C4108	C4109	C3926	C	U3699	C	C
U4482	C4613	A4258	A4258	C4109	C4110	C3926	C	U3699	C	C
U4483	C4614	C4155	C4155	C4110	C4111	C3926	C	U3699	C	C
U4484	C4615	U4263	U4263	C4111	C4112	C3926	C	U3699	C	C
U4485	C4616	A4259	A4259	C4112	C4113	C3926	C	U3699	C	C
U4486	C4617	C4156	C4156	C4113	C4114	C3926	C	U3699	C	C
U4487	C4618	G4156	G4156	C4114	C4115	C3926	C	U3699	C	C
U4488	C4619	U4264	U4264	C4115	C4116	C3926	C	U3699	C	C
U4489	C4620	A4260	A4260	C4116	C4117	C3926	C	U3699	C	C
U4490	C4621	C4157	C4157	C4117	C4118	C3926	C	U3699	C	C
U4491	C4622	U4265	U4265	C4118	C4119	C3926	C	U3699	C	C
U4492	C4623	G4158	G4158	C4119	C4120	C3926	C	U3699	C	C
C4502	C4624	A4261	A4261	C4120	C4121	C3926	C	U3699	C	C
A4503	C4625	U4163	U4163	C4121	C4122	C3926	C	U3699	C	C
C4504	C4626	A4170	A4170	C4122	C4123	C3926	C	U3699	C	C
C4505	C4627	C4171	C4171	C4123	C4124	C3926	C	U3699	C	C
C4506	C4628	G4172	G4172	C4124	C4125	C3926	C	U3699	C	C
A4507	C4629	A4183	A4183	C4125	C4126	C3926	C	U3699	C	C
C4508	C4630	G4184	G4184	C4126	C4127	C3926	C	U3699	C	C
C4509	C4631	U4191	U4191	C4127	C4128	C3926	C	U3699		



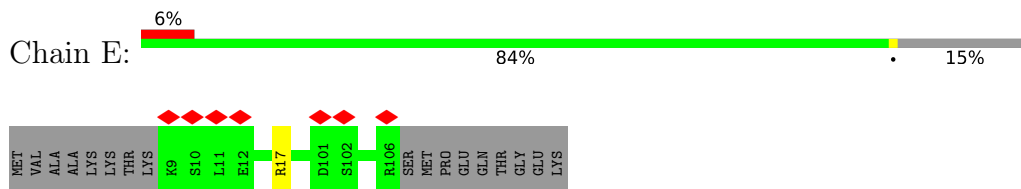
• Molecule 7: GTP-binding protein 4



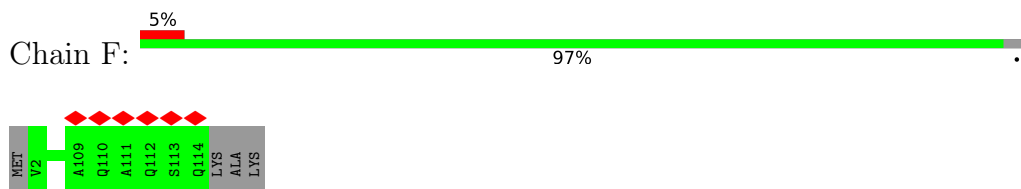
• Molecule 8: 5S rRNA



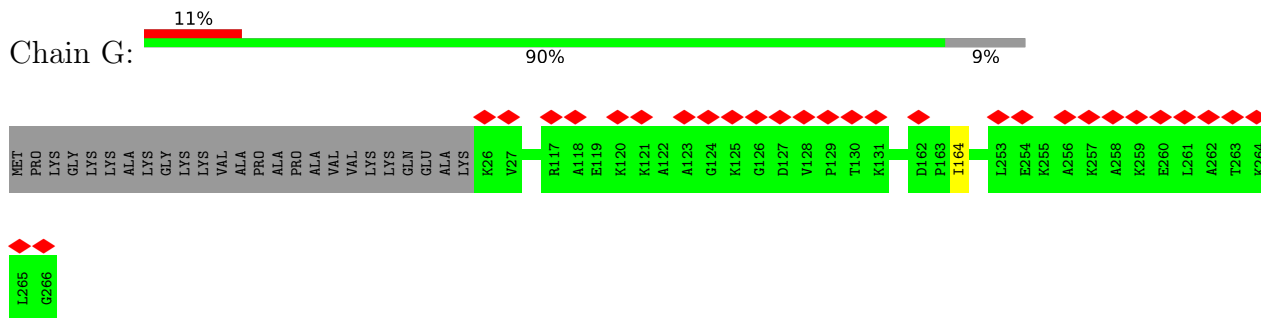
- Molecule 15: 60S ribosomal protein L30



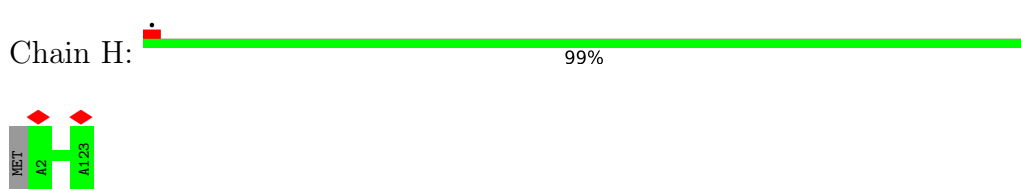
- Molecule 16: 60S ribosomal protein L34



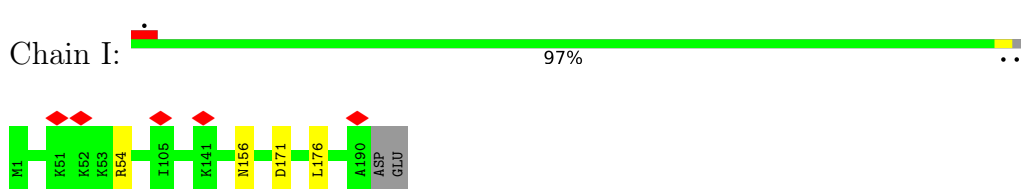
- Molecule 17: 60S ribosomal protein L7a



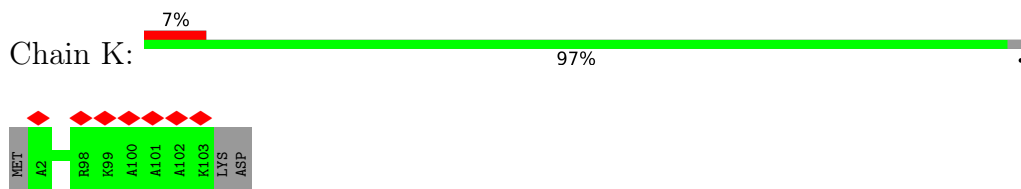
- Molecule 18: 60S ribosomal protein L35



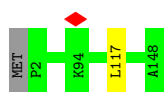
- Molecule 19: 60S ribosomal protein L9



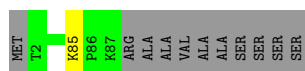
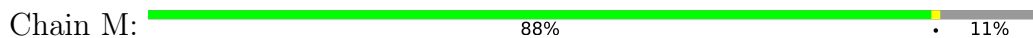
- Molecule 20: 60S ribosomal protein L36



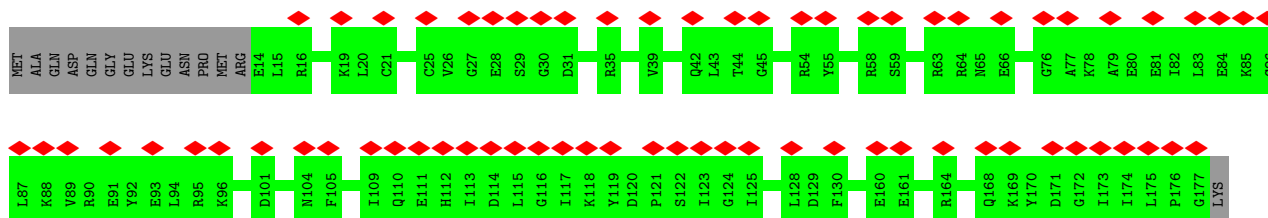
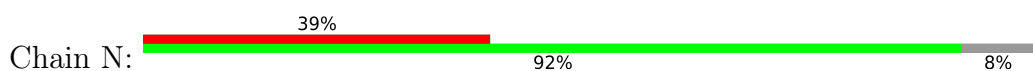
- Molecule 21: 60S ribosomal protein L27a



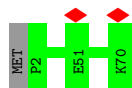
- Molecule 22: 60S ribosomal protein L37



- Molecule 23: 60S ribosomal protein L11



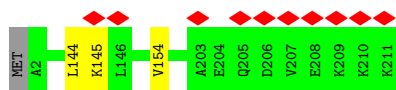
- Molecule 24: 60S ribosomal protein L38



- Molecule 25: 60S ribosomal protein L39

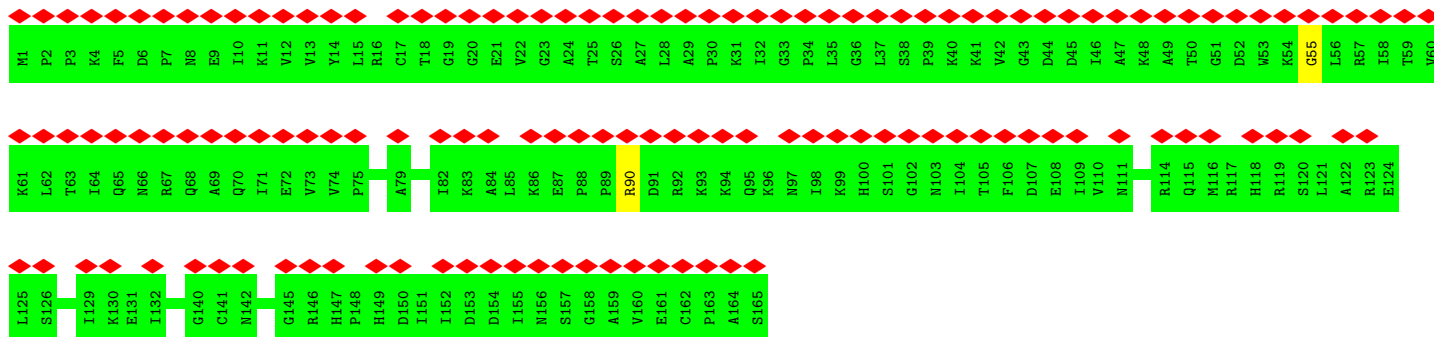


- Molecule 26: 60S ribosomal protein L13

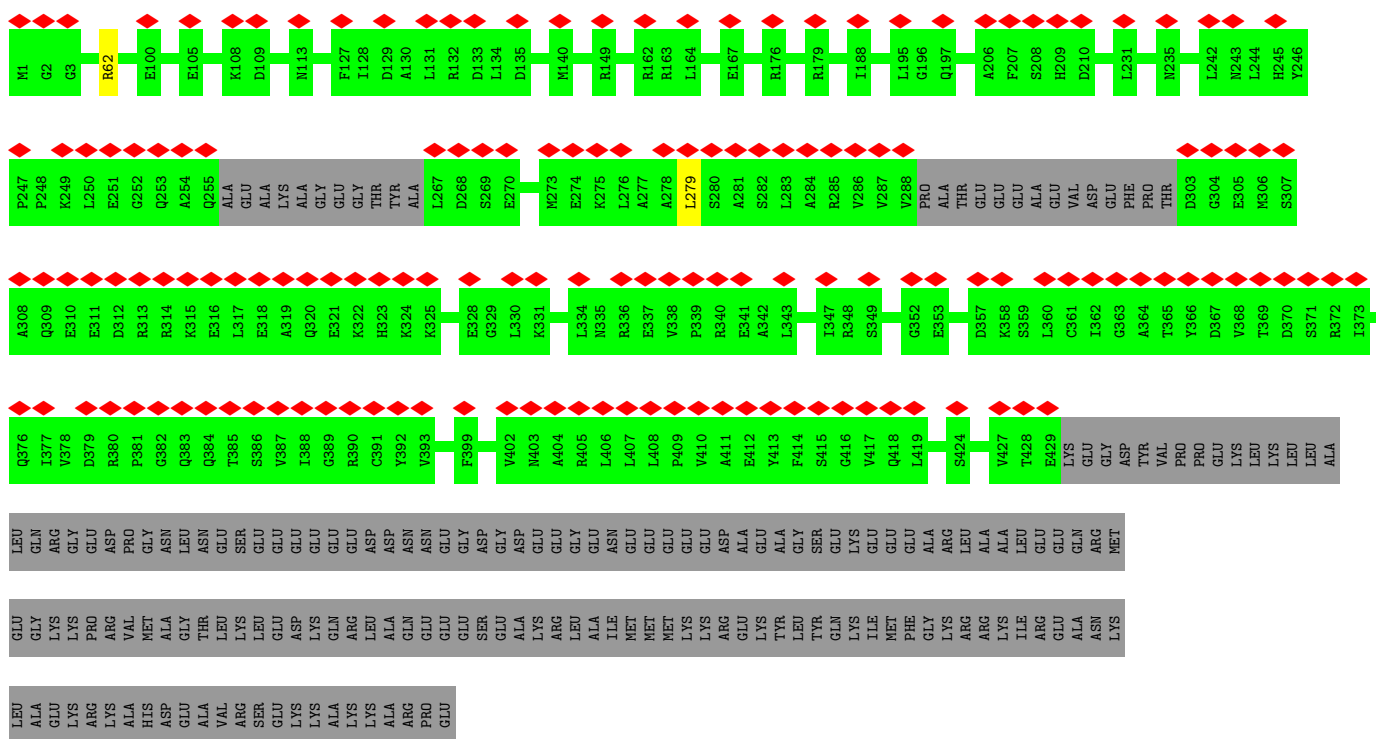


- Molecule 27: 60S ribosomal protein L14

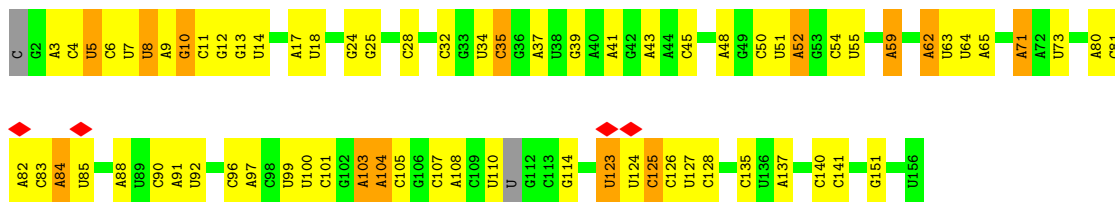




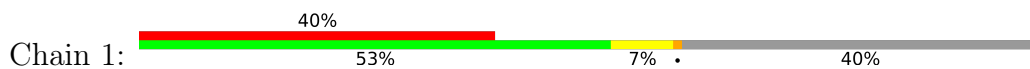
• Molecule 56: Pescadillo homolog



• Molecule 57: 5.8S rRNA



• Molecule 58: Uncharacterized protein C11orf98



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	45905	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 ($e^-/\text{\AA}^2$)	1.8	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	0.251	Depositor
Minimum map value	-0.071	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.033	Depositor
Map size (\AA)	548.0, 548.0, 548.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.37, 1.37, 1.37	Depositor

5 Model quality i

5.1 Standard geometry i

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

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	u	0.33	0/1956	0.65	3/2631 (0.1%)
2	f	0.44	2/4614 (0.0%)	0.68	6/6191 (0.1%)
3	q	0.33	0/1736	0.68	0/2328
4	t	0.37	0/1162	0.72	0/1555
5	3	0.34	0/1928	0.72	1/2584 (0.0%)
6	2	0.79	25/84884 (0.0%)	1.54	2121/132255 (1.6%)
7	4	0.40	0/5099	0.83	10/6840 (0.1%)
8	5	0.62	0/2858	1.45	59/4455 (1.3%)
9	6	0.46	0/1877	0.80	3/2554 (0.1%)
10	7	0.44	0/1207	0.74	1/1600 (0.1%)
11	9	0.39	0/802	0.98	2/1069 (0.2%)
12	B	0.46	0/3315	0.76	1/4435 (0.0%)
13	C	0.33	0/777	0.75	2/1026 (0.2%)
14	D	0.46	0/2907	0.80	3/3905 (0.1%)
15	E	0.39	0/774	0.73	0/1038
16	F	0.43	0/907	0.79	0/1209
17	G	0.46	0/1971	0.79	1/2651 (0.0%)
18	H	0.42	0/1023	0.68	0/1351
19	I	0.42	0/1537	0.82	2/2066 (0.1%)
20	K	0.38	0/843	0.76	0/1115
21	L	0.40	0/1191	0.73	1/1591 (0.1%)
22	M	0.45	0/720	0.75	0/952
23	N	0.36	0/1332	0.77	0/1782
24	O	0.42	0/575	0.79	0/761
25	P	0.46	0/454	0.71	0/599
26	Q	0.43	0/1732	0.79	1/2315 (0.0%)
27	S	0.46	0/1133	0.75	1/1516 (0.1%)
28	U	0.44	0/1746	0.72	2/2338 (0.1%)
29	V	0.50	0/1682	0.76	3/2250 (0.1%)
30	W	0.35	0/798	0.76	1/1054 (0.1%)
31	X	0.45	0/718	0.70	0/953

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	Y	0.44	0/1383	0.76	2/1856 (0.1%)
33	Z	0.44	0/1537	0.77	0/2052
34	a	0.44	0/1255	0.80	2/1662 (0.1%)
35	b	0.44	0/1501	0.67	0/2013
36	c	0.40	0/1291	0.73	1/1725 (0.1%)
37	d	0.41	0/864	0.91	4/1160 (0.3%)
38	e	0.47	0/993	0.76	1/1332 (0.1%)
39	g	0.39	0/1175	0.66	0/1572
40	h	0.48	0/1132	0.75	1/1504 (0.1%)
41	i	0.46	0/1130	0.78	1/1507 (0.1%)
42	j	0.44	0/933	0.78	1/1256 (0.1%)
43	k	0.45	0/1082	0.73	0/1443
44	l	0.42	0/1017	0.71	1/1364 (0.1%)
45	m	0.47	1/1936 (0.1%)	0.80	2/2596 (0.1%)
46	n	0.47	0/895	0.86	6/1198 (0.5%)
47	o	0.40	0/1935	0.77	4/2596 (0.2%)
48	p	0.45	0/1916	0.77	1/2553 (0.0%)
49	r	0.36	0/2357	0.75	3/3158 (0.1%)
50	z	0.38	0/587	0.80	0/767
51	A	0.38	0/2733	0.61	1/3697 (0.0%)
52	R	0.37	0/1317	0.72	1/1757 (0.1%)
53	J	0.42	1/1844 (0.1%)	0.83	4/2476 (0.2%)
54	T	0.30	0/356	0.73	0/469
55	y	0.31	0/1269	0.66	0/1712
56	v	0.35	0/3395	0.70	1/4578 (0.0%)
57	8	0.90	3/3637 (0.1%)	1.70	124/5664 (2.2%)
58	1	0.67	0/626	0.94	3/825 (0.4%)
59	s	0.30	0/321	0.62	0/418
60	w	0.32	0/3261	0.75	5/4362 (0.1%)
All	All	0.64	32/177936 (0.0%)	1.25	2393/258241 (0.9%)

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
2	f	0	2
6	2	0	2
7	4	0	4
12	B	0	1
26	Q	0	1

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
32	Y	0	1
36	c	0	1
45	m	0	2
46	n	0	1
55	y	0	1
58	1	0	1
60	w	0	1
All	All	0	18

All (32) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	f	668	PHE	CD2-CE2	15.89	1.71	1.39
6	2	2328	G	N7-C5	-15.48	1.29	1.39
2	f	668	PHE	CE2-CZ	11.43	1.59	1.37
6	2	2328	G	N9-C4	10.56	1.46	1.38
6	2	2355	G	C2-N2	-10.47	1.24	1.34
6	2	1331	C	N1-C2	10.31	1.50	1.40
6	2	2327	G	N9-C4	10.20	1.46	1.38
6	2	1332	C	N3-C4	-8.55	1.27	1.33
6	2	2328	G	N9-C8	-8.29	1.32	1.37
6	2	426	A	C6-N6	-7.70	1.27	1.33
6	2	1332	C	C4-C5	-7.22	1.37	1.43
6	2	2328	G	C8-N7	-6.98	1.26	1.30
6	2	2354	G	C6-O6	-6.90	1.18	1.24
57	8	8	U	N3-C4	-6.74	1.32	1.38
6	2	1332	C	N1-C6	-6.27	1.33	1.37
6	2	2354	G	C5-C6	-6.10	1.36	1.42
6	2	2328	G	C6-N1	-6.08	1.35	1.39
6	2	1332	C	N1-C2	5.97	1.46	1.40
6	2	4444	C	C1'-N1	5.89	1.57	1.48
45	m	169	VAL	CB-CG1	-5.81	1.40	1.52
6	2	2355	G	C5-C6	-5.71	1.36	1.42
6	2	2355	G	C5-C4	-5.65	1.34	1.38
6	2	2404	A	N7-C5	-5.52	1.35	1.39
6	2	2355	G	N7-C5	-5.41	1.36	1.39
6	2	3712	A	N9-C4	5.38	1.41	1.37
6	2	2355	G	N3-C4	-5.28	1.31	1.35
57	8	11	C	C4-C5	-5.17	1.38	1.43
6	2	1577	G	C2-N3	-5.16	1.28	1.32
57	8	7	U	N1-C2	5.15	1.43	1.38
6	2	423	G	C8-N7	-5.12	1.27	1.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	2328	G	C2-N3	5.08	1.36	1.32
53	J	114	GLU	CD-OE1	-5.07	1.20	1.25

All (2393) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1331	C	N3-C2-O2	-37.16	95.89	121.90
6	2	1331	C	N1-C2-O2	27.69	135.51	118.90
6	2	2328	G	C8-N9-C4	-27.39	95.44	106.40
6	2	2328	G	N7-C8-N9	26.62	126.41	113.10
6	2	1331	C	C6-N1-C2	-26.35	109.76	120.30
6	2	1332	C	N1-C2-O2	25.93	134.46	118.90
57	8	8	U	C5-C4-O4	21.04	138.53	125.90
6	2	1332	C	C6-N1-C2	-20.45	112.12	120.30
6	2	2327	G	N3-C4-C5	-20.11	118.55	128.60
6	2	1332	C	N3-C2-O2	-20.10	107.83	121.90
6	2	2328	G	N3-C4-C5	-20.03	118.59	128.60
6	2	2328	G	C6-C5-N7	-19.45	118.73	130.40
6	2	426	A	C5-C6-N1	18.48	126.94	117.70
57	8	7	U	N3-C2-O2	-18.10	109.53	122.20
6	2	2355	G	C6-N1-C2	-18.05	114.27	125.10
6	2	2328	G	N3-C4-N9	17.19	136.31	126.00
6	2	2328	G	C4-N9-C1'	16.43	147.86	126.50
6	2	2327	G	C8-N9-C4	-16.27	99.89	106.40
6	2	516	C	N1-C2-O2	16.19	128.62	118.90
6	2	2328	G	C4-C5-C6	15.87	128.32	118.80
6	2	426	A	C5-C6-N6	-15.52	111.29	123.70
57	8	8	U	N3-C4-O4	-15.27	108.71	119.40
6	2	1331	C	C2-N1-C1'	15.17	135.49	118.80
6	2	1332	C	C5-C6-N1	15.03	128.51	121.00
57	8	11	C	C6-N1-C2	-14.86	114.36	120.30
6	2	516	C	N3-C2-O2	-14.84	111.52	121.90
57	8	11	C	C5-C6-N1	14.76	128.38	121.00
6	2	485	C	C2-N1-C1'	14.63	134.90	118.80
6	2	426	A	C6-N1-C2	-14.61	109.83	118.60
6	2	1332	C	C2-N1-C1'	14.49	134.74	118.80
6	2	1331	C	C2-N3-C4	-14.35	112.72	119.90
57	8	7	U	N1-C2-O2	13.95	132.56	122.80
6	2	2357	G	N3-C4-N9	13.93	134.36	126.00
6	2	2354	G	C4-C5-N7	13.77	116.31	110.80
6	2	4502	C	N1-C2-O2	13.68	127.11	118.90
6	2	2355	G	C5-C6-O6	-13.63	120.42	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	485	C	N1-C2-O2	13.55	127.03	118.90
6	2	753	C	N1-C2-O2	13.54	127.03	118.90
6	2	1921	C	N1-C2-O2	13.41	126.95	118.90
6	2	1305	C	C5-C6-N1	13.23	127.62	121.00
6	2	467	U	N3-C2-O2	-13.07	113.05	122.20
6	2	4502	C	N3-C2-O2	-13.06	112.76	121.90
6	2	2327	G	N3-C4-N9	13.03	133.81	126.00
6	2	422	C	C6-N1-C2	-12.94	115.12	120.30
6	2	2355	G	C5-C6-N1	12.89	117.95	111.50
6	2	467	U	N1-C2-O2	12.75	131.73	122.80
2	f	668	PHE	CB-CG-CD1	-12.71	111.90	120.80
6	2	3948	C	C2-N1-C1'	12.68	132.74	118.80
6	2	516	C	C6-N1-C2	-12.52	115.29	120.30
6	2	2327	G	C4-N9-C1'	12.49	142.74	126.50
6	2	2327	G	C2-N3-C4	12.49	118.14	111.90
6	2	3948	C	C6-N1-C2	-12.47	115.31	120.30
6	2	753	C	N3-C2-O2	-12.41	113.21	121.90
57	8	7	U	C6-N1-C2	-12.32	113.61	121.00
6	2	2627	C	N1-C2-O2	12.29	126.27	118.90
6	2	100	C	N1-C2-O2	12.15	126.19	118.90
6	2	4453	C	N1-C2-O2	12.15	126.19	118.90
2	f	668	PHE	CZ-CE2-CD2	-12.12	105.55	120.10
6	2	4926	C	N1-C2-O2	12.12	126.17	118.90
6	2	100	C	N3-C2-O2	-12.06	113.45	121.90
6	2	1332	C	N3-C4-N4	11.82	126.27	118.00
6	2	4887	C	N1-C2-O2	11.77	125.96	118.90
6	2	1331	C	N1-C2-N3	11.60	127.32	119.20
6	2	4613	C	N1-C2-O2	11.57	125.84	118.90
6	2	4192	A	P-O3'-C3'	-11.56	105.83	119.70
6	2	1305	C	C6-N1-C2	-11.53	115.69	120.30
6	2	3948	C	N1-C2-O2	11.51	125.81	118.90
6	2	467	U	C2-N1-C1'	11.50	131.50	117.70
57	8	9	A	C5-C6-N1	11.49	123.45	117.70
6	2	1994	C	C2-N1-C1'	11.32	131.26	118.80
6	2	4200	G	P-O3'-C3'	-11.30	106.14	119.70
6	2	516	C	C2-N1-C1'	11.27	131.20	118.80
6	2	485	C	C6-N1-C2	-11.21	115.81	120.30
6	2	1216	C	C2-N1-C1'	11.21	131.13	118.80
7	4	230	LEU	CA-CB-CG	11.17	141.00	115.30
6	2	1921	C	N3-C2-O2	-11.02	114.19	121.90
6	2	3948	C	C5-C6-N1	11.01	126.51	121.00
6	2	2357	G	N3-C4-C5	-11.00	123.10	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1921	C	C6-N1-C2	-10.97	115.91	120.30
6	2	1216	C	N1-C2-O2	10.90	125.44	118.90
6	2	422	C	N1-C2-O2	10.89	125.43	118.90
6	2	4202	U	P-O3'-C3'	-10.88	106.64	119.70
6	2	925	C	C6-N1-C2	-10.82	115.97	120.30
6	2	2627	C	N3-C2-O2	-10.77	114.36	121.90
6	2	4775	C	N1-C2-O2	10.65	125.29	118.90
6	2	2820	C	N1-C2-O2	10.64	125.28	118.90
6	2	4138	C	N3-C2-O2	-10.64	114.45	121.90
6	2	2355	G	N1-C2-N3	10.60	130.26	123.90
6	2	2354	G	C5-C6-O6	-10.57	122.26	128.60
6	2	2356	U	O4'-C1'-N1	10.56	116.65	108.20
6	2	4709	U	N3-C2-O2	-10.54	114.82	122.20
57	8	6	C	C5-C6-N1	10.52	126.26	121.00
6	2	2777	G	N3-C4-C5	-10.52	123.34	128.60
6	2	4682	U	N3-C2-O2	-10.49	114.85	122.20
6	2	77	U	N3-C2-O2	-10.48	114.86	122.20
6	2	1079	C	N1-C2-O2	10.42	125.15	118.90
14	D	171	LEU	CA-CB-CG	10.41	139.25	115.30
6	2	281	U	N3-C2-O2	-10.36	114.95	122.20
6	2	100	C	C2-N1-C1'	10.33	130.16	118.80
6	2	1405	C	N1-C2-O2	10.29	125.08	118.90
7	4	408	ASP	CB-CG-OD1	10.29	127.56	118.30
6	2	421	C	C5'-C4'-C3'	10.28	132.44	116.00
6	2	2860	C	C6-N1-C2	-10.28	116.19	120.30
6	2	2410	C	C6-N1-C2	-10.27	116.19	120.30
6	2	753	C	C6-N1-C2	-10.26	116.20	120.30
6	2	2260	C	N1-C2-O2	10.23	125.04	118.90
6	2	3587	C	N1-C2-O2	10.18	125.01	118.90
6	2	4682	U	N1-C2-O2	10.18	129.93	122.80
6	2	1994	C	N1-C2-O2	10.16	125.00	118.90
6	2	2355	G	C4-C5-N7	10.16	114.86	110.80
6	2	4149	C	N3-C2-O2	-10.16	114.79	121.90
6	2	2410	C	C5-C6-N1	10.15	126.07	121.00
6	2	485	C	N3-C2-O2	-10.13	114.81	121.90
6	2	2327	G	N7-C8-N9	10.12	118.16	113.10
6	2	4453	C	N3-C2-O2	-10.11	114.82	121.90
6	2	6	C	N1-C2-O2	10.10	124.96	118.90
6	2	112	C	C6-N1-C2	-10.10	116.26	120.30
6	2	4453	C	C2-N1-C1'	10.05	129.86	118.80
2	f	668	PHE	CB-CG-CD2	10.04	127.83	120.80
57	8	6	C	C4-C5-C6	-10.04	112.38	117.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	422	C	C5-C6-N1	10.03	126.02	121.00
6	2	4926	C	C2-N1-C1'	10.01	129.81	118.80
6	2	485	C	C5-C6-N1	9.97	125.99	121.00
57	8	64	U	N3-C2-O2	-9.94	115.24	122.20
8	5	24	C	N1-C2-O2	9.93	124.86	118.90
6	2	2026	A	O4'-C1'-N9	9.89	116.11	108.20
6	2	77	U	N1-C2-O2	9.87	129.71	122.80
6	2	1821	G	N3-C4-C5	-9.85	123.67	128.60
6	2	1332	C	C2-N3-C4	9.84	124.82	119.90
6	2	4502	C	C6-N1-C2	-9.82	116.37	120.30
6	2	4758	U	N3-C2-O2	-9.81	115.33	122.20
6	2	115	C	N1-C2-O2	9.81	124.79	118.90
6	2	2627	C	C6-N1-C2	-9.78	116.39	120.30
6	2	4887	C	N3-C2-O2	-9.76	115.07	121.90
6	2	2710	C	N1-C2-O2	9.75	124.75	118.90
6	2	4613	C	N3-C2-O2	-9.70	115.11	121.90
6	2	1241	C	N1-C2-O2	9.69	124.72	118.90
6	2	4505	C	C6-N1-C2	-9.68	116.43	120.30
6	2	485	C	C6-N1-C1'	-9.67	109.20	120.80
14	D	319	LEU	CA-CB-CG	9.67	137.53	115.30
6	2	4471	U	N3-C2-O2	-9.66	115.44	122.20
6	2	2439	G	C8-N9-C1'	-9.66	114.44	127.00
12	B	360	LEU	CA-CB-CG	9.65	137.49	115.30
6	2	1821	G	C2-N3-C4	9.64	116.72	111.90
32	Y	127	ARG	CG-CD-NE	9.63	132.03	111.80
6	2	753	C	C2-N1-C1'	9.61	129.37	118.80
6	2	4709	U	N1-C2-O2	9.60	129.52	122.80
6	2	2860	C	N1-C2-O2	9.60	124.66	118.90
6	2	4502	C	C2-N1-C1'	9.60	129.35	118.80
6	2	4758	U	C2-N1-C1'	9.58	129.19	117.70
6	2	972	C	N1-C2-O2	9.54	124.63	118.90
6	2	1929	A	C2-N3-C4	9.54	115.37	110.60
6	2	2354	G	C5-C6-N1	9.53	116.27	111.50
6	2	4766	C	C6-N1-C2	-9.52	116.49	120.30
6	2	2328	G	C5-N7-C8	-9.51	99.54	104.30
6	2	3636	C	C6-N1-C2	-9.45	116.52	120.30
6	2	420	A	OP2-P-O3'	-9.45	84.41	105.20
6	2	2439	G	C4-N9-C1'	9.44	138.77	126.50
6	2	985	C	C6-N1-C2	-9.41	116.54	120.30
6	2	4926	C	N3-C2-O2	-9.36	115.34	121.90
6	2	1856	C	C6-N1-C2	-9.35	116.56	120.30
6	2	4601	U	N3-C2-O2	-9.34	115.67	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	6	C	N3-C2-O2	-9.32	115.38	121.90
6	2	96	U	N3-C2-O2	-9.31	115.68	122.20
6	2	209	U	N1-C2-O2	9.29	129.30	122.80
6	2	421	C	O4'-C1'-N1	9.28	115.63	108.20
6	2	2262	G	N3-C4-N9	9.27	131.56	126.00
6	2	4612	C	N1-C2-O2	9.21	124.43	118.90
57	8	4	C	C6-N1-C2	-9.21	116.62	120.30
6	2	2262	G	C4-N9-C1'	9.20	138.46	126.50
6	2	4775	C	C2-N1-C1'	9.18	128.90	118.80
6	2	499	G	N3-C4-N9	9.17	131.50	126.00
6	2	2410	C	C2-N1-C1'	9.16	128.88	118.80
6	2	4880	C	N1-C2-O2	9.15	124.39	118.90
6	2	115	C	C2-N1-C1'	9.15	128.87	118.80
6	2	2351	C	C6-N1-C2	-9.15	116.64	120.30
6	2	4201	G	P-O3'-C3'	-9.14	108.73	119.70
57	8	11	C	N1-C2-O2	9.14	124.39	118.90
6	2	100	C	C6-N1-C2	-9.14	116.64	120.30
6	2	3618	C	C6-N1-C2	-9.14	116.64	120.30
6	2	1921	C	C2-N1-C1'	9.14	128.85	118.80
7	4	407	ASP	CB-CG-OD1	9.13	126.52	118.30
6	2	1331	C	C4-C5-C6	9.11	121.96	117.40
6	2	4747	C	C6-N1-C2	-9.11	116.66	120.30
6	2	426	A	C4-C5-N7	9.08	115.24	110.70
6	2	1607	C	N1-C2-O2	9.08	124.35	118.90
6	2	1726	U	N3-C2-O2	-9.07	115.85	122.20
6	2	2710	C	C2-N1-C1'	9.05	128.76	118.80
6	2	4758	U	N1-C2-O2	9.05	129.13	122.80
6	2	4601	U	N1-C2-O2	9.02	129.11	122.80
6	2	1447	C	C6-N1-C2	-8.99	116.70	120.30
6	2	4197	G	P-O3'-C3'	-8.99	108.91	119.70
6	2	4195	G	P-O3'-C3'	-8.97	108.93	119.70
6	2	4887	C	C6-N1-C2	-8.97	116.71	120.30
6	2	3637	U	N3-C2-O2	-8.97	115.92	122.20
6	2	1458	C	N1-C2-O2	8.96	124.28	118.90
11	9	29	ASP	CB-CG-OD2	8.96	126.37	118.30
6	2	112	C	C2-N1-C1'	8.93	128.62	118.80
6	2	220	C	N1-C2-O2	8.93	124.25	118.90
6	2	422	C	N3-C2-O2	-8.91	115.66	121.90
6	2	4972	U	N3-C2-O2	-8.90	115.97	122.20
6	2	4476	C	N1-C2-O2	8.89	124.24	118.90
6	2	4775	C	N3-C2-O2	-8.88	115.68	121.90
6	2	4198	G	P-O3'-C3'	-8.88	109.05	119.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
57	8	9	A	C2-N3-C4	8.87	115.03	110.60
6	2	2814	C	N1-C2-O2	8.86	124.21	118.90
6	2	5025	C	C6-N1-C2	-8.84	116.76	120.30
6	2	281	U	N1-C2-O2	8.84	128.99	122.80
6	2	1994	C	N3-C2-O2	-8.83	115.72	121.90
8	5	24	C	C6-N1-C2	-8.83	116.77	120.30
6	2	209	U	N3-C2-O2	-8.80	116.04	122.20
6	2	2355	G	C5-N7-C8	-8.79	99.90	104.30
6	2	4747	C	C5-C6-N1	8.79	125.39	121.00
6	2	2532	C	C6-N1-C2	-8.78	116.79	120.30
6	2	1632	A	C2-N3-C4	8.76	114.98	110.60
6	2	4505	C	C2-N1-C1'	8.73	128.41	118.80
6	2	1330	A	N9-C1'-C2'	8.72	125.34	114.00
6	2	2860	C	N3-C2-O2	-8.70	115.81	121.90
6	2	2820	C	N3-C2-O2	-8.69	115.82	121.90
6	2	3657	U	N3-C2-O2	-8.68	116.12	122.20
6	2	3948	C	N3-C2-O2	-8.68	115.82	121.90
6	2	4262	C	N1-C2-O2	8.68	124.11	118.90
1	u	165	LEU	CA-CB-CG	8.67	135.24	115.30
6	2	4766	C	C5-C6-N1	8.65	125.33	121.00
6	2	4314	C	N1-C2-O2	8.65	124.09	118.90
56	v	279	LEU	CA-CB-CG	8.63	135.15	115.30
6	2	4887	C	C2-N1-C1'	8.62	128.28	118.80
6	2	4969	C	C6-N1-C2	-8.62	116.85	120.30
6	2	1330	A	N7-C8-N9	8.61	118.11	113.80
6	2	422	C	O4'-C1'-N1	8.61	115.08	108.20
6	2	1963	C	C6-N1-C2	-8.60	116.86	120.30
6	2	4171	C	N1-C2-O2	8.60	124.06	118.90
6	2	4042	G	N3-C4-N9	8.58	131.15	126.00
6	2	4352	U	N3-C2-O2	-8.58	116.20	122.20
6	2	2802	C	C6-N1-C2	-8.55	116.88	120.30
6	2	4215	C	N1-C2-O2	8.54	124.03	118.90
6	2	2262	G	N3-C4-C5	-8.54	124.33	128.60
37	d	56	LEU	CA-CB-CG	8.54	134.95	115.30
57	8	13	G	N3-C4-N9	8.53	131.12	126.00
37	d	43	LEU	CA-CB-CG	8.52	134.90	115.30
6	2	4138	C	C6-N1-C2	-8.51	116.89	120.30
6	2	4505	C	N1-C2-O2	8.51	124.00	118.90
6	2	3587	C	C6-N1-C2	-8.49	116.90	120.30
6	2	1241	C	C2-N1-C1'	8.48	128.13	118.80
6	2	1405	C	N3-C2-O2	-8.48	115.97	121.90
6	2	4360	U	N3-C2-O2	-8.48	116.27	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4337	C	C6-N1-C2	-8.47	116.91	120.30
6	2	1963	C	N1-C2-O2	8.46	123.98	118.90
6	2	2783	A	N1-C2-N3	-8.46	125.07	129.30
6	2	4662	C	C6-N1-C2	-8.45	116.92	120.30
57	8	7	U	C5-C6-N1	8.44	126.92	122.70
6	2	2328	G	N1-C2-N2	-8.44	108.61	116.20
6	2	1731	C	C6-N1-C2	-8.43	116.93	120.30
6	2	1856	C	C5-C6-N1	8.43	125.21	121.00
57	8	99	U	N3-C2-O2	-8.42	116.31	122.20
6	2	1241	C	N3-C2-O2	-8.41	116.01	121.90
6	2	1607	C	N3-C2-O2	-8.41	116.01	121.90
6	2	1731	C	C5-C6-N1	8.41	125.20	121.00
6	2	1915	C	N1-C2-O2	8.41	123.94	118.90
6	2	2328	G	N3-C2-N2	8.41	125.78	119.90
6	2	4505	C	C5-C6-N1	8.41	125.20	121.00
6	2	4193	C	P-O3'-C3'	-8.40	109.62	119.70
6	2	4215	C	N3-C2-O2	-8.39	116.03	121.90
6	2	242	U	N3-C2-O2	-8.39	116.33	122.20
6	2	2072	C	C6-N1-C2	-8.38	116.95	120.30
6	2	2311	C	N1-C2-O2	8.38	123.93	118.90
6	2	1245	C	C5-C6-N1	8.38	125.19	121.00
6	2	420	A	O3'-P-O5'	8.38	119.92	104.00
57	8	83	C	C5-C6-N1	8.37	125.19	121.00
6	2	1332	C	C5-C4-N4	-8.37	114.34	120.20
6	2	420	A	P-O3'-C3'	8.36	129.73	119.70
6	2	1333	A	C5-C6-N1	8.36	121.88	117.70
60	w	51	LEU	CA-CB-CG	8.35	134.51	115.30
6	2	3741	C	N1-C2-O2	8.35	123.91	118.90
57	8	11	C	N3-C4-N4	8.34	123.84	118.00
6	2	1079	C	C5-C6-N1	8.34	125.17	121.00
6	2	489	C	C6-N1-C2	-8.33	116.97	120.30
6	2	1921	C	C5-C6-N1	8.33	125.17	121.00
6	2	322	C	N1-C2-O2	8.33	123.90	118.90
6	2	2260	C	N3-C2-O2	-8.32	116.08	121.90
6	2	1216	C	N3-C2-O2	-8.30	116.09	121.90
6	2	3769	C	C5-C6-N1	8.30	125.15	121.00
6	2	1663	C	C6-N1-C2	-8.30	116.98	120.30
6	2	925	C	C5-C6-N1	8.29	125.15	121.00
57	8	54	C	C6-N1-C2	-8.29	116.98	120.30
6	2	3840	U	N3-C2-O2	-8.28	116.40	122.20
6	2	499	G	C4-N9-C1'	8.27	137.24	126.50
6	2	4940	C	N1-C2-O2	8.27	123.86	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	367	C	C6-N1-C2	-8.26	116.99	120.30
6	2	1963	C	C5-C6-N1	8.25	125.12	121.00
6	2	4985	U	N3-C2-O2	-8.25	116.43	122.20
6	2	4674	C	C6-N1-C2	-8.24	117.00	120.30
6	2	1079	C	C6-N1-C2	-8.23	117.01	120.30
6	2	424	U	C5-C6-N1	8.21	126.81	122.70
6	2	1726	U	N1-C2-O2	8.21	128.54	122.80
6	2	4215	C	C6-N1-C2	-8.19	117.02	120.30
6	2	1671	U	N3-C2-O2	-8.18	116.47	122.20
6	2	1477	C	C6-N1-C2	-8.18	117.03	120.30
6	2	2354	G	C5-N7-C8	-8.17	100.22	104.30
57	8	64	U	N1-C2-O2	8.16	128.51	122.80
46	n	5	LEU	CA-CB-CG	8.16	134.07	115.30
6	2	2354	G	N9-C4-C5	-8.16	102.14	105.40
6	2	1330	A	C8-N9-C1'	-8.15	113.03	127.70
6	2	516	C	C5-C6-N1	8.14	125.07	121.00
6	2	2362	U	N3-C2-O2	-8.13	116.51	122.20
6	2	2791	C	C6-N1-C2	-8.13	117.05	120.30
6	2	4138	C	N1-C2-O2	8.13	123.78	118.90
6	2	2777	G	N3-C4-N9	8.13	130.88	126.00
6	2	220	C	C6-N1-C2	-8.12	117.05	120.30
6	2	4263	C	N1-C2-O2	8.12	123.77	118.90
6	2	3926	C	C6-N1-C2	-8.12	117.05	120.30
6	2	112	C	C5-C6-N1	8.11	125.05	121.00
6	2	2357	G	C6-C5-N7	-8.10	125.54	130.40
57	8	4	C	C5-C6-N1	8.10	125.05	121.00
6	2	2777	G	C8-N9-C4	-8.10	103.16	106.40
6	2	4471	U	N1-C2-O2	8.10	128.47	122.80
6	2	3587	C	N3-C2-O2	-8.10	116.23	121.90
6	2	4991	U	N3-C2-O2	-8.10	116.53	122.20
6	2	2548	C	C5-C6-N1	8.09	125.04	121.00
6	2	4712	C	C6-N1-C2	-8.08	117.07	120.30
57	8	5	U	C5-C6-N1	8.08	126.74	122.70
6	2	4196	G	P-O3'-C3'	-8.07	110.01	119.70
6	2	924	C	N1-C2-O2	8.07	123.74	118.90
6	2	1994	C	C6-N1-C1'	-8.06	111.13	120.80
6	2	2281	U	N3-C2-O2	-8.06	116.56	122.20
58	1	54	ARG	NE-CZ-NH1	8.05	124.33	120.30
6	2	972	C	N3-C2-O2	-8.05	116.27	121.90
6	2	2777	G	C4-N9-C1'	8.04	136.95	126.50
6	2	4162	C	N1-C2-O2	8.03	123.72	118.90
6	2	4149	C	N1-C2-O2	8.03	123.72	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1915	C	N3-C2-O2	-8.02	116.28	121.90
6	2	4042	G	C4-N9-C1'	8.02	136.93	126.50
6	2	1703	C	N1-C2-O2	8.02	123.71	118.90
6	2	4476	C	N3-C2-O2	-8.02	116.29	121.90
6	2	2281	U	N1-C2-O2	8.02	128.41	122.80
6	2	115	C	N3-C2-O2	-8.00	116.30	121.90
6	2	3769	C	C6-N1-C2	-8.00	117.10	120.30
6	2	2886	U	N3-C2-O2	-8.00	116.60	122.20
6	2	4476	C	C2-N1-C1'	7.99	127.59	118.80
6	2	4342	C	C6-N1-C2	-7.99	117.11	120.30
6	2	4563	U	N3-C2-O2	-7.98	116.61	122.20
6	2	1458	C	N3-C2-O2	-7.98	116.31	121.90
6	2	2025	A	C2-N3-C4	7.98	114.59	110.60
6	2	3587	C	C2-N1-C1'	7.98	127.58	118.80
57	8	32	C	C6-N1-C2	-7.98	117.11	120.30
6	2	2262	G	C8-N9-C1'	-7.98	116.63	127.00
6	2	1585	C	C6-N1-C2	-7.97	117.11	120.30
6	2	2710	C	N3-C2-O2	-7.97	116.32	121.90
6	2	3893	C	C6-N1-C2	-7.97	117.11	120.30
6	2	4504	C	N1-C2-O2	7.97	123.68	118.90
6	2	1821	G	N3-C4-N9	7.97	130.78	126.00
6	2	228	C	C6-N1-C2	-7.97	117.11	120.30
6	2	4895	C	N1-C2-O2	7.96	123.67	118.90
6	2	719	C	C6-N1-C2	-7.95	117.12	120.30
6	2	2592	U	N3-C2-O2	-7.95	116.63	122.20
6	2	68	U	N3-C2-O2	-7.94	116.64	122.20
6	2	1245	C	C6-N1-C2	-7.94	117.12	120.30
6	2	4928	C	C2-N1-C1'	7.93	127.53	118.80
6	2	4752	U	N3-C2-O2	-7.93	116.65	122.20
6	2	2328	G	C8-N9-C1'	-7.93	116.70	127.00
57	8	10	G	O5'-P-OP2	-7.92	98.57	105.70
6	2	2470	C	P-O3'-C3'	7.91	129.19	119.70
6	2	44	A	C2-N3-C4	7.91	114.56	110.60
6	2	2528	G	C4-N9-C1'	7.90	136.78	126.50
8	5	24	C	N3-C2-O2	-7.90	116.37	121.90
6	2	1201	U	N1-C2-O2	7.89	128.32	122.80
6	2	4709	U	C2-N1-C1'	7.88	127.16	117.70
6	2	914	U	P-O3'-C3'	7.85	129.12	119.70
6	2	924	C	C6-N1-C2	-7.85	117.16	120.30
57	8	125	C	P-O3'-C3'	7.85	129.12	119.70
41	i	31	ASP	CB-CG-OD1	7.84	125.36	118.30
6	2	365	U	N3-C2-O2	-7.84	116.71	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4940	C	C6-N1-C2	-7.84	117.17	120.30
6	2	2328	G	N1-C6-O6	7.83	124.60	119.90
6	2	420	A	O4'-C1'-N9	7.82	114.46	108.20
6	2	1183	C	C6-N1-C2	-7.82	117.17	120.30
6	2	1340	C	C6-N1-C2	-7.82	117.17	120.30
6	2	2856	C	N1-C2-O2	7.81	123.58	118.90
6	2	2627	C	C2-N1-C1'	7.81	127.39	118.80
6	2	2351	C	C2-N1-C1'	7.79	127.37	118.80
6	2	1079	C	C2-N1-C1'	7.79	127.37	118.80
6	2	2313	A	O4'-C1'-N9	7.78	114.43	108.20
6	2	654	C	C5-C6-N1	7.78	124.89	121.00
6	2	1216	C	C6-N1-C1'	-7.77	111.47	120.80
6	2	914	U	C5-C4-O4	-7.77	121.24	125.90
6	2	4608	G	C8-N9-C4	-7.77	103.29	106.40
6	2	2031	C	C6-N1-C2	-7.76	117.19	120.30
6	2	195	C	C6-N1-C2	-7.76	117.20	120.30
6	2	2760	G	P-O3'-C3'	7.74	128.98	119.70
6	2	2260	C	C2-N1-C1'	7.73	127.31	118.80
6	2	4042	G	N3-C4-C5	-7.73	124.73	128.60
6	2	1201	U	N3-C2-O2	-7.72	116.80	122.20
6	2	1692	C	C6-N1-C2	-7.72	117.21	120.30
6	2	2313	A	N1-C6-N6	-7.72	113.97	118.60
6	2	2486	G	P-O3'-C3'	7.71	128.96	119.70
6	2	420	A	OP1-P-O3'	7.70	122.14	105.20
6	2	1702	C	N1-C2-O2	7.70	123.52	118.90
6	2	2627	C	C5-C6-N1	7.69	124.85	121.00
6	2	4299	U	N3-C2-O2	-7.69	116.81	122.20
6	2	175	C	N3-C2-O2	-7.69	116.52	121.90
6	2	2327	G	C8-N9-C1'	-7.69	117.00	127.00
6	2	499	G	C8-N9-C1'	-7.69	117.01	127.00
6	2	2802	C	C5-C6-N1	7.69	124.84	121.00
6	2	2532	C	C5-C6-N1	7.68	124.84	121.00
6	2	3853	U	N3-C2-O2	-7.68	116.82	122.20
8	5	28	C	N1-C2-O2	7.68	123.51	118.90
6	2	3769	C	N1-C2-O2	7.68	123.51	118.90
6	2	4340	U	N3-C2-O2	-7.68	116.82	122.20
6	2	4206	C	C6-N1-C2	-7.68	117.23	120.30
6	2	1447	C	N1-C2-O2	7.67	123.50	118.90
6	2	2729	C	C6-N1-C2	-7.67	117.23	120.30
6	2	1330	A	C4-N9-C1'	7.66	140.10	126.30
6	2	4453	C	C6-N1-C1'	-7.66	111.61	120.80
6	2	2478	C	N3-C2-O2	-7.66	116.54	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1097	C	C6-N1-C2	-7.65	117.24	120.30
6	2	4887	C	C5-C6-N1	7.65	124.83	121.00
6	2	4612	C	N3-C2-O2	-7.65	116.55	121.90
6	2	1717	C	C6-N1-C2	-7.65	117.24	120.30
6	2	426	A	C4-C5-C6	-7.64	113.18	117.00
6	2	201	C	C6-N1-C2	-7.63	117.25	120.30
6	2	2362	U	N1-C2-O2	7.63	128.14	122.80
6	2	3712	A	C2-N3-C4	7.62	114.41	110.60
6	2	2439	G	C4-C5-N7	7.62	113.85	110.80
6	2	1414	C	C6-N1-C2	-7.62	117.25	120.30
6	2	4970	C	C6-N1-C2	-7.62	117.25	120.30
6	2	907	C	C6-N1-C2	-7.61	117.25	120.30
6	2	9	C	C6-N1-C2	-7.61	117.26	120.30
6	2	1405	C	C6-N1-C2	-7.60	117.26	120.30
6	2	4613	C	C6-N1-C2	-7.60	117.26	120.30
6	2	4747	C	C2-N1-C1'	7.60	127.16	118.80
6	2	4171	C	C6-N1-C2	-7.60	117.26	120.30
6	2	4864	U	N1-C2-O2	7.60	128.12	122.80
6	2	3752	C	P-O3'-C3'	7.59	128.81	119.70
6	2	390	C	C6-N1-C2	-7.59	117.26	120.30
6	2	2337	C	C6-N1-C2	-7.59	117.26	120.30
6	2	175	C	C6-N1-C2	-7.58	117.27	120.30
6	2	4608	G	N7-C8-N9	7.58	116.89	113.10
6	2	4481	U	N3-C2-O2	-7.58	116.90	122.20
6	2	2327	G	C6-N1-C2	-7.57	120.56	125.10
6	2	2853	C	N1-C2-O2	7.57	123.44	118.90
6	2	220	C	N3-C2-O2	-7.55	116.61	121.90
6	2	4627	U	N3-C2-O2	-7.54	116.92	122.20
57	8	11	C	C2-N3-C4	7.54	123.67	119.90
6	2	1809	C	C6-N1-C2	-7.53	117.29	120.30
6	2	2033	A	P-O3'-C3'	7.53	128.74	119.70
6	2	3622	C	N1-C2-O2	7.53	123.42	118.90
6	2	643	C	N1-C2-O2	7.53	123.42	118.90
6	2	1822	U	N3-C2-O2	-7.51	116.94	122.20
6	2	2022	C	N1-C2-O2	7.51	123.41	118.90
6	2	5035	U	N3-C2-O2	-7.50	116.95	122.20
6	2	4926	C	C6-N1-C1'	-7.50	111.80	120.80
6	2	242	U	N1-C2-O2	7.50	128.05	122.80
6	2	2035	C	C6-N1-C2	-7.50	117.30	120.30
6	2	3774	A	P-O3'-C3'	7.50	128.70	119.70
6	2	4262	C	N3-C2-O2	-7.50	116.65	121.90
6	2	2410	C	N1-C2-O2	7.49	123.39	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	3926	C	N1-C2-O2	7.48	123.39	118.90
57	8	9	A	N3-C4-N9	7.48	133.39	127.40
6	2	2478	C	N1-C2-O2	7.47	123.38	118.90
6	2	1607	C	C6-N1-C2	-7.47	117.31	120.30
57	8	51	U	N3-C2-O2	-7.47	116.97	122.20
6	2	2860	C	C5-C6-N1	7.47	124.73	121.00
6	2	1579	C	C6-N1-C2	-7.46	117.31	120.30
6	2	924	C	C5-C6-N1	7.46	124.73	121.00
6	2	5030	U	C5-C6-N1	7.46	126.43	122.70
6	2	426	A	N9-C4-C5	-7.46	102.82	105.80
6	2	4972	U	N1-C2-O2	7.45	128.02	122.80
6	2	4341	C	N1-C2-O2	7.45	123.37	118.90
6	2	972	C	C6-N1-C2	-7.44	117.32	120.30
6	2	2563	C	N1-C2-O2	7.44	123.36	118.90
6	2	2843	U	N3-C2-O2	-7.43	117.00	122.20
6	2	1402	C	N1-C2-O2	7.43	123.36	118.90
6	2	2505	C	N1-C2-O2	7.43	123.36	118.90
6	2	3948	C	C6-N1-C1'	-7.41	111.91	120.80
6	2	322	C	C6-N1-C2	-7.41	117.34	120.30
6	2	1809	C	C5-C6-N1	7.41	124.70	121.00
6	2	2439	G	N9-C4-C5	-7.41	102.44	105.40
6	2	4171	C	N3-C2-O2	-7.40	116.72	121.90
6	2	4752	U	N1-C2-O2	7.39	127.97	122.80
6	2	654	C	C6-N1-C2	-7.38	117.35	120.30
6	2	1447	C	C5-C6-N1	7.38	124.69	121.00
6	2	3893	C	C5-C6-N1	7.38	124.69	121.00
6	2	1655	C	N1-C2-O2	7.38	123.33	118.90
6	2	2008	U	C2-N1-C1'	7.37	126.55	117.70
6	2	498	C	C6-N1-C2	-7.37	117.35	120.30
6	2	673	C	C6-N1-C2	-7.36	117.36	120.30
6	2	4588	U	N3-C2-O2	-7.36	117.05	122.20
6	2	2478	C	C2-N1-C1'	7.36	126.90	118.80
6	2	2615	C	N3-C2-O2	-7.36	116.75	121.90
6	2	2354	G	N3-C4-N9	7.36	130.41	126.00
6	2	282	C	N1-C2-O2	7.35	123.31	118.90
6	2	1978	C	N1-C2-O2	7.34	123.31	118.90
57	8	13	G	N3-C2-N2	7.34	125.04	119.90
6	2	1655	C	C6-N1-C2	-7.34	117.37	120.30
6	2	365	U	N1-C2-O2	7.33	127.93	122.80
6	2	4303	C	C2-N1-C1'	7.33	126.86	118.80
6	2	4864	U	N3-C2-O2	-7.33	117.07	122.20
6	2	4365	C	C6-N1-C2	-7.33	117.37	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4387	C	N1-C2-O2	7.33	123.30	118.90
6	2	4880	C	N3-C2-O2	-7.33	116.77	121.90
6	2	50	C	N1-C2-O2	7.32	123.29	118.90
8	5	43	U	N3-C2-O2	-7.32	117.08	122.20
57	8	7	U	C2-N1-C1'	7.32	126.48	117.70
6	2	2439	G	N3-C4-N9	7.31	130.39	126.00
6	2	3870	C	C6-N1-C2	-7.31	117.38	120.30
9	6	177	LEU	CA-CB-CG	7.31	132.10	115.30
6	2	4766	C	C2-N1-C1'	7.30	126.84	118.80
6	2	365	U	C2-N1-C1'	7.30	126.46	117.70
6	2	30	C	C6-N1-C2	-7.30	117.38	120.30
6	2	1304	C	C6-N1-C2	-7.30	117.38	120.30
6	2	2350	U	N1-C2-O2	7.30	127.91	122.80
46	n	105	LEU	C-N-CA	7.29	139.93	121.70
6	2	1330	A	OP1-P-OP2	-7.29	108.67	119.60
6	2	1821	G	C4-N9-C1'	7.29	135.97	126.50
6	2	2615	C	N1-C2-O2	7.29	123.27	118.90
6	2	673	C	N1-C2-O2	7.29	123.27	118.90
6	2	2497	C	C6-N1-C2	-7.29	117.39	120.30
6	2	1097	C	C5-C6-N1	7.28	124.64	121.00
6	2	1894	C	C6-N1-C2	-7.28	117.39	120.30
6	2	1330	A	O5'-P-OP1	7.28	119.44	110.70
6	2	1183	C	N1-C2-O2	7.28	123.27	118.90
6	2	4694	G	C2-N3-C4	7.27	115.54	111.90
6	2	4149	C	C6-N1-C2	-7.27	117.39	120.30
6	2	1202	C	C6-N1-C2	-7.27	117.39	120.30
6	2	1720	C	C5-C6-N1	7.27	124.63	121.00
57	8	43	A	C2-N3-C4	7.26	114.23	110.60
57	8	54	C	C5-C6-N1	7.26	124.63	121.00
6	2	1216	C	C6-N1-C2	-7.26	117.40	120.30
6	2	3598	C	C6-N1-C2	-7.26	117.40	120.30
6	2	1816	C	C6-N1-C2	-7.26	117.40	120.30
6	2	4913	G	P-O3'-C3'	7.26	128.41	119.70
6	2	1540	C	C6-N1-C2	-7.25	117.40	120.30
6	2	985	C	C2-N1-C1'	7.24	126.77	118.80
6	2	2498	C	N1-C2-O2	7.24	123.25	118.90
6	2	1855	G	P-O3'-C3'	7.23	128.38	119.70
6	2	2850	A	C2-N3-C4	7.22	114.21	110.60
6	2	67	C	C6-N1-C2	-7.21	117.42	120.30
6	2	4709	U	C6-N1-C2	-7.21	116.67	121.00
6	2	2392	C	C6-N1-C2	-7.20	117.42	120.30
6	2	2892	C	C2-N1-C1'	7.20	126.72	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4710	C	C5-C6-N1	7.20	124.60	121.00
7	4	221	ASP	C-N-CA	7.20	139.71	121.70
6	2	4360	U	N1-C2-O2	7.20	127.84	122.80
6	2	1822	U	N1-C2-O2	7.20	127.84	122.80
6	2	2872	C	C6-N1-C2	-7.20	117.42	120.30
8	5	24	C	C5-C6-N1	7.19	124.60	121.00
6	2	417	G	O4'-C1'-N9	7.19	113.95	108.20
57	8	51	U	N1-C2-O2	7.19	127.83	122.80
6	2	262	G	N1-C6-O6	-7.19	115.59	119.90
6	2	2593	C	C6-N1-C2	-7.19	117.43	120.30
6	2	985	C	C5-C6-N1	7.18	124.59	121.00
6	2	2014	C	N3-C2-O2	-7.18	116.87	121.90
6	2	3587	C	C5-C6-N1	7.18	124.59	121.00
6	2	2357	G	N9-C4-C5	-7.18	102.53	105.40
6	2	1731	C	N1-C2-O2	7.18	123.21	118.90
6	2	4340	U	N1-C2-O2	7.18	127.82	122.80
6	2	3772	U	N3-C2-O2	-7.17	117.18	122.20
6	2	4413	C	N1-C2-O2	7.17	123.20	118.90
6	2	4601	U	C2-N1-C1'	7.16	126.30	117.70
6	2	282	C	N3-C2-O2	-7.16	116.89	121.90
6	2	1381	U	N1-C2-O2	7.16	127.81	122.80
6	2	1702	C	C2-N1-C1'	7.16	126.67	118.80
6	2	1980	U	P-O3'-C3'	7.16	128.29	119.70
6	2	3598	C	N1-C2-O2	7.16	123.19	118.90
6	2	96	U	N1-C2-O2	7.15	127.81	122.80
6	2	4194	U	P-O3'-C3'	-7.15	111.12	119.70
6	2	1472	C	C6-N1-C2	-7.15	117.44	120.30
6	2	467	U	C6-N1-C1'	-7.14	111.20	121.20
6	2	3618	C	C5-C6-N1	7.14	124.57	121.00
6	2	1190	C	C6-N1-C2	-7.14	117.44	120.30
6	2	472	C	C6-N1-C2	-7.13	117.45	120.30
8	5	43	U	N1-C2-O2	7.13	127.79	122.80
6	2	1978	C	C6-N1-C2	-7.13	117.45	120.30
6	2	472	C	N1-C2-O2	7.13	123.18	118.90
6	2	2310	C	N1-C2-O2	7.12	123.17	118.90
6	2	4206	C	C2-N1-C1'	7.12	126.64	118.80
6	2	2059	C	C6-N1-C2	-7.12	117.45	120.30
6	2	4708	A	C2-N3-C4	7.12	114.16	110.60
6	2	2592	U	N1-C2-O2	7.11	127.78	122.80
6	2	4120	U	C2-N1-C1'	7.11	126.23	117.70
6	2	322	C	N3-C2-O2	-7.11	116.92	121.90
8	5	76	U	N3-C2-O2	-7.11	117.23	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4337	C	N1-C2-O2	7.10	123.16	118.90
6	2	1672	U	N3-C2-O2	-7.10	117.23	122.20
6	2	4286	C	C6-N1-C2	-7.10	117.46	120.30
6	2	4940	C	N3-C2-O2	-7.10	116.93	121.90
6	2	1974	U	C5-C4-O4	-7.09	121.65	125.90
6	2	4303	C	N3-C2-O2	-7.09	116.94	121.90
6	2	1969	G	C4-N9-C1'	7.08	135.71	126.50
6	2	1245	C	C2-N1-C1'	7.08	126.58	118.80
6	2	220	C	C2-N1-C1'	7.08	126.58	118.80
6	2	4674	C	C5-C6-N1	7.07	124.54	121.00
6	2	1663	C	C5-C6-N1	7.06	124.53	121.00
6	2	2018	C	N1-C2-O2	7.06	123.14	118.90
6	2	303	C	C6-N1-C2	-7.06	117.48	120.30
6	2	2820	C	C6-N1-C2	-7.05	117.48	120.30
6	2	4352	U	N1-C2-O2	7.05	127.74	122.80
57	8	6	C	N1-C2-O2	7.05	123.13	118.90
6	2	907	C	C2-N1-C1'	7.05	126.56	118.80
6	2	1414	C	C5-C6-N1	7.05	124.53	121.00
6	2	2792	C	C6-N1-C2	-7.04	117.48	120.30
57	8	99	U	N1-C2-O2	7.04	127.73	122.80
6	2	4361	U	N3-C2-O2	-7.04	117.27	122.20
6	2	1726	U	C2-N1-C1'	7.03	126.13	117.70
6	2	643	C	N3-C2-O2	-7.03	116.98	121.90
6	2	1582	U	N3-C2-O2	-7.02	117.28	122.20
57	8	100	U	N3-C2-O2	-7.02	117.28	122.20
57	8	13	G	N9-C4-C5	-7.02	102.59	105.40
6	2	426	A	C5-N7-C8	-7.02	100.39	103.90
29	V	141	LEU	CA-CB-CG	7.02	131.44	115.30
6	2	1662	C	C6-N1-C2	-7.01	117.49	120.30
6	2	3882	C	C6-N1-C2	-7.01	117.49	120.30
6	2	2886	U	N1-C2-O2	7.01	127.70	122.80
6	2	2528	G	C8-N9-C1'	-7.00	117.90	127.00
6	2	1243	C	C6-N1-C2	-6.99	117.50	120.30
6	2	4775	C	C6-N1-C2	-6.99	117.50	120.30
6	2	4672	A	N1-C2-N3	-6.99	125.81	129.30
57	8	6	C	C6-N1-C2	-6.98	117.51	120.30
6	2	2362	U	C2-N1-C1'	6.98	126.08	117.70
6	2	2710	C	C6-N1-C1'	-6.98	112.42	120.80
6	2	421	C	OP1-P-OP2	-6.98	109.13	119.60
6	2	2892	C	N1-C2-O2	6.98	123.09	118.90
6	2	1655	C	N3-C2-O2	-6.98	117.02	121.90
6	2	2303	C	N1-C2-O2	6.97	123.08	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4928	C	N3-C2-O2	-6.97	117.02	121.90
6	2	174	C	N1-C2-O2	6.96	123.08	118.90
6	2	4985	U	N1-C2-O2	6.96	127.67	122.80
6	2	49	U	N3-C2-O2	-6.96	117.33	122.20
6	2	2532	C	C2-N1-C1'	6.96	126.45	118.80
6	2	2548	C	C6-N1-C2	-6.96	117.52	120.30
6	2	3905	A	P-O3'-C3'	6.96	128.05	119.70
6	2	458	C	C6-N1-C2	-6.96	117.52	120.30
6	2	2014	C	N1-C2-O2	6.96	123.07	118.90
27	S	32	ASP	CB-CG-OD1	6.95	124.56	118.30
6	2	1672	U	N1-C2-O2	6.95	127.67	122.80
6	2	2528	G	N3-C4-N9	6.95	130.17	126.00
6	2	489	C	C2-N1-C1'	6.95	126.44	118.80
6	2	1305	C	C2-N1-C1'	6.94	126.44	118.80
6	2	1381	U	N3-C2-O2	-6.94	117.34	122.20
6	2	1969	G	C8-N9-C1'	-6.94	117.98	127.00
6	2	14	C	N1-C2-O2	6.94	123.06	118.90
6	2	4522	G	C4-N9-C1'	6.93	135.51	126.50
6	2	4308	C	N1-C2-O2	6.93	123.06	118.90
6	2	4481	U	N1-C2-O2	6.92	127.65	122.80
29	V	100	ASP	CB-CG-OD1	6.92	124.53	118.30
6	2	2814	C	N3-C2-O2	-6.92	117.06	121.90
6	2	50	C	C6-N1-C2	-6.92	117.53	120.30
6	2	3631	U	N3-C2-O2	-6.92	117.36	122.20
6	2	78	U	N3-C2-O2	-6.92	117.36	122.20
6	2	2371	U	N3-C2-O2	-6.91	117.36	122.20
6	2	5008	C	C6-N1-C2	-6.91	117.53	120.30
57	8	11	C	C2-N1-C1'	6.91	126.41	118.80
6	2	2351	C	C5-C6-N1	6.91	124.45	121.00
6	2	3851	U	N3-C2-O2	-6.91	117.36	122.20
6	2	1216	C	C5-C6-N1	6.90	124.45	121.00
6	2	4137	C	N1-C2-O2	6.90	123.04	118.90
6	2	4771	C	C5-C6-N1	6.90	124.45	121.00
6	2	4042	G	C8-N9-C1'	-6.90	118.03	127.00
6	2	4709	U	C5-C6-N1	6.90	126.15	122.70
57	8	101	C	C6-N1-C2	-6.89	117.54	120.30
6	2	2351	C	O5'-P-OP2	-6.89	99.50	105.70
57	8	7	U	O4'-C1'-N1	6.89	113.71	108.20
8	5	28	C	C6-N1-C2	-6.89	117.55	120.30
6	2	2357	G	N3-C2-N2	6.88	124.72	119.90
6	2	4747	C	N1-C2-O2	6.88	123.03	118.90
8	5	76	U	N1-C2-O2	6.88	127.62	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1963	C	N3-C2-O2	-6.88	117.08	121.90
57	8	128	C	N1-C2-O2	6.88	123.03	118.90
6	2	1656	U	N1-C2-O2	6.87	127.61	122.80
6	2	220	C	C5-C6-N1	6.87	124.44	121.00
6	2	1472	C	C2-N1-C1'	6.87	126.36	118.80
6	2	4695	C	N1-C2-O2	6.87	123.02	118.90
6	2	1079	C	N3-C2-O2	-6.86	117.10	121.90
6	2	4289	U	N3-C2-O2	-6.86	117.40	122.20
6	2	1832	C	N1-C2-O2	6.85	123.01	118.90
6	2	3637	U	N1-C2-O2	6.85	127.59	122.80
6	2	2356	U	N1-C2-N3	6.85	119.01	114.90
6	2	4314	C	N3-C2-O2	-6.85	117.11	121.90
6	2	4303	C	N1-C2-O2	6.84	123.00	118.90
57	8	55	U	N3-C2-O2	-6.84	117.41	122.20
6	2	656	C	N1-C2-O2	6.83	123.00	118.90
6	2	1576	G	N3-C4-C5	-6.82	125.19	128.60
6	2	3693	U	N3-C2-O2	-6.82	117.43	122.20
6	2	3926	C	N3-C2-O2	-6.82	117.13	121.90
6	2	4588	U	N1-C2-O2	6.82	127.57	122.80
6	2	36	U	N3-C2-O2	-6.82	117.43	122.20
6	2	115	C	C6-N1-C1'	-6.81	112.62	120.80
6	2	4289	U	N1-C2-O2	6.81	127.57	122.80
6	2	3590	G	C4-N9-C1'	6.80	135.34	126.50
6	2	3650	C	C6-N1-C2	-6.80	117.58	120.30
6	2	2445	C	N1-C2-O2	6.80	122.98	118.90
6	2	4337	C	C5-C6-N1	6.80	124.40	121.00
6	2	2311	C	N3-C2-O2	-6.79	117.14	121.90
6	2	2356	U	C6-N1-C1'	6.79	130.71	121.20
6	2	28	C	C6-N1-C2	-6.79	117.58	120.30
6	2	3739	C	C6-N1-C2	-6.78	117.59	120.30
6	2	4123	C	N1-C2-O2	6.78	122.97	118.90
6	2	2008	U	N1-C2-O2	6.78	127.55	122.80
17	G	164	ILE	CG1-CB-CG2	-6.78	96.49	111.40
6	2	2478	C	C6-N1-C2	-6.78	117.59	120.30
6	2	4508	C	C6-N1-C2	-6.77	117.59	120.30
6	2	4627	U	N1-C2-O2	6.77	127.54	122.80
6	2	148	C	C6-N1-C2	-6.77	117.59	120.30
6	2	1856	C	O5'-P-OP2	-6.77	99.61	105.70
30	W	96	ASP	CB-CG-OD2	6.77	124.39	118.30
6	2	422	C	N3-C4-C5	-6.77	119.19	121.90
6	2	2327	G	C4-C5-C6	6.76	122.86	118.80
6	2	2009	A	N1-C6-N6	-6.76	114.54	118.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2892	C	C6-N1-C2	-6.76	117.59	120.30
6	2	1333	A	N1-C2-N3	-6.76	125.92	129.30
6	2	2356	U	N3-C2-O2	-6.75	117.47	122.20
8	5	28	C	N3-C2-O2	-6.75	117.17	121.90
6	2	1096	C	C6-N1-C2	-6.75	117.60	120.30
6	2	1676	C	OP2-P-O3'	6.75	120.05	105.20
57	8	103	A	N1-C2-N3	-6.75	125.92	129.30
6	2	1582	U	N1-C2-O2	6.75	127.52	122.80
6	2	499	G	C6-C5-N7	-6.74	126.36	130.40
6	2	1720	C	N1-C2-O2	6.74	122.94	118.90
57	8	99	U	C2-N1-C1'	6.74	125.78	117.70
6	2	4508	C	C5-C6-N1	6.73	124.37	121.00
6	2	1378	C	C6-N1-C1'	-6.73	112.72	120.80
6	2	343	C	C6-N1-C2	-6.73	117.61	120.30
6	2	2497	C	C5-C6-N1	6.73	124.36	121.00
6	2	408	A	N1-C2-N3	-6.73	125.94	129.30
6	2	152	U	N3-C2-O2	-6.73	117.49	122.20
6	2	3960	A	N1-C2-N3	-6.73	125.94	129.30
6	2	122	U	N3-C2-O2	-6.73	117.49	122.20
6	2	1994	C	C6-N1-C2	-6.73	117.61	120.30
6	2	3853	U	N1-C2-O2	6.72	127.50	122.80
57	8	28	C	C6-N1-C2	-6.72	117.61	120.30
6	2	2357	G	C5-C6-O6	-6.72	124.57	128.60
6	2	1929	A	C4-N9-C1'	6.71	138.38	126.30
6	2	2533	C	N1-C2-O2	6.71	122.93	118.90
6	2	421	C	N1-C1'-C2'	6.71	122.72	114.00
6	2	1330	A	C8-N9-C4	-6.71	103.12	105.80
6	2	4945	G	C5-C6-O6	-6.71	124.58	128.60
6	2	4764	A	N1-C2-N3	-6.70	125.95	129.30
6	2	3851	U	N1-C2-O2	6.70	127.49	122.80
6	2	209	U	C2-N1-C1'	6.70	125.73	117.70
6	2	1429	C	C6-N1-C2	-6.70	117.62	120.30
6	2	472	C	C2-N1-C1'	6.69	126.16	118.80
6	2	1541	C	C6-N1-C2	-6.69	117.62	120.30
6	2	2702	C	C6-N1-C2	-6.69	117.62	120.30
6	2	977	C	N1-C2-O2	6.69	122.91	118.90
6	2	1197	C	C5-C6-N1	6.69	124.34	121.00
6	2	1340	C	C5-C6-N1	6.69	124.34	121.00
6	2	4773	C	C5-C6-N1	6.68	124.34	121.00
6	2	1418	C	C6-N1-C2	-6.68	117.63	120.30
6	2	2482	C	N3-C2-O2	-6.67	117.23	121.90
6	2	1467	C	C6-N1-C2	-6.67	117.63	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1656	U	N3-C2-O2	-6.67	117.53	122.20
6	2	1998	A	N1-C6-N6	-6.67	114.60	118.60
6	2	5025	C	C5-C6-N1	6.66	124.33	121.00
6	2	1428	U	N3-C2-O2	-6.66	117.54	122.20
6	2	1720	C	C6-N1-C2	-6.66	117.64	120.30
6	2	2392	C	C5-C6-N1	6.65	124.33	121.00
6	2	2337	C	C5-C6-N1	6.65	124.33	121.00
6	2	2018	C	C5-C6-N1	6.65	124.32	121.00
6	2	112	C	N1-C2-O2	6.65	122.89	118.90
6	2	2281	U	C2-N1-C1'	6.65	125.68	117.70
6	2	4532	U	N3-C2-O2	-6.65	117.55	122.20
57	8	8	U	C2-N3-C4	6.64	130.99	127.00
6	2	2327	G	C5-C6-N1	6.64	114.82	111.50
6	2	406	C	P-O3'-C3'	6.64	127.67	119.70
6	2	422	C	C2-N3-C4	6.64	123.22	119.90
6	2	4945	G	N3-C4-N9	6.64	129.98	126.00
6	2	1315	C	C6-N1-C2	-6.63	117.65	120.30
6	2	924	C	N3-C2-O2	-6.63	117.26	121.90
6	2	1190	C	N1-C2-O2	6.63	122.88	118.90
6	2	1378	C	C2-N1-C1'	6.63	126.09	118.80
6	2	2505	C	C2-N1-C1'	6.63	126.09	118.80
57	8	141	C	C6-N1-C2	-6.63	117.65	120.30
6	2	1191	C	N3-C2-O2	-6.62	117.26	121.90
6	2	1580	C	C6-N1-C2	-6.62	117.65	120.30
6	2	4694	G	N3-C4-C5	-6.62	125.29	128.60
8	5	15	C	N1-C2-O2	6.62	122.87	118.90
6	2	1538	U	N3-C2-O2	-6.61	117.57	122.20
6	2	3864	C	N1-C2-O2	6.61	122.87	118.90
6	2	4563	U	N1-C2-O2	6.61	127.43	122.80
6	2	467	U	C6-N1-C2	-6.61	117.03	121.00
6	2	2317	C	C6-N1-C2	-6.61	117.66	120.30
6	2	4299	U	N1-C2-O2	6.61	127.43	122.80
6	2	4716	C	C6-N1-C2	-6.61	117.66	120.30
6	2	302	C	C6-N1-C2	-6.61	117.66	120.30
6	2	1958	A	C2-N3-C4	6.60	113.90	110.60
6	2	2019	C	C6-N1-C2	-6.60	117.66	120.30
6	2	2072	C	C5-C6-N1	6.60	124.30	121.00
6	2	3607	U	N3-C2-O2	-6.60	117.58	122.20
8	5	24	C	C2-N1-C1'	6.60	126.06	118.80
6	2	1191	C	N1-C2-O2	6.60	122.86	118.90
57	8	54	C	N1-C2-O2	6.60	122.86	118.90
6	2	1342	A	N1-C2-N3	-6.59	126.00	129.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	J	114	GLU	CA-CB-CG	6.59	127.91	113.40
6	2	2354	G	N3-C2-N2	6.59	124.51	119.90
6	2	4537	C	C6-N1-C2	-6.59	117.66	120.30
57	8	123	U	N1-C2-O2	6.59	127.41	122.80
6	2	4155	C	C6-N1-C2	-6.59	117.67	120.30
6	2	4199	C	P-O3'-C3'	-6.59	111.80	119.70
6	2	1913	C	C6-N1-C2	-6.59	117.67	120.30
6	2	3702	A	C2-N3-C4	6.58	113.89	110.60
6	2	1241	C	C6-N1-C2	-6.58	117.67	120.30
8	5	14	C	C5-C6-N1	6.57	124.29	121.00
6	2	2338	C	C6-N1-C2	-6.57	117.67	120.30
6	2	474	C	C6-N1-C2	-6.57	117.67	120.30
6	2	656	C	C6-N1-C2	-6.57	117.67	120.30
6	2	2417	A	N1-C2-N3	-6.56	126.02	129.30
6	2	152	U	N1-C2-O2	6.56	127.39	122.80
6	2	4263	C	N3-C2-O2	-6.56	117.31	121.90
6	2	4429	C	C6-N1-C2	-6.55	117.68	120.30
6	2	2563	C	C6-N1-C2	-6.55	117.68	120.30
38	e	97	TYR	CB-CG-CD2	-6.55	117.07	121.00
6	2	294	G	C4-N9-C1'	6.55	135.01	126.50
6	2	1305	C	N1-C2-O2	6.55	122.83	118.90
6	2	155	C	N1-C2-O2	6.54	122.83	118.90
6	2	1866	UR3	P-O3'-C3'	6.54	127.55	119.70
6	2	977	C	C6-N1-C2	-6.54	117.69	120.30
6	2	204	U	N3-C2-O2	-6.54	117.62	122.20
6	2	489	C	N1-C2-O2	6.53	122.82	118.90
57	8	11	C	N3-C2-O2	-6.53	117.33	121.90
6	2	1201	U	C5-C6-N1	6.53	125.97	122.70
6	2	289	C	C6-N1-C2	-6.53	117.69	120.30
6	2	3924	C	C5-C6-N1	6.53	124.27	121.00
6	2	2426	U	N3-C2-O2	-6.52	117.63	122.20
6	2	2603	C	C5-C6-N1	6.52	124.26	121.00
6	2	3919	C	C6-N1-C2	-6.52	117.69	120.30
6	2	3622	C	N3-C2-O2	-6.52	117.34	121.90
6	2	4429	C	C5-C6-N1	6.51	124.26	121.00
6	2	5008	C	N1-C2-O2	6.51	122.81	118.90
6	2	1628	C	C6-N1-C2	-6.51	117.70	120.30
6	2	2292	C	C6-N1-C2	-6.51	117.70	120.30
1	u	165	LEU	CB-CG-CD2	6.50	122.06	111.00
6	2	3870	C	C5-C6-N1	6.50	124.25	121.00
6	2	4148	C	N1-C2-O2	6.50	122.80	118.90
6	2	86	U	N3-C2-O2	-6.50	117.65	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2791	C	C2-N1-C1'	6.50	125.95	118.80
8	5	78	C	C6-N1-C2	-6.50	117.70	120.30
21	L	117	LEU	CA-CB-CG	6.50	130.25	115.30
6	2	367	C	C5-C6-N1	6.50	124.25	121.00
6	2	2845	A	C2-N3-C4	6.50	113.85	110.60
6	2	1644	C	C6-N1-C2	-6.49	117.70	120.30
6	2	239	C	C6-N1-C2	-6.49	117.70	120.30
6	2	3774	A	OP1-P-O3'	6.49	119.47	105.20
6	2	3966	A	C2-N3-C4	6.49	113.84	110.60
6	2	2357	G	C4-N9-C1'	6.48	134.92	126.50
6	2	3667	C	C6-N1-C2	-6.48	117.71	120.30
6	2	386	A	C2-N3-C4	6.47	113.83	110.60
6	2	4601	U	C6-N1-C2	-6.47	117.12	121.00
6	2	1314	C	O5'-P-OP2	-6.46	99.88	105.70
6	2	406	C	C6-N1-C2	-6.46	117.72	120.30
6	2	2548	C	N1-C2-O2	6.46	122.78	118.90
6	2	2528	G	N3-C4-C5	-6.46	125.37	128.60
57	8	5	U	C6-N1-C2	-6.46	117.13	121.00
6	2	1958	A	N1-C2-N3	-6.46	126.07	129.30
26	Q	144	LEU	CA-CB-CG	6.45	130.14	115.30
6	2	368	C	C6-N1-C2	-6.45	117.72	120.30
6	2	704	C	N1-C2-O2	6.45	122.77	118.90
6	2	2022	C	N3-C2-O2	-6.45	117.39	121.90
6	2	4284	C	C6-N1-C2	-6.45	117.72	120.30
6	2	2533	C	C6-N1-C2	-6.44	117.72	120.30
6	2	1676	C	P-O3'-C3'	6.44	127.43	119.70
6	2	2357	G	C8-N9-C1'	-6.44	118.63	127.00
6	2	2304	U	N3-C2-O2	-6.44	117.69	122.20
6	2	2589	C	C6-N1-C2	-6.44	117.73	120.30
6	2	2035	C	C5-C6-N1	6.43	124.22	121.00
6	2	2372	U	N3-C2-O2	-6.43	117.70	122.20
6	2	4505	C	N3-C2-O2	-6.43	117.40	121.90
6	2	3598	C	C5-C6-N1	6.43	124.22	121.00
6	2	3698	G	N3-C4-N9	6.43	129.86	126.00
6	2	4700	A	C2-N3-C4	6.43	113.81	110.60
6	2	2856	C	C6-N1-C2	-6.43	117.73	120.30
6	2	1367	C	C2-N1-C1'	6.43	125.87	118.80
6	2	1702	C	N3-C2-O2	-6.43	117.40	121.90
6	2	4206	C	C5-C6-N1	6.42	124.21	121.00
6	2	4773	C	C6-N1-C2	-6.42	117.73	120.30
6	2	4991	U	N1-C2-O2	6.42	127.29	122.80
6	2	1632	A	N1-C2-N3	-6.42	126.09	129.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	7	C	C5-C6-N1	6.41	124.21	121.00
6	2	4619	U	N1-C2-O2	6.41	127.29	122.80
6	2	44	A	N1-C2-N3	-6.41	126.10	129.30
6	2	4341	C	C6-N1-C2	-6.41	117.74	120.30
6	2	1458	C	C6-N1-C2	-6.40	117.74	120.30
6	2	1725	U	N3-C2-O2	-6.40	117.72	122.20
6	2	4508	C	N1-C2-O2	6.40	122.74	118.90
37	d	23	LEU	CA-CB-CG	6.40	130.03	115.30
6	2	1332	C	N3-C4-C5	-6.40	119.34	121.90
6	2	1193	C	C6-N1-C2	-6.39	117.74	120.30
6	2	4467	A	N1-C2-N3	-6.39	126.10	129.30
6	2	390	C	C5-C6-N1	6.39	124.20	121.00
6	2	1401	C	N1-C2-O2	6.39	122.73	118.90
6	2	68	U	N1-C2-O2	6.39	127.27	122.80
6	2	1332	C	C6-N1-C1'	-6.39	113.13	120.80
6	2	4682	U	C2-N1-C1'	6.39	125.36	117.70
6	2	2009	A	C2-N3-C4	6.39	113.79	110.60
6	2	4710	C	N1-C2-O2	6.39	122.73	118.90
6	2	753	C	C5-C6-N1	6.38	124.19	121.00
6	2	2548	C	C2-N1-C1'	6.38	125.82	118.80
6	2	1447	C	N3-C2-O2	-6.38	117.43	121.90
6	2	2532	C	N1-C2-O2	6.38	122.73	118.90
6	2	1428	U	N1-C2-O2	6.38	127.27	122.80
6	2	2729	C	C5-C6-N1	6.38	124.19	121.00
6	2	4569	U	N3-C2-O2	-6.38	117.73	122.20
6	2	1315	C	C5-C6-N1	6.38	124.19	121.00
6	2	449	C	C2-N1-C1'	6.37	125.81	118.80
6	2	489	C	C5-C6-N1	6.37	124.19	121.00
6	2	366	A	N1-C2-N3	-6.37	126.12	129.30
6	2	217	C	C6-N1-C2	-6.37	117.75	120.30
6	2	1906	U	N3-C2-O2	-6.37	117.74	122.20
6	2	1884	C	C6-N1-C2	-6.36	117.75	120.30
6	2	100	C	C6-N1-C1'	-6.36	113.17	120.80
6	2	3617	G	C8-N9-C1'	6.35	135.26	127.00
6	2	1176	C	N1-C2-O2	6.35	122.71	118.90
6	2	1794	A	N1-C2-N3	-6.35	126.12	129.30
6	2	124	C	C6-N1-C2	-6.35	117.76	120.30
6	2	1402	C	N3-C2-O2	-6.35	117.46	121.90
57	8	32	C	N1-C2-O2	6.35	122.71	118.90
6	2	1579	C	C5-C6-N1	6.35	124.17	121.00
6	2	4555	U	P-O3'-C3'	6.34	127.31	119.70
6	2	2667	C	N1-C2-O2	6.34	122.71	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	26	C	C6-N1-C2	-6.34	117.76	120.30
6	2	4771	C	C6-N1-C2	-6.34	117.76	120.30
8	5	57	C	C6-N1-C2	-6.34	117.76	120.30
57	8	81	C	C6-N1-C2	-6.34	117.76	120.30
6	2	1081	C	C6-N1-C2	-6.34	117.77	120.30
6	2	2094	G	C4-N9-C1'	6.34	134.74	126.50
6	2	1731	C	C2-N1-C1'	6.33	125.77	118.80
6	2	4607	A	O4'-C1'-N9	6.33	113.26	108.20
6	2	201	C	N1-C2-O2	6.33	122.70	118.90
6	2	3590	G	N3-C4-N9	6.33	129.80	126.00
6	2	1469	C	C6-N1-C2	-6.33	117.77	120.30
6	2	300	A	N1-C2-N3	-6.32	126.14	129.30
6	2	474	C	C5-C6-N1	6.32	124.16	121.00
13	C	116	LEU	CA-CB-CG	6.32	129.83	115.30
6	2	1387	A	N1-C2-N3	-6.32	126.14	129.30
6	2	4286	C	C5-C6-N1	6.32	124.16	121.00
57	8	92	U	N3-C2-O2	-6.32	117.78	122.20
6	2	2856	C	N3-C2-O2	-6.31	117.48	121.90
6	2	17	A	N1-C2-N3	-6.31	126.15	129.30
6	2	1439	C	C6-N1-C2	-6.31	117.78	120.30
6	2	4880	C	C6-N1-C2	-6.31	117.78	120.30
6	2	4996	C	C6-N1-C2	-6.31	117.78	120.30
6	2	1554	A	C2-N3-C4	6.31	113.75	110.60
6	2	4600	G	C4-N9-C1'	-6.31	118.30	126.50
6	2	719	C	C5-C6-N1	6.30	124.15	121.00
6	2	49	U	N1-C2-O2	6.30	127.21	122.80
8	5	14	C	C6-N1-C2	-6.30	117.78	120.30
6	2	4766	C	N1-C2-O2	6.29	122.68	118.90
6	2	4715	C	N1-C2-O2	6.29	122.68	118.90
57	8	11	C	N3-C4-C5	-6.29	119.38	121.90
6	2	906	C	C2-N1-C1'	6.29	125.71	118.80
6	2	50	C	N3-C2-O2	-6.28	117.50	121.90
6	2	1447	C	C2-N1-C1'	6.28	125.71	118.80
6	2	1592	G	C4-N9-C1'	6.28	134.67	126.50
6	2	3832	U	N3-C2-O2	-6.28	117.80	122.20
6	2	2853	C	N3-C2-O2	-6.28	117.50	121.90
57	8	10	G	O5'-P-OP1	6.28	118.23	110.70
6	2	345	C	C6-N1-C2	-6.28	117.79	120.30
6	2	1183	C	N3-C2-O2	-6.28	117.50	121.90
6	2	163	A	N1-C2-N3	-6.28	126.16	129.30
6	2	914	U	N3-C4-O4	6.28	123.79	119.40
6	2	1812	C	C6-N1-C2	-6.27	117.79	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2078	C	C6-N1-C2	-6.27	117.79	120.30
6	2	656	C	N3-C2-O2	-6.27	117.51	121.90
6	2	4509	U	N3-C2-O2	-6.27	117.81	122.20
6	2	1792	U	N3-C2-O2	-6.27	117.81	122.20
6	2	1599	A	N1-C2-N3	-6.26	126.17	129.30
6	2	2002	A	C2-N3-C4	6.26	113.73	110.60
57	8	101	C	N1-C2-O2	6.26	122.66	118.90
6	2	672	C	N1-C2-O2	6.26	122.66	118.90
6	2	1245	C	N1-C2-O2	6.26	122.66	118.90
6	2	1460	C	C6-N1-C2	-6.26	117.80	120.30
6	2	1893	C	N1-C2-O2	6.26	122.66	118.90
6	2	76	A	N1-C2-N3	-6.25	126.17	129.30
6	2	2018	C	C6-N1-C2	-6.25	117.80	120.30
6	2	385	A	N1-C2-N3	-6.25	126.17	129.30
6	2	4464	A	C2-N3-C4	6.25	113.73	110.60
53	J	96	LEU	CA-CB-CG	6.25	129.69	115.30
6	2	1201	U	C2-N1-C1'	6.25	125.20	117.70
6	2	165	A	C2-N3-C4	6.25	113.72	110.60
6	2	322	C	C5-C6-N1	6.25	124.12	121.00
6	2	2445	C	C6-N1-C2	-6.25	117.80	120.30
6	2	2534	C	C6-N1-C2	-6.25	117.80	120.30
6	2	274	C	N1-C2-O2	6.24	122.64	118.90
60	w	206	LEU	CA-CB-CG	6.24	129.66	115.30
6	2	926	G	N3-C4-N9	6.24	129.74	126.00
6	2	5048	A	N1-C2-N3	-6.24	126.18	129.30
6	2	18	C	N1-C2-O2	6.24	122.64	118.90
6	2	2295	C	N1-C2-O2	6.24	122.64	118.90
8	5	30	C	C6-N1-C2	-6.24	117.80	120.30
6	2	1305	C	C4-C5-C6	-6.23	114.28	117.40
6	2	2371	U	N1-C2-O2	6.23	127.16	122.80
6	2	499	G	C4-C5-N7	6.23	113.29	110.80
6	2	4614	G	C5-C6-O6	6.23	132.34	128.60
6	2	1554	A	N1-C2-N3	-6.22	126.19	129.30
6	2	3606	U	N3-C2-O2	-6.22	117.84	122.20
6	2	71	C	C6-N1-C2	-6.22	117.81	120.30
6	2	1308	C	C6-N1-C2	-6.22	117.81	120.30
6	2	1632	A	C4-N9-C1'	6.22	137.50	126.30
6	2	2783	A	C6-N1-C2	6.21	122.33	118.60
6	2	4878	C	C6-N1-C2	-6.21	117.81	120.30
6	2	3670	C	N1-C2-O2	6.21	122.63	118.90
6	2	5030	U	N3-C4-O4	6.21	123.75	119.40
6	2	2357	G	C2-N3-C4	6.21	115.00	111.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1472	C	C5-C6-N1	6.20	124.10	121.00
6	2	2355	G	C8-N9-C4	-6.20	103.92	106.40
6	2	688	U	N3-C2-O2	-6.20	117.86	122.20
6	2	2500	U	N3-C2-O2	-6.20	117.86	122.20
6	2	4698	C	N1-C2-O2	6.20	122.62	118.90
6	2	977	C	C2-N1-C1'	6.19	125.61	118.80
6	2	499	G	N3-C4-C5	-6.19	125.50	128.60
6	2	2356	U	C5-C4-O4	6.19	129.62	125.90
6	2	3712	A	C4-N9-C1'	6.19	137.44	126.30
6	2	2806	A	N1-C2-N3	-6.19	126.21	129.30
6	2	1176	C	C6-N1-C2	-6.18	117.83	120.30
6	2	195	C	C5-C6-N1	6.18	124.09	121.00
6	2	360	A	N1-C2-N3	-6.18	126.21	129.30
6	2	1414	C	C2-N1-C1'	6.18	125.59	118.80
6	2	4712	C	C5-C6-N1	6.18	124.09	121.00
6	2	2356	U	C2-N1-C1'	-6.17	110.29	117.70
6	2	5002	U	N3-C2-O2	-6.17	117.88	122.20
6	2	3680	U	C2-N1-C1'	6.17	125.11	117.70
6	2	4710	C	C6-N1-C2	-6.17	117.83	120.30
6	2	1671	U	N1-C2-O2	6.17	127.12	122.80
6	2	2867	C	C6-N1-C2	-6.17	117.83	120.30
6	2	4337	C	N3-C2-O2	-6.17	117.58	121.90
57	8	52	A	N1-C2-N3	-6.17	126.22	129.30
6	2	4969	C	C5-C6-N1	6.16	124.08	121.00
6	2	673	C	C5-C6-N1	6.16	124.08	121.00
6	2	2540	C	C5-C6-N1	6.16	124.08	121.00
6	2	694	C	C6-N1-C2	-6.16	117.84	120.30
6	2	4715	C	N3-C2-O2	-6.16	117.59	121.90
6	2	3741	C	N3-C2-O2	-6.16	117.59	121.90
6	2	941	C	C6-N1-C2	-6.16	117.84	120.30
8	5	80	U	N3-C2-O2	-6.15	117.89	122.20
6	2	1401	C	C6-N1-C2	-6.15	117.84	120.30
6	2	4928	C	N1-C2-O2	6.15	122.59	118.90
6	2	5050	C	N1-C2-O2	6.15	122.59	118.90
6	2	155	C	N3-C2-O2	-6.15	117.59	121.90
6	2	7	C	C6-N1-C2	-6.15	117.84	120.30
6	2	35	U	N3-C2-O2	-6.15	117.90	122.20
6	2	1276	C	C6-N1-C2	-6.15	117.84	120.30
6	2	3711	A	C2-N3-C4	6.15	113.67	110.60
6	2	516	C	C6-N1-C1'	-6.14	113.43	120.80
6	2	201	C	C5-C6-N1	6.14	124.07	121.00
6	2	648	G	N3-C4-N9	6.14	129.68	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2708	U	N1-C2-O2	6.14	127.10	122.80
6	2	1197	C	C6-N1-C2	-6.14	117.84	120.30
6	2	2355	G	N7-C8-N9	6.14	116.17	113.10
6	2	365	U	C5-C6-N1	6.14	125.77	122.70
6	2	1405	C	C5-C6-N1	6.14	124.07	121.00
6	2	3915	U	N3-C2-O2	-6.14	117.90	122.20
57	8	96	C	C6-N1-C2	-6.13	117.85	120.30
6	2	1577	G	N3-C2-N2	-6.13	115.61	119.90
6	2	3693	U	N1-C2-O2	6.13	127.09	122.80
8	5	15	C	C6-N1-C2	-6.13	117.85	120.30
6	2	2008	U	N3-C2-O2	-6.13	117.91	122.20
6	2	2777	G	N7-C8-N9	6.13	116.16	113.10
6	2	2439	G	C6-C5-N7	-6.12	126.72	130.40
6	2	3598	C	N3-C2-O2	-6.12	117.61	121.90
57	8	32	C	N3-C2-O2	-6.12	117.61	121.90
6	2	972	C	C5-C6-N1	6.12	124.06	121.00
6	2	3662	A	N1-C2-N3	-6.12	126.24	129.30
6	2	910	G	C4-N9-C1'	6.12	134.45	126.50
6	2	4714	C	N1-C2-O2	6.12	122.57	118.90
6	2	2351	C	N1-C2-O2	6.12	122.57	118.90
6	2	704	C	C2-N1-C1'	6.11	125.52	118.80
6	2	2053	C	C5-C6-N1	6.11	124.06	121.00
6	2	907	C	N1-C2-O2	6.11	122.57	118.90
6	2	4758	U	C6-N1-C1'	-6.11	112.65	121.20
6	2	3622	C	C6-N1-C2	-6.11	117.86	120.30
6	2	4518	A	N1-C2-N3	-6.11	126.25	129.30
6	2	3840	U	N1-C2-O2	6.11	127.07	122.80
6	2	2496	G	P-O3'-C3'	6.10	127.02	119.70
6	2	1856	C	O5'-P-OP1	6.10	118.02	110.70
6	2	4406	U	C2-N1-C1'	6.10	125.02	117.70
6	2	1540	C	N1-C2-O2	6.10	122.56	118.90
6	2	1386	C	C6-N1-C2	-6.10	117.86	120.30
6	2	4120	U	N3-C2-O2	-6.09	117.93	122.20
6	2	3636	C	N3-C2-O2	-6.09	117.64	121.90
6	2	1812	C	C5-C6-N1	6.09	124.04	121.00
6	2	2837	U	N3-C2-O2	-6.09	117.94	122.20
6	2	3767	C	C6-N1-C2	-6.09	117.86	120.30
6	2	4314	C	C6-N1-C2	-6.09	117.86	120.30
6	2	1552	G	O4'-C1'-N9	6.09	113.07	108.20
6	2	2304	U	N1-C2-O2	6.09	127.06	122.80
6	2	2313	A	C6-C5-N7	6.09	136.56	132.30
6	2	2684	C	C6-N1-C2	-6.09	117.86	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4600	G	O4'-C1'-N9	6.09	113.07	108.20
6	2	4504	C	N3-C2-O2	-6.08	117.64	121.90
6	2	1344	C	C6-N1-C2	-6.08	117.87	120.30
6	2	2317	C	C5-C6-N1	6.07	124.03	121.00
57	8	13	G	C4-C5-N7	6.07	113.23	110.80
6	2	4162	C	N3-C2-O2	-6.07	117.65	121.90
6	2	4613	C	C2-N1-C1'	6.07	125.47	118.80
6	2	1634	A	C2-N3-C4	6.06	113.63	110.60
6	2	1395	U	N3-C2-O2	-6.06	117.96	122.20
6	2	4667	C	C6-N1-C2	-6.06	117.88	120.30
6	2	907	C	C5-C6-N1	6.06	124.03	121.00
6	2	1801	A	N1-C2-N3	-6.06	126.27	129.30
6	2	2533	C	C5-C6-N1	6.06	124.03	121.00
6	2	1889	U	N3-C2-O2	-6.06	117.96	122.20
6	2	2901	G	N3-C4-N9	6.06	129.63	126.00
6	2	4341	C	N3-C2-O2	-6.06	117.66	121.90
6	2	227	A	N1-C2-N3	-6.06	126.27	129.30
6	2	228	C	C5-C6-N1	6.05	124.03	121.00
6	2	1417	C	N1-C2-O2	6.05	122.53	118.90
6	2	2860	C	C2-N1-C1'	6.05	125.46	118.80
6	2	1333	A	C2-N3-C4	6.05	113.63	110.60
6	2	2329	U	N3-C2-O2	-6.05	117.96	122.20
6	2	3926	C	C5-C6-N1	6.05	124.03	121.00
6	2	2067	C	N1-C2-O2	6.05	122.53	118.90
6	2	2303	C	N3-C2-O2	-6.05	117.66	121.90
6	2	3882	C	N1-C2-O2	6.05	122.53	118.90
6	2	4284	C	C5-C6-N1	6.05	124.03	121.00
6	2	490	C	C6-N1-C2	-6.05	117.88	120.30
6	2	2302	C	C6-N1-C2	-6.05	117.88	120.30
6	2	1429	C	C2-N1-C1'	6.05	125.45	118.80
6	2	1929	A	N3-C4-N9	6.05	132.24	127.40
6	2	3721	U	N3-C2-O2	-6.05	117.97	122.20
6	2	1183	C	C5-C6-N1	6.04	124.02	121.00
6	2	4171	C	C5-C6-N1	6.04	124.02	121.00
6	2	2447	U	N3-C2-O2	-6.04	117.97	122.20
6	2	3767	C	N1-C2-O2	6.04	122.52	118.90
6	2	4387	C	N3-C2-O2	-6.03	117.68	121.90
6	2	910	G	N3-C4-N9	6.03	129.62	126.00
6	2	4775	C	C6-N1-C1'	-6.03	113.57	120.80
57	8	123	U	C2-N1-C1'	6.03	124.93	117.70
6	2	1566	C	C5-C6-N1	6.03	124.01	121.00
6	2	1414	C	N1-C2-O2	6.03	122.52	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4120	U	N1-C2-O2	6.03	127.02	122.80
42	j	97	ASP	CB-CG-OD1	6.03	123.72	118.30
6	2	2048	U	N3-C2-O2	-6.02	117.98	122.20
6	2	14	C	C6-N1-C2	-6.02	117.89	120.30
6	2	499	G	N9-C4-C5	-6.02	102.99	105.40
6	2	3657	U	N1-C2-O2	6.02	127.01	122.80
6	2	673	C	N3-C2-O2	-6.02	117.69	121.90
6	2	2820	C	C2-N1-C1'	6.02	125.42	118.80
7	4	12	VAL	CA-CB-CG1	6.02	119.92	110.90
6	2	3892	U	N3-C2-O2	-6.01	117.99	122.20
6	2	3729	U	N1-C2-O2	6.01	127.01	122.80
6	2	2629	C	N1-C2-O2	6.01	122.50	118.90
6	2	3688	U	N3-C2-O2	-6.01	117.99	122.20
6	2	3636	C	C5-C6-N1	6.01	124.00	121.00
6	2	337	U	N3-C2-O2	-6.00	118.00	122.20
6	2	1202	C	N1-C2-O2	6.00	122.50	118.90
6	2	2313	A	C4-C5-C6	-6.00	114.00	117.00
6	2	4553	A	N1-C2-N3	-6.00	126.30	129.30
6	2	4880	C	C2-N1-C1'	6.00	125.40	118.80
6	2	459	C	C6-N1-C2	-6.00	117.90	120.30
6	2	1477	C	C5-C6-N1	6.00	124.00	121.00
6	2	2403	A	N1-C2-N3	-6.00	126.30	129.30
6	2	2684	C	C5-C6-N1	6.00	124.00	121.00
6	2	1190	C	C5-C6-N1	6.00	124.00	121.00
6	2	4710	C	C2-N1-C1'	5.99	125.39	118.80
6	2	124	C	C5-C6-N1	5.99	124.00	121.00
6	2	1405	C	C2-N1-C1'	5.99	125.39	118.80
6	2	2031	C	C5-C6-N1	5.99	124.00	121.00
6	2	2772	C	N1-C2-O2	5.99	122.49	118.90
6	2	1707	C	C6-N1-C2	-5.99	117.91	120.30
6	2	1978	C	C5-C6-N1	5.99	123.99	121.00
6	2	4476	C	C6-N1-C2	-5.99	117.91	120.30
6	2	319	A	N1-C2-N3	-5.98	126.31	129.30
6	2	981	C	C6-N1-C2	-5.98	117.91	120.30
6	2	260	C	C6-N1-C2	-5.98	117.91	120.30
6	2	2890	C	C6-N1-C2	-5.98	117.91	120.30
6	2	1373	A	N1-C2-N3	-5.98	126.31	129.30
6	2	3672	G	N3-C4-C5	-5.97	125.61	128.60
57	8	101	C	C2-N1-C1'	5.97	125.37	118.80
6	2	3698	G	N3-C4-C5	-5.97	125.62	128.60
6	2	4233	A	C2-N3-C4	5.97	113.58	110.60
6	2	3882	C	C5-C6-N1	5.96	123.98	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2037	C	C6-N1-C2	-5.96	117.92	120.30
6	2	2844	A	N1-C2-N3	-5.96	126.32	129.30
6	2	1339	U	N3-C2-O2	-5.96	118.03	122.20
6	2	4708	A	N1-C2-N3	-5.96	126.32	129.30
6	2	2094	G	N3-C4-N9	5.96	129.58	126.00
6	2	2290	C	N1-C2-O2	5.96	122.48	118.90
6	2	1572	U	N1-C2-O2	5.96	126.97	122.80
6	2	1294	A	O4'-C1'-N9	5.96	112.97	108.20
6	2	1978	C	N3-C2-O2	-5.96	117.73	121.90
6	2	2482	C	N1-C2-O2	5.96	122.47	118.90
57	8	96	C	N1-C2-O2	5.96	122.47	118.90
6	2	2355	G	N3-C2-N2	-5.95	115.73	119.90
6	2	2821	U	N3-C2-O2	-5.95	118.03	122.20
6	2	2563	C	N3-C2-O2	-5.95	117.73	121.90
7	4	261	CYS	CA-CB-SG	5.95	124.70	114.00
6	2	4493	U	N3-C2-O2	-5.94	118.04	122.20
6	2	5008	C	N3-C2-O2	-5.94	117.74	121.90
6	2	30	C	C2-N1-C1'	5.94	125.33	118.80
6	2	1822	U	C2-N1-C1'	5.94	124.83	117.70
6	2	4243	C	C6-N1-C2	-5.94	117.92	120.30
6	2	4584	A	N1-C2-N3	-5.94	126.33	129.30
6	2	4342	C	N3-C2-O2	-5.93	117.75	121.90
6	2	1929	A	N1-C2-N3	-5.93	126.33	129.30
6	2	5035	U	N1-C2-O2	5.93	126.95	122.80
8	5	102	U	N3-C2-O2	-5.93	118.05	122.20
57	8	135	C	C6-N1-C2	-5.93	117.93	120.30
6	2	1472	C	N1-C2-O2	5.93	122.46	118.90
6	2	2349	A	P-O3'-C3'	5.92	126.81	119.70
6	2	2409	U	C6-N1-C2	-5.92	117.45	121.00
6	2	2497	C	C2-N1-C1'	5.92	125.31	118.80
6	2	504	G	N3-C4-N9	5.92	129.55	126.00
6	2	1901	C	C6-N1-C2	-5.92	117.93	120.30
6	2	1202	C	C5-C6-N1	5.92	123.96	121.00
6	2	3856	A	N1-C2-N3	-5.92	126.34	129.30
6	2	4342	C	N1-C2-O2	5.91	122.45	118.90
6	2	472	C	N3-C2-O2	-5.91	117.76	121.90
6	2	1566	C	C6-N1-C2	-5.91	117.94	120.30
6	2	3683	C	C5-C6-N1	5.91	123.95	121.00
6	2	297	U	N3-C2-O2	-5.91	118.07	122.20
57	8	107	C	C6-N1-C2	-5.91	117.94	120.30
6	2	2357	G	C5-C6-N1	5.90	114.45	111.50
6	2	204	U	N1-C2-O2	5.90	126.93	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	3866	C	C6-N1-C2	-5.90	117.94	120.30
6	2	4712	C	N1-C2-O2	5.90	122.44	118.90
57	8	128	C	C5-C6-N1	5.90	123.95	121.00
6	2	2540	C	C6-N1-C2	-5.90	117.94	120.30
6	2	294	G	C8-N9-C1'	-5.90	119.33	127.00
6	2	1589	C	N1-C2-O2	5.90	122.44	118.90
6	2	974	C	C6-N1-C2	-5.89	117.94	120.30
6	2	2628	U	N1-C2-O2	5.89	126.93	122.80
6	2	3712	A	N3-C4-N9	5.89	132.12	127.40
6	2	4929	C	C5-C6-N1	5.89	123.95	121.00
40	h	82	ILE	CG1-CB-CG2	-5.89	98.43	111.40
6	2	365	U	C6-N1-C2	-5.89	117.46	121.00
6	2	2498	C	N3-C2-O2	-5.89	117.78	121.90
6	2	4532	U	N1-C2-O2	5.89	126.92	122.80
6	2	309	C	C5-C6-N1	5.89	123.94	121.00
6	2	378	A	N1-C2-N3	-5.89	126.36	129.30
6	2	1080	C	C6-N1-C2	-5.89	117.94	120.30
6	2	1341	U	N3-C2-O2	-5.89	118.08	122.20
6	2	1666	C	C6-N1-C2	-5.89	117.94	120.30
6	2	3694	U	N3-C2-O2	-5.89	118.08	122.20
6	2	4535	A	N1-C2-N3	-5.89	126.36	129.30
6	2	2628	U	N3-C2-O2	-5.89	118.08	122.20
8	5	15	C	N3-C2-O2	-5.89	117.78	121.90
6	2	2357	G	C4-C5-N7	5.88	113.15	110.80
6	2	3590	G	C8-N9-C1'	-5.88	119.35	127.00
6	2	3672	G	N3-C4-N9	5.88	129.53	126.00
6	2	4940	C	C2-N1-C1'	5.88	125.27	118.80
6	2	362	A	N1-C2-N3	-5.88	126.36	129.30
8	5	2	U	N3-C2-O2	-5.88	118.08	122.20
6	2	313	U	N3-C2-O2	-5.88	118.09	122.20
6	2	2505	C	N3-C2-O2	-5.87	117.79	121.90
6	2	3700	C	N1-C2-O2	5.87	122.42	118.90
6	2	3831	U	C2-N1-C1'	5.87	124.75	117.70
57	8	9	A	N1-C2-N3	-5.87	126.36	129.30
6	2	1469	C	C5-C6-N1	5.87	123.94	121.00
6	2	43	U	N3-C2-O2	-5.87	118.09	122.20
6	2	3882	C	C2-N1-C1'	5.87	125.25	118.80
45	m	102	LEU	CA-CB-CG	5.87	128.80	115.30
6	2	2593	C	C5-C6-N1	5.87	123.93	121.00
6	2	1907	A	N1-C2-N3	-5.86	126.37	129.30
6	2	2429	A	C2-N3-C4	5.86	113.53	110.60
6	2	1468	C	C6-N1-C2	-5.86	117.96	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4561	C	C6-N1-C2	-5.86	117.96	120.30
6	2	3901	A	C2-N3-C4	5.85	113.53	110.60
6	2	4662	C	C5-C6-N1	5.85	123.93	121.00
6	2	2017	A	C2-N3-C4	5.85	113.53	110.60
6	2	4325	A	N1-C2-N3	-5.85	126.37	129.30
29	V	194	GLU	N-CA-CB	5.85	121.13	110.60
6	2	2281	U	C5-C6-N1	5.85	125.62	122.70
6	2	2565	A	C2-N3-C4	5.85	113.52	110.60
6	2	5043	A	N1-C2-N3	-5.85	126.38	129.30
6	2	2892	C	C5-C6-N1	5.84	123.92	121.00
6	2	4162	C	C2-N1-C1'	5.84	125.23	118.80
57	8	123	U	N3-C2-O2	-5.84	118.11	122.20
6	2	421	C	O5'-P-OP2	5.84	117.71	110.70
6	2	2354	G	N1-C2-N3	-5.84	120.40	123.90
6	2	4147	G	N1-C6-O6	-5.84	116.40	119.90
8	5	58	A	N1-C2-N3	-5.84	126.38	129.30
57	8	6	C	N3-C4-C5	5.84	124.24	121.90
6	2	1703	C	N3-C2-O2	-5.84	117.81	121.90
6	2	4929	C	C6-N1-C2	-5.84	117.97	120.30
6	2	926	G	C4-N9-C1'	5.84	134.09	126.50
6	2	2527	A	N1-C2-N3	-5.84	126.38	129.30
6	2	4546	A	N1-C2-N3	-5.84	126.38	129.30
6	2	3729	U	N3-C2-O2	-5.83	118.12	122.20
6	2	1350	C	C6-N1-C2	-5.83	117.97	120.30
6	2	1816	C	C2-N1-C1'	5.83	125.22	118.80
6	2	2071	A	C2-N3-C4	5.83	113.52	110.60
6	2	2347	A	N1-C2-N3	-5.83	126.39	129.30
6	2	2814	C	C2-N1-C1'	5.83	125.22	118.80
6	2	4886	C	N1-C2-O2	5.83	122.40	118.90
9	6	135	VAL	CG1-CB-CG2	-5.83	101.57	110.90
6	2	1906	U	N1-C2-O2	5.83	126.88	122.80
6	2	4206	C	N1-C2-O2	5.83	122.40	118.90
6	2	4639	G	C4-N9-C1'	5.83	134.07	126.50
6	2	4694	G	N3-C4-N9	5.83	129.50	126.00
7	4	503	THR	C-N-CA	5.82	136.26	121.70
6	2	956	A	N1-C2-N3	-5.82	126.39	129.30
6	2	4723	A	C2-N3-C4	5.82	113.51	110.60
6	2	4940	C	C5-C6-N1	5.82	123.91	121.00
6	2	4346	U	N3-C2-O2	-5.82	118.13	122.20
8	5	28	C	C5-C6-N1	5.81	123.91	121.00
57	8	125	C	OP1-P-O3'	5.81	117.98	105.20
6	2	2094	G	C8-N9-C1'	-5.81	119.45	127.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	658	C	N1-C2-O2	5.81	122.38	118.90
6	2	1644	C	C5-C6-N1	5.81	123.90	121.00
6	2	1870	C	C6-N1-C2	-5.81	117.98	120.30
57	8	35	C	C6-N1-C2	-5.81	117.98	120.30
6	2	963	G	C4-N9-C1'	5.81	134.05	126.50
6	2	1994	C	O4'-C1'-N1	5.80	112.84	108.20
6	2	2404	A	N1-C2-N3	-5.80	126.40	129.30
6	2	2836	A	N1-C2-N3	-5.80	126.40	129.30
6	2	4539	U	N3-C2-O2	-5.80	118.14	122.20
6	2	1634	A	N1-C2-N3	-5.80	126.40	129.30
6	2	5030	U	C2-N1-C1'	5.80	124.66	117.70
8	5	3	C	C6-N1-C2	-5.80	117.98	120.30
6	2	1099	C	C6-N1-C2	-5.80	117.98	120.30
6	2	1717	C	C5-C6-N1	5.80	123.90	121.00
6	2	3584	C	C6-N1-C2	-5.80	117.98	120.30
57	8	99	U	C6-N1-C2	-5.80	117.52	121.00
6	2	4393	G	C5-C6-O6	5.80	132.08	128.60
6	2	56	A	N1-C2-N3	-5.80	126.40	129.30
6	2	4378	A	N1-C2-N3	-5.80	126.40	129.30
46	n	106	TYR	N-CA-C	5.80	126.65	111.00
6	2	2779	C	C6-N1-C2	-5.79	117.98	120.30
6	2	2513	A	N1-C2-N3	-5.79	126.40	129.30
6	2	4387	C	C6-N1-C2	-5.79	117.98	120.30
57	8	54	C	N3-C2-O2	-5.79	117.84	121.90
6	2	1430	C	C6-N1-C2	-5.79	117.98	120.30
6	2	1996	C	N1-C2-O2	5.79	122.37	118.90
6	2	3772	U	C2-N1-C1'	5.79	124.65	117.70
6	2	3630	A	C2-N3-C4	5.79	113.49	110.60
6	2	1508	A	N1-C2-N3	-5.79	126.41	129.30
47	o	234	ASP	CB-CG-OD1	5.79	123.51	118.30
6	2	3698	G	C4-N9-C1'	5.78	134.02	126.50
8	5	26	C	N1-C2-O2	5.78	122.37	118.90
6	2	1599	A	C2-N3-C4	5.78	113.49	110.60
6	2	1201	U	C6-N1-C2	-5.78	117.53	121.00
6	2	4464	A	N1-C2-N3	-5.78	126.41	129.30
6	2	302	C	C5-C6-N1	5.78	123.89	121.00
6	2	3962	A	C2-N3-C4	5.78	113.49	110.60
6	2	14	C	N3-C2-O2	-5.78	117.86	121.90
6	2	4358	U	N3-C2-O2	-5.78	118.16	122.20
6	2	1703	C	C2-N1-C1'	5.77	125.15	118.80
6	2	1929	A	C8-N9-C1'	-5.77	117.31	127.70
6	2	282	C	C6-N1-C2	-5.76	118.00	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2702	C	C5-C6-N1	5.76	123.88	121.00
6	2	1924	C	C6-N1-C2	-5.76	118.00	120.30
6	2	4653	C	C6-N1-C2	-5.76	118.00	120.30
57	8	128	C	C6-N1-C2	-5.76	118.00	120.30
6	2	1896	A	N1-C2-N3	-5.76	126.42	129.30
6	2	4619	U	N3-C2-O2	-5.76	118.17	122.20
57	8	101	C	C5-C6-N1	5.76	123.88	121.00
6	2	4602	A	N1-C2-N3	-5.75	126.42	129.30
6	2	4687	A	C2-N3-C4	5.75	113.48	110.60
6	2	4983	C	N1-C2-O2	5.75	122.35	118.90
6	2	2409	U	N1-C2-N3	5.75	118.35	114.90
6	2	2901	G	N9-C4-C5	-5.75	103.10	105.40
6	2	4229	U	N3-C2-O2	-5.75	118.17	122.20
6	2	972	C	C2-N1-C1'	5.75	125.13	118.80
6	2	4229	U	N1-C2-O2	5.75	126.83	122.80
6	2	2014	C	C6-N1-C2	-5.75	118.00	120.30
6	2	696	C	N1-C2-O2	5.75	122.35	118.90
6	2	712	C	C5-C6-N1	5.75	123.87	121.00
6	2	2803	U	N3-C2-O2	-5.75	118.18	122.20
6	2	98	A	N1-C2-N3	-5.75	126.43	129.30
6	2	353	A	N1-C2-N3	-5.74	126.43	129.30
6	2	3590	G	N3-C4-C5	-5.74	125.73	128.60
6	2	2073	C	C6-N1-C2	-5.74	118.00	120.30
14	D	171	LEU	CB-CG-CD1	-5.74	101.24	111.00
49	r	103	LEU	CA-CB-CG	5.74	128.51	115.30
6	2	1821	G	C8-N9-C4	-5.74	104.10	106.40
6	2	4522	G	N3-C4-C5	-5.74	125.73	128.60
6	2	4243	C	N1-C2-O2	5.74	122.34	118.90
6	2	4522	G	N7-C8-N9	5.73	115.97	113.10
6	2	419	A	C4-C5-C6	-5.73	114.13	117.00
6	2	4923	C	C6-N1-C2	-5.73	118.01	120.30
6	2	2820	C	C5-C6-N1	5.73	123.87	121.00
6	2	4471	U	C2-N1-C1'	5.73	124.58	117.70
8	5	94	C	N1-C2-O2	5.73	122.34	118.90
6	2	1310	C	C6-N1-C2	-5.73	118.01	120.30
6	2	906	C	N1-C2-O2	5.73	122.34	118.90
6	2	971	U	C2-N1-C1'	5.73	124.57	117.70
6	2	2660	A	N1-C2-N3	-5.73	126.44	129.30
6	2	4361	U	N1-C2-O2	5.73	126.81	122.80
6	2	51	A	N1-C2-N3	-5.73	126.44	129.30
6	2	498	C	C5-C6-N1	5.73	123.86	121.00
57	8	90	C	C6-N1-C2	-5.72	118.01	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	458	C	C5-C6-N1	5.72	123.86	121.00
6	2	1096	C	C5-C6-N1	5.72	123.86	121.00
7	4	406	GLY	C-N-CA	5.72	136.00	121.70
6	2	3825	A	N1-C2-N3	-5.72	126.44	129.30
57	8	8	U	O4'-C1'-N1	5.72	112.78	108.20
6	2	1889	U	N1-C2-O2	5.72	126.80	122.80
6	2	2777	G	C8-N9-C1'	-5.72	119.57	127.00
6	2	5042	A	C2-N3-C4	5.71	113.46	110.60
6	2	643	C	C6-N1-C2	-5.71	118.02	120.30
6	2	1082	C	O4'-C1'-N1	5.71	112.77	108.20
6	2	1540	C	C5-C6-N1	5.71	123.86	121.00
6	2	1870	C	N1-C2-O2	5.71	122.33	118.90
6	2	2025	A	N9-C1'-C2'	5.71	121.42	114.00
6	2	2310	C	N3-C2-O2	-5.71	117.90	121.90
6	2	504	G	N3-C4-C5	-5.71	125.75	128.60
6	2	1486	C	C6-N1-C2	-5.71	118.02	120.30
6	2	2011	C	N1-C2-O2	5.71	122.33	118.90
6	2	2743	A	N1-C2-N3	-5.71	126.44	129.30
57	8	9	A	N9-C4-C5	-5.71	103.52	105.80
5	3	90	LEU	CA-CB-CG	5.70	128.42	115.30
6	2	2337	C	N1-C2-O2	5.70	122.32	118.90
6	2	2487	G	P-O3'-C3'	5.70	126.54	119.70
6	2	2589	C	C5-C6-N1	5.70	123.85	121.00
6	2	2853	C	C6-N1-C2	-5.70	118.02	120.30
6	2	3844	U	C6-N1-C2	-5.70	117.58	121.00
6	2	3906	A	O5'-P-OP1	-5.70	100.57	105.70
6	2	1726	U	C6-N1-C2	-5.70	117.58	121.00
6	2	1176	C	N3-C2-O2	-5.70	117.91	121.90
6	2	4341	C	C5-C6-N1	5.70	123.85	121.00
6	2	2062	C	C6-N1-C2	-5.69	118.02	120.30
6	2	3699	C	N1-C2-O2	5.69	122.32	118.90
6	2	4460	U	N3-C2-O2	-5.69	118.21	122.20
6	2	2360	A	N1-C2-N3	-5.69	126.45	129.30
47	o	144	ILE	C-N-CA	5.69	135.93	121.70
6	2	59	A	N1-C2-N3	-5.69	126.45	129.30
6	2	4979	A	N1-C2-N3	-5.69	126.45	129.30
6	2	4054	C	C6-N1-C2	-5.69	118.02	120.30
6	2	1553	A	N1-C2-N3	-5.69	126.46	129.30
6	2	1969	G	N3-C4-N9	5.69	129.41	126.00
6	2	436	C	N1-C2-O2	5.68	122.31	118.90
6	2	2373	C	C6-N1-C2	-5.68	118.03	120.30
6	2	2593	C	C2-N1-C1'	5.68	125.05	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	3646	A	N1-C2-N3	-5.68	126.46	129.30
6	2	2031	C	N1-C2-O2	5.68	122.31	118.90
6	2	4864	U	C2-N1-C1'	5.68	124.52	117.70
6	2	350	C	N1-C2-O2	5.68	122.31	118.90
6	2	3844	U	N3-C2-O2	-5.68	118.23	122.20
6	2	4773	C	C2-N1-C1'	5.68	125.04	118.80
19	I	176	LEU	CA-CB-CG	5.68	128.36	115.30
6	2	654	C	C2-N1-C1'	5.67	125.04	118.80
6	2	1397	A	N1-C2-N3	-5.67	126.46	129.30
6	2	4233	A	N1-C2-N3	-5.67	126.47	129.30
6	2	1243	C	C5-C6-N1	5.67	123.83	121.00
6	2	4469	U	N3-C2-O2	-5.67	118.23	122.20
6	2	1429	C	C5-C6-N1	5.67	123.83	121.00
57	8	51	U	C2-N1-C1'	5.66	124.50	117.70
6	2	1427	A	N1-C2-N3	-5.66	126.47	129.30
6	2	4613	C	C5-C6-N1	5.66	123.83	121.00
6	2	1662	C	C5-C6-N1	5.66	123.83	121.00
6	2	4215	C	C2-N1-C1'	5.66	125.03	118.80
6	2	2449	A	N1-C2-N3	-5.66	126.47	129.30
57	8	55	U	N1-C2-O2	5.66	126.76	122.80
8	5	44	C	N1-C2-O2	5.65	122.29	118.90
36	c	68	THR	OG1-CB-CG2	-5.65	97.00	110.00
6	2	2472	A	N1-C2-N3	-5.65	126.47	129.30
6	2	3948	C	C2-N3-C4	5.65	122.72	119.90
6	2	4406	U	N3-C2-O2	-5.65	118.25	122.20
6	2	3642	A	N1-C2-N3	-5.65	126.48	129.30
8	5	20	U	N3-C2-O2	-5.65	118.25	122.20
6	2	3617	G	C4-N9-C1'	-5.64	119.16	126.50
6	2	4923	C	N1-C2-O2	5.64	122.29	118.90
6	2	910	G	C8-N9-C1'	-5.64	119.67	127.00
6	2	1541	C	N1-C2-O2	5.64	122.28	118.90
6	2	3602	C	C6-N1-C2	-5.64	118.04	120.30
6	2	3606	U	N1-C2-O2	5.64	126.75	122.80
6	2	3721	U	N1-C2-O2	5.64	126.75	122.80
6	2	4981	G	N3-C4-C5	-5.64	125.78	128.60
28	U	164	LEU	CA-CB-CG	5.64	128.27	115.30
6	2	733	A	N1-C2-N3	-5.63	126.48	129.30
6	2	703	G	C4-N9-C1'	5.63	133.82	126.50
6	2	1692	C	C5-C6-N1	5.63	123.82	121.00
6	2	2268	A	N1-C2-N3	-5.63	126.48	129.30
6	2	2009	A	N1-C2-N3	-5.63	126.48	129.30
6	2	4365	C	N1-C2-O2	5.63	122.28	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	67	C	C5-C6-N1	5.63	123.81	121.00
6	2	1572	U	N3-C2-O2	-5.63	118.26	122.20
6	2	2325	C	C6-N1-C2	-5.63	118.05	120.30
6	2	3694	U	N1-C2-O2	5.63	126.74	122.80
6	2	1668	A	N1-C2-N3	-5.63	126.49	129.30
6	2	4486	C	N1-C2-O2	5.63	122.28	118.90
6	2	89	C	C2-N1-C1'	5.62	124.98	118.80
6	2	3845	A	N1-C2-N3	-5.62	126.49	129.30
6	2	1413	C	C6-N1-C2	-5.62	118.05	120.30
6	2	4628	U	C5-C6-N1	5.62	125.51	122.70
6	2	4981	G	N3-C4-N9	5.62	129.37	126.00
6	2	2625	U	N3-C2-O2	-5.62	118.27	122.20
6	2	1637	A	N1-C2-N3	-5.61	126.49	129.30
6	2	1855	G	OP1-P-O3'	5.61	117.55	105.20
6	2	2053	C	C6-N1-C2	-5.61	118.06	120.30
6	2	4042	G	C2-N3-C4	5.61	114.71	111.90
57	8	59	A	N1-C2-N3	-5.61	126.49	129.30
6	2	36	U	N1-C2-O2	5.61	126.73	122.80
6	2	5019	A	N1-C2-N3	-5.61	126.50	129.30
6	2	5060	A	C2-N3-C4	5.61	113.41	110.60
6	2	372	A	N1-C2-N3	-5.61	126.50	129.30
6	2	14	C	C2-N1-C1'	5.60	124.96	118.80
6	2	418	A	N1-C2-N3	-5.60	126.50	129.30
6	2	3635	A	N1-C2-N3	-5.60	126.50	129.30
6	2	4892	A	N1-C2-N3	-5.60	126.50	129.30
6	2	4895	C	C2-N1-C1'	5.60	124.96	118.80
6	2	2327	G	N1-C6-O6	-5.60	116.54	119.90
57	8	4	C	C2-N1-C1'	5.60	124.96	118.80
6	2	1535	C	C6-N1-C2	-5.60	118.06	120.30
6	2	5042	A	N1-C2-N3	-5.60	126.50	129.30
6	2	1477	C	C2-N1-C1'	5.60	124.96	118.80
6	2	4607	A	N1-C2-N3	-5.60	126.50	129.30
6	2	4461	C	C6-N1-C2	-5.59	118.06	120.30
6	2	1216	C	O4'-C1'-N1	5.59	112.67	108.20
6	2	1900	C	C6-N1-C2	-5.59	118.06	120.30
6	2	2327	G	N9-C4-C5	5.59	107.64	105.40
6	2	3710	G	N3-C4-C5	-5.59	125.80	128.60
6	2	1870	C	C5-C6-N1	5.59	123.80	121.00
6	2	2312	U	N3-C2-O2	-5.59	118.29	122.20
6	2	2533	C	N3-C2-O2	-5.59	117.99	121.90
6	2	4968	A	N7-C8-N9	5.59	116.59	113.80
6	2	26	C	C2-N1-C1'	5.59	124.94	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1386	C	C5-C6-N1	5.59	123.79	121.00
6	2	2025	A	N1-C2-N3	-5.59	126.51	129.30
6	2	3949	A	C2-N3-C4	5.59	113.39	110.60
6	2	279	A	N1-C2-N3	-5.58	126.51	129.30
6	2	4562	C	C6-N1-C2	-5.58	118.07	120.30
2	f	326	GLY	N-CA-C	5.58	127.05	113.10
6	2	2445	C	N3-C2-O2	-5.58	117.99	121.90
9	6	70	LEU	CA-CB-CG	5.58	128.14	115.30
6	2	2833	A	C2-N3-C4	5.58	113.39	110.60
6	2	4352	U	C2-N1-C1'	5.58	124.39	117.70
6	2	673	C	C2-N1-C1'	5.58	124.93	118.80
6	2	1238	A	N1-C2-N3	-5.58	126.51	129.30
6	2	1527	A	N1-C2-N3	-5.58	126.51	129.30
6	2	1957	U	C2-N1-C1'	5.58	124.39	117.70
6	2	467	U	C5-C6-N1	5.57	125.49	122.70
6	2	4880	C	C5-C6-N1	5.57	123.79	121.00
10	7	7	TYR	C-N-CA	5.57	135.63	121.70
6	2	1576	G	C8-N9-C4	-5.57	104.17	106.40
6	2	4289	U	C2-N1-C1'	5.57	124.39	117.70
6	2	1330	A	N3-C4-N9	5.57	131.86	127.40
6	2	1974	U	N3-C4-O4	5.57	123.30	119.40
6	2	4137	C	N3-C2-O2	-5.57	118.00	121.90
6	2	4685	U	N3-C2-O2	-5.57	118.30	122.20
6	2	377	A	N1-C2-N3	-5.57	126.52	129.30
6	2	2262	G	C6-C5-N7	-5.57	127.06	130.40
6	2	2787	A	N1-C2-N3	-5.57	126.52	129.30
6	2	4589	A	N1-C2-N3	-5.57	126.52	129.30
8	5	57	C	C5-C6-N1	5.57	123.78	121.00
57	8	41	A	N1-C2-N3	-5.57	126.52	129.30
8	5	76	U	C5-C6-N1	5.57	125.48	122.70
57	8	37	A	N1-C2-N3	-5.57	126.52	129.30
6	2	100	C	O4'-C1'-N1	5.56	112.65	108.20
6	2	4701	A	N1-C2-N3	-5.56	126.52	129.30
6	2	38	A	N1-C2-N3	-5.56	126.52	129.30
6	2	1190	C	N3-C2-O2	-5.56	118.01	121.90
6	2	1838	A	N1-C2-N3	-5.56	126.52	129.30
6	2	2303	C	C6-N1-C2	-5.56	118.08	120.30
6	2	2519	U	O4'-C1'-N1	5.56	112.65	108.20
6	2	3965	A	N1-C2-N3	-5.56	126.52	129.30
6	2	2872	C	C5-C6-N1	5.56	123.78	121.00
6	2	1725	U	N1-C2-O2	5.55	126.69	122.80
6	2	4970	C	C5-C6-N1	5.55	123.78	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4502	C	C6-N1-C1'	-5.55	114.14	120.80
6	2	977	C	C5-C6-N1	5.55	123.77	121.00
6	2	4773	C	N1-C2-O2	5.55	122.23	118.90
52	R	94	LEU	CB-CG-CD1	5.55	120.43	111.00
1	u	203	LEU	CA-CB-CG	5.54	128.05	115.30
6	2	242	U	C2-N1-C1'	5.54	124.35	117.70
6	2	4639	G	N3-C4-C5	-5.54	125.83	128.60
6	2	4386	C	C6-N1-C2	-5.54	118.08	120.30
6	2	4527	G	C4-C5-N7	5.54	113.02	110.80
2	f	407	LEU	CA-CB-CG	5.54	128.04	115.30
57	8	7	U	C5-C4-O4	5.54	129.22	125.90
6	2	4681	A	N1-C2-N3	-5.54	126.53	129.30
57	8	35	C	C5-C6-N1	5.54	123.77	121.00
6	2	662	C	C6-N1-C2	-5.53	118.09	120.30
6	2	1547	A	N1-C2-N3	-5.53	126.53	129.30
6	2	3912	U	N3-C2-O2	-5.53	118.33	122.20
57	8	32	C	C5-C6-N1	5.53	123.77	121.00
6	2	4183	G	N3-C4-C5	-5.53	125.83	128.60
6	2	358	C	C6-N1-C2	-5.53	118.09	120.30
6	2	1793	A	N1-C2-N3	-5.53	126.54	129.30
6	2	4655	A	N1-C2-N3	-5.53	126.54	129.30
6	2	1494	U	N3-C2-O2	-5.53	118.33	122.20
6	2	1535	C	N1-C2-O2	5.52	122.21	118.90
6	2	3772	U	N1-C2-O2	5.52	126.67	122.80
6	2	472	C	C5-C6-N1	5.52	123.76	121.00
6	2	1912	G	C4-N9-C1'	5.52	133.68	126.50
6	2	30	C	N1-C2-O2	5.52	122.21	118.90
6	2	358	C	N1-C2-O2	5.52	122.21	118.90
6	2	406	C	C2'-C3'-O3'	5.52	122.53	113.70
6	2	4342	C	C5-C6-N1	5.52	123.76	121.00
6	2	1858	A	N1-C2-N3	-5.52	126.54	129.30
6	2	3690	U	N3-C2-O2	-5.52	118.34	122.20
8	5	14	C	N1-C2-O2	5.52	122.21	118.90
6	2	294	G	N3-C4-N9	5.52	129.31	126.00
57	8	103	A	C2-N3-C4	5.52	113.36	110.60
6	2	2833	A	N1-C2-N3	-5.51	126.54	129.30
6	2	2885	A	N1-C2-N3	-5.51	126.54	129.30
6	2	921	C	C6-N1-C2	-5.51	118.09	120.30
6	2	2329	U	C6-N1-C2	-5.51	117.69	121.00
6	2	2828	U	N3-C2-O2	-5.51	118.34	122.20
6	2	3749	C	C5-C6-N1	5.51	123.76	121.00
6	2	4303	C	C6-N1-C2	-5.51	118.09	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	328	A	N1-C2-N3	-5.51	126.54	129.30
8	5	78	C	C2-N1-C1'	5.51	124.86	118.80
6	2	2818	C	C6-N1-C2	-5.51	118.10	120.30
8	5	102	U	N1-C2-O2	5.51	126.66	122.80
57	8	13	G	C8-N9-C1'	-5.51	119.84	127.00
6	2	2539	C	N1-C2-O2	5.51	122.20	118.90
6	2	2607	C	C6-N1-C2	-5.51	118.10	120.30
6	2	4413	C	N3-C2-O2	-5.51	118.05	121.90
6	2	334	A	N1-C2-N3	-5.50	126.55	129.30
6	2	88	A	N1-C2-N3	-5.50	126.55	129.30
6	2	985	C	N1-C2-O2	5.50	122.20	118.90
34	a	127	VAL	CG1-CB-CG2	-5.50	102.09	110.90
6	2	336	A	C2-N3-C4	5.50	113.35	110.60
6	2	975	C	C6-N1-C2	-5.50	118.10	120.30
6	2	1241	C	C6-N1-C1'	-5.50	114.20	120.80
6	2	4559	A	N1-C2-N3	-5.50	126.55	129.30
6	2	4488	A	N1-C2-N3	-5.50	126.55	129.30
2	f	364	LEU	CA-CB-CG	5.50	127.94	115.30
6	2	4630	G	N1-C6-O6	-5.50	116.60	119.90
6	2	281	U	C2-N1-C1'	5.50	124.30	117.70
6	2	41	C	C6-N1-C2	-5.49	118.10	120.30
6	2	4767	C	C6-N1-C2	-5.49	118.10	120.30
6	2	1096	C	N1-C2-O2	5.49	122.19	118.90
6	2	4308	C	C6-N1-C2	-5.49	118.10	120.30
8	5	19	C	C6-N1-C2	-5.49	118.10	120.30
8	5	76	U	C2-N1-C1'	5.49	124.29	117.70
6	2	489	C	N3-C2-O2	-5.49	118.06	121.90
6	2	3756	A	N1-C2-N3	-5.49	126.56	129.30
6	2	4471	U	C6-N1-C2	-5.49	117.71	121.00
8	5	78	C	N1-C2-O2	5.49	122.19	118.90
6	2	99	A	N1-C2-N3	-5.49	126.56	129.30
6	2	407	A	N1-C2-N3	-5.49	126.56	129.30
6	2	1809	C	C2-N1-C1'	5.49	124.83	118.80
6	2	86	U	C2-N1-C1'	5.48	124.28	117.70
6	2	4700	A	N1-C2-N3	-5.48	126.56	129.30
8	5	29	C	C6-N1-C2	-5.48	118.11	120.30
6	2	385	A	C2-N3-C4	5.48	113.34	110.60
6	2	1330	A	C5-N7-C8	-5.48	101.16	103.90
6	2	1503	A	N1-C2-N3	-5.48	126.56	129.30
6	2	1809	C	N1-C2-O2	5.48	122.19	118.90
6	2	1880	G	C4-N9-C1'	5.48	133.62	126.50
6	2	1932	A	N1-C2-N3	-5.48	126.56	129.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2500	U	N1-C2-O2	5.48	126.64	122.80
6	2	4466	C	C6-N1-C2	-5.48	118.11	120.30
6	2	4722	G	C4-N9-C1'	5.48	133.62	126.50
8	5	22	A	C2-N3-C4	5.48	113.34	110.60
6	2	3710	G	N3-C4-N9	5.48	129.29	126.00
6	2	4565	C	N1-C2-O2	5.48	122.19	118.90
6	2	113	A	N1-C2-N3	-5.48	126.56	129.30
6	2	2604	C	C6-N1-C2	-5.47	118.11	120.30
6	2	4123	C	C6-N1-C2	-5.47	118.11	120.30
6	2	4362	A	N1-C2-N3	-5.47	126.56	129.30
6	2	1429	C	N1-C2-O2	5.47	122.18	118.90
57	8	62	A	N1-C2-N3	-5.47	126.56	129.30
6	2	198	A	N1-C2-N3	-5.47	126.56	129.30
6	2	4281	A	O4'-C1'-N9	5.47	112.58	108.20
57	8	12	G	N1-C6-O6	-5.47	116.62	119.90
6	2	1556	C	C6-N1-C2	-5.47	118.11	120.30
6	2	4327	C	C6-N1-C2	-5.47	118.11	120.30
6	2	926	G	C8-N9-C1'	-5.47	119.89	127.00
6	2	1821	G	C8-N9-C1'	-5.47	119.89	127.00
6	2	335	A	N1-C2-N3	-5.46	126.57	129.30
6	2	422	C	C5'-C4'-O4'	5.46	115.66	109.10
6	2	3905	A	OP2-P-O3'	5.46	117.22	105.20
6	2	4413	C	C6-N1-C2	-5.46	118.11	120.30
28	U	134	LEU	CA-CB-CG	5.46	127.87	115.30
57	8	141	C	C5-C6-N1	5.46	123.73	121.00
6	2	338	A	N1-C2-N3	-5.46	126.57	129.30
6	2	1687	U	N3-C2-O2	-5.46	118.38	122.20
6	2	2779	C	C2-N1-C1'	5.46	124.81	118.80
6	2	1192	C	N1-C2-O2	5.46	122.18	118.90
6	2	1592	G	C8-N9-C1'	-5.46	119.90	127.00
6	2	2285	A	N1-C2-N3	-5.46	126.57	129.30
6	2	2745	A	N1-C2-N3	-5.46	126.57	129.30
6	2	4262	C	C6-N1-C2	-5.46	118.12	120.30
6	2	4669	A	N1-C2-N3	-5.46	126.57	129.30
6	2	385	A	C5-C6-N1	5.46	120.43	117.70
6	2	1267	C	N1-C2-O2	5.46	122.18	118.90
6	2	1726	U	C5-C6-N1	5.46	125.43	122.70
6	2	2674	A	N1-C2-N3	-5.46	126.57	129.30
6	2	686	A	N1-C2-N3	-5.46	126.57	129.30
6	2	1074	G	C4-N9-C1'	5.46	133.59	126.50
6	2	3930	U	N3-C2-O2	-5.46	118.38	122.20
6	2	4446	U	O5'-P-OP1	-5.46	100.79	105.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2368	A	N1-C2-N3	-5.45	126.57	129.30
6	2	2600	A	N1-C2-N3	-5.45	126.57	129.30
6	2	47	A	N1-C2-N3	-5.45	126.58	129.30
6	2	324	A	N1-C2-N3	-5.45	126.58	129.30
6	2	4043	G	C4-N9-C1'	5.45	133.59	126.50
6	2	4921	C	N1-C2-O2	5.45	122.17	118.90
6	2	2389	A	N1-C2-N3	-5.45	126.58	129.30
6	2	2843	U	O5'-P-OP1	-5.45	100.80	105.70
6	2	297	U	N1-C2-O2	5.45	126.61	122.80
6	2	1692	C	C2-N1-C1'	5.45	124.79	118.80
6	2	1875	C	C6-N1-C2	-5.45	118.12	120.30
6	2	345	C	C5-C6-N1	5.45	123.72	121.00
6	2	402	A	N1-C2-N3	-5.45	126.58	129.30
6	2	4490	C	C6-N1-C2	-5.45	118.12	120.30
6	2	1848	C	C6-N1-C2	-5.44	118.12	120.30
6	2	2373	C	C5-C6-N1	5.44	123.72	121.00
6	2	988	C	C6-N1-C2	-5.44	118.12	120.30
6	2	4928	C	C6-N1-C1'	-5.44	114.28	120.80
6	2	4716	C	C5-C6-N1	5.43	123.72	121.00
6	2	4664	A	N1-C2-N3	-5.43	126.58	129.30
8	5	80	U	N1-C2-O2	5.43	126.60	122.80
57	8	3	A	N1-C2-N3	-5.43	126.58	129.30
57	8	96	C	N3-C2-O2	-5.43	118.10	121.90
6	2	1583	A	N1-C2-N3	-5.43	126.58	129.30
6	2	4561	C	C2-N1-C1'	5.43	124.77	118.80
6	2	173	C	N1-C2-O2	5.43	122.16	118.90
6	2	3949	A	N1-C2-N3	-5.43	126.59	129.30
6	2	108	A	N1-C2-N3	-5.42	126.59	129.30
6	2	3712	A	C8-N9-C1'	-5.42	117.94	127.70
6	2	4914	C	C6-N1-C2	-5.42	118.13	120.30
60	w	63	PHE	CB-CG-CD1	5.42	124.60	120.80
6	2	87	A	N1-C2-N3	-5.42	126.59	129.30
6	2	1541	C	C5-C6-N1	5.42	123.71	121.00
6	2	30	C	N3-C2-O2	-5.42	118.11	121.90
6	2	1602	U	N3-C2-O2	-5.42	118.40	122.20
6	2	4913	G	OP2-P-O3'	5.42	117.13	105.20
8	5	77	A	N1-C2-N3	-5.42	126.59	129.30
6	2	906	C	C6-N1-C2	-5.42	118.13	120.30
6	2	420	A	O5'-P-OP2	5.42	117.20	110.70
6	2	1176	C	C5-C6-N1	5.42	123.71	121.00
6	2	1511	U	C6-N1-C2	-5.42	117.75	121.00
6	2	2404	A	C2-N3-C4	5.42	113.31	110.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2835	A	N1-C2-N3	-5.42	126.59	129.30
6	2	4958	C	N1-C2-O2	5.42	122.15	118.90
57	8	6	C	N3-C4-N4	-5.42	114.21	118.00
6	2	435	A	N1-C2-N3	-5.42	126.59	129.30
6	2	131	C	C6-N1-C2	-5.41	118.14	120.30
6	2	2772	C	N3-C2-O2	-5.41	118.11	121.90
6	2	4383	U	N3-C2-O2	-5.41	118.41	122.20
6	2	2033	A	N1-C2-N3	-5.41	126.59	129.30
6	2	3680	U	C5-C6-N1	5.41	125.41	122.70
6	2	1298	C	C6-N1-C2	-5.41	118.14	120.30
6	2	2048	U	N1-C2-O2	5.41	126.59	122.80
6	2	4972	U	C2-N1-C1'	5.41	124.19	117.70
8	5	115	A	N1-C2-N3	-5.41	126.59	129.30
6	2	1293	G	N3-C4-N9	5.41	129.25	126.00
6	2	1354	A	N1-C2-N3	-5.41	126.60	129.30
6	2	3675	G	N1-C6-O6	-5.41	116.66	119.90
6	2	4074	C	C2-N1-C1'	5.41	124.75	118.80
6	2	4123	C	C5-C6-N1	5.41	123.70	121.00
6	2	5050	C	N3-C2-O2	-5.41	118.11	121.90
6	2	4522	G	N3-C4-N9	5.41	129.24	126.00
6	2	1309	C	C6-N1-C2	-5.41	118.14	120.30
6	2	2603	C	C6-N1-C2	-5.41	118.14	120.30
6	2	2653	C	C6-N1-C2	-5.41	118.14	120.30
6	2	3636	C	N1-C2-O2	5.41	122.14	118.90
6	2	112	C	N3-C2-O2	-5.40	118.12	121.90
6	2	2410	C	N3-C2-O2	-5.40	118.12	121.90
6	2	4100	C	C6-N1-C2	-5.40	118.14	120.30
6	2	4699	U	OP1-P-O3'	5.40	117.09	105.20
6	2	977	C	N3-C2-O2	-5.40	118.12	121.90
6	2	2813	A	N1-C2-N3	-5.40	126.60	129.30
6	2	3847	C	C6-N1-C2	-5.40	118.14	120.30
7	4	21	LEU	CA-CB-CG	5.40	127.72	115.30
6	2	1643	A	N1-C2-N3	-5.40	126.60	129.30
6	2	2078	C	C5-C6-N1	5.40	123.70	121.00
6	2	3924	C	C6-N1-C2	-5.40	118.14	120.30
6	2	122	U	N1-C2-O2	5.39	126.58	122.80
6	2	3621	A	N1-C2-N3	-5.39	126.60	129.30
6	2	679	C	C6-N1-C2	-5.39	118.14	120.30
6	2	1848	C	C5-C6-N1	5.39	123.70	121.00
57	8	5	U	N3-C2-O2	-5.39	118.42	122.20
6	2	941	C	C2-N1-C1'	5.39	124.73	118.80
6	2	1579	C	N1-C2-O2	5.39	122.13	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4628	U	N3-C2-O2	-5.39	118.43	122.20
6	2	925	C	C6-N1-C1'	5.39	127.27	120.80
6	2	2744	A	N1-C2-N3	-5.39	126.61	129.30
53	J	114	GLU	N-CA-CB	5.39	120.30	110.60
6	2	2486	G	N3-C4-N9	5.39	129.23	126.00
6	2	3739	C	C5-C6-N1	5.39	123.69	121.00
6	2	3831	U	C5-C6-N1	5.39	125.39	122.70
6	2	4479	A	N1-C2-N3	-5.39	126.61	129.30
8	5	79	U	N3-C2-O2	-5.39	118.43	122.20
6	2	449	C	N1-C2-O2	5.38	122.13	118.90
6	2	1331	C	C6-N1-C1'	-5.38	114.34	120.80
6	2	2598	A	C2-N3-C4	5.38	113.29	110.60
6	2	3928	A	N1-C2-N3	-5.38	126.61	129.30
6	2	4445	U	P-O3'-C3'	5.38	126.16	119.70
6	2	4928	C	C6-N1-C2	-5.38	118.15	120.30
6	2	1993	C	C6-N1-C2	-5.38	118.15	120.30
6	2	167	C	C6-N1-C2	-5.38	118.15	120.30
6	2	201	C	N3-C2-O2	-5.38	118.13	121.90
6	2	395	A	N1-C2-N3	-5.38	126.61	129.30
6	2	423	G	N9-C4-C5	-5.38	103.25	105.40
6	2	2817	C	C5-C6-N1	5.38	123.69	121.00
6	2	4302	U	N1-C2-O2	5.37	126.56	122.80
37	d	66	SER	C-N-CA	5.37	135.13	121.70
6	2	86	U	N1-C2-O2	5.37	126.56	122.80
6	2	296	A	N1-C2-N3	-5.37	126.61	129.30
6	2	2027	U	O4'-C1'-N1	5.37	112.50	108.20
6	2	2825	A	N1-C2-N3	-5.37	126.61	129.30
6	2	2881	A	N1-C2-N3	-5.37	126.61	129.30
6	2	61	A	N1-C2-N3	-5.37	126.62	129.30
6	2	317	A	N1-C2-N3	-5.37	126.62	129.30
6	2	306	A	N1-C2-N3	-5.37	126.62	129.30
6	2	4506	C	N1-C2-O2	5.37	122.12	118.90
6	2	1305	C	C2-N3-C4	5.37	122.58	119.90
6	2	1368	A	N1-C2-N3	-5.37	126.62	129.30
6	2	3870	C	N1-C2-O2	5.37	122.12	118.90
6	2	4426	C	C6-N1-C2	-5.37	118.15	120.30
6	2	386	A	N1-C2-N3	-5.36	126.62	129.30
6	2	750	U	N3-C2-O2	-5.36	118.44	122.20
6	2	3652	A	N1-C2-N3	-5.36	126.62	129.30
6	2	3892	U	N1-C2-O2	5.36	126.56	122.80
6	2	1509	C	C6-N1-C2	-5.36	118.16	120.30
6	2	1856	C	OP1-P-OP2	-5.36	111.56	119.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	5007	A	N1-C2-N3	-5.36	126.62	129.30
8	5	79	U	N1-C2-O2	5.36	126.55	122.80
6	2	2379	A	N1-C2-N3	-5.36	126.62	129.30
6	2	1074	G	N3-C4-N9	5.36	129.21	126.00
48	p	221	LYS	C-N-CA	5.36	135.09	121.70
6	2	309	C	C6-N1-C2	-5.36	118.16	120.30
6	2	350	C	C6-N1-C2	-5.35	118.16	120.30
6	2	1267	C	N3-C2-O2	-5.35	118.15	121.90
6	2	1854	G	C8-N9-C4	-5.35	104.26	106.40
6	2	2328	G	C4-C5-N7	5.35	112.94	110.80
6	2	4934	A	N1-C2-N3	-5.35	126.62	129.30
6	2	1915	C	C2-N1-C1'	5.35	124.69	118.80
6	2	2837	U	C6-N1-C2	-5.35	117.79	121.00
6	2	2840	A	N1-C2-N3	-5.35	126.62	129.30
6	2	655	C	C5-C6-N1	5.35	123.67	121.00
6	2	2901	G	C8-N9-C1'	-5.35	120.05	127.00
6	2	3650	C	C5-C6-N1	5.35	123.67	121.00
6	2	4714	C	C6-N1-C2	-5.35	118.16	120.30
6	2	71	C	C6-N1-C1'	5.35	127.22	120.80
6	2	125	C	C6-N1-C2	-5.35	118.16	120.30
6	2	4088	C	C5-C6-N1	5.35	123.67	121.00
6	2	141	C	N1-C2-O2	5.35	122.11	118.90
6	2	1638	A	N1-C2-N3	-5.35	126.63	129.30
6	2	2362	U	C5-C6-N1	5.35	125.37	122.70
6	2	3853	U	C2-N1-C1'	5.35	124.11	117.70
6	2	2583	C	C6-N1-C2	-5.34	118.16	120.30
6	2	123	C	C6-N1-C2	-5.34	118.16	120.30
6	2	4865	C	C6-N1-C2	-5.34	118.16	120.30
6	2	1500	A	N1-C2-N3	-5.34	126.63	129.30
6	2	2817	C	C6-N1-C2	-5.34	118.16	120.30
6	2	3700	C	N3-C2-O2	-5.34	118.16	121.90
6	2	5036	C	C6-N1-C2	-5.34	118.17	120.30
6	2	4469	U	N1-C2-O2	5.34	126.54	122.80
57	8	45	C	C6-N1-C2	-5.34	118.17	120.30
6	2	50	C	C5-C6-N1	5.34	123.67	121.00
6	2	753	C	C6-N1-C1'	-5.34	114.40	120.80
6	2	1350	C	C2-N1-C1'	5.34	124.67	118.80
6	2	1401	C	N3-C2-O2	-5.34	118.17	121.90
6	2	2354	G	C2-N3-C4	5.34	114.57	111.90
6	2	4687	A	N1-C2-N3	-5.34	126.63	129.30
6	2	2371	U	C6-N1-C2	-5.33	117.80	121.00
8	5	94	C	N3-C2-O2	-5.33	118.17	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2517	A	N1-C2-N3	-5.33	126.63	129.30
6	2	3769	C	N3-C2-O2	-5.33	118.17	121.90
6	2	18	C	N3-C2-O2	-5.33	118.17	121.90
6	2	1188	C	C6-N1-C2	-5.33	118.17	120.30
6	2	1521	C	N1-C2-O2	5.33	122.10	118.90
6	2	4525	C	C6-N1-C2	-5.33	118.17	120.30
6	2	1254	A	C2-N3-C4	5.33	113.27	110.60
6	2	4487	A	N1-C2-N3	-5.33	126.64	129.30
6	2	4600	G	C8-N9-C1'	5.33	133.93	127.00
6	2	2865	U	N3-C2-O2	-5.33	118.47	122.20
57	8	137	A	N1-C2-N3	-5.33	126.64	129.30
57	8	9	A	N3-C4-C5	-5.33	123.07	126.80
6	2	1801	A	C2-N3-C4	5.33	113.26	110.60
6	2	1967	A	N1-C2-N3	-5.33	126.64	129.30
57	8	17	A	N1-C2-N3	-5.33	126.64	129.30
57	8	83	C	C4-C5-C6	-5.33	114.74	117.40
6	2	115	C	O4'-C1'-N1	5.32	112.46	108.20
6	2	2260	C	C6-N1-C2	-5.32	118.17	120.30
6	2	2426	U	N1-C2-O2	5.32	126.53	122.80
6	2	2349	A	N1-C2-N3	-5.32	126.64	129.30
6	2	466	A	C2-N3-C4	5.32	113.26	110.60
6	2	1305	C	C5-C4-N4	-5.32	116.47	120.20
6	2	4254	G	C4-N9-C1'	5.32	133.41	126.50
6	2	3767	C	C5-C6-N1	5.32	123.66	121.00
6	2	4748	U	N1-C2-O2	5.32	126.52	122.80
6	2	4938	A	N1-C2-N3	-5.32	126.64	129.30
57	8	50	C	C6-N1-C2	-5.32	118.17	120.30
6	2	3844	U	C5-C6-N1	5.31	125.36	122.70
6	2	4532	U	C6-N1-C2	-5.31	117.81	121.00
6	2	4945	G	C4-C5-N7	5.31	112.92	110.80
32	Y	108	ASP	CB-CG-OD1	5.31	123.08	118.30
6	2	2354	G	C6-C5-N7	-5.31	127.21	130.40
6	2	1580	C	C5-C6-N1	5.31	123.65	121.00
6	2	1687	U	N1-C2-O2	5.31	126.52	122.80
6	2	1692	C	N3-C2-O2	-5.31	118.19	121.90
6	2	1978	C	C2-N1-C1'	5.31	124.64	118.80
6	2	4503	A	N1-C2-N3	-5.31	126.65	129.30
6	2	4722	G	N3-C4-C5	-5.31	125.95	128.60
6	2	709	C	C6-N1-C2	-5.31	118.18	120.30
6	2	1577	G	C2-N3-C4	5.30	114.55	111.90
6	2	2384	U	N3-C2-O2	-5.30	118.49	122.20
6	2	3636	C	C2-N1-C1'	5.30	124.63	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4429	C	N1-C2-O2	5.30	122.08	118.90
6	2	1875	C	C5-C6-N1	5.30	123.65	121.00
57	8	65	A	N1-C2-N3	-5.30	126.65	129.30
6	2	180	C	C6-N1-C2	-5.30	118.18	120.30
6	2	329	A	N1-C2-N3	-5.30	126.65	129.30
6	2	4615	C	C6-N1-C2	-5.30	118.18	120.30
6	2	2560	C	C6-N1-C2	-5.30	118.18	120.30
6	2	2666	U	N3-C2-O2	-5.30	118.49	122.20
6	2	2667	C	N3-C2-O2	-5.30	118.19	121.90
6	2	4308	C	N3-C2-O2	-5.30	118.19	121.90
6	2	4365	C	N3-C2-O2	-5.30	118.19	121.90
6	2	4907	G	N3-C4-N9	5.30	129.18	126.00
6	2	303	C	C5-C6-N1	5.30	123.65	121.00
6	2	2729	C	C2-N1-C1'	5.30	124.63	118.80
6	2	371	A	N1-C2-N3	-5.30	126.65	129.30
6	2	358	C	N3-C2-O2	-5.29	118.19	121.90
6	2	4054	C	N1-C2-O2	5.29	122.08	118.90
6	2	1367	C	N1-C2-O2	5.29	122.08	118.90
6	2	110	C	C6-N1-C2	-5.29	118.18	120.30
6	2	300	A	C2-N3-C4	5.29	113.25	110.60
6	2	320	C	C6-N1-C2	-5.29	118.18	120.30
6	2	694	C	N1-C2-O2	5.29	122.08	118.90
6	2	1535	C	C5-C6-N1	5.29	123.64	121.00
6	2	2018	C	N3-C2-O2	-5.29	118.20	121.90
6	2	2708	U	N3-C2-O2	-5.29	118.50	122.20
6	2	4533	A	N1-C2-N3	-5.29	126.66	129.30
57	8	3	A	C2-N3-C4	5.29	113.24	110.60
6	2	2601	A	N1-C2-N3	-5.29	126.66	129.30
6	2	290	U	N3-C2-O2	-5.29	118.50	122.20
8	5	4	U	N1-C2-O2	5.29	126.50	122.80
6	2	1334	A	N1-C2-N3	-5.28	126.66	129.30
6	2	1822	U	C6-N1-C2	-5.28	117.83	121.00
6	2	2629	C	N3-C2-O2	-5.28	118.20	121.90
6	2	1592	G	N3-C4-N9	5.28	129.17	126.00
6	2	3890	A	N1-C2-N3	-5.28	126.66	129.30
6	2	4714	C	N3-C2-O2	-5.28	118.20	121.90
6	2	4878	C	C5-C6-N1	5.28	123.64	121.00
57	8	71	A	C4-C5-C6	-5.28	114.36	117.00
6	2	1330	A	C2-N3-C4	5.28	113.24	110.60
6	2	2351	C	N3-C2-O2	-5.28	118.20	121.90
6	2	3727	A	N1-C2-N3	-5.28	126.66	129.30
47	o	99	ASP	CB-CG-OD1	5.28	123.05	118.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1731	C	N3-C2-O2	-5.28	118.21	121.90
6	2	2263	A	N1-C2-N3	-5.28	126.66	129.30
6	2	2882	A	N1-C2-N3	-5.28	126.66	129.30
6	2	3863	C	C5-C6-N1	5.28	123.64	121.00
6	2	3972	A	C2-N3-C4	5.28	113.24	110.60
11	9	4	SER	C-N-CA	5.27	134.89	121.70
6	2	84	A	N1-C2-N3	-5.27	126.66	129.30
6	2	657	C	C6-N1-C2	-5.27	118.19	120.30
6	2	2901	G	C6-C5-N7	-5.27	127.24	130.40
6	2	4050	A	C2-N3-C4	5.27	113.24	110.60
6	2	1450	C	C6-N1-C2	-5.27	118.19	120.30
6	2	2349	A	C4-C5-C6	-5.27	114.36	117.00
6	2	3919	C	N1-C2-O2	5.27	122.06	118.90
6	2	4603	C	C6-N1-C2	-5.27	118.19	120.30
6	2	4215	C	C5-C6-N1	5.27	123.63	121.00
6	2	173	C	N3-C2-O2	-5.27	118.21	121.90
6	2	355	A	N1-C2-N3	-5.27	126.67	129.30
6	2	426	A	N1-C6-N6	5.27	121.76	118.60
6	2	4172	A	N1-C2-N3	-5.27	126.67	129.30
44	1	56	ASP	CB-CG-OD1	5.27	123.04	118.30
6	2	2890	C	C5-C6-N1	5.27	123.63	121.00
6	2	2551	A	N1-C2-N3	-5.26	126.67	129.30
6	2	4062	A	N1-C2-N3	-5.26	126.67	129.30
6	2	4314	C	C5-C6-N1	5.26	123.63	121.00
6	2	4476	C	C6-N1-C1'	-5.26	114.48	120.80
6	2	1884	C	N1-C2-O2	5.26	122.06	118.90
6	2	2260	C	C6-N1-C1'	-5.26	114.48	120.80
6	2	3712	A	N1-C2-N3	-5.26	126.67	129.30
6	2	3724	A	N1-C2-N3	-5.26	126.67	129.30
6	2	4513	A	N1-C2-N3	-5.26	126.67	129.30
8	5	100	A	N1-C2-N3	-5.26	126.67	129.30
6	2	2581	A	N1-C2-N3	-5.26	126.67	129.30
6	2	1367	C	C6-N1-C2	-5.26	118.20	120.30
6	2	2382	A	N1-C2-N3	-5.26	126.67	129.30
19	I	171	ASP	CB-CG-OD2	5.26	123.03	118.30
6	2	1856	C	C2-N1-C1'	5.26	124.58	118.80
6	2	1585	C	C5-C6-N1	5.26	123.63	121.00
6	2	2417	A	C2-N3-C4	5.26	113.23	110.60
6	2	4317	A	N1-C2-N3	-5.26	126.67	129.30
6	2	4522	G	C8-N9-C1'	-5.26	120.17	127.00
6	2	709	C	N1-C2-O2	5.25	122.05	118.90
6	2	4077	A	N1-C2-N3	-5.25	126.67	129.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4088	C	C6-N1-C2	-5.25	118.20	120.30
6	2	4345	C	N1-C2-O2	5.25	122.05	118.90
6	2	2418	A	N1-C2-N3	-5.25	126.67	129.30
6	2	4762	A	N1-C2-N3	-5.25	126.67	129.30
57	8	43	A	N1-C2-N3	-5.25	126.67	129.30
6	2	79	C	C6-N1-C2	-5.25	118.20	120.30
6	2	1850	A	N1-C2-N3	-5.25	126.67	129.30
57	8	91	A	N1-C2-N3	-5.25	126.67	129.30
6	2	1279	A	N1-C2-N3	-5.25	126.68	129.30
57	8	18	U	N3-C2-O2	-5.25	118.53	122.20
6	2	2746	A	N1-C2-N3	-5.25	126.68	129.30
6	2	3714	G	C4-N9-C1'	5.25	133.32	126.50
51	A	432	LEU	CA-CB-CG	5.25	127.37	115.30
57	8	7	U	N3-C4-C5	-5.25	111.45	114.60
6	2	1941	A	N1-C2-N3	-5.25	126.68	129.30
6	2	4664	A	C2-N3-C4	5.25	113.22	110.60
6	2	4683	U	N3-C2-O2	-5.25	118.53	122.20
8	5	14	C	C2-N1-C1'	5.25	124.57	118.80
6	2	396	A	N1-C2-N3	-5.24	126.68	129.30
6	2	1078	A	N1-C2-N3	-5.24	126.68	129.30
6	2	2470	C	OP2-P-O3'	5.24	116.73	105.20
57	8	84	A	N1-C2-N3	-5.24	126.68	129.30
6	2	337	U	N1-C2-O2	5.24	126.47	122.80
6	2	4302	U	N3-C2-O2	-5.24	118.53	122.20
6	2	4695	C	N3-C2-O2	-5.24	118.23	121.90
6	2	4748	U	N3-C2-O2	-5.24	118.53	122.20
6	2	3905	A	N1-C2-N3	-5.24	126.68	129.30
6	2	53	C	C6-N1-C2	-5.24	118.20	120.30
6	2	4477	A	C2-N3-C4	5.24	113.22	110.60
6	2	4981	G	C4-N9-C1'	5.24	133.31	126.50
6	2	2486	G	OP1-P-O3'	5.24	116.72	105.20
6	2	2755	A	N1-C2-N3	-5.24	126.68	129.30
6	2	4707	A	N1-C2-N3	-5.24	126.68	129.30
6	2	2036	C	C6-N1-C2	-5.23	118.21	120.30
6	2	4682	U	C5-C6-N1	5.23	125.32	122.70
7	4	527	LEU	CA-CB-CG	5.23	127.34	115.30
6	2	2327	G	N3-C2-N2	5.23	123.56	119.90
49	r	211	LEU	CA-CB-CG	5.23	127.33	115.30
6	2	295	A	N1-C2-N3	-5.23	126.68	129.30
6	2	149	A	N1-C2-N3	-5.23	126.69	129.30
6	2	2008	U	C6-N1-C1'	-5.22	113.89	121.20
6	2	4480	A	N1-C2-N3	-5.22	126.69	129.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2460	A	N1-C2-N3	-5.22	126.69	129.30
6	2	2858	A	N1-C2-N3	-5.22	126.69	129.30
6	2	4522	G	C8-N9-C4	-5.22	104.31	106.40
8	5	68	C	C6-N1-C2	-5.22	118.21	120.30
6	2	78	U	N1-C2-O2	5.22	126.45	122.80
6	2	165	A	N1-C2-N3	-5.22	126.69	129.30
6	2	1080	C	C5-C6-N1	5.22	123.61	121.00
6	2	2695	A	N1-C2-N3	-5.22	126.69	129.30
6	2	3745	U	N3-C2-O2	-5.22	118.55	122.20
6	2	4406	U	N1-C2-O2	5.22	126.45	122.80
6	2	4286	C	C2-N1-C1'	5.21	124.54	118.80
6	2	4612	C	C6-N1-C2	-5.21	118.21	120.30
8	5	74	A	N1-C2-N3	-5.21	126.69	129.30
57	8	101	C	N3-C2-O2	-5.21	118.25	121.90
6	2	388	A	N1-C2-N3	-5.21	126.69	129.30
6	2	180	C	C5-C6-N1	5.21	123.61	121.00
6	2	688	U	N1-C2-O2	5.21	126.45	122.80
34	a	139	MET	CA-CB-CG	5.21	122.16	113.30
6	2	1398	A	N1-C2-N3	-5.21	126.70	129.30
6	2	56	A	C4-C5-C6	-5.21	114.40	117.00
6	2	935	A	N1-C2-N3	-5.21	126.70	129.30
6	2	1692	C	N1-C2-O2	5.21	122.02	118.90
6	2	2697	A	N1-C2-N3	-5.21	126.70	129.30
6	2	3906	A	N1-C2-N3	-5.21	126.70	129.30
6	2	2375	A	N1-C2-N3	-5.21	126.70	129.30
6	2	1735	U	N3-C2-O2	-5.20	118.56	122.20
6	2	2033	A	OP1-P-O3'	5.20	116.65	105.20
6	2	504	G	C4-N9-C1'	5.20	133.26	126.50
6	2	1607	C	C2-N1-C1'	5.20	124.52	118.80
6	2	128	C	C6-N1-C2	-5.20	118.22	120.30
6	2	2417	A	O4'-C1'-N9	5.20	112.36	108.20
6	2	2615	C	C6-N1-C2	-5.20	118.22	120.30
6	2	1673	U	N3-C2-O2	-5.20	118.56	122.20
6	2	1893	C	C6-N1-C2	-5.20	118.22	120.30
6	2	4656	A	N1-C2-N3	-5.20	126.70	129.30
6	2	4911	A	N1-C2-N3	-5.20	126.70	129.30
6	2	4590	A	N1-C2-N3	-5.20	126.70	129.30
6	2	1401	C	C5-C6-N1	5.20	123.60	121.00
6	2	1478	C	C6-N1-C2	-5.20	118.22	120.30
6	2	1921	C	C2-N3-C4	5.20	122.50	119.90
6	2	4621	C	C6-N1-C2	-5.20	118.22	120.30
6	2	41	C	C5-C6-N1	5.19	123.60	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1987	C	C6-N1-C2	-5.19	118.22	120.30
6	2	2397	G	O4'-C1'-N9	5.19	112.35	108.20
6	2	2836	A	C2-N3-C4	5.19	113.20	110.60
6	2	4123	C	C2-N1-C1'	5.19	124.51	118.80
6	2	100	C	C5-C6-N1	5.19	123.59	121.00
6	2	1520	C	C6-N1-C2	-5.19	118.22	120.30
6	2	2332	A	N1-C2-N3	-5.19	126.71	129.30
6	2	4456	C	C6-N1-C2	-5.19	118.22	120.30
6	2	274	C	C2-N1-C1'	5.19	124.51	118.80
6	2	350	C	C2-N1-C1'	5.19	124.51	118.80
6	2	1558	A	N1-C2-N3	-5.19	126.71	129.30
6	2	2059	C	C5-C6-N1	5.19	123.59	121.00
57	8	13	G	N1-C2-N2	-5.19	111.53	116.20
6	2	4984	C	C6-N1-C2	-5.19	118.22	120.30
6	2	368	C	C5-C6-N1	5.18	123.59	121.00
6	2	654	C	N1-C2-O2	5.18	122.01	118.90
6	2	689	U	N3-C2-O2	-5.18	118.57	122.20
6	2	1332	C	O4'-C1'-N1	5.18	112.35	108.20
6	2	2277	C	N3-C2-O2	-5.18	118.27	121.90
6	2	2821	U	N1-C2-O2	5.18	126.43	122.80
57	8	104	A	N1-C2-N3	-5.18	126.71	129.30
6	2	2770	C	C6-N1-C2	-5.18	118.23	120.30
6	2	4977	A	N1-C2-N3	-5.18	126.71	129.30
6	2	1592	G	N3-C4-C5	-5.18	126.01	128.60
6	2	89	C	N1-C2-O2	5.18	122.01	118.90
6	2	2073	C	C5-C6-N1	5.18	123.59	121.00
6	2	4738	C	C6-N1-C2	-5.18	118.23	120.30
6	2	2409	U	N3-C2-O2	-5.18	118.58	122.20
6	2	3728	A	N1-C2-N3	-5.18	126.71	129.30
6	2	1085	C	C6-N1-C2	-5.17	118.23	120.30
6	2	1305	C	N3-C4-N4	5.17	121.62	118.00
6	2	1832	C	N3-C2-O2	-5.17	118.28	121.90
6	2	2362	U	C6-N1-C2	-5.17	117.90	121.00
6	2	2582	A	N1-C2-N3	-5.17	126.71	129.30
6	2	410	A	N1-C2-N3	-5.17	126.71	129.30
6	2	433	A	N1-C2-N3	-5.17	126.72	129.30
6	2	4346	U	N1-C2-O2	5.17	126.42	122.80
6	2	2069	A	N1-C2-N3	-5.17	126.72	129.30
6	2	4506	C	C6-N1-C2	-5.17	118.23	120.30
6	2	4123	C	N3-C2-O2	-5.17	118.28	121.90
6	2	1388	A	N1-C2-N3	-5.17	126.72	129.30
6	2	1936	C	N1-C2-O2	5.17	122.00	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2002	A	N1-C2-N3	-5.17	126.72	129.30
6	2	2392	C	N1-C2-O2	5.17	122.00	118.90
6	2	672	C	N3-C2-O2	-5.16	118.29	121.90
6	2	1191	C	C5-C6-N1	5.16	123.58	121.00
6	2	4365	C	C5-C6-N1	5.16	123.58	121.00
6	2	717	U	N3-C2-O2	-5.16	118.59	122.20
6	2	1459	A	N1-C2-N3	-5.16	126.72	129.30
6	2	1701	A	N1-C2-N3	-5.16	126.72	129.30
6	2	1894	C	C5-C6-N1	5.16	123.58	121.00
6	2	4895	C	N3-C2-O2	-5.16	118.29	121.90
6	2	4980	C	C5-C6-N1	5.16	123.58	121.00
6	2	376	A	N1-C2-N3	-5.16	126.72	129.30
6	2	1729	A	C2-N3-C4	5.16	113.18	110.60
6	2	1478	C	N1-C2-O2	5.16	121.99	118.90
57	8	97	A	N1-C2-N3	-5.16	126.72	129.30
6	2	201	C	C2-N1-C1'	5.16	124.47	118.80
6	2	1467	C	N3-C2-O2	-5.15	118.29	121.90
6	2	1963	C	C2-N1-C1'	5.15	124.47	118.80
6	2	3749	C	C6-N1-C2	-5.15	118.24	120.30
6	2	4923	C	N3-C2-O2	-5.15	118.29	121.90
6	2	242	U	C6-N1-C2	-5.15	117.91	121.00
6	2	349	A	N1-C2-N3	-5.15	126.72	129.30
6	2	1947	U	C2-N1-C1'	5.15	123.88	117.70
6	2	2423	A	N1-C2-N3	-5.15	126.72	129.30
6	2	2713	C	C6-N1-C2	-5.15	118.24	120.30
6	2	3854	C	C6-N1-C2	-5.15	118.24	120.30
6	2	4683	U	N1-C2-O2	5.15	126.41	122.80
6	2	1315	C	N1-C2-O2	5.15	121.99	118.90
6	2	1323	A	N1-C2-N3	-5.15	126.72	129.30
6	2	3647	A	N1-C2-N3	-5.15	126.72	129.30
6	2	1923	A	N1-C2-N3	-5.15	126.73	129.30
6	2	4639	G	C8-N9-C1'	-5.15	120.31	127.00
6	2	2839	U	C5-C6-N1	5.15	125.27	122.70
6	2	1949	U	C5-C6-N1	5.14	125.27	122.70
13	C	96	LEU	CB-CG-CD1	5.14	119.75	111.00
6	2	2431	A	C2-N3-C4	5.14	113.17	110.60
6	2	1628	C	C5-C6-N1	5.14	123.57	121.00
6	2	2338	C	C5-C6-N1	5.14	123.57	121.00
6	2	4510	A	N1-C2-N3	-5.14	126.73	129.30
6	2	2077	C	C6-N1-C2	-5.14	118.25	120.30
6	2	2370	A	N1-C2-N3	-5.14	126.73	129.30
6	2	4958	C	N3-C2-O2	-5.14	118.30	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	3631	U	N1-C2-O2	5.14	126.39	122.80
6	2	4648	A	N1-C2-N3	-5.14	126.73	129.30
47	o	62	MET	CB-CG-SD	-5.14	96.99	112.40
6	2	2329	U	C2-N1-C1'	5.13	123.86	117.70
6	2	3638	G	N3-C4-C5	-5.13	126.03	128.60
6	2	3710	G	C4-N9-C1'	5.13	133.18	126.50
6	2	4615	C	N1-C2-O2	5.13	121.98	118.90
6	2	2043	A	N1-C2-N3	-5.13	126.73	129.30
6	2	926	G	N3-C4-C5	-5.13	126.03	128.60
6	2	1932	A	C2-N3-C4	5.13	113.17	110.60
6	2	3861	A	N1-C2-N3	-5.13	126.73	129.30
8	5	2	U	N1-C2-O2	5.13	126.39	122.80
8	5	67	C	C6-N1-C2	-5.13	118.25	120.30
49	r	235	MET	CA-CB-CG	5.13	122.02	113.30
6	2	4728	U	N3-C2-O2	-5.13	118.61	122.20
45	m	55	GLY	C-N-CA	5.13	134.52	121.70
57	8	140	C	C6-N1-C2	-5.13	118.25	120.30
6	2	2453	A	N1-C2-N3	-5.13	126.74	129.30
6	2	2458	C	N1-C2-O2	5.13	121.98	118.90
6	2	4227	U	N3-C2-O2	-5.13	118.61	122.20
6	2	4310	A	N1-C2-N3	-5.13	126.74	129.30
6	2	2856	C	C5-C6-N1	5.12	123.56	121.00
6	2	4980	C	N1-C2-O2	5.12	121.97	118.90
6	2	2451	A	N1-C2-N3	-5.12	126.74	129.30
6	2	2850	A	C4-N9-C1'	5.12	135.52	126.30
6	2	4484	A	N1-C2-N3	-5.12	126.74	129.30
6	2	1293	G	N3-C4-C5	-5.12	126.04	128.60
6	2	1988	G	N3-C4-N9	5.12	129.07	126.00
6	2	4503	A	C2-N3-C4	5.12	113.16	110.60
6	2	168	C	C6-N1-C2	-5.12	118.25	120.30
6	2	1929	A	N3-C4-C5	-5.12	123.22	126.80
6	2	2304	U	C2-N1-C1'	5.12	123.84	117.70
6	2	4738	C	N1-C2-O2	5.12	121.97	118.90
6	2	724	C	C6-N1-C2	-5.12	118.25	120.30
6	2	4926	C	O4'-C1'-N1	5.12	112.29	108.20
6	2	1694	C	C6-N1-C2	-5.12	118.25	120.30
6	2	1944	A	N1-C2-N3	-5.12	126.74	129.30
6	2	2731	C	C6-N1-C2	-5.12	118.25	120.30
6	2	4544	A	N1-C2-N3	-5.12	126.74	129.30
57	8	92	U	N1-C2-O2	5.12	126.38	122.80
6	2	1417	C	N3-C2-O2	-5.11	118.32	121.90
6	2	1632	A	C8-N9-C1'	-5.11	118.50	127.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2447	U	N1-C2-O2	5.11	126.38	122.80
6	2	3648	A	N1-C2-N3	-5.11	126.74	129.30
6	2	4635	A	N1-C2-N3	-5.11	126.74	129.30
6	2	1807	C	N1-C2-O2	5.11	121.97	118.90
6	2	1700	G	C2-N3-C4	5.11	114.45	111.90
6	2	1736	A	N1-C2-N3	-5.11	126.75	129.30
6	2	4460	U	C6-N1-C2	-5.11	117.93	121.00
6	2	4926	C	C6-N1-C2	-5.11	118.26	120.30
6	2	64	A	N1-C2-N3	-5.11	126.75	129.30
6	2	2403	A	C2-N3-C4	5.11	113.16	110.60
6	2	15	A	N1-C2-N3	-5.11	126.75	129.30
6	2	747	A	N1-C2-N3	-5.11	126.75	129.30
6	2	1880	G	C8-N9-C1'	-5.11	120.36	127.00
6	2	2507	A	N1-C2-N3	-5.11	126.75	129.30
6	2	3711	A	N1-C2-N3	-5.11	126.75	129.30
6	2	3923	A	N1-C2-N3	-5.11	126.75	129.30
6	2	4983	C	N3-C2-O2	-5.11	118.32	121.90
6	2	163	A	N9-C4-C5	-5.11	103.76	105.80
6	2	692	A	N1-C2-N3	-5.11	126.75	129.30
6	2	1577	G	N1-C6-O6	-5.11	116.84	119.90
6	2	1704	C	C6-N1-C2	-5.11	118.26	120.30
6	2	2381	A	N1-C2-N3	-5.11	126.75	129.30
6	2	3605	C	C6-N1-C2	-5.11	118.26	120.30
6	2	3746	A	N1-C2-N3	-5.11	126.75	129.30
6	2	4627	U	C2-N1-C1'	5.11	123.83	117.70
6	2	425	U	C5-C4-O4	-5.10	122.84	125.90
6	2	1391	A	N1-C2-N3	-5.10	126.75	129.30
6	2	1674	C	C6-N1-C2	-5.10	118.26	120.30
6	2	2264	C	N1-C2-O2	5.10	121.96	118.90
6	2	4907	G	C4-N9-C1'	5.10	133.13	126.50
6	2	2388	A	N1-C2-N3	-5.10	126.75	129.30
6	2	2791	C	C5-C6-N1	5.10	123.55	121.00
6	2	2870	A	N1-C2-N3	-5.10	126.75	129.30
53	J	189	VAL	CG1-CB-CG2	-5.10	102.74	110.90
6	2	1333	A	N9-C4-C5	-5.10	103.76	105.80
6	2	147	A	C2-N3-C4	5.10	113.15	110.60
6	2	4077	A	C2-N3-C4	5.10	113.15	110.60
6	2	4975	G	O4'-C1'-N9	5.10	112.28	108.20
6	2	2017	A	N1-C2-N3	-5.09	126.75	129.30
6	2	2812	A	N1-C2-N3	-5.09	126.75	129.30
6	2	4352	U	C6-N1-C2	-5.09	117.94	121.00
6	2	1947	U	N1-C2-O2	5.09	126.36	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2563	C	C5-C6-N1	5.09	123.55	121.00
6	2	3690	U	N1-C2-O2	5.09	126.36	122.80
6	2	4507	A	C2-N3-C4	5.09	113.15	110.60
6	2	5016	A	N7-C8-N9	5.09	116.35	113.80
6	2	1247	U	N3-C2-O2	-5.09	118.64	122.20
6	2	1540	C	N3-C2-O2	-5.09	118.34	121.90
6	2	1706	A	N1-C2-N3	-5.09	126.75	129.30
6	2	1893	C	N3-C2-O2	-5.09	118.34	121.90
6	2	2274	C	C6-N1-C2	-5.09	118.26	120.30
6	2	3604	A	C2-N3-C4	5.09	113.14	110.60
46	n	106	TYR	CA-CB-CG	5.09	123.07	113.40
6	2	948	C	C6-N1-C2	-5.09	118.27	120.30
6	2	3688	U	N1-C2-O2	5.09	126.36	122.80
6	2	1913	C	N3-C2-O2	-5.09	118.34	121.90
6	2	2591	A	N1-C2-N3	-5.09	126.76	129.30
6	2	4271	A	N1-C2-N3	-5.08	126.76	129.30
6	2	1507	C	C6-N1-C2	-5.08	118.27	120.30
6	2	2532	C	N3-C2-O2	-5.08	118.34	121.90
6	2	2764	A	N1-C2-N3	-5.08	126.76	129.30
8	5	78	C	C5-C6-N1	5.08	123.54	121.00
8	5	42	A	N1-C2-N3	-5.08	126.76	129.30
6	2	2281	U	C6-N1-C2	-5.08	117.95	121.00
6	2	2327	G	N1-C2-N2	-5.08	111.63	116.20
6	2	4758	U	O4'-C1'-N1	5.08	112.26	108.20
8	5	76	U	C6-N1-C2	-5.08	117.95	121.00
6	2	1521	C	N3-C2-O2	-5.08	118.35	121.90
6	2	2308	A	N1-C2-N3	-5.08	126.76	129.30
6	2	2428	A	N1-C2-N3	-5.08	126.76	129.30
6	2	2534	C	C5-C6-N1	5.08	123.54	121.00
6	2	2593	C	N1-C2-O2	5.08	121.94	118.90
6	2	12	A	N1-C2-N3	-5.07	126.76	129.30
6	2	271	C	C5-C6-N1	5.07	123.54	121.00
6	2	2042	A	O4'-C1'-N9	5.07	112.26	108.20
6	2	2845	A	N1-C2-N3	-5.07	126.76	129.30
6	2	4147	G	C5-C6-O6	5.07	131.64	128.60
8	5	4	U	N3-C2-O2	-5.07	118.65	122.20
6	2	1243	C	N1-C2-O2	5.07	121.94	118.90
6	2	2616	C	C6-N1-C2	-5.07	118.27	120.30
6	2	2699	C	C6-N1-C2	-5.07	118.27	120.30
6	2	4667	C	C5-C6-N1	5.07	123.54	121.00
6	2	73	A	N1-C2-N3	-5.07	126.77	129.30
6	2	2789	A	N1-C2-N3	-5.07	126.77	129.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	3623	C	C5-C6-N1	5.07	123.53	121.00
6	2	3741	C	C6-N1-C2	-5.07	118.27	120.30
46	n	83	MET	CA-CB-CG	5.07	121.92	113.30
6	2	1947	U	N3-C2-O2	-5.07	118.65	122.20
6	2	2654	C	C6-N1-C2	-5.07	118.27	120.30
8	5	69	U	N3-C2-O2	-5.07	118.65	122.20
6	2	34	A	N1-C2-N3	-5.07	126.77	129.30
6	2	1344	C	N1-C2-O2	5.07	121.94	118.90
6	2	3841	C	C6-N1-C2	-5.07	118.27	120.30
6	2	101	A	N1-C2-N3	-5.06	126.77	129.30
6	2	1096	C	C2-N1-C1'	5.06	124.37	118.80
6	2	1913	C	N1-C2-O2	5.06	121.94	118.90
6	2	1578	U	N3-C2-O2	-5.06	118.66	122.20
6	2	2410	C	C6-N1-C1'	-5.06	114.73	120.80
6	2	2634	C	N1-C2-O2	5.06	121.94	118.90
57	8	18	U	N1-C2-O2	5.06	126.34	122.80
6	2	59	A	C2-N3-C4	5.06	113.13	110.60
6	2	1804	A	N1-C2-N3	-5.06	126.77	129.30
6	2	2006	U	N3-C2-O2	-5.06	118.66	122.20
6	2	3644	U	N3-C2-O2	-5.06	118.66	122.20
6	2	5002	U	N1-C2-O2	5.06	126.34	122.80
60	w	202	LEU	C-N-CA	5.06	134.35	121.70
6	2	2025	A	C8-N9-C4	-5.06	103.78	105.80
6	2	2356	U	N3-C4-O4	-5.06	115.86	119.40
6	2	2815	A	N1-C2-N3	-5.06	126.77	129.30
6	2	4562	C	C5-C6-N1	5.06	123.53	121.00
57	8	73	U	N3-C2-O2	-5.06	118.66	122.20
58	1	22	ARG	NE-CZ-NH1	5.06	122.83	120.30
6	2	4569	U	N1-C2-O2	5.06	126.34	122.80
6	2	4183	G	C2-N3-C4	5.05	114.43	111.90
6	2	4213	A	N1-C2-N3	-5.05	126.77	129.30
6	2	4979	A	C2-N3-C4	5.05	113.13	110.60
6	2	2374	A	N1-C2-N3	-5.05	126.77	129.30
6	2	345	C	N1-C2-O2	5.05	121.93	118.90
6	2	1372	A	N1-C2-N3	-5.05	126.78	129.30
6	2	2019	C	N3-C2-O2	-5.05	118.36	121.90
6	2	2298	U	N3-C2-O2	-5.05	118.67	122.20
6	2	2376	A	N1-C2-N3	-5.05	126.78	129.30
6	2	4621	C	N1-C2-O2	5.05	121.93	118.90
6	2	4775	C	C5-C6-N1	5.05	123.53	121.00
8	5	43	U	C2-N1-C1'	5.05	123.76	117.70
6	2	120	A	N1-C2-N3	-5.05	126.78	129.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1181	C	C6-N1-C2	-5.05	118.28	120.30
6	2	166	C	C6-N1-C2	-5.05	118.28	120.30
6	2	2625	U	N1-C2-O2	5.05	126.33	122.80
6	2	4286	C	N1-C2-O2	5.05	121.93	118.90
6	2	1990	A	N1-C2-N3	-5.04	126.78	129.30
6	2	3846	C	C6-N1-C2	-5.04	118.28	120.30
6	2	202	C	C6-N1-C2	-5.04	118.28	120.30
6	2	2647	A	N1-C2-N3	-5.04	126.78	129.30
6	2	2892	C	N3-C2-O2	-5.04	118.37	121.90
6	2	4764	A	C4-C5-C6	-5.04	114.48	117.00
58	1	56	SER	N-CA-C	-5.04	97.38	111.00
6	2	4626	A	N1-C2-N3	-5.04	126.78	129.30
6	2	436	C	N3-C2-O2	-5.04	118.37	121.90
6	2	1511	U	C5-C6-N1	5.04	125.22	122.70
6	2	2031	C	C2-N1-C1'	5.04	124.34	118.80
6	2	2632	U	N3-C2-O2	-5.04	118.67	122.20
6	2	4639	G	C2-N3-C4	5.04	114.42	111.90
6	2	4728	U	N1-C2-O2	5.04	126.33	122.80
6	2	1912	G	C8-N9-C1'	-5.04	120.45	127.00
6	2	1586	G	N3-C4-C5	-5.04	126.08	128.60
6	2	4628	U	N1-C2-O2	5.04	126.32	122.80
6	2	1960	A	N1-C2-N3	-5.03	126.78	129.30
6	2	2372	U	N1-C2-O2	5.03	126.32	122.80
6	2	2667	C	C6-N1-C2	-5.03	118.29	120.30
6	2	5002	U	C6-N1-C2	-5.03	117.98	121.00
6	2	1202	C	N3-C2-O2	-5.03	118.38	121.90
6	2	1523	A	N1-C2-N3	-5.03	126.78	129.30
6	2	1897	A	N1-C2-N3	-5.03	126.78	129.30
6	2	1910	G	C4-N9-C1'	5.03	133.04	126.50
6	2	2367	A	N1-C2-N3	-5.03	126.78	129.30
6	2	3870	C	C2-N1-C1'	5.03	124.33	118.80
6	2	4920	C	C6-N1-C2	-5.03	118.29	120.30
57	8	88	A	N1-C2-N3	-5.03	126.78	129.30
57	8	135	C	N1-C2-O2	5.03	121.92	118.90
6	2	69	A	N1-C2-N3	-5.03	126.78	129.30
6	2	2337	C	N3-C2-O2	-5.03	118.38	121.90
6	2	4971	A	N1-C2-N3	-5.03	126.79	129.30
6	2	1655	C	C5-C6-N1	5.03	123.51	121.00
6	2	3902	A	N1-C2-N3	-5.03	126.79	129.30
6	2	4712	C	N3-C2-O2	-5.03	118.38	121.90
46	n	62	GLY	C-N-CA	5.03	134.27	121.70
6	2	944	A	N1-C2-N3	-5.03	126.79	129.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1352	C	C6-N1-C2	-5.03	118.29	120.30
6	2	1401	C	C2-N1-C1'	5.03	124.33	118.80
6	2	1515	A	N1-C2-N3	-5.03	126.79	129.30
6	2	4304	A	N1-C2-N3	-5.03	126.79	129.30
6	2	4909	A	N1-C2-N3	-5.03	126.79	129.30
6	2	243	A	N1-C2-N3	-5.02	126.79	129.30
6	2	909	A	N1-C2-N3	-5.02	126.79	129.30
6	2	1327	C	C6-N1-C2	-5.02	118.29	120.30
6	2	1792	U	N1-C2-O2	5.02	126.32	122.80
6	2	7	C	N1-C2-O2	5.02	121.91	118.90
6	2	2777	G	C2-N3-C4	5.02	114.41	111.90
6	2	4043	G	C8-N9-C1'	-5.02	120.47	127.00
6	2	86	U	C6-N1-C2	-5.02	117.99	121.00
6	2	5034	A	N1-C2-N3	-5.02	126.79	129.30
6	2	26	C	N1-C2-O2	5.02	121.91	118.90
6	2	3622	C	C5-C6-N1	5.02	123.51	121.00
6	2	3650	C	N1-C2-O2	5.02	121.91	118.90
6	2	1375	C	C5-C6-N1	5.01	123.51	121.00
6	2	4259	C	C6-N1-C2	-5.01	118.29	120.30
6	2	1642	A	N1-C2-N3	-5.01	126.79	129.30
6	2	5004	C	C6-N1-C2	-5.01	118.30	120.30
60	w	298	CYS	CA-CB-SG	5.01	123.02	114.00
6	2	732	A	N1-C2-N3	-5.01	126.79	129.30
6	2	4707	A	C4-C5-C6	-5.01	114.50	117.00
6	2	5008	C	C5-C6-N1	5.01	123.51	121.00
57	8	8	U	C5'-C4'-O4'	5.01	115.11	109.10
6	2	1822	U	C5-C6-N1	5.01	125.20	122.70
6	2	3607	U	N1-C2-O2	5.01	126.31	122.80
6	2	4504	C	C6-N1-C2	-5.01	118.30	120.30
6	2	1074	G	N3-C4-C5	-5.01	126.10	128.60
6	2	1352	C	N1-C2-O2	5.01	121.91	118.90
6	2	1367	C	N3-C2-O2	-5.01	118.39	121.90
6	2	101	A	C2-N3-C4	5.01	113.10	110.60
6	2	422	C	N3-C4-N4	5.01	121.50	118.00
6	2	1732	C	N1-C2-O2	5.01	121.90	118.90
6	2	2107	C	N3-C2-O2	-5.01	118.40	121.90
6	2	2765	A	N1-C2-N3	-5.01	126.80	129.30
6	2	4380	A	N1-C2-N3	-5.01	126.80	129.30
6	2	4906	C	N1-C2-O2	5.01	121.90	118.90
6	2	1395	U	C6-N1-C2	-5.00	118.00	121.00
6	2	2035	C	N1-C2-O2	5.00	121.90	118.90
6	2	2488	C	O5'-P-OP1	-5.00	101.20	105.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4243	C	N3-C2-O2	-5.00	118.40	121.90
6	2	4393	G	C8-N9-C4	-5.00	104.40	106.40
6	2	3947	A	N1-C2-N3	-5.00	126.80	129.30
6	2	4043	G	N3-C4-N9	5.00	129.00	126.00
6	2	4490	C	C5-C6-N1	5.00	123.50	121.00

There are no chirality outliers.

All (18) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
58	1	44	GLY	Mainchain
6	2	1330	A	Sidechain
6	2	1331	C	Sidechain
7	4	10	THR	Peptide
7	4	294	LYS	Peptide
7	4	365	PRO	Peptide
7	4	503	THR	Peptide
12	B	16	PHE	Peptide
26	Q	154	VAL	Peptide
32	Y	127	ARG	Sidechain
36	c	80	VAL	Peptide
2	f	325	VAL	Peptide
2	f	667	SER	Peptide
45	m	132	ASN	Peptide
45	m	54	ARG	Peptide
46	n	106	TYR	Peptide
60	w	204	ARG	Peptide
55	y	55	GLY	Peptide

5.2 Too-close contacts [\(i\)](#)

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

5.3 Torsion angles [\(i\)](#)

5.3.1 Protein backbone [\(i\)](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	u	237/490 (48%)	228 (96%)	9 (4%)	0	100	100
2	f	546/687 (80%)	520 (95%)	24 (4%)	2 (0%)	34	72
3	q	210/217 (97%)	202 (96%)	8 (4%)	0	100	100
4	t	130/293 (44%)	122 (94%)	6 (5%)	2 (2%)	10	42
5	3	223/255 (88%)	209 (94%)	13 (6%)	1 (0%)	34	72
7	4	607/634 (96%)	559 (92%)	44 (7%)	4 (1%)	22	60
9	6	242/245 (99%)	230 (95%)	12 (5%)	0	100	100
10	7	137/163 (84%)	132 (96%)	5 (4%)	0	100	100
11	9	93/134 (69%)	82 (88%)	10 (11%)	1 (1%)	14	50
12	B	401/403 (100%)	376 (94%)	24 (6%)	1 (0%)	47	82
13	C	89/159 (56%)	86 (97%)	3 (3%)	0	100	100
14	D	356/427 (83%)	331 (93%)	25 (7%)	0	100	100
15	E	96/115 (84%)	91 (95%)	5 (5%)	0	100	100
16	F	111/117 (95%)	108 (97%)	3 (3%)	0	100	100
17	G	240/266 (90%)	226 (94%)	14 (6%)	0	100	100
18	H	120/123 (98%)	115 (96%)	5 (4%)	0	100	100
19	I	188/192 (98%)	174 (93%)	14 (7%)	0	100	100
20	K	100/105 (95%)	95 (95%)	5 (5%)	0	100	100
21	L	145/148 (98%)	137 (94%)	8 (6%)	0	100	100
22	M	84/97 (87%)	77 (92%)	6 (7%)	1 (1%)	13	48
23	N	162/178 (91%)	142 (88%)	20 (12%)	0	100	100
24	O	67/70 (96%)	62 (92%)	5 (8%)	0	100	100
25	P	48/51 (94%)	46 (96%)	2 (4%)	0	100	100
26	Q	208/211 (99%)	190 (91%)	18 (9%)	0	100	100
27	S	133/215 (62%)	126 (95%)	7 (5%)	0	100	100
28	U	201/204 (98%)	188 (94%)	13 (6%)	0	100	100
29	V	199/203 (98%)	191 (96%)	8 (4%)	0	100	100
30	W	94/106 (89%)	89 (95%)	5 (5%)	0	100	100
31	X	89/92 (97%)	85 (96%)	4 (4%)	0	100	100
32	Y	165/184 (90%)	155 (94%)	10 (6%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	Z	185/188 (98%)	174 (94%)	11 (6%)	0	100	100
34	a	146/196 (74%)	141 (97%)	5 (3%)	0	100	100
35	b	174/176 (99%)	164 (94%)	10 (6%)	0	100	100
36	c	153/160 (96%)	147 (96%)	6 (4%)	0	100	100
37	d	102/128 (80%)	95 (93%)	7 (7%)	0	100	100
38	e	129/140 (92%)	114 (88%)	15 (12%)	0	100	100
39	g	141/156 (90%)	135 (96%)	5 (4%)	1 (1%)	22	60
40	h	132/145 (91%)	126 (96%)	6 (4%)	0	100	100
41	i	133/136 (98%)	122 (92%)	11 (8%)	0	100	100
42	j	109/125 (87%)	104 (95%)	5 (5%)	0	100	100
43	k	127/135 (94%)	116 (91%)	11 (9%)	0	100	100
44	l	123/137 (90%)	112 (91%)	11 (9%)	0	100	100
45	m	246/257 (96%)	222 (90%)	24 (10%)	0	100	100
46	n	107/110 (97%)	101 (94%)	4 (4%)	2 (2%)	8	36
47	o	231/288 (80%)	217 (94%)	14 (6%)	0	100	100
48	p	224/248 (90%)	209 (93%)	15 (7%)	0	100	100
49	r	282/297 (95%)	270 (96%)	12 (4%)	0	100	100
50	z	63/129 (49%)	60 (95%)	2 (3%)	1 (2%)	9	40
51	A	331/731 (45%)	320 (97%)	11 (3%)	0	100	100
52	R	151/203 (74%)	138 (91%)	13 (9%)	0	100	100
53	J	221/239 (92%)	207 (94%)	14 (6%)	0	100	100
54	T	43/99 (43%)	42 (98%)	1 (2%)	0	100	100
55	y	163/165 (99%)	161 (99%)	2 (1%)	0	100	100
56	v	398/588 (68%)	385 (97%)	13 (3%)	0	100	100
58	l	72/123 (58%)	62 (86%)	7 (10%)	3 (4%)	3	16
59	s	33/260 (13%)	30 (91%)	1 (3%)	2 (6%)	1	8
60	w	380/478 (80%)	355 (93%)	24 (6%)	1 (0%)	41	76
All	All	10320/12821 (80%)	9703 (94%)	595 (6%)	22 (0%)	50	82

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	f	326	GLY

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	t	147	LYS
5	3	24	ASN
46	n	106	TYR
60	w	203	ASP
4	t	148	ARG
7	4	88	ASP
7	4	427	ASP
11	9	99	GLN
12	B	295	ASP
50	z	24	LYS
58	1	28	ARG
58	1	46	ILE
58	1	47	THR
59	s	18	LEU
59	s	19	ASP
39	g	40	ILE
7	4	230	LEU
7	4	366	THR
2	f	325	VAL
46	n	107	PRO
22	M	85	LYS

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	
1	u	222/437 (51%)	222 (100%)	0	100	100
2	f	509/629 (81%)	507 (100%)	2 (0%)	91	97
3	q	191/196 (97%)	191 (100%)	0	100	100
4	t	125/274 (46%)	124 (99%)	1 (1%)	81	93
5	3	206/228 (90%)	206 (100%)	0	100	100
7	4	554/574 (96%)	551 (100%)	3 (0%)	88	96
9	6	212/213 (100%)	212 (100%)	0	100	100
10	7	128/149 (86%)	128 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
11	9	81/114 (71%)	80 (99%)	1 (1%)	71	90
12	B	349/349 (100%)	349 (100%)	0	100	100
13	C	78/126 (62%)	77 (99%)	1 (1%)	69	89
14	D	298/348 (86%)	298 (100%)	0	100	100
15	E	83/97 (86%)	82 (99%)	1 (1%)	71	90
16	F	97/100 (97%)	97 (100%)	0	100	100
17	G	204/223 (92%)	204 (100%)	0	100	100
18	H	109/110 (99%)	109 (100%)	0	100	100
19	I	169/171 (99%)	167 (99%)	2 (1%)	71	90
20	K	86/89 (97%)	86 (100%)	0	100	100
21	L	120/121 (99%)	120 (100%)	0	100	100
22	M	73/80 (91%)	73 (100%)	0	100	100
23	N	137/149 (92%)	137 (100%)	0	100	100
24	O	64/65 (98%)	64 (100%)	0	100	100
25	P	47/48 (98%)	46 (98%)	1 (2%)	53	82
26	Q	176/177 (99%)	175 (99%)	1 (1%)	86	95
27	S	115/161 (71%)	115 (100%)	0	100	100
28	U	171/172 (99%)	171 (100%)	0	100	100
29	V	173/174 (99%)	172 (99%)	1 (1%)	86	95
30	W	85/94 (90%)	85 (100%)	0	100	100
31	X	74/75 (99%)	74 (100%)	0	100	100
32	Y	147/163 (90%)	146 (99%)	1 (1%)	84	94
33	Z	164/165 (99%)	163 (99%)	1 (1%)	86	95
34	a	133/175 (76%)	133 (100%)	0	100	100
35	b	157/157 (100%)	157 (100%)	0	100	100
36	c	136/140 (97%)	135 (99%)	1 (1%)	84	94
37	d	94/115 (82%)	93 (99%)	1 (1%)	73	90
38	e	101/107 (94%)	100 (99%)	1 (1%)	76	91
39	g	124/133 (93%)	124 (100%)	0	100	100
40	h	124/135 (92%)	124 (100%)	0	100	100
41	i	117/118 (99%)	117 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
42	j	101/110 (92%)	101 (100%)	0	100	100
43	k	115/121 (95%)	115 (100%)	0	100	100
44	l	109/121 (90%)	109 (100%)	0	100	100
45	m	190/199 (96%)	190 (100%)	0	100	100
46	n	88/89 (99%)	88 (100%)	0	100	100
47	o	208/252 (82%)	207 (100%)	1 (0%)	88	96
48	p	195/215 (91%)	195 (100%)	0	100	100
49	r	240/250 (96%)	239 (100%)	1 (0%)	91	97
50	z	61/115 (53%)	61 (100%)	0	100	100
51	A	296/654 (45%)	296 (100%)	0	100	100
52	R	141/184 (77%)	140 (99%)	1 (1%)	84	94
53	J	199/214 (93%)	197 (99%)	2 (1%)	76	91
54	T	38/76 (50%)	38 (100%)	0	100	100
55	y	137/137 (100%)	136 (99%)	1 (1%)	84	94
56	v	359/509 (70%)	358 (100%)	1 (0%)	92	97
58	l	66/107 (62%)	63 (96%)	3 (4%)	27	64
59	s	32/228 (14%)	30 (94%)	2 (6%)	18	51
60	w	338/402 (84%)	336 (99%)	2 (1%)	86	95
All	All	9146/11134 (82%)	9113 (100%)	33 (0%)	91	97

All (33) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	f	613	ARG
2	f	635	ASN
4	t	149	TYR
7	4	385	ARG
7	4	488	ARG
7	4	544	ARG
11	9	75	ASN
13	C	50	ASN
15	E	17	ARG
19	I	54	ARG
19	I	156	ASN
25	P	36	ARG
26	Q	145	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	V	117	ARG
32	Y	97	ASN
33	Z	150	ARG
36	c	127	GLN
37	d	52	LYS
38	e	48	ARG
47	o	56	ARG
49	r	282	GLN
52	R	68	ARG
53	J	79	ARG
53	J	126	ARG
55	y	90	ARG
56	v	62	ARG
58	1	33	ARG
58	1	46	ILE
58	1	68	LYS
59	s	17	ARG
59	s	18	LEU
60	w	114	LYS
60	w	362	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (12) such sidechains are listed below:

Mol	Chain	Res	Type
2	f	288	HIS
2	f	340	GLN
2	f	635	ASN
3	q	44	GLN
19	I	156	ASN
25	P	19	GLN
28	U	90	ASN
30	W	45	GLN
35	b	77	ASN
36	c	127	GLN
36	c	131	GLN
59	s	10	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
57	8	152/156 (97%)	30 (19%)	2 (1%)
6	2	3555/5054 (70%)	901 (25%)	32 (0%)
61	x	0/120	-	-
8	5	119/120 (99%)	20 (16%)	0
All	All	3826/5450 (70%)	951 (24%)	34 (0%)

All (951) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
6	2	6	C
6	2	21	G
6	2	25	A
6	2	39	A
6	2	42	A
6	2	48	G
6	2	56	A
6	2	59	A
6	2	64	A
6	2	65	A
6	2	69	A
6	2	72	C
6	2	73	A
6	2	91	G
6	2	98	A
6	2	108	A
6	2	109	G
6	2	110	C
6	2	119	G
6	2	120	A
6	2	122	U
6	2	133	C
6	2	134	G
6	2	135	G
6	2	136	C
6	2	137	G
6	2	141	C
6	2	144	G
6	2	145	G
6	2	146	G
6	2	151	G
6	2	152	U
6	2	159	C
6	2	164	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	165	A
6	2	172	C
6	2	178	C
6	2	181	C
6	2	182	G
6	2	183	C
6	2	184	U
6	2	185	C
6	2	187	U
6	2	188	G
6	2	189	G
6	2	197	A
6	2	200	U
6	2	209	U
6	2	210	C
6	2	218	A
6	2	219	G
6	2	220	C
6	2	234	G
6	2	254	G
6	2	255	C
6	2	256	G
6	2	259	C
6	2	261	G
6	2	262	G
6	2	264	C
6	2	265	C
6	2	266	C
6	2	267	G
6	2	279	A
6	2	280	G
6	2	281	U
6	2	297	U
6	2	306	A
6	2	315	G
6	2	316	U
6	2	326	C
6	2	340	C
6	2	363	A
6	2	385	A
6	2	387	G
6	2	398	A2M

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	407	A
6	2	408	A
6	2	409	G
6	2	410	A
6	2	411	G
6	2	412	G
6	2	413	G
6	2	422	C
6	2	426	A
6	2	427	A
6	2	428	G
6	2	433	A
6	2	449	C
6	2	450	G
6	2	452	A
6	2	453	G
6	2	454	U
6	2	464	G
6	2	465	G
6	2	467	U
6	2	468	U
6	2	483	G
6	2	484	U
6	2	485	C
6	2	486	C
6	2	489	C
6	2	493	G
6	2	494	U
6	2	496	G
6	2	497	G
6	2	499	G
6	2	500	G
6	2	502	C
6	2	503	C
6	2	504	G
6	2	505	G
6	2	509	A
6	2	510	U
6	2	513	U
6	2	514	U
6	2	515	C
6	2	517	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	518	G
6	2	519	C
6	2	653	U
6	2	654	C
6	2	656	C
6	2	657	C
6	2	666	G
6	2	667	A
6	2	669	C
6	2	673	C
6	2	686	A
6	2	688	U
6	2	692	A
6	2	696	C
6	2	697	G
6	2	703	G
6	2	704	C
6	2	731	G
6	2	738	C
6	2	739	G
6	2	740	G
6	2	742	G
6	2	759	G
6	2	904	C
6	2	905	C
6	2	910	G
6	2	913	U
6	2	914	U
6	2	915	A
6	2	916	C
6	2	917	A
6	2	918	G
6	2	923	C
6	2	924	C
6	2	925	C
6	2	926	G
6	2	932	A
6	2	933	G
6	2	936	C
6	2	937	U
6	2	941	C
6	2	943	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	944	A
6	2	945	U
6	2	959	G
6	2	960	A
6	2	961	G
6	2	962	C
6	2	963	G
6	2	964	A
6	2	965	G
6	2	966	A
6	2	967	C
6	2	969	C
6	2	970	G
6	2	972	C
6	2	982	U
6	2	988	C
6	2	990	C
6	2	991	C
6	2	992	C
6	2	993	G
6	2	994	G
6	2	995	C
6	2	996	G
6	2	1048	G
6	2	1049	C
6	2	1051	G
6	2	1066	G
6	2	1070	G
6	2	1072	C
6	2	1081	C
6	2	1082	C
6	2	1083	U
6	2	1095	A
6	2	1100	U
6	2	1168	G
6	2	1172	C
6	2	1173	G
6	2	1176	C
6	2	1178	G
6	2	1179	U
6	2	1180	C
6	2	1181	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	1182	C
6	2	1183	C
6	2	1184	A
6	2	1186	U
6	2	1187	G
6	2	1194	G
6	2	1198	G
6	2	1199	G
6	2	1200	G
6	2	1201	U
6	2	1202	C
6	2	1203	G
6	2	1211	G
6	2	1215	C
6	2	1216	C
6	2	1220	G
6	2	1222	A
6	2	1235	G
6	2	1241	C
6	2	1245	C
6	2	1253	G
6	2	1254	A
6	2	1255	A
6	2	1257	A
6	2	1260	G
6	2	1265	G
6	2	1266	G
6	2	1269	G
6	2	1270	A
6	2	1271	G
6	2	1272	C
6	2	1275	G
6	2	1280	C
6	2	1283	G
6	2	1284	G
6	2	1287	G
6	2	1294	A
6	2	1295	C
6	2	1296	G
6	2	1301	C
6	2	1302	U
6	2	1303	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	1304	C
6	2	1314	C
6	2	1320	U
6	2	1323	A
6	2	1324	A
6	2	1326	A2M
6	2	1330	A
6	2	1331	C
6	2	1337	A
6	2	1354	A
6	2	1358	G
6	2	1359	G
6	2	1362	G
6	2	1365	C
6	2	1366	G
6	2	1370	G
6	2	1371	A
6	2	1377	G
6	2	1378	C
6	2	1379	C
6	2	1387	A
6	2	1394	G
6	2	1397	A
6	2	1398	A
6	2	1402	C
6	2	1404	G
6	2	1405	C
6	2	1407	C
6	2	1409	C
6	2	1410	U
6	2	1414	C
6	2	1417	C
6	2	1419	G
6	2	1420	A
6	2	1425	G
6	2	1434	G
6	2	1439	C
6	2	1442	C
6	2	1443	A
6	2	1444	G
6	2	1447	C
6	2	1482	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	1483	C
6	2	1497	A
6	2	1498	G
6	2	1502	G
6	2	1503	A
6	2	1518	A
6	2	1525	A
6	2	1534	A2M
6	2	1547	A
6	2	1554	A
6	2	1566	C
6	2	1575	A
6	2	1578	U
6	2	1592	G
6	2	1612	G
6	2	1613	A
6	2	1618	G
6	2	1624	G
6	2	1625	OMG
6	2	1631	A
6	2	1633	G
6	2	1634	A
6	2	1637	A
6	2	1642	A
6	2	1650	A
6	2	1654	G
6	2	1661	C
6	2	1676	C
6	2	1677	U
6	2	1678	C
6	2	1685	G
6	2	1691	G
6	2	1697	G
6	2	1699	A
6	2	1700	G
6	2	1701	A
6	2	1703	C
6	2	1704	C
6	2	1705	G
6	2	1707	C
6	2	1709	C
6	2	1716	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	1718	C
6	2	1719	A
6	2	1724	G
6	2	1726	U
6	2	1734	G
6	2	1790	U
6	2	1803	G
6	2	1804	A
6	2	1806	G
6	2	1821	G
6	2	1822	U
6	2	1836	G
6	2	1837	A
6	2	1842	G
6	2	1843	A
6	2	1853	G
6	2	1854	G
6	2	1855	G
6	2	1856	C
6	2	1866	UR3
6	2	1867	A
6	2	1868	A
6	2	1869	G
6	2	1870	C
6	2	1881	C
6	2	1883	OMG
6	2	1888	A
6	2	1891	A
6	2	1897	A
6	2	1900	C
6	2	1916	G
6	2	1918	U
6	2	1919	G
6	2	1920	C
6	2	1922	G
6	2	1925	G
6	2	1931	C
6	2	1932	A
6	2	1938	C
6	2	1941	A
6	2	1948	G
6	2	1949	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	1951	G
6	2	1958	A
6	2	1959	U
6	2	1961	G
6	2	1962	A
6	2	1963	C
6	2	1968	G
6	2	1969	G
6	2	1970	A
6	2	1971	C
6	2	1979	A
6	2	1980	U
6	2	1981	G
6	2	1983	A
6	2	1984	A
6	2	1985	G
6	2	1990	A
6	2	2001	G
6	2	2002	A
6	2	2003	G
6	2	2004	U
6	2	2008	U
6	2	2010	A
6	2	2011	C
6	2	2016	C
6	2	2018	C
6	2	2021	G
6	2	2024	G
6	2	2025	A
6	2	2026	A
6	2	2033	A
6	2	2034	G
6	2	2043	A
6	2	2044	U
6	2	2046	G
6	2	2048	U
6	2	2055	G
6	2	2056	G
6	2	2069	A
6	2	2071	A
6	2	2084	C
6	2	2085	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	2090	U
6	2	2092	G
6	2	2093	A
6	2	2095	A
6	2	2097	U
6	2	2098	G
6	2	2100	A
6	2	2101	C
6	2	2102	G
6	2	2104	G
6	2	2105	A
6	2	2106	G
6	2	2108	G
6	2	2111	G
6	2	2112	G
6	2	2113	C
6	2	2250	C
6	2	2252	G
6	2	2253	A
6	2	2255	C
6	2	2256	C
6	2	2258	C
6	2	2259	G
6	2	2260	C
6	2	2268	A
6	2	2277	C
6	2	2289	C
6	2	2300	A
6	2	2301	G
6	2	2306	G
6	2	2313	A
6	2	2327	G
6	2	2328	G
6	2	2331	G
6	2	2333	G
6	2	2348	G
6	2	2350	U
6	2	2351	C
6	2	2354	G
6	2	2356	U
6	2	2364	OMG
6	2	2395	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	2416	G
6	2	2417	A
6	2	2418	A
6	2	2422	OMC
6	2	2424	OMG
6	2	2425	U
6	2	2437	C
6	2	2439	G
6	2	2441	C
6	2	2445	C
6	2	2447	U
6	2	2450	G
6	2	2453	A
6	2	2470	C
6	2	2471	G
6	2	2475	G
6	2	2476	G
6	2	2477	A
6	2	2478	C
6	2	2484	A
6	2	2485	U
6	2	2486	G
6	2	2487	G
6	2	2488	C
6	2	2489	C
6	2	2490	U
6	2	2497	C
6	2	2501	C
6	2	2511	A
6	2	2512	A
6	2	2513	A
6	2	2519	U
6	2	2520	C
6	2	2529	A
6	2	2543	A
6	2	2544	G
6	2	2545	U
6	2	2546	G
6	2	2548	C
6	2	2554	U
6	2	2559	G
6	2	2566	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	2583	C
6	2	2586	G
6	2	2587	A
6	2	2589	C
6	2	2593	C
6	2	2601	A
6	2	2602	G
6	2	2611	A
6	2	2618	G
6	2	2627	C
6	2	2638	G
6	2	2652	G
6	2	2653	C
6	2	2661	U
6	2	2662	G
6	2	2669	C
6	2	2670	C
6	2	2674	A
6	2	2675	G
6	2	2687	U
6	2	2694	G
6	2	2695	A
6	2	2696	A
6	2	2697	A
6	2	2707	U
6	2	2708	U
6	2	2711	G
6	2	2719	C
6	2	2724	G
6	2	2726	G
6	2	2739	C
6	2	2742	G
6	2	2743	A
6	2	2756	G
6	2	2761	U
6	2	2763	U
6	2	2764	A
6	2	2765	A
6	2	2769	U
6	2	2770	C
6	2	2787	A
6	2	2788	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	2790	U
6	2	2799	G
6	2	2814	C
6	2	2815	A
6	2	2826	U
6	2	2827	G
6	2	2842	G
6	2	2846	G
6	2	2849	A
6	2	2850	A
6	2	2855	G
6	2	2875	C
6	2	2877	G
6	2	2879	A
6	2	2897	G
6	2	2900	U
6	2	2901	G
6	2	2902	G
6	2	2903	G
6	2	2904	U
6	2	2905	C
6	2	2906	G
6	2	2907	G
6	2	2908	U
6	2	3585	G
6	2	3588	C
6	2	3591	C
6	2	3593	C
6	2	3595	U
6	2	3596	A
6	2	3597	G
6	2	3598	C
6	2	3599	A
6	2	3603	G
6	2	3605	C
6	2	3606	U
6	2	3615	G
6	2	3616	U
6	2	3626	G
6	2	3630	A
6	2	3635	A
6	2	3644	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	3648	A
6	2	3662	A
6	2	3670	C
6	2	3672	G
6	2	3673	C
6	2	3680	U
6	2	3683	C
6	2	3691	G
6	2	3696	C
6	2	3698	G
6	2	3710	G
6	2	3712	A
6	2	3713	U
6	2	3723	A2M
6	2	3729	U
6	2	3734	U
6	2	3735	G
6	2	3736	A
6	2	3750	G
6	2	3753	G
6	2	3771	C
6	2	3772	U
6	2	3774	A
6	2	3775	A
6	2	3776	G
6	2	3838	U
6	2	3839	G
6	2	3840	U
6	2	3865	A
6	2	3867	A2M
6	2	3876	A
6	2	3877	A
6	2	3878	C
6	2	3879	G
6	2	3898	G
6	2	3903	A
6	2	3904	G
6	2	3905	A
6	2	3906	A
6	2	3915	U
6	2	3922	G
6	2	3938	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	3939	G
6	2	3947	A
6	2	3950	U
6	2	3953	G
6	2	3955	G
6	2	3956	G
6	2	3958	G
6	2	3959	U
6	2	3960	A
6	2	3961	G
6	2	3962	A
6	2	3963	A
6	2	3964	U
6	2	3965	A
6	2	3966	A
6	2	3969	G
6	2	3970	G
6	2	3971	G
6	2	3973	G
6	2	3974	G
6	2	3975	C
6	2	3977	C
6	2	4034	G
6	2	4036	G
6	2	4038	C
6	2	4039	G
6	2	4041	C
6	2	4042	G
6	2	4043	G
6	2	4045	G
6	2	4046	A
6	2	4048	A
6	2	4049	U
6	2	4050	A
6	2	4051	C
6	2	4052	C
6	2	4053	A
6	2	4055	U
6	2	4056	A
6	2	4057	C
6	2	4058	U
6	2	4059	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	4062	A
6	2	4063	U
6	2	4064	C
6	2	4065	G
6	2	4076	G
6	2	4084	G
6	2	4095	G
6	2	4099	G
6	2	4100	C
6	2	4102	C
6	2	4103	C
6	2	4104	G
6	2	4110	C
6	2	4111	U
6	2	4112	C
6	2	4113	U
6	2	4115	G
6	2	4116	C
6	2	4117	U
6	2	4118	U
6	2	4119	C
6	2	4121	G
6	2	4125	C
6	2	4127	A
6	2	4138	C
6	2	4140	C
6	2	4141	G
6	2	4142	C
6	2	4143	G
6	2	4144	C
6	2	4146	G
6	2	4147	G
6	2	4149	C
6	2	4150	G
6	2	4157	A
6	2	4162	C
6	2	4163	U
6	2	4170	A
6	2	4183	G
6	2	4184	G
6	2	4191	G
6	2	4192	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	4195	G
6	2	4196	G
6	2	4197	G
6	2	4201	G
6	2	4202	U
6	2	4203	A
6	2	4204	C
6	2	4212	A
6	2	4221	C
6	2	4225	G
6	2	4226	G
6	2	4229	U
6	2	4233	A
6	2	4234	A
6	2	4247	G
6	2	4249	G
6	2	4251	A
6	2	4254	G
6	2	4256	A
6	2	4258	C
6	2	4260	U
6	2	4265	U
6	2	4268	A
6	2	4271	A
6	2	4273	A
6	2	4279	A
6	2	4281	A
6	2	4291	G
6	2	4292	A
6	2	4293	U
6	2	4294	C
6	2	4295	U
6	2	4304	A
6	2	4305	G
6	2	4314	C
6	2	4329	G
6	2	4330	G
6	2	4332	C
6	2	4339	A
6	2	4349	C
6	2	4354	U
6	2	4364	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	4372	U
6	2	4373	G
6	2	4377	G
6	2	4378	A
6	2	4379	A
6	2	4380	A
6	2	4381	A
6	2	4382	G
6	2	4387	C
6	2	4395	U
6	2	4396	A
6	2	4415	A
6	2	4418	G
6	2	4422	A
6	2	4424	A
6	2	4427	G
6	2	4428	A
6	2	4430	G
6	2	4437	U
6	2	4440	G
6	2	4446	U
6	2	4447	C
6	2	4448	G
6	2	4451	G
6	2	4452	U
6	2	4453	C
6	2	4464	A
6	2	4466	C
6	2	4475	G
6	2	4476	C
6	2	4484	A
6	2	4488	A
6	2	4498	U
6	2	4508	C
6	2	4510	A
6	2	4512	U
6	2	4513	A
6	2	4518	A
6	2	4519	C
6	2	4523	A2M
6	2	4524	G
6	2	4530	UR3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	4531	U
6	2	4545	G
6	2	4547	C
6	2	4548	A
6	2	4549	G
6	2	4554	G
6	2	4555	U
6	2	4556	U
6	2	4557	U
6	2	4558	U
6	2	4560	C
6	2	4567	G
6	2	4570	G
6	2	4584	A
6	2	4589	A
6	2	4590	A
6	2	4597	UR3
6	2	4600	G
6	2	4601	U
6	2	4606	G
6	2	4607	A
6	2	4608	G
6	2	4627	U
6	2	4636	U
6	2	4637	OMG
6	2	4656	A
6	2	4670	C
6	2	4678	G
6	2	4693	C
6	2	4694	G
6	2	4695	C
6	2	4702	G
6	2	4708	A
6	2	4709	U
6	2	4719	G
6	2	4720	C
6	2	4721	G
6	2	4730	C
6	2	4731	G
6	2	4732	G
6	2	4733	C
6	2	4734	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	4735	G
6	2	4740	G
6	2	4741	C
6	2	4742	G
6	2	4745	G
6	2	4754	G
6	2	4757	C
6	2	4759	C
6	2	4761	G
6	2	4764	A
6	2	4765	G
6	2	4771	C
6	2	4775	C
6	2	4776	G
6	2	4862	G
6	2	4870	OMG
6	2	4871	C
6	2	4873	G
6	2	4875	G
6	2	4877	G
6	2	4882	U
6	2	4883	C
6	2	4895	C
6	2	4896	G
6	2	4899	G
6	2	4900	C
6	2	4901	G
6	2	4907	G
6	2	4910	G
6	2	4912	G
6	2	4914	C
6	2	4915	G
6	2	4927	G
6	2	4928	C
6	2	4931	G
6	2	4935	C
6	2	4937	C
6	2	4938	A
6	2	4940	C
6	2	4941	G
6	2	4943	A
6	2	4944	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	4949	G
6	2	4958	C
6	2	4960	G
6	2	4961	G
6	2	4976	U
6	2	4989	U
6	2	4990	C
6	2	4991	U
6	2	5014	A
6	2	5017	G
6	2	5022	U
6	2	5023	C
6	2	5026	U
6	2	5027	C
6	2	5028	G
6	2	5030	U
6	2	5031	G
6	2	5034	A
6	2	5040	U
6	2	5041	G
6	2	5050	C
6	2	5053	U
6	2	5054	C
6	2	5055	G
6	2	5058	A
6	2	5062	G
6	2	5069	U
8	5	11	A
8	5	23	A
8	5	33	U
8	5	37	G
8	5	38	U
8	5	40	U
8	5	41	G
8	5	42	A
8	5	48	G
8	5	50	A
8	5	53	U
8	5	54	A
8	5	63	C
8	5	64	G
8	5	97	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	5	100	A
8	5	109	U
8	5	110	G
8	5	111	C
8	5	120	U
57	8	5	U
57	8	8	U
57	8	10	G
57	8	24	G
57	8	25	G
57	8	34	U
57	8	35	C
57	8	39	G
57	8	48	A
57	8	52	A
57	8	59	A
57	8	62	A
57	8	63	U
57	8	71	A
57	8	80	A
57	8	82	A
57	8	84	A
57	8	85	U
57	8	103	A
57	8	104	A
57	8	105	C
57	8	108	A
57	8	110	U
57	8	114	G
57	8	123	U
57	8	124	U
57	8	125	C
57	8	126	C
57	8	127	U
57	8	151	G

All (34) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
6	2	406	C
6	2	408	A
6	2	421	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	2	422	C
6	2	914	U
6	2	1322	1MA
6	2	1625	OMG
6	2	1676	C
6	2	1855	G
6	2	1980	U
6	2	2014	C
6	2	2033	A
6	2	2348	G
6	2	2470	C
6	2	2486	G
6	2	2487	G
6	2	2496	G
6	2	2760	G
6	2	3596	A
6	2	3752	C
6	2	3773	U
6	2	3774	A
6	2	3905	A
6	2	4126	C
6	2	4191	G
6	2	4195	G
6	2	4202	U
6	2	4204	C
6	2	4445	U
6	2	4547	C
6	2	4555	U
6	2	4913	G
57	8	124	U
57	8	125	C

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

76 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
6	A2M	2	3718	6	18,25,26	3.67	7 (38%)	18,36,39	3.40	3 (16%)
6	6MZ	2	4220	6	18,25,26	1.86	3 (16%)	16,36,39	3.74	3 (18%)
6	UR3	2	4597	6	19,22,23	2.69	6 (31%)	26,32,35	2.26	7 (26%)
6	OMG	2	2364	6	18,26,27	2.66	8 (44%)	19,38,41	1.63	5 (26%)
6	OMG	2	1625	6	18,26,27	2.68	8 (44%)	19,38,41	1.48	3 (15%)
6	B8W	2	4185	6	18,26,27	2.11	2 (11%)	21,38,41	2.41	6 (28%)
6	OMG	2	1316	6	18,26,27	2.78	8 (44%)	19,38,41	1.64	4 (21%)
6	B8H	2	1860	6	20,22,23	6.60	6 (30%)	21,32,35	2.41	5 (23%)
6	E7G	2	1797	6	24,27,28	3.87	11 (45%)	30,40,43	2.28	9 (30%)
6	OMU	2	4620	6	19,22,23	2.74	7 (36%)	26,31,34	1.80	4 (15%)
6	B8W	2	2380	6	18,26,27	2.00	3 (16%)	21,38,41	2.28	6 (28%)
6	B9B	2	237	6	21,28,29	1.93	3 (14%)	23,40,43	6.20	6 (26%)
6	P4U	2	1348	6	21,24,25	3.37	8 (38%)	27,33,36	1.17	2 (7%)
6	E7G	2	2297	6	24,27,28	3.59	11 (45%)	30,40,43	2.15	9 (30%)
6	A2M	2	1524	6	18,25,26	3.72	8 (44%)	18,36,39	3.43	4 (22%)
6	A2M	2	2363	6	18,25,26	3.69	9 (50%)	18,36,39	3.43	4 (22%)
6	B9H	2	2786	6	20,25,26	3.18	4 (20%)	22,35,38	3.26	7 (31%)
6	B8K	2	4690	6	24,28,29	3.08	12 (50%)	30,42,45	2.78	12 (40%)
57	OMU	8	14	57,6	19,22,23	2.74	7 (36%)	26,31,34	2.00	5 (19%)
6	A2M	2	1871	6,2	18,25,26	3.61	7 (38%)	18,36,39	3.26	3 (16%)
6	OMG	2	4370	6	18,26,27	2.77	8 (44%)	19,38,41	1.66	4 (21%)
6	OMC	2	2365	6	19,22,23	2.74	7 (36%)	26,31,34	0.90	0
6	M7A	2	4564	6	20,25,26	1.84	3 (15%)	28,37,40	3.95	7 (25%)
6	OMC	2	2422	6,32	19,22,23	2.87	7 (36%)	26,31,34	1.38	4 (15%)
6	2MG	2	729	6	18,26,27	2.54	7 (38%)	16,38,41	1.56	4 (25%)
6	B9B	2	1574	6	21,28,29	1.91	3 (14%)	23,40,43	6.63	4 (17%)
6	OMC	2	2804	6	19,22,23	2.75	7 (36%)	26,31,34	1.21	3 (11%)
6	B8H	2	4296	6	20,22,23	6.64	6 (30%)	21,32,35	2.46	5 (23%)
6	5MC	2	4335	6	18,22,23	3.46	7 (38%)	26,32,35	1.14	2 (7%)
6	A2M	2	4571	6	18,25,26	3.63	9 (50%)	18,36,39	3.49	4 (22%)
6	A2M	2	398	6	18,25,26	3.63	7 (38%)	18,36,39	3.51	3 (16%)
6	OMG	2	2050	6	18,26,27	2.67	8 (44%)	19,38,41	1.52	3 (15%)
6	BGH	2	3899	6	25,29,30	4.35	16 (64%)	31,43,46	2.79	13 (41%)
6	E6G	2	4355	6	20,27,28	2.71	3 (15%)	22,39,42	3.16	6 (27%)
6	A2M	2	1534	6	18,25,26	3.66	8 (44%)	18,36,39	3.84	5 (27%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	OMC	2	2861	6	19,22,23	2.91	8 (42%)	26,31,34	1.02	2 (7%)
6	A2M	2	3723	6	18,25,26	3.56	8 (44%)	18,36,39	3.14	4 (22%)
6	A2M	2	3867	6	18,25,26	3.60	8 (44%)	18,36,39	3.38	5 (27%)
6	OMG	2	4494	6	18,26,27	2.74	8 (44%)	19,38,41	1.54	4 (21%)
6	2MG	2	4872	6	18,26,27	2.39	7 (38%)	16,38,41	1.80	4 (25%)
6	5MU	2	4083	6	19,22,23	7.17	8 (42%)	28,32,35	3.49	10 (35%)
6	2MG	2	978	6	18,26,27	2.65	6 (33%)	16,38,41	1.46	4 (25%)
6	OMG	2	4637	6	18,26,27	2.61	8 (44%)	19,38,41	1.66	4 (21%)
6	OMC	2	3887	6	19,22,23	2.91	8 (42%)	26,31,34	0.94	1 (3%)
6	1MA	2	1322	6	16,25,26	4.42	4 (25%)	18,37,40	1.74	3 (16%)
6	UR3	2	1866	6,2	19,22,23	3.04	7 (36%)	26,32,35	2.16	6 (23%)
6	A2M	2	1326	6	18,25,26	3.58	8 (44%)	18,36,39	3.48	5 (27%)
6	B8T	2	4671	6	19,22,23	3.36	8 (42%)	26,31,34	0.96	1 (3%)
6	A2M	2	4523	6	18,25,26	3.61	7 (38%)	18,36,39	3.63	3 (16%)
6	7MG	2	1605	6	22,26,27	3.49	10 (45%)	29,39,42	2.03	9 (31%)
6	I4U	2	1659	6	21,24,25	3.31	9 (42%)	27,34,37	1.11	1 (3%)
6	P7G	2	3880	6	24,28,29	3.78	11 (45%)	27,41,44	1.53	3 (11%)
6	B8K	2	3897	6	24,28,29	3.11	11 (45%)	30,42,45	2.56	11 (36%)
6	2MG	2	1517	6	18,26,27	2.69	7 (38%)	16,38,41	1.72	4 (25%)
6	B9B	2	2754	6	21,28,29	1.94	3 (14%)	23,40,43	6.29	5 (21%)
6	B8W	2	4529	6	18,26,27	2.17	3 (16%)	21,38,41	2.69	7 (33%)
6	OMC	2	3701	6	19,22,23	2.80	8 (42%)	26,31,34	0.88	0
6	OMG	2	4623	6	18,26,27	2.68	8 (44%)	19,38,41	1.57	4 (21%)
6	7MG	2	4550	6	22,26,27	3.38	10 (45%)	29,39,42	1.83	8 (27%)
6	B8Q	2	1456	6	17,22,23	2.79	5 (29%)	22,32,35	2.45	6 (27%)
6	MHG	2	4371	6	29,32,33	3.93	11 (37%)	34,46,49	2.36	12 (35%)
6	OMG	2	373	6	18,26,27	2.76	8 (44%)	19,38,41	1.81	6 (31%)
6	OMG	2	1883	6	18,26,27	2.70	8 (44%)	19,38,41	1.60	5 (26%)
6	OMU	2	4306	6	19,22,23	2.87	8 (42%)	26,31,34	1.74	5 (19%)
6	OMG	2	4870	6	18,26,27	2.78	8 (44%)	19,38,41	1.69	4 (21%)
6	OMG	2	2773	6	18,26,27	2.76	8 (44%)	19,38,41	1.52	5 (26%)
6	OMC	2	3869	6	19,22,23	2.87	7 (36%)	26,31,34	1.83	6 (23%)
6	B8T	2	4483	6	19,22,23	3.59	8 (42%)	26,31,34	1.42	4 (15%)
6	UR3	2	4530	6	19,22,23	2.77	6 (31%)	26,32,35	1.36	2 (7%)
6	P7G	2	1909	6	24,28,29	3.67	11 (45%)	27,41,44	1.98	5 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	OMG	2	1522	6	18,26,27	2.69	8 (44%)	19,38,41	1.59	5 (26%)
6	A2M	2	2401	6	18,25,26	3.71	7 (38%)	18,36,39	3.43	4 (22%)
6	OMG	2	2424	6	18,26,27	2.75	8 (44%)	19,38,41	1.55	3 (15%)
6	7MG	2	2522	6	22,26,27	3.25	10 (45%)	29,39,42	1.90	9 (31%)
6	OMC	2	4536	6	19,22,23	2.83	7 (36%)	26,31,34	1.08	2 (7%)
6	B8W	2	4472	6	18,26,27	2.13	2 (11%)	21,38,41	2.71	7 (33%)

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
6	A2M	2	3718	6	-	1/5/27/28	0/3/3/3
6	6MZ	2	4220	6	-	1/5/27/28	0/3/3/3
6	UR3	2	4597	6	-	0/7/25/26	0/2/2/2
6	OMG	2	2364	6	-	2/5/27/28	0/3/3/3
6	OMG	2	1625	6	-	2/5/27/28	0/3/3/3
6	B8W	2	4185	6	-	2/5/27/28	0/3/3/3
6	OMG	2	1316	6	-	0/5/27/28	0/3/3/3
6	B8H	2	1860	6	-	0/7/25/26	0/2/2/2
6	E7G	2	1797	6	-	3/9/39/40	0/3/3/3
6	OMU	2	4620	6	-	0/9/27/28	0/2/2/2
6	B8W	2	2380	6	-	2/5/27/28	0/3/3/3
6	B9B	2	237	6	-	4/7/29/30	0/3/3/3
6	P4U	2	1348	6	-	1/10/29/30	0/2/2/2
6	E7G	2	2297	6	-	2/9/39/40	0/3/3/3
6	A2M	2	1524	6	-	1/5/27/28	0/3/3/3
6	A2M	2	2363	6	-	0/5/27/28	0/3/3/3
6	B9H	2	2786	6	-	2/12/47/48	0/2/2/2
6	B8K	2	4690	6	-	0/11/41/42	0/3/3/3
57	OMU	8	14	57,6	-	1/9/27/28	0/2/2/2
6	A2M	2	1871	6,2	-	0/5/27/28	0/3/3/3
6	OMG	2	4370	6	-	0/5/27/28	0/3/3/3
6	OMC	2	2365	6	-	0/9/27/28	0/2/2/2
6	M7A	2	4564	6	-	0/7/37/38	0/3/3/3
6	OMC	2	2422	6,32	-	1/9/27/28	0/2/2/2
6	2MG	2	729	6	-	1/5/27/28	0/3/3/3
6	B9B	2	1574	6	-	2/7/29/30	0/3/3/3

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	OMC	2	2804	6	-	0/9/27/28	0/2/2/2
6	B8H	2	4296	6	-	3/7/25/26	0/2/2/2
6	5MC	2	4335	6	-	1/7/25/26	0/2/2/2
6	A2M	2	4571	6	-	0/5/27/28	0/3/3/3
6	A2M	2	398	6	-	2/5/27/28	0/3/3/3
6	OMG	2	2050	6	-	0/5/27/28	0/3/3/3
6	BGH	2	3899	6	-	1/13/43/44	0/3/3/3
6	E6G	2	4355	6	-	2/6/28/29	0/3/3/3
6	A2M	2	1534	6	-	1/5/27/28	0/3/3/3
6	OMC	2	2861	6	-	0/9/27/28	0/2/2/2
6	A2M	2	3723	6	-	2/5/27/28	0/3/3/3
6	A2M	2	3867	6	-	3/5/27/28	0/3/3/3
6	OMG	2	4494	6	-	0/5/27/28	0/3/3/3
6	2MG	2	4872	6	-	2/5/27/28	0/3/3/3
6	5MU	2	4083	6	-	0/7/25/26	0/2/2/2
6	2MG	2	978	6	-	0/5/27/28	0/3/3/3
6	OMG	2	4637	6	-	3/5/27/28	0/3/3/3
6	OMC	2	3887	6	-	1/9/27/28	0/2/2/2
6	1MA	2	1322	6	-	0/3/25/26	0/3/3/3
6	UR3	2	1866	6,2	-	2/7/25/26	0/2/2/2
6	A2M	2	1326	6	-	1/5/27/28	0/3/3/3
6	B8T	2	4671	6	-	0/7/27/28	0/2/2/2
6	A2M	2	4523	6	-	3/5/27/28	0/3/3/3
6	7MG	2	1605	6	-	2/7/37/38	0/3/3/3
6	I4U	2	1659	6	-	2/9/29/30	0/2/2/2
6	P7G	2	3880	6	-	3/10/40/41	0/3/3/3
6	B8K	2	3897	6	-	3/11/41/42	0/3/3/3
6	2MG	2	1517	6	-	0/5/27/28	0/3/3/3
6	B9B	2	2754	6	-	2/7/29/30	0/3/3/3
6	B8W	2	4529	6	-	2/5/27/28	0/3/3/3
6	OMC	2	3701	6	-	4/9/27/28	0/2/2/2
6	OMG	2	4623	6	-	0/5/27/28	0/3/3/3
6	7MG	2	4550	6	-	0/7/37/38	0/3/3/3
6	B8Q	2	1456	6	-	0/7/42/43	0/2/2/2
6	MHG	2	4371	6	-	7/16/46/47	0/3/3/3
6	OMG	2	373	6	-	1/5/27/28	0/3/3/3
6	OMG	2	1883	6	-	2/5/27/28	0/3/3/3
6	OMU	2	4306	6	-	1/9/27/28	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	OMG	2	4870	6	-	3/5/27/28	0/3/3/3
6	OMG	2	2773	6	-	0/5/27/28	0/3/3/3
6	OMC	2	3869	6	-	4/9/27/28	0/2/2/2
6	B8T	2	4483	6	-	0/7/27/28	0/2/2/2
6	UR3	2	4530	6	-	0/7/25/26	0/2/2/2
6	P7G	2	1909	6	-	3/10/40/41	0/3/3/3
6	OMG	2	1522	6	-	0/5/27/28	0/3/3/3
6	A2M	2	2401	6	-	1/5/27/28	0/3/3/3
6	OMG	2	2424	6	-	2/5/27/28	0/3/3/3
6	7MG	2	2522	6	-	0/7/37/38	0/3/3/3
6	OMC	2	4536	6	-	0/9/27/28	0/2/2/2
6	B8W	2	4472	6	-	0/5/27/28	0/3/3/3

All (557) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	4083	5MU	C4-C5	20.27	1.78	1.44
6	2	4296	B8H	C6-C5	-16.82	1.11	1.34
6	2	1322	1MA	C2-N3	16.44	1.49	1.29
6	2	1860	B8H	C6-C5	-16.42	1.11	1.34
6	2	4296	B8H	C4-N3	-16.02	1.09	1.38
6	2	1860	B8H	C4-N3	-15.78	1.09	1.38
6	2	4083	5MU	C6-N1	15.61	1.64	1.38
6	2	1860	B8H	C4-C5	13.17	1.81	1.44
6	2	4296	B8H	C4-C5	12.97	1.81	1.44
6	2	1860	B8H	C6-N1	12.13	1.66	1.36
6	2	4296	B8H	C6-N1	12.01	1.66	1.36
6	2	4083	5MU	C6-C5	-11.92	1.15	1.34
6	2	4083	5MU	C4-N3	-11.41	1.17	1.38
6	2	2786	B9H	C2-N3	10.19	1.50	1.37
6	2	4371	MHG	C8-N9	10.09	1.51	1.46
6	2	1348	P4U	C4-N3	9.99	1.44	1.31
6	2	1659	I4U	C4-N3	9.77	1.44	1.31
6	2	4355	E6G	O6-C6	9.75	1.43	1.35
6	2	1524	A2M	C3'-C4'	-9.11	1.29	1.53
6	2	1797	E7G	C5-N7	9.10	1.45	1.35
6	2	2297	E7G	C5-N7	9.05	1.45	1.35
6	2	4371	MHG	C5-N7	9.04	1.45	1.35
6	2	1534	A2M	C3'-C4'	-8.98	1.30	1.53
6	2	398	A2M	C3'-C4'	-8.98	1.30	1.53
6	2	3899	BGH	C2'-C1'	-8.98	1.30	1.53

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	2401	A2M	C3'-C4'	-8.96	1.30	1.53
6	2	2363	A2M	C3'-C4'	-8.93	1.30	1.53
6	2	3867	A2M	C3'-C4'	-8.91	1.30	1.53
6	2	1797	E7G	C8-N9	8.87	1.50	1.46
6	2	4571	A2M	C3'-C4'	-8.86	1.30	1.53
6	2	3880	P7G	C5-N7	8.83	1.45	1.35
6	2	1909	P7G	C5-N7	8.82	1.45	1.35
6	2	3718	A2M	C3'-C4'	-8.82	1.30	1.53
6	2	1871	A2M	C3'-C4'	-8.80	1.30	1.53
6	2	3723	A2M	C3'-C4'	-8.72	1.30	1.53
6	2	3899	BGH	O4'-C1'	8.66	1.62	1.42
6	2	4523	A2M	C3'-C4'	-8.64	1.30	1.53
6	2	4335	5MC	C6-C5	8.59	1.48	1.34
6	2	1605	7MG	C5-N7	8.30	1.45	1.35
6	2	4690	B8K	C8-N9	8.26	1.50	1.46
6	2	1326	A2M	C3'-C4'	-8.25	1.31	1.53
6	2	4550	7MG	C5-N7	8.21	1.45	1.35
6	2	2522	7MG	C5-N7	8.21	1.45	1.35
6	2	1524	A2M	O4'-C1'	-8.08	1.29	1.41
6	2	4371	MHG	C2-N3	8.02	1.47	1.31
6	2	3897	B8K	C8-N9	8.00	1.50	1.46
6	2	1456	B8Q	C6-C5	7.96	1.51	1.33
6	2	4529	B8W	C2-N2	7.96	1.49	1.33
6	2	3718	A2M	O4'-C1'	-7.86	1.30	1.41
6	2	1909	P7G	C8-N9	7.85	1.50	1.46
6	2	3899	BGH	O4'-C4'	-7.85	1.27	1.45
6	2	4472	B8W	C2-N2	7.84	1.49	1.33
6	2	3899	BGH	C8-N9	7.82	1.50	1.46
6	2	1534	A2M	O4'-C1'	-7.76	1.30	1.41
6	2	398	A2M	O4'-C4'	7.73	1.62	1.45
6	2	2401	A2M	O4'-C4'	7.69	1.62	1.45
6	2	1326	A2M	O4'-C4'	7.68	1.62	1.45
6	2	4571	A2M	O4'-C1'	-7.67	1.30	1.41
6	2	4550	7MG	C8-N9	7.66	1.50	1.46
6	2	4523	A2M	O4'-C1'	-7.62	1.30	1.41
6	2	1871	A2M	O4'-C4'	7.62	1.62	1.45
6	2	4185	B8W	C2-N2	7.62	1.49	1.33
6	2	2363	A2M	O4'-C1'	-7.60	1.30	1.41
6	2	3880	P7G	C8-N9	7.58	1.50	1.46
6	2	2401	A2M	O4'-C1'	-7.53	1.30	1.41
6	2	2363	A2M	O4'-C4'	7.49	1.61	1.45
6	2	3867	A2M	O4'-C1'	-7.44	1.30	1.41

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	4483	B8T	C2-N3	7.44	1.51	1.36
6	2	4523	A2M	O4'-C4'	7.41	1.61	1.45
6	2	1326	A2M	O4'-C1'	-7.38	1.30	1.41
6	2	1866	UR3	C2-N1	7.37	1.49	1.38
6	2	3718	A2M	O4'-C4'	7.35	1.61	1.45
6	2	1605	7MG	C8-N9	7.34	1.50	1.46
6	2	3723	A2M	O4'-C4'	7.31	1.61	1.45
6	2	2380	B8W	C2-N2	7.23	1.48	1.33
6	2	3723	A2M	O4'-C1'	-7.20	1.31	1.41
6	2	1871	A2M	O4'-C1'	-7.16	1.31	1.41
6	2	398	A2M	O4'-C1'	-7.14	1.31	1.41
6	2	4571	A2M	O4'-C4'	7.10	1.60	1.45
6	2	1524	A2M	O4'-C4'	7.07	1.60	1.45
6	2	4483	B8T	C4-N3	7.06	1.45	1.32
6	2	2522	7MG	C8-N9	7.05	1.49	1.46
6	2	1534	A2M	O4'-C4'	7.05	1.60	1.45
6	2	3867	A2M	O4'-C4'	7.02	1.60	1.45
6	2	1866	UR3	C6-C5	6.94	1.51	1.35
6	2	2297	E7G	C8-N9	6.93	1.49	1.46
6	2	4671	B8T	C2-N3	6.87	1.50	1.36
6	2	1517	2MG	C2-N2	6.77	1.48	1.33
6	2	4671	B8T	C6-C5	6.66	1.50	1.35
6	2	4371	MHG	C8-N7	6.60	1.52	1.45
6	2	978	2MG	C2-N2	6.60	1.48	1.33
6	2	4220	6MZ	C6-N6	6.57	1.45	1.35
6	2	4620	OMU	C2-N1	6.55	1.49	1.38
6	2	4597	UR3	C6-C5	6.54	1.50	1.35
6	2	4530	UR3	C2-N1	6.51	1.47	1.38
6	2	4306	OMU	C2-N1	6.51	1.48	1.38
6	2	4335	5MC	C4-N3	6.44	1.45	1.34
6	2	4530	UR3	C6-C5	6.41	1.50	1.35
6	2	2786	B9H	C2-N1	6.41	1.47	1.38
6	2	4671	B8T	C4-N3	6.39	1.43	1.32
6	2	4306	OMU	C2-N3	6.36	1.49	1.38
6	2	4483	B8T	C6-C5	6.34	1.49	1.35
57	8	14	OMU	C2-N1	6.29	1.48	1.38
6	2	3897	B8K	C2-N3	6.29	1.48	1.33
6	2	4690	B8K	C2-N3	6.27	1.48	1.33
6	2	2786	B9H	C6-C5	6.24	1.47	1.33
6	2	2861	OMC	C2-N3	6.23	1.49	1.36
6	2	4483	B8T	C4-N4	6.22	1.48	1.35
6	2	4335	5MC	C2-N3	6.21	1.48	1.36

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	729	2MG	C2-N2	6.19	1.47	1.33
6	2	3880	P7G	C4-N9	6.18	1.44	1.35
6	2	1866	UR3	C2-N3	6.18	1.51	1.39
6	2	3887	OMC	C2-N3	6.13	1.48	1.36
6	2	1909	P7G	C4-N3	6.10	1.48	1.37
57	8	14	OMU	C2-N3	6.05	1.48	1.38
6	2	4536	OMC	C2-N3	6.04	1.48	1.36
6	2	4597	UR3	C2-N3	6.01	1.50	1.39
6	2	3869	OMC	C2-N3	6.01	1.48	1.36
6	2	3880	P7G	C4-N3	6.01	1.48	1.37
6	2	1909	P7G	C4-N9	5.98	1.44	1.35
6	2	1316	OMG	C2-N2	5.94	1.48	1.34
6	2	1659	I4U	C6-C5	5.94	1.48	1.35
6	2	4355	E6G	C2-N2	5.93	1.45	1.33
6	2	4872	2MG	C2-N2	5.93	1.46	1.33
6	2	1456	B8Q	C2-N3	5.91	1.45	1.35
6	2	4371	MHG	C2-N1	5.89	1.46	1.36
6	2	2422	OMC	C6-C5	5.88	1.48	1.35
6	2	1797	E7G	C4-N9	5.88	1.44	1.37
6	2	4620	OMU	C2-N3	5.88	1.48	1.38
6	2	2422	OMC	C2-N3	5.86	1.48	1.36
6	2	2424	OMG	C2-N3	5.86	1.47	1.33
6	2	4870	OMG	C2-N3	5.86	1.47	1.33
6	2	4671	B8T	C4-N4	5.85	1.47	1.35
6	2	2773	OMG	C2-N2	5.84	1.48	1.34
6	2	1316	OMG	C2-N3	5.83	1.47	1.33
6	2	2754	B9B	O6-C6	5.83	1.40	1.35
6	2	3887	OMC	C6-C5	5.83	1.48	1.35
6	2	3701	OMC	C2-N3	5.82	1.48	1.36
6	2	2424	OMG	C2-N2	5.80	1.48	1.34
6	2	1348	P4U	C2-N3	5.79	1.48	1.36
6	2	1659	I4U	C2-N3	5.79	1.48	1.36
6	2	373	OMG	C2-N2	5.79	1.47	1.34
6	2	4494	OMG	C2-N3	5.78	1.47	1.33
6	2	1797	E7G	C8-N7	5.77	1.51	1.45
6	2	2365	OMC	C2-N3	5.77	1.48	1.36
6	2	4370	OMG	C2-N2	5.77	1.47	1.34
6	2	4870	OMG	C2-N2	5.76	1.47	1.34
6	2	1625	OMG	C2-N2	5.75	1.47	1.34
6	2	2773	OMG	C2-N3	5.75	1.47	1.33
6	2	4536	OMC	C6-C5	5.74	1.48	1.35
6	2	1522	OMG	C2-N2	5.71	1.47	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	3880	P7G	C2-N2	5.70	1.47	1.34
6	2	3701	OMC	C6-C5	5.69	1.48	1.35
6	2	2861	OMC	C6-C5	5.68	1.48	1.35
6	2	2050	OMG	C2-N3	5.67	1.47	1.33
6	2	2050	OMG	C2-N2	5.66	1.47	1.34
6	2	4530	UR3	C2-N3	5.66	1.50	1.39
6	2	2804	OMC	C2-N3	5.65	1.47	1.36
6	2	4494	OMG	C2-N2	5.64	1.47	1.34
6	2	1883	OMG	C2-N2	5.64	1.47	1.34
6	2	2364	OMG	C2-N2	5.63	1.47	1.34
6	2	4623	OMG	C2-N2	5.60	1.47	1.34
6	2	4371	MHG	C2-N2	5.59	1.45	1.33
6	2	1348	P4U	C6-C5	5.57	1.48	1.35
6	2	3880	P7G	C8-N7	5.57	1.51	1.45
6	2	2297	E7G	C8-N7	5.57	1.51	1.45
6	2	1797	E7G	C4-N3	5.54	1.47	1.34
6	2	2365	OMC	C6-C5	5.54	1.47	1.35
6	2	1625	OMG	C2-N3	5.53	1.46	1.33
6	2	1909	P7G	C2-N2	5.52	1.47	1.34
6	2	1883	OMG	C2-N3	5.52	1.46	1.33
6	2	1517	2MG	C4-N3	5.51	1.50	1.37
6	2	4370	OMG	C2-N3	5.49	1.46	1.33
6	2	373	OMG	C2-N3	5.45	1.46	1.33
6	2	4637	OMG	C2-N2	5.44	1.47	1.34
6	2	4371	MHG	C4-N3	5.43	1.47	1.34
6	2	3869	OMC	C6-C5	5.43	1.47	1.35
6	2	1574	B9B	O6-C6	5.43	1.39	1.35
6	2	1797	E7G	C2-N3	5.43	1.46	1.33
6	2	2804	OMC	C6-C5	5.42	1.47	1.35
6	2	4597	UR3	C2-N1	5.42	1.46	1.38
6	2	2297	E7G	C4-N3	5.41	1.47	1.34
6	2	237	B9B	O6-C6	5.40	1.39	1.35
6	2	4306	OMU	C6-C5	5.40	1.47	1.35
6	2	2297	E7G	C2-N3	5.38	1.46	1.33
6	2	4623	OMG	C2-N3	5.37	1.46	1.33
6	2	237	B9B	C2-N2	5.36	1.44	1.33
6	2	1605	7MG	C2-N3	5.33	1.46	1.33
6	2	2364	OMG	C2-N3	5.30	1.46	1.33
6	2	2754	B9B	C2-N2	5.29	1.44	1.33
6	2	3869	OMC	C2-N1	5.28	1.51	1.40
6	2	1605	7MG	C4-N3	5.28	1.46	1.34
6	2	1574	B9B	C2-N2	5.27	1.44	1.33

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	4637	OMG	C2-N3	5.27	1.46	1.33
6	2	4620	OMU	C6-C5	5.25	1.47	1.35
6	2	1522	OMG	C2-N3	5.24	1.45	1.33
6	2	4483	B8T	C2-N1	5.21	1.51	1.40
6	2	4550	7MG	C2-N3	5.17	1.45	1.33
6	2	729	2MG	C4-N3	5.07	1.49	1.37
6	2	3897	B8K	C4-N9	5.06	1.43	1.37
6	2	4550	7MG	C4-N3	5.06	1.46	1.34
6	2	978	2MG	C4-N3	5.06	1.49	1.37
6	2	3899	BGH	C4-N3	5.00	1.46	1.34
57	8	14	OMU	C6-C5	4.99	1.46	1.35
6	2	3899	BGH	C2-N3	4.98	1.45	1.33
6	2	1797	E7G	C2-N2	4.98	1.46	1.34
6	2	2297	E7G	C2-N2	4.96	1.46	1.34
6	2	4564	M7A	C4-N9	4.96	1.47	1.38
6	2	4371	MHG	C4-N9	4.88	1.43	1.37
6	2	3880	P7G	C2-N1	4.86	1.44	1.33
6	2	2522	7MG	C2-N3	4.84	1.44	1.33
6	2	2522	7MG	C4-N3	4.81	1.45	1.34
6	2	3899	BGH	C4-N9	4.80	1.43	1.37
6	2	3887	OMC	C4-N3	4.77	1.44	1.34
6	2	2422	OMC	C2-N1	4.76	1.50	1.40
6	2	4536	OMC	C4-N4	4.76	1.45	1.33
6	2	2297	E7G	C4-N9	4.74	1.43	1.37
6	2	2422	OMC	C4-N4	4.73	1.45	1.33
6	2	2804	OMC	C4-N4	4.72	1.45	1.33
6	2	2861	OMC	C2-N1	4.71	1.50	1.40
6	2	3701	OMC	C4-N3	4.67	1.43	1.34
6	2	2861	OMC	C4-N4	4.65	1.44	1.33
6	2	1605	7MG	C4-N9	4.65	1.43	1.37
6	2	3887	OMC	C4-N4	4.62	1.44	1.33
6	2	1605	7MG	C2-N2	4.61	1.45	1.34
6	2	3869	OMC	C4-N4	4.60	1.44	1.33
6	2	2861	OMC	C4-N3	4.59	1.43	1.34
6	2	4870	OMG	C4-N3	4.56	1.48	1.37
6	2	4550	7MG	C2-N2	4.55	1.45	1.34
6	2	3701	OMC	C4-N4	4.54	1.44	1.33
6	2	4370	OMG	C6-N1	4.53	1.44	1.37
6	2	1909	P7G	C2-N1	4.52	1.44	1.33
6	2	4494	OMG	C4-N3	4.49	1.48	1.37
6	2	2365	OMC	C4-N4	4.49	1.44	1.33
6	2	1348	P4U	O4-C4	4.48	1.40	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	4494	OMG	C6-N1	4.47	1.44	1.37
6	2	2365	OMC	C4-N3	4.45	1.43	1.34
6	2	1456	B8Q	C2-N1	4.44	1.44	1.38
6	2	2804	OMC	C2-N1	4.42	1.49	1.40
6	2	4335	5MC	C4-N4	4.42	1.45	1.34
6	2	2773	OMG	C4-N3	4.41	1.48	1.37
6	2	3899	BGH	C2-N2	4.40	1.44	1.34
6	2	3887	OMC	C2-N1	4.39	1.49	1.40
6	2	2424	OMG	C4-N3	4.37	1.48	1.37
6	2	2422	OMC	C4-N3	4.36	1.43	1.34
6	2	4690	B8K	C4-N9	4.35	1.42	1.37
6	2	373	OMG	C6-N1	4.34	1.44	1.37
6	2	2050	OMG	C4-N3	4.33	1.47	1.37
6	2	4536	OMC	C2-N1	4.33	1.49	1.40
6	2	1316	OMG	C4-N3	4.33	1.47	1.37
6	2	1625	OMG	C4-N3	4.33	1.47	1.37
6	2	4536	OMC	C4-N3	4.29	1.43	1.34
6	2	1883	OMG	C4-N3	4.29	1.47	1.37
6	2	1860	B8H	C2-N3	4.27	1.45	1.38
6	2	2424	OMG	C6-N1	4.24	1.44	1.37
6	2	4370	OMG	C4-N3	4.23	1.47	1.37
6	2	4083	5MU	C2-N3	4.23	1.45	1.38
6	2	373	OMG	C4-N3	4.23	1.47	1.37
6	2	1883	OMG	C6-N1	4.22	1.44	1.37
6	2	1522	OMG	C4-N3	4.22	1.47	1.37
6	2	2522	7MG	C2-N2	4.18	1.44	1.34
6	2	2804	OMC	C4-N3	4.17	1.42	1.34
6	2	1322	1MA	C4-N3	4.17	1.50	1.37
6	2	4564	M7A	C6-N6	4.17	1.44	1.34
6	2	3899	BGH	C5-N7	4.17	1.46	1.39
6	2	1522	OMG	C6-N1	4.17	1.44	1.37
6	2	3897	B8K	C4-N3	4.16	1.44	1.34
6	2	2364	OMG	C6-N1	4.16	1.44	1.37
6	2	4623	OMG	C6-N1	4.14	1.44	1.37
6	2	2364	OMG	C4-N3	4.14	1.47	1.37
6	2	4335	5MC	C6-N1	4.14	1.45	1.38
6	2	4637	OMG	C4-N3	4.12	1.47	1.37
6	2	2773	OMG	C6-N1	4.11	1.44	1.37
6	2	3869	OMC	C4-N3	4.10	1.42	1.34
6	2	3701	OMC	C2-N1	4.06	1.48	1.40
6	2	1348	P4U	C2-N1	4.05	1.48	1.40
6	2	4690	B8K	C4-N3	4.02	1.43	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	4623	OMG	C4-N3	4.01	1.47	1.37
6	2	4870	OMG	C6-N1	3.98	1.43	1.37
6	2	4296	B8H	C2-N3	3.98	1.45	1.38
6	2	1625	OMG	C6-N1	3.97	1.43	1.37
6	2	3897	B8K	C5-C6	3.94	1.53	1.43
6	2	4335	5MC	C2-N1	3.94	1.48	1.40
6	2	4872	2MG	C4-N3	3.93	1.46	1.37
6	2	1322	1MA	C2-N1	3.91	1.43	1.35
6	2	4690	B8K	C5-N7	3.90	1.46	1.39
6	2	1659	I4U	C5-C4	3.89	1.48	1.43
6	2	4637	OMG	C6-N1	3.87	1.43	1.37
6	2	1316	OMG	C6-N1	3.85	1.43	1.37
6	2	4671	B8T	C2-N1	3.83	1.48	1.40
6	2	2050	OMG	C6-N1	3.83	1.43	1.37
6	2	1909	P7G	O6-C6	-3.82	1.17	1.23
6	2	978	2MG	C2-N1	3.82	1.42	1.36
6	2	4306	OMU	C4-N3	3.80	1.45	1.38
6	2	3897	B8K	C5-N7	3.77	1.46	1.39
6	2	3899	BGH	C5-C6	3.75	1.53	1.43
6	2	2365	OMC	C2-N1	3.73	1.48	1.40
6	2	1659	I4U	C2-N1	3.69	1.48	1.40
6	2	729	2MG	C2-N1	3.68	1.42	1.36
6	2	4371	MHG	C5-C6	3.68	1.53	1.43
6	2	1517	2MG	C2-N1	3.66	1.42	1.36
6	2	3899	BGH	C71-N7	3.61	1.47	1.39
6	2	4872	2MG	C2-N1	3.61	1.42	1.36
6	2	4550	7MG	C4-N9	3.60	1.41	1.37
6	2	1797	E7G	C5-C6	3.59	1.52	1.43
6	2	4690	B8K	C5-C6	3.55	1.52	1.43
6	2	978	2MG	C6-N1	3.53	1.43	1.37
57	8	14	OMU	C4-N3	3.52	1.44	1.38
6	2	4690	B8K	C71-N7	3.51	1.47	1.39
6	2	4671	B8T	C5-C4	3.50	1.48	1.40
6	2	2297	E7G	C5-C6	3.47	1.52	1.43
6	2	1605	7MG	C5-C6	3.47	1.52	1.43
6	2	1348	P4U	C5-C4	3.45	1.47	1.43
6	2	1909	P7G	C2-N3	3.44	1.46	1.37
6	2	4564	M7A	C5-N7	3.42	1.47	1.39
6	2	1605	7MG	C2-N1	3.41	1.46	1.37
6	2	3897	B8K	C71-N7	3.40	1.47	1.39
6	2	1517	2MG	C6-N1	3.39	1.42	1.37
6	2	1909	P7G	C8-N7	3.37	1.49	1.45

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	4483	B8T	C6-N1	3.35	1.46	1.38
6	2	978	2MG	C5-C6	3.35	1.54	1.47
6	2	3887	OMC	C6-N1	3.35	1.46	1.38
6	2	3880	P7G	O6-C6	-3.34	1.18	1.23
6	2	2522	7MG	C4-N9	3.34	1.41	1.37
6	2	4530	UR3	C6-N1	3.32	1.46	1.38
6	2	4483	B8T	C5-C4	3.31	1.47	1.40
6	2	4370	OMG	C5-C6	3.31	1.54	1.47
6	2	3899	BGH	O2'-C2'	3.31	1.51	1.42
6	2	1574	B9B	C5-C4	-3.29	1.32	1.40
6	2	3897	B8K	C2-N2	3.29	1.42	1.34
6	2	3880	P7G	C2-N3	3.29	1.45	1.37
6	2	4872	2MG	C5-C6	3.29	1.54	1.47
6	2	4620	OMU	C4-N3	3.28	1.44	1.38
6	2	4690	B8K	C2-N2	3.26	1.42	1.34
57	8	14	OMU	O4-C4	-3.25	1.18	1.24
6	2	4872	2MG	C5-C4	-3.24	1.34	1.43
6	2	4185	B8W	C5-C4	-3.24	1.32	1.40
6	2	1326	A2M	O3'-C3'	3.24	1.50	1.43
6	2	4550	7MG	C5-C6	3.23	1.51	1.43
6	2	3897	B8K	C6-N1	3.23	1.44	1.38
6	2	4083	5MU	O4-C4	-3.22	1.17	1.23
6	2	4371	MHG	C6-N1	3.19	1.44	1.38
6	2	2522	7MG	C2-N1	3.19	1.45	1.37
6	2	1348	P4U	O2-C2	-3.18	1.17	1.23
6	2	237	B9B	C5-C4	-3.17	1.32	1.40
6	2	4671	B8T	O2-C2	-3.17	1.17	1.23
6	2	1797	E7G	C2-N1	3.17	1.45	1.37
6	2	1316	OMG	O6-C6	-3.16	1.16	1.23
6	2	2365	OMC	C6-N1	3.16	1.45	1.38
6	2	2050	OMG	O6-C6	-3.14	1.16	1.23
6	2	729	2MG	C5-C4	-3.14	1.35	1.43
6	2	2297	E7G	C2-N1	3.14	1.45	1.37
6	2	1326	A2M	C6-N6	3.14	1.45	1.34
6	2	2754	B9B	C5-C4	-3.12	1.32	1.40
6	2	3880	P7G	C6-N1	3.12	1.43	1.38
6	2	4355	E6G	C5-C4	-3.12	1.32	1.40
6	2	4083	5MU	O2-C2	-3.11	1.17	1.23
6	2	2804	OMC	O2-C2	-3.11	1.17	1.23
6	2	978	2MG	C5-C4	-3.11	1.35	1.43
6	2	4637	OMG	O6-C6	-3.11	1.17	1.23
6	2	2364	OMG	O6-C6	-3.11	1.17	1.23

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	4083	5MU	C2-N1	3.11	1.43	1.38
6	2	4872	2MG	C6-N1	3.10	1.42	1.37
6	2	4306	OMU	O4-C4	-3.10	1.18	1.24
6	2	1605	7MG	C6-N1	3.09	1.44	1.38
6	2	1883	OMG	O6-C6	-3.09	1.17	1.23
6	2	4620	OMU	O4-C4	-3.09	1.18	1.24
6	2	1866	UR3	C6-N1	3.09	1.45	1.38
6	2	2422	OMC	O2-C2	-3.08	1.18	1.23
6	2	4623	OMG	C5-C6	3.08	1.53	1.47
6	2	2861	OMC	C6-N1	3.08	1.45	1.38
6	2	1871	A2M	C6-N6	3.08	1.45	1.34
6	2	4623	OMG	O6-C6	-3.08	1.17	1.23
6	2	4472	B8W	C5-C4	-3.07	1.32	1.40
6	2	3867	A2M	C6-N6	3.07	1.45	1.34
6	2	1625	OMG	O6-C6	-3.07	1.17	1.23
6	2	1659	I4U	C6-N1	3.07	1.45	1.38
6	2	3899	BGH	O6-C6	-3.06	1.17	1.23
6	2	2522	7MG	C5-C6	3.06	1.51	1.43
6	2	1517	2MG	C5-C4	-3.06	1.35	1.43
6	2	1522	OMG	O6-C6	-3.06	1.17	1.23
6	2	4870	OMG	O6-C6	-3.06	1.17	1.23
6	2	3869	OMC	C6-N1	3.06	1.45	1.38
6	2	2380	B8W	C5-C4	-3.04	1.32	1.40
6	2	2401	A2M	C6-N6	3.04	1.45	1.34
6	2	3723	A2M	C6-N6	3.04	1.45	1.34
6	2	2365	OMC	O2-C2	-3.04	1.18	1.23
6	2	729	2MG	C5-C6	3.03	1.53	1.47
6	2	1348	P4U	C6-N1	3.03	1.45	1.38
6	2	4870	OMG	C5-C6	3.02	1.53	1.47
6	2	2773	OMG	C5-C6	3.02	1.53	1.47
6	2	1524	A2M	C6-N6	3.02	1.45	1.34
6	2	1797	E7G	C6-N1	3.01	1.44	1.38
6	2	4523	A2M	C6-N6	3.01	1.45	1.34
6	2	4690	B8K	C6-N1	3.01	1.44	1.38
6	2	2401	A2M	C5-C4	-3.01	1.33	1.40
6	2	1659	I4U	O2-C2	-2.99	1.18	1.23
6	2	3701	OMC	O2-C2	-2.99	1.18	1.23
6	2	1524	A2M	O2'-C2'	-2.99	1.35	1.42
6	2	3897	B8K	C2-N1	2.99	1.45	1.37
6	2	3869	OMC	O2-C2	-2.99	1.18	1.23
6	2	2363	A2M	C5-C4	-2.98	1.33	1.40
6	2	373	OMG	C5-C6	2.97	1.53	1.47

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	2773	OMG	O6-C6	-2.97	1.17	1.23
6	2	3880	P7G	C5-C4	2.97	1.43	1.37
6	2	373	OMG	O6-C6	-2.96	1.17	1.23
6	2	2424	OMG	O6-C6	-2.96	1.17	1.23
6	2	3899	BGH	C6-N1	2.96	1.44	1.38
6	2	2364	OMG	C5-C6	2.95	1.53	1.47
6	2	1883	OMG	C5-C4	-2.95	1.35	1.43
6	2	4571	A2M	C6-N6	2.94	1.44	1.34
6	2	3718	A2M	C6-N6	2.94	1.44	1.34
6	2	4571	A2M	C5-C4	-2.94	1.33	1.40
6	2	1534	A2M	C5-C4	-2.94	1.33	1.40
6	2	2522	7MG	O6-C6	-2.94	1.18	1.23
6	2	398	A2M	C6-N6	2.94	1.44	1.34
6	2	3899	BGH	O3'-C3'	-2.93	1.36	1.43
6	2	398	A2M	C5-C4	-2.93	1.33	1.40
6	2	1534	A2M	O2'-C2'	-2.93	1.35	1.42
6	2	4550	7MG	C2-N1	2.93	1.44	1.37
6	2	729	2MG	C6-N1	2.93	1.42	1.37
6	2	1909	P7G	C5-C4	2.93	1.43	1.37
6	2	4536	OMC	O2-C2	-2.93	1.18	1.23
6	2	1522	OMG	C5-C6	2.92	1.53	1.47
6	2	1316	OMG	C5-C6	2.92	1.53	1.47
6	2	2401	A2M	O2'-C2'	-2.92	1.35	1.42
6	2	1517	2MG	C5-C6	2.92	1.53	1.47
6	2	4536	OMC	C6-N1	2.92	1.45	1.38
6	2	4597	UR3	C6-N1	2.91	1.45	1.38
6	2	373	OMG	C5-C4	-2.91	1.35	1.43
6	2	1871	A2M	C5-C4	-2.91	1.33	1.40
6	2	4483	B8T	O2-C2	-2.90	1.18	1.23
6	2	2363	A2M	C6-N6	2.88	1.44	1.34
6	2	3867	A2M	O2'-C2'	-2.88	1.35	1.42
6	2	4529	B8W	C5-C4	-2.88	1.33	1.40
6	2	2401	A2M	O3'-C3'	2.87	1.49	1.43
6	2	2422	OMC	C6-N1	2.87	1.44	1.38
6	2	4370	OMG	O6-C6	-2.87	1.17	1.23
6	2	1659	I4U	O4-C41	-2.86	1.40	1.47
6	2	3899	BGH	C2-N1	2.86	1.44	1.37
6	2	2861	OMC	O2-C2	-2.85	1.18	1.23
6	2	4550	7MG	O6-C6	-2.85	1.18	1.23
6	2	4671	B8T	C6-N1	2.84	1.44	1.38
6	2	1316	OMG	C5-C4	-2.84	1.35	1.43
6	2	1524	A2M	C5-C4	-2.83	1.33	1.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	2804	OMC	C6-N1	2.83	1.44	1.38
6	2	3718	A2M	C5-C4	-2.83	1.33	1.40
6	2	1522	OMG	C5-C4	-2.82	1.35	1.43
6	2	2363	A2M	O2'-C2'	-2.81	1.35	1.42
6	2	4637	OMG	C5-C6	2.81	1.53	1.47
6	2	1909	P7G	C6-N1	2.81	1.43	1.38
6	2	1534	A2M	C6-N6	2.80	1.44	1.34
6	2	2297	E7G	O6-C6	-2.80	1.18	1.23
6	2	4494	OMG	O6-C6	-2.80	1.17	1.23
6	2	4637	OMG	C5-C4	-2.80	1.35	1.43
6	2	4523	A2M	C5-C4	-2.79	1.33	1.40
6	2	4690	B8K	C2-N1	2.77	1.44	1.37
6	2	4523	A2M	O2'-C2'	-2.77	1.35	1.42
6	2	3718	A2M	O3'-C3'	2.77	1.49	1.43
6	2	1534	A2M	O3'-C3'	2.76	1.49	1.43
6	2	2363	A2M	O3'-C3'	2.76	1.49	1.43
6	2	4571	A2M	O2'-C2'	-2.76	1.35	1.42
6	2	2297	E7G	C6-N1	2.75	1.43	1.38
6	2	2424	OMG	C5-C4	-2.75	1.36	1.43
6	2	398	A2M	O2'-C2'	-2.74	1.35	1.42
6	2	1605	7MG	O6-C6	-2.74	1.18	1.23
6	2	4550	7MG	C6-N1	2.74	1.43	1.38
6	2	3701	OMC	C6-N1	2.74	1.44	1.38
6	2	3723	A2M	C5-C4	-2.74	1.33	1.40
6	2	1524	A2M	O3'-C3'	2.73	1.49	1.43
6	2	2364	OMG	C5-C4	-2.72	1.36	1.43
6	2	3723	A2M	O3'-C3'	2.72	1.49	1.43
6	2	3887	OMC	O2-C2	-2.71	1.18	1.23
6	2	2050	OMG	C5-C4	-2.71	1.36	1.43
6	2	4335	5MC	O2-C2	-2.70	1.18	1.23
6	2	4220	6MZ	C5-C4	-2.70	1.33	1.40
6	2	3718	A2M	O2'-C2'	-2.70	1.35	1.42
6	2	3867	A2M	C5-C4	-2.70	1.33	1.40
6	2	1326	A2M	O2'-C2'	-2.69	1.35	1.42
57	8	14	OMU	O2-C2	-2.68	1.18	1.23
6	2	4523	A2M	O3'-C3'	2.67	1.49	1.43
6	2	3867	A2M	O3'-C3'	2.67	1.49	1.43
6	2	4494	OMG	C5-C6	2.66	1.52	1.47
6	2	1871	A2M	O2'-C2'	-2.65	1.35	1.42
6	2	4306	OMU	O2-C2	-2.65	1.18	1.23
6	2	4870	OMG	C5-C4	-2.64	1.36	1.43
6	2	4620	OMU	O2-C2	-2.64	1.18	1.23

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	398	A2M	O3'-C3'	2.62	1.49	1.43
6	2	4371	MHG	O6-C6	-2.62	1.18	1.23
6	2	2522	7MG	C6-N1	2.61	1.43	1.38
6	2	1797	E7G	O6-C6	-2.60	1.18	1.23
6	2	4571	A2M	O3'-C3'	2.59	1.49	1.43
6	2	4690	B8K	O6-C6	-2.59	1.18	1.23
6	2	4623	OMG	C5-C4	-2.59	1.36	1.43
6	2	4306	OMU	C6-N1	2.57	1.44	1.38
6	2	3723	A2M	O2'-C2'	-2.56	1.36	1.42
6	2	1625	OMG	C5-C4	-2.56	1.36	1.43
6	2	1326	A2M	C5-C4	-2.56	1.34	1.40
6	2	1871	A2M	O3'-C3'	2.56	1.49	1.43
6	2	3897	B8K	C5-C4	2.55	1.46	1.38
6	2	1659	I4U	O4-C4	2.54	1.40	1.35
6	2	4370	OMG	C5-C4	-2.54	1.36	1.43
6	2	4370	OMG	C2-N1	2.49	1.43	1.37
6	2	2773	OMG	C5-C4	-2.47	1.36	1.43
6	2	4494	OMG	C5-C4	-2.47	1.36	1.43
6	2	4690	B8K	C5-C4	2.46	1.46	1.38
6	2	1625	OMG	C5-C6	2.45	1.52	1.47
6	2	1883	OMG	C5-C6	2.44	1.52	1.47
6	2	4597	UR3	O2-C2	-2.43	1.18	1.22
6	2	2786	B9H	C6-N1	2.39	1.43	1.38
6	2	2050	OMG	C5-C6	2.37	1.52	1.47
6	2	4296	B8H	O4-C4	-2.36	1.19	1.23
6	2	1866	UR3	C4-N3	2.35	1.46	1.40
6	2	1326	A2M	C2-N3	2.34	1.35	1.32
6	2	2424	OMG	C2-N1	2.33	1.43	1.37
6	2	1456	B8Q	C6-N1	2.28	1.43	1.38
6	2	2424	OMG	C5-C6	2.27	1.52	1.47
6	2	2773	OMG	C2-N1	2.26	1.43	1.37
6	2	1860	B8H	O4-C4	-2.25	1.19	1.23
6	2	4494	OMG	C2-N1	2.22	1.43	1.37
6	2	4530	UR3	C4-N3	2.22	1.45	1.40
6	2	1524	A2M	C2-N3	2.22	1.35	1.32
6	2	1456	B8Q	O2-C2	-2.21	1.18	1.22
6	2	3867	A2M	C2-N3	2.21	1.35	1.32
6	2	3701	OMC	C5-C4	2.21	1.48	1.42
57	8	14	OMU	C6-N1	2.21	1.43	1.38
6	2	1866	UR3	C5-C4	2.20	1.49	1.43
6	2	4597	UR3	C5-C4	2.20	1.49	1.43
6	2	4623	OMG	C2-N1	2.19	1.43	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	2	1883	OMG	C2-N1	2.18	1.43	1.37
6	2	4571	A2M	O5'-C5'	-2.18	1.39	1.44
6	2	4620	OMU	C6-N1	2.17	1.43	1.38
6	2	4529	B8W	C5-N7	-2.17	1.31	1.39
6	2	3723	A2M	C2-N3	2.16	1.35	1.32
6	2	1316	OMG	C2-N1	2.16	1.43	1.37
6	2	1534	A2M	O5'-C5'	-2.15	1.39	1.44
6	2	4571	A2M	C2-N3	2.14	1.35	1.32
6	2	373	OMG	C2-N1	2.14	1.43	1.37
6	2	3887	OMC	C5-C4	2.11	1.47	1.42
6	2	4530	UR3	O2-C2	-2.11	1.18	1.22
6	2	2050	OMG	C2-N1	2.11	1.42	1.37
6	2	2364	OMG	C2-N1	2.11	1.42	1.37
6	2	4870	OMG	C2-N1	2.10	1.42	1.37
6	2	2363	A2M	O5'-C5'	-2.10	1.39	1.44
6	2	4306	OMU	C5-C4	2.08	1.48	1.43
6	2	1522	OMG	C2-N1	2.08	1.42	1.37
6	2	2380	B8W	C5-N7	-2.07	1.32	1.39
6	2	4220	6MZ	C2-N3	2.07	1.35	1.32
6	2	1625	OMG	C2-N1	2.06	1.42	1.37
6	2	2861	OMC	C5-C4	2.05	1.47	1.42
6	2	4637	OMG	C2-N1	2.05	1.42	1.37
6	2	729	2MG	O6-C6	-2.05	1.19	1.23
6	2	1517	2MG	O6-C6	-2.04	1.19	1.23
6	2	1322	1MA	C5-C4	-2.04	1.37	1.43
6	2	1866	UR3	O2-C2	-2.04	1.18	1.22
6	2	4872	2MG	O6-C6	-2.03	1.19	1.23
6	2	2363	A2M	C2-N3	2.01	1.35	1.32

All (372) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1574	B9B	O6-C6-N1	-30.48	93.81	120.12
6	2	2754	B9B	O6-C6-N1	-28.88	95.20	120.12
6	2	237	B9B	O6-C6-N1	-28.04	95.92	120.12
6	2	4564	M7A	C5-C6-N6	14.20	147.99	123.74
6	2	4220	6MZ	C1'-N9-C4	-12.70	104.33	126.64
6	2	4564	M7A	N6-C6-N1	-11.57	93.00	118.35
6	2	1534	A2M	C5-C6-N6	11.42	137.71	120.35
6	2	4523	A2M	C5-C6-N6	11.02	137.10	120.35
6	2	3718	A2M	C5-C6-N6	10.59	136.45	120.35
6	2	398	A2M	C5-C6-N6	10.58	136.43	120.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	1326	A2M	C5-C6-N6	10.49	136.29	120.35
6	2	4571	A2M	C5-C6-N6	10.44	136.22	120.35
6	2	4083	5MU	C5-C4-N3	10.33	124.13	115.31
6	2	2401	A2M	C5-C6-N6	10.11	135.72	120.35
6	2	1524	A2M	C5-C6-N6	10.11	135.71	120.35
6	2	2363	A2M	C5-C6-N6	10.08	135.68	120.35
6	2	3867	A2M	C5-C6-N6	10.02	135.57	120.35
6	2	1871	A2M	C5-C6-N6	9.71	135.10	120.35
6	2	4355	E6G	O6-C6-N1	9.68	128.48	120.12
6	2	4597	UR3	C4-N3-C2	-9.38	115.73	124.56
6	2	3723	A2M	C5-C6-N6	9.34	134.55	120.35
6	2	2786	B9H	C31-N3-C2	9.09	128.56	117.21
6	2	1534	A2M	N6-C6-N1	-8.42	101.10	118.57
6	2	2786	B9H	C6-N1-C2	-7.91	114.70	121.79
6	2	4083	5MU	C5-C6-N1	-7.75	115.37	123.34
6	2	4523	A2M	N6-C6-N1	-7.70	102.60	118.57
6	2	398	A2M	N6-C6-N1	-7.53	102.94	118.57
6	2	4571	A2M	N6-C6-N1	-7.48	103.05	118.57
6	2	4083	5MU	C4-N3-C2	-7.40	117.77	127.35
6	2	2401	A2M	N6-C6-N1	-7.34	103.33	118.57
6	2	1524	A2M	N6-C6-N1	-7.28	103.46	118.57
6	2	1326	A2M	N6-C6-N1	-7.20	103.64	118.57
6	2	3718	A2M	N6-C6-N1	-7.14	103.75	118.57
6	2	2363	A2M	N6-C6-N1	-7.14	103.75	118.57
6	2	3867	A2M	N6-C6-N1	-7.10	103.84	118.57
6	2	4296	B8H	C4-N3-C2	-6.98	118.31	127.35
6	2	1909	P7G	C4-C5-N7	6.97	110.35	106.67
6	2	4690	B8K	C72-C71-N7	6.92	129.26	118.86
6	2	1860	B8H	C4-N3-C2	-6.87	118.45	127.35
6	2	4355	E6G	N2-C2-N3	6.85	128.96	117.79
6	2	1871	A2M	N6-C6-N1	-6.77	104.52	118.57
6	2	2363	A2M	N3-C2-N1	-6.75	118.13	128.68
6	2	4472	B8W	O6-C6-N1	6.75	128.38	119.03
6	2	4371	MHG	C2-N3-C4	6.69	120.34	112.04
6	2	4564	M7A	N3-C2-N1	-6.67	118.16	128.60
6	2	1534	A2M	N3-C2-N1	-6.60	118.36	128.68
6	2	2401	A2M	N3-C2-N1	-6.59	118.38	128.68
6	2	4523	A2M	N3-C2-N1	-6.58	118.39	128.68
6	2	4571	A2M	N3-C2-N1	-6.55	118.43	128.68
6	2	3899	BGH	C72-C71-N7	6.55	128.71	118.86
6	2	1871	A2M	N3-C2-N1	-6.52	118.48	128.68
6	2	3723	A2M	N6-C6-N1	-6.51	105.05	118.57

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4220	6MZ	N3-C2-N1	-6.51	118.51	128.68
6	2	398	A2M	N3-C2-N1	-6.50	118.52	128.68
6	2	4690	B8K	C5-C6-N1	6.44	122.35	110.99
6	2	1524	A2M	N3-C2-N1	-6.44	118.61	128.68
6	2	3897	B8K	C72-C71-N7	6.42	128.51	118.86
6	2	3723	A2M	N3-C2-N1	-6.16	119.05	128.68
6	2	1326	A2M	N3-C2-N1	-6.12	119.11	128.68
6	2	3867	A2M	N3-C2-N1	-6.12	119.11	128.68
6	2	3718	A2M	N3-C2-N1	-6.09	119.16	128.68
6	2	4529	B8W	N2-C2-N3	6.03	127.62	117.79
57	8	14	OMU	C4-N3-C2	-5.98	118.69	126.58
6	2	4296	B8H	N3-C2-N1	5.89	121.51	115.14
6	2	3897	B8K	C5-C6-N1	5.79	121.20	110.99
6	2	4529	B8W	O6-C6-N1	5.69	126.92	119.03
6	2	1860	B8H	N3-C2-N1	5.68	121.28	115.14
6	2	3899	BGH	C5-C6-N1	5.66	120.97	110.99
6	2	1456	B8Q	C31-N3-C4	5.66	122.78	114.25
6	2	4185	B8W	N3-C2-N1	-5.65	119.69	127.22
6	2	1456	B8Q	O2-C2-N3	-5.55	114.80	122.95
6	2	2380	B8W	N2-C2-N3	5.53	126.81	117.79
6	2	1574	B9B	N3-C2-N1	-5.51	119.87	127.22
6	2	3869	OMC	O2-C2-N3	-5.50	113.38	122.33
6	2	4371	MHG	C5-C6-N1	5.50	120.68	110.99
6	2	4306	OMU	C4-N3-C2	-5.49	119.34	126.58
6	2	237	B9B	N3-C2-N1	-5.48	119.91	127.22
6	2	3880	P7G	C4-C5-N7	5.48	109.56	106.67
6	2	4620	OMU	C4-N3-C2	-5.43	119.41	126.58
6	2	4355	E6G	N3-C2-N1	-5.41	120.00	127.22
6	2	4083	5MU	N3-C2-N1	5.40	122.06	114.89
6	2	1866	UR3	O3'-C3'-C2'	5.37	129.19	111.82
6	2	2297	E7G	C5-C6-N1	5.36	120.44	110.99
6	2	1797	E7G	C5-C6-N1	5.34	120.40	110.99
6	2	1456	B8Q	N3-C2-N1	5.34	123.40	117.13
6	2	2754	B9B	N3-C2-N1	-5.30	120.16	127.22
6	2	4472	B8W	N2-C2-N3	5.29	126.41	117.79
6	2	1866	UR3	C6-N1-C2	-5.21	117.12	121.79
6	2	4472	B8W	N3-C2-N1	-5.18	120.32	127.22
6	2	4371	MHG	C4-C5-N7	5.17	109.51	104.91
6	2	3899	BGH	C2-N3-C4	5.16	121.49	112.30
6	2	1797	E7G	C4-C5-N7	5.12	109.46	104.91
6	2	4529	B8W	N3-C2-N1	-5.10	120.42	127.22
6	2	2786	B9H	C32-C31-N3	5.08	123.08	112.47

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4185	B8W	C2-N3-C4	5.08	121.16	115.36
6	2	1605	7MG	C5-C6-N1	5.06	119.90	110.99
6	2	4690	B8K	C4-C5-N7	5.02	109.37	104.91
6	2	2297	E7G	C4-C5-N7	5.00	109.36	104.91
6	2	3899	BGH	N9-C8-N7	5.00	110.04	103.33
6	2	4872	2MG	CM2-N2-C2	-4.99	112.83	123.86
6	2	1797	E7G	C2-N3-C4	4.99	121.18	112.30
6	2	4083	5MU	C5M-C5-C6	-4.92	116.28	122.85
6	2	4690	B8K	C2-N3-C4	4.90	121.04	112.30
6	2	237	B9B	C2-N3-C4	4.84	120.89	115.36
6	2	1322	1MA	N1-C2-N3	-4.83	120.39	126.02
6	2	1456	B8Q	C6-N1-C2	-4.83	117.47	121.79
6	2	2522	7MG	C5-C6-N1	4.82	119.48	110.99
6	2	4564	M7A	N3-C4-N9	4.81	132.95	126.87
6	2	3897	B8K	C2-N3-C4	4.77	120.80	112.30
6	2	1574	B9B	C2-N3-C4	4.75	120.78	115.36
6	2	3899	BGH	C5-C4-N9	4.63	112.35	106.35
6	2	2380	B8W	N3-C2-N1	-4.59	121.10	127.22
6	2	4550	7MG	C5-C6-N1	4.58	119.06	110.99
6	2	4185	B8W	N2-C2-N3	4.53	125.17	117.79
6	2	1866	UR3	O3'-C3'-C4'	4.52	124.12	111.05
6	2	1605	7MG	C2-N3-C4	4.51	120.34	112.30
6	2	4530	UR3	C4-N3-C2	-4.49	120.34	124.56
6	2	1909	P7G	N9-C8-N7	4.48	109.79	103.38
6	2	4083	5MU	O4-C4-C5	-4.48	119.70	124.90
6	2	2297	E7G	C2-N3-C4	4.48	120.28	112.30
6	2	4472	B8W	C2-N3-C4	4.46	120.45	115.36
6	2	3899	BGH	C4-C5-N7	4.43	108.85	104.91
6	2	3897	B8K	C5-C4-N9	4.41	112.07	106.35
6	2	4355	E6G	C2-N3-C4	4.39	120.37	115.36
6	2	3869	OMC	C1'-N1-C2	4.37	128.17	118.42
6	2	1517	2MG	C5-C6-N1	4.34	121.62	113.95
6	2	1797	E7G	C5-C4-N3	-4.31	119.92	128.13
6	2	4185	B8W	O6-C6-N1	4.26	124.94	119.03
6	2	1322	1MA	C5-C6-N1	4.26	120.25	113.90
6	2	4690	B8K	N9-C8-N7	4.20	108.97	103.33
6	2	4620	OMU	N3-C2-N1	4.18	120.44	114.89
6	2	4220	6MZ	C2-N1-C6	4.18	120.17	116.59
6	2	237	B9B	N2-C2-N3	4.15	124.56	117.79
6	2	2786	B9H	O3'-C3'-C2'	4.12	122.86	111.17
6	2	1574	B9B	N2-C2-N3	4.11	124.48	117.79
6	2	2422	OMC	O2-C2-N3	-4.04	115.76	122.33

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4529	B8W	C2-N3-C4	4.02	119.95	115.36
6	2	4870	OMG	C5-C6-N1	4.00	121.02	113.95
6	2	4690	B8K	C5-C4-N9	4.00	111.54	106.35
6	2	4355	E6G	N2-C2-N1	-4.00	111.04	117.25
6	2	2754	B9B	C2-N3-C4	3.99	119.92	115.36
6	2	1659	I4U	C5-C4-N3	-3.96	118.88	124.91
6	2	1316	OMG	C5-C6-N1	3.93	120.89	113.95
6	2	4550	7MG	C2-N3-C4	3.92	119.29	112.30
6	2	2754	B9B	N2-C2-N3	3.88	124.11	117.79
6	2	4472	B8W	O6-C6-C5	-3.86	110.49	116.01
6	2	1605	7MG	C5-C4-N9	3.85	111.34	106.35
6	2	4306	OMU	N3-C2-N1	3.84	119.99	114.89
6	2	3897	B8K	C4-C5-N7	3.84	108.32	104.91
6	2	2522	7MG	C5-C4-N9	3.82	111.31	106.35
6	2	373	OMG	C5-C6-N1	3.81	120.67	113.95
57	8	14	OMU	N3-C2-N1	3.79	119.93	114.89
6	2	2380	B8W	C2-N3-C4	3.79	119.69	115.36
6	2	4083	5MU	C5M-C5-C4	3.78	122.92	118.77
6	2	1909	P7G	C71-N7-C5	3.76	133.42	124.52
6	2	3899	BGH	C5-C4-N3	-3.75	120.98	128.13
6	2	2364	OMG	C5-C6-N1	3.74	120.56	113.95
6	2	2804	OMC	O2-C2-N3	-3.72	116.28	122.33
57	8	14	OMU	C5-C4-N3	3.71	120.39	114.84
6	2	4550	7MG	C5-C4-N9	3.71	111.16	106.35
6	2	1348	P4U	C5-C4-N3	-3.70	119.28	124.91
6	2	1883	OMG	C5-C6-N1	3.65	120.40	113.95
6	2	2424	OMG	C5-C6-N1	3.65	120.40	113.95
6	2	978	2MG	C5-C6-N1	3.65	120.39	113.95
6	2	729	2MG	C5-C6-N1	3.64	120.39	113.95
6	2	4637	OMG	C5-C6-N1	3.64	120.38	113.95
6	2	2297	E7G	C5-C4-N3	-3.64	121.20	128.13
6	2	4296	B8H	C5-C4-N3	3.63	124.79	116.58
6	2	1860	B8H	C5-C4-N3	3.63	124.79	116.58
6	2	1866	UR3	C4-N3-C2	-3.61	121.16	124.56
6	2	3897	B8K	N9-C8-N7	3.61	108.18	103.33
6	2	4371	MHG	C2-N1-C6	-3.61	120.33	124.48
6	2	237	B9B	C61-O6-C6	-3.60	110.78	117.51
6	2	2522	7MG	C2-N3-C4	3.60	118.70	112.30
6	2	1797	E7G	C5-C4-N9	3.59	111.01	106.35
6	2	2773	OMG	C5-C6-N1	3.59	120.29	113.95
6	2	1522	OMG	C5-C6-N1	3.58	120.28	113.95
6	2	1605	7MG	C5-C4-N3	-3.57	121.33	128.13

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	2050	OMG	C5-C6-N1	3.54	120.20	113.95
57	8	14	OMU	CM2-O2'-C2'	3.53	123.78	114.52
6	2	2786	B9H	O2-C2-N1	-3.53	114.46	122.72
6	2	4872	2MG	C5-C6-N1	3.52	120.17	113.95
6	2	4494	OMG	C5-C6-N1	3.50	120.14	113.95
6	2	2380	B8W	C1'-N9-C4	-3.50	120.50	126.64
6	2	4371	MHG	C5-C4-N3	-3.48	121.50	128.13
6	2	4306	OMU	C5-C4-N3	3.46	120.02	114.84
6	2	4870	OMG	C2-N1-C6	-3.46	118.72	125.10
6	2	2786	B9H	C1'-N1-C6	3.42	128.30	120.84
6	2	4529	B8W	N2-C2-N1	-3.40	111.96	117.25
6	2	4185	B8W	C1'-N9-C4	-3.39	120.69	126.64
6	2	4370	OMG	C5-C6-N1	3.37	119.91	113.95
6	2	4690	B8K	C6-C5-C4	-3.34	115.74	122.62
6	2	4564	M7A	C2-N3-C4	3.34	119.63	111.75
6	2	1316	OMG	C2-N1-C6	-3.33	118.96	125.10
6	2	2424	OMG	C2-N1-C6	-3.33	118.96	125.10
6	2	4620	OMU	C5-C4-N3	3.33	119.82	114.84
6	2	1625	OMG	C5-C6-N1	3.32	119.82	113.95
6	2	4637	OMG	C2-N1-C6	-3.32	118.98	125.10
6	2	2380	B8W	N2-C2-N1	-3.32	112.09	117.25
6	2	4597	UR3	C3U-N3-C2	3.31	123.12	117.31
6	2	4530	UR3	C6-N1-C2	-3.31	118.82	121.79
6	2	4083	5MU	C6-C5-C4	3.31	120.80	118.03
6	2	4371	MHG	C5-C4-N9	3.31	110.64	106.35
6	2	4690	B8K	C5-C4-N3	-3.30	121.85	128.13
6	2	2297	E7G	C5-C4-N9	3.29	110.62	106.35
6	2	4623	OMG	C5-C6-N1	3.28	119.75	113.95
6	2	2364	OMG	C2-N1-C6	-3.28	119.05	125.10
6	2	3897	B8K	C5-C4-N3	-3.22	121.99	128.13
6	2	2773	OMG	C2-N1-C6	-3.20	119.20	125.10
6	2	4623	OMG	C2-N1-C6	-3.20	119.20	125.10
6	2	3899	BGH	O4'-C1'-N9	3.18	113.64	109.30
6	2	2380	B8W	O6-C6-N1	3.18	123.44	119.03
6	2	3869	OMC	O2-C2-N1	3.17	125.44	118.89
6	2	4494	OMG	C2-N1-C6	-3.17	119.27	125.10
6	2	373	OMG	C2-N1-C6	-3.12	119.36	125.10
6	2	1517	2MG	O6-C6-C5	-3.11	118.30	124.37
6	2	2050	OMG	C2-N1-C6	-3.11	119.37	125.10
6	2	3897	B8K	C6-C5-C4	-3.10	116.23	122.62
6	2	1522	OMG	C2-N1-C6	-3.10	119.40	125.10
6	2	2786	B9H	O3'-C3'-C4'	3.07	119.92	111.05

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4370	OMG	C2-N1-C6	-3.07	119.45	125.10
57	8	14	OMU	O4-C4-C5	-3.06	119.78	125.16
6	2	4690	B8K	C2-N1-C6	-3.05	119.54	125.10
6	2	1797	E7G	N9-C8-N7	3.04	107.73	103.38
6	2	4483	B8T	O2-C2-N3	-3.02	117.41	122.33
6	2	4370	OMG	N2-C2-N1	3.01	123.13	116.71
6	2	1625	OMG	C2-N1-C6	-3.01	119.56	125.10
6	2	1883	OMG	C2-N1-C6	-2.98	119.61	125.10
6	2	4335	5MC	CM5-C5-C6	-2.93	118.93	122.85
6	2	4550	7MG	C5-C4-N3	-2.93	122.54	128.13
6	2	1866	UR3	O2'-C2'-C3'	2.91	121.24	111.82
6	2	3867	A2M	C1'-N9-C4	2.91	131.75	126.64
6	2	2522	7MG	N9-C8-N7	2.88	107.49	103.38
6	2	4483	B8T	O3'-C3'-C4'	2.87	119.34	111.05
6	2	4371	MHG	N1-C2-N3	-2.86	119.53	123.95
6	2	1860	B8H	O2-C2-N1	-2.85	119.66	122.87
6	2	4306	OMU	O4-C4-C5	-2.85	120.14	125.16
6	2	4494	OMG	O6-C6-C5	-2.85	118.80	124.37
6	2	2522	7MG	C5-C4-N3	-2.84	122.72	128.13
6	2	1605	7MG	N9-C8-N7	2.83	107.42	103.38
6	2	3899	BGH	C6-C5-C4	-2.79	116.86	122.62
6	2	1326	A2M	C1'-N9-C4	2.78	131.53	126.64
6	2	4083	5MU	O2-C2-N1	-2.78	119.09	122.79
6	2	4483	B8T	O3'-C3'-C2'	2.78	120.80	111.82
6	2	4296	B8H	O2-C2-N1	-2.77	119.75	122.87
6	2	373	OMG	C8-N7-C5	2.76	108.25	102.99
6	2	1797	E7G	C2-N1-C6	-2.74	120.10	125.10
6	2	2363	A2M	C1'-N9-C4	2.74	131.46	126.64
6	2	2422	OMC	C1'-N1-C2	2.73	124.51	118.42
6	2	1534	A2M	O4'-C1'-C2'	-2.71	101.89	106.59
6	2	3897	B8K	O6-C6-N1	-2.71	114.93	120.12
6	2	1860	B8H	O4-C4-N3	-2.71	114.93	120.12
6	2	1456	B8Q	C31-N3-C2	2.70	121.72	117.79
6	2	2754	B9B	C61-O6-C6	-2.70	112.47	117.51
6	2	4536	OMC	O2-C2-N3	-2.69	117.96	122.33
6	2	2861	OMC	O2-C2-N3	-2.68	117.97	122.33
6	2	4620	OMU	O4-C4-C5	-2.68	120.45	125.16
6	2	2424	OMG	O6-C6-C5	-2.68	119.14	124.37
6	2	2522	7MG	C4-C5-N7	2.68	109.25	105.53
6	2	4335	5MC	C5-C6-N1	-2.66	120.60	123.34
6	2	3899	BGH	C2-N1-C6	-2.66	120.25	125.10
6	2	4550	7MG	C4-C5-N7	2.66	109.22	105.53

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4671	B8T	C6-C5-C4	2.66	120.22	116.96
6	2	1322	1MA	C8-N7-C5	2.64	108.03	102.99
6	2	4371	MHG	C71-C72-C73	-2.64	106.81	114.20
6	2	3897	B8K	C2-N1-C6	-2.64	120.29	125.10
6	2	4370	OMG	C8-N7-C5	2.63	108.00	102.99
6	2	2297	E7G	C2-N1-C6	-2.60	120.37	125.10
6	2	978	2MG	C8-N7-C5	2.59	107.92	102.99
6	2	1605	7MG	C4-C5-N7	2.57	109.10	105.53
6	2	729	2MG	CM2-N2-C2	-2.57	118.19	123.86
6	2	1883	OMG	O6-C6-C5	-2.56	119.37	124.37
6	2	4472	B8W	N2-C2-N1	-2.56	113.27	117.25
6	2	3899	BGH	O6-C6-N1	-2.55	115.23	120.12
6	2	373	OMG	CM2-O2'-C2'	-2.55	107.84	114.52
6	2	3869	OMC	C6-N1-C2	-2.54	116.08	120.49
6	2	4637	OMG	C8-N7-C5	2.54	107.83	102.99
6	2	4296	B8H	O4-C4-N3	-2.51	115.31	120.12
6	2	2861	OMC	C1'-N1-C2	2.51	124.01	118.42
6	2	1605	7MG	C2-N1-C6	-2.46	120.61	125.10
6	2	2401	A2M	C1'-N9-C4	2.45	130.95	126.64
6	2	729	2MG	C8-N7-C5	2.45	107.65	102.99
6	2	2522	7MG	C2-N1-C6	-2.45	120.64	125.10
6	2	1316	OMG	C8-N7-C5	2.44	107.63	102.99
6	2	2804	OMC	O2-C2-N1	2.44	123.92	118.89
6	2	4870	OMG	C8-N7-C5	2.43	107.63	102.99
6	2	4870	OMG	O6-C6-C5	-2.43	119.63	124.37
6	2	4872	2MG	C8-N7-C5	2.43	107.62	102.99
6	2	4483	B8T	C6-N1-C2	-2.42	116.29	120.49
6	2	4371	MHG	C6-C5-C4	-2.42	117.63	122.62
6	2	2364	OMG	N2-C2-N1	2.42	121.86	116.71
6	2	2050	OMG	O6-C6-C5	-2.41	119.66	124.37
6	2	4623	OMG	N2-C2-N1	2.41	121.85	116.71
6	2	1348	P4U	O2-C2-N3	-2.41	118.41	122.33
6	2	1797	E7G	N9-C4-N3	2.41	129.07	125.47
6	2	729	2MG	O6-C6-C5	-2.40	119.68	124.37
6	2	4690	B8K	O6-C6-C5	-2.40	121.66	127.54
6	2	3880	P7G	N9-C8-N7	2.39	106.80	103.38
6	2	1522	OMG	N2-C2-N1	2.38	121.79	116.71
6	2	1625	OMG	O6-C6-C5	-2.38	119.73	124.37
6	2	1517	2MG	C3'-C2'-C1'	2.38	104.56	100.98
6	2	2364	OMG	C8-N7-C5	2.37	107.51	102.99
6	2	4529	B8W	O6-C6-C5	-2.37	112.63	116.01
6	2	2297	E7G	N9-C8-N7	2.37	106.76	103.38

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	4355	E6G	C2-N1-C6	2.36	119.88	116.08
6	2	4371	MHG	O6-C6-C5	-2.36	121.75	127.54
6	2	4623	OMG	C8-N7-C5	2.36	107.49	102.99
6	2	4472	B8W	C1'-N9-C4	-2.36	122.50	126.64
6	2	4597	UR3	C6-N1-C2	-2.35	119.68	121.79
6	2	3869	OMC	C1'-N1-C6	-2.34	115.73	120.84
6	2	1909	P7G	N2-C2-N3	2.33	121.68	116.71
6	2	1883	OMG	N2-C2-N1	2.33	121.68	116.71
6	2	2422	OMC	C6-N1-C2	-2.33	116.45	120.49
6	2	4550	7MG	C6-C5-C4	-2.33	117.82	122.62
6	2	4637	OMG	N2-C2-N1	2.33	121.67	116.71
6	2	1524	A2M	C1'-N9-C4	2.31	130.69	126.64
6	2	2522	7MG	C6-C5-C4	-2.30	117.87	122.62
6	2	978	2MG	CM2-N2-C2	-2.30	118.78	123.86
6	2	4597	UR3	C5-C6-N1	-2.30	117.95	121.81
6	2	3887	OMC	O2-C2-N3	-2.29	118.60	122.33
6	2	3723	A2M	C1'-N9-C4	2.29	130.66	126.64
6	2	4529	B8W	C1'-N9-C4	-2.28	122.63	126.64
6	2	4564	M7A	C2-N1-C6	2.28	122.68	118.77
6	2	4597	UR3	C3U-N3-C4	2.28	121.15	117.89
6	2	1522	OMG	C8-N7-C5	2.27	107.32	102.99
6	2	3899	BGH	N2-C2-N1	2.27	121.54	116.71
6	2	2297	E7G	C6-C5-C4	-2.25	117.99	122.62
6	2	1316	OMG	O6-C6-C5	-2.24	119.99	124.37
6	2	1883	OMG	C8-N7-C5	2.24	107.26	102.99
6	2	2522	7MG	O6-C6-C5	-2.24	122.04	127.54
6	2	4597	UR3	O2-C2-N1	-2.24	117.47	122.72
6	2	1456	B8Q	C1'-N1-C2	2.24	120.77	116.99
6	2	3880	P7G	C71-N7-C5	2.23	129.80	124.52
6	2	2804	OMC	C1'-N1-C2	2.23	123.39	118.42
6	2	373	OMG	N2-C2-N1	2.23	121.45	116.71
6	2	237	B9B	C1'-N9-C4	2.22	130.54	126.64
6	2	1517	2MG	C8-N7-C5	2.21	107.19	102.99
6	2	4571	A2M	C1'-N9-C4	2.19	130.49	126.64
6	2	1866	UR3	C2'-C1'-N1	2.19	119.41	113.22
6	2	2773	OMG	O6-C6-C5	-2.16	120.15	124.37
6	2	2364	OMG	O6-C6-C5	-2.16	120.16	124.37
6	2	4690	B8K	O6-C6-N1	-2.15	115.99	120.12
6	2	4597	UR3	O2-C2-N3	-2.14	118.32	121.34
6	2	2773	OMG	C8-N7-C5	2.13	107.06	102.99
6	2	1605	7MG	C6-C5-C4	-2.13	118.22	122.62
6	2	3869	OMC	C6-C5-C4	2.13	120.93	117.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	2	373	OMG	O6-C6-C5	-2.12	120.23	124.37
6	2	1522	OMG	O6-C6-C5	-2.12	120.24	124.37
6	2	2297	E7G	O6-C6-C5	-2.10	122.39	127.54
6	2	1534	A2M	C1'-N9-C4	2.10	130.32	126.64
6	2	4550	7MG	N1-C2-N3	-2.09	119.42	123.32
6	2	4536	OMC	C1'-N1-C2	2.09	123.08	118.42
6	2	1797	E7G	O6-C6-C5	-2.09	122.42	127.54
6	2	4185	B8W	C2-N1-C6	2.08	119.43	116.08
6	2	4550	7MG	N9-C8-N7	2.07	106.34	103.38
6	2	3899	BGH	N1-C2-N3	-2.07	119.46	123.32
6	2	1326	A2M	O3'-C3'-C2'	-2.07	105.30	111.17
6	2	1909	P7G	N3-C2-N1	-2.06	119.47	123.32
6	2	4083	5MU	O4-C4-N3	-2.06	116.17	120.12
6	2	3897	B8K	N1-C2-N3	-2.06	119.48	123.32
6	2	4690	B8K	N1-C2-N3	-2.05	119.49	123.32
6	2	2422	OMC	O2-C2-N1	2.05	123.12	118.89
6	2	4371	MHG	C21-N2-C2	-2.04	119.35	123.86
6	2	4371	MHG	N9-C8-N7	2.04	106.30	103.38
6	2	4306	OMU	O2-C2-N1	-2.04	120.08	122.79
6	2	3867	A2M	O4'-C4'-C3'	-2.04	101.08	105.11
6	2	4564	M7A	C5-C4-N3	-2.03	121.85	126.62
6	2	4494	OMG	N2-C2-N1	2.03	121.03	116.71
6	2	2773	OMG	N2-C2-N1	2.02	121.02	116.71
6	2	4872	2MG	O6-C6-C5	-2.02	120.43	124.37
6	2	978	2MG	O6-C6-C5	-2.01	120.44	124.37
6	2	1605	7MG	O6-C6-C5	-2.00	122.63	127.54

There are no chirality outliers.

All (97) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
57	8	14	OMU	C1'-C2'-O2'-CM2
6	2	237	B9B	C5-C6-O6-C61
6	2	237	B9B	N1-C6-O6-C61
6	2	237	B9B	C3'-C4'-C5'-O5'
6	2	398	A2M	O4'-C4'-C5'-O5'
6	2	1348	P4U	N3-C4-O4-C41
6	2	1574	B9B	C5-C6-O6-C61
6	2	1574	B9B	N1-C6-O6-C61
6	2	1625	OMG	C3'-C4'-C5'-O5'
6	2	1797	E7G	C3'-C4'-C5'-O5'
6	2	1797	E7G	O4'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
6	2	1866	UR3	O4'-C4'-C5'-O5'
6	2	1866	UR3	C3'-C4'-C5'-O5'
6	2	1883	OMG	C3'-C4'-C5'-O5'
6	2	2364	OMG	O4'-C4'-C5'-O5'
6	2	2380	B8W	C5-C6-O6-C61
6	2	2380	B8W	N1-C6-O6-C61
6	2	2424	OMG	O4'-C4'-C5'-O5'
6	2	2424	OMG	C3'-C4'-C5'-O5'
6	2	2754	B9B	C5-C6-O6-C61
6	2	2754	B9B	N1-C6-O6-C61
6	2	2786	B9H	C32-C31-N3-C2
6	2	2786	B9H	C32-C31-N3-C4
6	2	3723	A2M	O4'-C4'-C5'-O5'
6	2	3867	A2M	O4'-C4'-C5'-O5'
6	2	3867	A2M	C3'-C4'-C5'-O5'
6	2	3869	OMC	O4'-C1'-N1-C2
6	2	3869	OMC	O4'-C1'-N1-C6
6	2	3880	P7G	O4'-C4'-C5'-O5'
6	2	3897	B8K	O4'-C4'-C5'-O5'
6	2	4185	B8W	C5-C6-O6-C61
6	2	4185	B8W	N1-C6-O6-C61
6	2	4220	6MZ	N1-C6-N6-C9
6	2	4355	E6G	C5-C6-O6-C61
6	2	4355	E6G	N1-C6-O6-C61
6	2	4371	MHG	C71-C72-C73-C75
6	2	4637	OMG	O4'-C4'-C5'-O5'
6	2	4637	OMG	C1'-C2'-O2'-CM2
6	2	4870	OMG	C3'-C4'-C5'-O5'
6	2	237	B9B	O4'-C4'-C5'-O5'
6	2	398	A2M	C3'-C4'-C5'-O5'
6	2	1883	OMG	O4'-C4'-C5'-O5'
6	2	2364	OMG	C3'-C4'-C5'-O5'
6	2	3723	A2M	C3'-C4'-C5'-O5'
6	2	3880	P7G	C3'-C4'-C5'-O5'
6	2	3897	B8K	C3'-C4'-C5'-O5'
6	2	4637	OMG	C3'-C4'-C5'-O5'
6	2	4870	OMG	O4'-C4'-C5'-O5'
6	2	1625	OMG	O4'-C4'-C5'-O5'
6	2	1909	P7G	O4'-C4'-C5'-O5'
6	2	4523	A2M	O4'-C4'-C5'-O5'
6	2	4523	A2M	C3'-C4'-C5'-O5'
6	2	4872	2MG	O4'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
6	2	4872	2MG	C3'-C4'-C5'-O5'
6	2	4529	B8W	C5-C6-O6-C61
6	2	4296	B8H	C3'-C4'-C5'-O5'
6	2	4296	B8H	O4'-C4'-C5'-O5'
6	2	4371	MHG	C2'-C1'-N9-C8
6	2	4371	MHG	C71-C72-C73-C74
6	2	2297	E7G	C72-C71-N7-C8
6	2	4870	OMG	C4'-C5'-O5'-P
6	2	1605	7MG	O4'-C4'-C5'-O5'
6	2	1909	P7G	C3'-C4'-C5'-O5'
6	2	1524	A2M	C3'-C2'-O2'-CM'
6	2	2401	A2M	C3'-C2'-O2'-CM'
6	2	3869	OMC	C3'-C2'-O2'-CM2
6	2	3701	OMC	C2'-C1'-N1-C6
6	2	1326	A2M	C4'-C5'-O5'-P
6	2	4335	5MC	C4'-C5'-O5'-P
6	2	3899	BGH	O4'-C4'-C5'-O5'
6	2	4529	B8W	N1-C6-O6-C61
6	2	373	OMG	C4'-C5'-O5'-P
6	2	3887	OMC	C4'-C5'-O5'-P
6	2	4523	A2M	C4'-C5'-O5'-P
6	2	4371	MHG	O4'-C4'-C5'-O5'
6	2	3897	B8K	C4'-C5'-O5'-P
6	2	729	2MG	O4'-C4'-C5'-O5'
6	2	1797	E7G	C72-C71-N7-C8
6	2	4296	B8H	O4'-C1'-C5-C4
6	2	3869	OMC	C2'-C1'-N1-C6
6	2	3701	OMC	O4'-C1'-N1-C6
6	2	4371	MHG	O4'-C1'-N9-C8
6	2	1909	P7G	C72-C71-N7-C8
6	2	2297	E7G	C3'-C4'-C5'-O5'
6	2	3718	A2M	O4'-C4'-C5'-O5'
6	2	4306	OMU	C1'-C2'-O2'-CM2
6	2	3701	OMC	C2'-C1'-N1-C2
6	2	3701	OMC	O4'-C1'-N1-C2
6	2	1534	A2M	O4'-C4'-C5'-O5'
6	2	4371	MHG	C72-C71-N7-C8
6	2	4371	MHG	N7-C71-C72-C73
6	2	1659	I4U	C42-C41-O4-C4
6	2	1659	I4U	C43-C41-O4-C4
6	2	3867	A2M	C4'-C5'-O5'-P
6	2	1605	7MG	C3'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
6	2	2422	OMC	O4'-C4'-C5'-O5'
6	2	3880	P7G	N7-C71-C72-C73

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 3 ligands modelled in this entry, 2 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
62	GDP	A	801	64,63	24,30,30	1.20	2 (8%)	30,47,47	1.41	5 (16%)

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
62	GDP	A	801	64,63	-	2/12/32/32	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
62	A	801	GDP	C6-N1	-3.47	1.32	1.37
62	A	801	GDP	C2'-C1'	-2.22	1.50	1.53

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
62	A	801	GDP	PA-O3A-PB	-3.52	120.74	132.83
62	A	801	GDP	C3'-C2'-C1'	3.26	105.89	100.98
62	A	801	GDP	C8-N7-C5	2.47	107.69	102.99
62	A	801	GDP	O3B-PB-O2B	2.35	116.63	107.64
62	A	801	GDP	C5-C6-N1	2.32	118.05	113.95

There are no chirality outliers.

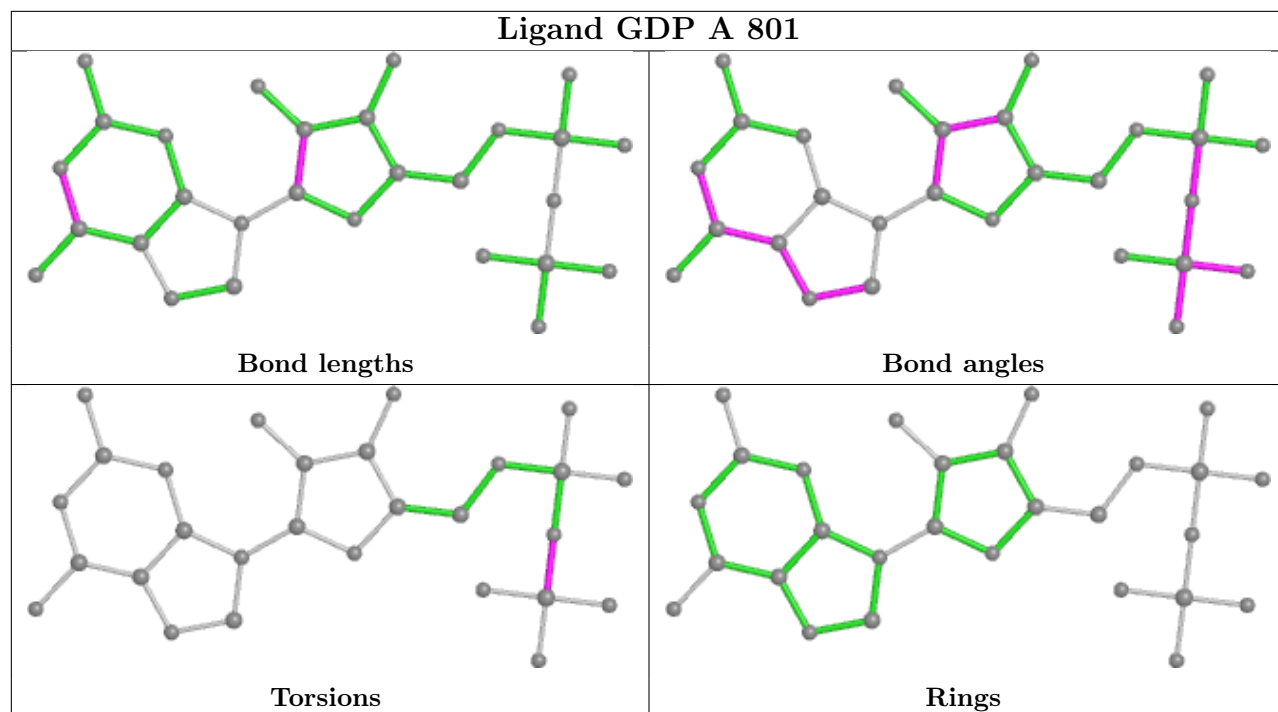
All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
62	A	801	GDP	PA-O3A-PB-O2B
62	A	801	GDP	PA-O3A-PB-O1B

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 than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

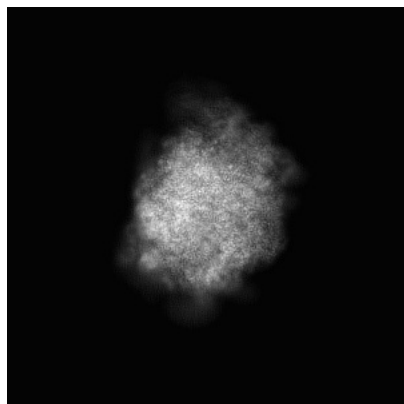
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-35597. These allow visual inspection of the internal detail of the map and identification of artifacts.

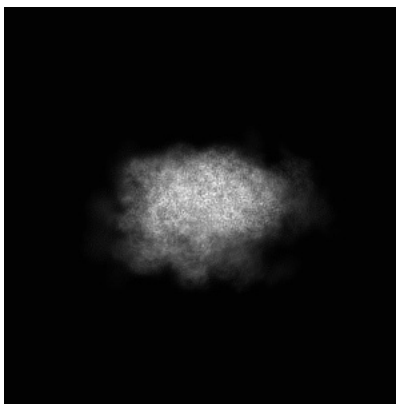
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

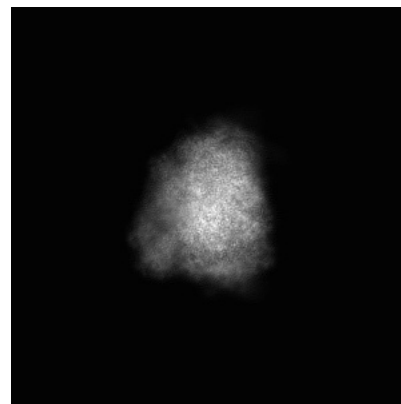
6.1.1 Primary map



X

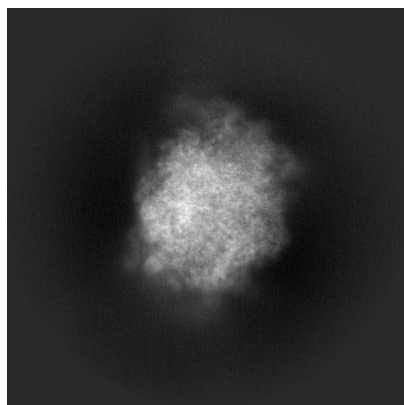


Y

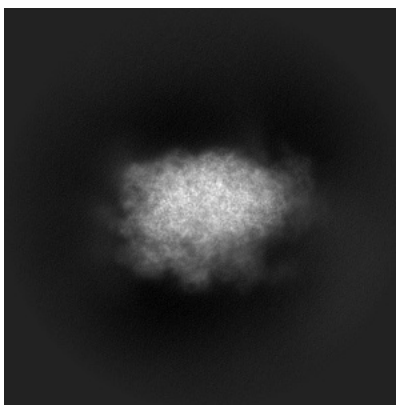


Z

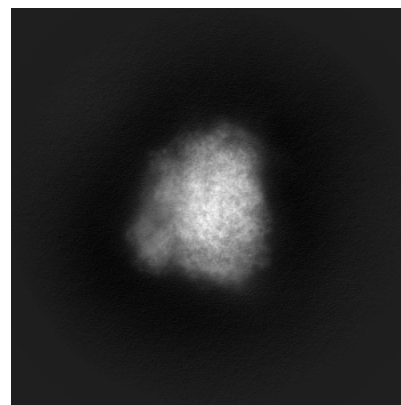
6.1.2 Raw map



X



Y

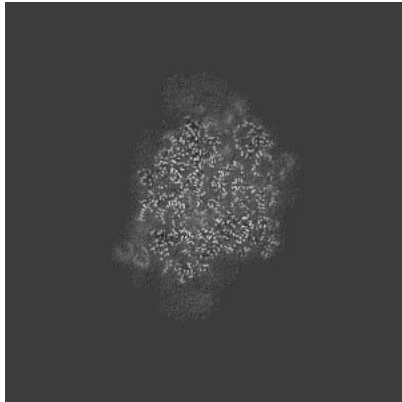


Z

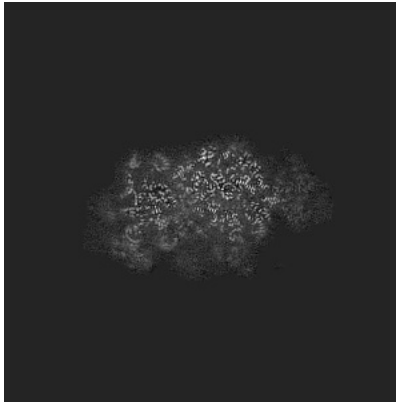
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

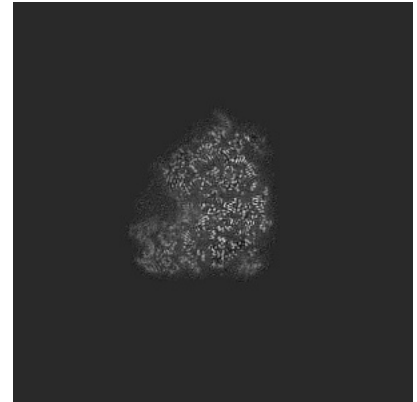
6.2.1 Primary map



X Index: 200

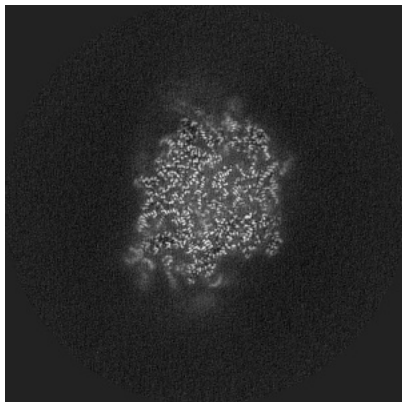


Y Index: 200

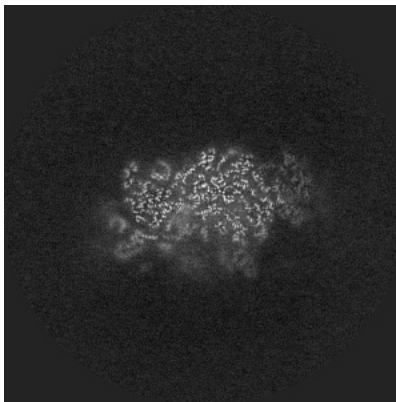


Z Index: 200

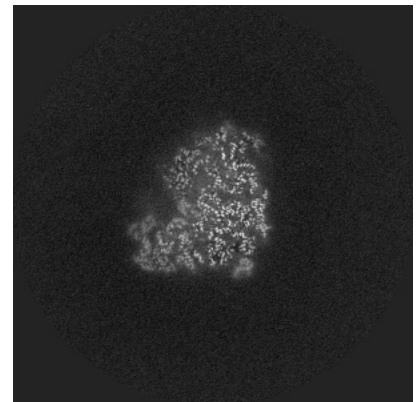
6.2.2 Raw map



X Index: 200



Y Index: 200

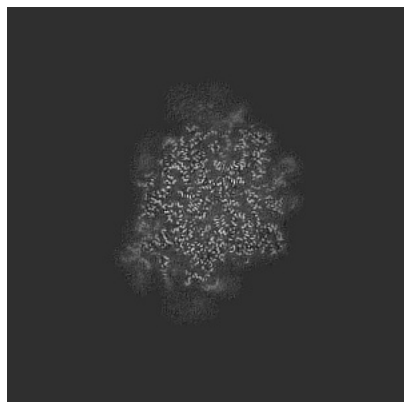


Z Index: 200

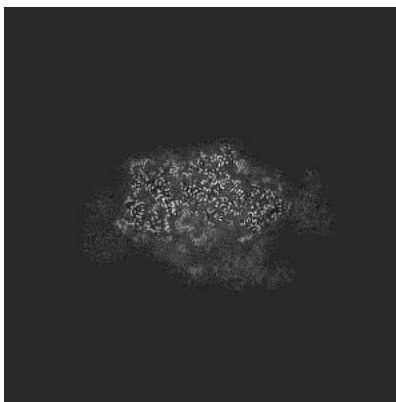
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

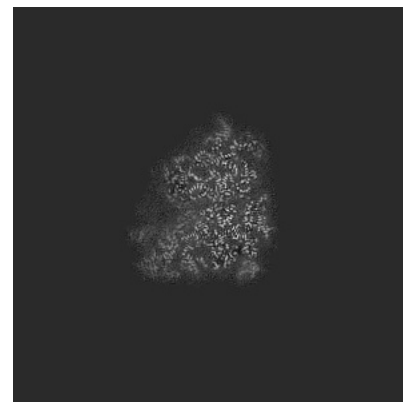
6.3.1 Primary map



X Index: 206

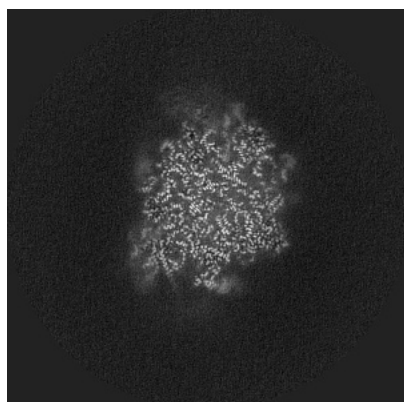


Y Index: 182

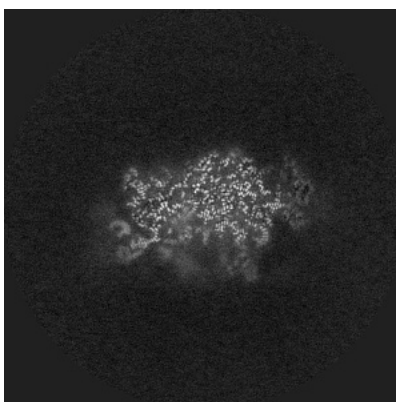


Z Index: 202

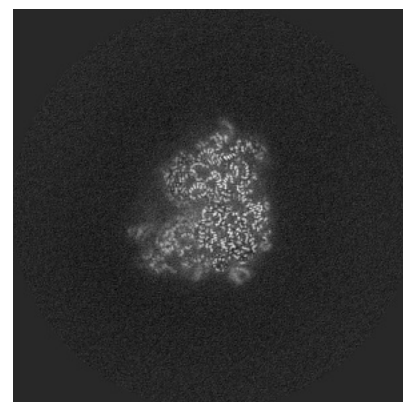
6.3.2 Raw map



X Index: 205



Y Index: 198

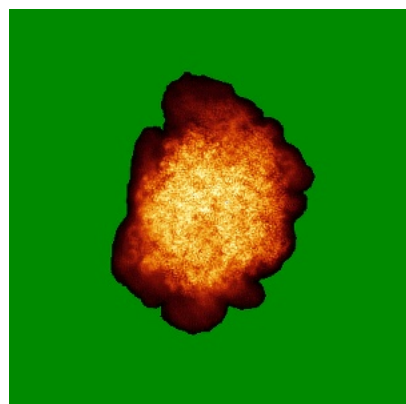


Z Index: 205

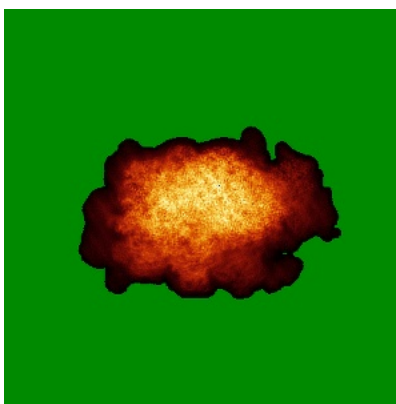
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

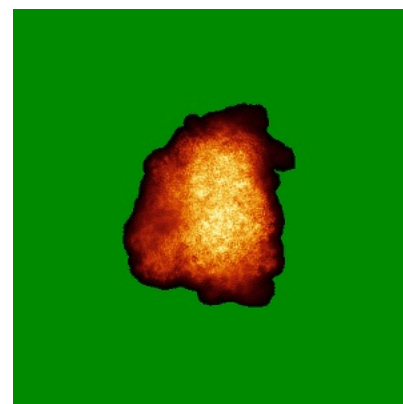
6.4.1 Primary map



X

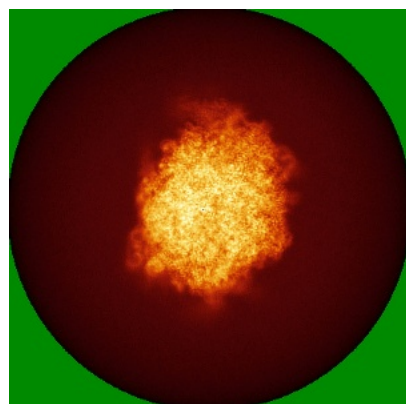


Y

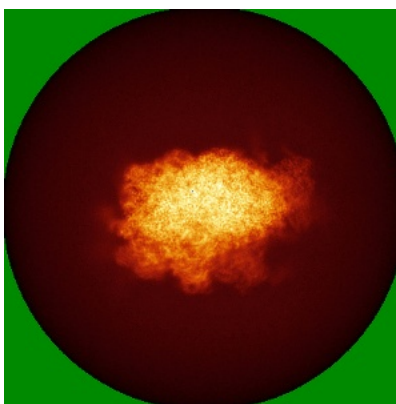


Z

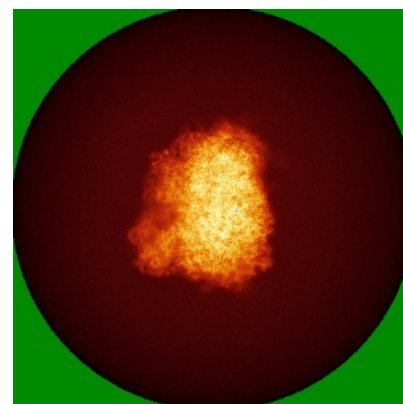
6.4.2 Raw map



X



Y

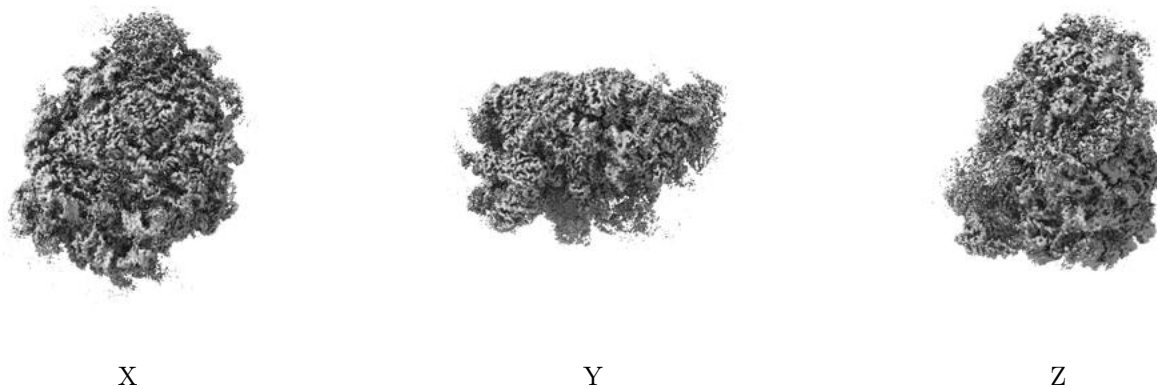


Z

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

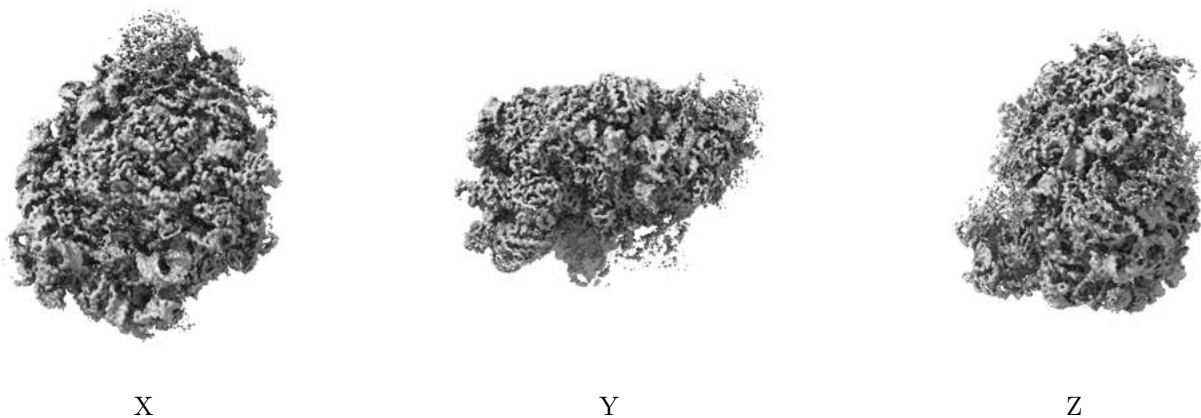
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.033. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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.

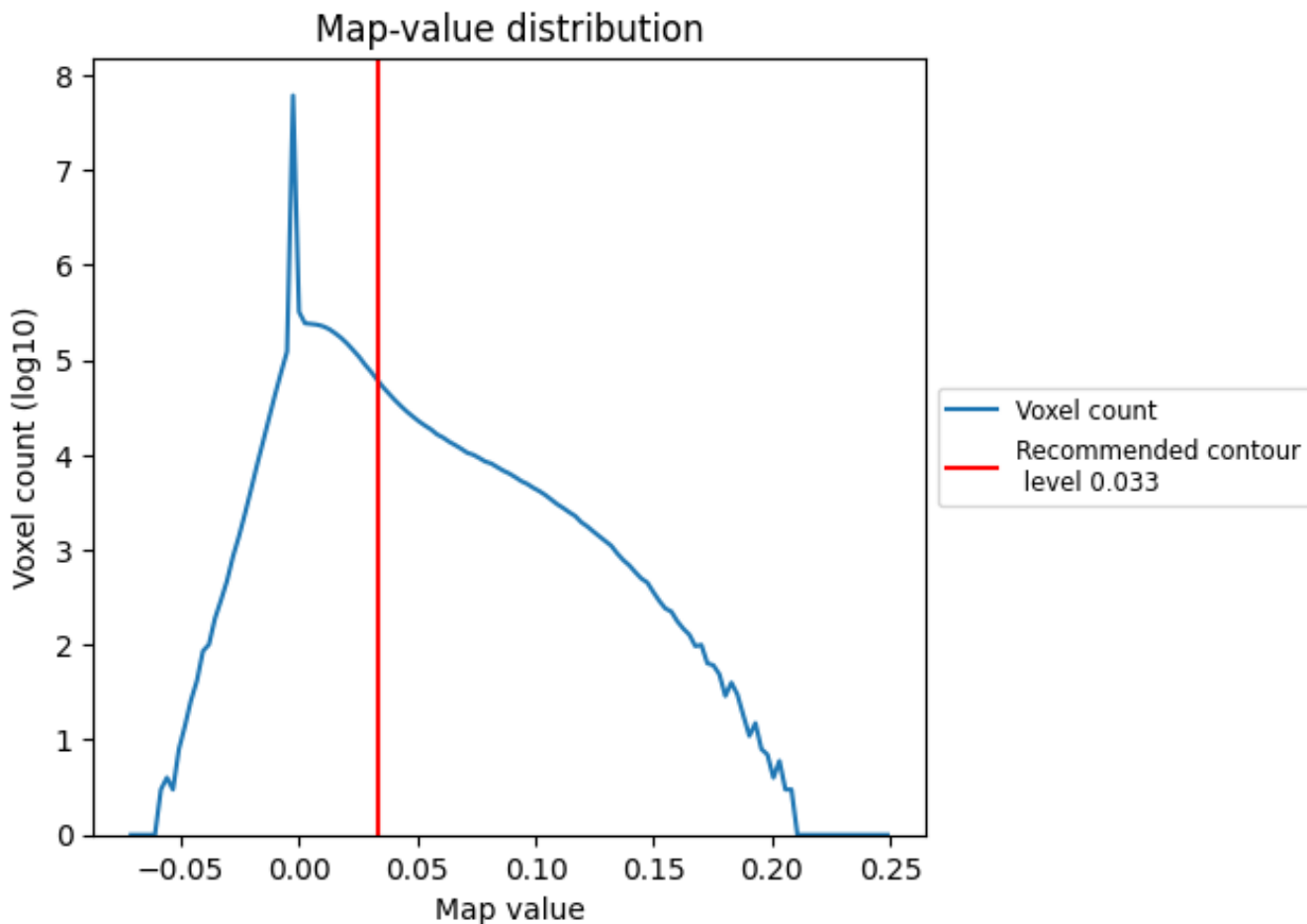
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

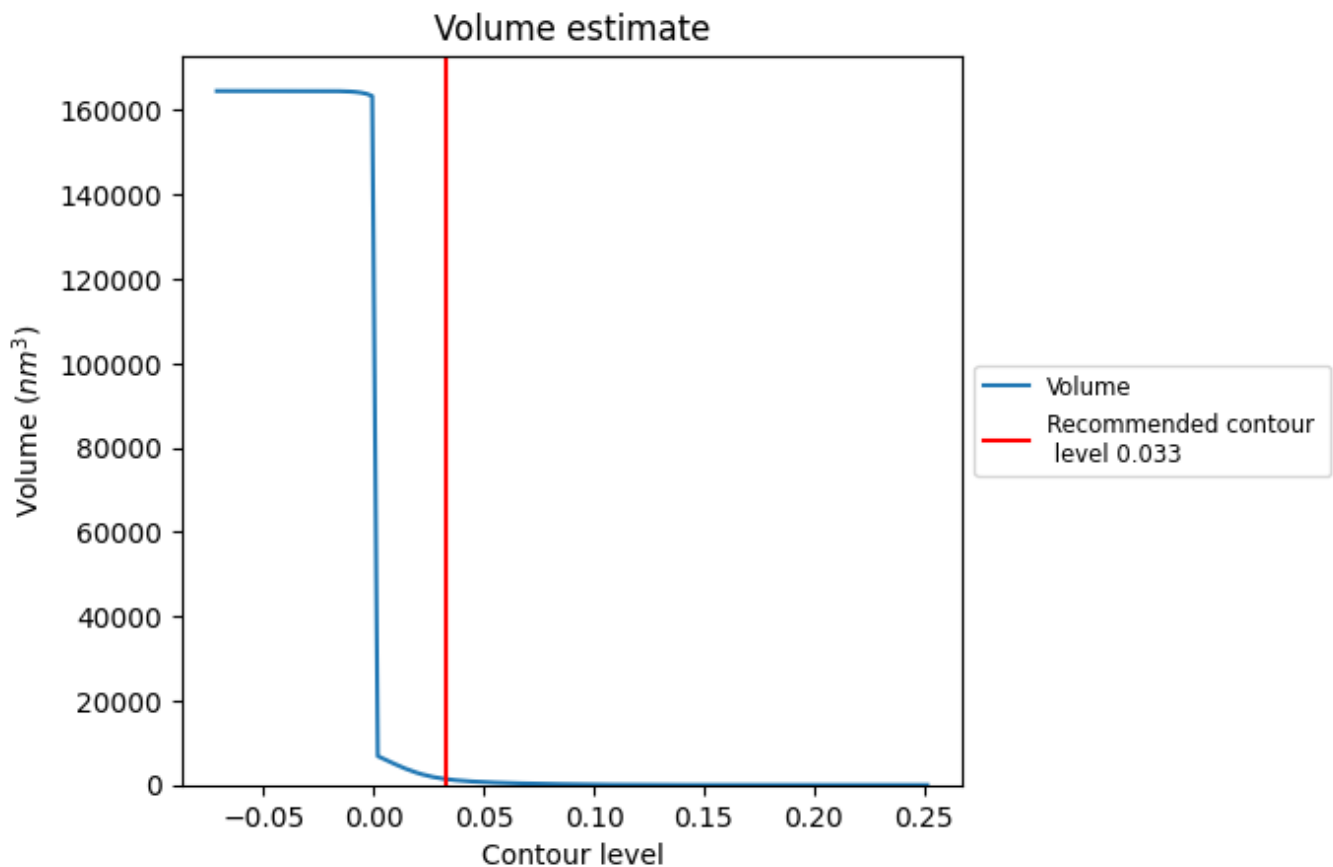
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

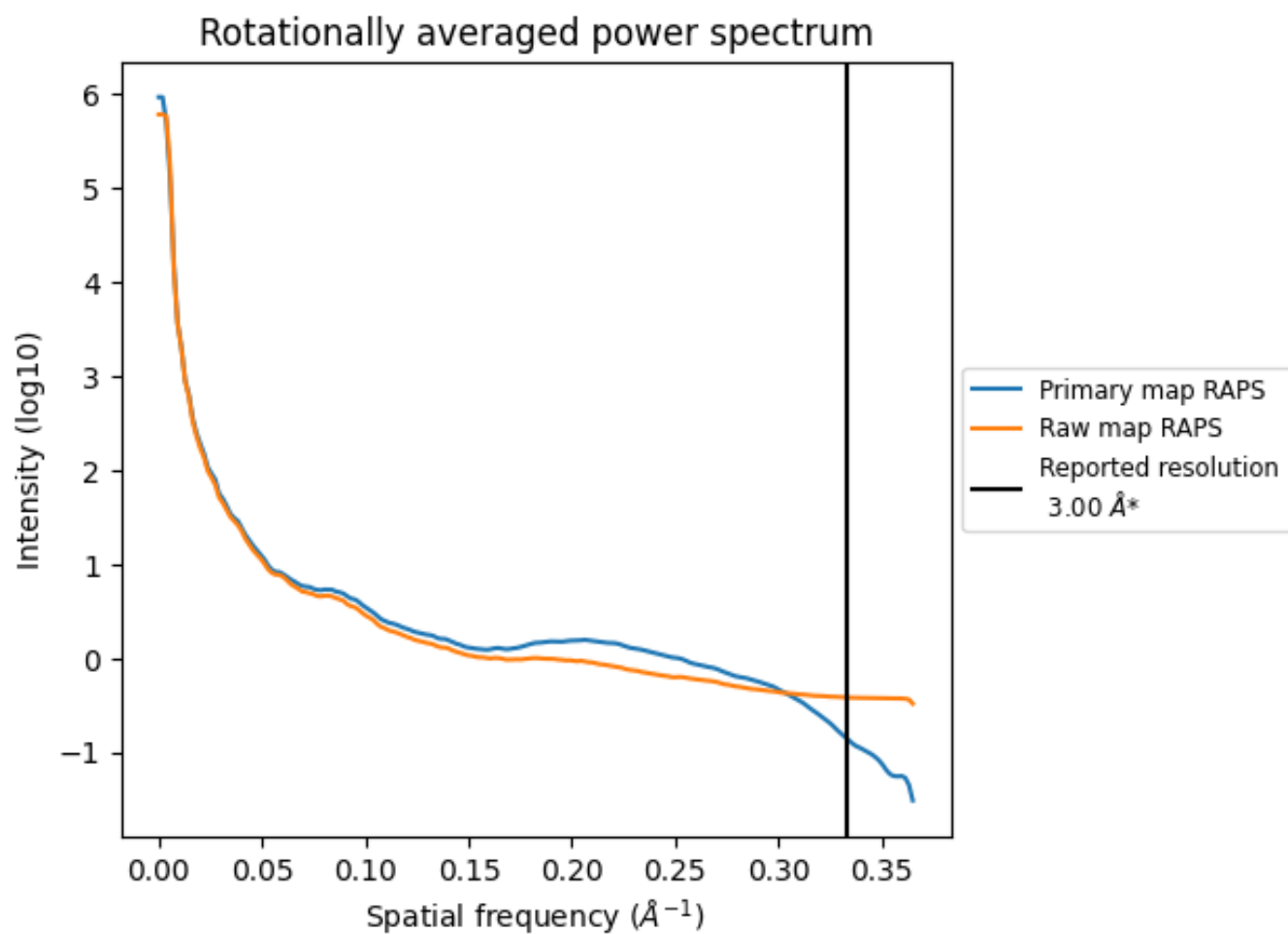
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 1388 nm³; this corresponds to an approximate mass of 1254 kDa.

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

7.3 Rotationally averaged power spectrum i

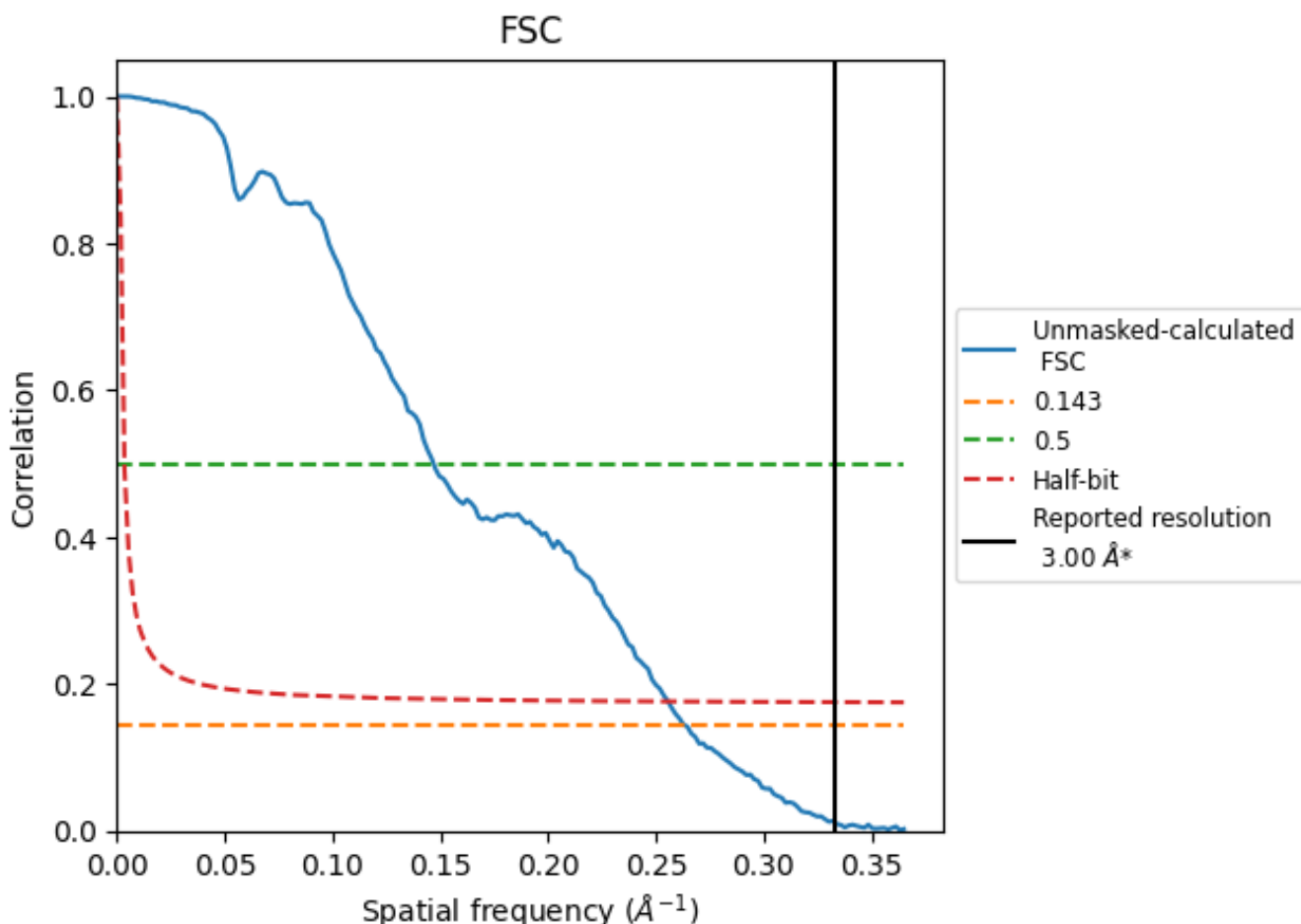


*Reported resolution corresponds to spatial frequency of 0.333 \AA^{-1}

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.333 Å⁻¹

8.2 Resolution estimates [i](#)

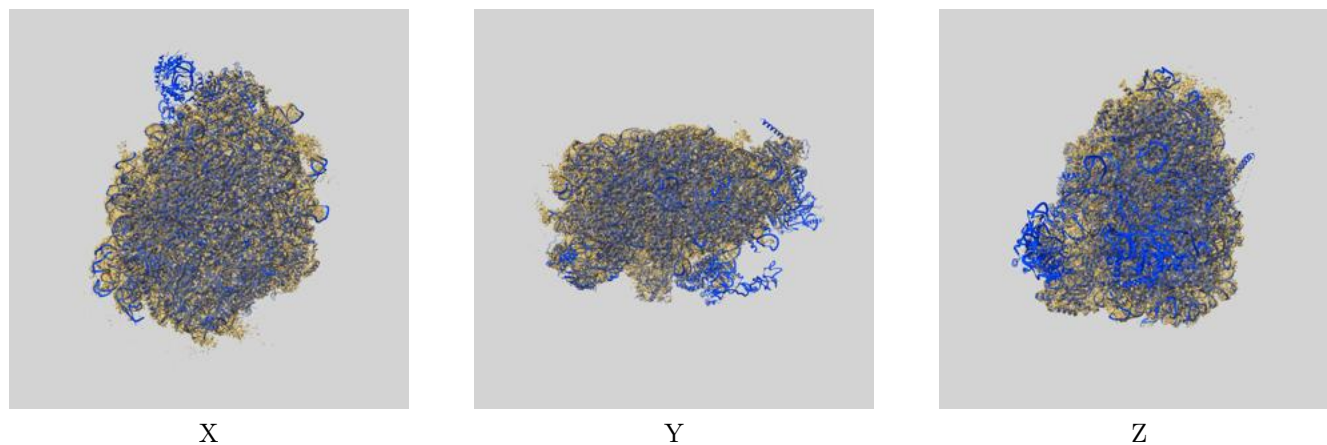
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.80	6.81	3.91

*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 3.80 differs from the reported value 3.0 by more than 10 %

9 Map-model fit [i](#)

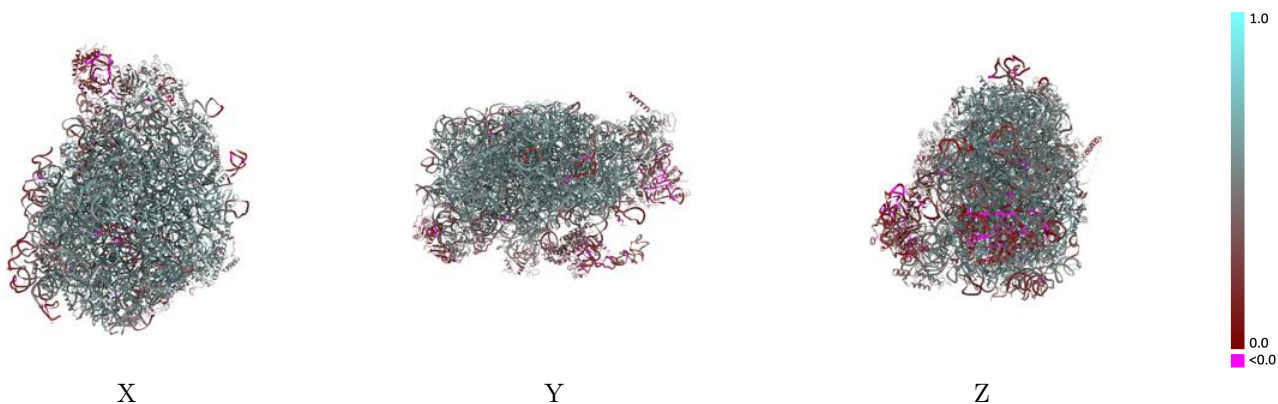
This section contains information regarding the fit between EMDB map EMD-35597 and PDB model 8INF. Per-residue inclusion information can be found in section 3 on page 16.

9.1 Map-model overlay [i](#)



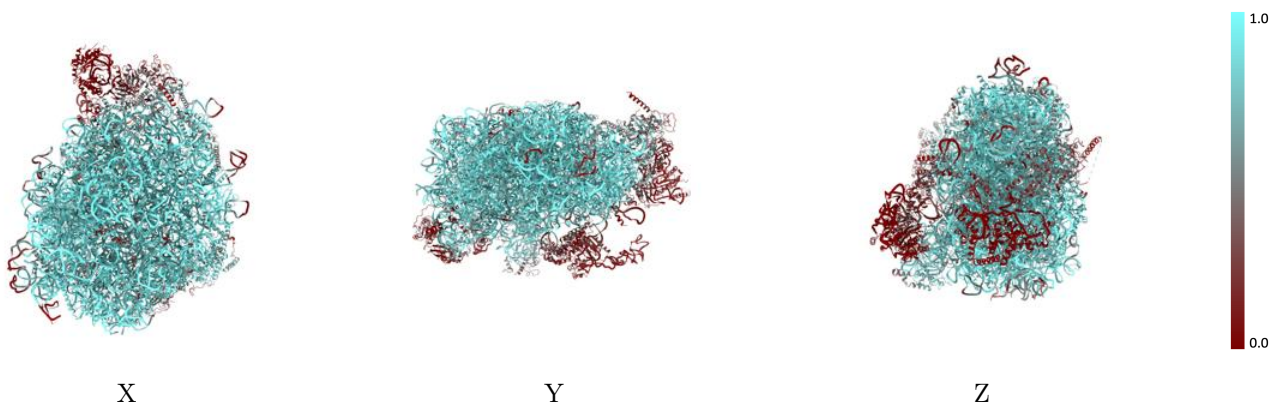
The images above show the 3D surface view of the map at the recommended contour level 0.033 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



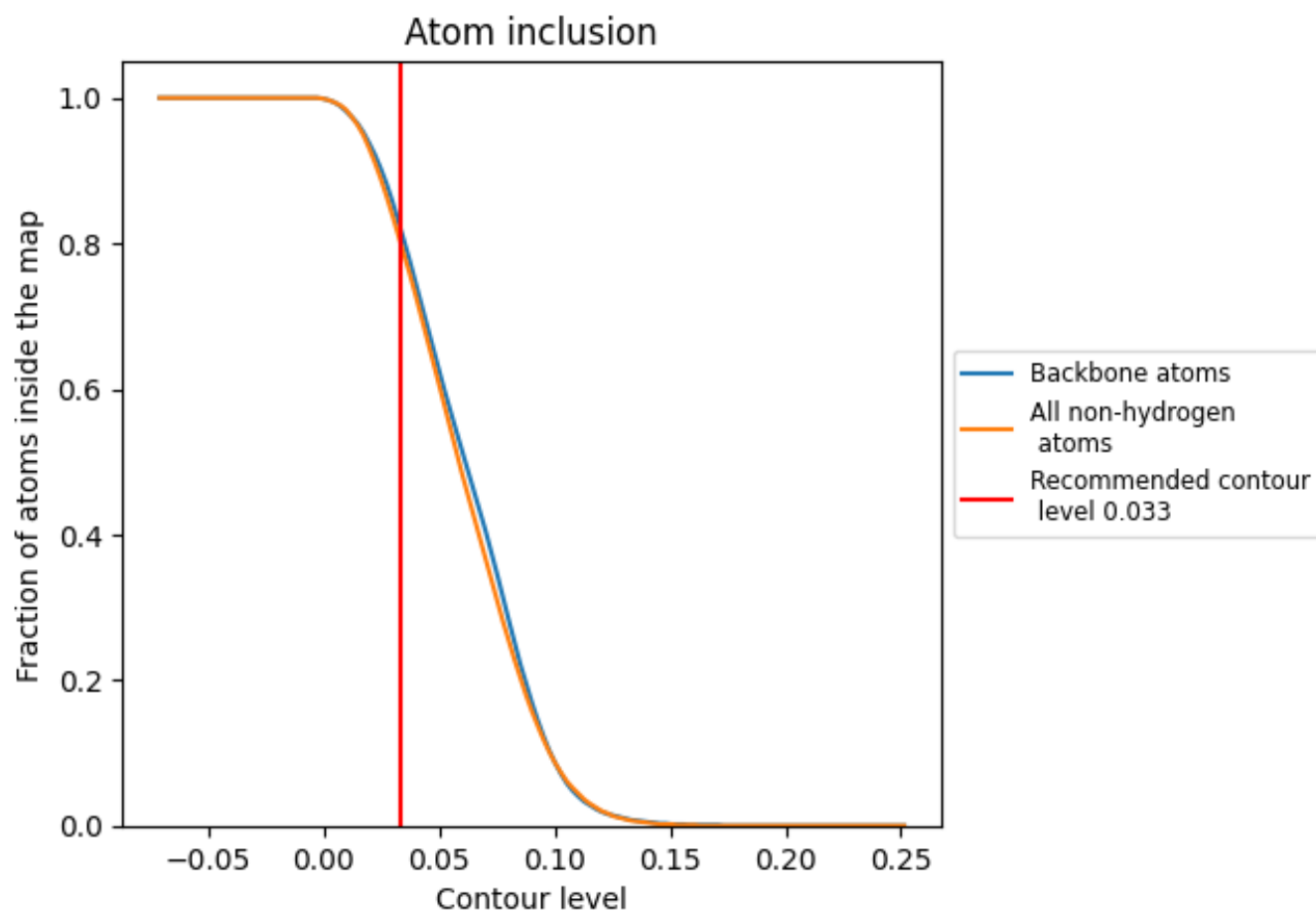
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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](#)



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 (0.033).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 82% of all backbone atoms, 80% 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 (0.033) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8040	 0.4970
1	 0.3460	 0.1860
2	 0.9000	 0.5130
3	 0.3430	 0.4380
4	 0.7470	 0.4840
5	 0.9450	 0.4750
6	 0.8180	 0.5320
7	 0.8770	 0.5580
8	 0.9580	 0.5610
9	 0.7650	 0.5080
A	 0.7790	 0.5190
B	 0.9370	 0.5810
C	 0.8490	 0.4790
D	 0.9640	 0.5840
E	 0.8180	 0.5300
F	 0.9050	 0.5670
G	 0.7940	 0.5180
H	 0.9220	 0.5630
I	 0.8800	 0.5460
J	 0.2110	 0.2000
K	 0.8720	 0.5360
L	 0.9550	 0.5850
M	 0.9870	 0.5970
N	 0.4820	 0.3080
O	 0.8130	 0.5250
P	 0.9910	 0.6020
Q	 0.8820	 0.5440
R	 0.5440	 0.4360
S	 0.9470	 0.5660
T	 0.6860	 0.4410
U	 0.9860	 0.5950
V	 0.9490	 0.5740
W	 0.8000	 0.5140
X	 0.8630	 0.5580
Y	 0.8900	 0.5620



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
Z	 0.9760	 0.5950
a	 0.9340	 0.5640
b	 0.9680	 0.5920
c	 0.9210	 0.5430
d	 0.8460	 0.5410
e	 0.9390	 0.5730
f	 0.2480	 0.3250
g	 0.8650	 0.5530
h	 0.9120	 0.5640
i	 0.8830	 0.5550
j	 0.8840	 0.5640
k	 0.9810	 0.5950
l	 0.9640	 0.5830
m	 0.9590	 0.5840
n	 0.9770	 0.5990
o	 0.8220	 0.5070
p	 0.9510	 0.5700
q	 0.0240	 0.2150
r	 0.6910	 0.4200
s	 0.2260	 0.2200
t	 0.1190	 0.2660
u	 0.0010	 0.1820
v	 0.5240	 0.4780
w	 0.4000	 0.4070
x	 0.0030	 0.0540
y	 0.1950	 0.2480
z	 0.7100	 0.4730