Full wwPDB EM Validation Report

Apr 16, 2024 – 05:17 am BST

PDB ID	:	7PJZ
EMDB ID	:	EMD-13465
Title	:	Structure of the 70S-EF-G-GDP ribosome complex with tRNAs in chimeric state 2 (CHI2-EF-G-GDP)
Authors	:	Petrychenko, V.; Peng, B.Z.; Schwarzer, A.C.; Peske, F.; Rodnina, M.V.; Fischer, N.
Deposited on	:	2021-08-24
Resolution	:	6.00 Å(reported)
Based on initial models	:	5LZD, 6YSS, 4AQY, 5J9Z

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 (i) 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 (1)) were used in the production of this report:

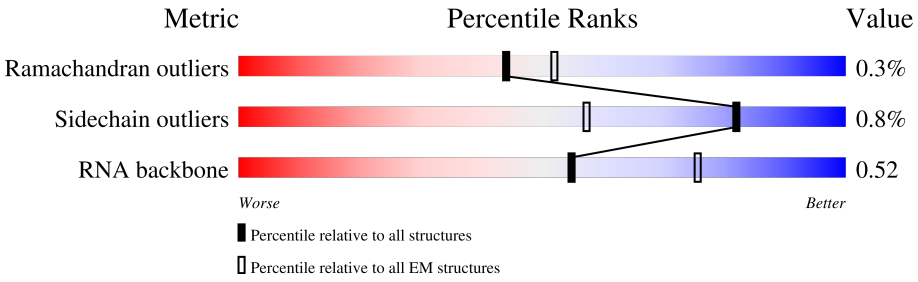
EMDB validation analysis	:	0.0.1.dev92
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	FAILED
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	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 6.00 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 <=5%

Mol	Chain	Length	Quality of chain
1	0	57	98% .
2	1	55	91% 9%
3	2	46	96% .
4	3	65	95% . .
5	4	38	100%
6	5	165	79% 21%
7	6	70	90% . 6%
8	A	2903	39% 52% 9%
9	B	120	32% 59% 9%

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Mol	Chain	Length	Quality of chain
10	C	273	96%
11	D	209	100%
12	E	201	100%
13	F	179	98%
14	G	177	97%
15	H	149	99%
16	I	142	99%
17	J	142	99%
18	K	123	96%
19	L	144	97%
20	M	136	97%
21	N	127	93% 6%
22	O	117	97%
23	P	115	98%
24	Q	118	98%
25	R	103	98%
26	S	110	96%
27	T	100	90% 7%

2 Entry composition

There are 62 unique types of molecules in this entry. The entry contains 152440 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 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	0	56	444	269	94	80	1	0	0

- Molecule 2 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
2	1	50	409	263	75	71	0	0

- Molecule 3 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	2	46	377	228	90	57	2	0	0

- Molecule 4 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	3	64	504	323	105	74	2	0	0

- Molecule 5 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	4	38	302	185	65	48	4	0	0

- Molecule 6 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	5	131	647	385	131	131	0	0

- Molecule 7 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	66	Total	C	N	O	S	0	0
			522	323	99	94	6		

- Molecule 8 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	A	2903	Total	C	N	O	P	0	0
			62338	27816	11471	20148	2903		

- Molecule 9 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	B	120	Total	C	N	O	P	0	0
			2570	1144	468	838	120		

- Molecule 10 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	C	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 11 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	D	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 12 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	E	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 13 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	F	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 14 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	G	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 15 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	H	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 16 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	I	141	Total	C	N	O	0	0
			693	411	141	141		

- Molecule 17 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	J	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 18 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	K	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

- Molecule 19 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	L	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

- Molecule 20 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	M	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 21 is a protein called 50S ribosomal protein L17.

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

- Molecule 22 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
22	O	116	Total	C	N	O	0	0
			892	552	178	162		

- Molecule 23 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	P	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 24 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	Q	117	Total	C	N	O	0	0
			947	604	192	151		

- Molecule 25 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	R	103	Total	C	N	O	S	0	0
			816	516	153	145	2		

- Molecule 26 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	S	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

- Molecule 27 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	T	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

- Molecule 28 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	U	102	Total 779	C 492	N 146	O 141	0	0

- Molecule 29 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	V	94	Total 753	C 479	N 137	O 134	S 3	0	0

- Molecule 30 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	W	75	Total 575	C 356	N 116	O 102	S 1	0	0

- Molecule 31 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	X	77	Total 625	C 388	N 129	O 106	S 2	0	0

- Molecule 32 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Y	63	Total 509	C 313	N 99	O 95	S 2	0	0

- Molecule 33 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Z	58	Total 449	C 281	N 87	O 79	S 2	0	0

- Molecule 34 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	a	1540	Total 33050	C 14748	N 6057	O 10705	P 1540	0	0

- Molecule 35 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	b	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 36 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	c	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 37 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	d	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 38 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	e	157	Total	C	N	O	S	0	0
			1141	709	218	208	6		

- Molecule 39 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	f	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 40 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	g	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		

- Molecule 41 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	h	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 42 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	i	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 43 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	j	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 44 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	k	116	Total	C	N	O	S	0	0
			869	535	173	158	3		

- Molecule 45 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	l	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 46 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	m	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 47 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	n	101	Total	C	N	O	S	0	0
			799	498	165	133	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n	35	ALA	-	insertion	UNP C3SR07

- Molecule 48 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	o	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 49 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	p	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 50 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	q	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 51 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	r	65	Total	C	N	O	S	0	0
			535	339	100	95	1		

- Molecule 52 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	s	82	Total	C	N	O	S	0	0
			658	421	125	110	2		

- Molecule 53 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	t	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 54 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	u	65	Total	C	N	O	S	0	0
			506	313	105	87	1		

- Molecule 55 is a RNA chain called P-site tRNA(fMet).

Mol	Chain	Residues	Atoms						AltConf	Trace
55	v	77	Total	C	N	O	P	S	0	0
			1642	733	297	534	77	1		

- Molecule 56 is a RNA chain called P-site fMet-Phe-tRNA(Phe).

Mol	Chain	Residues	Atoms						AltConf	Trace
56	w	76	Total	C	N	O	P	S	0	0
			1631	731	291	531	76	2		

- Molecule 57 is a protein called Elongation factor G.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	x	669	Total	C	N	O	S	1	0
			5192	3275	900	994	23		

- Molecule 58 is a protein called Dipeptide (FME-PHE).

Mol	Chain	Residues	Atoms					AltConf	Trace
58	y	2	Total	C	N	O	S	0	0
			21	15	2	3	1		

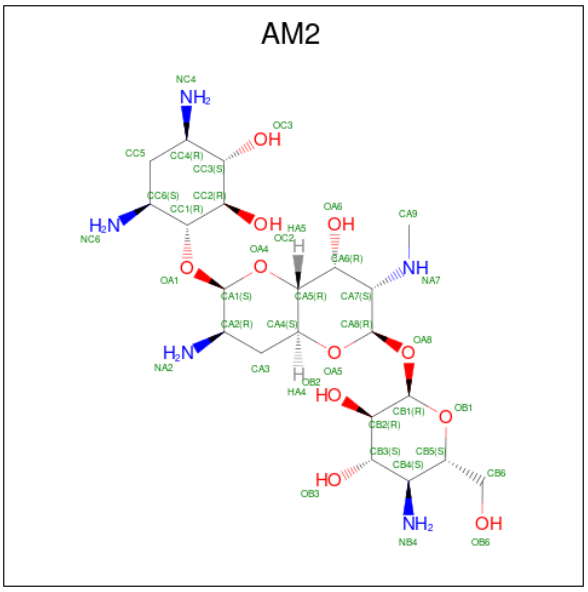
- Molecule 59 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	z	10	Total	C	N	O	P	0	0
			208	93	29	76	10		

- Molecule 60 is ZINC ION (three-letter code: ZN) (formula: Zn).

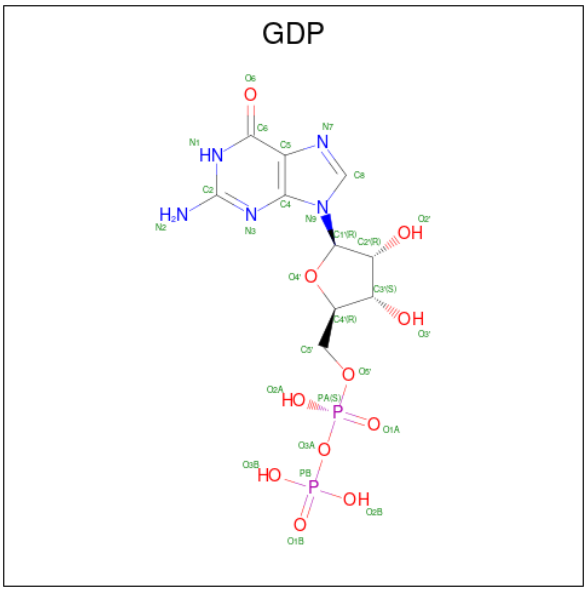
Mol	Chain	Residues	Atoms		AltConf
60	6	1	Total	Zn	0
			1	1	

- Molecule 61 is APRAMYCIN (three-letter code: AM2) (formula: $C_{21}H_{41}N_5O_{11}$).



Mol	Chain	Residues	Atoms				AltConf
61	a	1	Total	C	N	O	0
			37	21	5	11	

- Molecule 62 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$).



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

SEQUENCE-PLOTS INFOmissingINFO

3 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	6168	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	30	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1200	Depositor
Magnification	59000	Depositor
Image detector	FEI FALCON III (4k x 4k)	Depositor

4 Model quality (i)

4.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: MIA, ZN, 5MC, H2U, UR3, G7M, 2MA, 5MU, GDP, OMC, PSU, 2MG, MA6, 1MG, 4SU, 4OC, 6MZ, OMU, 3TD, FME, AM2, OMG

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	0	0.81	0/450	1.06	0/599
2	1	0.71	0/416	1.15	0/554
3	2	0.82	0/380	1.08	1/498 (0.2%)
4	3	0.81	0/513	1.07	0/676
5	4	0.77	0/303	1.17	0/397
6	5	0.31	0/646	0.62	0/898
7	6	0.76	0/531	1.04	0/709
8	A	1.65	635/69266 (0.9%)	1.90	2790/108055 (2.6%)
9	B	1.68	28/2873 (1.0%)	2.02	154/4478 (3.4%)
10	C	0.78	1/2121 (0.0%)	1.05	4/2852 (0.1%)
11	D	0.76	0/1586	0.99	0/2134
12	E	0.74	0/1571	0.99	1/2113 (0.0%)
13	F	0.79	0/1434	0.99	1/1926 (0.1%)
14	G	0.76	0/1343	0.98	2/1816 (0.1%)
15	H	0.62	0/1122	0.87	1/1515 (0.1%)
16	I	0.37	0/692	0.66	0/960
17	J	0.82	0/1152	1.03	1/1551 (0.1%)
18	K	0.73	0/947	1.01	0/1268
19	L	0.72	0/1054	1.17	2/1403 (0.1%)
20	M	0.83	0/1093	1.08	3/1460 (0.2%)
21	N	0.77	1/973 (0.1%)	1.14	1/1301 (0.1%)
22	O	0.73	0/902	0.94	2/1209 (0.2%)
23	P	0.81	0/929	1.02	1/1242 (0.1%)
24	Q	0.82	0/960	1.04	1/1278 (0.1%)
25	R	0.81	0/829	1.04	0/1107
26	S	0.79	0/864	1.10	4/1156 (0.3%)
27	T	0.82	0/744	1.10	1/994 (0.1%)
28	U	0.93	1/787 (0.1%)	1.12	1/1051 (0.1%)
29	V	0.93	0/766	0.99	0/1025
30	W	0.76	0/582	1.02	0/769
31	X	0.87	2/635 (0.3%)	1.17	2/848 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
32	Y	0.77	0/510	1.08	1/677 (0.1%)
33	Z	0.78	0/453	1.12	0/605
34	a	1.52	254/36725 (0.7%)	1.85	1350/57285 (2.4%)
35	b	0.62	0/1735	0.86	2/2338 (0.1%)
36	c	0.73	0/1651	0.93	1/2225 (0.0%)
37	d	0.70	0/1665	0.96	1/2227 (0.0%)
38	e	0.73	0/1154	1.00	1/1554 (0.1%)
39	f	0.71	0/835	0.89	0/1128
40	g	0.63	0/1195	0.86	1/1602 (0.1%)
41	h	0.66	0/989	0.86	0/1326
42	i	0.65	0/1034	0.93	1/1375 (0.1%)
43	j	0.66	0/796	0.94	1/1077 (0.1%)
44	k	0.65	0/885	0.94	0/1195
45	l	0.75	0/969	1.09	1/1300 (0.1%)
46	m	0.65	0/892	0.95	0/1193
47	n	0.68	0/811	0.97	0/1081
48	o	0.66	0/722	0.97	0/964
49	p	0.70	0/659	0.96	1/884 (0.1%)
50	q	0.81	0/657	1.00	1/881 (0.1%)
51	r	0.73	1/544 (0.2%)	0.98	1/731 (0.1%)
52	s	0.66	0/675	1.02	2/908 (0.2%)
53	t	0.79	0/671	0.90	0/888
54	u	0.59	0/512	0.91	0/683
55	v	1.45	16/1745 (0.9%)	1.88	65/2716 (2.4%)
56	w	1.09	2/1650 (0.1%)	1.48	27/2569 (1.1%)
57	x	0.72	1/5288 (0.0%)	0.95	6/7152 (0.1%)
58	y	0.29	0/11	0.79	0/13
59	z	0.89	0/230	1.17	0/355
All	All	1.39	942/164127 (0.6%)	1.68	4436/244774 (1.8%)

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
4	3	0	1
25	R	0	1
28	U	0	1
32	Y	0	1
35	b	0	1
37	d	0	3

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Mol	Chain	#Chirality outliers	#Planarity outliers
54	u	0	1
57	x	0	1
All	All	0	10

All (942) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1	G	OP3-P	-10.75	1.48	1.61
9	B	1	U	OP3-P	-10.72	1.48	1.61
55	v	1	C	OP3-P	-10.66	1.48	1.61
8	A	1055	G	N9-C4	-10.60	1.29	1.38
34	a	640	A	N9-C4	-9.66	1.32	1.37
8	A	1139	G	N9-C4	-9.09	1.30	1.38
34	a	101	A	N9-C4	-9.00	1.32	1.37
34	a	1155	A	N9-C4	-8.98	1.32	1.37
8	A	482	A	N9-C4	-8.90	1.32	1.37
8	A	843	G	N9-C4	-8.69	1.30	1.38
34	a	604	G	N9-C4	-8.66	1.31	1.38
34	a	201	G	N9-C4	-8.46	1.31	1.38
34	a	1081	A	O3'-P	8.44	1.71	1.61
8	A	1548	A	N9-C4	-8.43	1.32	1.37
8	A	2763	G	N9-C4	-8.37	1.31	1.38
34	a	858	G	N9-C4	-8.32	1.31	1.38
8	A	1025	G	N9-C4	-8.31	1.31	1.38
8	A	2235	G	N9-C4	-8.26	1.31	1.38
8	A	2814	A	N9-C4	-8.23	1.32	1.37
8	A	1687	G	N9-C4	-8.21	1.31	1.38
8	A	1425	G	N9-C4	-8.19	1.31	1.38
8	A	217	A	N9-C4	-8.18	1.32	1.37
8	A	2576	G	N3-C4	-8.11	1.29	1.35
8	A	1277	G	N9-C4	-8.10	1.31	1.38
8	A	126	A	N9-C4	-8.05	1.33	1.37
34	a	542	G	N9-C4	-7.97	1.31	1.38
34	a	1431	A	N9-C4	-7.94	1.33	1.37
8	A	920	A	N9-C4	-7.92	1.33	1.37
8	A	344	A	N9-C4	-7.88	1.33	1.37
8	A	780	G	N9-C4	-7.80	1.31	1.38
8	A	2657	A	N9-C4	-7.78	1.33	1.37
8	A	1165	A	N9-C4	-7.76	1.33	1.37
9	B	119	A	N9-C4	-7.68	1.33	1.37
34	a	461	A	N9-C4	-7.67	1.33	1.37
8	A	522	A	N9-C4	-7.62	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	321	A	N9-C4	-7.60	1.33	1.37
34	a	954	G	N9-C4	-7.56	1.31	1.38
34	a	628	G	N9-C4	-7.54	1.31	1.38
8	A	1022	G	N9-C4	-7.53	1.31	1.38
8	A	1492	G	N9-C4	-7.53	1.31	1.38
8	A	2228	G	N9-C4	-7.51	1.31	1.38
8	A	505	A	N9-C4	-7.50	1.33	1.37
8	A	2097	A	N9-C4	-7.50	1.33	1.37
8	A	2461	A	N9-C4	-7.50	1.33	1.37
8	A	1674	G	N9-C4	-7.49	1.31	1.38
8	A	1650	A	N9-C4	-7.48	1.33	1.37
34	a	888	G	N9-C4	-7.47	1.31	1.38
55	v	12	G	N9-C4	-7.47	1.31	1.38
8	A	1385	A	N9-C4	-7.47	1.33	1.37
34	a	460	A	N9-C4	-7.47	1.33	1.37
8	A	1450	G	N9-C4	-7.46	1.31	1.38
8	A	2770	G	N9-C4	-7.45	1.31	1.38
8	A	180	G	N9-C4	-7.45	1.31	1.38
8	A	2418	A	N9-C4	-7.44	1.33	1.37
34	a	1289	A	N9-C4	-7.41	1.33	1.37
8	A	1433	A	N9-C4	-7.40	1.33	1.37
8	A	1642	G	N9-C4	-7.40	1.32	1.38
8	A	457	A	N9-C4	-7.38	1.33	1.37
34	a	768	A	N9-C4	-7.37	1.33	1.37
8	A	2225	A	N9-C4	-7.36	1.33	1.37
8	A	1522	A	N9-C4	-7.35	1.33	1.37
34	a	909	A	N9-C4	-7.32	1.33	1.37
8	A	1684	G	N9-C4	-7.32	1.32	1.38
8	A	2199	A	N9-C4	-7.32	1.33	1.37
8	A	2525	G	N9-C4	-7.31	1.32	1.38
8	A	2389	G	N9-C4	-7.31	1.32	1.38
34	a	617	G	N9-C4	-7.30	1.32	1.38
8	A	2727	A	N9-C4	-7.30	1.33	1.37
8	A	347	A	N9-C4	-7.29	1.33	1.37
8	A	1503	A	N9-C4	-7.29	1.33	1.37
55	v	72	A	N9-C4	-7.28	1.33	1.37
34	a	592	G	N9-C4	-7.28	1.32	1.38
8	A	2663	G	N9-C4	-7.27	1.32	1.38
34	a	42	G	N9-C4	-7.24	1.32	1.38
34	a	413	G	N9-C4	-7.24	1.32	1.38
8	A	1371	G	N9-C4	-7.23	1.32	1.38
8	A	2706	A	N9-C4	-7.22	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	274	A	N9-C4	-7.21	1.33	1.37
8	A	207	A	N9-C4	-7.18	1.33	1.37
8	A	1843	C	N1-C6	-7.17	1.32	1.37
8	A	2010	G	N9-C4	-7.17	1.32	1.38
34	a	831	A	N9-C4	-7.17	1.33	1.37
8	A	1055	G	C2-N3	-7.16	1.27	1.32
8	A	1374	G	N9-C4	-7.16	1.32	1.38
8	A	2813	A	N9-C4	-7.15	1.33	1.37
34	a	1012	A	N9-C4	-7.11	1.33	1.37
8	A	761	A	N9-C4	-7.11	1.33	1.37
8	A	833	A	N9-C4	-7.10	1.33	1.37
8	A	1525	A	N9-C4	-7.10	1.33	1.37
34	a	1488	G	N9-C4	-7.09	1.32	1.38
34	a	262	A	N9-C4	-7.09	1.33	1.37
8	A	315	G	N9-C4	-7.07	1.32	1.38
8	A	45	G	N9-C4	-7.06	1.32	1.38
34	a	1417	G	N9-C4	-7.06	1.32	1.38
8	A	1749	A	N9-C4	-7.04	1.33	1.37
34	a	228	A	N9-C4	-7.04	1.33	1.37
34	a	265	G	N9-C4	-7.03	1.32	1.38
8	A	1593	A	N9-C4	-7.01	1.33	1.37
8	A	1970	A	N9-C4	-6.98	1.33	1.37
8	A	340	A	N9-C4	-6.97	1.33	1.37
8	A	2458	G	N9-C4	-6.97	1.32	1.38
34	a	521	G	N9-C4	-6.97	1.32	1.38
8	A	2566	A	N9-C4	-6.96	1.33	1.37
8	A	1745	A	N9-C4	-6.96	1.33	1.37
9	B	20	G	N9-C4	-6.96	1.32	1.38
34	a	1156	G	N9-C4	-6.95	1.32	1.38
8	A	1016	G	N9-C4	-6.95	1.32	1.38
9	B	23	G	N9-C4	-6.94	1.32	1.38
34	a	155	A	N9-C4	-6.94	1.33	1.37
9	B	34	A	N9-C4	-6.93	1.33	1.37
8	A	943	A	N9-C4	-6.93	1.33	1.37
8	A	1596	A	N9-C4	-6.93	1.33	1.37
8	A	1216	G	N9-C4	-6.92	1.32	1.38
8	A	1347	A	N9-C4	-6.91	1.33	1.37
8	A	1292	G	N9-C4	-6.91	1.32	1.38
8	A	1867	G	N9-C4	-6.90	1.32	1.38
8	A	1091	G	N9-C4	-6.90	1.32	1.38
8	A	1021	A	N9-C4	-6.90	1.33	1.37
8	A	800	A	N9-C4	-6.89	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1570	A	N9-C4	-6.88	1.33	1.37
34	a	889	A	N9-C4	-6.88	1.33	1.37
8	A	2435	A	N9-C4	-6.88	1.33	1.37
8	A	2576	G	C2-N3	-6.87	1.27	1.32
8	A	44	A	N9-C4	-6.86	1.33	1.37
34	a	988	G	N9-C4	-6.85	1.32	1.38
34	a	1432	G	N9-C4	-6.85	1.32	1.38
34	a	648	A	N9-C4	-6.84	1.33	1.37
8	A	354	A	N9-C4	-6.84	1.33	1.37
8	A	2040	G	N9-C4	-6.84	1.32	1.38
34	a	1244	G	N9-C4	-6.83	1.32	1.38
8	A	1336	A	N9-C4	-6.82	1.33	1.37
8	A	310	A	N9-C4	-6.82	1.33	1.37
55	v	46	A	N9-C4	-6.82	1.33	1.37
8	A	1527	G	N9-C4	-6.81	1.32	1.38
34	a	411	A	N9-C4	-6.81	1.33	1.37
34	a	241	G	N9-C4	-6.81	1.32	1.38
8	A	2536	G	N9-C4	-6.79	1.32	1.38
8	A	1220	G	N9-C4	-6.79	1.32	1.38
8	A	188	G	N9-C4	-6.79	1.32	1.38
34	a	201	G	C2-N3	-6.78	1.27	1.32
8	A	111	A	N9-C4	-6.78	1.33	1.37
8	A	1047	G	N9-C4	-6.78	1.32	1.38
34	a	77	A	N9-C4	-6.78	1.33	1.37
8	A	2411	A	N9-C4	-6.77	1.33	1.37
9	B	54	G	N9-C4	-6.77	1.32	1.38
8	A	1266	G	N9-C4	-6.77	1.32	1.38
34	a	246	A	N9-C4	-6.76	1.33	1.37
8	A	708	G	N9-C4	-6.75	1.32	1.38
8	A	696	G	N9-C4	-6.73	1.32	1.38
8	A	2351	G	N9-C4	-6.72	1.32	1.38
8	A	2665	A	N9-C4	-6.71	1.33	1.37
8	A	301	G	N9-C4	-6.71	1.32	1.38
8	A	1952	A	N9-C4	-6.71	1.33	1.37
8	A	1905	C	N1-C6	-6.69	1.33	1.37
34	a	1142	G	N9-C4	-6.68	1.32	1.38
8	A	2353	G	N9-C4	-6.68	1.32	1.38
8	A	146	A	N9-C4	-6.67	1.33	1.37
8	A	1022	G	N3-C4	-6.67	1.30	1.35
8	A	1906	G	N9-C8	-6.67	1.33	1.37
8	A	1228	G	N9-C4	-6.67	1.32	1.38
8	A	203	A	N9-C4	-6.67	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	2576	G	N9-C4	-6.67	1.32	1.38
8	A	2803	G	N9-C4	-6.67	1.32	1.38
8	A	1721	G	N9-C4	-6.66	1.32	1.38
8	A	124	G	N9-C4	-6.66	1.32	1.38
8	A	536	G	N9-C4	-6.65	1.32	1.38
8	A	949	G	N9-C4	-6.65	1.32	1.38
8	A	2432	A	N9-C4	-6.64	1.33	1.37
8	A	2481	G	N9-C4	-6.64	1.32	1.38
8	A	1750	G	N9-C4	-6.63	1.32	1.38
8	A	24	G	N9-C4	-6.63	1.32	1.38
8	A	514	A	N9-C4	-6.63	1.33	1.37
8	A	523	C	N1-C6	-6.61	1.33	1.37
34	a	151	A	C6-N6	-6.59	1.28	1.33
8	A	213	A	N9-C4	-6.59	1.33	1.37
34	a	1329	A	N9-C4	-6.58	1.33	1.37
8	A	260	G	N9-C4	-6.58	1.32	1.38
8	A	2003	A	N9-C4	-6.58	1.33	1.37
8	A	1713	A	N9-C4	-6.57	1.33	1.37
8	A	2485	G	N9-C4	-6.57	1.32	1.38
8	A	666	A	N9-C4	-6.56	1.33	1.37
8	A	1	G	N9-C4	-6.56	1.32	1.38
8	A	1163	G	N9-C4	-6.55	1.32	1.38
8	A	14	A	C6-N6	-6.55	1.28	1.33
34	a	167	A	N9-C4	-6.54	1.33	1.37
8	A	74	A	N9-C4	-6.54	1.33	1.37
8	A	2369	A	N9-C4	-6.54	1.33	1.37
34	a	809	G	N9-C4	-6.53	1.32	1.38
8	A	2632	A	N9-C4	-6.52	1.33	1.37
8	A	1543	G	N9-C4	-6.52	1.32	1.38
34	a	923	A	N9-C4	-6.52	1.33	1.37
8	A	2323	G	N9-C4	-6.51	1.32	1.38
8	A	2557	G	N9-C4	-6.51	1.32	1.38
34	a	212	G	N9-C8	-6.51	1.33	1.37
8	A	1218	G	N9-C4	-6.50	1.32	1.38
55	v	9	G	N9-C4	-6.50	1.32	1.38
8	A	231	A	N9-C4	-6.49	1.33	1.37
8	A	2640	G	N9-C4	-6.49	1.32	1.38
8	A	2876	G	N9-C4	-6.49	1.32	1.38
8	A	1631	G	N9-C4	-6.49	1.32	1.38
34	a	663	A	N9-C4	-6.49	1.33	1.37
8	A	1367	A	N9-C4	-6.48	1.33	1.37
34	a	780	A	N9-C4	-6.48	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	2775	G	N9-C4	-6.47	1.32	1.38
34	a	1497	G	N9-C4	-6.46	1.32	1.38
8	A	1187	G	N9-C4	-6.46	1.32	1.38
8	A	2005	A	N9-C4	-6.46	1.33	1.37
8	A	671	C	N1-C6	-6.46	1.33	1.37
8	A	289	G	N9-C4	-6.45	1.32	1.38
8	A	1202	G	N9-C4	-6.45	1.32	1.38
8	A	1922	G	N9-C4	-6.45	1.32	1.38
34	a	260	G	N9-C4	-6.43	1.32	1.38
8	A	1984	G	N9-C4	-6.43	1.32	1.38
34	a	78	A	N9-C4	-6.43	1.33	1.37
8	A	1337	G	N9-C4	-6.42	1.32	1.38
8	A	818	G	N9-C4	-6.42	1.32	1.38
34	a	1143	G	N9-C4	-6.42	1.32	1.38
8	A	42	A	N9-C4	-6.42	1.33	1.37
8	A	38	A	N9-C4	-6.41	1.34	1.37
8	A	176	A	N9-C4	-6.41	1.34	1.37
34	a	1374	A	C5-C6	-6.41	1.35	1.41
8	A	2414	G	N9-C4	-6.40	1.32	1.38
8	A	2058	A	N9-C4	-6.39	1.34	1.37
34	a	432	A	N9-C4	-6.39	1.34	1.37
8	A	2472	G	N9-C4	-6.39	1.32	1.38
8	A	1423	G	N9-C4	-6.39	1.32	1.38
8	A	1424	G	N9-C4	-6.38	1.32	1.38
34	a	1430	A	N9-C4	-6.38	1.34	1.37
8	A	214	G	N9-C4	-6.38	1.32	1.38
34	a	1476	A	N9-C4	-6.38	1.34	1.37
8	A	793	A	N9-C4	-6.37	1.34	1.37
8	A	1378	A	N9-C4	-6.37	1.34	1.37
9	B	59	A	N9-C4	-6.37	1.34	1.37
34	a	326	G	N9-C4	-6.37	1.32	1.38
34	a	1089	G	N9-C4	-6.36	1.32	1.38
34	a	629	A	N9-C4	-6.36	1.34	1.37
34	a	1306	A	N9-C4	-6.36	1.34	1.37
34	a	921	U	C5'-C4'	6.35	1.58	1.51
8	A	988	A	N9-C4	-6.33	1.34	1.37
55	v	15	G	N9-C4	-6.33	1.32	1.38
34	a	1098	C	N1-C2	-6.33	1.33	1.40
8	A	1904	G	N9-C4	-6.32	1.32	1.38
8	A	144	A	N9-C4	-6.31	1.34	1.37
8	A	85	G	N9-C4	-6.31	1.32	1.38
8	A	1142	A	N9-C4	-6.30	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1918	A	N9-C4	-6.30	1.34	1.37
8	A	2894	G	N9-C4	-6.30	1.32	1.38
8	A	951	C	N1-C6	-6.30	1.33	1.37
8	A	1735	A	N9-C4	-6.29	1.34	1.37
8	A	73	A	N9-C4	-6.29	1.34	1.37
34	a	1133	G	N9-C4	-6.28	1.32	1.38
8	A	469	G	C5-C6	-6.28	1.36	1.42
34	a	1088	G	C2-N3	-6.28	1.27	1.32
8	A	844	A	N9-C4	-6.28	1.34	1.37
8	A	1106	G	N9-C4	-6.27	1.32	1.38
8	A	1664	A	N9-C4	-6.27	1.34	1.37
8	A	1674	G	N9-C8	-6.26	1.33	1.37
8	A	1735	A	C5-C6	-6.26	1.35	1.41
8	A	2844	G	N9-C4	-6.26	1.32	1.38
8	A	1762	A	N9-C4	-6.26	1.34	1.37
8	A	814	C	N1-C6	-6.26	1.33	1.37
8	A	1237	A	N9-C4	-6.25	1.34	1.37
8	A	2603	G	N9-C4	-6.25	1.32	1.38
9	B	33	G	N9-C4	-6.25	1.32	1.38
8	A	830	G	N9-C4	-6.25	1.32	1.38
8	A	297	G	N9-C4	-6.24	1.32	1.38
8	A	2765	A	N9-C4	-6.24	1.34	1.37
34	a	1111	A	N9-C4	-6.23	1.34	1.37
8	A	410	G	N9-C4	-6.23	1.32	1.38
34	a	919	A	N9-C4	-6.23	1.34	1.37
8	A	1723	G	N9-C4	-6.23	1.32	1.38
34	a	98	A	N9-C4	-6.22	1.34	1.37
34	a	1050	G	N9-C4	-6.22	1.32	1.38
8	A	2719	G	N9-C4	-6.22	1.32	1.38
8	A	1377	G	N9-C4	-6.22	1.32	1.38
8	A	1890	A	N9-C4	-6.22	1.34	1.37
8	A	2624	G	N9-C4	-6.21	1.32	1.38
8	A	303	G	N9-C4	-6.21	1.32	1.38
8	A	704	G	N9-C4	-6.21	1.32	1.38
8	A	1652	A	N9-C4	-6.21	1.34	1.37
34	a	1179	A	N9-C4	-6.21	1.34	1.37
8	A	1251	C	N1-C6	-6.21	1.33	1.37
34	a	987	G	N9-C4	-6.20	1.32	1.38
34	a	456	A	N3-C4	-6.20	1.31	1.34
8	A	2416	C	N1-C6	-6.19	1.33	1.37
8	A	655	A	N9-C4	-6.19	1.34	1.37
8	A	1230	A	N9-C4	-6.19	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	255	A	N9-C4	-6.18	1.34	1.37
8	A	1449	G	N9-C4	-6.18	1.33	1.38
34	a	478	A	N9-C4	-6.18	1.34	1.37
34	a	1405	G	N9-C4	-6.18	1.33	1.38
8	A	682	G	N9-C4	-6.18	1.33	1.38
8	A	2009	A	N9-C4	-6.17	1.34	1.37
8	A	2857	G	N9-C4	-6.16	1.33	1.38
8	A	1009	A	N9-C4	-6.15	1.34	1.37
8	A	1029	A	N9-C4	-6.15	1.34	1.37
8	A	1112	G	N9-C4	-6.15	1.33	1.38
8	A	1465	G	N9-C4	-6.15	1.33	1.38
34	a	1108	G	N9-C4	-6.14	1.33	1.38
8	A	751	A	N9-C4	-6.14	1.34	1.37
8	A	2513	A	C6-N1	-6.14	1.31	1.35
8	A	270	A	N9-C4	-6.13	1.34	1.37
8	A	722	A	N9-C4	-6.13	1.34	1.37
8	A	1381	G	N9-C4	-6.13	1.33	1.38
8	A	2284	A	N9-C4	-6.13	1.34	1.37
8	A	1317	G	N9-C4	-6.13	1.33	1.38
34	a	775	G	N9-C4	-6.13	1.33	1.38
34	a	1312	G	N9-C4	-6.12	1.33	1.38
34	a	1088	G	N9-C4	-6.11	1.33	1.38
34	a	1480	A	N9-C4	-6.11	1.34	1.37
34	a	920	U	O3'-P	6.11	1.68	1.61
34	a	778	G	N9-C4	-6.11	1.33	1.38
8	A	123	G	N9-C4	-6.10	1.33	1.38
34	a	1221	G	N9-C4	-6.10	1.33	1.38
8	A	178	G	N9-C4	-6.10	1.33	1.38
8	A	1383	A	N9-C4	-6.10	1.34	1.37
8	A	1655	A	N9-C4	-6.10	1.34	1.37
8	A	1960	A	N9-C4	-6.10	1.34	1.37
9	B	101	A	N9-C4	-6.10	1.34	1.37
8	A	2448	A	N9-C4	-6.09	1.34	1.37
8	A	940	G	N9-C4	-6.09	1.33	1.38
8	A	1193	G	N9-C4	-6.09	1.33	1.38
8	A	2524	G	N9-C4	-6.09	1.33	1.38
9	B	21	G	N9-C4	-6.09	1.33	1.38
8	A	1767	G	N9-C4	-6.08	1.33	1.38
8	A	2316	G	N9-C4	-6.08	1.33	1.38
34	a	1375	A	N9-C4	-6.08	1.34	1.37
8	A	771	G	N9-C4	-6.08	1.33	1.38
34	a	1435	G	N9-C4	-6.08	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	1323	G	N9-C8	-6.07	1.33	1.37
34	a	259	G	N9-C4	-6.06	1.33	1.38
8	A	636	G	N9-C4	-6.06	1.33	1.38
8	A	1358	G	N9-C4	-6.06	1.33	1.38
8	A	888	C	N1-C6	-6.05	1.33	1.37
8	A	1139	G	N3-C4	-6.05	1.31	1.35
8	A	1626	A	N9-C4	-6.04	1.34	1.37
34	a	1333	A	N9-C4	-6.04	1.34	1.37
34	a	462	G	N7-C5	-6.03	1.35	1.39
8	A	673	C	N1-C6	-6.03	1.33	1.37
8	A	1540	G	N9-C4	-6.03	1.33	1.38
8	A	39	G	N9-C4	-6.03	1.33	1.38
8	A	1311	G	N9-C4	-6.03	1.33	1.38
8	A	2631	G	N9-C4	-6.03	1.33	1.38
34	a	833	G	N9-C4	-6.03	1.33	1.38
34	a	1323	G	N9-C4	-6.02	1.33	1.38
8	A	1186	G	N9-C4	-6.02	1.33	1.38
8	A	1974	C	N1-C6	-6.02	1.33	1.37
8	A	2694	G	N9-C4	-6.02	1.33	1.38
8	A	271	G	N9-C4	-6.01	1.33	1.38
8	A	2846	G	N9-C4	-6.01	1.33	1.38
8	A	401	A	N9-C4	-6.00	1.34	1.37
8	A	1169	A	N9-C4	-6.00	1.34	1.37
34	a	509	A	N9-C4	-6.00	1.34	1.37
8	A	317	G	N9-C4	-5.99	1.33	1.38
34	a	849	G	N9-C4	-5.99	1.33	1.38
34	a	1428	A	N9-C4	-5.99	1.34	1.37
8	A	254	G	N9-C8	-5.99	1.33	1.37
8	A	1425	G	N3-C4	-5.98	1.31	1.35
8	A	679	C	N1-C6	-5.98	1.33	1.37
8	A	259	G	N9-C4	-5.97	1.33	1.38
8	A	926	G	N9-C4	-5.97	1.33	1.38
8	A	1139	G	C5-C4	-5.97	1.34	1.38
8	A	1666	G	N9-C4	-5.97	1.33	1.38
8	A	2223	G	N9-C4	-5.97	1.33	1.38
9	B	102	G	N9-C4	-5.97	1.33	1.38
8	A	1805	A	N9-C4	-5.97	1.34	1.37
8	A	551	G	N9-C4	-5.97	1.33	1.38
8	A	1034	G	N9-C4	-5.97	1.33	1.38
8	A	1697	G	N9-C4	-5.97	1.33	1.38
8	A	2444	G	N9-C4	-5.97	1.33	1.38
34	a	627	G	N9-C4	-5.96	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	446	G	N9-C4	-5.95	1.33	1.38
8	A	1530	G	N9-C4	-5.95	1.33	1.38
34	a	802	A	N9-C4	-5.95	1.34	1.37
8	A	1588	G	N9-C4	-5.94	1.33	1.38
8	A	368	A	N9-C4	-5.94	1.34	1.37
34	a	917	G	N9-C4	-5.94	1.33	1.38
34	a	921	U	P-O5'	5.94	1.65	1.59
8	A	21	A	N9-C4	-5.93	1.34	1.37
8	A	381	G	N9-C4	-5.93	1.33	1.38
8	A	404	A	N9-C4	-5.93	1.34	1.37
8	A	630	G	N9-C4	-5.93	1.33	1.38
8	A	1746	A	N9-C4	-5.93	1.34	1.37
8	A	1047	G	C2-N3	-5.93	1.28	1.32
8	A	1667	G	N9-C4	-5.93	1.33	1.38
34	a	410	G	N9-C4	-5.93	1.33	1.38
8	A	382	A	N9-C4	-5.92	1.34	1.37
8	A	778	G	N9-C4	-5.92	1.33	1.38
34	a	1276	G	N9-C4	-5.92	1.33	1.38
8	A	592	A	N9-C4	-5.91	1.34	1.37
34	a	1019	A	N9-C4	-5.91	1.34	1.37
55	v	6	G	N9-C4	-5.91	1.33	1.38
55	v	73	A	N9-C4	-5.91	1.34	1.37
8	A	638	G	N9-C4	-5.91	1.33	1.38
34	a	1061	G	N9-C4	-5.91	1.33	1.38
8	A	706	A	N9-C4	-5.90	1.34	1.37
8	A	2686	G	N9-C4	-5.90	1.33	1.38
34	a	949	A	N9-C4	-5.90	1.34	1.37
34	a	332	G	N9-C4	-5.89	1.33	1.38
9	B	24	G	N9-C4	-5.89	1.33	1.38
8	A	1977	A	N9-C4	-5.89	1.34	1.37
34	a	402	G	N9-C4	-5.88	1.33	1.38
34	a	319	G	N9-C4	-5.88	1.33	1.38
9	B	44	G	N9-C4	-5.88	1.33	1.38
28	U	59	GLU	CA-CB	-5.88	1.41	1.53
8	A	58	G	N9-C4	-5.87	1.33	1.38
8	A	629	G	N9-C4	-5.87	1.33	1.38
8	A	94	A	N9-C4	-5.87	1.34	1.37
34	a	181	A	C5-C6	-5.87	1.35	1.41
8	A	2077	A	N9-C4	-5.86	1.34	1.37
34	a	1362	A	N9-C4	-5.86	1.34	1.37
8	A	675	A	N9-C4	-5.86	1.34	1.37
8	A	1281	G	N9-C4	-5.86	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	320	A	N9-C4	-5.86	1.34	1.37
34	a	786	G	N9-C4	-5.86	1.33	1.38
8	A	1678	A	N9-C4	-5.86	1.34	1.37
34	a	915	A	N9-C4	-5.86	1.34	1.37
8	A	1154	G	N9-C4	-5.85	1.33	1.38
8	A	1826	G	N9-C4	-5.85	1.33	1.38
8	A	1973	G	N9-C4	-5.85	1.33	1.38
34	a	722	G	N9-C4	-5.85	1.33	1.38
8	A	122	G	N9-C4	-5.84	1.33	1.38
8	A	1178	C	N1-C6	-5.84	1.33	1.37
8	A	1308	A	N9-C4	-5.83	1.34	1.37
34	a	50	A	N9-C4	-5.83	1.34	1.37
8	A	2373	G	N9-C4	-5.82	1.33	1.38
8	A	2816	G	N9-C4	-5.82	1.33	1.38
8	A	2191	A	N9-C4	-5.82	1.34	1.37
8	A	1501	G	N9-C4	-5.82	1.33	1.38
8	A	2671	G	N9-C4	-5.82	1.33	1.38
8	A	977	G	N9-C4	-5.82	1.33	1.38
8	A	1420	A	N9-C4	-5.82	1.34	1.37
8	A	1538	G	N9-C4	-5.82	1.33	1.38
8	A	2899	A	C5-C6	-5.82	1.35	1.41
8	A	1873	G	N9-C4	-5.81	1.33	1.38
34	a	68	G	N9-C4	-5.81	1.33	1.38
8	A	2071	A	N9-C4	-5.81	1.34	1.37
8	A	2730	C	N1-C6	-5.81	1.33	1.37
8	A	1106	G	C2-N3	-5.80	1.28	1.32
55	v	21	A	N9-C4	-5.80	1.34	1.37
34	a	1487	G	N9-C4	-5.79	1.33	1.38
8	A	1194	A	N9-C4	-5.79	1.34	1.37
34	a	408	A	N9-C4	-5.79	1.34	1.37
8	A	1875	G	N9-C4	-5.78	1.33	1.38
9	B	104	A	N9-C4	-5.78	1.34	1.37
8	A	219	A	N9-C4	-5.78	1.34	1.37
8	A	152	A	N9-C4	-5.78	1.34	1.37
8	A	1025	G	C2-N3	-5.78	1.28	1.32
8	A	936	A	N9-C4	-5.77	1.34	1.37
34	a	452	A	C6-N1	-5.77	1.31	1.35
8	A	359	G	N9-C4	-5.77	1.33	1.38
34	a	1418	A	N9-C4	-5.77	1.34	1.37
8	A	95	A	N9-C4	-5.76	1.34	1.37
8	A	1025	G	N3-C4	-5.76	1.31	1.35
8	A	952	G	N9-C4	-5.76	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	2569	G	N9-C4	-5.76	1.33	1.38
8	A	2471	A	N9-C4	-5.76	1.34	1.37
8	A	2437	G	N9-C4	-5.75	1.33	1.38
8	A	1011	G	N9-C4	-5.75	1.33	1.38
8	A	481	G	N9-C4	-5.75	1.33	1.38
8	A	2436	G	N9-C4	-5.75	1.33	1.38
34	a	752	G	N9-C4	-5.75	1.33	1.38
34	a	1108	G	N3-C4	-5.75	1.31	1.35
9	B	78	A	N9-C4	-5.74	1.34	1.37
9	B	73	A	N9-C4	-5.74	1.34	1.37
8	A	2669	G	N9-C4	-5.74	1.33	1.38
8	A	497	A	N9-C4	-5.73	1.34	1.37
8	A	861	A	N9-C4	-5.73	1.34	1.37
8	A	1417	C	N1-C6	-5.73	1.33	1.37
34	a	300	A	N9-C4	-5.73	1.34	1.37
8	A	1192	G	N9-C4	-5.72	1.33	1.38
34	a	1374	A	C6-N6	-5.72	1.29	1.33
8	A	1189	A	N9-C4	-5.72	1.34	1.37
8	A	2577	A	N9-C4	-5.72	1.34	1.37
8	A	1933	G	N9-C4	-5.71	1.33	1.38
34	a	830	G	N9-C4	-5.71	1.33	1.38
8	A	997	G	N9-C4	-5.71	1.33	1.38
8	A	2415	G	N9-C4	-5.71	1.33	1.38
8	A	2526	G	N9-C4	-5.71	1.33	1.38
34	a	606	G	N9-C4	-5.71	1.33	1.38
8	A	1482	G	N9-C4	-5.70	1.33	1.38
55	v	26	G	N9-C4	-5.70	1.33	1.38
8	A	843	G	C2-N3	-5.70	1.28	1.32
8	A	590	A	N9-C4	-5.69	1.34	1.37
34	a	380	G	N9-C4	-5.69	1.33	1.38
8	A	2501	C	N1-C6	-5.69	1.33	1.37
8	A	2355	G	N9-C4	-5.69	1.33	1.38
8	A	924	G	N9-C4	-5.69	1.33	1.38
8	A	1225	G	N9-C4	-5.69	1.33	1.38
55	v	52	G	N9-C4	-5.69	1.33	1.38
34	a	1104	G	N9-C4	-5.68	1.33	1.38
8	A	618	G	N9-C4	-5.68	1.33	1.38
8	A	633	A	N9-C4	-5.68	1.34	1.37
8	A	1771	C	N3-C4	-5.67	1.29	1.33
8	A	1863	G	N9-C4	-5.67	1.33	1.38
8	A	1661	G	N9-C4	-5.67	1.33	1.38
34	a	749	A	N9-C4	-5.67	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	802	A	N9-C4	-5.67	1.34	1.37
34	a	146	G	N9-C4	-5.67	1.33	1.38
34	a	1074	G	N3-C4	-5.67	1.31	1.35
8	A	91	A	N9-C4	-5.67	1.34	1.37
34	a	1461	G	N9-C4	-5.67	1.33	1.38
8	A	2670	A	N9-C4	-5.66	1.34	1.37
8	A	55	G	N9-C4	-5.66	1.33	1.38
8	A	2328	A	N9-C4	-5.66	1.34	1.37
9	B	105	G	N9-C4	-5.66	1.33	1.38
34	a	706	A	N9-C4	-5.66	1.34	1.37
8	A	261	G	N9-C4	-5.65	1.33	1.38
8	A	1182	G	N9-C4	-5.65	1.33	1.38
8	A	35	G	N9-C4	-5.65	1.33	1.38
8	A	2435	A	C6-N6	-5.65	1.29	1.33
34	a	373	A	N9-C4	-5.65	1.34	1.37
8	A	836	G	N9-C4	-5.64	1.33	1.38
34	a	947	G	N9-C4	-5.64	1.33	1.38
34	a	824	G	N9-C4	-5.64	1.33	1.38
8	A	713	G	N9-C4	-5.64	1.33	1.38
34	a	361	G	N9-C4	-5.64	1.33	1.38
8	A	575	A	N9-C4	-5.64	1.34	1.37
34	a	682	G	N9-C4	-5.64	1.33	1.38
8	A	1566	A	N9-C4	-5.63	1.34	1.37
8	A	693	A	N9-C4	-5.63	1.34	1.37
8	A	1115	G	N9-C4	-5.63	1.33	1.38
8	A	2840	C	N1-C6	-5.63	1.33	1.37
34	a	243	A	N9-C4	-5.63	1.34	1.37
8	A	469	G	N9-C4	-5.62	1.33	1.38
8	A	342	A	N9-C4	-5.62	1.34	1.37
8	A	2839	G	N9-C4	-5.62	1.33	1.38
34	a	630	A	N9-C4	-5.61	1.34	1.37
34	a	1190	G	N9-C4	-5.61	1.33	1.38
8	A	256	A	N9-C4	-5.61	1.34	1.37
55	v	43	A	N9-C4	-5.60	1.34	1.37
8	A	1492	G	C2-N3	-5.59	1.28	1.32
8	A	1569	A	N9-C4	-5.59	1.34	1.37
55	v	63	G	N9-C4	-5.58	1.33	1.38
8	A	2088	A	N9-C4	-5.58	1.34	1.37
8	A	2170	A	N9-C4	-5.57	1.34	1.37
34	a	451	A	N9-C4	-5.57	1.34	1.37
34	a	1134	G	C2-N3	-5.57	1.28	1.32
34	a	1092	A	N9-C4	-5.57	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	117	G	N9-C4	-5.56	1.33	1.38
8	A	2853	C	N1-C6	-5.56	1.33	1.37
34	a	255	G	N9-C4	-5.56	1.33	1.38
34	a	691	G	N9-C4	-5.56	1.33	1.38
34	a	104	G	N9-C4	-5.55	1.33	1.38
8	A	309	A	N9-C4	-5.55	1.34	1.37
8	A	2744	G	N9-C4	-5.55	1.33	1.38
8	A	362	A	O3'-P	-5.54	1.54	1.61
34	a	825	A	N9-C4	-5.54	1.34	1.37
9	B	100	G	N9-C4	-5.53	1.33	1.38
8	A	899	A	N9-C4	-5.53	1.34	1.37
34	a	655	A	N9-C4	-5.53	1.34	1.37
8	A	1401	G	N9-C4	-5.53	1.33	1.38
8	A	1681	G	N9-C4	-5.53	1.33	1.38
34	a	1253	G	N9-C4	-5.53	1.33	1.38
34	a	1459	G	N9-C4	-5.53	1.33	1.38
9	B	60	C	N1-C2	-5.52	1.34	1.40
8	A	553	G	N9-C4	-5.52	1.33	1.38
8	A	2644	G	N9-C4	-5.52	1.33	1.38
34	a	742	G	N9-C4	-5.52	1.33	1.38
8	A	6	A	N9-C4	-5.51	1.34	1.37
8	A	2509	G	N9-C4	-5.51	1.33	1.38
8	A	1378	A	C5-C6	-5.51	1.36	1.41
8	A	1274	A	N9-C4	-5.51	1.34	1.37
8	A	1456	G	N9-C4	-5.51	1.33	1.38
34	a	1074	G	N9-C4	-5.51	1.33	1.38
8	A	2553	G	N9-C4	-5.51	1.33	1.38
8	A	134	G	N9-C4	-5.50	1.33	1.38
8	A	2664	G	N9-C4	-5.50	1.33	1.38
8	A	233	A	N9-C4	-5.50	1.34	1.37
34	a	1252	A	N9-C4	-5.49	1.34	1.37
34	a	1098	C	C2-N3	-5.49	1.31	1.35
8	A	1719	G	N9-C4	-5.49	1.33	1.38
8	A	307	G	N9-C4	-5.49	1.33	1.38
8	A	2590	A	N9-C4	-5.48	1.34	1.37
8	A	1419	A	N9-C4	-5.48	1.34	1.37
8	A	1551	A	N9-C4	-5.48	1.34	1.37
8	A	2227	A	N9-C4	-5.48	1.34	1.37
8	A	971	G	N9-C4	-5.48	1.33	1.38
8	A	2218	G	N9-C4	-5.47	1.33	1.38
8	A	212	G	N9-C4	-5.47	1.33	1.38
8	A	1945	G	N9-C4	-5.47	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	1048	G	N9-C4	-5.46	1.33	1.38
8	A	1040	A	N9-C4	-5.46	1.34	1.37
8	A	1966	A	N9-C4	-5.46	1.34	1.37
8	A	2574	G	N9-C4	-5.46	1.33	1.38
8	A	1278	C	N1-C6	-5.46	1.33	1.37
8	A	1686	C	C2-N3	-5.45	1.31	1.35
8	A	319	G	N9-C4	-5.45	1.33	1.38
8	A	595	C	N1-C6	-5.45	1.33	1.37
8	A	925	A	N9-C4	-5.45	1.34	1.37
8	A	2426	A	N9-C4	-5.45	1.34	1.37
34	a	1299	A	N9-C4	-5.45	1.34	1.37
8	A	2530	A	N9-C4	-5.44	1.34	1.37
8	A	668	A	N9-C4	-5.44	1.34	1.37
8	A	1171	G	N3-C4	-5.44	1.31	1.35
8	A	2430	A	C5-C6	-5.44	1.36	1.41
8	A	1010	A	N9-C4	-5.43	1.34	1.37
34	a	859	G	N9-C4	-5.43	1.33	1.38
8	A	2070	A	N9-C4	-5.43	1.34	1.37
8	A	1388	G	N9-C4	-5.43	1.33	1.38
8	A	93	G	N9-C4	-5.43	1.33	1.38
8	A	792	A	N9-C4	-5.42	1.34	1.37
8	A	1958	C	N1-C6	-5.42	1.33	1.37
8	A	1987	A	N9-C4	-5.42	1.34	1.37
8	A	1519	G	N9-C4	-5.42	1.33	1.38
8	A	266	G	C6-N1	-5.42	1.35	1.39
8	A	1861	G	N9-C4	-5.42	1.33	1.38
8	A	1800	C	N1-C6	-5.41	1.33	1.37
8	A	2407	A	C5-C6	-5.41	1.36	1.41
51	r	42	ARG	CA-C	-5.41	1.38	1.52
8	A	2253	G	N9-C4	-5.41	1.33	1.38
8	A	506	G	N9-C4	-5.41	1.33	1.38
8	A	1807	G	N9-C4	-5.41	1.33	1.38
34	a	493	A	N9-C4	-5.41	1.34	1.37
8	A	2270	A	N9-C4	-5.41	1.34	1.37
9	B	107	G	N9-C4	-5.40	1.33	1.38
34	a	27	G	N9-C4	-5.40	1.33	1.38
8	A	9	G	N9-C4	-5.40	1.33	1.38
8	A	470	A	N9-C4	-5.40	1.34	1.37
34	a	959	A	N9-C4	-5.40	1.34	1.37
8	A	1121	C	N1-C6	-5.40	1.33	1.37
34	a	935	A	N9-C4	-5.40	1.34	1.37
8	A	555	G	N9-C4	-5.39	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	636	G	N9-C8	-5.39	1.34	1.37
8	A	1177	G	N9-C4	-5.39	1.33	1.38
8	A	311	A	N9-C4	-5.39	1.34	1.37
8	A	2094	A	N9-C4	-5.39	1.34	1.37
34	a	1117	A	N9-C4	-5.39	1.34	1.37
57	x	192	TRP	CB-CG	-5.39	1.40	1.50
8	A	1171	G	C2-N3	-5.39	1.28	1.32
34	a	1329	A	C5-C4	-5.39	1.34	1.38
8	A	2705	A	N9-C4	-5.38	1.34	1.37
34	a	1088	G	N3-C4	-5.38	1.31	1.35
8	A	340	A	C5-C6	-5.38	1.36	1.41
8	A	1797	G	N9-C4	-5.38	1.33	1.38
8	A	2821	A	N9-C4	-5.38	1.34	1.37
34	a	487	A	N9-C4	-5.38	1.34	1.37
34	a	878	A	N9-C4	-5.38	1.34	1.37
34	a	492	C	N1-C2	-5.38	1.34	1.40
34	a	541	G	N9-C4	-5.38	1.33	1.38
8	A	425	G	N9-C4	-5.38	1.33	1.38
8	A	262	A	N9-C4	-5.37	1.34	1.37
8	A	2781	A	N9-C4	-5.37	1.34	1.37
31	X	16	ASN	CA-CB	-5.37	1.39	1.53
8	A	1214	A	N9-C4	-5.37	1.34	1.37
8	A	2679	A	N9-C4	-5.37	1.34	1.37
34	a	1204	A	N9-C4	-5.37	1.34	1.37
8	A	2898	U	C2-N3	-5.37	1.33	1.37
8	A	48	G	N9-C4	-5.37	1.33	1.38
8	A	1889	A	N9-C4	-5.37	1.34	1.37
8	A	2082	A	C6-N6	-5.36	1.29	1.33
8	A	1093	G	N9-C4	-5.36	1.33	1.38
8	A	1479	G	N9-C4	-5.36	1.33	1.38
55	v	12	G	C2-N3	-5.36	1.28	1.32
8	A	820	A	N9-C4	-5.36	1.34	1.37
8	A	1998	A	C6-N1	-5.36	1.31	1.35
8	A	2778	A	N9-C4	-5.36	1.34	1.37
8	A	1587	G	N9-C4	-5.35	1.33	1.38
8	A	1095	A	N9-C4	-5.35	1.34	1.37
8	A	1568	G	C6-N1	-5.35	1.35	1.39
34	a	257	G	N9-C4	-5.35	1.33	1.38
34	a	585	G	N9-C4	-5.35	1.33	1.38
34	a	1145	A	N9-C4	-5.35	1.34	1.37
8	A	2465	C	N1-C6	-5.34	1.33	1.37
8	A	2840	C	C5-C6	-5.34	1.30	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	288	A	N9-C4	-5.34	1.34	1.37
34	a	432	A	C5-C6	-5.34	1.36	1.41
8	A	823	C	N1-C6	-5.34	1.33	1.37
8	A	1178	C	C4-N4	-5.34	1.29	1.33
8	A	1549	A	N9-C4	-5.34	1.34	1.37
8	A	2235	G	C2-N3	-5.34	1.28	1.32
8	A	192	C	N1-C6	-5.34	1.33	1.37
8	A	197	A	N9-C4	-5.33	1.34	1.37
8	A	1426	G	N9-C4	-5.33	1.33	1.38
8	A	2412	A	N9-C4	-5.33	1.34	1.37
8	A	424	G	N9-C4	-5.33	1.33	1.38
8	A	2407	A	N9-C4	-5.33	1.34	1.37
9	B	64	G	N9-C4	-5.33	1.33	1.38
8	A	460	A	N9-C4	-5.32	1.34	1.37
8	A	2051	A	N9-C4	-5.32	1.34	1.37
34	a	1368	A	N9-C4	-5.32	1.34	1.37
9	B	42	C	N1-C6	-5.32	1.33	1.37
55	v	29	G	N9-C4	-5.32	1.33	1.38
8	A	2900	A	N9-C4	-5.32	1.34	1.37
8	A	1369	G	N9-C4	-5.31	1.33	1.38
8	A	1682	G	N9-C4	-5.31	1.33	1.38
34	a	838	G	N9-C4	-5.31	1.33	1.38
8	A	1435	G	N9-C4	-5.30	1.33	1.38
8	A	2641	G	N9-C4	-5.30	1.33	1.38
8	A	953	G	N9-C4	-5.30	1.33	1.38
8	A	1384	A	N9-C4	-5.30	1.34	1.37
8	A	2230	G	N9-C4	-5.30	1.33	1.38
8	A	1653	G	N9-C4	-5.29	1.33	1.38
8	A	1803	A	N9-C4	-5.29	1.34	1.37
8	A	2708	G	N9-C4	-5.29	1.33	1.38
34	a	1433	A	N9-C4	-5.29	1.34	1.37
8	A	549	G	N9-C4	-5.29	1.33	1.38
8	A	697	G	N9-C4	-5.29	1.33	1.38
8	A	1643	G	N9-C4	-5.29	1.33	1.38
34	a	129	A	N9-C4	-5.29	1.34	1.37
34	a	1500	A	N9-C4	-5.29	1.34	1.37
8	A	1008	A	N9-C4	-5.28	1.34	1.37
8	A	2571	U	C2-N3	-5.28	1.34	1.37
8	A	2516	A	N9-C4	-5.28	1.34	1.37
8	A	2890	G	N9-C4	-5.28	1.33	1.38
34	a	1081	A	C3'-O3'	5.28	1.49	1.42
8	A	966	G	N9-C4	-5.28	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1075	C	C2-N3	-5.27	1.31	1.35
8	A	2082	A	C5-C4	-5.27	1.35	1.38
8	A	1557	C	N1-C6	-5.26	1.33	1.37
8	A	463	G	N9-C4	-5.26	1.33	1.38
8	A	1846	G	N9-C4	-5.26	1.33	1.38
8	A	672	C	N1-C6	-5.26	1.33	1.37
8	A	862	G	N9-C4	-5.26	1.33	1.38
8	A	2792	A	N9-C4	-5.26	1.34	1.37
8	A	216	A	N9-C4	-5.26	1.34	1.37
8	A	1362	C	N1-C6	-5.25	1.33	1.37
34	a	800	G	N9-C4	-5.25	1.33	1.38
34	a	1176	A	N9-C4	-5.25	1.34	1.37
8	A	1139	G	C2-N3	-5.25	1.28	1.32
8	A	2095	A	N9-C4	-5.25	1.34	1.37
34	a	535	A	N9-C4	-5.25	1.34	1.37
34	a	638	U	C2-N3	-5.25	1.34	1.37
8	A	888	C	N3-C4	-5.25	1.30	1.33
8	A	1703	G	N9-C4	-5.25	1.33	1.38
8	A	1858	A	N9-C4	-5.25	1.34	1.37
34	a	1163	A	N9-C4	-5.25	1.34	1.37
8	A	88	G	C6-N1	-5.25	1.35	1.39
8	A	1017	G	N9-C4	-5.25	1.33	1.38
8	A	1013	C	N1-C6	-5.24	1.34	1.37
8	A	1117	C	N1-C6	-5.24	1.34	1.37
8	A	1448	G	N9-C4	-5.24	1.33	1.38
8	A	2281	A	C6-N6	-5.24	1.29	1.33
34	a	1319	A	N9-C4	-5.24	1.34	1.37
34	a	908	A	N9-C4	-5.24	1.34	1.37
8	A	2829	A	N9-C4	-5.24	1.34	1.37
9	B	50	A	N9-C4	-5.24	1.34	1.37
34	a	716	A	N9-C4	-5.24	1.34	1.37
8	A	2547	A	C6-N1	-5.24	1.31	1.35
34	a	903	G	N9-C4	-5.24	1.33	1.38
56	w	38	A	N9-C4	-5.24	1.34	1.37
8	A	621	A	N9-C4	-5.23	1.34	1.37
8	A	1477	A	N9-C4	-5.23	1.34	1.37
8	A	1517	G	N9-C4	-5.23	1.33	1.38
8	A	1169	A	C5-C6	-5.23	1.36	1.41
8	A	728	G	N9-C4	-5.23	1.33	1.38
34	a	1057	G	N9-C4	-5.23	1.33	1.38
8	A	2012	G	N9-C4	-5.23	1.33	1.38
34	a	1182	G	N9-C4	-5.23	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	1154	G	N9-C4	-5.22	1.33	1.38
8	A	721	A	N9-C4	-5.22	1.34	1.37
8	A	2567	G	N9-C4	-5.22	1.33	1.38
8	A	81	G	N9-C4	-5.22	1.33	1.38
8	A	732	C	N1-C6	-5.22	1.34	1.37
8	A	2659	G	N9-C4	-5.22	1.33	1.38
8	A	2826	A	N9-C4	-5.22	1.34	1.37
8	A	2848	G	N9-C4	-5.22	1.33	1.38
9	B	10	G	N9-C4	-5.22	1.33	1.38
34	a	53	A	N9-C4	-5.22	1.34	1.37
8	A	2080	A	N9-C4	-5.21	1.34	1.37
8	A	2484	G	N9-C4	-5.21	1.33	1.38
34	a	378	G	N9-C4	-5.21	1.33	1.38
34	a	1322	C	N1-C6	-5.21	1.34	1.37
8	A	1057	A	N9-C4	-5.21	1.34	1.37
8	A	1628	G	N9-C4	-5.21	1.33	1.38
8	A	1260	A	N9-C4	-5.21	1.34	1.37
8	A	2281	A	N9-C4	-5.21	1.34	1.37
8	A	2464	G	N9-C4	-5.21	1.33	1.38
34	a	654	G	C6-N1	-5.21	1.35	1.39
34	a	898	G	N9-C4	-5.21	1.33	1.38
8	A	495	G	N9-C4	-5.21	1.33	1.38
8	A	1072	C	N1-C6	-5.21	1.34	1.37
8	A	1342	A	N9-C4	-5.21	1.34	1.37
8	A	2654	A	N9-C4	-5.21	1.34	1.37
8	A	340	A	C6-N6	-5.20	1.29	1.33
34	a	947	G	N9-C8	-5.20	1.34	1.37
8	A	1811	G	N9-C4	-5.20	1.33	1.38
34	a	1274	A	N9-C4	-5.20	1.34	1.37
34	a	1456	A	N9-C4	-5.20	1.34	1.37
8	A	1120	G	N9-C4	-5.20	1.33	1.38
34	a	2	A	N9-C4	-5.20	1.34	1.37
8	A	1975	G	N9-C4	-5.20	1.33	1.38
34	a	767	A	N9-C4	-5.19	1.34	1.37
34	a	500	G	N9-C4	-5.19	1.33	1.38
34	a	1310	G	N9-C4	-5.19	1.33	1.38
8	A	1638	C	N1-C6	-5.19	1.34	1.37
34	a	428	G	N9-C4	-5.19	1.33	1.38
34	a	581	G	N9-C4	-5.19	1.33	1.38
8	A	726	G	N9-C4	-5.19	1.33	1.38
34	a	1044	A	N9-C4	-5.19	1.34	1.37
9	B	28	C	N1-C6	-5.18	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	C	212	TRP	CB-CG	-5.18	1.41	1.50
8	A	2271	G	N9-C4	-5.18	1.33	1.38
8	A	2663	G	N3-C4	-5.18	1.31	1.35
34	a	1465	A	N9-C4	-5.18	1.34	1.37
8	A	220	G	C6-N1	-5.18	1.35	1.39
34	a	1120	C	N1-C6	-5.18	1.34	1.37
8	A	2097	A	C5-C6	-5.18	1.36	1.41
8	A	2217	G	N9-C4	-5.18	1.33	1.38
8	A	2678	C	N1-C6	-5.17	1.34	1.37
8	A	834	G	N9-C4	-5.17	1.33	1.38
8	A	2515	C	N1-C6	-5.17	1.34	1.37
34	a	760	G	N9-C4	-5.17	1.33	1.38
8	A	14	A	C5-C6	-5.17	1.36	1.41
34	a	928	G	N9-C4	-5.17	1.33	1.38
8	A	1711	A	C6-N1	-5.17	1.31	1.35
8	A	856	G	N9-C4	-5.16	1.33	1.38
8	A	979	A	N9-C4	-5.16	1.34	1.37
8	A	1194	A	C6-N1	-5.16	1.31	1.35
34	a	242	G	N9-C4	-5.16	1.33	1.38
34	a	592	G	C2-N3	-5.16	1.28	1.32
8	A	950	G	N9-C4	-5.16	1.33	1.38
34	a	1454	G	N9-C4	-5.16	1.33	1.38
8	A	1989	G	N9-C4	-5.15	1.33	1.38
8	A	2864	G	N9-C4	-5.15	1.33	1.38
34	a	1222	G	N9-C4	-5.15	1.33	1.38
8	A	2383	G	N9-C4	-5.15	1.33	1.38
8	A	1022	G	C2-N3	-5.15	1.28	1.32
8	A	2268	A	N9-C4	-5.15	1.34	1.37
34	a	119	A	N9-C4	-5.15	1.34	1.37
8	A	2758	A	N9-C4	-5.15	1.34	1.37
8	A	1039	A	N9-C4	-5.14	1.34	1.37
34	a	765	G	N9-C4	-5.14	1.33	1.38
34	a	1157	A	N9-C4	-5.14	1.34	1.37
8	A	1410	G	N9-C4	-5.14	1.33	1.38
8	A	327	G	N9-C4	-5.14	1.33	1.38
8	A	939	G	N9-C4	-5.14	1.33	1.38
8	A	2661	G	N9-C4	-5.14	1.33	1.38
8	A	247	G	N9-C4	-5.13	1.33	1.38
34	a	16	A	N9-C4	-5.13	1.34	1.37
34	a	602	A	C5-C6	-5.13	1.36	1.41
34	a	1047	G	N9-C4	-5.13	1.33	1.38
34	a	654	G	C5-C6	-5.12	1.37	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1005	C	N3-C4	-5.12	1.30	1.33
8	A	1502	A	N9-C4	-5.12	1.34	1.37
34	a	38	G	N9-C4	-5.12	1.33	1.38
8	A	556	A	N9-C4	-5.12	1.34	1.37
8	A	80	G	N9-C4	-5.12	1.33	1.38
8	A	1725	U	C2-N3	-5.12	1.34	1.37
8	A	2575	C	N1-C6	-5.12	1.34	1.37
8	A	1055	G	N3-C4	-5.12	1.31	1.35
8	A	15	G	C6-N1	-5.11	1.35	1.39
56	w	53	G	N9-C4	-5.11	1.33	1.38
8	A	1425	G	C2-N3	-5.11	1.28	1.32
34	a	286	C	N1-C6	-5.11	1.34	1.37
8	A	136	G	N9-C4	-5.11	1.33	1.38
8	A	1370	C	N1-C6	-5.11	1.34	1.37
8	A	2335	A	N9-C4	-5.11	1.34	1.37
8	A	1104	C	N1-C2	-5.11	1.35	1.40
8	A	2777	G	N9-C4	-5.11	1.33	1.38
34	a	1039	G	N9-C4	-5.11	1.33	1.38
8	A	230	G	N9-C4	-5.10	1.33	1.38
34	a	861	G	N9-C4	-5.10	1.33	1.38
34	a	1404	C	N1-C2	-5.10	1.35	1.40
34	a	81	A	C5-C6	-5.10	1.36	1.41
8	A	132	G	N9-C4	-5.10	1.33	1.38
8	A	429	A	N9-C4	-5.10	1.34	1.37
8	A	877	A	N9-C4	-5.09	1.34	1.37
34	a	318	G	N9-C4	-5.09	1.33	1.38
8	A	2843	G	N9-C4	-5.09	1.33	1.38
34	a	227	G	N9-C4	-5.09	1.33	1.38
34	a	109	A	N9-C4	-5.08	1.34	1.37
34	a	1186	G	N9-C4	-5.08	1.33	1.38
34	a	52	C	N1-C6	-5.08	1.34	1.37
8	A	1335	C	N1-C6	-5.08	1.34	1.37
8	A	2663	G	C2-N3	-5.08	1.28	1.32
8	A	118	A	N9-C4	-5.08	1.34	1.37
9	B	84	G	N9-C4	-5.08	1.33	1.38
8	A	2544	G	N9-C4	-5.08	1.33	1.38
34	a	602	A	N9-C4	-5.08	1.34	1.37
8	A	1656	C	N1-C6	-5.07	1.34	1.37
34	a	362	G	N9-C4	-5.07	1.33	1.38
9	B	96	G	N9-C4	-5.07	1.33	1.38
34	a	1103	C	N1-C6	-5.07	1.34	1.37
8	A	1238	G	N9-C4	-5.07	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1685	C	N1-C6	-5.07	1.34	1.37
8	A	1824	G	N9-C4	-5.07	1.33	1.38
34	a	247	G	N9-C4	-5.07	1.33	1.38
34	a	1331	G	N9-C4	-5.07	1.33	1.38
8	A	998	C	N1-C6	-5.07	1.34	1.37
8	A	1672	A	N9-C4	-5.07	1.34	1.37
8	A	2190	G	N9-C4	-5.07	1.33	1.38
34	a	138	G	N9-C4	-5.07	1.33	1.38
34	a	278	G	N9-C4	-5.07	1.33	1.38
8	A	2435	A	C5-C6	-5.06	1.36	1.41
34	a	595	A	N9-C4	-5.06	1.34	1.37
8	A	180	G	C2-N3	-5.06	1.28	1.32
8	A	2547	A	N9-C4	-5.06	1.34	1.37
34	a	980	C	N1-C6	-5.06	1.34	1.37
34	a	35	G	N9-C4	-5.06	1.33	1.38
8	A	1686	C	N1-C2	-5.06	1.35	1.40
8	A	1403	A	C6-N1	-5.06	1.32	1.35
8	A	43	G	N9-C4	-5.05	1.33	1.38
8	A	2780	G	N9-C4	-5.05	1.33	1.38
8	A	812	C	N1-C6	-5.05	1.34	1.37
8	A	1930	G	N9-C4	-5.05	1.33	1.38
34	a	812	G	N9-C4	-5.05	1.33	1.38
8	A	1634	A	N9-C4	-5.05	1.34	1.37
8	A	2516	A	C5-C6	-5.05	1.36	1.41
8	A	1999	C	N3-C4	-5.04	1.30	1.33
8	A	2279	G	N9-C4	-5.04	1.33	1.38
34	a	1058	G	N9-C4	-5.04	1.33	1.38
8	A	2897	U	N1-C2	-5.04	1.34	1.38
8	A	1147	A	N9-C4	-5.04	1.34	1.37
34	a	79	G	N9-C4	-5.04	1.33	1.38
8	A	1743	G	N9-C4	-5.04	1.33	1.38
8	A	1932	A	N9-C4	-5.04	1.34	1.37
8	A	2349	G	N9-C4	-5.04	1.33	1.38
34	a	151	A	N9-C4	-5.03	1.34	1.37
21	N	107	ASN	C-N	-5.03	1.22	1.34
34	a	430	A	N9-C4	-5.03	1.34	1.37
8	A	583	G	N9-C4	-5.03	1.33	1.38
8	A	900	A	N9-C8	-5.03	1.33	1.37
34	a	953	G	N9-C4	-5.03	1.33	1.38
8	A	1553	A	N9-C4	-5.03	1.34	1.37
8	A	1749	A	C5-C6	-5.03	1.36	1.41
8	A	2082	A	N9-C4	-5.03	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	B	46	A	N9-C4	-5.03	1.34	1.37
34	a	1102	A	C6-N1	-5.03	1.32	1.35
8	A	1696	G	N9-C4	-5.02	1.33	1.38
8	A	2377	A	N9-C4	-5.02	1.34	1.37
8	A	1477	A	C6-N6	-5.02	1.29	1.33
55	v	4	G	N9-C4	-5.02	1.33	1.38
8	A	1421	G	N9-C4	-5.02	1.33	1.38
8	A	1869	G	N9-C4	-5.02	1.33	1.38
8	A	2077	A	C5-C6	-5.02	1.36	1.41
8	A	488	G	N9-C4	-5.01	1.33	1.38
8	A	2877	G	N9-C4	-5.01	1.33	1.38
8	A	2199	A	C5-C6	-5.01	1.36	1.41
8	A	2854	G	N9-C4	-5.01	1.33	1.38
8	A	2470	G	N9-C4	-5.01	1.33	1.38
31	X	28	PHE	C-N	-5.01	1.22	1.34
8	A	1333	G	N9-C4	-5.00	1.33	1.38
8	A	2014	A	N9-C4	-5.00	1.34	1.37
8	A	189	G	N9-C4	-5.00	1.33	1.38
8	A	1037	G	N9-C4	-5.00	1.33	1.38
8	A	2834	G	N9-C4	-5.00	1.33	1.38
34	a	656	G	N9-C4	-5.00	1.33	1.38
8	A	1216	G	C2-N3	-5.00	1.28	1.32
8	A	1740	G	N9-C4	-5.00	1.33	1.38
8	A	2721	A	N9-C4	-5.00	1.34	1.37
8	A	2802	G	N9-C4	-5.00	1.33	1.38

All (4436) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1055	G	N3-C4-C5	16.27	136.74	128.60
34	a	921	U	C6-N1-C2	-14.36	112.39	121.00
8	A	1055	G	N3-C4-N9	-14.11	117.53	126.00
34	a	201	G	N3-C4-C5	12.85	135.03	128.60
34	a	604	G	N3-C4-C5	12.82	135.01	128.60
8	A	469	G	C4-C5-N7	12.69	115.87	110.80
34	a	920	U	OP1-P-O3'	12.60	132.93	105.20
34	a	201	G	N3-C4-N9	-12.60	118.44	126.00
8	A	469	G	N9-C4-C5	-12.48	100.41	105.40
34	a	797	C	C6-N1-C2	12.38	125.25	120.30
8	A	843	G	N3-C4-C5	12.33	134.76	128.60
34	a	456	A	N1-C2-N3	12.17	135.38	129.30
34	a	921	U	O4'-C1'-N1	12.16	117.93	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1604	C	C6-N1-C2	11.96	125.08	120.30
34	a	921	U	C5-C6-N1	11.84	128.62	122.70
8	A	2235	G	N3-C4-C5	11.79	134.49	128.60
55	v	12	G	N3-C4-C5	11.78	134.49	128.60
34	a	1088	G	N3-C4-N9	-11.77	118.94	126.00
8	A	2767	C	C6-N1-C2	11.69	124.98	120.30
34	a	1143	G	N3-C4-C5	11.42	134.31	128.60
8	A	1687	G	N3-C4-N9	-11.40	119.16	126.00
34	a	858	G	N3-C4-N9	-11.40	119.16	126.00
34	a	921	U	OP1-P-OP2	-11.30	102.65	119.60
8	A	180	G	N3-C4-C5	11.24	134.22	128.60
8	A	1492	G	N3-C4-C5	11.20	134.20	128.60
34	a	542	G	N3-C4-C5	11.19	134.19	128.60
34	a	1129	C	C6-N1-C2	11.12	124.75	120.30
8	A	1277	G	N3-C4-C5	11.10	134.15	128.60
34	a	920	U	P-O3'-C3'	11.04	132.95	119.70
8	A	2576	G	N3-C2-N2	-11.02	112.19	119.90
9	B	31	C	C6-N1-C2	10.98	124.69	120.30
8	A	2198	A	N1-C6-N6	-10.96	112.02	118.60
8	A	814	C	C6-N1-C2	10.96	124.68	120.30
8	A	780	G	N3-C4-N9	-10.92	119.45	126.00
8	A	1022	G	N3-C4-N9	-10.86	119.48	126.00
8	A	1492	G	N3-C4-N9	-10.83	119.50	126.00
8	A	1450	G	N3-C4-C5	10.74	133.97	128.60
8	A	1810	A	N1-C6-N6	10.74	125.04	118.60
34	a	592	G	N3-C4-C5	10.73	133.97	128.60
55	v	17	C	O4'-C1'-N1	-10.73	99.62	108.20
34	a	241	G	N3-C4-C5	10.71	133.95	128.60
8	A	1425	G	N3-C4-C5	10.69	133.94	128.60
34	a	1134	G	N3-C4-N9	-10.65	119.61	126.00
34	a	1081	A	P-O3'-C3'	10.62	132.44	119.70
8	A	2663	G	N3-C4-N9	-10.59	119.65	126.00
8	A	2763	G	N3-C4-C5	10.57	133.89	128.60
34	a	858	G	N3-C4-C5	10.51	133.86	128.60
34	a	42	G	N3-C4-C5	10.50	133.85	128.60
8	A	2146	C	C6-N1-C2	10.49	124.50	120.30
8	A	1684	G	N3-C4-C5	10.45	133.82	128.60
8	A	1117	C	C6-N1-C2	10.45	124.48	120.30
34	a	954	G	N3-C4-C5	10.41	133.81	128.60
34	a	201	G	C2-N3-C4	-10.40	106.70	111.90
8	A	2663	G	N3-C4-C5	10.38	133.79	128.60
34	a	158	G	O4'-C1'-N9	-10.37	99.90	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1244	G	N3-C4-C5	10.37	133.78	128.60
8	A	1022	G	N3-C2-N2	-10.35	112.66	119.90
8	A	2010	G	N3-C4-C5	10.35	133.77	128.60
8	A	1091	G	N3-C4-C5	10.34	133.77	128.60
8	A	1025	G	N3-C4-C5	10.32	133.76	128.60
8	A	1686	C	C6-N1-C2	10.32	124.43	120.30
8	A	1013	C	C6-N1-C2	10.29	124.42	120.30
34	a	181	A	C5-C6-N6	-10.29	115.47	123.70
8	A	1378	A	N1-C6-N6	10.28	124.77	118.60
8	A	536	G	N3-C4-N9	-10.27	119.84	126.00
34	a	190	A	N1-C6-N6	10.26	124.75	118.60
34	a	1082	A	OP1-P-OP2	-10.25	104.23	119.60
8	A	2839	G	C2-N3-C4	-10.24	106.78	111.90
8	A	1016	G	N3-C4-C5	10.23	133.72	128.60
8	A	1047	G	N3-C4-N9	-10.21	119.87	126.00
8	A	1527	G	N3-C4-C5	10.20	133.70	128.60
8	A	318	C	C6-N1-C2	10.19	124.38	120.30
55	v	12	G	N3-C4-N9	-10.17	119.90	126.00
34	a	988	G	N3-C4-C5	10.14	133.67	128.60
8	A	314	C	C6-N1-C2	10.14	124.36	120.30
9	B	76	G	O5'-P-OP1	-10.13	96.58	105.70
8	A	2803	G	N3-C4-C5	10.08	133.64	128.60
8	A	1908	C	C6-N1-C2	10.07	124.33	120.30
8	A	1025	G	N3-C4-N9	-10.05	119.97	126.00
8	A	696	G	N3-C4-C5	10.03	133.62	128.60
8	A	1371	G	N3-C4-C5	10.02	133.61	128.60
34	a	521	G	N3-C4-C5	10.00	133.60	128.60
8	A	1216	G	N3-C4-C5	9.99	133.59	128.60
9	B	20	G	N3-C4-C5	9.98	133.59	128.60
8	A	1721	G	N3-C4-C5	9.97	133.59	128.60
34	a	1050	G	N3-C4-N9	-9.97	120.02	126.00
8	A	1652	A	N1-C6-N6	9.96	124.58	118.60
34	a	1143	G	C8-N9-C4	9.94	110.37	106.40
34	a	888	G	N3-C4-C5	9.93	133.56	128.60
34	a	920	U	OP2-P-O3'	-9.91	83.39	105.20
8	A	1674	G	N3-C4-C5	9.91	133.56	128.60
8	A	752	A	O4'-C1'-N9	9.89	116.11	108.20
8	A	1642	G	N3-C4-C5	9.89	133.54	128.60
34	a	1418	A	C8-N9-C4	9.89	109.75	105.80
8	A	2338	C	C6-N1-C2	9.88	124.25	120.30
34	a	1050	G	N3-C4-C5	9.88	133.54	128.60
34	a	175	C	C6-N1-C2	9.87	124.25	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	888	G	N3-C4-N9	-9.84	120.10	126.00
34	a	617	G	N3-C4-C5	9.84	133.52	128.60
8	A	1789	A	C2'-C3'-O3'	9.83	131.13	109.50
8	A	2576	G	N1-C2-N2	9.83	125.05	116.20
34	a	181	A	N1-C6-N6	9.80	124.48	118.60
8	A	2414	G	N3-C4-N9	-9.79	120.13	126.00
8	A	2525	G	C8-N9-C4	9.78	110.31	106.40
8	A	1604	C	N3-C4-C5	9.76	125.80	121.90
9	B	54	G	N3-C4-C5	9.73	133.46	128.60
8	A	1064	C	N1-C2-O2	-9.70	113.08	118.90
8	A	2576	G	N3-C4-N9	-9.67	120.20	126.00
34	a	1108	G	N3-C2-N2	-9.66	113.14	119.90
55	v	9	G	N3-C4-C5	9.66	133.43	128.60
8	A	2389	G	N3-C4-N9	-9.63	120.22	126.00
8	A	1139	G	N3-C4-C5	9.62	133.41	128.60
8	A	2525	G	N3-C4-C5	9.62	133.41	128.60
8	A	52	A	N1-C6-N6	9.60	124.36	118.60
8	A	2496	C	N1-C2-O2	9.60	124.66	118.90
8	A	301	G	N3-C4-C5	9.59	133.39	128.60
8	A	180	G	N3-C4-N9	-9.59	120.25	126.00
8	A	1178	C	N3-C4-C5	9.57	125.73	121.90
8	A	2430	A	N1-C6-N6	9.56	124.34	118.60
34	a	640	A	C8-N9-C4	9.56	109.62	105.80
8	A	1025	G	C2-N3-C4	-9.55	107.13	111.90
8	A	1425	G	N3-C4-N9	-9.55	120.27	126.00
8	A	1745	A	C8-N9-C4	9.53	109.61	105.80
34	a	651	C	C6-N1-C2	9.54	124.11	120.30
8	A	1465	G	N3-C4-C5	9.53	133.37	128.60
8	A	1054	A	N9-C4-C5	-9.52	101.99	105.80
34	a	1088	G	C5-C6-O6	9.50	134.30	128.60
8	A	2665	A	C8-N9-C4	9.49	109.60	105.80
34	a	628	G	N3-C4-C5	9.48	133.34	128.60
34	a	1156	G	N3-C4-C5	9.48	133.34	128.60
55	v	17	C	N1-C1'-C2'	9.47	126.32	114.00
8	A	1904	G	N3-C4-C5	9.46	133.33	128.60
8	A	289	G	N3-C4-C5	9.43	133.32	128.60
8	A	1941	C	C6-N1-C2	9.43	124.07	120.30
8	A	1642	G	N3-C4-N9	-9.42	120.34	126.00
8	A	2254	C	C6-N1-C2	9.42	124.07	120.30
8	A	2381	A	C4'-C3'-O3'	9.41	131.81	113.00
8	A	45	G	N3-C4-C5	9.39	133.29	128.60
8	A	780	G	N3-C4-C5	9.38	133.29	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2526	G	C2-N3-C4	-9.38	107.21	111.90
34	a	1289	A	N1-C6-N6	9.37	124.22	118.60
8	A	2235	G	N3-C4-N9	-9.37	120.38	126.00
8	A	260	G	N3-C4-C5	9.37	133.28	128.60
8	A	178	G	N3-C4-C5	9.36	133.28	128.60
9	B	54	G	C2-N3-C4	-9.34	107.23	111.90
8	A	2154	A	N1-C6-N6	9.34	124.20	118.60
8	A	1277	G	N3-C4-N9	-9.32	120.41	126.00
8	A	2763	G	N3-C4-N9	-9.31	120.41	126.00
8	A	2338	C	N3-C4-C5	9.30	125.62	121.90
8	A	1266	G	N3-C4-N9	-9.30	120.42	126.00
8	A	1543	G	N3-C4-C5	9.30	133.25	128.60
8	A	2153	C	C6-N1-C2	9.29	124.02	120.30
8	A	1163	G	N3-C4-C5	9.29	133.25	128.60
8	A	1317	G	N3-C4-C5	9.29	133.24	128.60
8	A	359	G	N3-C4-N9	-9.28	120.43	126.00
8	A	1631	G	N3-C4-N9	-9.27	120.44	126.00
8	A	536	G	N3-C4-C5	9.27	133.23	128.60
8	A	1425	G	C2-N3-C4	-9.26	107.27	111.90
8	A	2770	G	N3-C4-C5	9.23	133.22	128.60
8	A	843	G	N3-C4-N9	-9.23	120.46	126.00
34	a	1227	A	N1-C6-N6	-9.23	113.06	118.60
56	w	15	G	N1-C2-N2	-9.21	107.91	116.20
8	A	469	G	C8-N9-C4	9.21	110.08	106.40
34	a	1253	G	N3-C4-N9	-9.19	120.48	126.00
8	A	2803	G	C8-N9-C4	9.19	110.08	106.40
34	a	987	G	N3-C4-C5	9.19	133.19	128.60
8	A	124	G	N3-C4-C5	9.19	133.19	128.60
8	A	1424	G	N3-C4-C5	9.19	133.19	128.60
34	a	1432	G	N3-C4-C5	9.19	133.19	128.60
8	A	708	G	N3-C4-C5	9.18	133.19	128.60
8	A	2631	G	N3-C4-C5	9.18	133.19	128.60
8	A	2770	G	N3-C4-N9	-9.17	120.50	126.00
8	A	949	G	N3-C4-C5	9.17	133.18	128.60
8	A	1922	G	N3-C4-C5	9.17	133.18	128.60
34	a	1088	G	N3-C4-C5	9.16	133.18	128.60
34	a	1222	G	C2-N3-C4	-9.12	107.34	111.90
8	A	1687	G	N3-C4-C5	9.12	133.16	128.60
8	A	1449	G	N3-C4-N9	-9.11	120.54	126.00
8	A	1022	G	O4'-C1'-N9	9.09	115.47	108.20
8	A	1171	G	N3-C2-N2	-9.09	113.54	119.90
8	A	1867	G	N3-C4-C5	9.09	133.14	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1488	G	N3-C4-C5	9.09	133.14	128.60
56	w	68	C	C6-N1-C2	9.09	123.93	120.30
8	A	2551	C	N3-C4-N4	-9.08	111.64	118.00
8	A	1374	G	N3-C4-C5	9.06	133.13	128.60
8	A	2458	G	N3-C4-C5	9.06	133.13	128.60
8	A	865	C	N3-C4-N4	-9.04	111.67	118.00
34	a	1088	G	C2-N3-C4	-9.04	107.38	111.90
8	A	297	G	N3-C4-C5	9.03	133.11	128.60
8	A	1530	G	N3-C4-C5	9.02	133.11	128.60
34	a	617	G	N3-C4-N9	-9.02	120.59	126.00
34	a	809	G	N3-C4-C5	9.01	133.10	128.60
8	A	1482	G	N3-C4-C5	9.00	133.10	128.60
8	A	482	A	C8-N9-C4	9.00	109.40	105.80
34	a	1432	G	N3-C4-N9	-8.99	120.61	126.00
8	A	1909	C	C6-N1-C2	8.99	123.89	120.30
8	A	1656	C	C6-N1-C2	8.97	123.89	120.30
8	A	1072	C	C6-N1-C2	8.97	123.89	120.30
34	a	42	G	C2-N3-C4	-8.96	107.42	111.90
34	a	682	G	N3-C4-C5	8.97	133.08	128.60
8	A	315	G	N3-C4-C5	8.96	133.08	128.60
8	A	307	G	N3-C4-C5	8.96	133.08	128.60
34	a	1142	G	N3-C4-C5	8.96	133.08	128.60
34	a	637	C	C6-N1-C2	8.95	123.88	120.30
34	a	592	G	C2-N3-C4	-8.94	107.43	111.90
8	A	2485	G	N3-C4-C5	8.94	133.07	128.60
8	A	2496	C	N3-C2-O2	-8.94	115.64	121.90
8	A	361	G	C4-C5-N7	8.94	114.37	110.80
34	a	413	G	N3-C4-C5	8.93	133.06	128.60
34	a	1276	G	N3-C4-C5	8.93	133.06	128.60
8	A	1450	G	C2-N3-C4	-8.93	107.44	111.90
8	A	1666	G	N3-C4-N9	-8.93	120.64	126.00
8	A	1220	G	N3-C4-C5	8.92	133.06	128.60
34	a	1289	A	C5-C6-N6	-8.92	116.56	123.70
8	A	1894	C	C6-N1-C2	8.91	123.87	120.30
8	A	1721	G	C2-N3-C4	-8.90	107.45	111.90
8	A	2223	G	N3-C4-N9	-8.90	120.66	126.00
8	A	672	C	C6-N1-C2	8.88	123.85	120.30
8	A	24	G	N3-C4-C5	8.87	133.03	128.60
8	A	673	C	C6-N1-C2	8.86	123.84	120.30
9	B	23	G	N3-C4-C5	8.86	133.03	128.60
34	a	320	A	C8-N9-C4	8.85	109.34	105.80
8	A	2154	A	C5-C6-N6	-8.85	116.62	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2223	G	N3-C4-C5	8.85	133.02	128.60
8	A	1311	G	N3-C4-C5	8.85	133.02	128.60
8	A	1449	G	N3-C4-C5	8.84	133.02	128.60
34	a	917	G	N3-C4-C5	8.84	133.02	128.60
8	A	675	A	N1-C6-N6	8.84	123.90	118.60
8	A	217	A	C8-N9-C4	8.84	109.33	105.80
34	a	1133	G	N3-C4-C5	8.83	133.02	128.60
55	v	9	G	N3-C4-N9	-8.83	120.70	126.00
34	a	1089	G	N3-C4-C5	8.81	133.01	128.60
34	a	1241	G	N3-C4-C5	8.80	133.00	128.60
34	a	1405	G	N3-C4-C5	8.80	133.00	128.60
8	A	2526	G	N3-C4-C5	8.79	133.00	128.60
34	a	953	G	C8-N9-C4	8.79	109.92	106.40
8	A	303	G	N3-C4-C5	8.79	133.00	128.60
8	A	781	A	N1-C6-N6	-8.79	113.33	118.60
8	A	1606	C	C6-N1-C2	8.79	123.81	120.30
34	a	1025	U	C5-C6-N1	8.78	127.09	122.70
8	A	2040	G	N3-C4-C5	8.78	132.99	128.60
8	A	675	A	C5-C6-N6	-8.78	116.68	123.70
34	a	1417	G	N3-C4-C5	8.78	132.99	128.60
34	a	1418	A	N9-C4-C5	-8.76	102.30	105.80
8	A	578	G	N1-C2-N2	-8.76	108.32	116.20
8	A	2894	G	N3-C4-C5	8.76	132.98	128.60
34	a	1081	A	C4-N9-C1'	8.76	142.06	126.30
8	A	1423	G	N3-C4-C5	8.75	132.97	128.60
8	A	2857	G	N3-C4-C5	8.74	132.97	128.60
9	B	102	G	N3-C4-C5	8.74	132.97	128.60
8	A	214	G	N3-C4-C5	8.73	132.97	128.60
34	a	823	C	C6-N1-C2	8.73	123.79	120.30
8	A	1450	G	N3-C4-N9	-8.73	120.76	126.00
8	A	2536	G	N3-C4-C5	8.73	132.96	128.60
8	A	2557	G	N3-C4-C5	8.72	132.96	128.60
9	B	119	A	C8-N9-C4	8.72	109.29	105.80
55	v	9	G	C4-N9-C1'	-8.72	115.17	126.50
8	A	2848	G	N3-C4-N9	-8.71	120.77	126.00
8	A	1984	G	N3-C4-C5	8.70	132.95	128.60
34	a	592	G	N3-C4-N9	-8.70	120.78	126.00
8	A	1216	G	C2-N3-C4	-8.70	107.55	111.90
8	A	818	G	N3-C4-C5	8.69	132.95	128.60
8	A	1718	G	C2-N3-C4	-8.69	107.56	111.90
8	A	381	G	N3-C4-C5	8.68	132.94	128.60
8	A	271	G	N3-C4-C5	8.68	132.94	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1631	G	N3-C4-C5	8.68	132.94	128.60
8	A	2857	G	N3-C4-N9	-8.66	120.80	126.00
8	A	2472	G	N3-C4-C5	8.66	132.93	128.60
8	A	2894	G	N3-C4-N9	-8.66	120.80	126.00
8	A	469	G	C5-C6-O6	-8.66	123.40	128.60
34	a	847	G	C2-N3-C4	-8.66	107.57	111.90
8	A	2362	C	C6-N1-C2	8.65	123.76	120.30
34	a	461	A	C2-N3-C4	-8.65	106.27	110.60
8	A	1106	G	N3-C4-C5	8.64	132.92	128.60
8	A	188	G	N3-C4-C5	8.64	132.92	128.60
8	A	1767	G	N3-C4-C5	8.63	132.92	128.60
8	A	1735	A	N9-C4-C5	-8.63	102.35	105.80
8	A	818	G	C2-N3-C4	-8.63	107.59	111.90
8	A	1202	G	N3-C4-C5	8.63	132.91	128.60
8	A	2665	A	N9-C4-C5	-8.62	102.35	105.80
8	A	1022	G	N3-C4-C5	8.61	132.91	128.60
34	a	833	G	N3-C4-C5	8.61	132.90	128.60
34	a	1081	A	C8-N9-C1'	-8.60	112.21	127.70
9	B	11	C	C5-C4-N4	-8.58	114.19	120.20
8	A	2353	G	N3-C4-N9	-8.58	120.86	126.00
34	a	1209	C	C6-N1-C2	8.57	123.73	120.30
8	A	1112	G	N3-C4-C5	8.57	132.89	128.60
8	A	1292	G	N3-C4-C5	8.57	132.89	128.60
8	A	696	G	C8-N9-C4	8.56	109.82	106.40
34	a	117	G	C8-N9-C4	8.54	109.82	106.40
8	A	1652	A	C5-C6-N6	-8.53	116.88	123.70
55	v	15	G	N3-C4-C5	8.52	132.86	128.60
8	A	32	C	C6-N1-C2	8.52	123.71	120.30
8	A	1218	G	N3-C4-C5	8.52	132.86	128.60
8	A	1650	A	C8-N9-C4	8.52	109.21	105.80
8	A	315	G	N3-C4-N9	-8.51	120.89	126.00
8	A	778	G	N3-C4-C5	8.51	132.85	128.60
8	A	1218	G	C2-N3-C4	-8.51	107.65	111.90
34	a	1374	A	N9-C4-C5	-8.50	102.40	105.80
8	A	2716	C	C6-N1-C2	8.50	123.70	120.30
34	a	631	C	C6-N1-C2	8.50	123.70	120.30
8	A	726	G	C2-N3-C4	-8.50	107.65	111.90
8	A	425	G	N3-C4-C5	8.49	132.85	128.60
9	B	33	G	N3-C4-C5	8.49	132.85	128.60
8	A	2846	G	N3-C4-N9	-8.48	120.91	126.00
8	A	2010	G	N3-C4-N9	-8.48	120.91	126.00
8	A	361	G	N9-C4-C5	-8.48	102.01	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1232	G	C2-N3-C4	-8.48	107.66	111.90
8	A	220	G	C2-N3-C4	-8.47	107.66	111.90
8	A	1106	G	N3-C4-N9	-8.47	120.92	126.00
8	A	1	G	N3-C4-C5	8.46	132.83	128.60
8	A	551	G	N3-C4-C5	8.46	132.83	128.60
8	A	2501	C	C6-N1-C2	8.46	123.68	120.30
9	B	56	G	C8-N9-C4	8.45	109.78	106.40
8	A	1750	G	N3-C4-C5	8.45	132.82	128.60
34	a	380	G	N3-C4-N9	-8.45	120.93	126.00
8	A	1674	G	C2-N3-C4	-8.45	107.67	111.90
8	A	2378	A	N1-C6-N6	8.44	123.67	118.60
8	A	2876	G	N3-C4-C5	8.45	132.82	128.60
34	a	908	A	C8-N9-C4	8.44	109.18	105.80
34	a	1312	G	N3-C4-C5	8.44	132.82	128.60
8	A	2524	G	N3-C4-C5	8.43	132.82	128.60
8	A	144	A	N9-C4-C5	-8.42	102.43	105.80
34	a	1226	C	C6-N1-C2	8.41	123.66	120.30
8	A	1028	A	C5-C6-N6	-8.41	116.97	123.70
8	A	1009	A	C8-N9-C4	8.40	109.16	105.80
34	a	79	G	N3-C4-C5	8.40	132.80	128.60
8	A	2316	G	N3-C4-C5	8.40	132.80	128.60
8	A	638	G	N3-C4-C5	8.39	132.79	128.60
8	A	1617	C	O4'-C1'-N1	8.39	114.91	108.20
8	A	2420	C	C6-N1-C2	8.39	123.66	120.30
34	a	158	G	C5-C6-O6	-8.38	123.57	128.60
34	a	859	G	N3-C4-C5	8.38	132.79	128.60
8	A	1540	G	N3-C4-C5	8.38	132.79	128.60
8	A	2414	G	N3-C4-C5	8.38	132.79	128.60
8	A	2353	G	N3-C4-C5	8.38	132.79	128.60
34	a	265	G	N3-C4-C5	8.38	132.79	128.60
8	A	1465	G	C2-N3-C4	-8.37	107.71	111.90
8	A	706	A	C8-N9-C4	8.37	109.15	105.80
8	A	940	G	N3-C4-C5	8.37	132.78	128.60
34	a	786	G	N3-C4-C5	8.36	132.78	128.60
34	a	1098	C	C6-N1-C1'	8.36	130.83	120.80
34	a	1104	G	N3-C4-C5	8.35	132.78	128.60
8	A	618	G	N3-C4-C5	8.35	132.77	128.60
9	B	54	G	N3-C4-N9	-8.33	121.00	126.00
34	a	1190	G	N3-C4-C5	8.33	132.77	128.60
34	a	1454	G	N3-C4-C5	8.33	132.77	128.60
8	A	1588	G	N3-C4-C5	8.33	132.76	128.60
8	A	1538	G	N3-C4-C5	8.33	132.76	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1861	G	N3-C4-N9	-8.33	121.00	126.00
8	A	704	G	N3-C4-N9	-8.32	121.00	126.00
8	A	2640	G	N3-C4-C5	8.32	132.76	128.60
8	A	1527	G	N3-C4-N9	-8.32	121.01	126.00
55	v	6	G	N3-C4-C5	8.31	132.76	128.60
34	a	1190	G	N3-C4-N9	-8.31	121.01	126.00
8	A	1369	G	C2-N3-C4	-8.31	107.75	111.90
8	A	2228	G	N3-C4-N9	-8.31	121.02	126.00
8	A	1960	A	N9-C4-C5	-8.31	102.48	105.80
8	A	1667	G	N3-C4-N9	-8.29	121.02	126.00
8	A	359	G	N3-C4-C5	8.29	132.75	128.60
8	A	2624	G	N3-C4-N9	-8.29	121.03	126.00
8	A	1158	C	C6-N1-C2	8.29	123.61	120.30
34	a	752	G	N3-C4-C5	8.29	132.74	128.60
8	A	330	A	N1-C6-N6	-8.29	113.63	118.60
8	A	1054	A	C8-N9-C4	8.29	109.11	105.80
8	A	1337	G	N3-C4-C5	8.29	132.74	128.60
34	a	920	U	C6-N1-C2	-8.28	116.03	121.00
8	A	812	C	C6-N1-C2	8.28	123.61	120.30
56	w	15	G	N3-C2-N2	8.28	125.69	119.90
34	a	797	C	N3-C4-C5	8.27	125.21	121.90
8	A	997	G	N3-C4-C5	8.26	132.73	128.60
34	a	1405	G	N3-C4-N9	-8.26	121.04	126.00
8	A	887	A	O5'-P-OP2	-8.26	98.27	105.70
8	A	2228	G	N3-C4-C5	8.26	132.73	128.60
34	a	980	C	C6-N1-C2	8.26	123.60	120.30
8	A	704	G	C4-N9-C1'	-8.25	115.78	126.50
8	A	2512	C	N3-C4-N4	-8.25	112.23	118.00
34	a	290	C	C6-N1-C2	8.25	123.60	120.30
8	A	85	G	N3-C4-C5	8.24	132.72	128.60
8	A	2694	G	N3-C4-C5	8.24	132.72	128.60
55	v	4	G	N3-C4-N9	-8.24	121.05	126.00
34	a	270	A	N9-C4-C5	-8.24	102.50	105.80
8	A	469	G	N3-C2-N2	8.24	125.67	119.90
34	a	446	G	N3-C4-C5	8.23	132.71	128.60
8	A	1041	G	N3-C4-C5	8.22	132.71	128.60
8	A	1169	A	N9-C4-C5	-8.22	102.51	105.80
8	A	977	G	N3-C4-C5	8.21	132.71	128.60
34	a	1156	G	N3-C4-N9	-8.21	121.08	126.00
8	A	45	G	N3-C4-N9	-8.20	121.08	126.00
8	A	1524	G	C2-N3-C4	-8.21	107.80	111.90
8	A	1745	A	N9-C4-C5	-8.20	102.52	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1139	G	C8-N9-C4	8.20	109.68	106.40
8	A	2323	G	N3-C4-C5	8.19	132.70	128.60
34	a	260	G	N3-C4-C5	8.19	132.69	128.60
34	a	1375	A	O4'-C1'-N9	-8.19	101.65	108.20
8	A	1228	G	N3-C4-C5	8.19	132.69	128.60
34	a	1098	C	C2-N1-C1'	-8.19	109.80	118.80
8	A	673	C	N3-C4-C5	8.18	125.17	121.90
8	A	559	G	C2-N3-C4	-8.18	107.81	111.90
8	A	1186	G	N3-C4-C5	8.18	132.69	128.60
34	a	1048	G	N3-C4-C5	8.18	132.69	128.60
34	a	1418	A	C5-C6-N6	-8.18	117.16	123.70
8	A	42	A	C8-N9-C4	8.16	109.07	105.80
9	B	21	G	N3-C4-C5	8.16	132.68	128.60
34	a	1221	G	N3-C4-C5	8.16	132.68	128.60
34	a	388	G	O5'-P-OP1	-8.16	98.36	105.70
8	A	1541	C	C6-N1-C2	8.15	123.56	120.30
8	A	297	G	N3-C4-N9	-8.15	121.11	126.00
8	A	2767	C	N3-C4-C5	8.15	125.16	121.90
9	B	31	C	N3-C4-C5	8.15	125.16	121.90
34	a	1244	G	C8-N9-C4	8.15	109.66	106.40
8	A	1012	U	C5-C4-O4	-8.15	121.01	125.90
8	A	951	C	C6-N1-C2	8.14	123.56	120.30
8	A	1501	G	N3-C4-C5	8.13	132.66	128.60
8	A	303	G	C8-N9-C4	8.12	109.65	106.40
55	v	46	A	N1-C6-N6	8.12	123.47	118.60
8	A	1320	C	N3-C4-C5	8.12	125.15	121.90
9	B	20	G	N3-C4-N9	-8.12	121.13	126.00
8	A	14	A	C5-C6-N6	-8.12	117.21	123.70
8	A	2639	A	N1-C6-N6	8.12	123.47	118.60
8	A	1367	A	C8-N9-C4	8.11	109.05	105.80
8	A	819	A	C5-C6-N6	-8.11	117.21	123.70
8	A	2624	G	N3-C4-C5	8.11	132.66	128.60
8	A	1723	G	N3-C4-C5	8.11	132.65	128.60
34	a	120	A	O4'-C1'-N9	8.11	114.69	108.20
8	A	2082	A	C5-C6-N6	-8.10	117.22	123.70
10	C	175	LEU	CA-CB-CG	8.10	133.92	115.30
34	a	849	G	N3-C4-C5	8.09	132.65	128.60
8	A	2481	G	N3-C4-C5	8.09	132.64	128.60
8	A	2521	C	C6-N1-C2	8.09	123.53	120.30
8	A	39	G	N3-C4-C5	8.07	132.63	128.60
34	a	1418	A	N1-C6-N6	8.07	123.44	118.60
8	A	134	G	N3-C4-C5	8.06	132.63	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1142	G	C2-N3-C4	-8.06	107.87	111.90
34	a	604	G	N3-C4-N9	-8.06	121.16	126.00
8	A	816	C	N3-C4-C5	8.06	125.12	121.90
34	a	432	A	C8-N9-C4	8.06	109.02	105.80
8	A	361	G	N1-C6-O6	8.06	124.73	119.90
8	A	2472	G	C8-N9-C4	8.06	109.62	106.40
8	A	989	G	O4'-C1'-N9	8.05	114.64	108.20
8	A	1378	A	C5-C6-N6	-8.05	117.26	123.70
8	A	1401	G	N3-C4-C5	8.05	132.62	128.60
8	A	1028	A	N1-C6-N6	8.04	123.43	118.60
8	A	2430	A	C5-C6-N6	-8.04	117.26	123.70
8	A	481	G	N3-C4-C5	8.04	132.62	128.60
8	A	1055	G	C4-N9-C1'	-8.04	116.05	126.50
34	a	560	A	O4'-C1'-N9	-8.03	101.77	108.20
8	A	1666	G	N3-C4-C5	8.03	132.62	128.60
34	a	742	G	N3-C4-N9	-8.03	121.18	126.00
8	A	126	A	N1-C6-N6	8.03	123.42	118.60
8	A	2143	C	C5-C4-N4	-8.03	114.58	120.20
34	a	259	G	N3-C4-C5	8.02	132.61	128.60
34	a	1050	G	C4-N9-C1'	-8.02	116.08	126.50
8	A	469	G	N9-C1'-C2'	-8.02	103.18	112.00
8	A	2603	G	N3-C4-C5	8.02	132.61	128.60
34	a	775	G	N3-C4-C5	8.01	132.60	128.60
8	A	317	G	N3-C4-C5	8.01	132.60	128.60
8	A	180	G	C4-N9-C1'	-8.00	116.10	126.50
34	a	1417	G	N3-C4-N9	-8.00	121.20	126.00
34	a	954	G	C2-N3-C4	-8.00	107.90	111.90
8	A	268	C	C6-N1-C2	8.00	123.50	120.30
34	a	1253	G	N3-C4-C5	8.00	132.60	128.60
8	A	1047	G	N3-C4-C5	7.99	132.60	128.60
34	a	346	G	C4-C5-N7	7.99	114.00	110.80
34	a	1098	C	N3-C4-N4	-7.99	112.40	118.00
8	A	2199	A	C8-N9-C4	7.99	109.00	105.80
34	a	921	U	O5'-P-OP2	7.99	120.29	110.70
8	A	664	G	C2-N3-C4	-7.99	107.91	111.90
8	A	301	G	N3-C4-N9	-7.99	121.21	126.00
34	a	1108	G	N3-C4-N9	-7.99	121.21	126.00
55	v	64	G	N3-C4-C5	7.99	132.59	128.60
8	A	940	G	C8-N9-C4	7.98	109.59	106.40
8	A	830	G	N3-C4-C5	7.98	132.59	128.60
9	B	38	C	C6-N1-C2	7.98	123.49	120.30
8	A	1381	G	N3-C4-C5	7.98	132.59	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2093	G	C8-N9-C4	7.98	109.59	106.40
34	a	27	G	N3-C4-C5	7.98	132.59	128.60
34	a	410	G	N3-C4-C5	7.98	132.59	128.60
34	a	606	G	N3-C4-C5	7.97	132.58	128.60
34	a	1435	G	C2-N3-C4	-7.97	107.92	111.90
8	A	2225	A	C8-N9-C4	7.96	108.99	105.80
8	A	2671	G	N3-C4-C5	7.96	132.58	128.60
8	A	2	G	N9-C4-C5	-7.96	102.22	105.40
8	A	974	G	O4'-C1'-N9	7.96	114.56	108.20
8	A	1170	C	C5-C6-N1	7.96	124.98	121.00
34	a	838	G	N3-C4-C5	7.96	132.58	128.60
34	a	1461	G	C2-N3-C4	-7.96	107.92	111.90
34	a	308	C	C6-N1-C2	7.95	123.48	120.30
34	a	151	A	C5-C6-N1	7.94	121.67	117.70
8	A	289	G	C2-N3-C4	-7.94	107.93	111.90
34	a	361	G	N3-C4-C5	7.93	132.57	128.60
55	v	63	G	N3-C4-C5	7.93	132.57	128.60
8	A	583	G	N3-C4-N9	-7.93	121.24	126.00
8	A	1492	G	C4-N9-C1'	-7.93	116.19	126.50
34	a	312	C	C6-N1-C2	7.93	123.47	120.30
8	A	2659	G	N3-C4-C5	7.92	132.56	128.60
8	A	1374	G	N3-C4-N9	-7.92	121.25	126.00
8	A	1192	G	C8-N9-C4	7.92	109.57	106.40
34	a	1047	G	N3-C4-C5	7.91	132.55	128.60
8	A	303	G	C2-N3-C4	-7.90	107.95	111.90
34	a	1019	A	C8-N9-C4	7.90	108.96	105.80
8	A	2389	G	N3-C4-C5	7.89	132.55	128.60
8	A	1055	G	C2-N3-C4	-7.89	107.95	111.90
8	A	2667	C	N3-C4-N4	-7.89	112.48	118.00
34	a	1497	G	N3-C4-C5	7.89	132.54	128.60
34	a	830	G	N3-C4-C5	7.89	132.54	128.60
9	B	23	G	C2-N3-C4	-7.88	107.96	111.90
8	A	1193	G	C8-N9-C4	7.88	109.55	106.40
8	A	2631	G	N3-C4-N9	-7.88	121.27	126.00
8	A	410	G	N3-C4-C5	7.88	132.54	128.60
8	A	1091	G	N3-C4-N9	-7.88	121.27	126.00
8	A	1824	G	C2-N3-C4	-7.87	107.96	111.90
8	A	1519	G	N3-C4-C5	7.87	132.53	128.60
8	A	1804	C	C6-N1-C2	7.86	123.44	120.30
8	A	1381	G	N3-C4-N9	-7.86	121.28	126.00
34	a	770	C	C6-N1-C2	7.86	123.44	120.30
34	a	1273	C	C6-N1-C2	7.86	123.44	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2899	A	C4-C5-N7	7.86	114.63	110.70
8	A	1404	C	N3-C4-C5	7.85	125.04	121.90
34	a	954	G	C8-N9-C4	7.85	109.54	106.40
8	A	188	G	N3-C4-N9	-7.85	121.29	126.00
9	B	108	A	C5-C6-N6	-7.84	117.43	123.70
8	A	1863	G	N3-C4-C5	7.84	132.52	128.60
8	A	1455	G	C2-N3-C4	-7.83	107.98	111.90
8	A	2154	A	C4-C5-N7	7.83	114.61	110.70
8	A	1774	C	C6-N1-C2	7.83	123.43	120.30
34	a	1323	G	C8-N9-C4	7.83	109.53	106.40
8	A	998	C	C6-N1-C2	7.83	123.43	120.30
8	A	816	C	C6-N1-C2	7.82	123.43	120.30
8	A	2686	G	N3-C4-C5	7.82	132.51	128.60
8	A	1867	G	N3-C4-N9	-7.82	121.31	126.00
8	A	136	G	N3-C4-C5	7.82	132.51	128.60
8	A	1861	G	N3-C4-C5	7.82	132.51	128.60
8	A	570	G	N1-C2-N2	-7.81	109.17	116.20
8	A	1186	G	N3-C4-N9	-7.81	121.31	126.00
34	a	1423	G	C2-N3-C4	-7.80	108.00	111.90
8	A	2569	G	N3-C4-C5	7.80	132.50	128.60
8	A	1	G	N3-C4-N9	-7.79	121.32	126.00
8	A	1112	G	C2-N3-C4	-7.79	108.00	111.90
8	A	1091	G	C2-N3-C4	-7.79	108.00	111.90
8	A	2669	G	N3-C4-C5	7.79	132.49	128.60
34	a	627	G	N3-C4-C5	7.79	132.49	128.60
34	a	1098	C	C5-C4-N4	7.78	125.65	120.20
8	A	837	C	C6-N1-C2	7.78	123.41	120.30
8	A	1591	A	N9-C4-C5	-7.78	102.69	105.80
34	a	851	G	O4'-C1'-N9	-7.78	101.98	108.20
8	A	926	G	N3-C4-C5	7.77	132.49	128.60
8	A	578	G	N3-C2-N2	7.76	125.33	119.90
8	A	1538	G	N3-C4-N9	-7.76	121.34	126.00
8	A	2339	C	C6-N1-C2	7.76	123.41	120.30
8	A	1374	G	C2-N3-C4	-7.76	108.02	111.90
8	A	1960	A	C8-N9-C4	7.76	108.90	105.80
8	A	2699	C	C6-N1-C2	7.76	123.40	120.30
55	v	26	G	N3-C4-N9	-7.76	121.34	126.00
8	A	1423	G	N3-C4-N9	-7.76	121.35	126.00
34	a	1134	G	N3-C4-C5	7.76	132.48	128.60
8	A	123	G	C2-N3-C4	-7.75	108.02	111.90
8	A	704	G	N3-C4-C5	7.75	132.48	128.60
8	A	1905	C	C6-N1-C2	7.75	123.40	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1941	C	N3-C4-C5	7.75	125.00	121.90
34	a	456	A	C2-N3-C4	-7.75	106.72	110.60
8	A	1735	A	C4-C5-N7	7.75	114.57	110.70
9	B	24	G	O4'-C1'-N9	-7.75	102.00	108.20
8	A	506	G	N3-C4-C5	7.75	132.47	128.60
8	A	2470	G	C8-N9-C4	7.75	109.50	106.40
8	A	2440	C	C6-N1-C2	7.75	123.40	120.30
8	A	124	G	N3-C4-N9	-7.74	121.35	126.00
8	A	671	C	C6-N1-C2	7.74	123.40	120.30
8	A	2050	C	N1-C2-O2	7.74	123.54	118.90
8	A	848	C	C6-N1-C2	7.74	123.39	120.30
8	A	2545	G	C2-N3-C4	-7.73	108.03	111.90
34	a	858	G	N3-C2-N2	-7.73	114.49	119.90
8	A	1011	G	C2-N3-C4	-7.73	108.04	111.90
8	A	1903	G	C8-N9-C4	7.73	109.49	106.40
8	A	37	C	C6-N1-C2	7.72	123.39	120.30
8	A	819	A	N1-C6-N6	7.72	123.23	118.60
8	A	122	G	N3-C4-C5	7.71	132.46	128.60
8	A	1719	G	N3-C4-C5	7.71	132.46	128.60
8	A	2510	C	C6-N1-C2	7.70	123.38	120.30
34	a	474	G	N3-C4-C5	7.70	132.45	128.60
8	A	630	G	N3-C4-C5	7.70	132.45	128.60
34	a	1459	G	N3-C4-C5	7.70	132.45	128.60
34	a	1374	A	C5-C6-N6	-7.70	117.54	123.70
8	A	1721	G	C8-N9-C4	7.70	109.48	106.40
8	A	1193	G	N3-C4-C5	7.69	132.44	128.60
8	A	629	G	N3-C4-C5	7.69	132.44	128.60
8	A	273	G	N3-C4-C5	7.68	132.44	128.60
8	A	2481	G	C2-N3-C4	-7.68	108.06	111.90
8	A	1435	G	N3-C4-C5	7.68	132.44	128.60
8	A	2632	A	C8-N9-C4	7.68	108.87	105.80
8	A	696	G	C2-N3-C4	-7.68	108.06	111.90
9	B	21	G	C2-N3-C4	-7.68	108.06	111.90
8	A	1543	G	N3-C4-N9	-7.67	121.40	126.00
8	A	2606	C	N3-C2-O2	-7.67	116.53	121.90
34	a	1061	G	N3-C4-C5	7.67	132.44	128.60
8	A	1904	G	C8-N9-C4	7.67	109.47	106.40
34	a	492	C	C2-N1-C1'	-7.67	110.36	118.80
8	A	2576	G	N9-C4-C5	7.67	108.47	105.40
8	A	189	G	C8-N9-C4	7.67	109.47	106.40
8	A	1986	C	C6-N1-C2	7.67	123.37	120.30
8	A	2661	G	C2-N3-C4	-7.67	108.07	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2667	C	C5-C4-N4	7.67	125.57	120.20
8	A	47	C	C6-N1-C2	7.66	123.36	120.30
8	A	2606	C	N1-C2-O2	7.66	123.50	118.90
8	A	2864	G	C8-N9-C4	7.66	109.46	106.40
34	a	1222	G	N1-C2-N3	7.66	128.49	123.90
8	A	299	A	C8-N9-C4	7.65	108.86	105.80
8	A	630	G	N3-C4-N9	-7.65	121.41	126.00
34	a	542	G	N3-C4-N9	-7.65	121.41	126.00
8	A	843	G	C8-N9-C4	7.65	109.46	106.40
8	A	991	C	C6-N1-C2	7.65	123.36	120.30
8	A	713	G	N3-C4-N9	-7.64	121.41	126.00
34	a	1487	G	N3-C4-C5	7.64	132.42	128.60
8	A	1404	C	C6-N1-C2	7.64	123.36	120.30
34	a	265	G	C2-N3-C4	-7.64	108.08	111.90
9	B	105	G	C8-N9-C4	7.64	109.45	106.40
8	A	126	A	C8-N9-C4	7.63	108.85	105.80
8	A	424	G	N3-C4-C5	7.63	132.41	128.60
8	A	1038	G	N3-C4-C5	7.63	132.41	128.60
8	A	2073	C	C6-N1-C2	7.63	123.35	120.30
56	w	9	A	C4'-C3'-O3'	7.63	128.25	113.00
8	A	103	A	N1-C6-N6	7.62	123.17	118.60
34	a	203	G	C4-N9-C1'	-7.62	116.59	126.50
8	A	336	C	C6-N1-C2	7.62	123.35	120.30
34	a	1293	C	C6-N1-C2	7.62	123.35	120.30
8	A	1281	G	N3-C4-C5	7.61	132.41	128.60
8	A	1661	G	N3-C4-C5	7.61	132.41	128.60
8	A	2657	A	C8-N9-C4	7.61	108.84	105.80
8	A	1875	G	N3-C4-C5	7.61	132.40	128.60
34	a	1108	G	N3-C4-C5	7.61	132.40	128.60
8	A	1482	G	C2-N3-C4	-7.60	108.10	111.90
8	A	1588	G	C2-N3-C4	-7.60	108.10	111.90
34	a	247	G	N3-C4-C5	7.59	132.40	128.60
34	a	628	G	C8-N9-C4	7.59	109.44	106.40
8	A	1823	G	C2-N3-C4	-7.59	108.10	111.90
8	A	307	G	C8-N9-C4	7.58	109.43	106.40
8	A	1653	G	C2-N3-C4	-7.58	108.11	111.90
34	a	228	A	C8-N9-C4	7.58	108.83	105.80
34	a	803	G	N1-C2-N2	-7.58	109.37	116.20
8	A	2077	A	N9-C4-C5	-7.58	102.77	105.80
8	A	1279	G	N9-C4-C5	-7.58	102.37	105.40
34	a	241	G	C2-N3-C4	-7.58	108.11	111.90
9	B	105	G	N3-C4-C5	7.58	132.39	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1076	C	N1-C2-O2	7.57	123.44	118.90
8	A	2775	G	N3-C4-C5	7.57	132.38	128.60
9	B	51	G	C8-N9-C4	7.57	109.43	106.40
8	A	2714	G	C2-N3-C4	-7.57	108.12	111.90
55	v	15	G	C2-N3-C4	-7.57	108.12	111.90
34	a	889	A	C8-N9-C4	7.57	108.83	105.80
8	A	1587	G	N3-C4-C5	7.56	132.38	128.60
9	B	64	G	N3-C4-C5	7.56	132.38	128.60
34	a	599	C	C6-N1-C2	7.56	123.32	120.30
8	A	1086	A	C8-N9-C4	-7.56	102.78	105.80
8	A	1975	G	C8-N9-C4	7.56	109.42	106.40
8	A	2641	G	N3-C4-C5	7.56	132.38	128.60
8	A	2744	G	N3-C4-C5	7.56	132.38	128.60
8	A	482	A	C4-C5-C6	-7.56	113.22	117.00
9	B	56	G	N9-C4-C5	-7.55	102.38	105.40
8	A	103	A	C5-C6-N6	-7.55	117.66	123.70
8	A	939	G	C2-N3-C4	-7.55	108.13	111.90
34	a	1071	C	N3-C4-C5	7.55	124.92	121.90
8	A	974	G	C2-N3-C4	-7.55	108.13	111.90
34	a	646	G	C2-N3-C4	-7.55	108.13	111.90
8	A	256	A	C8-N9-C4	7.54	108.82	105.80
8	A	1946	U	C6-N1-C2	7.54	125.53	121.00
9	B	7	G	C2-N3-C4	-7.54	108.13	111.90
34	a	380	G	N3-C4-C5	7.54	132.37	128.60
8	A	55	G	N3-C4-C5	7.54	132.37	128.60
8	A	2890	G	N3-C4-C5	7.54	132.37	128.60
8	A	1875	G	N3-C4-N9	-7.53	121.48	126.00
8	A	1945	G	C2-N3-C4	-7.53	108.14	111.90
8	A	2234	G	C2-N3-C4	-7.53	108.14	111.90
34	a	269	C	C6-N1-C2	7.53	123.31	120.30
8	A	2844	G	C2-N3-C4	-7.52	108.14	111.90
34	a	797	C	N3-C4-N4	-7.52	112.73	118.00
8	A	1169	A	C4-C5-N7	7.52	114.46	110.70
8	A	2045	C	N3-C4-C5	7.52	124.91	121.90
8	A	2228	G	C2-N3-C4	-7.52	108.14	111.90
34	a	319	G	N3-C4-C5	7.52	132.36	128.60
8	A	461	C	C6-N1-C2	7.51	123.31	120.30
8	A	638	G	C2-N3-C4	-7.51	108.14	111.90
8	A	1200	C	C6-N1-C2	7.51	123.31	120.30
8	A	1652	A	N9-C4-C5	-7.51	102.80	105.80
34	a	146	G	N3-C4-C5	7.51	132.36	128.60
8	A	1216	G	N3-C4-N9	-7.51	121.49	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1482	G	N3-C4-N9	-7.51	121.49	126.00
34	a	1404	C	C6-N1-C2	7.51	123.30	120.30
8	A	2641	G	N3-C4-N9	-7.51	121.50	126.00
8	A	1643	G	N3-C4-N9	-7.51	121.50	126.00
55	v	9	G	C8-N9-C1'	7.51	136.76	127.00
8	A	76	C	C6-N1-C2	7.50	123.30	120.30
34	a	1227	A	C5-C6-N6	7.50	129.70	123.70
34	a	181	A	N9-C4-C5	-7.50	102.80	105.80
8	A	318	C	N3-C4-C5	7.49	124.90	121.90
8	A	1430	G	C2-N3-C4	-7.49	108.15	111.90
34	a	1294	G	C8-N9-C4	7.49	109.40	106.40
34	a	1016	A	N1-C6-N6	7.49	123.09	118.60
8	A	814	C	N3-C4-C5	7.49	124.90	121.90
8	A	1770	G	C2-N3-C4	-7.49	108.16	111.90
34	a	1405	G	C4-N9-C1'	-7.49	116.76	126.50
8	A	1425	G	N3-C2-N2	-7.48	114.66	119.90
8	A	2470	G	N3-C4-C5	7.48	132.34	128.60
8	A	2846	G	N3-C4-C5	7.48	132.34	128.60
34	a	1500	A	N1-C6-N6	-7.48	114.11	118.60
8	A	1933	G	C2-N3-C4	-7.48	108.16	111.90
34	a	278	G	N3-C4-C5	7.48	132.34	128.60
8	A	707	G	C2-N3-C4	-7.48	108.16	111.90
8	A	549	G	N3-C4-C5	7.47	132.34	128.60
8	A	2444	G	N3-C4-N9	-7.47	121.52	126.00
8	A	1459	G	N3-C4-N9	-7.47	121.52	126.00
8	A	510	C	C6-N1-C2	-7.47	117.31	120.30
34	a	159	G	N1-C6-O6	-7.47	115.42	119.90
34	a	617	G	C2-N3-C4	-7.47	108.16	111.90
8	A	2190	G	N3-C4-C5	7.47	132.34	128.60
8	A	1987	A	C8-N9-C4	7.47	108.79	105.80
8	A	1705	A	N9-C4-C5	-7.47	102.81	105.80
34	a	748	G	N3-C4-C5	7.47	132.33	128.60
14	G	132	LEU	CA-CB-CG	7.46	132.47	115.30
8	A	2844	G	N3-C4-C5	7.46	132.33	128.60
8	A	1922	G	C2-N3-C4	-7.45	108.17	111.90
8	A	1968	G	C8-N9-C4	7.45	109.38	106.40
8	A	728	G	C2-N3-C4	-7.45	108.17	111.90
34	a	1182	G	N3-C4-C5	7.45	132.32	128.60
8	A	2541	A	N1-C6-N6	-7.45	114.13	118.60
8	A	793	A	N1-C6-N6	7.45	123.07	118.60
8	A	1022	G	C2-N3-C4	-7.45	108.18	111.90
8	A	1192	G	N3-C4-C5	7.45	132.32	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	289	G	N3-C4-N9	-7.44	121.53	126.00
8	A	84	A	C8-N9-C4	7.44	108.78	105.80
34	a	696	A	N1-C6-N6	7.44	123.06	118.60
8	A	445	C	C6-N1-C2	7.43	123.27	120.30
8	A	1807	G	N3-C4-C5	7.43	132.32	128.60
34	a	990	C	C6-N1-C2	7.43	123.27	120.30
8	A	2688	G	C8-N9-C4	7.43	109.37	106.40
34	a	432	A	N9-C4-C5	-7.43	102.83	105.80
8	A	660	C	C6-N1-C2	7.43	123.27	120.30
34	a	824	G	C8-N9-C4	7.42	109.37	106.40
8	A	455	C	N3-C4-N4	-7.42	112.81	118.00
8	A	1139	G	N3-C4-N9	-7.41	121.55	126.00
8	A	344	A	C8-N9-C4	7.41	108.77	105.80
8	A	1639	C	C6-N1-C2	7.41	123.27	120.30
34	a	487	A	C5-C6-N6	-7.41	117.77	123.70
8	A	2816	G	N3-C4-C5	7.41	132.30	128.60
34	a	361	G	N3-C4-N9	-7.41	121.56	126.00
8	A	952	G	N3-C4-C5	7.40	132.30	128.60
8	A	2008	C	C6-N1-C2	7.40	123.26	120.30
8	A	261	G	N3-C4-C5	7.40	132.30	128.60
8	A	1399	C	C6-N1-C2	7.40	123.26	120.30
34	a	518	C	O4'-C1'-N1	-7.39	102.29	108.20
8	A	1358	G	N3-C4-C5	7.39	132.29	128.60
34	a	332	G	N3-C4-C5	7.39	132.29	128.60
8	A	1037	G	N3-C4-C5	7.39	132.29	128.60
8	A	2509	G	N3-C4-C5	7.39	132.29	128.60
9	B	51	G	N9-C4-C5	-7.38	102.45	105.40
34	a	1154	G	N3-C4-C5	7.38	132.29	128.60
34	a	651	C	N3-C4-C5	7.38	124.85	121.90
8	A	1034	G	N3-C4-C5	7.38	132.29	128.60
34	a	851	G	C2-N3-C4	-7.38	108.21	111.90
34	a	181	A	C4-C5-N7	7.38	114.39	110.70
8	A	178	G	C2-N3-C4	-7.37	108.21	111.90
8	A	1225	G	N3-C4-C5	7.37	132.29	128.60
8	A	1631	G	C4-N9-C1'	-7.37	116.92	126.50
34	a	408	A	C8-N9-C4	7.37	108.75	105.80
34	a	1255	G	N3-C4-C5	7.37	132.29	128.60
34	a	604	G	C2-N3-C4	-7.37	108.22	111.90
8	A	2277	G	N3-C4-C5	7.37	132.28	128.60
34	a	257	G	N3-C4-C5	7.37	132.28	128.60
8	A	212	G	N3-C4-C5	7.37	132.28	128.60
34	a	1429	A	C8-N9-C4	7.36	108.75	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1177	G	N3-C4-C5	7.36	132.28	128.60
8	A	2557	G	N3-C4-N9	-7.36	121.58	126.00
34	a	806	C	C6-N1-C2	7.36	123.24	120.30
8	A	123	G	N3-C4-C5	7.36	132.28	128.60
8	A	2281	A	C8-N9-C4	7.36	108.74	105.80
9	B	33	G	N3-C4-N9	-7.36	121.58	126.00
8	A	2481	G	N3-C4-N9	-7.35	121.59	126.00
34	a	278	G	N3-C4-N9	-7.35	121.59	126.00
8	A	1182	G	N3-C4-C5	7.35	132.28	128.60
8	A	393	C	C6-N1-C2	7.34	123.24	120.30
8	A	1154	G	C8-N9-C4	7.34	109.34	106.40
21	N	10	LEU	CA-CB-CG	7.34	132.19	115.30
56	w	6	G	N3-C4-C5	7.34	132.27	128.60
34	a	255	G	N3-C4-C5	7.34	132.27	128.60
34	a	332	G	C2-N3-C4	-7.34	108.23	111.90
34	a	1323	G	N3-C4-C5	7.34	132.27	128.60
34	a	682	G	N3-C4-N9	-7.34	121.60	126.00
8	A	609	A	N1-C6-N6	7.34	123.00	118.60
8	A	205	G	O4'-C1'-N9	7.34	114.07	108.20
8	A	771	G	N3-C4-C5	7.34	132.27	128.60
8	A	1553	A	N1-C6-N6	7.34	123.00	118.60
34	a	360	G	N3-C4-C5	7.33	132.27	128.60
34	a	654	G	C4-C5-N7	7.33	113.73	110.80
8	A	79	C	C6-N1-C2	7.33	123.23	120.30
8	A	1894	C	N3-C4-N4	-7.33	112.87	118.00
34	a	119	A	N1-C6-N6	7.33	123.00	118.60
8	A	2395	C	C6-N1-C2	7.32	123.23	120.30
34	a	630	A	C8-N9-C4	7.32	108.73	105.80
8	A	2316	G	C2-N3-C4	-7.32	108.24	111.90
8	A	81	G	N3-C4-C5	7.32	132.26	128.60
34	a	320	A	N9-C4-C5	-7.32	102.87	105.80
34	a	987	G	N3-C4-N9	-7.32	121.61	126.00
8	A	146	A	N9-C4-C5	-7.32	102.87	105.80
34	a	953	G	N9-C4-C5	-7.31	102.47	105.40
8	A	319	G	N3-C4-C5	7.31	132.26	128.60
8	A	343	C	C6-N1-C2	7.31	123.22	120.30
8	A	2153	C	N3-C2-O2	7.31	127.02	121.90
34	a	141	G	N3-C4-C5	7.31	132.25	128.60
34	a	742	G	N3-C4-C5	7.31	132.25	128.60
34	a	775	G	N3-C4-N9	-7.31	121.61	126.00
34	a	346	G	N9-C4-C5	-7.30	102.48	105.40
34	a	838	G	C8-N9-C4	7.30	109.32	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1524	C	C6-N1-C2	7.30	123.22	120.30
34	a	1488	G	C2-N3-C4	-7.29	108.25	111.90
8	A	1062	G	N3-C2-N2	7.29	125.01	119.90
8	A	2780	G	N3-C4-C5	7.29	132.25	128.60
8	A	950	G	C2-N3-C4	-7.29	108.25	111.90
55	v	6	G	N3-C4-N9	-7.29	121.62	126.00
8	A	259	G	N3-C4-C5	7.29	132.25	128.60
8	A	735	A	C8-N9-C4	7.29	108.72	105.80
34	a	541	G	N3-C4-C5	7.29	132.24	128.60
34	a	518	C	N3-C4-N4	7.29	123.10	118.00
34	a	1048	G	C8-N9-C4	7.29	109.31	106.40
8	A	1332	G	O4'-C1'-N9	7.28	114.02	108.20
8	A	2248	C	C2-N1-C1'	7.28	126.81	118.80
34	a	521	G	C2-N3-C4	-7.28	108.26	111.90
55	v	12	G	C2-N3-C4	-7.28	108.26	111.90
55	v	76	A	O4'-C1'-N9	7.28	114.02	108.20
8	A	780	G	C2-N3-C4	-7.28	108.26	111.90
8	A	249	C	C6-N1-C2	7.28	123.21	120.30
8	A	1169	A	C5-N7-C8	-7.28	100.26	103.90
8	A	2199	A	N9-C4-C5	-7.27	102.89	105.80
8	A	80	G	N3-C4-C5	7.27	132.24	128.60
8	A	1182	G	C2-N3-C4	-7.27	108.26	111.90
8	A	770	G	N3-C4-C5	7.27	132.24	128.60
8	A	2464	G	N3-C4-N9	-7.27	121.64	126.00
34	a	809	G	N3-C4-N9	-7.27	121.64	126.00
34	a	655	A	C8-N9-C4	7.27	108.71	105.80
8	A	1930	G	C8-N9-C4	7.27	109.31	106.40
8	A	927	A	N1-C6-N6	7.26	122.96	118.60
8	A	2549	G	C8-N9-C4	7.26	109.30	106.40
9	B	100	G	C2-N3-C4	-7.26	108.27	111.90
34	a	318	G	N3-C4-N9	-7.26	121.65	126.00
8	A	636	G	N3-C4-C5	7.25	132.23	128.60
8	A	2363	G	N3-C4-C5	7.25	132.23	128.60
8	A	93	G	C2-N3-C4	-7.25	108.28	111.90
8	A	496	G	C8-N9-C4	7.25	109.30	106.40
34	a	453	G	C8-N9-C1'	-7.25	117.58	127.00
8	A	2444	G	C2-N3-C4	-7.25	108.28	111.90
8	A	728	G	N3-C4-C5	7.25	132.22	128.60
8	A	2663	G	N3-C2-N2	-7.24	114.83	119.90
8	A	2715	C	N3-C4-C5	7.24	124.80	121.90
34	a	1011	C	N3-C4-N4	-7.24	112.93	118.00
8	A	407	G	N3-C4-C5	7.24	132.22	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	326	G	N3-C4-C5	7.24	132.22	128.60
34	a	604	G	C8-N9-C4	7.24	109.30	106.40
8	A	1221	C	C6-N1-C2	7.24	123.19	120.30
34	a	1312	G	C2-N3-C4	-7.24	108.28	111.90
34	a	824	G	N3-C4-C5	7.24	132.22	128.60
8	A	371	A	N1-C6-N6	7.23	122.94	118.60
8	A	2603	G	N3-C4-N9	-7.23	121.66	126.00
8	A	2708	G	C8-N9-C4	7.23	109.29	106.40
34	a	1294	G	N3-C4-C5	7.23	132.22	128.60
34	a	1487	G	C2-N3-C4	-7.23	108.28	111.90
34	a	158	G	N1-C6-O6	7.23	124.24	119.90
8	A	2877	G	C8-N9-C4	7.23	109.29	106.40
8	A	1775	U	C6-N1-C2	7.22	125.33	121.00
8	A	960	A	N1-C6-N6	7.22	122.93	118.60
34	a	670	G	N3-C4-C5	7.22	132.21	128.60
34	a	1488	G	C8-N9-C4	7.22	109.29	106.40
8	A	1187	G	N3-C4-N9	-7.22	121.67	126.00
34	a	487	A	N1-C6-N6	7.22	122.93	118.60
34	a	857	C	C6-N1-C2	7.22	123.19	120.30
8	A	481	G	C4-N9-C1'	-7.22	117.12	126.50
34	a	953	G	C4-C5-N7	7.22	113.69	110.80
34	a	1476	A	C8-N9-C4	7.22	108.69	105.80
8	A	191	A	N1-C6-N6	7.21	122.93	118.60
8	A	506	G	C4-N9-C1'	-7.21	117.12	126.50
8	A	1377	G	N3-C4-C5	7.21	132.21	128.60
8	A	2110	G	C4-N9-C1'	7.21	135.88	126.50
9	B	81	G	C2-N3-C4	-7.21	108.30	111.90
34	a	1312	G	O4'-C1'-N9	-7.21	102.43	108.20
34	a	1244	G	C4-N9-C1'	-7.21	117.13	126.50
34	a	104	G	N3-C4-N9	-7.20	121.68	126.00
34	a	1312	G	C8-N9-C4	7.20	109.28	106.40
8	A	1202	G	C8-N9-C4	7.20	109.28	106.40
8	A	58	G	N3-C4-N9	-7.19	121.68	126.00
34	a	800	G	N3-C4-C5	7.19	132.20	128.60
8	A	888	C	O4'-C1'-N1	7.19	113.95	108.20
34	a	859	G	N3-C4-N9	-7.19	121.69	126.00
8	A	1081	U	O4'-C1'-N1	7.19	113.95	108.20
9	B	80	U	C6-N1-C2	7.19	125.31	121.00
8	A	1317	G	C2-N3-C4	-7.18	108.31	111.90
8	A	2253	G	C2-N3-C4	-7.18	108.31	111.90
8	A	1371	G	N3-C4-N9	-7.18	121.69	126.00
8	A	2190	G	C2-N3-C4	-7.18	108.31	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1433	A	N1-C6-N6	7.18	122.91	118.60
8	A	2391	G	C4-N9-C1'	-7.18	117.17	126.50
34	a	1227	A	N9-C4-C5	7.18	108.67	105.80
34	a	402	G	N3-C4-C5	7.17	132.19	128.60
8	A	1047	G	N3-C2-N2	-7.17	114.88	119.90
8	A	2383	G	N3-C4-C5	7.17	132.19	128.60
8	A	2715	C	C6-N1-C2	7.17	123.17	120.30
34	a	1323	G	C2-N3-C4	-7.17	108.31	111.90
8	A	1968	G	N9-C4-C5	-7.17	102.53	105.40
34	a	1374	A	C4-C5-N7	7.17	114.28	110.70
8	A	14	A	C5-C6-N1	7.17	121.28	117.70
8	A	2854	G	N3-C4-C5	7.17	132.18	128.60
8	A	1178	C	N3-C4-N4	-7.17	112.98	118.00
8	A	875	G	N3-C4-C5	7.16	132.18	128.60
8	A	1388	G	N3-C4-C5	7.16	132.18	128.60
8	A	2415	G	N3-C4-N9	-7.16	121.70	126.00
8	A	240	C	C6-N1-C2	7.16	123.16	120.30
34	a	671	G	N3-C4-C5	7.16	132.18	128.60
8	A	469	G	C5-N7-C8	-7.16	100.72	104.30
8	A	2719	G	N3-C4-C5	7.16	132.18	128.60
9	B	96	G	N3-C4-C5	7.16	132.18	128.60
34	a	1050	G	C8-N9-C1'	7.16	136.30	127.00
8	A	2456	C	C6-N1-C2	7.15	123.16	120.30
8	A	570	G	N3-C4-N9	7.15	130.29	126.00
8	A	1697	G	N3-C4-C5	7.15	132.18	128.60
34	a	661	G	C8-N9-C4	7.15	109.26	106.40
8	A	371	A	C5-C6-N6	-7.15	117.98	123.70
8	A	721	A	N9-C4-C5	-7.15	102.94	105.80
34	a	445	G	N3-C4-C5	7.15	132.17	128.60
8	A	381	G	C8-N9-C4	7.15	109.26	106.40
8	A	247	G	N3-C4-C5	7.14	132.17	128.60
34	a	928	G	N3-C4-C5	7.14	132.17	128.60
8	A	899	A	N1-C6-N6	7.14	122.88	118.60
34	a	1486	G	C2-N3-C4	-7.14	108.33	111.90
34	a	1105	A	N9-C4-C5	-7.14	102.95	105.80
8	A	713	G	N3-C4-C5	7.13	132.17	128.60
8	A	2686	G	C2-N3-C4	-7.13	108.33	111.90
8	A	2839	G	N3-C4-C5	7.13	132.17	128.60
8	A	1810	A	C5-C6-N6	-7.13	117.99	123.70
8	A	1178	C	C2-N3-C4	-7.13	116.33	119.90
8	A	1456	G	N3-C4-C5	7.13	132.16	128.60
8	A	361	G	C5-N7-C8	-7.13	100.74	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2508	G	C8-N9-C4	7.13	109.25	106.40
8	A	510	C	N3-C2-O2	-7.12	116.91	121.90
8	A	707	G	N3-C4-C5	7.12	132.16	128.60
34	a	929	G	N3-C4-C5	7.12	132.16	128.60
8	A	1873	G	N3-C4-C5	7.12	132.16	128.60
8	A	2206	C	C6-N1-C2	7.12	123.15	120.30
8	A	2734	A	C8-N9-C4	7.12	108.65	105.80
8	A	327	G	N3-C4-C5	7.12	132.16	128.60
8	A	1028	A	N9-C4-C5	-7.11	102.96	105.80
34	a	1472	U	C2-N1-C1'	7.11	126.23	117.70
8	A	1156	A	C8-N9-C4	7.11	108.64	105.80
8	A	2844	G	N3-C4-N9	-7.11	121.74	126.00
34	a	851	G	N9-C4-C5	-7.11	102.56	105.40
34	a	518	C	C6-N1-C1'	-7.10	112.28	120.80
34	a	1375	A	C8-N9-C4	7.10	108.64	105.80
8	A	1408	G	C2-N3-C4	-7.10	108.35	111.90
8	A	1745	A	C5-C6-N6	-7.10	118.02	123.70
8	A	2349	G	N3-C4-C5	7.10	132.15	128.60
34	a	243	A	N1-C2-N3	7.10	132.85	129.30
34	a	246	A	N1-C6-N6	7.10	122.86	118.60
34	a	698	G	N3-C4-N9	-7.10	121.74	126.00
8	A	2218	G	C2-N3-C4	-7.10	108.35	111.90
8	A	1220	G	N3-C4-N9	-7.10	121.74	126.00
34	a	460	A	O4'-C1'-N9	-7.10	102.52	108.20
8	A	2437	G	N3-C4-C5	7.10	132.15	128.60
8	A	2208	C	C2'-C3'-O3'	7.10	125.11	109.50
8	A	24	G	C2-N3-C4	-7.09	108.35	111.90
34	a	542	G	C8-N9-C4	7.09	109.24	106.40
8	A	2843	G	N3-C4-C5	7.09	132.15	128.60
34	a	691	G	C4-N9-C1'	-7.09	117.28	126.50
8	A	2248	C	C6-N1-C1'	-7.09	112.29	120.80
8	A	52	A	C5-C6-N6	-7.09	118.03	123.70
9	B	40	U	O4'-C1'-N1	-7.09	102.53	108.20
8	A	1378	A	C4-C5-N7	7.09	114.24	110.70
8	A	2524	G	C8-N9-C4	7.09	109.23	106.40
34	a	104	G	N3-C4-C5	7.09	132.14	128.60
8	A	260	G	C2-N3-C4	-7.08	108.36	111.90
8	A	2899	A	N9-C4-C5	-7.08	102.97	105.80
34	a	1112	C	C6-N1-C2	7.08	123.13	120.30
8	A	122	G	N3-C4-N9	-7.08	121.75	126.00
8	A	2168	G	P-O3'-C3'	-7.08	111.20	119.70
8	A	1178	C	N3-C2-O2	-7.08	116.94	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	B	102	G	C8-N9-C4	7.08	109.23	106.40
9	B	84	G	N3-C4-C5	7.08	132.14	128.60
26	S	42	LYS	CA-CB-CG	7.08	128.97	113.40
8	A	48	G	N3-C4-C5	7.07	132.14	128.60
34	a	518	C	C5-C4-N4	-7.07	115.25	120.20
34	a	545	C	C6-N1-C2	7.07	123.13	120.30
34	a	1143	G	N9-C4-C5	-7.07	102.57	105.40
34	a	585	G	N3-C4-C5	7.07	132.13	128.60
8	A	2840	C	C6-N1-C2	7.07	123.13	120.30
34	a	639	G	C8-N9-C4	7.07	109.23	106.40
34	a	550	G	N3-C4-C5	7.06	132.13	128.60
8	A	27	G	O4'-C1'-N9	7.06	113.85	108.20
8	A	1016	G	N3-C4-N9	-7.06	121.76	126.00
8	A	629	G	C8-N9-C4	7.06	109.22	106.40
8	A	1333	G	C8-N9-C4	7.06	109.22	106.40
8	A	1642	G	C2-N3-C4	-7.06	108.37	111.90
8	A	1900	A	O4'-C1'-N9	7.06	113.85	108.20
8	A	956	G	N3-C4-C5	7.06	132.13	128.60
34	a	241	G	N3-C4-N9	-7.06	121.77	126.00
34	a	953	G	N3-C4-C5	7.06	132.13	128.60
34	a	1487	G	N3-C4-N9	-7.06	121.77	126.00
8	A	815	C	N3-C4-C5	7.05	124.72	121.90
8	A	1337	G	N3-C4-N9	-7.05	121.77	126.00
8	A	2235	G	C2-N3-C4	-7.05	108.37	111.90
34	a	362	G	N3-C4-C5	7.05	132.13	128.60
34	a	898	G	N3-C4-C5	7.05	132.13	128.60
8	A	1721	G	N3-C4-N9	-7.05	121.77	126.00
34	a	348	G	C8-N9-C4	7.05	109.22	106.40
34	a	799	G	C8-N9-C4	7.05	109.22	106.40
8	A	1115	G	N3-C4-C5	7.04	132.12	128.60
8	A	2373	G	N3-C4-C5	7.04	132.12	128.60
34	a	833	G	N3-C4-N9	-7.04	121.78	126.00
8	A	350	G	C2-N3-C4	-7.04	108.38	111.90
8	A	1766	G	C8-N9-C4	7.04	109.22	106.40
8	A	1843	C	N1-C2-O2	7.04	123.12	118.90
8	A	1973	G	N3-C4-C5	7.04	132.12	128.60
8	A	2355	G	N3-C4-C5	7.04	132.12	128.60
8	A	996	A	C8-N9-C4	7.03	108.61	105.80
8	A	2618	G	N1-C6-O6	-7.03	115.68	119.90
34	a	800	G	C2-N3-C4	-7.03	108.38	111.90
8	A	939	G	N3-C4-C5	7.03	132.12	128.60
8	A	1190	G	C8-N9-C4	7.03	109.21	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2040	G	C8-N9-C4	7.03	109.21	106.40
34	a	226	G	N3-C2-N2	7.03	124.82	119.90
8	A	488	G	N3-C4-C5	7.03	132.12	128.60
8	A	2282	G	N1-C6-O6	-7.03	115.68	119.90
8	A	1154	G	N3-C4-C5	7.02	132.11	128.60
9	B	19	C	C6-N1-C2	7.02	123.11	120.30
8	A	1893	C	C6-N1-C2	7.02	123.11	120.30
34	a	1174	G	N3-C4-C5	7.02	132.11	128.60
8	A	188	G	C2-N3-C4	-7.02	108.39	111.90
8	A	954	G	C2-N3-C4	-7.01	108.39	111.90
8	A	2557	G	C8-N9-C4	7.01	109.21	106.40
34	a	1	A	N7-C8-N9	7.01	117.31	113.80
34	a	81	A	C4-C5-N7	7.01	114.21	110.70
34	a	848	C	C6-N1-C2	7.01	123.10	120.30
8	A	2719	G	N3-C4-N9	-7.00	121.80	126.00
8	A	705	A	N1-C6-N6	7.00	122.80	118.60
8	A	2407	A	N9-C4-C5	-7.00	103.00	105.80
8	A	1055	G	C4-C5-C6	-7.00	114.60	118.80
8	A	2869	G	N3-C4-N9	-7.00	121.80	126.00
34	a	1020	G	C8-N9-C4	7.00	109.20	106.40
34	a	326	G	C2-N3-C4	-6.99	108.40	111.90
8	A	672	C	N3-C4-C5	6.99	124.70	121.90
34	a	1019	A	N9-C4-C5	-6.99	103.00	105.80
34	a	1104	G	C8-N9-C4	6.99	109.20	106.40
8	A	1377	G	N3-C4-N9	-6.99	121.81	126.00
8	A	2198	A	C5-C6-N6	6.99	129.29	123.70
34	a	742	G	N3-C2-N2	-6.99	115.01	119.90
34	a	1435	G	N3-C4-C5	6.99	132.09	128.60
34	a	887	G	N3-C4-C5	6.99	132.09	128.60
8	A	682	G	N3-C4-C5	6.99	132.09	128.60
8	A	1279	G	C4-C5-N7	6.99	113.59	110.80
34	a	521	G	C8-N9-C4	6.99	109.19	106.40
8	A	1060	U	C5-C4-O4	-6.98	121.71	125.90
8	A	35	G	N3-C4-C5	6.98	132.09	128.60
8	A	1684	G	C4-N9-C1'	-6.98	117.42	126.50
34	a	696	A	N9-C4-C5	-6.98	103.01	105.80
34	a	1025	U	C2-N1-C1'	6.98	126.08	117.70
8	A	500	G	N3-C4-C5	6.98	132.09	128.60
8	A	917	A	N1-C6-N6	6.97	122.78	118.60
8	A	1681	G	N3-C4-C5	6.97	132.09	128.60
8	A	2198	A	C6-C5-N7	6.97	137.18	132.30
8	A	2708	G	N3-C4-C5	6.97	132.09	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2864	G	N3-C4-C5	6.97	132.09	128.60
8	A	1479	G	N3-C4-C5	6.97	132.08	128.60
34	a	242	G	N3-C4-C5	6.96	132.08	128.60
34	a	1011	C	C2-N1-C1'	-6.96	111.14	118.80
8	A	2	G	C4-C5-N7	6.96	113.58	110.80
34	a	626	G	C2-N3-C4	-6.96	108.42	111.90
8	A	1093	G	N3-C4-C5	6.96	132.08	128.60
8	A	2549	G	N9-C4-C5	-6.96	102.62	105.40
55	v	26	G	N3-C4-C5	6.96	132.08	128.60
8	A	1163	G	C8-N9-C4	6.96	109.18	106.40
8	A	93	G	N3-C4-C5	6.96	132.08	128.60
34	a	886	G	N3-C4-C5	6.96	132.08	128.60
34	a	1439	G	N3-C4-C5	6.96	132.08	128.60
8	A	1574	C	C6-N1-C2	6.96	123.08	120.30
8	A	1227	G	C2-N3-C4	-6.95	108.42	111.90
8	A	334	C	C6-N1-C2	6.95	123.08	120.30
8	A	413	C	C6-N1-C2	6.95	123.08	120.30
8	A	1897	G	N3-C4-C5	6.95	132.07	128.60
34	a	1175	G	C2-N3-C4	-6.95	108.43	111.90
34	a	53	A	C8-N9-C4	6.94	108.58	105.80
8	A	830	G	N3-C4-N9	-6.94	121.83	126.00
34	a	518	C	C2-N1-C1'	6.94	126.44	118.80
8	A	1048	A	N1-C6-N6	6.94	122.76	118.60
8	A	144	A	C4-C5-N7	6.94	114.17	110.70
8	A	2567	G	N3-C4-C5	6.94	132.07	128.60
8	A	340	A	C8-N9-C4	6.93	108.57	105.80
8	A	2551	C	C6-N1-C2	6.93	123.07	120.30
8	A	1989	G	N3-C4-C5	6.93	132.06	128.60
8	A	2507	C	C6-N1-C2	6.93	123.07	120.30
8	A	1807	G	N3-C4-N9	-6.92	121.84	126.00
8	A	2868	A	N1-C6-N6	6.92	122.75	118.60
34	a	1043	G	N3-C4-C5	6.92	132.06	128.60
34	a	274	A	C8-N9-C4	6.92	108.57	105.80
8	A	1548	A	C8-N9-C4	6.92	108.57	105.80
8	A	335	C	C6-N1-C2	6.92	123.07	120.30
8	A	463	G	N3-C4-C5	6.92	132.06	128.60
34	a	151	A	C5-C6-N6	-6.92	118.16	123.70
34	a	760	G	N3-C4-C5	6.92	132.06	128.60
8	A	795	C	N3-C4-C5	6.92	124.67	121.90
8	A	1233	C	N3-C4-N4	-6.92	113.16	118.00
8	A	1723	G	C2-N3-C4	-6.91	108.44	111.90
8	A	523	C	C6-N1-C2	6.91	123.06	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1797	G	N3-C4-C5	6.91	132.06	128.60
8	A	2567	G	N3-C4-N9	-6.91	121.85	126.00
55	v	26	G	N3-C2-N2	-6.91	115.06	119.90
8	A	708	G	C2-N3-C4	-6.91	108.45	111.90
8	A	1171	G	C8-N9-C4	-6.91	103.64	106.40
8	A	1628	G	C8-N9-C4	6.91	109.16	106.40
8	A	2735	G	C2-N3-C4	-6.91	108.44	111.90
34	a	117	G	N3-C4-C5	6.91	132.05	128.60
8	A	1708	C	C6-N1-C2	6.91	123.06	120.30
8	A	1631	G	C6-C5-N7	6.91	134.54	130.40
8	A	1697	G	N3-C4-N9	-6.90	121.86	126.00
8	A	461	C	N3-C4-N4	-6.90	113.17	118.00
8	A	553	G	N3-C4-C5	6.90	132.05	128.60
8	A	560	C	C6-N1-C2	6.90	123.06	120.30
34	a	413	G	C2-N3-C4	-6.90	108.45	111.90
34	a	628	G	N3-C4-N9	-6.90	121.86	126.00
34	a	211	G	C2-N3-C4	6.90	115.35	111.90
34	a	295	C	C6-N1-C2	6.90	123.06	120.30
8	A	950	G	N3-C4-C5	6.90	132.05	128.60
8	A	1054	A	C4-C5-N7	6.90	114.15	110.70
8	A	506	G	N3-C4-N9	-6.89	121.86	126.00
8	A	2878	U	C6-N1-C2	6.89	125.14	121.00
34	a	921	U	C6-N1-C1'	6.89	130.85	121.20
8	A	2391	G	C8-N9-C4	6.89	109.16	106.40
34	a	1079	G	N3-C4-C5	6.89	132.05	128.60
55	v	4	G	N3-C4-C5	6.89	132.05	128.60
8	A	1062	G	N1-C2-N2	-6.89	110.00	116.20
8	A	1686	C	N3-C4-C5	6.89	124.66	121.90
8	A	1717	A	N1-C6-N6	6.89	122.73	118.60
8	A	1277	G	C8-N9-C4	6.88	109.15	106.40
34	a	1143	G	C2-N3-C4	-6.88	108.46	111.90
8	A	2867	G	C4-N9-C1'	-6.88	117.56	126.50
8	A	322	A	N1-C6-N6	-6.88	114.47	118.60
8	A	359	G	C4-N9-C1'	-6.88	117.56	126.50
8	A	2399	G	N3-C4-C5	6.88	132.04	128.60
8	A	1424	G	N3-C4-N9	-6.88	121.88	126.00
34	a	39	G	N3-C4-C5	6.88	132.04	128.60
8	A	1304	A	C8-N9-C4	6.87	108.55	105.80
8	A	1933	G	N3-C4-C5	6.87	132.04	128.60
8	A	1013	C	N3-C4-C5	6.87	124.65	121.90
8	A	1652	A	C4-C5-N7	6.87	114.14	110.70
8	A	1719	G	N3-C4-N9	-6.87	121.88	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2458	G	C2-N3-C4	-6.87	108.47	111.90
8	A	2536	G	N3-C4-N9	-6.87	121.88	126.00
34	a	201	G	C4-N9-C1'	-6.87	117.57	126.50
8	A	2218	G	N3-C4-C5	6.87	132.03	128.60
8	A	2631	G	C4-N9-C1'	-6.87	117.57	126.50
9	B	17	C	C6-N1-C2	6.87	123.05	120.30
34	a	1157	A	C8-N9-C4	6.87	108.55	105.80
8	A	877	A	C8-N9-C4	6.86	108.55	105.80
8	A	2164	C	O4'-C1'-N1	-6.86	102.71	108.20
8	A	675	A	C4-C5-N7	6.86	114.13	110.70
8	A	2576	G	C6-C5-N7	6.86	134.52	130.40
34	a	903	G	N3-C4-C5	6.86	132.03	128.60
34	a	119	A	C5-C6-N6	-6.86	118.22	123.70
55	v	5	G	N3-C4-C5	6.86	132.03	128.60
8	A	862	G	N3-C4-C5	6.85	132.03	128.60
55	v	43	A	N9-C4-C5	-6.85	103.06	105.80
8	A	317	G	C8-N9-C4	6.85	109.14	106.40
8	A	2669	G	C8-N9-C4	6.85	109.14	106.40
8	A	618	G	N3-C4-N9	-6.85	121.89	126.00
8	A	949	G	C2-N3-C4	-6.85	108.48	111.90
8	A	1975	G	N3-C4-C5	6.85	132.02	128.60
8	A	41	C	C6-N1-C2	6.84	123.04	120.30
8	A	1713	A	C8-N9-C4	6.84	108.54	105.80
8	A	843	G	C2-N3-C4	-6.84	108.48	111.90
8	A	1333	G	N3-C4-C5	6.84	132.02	128.60
8	A	2496	C	C2-N1-C1'	6.84	126.32	118.80
34	a	410	G	N3-C4-N9	-6.84	121.90	126.00
8	A	2484	G	N3-C4-C5	6.84	132.02	128.60
8	A	2525	G	N3-C4-N9	-6.84	121.90	126.00
8	A	2815	C	C6-N1-C2	6.84	123.03	120.30
34	a	270	A	C4-C5-N7	6.84	114.12	110.70
8	A	1426	G	C2-N3-C4	-6.83	108.48	111.90
8	A	2659	G	N3-C4-N9	-6.83	121.90	126.00
8	A	1501	G	C2-N3-C4	-6.83	108.48	111.90
8	A	2045	C	C6-N1-C2	6.83	123.03	120.30
34	a	151	A	N9-C4-C5	-6.83	103.07	105.80
8	A	45	G	C2-N3-C4	-6.83	108.48	111.90
8	A	126	A	N9-C4-C5	-6.83	103.07	105.80
8	A	1244	A	N9-C4-C5	-6.83	103.07	105.80
34	a	954	G	N3-C4-N9	-6.83	121.90	126.00
8	A	259	G	N3-C4-N9	-6.83	121.91	126.00
34	a	225	C	C6-N1-C2	6.83	123.03	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	936	A	N9-C4-C5	-6.82	103.07	105.80
8	A	1165	A	C8-N9-C4	6.82	108.53	105.80
8	A	1218	G	N3-C4-N9	-6.82	121.91	126.00
55	v	52	G	N3-C4-C5	6.82	132.01	128.60
8	A	2671	G	N3-C4-N9	-6.82	121.91	126.00
8	A	2848	G	N3-C4-C5	6.82	132.01	128.60
34	a	445	G	N3-C4-N9	-6.81	121.91	126.00
8	A	2414	G	C4-N9-C1'	-6.81	117.64	126.50
9	B	60	C	C6-N1-C2	6.81	123.03	120.30
34	a	266	G	O4'-C1'-N9	6.81	113.65	108.20
34	a	691	G	N3-C4-C5	6.81	132.01	128.60
9	B	24	G	N3-C4-C5	6.81	132.01	128.60
8	A	771	G	N3-C4-N9	-6.81	121.92	126.00
8	A	2277	G	N3-C4-N9	-6.81	121.91	126.00
8	A	2157	G	O5'-P-OP1	-6.81	99.57	105.70
8	A	2525	G	C4-N9-C1'	-6.81	117.65	126.50
34	a	894	G	N3-C4-N9	-6.81	121.92	126.00
8	A	2628	C	N3-C4-C5	6.80	124.62	121.90
9	B	64	G	C8-N9-C4	6.80	109.12	106.40
9	B	78	A	C8-N9-C4	6.80	108.52	105.80
34	a	226	G	N1-C2-N2	-6.80	110.08	116.20
8	A	2230	G	C2-N3-C4	-6.80	108.50	111.90
34	a	142	G	N3-C4-N9	-6.80	121.92	126.00
34	a	68	G	N3-C4-C5	6.79	132.00	128.60
8	A	2803	G	C4-N9-C1'	-6.79	117.67	126.50
34	a	1374	A	C5-C6-N1	6.79	121.10	117.70
8	A	220	G	O4'-C1'-N9	-6.79	102.77	108.20
34	a	1081	A	O3'-P-O5'	6.79	116.90	104.00
8	A	247	G	N3-C4-N9	-6.79	121.93	126.00
8	A	1705	A	C4-C5-N7	6.79	114.09	110.70
9	B	107	G	N3-C4-N9	-6.79	121.93	126.00
8	A	718	A	N9-C4-C5	-6.78	103.09	105.80
8	A	1266	G	N3-C4-C5	6.78	131.99	128.60
34	a	1432	G	C2-N3-C4	-6.78	108.51	111.90
8	A	1403	A	N9-C4-C5	-6.78	103.09	105.80
9	B	64	G	C2-N3-C4	-6.78	108.51	111.90
34	a	640	A	N3-C4-C5	6.78	131.55	126.80
34	a	688	G	N3-C4-C5	6.78	131.99	128.60
8	A	1115	G	C2-N3-C4	-6.78	108.51	111.90
34	a	453	G	C4-N9-C1'	6.78	135.31	126.50
8	A	1178	C	N1-C2-O2	6.78	122.97	118.90
8	A	313	G	N3-C4-C5	6.77	131.99	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1743	G	N3-C4-C5	6.77	131.99	128.60
34	a	164	G	N3-C4-C5	6.77	131.99	128.60
8	A	398	C	C6-N1-C2	6.77	123.01	120.30
8	A	1387	A	N9-C4-C5	-6.77	103.09	105.80
34	a	1102	A	N9-C4-C5	-6.77	103.09	105.80
8	A	1346	G	N3-C4-C5	6.77	131.98	128.60
9	B	51	G	C8-N9-C1'	-6.77	118.20	127.00
8	A	1767	G	N3-C4-N9	-6.76	121.94	126.00
9	B	83	G	C8-N9-C4	6.76	109.10	106.40
8	A	888	C	N3-C2-O2	-6.76	117.17	121.90
8	A	924	G	N3-C4-C5	6.76	131.98	128.60
8	A	953	G	C8-N9-C4	6.76	109.10	106.40
8	A	1517	G	C2-N3-C4	-6.76	108.52	111.90
8	A	2351	G	N3-C4-C5	6.76	131.98	128.60
34	a	38	G	N3-C4-C5	6.76	131.98	128.60
34	a	696	A	C5-C6-N6	-6.76	118.29	123.70
34	a	988	G	N3-C4-N9	-6.76	121.95	126.00
8	A	813	U	C6-N1-C2	6.75	125.05	121.00
8	A	1382	G	N3-C4-C5	6.75	131.98	128.60
8	A	1477	A	C4-C5-N7	6.75	114.08	110.70
34	a	109	A	N1-C6-N6	6.75	122.65	118.60
8	A	271	G	C2-N3-C4	-6.75	108.52	111.90
8	A	1017	G	N3-C4-C5	6.75	131.97	128.60
8	A	2235	G	C4-N9-C1'	-6.75	117.72	126.50
8	A	2142	A	O4'-C1'-N9	-6.75	102.80	108.20
34	a	1462	C	C6-N1-C2	6.75	123.00	120.30
8	A	1034	G	C2-N3-C4	-6.75	108.53	111.90
8	A	1517	G	N3-C4-C5	6.75	131.97	128.60
10	C	201	LEU	CA-CB-CG	-6.75	99.79	115.30
8	A	1846	G	N3-C4-C5	6.74	131.97	128.60
34	a	199	A	N9-C4-C5	-6.74	103.10	105.80
8	A	1336	A	C8-N9-C4	6.74	108.50	105.80
34	a	778	G	N3-C4-C5	6.74	131.97	128.60
34	a	1483	A	N1-C6-N6	6.74	122.64	118.60
9	B	111	U	C6-N1-C2	6.74	125.04	121.00
8	A	2876	G	N3-C4-N9	-6.74	121.96	126.00
55	v	15	G	N3-C4-N9	-6.74	121.96	126.00
9	B	37	C	N3-C4-N4	-6.73	113.29	118.00
8	A	2678	C	N3-C4-C5	6.73	124.59	121.90
34	a	1417	G	C2-N3-C4	-6.73	108.53	111.90
8	A	1092	C	C6-N1-C2	6.73	122.99	120.30
8	A	1904	G	C2-N3-C4	-6.73	108.53	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1061	G	C2-N3-C4	-6.73	108.53	111.90
8	A	2235	G	C8-N9-C4	6.73	109.09	106.40
8	A	2444	G	N3-C4-C5	6.73	131.96	128.60
34	a	297	G	N3-C4-C5	6.73	131.96	128.60
56	w	53	G	N3-C4-C5	6.73	131.96	128.60
8	A	1093	G	N3-C4-N9	-6.73	121.97	126.00
8	A	335	C	N3-C4-C5	6.72	124.59	121.90
8	A	425	G	C8-N9-C4	6.72	109.09	106.40
8	A	340	A	C5-C6-N6	-6.72	118.32	123.70
8	A	916	G	C4-C5-N7	6.72	113.49	110.80
8	A	1826	G	N3-C4-C5	6.72	131.96	128.60
8	A	570	G	C4-N9-C1'	6.72	135.23	126.50
8	A	1338	G	C2-N3-C4	-6.72	108.54	111.90
8	A	2458	G	N3-C4-N9	-6.71	121.97	126.00
8	A	1123	C	N3-C4-N4	-6.71	113.30	118.00
8	A	1220	G	C4-N9-C1'	-6.71	117.77	126.50
8	A	2803	G	N3-C4-N9	-6.71	121.97	126.00
34	a	602	A	N9-C4-C5	-6.71	103.11	105.80
34	a	1196	A	N1-C6-N6	6.71	122.63	118.60
34	a	1020	G	N3-C4-C5	6.71	131.95	128.60
8	A	2542	A	N1-C6-N6	-6.71	114.58	118.60
34	a	432	A	C5-C6-N6	-6.71	118.34	123.70
8	A	1090	A	P-O3'-C3'	6.70	127.75	119.70
8	A	2279	G	N3-C4-C5	6.70	131.95	128.60
8	A	729	G	O4'-C1'-N9	6.70	113.56	108.20
8	A	2093	G	N3-C4-C5	6.70	131.95	128.60
8	A	1239	G	N3-C4-C5	6.70	131.95	128.60
34	a	691	G	N3-C4-N9	-6.70	121.98	126.00
34	a	1043	G	N3-C4-N9	-6.70	121.98	126.00
34	a	1310	G	N3-C4-C5	6.70	131.95	128.60
8	A	2138	G	N3-C4-C5	6.70	131.95	128.60
9	B	102	G	C2-N3-C4	-6.70	108.55	111.90
8	A	1426	G	N3-C4-C5	6.70	131.95	128.60
8	A	1682	G	N3-C4-C5	6.70	131.95	128.60
34	a	425	G	N3-C4-N9	-6.70	121.98	126.00
9	B	83	G	N3-C4-C5	6.69	131.95	128.60
34	a	1190	G	N3-C2-N2	-6.69	115.22	119.90
34	a	1419	G	C4-N9-C1'	6.69	135.20	126.50
34	a	25	C	C6-N1-C2	6.69	122.98	120.30
9	B	112	G	N3-C4-C5	6.69	131.94	128.60
34	a	626	G	N3-C4-C5	6.69	131.94	128.60
34	a	888	G	N3-C2-N2	-6.69	115.22	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	988	A	C8-N9-C4	6.69	108.47	105.80
8	A	1590	A	N9-C4-C5	-6.69	103.13	105.80
8	A	1844	C	N3-C4-C5	6.68	124.57	121.90
8	A	2121	G	O4'-C1'-N9	6.68	113.55	108.20
8	A	37	C	N3-C4-C5	6.68	124.57	121.90
8	A	466	A	N1-C6-N6	-6.68	114.59	118.60
8	A	1477	A	N9-C4-C5	-6.68	103.13	105.80
8	A	1062	G	N9-C4-C5	-6.67	102.73	105.40
34	a	1423	G	N3-C4-C5	6.67	131.94	128.60
8	A	1684	G	N3-C4-N9	-6.67	122.00	126.00
34	a	1300	G	C2-N3-C4	-6.67	108.56	111.90
8	A	524	G	N3-C4-C5	6.67	131.94	128.60
8	A	537	G	C8-N9-C4	6.67	109.07	106.40
34	a	1003	G	N3-C4-C5	6.67	131.94	128.60
8	A	303	G	N9-C4-C5	-6.67	102.73	105.40
34	a	402	G	C2-N3-C4	-6.67	108.57	111.90
56	w	13	C	C2'-C3'-O3'	6.66	124.36	113.70
8	A	1492	G	C8-N9-C1'	6.66	135.66	127.00
34	a	410	G	C4-N9-C1'	-6.66	117.84	126.50
34	a	886	G	C2-N3-C4	-6.66	108.57	111.90
8	A	669	G	N3-C2-N2	-6.66	115.24	119.90
8	A	2663	G	C2-N3-C4	-6.66	108.57	111.90
34	a	1461	G	N3-C4-C5	6.66	131.93	128.60
34	a	141	G	N3-C4-N9	-6.65	122.01	126.00
34	a	1258	G	N3-C4-C5	6.65	131.93	128.60
34	a	765	G	N3-C4-C5	6.65	131.93	128.60
8	A	712	G	N3-C4-C5	6.65	131.93	128.60
8	A	1186	G	C2-N3-C4	-6.65	108.57	111.90
34	a	917	G	C2-N3-C4	-6.65	108.58	111.90
8	A	2575	C	N3-C4-C5	6.65	124.56	121.90
8	A	2323	G	N3-C4-N9	-6.65	122.01	126.00
8	A	2867	G	N3-C4-N9	-6.65	122.01	126.00
34	a	1025	U	C6-N1-C2	-6.65	117.01	121.00
55	v	53	G	N3-C4-C5	6.65	131.92	128.60
8	A	843	G	C4-N9-C1'	-6.64	117.86	126.50
8	A	1158	C	N3-C4-N4	-6.64	113.35	118.00
8	A	1628	G	N3-C4-C5	6.64	131.92	128.60
8	A	401	A	O4'-C1'-N9	-6.64	102.89	108.20
34	a	227	G	N3-C4-C5	6.64	131.92	128.60
8	A	1540	G	C2-N3-C4	-6.64	108.58	111.90
34	a	616	G	C8-N9-C4	6.63	109.05	106.40
34	a	705	G	C2-N3-C4	-6.63	108.58	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1117	A	N1-C6-N6	6.63	122.58	118.60
34	a	1322	C	O4'-C1'-N1	6.63	113.50	108.20
8	A	469	G	N1-C6-O6	6.63	123.88	119.90
34	a	778	G	N3-C4-N9	-6.63	122.02	126.00
34	a	830	G	C2-N3-C4	-6.63	108.59	111.90
55	v	46	A	C5-C6-N6	-6.63	118.40	123.70
8	A	1401	G	C2-N3-C4	-6.63	108.59	111.90
8	A	1717	A	C5-C6-N6	-6.62	118.40	123.70
8	A	2207	C	C6-N1-C2	6.62	122.95	120.30
8	A	2378	A	C6-C5-N7	-6.62	127.66	132.30
8	A	1016	G	C8-N9-C4	6.62	109.05	106.40
34	a	187	G	N3-C4-C5	6.62	131.91	128.60
8	A	1849	G	N3-C4-C5	6.62	131.91	128.60
34	a	1094	G	N1-C2-N2	-6.62	110.24	116.20
34	a	1362	A	C8-N9-C4	6.62	108.45	105.80
8	A	617	G	C8-N9-C4	6.62	109.05	106.40
8	A	1120	G	N3-C4-C5	6.62	131.91	128.60
8	A	2174	C	C6-N1-C1'	6.62	128.74	120.80
34	a	920	U	C5-C6-N1	6.62	126.01	122.70
8	A	494	G	N3-C4-N9	-6.61	122.03	126.00
8	A	2217	G	N3-C4-C5	6.61	131.91	128.60
8	A	2502	G	N3-C4-C5	6.61	131.91	128.60
34	a	435	A	N9-C4-C5	-6.61	103.16	105.80
34	a	319	G	N3-C4-N9	-6.61	122.03	126.00
34	a	838	G	N9-C4-C5	-6.61	102.76	105.40
8	A	1266	G	C2-N3-C4	-6.61	108.60	111.90
8	A	2877	G	N3-C4-C5	6.61	131.90	128.60
34	a	1245	C	C6-N1-C2	6.61	122.94	120.30
8	A	2677	G	N3-C4-C5	6.60	131.90	128.60
34	a	1106	G	N3-C4-N9	-6.60	122.04	126.00
8	A	2527	C	N3-C4-N4	-6.60	113.38	118.00
8	A	493	G	C2-N3-C4	-6.60	108.60	111.90
8	A	132	G	C2-N3-C4	-6.60	108.60	111.90
8	A	953	G	N3-C4-C5	6.60	131.90	128.60
8	A	2640	G	N3-C4-N9	-6.60	122.04	126.00
8	A	2834	G	N3-C4-C5	6.59	131.90	128.60
34	a	488	C	C6-N1-C1'	-6.59	112.89	120.80
8	A	1238	G	N3-C4-C5	6.59	131.90	128.60
8	A	2461	A	C8-N9-C4	6.59	108.44	105.80
34	a	1185	G	C8-N9-C4	6.59	109.04	106.40
8	A	178	G	N3-C4-N9	-6.58	122.05	126.00
8	A	346	A	N1-C6-N6	6.58	122.55	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1399	C	N3-C4-C5	6.58	124.53	121.90
8	A	408	G	C2-N3-C4	-6.58	108.61	111.90
8	A	2010	G	C2-N3-C4	-6.58	108.61	111.90
8	A	2436	G	N3-C4-C5	6.58	131.89	128.60
34	a	1241	G	C8-N9-C4	6.58	109.03	106.40
8	A	359	G	C8-N9-C1'	6.58	135.56	127.00
8	A	856	G	N3-C4-C5	6.58	131.89	128.60
8	A	1703	G	N3-C4-C5	6.58	131.89	128.60
8	A	1398	C	N3-C4-C5	6.58	124.53	121.90
8	A	494	G	N3-C4-C5	6.57	131.89	128.60
8	A	1171	G	N3-C4-N9	-6.57	122.06	126.00
35	b	134	LEU	CA-CB-CG	6.57	130.42	115.30
8	A	1295	C	C6-N1-C2	6.57	122.93	120.30
8	A	1469	A	N9-C1'-C2'	-6.57	104.77	112.00
34	a	639	G	N3-C4-C5	6.57	131.88	128.60
8	A	966	G	N3-C4-C5	6.57	131.88	128.60
52	s	28	LYS	CB-CG-CD	-6.57	94.52	111.60
8	A	2665	A	N1-C6-N6	6.56	122.54	118.60
34	a	851	G	C4-C5-N7	6.56	113.43	110.80
34	a	1361	G	C2-N3-C4	-6.56	108.62	111.90
34	a	1521	C	C6-N1-C2	6.56	122.93	120.30
8	A	1120	G	C2-N3-C4	-6.56	108.62	111.90
8	A	1456	G	N3-C4-N9	-6.56	122.06	126.00
8	A	2363	G	N3-C4-N9	-6.56	122.06	126.00
34	a	1089	G	N3-C4-N9	-6.56	122.06	126.00
8	A	681	G	C2-N3-C4	-6.56	108.62	111.90
8	A	1123	C	C6-N1-C2	6.56	122.92	120.30
8	A	1888	G	N3-C4-C5	6.56	131.88	128.60
8	A	1984	G	N3-C4-N9	-6.56	122.07	126.00
34	a	348	G	N3-C4-C5	6.56	131.88	128.60
34	a	752	G	N3-C4-N9	-6.56	122.07	126.00
8	A	1149	G	C8-N9-C4	6.56	109.02	106.40
8	A	848	C	N3-C4-C5	6.55	124.52	121.90
8	A	974	G	C6-C5-N7	-6.55	126.47	130.40
34	a	1108	G	N1-C2-N2	6.55	122.10	116.20
34	a	1314	C	C6-N1-C2	6.55	122.92	120.30
8	A	107	G	N3-C4-C5	6.55	131.88	128.60
8	A	1149	G	N3-C4-C5	6.55	131.88	128.60
8	A	424	G	C8-N9-C4	6.54	109.02	106.40
8	A	475	C	O4'-C1'-N1	6.54	113.43	108.20
8	A	498	G	N3-C4-N9	-6.54	122.07	126.00
8	A	2436	G	C8-N9-C4	6.54	109.02	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	768	A	C8-N9-C4	6.54	108.42	105.80
34	a	1081	A	OP2-P-O3'	6.54	119.59	105.20
34	a	682	G	C4-N9-C1'	-6.54	118.00	126.50
8	A	319	G	C2-N3-C4	-6.54	108.63	111.90
8	A	1075	C	C6-N1-C2	6.54	122.92	120.30
8	A	1663	G	N3-C4-C5	6.54	131.87	128.60
8	A	549	G	C2-N3-C4	-6.54	108.63	111.90
8	A	118	A	C8-N9-C4	6.54	108.42	105.80
8	A	189	G	N3-C4-C5	6.54	131.87	128.60
8	A	2812	G	N3-C4-C5	6.54	131.87	128.60
8	A	1367	A	N9-C4-C5	-6.53	103.19	105.80
34	a	1057	G	C2-N3-C4	-6.53	108.63	111.90
34	a	204	G	N9-C1'-C2'	-6.53	104.81	112.00
8	A	899	A	N9-C4-C5	-6.53	103.19	105.80
8	A	1810	A	C6-C5-N7	-6.53	127.73	132.30
8	A	2411	A	C5-C6-N6	-6.53	118.47	123.70
55	v	12	G	C4-N9-C1'	-6.53	118.01	126.50
8	A	1139	G	C4-C5-C6	-6.53	114.88	118.80
8	A	2652	C	N3-C4-C5	6.53	124.51	121.90
8	A	1	G	C2-N3-C4	-6.53	108.64	111.90
8	A	268	C	N3-C4-C5	6.53	124.51	121.90
8	A	340	A	N9-C4-C5	-6.53	103.19	105.80
34	a	882	C	C6-N1-C2	6.53	122.91	120.30
8	A	917	A	C5-C6-N6	-6.52	118.48	123.70
8	A	1858	A	C8-N9-C4	6.52	108.41	105.80
8	A	2073	C	N3-C4-C5	6.52	124.51	121.90
8	A	409	G	C2-N3-C4	-6.52	108.64	111.90
34	a	445	G	C4-N9-C1'	-6.52	118.02	126.50
8	A	2665	A	C5-C6-N6	-6.52	118.48	123.70
8	A	549	G	C8-N9-C4	6.52	109.01	106.40
8	A	2153	C	N1-C2-O2	-6.52	114.99	118.90
34	a	798	U	C6-N1-C2	6.52	124.91	121.00
34	a	1111	A	C8-N9-C4	6.52	108.41	105.80
8	A	370	G	O4'-C1'-N9	-6.51	102.99	108.20
34	a	1244	G	C2-N3-C4	-6.51	108.64	111.90
8	A	695	G	C2-N3-C4	-6.51	108.64	111.90
9	B	13	G	N3-C4-C5	6.51	131.86	128.60
8	A	997	G	C2-N3-C4	-6.51	108.64	111.90
8	A	1960	A	C4-C5-N7	6.51	113.95	110.70
8	A	2253	G	N3-C4-C5	6.51	131.85	128.60
34	a	1134	G	C8-N9-C1'	6.51	135.46	127.00
8	A	85	G	C2-N3-C4	-6.51	108.65	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	721	A	C8-N9-C4	6.51	108.40	105.80
8	A	1465	G	N3-C4-N9	-6.51	122.10	126.00
8	A	2802	G	C2-N3-C4	-6.51	108.65	111.90
34	a	606	G	N3-C4-N9	-6.51	122.10	126.00
34	a	1075	U	O4'-C1'-N1	-6.51	102.99	108.20
34	a	784	A	N9-C4-C5	-6.50	103.20	105.80
8	A	86	G	C8-N9-C4	6.50	109.00	106.40
8	A	1919	A	O4'-C1'-N9	-6.50	103.00	108.20
8	A	2659	G	C4-N9-C1'	-6.50	118.05	126.50
34	a	449	G	C2-N3-C4	-6.50	108.65	111.90
8	A	1165	A	C4-C5-C6	-6.50	113.75	117.00
8	A	1436	G	C2-N3-C4	-6.50	108.65	111.90
8	A	1867	G	C2-N3-C4	-6.50	108.65	111.90
8	A	551	G	N3-C4-N9	-6.50	122.10	126.00
34	a	767	A	C8-N9-C4	6.50	108.40	105.80
34	a	758	C	C6-N1-C2	6.50	122.90	120.30
8	A	1873	G	N3-C4-N9	-6.49	122.10	126.00
9	B	107	G	N3-C4-C5	6.49	131.85	128.60
34	a	190	A	C5-C6-N6	-6.49	118.51	123.70
34	a	1501	C	N3-C4-C5	6.49	124.50	121.90
8	A	1306	C	C6-N1-C2	6.49	122.90	120.30
8	A	1424	G	C2-N3-C4	-6.49	108.66	111.90
8	A	1686	C	N3-C4-N4	-6.49	113.46	118.00
8	A	1334	G	C2-N3-C4	-6.49	108.66	111.90
8	A	2882	A	C8-N9-C4	6.49	108.40	105.80
8	A	833	A	C8-N9-C4	6.49	108.39	105.80
8	A	1844	C	C6-N1-C2	6.49	122.89	120.30
8	A	1511	G	N3-C4-C5	6.48	131.84	128.60
8	A	261	G	N3-C4-N9	-6.48	122.11	126.00
8	A	2230	G	N3-C4-C5	6.48	131.84	128.60
8	A	2661	G	N3-C4-C5	6.48	131.84	128.60
34	a	391	G	N3-C4-C5	6.48	131.84	128.60
8	A	52	A	N9-C4-C5	-6.48	103.21	105.80
8	A	1311	G	N3-C4-N9	-6.48	122.11	126.00
34	a	1141	C	C6-N1-C2	-6.48	117.71	120.30
8	A	1557	C	C6-N1-C2	6.48	122.89	120.30
34	a	846	G	N9-C4-C5	-6.48	102.81	105.40
8	A	9	G	N3-C4-N9	-6.48	122.11	126.00
8	A	1011	G	N3-C4-C5	6.48	131.84	128.60
8	A	1479	G	N3-C4-N9	-6.48	122.11	126.00
8	A	1448	G	N3-C4-C5	6.47	131.84	128.60
8	A	2126	A	O4'-C1'-N9	-6.47	103.02	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	522	A	O4'-C1'-N9	-6.47	103.02	108.20
8	A	1544	A	C5-C6-N6	-6.47	118.53	123.70
8	A	2008	C	N3-C4-C5	6.47	124.49	121.90
8	A	697	G	N3-C4-C5	6.47	131.83	128.60
8	A	2716	C	N3-C4-C5	6.47	124.49	121.90
8	A	14	A	N9-C4-C5	-6.47	103.21	105.80
8	A	179	C	C6-N1-C2	6.47	122.89	120.30
8	A	260	G	N3-C4-N9	-6.47	122.12	126.00
8	A	1279	G	C8-N9-C4	6.47	108.99	106.40
8	A	2083	G	N3-C2-N2	6.47	124.43	119.90
8	A	450	G	N3-C4-C5	6.46	131.83	128.60
8	A	1973	G	C2-N3-C4	-6.46	108.67	111.90
8	A	2281	A	N9-C4-C5	-6.46	103.21	105.80
9	B	52	A	C5-C6-N6	-6.46	118.53	123.70
34	a	1419	G	C8-N9-C1'	-6.46	118.60	127.00
8	A	319	G	N3-C4-N9	-6.46	122.12	126.00
8	A	871	U	C6-N1-C2	6.46	124.88	121.00
8	A	2414	G	C6-C5-N7	6.46	134.28	130.40
8	A	2842	G	N3-C4-C5	6.46	131.83	128.60
34	a	337	G	N3-C4-C5	6.46	131.83	128.60
34	a	1198	G	N3-C4-C5	6.46	131.83	128.60
8	A	1448	G	N3-C4-N9	-6.46	122.12	126.00
34	a	227	G	C2-N3-C4	-6.46	108.67	111.90
34	a	191	G	C2-N3-C4	-6.46	108.67	111.90
8	A	1930	G	N3-C4-C5	6.46	131.83	128.60
8	A	2643	G	C2-N3-C4	-6.46	108.67	111.90
8	A	2867	G	C8-N9-C1'	6.46	135.39	127.00
34	a	774	G	N3-C4-N9	-6.46	122.13	126.00
34	a	1134	G	C5-C6-O6	6.46	132.47	128.60
8	A	1348	C	O4'-C1'-N1	-6.45	103.04	108.20
34	a	602	A	C4-C5-N7	6.45	113.93	110.70
8	A	294	A	O4'-C1'-N9	-6.45	103.04	108.20
8	A	507	A	C8-N9-C4	6.45	108.38	105.80
8	A	1740	G	C2-N3-C4	-6.45	108.67	111.90
9	B	52	A	N1-C6-N6	6.45	122.47	118.60
8	A	570	G	N3-C2-N2	6.45	124.41	119.90
10	C	17	LYS	CA-CB-CG	6.45	127.59	113.40
8	A	1933	G	N3-C4-N9	-6.45	122.13	126.00
8	A	1969	A	C5-C6-N6	-6.45	118.54	123.70
8	A	2619	C	N3-C4-N4	-6.45	113.49	118.00
8	A	2688	G	N3-C4-C5	6.45	131.82	128.60
34	a	722	G	N3-C4-C5	6.45	131.82	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	259	G	N3-C4-N9	-6.44	122.13	126.00
34	a	912	C	N1-C2-O2	6.44	122.77	118.90
8	A	2234	G	N3-C4-C5	6.44	131.82	128.60
8	A	44	A	C8-N9-C4	6.44	108.38	105.80
9	B	93	C	C6-N1-C1'	-6.44	113.07	120.80
8	A	406	G	C2-N3-C4	-6.44	108.68	111.90
8	A	543	G	N3-C4-C5	6.44	131.82	128.60
8	A	452	G	C2-N3-C4	-6.44	108.68	111.90
34	a	442	G	C4-C5-N7	6.43	113.37	110.80
34	a	1289	A	C4-C5-N7	6.43	113.92	110.70
8	A	1041	G	C8-N9-C4	6.43	108.97	106.40
8	A	2168	G	O4'-C1'-N9	-6.43	103.06	108.20
34	a	55	A	N1-C6-N6	6.43	122.46	118.60
34	a	1039	G	N3-C4-C5	6.42	131.81	128.60
8	A	2217	G	C2-N3-C4	-6.42	108.69	111.90
36	c	126	ARG	NE-CZ-NH2	-6.42	117.09	120.30
8	A	2082	A	N1-C6-N6	6.42	122.45	118.60
8	A	2863	C	N1-C2-O2	6.42	122.75	118.90
9	B	108	A	N9-C4-C5	-6.42	103.23	105.80
34	a	371	A	N9-C4-C5	-6.42	103.23	105.80
34	a	1133	G	C8-N9-C4	6.42	108.97	106.40
8	A	2430	A	O4'-C1'-N9	6.42	113.33	108.20
34	a	774	G	N3-C4-C5	6.42	131.81	128.60
8	A	819	A	N9-C4-C5	-6.41	103.23	105.80
34	a	654	G	C2-N3-C4	-6.41	108.69	111.90
8	A	77	G	C2-N3-C4	-6.41	108.69	111.90
34	a	378	G	N3-C4-C5	6.41	131.81	128.60
8	A	38	A	C4-C5-C6	-6.41	113.80	117.00
9	B	119	A	N3-C4-C5	6.41	131.29	126.80
8	A	708	G	C8-N9-C4	6.41	108.96	106.40
8	A	1274	A	C8-N9-C4	6.41	108.36	105.80
8	A	2002	G	N3-C4-C5	6.41	131.81	128.60
8	A	2174	C	C2-N1-C1'	-6.41	111.75	118.80
34	a	841	C	C6-N1-C2	6.41	122.86	120.30
9	B	70	C	C6-N1-C2	6.41	122.86	120.30
8	A	1783	A	C5-C6-N6	-6.41	118.58	123.70
23	P	99	LEU	CA-CB-CG	-6.41	100.56	115.30
34	a	282	A	N1-C6-N6	6.41	122.44	118.60
34	a	808	C	C6-N1-C2	6.41	122.86	120.30
34	a	1500	A	C5-C6-N6	6.41	128.82	123.70
34	a	831	A	C8-N9-C4	6.40	108.36	105.80
8	A	2127	G	O4'-C1'-N9	-6.40	103.08	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	346	G	C5-C6-O6	-6.40	124.76	128.60
34	a	921	U	P-O5'-C5'	6.40	131.14	120.90
8	A	476	G	N3-C4-C5	6.40	131.80	128.60
8	A	2612	C	C6-N1-C2	6.40	122.86	120.30
8	A	2411	A	C8-N9-C4	6.40	108.36	105.80
8	A	457	A	C8-N9-C4	6.40	108.36	105.80
34	a	656	G	N3-C4-C5	6.40	131.80	128.60
8	A	748	G	N3-C4-C5	6.39	131.80	128.60
8	A	1277	G	C2-N3-C4	-6.39	108.70	111.90
8	A	1726	C	C6-N1-C2	6.39	122.86	120.30
34	a	987	G	C4-N9-C1'	-6.39	118.19	126.50
8	A	1158	C	N3-C4-C5	6.39	124.46	121.90
8	A	2652	C	C6-N1-C2	6.39	122.86	120.30
34	a	604	G	C4-N9-C1'	-6.39	118.19	126.50
8	A	2134	A	C5'-C4'-C3'	-6.39	105.78	116.00
9	B	10	G	N3-C4-C5	6.39	131.79	128.60
8	A	132	G	N3-C4-C5	6.39	131.79	128.60
8	A	496	G	N3-C4-C5	6.39	131.79	128.60
8	A	1674	G	N3-C4-N9	-6.39	122.17	126.00
8	A	2467	C	C6-N1-C2	6.39	122.86	120.30
8	A	875	G	C2-N3-C4	-6.38	108.71	111.90
34	a	522	C	N3-C4-C5	6.38	124.45	121.90
34	a	1134	G	C4-N9-C1'	-6.38	118.20	126.50
34	a	346	G	C6-C5-N7	-6.38	126.57	130.40
8	A	141	G	N3-C4-C5	6.38	131.79	128.60
8	A	1667	G	N3-C4-C5	6.38	131.79	128.60
8	A	1369	G	N3-C4-C5	6.38	131.79	128.60
9	B	10	G	C2-N3-C4	-6.38	108.71	111.90
34	a	1162	C	C6-N1-C2	6.38	122.85	120.30
8	A	469	G	N1-C2-N2	-6.38	110.46	116.20
8	A	1029	A	N1-C6-N6	6.38	122.43	118.60
8	A	2864	G	N9-C4-C5	-6.38	102.85	105.40
34	a	830	G	N3-C4-N9	-6.38	122.17	126.00
8	A	1542	U	C6-N1-C2	6.37	124.82	121.00
8	A	2862	G	N3-C4-C5	6.37	131.79	128.60
8	A	618	G	C2-N3-C4	-6.37	108.72	111.90
34	a	1329	A	C4-C5-C6	-6.37	113.81	117.00
8	A	1295	C	N3-C4-C5	6.37	124.45	121.90
8	A	2	G	C8-N9-C4	6.37	108.95	106.40
8	A	748	G	C4-N9-C1'	-6.37	118.22	126.50
8	A	1099	G	N3-C4-N9	-6.37	122.18	126.00
34	a	339	C	N3-C4-N4	-6.37	113.54	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1041	G	C4-N9-C1'	-6.37	118.22	126.50
8	A	1389	G	N3-C4-C5	6.37	131.78	128.60
9	B	85	G	C8-N9-C4	6.37	108.95	106.40
8	A	245	G	N3-C4-C5	6.37	131.78	128.60
8	A	1643	G	N3-C4-C5	6.37	131.78	128.60
8	A	2133	G	N3-C4-N9	-6.37	122.18	126.00
8	A	786	C	C6-N1-C2	6.36	122.85	120.30
8	A	2140	G	N3-C4-N9	-6.36	122.18	126.00
34	a	540	G	N3-C4-N9	-6.36	122.18	126.00
8	A	794	A	C5-C6-N1	6.36	120.88	117.70
8	A	962	G	C2-N3-C4	-6.36	108.72	111.90
8	A	1684	G	C8-N9-C4	6.36	108.94	106.40
8	A	1735	A	C5-N7-C8	-6.36	100.72	103.90
8	A	2005	A	C8-N9-C4	6.36	108.34	105.80
8	A	2536	G	C2-N3-C4	-6.36	108.72	111.90
9	B	59	A	C8-N9-C4	6.36	108.34	105.80
34	a	371	A	C8-N9-C4	6.36	108.34	105.80
8	A	1028	A	C4-C5-N7	6.36	113.88	110.70
8	A	2295	C	N1-C2-O2	6.36	122.72	118.90
8	A	682	G	C2-N3-C4	-6.36	108.72	111.90
8	A	1371	G	C2-N3-C4	-6.36	108.72	111.90
8	A	88	G	C8-N9-C4	6.35	108.94	106.40
8	A	1116	G	N3-C4-C5	6.35	131.78	128.60
34	a	243	A	C2-N3-C4	-6.35	107.42	110.60
34	a	446	G	N3-C4-N9	-6.35	122.19	126.00
34	a	1104	G	C2-N3-C4	-6.35	108.72	111.90
8	A	2512	C	C5-C4-N4	6.35	124.65	120.20
34	a	215	C	C6-N1-C2	6.35	122.84	120.30
8	A	1530	G	N3-C4-N9	-6.35	122.19	126.00
34	a	812	G	N3-C4-N9	-6.35	122.19	126.00
8	A	693	A	N9-C4-C5	-6.35	103.26	105.80
34	a	722	G	N3-C4-N9	-6.35	122.19	126.00
8	A	1281	G	N3-C4-N9	-6.35	122.19	126.00
8	A	881	G	N1-C6-O6	6.34	123.71	119.90
34	a	151	A	C4-C5-N7	6.34	113.87	110.70
8	A	180	G	C8-N9-C1'	6.34	135.24	127.00
8	A	598	U	C6-N1-C2	6.34	124.80	121.00
8	A	2406	A	O4'-C1'-N9	-6.34	103.13	108.20
34	a	1071	C	C6-N1-C2	6.34	122.84	120.30
8	A	1863	G	C2-N3-C4	-6.34	108.73	111.90
8	A	2657	A	N9-C4-C5	-6.33	103.27	105.80
8	A	2474	U	C2-N1-C1'	6.33	125.30	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	98	A	C8-N9-C4	6.33	108.33	105.80
34	a	165	G	C2-N3-C4	-6.33	108.73	111.90
8	A	1112	G	N3-C4-N9	-6.33	122.20	126.00
8	A	2154	A	N9-C4-C5	-6.33	103.27	105.80
34	a	1164	G	N3-C4-C5	6.33	131.76	128.60
34	a	1221	G	N3-C4-N9	-6.33	122.20	126.00
8	A	2543	G	C2-N3-C4	-6.33	108.74	111.90
34	a	42	G	N3-C4-N9	-6.33	122.20	126.00
34	a	146	G	C2-N3-C4	-6.33	108.74	111.90
8	A	20	C	N3-C4-N4	-6.32	113.57	118.00
8	A	122	G	C2-N3-C4	-6.32	108.74	111.90
8	A	655	A	C8-N9-C4	6.32	108.33	105.80
8	A	1858	A	N9-C4-C5	-6.32	103.27	105.80
8	A	2485	G	N3-C4-N9	-6.32	122.20	126.00
8	A	2644	G	N3-C4-C5	6.32	131.76	128.60
56	w	45	U	C4'-C3'-O3'	6.32	125.64	113.00
8	A	1631	G	C8-N9-C4	6.32	108.93	106.40
9	B	108	A	N1-C6-N6	6.32	122.39	118.60
8	A	2	G	C2-N3-C4	-6.32	108.74	111.90
8	A	1311	G	O4'-C1'-N9	-6.32	103.14	108.20
8	A	1358	G	C2-N3-C4	-6.32	108.74	111.90
34	a	521	G	N3-C4-N9	-6.32	122.21	126.00
34	a	748	G	N3-C4-N9	-6.32	122.21	126.00
8	A	1895	C	C6-N1-C2	6.32	122.83	120.30
8	A	406	G	N3-C4-N9	-6.32	122.21	126.00
8	A	1036	G	N3-C4-C5	6.32	131.76	128.60
34	a	369	G	N3-C4-C5	6.32	131.76	128.60
34	a	1259	C	C6-N1-C2	6.32	122.83	120.30
34	a	1457	G	N3-C4-C5	6.32	131.76	128.60
8	A	869	G	C2-N3-C4	-6.32	108.74	111.90
8	A	1313	U	C2-N1-C1'	6.32	125.28	117.70
8	A	378	C	N3-C4-N4	-6.31	113.58	118.00
8	A	2190	G	C4-C5-N7	6.31	113.33	110.80
8	A	2629	U	O4'-C1'-N1	6.31	113.25	108.20
8	A	1519	G	C2-N3-C4	-6.31	108.74	111.90
8	A	1805	A	C8-N9-C4	6.31	108.33	105.80
8	A	2221	G	C2-N3-C4	-6.31	108.74	111.90
34	a	247	G	C2-N3-C4	-6.31	108.74	111.90
34	a	1230	C	N1-C2-O2	6.31	122.69	118.90
34	a	255	G	N3-C4-N9	-6.31	122.21	126.00
8	A	1389	G	C8-N9-C4	6.31	108.92	106.40
8	A	1810	A	N9-C4-C5	-6.31	103.28	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2714	G	N1-C2-N2	-6.31	110.52	116.20
34	a	839	C	N3-C4-C5	6.31	124.42	121.90
34	a	821	G	C8-N9-C4	6.31	108.92	106.40
8	A	2501	C	N3-C4-C5	6.30	124.42	121.90
9	B	15	A	N1-C6-N6	-6.30	114.82	118.60
34	a	202	G	C8-N9-C4	6.30	108.92	106.40
34	a	1155	A	N3-C4-C5	6.30	131.21	126.80
8	A	882	G	C2-N3-C4	-6.29	108.75	111.90
8	A	1170	C	C2-N1-C1'	6.29	125.72	118.80
55	v	43	A	C8-N9-C4	6.29	108.32	105.80
8	A	2810	A	N1-C6-N6	6.29	122.38	118.60
34	a	187	G	N3-C4-N9	-6.29	122.22	126.00
34	a	1312	G	N9-C4-C5	-6.29	102.88	105.40
8	A	763	G	N3-C4-N9	-6.29	122.23	126.00
8	A	1846	G	C2-N3-C4	-6.29	108.75	111.90
8	A	2077	A	C4-C5-N7	6.29	113.84	110.70
8	A	2839	G	C8-N9-C4	6.29	108.92	106.40
8	A	2004	G	C2-N3-C4	-6.29	108.76	111.90
34	a	326	G	N3-C4-N9	-6.29	122.23	126.00
8	A	1740	G	N3-C4-C5	6.29	131.74	128.60
8	A	1765	U	C6-N1-C2	6.29	124.77	121.00
9	B	100	G	N3-C4-C5	6.29	131.74	128.60
34	a	1134	G	N9-C4-C5	6.29	107.91	105.40
9	B	119	A	N9-C4-C5	-6.28	103.29	105.80
8	A	361	G	C5-C6-O6	-6.28	124.83	128.60
34	a	886	G	C8-N9-C4	6.28	108.91	106.40
8	A	1572	A	C5-C6-N6	-6.28	118.68	123.70
34	a	1043	G	C4-N9-C1'	-6.28	118.34	126.50
8	A	1600	C	C6-N1-C2	6.28	122.81	120.30
34	a	97	G	N3-C4-N9	-6.28	122.23	126.00
34	a	675	A	C5-N7-C8	-6.28	100.76	103.90
8	A	1863	G	C8-N9-C4	6.28	108.91	106.40
8	A	262	A	C8-N9-C4	6.27	108.31	105.80
8	A	1885	A	C8-N9-C4	6.27	108.31	105.80
8	A	2489	U	O4'-C1'-N1	-6.27	103.19	108.20
34	a	451	A	C8-N9-C4	6.27	108.31	105.80
8	A	22	C	C6-N1-C2	6.27	122.81	120.30
8	A	253	C	C6-N1-C2	6.27	122.81	120.30
8	A	570	G	C8-N9-C1'	-6.27	118.85	127.00
8	A	2505	G	C8-N9-C1'	-6.27	118.85	127.00
34	a	442	G	N1-C2-N2	-6.27	110.56	116.20
34	a	1294	G	N9-C4-C5	-6.27	102.89	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	w	53	G	C2-N3-C4	-6.27	108.77	111.90
8	A	764	A	N1-C6-N6	-6.26	114.84	118.60
8	A	936	A	C4-C5-N7	6.26	113.83	110.70
8	A	96	C	C6-N1-C2	6.26	122.81	120.30
8	A	2840	C	N3-C4-C5	6.26	124.41	121.90
34	a	847	G	N3-C4-C5	6.26	131.73	128.60
8	A	204	A	N1-C6-N6	6.26	122.36	118.60
34	a	167	A	N9-C4-C5	-6.26	103.30	105.80
34	a	260	G	N3-C4-N9	-6.26	122.24	126.00
8	A	1473	G	N3-C4-C5	6.26	131.73	128.60
34	a	623	C	N3-C4-C5	6.26	124.40	121.90
8	A	2091	C	N3-C4-N4	-6.26	113.62	118.00
8	A	98	G	N3-C4-N9	-6.26	122.25	126.00
8	A	1092	C	N3-C4-C5	6.26	124.40	121.90
8	A	2857	G	C4-N9-C1'	-6.26	118.37	126.50
9	B	44	G	N3-C4-C5	6.26	131.73	128.60
9	B	42	C	C6-N1-C2	6.25	122.80	120.30
8	A	923	G	C8-N9-C4	6.25	108.90	106.40
8	A	1036	G	C2-N3-C4	-6.25	108.77	111.90
8	A	1459	G	N3-C4-C5	6.25	131.73	128.60
8	A	2430	A	C4-C5-N7	6.25	113.83	110.70
34	a	450	G	N3-C4-N9	-6.25	122.25	126.00
34	a	685	G	N3-C4-C5	6.25	131.73	128.60
8	A	1323	C	N3-C4-C5	6.25	124.40	121.90
8	A	1867	G	C8-N9-C4	6.25	108.90	106.40
8	A	570	G	C6-C5-N7	-6.25	126.65	130.40
34	a	500	G	N3-C4-C5	6.25	131.72	128.60
8	A	2516	A	C5-N7-C8	-6.25	100.78	103.90
8	A	302	C	C6-N1-C2	6.24	122.80	120.30
8	A	1086	A	N7-C8-N9	6.24	116.92	113.80
8	A	1410	G	N3-C4-C5	6.24	131.72	128.60
8	A	2082	A	C8-N9-C4	6.24	108.30	105.80
34	a	695	A	N9-C1'-C2'	-6.24	105.14	112.00
34	a	1329	A	C8-N9-C4	6.24	108.30	105.80
9	B	99	A	N1-C6-N6	6.24	122.34	118.60
34	a	1134	G	C6-C5-N7	6.24	134.14	130.40
34	a	1371	G	C2-N3-C4	-6.24	108.78	111.90
8	A	696	G	N3-C4-N9	-6.24	122.26	126.00
8	A	2308	G	N3-C4-C5	6.24	131.72	128.60
34	a	474	G	N3-C4-N9	-6.24	122.26	126.00
8	A	704	G	C8-N9-C1'	6.23	135.10	127.00
8	A	1479	G	C2-N3-C4	-6.23	108.78	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	492	C	N1-C2-O2	-6.23	115.16	118.90
8	A	690	G	N3-C4-N9	-6.23	122.26	126.00
8	A	726	G	N3-C4-C5	6.23	131.72	128.60
34	a	1041	G	N3-C4-C5	6.23	131.72	128.60
8	A	2180	U	O4'-C1'-N1	-6.23	103.22	108.20
8	A	634	C	C6-N1-C2	6.23	122.79	120.30
34	a	1348	U	C5-C4-O4	-6.23	122.16	125.90
34	a	947	G	C2-N3-C4	-6.23	108.79	111.90
34	a	1422	G	N9-C4-C5	-6.23	102.91	105.40
8	A	43	G	N3-C4-C5	6.22	131.71	128.60
8	A	1922	G	N3-C4-N9	-6.22	122.27	126.00
34	a	1497	G	N3-C4-N9	-6.22	122.27	126.00
8	A	1891	G	C8-N9-C4	6.22	108.89	106.40
34	a	1057	G	N3-C4-C5	6.22	131.71	128.60
8	A	144	A	C8-N9-C4	6.22	108.29	105.80
34	a	1197	A	N9-C4-C5	-6.22	103.31	105.80
8	A	778	G	N3-C4-N9	-6.22	122.27	126.00
8	A	1388	G	C2-N3-C4	-6.22	108.79	111.90
8	A	471	A	N1-C6-N6	6.22	122.33	118.60
8	A	1684	G	C2-N3-C4	-6.22	108.79	111.90
8	A	1036	G	C8-N9-C4	6.22	108.89	106.40
8	A	1823	G	N3-C4-C5	6.22	131.71	128.60
34	a	982	U	C5-C4-O4	-6.22	122.17	125.90
8	A	146	A	C4-C5-N7	6.21	113.81	110.70
8	A	1029	A	C5-N7-C8	-6.21	100.79	103.90
8	A	1055	G	C8-N9-C1'	6.21	135.08	127.00
8	A	1906	G	C2-N3-C4	-6.21	108.79	111.90
8	A	2083	G	N1-C2-N2	-6.21	110.61	116.20
8	A	1077	A	N1-C6-N6	6.21	122.33	118.60
8	A	2685	G	C2-N3-C4	-6.21	108.80	111.90
8	A	371	A	N9-C4-C5	-6.21	103.32	105.80
8	A	2553	G	N3-C4-C5	6.21	131.70	128.60
34	a	540	G	N3-C4-C5	6.21	131.70	128.60
34	a	318	G	N3-C4-C5	6.20	131.70	128.60
34	a	1286	U	N1-C1'-C2'	-6.20	105.18	112.00
55	v	29	G	N3-C4-C5	6.20	131.70	128.60
34	a	509	A	N1-C6-N6	6.20	122.32	118.60
8	A	629	G	C4-N9-C1'	-6.20	118.44	126.50
34	a	495	A	N9-C4-C5	-6.20	103.32	105.80
34	a	1016	A	C5-C6-N6	-6.20	118.74	123.70
8	A	2846	G	C2-N3-C4	-6.20	108.80	111.90
8	A	726	G	N3-C4-N9	-6.20	122.28	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1567	G	N3-C4-C5	6.20	131.70	128.60
8	A	2679	A	C8-N9-C4	6.20	108.28	105.80
34	a	1088	G	N9-C4-C5	6.20	107.88	105.40
8	A	402	A	C5-C6-N6	-6.19	118.75	123.70
8	A	749	A	N1-C6-N6	-6.19	114.88	118.60
55	v	28	C	C6-N1-C2	6.19	122.78	120.30
8	A	14	A	C4-C5-N7	6.19	113.80	110.70
8	A	1107	G	N3-C4-C5	6.19	131.70	128.60
8	A	1588	G	N3-C4-N9	-6.19	122.28	126.00
34	a	176	C	C6-N1-C2	6.19	122.78	120.30
34	a	661	G	N9-C4-C5	-6.19	102.92	105.40
8	A	409	G	N3-C4-C5	6.19	131.70	128.60
8	A	537	G	N3-C4-C5	6.19	131.69	128.60
8	A	1920	C	N3-C4-C5	6.19	124.38	121.90
8	A	2763	G	C2-N3-C4	-6.19	108.81	111.90
34	a	145	G	N3-C2-N2	-6.19	115.57	119.90
8	A	461	C	N3-C4-C5	6.19	124.38	121.90
34	a	1154	G	C2-N3-C4	-6.19	108.81	111.90
8	A	1435	G	C2-N3-C4	-6.19	108.81	111.90
8	A	2003	A	C8-N9-C4	6.19	108.28	105.80
8	A	2400	G	N3-C4-C5	6.18	131.69	128.60
34	a	488	C	O4'-C1'-N1	-6.18	103.25	108.20
34	a	947	G	N3-C4-C5	6.18	131.69	128.60
8	A	56	A	N9-C4-C5	-6.18	103.33	105.80
8	A	298	G	C8-N9-C4	6.18	108.87	106.40
8	A	992	C	C6-N1-C2	6.18	122.77	120.30
8	A	1977	A	C8-N9-C4	6.18	108.27	105.80
8	A	2640	G	C2-N3-C4	-6.18	108.81	111.90
34	a	1112	C	N3-C4-C5	6.18	124.37	121.90
8	A	1735	A	C8-N9-C4	6.18	108.27	105.80
8	A	2015	A	O4'-C1'-N9	-6.18	103.25	108.20
34	a	454	G	C2-N3-C4	-6.18	108.81	111.90
34	a	851	G	N3-C4-C5	6.18	131.69	128.60
8	A	675	A	C5-N7-C8	-6.18	100.81	103.90
8	A	891	G	N3-C4-C5	6.18	131.69	128.60
8	A	1503	A	C8-N9-C4	6.18	108.27	105.80
8	A	2694	G	C2-N3-C4	-6.18	108.81	111.90
34	a	724	G	C8-N9-C4	6.18	108.87	106.40
8	A	1731	G	N3-C4-C5	6.18	131.69	128.60
9	B	28	C	C6-N1-C2	6.18	122.77	120.30
34	a	1221	G	C2-N3-C4	-6.18	108.81	111.90
8	A	1292	G	C2-N3-C4	-6.17	108.81	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	B	119	A	C4-C5-C6	-6.17	113.91	117.00
34	a	1099	G	N3-C4-C5	6.17	131.69	128.60
8	A	183	C	C6-N1-C2	6.17	122.77	120.30
34	a	748	G	C2-N3-C4	-6.17	108.81	111.90
34	a	760	G	C2-N3-C4	-6.17	108.81	111.90
34	a	1429	A	N9-C4-C5	-6.17	103.33	105.80
8	A	2154	A	C5-N7-C8	-6.17	100.82	103.90
9	B	99	A	C5-C6-N6	-6.17	118.77	123.70
55	v	12	G	C8-N9-C4	6.17	108.87	106.40
8	A	1653	G	N3-C4-C5	6.17	131.68	128.60
34	a	627	G	C8-N9-C4	6.17	108.87	106.40
34	a	800	G	N3-C4-N9	-6.17	122.30	126.00
8	A	2148	G	C2-N3-C4	-6.17	108.82	111.90
34	a	98	A	C2-N3-C4	-6.17	107.52	110.60
8	A	1124	G	N3-C4-C5	6.16	131.68	128.60
8	A	1807	G	N3-C2-N2	-6.16	115.58	119.90
55	v	42	G	N3-C4-C5	6.16	131.68	128.60
8	A	1016	G	C2-N3-C4	-6.16	108.82	111.90
8	A	1639	C	N3-C4-C5	6.16	124.36	121.90
8	A	2610	C	N3-C4-C5	6.16	124.36	121.90
34	a	302	G	N3-C4-N9	-6.16	122.30	126.00
34	a	1150	A	C8-N9-C4	-6.16	103.34	105.80
34	a	1439	G	C2-N3-C4	-6.16	108.82	111.90
8	A	1842	G	C2-N3-C4	-6.16	108.82	111.90
8	A	732	C	C6-N1-C2	6.16	122.76	120.30
8	A	1674	G	C8-N9-C4	6.16	108.86	106.40
8	A	1826	G	N3-C4-N9	-6.16	122.31	126.00
34	a	1186	G	N3-C4-C5	6.16	131.68	128.60
8	A	301	G	C2-N3-C4	-6.15	108.82	111.90
34	a	1289	A	N9-C4-C5	-6.15	103.34	105.80
8	A	24	G	N3-C4-N9	-6.15	122.31	126.00
8	A	325	G	C8-N9-C4	6.15	108.86	106.40
8	A	2332	C	N3-C4-N4	-6.15	113.69	118.00
34	a	1253	G	C6-C5-N7	6.15	134.09	130.40
34	a	1328	C	C6-N1-C2	6.15	122.76	120.30
34	a	1426	G	C2-N3-C4	-6.15	108.83	111.90
8	A	488	G	N3-C4-N9	-6.15	122.31	126.00
8	A	2304	G	N3-C4-C5	6.15	131.67	128.60
34	a	1379	G	N3-C4-C5	6.15	131.67	128.60
34	a	259	G	C2-N3-C4	-6.15	108.83	111.90
34	a	540	G	C2-N3-C4	-6.15	108.83	111.90
9	B	88	C	O4'-C1'-N1	-6.15	103.28	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	487	A	N9-C4-C5	-6.15	103.34	105.80
8	A	20	C	N3-C4-C5	6.14	124.36	121.90
8	A	42	A	C4-C5-C6	-6.14	113.93	117.00
8	A	956	G	C8-N9-C4	6.14	108.86	106.40
8	A	2160	C	O4'-C1'-N1	-6.14	103.29	108.20
8	A	2628	C	C6-N1-C2	6.14	122.76	120.30
9	B	37	C	C5-C4-N4	6.14	124.50	120.20
34	a	101	A	N3-C4-C5	6.14	131.10	126.80
34	a	217	C	N3-C2-O2	-6.14	117.60	121.90
8	A	867	C	N3-C4-N4	-6.14	113.70	118.00
34	a	190	A	N9-C4-C5	-6.14	103.34	105.80
8	A	856	G	C2-N3-C4	-6.14	108.83	111.90
8	A	2544	G	C2-N3-C4	-6.14	108.83	111.90
8	A	977	G	N3-C4-N9	-6.13	122.32	126.00
8	A	482	A	N3-C4-C5	6.13	131.09	126.80
8	A	659	G	N1-C2-N2	-6.13	110.68	116.20
8	A	2238	G	O4'-C1'-N9	6.13	113.11	108.20
34	a	903	G	C2-N3-C4	-6.13	108.83	111.90
8	A	1565	C	C6-N1-C2	6.13	122.75	120.30
8	A	2678	C	C6-N1-C2	6.13	122.75	120.30
34	a	541	G	N3-C4-N9	-6.13	122.32	126.00
8	A	2485	G	C2-N3-C4	-6.13	108.83	111.90
8	A	2895	G	C2-N3-C4	-6.13	108.83	111.90
34	a	626	G	C8-N9-C4	6.13	108.85	106.40
8	A	66	C	C6-N1-C2	6.13	122.75	120.30
8	A	106	C	C6-N1-C2	6.13	122.75	120.30
34	a	769	G	N3-C4-C5	6.13	131.66	128.60
34	a	1314	C	N3-C4-C5	6.13	124.35	121.90
56	w	51	C	C6-N1-C2	6.13	122.75	120.30
8	A	2814	A	C8-N9-C4	6.13	108.25	105.80
9	B	54	G	C5-C6-O6	6.13	132.28	128.60
8	A	907	G	C2-N3-C4	-6.12	108.84	111.90
8	A	1403	A	C8-N9-C4	6.12	108.25	105.80
8	A	1048	A	C5-C6-N6	-6.12	118.80	123.70
8	A	1092	C	N3-C4-N4	-6.12	113.71	118.00
8	A	1681	G	N3-C4-N9	-6.12	122.33	126.00
34	a	635	A	C4-C5-N7	6.12	113.76	110.70
34	a	849	G	C2-N3-C4	-6.12	108.84	111.90
8	A	217	A	N3-C4-C5	6.12	131.08	126.80
8	A	1154	G	N9-C4-C5	-6.12	102.95	105.40
34	a	1374	A	C8-N9-C4	6.12	108.25	105.80
34	a	1072	G	C2-N3-C4	-6.11	108.84	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1106	G	N3-C4-C5	6.11	131.66	128.60
34	a	1293	C	N3-C4-C5	6.11	124.34	121.90
8	A	2525	G	C4-C5-C6	-6.11	115.13	118.80
8	A	2828	G	N1-C2-N2	-6.11	110.70	116.20
34	a	1155	A	C8-N9-C4	6.11	108.24	105.80
8	A	239	C	C6-N1-C2	6.11	122.74	120.30
8	A	289	G	C8-N9-C1'	6.11	134.94	127.00
34	a	236	A	C4-C5-N7	6.11	113.75	110.70
55	v	64	G	C2-N3-C4	-6.11	108.85	111.90
8	A	80	G	C8-N9-C4	6.11	108.84	106.40
34	a	1431	A	N1-C6-N6	6.11	122.26	118.60
8	A	960	A	C5-C6-N6	-6.10	118.82	123.70
8	A	455	C	C6-N1-C2	6.10	122.74	120.30
8	A	359	G	N3-C2-N2	-6.10	115.63	119.90
8	A	2775	G	C8-N9-C4	6.10	108.84	106.40
34	a	632	U	O4'-C1'-N1	-6.10	103.32	108.20
34	a	885	G	C8-N9-C4	6.10	108.84	106.40
8	A	510	C	N1-C2-O2	6.10	122.56	118.90
8	A	1811	G	C8-N9-C4	6.10	108.84	106.40
8	A	1905	C	C2-N3-C4	-6.10	116.85	119.90
8	A	2418	A	C8-N9-C4	6.10	108.24	105.80
52	s	46	LEU	CA-CB-CG	-6.10	101.28	115.30
8	A	778	G	C2-N3-C4	-6.10	108.85	111.90
8	A	2022	U	O4'-C1'-N1	-6.10	103.32	108.20
9	B	9	G	N9-C4-C5	-6.10	102.96	105.40
8	A	230	G	C2-N3-C4	-6.09	108.85	111.90
8	A	1945	G	N3-C4-C5	6.09	131.65	128.60
34	a	424	G	C2-N3-C4	-6.09	108.85	111.90
34	a	432	A	N1-C6-N6	6.09	122.26	118.60
8	A	925	A	N9-C4-C5	-6.09	103.36	105.80
8	A	1868	C	C6-N1-C2	6.09	122.74	120.30
34	a	203	G	C8-N9-C1'	6.09	134.92	127.00
8	A	2137	U	C4-C5-C6	-6.09	116.05	119.70
8	A	1042	G	C2-N3-C4	-6.09	108.86	111.90
8	A	1606	C	N3-C4-C5	6.09	124.33	121.90
34	a	1198	G	N3-C4-N9	-6.09	122.35	126.00
9	B	37	C	C2-N1-C1'	-6.08	112.11	118.80
9	B	61	G	N1-C2-N2	-6.08	110.72	116.20
34	a	50	A	C8-N9-C4	6.08	108.23	105.80
34	a	733	G	C2-N3-C4	-6.08	108.86	111.90
8	A	1961	C	C6-N1-C2	6.08	122.73	120.30
34	a	1143	G	C4-C5-N7	6.08	113.23	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	755	G	N3-C4-C5	6.08	131.64	128.60
34	a	930	C	C6-N1-C2	6.08	122.73	120.30
8	A	954	G	N3-C4-C5	6.08	131.64	128.60
8	A	2744	G	C2-N3-C4	-6.08	108.86	111.90
8	A	191	A	C5-C6-N6	-6.08	118.84	123.70
8	A	465	G	N3-C4-C5	6.08	131.64	128.60
8	A	1347	A	C8-N9-C4	6.08	108.23	105.80
8	A	2040	G	C2-N3-C4	-6.08	108.86	111.90
34	a	581	G	N3-C4-C5	6.08	131.64	128.60
8	A	897	C	N1-C2-O2	6.07	122.54	118.90
9	B	20	G	C2-N3-C4	-6.07	108.86	111.90
34	a	1347	G	C8-N9-C4	6.07	108.83	106.40
8	A	495	G	N3-C4-C5	6.07	131.64	128.60
8	A	1528	A	C5-C6-N6	-6.07	118.84	123.70
8	A	1225	G	N3-C4-N9	-6.07	122.36	126.00
8	A	1356	G	C2-N3-C4	-6.07	108.87	111.90
8	A	1781	U	C6-N1-C2	6.07	124.64	121.00
34	a	568	G	N3-C4-C5	6.07	131.63	128.60
8	A	1357	C	C6-N1-C2	6.07	122.73	120.30
8	A	1767	G	C8-N9-C4	6.07	108.83	106.40
8	A	2014	A	O5'-P-OP1	-6.07	100.24	105.70
8	A	2239	G	C2-N3-C4	-6.07	108.87	111.90
34	a	341	C	C6-N1-C2	6.07	122.73	120.30
34	a	679	C	C6-N1-C2	6.07	122.73	120.30
8	A	9	G	N3-C4-C5	6.06	131.63	128.60
34	a	495	A	C8-N9-C4	6.06	108.23	105.80
8	A	1026	G	C8-N9-C1'	-6.06	119.12	127.00
34	a	1305	G	C2-N3-C4	-6.06	108.87	111.90
8	A	996	A	N9-C4-C5	-6.06	103.38	105.80
8	A	347	A	C8-N9-C4	6.06	108.22	105.80
34	a	1405	G	C8-N9-C1'	6.06	134.87	127.00
9	B	23	G	O4'-C1'-N9	-6.06	103.36	108.20
8	A	455	C	C5-C4-N4	6.05	124.44	120.20
8	A	1334	G	N3-C4-C5	6.05	131.63	128.60
34	a	92	U	O4'-C1'-N1	-6.05	103.36	108.20
8	A	1521	G	N3-C4-C5	6.05	131.63	128.60
8	A	555	G	N3-C4-N9	-6.05	122.37	126.00
8	A	808	G	C8-N9-C4	6.05	108.82	106.40
8	A	1734	G	C2-N3-C4	-6.05	108.88	111.90
8	A	88	G	N9-C4-C5	-6.05	102.98	105.40
8	A	1477	A	C5-C6-N6	-6.04	118.86	123.70
8	A	2414	G	C8-N9-C1'	6.04	134.86	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	386	C	N1-C2-O2	6.04	122.53	118.90
34	a	602	A	C5-N7-C8	-6.04	100.88	103.90
8	A	536	G	N3-C2-N2	-6.04	115.67	119.90
34	a	600	A	N9-C4-C5	-6.04	103.38	105.80
55	v	52	G	N3-C4-N9	-6.04	122.38	126.00
8	A	270	A	O4'-C1'-N9	6.04	113.03	108.20
8	A	1194	A	C8-N9-C4	6.04	108.22	105.80
8	A	180	G	C2-N3-C4	-6.04	108.88	111.90
8	A	1422	G	N3-C4-C5	6.04	131.62	128.60
8	A	1512	C	N3-C4-N4	-6.04	113.77	118.00
8	A	1591	A	C4-C5-N7	6.04	113.72	110.70
8	A	2100	G	C2-N3-C4	-6.04	108.88	111.90
8	A	2381	A	C2'-C3'-O3'	6.04	123.36	113.70
34	a	413	G	C8-N9-C4	6.04	108.81	106.40
34	a	449	G	N3-C4-C5	6.04	131.62	128.60
8	A	843	G	C4-C5-C6	-6.04	115.18	118.80
8	A	751	A	C8-N9-C4	6.04	108.21	105.80
34	a	786	G	N3-C4-N9	-6.04	122.38	126.00
8	A	469	G	C6-C5-N7	-6.03	126.78	130.40
8	A	671	C	N3-C4-C5	6.03	124.31	121.90
8	A	1840	G	C2-N3-C4	-6.03	108.88	111.90
8	A	2395	C	N3-C4-C5	6.03	124.31	121.90
34	a	442	G	C2-N3-C4	-6.03	108.88	111.90
34	a	1350	A	C8-N9-C4	6.03	108.21	105.80
8	A	1797	G	C2-N3-C4	-6.03	108.88	111.90
8	A	2154	A	C6-C5-N7	-6.03	128.08	132.30
8	A	2840	C	C4-C5-C6	-6.03	114.38	117.40
34	a	691	G	C8-N9-C1'	6.03	134.84	127.00
8	A	1133	A	O4'-C1'-N9	6.03	113.02	108.20
34	a	433	G	C2-N3-C4	-6.03	108.89	111.90
34	a	803	G	C2-N3-C4	-6.03	108.89	111.90
8	A	2050	C	N3-C2-O2	-6.03	117.68	121.90
34	a	1331	G	N3-C4-N9	-6.03	122.38	126.00
34	a	1459	G	N3-C4-N9	-6.03	122.38	126.00
8	A	469	G	C2-N3-C4	-6.03	108.89	111.90
8	A	538	A	C8-N9-C4	6.03	108.21	105.80
8	A	1382	G	C2-N3-C4	-6.03	108.89	111.90
34	a	101	A	N3-C4-N9	-6.03	122.58	127.40
8	A	997	G	N3-C4-N9	-6.02	122.39	126.00
34	a	178	C	C6-N1-C2	-6.02	117.89	120.30
34	a	443	C	O4'-C1'-N1	-6.02	103.38	108.20
34	a	1465	A	C8-N9-C4	6.02	108.21	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1532	A	N9-C4-C5	-6.02	103.39	105.80
34	a	350	G	C2-N3-C4	-6.02	108.89	111.90
8	A	1689	A	C8-N9-C4	6.02	108.21	105.80
9	B	84	G	C8-N9-C4	6.02	108.81	106.40
8	A	1972	G	C5'-C4'-O4'	6.02	116.32	109.10
8	A	2097	A	C4-C5-N7	6.02	113.71	110.70
8	A	2729	G	C2-N3-C4	-6.02	108.89	111.90
31	X	70	LEU	CA-CB-CG	-6.02	101.46	115.30
34	a	988	G	C8-N9-C4	6.02	108.81	106.40
34	a	1102	A	C8-N9-C4	6.02	108.21	105.80
8	A	214	G	N3-C4-N9	-6.01	122.39	126.00
8	A	361	G	C6-C5-N7	-6.01	126.79	130.40
8	A	1047	G	C6-C5-N7	6.01	134.01	130.40
34	a	841	C	N1-C1'-C2'	-6.01	105.38	112.00
8	A	2464	G	N3-C4-C5	6.01	131.61	128.60
34	a	538	G	N3-C4-C5	6.01	131.61	128.60
34	a	1182	G	N3-C4-N9	-6.01	122.39	126.00
8	A	245	G	C8-N9-C4	6.01	108.80	106.40
8	A	1836	C	N3-C4-N4	-6.01	113.79	118.00
8	A	2729	G	C4-C5-N7	6.01	113.20	110.80
8	A	2816	G	C8-N9-C4	6.01	108.81	106.40
9	B	73	A	N1-C6-N6	6.01	122.21	118.60
55	v	41	C	N3-C4-C5	6.01	124.31	121.90
8	A	820	A	C8-N9-C4	6.01	108.20	105.80
8	A	2876	G	C2-N3-C4	-6.01	108.90	111.90
8	A	63	A	C2-N3-C4	-6.01	107.60	110.60
8	A	2574	G	C2-N3-C4	-6.01	108.90	111.90
8	A	1590	A	C8-N9-C4	6.00	108.20	105.80
8	A	1904	G	N3-C4-N9	-6.00	122.40	126.00
34	a	1334	G	C4-N9-C1'	-6.00	118.70	126.50
34	a	8	A	C8-N9-C4	6.00	108.20	105.80
34	a	586	C	N3-C4-N4	-6.00	113.80	118.00
34	a	639	G	N9-C4-C5	-6.00	103.00	105.40
8	A	2830	C	C6-N1-C1'	-6.00	113.60	120.80
8	A	39	G	C2-N3-C4	-6.00	108.90	111.90
34	a	623	C	C6-N1-C1'	-6.00	113.60	120.80
34	a	1263	C	C6-N1-C2	6.00	122.70	120.30
8	A	77	G	N3-C4-C5	6.00	131.60	128.60
8	A	377	G	C2-N3-C4	-6.00	108.90	111.90
34	a	190	A	C6-C5-N7	-6.00	128.10	132.30
8	A	660	C	N3-C4-C5	6.00	124.30	121.90
8	A	126	A	C5-C6-N6	-5.99	118.91	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	426	C	C6-N1-C2	5.99	122.70	120.30
8	A	2834	G	N3-C4-N9	-5.99	122.41	126.00
34	a	42	G	C5-N7-C8	-5.99	101.30	104.30
34	a	1	A	C5-N7-C8	-5.99	100.91	103.90
34	a	79	G	N3-C4-N9	-5.99	122.41	126.00
34	a	921	U	N3-C2-O2	-5.99	118.01	122.20
34	a	1048	G	N9-C4-C5	-5.99	103.00	105.40
8	A	2394	C	O5'-P-OP1	-5.99	100.31	105.70
8	A	2735	G	N3-C4-C5	5.99	131.59	128.60
34	a	656	G	C4-N9-C1'	-5.99	118.72	126.50
34	a	933	G	N3-C4-C5	5.99	131.59	128.60
34	a	1509	C	N3-C4-N4	-5.99	113.81	118.00
8	A	1166	G	N1-C2-N2	-5.99	110.81	116.20
8	A	2516	A	C4-C5-N7	5.99	113.69	110.70
34	a	783	C	C6-N1-C2	5.99	122.69	120.30
34	a	1119	C	C6-N1-C2	5.99	122.69	120.30
34	a	1483	A	N9-C4-C5	-5.99	103.41	105.80
8	A	1401	G	N3-C4-N9	-5.98	122.41	126.00
8	A	1492	G	C2-N3-C4	-5.98	108.91	111.90
8	A	58	G	N3-C4-C5	5.98	131.59	128.60
8	A	1228	G	C2-N3-C4	-5.98	108.91	111.90
8	A	1368	G	N3-C4-C5	5.98	131.59	128.60
9	B	73	A	C5-C6-N6	-5.98	118.92	123.70
13	F	132	ARG	CA-CB-CG	-5.98	100.24	113.40
34	a	246	A	C2-N3-C4	-5.98	107.61	110.60
34	a	637	C	N3-C4-C5	5.98	124.29	121.90
8	A	330	A	C5-C6-N1	5.98	120.69	117.70
8	A	1567	G	C8-N9-C4	5.98	108.79	106.40
8	A	2316	G	N3-C4-N9	-5.98	122.41	126.00
34	a	917	G	N3-C4-N9	-5.98	122.41	126.00
8	A	1760	C	C6-N1-C2	5.98	122.69	120.30
8	A	2729	G	C5-N7-C8	-5.98	101.31	104.30
8	A	2812	G	C2-N3-C4	-5.98	108.91	111.90
8	A	2642	G	N3-C4-C5	5.98	131.59	128.60
34	a	1081	A	C8-N9-C4	-5.98	103.41	105.80
8	A	2901	C	N3-C4-C5	5.97	124.29	121.90
9	B	102	G	N3-C4-N9	-5.97	122.42	126.00
8	A	1378	A	C5-N7-C8	-5.97	100.91	103.90
8	A	1210	G	N3-C4-C5	5.97	131.59	128.60
8	A	2551	C	N3-C4-C5	5.97	124.29	121.90
8	A	425	G	N3-C4-N9	-5.97	122.42	126.00
8	A	1047	G	C4-N9-C1'	-5.97	118.74	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	754	C	C2-N3-C4	5.97	122.89	119.90
34	a	902	G	N3-C4-C5	5.97	131.59	128.60
34	a	947	G	C5-N7-C8	-5.97	101.31	104.30
34	a	1217	C	C6-N1-C2	5.97	122.69	120.30
8	A	1028	A	C8-N9-C4	5.97	108.19	105.80
8	A	1358	G	C4-C5-N7	5.97	113.19	110.80
8	A	1750	G	C2-N3-C4	-5.97	108.92	111.90
8	A	2683	C	C5-C4-N4	5.97	124.38	120.20
8	A	375	G	C8-N9-C4	5.96	108.78	106.40
8	A	1548	A	N9-C4-C5	-5.96	103.41	105.80
8	A	1661	G	C2-N3-C4	-5.96	108.92	111.90
8	A	2050	C	N3-C4-N4	-5.96	113.83	118.00
28	U	46	LYS	CD-CE-NZ	-5.96	97.98	111.70
34	a	297	G	N3-C4-N9	-5.96	122.42	126.00
8	A	1048	A	N9-C4-C5	-5.96	103.42	105.80
9	B	56	G	C4-C5-N7	5.96	113.19	110.80
34	a	497	G	N3-C4-C5	5.96	131.58	128.60
8	A	1906	G	C5-C6-O6	5.96	132.18	128.60
34	a	1238	A	C5-C6-N6	-5.96	118.93	123.70
8	A	21	A	C8-N9-C4	5.96	108.18	105.80
8	A	57	C	C6-N1-C2	5.96	122.68	120.30
8	A	1168	G	N3-C4-C5	5.96	131.58	128.60
8	A	2294	G	C8-N9-C4	5.96	108.78	106.40
34	a	585	G	C2-N3-C4	-5.96	108.92	111.90
8	A	1384	A	N1-C6-N6	5.96	122.17	118.60
34	a	79	G	C8-N9-C4	5.96	108.78	106.40
8	A	1515	A	C5-C6-N6	-5.96	118.94	123.70
8	A	1862	G	N1-C2-N2	-5.96	110.84	116.20
9	B	23	G	N3-C4-N9	-5.96	122.43	126.00
8	A	134	G	C2-N3-C4	-5.95	108.92	111.90
9	B	85	G	N3-C4-C5	5.95	131.58	128.60
34	a	1329	A	C4-N9-C1'	-5.95	115.58	126.30
8	A	2040	G	N3-C4-N9	-5.95	122.43	126.00
8	A	900	A	C5-N7-C8	-5.95	100.92	103.90
8	A	1593	A	C4-C5-N7	5.95	113.67	110.70
8	A	2496	C	C6-N1-C1'	-5.95	113.66	120.80
27	T	66	LYS	CD-CE-NZ	5.95	125.39	111.70
34	a	1034	G	N3-C2-N2	-5.95	115.73	119.90
8	A	1382	G	N3-C4-N9	-5.95	122.43	126.00
9	B	112	G	N3-C4-N9	-5.95	122.43	126.00
34	a	509	A	O4'-C1'-N9	5.95	112.96	108.20
34	a	1088	G	N1-C6-O6	-5.95	116.33	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1098	C	N1-C2-N3	5.95	123.36	119.20
8	A	1422	G	C2-N3-C4	-5.95	108.93	111.90
8	A	2339	C	N3-C4-C5	5.95	124.28	121.90
34	a	988	G	C2-N3-C4	-5.95	108.93	111.90
34	a	1028	C	O4'-C1'-N1	-5.95	103.44	108.20
8	A	175	G	C2-N3-C4	-5.94	108.93	111.90
8	A	1726	C	N3-C4-C5	5.94	124.28	121.90
8	A	2092	U	C5-C4-O4	-5.94	122.33	125.90
8	A	2808	G	N3-C4-C5	5.94	131.57	128.60
34	a	724	G	N3-C4-C5	5.94	131.57	128.60
34	a	809	G	C4-N9-C1'	-5.94	118.77	126.50
8	A	425	G	C2-N3-C4	-5.94	108.93	111.90
8	A	704	G	C8-N9-C4	5.94	108.78	106.40
8	A	2557	G	N1-C6-O6	-5.94	116.33	119.90
34	a	542	G	C2-N3-C4	-5.94	108.93	111.90
34	a	1328	C	N3-C4-C5	5.94	124.28	121.90
56	w	6	G	C2-N3-C4	-5.94	108.93	111.90
8	A	2664	G	N3-C4-C5	5.94	131.57	128.60
34	a	274	A	N9-C4-C5	-5.94	103.42	105.80
8	A	61	C	C6-N1-C2	5.93	122.67	120.30
8	A	402	A	N1-C6-N6	5.93	122.16	118.60
8	A	1969	A	N1-C6-N6	5.93	122.16	118.60
8	A	289	G	C4-N9-C1'	-5.93	118.79	126.50
8	A	728	G	N3-C4-N9	-5.93	122.44	126.00
8	A	2256	G	N3-C4-C5	5.93	131.56	128.60
8	A	340	A	C4-C5-N7	5.93	113.66	110.70
34	a	796	C	C6-N1-C2	5.93	122.67	120.30
34	a	838	G	C2-N3-C4	-5.93	108.94	111.90
8	A	364	C	N1-C2-O2	5.93	122.46	118.90
34	a	654	G	N9-C4-C5	-5.93	103.03	105.40
34	a	725	G	N3-C4-C5	5.93	131.56	128.60
8	A	2508	G	N3-C4-C5	5.92	131.56	128.60
8	A	2524	G	N3-C4-N9	-5.92	122.45	126.00
34	a	928	G	N3-C4-N9	-5.92	122.44	126.00
55	v	30	G	N3-C4-C5	5.92	131.56	128.60
8	A	2616	C	C6-N1-C2	5.92	122.67	120.30
34	a	257	G	C2-N3-C4	-5.92	108.94	111.90
34	a	1309	G	N9-C4-C5	-5.92	103.03	105.40
9	B	52	A	N9-C4-C5	-5.92	103.43	105.80
34	a	360	G	N3-C4-N9	-5.92	122.45	126.00
8	A	506	G	C8-N9-C1'	5.92	134.69	127.00
8	A	899	A	C8-N9-C4	5.92	108.17	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2739	U	C2-N1-C1'	-5.92	110.60	117.70
8	A	2775	G	N3-C4-N9	-5.92	122.45	126.00
56	w	16	U	C5'-C4'-O4'	5.92	116.20	109.10
8	A	103	A	N9-C4-C5	-5.92	103.43	105.80
8	A	1544	A	N9-C4-C5	-5.92	103.43	105.80
8	A	1907	G	C8-N9-C4	5.92	108.77	106.40
8	A	2369	A	C2-N3-C4	-5.92	107.64	110.60
8	A	945	A	N1-C6-N6	5.92	122.15	118.60
8	A	1387	A	C4-C5-N7	5.92	113.66	110.70
8	A	307	G	C4-N9-C1'	-5.91	118.81	126.50
8	A	831	G	C4-N9-C1'	-5.91	118.81	126.50
8	A	1374	G	C8-N9-C4	5.91	108.77	106.40
8	A	2196	C	C6-N1-C2	5.91	122.67	120.30
8	A	2864	G	C4-C5-N7	5.91	113.17	110.80
34	a	1002	G	N3-C4-C5	5.91	131.56	128.60
8	A	2190	G	O4'-C1'-N9	-5.91	103.47	108.20
34	a	760	G	C8-N9-C4	5.91	108.77	106.40
8	A	647	G	C8-N9-C4	5.91	108.76	106.40
8	A	900	A	N7-C8-N9	5.91	116.75	113.80
34	a	973	G	N1-C6-O6	-5.91	116.35	119.90
8	A	2659	G	C8-N9-C4	5.91	108.76	106.40
9	B	23	G	C5-N7-C8	-5.91	101.35	104.30
8	A	998	C	N3-C4-N4	-5.91	113.87	118.00
8	A	2736	A	N9-C4-C5	-5.91	103.44	105.80
34	a	334	C	C6-N1-C1'	-5.91	113.71	120.80
34	a	1422	G	C8-N9-C4	5.91	108.76	106.40
34	a	1466	C	N3-C2-O2	-5.91	117.77	121.90
8	A	146	A	C8-N9-C4	5.90	108.16	105.80
34	a	1472	U	C6-N1-C1'	-5.90	112.94	121.20
8	A	2505	G	C4-N9-C1'	5.90	134.17	126.50
8	A	2624	G	C2-N3-C4	-5.90	108.95	111.90
34	a	265	G	N3-C4-N9	-5.90	122.46	126.00
34	a	933	G	C2-N3-C4	-5.90	108.95	111.90
8	A	1238	G	C2-N3-C4	-5.90	108.95	111.90
8	A	2179	C	O4'-C1'-N1	-5.90	103.48	108.20
8	A	2407	A	C5-C6-N6	-5.90	118.98	123.70
8	A	2825	G	N3-C2-N2	-5.90	115.77	119.90
34	a	775	G	C8-N9-C4	5.90	108.76	106.40
8	A	1093	G	N3-C2-N2	-5.90	115.77	119.90
8	A	1162	G	N3-C4-C5	5.90	131.55	128.60
8	A	1718	G	N3-C4-C5	5.90	131.55	128.60
34	a	1079	G	N3-C4-N9	-5.90	122.46	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1418	A	C4-C5-N7	5.90	113.65	110.70
8	A	1746	A	C8-N9-C4	5.90	108.16	105.80
8	A	2442	C	N3-C4-N4	-5.90	113.87	118.00
34	a	158	G	C5-N7-C8	-5.90	101.35	104.30
8	A	845	A	N9-C4-C5	-5.89	103.44	105.80
34	a	146	G	N3-C4-N9	-5.89	122.46	126.00
34	a	1144	G	N3-C4-N9	-5.89	122.46	126.00
8	A	664	G	N3-C4-C5	5.89	131.55	128.60
34	a	1004	A	O5'-P-OP1	-5.89	100.40	105.70
8	A	191	A	N9-C4-C5	-5.89	103.44	105.80
8	A	536	G	C6-C5-N7	5.89	133.93	130.40
8	A	1596	A	C4-C5-C6	-5.89	114.06	117.00
8	A	1715	G	N3-C4-C5	5.89	131.54	128.60
8	A	2557	G	C5-C6-O6	5.89	132.13	128.60
8	A	2665	A	C4-C5-N7	5.89	113.64	110.70
34	a	629	A	C8-N9-C4	5.89	108.16	105.80
8	A	273	G	C2-N3-C4	-5.89	108.96	111.90
8	A	1163	G	N3-C4-N9	-5.89	122.47	126.00
8	A	1750	G	N3-C4-N9	-5.88	122.47	126.00
34	a	77	A	C8-N9-C4	5.88	108.15	105.80
34	a	78	A	C2-N3-C4	-5.88	107.66	110.60
8	A	854	C	N3-C4-C5	5.88	124.25	121.90
34	a	640	A	C2-N3-C4	-5.88	107.66	110.60
34	a	1243	C	C6-N1-C2	5.88	122.65	120.30
8	A	1308	A	C8-N9-C4	5.88	108.15	105.80
8	A	2114	A	P-O3'-C3'	-5.88	112.65	119.70
8	A	2780	G	N3-C4-N9	-5.88	122.47	126.00
34	a	167	A	C4-C5-N7	5.88	113.64	110.70
8	A	1530	G	C2-N3-C4	-5.88	108.96	111.90
34	a	778	G	C2-N3-C4	-5.88	108.96	111.90
8	A	1317	G	N3-C4-N9	-5.88	122.47	126.00
8	A	2437	G	N3-C4-N9	-5.88	122.47	126.00
34	a	460	A	C2-N3-C4	-5.88	107.66	110.60
34	a	487	A	C4-C5-N7	5.88	113.64	110.70
34	a	604	G	C4-C5-N7	5.88	113.15	110.80
34	a	1047	G	N3-C4-N9	-5.88	122.47	126.00
8	A	865	C	C5-C4-N4	5.87	124.31	120.20
8	A	1244	A	C4-C5-N7	5.87	113.64	110.70
8	A	630	G	C4-N9-C1'	-5.87	118.87	126.50
8	A	780	G	C4-N9-C1'	-5.87	118.87	126.50
8	A	2270	A	C8-N9-C4	5.87	108.15	105.80
34	a	920	U	C2-N1-C1'	5.87	124.75	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	493	G	N3-C4-C5	5.87	131.53	128.60
8	A	1216	G	C8-N9-C4	5.87	108.75	106.40
8	A	1292	G	N3-C4-N9	-5.87	122.48	126.00
34	a	858	G	C2-N3-C4	-5.87	108.97	111.90
34	a	1241	G	C2-N3-C4	-5.87	108.97	111.90
8	A	48	G	C8-N9-C4	5.87	108.75	106.40
8	A	897	C	C2-N1-C1'	5.87	125.25	118.80
8	A	949	G	N3-C4-N9	-5.87	122.48	126.00
8	A	1239	G	N3-C4-N9	-5.87	122.48	126.00
34	a	35	G	N3-C4-C5	5.87	131.53	128.60
34	a	260	G	C2-N3-C4	-5.87	108.97	111.90
34	a	550	G	C4-N9-C1'	-5.87	118.87	126.50
34	a	1153	G	N3-C4-C5	5.87	131.53	128.60
34	a	1422	G	C2-N3-C4	-5.87	108.97	111.90
34	a	833	G	C2-N3-C4	-5.87	108.97	111.90
34	a	1111	A	N9-C4-C5	-5.87	103.45	105.80
34	a	1206	G	C2-N3-C4	-5.86	108.97	111.90
8	A	498	G	N3-C4-C5	5.86	131.53	128.60
9	B	11	C	N3-C4-N4	5.86	122.10	118.00
8	A	175	G	N3-C4-C5	5.86	131.53	128.60
8	A	1095	A	O4'-C1'-N9	-5.86	103.51	108.20
8	A	1435	G	N3-C4-N9	-5.86	122.48	126.00
34	a	1058	G	C2-N3-C4	-5.86	108.97	111.90
8	A	731	C	C6-N1-C2	5.86	122.64	120.30
8	A	2597	G	N3-C4-C5	5.86	131.53	128.60
34	a	428	G	N3-C4-C5	5.86	131.53	128.60
8	A	1793	C	N3-C4-N4	-5.86	113.90	118.00
8	A	2792	A	N9-C4-C5	-5.86	103.46	105.80
8	A	2869	G	C2-N3-C4	-5.86	108.97	111.90
34	a	81	A	N9-C4-C5	-5.86	103.46	105.80
8	A	1165	A	N3-C4-C5	5.86	130.90	126.80
8	A	2083	G	N9-C4-C5	-5.86	103.06	105.40
8	A	2355	G	N3-C4-N9	-5.86	122.49	126.00
9	B	11	C	C6-N1-C1'	-5.86	113.77	120.80
34	a	755	G	C8-N9-C4	5.86	108.74	106.40
34	a	894	G	N3-C4-C5	5.86	131.53	128.60
34	a	1048	G	C4-C5-N7	5.86	113.14	110.80
34	a	1187	G	N3-C4-C5	5.86	131.53	128.60
8	A	677	A	N1-C6-N6	-5.85	115.09	118.60
8	A	1755	A	N1-C6-N6	-5.85	115.09	118.60
34	a	745	G	N3-C4-C5	5.85	131.53	128.60
8	A	39	G	N3-C4-N9	-5.85	122.49	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	623	C	C6-N1-C2	5.85	122.64	120.30
8	A	758	C	C6-N1-C2	5.85	122.64	120.30
8	A	1169	A	N1-C6-N6	5.85	122.11	118.60
8	A	1378	A	N9-C4-C5	-5.85	103.46	105.80
8	A	2460	U	C6-N1-C2	5.85	124.51	121.00
8	A	2472	G	N3-C4-N9	-5.85	122.49	126.00
8	A	2827	C	C6-N1-C2	5.85	122.64	120.30
9	B	117	G	N3-C4-C5	5.85	131.53	128.60
34	a	504	C	C6-N1-C2	5.85	122.64	120.30
34	a	624	C	N3-C4-N4	-5.85	113.90	118.00
8	A	553	G	C2-N3-C4	-5.85	108.97	111.90
8	A	1055	G	C8-N9-C4	5.85	108.74	106.40
34	a	616	G	N3-C4-C5	5.85	131.53	128.60
8	A	350	G	N9-C4-C5	-5.85	103.06	105.40
8	A	1117	C	N3-C4-C5	5.85	124.24	121.90
8	A	1652	A	C5-N7-C8	-5.85	100.98	103.90
8	A	2671	G	C2-N3-C4	-5.85	108.97	111.90
34	a	69	G	N3-C4-C5	5.85	131.53	128.60
8	A	2759	G	N3-C4-C5	5.85	131.52	128.60
9	B	60	C	N3-C2-O2	5.85	125.99	121.90
34	a	838	G	C4-C5-N7	5.85	113.14	110.80
34	a	1094	G	N3-C2-N2	5.85	123.99	119.90
8	A	227	A	N1-C6-N6	-5.85	115.09	118.60
8	A	1830	C	C6-N1-C2	5.84	122.64	120.30
34	a	878	A	O5'-P-OP1	-5.84	100.44	105.70
34	a	888	G	N1-C2-N2	5.84	121.46	116.20
34	a	944	G	N3-C4-N9	-5.84	122.49	126.00
8	A	1553	A	C5-C6-N6	-5.84	119.03	123.70
8	A	2859	G	N3-C4-C5	5.84	131.52	128.60
34	a	442	G	N3-C2-N2	5.84	123.99	119.90
34	a	597	G	N3-C4-C5	5.84	131.52	128.60
8	A	670	A	N1-C6-N6	5.84	122.10	118.60
8	A	2482	A	C8-N9-C4	5.84	108.14	105.80
34	a	1325	C	N1-C2-O2	5.84	122.40	118.90
8	A	1345	C	C6-N1-C2	5.84	122.64	120.30
8	A	1418	G	N3-C4-C5	5.84	131.52	128.60
8	A	1512	C	C6-N1-C2	5.84	122.63	120.30
8	A	2391	G	N3-C4-C5	5.84	131.52	128.60
34	a	347	G	N3-C4-C5	5.84	131.52	128.60
34	a	493	A	O4'-C1'-N9	-5.84	103.53	108.20
8	A	144	A	C5-N7-C8	-5.83	100.98	103.90
8	A	989	G	N3-C4-N9	-5.83	122.50	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1650	A	C4-C5-C6	-5.83	114.08	117.00
8	A	2294	G	N3-C4-C5	5.83	131.52	128.60
8	A	2718	G	C8-N9-C4	5.83	108.73	106.40
8	A	570	G	N3-C4-C5	-5.83	125.68	128.60
8	A	2419	U	C6-N1-C2	5.83	124.50	121.00
34	a	28	A	C4-C5-N7	5.83	113.62	110.70
34	a	785	G	N3-C4-C5	5.83	131.52	128.60
8	A	1038	G	C8-N9-C4	5.83	108.73	106.40
8	A	303	G	C4-C5-N7	5.83	113.13	110.80
34	a	211	G	P-O5'-C5'	-5.83	111.57	120.90
8	A	549	G	N9-C4-C5	-5.83	103.07	105.40
8	A	831	G	N3-C4-C5	5.83	131.51	128.60
8	A	2165	C	C6-N1-C2	5.83	122.63	120.30
8	A	2351	G	N3-C4-N9	-5.83	122.50	126.00
55	v	76	A	C8-N9-C4	5.83	108.13	105.80
31	X	21	LEU	CA-CB-CG	-5.83	101.90	115.30
34	a	203	G	C6-C5-N7	5.83	133.90	130.40
8	A	1616	A	C8-N9-C4	5.83	108.13	105.80
34	a	1047	G	C2-N3-C4	-5.83	108.99	111.90
8	A	555	G	N3-C4-C5	5.82	131.51	128.60
8	A	2351	G	C8-N9-C4	5.82	108.73	106.40
34	a	1185	G	N3-C4-C5	5.82	131.51	128.60
34	a	1459	G	C2-N3-C4	-5.82	108.99	111.90
8	A	350	G	N3-C4-C5	5.82	131.51	128.60
8	A	564	C	C6-N1-C2	5.82	122.63	120.30
8	A	1408	G	N3-C4-C5	5.82	131.51	128.60
8	A	2137	U	N3-C4-O4	-5.82	115.33	119.40
34	a	1304	G	N3-C4-C5	5.82	131.51	128.60
8	A	185	G	C4-N9-C1'	-5.82	118.94	126.50
8	A	212	G	C2-N3-C4	-5.82	108.99	111.90
8	A	244	A	C8-N9-C4	5.82	108.13	105.80
8	A	271	G	C8-N9-C4	5.82	108.73	106.40
8	A	383	C	N3-C4-C5	5.82	124.23	121.90
8	A	1173	U	C2-N1-C1'	5.82	124.68	117.70
8	A	1492	G	N3-C2-N2	-5.82	115.83	119.90
8	A	2355	G	C2-N3-C4	-5.82	108.99	111.90
8	A	2655	G	N3-C4-C5	5.82	131.51	128.60
8	A	2901	C	N1-C2-O2	5.81	122.39	118.90
8	A	63	A	N1-C2-N3	5.81	132.21	129.30
8	A	291	G	C2-N3-C4	-5.81	108.99	111.90
34	a	117	G	N9-C4-C5	-5.81	103.08	105.40
34	a	1090	U	C6-N1-C2	5.81	124.49	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2150	C	N3-C4-C5	5.81	124.22	121.90
34	a	236	A	N9-C4-C5	-5.81	103.48	105.80
8	A	1237	A	C2-N3-C4	-5.81	107.69	110.60
34	a	803	G	N3-C2-N2	5.81	123.97	119.90
34	a	1373	G	C8-N9-C4	5.81	108.72	106.40
8	A	1511	G	C2-N3-C4	-5.81	109.00	111.90
8	A	2407	A	C4-C5-N7	5.81	113.60	110.70
8	A	2544	G	N3-C4-N9	-5.81	122.52	126.00
34	a	998	C	N3-C4-N4	-5.81	113.94	118.00
34	a	1371	G	N3-C4-C5	5.81	131.50	128.60
34	a	76	G	N3-C4-C5	5.80	131.50	128.60
8	A	73	A	C8-N9-C4	5.80	108.12	105.80
8	A	314	C	N3-C4-C5	5.80	124.22	121.90
8	A	380	G	C8-N9-C4	5.80	108.72	106.40
8	A	2465	C	C6-N1-C2	5.80	122.62	120.30
34	a	681	A	N9-C4-C5	-5.80	103.48	105.80
34	a	784	A	C8-N9-C4	5.80	108.12	105.80
34	a	1133	G	C4-N9-C1'	-5.80	118.96	126.50
34	a	1331	G	N3-C4-C5	5.80	131.50	128.60
8	A	1449	G	C4-N9-C1'	-5.80	118.96	126.50
8	A	1529	G	C8-N9-C1'	-5.80	119.46	127.00
34	a	654	G	N1-C6-O6	5.80	123.38	119.90
8	A	96	C	N3-C4-C5	5.80	124.22	121.90
8	A	367	G	C2-N3-C4	-5.80	109.00	111.90
8	A	155	A	N9-C4-C5	-5.79	103.48	105.80
8	A	375	G	N1-C2-N2	-5.79	110.99	116.20
8	A	2461	A	N9-C4-C5	-5.79	103.48	105.80
34	a	312	C	N3-C4-C5	5.79	124.22	121.90
34	a	1059	C	N3-C4-N4	-5.79	113.95	118.00
8	A	1966	A	N1-C6-N6	5.79	122.07	118.60
34	a	321	A	C8-N9-C4	5.79	108.11	105.80
34	a	1143	G	N1-C6-O6	5.79	123.37	119.90
8	A	270	A	C4-C5-C6	-5.79	114.11	117.00
8	A	1528	A	N1-C6-N6	5.79	122.07	118.60
34	a	255	G	C2-N3-C4	-5.79	109.01	111.90
34	a	1043	G	C8-N9-C1'	5.79	134.52	127.00
55	v	72	A	C8-N9-C4	5.79	108.11	105.80
8	A	1465	G	C5-N7-C8	-5.78	101.41	104.30
34	a	1244	G	N3-C4-N9	-5.78	122.53	126.00
8	A	2378	A	N7-C8-N9	5.78	116.69	113.80
8	A	535	G	C2-N3-C4	-5.78	109.01	111.90
8	A	856	G	C8-N9-C4	5.78	108.71	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1099	G	C2-N3-C4	-5.78	109.01	111.90
8	A	1228	G	C8-N9-C4	5.78	108.71	106.40
8	A	2483	C	C6-N1-C2	5.78	122.61	120.30
20	M	33	LEU	CA-CB-CG	-5.78	102.01	115.30
34	a	324	G	C4-N9-C1'	-5.78	118.99	126.50
34	a	442	G	C6-C5-N7	-5.78	126.93	130.40
34	a	27	G	C8-N9-C4	5.78	108.71	106.40
8	A	1193	G	N9-C4-C5	-5.78	103.09	105.40
8	A	2343	U	P-O3'-C3'	5.78	126.63	119.70
34	a	203	G	O4'-C1'-N9	5.77	112.82	108.20
34	a	1272	G	N3-C4-C5	5.77	131.49	128.60
8	A	1471	G	C8-N9-C1'	-5.77	119.50	127.00
34	a	611	C	N3-C4-N4	-5.77	113.96	118.00
34	a	1482	G	C2-N3-C4	-5.77	109.01	111.90
8	A	310	A	C8-N9-C4	5.77	108.11	105.80
8	A	1115	G	N3-C4-N9	-5.77	122.54	126.00
8	A	1271	G	C8-N9-C4	5.77	108.71	106.40
12	E	164	LEU	CA-CB-CG	-5.77	102.03	115.30
34	a	809	G	C8-N9-C4	5.77	108.71	106.40
34	a	927	G	N3-C4-C5	5.77	131.49	128.60
8	A	793	A	C5-C6-N6	-5.77	119.08	123.70
8	A	2516	A	N9-C4-C5	-5.77	103.49	105.80
34	a	241	G	C8-N9-C4	5.77	108.71	106.40
8	A	376	G	N3-C4-N9	-5.77	122.54	126.00
8	A	1385	A	C8-N9-C4	5.77	108.11	105.80
8	A	1655	A	C8-N9-C4	5.77	108.11	105.80
8	A	1893	C	N3-C4-N4	-5.77	113.96	118.00
8	A	2694	G	C8-N9-C4	5.77	108.71	106.40
8	A	2777	G	N3-C4-C5	5.77	131.48	128.60
34	a	1511	G	C4-C5-N7	5.77	113.11	110.80
8	A	68	G	C8-N9-C4	5.77	108.71	106.40
8	A	2018	G	C2-N3-C4	-5.77	109.02	111.90
34	a	628	G	C2-N3-C4	-5.77	109.02	111.90
56	w	68	C	N3-C4-C5	5.77	124.21	121.90
8	A	401	A	N9-C4-C5	-5.76	103.49	105.80
8	A	531	C	O4'-C1'-N1	-5.76	103.59	108.20
8	A	536	G	C4-N9-C1'	-5.76	119.01	126.50
8	A	1894	C	N3-C4-C5	5.76	124.21	121.90
8	A	2618	G	C5-C6-O6	5.76	132.06	128.60
34	a	274	A	N3-C4-C5	5.76	130.84	126.80
34	a	429	U	O4'-C1'-N1	-5.76	103.59	108.20
8	A	2198	A	C4-C5-C6	-5.76	114.12	117.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	B	58	A	O5'-P-OP2	-5.76	100.51	105.70
34	a	362	G	N3-C4-N9	-5.76	122.54	126.00
34	a	435	A	C4-C5-N7	5.76	113.58	110.70
34	a	1224	U	O4'-C1'-N1	-5.76	103.59	108.20
8	A	1094	U	O4'-C1'-N1	5.76	112.81	108.20
8	A	1152	C	C6-N1-C2	5.76	122.60	120.30
8	A	1649	G	C8-N9-C4	5.76	108.70	106.40
8	A	2547	A	N9-C4-C5	-5.76	103.50	105.80
34	a	201	G	C8-N9-C1'	5.76	134.49	127.00
8	A	998	C	N3-C4-C5	5.76	124.20	121.90
8	A	2143	C	N3-C4-N4	5.76	122.03	118.00
8	A	2400	G	C2-N3-C4	-5.76	109.02	111.90
8	A	2874	C	C6-N1-C2	5.76	122.60	120.30
34	a	656	G	N3-C4-N9	-5.76	122.54	126.00
57	x	669	LEU	CA-CB-CG	5.76	128.55	115.30
9	B	34	A	C2-N3-C4	-5.76	107.72	110.60
8	A	853	C	N3-C4-C5	5.76	124.20	121.90
8	A	1532	A	C4-C5-N7	5.76	113.58	110.70
34	a	1280	A	N1-C6-N6	-5.76	115.15	118.60
8	A	145	C	N3-C4-C5	5.75	124.20	121.90
8	A	1233	C	C6-N1-C2	5.75	122.60	120.30
8	A	1008	A	C8-N9-C4	5.75	108.10	105.80
8	A	1703	G	C8-N9-C4	5.75	108.70	106.40
8	A	2839	G	N9-C4-C5	-5.75	103.10	105.40
9	B	61	G	N3-C2-N2	5.75	123.93	119.90
34	a	821	G	N3-C4-C5	5.75	131.48	128.60
8	A	271	G	N1-C6-O6	5.75	123.35	119.90
8	A	697	G	C2-N3-C4	-5.75	109.02	111.90
8	A	2012	G	C4-C5-N7	5.75	113.10	110.80
8	A	2792	A	C8-N9-C4	5.75	108.10	105.80
34	a	242	G	N3-C4-N9	-5.75	122.55	126.00
34	a	586	C	C6-N1-C2	5.75	122.60	120.30
34	a	929	G	C2-N3-C4	-5.75	109.03	111.90
8	A	1303	G	N3-C4-C5	5.75	131.47	128.60
34	a	526	C	N3-C4-C5	5.75	124.20	121.90
8	A	551	G	C2-N3-C4	-5.75	109.03	111.90
8	A	581	C	C2-N1-C1'	5.75	125.12	118.80
8	A	469	G	N3-C4-C5	5.75	131.47	128.60
8	A	512	G	N3-C4-C5	5.75	131.47	128.60
34	a	81	A	C5-C6-N6	-5.75	119.10	123.70
8	A	177	G	C2-N3-C4	-5.74	109.03	111.90
8	A	467	G	N3-C4-C5	5.74	131.47	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2801	G	C8-N9-C4	5.74	108.70	106.40
34	a	1081	A	N7-C8-N9	5.74	116.67	113.80
8	A	1527	G	C2-N3-C4	-5.74	109.03	111.90
55	v	46	A	C8-N9-C4	5.74	108.10	105.80
8	A	382	A	C8-N9-C4	5.74	108.10	105.80
8	A	2323	G	C2-N3-C4	-5.74	109.03	111.90
55	v	21	A	C4-C5-C6	-5.74	114.13	117.00
8	A	2080	A	C8-N9-C4	5.74	108.10	105.80
8	A	2510	C	N3-C4-N4	-5.74	113.98	118.00
34	a	347	G	C2-N3-C4	-5.74	109.03	111.90
34	a	423	G	O4'-C1'-N9	5.74	112.79	108.20
56	w	47	U	C5'-C4'-O4'	5.74	115.98	109.10
8	A	1952	A	C8-N9-C4	5.73	108.09	105.80
8	A	2735	G	C8-N9-C4	5.73	108.69	106.40
34	a	1128	C	C6-N1-C2	5.73	122.59	120.30
8	A	316	C	C6-N1-C2	5.73	122.59	120.30
8	A	2109	U	O5'-P-OP1	5.73	117.58	110.70
8	A	2828	G	C2-N3-C4	-5.73	109.03	111.90
8	A	381	G	N3-C4-N9	-5.73	122.56	126.00
8	A	631	A	C8-N9-C4	5.73	108.09	105.80
8	A	1492	G	C6-C5-N7	5.73	133.84	130.40
8	A	2574	G	N3-C4-C5	5.73	131.46	128.60
8	A	481	G	C8-N9-C1'	5.73	134.45	127.00
8	A	1356	G	N3-C4-C5	5.73	131.46	128.60
8	A	2641	G	C4-N9-C1'	-5.73	119.05	126.50
34	a	910	C	C6-N1-C2	5.73	122.59	120.30
8	A	270	A	N1-C6-N6	-5.73	115.17	118.60
8	A	1153	C	C2-N1-C1'	5.73	125.10	118.80
8	A	1166	G	C2-N3-C4	-5.73	109.04	111.90
8	A	705	A	C8-N9-C4	5.72	108.09	105.80
8	A	1905	C	C5-C6-N1	-5.72	118.14	121.00
8	A	2411	A	N9-C4-C5	-5.72	103.51	105.80
8	A	2592	G	C2-N3-C4	-5.72	109.04	111.90
34	a	102	G	N3-C4-C5	5.72	131.46	128.60
34	a	1276	G	C4-C5-N7	5.72	113.09	110.80
8	A	655	A	N9-C4-C5	-5.72	103.51	105.80
8	A	1062	G	C4-C5-N7	5.72	113.09	110.80
8	A	2092	U	C6-N1-C1'	-5.72	113.19	121.20
8	A	2275	C	C6-N1-C2	-5.72	118.01	120.30
34	a	177	G	C8-N9-C1'	-5.72	119.56	127.00
34	a	550	G	N3-C4-N9	-5.72	122.57	126.00
34	a	674	G	C4-N9-C1'	5.72	133.94	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	539	G	C2-N3-C4	-5.72	109.04	111.90
8	A	1192	G	C2-N3-C4	-5.72	109.04	111.90
8	A	2204	G	C2-N3-C4	-5.72	109.04	111.90
8	A	2305	U	C6-N1-C2	5.72	124.43	121.00
8	A	20	C	C6-N1-C2	5.72	122.59	120.30
8	A	2383	G	N3-C4-N9	-5.72	122.57	126.00
34	a	35	G	C2-N3-C4	-5.72	109.04	111.90
34	a	42	G	C4-C5-N7	5.72	113.09	110.80
34	a	1312	G	C4-C5-N7	5.72	113.09	110.80
8	A	834	G	N3-C4-C5	5.72	131.46	128.60
8	A	1378	A	O4'-C1'-N9	-5.72	103.63	108.20
8	A	1661	G	N3-C4-N9	-5.72	122.57	126.00
34	a	28	A	N9-C4-C5	-5.72	103.51	105.80
34	a	428	G	C4-N9-C1'	-5.72	119.07	126.50
8	A	1568	G	C2-N3-C4	-5.71	109.04	111.90
34	a	399	G	N3-C4-C5	5.71	131.46	128.60
34	a	604	G	C4-C5-C6	-5.71	115.37	118.80
8	A	2894	G	C4-N9-C1'	-5.71	119.07	126.50
34	a	164	G	C2-N3-C4	-5.71	109.04	111.90
8	A	664	G	N1-C2-N2	-5.71	111.06	116.20
8	A	1745	A	N1-C6-N6	5.71	122.03	118.60
8	A	2366	A	N1-C6-N6	5.71	122.03	118.60
34	a	457	G	N3-C4-C5	5.71	131.46	128.60
8	A	1857	G	C2-N3-C4	-5.71	109.05	111.90
8	A	2116	G	C8-N9-C4	5.71	108.68	106.40
8	A	2433	A	N1-C6-N6	-5.71	115.17	118.60
8	A	2199	A	C4-C5-N7	5.71	113.56	110.70
9	B	42	C	N1-C1'-C2'	-5.71	105.72	112.00
9	B	112	G	C2-N3-C4	-5.71	109.05	111.90
34	a	198	G	C2-N3-C4	-5.71	109.05	111.90
34	a	349	A	N9-C4-C5	-5.71	103.52	105.80
8	A	674	G	N9-C1'-C2'	-5.71	105.72	112.00
8	A	1037	G	N3-C4-N9	-5.71	122.58	126.00
8	A	2044	C	O4'-C1'-N1	-5.71	103.64	108.20
9	B	44	G	C2-N3-C4	-5.71	109.05	111.90
34	a	319	G	C4-N9-C1'	-5.71	119.08	126.50
34	a	1262	C	C6-N1-C1'	-5.71	113.95	120.80
8	A	2414	G	C2-N3-C4	-5.71	109.05	111.90
8	A	2899	A	C5-N7-C8	-5.71	101.05	103.90
9	B	54	G	C5-C6-N1	-5.71	108.65	111.50
34	a	1196	A	C5-C6-N6	-5.71	119.14	123.70
8	A	155	A	C4-C5-N7	5.70	113.55	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	951	C	N3-C4-C5	5.70	124.18	121.90
8	A	2367	G	C8-N9-C4	5.70	108.68	106.40
9	B	76	G	C2-N3-C4	-5.70	109.05	111.90
34	a	429	U	C2-N1-C1'	-5.70	110.86	117.70
34	a	927	G	C2-N3-C4	-5.70	109.05	111.90
34	a	1396	A	C5-C6-N1	5.70	120.55	117.70
34	a	1430	A	C8-N9-C4	5.70	108.08	105.80
34	a	836	G	C8-N9-C4	5.70	108.68	106.40
8	A	269	C	N3-C4-C5	5.70	124.18	121.90
8	A	372	G	C2-N3-C4	-5.70	109.05	111.90
8	A	785	G	C2-N3-C4	-5.70	109.05	111.90
8	A	854	C	C6-N1-C2	5.70	122.58	120.30
8	A	1099	G	N3-C4-C5	5.70	131.45	128.60
8	A	1277	G	C4-C5-C6	-5.70	115.38	118.80
8	A	1889	A	C8-N9-C4	5.70	108.08	105.80
8	A	1966	A	C8-N9-C4	5.70	108.08	105.80
8	A	2508	G	C2-N3-C4	-5.70	109.05	111.90
34	a	101	A	C4-C5-C6	-5.70	114.15	117.00
8	A	1604	C	N3-C4-N4	-5.70	114.01	118.00
8	A	30	G	C2-N3-C4	-5.70	109.05	111.90
8	A	86	G	N3-C4-C5	5.70	131.45	128.60
8	A	697	G	O4'-C1'-N9	-5.70	103.64	108.20
8	A	815	C	C6-N1-C2	5.70	122.58	120.30
34	a	1081	A	N3-C4-C5	-5.70	122.81	126.80
8	A	2713	U	O4'-C1'-N1	-5.69	103.64	108.20
9	B	9	G	C8-N9-C1'	-5.69	119.60	127.00
34	a	585	G	N3-C4-N9	-5.69	122.58	126.00
8	A	354	A	C8-N9-C4	5.69	108.08	105.80
8	A	693	A	C8-N9-C4	5.69	108.08	105.80
34	a	674	G	N1-C2-N3	5.69	127.31	123.90
8	A	27	G	C2-N3-C4	-5.69	109.06	111.90
8	A	271	G	C4-C5-N7	5.69	113.08	110.80
8	A	313	G	C2-N3-C4	-5.69	109.05	111.90
8	A	1685	C	C6-N1-C2	5.69	122.58	120.30
8	A	2297	A	C2-N3-C4	-5.69	107.75	110.60
8	A	2643	G	N3-C4-C5	5.69	131.45	128.60
55	v	41	C	N3-C4-N4	-5.69	114.02	118.00
8	A	497	A	N1-C6-N6	-5.69	115.19	118.60
8	A	636	G	N3-C4-N9	-5.69	122.59	126.00
8	A	1048	A	C8-N9-C4	5.69	108.08	105.80
8	A	837	C	N3-C4-N4	-5.69	114.02	118.00
34	a	413	G	N1-C6-O6	5.69	123.31	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2097	A	N9-C4-C5	-5.69	103.53	105.80
34	a	674	G	C2-N3-C4	-5.69	109.06	111.90
34	a	846	G	C4-C5-N7	5.69	113.07	110.80
34	a	1230	C	N3-C4-C5	5.69	124.17	121.90
8	A	481	G	N3-C4-N9	-5.68	122.59	126.00
8	A	1984	G	C2-N3-C4	-5.68	109.06	111.90
8	A	2280	G	N3-C4-C5	5.68	131.44	128.60
8	A	1001	A	N1-C6-N6	5.68	122.01	118.60
8	A	2054	A	C8-N9-C4	5.68	108.07	105.80
8	A	2430	A	C5-N7-C8	-5.68	101.06	103.90
8	A	398	C	N3-C4-N4	-5.68	114.02	118.00
22	O	16	ARG	CG-CD-NE	-5.68	99.87	111.80
8	A	410	G	N3-C4-N9	-5.68	122.59	126.00
8	A	956	G	N3-C4-N9	-5.68	122.59	126.00
8	A	1074	G	N3-C4-N9	-5.68	122.59	126.00
8	A	1916	A	N9-C1'-C2'	-5.68	105.75	112.00
34	a	1096	C	C6-N1-C2	5.68	122.57	120.30
8	A	770	G	C8-N9-C4	5.68	108.67	106.40
8	A	1587	G	C8-N9-C4	5.68	108.67	106.40
8	A	2846	G	N3-C2-N2	-5.68	115.92	119.90
34	a	213	G	N3-C4-N9	-5.68	122.59	126.00
8	A	57	C	N3-C4-C5	5.68	124.17	121.90
8	A	1361	G	C2-N3-C4	-5.67	109.06	111.90
8	A	108	G	C2-N3-C4	-5.67	109.06	111.90
8	A	952	G	N3-C4-N9	-5.67	122.60	126.00
8	A	1543	G	C4-N9-C1'	-5.67	119.12	126.50
34	a	1185	G	C2-N3-C4	-5.67	109.06	111.90
34	a	1309	G	C4-C5-N7	5.67	113.07	110.80
8	A	488	G	C4-N9-C1'	-5.67	119.13	126.50
8	A	1696	G	C2-N3-C4	-5.67	109.06	111.90
8	A	2718	G	N3-C4-C5	5.67	131.44	128.60
34	a	326	G	N3-C4-C5	5.67	131.44	128.60
8	A	1346	G	C8-N9-C4	5.67	108.67	106.40
8	A	2137	U	N1-C2-N3	-5.67	111.50	114.90
9	B	88	C	C2-N1-C1'	5.67	125.04	118.80
8	A	326	G	N3-C4-N9	-5.67	122.60	126.00
8	A	2110	G	C8-N9-C1'	-5.67	119.63	127.00
34	a	885	G	N3-C4-C5	5.67	131.43	128.60
8	A	1421	G	N3-C4-C5	5.67	131.43	128.60
8	A	1719	G	C2-N3-C4	-5.67	109.07	111.90
8	A	2415	G	N3-C4-C5	5.67	131.43	128.60
8	A	2839	G	N1-C2-N2	-5.67	111.10	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	396	G	C4-C5-N7	5.67	113.07	110.80
9	B	14	U	C6-N1-C2	5.66	124.40	121.00
34	a	450	G	N3-C4-C5	5.66	131.43	128.60
55	v	72	A	N3-C4-C5	5.66	130.76	126.80
8	A	2674	G	C8-N9-C4	5.66	108.67	106.40
8	A	923	G	N3-C4-C5	5.66	131.43	128.60
8	A	938	G	N3-C4-C5	5.66	131.43	128.60
8	A	2142	A	C4-N9-C1'	5.66	136.49	126.30
8	A	2407	A	N1-C6-N6	5.66	122.00	118.60
34	a	167	A	C8-N9-C4	5.66	108.06	105.80
8	A	91	A	C8-N9-C4	5.66	108.06	105.80
8	A	919	U	C6-N1-C2	5.66	124.39	121.00
8	A	2326	C	N3-C4-N4	-5.66	114.04	118.00
8	A	497	A	C8-N9-C4	5.66	108.06	105.80
8	A	693	A	C4-C5-N7	5.66	113.53	110.70
8	A	1106	G	C4-N9-C1'	-5.66	119.15	126.50
8	A	1189	A	N1-C6-N6	5.66	121.99	118.60
8	A	1230	A	N9-C4-C5	-5.66	103.54	105.80
8	A	2736	A	C8-N9-C4	5.66	108.06	105.80
55	v	5	G	N3-C4-N9	-5.65	122.61	126.00
34	a	1331	G	C6-C5-N7	5.65	133.79	130.40
8	A	675	A	N9-C4-C5	-5.65	103.54	105.80
8	A	2440	C	N3-C4-C5	5.65	124.16	121.90
34	a	181	A	C5-N7-C8	-5.65	101.07	103.90
8	A	425	G	C4-N9-C1'	-5.65	119.16	126.50
8	A	1933	G	C5-C6-O6	5.65	131.99	128.60
8	A	2549	G	C4-C5-N7	5.65	113.06	110.80
8	A	684	G	C2-N3-C4	-5.65	109.08	111.90
9	B	11	C	O4'-C1'-N1	-5.65	103.68	108.20
8	A	2544	G	N3-C4-C5	5.64	131.42	128.60
34	a	1190	G	N1-C2-N2	5.64	121.28	116.20
8	A	126	A	N3-C4-C5	5.64	130.75	126.80
8	A	971	G	N3-C4-C5	5.64	131.42	128.60
8	A	1142	A	C2-N3-C4	-5.64	107.78	110.60
34	a	1002	G	N3-C4-N9	-5.64	122.61	126.00
8	A	1615	C	C6-N1-C2	5.64	122.56	120.30
8	A	1974	C	N3-C4-C5	5.64	124.16	121.90
8	A	2077	A	C8-N9-C4	5.64	108.06	105.80
34	a	542	G	N9-C4-C5	-5.64	103.14	105.40
8	A	1558	C	C6-N1-C2	5.64	122.56	120.30
8	A	2121	G	C6-C5-N7	-5.64	127.02	130.40
9	B	118	C	C6-N1-C2	5.64	122.56	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1	G	O4'-C1'-N9	-5.63	103.69	108.20
8	A	375	G	C2-N3-C4	-5.63	109.08	111.90
8	A	1278	C	C6-N1-C2	5.63	122.55	120.30
8	A	2742	G	N3-C4-C5	5.63	131.42	128.60
34	a	433	G	N3-C4-C5	5.63	131.42	128.60
8	A	134	G	C4-C5-N7	5.63	113.05	110.80
8	A	763	G	N3-C4-C5	5.63	131.42	128.60
8	A	1743	G	C2-N3-C4	-5.63	109.08	111.90
8	A	2550	G	N3-C4-C5	5.63	131.42	128.60
34	a	227	G	C8-N9-C4	5.63	108.65	106.40
8	A	695	G	N3-C4-C5	5.63	131.42	128.60
8	A	1007	C	C6-N1-C2	5.63	122.55	120.30
8	A	2123	G	C8-N9-C4	5.63	108.65	106.40
8	A	2426	A	C8-N9-C4	5.63	108.05	105.80
9	B	4	C	C6-N1-C2	5.63	122.55	120.30
34	a	1371	G	N3-C4-N9	-5.63	122.62	126.00
8	A	781	A	C5-C6-N6	5.63	128.20	123.70
8	A	1238	G	C8-N9-C4	5.63	108.65	106.40
8	A	2721	A	N1-C6-N6	5.63	121.98	118.60
8	A	308	G	N3-C4-C5	5.63	131.41	128.60
8	A	1095	A	N1-C2-N3	5.63	132.12	129.30
8	A	1702	G	C2-N3-C4	-5.63	109.09	111.90
8	A	1857	G	N3-C4-C5	5.63	131.41	128.60
8	A	2719	G	C2-N3-C4	-5.63	109.09	111.90
34	a	379	C	N3-C4-N4	-5.63	114.06	118.00
8	A	376	G	N3-C4-C5	5.63	131.41	128.60
8	A	2151	U	N1-C1'-C2'	-5.63	105.81	112.00
34	a	495	A	C5-C6-N6	-5.63	119.20	123.70
8	A	52	A	C6-C5-N7	-5.62	128.36	132.30
8	A	2623	G	C8-N9-C4	5.62	108.65	106.40
9	B	68	C	C6-N1-C2	5.62	122.55	120.30
55	v	29	G	C2-N3-C4	-5.62	109.09	111.90
8	A	424	G	C2-N3-C4	-5.62	109.09	111.90
8	A	882	G	N3-C4-C5	5.62	131.41	128.60
8	A	1369	G	N3-C4-N9	-5.62	122.63	126.00
34	a	859	G	C8-N9-C4	5.62	108.65	106.40
8	A	1038	G	C2-N3-C4	-5.62	109.09	111.90
34	a	861	G	N3-C4-C5	5.62	131.41	128.60
8	A	460	A	C8-N9-C4	5.62	108.05	105.80
8	A	524	G	C2-N3-C4	-5.62	109.09	111.90
8	A	2490	G	C4-C5-N7	5.62	113.05	110.80
8	A	351	C	O4'-C1'-N1	-5.62	103.71	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2470	G	C2-N3-C4	-5.62	109.09	111.90
34	a	944	G	N3-C4-C5	5.62	131.41	128.60
34	a	1262	C	C2-N1-C1'	5.62	124.98	118.80
8	A	400	G	C4-C5-N7	5.62	113.05	110.80
8	A	536	G	C2-N3-C4	-5.62	109.09	111.90
8	A	1007	C	N3-C4-C5	5.62	124.15	121.90
8	A	263	G	O4'-C1'-N9	-5.61	103.71	108.20
8	A	488	G	C8-N9-C4	5.61	108.65	106.40
8	A	2273	A	C8-N9-C4	5.61	108.05	105.80
34	a	858	G	C6-C5-N7	5.61	133.77	130.40
55	v	23	C	C6-N1-C2	-5.61	118.06	120.30
8	A	908	C	C6-N1-C2	5.61	122.55	120.30
8	A	2886	A	N1-C6-N6	5.61	121.97	118.60
8	A	406	G	N3-C4-C5	5.61	131.41	128.60
8	A	495	G	C8-N9-C4	5.61	108.64	106.40
8	A	1543	G	C8-N9-C4	5.61	108.64	106.40
8	A	2742	G	N3-C4-N9	-5.61	122.63	126.00
34	a	27	G	C2-N3-C4	-5.61	109.09	111.90
34	a	417	G	C2-N3-C4	-5.61	109.09	111.90
8	A	254	G	N3-C4-C5	5.61	131.40	128.60
8	A	1451	C	N3-C4-N4	-5.61	114.07	118.00
8	A	1972	G	C5'-C4'-C3'	5.61	124.97	116.00
8	A	2793	C	C6-N1-C2	5.61	122.54	120.30
8	A	1745	A	C4-C5-N7	5.61	113.50	110.70
34	a	162	A	O4'-C1'-N9	5.61	112.69	108.20
34	a	1105	A	C8-N9-C4	5.61	108.04	105.80
8	A	346	A	N9-C4-C5	-5.61	103.56	105.80
8	A	581	C	C6-N1-C1'	-5.61	114.07	120.80
8	A	1182	G	N3-C4-N9	-5.61	122.64	126.00
34	a	639	G	C2-N3-C4	-5.61	109.10	111.90
8	A	109	C	N3-C4-N4	-5.60	114.08	118.00
8	A	940	G	C2-N3-C4	-5.60	109.10	111.90
8	A	1968	G	C4-C5-N7	5.60	113.04	110.80
8	A	1974	C	C6-N1-C2	5.60	122.54	120.30
34	a	482	A	C5-C6-N6	-5.60	119.22	123.70
8	A	1152	C	N3-C4-C5	5.60	124.14	121.90
8	A	1367	A	N1-C6-N6	5.60	121.96	118.60
8	A	2389	G	C6-C5-N7	5.60	133.76	130.40
8	A	2397	G	N1-C2-N2	-5.60	111.16	116.20
34	a	775	G	C2-N3-C4	-5.60	109.10	111.90
34	a	915	A	C8-N9-C4	5.60	108.04	105.80
8	A	704	G	C6-C5-N7	5.60	133.76	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1030	C	C6-N1-C2	5.60	122.54	120.30
8	A	1689	A	C5-C6-N6	-5.60	119.22	123.70
34	a	623	C	C6-N1-C2	5.60	122.54	120.30
34	a	1475	G	C2-N3-C4	-5.60	109.10	111.90
8	A	761	A	C8-N9-C4	5.60	108.04	105.80
8	A	1193	G	C2-N3-C4	-5.60	109.10	111.90
34	a	784	A	C4-C5-N7	5.60	113.50	110.70
8	A	1544	A	N1-C6-N6	5.60	121.96	118.60
8	A	1934	C	N3-C4-N4	-5.60	114.08	118.00
8	A	1230	A	C8-N9-C4	5.59	108.04	105.80
8	A	1451	C	C5-C4-N4	5.59	124.12	120.20
8	A	2320	U	C6-N1-C2	5.59	124.36	121.00
8	A	2854	G	C8-N9-C4	5.59	108.64	106.40
9	B	72	G	N3-C4-C5	5.59	131.40	128.60
34	a	151	A	C5-N7-C8	-5.59	101.10	103.90
34	a	461	A	N3-C4-C5	5.59	130.72	126.80
8	A	23	G	N3-C4-C5	5.59	131.40	128.60
8	A	193	U	C6-N1-C2	5.59	124.36	121.00
8	A	1429	G	C8-N9-C4	5.59	108.64	106.40
8	A	2024	G	N1-C2-N2	-5.59	111.17	116.20
34	a	1375	A	N9-C4-C5	-5.59	103.56	105.80
55	v	46	A	N9-C4-C5	-5.59	103.56	105.80
8	A	211	C	C2-N1-C1'	5.59	124.95	118.80
8	A	522	A	C4-C5-N7	5.59	113.50	110.70
34	a	674	G	N7-C8-N9	5.59	115.89	113.10
37	d	12	ARG	NE-CZ-NH2	-5.59	117.50	120.30
8	A	1345	C	N3-C4-C5	5.59	124.14	121.90
8	A	2217	G	C5-N7-C8	-5.59	101.51	104.30
34	a	535	A	C8-N9-C4	5.59	108.03	105.80
8	A	1532	A	O4'-C1'-N9	-5.58	103.73	108.20
8	A	2191	A	C2-N3-C4	-5.58	107.81	110.60
34	a	898	G	C8-N9-C4	5.58	108.63	106.40
8	A	726	G	N1-C2-N3	5.58	127.25	123.90
8	A	2670	A	C8-N9-C4	5.58	108.03	105.80
8	A	2839	G	C5-C6-N1	-5.58	108.71	111.50
8	A	2340	A	N9-C4-C5	-5.58	103.57	105.80
10	C	216	ARG	CG-CD-NE	5.58	123.52	111.80
8	A	463	G	N3-C4-N9	-5.58	122.65	126.00
8	A	1421	G	C8-N9-C4	5.58	108.63	106.40
8	A	2271	G	O4'-C1'-N9	-5.58	103.74	108.20
8	A	1538	G	C2-N3-C4	-5.57	109.11	111.90
8	A	1696	G	N3-C4-C5	5.57	131.39	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	B	93	C	C2-N1-C1'	5.57	124.93	118.80
34	a	597	G	N3-C4-N9	-5.57	122.66	126.00
34	a	851	G	C8-N9-C4	5.57	108.63	106.40
8	A	882	G	N3-C4-N9	-5.57	122.66	126.00
8	A	2744	G	N3-C4-N9	-5.57	122.66	126.00
8	A	230	G	N3-C4-C5	5.57	131.38	128.60
8	A	561	G	N3-C4-C5	5.57	131.38	128.60
8	A	628	G	N3-C4-C5	5.57	131.38	128.60
8	A	727	A	O4'-C1'-N9	-5.57	103.74	108.20
8	A	904	G	N3-C4-C5	5.57	131.38	128.60
8	A	922	C	C6-N1-C2	5.57	122.53	120.30
8	A	1708	C	N3-C4-C5	5.57	124.13	121.90
8	A	2150	C	O4'-C1'-N1	5.57	112.66	108.20
34	a	36	C	C6-N1-C2	5.57	122.53	120.30
8	A	855	G	N3-C4-C5	5.57	131.38	128.60
34	a	799	G	N3-C4-C5	5.57	131.38	128.60
8	A	465	G	N3-C4-N9	-5.57	122.66	126.00
8	A	799	G	N3-C4-N9	-5.57	122.66	126.00
8	A	1503	A	N3-C4-C5	5.57	130.70	126.80
8	A	1811	G	N3-C4-C5	5.57	131.38	128.60
8	A	2901	C	N3-C2-O2	-5.57	118.00	121.90
8	A	721	A	C4-C5-N7	5.57	113.48	110.70
34	a	712	A	N9-C4-C5	-5.57	103.57	105.80
34	a	201	G	C6-C5-N7	5.56	133.74	130.40
34	a	337	G	C8-N9-C4	5.56	108.62	106.40
8	A	899	A	C5-C6-N6	-5.56	119.25	123.70
8	A	1137	G	N3-C4-C5	5.56	131.38	128.60
8	A	1767	G	C4-N9-C1'	-5.56	119.27	126.50
8	A	2378	A	C5-N7-C8	-5.56	101.12	103.90
8	A	2481	G	C8-N9-C4	5.56	108.62	106.40
8	A	2890	G	C4-C5-N7	5.56	113.03	110.80
34	a	1353	G	N3-C4-N9	-5.56	122.66	126.00
8	A	1596	A	C8-N9-C4	5.56	108.03	105.80
34	a	15	G	C2-N3-C4	-5.56	109.12	111.90
9	B	101	A	C8-N9-C4	5.56	108.02	105.80
8	A	424	G	N3-C4-N9	-5.56	122.67	126.00
8	A	609	A	C5-C6-N6	-5.56	119.25	123.70
8	A	819	A	C4-C5-N7	5.56	113.48	110.70
8	A	1221	C	N3-C4-C5	5.56	124.12	121.90
8	A	2472	G	C4-N9-C1'	-5.56	119.28	126.50
34	a	43	C	C6-N1-C2	5.56	122.52	120.30
34	a	847	G	N3-C4-N9	-5.56	122.67	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
42	i	86	LEU	CB-CG-CD2	-5.56	101.55	111.00
8	A	470	A	N1-C6-N6	5.56	121.93	118.60
8	A	1333	G	N9-C4-C5	-5.56	103.18	105.40
8	A	1347	A	C4-C5-C6	-5.56	114.22	117.00
34	a	1011	C	C5-C4-N4	5.56	124.09	120.20
8	A	329	G	C8-N9-C4	5.55	108.62	106.40
8	A	1202	G	N3-C4-N9	-5.55	122.67	126.00
8	A	1529	G	N9-C4-C5	-5.55	103.18	105.40
8	A	1715	G	N3-C4-N9	-5.55	122.67	126.00
34	a	402	G	N3-C4-N9	-5.55	122.67	126.00
34	a	623	C	N1-C2-O2	5.55	122.23	118.90
8	A	381	G	C4-N9-C1'	-5.55	119.28	126.50
8	A	997	G	C8-N9-C4	5.55	108.62	106.40
8	A	1215	G	N1-C2-N2	-5.55	111.21	116.20
8	A	1407	G	C2-N3-C4	-5.55	109.13	111.90
34	a	456	A	N7-C8-N9	5.55	116.57	113.80
8	A	1685	C	N3-C4-N4	-5.55	114.12	118.00
8	A	1824	G	N3-C4-C5	5.55	131.37	128.60
8	A	2502	G	C4-N9-C1'	-5.55	119.29	126.50
32	Y	19	LEU	CA-CB-CG	5.55	128.06	115.30
34	a	685	G	N3-C4-N9	-5.55	122.67	126.00
34	a	1329	A	C4-C5-N7	5.55	113.47	110.70
8	A	522	A	N9-C4-C5	-5.54	103.58	105.80
8	A	1384	A	C5-C6-N6	-5.54	119.27	123.70
34	a	1255	G	C8-N9-C4	5.54	108.62	106.40
8	A	1643	G	C5-C6-O6	5.54	131.93	128.60
34	a	1133	G	C2-N3-C4	-5.54	109.13	111.90
8	A	346	A	C5-C6-N6	-5.54	119.27	123.70
8	A	361	G	C8-N9-C1'	-5.54	119.80	127.00
8	A	402	A	N9-C4-C5	-5.54	103.58	105.80
8	A	799	G	N3-C4-C5	5.54	131.37	128.60
8	A	81	G	C8-N9-C4	5.54	108.61	106.40
8	A	124	G	C2-N3-C4	-5.54	109.13	111.90
8	A	881	G	C2-N3-C4	-5.54	109.13	111.90
8	A	1846	G	N3-C4-N9	-5.54	122.68	126.00
8	A	2524	G	C2-N3-C4	-5.54	109.13	111.90
8	A	2852	G	C2-N3-C4	-5.54	109.13	111.90
9	B	106	G	N3-C4-C5	5.54	131.37	128.60
8	A	73	A	N1-C6-N6	-5.54	115.28	118.60
8	A	254	G	C2-N3-C4	-5.54	109.13	111.90
8	A	707	G	C8-N9-C4	5.54	108.61	106.40
8	A	1587	G	C2-N3-C4	-5.54	109.13	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2899	A	C5-C6-N6	-5.54	119.27	123.70
34	a	682	G	C8-N9-C4	5.54	108.61	106.40
34	a	1293	C	N3-C4-N4	-5.54	114.12	118.00
26	S	82	MET	N-CA-CB	5.54	120.56	110.60
34	a	569	C	N3-C4-C5	5.54	124.11	121.90
8	A	522	A	C5-N7-C8	-5.53	101.13	103.90
8	A	2444	G	C5-C6-O6	5.53	131.92	128.60
9	B	70	C	N3-C4-C5	5.53	124.11	121.90
34	a	225	C	N3-C4-C5	5.53	124.11	121.90
34	a	856	C	C6-N1-C2	5.53	122.51	120.30
34	a	990	C	N3-C4-C5	5.53	124.11	121.90
8	A	134	G	C8-N9-C4	5.53	108.61	106.40
8	A	733	G	N3-C4-C5	5.53	131.37	128.60
8	A	1168	G	C4-C5-N7	5.53	113.01	110.80
8	A	2014	A	O4'-C1'-N9	-5.53	103.78	108.20
8	A	2484	G	N9-C1'-C2'	-5.53	105.92	112.00
34	a	197	A	C4-C5-C6	-5.53	114.24	117.00
55	v	63	G	C2-N3-C4	-5.53	109.14	111.90
8	A	500	G	C2-N3-C4	-5.52	109.14	111.90
8	A	1009	A	N9-C4-C5	-5.52	103.59	105.80
8	A	1055	G	C6-C5-N7	5.52	133.71	130.40
8	A	1358	G	C5-N7-C8	-5.52	101.54	104.30
8	A	361	G	O4'-C1'-N9	-5.52	103.78	108.20
8	A	1473	G	C8-N9-C4	5.52	108.61	106.40
8	A	681	G	N3-C4-C5	5.52	131.36	128.60
34	a	1011	C	C6-N1-C1'	5.52	127.42	120.80
8	A	904	G	C2-N3-C4	-5.52	109.14	111.90
8	A	1349	C	C6-N1-C2	5.52	122.51	120.30
8	A	1593	A	N9-C4-C5	-5.52	103.59	105.80
8	A	2110	G	C8-N9-C4	-5.52	104.19	106.40
34	a	38	G	N3-C4-N9	-5.52	122.69	126.00
34	a	265	G	C8-N9-C4	5.52	108.61	106.40
8	A	1573	G	N3-C4-C5	5.51	131.36	128.60
8	A	2186	G	N7-C8-N9	5.51	115.86	113.10
34	a	474	G	C4-N9-C1'	-5.51	119.33	126.50
34	a	627	G	N3-C4-N9	-5.51	122.69	126.00
34	a	1454	G	N3-C4-N9	-5.51	122.69	126.00
8	A	787	C	C6-N1-C2	5.51	122.50	120.30
8	A	2812	G	N3-C4-N9	-5.51	122.69	126.00
34	a	1302	C	C6-N1-C2	5.51	122.50	120.30
8	A	1749	A	C4-C5-N7	5.51	113.46	110.70
8	A	2127	G	N3-C4-C5	5.51	131.36	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	302	G	N3-C4-C5	5.51	131.35	128.60
34	a	588	G	N9-C4-C5	-5.51	103.20	105.40
34	a	1334	G	N3-C4-C5	5.51	131.36	128.60
8	A	160	A	C5'-C4'-O4'	5.51	115.71	109.10
8	A	471	A	C8-N9-C1'	-5.51	117.78	127.70
8	A	775	G	C2-N3-C4	-5.51	109.14	111.90
8	A	1077	A	C5-C6-N6	-5.51	119.29	123.70
8	A	2379	G	C2-N3-C4	-5.51	109.14	111.90
9	B	96	G	N3-C4-N9	-5.51	122.69	126.00
8	A	2767	C	C5-C6-N1	-5.51	118.25	121.00
8	A	1191	G	C8-N9-C4	5.51	108.60	106.40
8	A	2557	G	C2-N3-C4	-5.51	109.15	111.90
9	B	117	G	C2-N3-C4	-5.51	109.15	111.90
34	a	776	G	C8-N9-C4	5.51	108.60	106.40
34	a	1044	A	N9-C4-C5	-5.51	103.60	105.80
34	a	1175	G	N3-C4-C5	5.51	131.35	128.60
34	a	1296	C	C6-N1-C2	5.51	122.50	120.30
8	A	2575	C	C2-N3-C4	-5.50	117.15	119.90
8	A	2875	C	N1-C2-O2	5.50	122.20	118.90
8	A	936	A	C5-N7-C8	-5.50	101.15	103.90
8	A	1220	G	C8-N9-C1'	5.50	134.16	127.00
8	A	1845	G	C2-N3-C4	-5.50	109.15	111.90
8	A	2730	C	N3-C4-C5	5.50	124.10	121.90
34	a	1155	A	C2-N3-C4	-5.50	107.85	110.60
34	a	278	G	C4-N9-C1'	-5.50	119.35	126.50
34	a	424	G	N3-C4-C5	5.50	131.35	128.60
34	a	1252	A	C8-N9-C4	5.50	108.00	105.80
34	a	1323	G	N9-C4-C5	-5.50	103.20	105.40
8	A	1888	G	N3-C4-N9	-5.50	122.70	126.00
8	A	939	G	N3-C4-N9	-5.50	122.70	126.00
34	a	635	A	N9-C4-C5	-5.50	103.60	105.80
8	A	177	G	O4'-C1'-N9	5.50	112.60	108.20
8	A	2802	G	N3-C4-C5	5.50	131.35	128.60
34	a	613	C	C2-N1-C1'	5.50	124.85	118.80
8	A	899	A	N9-C1'-C2'	-5.50	105.95	112.00
8	A	1039	A	N1-C6-N6	5.50	121.90	118.60
8	A	2416	C	C6-N1-C2	5.50	122.50	120.30
8	A	733	G	N3-C4-N9	-5.49	122.70	126.00
8	A	815	C	C6-N1-C1'	-5.49	114.21	120.80
8	A	1226	A	C4-C5-C6	-5.49	114.25	117.00
8	A	1514	G	C5-C6-O6	-5.49	125.30	128.60
8	A	2284	A	C8-N9-C4	5.49	108.00	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	493	G	N3-C4-N9	-5.49	122.70	126.00
8	A	708	G	N3-C4-N9	-5.49	122.70	126.00
34	a	1347	G	C4-N9-C1'	-5.49	119.36	126.50
8	A	695	G	C8-N9-C4	5.49	108.60	106.40
8	A	857	G	O4'-C1'-N9	-5.49	103.81	108.20
8	A	1619	G	C2-N3-C4	-5.49	109.15	111.90
8	A	1945	G	N9-C4-C5	-5.49	103.20	105.40
8	A	2253	G	N3-C4-N9	-5.49	122.71	126.00
34	a	77	A	N3-C4-C5	5.49	130.64	126.80
34	a	456	A	C6-N1-C2	-5.49	115.31	118.60
8	A	1291	C	C6-N1-C2	5.49	122.50	120.30
8	A	2293	G	N3-C4-C5	5.49	131.34	128.60
8	A	2338	C	N3-C4-N4	-5.49	114.16	118.00
34	a	1335	U	O4'-C1'-N1	-5.49	103.81	108.20
8	A	56	A	C4-C5-N7	5.49	113.44	110.70
8	A	489	G	C8-N9-C4	5.49	108.59	106.40
8	A	1910	G	C8-N9-C4	5.49	108.59	106.40
8	A	875	G	N3-C4-N9	-5.49	122.71	126.00
8	A	1445	G	C2-N3-C4	-5.49	109.16	111.90
34	a	203	G	N3-C4-N9	-5.49	122.71	126.00
8	A	1151	A	N9-C4-C5	-5.48	103.61	105.80
34	a	1454	G	C8-N9-C4	5.48	108.59	106.40
34	a	158	G	C4-C5-N7	5.48	112.99	110.80
34	a	177	G	C5-N7-C8	-5.48	101.56	104.30
34	a	177	G	N7-C8-N9	5.48	115.84	113.10
34	a	300	A	N1-C6-N6	5.48	121.89	118.60
34	a	385	C	N3-C4-N4	-5.48	114.16	118.00
34	a	624	C	N3-C2-O2	-5.48	118.06	121.90
8	A	895	U	O4'-C1'-N1	5.48	112.58	108.20
8	A	930	G	C4-N9-C1'	-5.48	119.38	126.50
8	A	1567	G	C2-N3-C4	-5.48	109.16	111.90
8	A	793	A	N9-C4-C5	-5.48	103.61	105.80
8	A	1723	G	N3-C4-N9	-5.48	122.71	126.00
8	A	1965	C	C6-N1-C2	5.48	122.49	120.30
8	A	2618	G	N3-C4-N9	-5.48	122.71	126.00
34	a	1288	A	N9-C4-C5	-5.48	103.61	105.80
8	A	1180	U	C6-N1-C2	5.48	124.29	121.00
8	A	1587	G	N3-C4-N9	-5.48	122.71	126.00
8	A	2574	G	N1-C6-O6	-5.48	116.61	119.90
34	a	1058	G	N3-C4-C5	5.48	131.34	128.60
8	A	2525	G	N7-C8-N9	-5.48	110.36	113.10
8	A	376	G	C2-N3-C4	-5.47	109.16	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	B	50	A	C4-C5-N7	5.47	113.44	110.70
34	a	188	C	N1-C1'-C2'	-5.47	105.98	112.00
34	a	897	C	C6-N1-C2	5.47	122.49	120.30
8	A	16	C	N3-C4-N4	-5.47	114.17	118.00
8	A	718	A	C8-N9-C4	5.47	107.99	105.80
56	w	68	C	N3-C4-N4	-5.47	114.17	118.00
8	A	828	U	O4'-C1'-N1	-5.47	103.82	108.20
8	A	1861	G	C2-N3-C4	-5.47	109.17	111.90
8	A	2169	A	O4'-C1'-N9	5.47	112.58	108.20
8	A	2857	G	C8-N9-C1'	5.47	134.11	127.00
9	B	21	G	C4-C5-N7	5.47	112.99	110.80
9	B	77	U	C6-N1-C2	5.47	124.28	121.00
34	a	539	A	N9-C4-C5	-5.47	103.61	105.80
34	a	1337	G	N3-C4-C5	5.47	131.34	128.60
8	A	2505	G	N3-C2-N2	5.47	123.73	119.90
8	A	841	G	N3-C4-C5	5.47	131.33	128.60
8	A	989	G	C2-N3-C4	-5.47	109.17	111.90
8	A	1226	A	C5-C6-N1	5.47	120.43	117.70
8	A	2051	A	C5-C6-N6	-5.47	119.33	123.70
34	a	681	A	C4-C5-N7	5.47	113.43	110.70
34	a	1209	C	N3-C4-C5	5.47	124.09	121.90
8	A	1017	G	C8-N9-C4	5.46	108.58	106.40
8	A	1222	U	C6-N1-C2	5.46	124.28	121.00
8	A	1416	G	N3-C4-N9	-5.46	122.72	126.00
8	A	2121	G	N3-C4-N9	5.46	129.28	126.00
8	A	217	A	C4-C5-C6	-5.46	114.27	117.00
34	a	765	G	C2-N3-C4	-5.46	109.17	111.90
8	A	189	G	N9-C4-C5	-5.46	103.22	105.40
8	A	586	A	N9-C4-C5	-5.46	103.62	105.80
8	A	759	G	N3-C4-C5	5.46	131.33	128.60
8	A	1261	C	N3-C4-C5	5.46	124.08	121.90
8	A	1600	C	N3-C4-N4	-5.46	114.18	118.00
8	A	2579	C	N1-C2-O2	5.46	122.18	118.90
34	a	141	G	C2-N3-C4	-5.46	109.17	111.90
34	a	587	G	N3-C4-C5	5.46	131.33	128.60
8	A	2190	G	C5-C6-N1	-5.46	108.77	111.50
34	a	484	G	N3-C4-C5	5.46	131.33	128.60
8	A	400	G	N9-C4-C5	-5.46	103.22	105.40
8	A	869	G	N3-C4-C5	5.46	131.33	128.60
8	A	1368	G	C8-N9-C4	5.46	108.58	106.40
8	A	2217	G	C4-C5-N7	5.46	112.98	110.80
8	A	2767	C	N3-C4-N4	-5.46	114.18	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	547	A	C8-N9-C4	5.46	107.98	105.80
34	a	744	C	N3-C4-N4	-5.46	114.18	118.00
8	A	220	G	N7-C8-N9	5.46	115.83	113.10
8	A	471	A	C6-C5-N7	-5.46	128.48	132.30
8	A	640	C	C2-N1-C1'	5.46	124.80	118.80
8	A	1540	G	N3-C4-N9	-5.46	122.73	126.00
8	A	2373	G	N3-C4-N9	-5.46	122.73	126.00
34	a	525	C	C6-N1-C2	5.46	122.48	120.30
34	a	627	G	C4-N9-C1'	-5.46	119.41	126.50
34	a	675	A	N7-C8-N9	5.46	116.53	113.80
34	a	688	G	C2-N3-C4	-5.46	109.17	111.90
34	a	453	G	N1-C2-N2	-5.46	111.29	116.20
8	A	7	G	C2-N3-C4	-5.45	109.17	111.90
8	A	951	C	N3-C4-N4	-5.45	114.18	118.00
8	A	1862	G	C2-N3-C4	-5.45	109.17	111.90
8	A	1865	U	O4'-C1'-N1	5.45	112.56	108.20
34	a	1109	C	C6-N1-C2	5.45	122.48	120.30
56	w	5	G	N3-C4-C5	5.45	131.33	128.60
8	A	45	G	C8-N9-C4	5.45	108.58	106.40
8	A	514	A	C8-N9-C4	5.45	107.98	105.80
8	A	60	G	N3-C4-N9	-5.45	122.73	126.00
8	A	2413	G	C5-C6-O6	5.45	131.87	128.60
34	a	309	A	C8-N9-C4	5.45	107.98	105.80
34	a	1289	A	C8-N9-C4	5.45	107.98	105.80
8	A	212	G	N3-C4-N9	-5.45	122.73	126.00
8	A	1540	G	C5-N7-C8	-5.45	101.58	104.30
8	A	1908	C	N3-C4-C5	5.45	124.08	121.90
34	a	1288	A	C4-C5-N7	5.45	113.42	110.70
34	a	1310	G	C2-N3-C4	-5.45	109.18	111.90
8	A	73	A	C4-C5-C6	-5.45	114.28	117.00
8	A	1346	G	C2-N3-C4	-5.45	109.18	111.90
8	A	1713	A	N3-C4-C5	5.45	130.61	126.80
8	A	2862	G	C2-N3-C4	-5.45	109.18	111.90
34	a	168	G	N1-C6-O6	-5.45	116.63	119.90
34	a	601	G	N3-C4-C5	5.45	131.32	128.60
8	A	261	G	C2-N3-C4	-5.44	109.18	111.90
8	A	301	G	O4'-C1'-N9	5.44	112.56	108.20
8	A	1398	C	C6-N1-C2	5.44	122.48	120.30
8	A	1768	C	C6-N1-C2	5.44	122.48	120.30
8	A	2600	A	C8-N9-C4	5.44	107.98	105.80
8	A	487	C	N3-C2-O2	-5.44	118.09	121.90
8	A	793	A	C8-N9-C4	5.44	107.98	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1728	C	C2-N1-C1'	-5.44	112.81	118.80
8	A	2164	C	C5-C4-N4	-5.44	116.39	120.20
9	B	69	G	N3-C4-C5	5.44	131.32	128.60
34	a	1210	C	N3-C4-C5	5.44	124.08	121.90
34	a	1255	G	N3-C4-N9	-5.44	122.73	126.00
8	A	1755	A	C5-C6-N6	5.44	128.05	123.70
8	A	2732	G	O4'-C1'-N9	-5.44	103.85	108.20
34	a	849	G	N3-C4-N9	-5.44	122.73	126.00
34	a	1034	G	N3-C4-N9	-5.44	122.73	126.00
56	w	27	G	N3-C4-C5	5.44	131.32	128.60
8	A	1863	G	N3-C4-N9	-5.44	122.74	126.00
8	A	1448	G	C2-N3-C4	-5.44	109.18	111.90
8	A	2603	G	C2-N3-C4	-5.44	109.18	111.90
34	a	407	U	C6-N1-C2	5.44	124.26	121.00
34	a	1011	C	P-O3'-C3'	-5.44	113.18	119.70
8	A	214	G	C2-N3-C4	-5.44	109.18	111.90
8	A	891	G	C2-N3-C4	-5.44	109.18	111.90
8	A	1171	G	N7-C8-N9	5.44	115.82	113.10
8	A	1556	C	N3-C4-N4	-5.43	114.20	118.00
34	a	1226	C	N3-C4-C5	5.43	124.07	121.90
8	A	1126	A	C5-C6-N6	-5.43	119.35	123.70
8	A	2869	G	N3-C4-C5	5.43	131.32	128.60
34	a	786	G	C2-N3-C4	-5.43	109.18	111.90
34	a	1476	A	N9-C4-C5	-5.43	103.63	105.80
8	A	1124	G	N3-C4-N9	-5.43	122.74	126.00
8	A	1518	C	N3-C4-C5	5.43	124.07	121.90
34	a	107	G	C8-N9-C4	5.43	108.57	106.40
34	a	698	G	N3-C4-C5	5.43	131.31	128.60
34	a	778	G	N3-C2-N2	-5.43	116.10	119.90
34	a	1467	C	C6-N1-C2	5.43	122.47	120.30
8	A	56	A	C8-N9-C4	5.43	107.97	105.80
8	A	186	G	N3-C4-C5	5.43	131.31	128.60
8	A	1492	G	C4-C5-C6	-5.43	115.54	118.80
8	A	2576	G	N3-C4-C5	5.43	131.31	128.60
34	a	1431	A	C8-N9-C4	5.43	107.97	105.80
8	A	103	A	C4-C5-N7	5.43	113.41	110.70
8	A	1519	G	N3-C4-N9	-5.43	122.74	126.00
8	A	1577	C	N1-C2-O2	5.43	122.16	118.90
34	a	1362	A	C5-C6-N1	5.43	120.41	117.70
34	a	1482	G	N3-C4-C5	5.43	131.31	128.60
8	A	597	G	C2-N3-C4	-5.42	109.19	111.90
8	A	2170	A	C4-N9-C1'	-5.42	116.54	126.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2894	G	C2-N3-C4	-5.42	109.19	111.90
34	a	600	A	C8-N9-C4	5.42	107.97	105.80
8	A	203	A	C5-N7-C8	-5.42	101.19	103.90
8	A	1553	A	C4-C5-N7	5.42	113.41	110.70
8	A	211	C	C6-N1-C1'	-5.42	114.29	120.80
8	A	1429	G	N3-C4-C5	5.42	131.31	128.60
8	A	1521	G	N3-C4-N9	-5.42	122.75	126.00
8	A	2865	U	C6-N1-C2	5.42	124.25	121.00
34	a	1050	G	C6-C5-N7	5.42	133.65	130.40
8	A	551	G	C8-N9-C4	5.42	108.57	106.40
8	A	2435	A	C4-C5-N7	5.42	113.41	110.70
34	a	432	A	C4-C5-N7	5.42	113.41	110.70
34	a	1179	A	C8-N9-C4	5.42	107.97	105.80
34	a	1272	G	C2-N3-C4	-5.42	109.19	111.90
34	a	1416	G	N3-C4-C5	5.42	131.31	128.60
8	A	916	G	C5-N7-C8	-5.42	101.59	104.30
34	a	587	G	C8-N9-C4	5.42	108.57	106.40
34	a	1039	G	N3-C4-N9	-5.42	122.75	126.00
34	a	1454	G	C2-N3-C4	-5.42	109.19	111.90
8	A	2190	G	C6-N1-C2	5.42	128.35	125.10
34	a	39	G	C2-N3-C4	-5.42	109.19	111.90
34	a	497	G	N3-C4-N9	-5.42	122.75	126.00
34	a	1044	A	C5-N7-C8	-5.42	101.19	103.90
34	a	1161	C	C6-N1-C2	5.42	122.47	120.30
34	a	1289	A	C5-N7-C8	-5.42	101.19	103.90
8	A	739	A	O4'-C1'-N9	-5.42	103.87	108.20
8	A	836	G	N3-C4-C5	5.42	131.31	128.60
8	A	2315	G	C2-N3-C4	-5.42	109.19	111.90
8	A	2414	G	C5-C6-O6	5.41	131.85	128.60
8	A	2663	G	C4-N9-C1'	-5.41	119.46	126.50
9	B	108	A	C4-C5-N7	5.41	113.41	110.70
34	a	258	G	C2-N3-C4	-5.41	109.19	111.90
8	A	66	C	N3-C4-N4	-5.41	114.21	118.00
8	A	460	A	N9-C4-C5	-5.41	103.64	105.80
8	A	1804	C	N3-C4-C5	5.41	124.06	121.90
8	A	2644	G	C2-N3-C4	-5.41	109.19	111.90
34	a	138	G	N3-C4-C5	5.41	131.31	128.60
34	a	497	G	C2-N3-C4	-5.41	109.19	111.90
34	a	923	A	C5-N7-C8	-5.41	101.19	103.90
8	A	43	G	C8-N9-C4	5.41	108.56	106.40
8	A	327	G	C2-N3-C4	-5.41	109.19	111.90
8	A	559	G	C8-N9-C4	5.41	108.56	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	757	G	N3-C4-N9	-5.41	122.75	126.00
8	A	1354	A	N1-C6-N6	5.41	121.85	118.60
8	A	2844	G	O4'-C1'-N9	-5.41	103.87	108.20
34	a	1047	G	C8-N9-C4	5.41	108.56	106.40
8	A	15	G	N1-C2-N2	-5.41	111.33	116.20
8	A	1450	G	C5-C6-N1	-5.41	108.80	111.50
34	a	1186	G	C8-N9-C4	5.41	108.56	106.40
34	a	1489	G	C2-N3-C4	-5.41	109.19	111.90
8	A	1277	G	C4-N9-C1'	-5.41	119.47	126.50
34	a	488	C	C2-N1-C1'	5.41	124.75	118.80
8	A	230	G	N3-C4-N9	-5.41	122.76	126.00
8	A	1075	C	N3-C4-N4	-5.41	114.22	118.00
8	A	1161	C	C6-N1-C2	5.41	122.46	120.30
8	A	1459	G	C2-N3-C4	-5.41	109.20	111.90
9	B	100	G	C8-N9-C4	5.41	108.56	106.40
34	a	851	G	C8-N9-C1'	-5.41	119.97	127.00
8	A	925	A	C4-C5-N7	5.40	113.40	110.70
8	A	2315	G	N3-C4-C5	5.40	131.30	128.60
8	A	2819	G	C2-N3-C4	-5.40	109.20	111.90
8	A	617	G	N3-C4-C5	5.40	131.30	128.60
34	a	413	G	N3-C2-N2	-5.40	116.12	119.90
8	A	231	A	C2-N3-C4	-5.40	107.90	110.60
8	A	383	C	C6-N1-C2	5.40	122.46	120.30
34	a	81	A	C5-N7-C8	-5.40	101.20	103.90
34	a	413	G	N3-C4-N9	-5.40	122.76	126.00
34	a	1075	U	C2-N1-C1'	5.40	124.18	117.70
34	a	1154	G	C8-N9-C4	5.40	108.56	106.40
8	A	1278	C	N3-C4-C5	5.40	124.06	121.90
34	a	675	A	C5-C6-N6	-5.40	119.38	123.70
8	A	656	G	C2-N3-C4	-5.40	109.20	111.90
8	A	1160	G	N3-C4-N9	-5.40	122.76	126.00
8	A	2097	A	C5-N7-C8	-5.40	101.20	103.90
8	A	2801	G	N3-C4-C5	5.40	131.30	128.60
9	B	84	G	C2-N3-C4	-5.40	109.20	111.90
34	a	903	G	N3-C4-N9	-5.40	122.76	126.00
34	a	1092	A	N3-C4-N9	-5.40	123.08	127.40
34	a	1215	G	N3-C4-C5	5.40	131.30	128.60
8	A	2	G	N3-C4-C5	5.40	131.30	128.60
8	A	1041	G	N3-C4-N9	-5.39	122.76	126.00
8	A	1336	A	N9-C4-C5	-5.39	103.64	105.80
34	a	1081	A	N3-C4-N9	5.39	131.72	127.40
8	A	24	G	C8-N9-C4	5.39	108.56	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	68	G	N3-C4-C5	5.39	131.30	128.60
8	A	1189	A	C2-N3-C4	-5.39	107.90	110.60
8	A	122	G	O5'-P-OP2	-5.39	100.85	105.70
8	A	1518	C	C6-N1-C2	5.39	122.46	120.30
8	A	1577	C	N3-C4-N4	-5.39	114.23	118.00
8	A	2813	A	C4-C5-C6	-5.39	114.31	117.00
34	a	86	G	C4-C5-N7	5.39	112.96	110.80
34	a	280	C	C6-N1-C2	5.39	122.46	120.30
34	a	742	G	N1-C2-N2	5.39	121.05	116.20
34	a	39	G	N3-C4-N9	-5.39	122.77	126.00
34	a	1294	G	C4-C5-N7	5.39	112.95	110.80
34	a	831	A	N3-C4-C5	5.39	130.57	126.80
8	A	851	C	C6-N1-C2	5.38	122.45	120.30
8	A	1459	G	C5-C6-O6	5.38	131.83	128.60
34	a	299	G	N3-C4-C5	5.38	131.29	128.60
8	A	1107	G	C2-N3-C4	-5.38	109.21	111.90
34	a	1142	G	N3-C4-N9	-5.38	122.77	126.00
8	A	30	G	C5-C6-O6	5.38	131.83	128.60
8	A	1212	G	N3-C4-N9	-5.38	122.77	126.00
8	A	2610	C	O4'-C1'-N1	5.38	112.50	108.20
34	a	141	G	N9-C1'-C2'	-5.38	106.08	112.00
34	a	548	G	C8-N9-C4	5.38	108.55	106.40
8	A	560	C	N3-C4-C5	5.38	124.05	121.90
8	A	1202	G	C4-N9-C1'	-5.38	119.51	126.50
8	A	1099	G	C5-C6-O6	5.38	131.83	128.60
8	A	2193	G	N3-C4-C5	5.38	131.29	128.60
8	A	2315	G	C8-N9-C1'	5.38	133.99	127.00
34	a	288	A	C8-N9-C4	5.38	107.95	105.80
34	a	350	G	N3-C4-C5	5.38	131.29	128.60
34	a	1175	G	N3-C4-N9	-5.38	122.77	126.00
8	A	666	A	C8-N9-C4	5.38	107.95	105.80
8	A	1561	C	N3-C4-C5	5.38	124.05	121.90
8	A	1947	C	C6-N1-C2	5.38	122.45	120.30
34	a	1204	A	C8-N9-C4	5.38	107.95	105.80
8	A	180	G	C8-N9-C4	5.38	108.55	106.40
8	A	1100	C	N3-C4-N4	-5.38	114.24	118.00
8	A	1276	A	N9-C4-C5	-5.38	103.65	105.80
8	A	1042	G	N3-C4-C5	5.37	131.29	128.60
8	A	2405	G	C4-N9-C1'	-5.37	119.51	126.50
34	a	887	G	N3-C4-N9	-5.37	122.78	126.00
34	a	1144	G	N3-C4-C5	5.37	131.29	128.60
8	A	621	A	O5'-P-OP2	-5.37	100.87	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1028	A	N9-C1'-C2'	-5.37	106.09	112.00
8	A	1112	G	N3-C2-N2	-5.37	116.14	119.90
8	A	1177	G	N3-C2-N2	-5.37	116.14	119.90
8	A	1450	G	O4'-C1'-N9	-5.37	103.90	108.20
34	a	876	C	C6-N1-C1'	-5.37	114.35	120.80
8	A	1110	G	C2-N3-C4	-5.37	109.22	111.90
8	A	1389	G	C2-N3-C4	-5.37	109.22	111.90
9	B	65	U	C6-N1-C2	5.37	124.22	121.00
26	S	42	LYS	N-CA-CB	-5.37	100.94	110.60
8	A	394	C	N3-C4-N4	-5.37	114.24	118.00
8	A	1095	A	C2-N3-C4	-5.37	107.92	110.60
15	H	58	LEU	CB-CG-CD2	5.37	120.13	111.00
34	a	640	A	C4-C5-C6	-5.37	114.32	117.00
8	A	1423	G	C8-N9-C4	5.37	108.55	106.40
8	A	1631	G	C8-N9-C1'	5.37	133.97	127.00
8	A	2490	G	N3-C4-C5	5.37	131.28	128.60
8	A	2640	G	C8-N9-C4	5.37	108.55	106.40
8	A	2655	G	N3-C4-N9	-5.37	122.78	126.00
34	a	270	A	C5-N7-C8	-5.37	101.22	103.90
8	A	290	U	N3-C2-O2	5.36	125.95	122.20
8	A	1049	C	N3-C4-C5	5.36	124.05	121.90
8	A	1241	A	N1-C6-N6	5.36	121.82	118.60
8	A	1475	G	C8-N9-C4	5.36	108.55	106.40
34	a	445	G	C8-N9-C1'	5.36	133.97	127.00
34	a	898	G	N3-C4-N9	-5.36	122.78	126.00
34	a	1044	A	C4-C5-N7	5.36	113.38	110.70
8	A	1735	A	C5-C6-N6	-5.36	119.41	123.70
8	A	670	A	C5-C6-N6	-5.36	119.41	123.70
8	A	1054	A	N1-C6-N6	5.36	121.82	118.60
8	A	2383	G	C2-N3-C4	-5.36	109.22	111.90
34	a	492	C	C6-N1-C1'	5.36	127.23	120.80
8	A	220	G	N1-C2-N3	5.36	127.11	123.90
8	A	556	A	N1-C6-N6	5.36	121.81	118.60
8	A	1107	G	N3-C4-N9	-5.36	122.78	126.00
14	G	94	ARG	NE-CZ-NH2	-5.36	117.62	120.30
8	A	410	G	C2-N3-C4	-5.36	109.22	111.90
8	A	1128	G	N3-C4-N9	-5.36	122.79	126.00
8	A	2485	G	O4'-C1'-N9	-5.36	103.92	108.20
8	A	260	G	C8-N9-C4	5.35	108.54	106.40
8	A	2128	G	N3-C4-N9	-5.35	122.79	126.00
8	A	36	G	N3-C4-C5	5.35	131.28	128.60
8	A	1820	U	C6-N1-C2	5.35	124.21	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2281	A	C4-C5-N7	5.35	113.38	110.70
34	a	339	C	C5-C4-N4	5.35	123.95	120.20
34	a	1097	C	C6-N1-C1'	-5.35	114.38	120.80
8	A	1522	A	C5-C6-N6	-5.35	119.42	123.70
8	A	2505	G	N1-C2-N2	-5.35	111.38	116.20
8	A	152	A	C4-C5-N7	5.35	113.38	110.70
34	a	599	C	N3-C4-C5	5.35	124.04	121.90
8	A	797	G	N3-C4-C5	5.35	131.27	128.60
8	A	1561	C	C6-N1-C2	5.35	122.44	120.30
8	A	1590	A	C4-C5-N7	5.35	113.37	110.70
8	A	2494	G	C8-N9-C4	5.35	108.54	106.40
8	A	2551	C	C5-C4-N4	5.35	123.94	120.20
20	M	133	LYS	CD-CE-NZ	5.35	124.00	111.70
34	a	246	A	N3-C4-C5	5.35	130.54	126.80
34	a	896	C	C6-N1-C2	5.35	122.44	120.30
34	a	1150	A	N7-C8-N9	5.35	116.47	113.80
34	a	1222	G	N3-C2-N2	-5.35	116.16	119.90
34	a	1333	A	N1-C6-N6	5.35	121.81	118.60
34	a	1379	G	N3-C4-N9	-5.35	122.79	126.00
34	a	1525	G	C2-N3-C4	-5.35	109.23	111.90
8	A	1280	G	C8-N9-C4	5.35	108.54	106.40
9	B	64	G	N9-C4-C5	-5.35	103.26	105.40
8	A	326	G	C4-N9-C1'	-5.34	119.55	126.50
8	A	734	A	N1-C6-N6	-5.34	115.39	118.60
8	A	2418	A	N9-C4-C5	-5.34	103.66	105.80
8	A	2502	G	N3-C4-N9	-5.34	122.79	126.00
8	A	2868	A	C5-C6-N6	-5.34	119.42	123.70
9	B	33	G	C2-N3-C4	-5.34	109.23	111.90
34	a	1276	G	C2-N3-C4	-5.34	109.23	111.90
8	A	307	G	N3-C4-N9	-5.34	122.80	126.00
8	A	1426	G	N3-C4-N9	-5.34	122.80	126.00
8	A	2545	G	N1-C2-N3	5.34	127.11	123.90
34	a	1367	C	N3-C4-C5	5.34	124.04	121.90
8	A	273	G	C4-C5-N7	5.34	112.94	110.80
8	A	1022	G	N1-C2-N2	5.34	121.00	116.20
8	A	2150	C	C6-N1-C2	5.34	122.44	120.30
8	A	2525	G	C6-C5-N7	5.34	133.60	130.40
9	B	32	U	C6-N1-C2	5.34	124.20	121.00
34	a	1157	A	C4-C5-C6	-5.34	114.33	117.00
34	a	1499	A	N1-C6-N6	5.34	121.80	118.60
55	v	64	G	N3-C4-N9	-5.34	122.80	126.00
8	A	1928	A	C5-C6-N6	-5.34	119.43	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1294	G	C2-N3-C4	-5.34	109.23	111.90
8	A	407	G	C2-N3-C4	-5.34	109.23	111.90
8	A	718	A	C4-C5-N7	5.34	113.37	110.70
8	A	2353	G	C2-N3-C4	-5.34	109.23	111.90
8	A	2373	G	C2-N3-C4	-5.34	109.23	111.90
34	a	554	A	N1-C6-N6	-5.34	115.40	118.60
34	a	1392	G	N3-C4-C5	5.34	131.27	128.60
8	A	1140	C	N3-C4-C5	5.33	124.03	121.90
34	a	324	G	N3-C4-C5	5.33	131.27	128.60
34	a	1230	C	N3-C2-O2	-5.33	118.17	121.90
34	a	1417	G	C8-N9-C4	5.33	108.53	106.40
56	w	20	U	C2'-C3'-O3'	5.33	122.24	113.70
8	A	679	C	N3-C4-C5	5.33	124.03	121.90
8	A	765	C	C6-N1-C2	5.33	122.43	120.30
8	A	2094	A	C8-N9-C4	5.33	107.93	105.80
8	A	2237	G	N3-C4-N9	-5.33	122.80	126.00
34	a	351	G	O4'-C1'-N9	-5.33	103.93	108.20
34	a	530	G	N3-C4-C5	5.33	131.27	128.60
34	a	1226	C	N3-C4-N4	-5.33	114.27	118.00
34	a	1365	G	N3-C4-C5	5.33	131.27	128.60
34	a	1366	C	C6-N1-C2	5.33	122.43	120.30
8	A	374	A	C5-C6-N6	-5.33	119.44	123.70
8	A	727	A	C8-N9-C1'	-5.33	118.10	127.70
8	A	2526	G	N3-C4-N9	-5.33	122.80	126.00
34	a	567	G	N3-C4-C5	5.33	131.26	128.60
8	A	2863	C	C6-N1-C1'	-5.33	114.40	120.80
34	a	102	G	C4-N9-C1'	-5.33	119.57	126.50
34	a	1099	G	N3-C4-N9	-5.33	122.80	126.00
34	a	1158	C	O4'-C1'-N1	5.33	112.46	108.20
8	A	364	C	C6-N1-C2	5.33	122.43	120.30
8	A	1685	C	N3-C4-C5	5.33	124.03	121.90
9	B	105	G	C2-N3-C4	-5.33	109.24	111.90
34	a	52	C	C6-N1-C2	5.33	122.43	120.30
34	a	696	A	C4-C5-N7	5.33	113.36	110.70
34	a	1405	G	C6-C5-N7	5.33	133.60	130.40
45	l	73	LEU	CA-CB-CG	-5.33	103.04	115.30
8	A	146	A	C5-N7-C8	-5.33	101.24	103.90
8	A	2349	G	C8-N9-C4	5.33	108.53	106.40
34	a	853	C	C6-N1-C2	5.33	122.43	120.30
34	a	859	G	C4-N9-C1'	-5.33	119.57	126.50
8	A	904	G	C5-N7-C8	-5.33	101.64	104.30
8	A	1449	G	C2-N3-C4	-5.33	109.24	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1454	C	C6-N1-C2	5.33	122.43	120.30
8	A	2303	G	N3-C4-C5	5.33	131.26	128.60
20	M	97	GLN	CA-CB-CG	-5.33	101.68	113.40
34	a	1088	G	N1-C2-N3	5.33	127.10	123.90
8	A	7	G	N3-C4-C5	5.32	131.26	128.60
8	A	1358	G	O4'-C1'-N9	-5.32	103.94	108.20
34	a	53	A	C4-C5-C6	-5.32	114.34	117.00
51	r	67	LEU	CA-CB-CG	-5.32	103.06	115.30
8	A	1202	G	C4-C5-C6	-5.32	115.61	118.80
8	A	1423	G	C4-N9-C1'	-5.32	119.58	126.50
8	A	1522	A	C4-C5-C6	-5.32	114.34	117.00
34	a	101	A	C4-N9-C1'	-5.32	116.72	126.30
8	A	429	A	C5-N7-C8	-5.32	101.24	103.90
34	a	175	C	C5-C6-N1	-5.32	118.34	121.00
34	a	386	C	N3-C4-N4	-5.32	114.28	118.00
8	A	359	G	C2-N3-C4	-5.32	109.24	111.90
8	A	1607	C	C6-N1-C2	5.32	122.43	120.30
8	A	2186	G	C5-N7-C8	-5.32	101.64	104.30
34	a	633	G	C2-N3-C4	-5.32	109.24	111.90
34	a	733	G	N3-C4-C5	5.32	131.26	128.60
8	A	651	G	N3-C4-C5	5.32	131.26	128.60
8	A	1124	G	C2-N3-C4	-5.32	109.24	111.90
8	A	1138	G	N1-C6-O6	-5.32	116.71	119.90
9	B	105	G	N3-C4-N9	-5.32	122.81	126.00
34	a	257	G	N3-C4-N9	-5.32	122.81	126.00
34	a	811	C	C6-N1-C1'	-5.32	114.42	120.80
34	a	592	G	C4-N9-C1'	-5.31	119.59	126.50
34	a	1034	G	N3-C4-C5	5.31	131.26	128.60
8	A	1280	G	N3-C4-C5	5.31	131.26	128.60
8	A	1281	G	C2-N3-C4	-5.31	109.24	111.90
9	B	88	C	C6-N1-C1'	-5.31	114.42	120.80
34	a	1082	A	O4'-C1'-N9	5.31	112.45	108.20
55	v	6	G	C2-N3-C4	-5.31	109.24	111.90
8	A	1074	G	C8-N9-C1'	5.31	133.91	127.00
57	x	30	LEU	CA-CB-CG	5.31	127.52	115.30
8	A	463	G	C2-N3-C4	-5.31	109.25	111.90
8	A	1738	G	C2-N3-C4	-5.31	109.25	111.90
8	A	2647	U	C6-N1-C2	5.31	124.19	121.00
8	A	2848	G	C4-N9-C1'	-5.31	119.60	126.50
8	A	1156	A	N9-C4-C5	-5.31	103.68	105.80
34	a	306	A	N9-C1'-C2'	-5.31	106.16	112.00
34	a	635	A	C5-N7-C8	-5.31	101.25	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	768	A	N3-C4-C5	5.31	130.51	126.80
34	a	833	G	C4-N9-C1'	-5.31	119.60	126.50
8	A	1743	G	N3-C4-N9	-5.31	122.82	126.00
8	A	2235	G	C4-C5-C6	-5.31	115.62	118.80
34	a	98	A	N3-C4-C5	5.31	130.51	126.80
8	A	297	G	C2-N3-C4	-5.30	109.25	111.90
8	A	330	A	O4'-C1'-N9	5.30	112.44	108.20
8	A	2843	G	C8-N9-C4	5.30	108.52	106.40
34	a	26	A	C8-N9-C4	5.30	107.92	105.80
8	A	136	G	N3-C4-N9	-5.30	122.82	126.00
34	a	377	G	N3-C4-C5	5.30	131.25	128.60
34	a	1180	A	C5-C6-N6	-5.30	119.46	123.70
34	a	1435	G	C5-C6-O6	5.30	131.78	128.60
8	A	705	A	N9-C4-C5	-5.30	103.68	105.80
8	A	1171	G	N9-C4-C5	5.30	107.52	105.40
8	A	1244	A	C8-N9-C4	5.30	107.92	105.80
8	A	2524	G	C4-N9-C1'	-5.30	119.61	126.50
9	B	60	C	N1-C2-O2	-5.30	115.72	118.90
34	a	548	G	N3-C4-C5	5.30	131.25	128.60
8	A	1436	G	N3-C4-C5	5.30	131.25	128.60
8	A	2461	A	C2-N3-C4	-5.30	107.95	110.60
8	A	2723	C	C6-N1-C2	5.30	122.42	120.30
34	a	111	G	O4'-C1'-N9	-5.30	103.96	108.20
34	a	1074	G	N3-C4-C5	5.30	131.25	128.60
8	A	253	C	N3-C4-N4	-5.29	114.29	118.00
8	A	311	A	C8-N9-C4	5.29	107.92	105.80
9	B	93	C	N1-C2-O2	5.29	122.08	118.90
34	a	391	G	N3-C4-N9	-5.29	122.82	126.00
34	a	1282	C	O4'-C1'-N1	-5.29	103.97	108.20
34	a	1346	A	C8-N9-C1'	-5.29	118.17	127.70
8	A	35	G	N3-C4-N9	-5.29	122.83	126.00
34	a	1238	A	N1-C6-N6	5.29	121.77	118.60
8	A	2415	G	N3-C2-N2	-5.29	116.20	119.90
8	A	2633	G	N1-C6-O6	-5.29	116.73	119.90
34	a	849	G	C8-N9-C4	5.29	108.52	106.40
34	a	1181	G	C2-N3-C4	-5.29	109.25	111.90
55	v	66	C	C6-N1-C2	5.29	122.42	120.30
8	A	1471	G	N1-C2-N2	-5.29	111.44	116.20
34	a	858	G	N1-C2-N2	5.29	120.96	116.20
34	a	946	A	C4-C5-N7	5.29	113.34	110.70
8	A	659	G	N3-C2-N2	5.29	123.60	119.90
8	A	17	G	N3-C4-C5	5.29	131.24	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	814	C	C4-C5-C6	-5.29	114.76	117.40
8	A	964	C	C6-N1-C2	5.29	122.41	120.30
8	A	1052	C	N3-C4-N4	-5.29	114.30	118.00
8	A	1449	G	N3-C2-N2	-5.29	116.20	119.90
8	A	2116	G	N3-C4-C5	5.29	131.24	128.60
8	A	2248	C	N1-C2-O2	5.29	122.07	118.90
34	a	474	G	C2-N3-C4	-5.29	109.26	111.90
34	a	642	A	C8-N9-C4	5.29	107.92	105.80
34	a	1347	G	C6-C5-N7	5.29	133.57	130.40
8	A	245	G	C2-N3-C4	-5.28	109.26	111.90
8	A	647	G	N3-C4-C5	5.28	131.24	128.60
8	A	661	A	N9-C4-C5	-5.28	103.69	105.80
8	A	2201	G	C5-C6-O6	5.28	131.77	128.60
8	A	2201	G	N3-C4-N9	-5.28	122.83	126.00
9	B	10	G	C8-N9-C4	5.28	108.51	106.40
34	a	370	C	O4'-C1'-N1	-5.28	103.97	108.20
8	A	186	G	C8-N9-C4	5.28	108.51	106.40
34	a	714	G	O4'-C1'-N9	-5.28	103.97	108.20
8	A	326	G	C2-N3-C4	-5.28	109.26	111.90
8	A	1313	U	C6-N1-C1'	-5.28	113.81	121.20
8	A	1593	A	N3-C4-C5	5.28	130.50	126.80
8	A	1961	C	N3-C4-C5	5.28	124.01	121.90
8	A	659	G	C2-N3-C4	-5.28	109.26	111.90
8	A	344	A	N3-C4-C5	5.28	130.49	126.80
8	A	1034	G	N3-C4-N9	-5.28	122.83	126.00
8	A	1072	C	C5-C6-N1	-5.28	118.36	121.00
8	A	1197	G	C4-N9-C1'	-5.28	119.64	126.50
8	A	1514	G	N1-C6-O6	5.28	123.07	119.90
8	A	2416	C	C6-N1-C1'	-5.28	114.47	120.80
8	A	2505	G	N3-C4-N9	5.28	129.17	126.00
8	A	2669	G	C2-N3-C4	-5.28	109.26	111.90
34	a	1218	C	C6-N1-C2	5.28	122.41	120.30
8	A	1128	G	N3-C4-C5	5.28	131.24	128.60
8	A	1689	A	N1-C6-N6	5.28	121.77	118.60
8	A	1849	G	C2-N3-C4	-5.28	109.26	111.90
34	a	1246	A	C8-N9-C4	5.28	107.91	105.80
34	a	1293	C	C4-C5-C6	-5.28	114.76	117.40
8	A	207	A	C5-N7-C8	-5.27	101.26	103.90
8	A	1470	A	C5-C6-N6	-5.27	119.48	123.70
8	A	2476	A	N9-C4-C5	-5.27	103.69	105.80
8	A	263	G	C8-N9-C1'	-5.27	120.14	127.00
8	A	1337	G	C4-N9-C1'	-5.27	119.64	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2269	G	C2-N3-C4	-5.27	109.26	111.90
34	a	546	A	C8-N9-C4	5.27	107.91	105.80
8	A	1389	G	N9-C4-C5	-5.27	103.29	105.40
8	A	2338	C	C5-C6-N1	-5.27	118.36	121.00
8	A	2461	A	O4'-C1'-N9	-5.27	103.98	108.20
8	A	720	U	C6-N1-C2	5.27	124.16	121.00
8	A	940	G	N3-C4-N9	-5.27	122.84	126.00
8	A	1277	G	C6-C5-N7	5.27	133.56	130.40
8	A	2014	A	N1-C6-N6	5.27	121.76	118.60
8	A	2717	C	N3-C4-C5	5.27	124.01	121.90
34	a	1426	G	N3-C4-C5	5.27	131.24	128.60
34	a	1452	C	C2-N1-C1'	-5.27	113.00	118.80
8	A	865	C	N3-C4-C5	5.27	124.01	121.90
8	A	882	G	N3-C2-N2	-5.27	116.21	119.90
8	A	2258	C	O4'-C1'-N1	-5.27	103.99	108.20
8	A	2271	G	C2-N3-C4	-5.27	109.27	111.90
8	A	2369	A	N3-C4-C5	5.27	130.49	126.80
8	A	2882	A	N9-C4-C5	-5.27	103.69	105.80
34	a	686	U	C5-C4-O4	-5.27	122.74	125.90
3	2	37	LYS	CD-CE-NZ	5.27	123.81	111.70
26	S	16	LYS	CD-CE-NZ	5.27	123.81	111.70
8	A	55	G	C2-N3-C4	-5.26	109.27	111.90
8	A	85	G	C8-N9-C4	5.26	108.50	106.40
8	A	152	A	C5-N7-C8	-5.26	101.27	103.90
8	A	739	A	C5-C6-N6	-5.26	119.49	123.70
8	A	926	G	C2-N3-C4	-5.26	109.27	111.90
8	A	929	U	C6-N1-C2	5.26	124.16	121.00
8	A	1178	C	C6-N1-C2	5.26	122.41	120.30
34	a	522	C	C6-N1-C2	5.26	122.41	120.30
34	a	588	G	C8-N9-C4	5.26	108.51	106.40
34	a	1075	U	C6-N1-C1'	-5.26	113.83	121.20
34	a	1177	G	C2-N3-C4	-5.26	109.27	111.90
34	a	1489	G	N3-C4-C5	5.26	131.23	128.60
55	v	74	C	C6-N1-C2	5.26	122.41	120.30
34	a	155	A	N3-C4-C5	5.26	130.48	126.80
34	a	348	G	N9-C4-C5	-5.26	103.30	105.40
57	x	611	LEU	CA-CB-CG	-5.26	103.19	115.30
8	A	1296	G	N3-C4-C5	5.26	131.23	128.60
8	A	2508	G	C4-N9-C1'	-5.26	119.66	126.50
34	a	247	G	N3-C4-N9	-5.26	122.84	126.00
55	v	70	G	C5-N7-C8	-5.26	101.67	104.30
8	A	48	G	N3-C4-N9	-5.26	122.84	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	656	G	N3-C4-C5	5.26	131.23	128.60
8	A	2886	A	C8-N9-C4	5.26	107.90	105.80
34	a	1117	A	C4-C5-N7	5.26	113.33	110.70
8	A	2686	G	N3-C4-N9	-5.26	122.84	126.00
8	A	2133	G	N3-C4-C5	5.26	131.23	128.60
8	A	2520	C	N3-C4-C5	5.26	124.00	121.90
8	A	2831	G	N3-C4-C5	5.26	131.23	128.60
34	a	542	G	C4-C5-N7	5.26	112.90	110.80
8	A	187	G	C2-N3-C4	-5.25	109.27	111.90
8	A	921	C	N3-C4-C5	5.25	124.00	121.90
8	A	1689	A	N9-C4-C5	-5.25	103.70	105.80
8	A	2435	A	N9-C4-C5	-5.25	103.70	105.80
34	a	912	C	C2-N1-C1'	5.25	124.58	118.80
34	a	1534	A	O4'-C1'-N9	5.25	112.40	108.20
55	v	46	A	C4-C5-N7	5.25	113.33	110.70
8	A	32	C	N3-C4-C5	5.25	124.00	121.90
8	A	1401	G	C5-C6-O6	5.25	131.75	128.60
8	A	2677	G	C2-N3-C4	-5.25	109.27	111.90
8	A	401	A	C4-C5-N7	5.25	113.33	110.70
8	A	1910	G	N9-C1'-C2'	-5.25	106.22	112.00
34	a	659	U	C6-N1-C2	5.25	124.15	121.00
8	A	1573	G	N3-C4-N9	-5.25	122.85	126.00
8	A	2824	C	N3-C4-C5	5.25	124.00	121.90
34	a	392	C	O4'-C1'-N1	-5.25	104.00	108.20
34	a	648	A	C4-C5-N7	5.25	113.32	110.70
34	a	1457	G	C8-N9-C4	5.25	108.50	106.40
8	A	701	G	C8-N9-C4	5.25	108.50	106.40
8	A	926	G	N3-C4-N9	-5.25	122.85	126.00
8	A	1925	C	C6-N1-C2	5.25	122.40	120.30
34	a	669	G	C8-N9-C4	5.25	108.50	106.40
34	a	1139	G	C6-C5-N7	-5.25	127.25	130.40
34	a	1400	C	C6-N1-C2	5.25	122.40	120.30
55	v	76	A	C5-C6-N6	-5.25	119.50	123.70
8	A	299	A	N9-C4-C5	-5.25	103.70	105.80
8	A	2886	A	C5-C6-N6	-5.25	119.50	123.70
34	a	102	G	N3-C4-N9	-5.25	122.85	126.00
8	A	680	C	C6-N1-C1'	-5.24	114.51	120.80
8	A	1369	G	N1-C2-N3	5.24	127.05	123.90
8	A	1524	G	N1-C2-N2	-5.24	111.48	116.20
9	B	53	A	N9-C4-C5	-5.24	103.70	105.80
34	a	198	G	N3-C4-C5	5.24	131.22	128.60
8	A	2900	A	C5-N7-C8	-5.24	101.28	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1143	G	C4-N9-C1'	-5.24	119.69	126.50
34	a	1227	A	C4-C5-N7	-5.24	108.08	110.70
8	A	210	C	N1-C2-O2	5.24	122.05	118.90
8	A	1093	G	O4'-C1'-N9	-5.24	104.01	108.20
8	A	1892	C	C6-N1-C2	5.24	122.40	120.30
8	A	1945	G	C8-N9-C4	5.24	108.50	106.40
8	A	2004	G	N3-C4-C5	5.24	131.22	128.60
8	A	2509	G	N3-C4-N9	-5.24	122.86	126.00
34	a	222	C	N1-C2-O2	-5.24	115.76	118.90
34	a	749	A	C8-N9-C4	5.24	107.90	105.80
34	a	1061	G	C4-C5-N7	5.24	112.90	110.80
8	A	66	C	C5-C6-N1	-5.24	118.38	121.00
8	A	1157	G	N1-C2-N2	-5.24	111.49	116.20
8	A	1241	A	N9-C4-C5	-5.24	103.70	105.80
8	A	1580	A	N9-C4-C5	-5.24	103.70	105.80
34	a	425	G	C2-N3-C4	-5.24	109.28	111.90
34	a	460	A	N3-C4-N9	-5.24	123.21	127.40
34	a	639	G	C4-C5-N7	5.24	112.89	110.80
8	A	549	G	C4-C5-N7	5.24	112.89	110.80
8	A	1110	G	N3-C4-C5	5.24	131.22	128.60
8	A	2222	C	N3-C4-N4	-5.24	114.33	118.00
8	A	315	G	C4-N9-C1'	-5.24	119.69	126.50
8	A	982	C	C6-N1-C2	5.24	122.39	120.30
8	A	2271	G	N3-C4-C5	5.24	131.22	128.60
8	A	2453	A	C5-C6-N1	5.24	120.32	117.70
24	Q	59	LEU	CA-CB-CG	-5.24	103.26	115.30
34	a	722	G	N3-C2-N2	-5.24	116.23	119.90
34	a	1058	G	C8-N9-C4	5.24	108.50	106.40
8	A	183	C	N3-C4-N4	-5.23	114.34	118.00
8	A	1733	G	N3-C4-C5	5.23	131.22	128.60
8	A	2218	G	C4-C5-N7	5.23	112.89	110.80
34	a	408	A	C4-C5-C6	-5.23	114.38	117.00
8	A	350	G	C4-C5-N7	5.23	112.89	110.80
8	A	1669	A	N9-C4-C5	-5.23	103.71	105.80
8	A	2591	C	C2-N1-C1'	5.23	124.56	118.80
34	a	64	G	C4-C5-N7	5.23	112.89	110.80
34	a	873	A	N9-C4-C5	-5.23	103.71	105.80
34	a	937	A	C8-N9-C4	5.23	107.89	105.80
8	A	89	A	C8-N9-C4	5.23	107.89	105.80
8	A	2002	G	C8-N9-C4	5.23	108.49	106.40
9	B	46	A	C8-N9-C4	5.23	107.89	105.80
9	B	54	G	C6-N1-C2	5.23	128.24	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	58	C	C6-N1-C2	5.23	122.39	120.30
34	a	81	A	N1-C6-N6	5.23	121.74	118.60
34	a	282	A	C5-C6-N6	-5.23	119.52	123.70
34	a	354	G	C8-N9-C4	5.23	108.49	106.40
34	a	1196	A	N9-C4-C5	-5.23	103.71	105.80
8	A	870	U	C6-N1-C2	5.23	124.14	121.00
9	B	12	C	N3-C2-O2	-5.23	118.24	121.90
34	a	761	G	N3-C4-C5	5.23	131.21	128.60
8	A	37	C	C5-C6-N1	-5.23	118.39	121.00
8	A	270	A	C6-C5-N7	5.23	135.96	132.30
8	A	1092	C	C2-N3-C4	-5.23	117.29	119.90
8	A	1240	U	C2-N1-C1'	-5.23	111.43	117.70
8	A	1684	G	C4-C5-C6	-5.23	115.66	118.80
8	A	2611	C	N1-C2-O2	5.23	122.04	118.90
8	A	2665	A	O4'-C1'-N9	-5.23	104.02	108.20
8	A	217	A	N7-C8-N9	-5.23	111.19	113.80
8	A	1060	U	N3-C4-O4	5.23	123.06	119.40
8	A	2049	G	C2-N3-C4	-5.23	109.29	111.90
34	a	1021	A	N9-C4-C5	-5.23	103.71	105.80
34	a	1281	C	N3-C4-C5	5.23	123.99	121.90
8	A	118	A	C5-C6-N6	-5.22	119.52	123.70
8	A	402	A	C6-C5-N7	-5.22	128.64	132.30
8	A	888	C	C5-C4-N4	5.22	123.86	120.20
8	A	1771	C	N1-C2-O2	5.22	122.03	118.90
8	A	2407	A	C8-N9-C4	5.22	107.89	105.80
8	A	227	A	C5-C6-N6	5.22	127.88	123.70
8	A	661	A	C4-C5-N7	5.22	113.31	110.70
8	A	2523	G	C8-N9-C4	5.22	108.49	106.40
8	A	38	A	C8-N9-C4	5.22	107.89	105.80
8	A	977	G	C8-N9-C4	5.22	108.49	106.40
8	A	1143	A	C5-C6-N6	-5.22	119.52	123.70
8	A	1227	G	C8-N9-C4	5.22	108.49	106.40
8	A	2012	G	N9-C4-C5	-5.22	103.31	105.40
34	a	241	G	C4-N9-C1'	-5.22	119.72	126.50
55	v	21	A	C8-N9-C4	5.22	107.89	105.80
8	A	138	U	C6-N1-C2	5.22	124.13	121.00
8	A	544	C	N1-C2-O2	5.22	122.03	118.90
8	A	1474	U	C6-N1-C2	5.22	124.13	121.00
34	a	435	A	C8-N9-C4	5.22	107.89	105.80
38	e	114	LEU	CA-CB-CG	-5.22	103.30	115.30
8	A	974	G	N1-C2-N3	5.22	127.03	123.90
8	A	1707	G	C2-N3-C4	-5.22	109.29	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	w	28	G	N3-C4-C5	5.22	131.21	128.60
34	a	226	G	C8-N9-C4	5.21	108.49	106.40
8	A	1593	A	C8-N9-C4	5.21	107.89	105.80
8	A	2430	A	C6-C5-N7	-5.21	128.65	132.30
34	a	246	A	C8-N9-C4	5.21	107.89	105.80
8	A	270	A	C4-N9-C1'	-5.21	116.92	126.30
8	A	1119	U	O4'-C1'-N1	-5.21	104.03	108.20
34	a	1511	G	N3-C4-C5	5.21	131.21	128.60
8	A	76	C	N3-C4-C5	5.21	123.98	121.90
8	A	2844	G	N3-C2-N2	-5.21	116.25	119.90
34	a	542	G	C4-N9-C1'	-5.21	119.73	126.50
57	x	641	LEU	CA-CB-CG	5.21	127.28	115.30
8	A	1424	G	C8-N9-C4	5.21	108.48	106.40
8	A	1501	G	N3-C4-N9	-5.21	122.88	126.00
8	A	2082	A	C5-C6-N1	5.21	120.30	117.70
8	A	2384	U	C6-N1-C2	5.21	124.12	121.00
8	A	2566	A	N3-C4-C5	5.21	130.44	126.80
34	a	236	A	C5-N7-C8	-5.21	101.30	103.90
8	A	60	G	C2-N3-C4	-5.21	109.30	111.90
8	A	912	C	N3-C4-C5	5.21	123.98	121.90
34	a	196	A	N1-C6-N6	-5.21	115.48	118.60
8	A	2339	C	N3-C4-N4	-5.21	114.36	118.00
8	A	2631	G	C8-N9-C4	5.21	108.48	106.40
8	A	2894	G	N3-C2-N2	-5.21	116.26	119.90
17	J	56	VAL	CG1-CB-CG2	5.21	119.23	110.90
34	a	799	G	N9-C4-C5	-5.21	103.32	105.40
8	A	844	A	C5-N7-C8	-5.20	101.30	103.90
8	A	2579	C	C6-N1-C1'	-5.20	114.56	120.80
34	a	661	G	O4'-C1'-N9	-5.20	104.04	108.20
43	j	71	LEU	CA-CB-CG	-5.20	103.33	115.30
8	A	203	A	C2-N3-C4	-5.20	108.00	110.60
8	A	1850	G	C2-N3-C4	-5.20	109.30	111.90
34	a	175	C	N3-C4-C5	5.20	123.98	121.90
34	a	423	G	C6-C5-N7	-5.20	127.28	130.40
34	a	581	G	C2-N3-C4	-5.20	109.30	111.90
34	a	1539	C	O4'-C1'-N1	5.20	112.36	108.20
8	A	136	G	C8-N9-C4	5.20	108.48	106.40
8	A	818	G	O4'-C1'-N9	-5.20	104.04	108.20
8	A	1220	G	C4-C5-C6	-5.20	115.68	118.80
8	A	2349	G	C2-N3-C4	-5.20	109.30	111.90
8	A	2655	G	C4-N9-C1'	-5.20	119.74	126.50
8	A	1335	C	C6-N1-C2	5.20	122.38	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2051	A	C4-C5-N7	5.20	113.30	110.70
34	a	564	C	O4'-C1'-N1	5.20	112.36	108.20
34	a	332	G	C8-N9-C4	5.20	108.48	106.40
34	a	596	A	N9-C4-C5	-5.20	103.72	105.80
34	a	946	A	N9-C4-C5	-5.20	103.72	105.80
8	A	289	G	C5-N7-C8	-5.20	101.70	104.30
8	A	1774	C	N3-C4-N4	-5.20	114.36	118.00
34	a	1156	G	C8-N9-C4	5.20	108.48	106.40
34	a	1182	G	C2-N3-C4	-5.20	109.30	111.90
8	A	2569	G	C8-N9-C4	5.19	108.48	106.40
8	A	2854	G	C4-C5-N7	5.19	112.88	110.80
34	a	567	G	C2-N3-C4	-5.19	109.30	111.90
56	w	60	U	C5'-C4'-O4'	5.19	115.33	109.10
8	A	2125	G	O4'-C1'-N9	5.19	112.35	108.20
8	A	2432	A	C8-N9-C4	5.19	107.88	105.80
34	a	251	G	C2-N3-C4	-5.19	109.30	111.90
34	a	385	C	C6-N1-C2	5.19	122.38	120.30
34	a	1320	C	C6-N1-C2	5.19	122.38	120.30
8	A	126	A	C4-C5-N7	5.19	113.30	110.70
8	A	492	A	N1-C6-N6	5.19	121.71	118.60
8	A	1168	G	C2-N3-C4	-5.19	109.31	111.90
8	A	1449	G	C8-N9-C1'	5.19	133.75	127.00
8	A	2051	A	N9-C4-C5	-5.19	103.72	105.80
8	A	2771	C	C6-N1-C2	5.19	122.38	120.30
8	A	2836	U	C6-N1-C2	5.19	124.11	121.00
34	a	334	C	C2-N1-C1'	5.19	124.51	118.80
34	a	1137	C	C6-N1-C2	5.19	122.38	120.30
8	A	125	A	N1-C6-N6	5.19	121.71	118.60
8	A	1055	G	N3-C2-N2	-5.19	116.27	119.90
8	A	2352	A	N1-C6-N6	5.19	121.71	118.60
34	a	755	G	C2-N3-C4	-5.19	109.31	111.90
8	A	213	A	C8-N9-C4	5.19	107.88	105.80
8	A	836	G	O4'-C1'-N9	-5.19	104.05	108.20
8	A	2763	G	C4-N9-C1'	-5.19	119.76	126.50
8	A	35	G	C2-N3-C4	-5.19	109.31	111.90
8	A	2338	C	C2-N3-C4	-5.19	117.31	119.90
8	A	2413	G	C2-N3-C4	-5.19	109.31	111.90
9	B	21	G	C5-N7-C8	-5.19	101.71	104.30
56	w	74	C	N3-C2-O2	-5.19	118.27	121.90
8	A	704	G	C2-N3-C4	-5.18	109.31	111.90
8	A	1120	G	C8-N9-C4	5.18	108.47	106.40
8	A	1163	G	C2-N3-C4	-5.18	109.31	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1164	G	C2-N3-C4	-5.18	109.31	111.90
8	A	1025	G	C5-C6-N1	-5.18	108.91	111.50
8	A	1774	C	C5-C6-N1	-5.18	118.41	121.00
8	A	2318	G	N3-C4-C5	5.18	131.19	128.60
34	a	105	G	N3-C4-C5	5.18	131.19	128.60
34	a	378	G	C2-N3-C4	-5.18	109.31	111.90
34	a	1019	A	C4-C5-N7	5.18	113.29	110.70
8	A	79	C	N3-C4-C5	5.18	123.97	121.90
8	A	456	C	N3-C4-N4	-5.18	114.37	118.00
8	A	781	A	N1-C2-N3	5.18	131.89	129.30
8	A	1461	C	N1-C2-O2	-5.18	115.79	118.90
8	A	1885	A	N1-C6-N6	5.18	121.71	118.60
8	A	1906	G	N3-C4-N9	-5.18	122.89	126.00
8	A	2502	G	C8-N9-C4	5.18	108.47	106.40
34	a	1405	G	C4-C5-C6	-5.18	115.69	118.80
8	A	864	G	C2-N3-C4	-5.18	109.31	111.90
8	A	1043	C	N3-C2-O2	5.18	125.53	121.90
8	A	1119	U	C6-N1-C2	5.18	124.11	121.00
8	A	1739	A	N1-C6-N6	5.18	121.71	118.60
8	A	2110	G	C6-C5-N7	-5.18	127.29	130.40
34	a	526	C	N1-C2-O2	5.18	122.01	118.90
8	A	886	A	O4'-C1'-N9	5.18	112.34	108.20
34	a	603	U	C2-N1-C1'	5.18	123.91	117.70
8	A	350	G	N1-C6-O6	5.18	123.01	119.90
8	A	421	C	N3-C4-N4	-5.18	114.38	118.00
8	A	2190	G	N1-C6-O6	5.18	123.01	119.90
8	A	2810	A	C5-C6-N6	-5.18	119.56	123.70
9	B	31	C	C5-C6-N1	-5.18	118.41	121.00
9	B	33	G	C8-N9-C4	5.18	108.47	106.40
34	a	447	G	N3-C4-C5	5.18	131.19	128.60
34	a	489	C	N3-C4-N4	-5.18	114.38	118.00
34	a	1064	G	N3-C4-C5	5.18	131.19	128.60
8	A	1927	A	C5-C6-N6	-5.17	119.56	123.70
8	A	2021	C	C6-N1-C1'	-5.17	114.59	120.80
8	A	2810	A	N9-C4-C5	-5.17	103.73	105.80
9	B	24	G	C2-N3-C4	-5.17	109.31	111.90
34	a	554	A	C8-N9-C4	5.17	107.87	105.80
8	A	350	G	C8-N9-C4	5.17	108.47	106.40
8	A	712	G	C2-N3-C4	-5.17	109.31	111.90
8	A	1858	A	C5-C6-N6	-5.17	119.56	123.70
8	A	1862	G	N3-C2-N2	5.17	123.52	119.90
34	a	1020	G	C2-N3-C4	-5.17	109.31	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	669	G	N3-C4-C5	5.17	131.19	128.60
56	w	47	U	C5'-C4'-C3'	5.17	124.27	116.00
8	A	317	G	C2-N3-C4	-5.17	109.32	111.90
8	A	2279	G	C8-N9-C4	5.17	108.47	106.40
8	A	2557	G	C6-C5-N7	5.17	133.50	130.40
34	a	600	A	C4-C5-N7	5.17	113.28	110.70
34	a	1080	A	C5-N7-C8	-5.17	101.31	103.90
34	a	77	A	N9-C4-C5	-5.17	103.73	105.80
34	a	987	G	C8-N9-C1'	5.17	133.72	127.00
8	A	489	G	N3-C4-C5	5.17	131.18	128.60
8	A	1025	G	O4'-C1'-N9	-5.17	104.07	108.20
8	A	1908	C	N3-C4-N4	-5.17	114.38	118.00
8	A	2484	G	N3-C4-N9	-5.17	122.90	126.00
8	A	2655	G	C2-N3-C4	-5.17	109.32	111.90
8	A	207	A	C4-C5-N7	5.16	113.28	110.70
8	A	922	C	N3-C4-C5	5.16	123.97	121.90
8	A	1706	C	N1-C2-O2	5.16	122.00	118.90
8	A	1992	G	N1-C2-N2	-5.16	111.55	116.20
34	a	178	C	C2-N3-C4	-5.16	117.32	119.90
34	a	349	A	C8-N9-C4	5.16	107.87	105.80
34	a	696	A	C8-N9-C4	5.16	107.86	105.80
34	a	953	G	N9-C1'-C2'	-5.16	106.32	112.00
34	a	1258	G	N3-C4-N9	-5.16	122.90	126.00
8	A	533	G	C2-N3-C4	-5.16	109.32	111.90
8	A	1311	G	C2-N3-C4	-5.16	109.32	111.90
8	A	2490	G	C2-N3-C4	-5.16	109.32	111.90
34	a	773	G	C8-N9-C4	5.16	108.47	106.40
34	a	1198	G	N1-C6-O6	-5.16	116.80	119.90
8	A	220	G	C5-C6-N1	-5.16	108.92	111.50
8	A	1549	A	C5-N7-C8	-5.16	101.32	103.90
34	a	695	A	N1-C6-N6	5.16	121.70	118.60
34	a	912	C	C6-N1-C1'	-5.16	114.61	120.80
8	A	1336	A	C4-C5-C6	-5.16	114.42	117.00
8	A	344	A	N9-C4-C5	-5.16	103.74	105.80
8	A	2507	C	N3-C4-C5	5.16	123.96	121.90
8	A	2523	G	N3-C4-C5	5.16	131.18	128.60
34	a	15	G	C8-N9-C1'	-5.16	120.30	127.00
34	a	670	G	N3-C4-N9	-5.16	122.91	126.00
8	A	1733	G	C8-N9-C4	5.16	108.46	106.40
8	A	2223	G	N3-C2-N2	-5.16	116.29	119.90
8	A	2295	C	C6-N1-C1'	-5.16	114.61	120.80
34	a	1497	G	C4-C5-C6	-5.16	115.71	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
57	x	277	MET	CA-CB-CG	5.16	122.06	113.30
8	A	2830	C	C2-N1-C1'	5.15	124.47	118.80
8	A	1125	G	N3-C4-N9	-5.15	122.91	126.00
8	A	1553	A	N9-C4-C5	-5.15	103.74	105.80
8	A	2352	A	C8-N9-C4	5.15	107.86	105.80
9	B	94	A	N9-C4-C5	-5.15	103.74	105.80
34	a	97	G	C4-N9-C1'	-5.15	119.80	126.50
34	a	376	G	C2-N3-C4	-5.15	109.32	111.90
34	a	654	G	C6-C5-N7	-5.15	127.31	130.40
34	a	1130	A	C4-N9-C1'	5.15	135.57	126.30
34	a	1385	G	N3-C4-C5	5.15	131.18	128.60
34	a	1483	A	C5-C6-N6	-5.15	119.58	123.70
35	b	94	ARG	CG-CD-NE	5.15	122.62	111.80
55	v	42	G	N3-C4-N9	-5.15	122.91	126.00
8	A	204	A	C5-C6-N6	-5.15	119.58	123.70
8	A	1378	A	C6-C5-N7	-5.15	128.69	132.30
8	A	2491	U	N1-C1'-C2'	-5.15	106.33	112.00
34	a	603	U	C6-N1-C1'	-5.15	113.99	121.20
55	v	53	G	C2-N3-C4	-5.15	109.33	111.90
8	A	466	A	N9-C4-C5	5.15	107.86	105.80
8	A	1663	G	C8-N9-C4	5.15	108.46	106.40
9	B	52	A	C4-C5-N7	5.15	113.28	110.70
34	a	1362	A	C4-C5-C6	-5.15	114.43	117.00
8	A	1704	C	C6-N1-C1'	-5.15	114.62	120.80
34	a	1241	G	N3-C4-N9	-5.15	122.91	126.00
8	A	1029	A	N7-C8-N9	5.15	116.37	113.80
8	A	1986	C	N3-C4-C5	5.15	123.96	121.90
19	L	6	LEU	CA-CB-CG	-5.15	103.46	115.30
8	A	143	C	N3-C4-N4	-5.14	114.40	118.00
8	A	672	C	N1-C2-O2	5.14	121.99	118.90
8	A	1530	G	C4-N9-C1'	-5.14	119.81	126.50
34	a	1088	G	C6-C5-N7	5.14	133.49	130.40
8	A	1104	C	C5-C6-N1	5.14	123.57	121.00
8	A	2168	G	C2-N3-C4	-5.14	109.33	111.90
9	B	69	G	N3-C4-N9	-5.14	122.92	126.00
8	A	263	G	C2-N3-C4	-5.14	109.33	111.90
34	a	377	G	N3-C4-N9	-5.14	122.92	126.00
8	A	107	G	C2-N3-C4	-5.14	109.33	111.90
8	A	581	C	N1-C2-O2	5.14	121.98	118.90
8	A	2570	G	C2-N3-C4	-5.14	109.33	111.90
34	a	888	G	C4-N9-C1'	-5.14	119.82	126.50
34	a	1525	G	N3-C4-C5	5.14	131.17	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1055	G	N1-C2-N2	5.14	120.82	116.20
8	A	2727	A	C8-N9-C4	5.14	107.86	105.80
34	a	182	A	C5-C6-N6	-5.14	119.59	123.70
8	A	371	A	C8-N9-C4	5.14	107.86	105.80
8	A	375	G	N3-C2-N2	5.14	123.50	119.90
8	A	1540	G	C4-C5-N7	5.14	112.85	110.80
8	A	2027	G	N3-C4-C5	5.14	131.17	128.60
8	A	2623	G	N9-C4-C5	-5.14	103.34	105.40
8	A	2824	C	C6-N1-C2	5.14	122.36	120.30
8	A	735	A	N9-C4-C5	-5.13	103.75	105.80
8	A	1017	G	C2-N3-C4	-5.13	109.33	111.90
8	A	1226	A	N1-C6-N6	-5.13	115.52	118.60
8	A	1333	G	C2-N3-C4	-5.13	109.33	111.90
34	a	208	U	N1-C1'-C2'	-5.13	106.35	112.00
34	a	810	C	C6-N1-C2	5.13	122.35	120.30
8	A	1090	A	O4'-C1'-N9	-5.13	104.09	108.20
8	A	2308	G	C8-N9-C4	5.13	108.45	106.40
8	A	2648	G	C2-N3-C4	-5.13	109.33	111.90
9	B	50	A	N9-C4-C5	-5.13	103.75	105.80
8	A	1477	A	C5-N7-C8	-5.13	101.33	103.90
34	a	275	G	C8-N9-C4	5.13	108.45	106.40
34	a	457	G	C2-N3-C4	-5.13	109.33	111.90
34	a	542	G	C4-C5-C6	-5.13	115.72	118.80
34	a	1198	G	C5-C6-O6	5.13	131.68	128.60
8	A	2777	G	C8-N9-C4	5.13	108.45	106.40
8	A	1166	G	N3-C2-N2	5.13	123.49	119.90
8	A	1833	C	C6-N1-C2	5.13	122.35	120.30
8	A	2464	G	C4-N9-C1'	-5.13	119.83	126.50
8	A	2731	G	N3-C4-C5	5.13	131.16	128.60
34	a	410	G	C8-N9-C1'	5.13	133.67	127.00
34	a	1180	A	C4-C5-N7	5.13	113.26	110.70
8	A	346	A	C4-C5-N7	5.13	113.26	110.70
8	A	1088	A	C4-C5-C6	5.13	119.56	117.00
8	A	1811	G	C2-N3-C4	-5.13	109.34	111.90
8	A	2038	G	C4-C5-N7	5.13	112.85	110.80
8	A	2841	C	C6-N1-C2	5.13	122.35	120.30
9	B	9	G	C6-C5-N7	-5.13	127.32	130.40
34	a	846	G	C8-N9-C1'	-5.13	120.33	127.00
34	a	1043	G	C2-N3-C4	-5.13	109.34	111.90
34	a	1080	A	N7-C8-N9	5.13	116.36	113.80
34	a	1215	G	N3-C4-N9	-5.13	122.92	126.00
8	A	927	A	C5-C6-N6	-5.12	119.60	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2674	G	C2-N3-C4	-5.12	109.34	111.90
34	a	1271	A	C8-N9-C4	5.12	107.85	105.80
8	A	130	C	N1-C2-O2	5.12	121.97	118.90
8	A	560	C	N3-C4-N4	-5.12	114.41	118.00
8	A	586	A	C8-N9-C4	5.12	107.85	105.80
8	A	2052	A	N9-C4-C5	-5.12	103.75	105.80
8	A	2190	G	C5-N7-C8	-5.12	101.74	104.30
8	A	2634	A	N9-C4-C5	-5.12	103.75	105.80
8	A	1600	C	N3-C4-C5	5.12	123.95	121.90
8	A	1805	A	C4-C5-C6	-5.12	114.44	117.00
8	A	2868	A	N9-C4-C5	-5.12	103.75	105.80
8	A	630	G	C6-C5-N7	5.12	133.47	130.40
8	A	1074	G	C4-N9-C1'	-5.12	119.84	126.50
50	q	11	VAL	CG1-CB-CG2	-5.12	102.71	110.90
8	A	512	G	N3-C4-N9	-5.12	122.93	126.00
8	A	748	G	C8-N9-C1'	5.12	133.65	127.00
8	A	949	G	C8-N9-C4	5.12	108.45	106.40
8	A	976	G	N3-C4-C5	5.12	131.16	128.60
34	a	489	C	C6-N1-C2	5.12	122.35	120.30
34	a	1392	G	N3-C4-N9	-5.12	122.93	126.00
8	A	771	G	C2-N3-C4	-5.12	109.34	111.90
8	A	890	C	C5-C4-N4	5.12	123.78	120.20
8	A	2020	A	N9-C4-C5	-5.12	103.75	105.80
8	A	2282	G	C5-C6-N1	5.12	114.06	111.50
34	a	739	C	N3-C4-N4	-5.12	114.42	118.00
56	w	16	U	C1'-C2'-O2'	5.12	125.94	110.60
8	A	81	G	N3-C4-N9	-5.11	122.93	126.00
8	A	401	A	N1-C6-N6	5.11	121.67	118.60
8	A	2443	C	N3-C4-N4	-5.11	114.42	118.00
34	a	988	G	C4-N9-C1'	-5.11	119.85	126.50
8	A	394	C	C6-N1-C2	5.11	122.34	120.30
8	A	1011	G	N3-C4-N9	-5.11	122.93	126.00
8	A	85	G	N3-C4-N9	-5.11	122.93	126.00
8	A	164	C	N3-C4-C5	5.11	123.94	121.90
8	A	408	G	N3-C4-C5	5.11	131.16	128.60
8	A	2097	A	N3-C4-C5	5.11	130.38	126.80
8	A	2201	G	C2-N3-C4	-5.11	109.34	111.90
8	A	2830	C	N1-C2-O2	5.11	121.97	118.90
34	a	423	G	C4-N9-C1'	5.11	133.14	126.50
34	a	454	G	N3-C4-C5	5.11	131.16	128.60
34	a	861	G	N3-C4-N9	-5.11	122.93	126.00
8	A	110	G	N3-C4-C5	5.11	131.16	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	B	52	A	C8-N9-C4	5.11	107.84	105.80
34	a	1160	G	C2-N3-C4	-5.11	109.35	111.90
55	v	43	A	N1-C6-N6	5.11	121.67	118.60
55	v	70	G	C2-N3-C4	-5.11	109.35	111.90
8	A	1429	G	C2-N3-C4	-5.11	109.35	111.90
8	A	1688	U	N1-C2-O2	-5.11	119.22	122.80
8	A	2864	G	C2-N3-C4	-5.11	109.35	111.90
34	a	1430	A	C4-C5-C6	-5.11	114.45	117.00
8	A	433	C	N3-C4-C5	5.11	123.94	121.90
8	A	457	A	N1-C6-N6	5.11	121.66	118.60
8	A	1320	C	C2-N3-C4	-5.11	117.35	119.90
8	A	2391	G	C8-N9-C1'	5.11	133.64	127.00
8	A	2772	C	C6-N1-C1'	-5.11	114.67	120.80
8	A	812	C	C5-C6-N1	-5.10	118.45	121.00
8	A	1671	U	C5'-C4'-C3'	-5.10	107.83	116.00
8	A	2354	C	N3-C4-N4	-5.10	114.43	118.00
34	a	147	G	N3-C4-C5	5.10	131.15	128.60
34	a	155	A	C4-C5-C6	-5.10	114.45	117.00
34	a	1401	G	C5'-C4'-C3'	-5.10	107.83	116.00
8	A	500	G	N3-C4-N9	-5.10	122.94	126.00
8	A	950	G	C8-N9-C4	5.10	108.44	106.40
8	A	998	C	N1-C2-O2	5.10	121.96	118.90
8	A	1472	C	C6-N1-C2	5.10	122.34	120.30
34	a	422	C	C6-N1-C2	5.10	122.34	120.30
34	a	1108	G	C2-N3-C4	-5.10	109.35	111.90
8	A	130	C	N3-C2-O2	-5.10	118.33	121.90
8	A	2632	A	C4-C5-C6	-5.10	114.45	117.00
34	a	681	A	C5-C6-N6	-5.10	119.62	123.70
34	a	1304	G	N3-C4-N9	-5.10	122.94	126.00
34	a	1331	G	N1-C2-N2	5.10	120.79	116.20
8	A	401	A	C5-C6-N6	-5.10	119.62	123.70
8	A	802	A	N1-C6-N6	-5.10	115.54	118.60
8	A	1557	C	N3-C4-C5	5.10	123.94	121.90
8	A	2110	G	N7-C8-N9	5.10	115.65	113.10
34	a	137	U	C6-N1-C2	5.10	124.06	121.00
34	a	785	G	C4-C5-N7	5.10	112.84	110.80
34	a	1431	A	C2-N3-C4	-5.10	108.05	110.60
8	A	975	A	N9-C1'-C2'	-5.10	106.39	112.00
8	A	2303	G	N3-C4-N9	-5.10	122.94	126.00
8	A	2898	U	C6-N1-C2	5.10	124.06	121.00
34	a	442	G	C5-N7-C8	-5.10	101.75	104.30
8	A	924	G	C2-N3-C4	-5.09	109.35	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1423	G	C6-C5-N7	5.09	133.46	130.40
8	A	1571	A	O4'-C1'-N9	5.09	112.28	108.20
8	A	2097	A	C8-N9-C4	5.09	107.84	105.80
8	A	2241	A	C5-C6-N1	5.09	120.25	117.70
8	A	2435	A	C8-N9-C4	5.09	107.84	105.80
8	A	19	A	N9-C4-C5	-5.09	103.76	105.80
8	A	392	U	C6-N1-C2	5.09	124.06	121.00
8	A	1230	A	C4-C5-N7	5.09	113.25	110.70
8	A	2632	A	N9-C4-C5	-5.09	103.76	105.80
34	a	265	G	O4'-C1'-N9	-5.09	104.12	108.20
8	A	310	A	C4-C5-C6	-5.09	114.45	117.00
8	A	450	G	C8-N9-C4	5.09	108.44	106.40
8	A	2280	G	C2-N3-C4	-5.09	109.35	111.90
8	A	612	G	N3-C4-N9	-5.09	122.95	126.00
8	A	659	G	C8-N9-C1'	-5.09	120.38	127.00
8	A	1548	A	C4-C5-C6	-5.09	114.45	117.00
8	A	1639	C	N1-C2-O2	5.09	121.95	118.90
56	w	35	A	C8-N9-C4	5.09	107.84	105.80
8	A	199	A	N1-C6-N6	-5.09	115.55	118.60
8	A	914	G	C8-N9-C4	5.09	108.44	106.40
8	A	1684	G	C8-N9-C1'	5.09	133.61	127.00
8	A	1903	G	N3-C4-C5	5.09	131.14	128.60
8	A	2013	A	N9-C4-C5	-5.09	103.77	105.80
8	A	1650	A	N9-C4-C5	-5.09	103.77	105.80
8	A	1737	G	C2-N3-C4	-5.09	109.36	111.90
8	A	2303	G	C2-N3-C4	-5.09	109.36	111.90
19	L	53	GLY	N-CA-C	5.09	125.82	113.10
8	A	1606	C	C5-C6-N1	-5.08	118.46	121.00
8	A	2461	A	N3-C4-C5	5.08	130.36	126.80
34	a	1276	G	C5-N7-C8	-5.08	101.76	104.30
8	A	583	G	N3-C4-C5	5.08	131.14	128.60
8	A	1142	A	N3-C4-C5	5.08	130.36	126.80
8	A	2227	A	C8-N9-C4	5.08	107.83	105.80
8	A	2363	G	C4-N9-C1'	-5.08	119.89	126.50
9	B	7	G	N3-C4-C5	5.08	131.14	128.60
34	a	53	A	N9-C4-C5	-5.08	103.77	105.80
34	a	412	A	N1-C6-N6	5.08	121.65	118.60
34	a	998	C	C6-N1-C2	5.08	122.33	120.30
34	a	1166	G	N3-C4-C5	5.08	131.14	128.60
57	x	634	LEU	CA-CB-CG	-5.08	103.61	115.30
8	A	831	G	N3-C4-N9	-5.08	122.95	126.00
8	A	1068	G	N3-C2-N2	-5.08	116.34	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1114	C	C6-N1-C2	5.08	122.33	120.30
34	a	1081	A	N9-C1'-C2'	5.08	120.61	114.00
34	a	1141	C	C5-C4-N4	5.08	123.76	120.20
34	a	1468	A	C5-C6-N6	-5.08	119.63	123.70
8	A	975	A	O4'-C1'-N9	-5.08	104.14	108.20
8	A	1616	A	N9-C4-C5	-5.08	103.77	105.80
34	a	1309	G	C2-N3-C4	-5.08	109.36	111.90
34	a	1462	C	N3-C4-C5	5.08	123.93	121.90
8	A	1092	C	N1-C1'-C2'	-5.08	106.41	112.00
8	A	1418	G	C8-N9-C4	5.08	108.43	106.40
8	A	1445	G	N3-C4-C5	5.08	131.14	128.60
8	A	2499	C	N3-C4-C5	5.08	123.93	121.90
8	A	2630	G	N3-C4-C5	5.08	131.14	128.60
34	a	457	G	N3-C4-N9	-5.08	122.95	126.00
34	a	1282	C	C6-N1-C2	5.08	122.33	120.30
34	a	1422	G	N3-C4-C5	5.08	131.14	128.60
8	A	301	G	C8-N9-C4	5.08	108.43	106.40
8	A	1762	A	C4-C5-C6	-5.08	114.46	117.00
34	a	410	G	C8-N9-C4	5.08	108.43	106.40
34	a	598	U	O4'-C1'-N1	-5.08	104.14	108.20
34	a	952	U	C6-N1-C2	5.08	124.05	121.00
34	a	1200	C	N3-C4-C5	5.08	123.93	121.90
8	A	325	G	N3-C4-C5	5.07	131.14	128.60
8	A	379	G	C2-N3-C4	-5.07	109.36	111.90
8	A	974	G	C5-N7-C8	-5.07	101.76	104.30
8	A	2135	A	O5'-P-OP2	-5.07	101.13	105.70
34	a	1174	G	C8-N9-C4	5.07	108.43	106.40
34	a	1337	G	O4'-C1'-N9	-5.07	104.14	108.20
56	w	24	G	N3-C4-N9	-5.07	122.96	126.00
8	A	309	A	C8-N9-C4	5.07	107.83	105.80
8	A	1452	G	N3-C2-N2	-5.07	116.35	119.90
8	A	2040	G	C4-N9-C1'	-5.07	119.91	126.50
34	a	953	G	C5-C6-O6	-5.07	125.56	128.60
8	A	1168	G	N9-C4-C5	-5.07	103.37	105.40
8	A	1323	C	N3-C4-N4	-5.07	114.45	118.00
34	a	670	G	C2-N3-C4	-5.07	109.36	111.90
8	A	1936	A	O4'-C1'-N9	5.07	112.25	108.20
8	A	2815	C	N3-C4-C5	5.07	123.93	121.90
34	a	825	A	C8-N9-C4	5.07	107.83	105.80
8	A	1178	C	C5-C6-N1	-5.07	118.47	121.00
8	A	1370	C	C6-N1-C2	5.07	122.33	120.30
34	a	682	G	N9-C1'-C2'	-5.07	106.42	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	808	G	N9-C4-C5	-5.07	103.37	105.40
8	A	1588	G	C4-N9-C1'	-5.07	119.91	126.50
8	A	1994	C	C5-C4-N4	5.07	123.75	120.20
8	A	2201	G	N3-C4-C5	5.07	131.13	128.60
34	a	601	G	C2-N3-C4	-5.07	109.37	111.90
34	a	785	G	C2-N3-C4	-5.07	109.37	111.90
34	a	920	U	N3-C2-O2	-5.07	118.66	122.20
55	v	12	G	C6-C5-N7	5.07	133.44	130.40
8	A	269	C	C6-N1-C2	5.06	122.33	120.30
8	A	457	A	N3-C4-C5	5.06	130.34	126.80
8	A	2484	G	C2-N3-C4	-5.06	109.37	111.90
8	A	2875	C	C6-N1-C1'	-5.06	114.72	120.80
34	a	203	G	C8-N9-C4	5.06	108.43	106.40
34	a	274	A	C4-C5-N7	5.06	113.23	110.70
8	A	2022	U	C2-N1-C1'	5.06	123.78	117.70
8	A	2212	A	C8-N9-C4	5.06	107.83	105.80
34	a	648	A	N3-C4-C5	5.06	130.34	126.80
34	a	923	A	C4-C5-N7	5.06	113.23	110.70
34	a	1376	U	O4'-C1'-N1	-5.06	104.15	108.20
8	A	1016	G	C4-N9-C1'	-5.06	119.92	126.50
34	a	1466	C	N3-C4-N4	-5.06	114.46	118.00
8	A	522	A	C2-N3-C4	-5.06	108.07	110.60
8	A	1074	G	N3-C2-N2	-5.06	116.36	119.90
8	A	1797	G	N3-C4-N9	-5.06	122.96	126.00
8	A	1897	G	C8-N9-C4	5.06	108.42	106.40
8	A	2281	A	C5-C6-N1	5.06	120.23	117.70
8	A	2331	G	N3-C4-C5	5.06	131.13	128.60
8	A	2509	G	C8-N9-C4	5.06	108.42	106.40
8	A	2657	A	C4-C5-N7	5.06	113.23	110.70
34	a	411	A	N3-C4-C5	5.06	130.34	126.80
34	a	1031	C	C2-N1-C1'	5.06	124.37	118.80
34	a	1101	A	O4'-C1'-N9	5.06	112.25	108.20
8	A	266	G	C2-N3-C4	-5.06	109.37	111.90
8	A	2624	G	N3-C2-N2	-5.06	116.36	119.90
8	A	2867	G	N3-C4-C5	5.06	131.13	128.60
8	A	1153	C	C5-C6-N1	5.06	123.53	121.00
8	A	1541	C	N3-C4-C5	5.06	123.92	121.90
8	A	2087	G	N3-C4-C5	5.06	131.13	128.60
8	A	342	A	C8-N9-C4	5.05	107.82	105.80
8	A	867	C	C5-C4-N4	5.05	123.74	120.20
8	A	1127	A	N1-C6-N6	5.05	121.63	118.60
8	A	1361	G	N1-C2-N3	5.05	126.93	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2002	G	C2-N3-C4	-5.05	109.37	111.90
9	B	119	A	C4-C5-N7	5.05	113.23	110.70
49	p	5	ARG	CB-CA-C	5.05	120.51	110.40
55	v	43	A	C4-C5-N7	5.05	113.23	110.70
8	A	458	G	O4'-C1'-N9	5.05	112.24	108.20
8	A	2148	G	O4'-C1'-N9	5.05	112.24	108.20
8	A	1762	A	C8-N9-C4	5.05	107.82	105.80
9	B	23	G	C4-C5-N7	5.05	112.82	110.80
34	a	190	A	C4-C5-N7	5.05	113.23	110.70
34	a	1129	C	N3-C2-O2	5.05	125.44	121.90
34	a	1177	G	N3-C4-C5	5.05	131.13	128.60
34	a	1215	G	C2-N3-C4	-5.05	109.37	111.90
8	A	1088	A	N3-C4-N9	5.05	131.44	127.40
8	A	1116	G	C2-N3-C4	-5.05	109.38	111.90
8	A	1501	G	C8-N9-C4	5.05	108.42	106.40
8	A	2170	A	C4-C5-C6	-5.05	114.47	117.00
8	A	2319	G	N3-C4-C5	5.05	131.12	128.60
34	a	618	C	C6-N1-C2	5.05	122.32	120.30
34	a	1197	A	C4-C5-N7	5.05	113.22	110.70
34	a	113	G	N3-C4-N9	-5.05	122.97	126.00
34	a	149	A	N1-C6-N6	-5.05	115.57	118.60
34	a	738	C	C5'-C4'-C3'	-5.05	107.92	116.00
34	a	1253	G	C5-C6-O6	5.05	131.63	128.60
8	A	136	G	C2-N3-C4	-5.05	109.38	111.90
8	A	316	C	N3-C2-O2	5.05	125.43	121.90
8	A	471	A	N9-C4-C5	-5.05	103.78	105.80
8	A	1548	A	C4-C5-N7	5.05	113.22	110.70
8	A	2023	C	C6-N1-C2	5.05	122.32	120.30
34	a	507	C	C6-N1-C2	5.05	122.32	120.30
34	a	1269	A	O4'-C1'-N9	5.05	112.24	108.20
56	w	45	U	C2'-C3'-O3'	5.05	121.77	113.70
34	a	799	G	C2-N3-C4	-5.04	109.38	111.90
34	a	1089	G	C8-N9-C4	5.04	108.42	106.40
34	a	1117	A	N9-C4-C5	-5.04	103.78	105.80
8	A	834	G	C2-N3-C4	-5.04	109.38	111.90
8	A	1940	U	O4'-C1'-N1	5.04	112.23	108.20
8	A	1975	G	C2-N3-C4	-5.04	109.38	111.90
8	A	2050	C	C5-C4-N4	5.04	123.73	120.20
8	A	2282	G	O4'-C1'-N9	5.04	112.23	108.20
9	B	91	C	C6-N1-C2	5.04	122.32	120.30
34	a	1216	A	N9-C4-C5	-5.04	103.78	105.80
8	A	141	G	O4'-C1'-N9	5.04	112.23	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	676	A	C5-C6-N6	-5.04	119.67	123.70
8	A	2411	A	C4-C5-N7	5.04	113.22	110.70
8	A	2895	G	N1-C2-N3	5.04	126.92	123.90
34	a	281	G	C8-N9-C4	5.04	108.42	106.40
34	a	462	G	C8-N9-C4	-5.04	104.38	106.40
34	a	637	C	C4-C5-C6	-5.04	114.88	117.40
8	A	315	G	C8-N9-C4	5.04	108.42	106.40
8	A	2803	G	N7-C8-N9	-5.04	110.58	113.10
34	a	135	C	C5-C4-N4	-5.04	116.67	120.20
34	a	712	A	C8-N9-C4	5.04	107.82	105.80
34	a	1452	C	C6-N1-C2	5.04	122.32	120.30
8	A	881	G	C4-C5-N7	5.04	112.82	110.80
8	A	1189	A	O4'-C1'-N9	-5.04	104.17	108.20
8	A	2803	G	C4-C5-C6	-5.04	115.78	118.80
8	A	2814	A	C4-C5-C6	-5.04	114.48	117.00
34	a	1089	G	C4-N9-C1'	-5.04	119.95	126.50
34	a	1373	G	N3-C4-C5	5.04	131.12	128.60
8	A	1337	G	C2-N3-C4	-5.04	109.38	111.90
8	A	2375	G	N3-C4-C5	5.04	131.12	128.60
34	a	164	G	N3-C4-N9	-5.04	122.98	126.00
34	a	541	G	C4-N9-C1'	-5.04	119.95	126.50
8	A	1044	C	O4'-C1'-N1	-5.04	104.17	108.20
8	A	1207	C	N3-C4-N4	-5.04	114.48	118.00
8	A	1278	C	N3-C4-N4	-5.04	114.48	118.00
8	A	1847	G	O4'-C1'-N9	-5.04	104.17	108.20
34	a	375	U	C6-N1-C2	5.04	124.02	121.00
34	a	414	A	N9-C4-C5	-5.04	103.79	105.80
8	A	2813	A	C4-N9-C1'	-5.03	117.24	126.30
8	A	2553	G	N3-C4-N9	-5.03	122.98	126.00
8	A	849	A	C4-C5-N7	5.03	113.22	110.70
8	A	856	G	N9-C4-C5	-5.03	103.39	105.40
8	A	1151	A	C8-N9-C4	5.03	107.81	105.80
34	a	1003	G	N3-C4-N9	-5.03	122.98	126.00
56	w	52	G	N3-C4-C5	5.03	131.11	128.60
8	A	175	G	C4-C5-N7	5.03	112.81	110.80
8	A	184	C	N1-C1'-C2'	-5.03	106.47	112.00
8	A	1371	G	N1-C6-O6	5.03	122.92	119.90
8	A	2009	A	C4-C5-C6	-5.03	114.49	117.00
34	a	408	A	N9-C4-C5	-5.03	103.79	105.80
8	A	748	G	N3-C4-N9	-5.03	122.98	126.00
8	A	2140	G	N3-C4-C5	5.03	131.11	128.60
8	A	2294	G	C2-N3-C4	-5.03	109.39	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
40	g	3	ARG	CG-CD-NE	5.03	122.35	111.80
55	v	9	G	C2-N3-C4	-5.03	109.39	111.90
8	A	483	A	N1-C6-N6	5.02	121.61	118.60
8	A	1372	U	N1-C2-O2	-5.02	119.28	122.80
9	B	19	C	N3-C4-C5	5.02	123.91	121.90
34	a	489	C	N3-C4-C5	5.02	123.91	121.90
34	a	423	G	C8-N9-C1'	-5.02	120.47	127.00
34	a	530	G	N3-C4-N9	-5.02	122.99	126.00
34	a	558	G	N3-C4-C5	5.02	131.11	128.60
8	A	1631	G	N7-C8-N9	-5.02	110.59	113.10
8	A	640	C	C6-N1-C1'	-5.02	114.78	120.80
8	A	1552	A	C8-N9-C4	5.02	107.81	105.80
8	A	1652	A	C8-N9-C4	5.02	107.81	105.80
8	A	2848	G	C6-C5-N7	5.02	133.41	130.40
34	a	695	A	C5-C6-N6	-5.02	119.69	123.70
8	A	1544	A	C4-C5-N7	5.02	113.21	110.70
8	A	2279	G	N3-C4-N9	-5.02	122.99	126.00
34	a	613	C	C6-N1-C1'	-5.02	114.78	120.80
34	a	102	G	C8-N9-C4	5.02	108.41	106.40
8	A	673	C	C2-N3-C4	-5.01	117.39	119.90
8	A	974	G	N7-C8-N9	5.01	115.61	113.10
8	A	1755	A	N9-C4-C5	5.01	107.81	105.80
8	A	2116	G	N9-C4-C5	-5.01	103.39	105.40
22	O	102	ARG	NE-CZ-NH2	5.01	122.81	120.30
34	a	1012	A	C2-N3-C4	-5.01	108.09	110.60
8	A	1471	G	C4-N9-C1'	5.01	133.02	126.50
9	B	11	C	C2-N1-C1'	5.01	124.31	118.80
8	A	1279	G	N3-C4-C5	5.01	131.11	128.60
8	A	2137	U	C6-N1-C2	5.01	124.01	121.00
8	A	2412	A	N1-C6-N6	5.01	121.61	118.60
34	a	671	G	C2-N3-C4	-5.01	109.39	111.90
8	A	301	G	C4-N9-C1'	-5.01	119.99	126.50
8	A	1012	U	N3-C4-O4	5.01	122.91	119.40
8	A	1208	C	C6-N1-C2	5.01	122.30	120.30
34	a	482	A	N1-C6-N6	5.01	121.61	118.60
8	A	570	G	C4-C5-C6	5.01	121.81	118.80
8	A	1831	G	C8-N9-C4	5.01	108.40	106.40
34	a	648	A	N9-C4-C5	-5.01	103.80	105.80
34	a	1366	C	N3-C4-C5	5.01	123.90	121.90
8	A	770	G	N3-C4-N9	-5.01	123.00	126.00
8	A	2013	A	C4-C5-N7	5.01	113.20	110.70
8	A	2224	G	N3-C4-C5	5.01	131.10	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	B	44	G	N3-C4-N9	-5.01	123.00	126.00
8	A	1666	G	C4-N9-C1'	-5.00	119.99	126.50
34	a	470	C	N1-C1'-C2'	-5.00	106.49	112.00
8	A	1194	A	N9-C4-C5	-5.00	103.80	105.80
8	A	1515	A	N1-C6-N6	5.00	121.60	118.60
8	A	1987	A	N9-C4-C5	-5.00	103.80	105.80
34	a	1460	C	C6-N1-C2	5.00	122.30	120.30
55	v	5	G	C4-N9-C1'	-5.00	119.99	126.50
8	A	1177	G	N3-C4-N9	-5.00	123.00	126.00
8	A	1989	G	C2-N3-C4	-5.00	109.40	111.90
8	A	2093	G	C2-N3-C4	-5.00	109.40	111.90
34	a	831	A	N9-C4-C5	-5.00	103.80	105.80
34	a	1292	G	N3-C4-C5	5.00	131.10	128.60

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	3	30	HIS	Peptide
25	R	51	VAL	Peptide
28	U	97	SER	Peptide
32	Y	19	LEU	Peptide
35	b	87	ASP	Peptide
37	d	34	GLU	Peptide
37	d	71	PHE	Peptide
37	d	79	ALA	Peptide
54	u	12	ASP	Peptide
57	x	646	SER	Peptide

4.2 Too-close contacts (i)

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

4.3 Torsion angles (i)

4.3.1 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	0	54/57 (95%)	53 (98%)	1 (2%)	0	100	100
2	1	48/55 (87%)	46 (96%)	2 (4%)	0	100	100
3	2	44/46 (96%)	41 (93%)	3 (7%)	0	100	100
4	3	62/65 (95%)	56 (90%)	5 (8%)	1 (2%)	9	44
5	4	36/38 (95%)	31 (86%)	5 (14%)	0	100	100
6	5	129/165 (78%)	107 (83%)	22 (17%)	0	100	100
7	6	64/70 (91%)	57 (89%)	5 (8%)	2 (3%)	4	27
10	C	269/273 (98%)	245 (91%)	24 (9%)	0	100	100
11	D	207/209 (99%)	190 (92%)	17 (8%)	0	100	100
12	E	199/201 (99%)	191 (96%)	8 (4%)	0	100	100
13	F	175/179 (98%)	157 (90%)	18 (10%)	0	100	100
14	G	174/177 (98%)	163 (94%)	11 (6%)	0	100	100
15	H	147/149 (99%)	126 (86%)	21 (14%)	0	100	100
16	I	139/142 (98%)	124 (89%)	14 (10%)	1 (1%)	22	62
17	J	140/142 (99%)	134 (96%)	6 (4%)	0	100	100
18	K	120/123 (98%)	109 (91%)	11 (9%)	0	100	100
19	L	141/144 (98%)	124 (88%)	17 (12%)	0	100	100
20	M	134/136 (98%)	122 (91%)	12 (9%)	0	100	100
21	N	118/127 (93%)	109 (92%)	9 (8%)	0	100	100
22	O	114/117 (97%)	107 (94%)	7 (6%)	0	100	100
23	P	112/115 (97%)	101 (90%)	11 (10%)	0	100	100
24	Q	115/118 (98%)	113 (98%)	2 (2%)	0	100	100
25	R	101/103 (98%)	91 (90%)	9 (9%)	1 (1%)	15	54
26	S	108/110 (98%)	99 (92%)	9 (8%)	0	100	100
27	T	91/100 (91%)	81 (89%)	9 (10%)	1 (1%)	14	52
28	U	100/104 (96%)	89 (89%)	10 (10%)	1 (1%)	15	54
29	V	92/94 (98%)	92 (100%)	0	0	100	100
30	W	73/85 (86%)	68 (93%)	5 (7%)	0	100	100
31	X	75/78 (96%)	70 (93%)	5 (7%)	0	100	100
32	Y	61/63 (97%)	57 (93%)	3 (5%)	1 (2%)	9	44

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	Z	56/59 (95%)	55 (98%)	1 (2%)	0	100	100
35	b	216/240 (90%)	180 (83%)	35 (16%)	1 (0%)	29	69
36	c	204/233 (88%)	193 (95%)	11 (5%)	0	100	100
37	d	203/206 (98%)	172 (85%)	30 (15%)	1 (0%)	29	69
38	e	155/167 (93%)	140 (90%)	15 (10%)	0	100	100
39	f	98/135 (73%)	89 (91%)	9 (9%)	0	100	100
40	g	149/179 (83%)	134 (90%)	15 (10%)	0	100	100
41	h	127/130 (98%)	118 (93%)	9 (7%)	0	100	100
42	i	125/130 (96%)	106 (85%)	19 (15%)	0	100	100
43	j	96/103 (93%)	78 (81%)	18 (19%)	0	100	100
44	k	114/129 (88%)	103 (90%)	11 (10%)	0	100	100
45	l	121/124 (98%)	104 (86%)	16 (13%)	1 (1%)	19	60
46	m	112/118 (95%)	100 (89%)	12 (11%)	0	100	100
47	n	99/102 (97%)	90 (91%)	9 (9%)	0	100	100
48	o	86/89 (97%)	82 (95%)	4 (5%)	0	100	100
49	p	80/82 (98%)	68 (85%)	12 (15%)	0	100	100
50	q	78/84 (93%)	65 (83%)	13 (17%)	0	100	100
51	r	63/75 (84%)	54 (86%)	9 (14%)	0	100	100
52	s	80/92 (87%)	72 (90%)	8 (10%)	0	100	100
53	t	83/87 (95%)	82 (99%)	1 (1%)	0	100	100
54	u	63/71 (89%)	51 (81%)	12 (19%)	0	100	100
57	x	666/704 (95%)	588 (88%)	71 (11%)	7 (1%)	14	52
All	All	6516/6924 (94%)	5877 (90%)	621 (10%)	18 (0%)	44	76

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	6	64	PHE
57	x	387	LEU
57	x	545	PRO
57	x	546	GLY
4	3	31	ILE
57	x	647	GLU
28	U	98	ASN

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Mol	Chain	Res	Type
57	x	507	GLN
57	x	508	SER
32	Y	19	LEU
35	b	20	ARG
57	x	79	GLU
25	R	52	PRO
27	T	88	LYS
45	l	41	PRO
7	6	51	VAL
16	I	22	PRO
37	d	144	ILE

4.3.2 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	0	47/48 (98%)	47 (100%)	0	100	100
2	1	45/49 (92%)	45 (100%)	0	100	100
3	2	38/38 (100%)	37 (97%)	1 (3%)	46	67
4	3	51/52 (98%)	51 (100%)	0	100	100
5	4	34/34 (100%)	34 (100%)	0	100	100
7	6	59/62 (95%)	58 (98%)	1 (2%)	60	78
10	C	216/218 (99%)	213 (99%)	3 (1%)	67	80
11	D	164/164 (100%)	164 (100%)	0	100	100
12	E	165/165 (100%)	165 (100%)	0	100	100
13	F	148/150 (99%)	148 (100%)	0	100	100
14	G	137/138 (99%)	135 (98%)	2 (2%)	65	80
15	H	114/114 (100%)	113 (99%)	1 (1%)	78	88
17	J	116/116 (100%)	116 (100%)	0	100	100
18	K	103/104 (99%)	99 (96%)	4 (4%)	32	56
19	L	102/103 (99%)	101 (99%)	1 (1%)	76	86

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
20	M	109/109 (100%)	108 (99%)	1 (1%)	78 88
21	N	100/103 (97%)	100 (100%)	0	100 100
22	O	86/87 (99%)	86 (100%)	0	100 100
23	P	99/100 (99%)	99 (100%)	0	100 100
24	Q	89/90 (99%)	89 (100%)	0	100 100
25	R	84/84 (100%)	84 (100%)	0	100 100
26	S	93/93 (100%)	92 (99%)	1 (1%)	73 84
27	T	80/84 (95%)	79 (99%)	1 (1%)	69 82
28	U	83/85 (98%)	83 (100%)	0	100 100
29	V	78/78 (100%)	77 (99%)	1 (1%)	69 82
30	W	57/63 (90%)	56 (98%)	1 (2%)	59 77
31	X	67/68 (98%)	67 (100%)	0	100 100
32	Y	55/55 (100%)	55 (100%)	0	100 100
33	Z	48/49 (98%)	48 (100%)	0	100 100
35	b	180/198 (91%)	177 (98%)	3 (2%)	60 78
36	c	170/190 (90%)	169 (99%)	1 (1%)	86 92
37	d	172/173 (99%)	170 (99%)	2 (1%)	71 84
38	e	114/126 (90%)	112 (98%)	2 (2%)	59 77
39	f	87/116 (75%)	87 (100%)	0	100 100
40	g	124/147 (84%)	122 (98%)	2 (2%)	62 79
41	h	104/105 (99%)	104 (100%)	0	100 100
42	i	105/107 (98%)	105 (100%)	0	100 100
43	j	86/90 (96%)	86 (100%)	0	100 100
44	k	89/99 (90%)	88 (99%)	1 (1%)	73 84
45	l	103/104 (99%)	101 (98%)	2 (2%)	57 75
46	m	92/96 (96%)	92 (100%)	0	100 100
47	n	79/84 (94%)	78 (99%)	1 (1%)	69 82
48	o	76/77 (99%)	75 (99%)	1 (1%)	69 82
49	p	65/65 (100%)	65 (100%)	0	100 100
50	q	74/78 (95%)	74 (100%)	0	100 100
51	r	56/65 (86%)	56 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
52	s	72/79 (91%)	71 (99%)	1 (1%)	67 80
53	t	65/66 (98%)	65 (100%)	0	100 100
54	u	46/61 (75%)	46 (100%)	0	100 100
57	x	551/578 (95%)	545 (99%)	6 (1%)	73 84
58	y	1/1 (100%)	1 (100%)	0	100 100
All	All	5178/5408 (96%)	5138 (99%)	40 (1%)	82 89

All (40) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	2	41	ARG
7	6	20	ASN
10	C	43	ASN
10	C	85	ASN
10	C	259	ASN
14	G	2	ARG
14	G	138	GLN
15	H	58	LEU
18	K	37	ASP
18	K	88	ASN
18	K	90	ASN
18	K	93	GLN
19	L	58	TYR
20	M	6	ARG
26	S	46	LEU
27	T	26	LYS
29	V	34	LYS
30	W	10	ARG
35	b	108	GLN
35	b	176	ASN
35	b	183	PHE
36	c	106	ARG
37	d	46	ARG
37	d	71	PHE
38	e	81	GLN
38	e	92	ARG
40	g	10	LYS
40	g	147	ASN
44	k	118	ASN
45	l	4	ASN

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Mol	Chain	Res	Type
45	l	46	SER
47	n	49	GLN
48	o	16	ARG
52	s	80	ARG
57	x	23	THR
57	x	84	ASN
57	x	258	ASN
57	x	481	ASN
57	x	529	ASN
57	x	578	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	44	GLN
38	e	81	GLN
44	k	21	HIS

4.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
34	a	1536/1542 (99%)	447 (29%)	0
55	v	76/77 (98%)	20 (26%)	0
56	w	74/76 (97%)	23 (31%)	0
59	z	9/33 (27%)	3 (33%)	0
8	A	2898/2903 (99%)	593 (20%)	39 (1%)
9	B	119/120 (99%)	21 (17%)	3 (2%)
All	All	4712/4751 (99%)	1107 (23%)	42 (0%)

All (1107) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
8	A	10	A
8	A	34	U
8	A	35	G
8	A	46	G
8	A	62	U
8	A	63	A
8	A	64	A
8	A	71	A

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Mol	Chain	Res	Type
8	A	74	A
8	A	75	G
8	A	91	A
8	A	101	A
8	A	102	U
8	A	103	A
8	A	118	A
8	A	119	A
8	A	120	U
8	A	131	A
8	A	139	U
8	A	141	G
8	A	142	A
8	A	157	C
8	A	158	U
8	A	159	G
8	A	160	A
8	A	162	U
8	A	163	C
8	A	167	A
8	A	169	G
8	A	181	A
8	A	196	A
8	A	199	A
8	A	215	G
8	A	216	A
8	A	221	A
8	A	222	A
8	A	224	U
8	A	225	C
8	A	228	C
8	A	229	C
8	A	233	A
8	A	242	G
8	A	243	U
8	A	248	G
8	A	250	G
8	A	255	A
8	A	266	G
8	A	271	G
8	A	272	A
8	A	273	G

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Mol	Chain	Res	Type
8	A	274	C
8	A	275	C
8	A	276	U
8	A	277	G
8	A	278	A
8	A	287	G
8	A	288	U
8	A	291	G
8	A	294	A
8	A	311	A
8	A	330	A
8	A	331	C
8	A	345	A
8	A	346	A
8	A	355	U
8	A	356	G
8	A	362	A
8	A	369	U
8	A	371	A
8	A	372	G
8	A	373	U
8	A	377	G
8	A	383	C
8	A	386	G
8	A	395	U
8	A	396	G
8	A	401	A
8	A	403	U
8	A	404	A
8	A	405	U
8	A	406	G
8	A	411	G
8	A	424	G
8	A	434	U
8	A	435	C
8	A	452	G
8	A	455	C
8	A	457	A
8	A	458	G
8	A	459	U
8	A	475	C
8	A	480	A

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Mol	Chain	Res	Type
8	A	481	G
8	A	489	G
8	A	491	G
8	A	496	G
8	A	501	A
8	A	505	A
8	A	509	C
8	A	513	A
8	A	529	A
8	A	532	A
8	A	548	G
8	A	549	G
8	A	556	A
8	A	563	A
8	A	568	U
8	A	571	U
8	A	573	U
8	A	575	A
8	A	603	A
8	A	613	A
8	A	614	A
8	A	615	U
8	A	622	G
8	A	627	A
8	A	637	A
8	A	645	C
8	A	646	U
8	A	647	G
8	A	653	U
8	A	654	A
8	A	655	A
8	A	669	G
8	A	670	A
8	A	677	A
8	A	682	G
8	A	685	A
8	A	686	U
8	A	730	A
8	A	740	C
8	A	747	5MC
8	A	762	U
8	A	764	A

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Mol	Chain	Res	Type
8	A	765	C
8	A	774	G
8	A	775	G
8	A	776	G
8	A	782	A
8	A	784	G
8	A	785	G
8	A	791	C
8	A	792	A
8	A	805	G
8	A	812	C
8	A	819	A
8	A	827	U
8	A	828	U
8	A	831	G
8	A	845	A
8	A	846	U
8	A	847	U
8	A	856	G
8	A	859	G
8	A	866	A
8	A	869	G
8	A	874	G
8	A	875	G
8	A	876	C
8	A	877	A
8	A	882	G
8	A	883	G
8	A	884	U
8	A	885	C
8	A	886	A
8	A	887	A
8	A	888	C
8	A	890	C
8	A	891	G
8	A	892	A
8	A	893	C
8	A	894	U
8	A	895	U
8	A	896	A
8	A	899	A
8	A	903	C

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Mol	Chain	Res	Type
8	A	907	G
8	A	910	A
8	A	914	G
8	A	927	A
8	A	931	U
8	A	938	G
8	A	941	A
8	A	945	A
8	A	946	C
8	A	959	A
8	A	961	C
8	A	973	A
8	A	974	G
8	A	983	A
8	A	984	A
8	A	990	A
8	A	995	C
8	A	996	A
8	A	999	U
8	A	1005	C
8	A	1012	U
8	A	1013	C
8	A	1025	G
8	A	1026	G
8	A	1033	U
8	A	1040	A
8	A	1044	C
8	A	1045	C
8	A	1046	A
8	A	1047	G
8	A	1048	A
8	A	1057	A
8	A	1058	U
8	A	1059	G
8	A	1060	U
8	A	1061	U
8	A	1062	G
8	A	1063	G
8	A	1064	C
8	A	1065	U
8	A	1066	U
8	A	1067	A

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Mol	Chain	Res	Type
8	A	1068	G
8	A	1069	A
8	A	1070	A
8	A	1072	C
8	A	1073	A
8	A	1074	G
8	A	1075	C
8	A	1076	C
8	A	1079	C
8	A	1080	A
8	A	1081	U
8	A	1082	U
8	A	1083	U
8	A	1084	A
8	A	1085	A
8	A	1086	A
8	A	1087	G
8	A	1088	A
8	A	1089	A
8	A	1091	G
8	A	1092	C
8	A	1093	G
8	A	1094	U
8	A	1095	A
8	A	1097	U
8	A	1099	G
8	A	1100	C
8	A	1101	U
8	A	1102	C
8	A	1103	A
8	A	1105	U
8	A	1106	G
8	A	1107	G
8	A	1111	A
8	A	1112	G
8	A	1115	G
8	A	1117	C
8	A	1120	G
8	A	1130	U
8	A	1132	U
8	A	1133	A
8	A	1135	C

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Mol	Chain	Res	Type
8	A	1139	G
8	A	1172	C
8	A	1174	U
8	A	1175	A
8	A	1176	U
8	A	1177	G
8	A	1178	C
8	A	1179	G
8	A	1180	U
8	A	1204	A
8	A	1227	G
8	A	1247	A
8	A	1253	A
8	A	1255	U
8	A	1256	G
8	A	1271	G
8	A	1272	A
8	A	1294	U
8	A	1300	G
8	A	1301	A
8	A	1332	G
8	A	1341	G
8	A	1345	C
8	A	1359	A
8	A	1365	A
8	A	1368	G
8	A	1378	A
8	A	1379	U
8	A	1380	G
8	A	1383	A
8	A	1395	A
8	A	1408	G
8	A	1415	U
8	A	1416	G
8	A	1419	A
8	A	1420	A
8	A	1427	A
8	A	1428	C
8	A	1433	A
8	A	1452	G
8	A	1454	C
8	A	1455	G

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Mol	Chain	Res	Type
8	A	1458	U
8	A	1460	U
8	A	1461	C
8	A	1482	G
8	A	1490	A
8	A	1491	G
8	A	1493	C
8	A	1497	U
8	A	1498	C
8	A	1515	A
8	A	1523	U
8	A	1529	G
8	A	1534	U
8	A	1535	A
8	A	1536	C
8	A	1558	C
8	A	1566	A
8	A	1569	A
8	A	1578	U
8	A	1583	A
8	A	1584	U
8	A	1585	C
8	A	1603	A
8	A	1608	A
8	A	1610	A
8	A	1634	A
8	A	1647	U
8	A	1648	U
8	A	1649	G
8	A	1654	A
8	A	1674	G
8	A	1675	C
8	A	1698	A
8	A	1715	G
8	A	1729	U
8	A	1730	C
8	A	1731	G
8	A	1732	C
8	A	1738	G
8	A	1744	A
8	A	1757	A
8	A	1764	C

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Mol	Chain	Res	Type
8	A	1773	A
8	A	1784	A
8	A	1786	A
8	A	1787	A
8	A	1789	A
8	A	1790	C
8	A	1800	C
8	A	1801	A
8	A	1807	G
8	A	1808	A
8	A	1809	A
8	A	1811	G
8	A	1816	C
8	A	1827	U
8	A	1829	A
8	A	1835	2MG
8	A	1848	A
8	A	1857	G
8	A	1869	G
8	A	1884	G
8	A	1896	G
8	A	1900	A
8	A	1901	A
8	A	1906	G
8	A	1912	A
8	A	1913	A
8	A	1914	C
8	A	1927	A
8	A	1929	G
8	A	1930	G
8	A	1931	U
8	A	1937	A
8	A	1938	A
8	A	1939	5MU
8	A	1955	U
8	A	1960	A
8	A	1967	C
8	A	1970	A
8	A	1971	U
8	A	1972	G
8	A	1982	U
8	A	1991	U

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Mol	Chain	Res	Type
8	A	1997	C
8	A	2020	A
8	A	2022	U
8	A	2023	C
8	A	2031	A
8	A	2032	G
8	A	2033	A
8	A	2036	C
8	A	2043	C
8	A	2049	G
8	A	2055	C
8	A	2056	G
8	A	2060	A
8	A	2061	G
8	A	2062	A
8	A	2069	G7M
8	A	2072	C
8	A	2100	G
8	A	2104	C
8	A	2105	U
8	A	2107	G
8	A	2108	A
8	A	2109	U
8	A	2110	G
8	A	2111	U
8	A	2112	G
8	A	2113	U
8	A	2114	A
8	A	2115	G
8	A	2116	G
8	A	2118	U
8	A	2120	G
8	A	2121	G
8	A	2123	G
8	A	2125	G
8	A	2126	A
8	A	2129	C
8	A	2131	U
8	A	2132	U
8	A	2133	G
8	A	2134	A
8	A	2136	G

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Mol	Chain	Res	Type
8	A	2140	G
8	A	2141	G
8	A	2143	C
8	A	2144	G
8	A	2145	C
8	A	2146	C
8	A	2147	A
8	A	2149	U
8	A	2151	U
8	A	2153	C
8	A	2155	U
8	A	2156	G
8	A	2157	G
8	A	2158	A
8	A	2159	G
8	A	2164	C
8	A	2165	C
8	A	2170	A
8	A	2171	A
8	A	2172	U
8	A	2173	A
8	A	2174	C
8	A	2176	A
8	A	2177	C
8	A	2179	C
8	A	2181	U
8	A	2185	U
8	A	2186	G
8	A	2187	U
8	A	2188	U
8	A	2189	U
8	A	2193	G
8	A	2198	A
8	A	2203	U
8	A	2204	G
8	A	2208	C
8	A	2210	U
8	A	2211	A
8	A	2225	A
8	A	2238	G
8	A	2239	G
8	A	2266	A

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Mol	Chain	Res	Type
8	A	2273	A
8	A	2278	A
8	A	2279	G
8	A	2283	C
8	A	2287	A
8	A	2288	A
8	A	2289	G
8	A	2297	A
8	A	2305	U
8	A	2309	A
8	A	2310	C
8	A	2312	U
8	A	2319	G
8	A	2320	U
8	A	2322	A
8	A	2325	G
8	A	2333	A
8	A	2334	U
8	A	2336	A
8	A	2344	U
8	A	2345	G
8	A	2346	A
8	A	2347	C
8	A	2350	C
8	A	2357	G
8	A	2361	G
8	A	2371	G
8	A	2381	A
8	A	2382	G
8	A	2383	G
8	A	2385	C
8	A	2402	U
8	A	2406	A
8	A	2407	A
8	A	2408	U
8	A	2410	G
8	A	2423	U
8	A	2425	A
8	A	2426	A
8	A	2428	G
8	A	2429	G
8	A	2430	A

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Mol	Chain	Res	Type
8	A	2432	A
8	A	2435	A
8	A	2441	U
8	A	2445	2MG
8	A	2447	G
8	A	2448	A
8	A	2475	C
8	A	2476	A
8	A	2478	A
8	A	2487	G
8	A	2494	G
8	A	2502	G
8	A	2504	PSU
8	A	2505	G
8	A	2518	A
8	A	2520	C
8	A	2529	G
8	A	2535	G
8	A	2547	A
8	A	2554	U
8	A	2556	C
8	A	2566	A
8	A	2567	G
8	A	2573	C
8	A	2576	G
8	A	2584	U
8	A	2585	U
8	A	2602	A
8	A	2609	U
8	A	2613	U
8	A	2615	U
8	A	2619	C
8	A	2621	G
8	A	2629	U
8	A	2630	G
8	A	2638	G
8	A	2646	C
8	A	2654	A
8	A	2656	U
8	A	2663	G
8	A	2689	U
8	A	2690	U

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Mol	Chain	Res	Type
8	A	2702	G
8	A	2714	G
8	A	2718	G
8	A	2725	A
8	A	2726	A
8	A	2729	G
8	A	2732	G
8	A	2733	A
8	A	2739	U
8	A	2744	G
8	A	2747	G
8	A	2748	A
8	A	2749	A
8	A	2750	A
8	A	2751	G
8	A	2752	C
8	A	2754	U
8	A	2755	C
8	A	2765	A
8	A	2778	A
8	A	2779	U
8	A	2791	G
8	A	2793	C
8	A	2798	U
8	A	2799	A
8	A	2800	A
8	A	2808	G
8	A	2818	U
8	A	2820	A
8	A	2821	A
8	A	2849	U
8	A	2867	G
8	A	2872	A
8	A	2873	A
8	A	2880	C
8	A	2884	U
8	A	2886	A
8	A	2891	U
8	A	2902	C
9	B	9	G
9	B	18	G
9	B	25	U

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Mol	Chain	Res	Type
9	B	35	C
9	B	36	C
9	B	37	C
9	B	41	G
9	B	42	C
9	B	44	G
9	B	45	A
9	B	51	G
9	B	52	A
9	B	53	A
9	B	56	G
9	B	67	G
9	B	73	A
9	B	88	C
9	B	89	U
9	B	108	A
9	B	109	A
9	B	120	U
34	a	2	A
34	a	5	U
34	a	6	G
34	a	7	A
34	a	9	G
34	a	16	A
34	a	22	G
34	a	31	G
34	a	32	A
34	a	37	U
34	a	39	G
34	a	46	G
34	a	47	C
34	a	48	C
34	a	50	A
34	a	51	A
34	a	64	G
34	a	69	G
34	a	71	A
34	a	73	C
34	a	74	A
34	a	77	A
34	a	78	A
34	a	79	G

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Mol	Chain	Res	Type
34	a	80	A
34	a	81	A
34	a	83	C
34	a	84	U
34	a	85	U
34	a	86	G
34	a	88	U
34	a	89	U
34	a	90	C
34	a	92	U
34	a	94	G
34	a	97	G
34	a	114	U
34	a	121	U
34	a	131	A
34	a	133	U
34	a	140	U
34	a	141	G
34	a	144	G
34	a	145	G
34	a	146	G
34	a	148	G
34	a	155	A
34	a	156	C
34	a	157	U
34	a	158	G
34	a	159	G
34	a	160	A
34	a	161	A
34	a	162	A
34	a	163	C
34	a	164	G
34	a	165	G
34	a	167	A
34	a	169	C
34	a	170	U
34	a	171	A
34	a	173	U
34	a	174	A
34	a	179	A
34	a	180	U
34	a	182	A

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Mol	Chain	Res	Type
34	a	183	C
34	a	186	C
34	a	188	C
34	a	189	A
34	a	197	A
34	a	198	G
34	a	201	G
34	a	202	G
34	a	204	G
34	a	205	A
34	a	206	C
34	a	207	C
34	a	208	U
34	a	209	U
34	a	210	C
34	a	211	G
34	a	212	G
34	a	213	G
34	a	214	C
34	a	216	U
34	a	219	U
34	a	221	C
34	a	224	U
34	a	226	G
34	a	240	G
34	a	245	U
34	a	246	A
34	a	247	G
34	a	251	G
34	a	253	A
34	a	262	A
34	a	266	G
34	a	267	C
34	a	271	C
34	a	279	A
34	a	281	G
34	a	289	G
34	a	298	A
34	a	299	G
34	a	301	G
34	a	316	C
34	a	317	U

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Mol	Chain	Res	Type
34	a	321	A
34	a	322	C
34	a	328	C
34	a	330	C
34	a	342	C
34	a	344	A
34	a	345	C
34	a	346	G
34	a	347	G
34	a	351	G
34	a	352	C
34	a	354	G
34	a	363	A
34	a	367	U
34	a	372	C
34	a	373	A
34	a	374	A
34	a	375	U
34	a	376	G
34	a	384	G
34	a	388	G
34	a	392	C
34	a	397	A
34	a	405	U
34	a	406	G
34	a	411	A
34	a	414	A
34	a	415	A
34	a	421	U
34	a	422	C
34	a	423	G
34	a	428	G
34	a	429	U
34	a	430	A
34	a	435	A
34	a	436	C
34	a	439	U
34	a	442	G
34	a	443	C
34	a	447	G
34	a	448	A
34	a	454	G

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Mol	Chain	Res	Type
34	a	457	G
34	a	458	U
34	a	460	A
34	a	462	G
34	a	463	U
34	a	464	U
34	a	467	U
34	a	468	A
34	a	469	C
34	a	470	C
34	a	471	U
34	a	472	U
34	a	473	U
34	a	476	U
34	a	477	C
34	a	479	U
34	a	482	A
34	a	484	G
34	a	492	C
34	a	495	A
34	a	496	A
34	a	497	G
34	a	505	G
34	a	509	A
34	a	510	A
34	a	511	C
34	a	512	U
34	a	515	G
34	a	516	PSU
34	a	518	C
34	a	524	G
34	a	530	G
34	a	532	A
34	a	547	A
34	a	560	A
34	a	562	U
34	a	564	C
34	a	570	G
34	a	572	A
34	a	573	A
34	a	574	A
34	a	575	G

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Mol	Chain	Res	Type
34	a	576	C
34	a	577	G
34	a	583	A
34	a	596	A
34	a	607	A
34	a	614	C
34	a	618	C
34	a	620	C
34	a	623	C
34	a	624	C
34	a	633	G
34	a	635	A
34	a	636	U
34	a	639	G
34	a	641	U
34	a	650	G
34	a	661	G
34	a	662	U
34	a	665	A
34	a	676	A
34	a	686	U
34	a	687	A
34	a	690	G
34	a	693	G
34	a	695	A
34	a	700	G
34	a	702	A
34	a	703	G
34	a	710	G
34	a	721	G
34	a	723	U
34	a	724	G
34	a	731	G
34	a	733	G
34	a	734	G
34	a	736	C
34	a	739	C
34	a	753	A
34	a	755	G
34	a	777	A
34	a	781	A
34	a	782	A

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Mol	Chain	Res	Type
34	a	793	U
34	a	794	A
34	a	799	G
34	a	812	G
34	a	815	A
34	a	817	C
34	a	818	G
34	a	819	A
34	a	820	U
34	a	821	G
34	a	833	G
34	a	836	G
34	a	837	U
34	a	840	C
34	a	842	U
34	a	843	U
34	a	845	A
34	a	849	G
34	a	864	A
34	a	865	A
34	a	872	A
34	a	876	C
34	a	885	G
34	a	890	G
34	a	891	U
34	a	902	G
34	a	914	A
34	a	920	U
34	a	921	U
34	a	926	G
34	a	927	G
34	a	934	C
34	a	935	A
34	a	945	G
34	a	946	A
34	a	958	A
34	a	960	U
34	a	961	U
34	a	964	A
34	a	965	U
34	a	966	2MG
34	a	967	5MC

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Mol	Chain	Res	Type
34	a	969	A
34	a	975	A
34	a	976	G
34	a	977	A
34	a	979	C
34	a	980	C
34	a	982	U
34	a	984	C
34	a	989	U
34	a	992	U
34	a	993	G
34	a	994	A
34	a	995	C
34	a	996	A
34	a	997	U
34	a	1000	A
34	a	1002	G
34	a	1004	A
34	a	1009	U
34	a	1010	U
34	a	1011	C
34	a	1012	A
34	a	1022	A
34	a	1023	U
34	a	1026	G
34	a	1027	C
34	a	1028	C
34	a	1029	U
34	a	1030	U
34	a	1031	C
34	a	1032	G
34	a	1033	G
34	a	1034	G
34	a	1037	C
34	a	1041	G
34	a	1045	C
34	a	1049	U
34	a	1050	G
34	a	1064	G
34	a	1065	U
34	a	1075	U
34	a	1080	A

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Mol	Chain	Res	Type
34	a	1081	A
34	a	1082	A
34	a	1083	U
34	a	1084	G
34	a	1085	U
34	a	1086	U
34	a	1094	G
34	a	1100	C
34	a	1101	A
34	a	1102	A
34	a	1105	A
34	a	1108	G
34	a	1120	C
34	a	1124	G
34	a	1126	U
34	a	1127	G
34	a	1130	A
34	a	1131	G
34	a	1133	G
34	a	1134	G
34	a	1136	C
34	a	1137	C
34	a	1138	G
34	a	1140	C
34	a	1142	G
34	a	1143	G
34	a	1145	A
34	a	1146	A
34	a	1154	G
34	a	1159	U
34	a	1160	G
34	a	1167	A
34	a	1168	U
34	a	1169	A
34	a	1173	U
34	a	1176	A
34	a	1183	U
34	a	1184	G
34	a	1193	G
34	a	1196	A
34	a	1197	A
34	a	1200	C

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Mol	Chain	Res	Type
34	a	1201	A
34	a	1202	U
34	a	1210	C
34	a	1212	U
34	a	1213	A
34	a	1214	C
34	a	1227	A
34	a	1228	C
34	a	1236	A
34	a	1239	A
34	a	1242	G
34	a	1249	C
34	a	1250	A
34	a	1257	A
34	a	1260	G
34	a	1261	A
34	a	1262	C
34	a	1263	C
34	a	1264	U
34	a	1267	C
34	a	1269	A
34	a	1270	G
34	a	1274	A
34	a	1275	A
34	a	1280	A
34	a	1285	A
34	a	1287	A
34	a	1300	G
34	a	1301	U
34	a	1302	C
34	a	1303	C
34	a	1312	G
34	a	1317	C
34	a	1318	A
34	a	1319	A
34	a	1320	C
34	a	1322	C
34	a	1330	U
34	a	1331	G
34	a	1332	A
34	a	1333	A
34	a	1335	U

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Mol	Chain	Res	Type
34	a	1336	C
34	a	1338	G
34	a	1346	A
34	a	1347	G
34	a	1348	U
34	a	1349	A
34	a	1353	G
34	a	1360	A
34	a	1366	C
34	a	1370	G
34	a	1378	C
34	a	1381	U
34	a	1394	A
34	a	1395	C
34	a	1397	C
34	a	1398	A
34	a	1400	C
34	a	1408	A
34	a	1410	A
34	a	1419	G
34	a	1422	G
34	a	1441	A
34	a	1444	U
34	a	1446	A
34	a	1447	A
34	a	1450	U
34	a	1452	C
34	a	1453	G
34	a	1454	G
34	a	1456	A
34	a	1472	U
34	a	1492	A
34	a	1497	G
34	a	1499	A
34	a	1503	A
34	a	1506	U
34	a	1517	G
34	a	1520	C
34	a	1529	G
34	a	1530	G
34	a	1534	A
34	a	1536	C

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Mol	Chain	Res	Type
34	a	1538	C
34	a	1539	C
34	a	1540	U
55	v	9	G
55	v	17(A)	U
55	v	19	G
55	v	20	H2U
55	v	21	A
55	v	22	G
55	v	23	C
55	v	33	U
55	v	36	U
55	v	38	A
55	v	40	C
55	v	41	C
55	v	47	U
55	v	48	C
55	v	54	5MU
55	v	60	U
55	v	68	C
55	v	73	A
55	v	74	C
55	v	75	C
56	w	9	A
56	w	10	G
56	w	13	C
56	w	16	U
56	w	17	C
56	w	19	G
56	w	20	U
56	w	21	A
56	w	22	G
56	w	28	G
56	w	45	U
56	w	46	G7M
56	w	47	U
56	w	48	C
56	w	49	C
56	w	57	G
56	w	58	A
56	w	59	U
56	w	60	U

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Mol	Chain	Res	Type
56	w	61	C
56	w	69	G
56	w	73	A
56	w	76	A
59	z	2	U
59	z	4	U
59	z	9	U

All (42) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
8	A	102	U
8	A	141	G
8	A	160	A
8	A	162	U
8	A	242	G
8	A	310	A
8	A	555	G
8	A	733	G
8	A	746	PSU
8	A	784	G
8	A	882	G
8	A	885	C
8	A	1078	U
8	A	1085	A
8	A	1090	A
8	A	1091	G
8	A	1173	U
8	A	1178	C
8	A	1182	G
8	A	1200	C
8	A	1300	G
8	A	1358	G
8	A	1454	C
8	A	1490	A
8	A	1730	C
8	A	1789	A
8	A	1847	G
8	A	2192	U
8	A	2287	A
8	A	2308	G
8	A	2324	U

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Mol	Chain	Res	Type
8	A	2345	G
8	A	2346	A
8	A	2381	A
8	A	2405	G
8	A	2406	A
8	A	2728	U
8	A	2750	A
8	A	2820	A
9	B	44	G
9	B	52	A
9	B	66	A

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

46 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	$\#\|Z\| > 2$
8	1MG	A	745	8	18,26,27	2.35	6 (33%)	19,39,42	1.58	5 (26%)
34	2MG	a	1516	34	18,26,27	2.32	7 (38%)	16,38,41	1.40	3 (18%)
56	PSU	w	32	56	18,21,22	3.91	6 (33%)	22,30,33	1.85	6 (27%)
34	2MG	a	1207	34	18,26,27	2.13	7 (38%)	16,38,41	1.50	4 (25%)
34	5MC	a	967	34	18,22,23	3.28	7 (38%)	26,32,35	1.29	4 (15%)
34	G7M	a	527	34	20,26,27	2.07	4 (20%)	17,39,42	1.44	3 (17%)
55	5MU	v	54	55	19,22,23	4.60	7 (36%)	28,32,35	3.73	10 (35%)
8	3TD	A	1915	8	18,22,23	7.27	11 (61%)	22,32,35	1.73	2 (9%)
8	6MZ	A	2030	8	18,25,26	1.80	6 (33%)	16,36,39	2.37	5 (31%)
8	2MA	A	2503	8	17,25,26	2.33	5 (29%)	17,37,40	1.51	4 (23%)
56	5MU	w	54	56	19,22,23	1.38	6 (31%)	28,32,35	2.21	9 (32%)
8	OMU	A	2552	8	19,22,23	2.66	5 (26%)	26,31,34	2.07	6 (23%)
8	5MC	A	1962	8	18,22,23	2.96	7 (38%)	26,32,35	1.34	2 (7%)
58	FME	y	101	58	8,9,10	1.03	1 (12%)	7,9,11	1.05	1 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
8	PSU	A	2580	8	18,21,22	3.28	7 (38%)	22,30,33	2.54	6 (27%)
56	MIA	w	37	56	24,31,32	2.44	4 (16%)	26,44,47	2.74	10 (38%)
34	PSU	a	516	34	18,21,22	3.65	7 (38%)	22,30,33	1.90	5 (22%)
8	G7M	A	2069	8	20,26,27	1.78	6 (30%)	17,39,42	1.85	4 (23%)
34	MA6	a	1518	34	18,26,27	1.53	3 (16%)	19,38,41	3.38	3 (15%)
8	PSU	A	955	8	18,21,22	3.55	7 (38%)	22,30,33	1.98	4 (18%)
8	6MZ	A	1618	8	18,25,26	1.72	6 (33%)	16,36,39	2.94	4 (25%)
56	PSU	w	39	56	18,21,22	3.75	6 (33%)	22,30,33	2.22	5 (22%)
8	PSU	A	2604	8	18,21,22	3.51	8 (44%)	22,30,33	2.41	6 (27%)
8	PSU	A	746	8	18,21,22	3.74	6 (33%)	22,30,33	1.68	5 (22%)
8	PSU	A	2504	8	18,21,22	3.85	7 (38%)	22,30,33	1.84	4 (18%)
55	H2U	v	20	55	18,21,22	3.58	3 (16%)	21,30,33	2.03	5 (23%)
55	4SU	v	8	55	18,21,22	3.41	8 (44%)	26,30,33	2.15	4 (15%)
8	PSU	A	2605	8	18,21,22	3.48	7 (38%)	22,30,33	2.27	6 (27%)
34	4OC	a	1402	34	20,23,24	3.16	8 (40%)	26,32,35	1.13	3 (11%)
34	MA6	a	1519	34	18,26,27	1.53	3 (16%)	19,38,41	3.54	5 (26%)
8	5MC	A	747	8	18,22,23	3.41	7 (38%)	26,32,35	1.39	2 (7%)
55	PSU	v	55	55	18,21,22	3.82	6 (33%)	22,30,33	1.89	5 (22%)
34	5MC	a	1407	34	18,22,23	3.16	7 (38%)	26,32,35	1.09	2 (7%)
56	PSU	w	55	56	18,21,22	1.43	3 (16%)	22,30,33	1.91	5 (22%)
56	G7M	w	46	56	20,26,27	4.39	14 (70%)	17,39,42	2.21	3 (17%)
8	OMG	A	2251	8,56	18,26,27	2.49	8 (44%)	19,38,41	1.52	5 (26%)
8	OMC	A	2498	8	19,22,23	3.08	8 (42%)	26,31,34	0.84	0
56	4SU	w	8	56	18,21,22	1.89	5 (27%)	26,30,33	2.11	6 (23%)
8	PSU	A	2457	8	18,21,22	3.52	8 (44%)	22,30,33	2.16	4 (18%)
8	5MU	A	1939	8	19,22,23	4.63	7 (36%)	28,32,35	3.83	9 (32%)
8	PSU	A	1917	8	18,21,22	3.68	6 (33%)	22,30,33	1.92	5 (22%)
8	2MG	A	2445	8	18,26,27	1.89	5 (27%)	16,38,41	1.36	2 (12%)
8	PSU	A	1911	8	18,21,22	3.58	7 (38%)	22,30,33	1.96	5 (22%)
34	2MG	a	966	34	18,26,27	0.99	1 (5%)	16,38,41	1.40	3 (18%)
8	2MG	A	1835	8	18,26,27	2.08	7 (38%)	16,38,41	2.13	4 (25%)
34	UR3	a	1498	34	19,22,23	2.46	6 (31%)	26,32,35	1.12	2 (7%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the

Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
8	1MG	A	745	8	-	0/3/25/26	0/3/3/3
34	2MG	a	1516	34	-	0/5/27/28	0/3/3/3
56	PSU	w	32	56	-	2/7/25/26	0/2/2/2
34	2MG	a	1207	34	-	0/5/27/28	0/3/3/3
34	5MC	a	967	34	-	2/7/25/26	0/2/2/2
34	G7M	a	527	34	-	2/3/25/26	0/3/3/3
55	5MU	v	54	55	-	3/7/25/26	0/2/2/2
8	3TD	A	1915	8	-	2/7/25/26	0/2/2/2
8	6MZ	A	2030	8	-	3/5/27/28	0/3/3/3
8	2MA	A	2503	8	-	2/3/25/26	0/3/3/3
56	5MU	w	54	56	-	0/7/25/26	0/2/2/2
8	OMU	A	2552	8	-	2/9/27/28	0/2/2/2
8	5MC	A	1962	8	-	0/7/25/26	0/2/2/2
58	FME	y	101	58	-	4/7/9/11	-
8	PSU	A	2580	8	-	0/7/25/26	0/2/2/2
56	MIA	w	37	56	-	3/11/33/34	0/3/3/3
34	PSU	a	516	34	-	0/7/25/26	0/2/2/2
8	G7M	A	2069	8	-	1/3/25/26	0/3/3/3
34	MA6	a	1518	34	-	0/7/29/30	0/3/3/3
8	PSU	A	955	8	-	0/7/25/26	0/2/2/2
8	6MZ	A	1618	8	-	2/5/27/28	0/3/3/3
56	PSU	w	39	56	-	3/7/25/26	0/2/2/2
8	PSU	A	2604	8	-	1/7/25/26	0/2/2/2
8	PSU	A	746	8	-	1/7/25/26	0/2/2/2
8	PSU	A	2504	8	-	0/7/25/26	0/2/2/2
55	H2U	v	20	55	-	1/7/38/39	0/2/2/2
55	4SU	v	8	55	-	0/7/25/26	0/2/2/2
8	PSU	A	2605	8	-	0/7/25/26	0/2/2/2
34	4OC	a	1402	34	-	0/9/29/30	0/2/2/2
34	MA6	a	1519	34	-	4/7/29/30	0/3/3/3
8	5MC	A	747	8	-	2/7/25/26	0/2/2/2
55	PSU	v	55	55	-	2/7/25/26	0/2/2/2
34	5MC	a	1407	34	-	0/7/25/26	0/2/2/2
56	PSU	w	55	56	-	1/7/25/26	0/2/2/2
56	G7M	w	46	56	-	1/3/25/26	0/3/3/3
8	OMG	A	2251	8,56	-	0/5/27/28	0/3/3/3
8	OMC	A	2498	8	-	2/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	4SU	w	8	56	-	0/7/25/26	0/2/2/2
8	PSU	A	2457	8	-	0/7/25/26	0/2/2/2
8	5MU	A	1939	8	-	2/7/25/26	0/2/2/2
8	PSU	A	1917	8	-	0/7/25/26	0/2/2/2
8	2MG	A	2445	8	-	2/5/27/28	0/3/3/3
8	PSU	A	1911	8	-	0/7/25/26	0/2/2/2
34	2MG	a	966	34	-	3/5/27/28	0/3/3/3
8	2MG	A	1835	8	-	2/5/27/28	0/3/3/3
34	UR3	a	1498	34	-	2/7/25/26	0/2/2/2

All (286) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1915	3TD	O4'-C1'	17.31	1.67	1.43
8	A	1915	3TD	C2'-C1'	-15.67	1.33	1.53
8	A	1915	3TD	C6-C5	13.05	1.50	1.35
55	v	20	H2U	C2-N1	12.16	1.53	1.35
8	A	1939	5MU	C2-N1	10.72	1.55	1.38
55	v	54	5MU	C2-N1	10.49	1.55	1.38
56	w	46	G7M	C2'-C3'	-10.12	1.25	1.53
55	v	54	5MU	C4-C5	9.93	1.61	1.44
8	A	746	PSU	C6-C5	9.86	1.46	1.35
55	v	54	5MU	C6-N1	9.70	1.54	1.38
56	w	32	PSU	C6-C5	9.63	1.46	1.35
8	A	1915	3TD	C2-N1	9.58	1.49	1.37
8	A	2504	PSU	C2-N1	9.58	1.49	1.36
8	A	1939	5MU	C6-N1	9.55	1.54	1.38
8	A	1939	5MU	C4-C5	9.43	1.60	1.44
56	w	32	PSU	C2-N1	9.35	1.49	1.36
55	v	55	PSU	C2-N1	9.33	1.49	1.36
8	A	747	5MC	C6-C5	9.32	1.49	1.34
56	w	39	PSU	C2-N1	9.18	1.49	1.36
8	A	955	PSU	C2-N1	9.14	1.49	1.36
8	A	2604	PSU	C2-N1	9.14	1.49	1.36
8	A	2457	PSU	C2-N1	8.92	1.48	1.36
56	w	39	PSU	C6-C5	8.91	1.45	1.35
8	A	2504	PSU	C6-C5	8.86	1.45	1.35
34	a	516	PSU	C6-C5	8.85	1.45	1.35
8	A	1917	PSU	C2-N1	8.77	1.48	1.36
8	A	1911	PSU	C2-N1	8.75	1.48	1.36
8	A	1917	PSU	C6-C5	8.68	1.45	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	v	55	PSU	C6-C5	8.63	1.45	1.35
8	A	746	PSU	C2-N1	8.47	1.48	1.36
8	A	2605	PSU	C2-N1	8.45	1.48	1.36
34	a	516	PSU	C2-N1	8.35	1.48	1.36
34	a	1407	5MC	C6-C5	8.31	1.48	1.34
8	A	1911	PSU	C6-C5	8.31	1.45	1.35
8	A	1939	5MU	C4-N3	-8.18	1.23	1.38
34	a	967	5MC	C6-C5	8.14	1.48	1.34
55	v	8	4SU	C4-N3	7.99	1.46	1.37
8	A	955	PSU	C6-C5	7.93	1.44	1.35
8	A	2605	PSU	C6-C5	7.90	1.44	1.35
34	a	1402	4OC	C4-N3	7.71	1.46	1.32
55	v	54	5MU	C4-N3	-7.65	1.24	1.38
8	A	2580	PSU	C2-N1	7.64	1.47	1.36
8	A	2604	PSU	C6-C5	7.59	1.44	1.35
8	A	2457	PSU	C6-C5	7.55	1.44	1.35
8	A	2580	PSU	C6-C5	7.32	1.43	1.35
8	A	1962	5MC	C6-C5	7.29	1.46	1.34
56	w	37	MIA	C13-C14	7.27	1.53	1.32
56	w	46	G7M	O4'-C1'	7.17	1.51	1.41
55	v	55	PSU	C2-N3	6.91	1.49	1.37
8	A	2503	2MA	C2-N3	6.86	1.45	1.31
56	w	32	PSU	C2-N3	6.79	1.49	1.37
8	A	1917	PSU	C2-N3	6.78	1.49	1.37
55	v	20	H2U	C2-N3	6.75	1.50	1.38
8	A	2504	PSU	C2-N3	6.70	1.49	1.37
34	a	516	PSU	C2-N3	6.61	1.48	1.37
8	A	2605	PSU	C2-N3	6.60	1.48	1.37
56	w	37	MIA	C2-S10	6.55	1.81	1.75
8	A	1911	PSU	C2-N3	6.47	1.48	1.37
34	a	1402	4OC	C2-N3	6.41	1.49	1.36
56	w	39	PSU	C2-N3	6.41	1.48	1.37
8	A	2552	OMU	C2-N1	6.35	1.48	1.38
8	A	746	PSU	C2-N3	6.33	1.48	1.37
34	a	967	5MC	C4-N3	6.29	1.44	1.34
8	A	1915	3TD	O4'-C4'	-6.29	1.30	1.45
8	A	2498	OMC	C6-C5	6.25	1.49	1.35
8	A	2580	PSU	C2-N3	6.18	1.48	1.37
56	w	46	G7M	C3'-C4'	6.13	1.68	1.53
34	a	1498	UR3	C2-N1	6.12	1.47	1.38
8	A	2498	OMC	C2-N3	6.11	1.48	1.36
8	A	955	PSU	C2-N3	6.08	1.47	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	2457	PSU	C2-N3	6.07	1.47	1.37
55	v	8	4SU	C2-N3	6.01	1.48	1.38
8	A	2604	PSU	C2-N3	5.95	1.47	1.37
56	w	46	G7M	C2-N3	5.82	1.47	1.33
8	A	2552	OMU	C2-N3	5.77	1.48	1.38
56	w	46	G7M	O4'-C4'	-5.76	1.32	1.45
8	A	747	5MC	C4-N3	5.74	1.43	1.34
8	A	1962	5MC	C4-N3	5.74	1.43	1.34
8	A	1915	3TD	C6-N1	5.72	1.45	1.36
34	a	967	5MC	C2-N3	5.65	1.47	1.36
8	A	747	5MC	C2-N3	5.54	1.47	1.36
55	v	20	H2U	C4-N3	5.53	1.47	1.37
34	a	1402	4OC	C6-C5	5.49	1.47	1.35
34	a	1498	UR3	C6-C5	5.40	1.47	1.35
8	A	2498	OMC	C4-N4	5.37	1.46	1.33
8	A	2498	OMC	C4-N3	5.36	1.45	1.34
8	A	2552	OMU	C6-C5	5.36	1.47	1.35
8	A	745	1MG	C2-N2	5.35	1.43	1.34
34	a	1407	5MC	C4-N3	5.34	1.43	1.34
8	A	1939	5MU	C6-C5	5.33	1.43	1.34
34	a	527	G7M	C4-N3	5.28	1.50	1.37
55	v	8	4SU	C6-C5	5.26	1.47	1.35
8	A	1962	5MC	C2-N3	5.13	1.46	1.36
55	v	8	4SU	C4-S4	-5.09	1.58	1.68
8	A	2251	OMG	C2-N3	5.04	1.45	1.33
8	A	2504	PSU	C6-N1	5.02	1.44	1.36
34	a	1407	5MC	C2-N3	5.01	1.46	1.36
34	a	1402	4OC	C4-N4	4.99	1.46	1.35
56	w	46	G7M	C2'-C1'	4.98	1.61	1.53
55	v	8	4SU	C2-N1	4.98	1.46	1.38
8	A	1915	3TD	C2-N3	4.97	1.49	1.38
55	v	55	PSU	C6-N1	4.96	1.44	1.36
56	w	32	PSU	C6-N1	4.91	1.44	1.36
34	a	1516	2MG	C2-N2	4.88	1.44	1.33
56	w	46	G7M	C4-N3	4.83	1.49	1.37
8	A	2251	OMG	C4-N3	4.80	1.49	1.37
55	v	54	5MU	C6-C5	4.74	1.42	1.34
56	w	37	MIA	C6-N6	4.71	1.43	1.34
8	A	1915	3TD	O3'-C3'	-4.69	1.31	1.43
34	a	1516	2MG	C4-N3	4.67	1.48	1.37
8	A	1835	2MG	C4-N3	4.66	1.48	1.37
56	w	39	PSU	C6-N1	4.65	1.43	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	w	8	4SU	C4-S4	-4.49	1.59	1.68
8	A	746	PSU	C6-N1	4.49	1.43	1.36
8	A	2251	OMG	C2-N2	4.40	1.44	1.34
8	A	1917	PSU	C6-N1	4.36	1.43	1.36
34	a	1407	5MC	C6-N1	4.33	1.45	1.38
34	a	516	PSU	C6-N1	4.26	1.43	1.36
8	A	955	PSU	C6-N1	4.25	1.43	1.36
8	A	745	1MG	C2-N3	4.24	1.42	1.34
8	A	2457	PSU	C6-N1	4.21	1.43	1.36
34	a	527	G7M	C2-N3	4.21	1.43	1.33
8	A	2445	2MG	C4-N3	4.20	1.47	1.37
8	A	2498	OMC	C2-N1	4.16	1.49	1.40
8	A	2503	2MA	C4-N3	4.16	1.47	1.37
8	A	1911	PSU	C6-N1	4.15	1.43	1.36
56	w	46	G7M	C2-N2	4.12	1.44	1.34
8	A	745	1MG	C4-N3	4.12	1.47	1.37
8	A	747	5MC	C4-N4	4.07	1.44	1.34
34	a	1498	UR3	C2-N3	4.06	1.46	1.39
8	A	1618	6MZ	C6-N6	3.99	1.41	1.35
56	w	8	4SU	C4-N3	-3.98	1.33	1.37
55	v	8	4SU	C5-C4	3.97	1.47	1.42
8	A	747	5MC	C2-N1	3.94	1.48	1.40
8	A	747	5MC	C6-N1	3.94	1.44	1.38
34	a	1519	MA6	C5-C4	-3.94	1.30	1.40
34	a	967	5MC	C2-N1	3.91	1.48	1.40
34	a	1518	MA6	C5-C4	-3.89	1.30	1.40
8	A	2030	6MZ	C6-N6	3.86	1.41	1.35
8	A	2605	PSU	C6-N1	3.83	1.42	1.36
34	a	967	5MC	C6-N1	3.79	1.44	1.38
34	a	1407	5MC	C4-N4	3.78	1.43	1.34
34	a	527	G7M	C2-N2	3.78	1.43	1.34
34	a	967	5MC	C4-N4	3.78	1.43	1.34
34	a	1207	2MG	C2-N2	3.76	1.41	1.33
8	A	1835	2MG	C2-N2	3.74	1.41	1.33
8	A	2604	PSU	C6-N1	3.73	1.42	1.36
8	A	745	1MG	C5-C4	-3.73	1.33	1.43
34	a	1207	2MG	C2-N1	3.71	1.42	1.36
34	a	1207	2MG	C4-N3	3.69	1.46	1.37
34	a	1402	4OC	C5-C4	3.67	1.48	1.40
56	w	55	PSU	C6-C5	3.61	1.39	1.35
56	w	46	G7M	C6-N1	3.55	1.43	1.37
34	a	1402	4OC	C2-N1	3.52	1.47	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	w	46	G7M	O3'-C3'	3.50	1.51	1.43
8	A	2552	OMU	C4-N3	3.50	1.44	1.38
34	a	1516	2MG	C2-N1	3.48	1.42	1.36
8	A	2069	G7M	C6-N1	3.47	1.43	1.37
34	a	1407	5MC	C2-N1	3.44	1.47	1.40
8	A	2251	OMG	C5-C4	-3.43	1.34	1.43
34	a	1516	2MG	C6-N1	3.39	1.42	1.37
8	A	2445	2MG	C2-N2	3.38	1.40	1.33
8	A	2069	G7M	C4-N3	3.36	1.45	1.37
56	w	37	MIA	C5-C4	-3.34	1.32	1.40
8	A	1618	6MZ	C5-C4	-3.32	1.32	1.40
8	A	2069	G7M	C2-N2	3.31	1.42	1.34
8	A	1962	5MC	C2-N1	3.29	1.47	1.40
55	v	55	PSU	C4-N3	3.28	1.44	1.38
56	w	32	PSU	C4-N3	3.28	1.44	1.38
8	A	1962	5MC	C6-N1	3.25	1.43	1.38
34	a	1518	MA6	C2-N3	3.22	1.37	1.32
34	a	1516	2MG	C5-C4	-3.20	1.34	1.43
8	A	2503	2MA	C5-C4	-3.15	1.35	1.43
56	w	46	G7M	O2'-C2'	3.11	1.50	1.43
8	A	2580	PSU	C6-N1	3.11	1.41	1.36
8	A	1962	5MC	C4-N4	3.07	1.42	1.34
56	w	8	4SU	C5-C4	-3.06	1.38	1.42
8	A	2445	2MG	C5-C4	-3.05	1.35	1.43
8	A	2030	6MZ	C5-C4	-3.05	1.32	1.40
56	w	46	G7M	C5-C6	3.01	1.53	1.45
34	a	1207	2MG	C6-N1	3.01	1.42	1.37
8	A	1835	2MG	C5-C4	-2.98	1.35	1.43
34	a	516	PSU	O4'-C1'	-2.96	1.39	1.43
8	A	2580	PSU	C1'-C5	-2.95	1.43	1.50
8	A	2030	6MZ	C9-N6	-2.93	1.40	1.45
8	A	1939	5MU	O4-C4	-2.92	1.18	1.23
8	A	1962	5MC	O2-C2	-2.92	1.18	1.23
8	A	2504	PSU	C4-N3	2.90	1.44	1.38
34	a	1207	2MG	C5-C6	2.90	1.53	1.47
8	A	2069	G7M	C5-C4	-2.88	1.33	1.39
56	w	54	5MU	C4-N3	-2.86	1.33	1.38
8	A	2498	OMC	C6-N1	2.83	1.44	1.38
56	w	55	PSU	C4-N3	-2.83	1.33	1.38
8	A	1915	3TD	C4-N3	2.82	1.46	1.40
55	v	8	4SU	C6-N1	2.80	1.44	1.38
8	A	747	5MC	O2-C2	-2.80	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	2251	OMG	C6-N1	2.79	1.42	1.37
8	A	745	1MG	CM1-N1	-2.78	1.41	1.47
34	a	1207	2MG	C5-C4	-2.77	1.36	1.43
8	A	1917	PSU	C4-N3	2.74	1.43	1.38
56	w	46	G7M	C2-N1	2.74	1.44	1.37
55	v	55	PSU	O4-C4	-2.72	1.18	1.23
8	A	1835	2MG	O6-C6	-2.71	1.17	1.23
34	a	527	G7M	C6-N1	2.71	1.41	1.37
8	A	2580	PSU	O4'-C1'	-2.70	1.40	1.43
8	A	2030	6MZ	C6-N1	-2.70	1.30	1.34
34	a	1407	5MC	O2-C2	-2.69	1.18	1.23
8	A	2498	OMC	C5-C4	2.68	1.49	1.42
8	A	1835	2MG	C5-C6	2.67	1.52	1.47
55	v	54	5MU	O4-C4	-2.67	1.18	1.23
8	A	2604	PSU	O4'-C1'	-2.67	1.40	1.43
8	A	2605	PSU	C4-N3	2.66	1.43	1.38
34	a	1519	MA6	C2-N3	2.65	1.36	1.32
8	A	746	PSU	C4-N3	2.65	1.43	1.38
34	a	967	5MC	O2-C2	-2.65	1.18	1.23
8	A	2251	OMG	O6-C6	-2.61	1.18	1.23
8	A	1835	2MG	C6-N1	2.60	1.41	1.37
8	A	2445	2MG	O6-C6	-2.59	1.18	1.23
34	a	1402	4OC	O2-C2	-2.58	1.18	1.23
56	w	46	G7M	O6-C6	-2.57	1.18	1.23
34	a	516	PSU	C4-N3	2.57	1.43	1.38
8	A	1911	PSU	C4-N3	2.57	1.43	1.38
34	a	1498	UR3	C6-N1	2.57	1.44	1.38
56	w	39	PSU	O4-C4	-2.53	1.18	1.23
8	A	2457	PSU	C1'-C5	-2.52	1.44	1.50
8	A	1835	2MG	C2-N1	2.52	1.40	1.36
34	a	1519	MA6	C10-N6	-2.52	1.39	1.45
56	w	39	PSU	C4-N3	2.50	1.43	1.38
8	A	1915	3TD	C3'-C4'	2.49	1.59	1.53
8	A	2503	2MA	C6-N1	2.49	1.43	1.38
8	A	1939	5MU	O2-C2	-2.48	1.18	1.23
34	a	1498	UR3	O4-C4	-2.48	1.18	1.23
8	A	2580	PSU	O4-C4	-2.47	1.18	1.23
55	v	8	4SU	O2-C2	-2.46	1.18	1.23
8	A	2498	OMC	O2-C2	-2.46	1.19	1.23
8	A	2457	PSU	C4-N3	2.44	1.43	1.38
34	a	1516	2MG	O6-C6	-2.44	1.18	1.23
8	A	2604	PSU	C4-N3	2.43	1.43	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	1498	UR3	O2-C2	-2.42	1.18	1.22
8	A	2069	G7M	C2-N3	2.42	1.39	1.33
8	A	745	1MG	O6-C6	-2.41	1.17	1.22
55	v	54	5MU	O2-C2	-2.41	1.18	1.23
8	A	2445	2MG	CM2-N2	-2.37	1.41	1.45
8	A	2605	PSU	O4-C4	-2.36	1.19	1.23
34	a	1516	2MG	C5-C6	2.36	1.52	1.47
8	A	2503	2MA	C2-N1	2.35	1.43	1.36
8	A	955	PSU	C4-N3	2.35	1.43	1.38
8	A	2457	PSU	O4-C4	-2.34	1.19	1.23
8	A	955	PSU	O4-C4	-2.32	1.19	1.23
8	A	746	PSU	O4-C4	-2.31	1.19	1.23
34	a	1207	2MG	O6-C6	-2.30	1.18	1.23
8	A	2605	PSU	O4'-C1'	-2.29	1.40	1.43
8	A	1917	PSU	O4-C4	-2.29	1.19	1.23
34	a	1402	4OC	C6-N1	2.28	1.43	1.38
56	w	8	4SU	C2-N3	-2.28	1.33	1.38
34	a	966	2MG	C6-N1	-2.28	1.34	1.37
8	A	2030	6MZ	C5-N7	-2.27	1.31	1.39
8	A	2457	PSU	O4'-C1'	-2.27	1.40	1.43
8	A	1618	6MZ	C4-N3	-2.27	1.32	1.35
56	w	54	5MU	C6-N1	-2.25	1.34	1.38
8	A	1911	PSU	O4-C4	-2.24	1.19	1.23
8	A	2604	PSU	C1'-C5	-2.23	1.45	1.50
8	A	955	PSU	C1'-C5	-2.23	1.45	1.50
34	a	516	PSU	O4-C4	-2.22	1.19	1.23
8	A	1618	6MZ	C9-N6	-2.22	1.41	1.45
8	A	1911	PSU	O4'-C1'	-2.21	1.40	1.43
8	A	2604	PSU	O4-C4	-2.21	1.19	1.23
8	A	2552	OMU	O4-C4	-2.20	1.20	1.24
56	w	32	PSU	O4-C4	-2.20	1.19	1.23
8	A	2504	PSU	O4-C4	-2.20	1.19	1.23
56	w	54	5MU	C2-N1	2.20	1.42	1.38
56	w	54	5MU	C2-N3	-2.16	1.34	1.38
8	A	2069	G7M	C2-N1	2.15	1.43	1.37
56	w	54	5MU	C4-C5	2.14	1.48	1.44
56	w	8	4SU	C2-N1	2.13	1.41	1.38
8	A	1618	6MZ	C6-N1	-2.12	1.31	1.34
8	A	2030	6MZ	C2-N3	2.12	1.35	1.32
58	y	101	FME	CA-N	-2.11	1.43	1.46
34	a	1518	MA6	C10-N6	-2.10	1.40	1.45
56	w	54	5MU	C6-C5	2.10	1.38	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	w	55	PSU	C2-N3	-2.10	1.33	1.37
8	A	1618	6MZ	C5-N7	-2.08	1.32	1.39
8	A	2251	OMG	C2-N1	2.05	1.42	1.37
8	A	2251	OMG	C5-C6	2.05	1.51	1.47
8	A	1915	3TD	O5'-C5'	-2.03	1.39	1.44
8	A	2504	PSU	O4'-C1'	-2.01	1.41	1.43

All (205) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1939	5MU	C5-C4-N3	13.01	126.41	115.31
34	a	1519	MA6	N1-C6-N6	-12.93	103.44	117.06
34	a	1518	MA6	N1-C6-N6	-12.58	103.82	117.06
55	v	54	5MU	C5-C4-N3	12.04	125.59	115.31
8	A	1939	5MU	C5-C6-N1	-10.62	112.41	123.34
8	A	1618	6MZ	C9-N6-C6	-8.57	115.49	122.87
55	v	54	5MU	C5-C6-N1	-8.38	114.72	123.34
56	w	37	MIA	C12-C13-C14	-7.85	111.86	127.14
55	v	8	4SU	C4-N3-C2	-7.25	120.30	127.34
55	v	54	5MU	C5M-C5-C4	7.23	126.72	118.77
8	A	2580	PSU	C6-C5-C4	7.12	123.17	118.20
55	v	20	H2U	C4-N3-C2	-6.84	120.11	125.79
8	A	2030	6MZ	C9-N6-C6	-6.57	117.22	122.87
8	A	2604	PSU	C6-C5-C4	6.52	122.76	118.20
8	A	2457	PSU	C6-C5-C4	6.21	122.54	118.20
8	A	2552	OMU	C4-N3-C2	-6.12	118.50	126.58
34	a	1518	MA6	N3-C2-N1	-5.97	119.34	128.68
56	w	55	PSU	N1-C2-N3	5.93	121.85	115.13
8	A	1618	6MZ	N3-C2-N1	-5.90	119.46	128.68
56	w	46	G7M	C2'-C3'-C4'	5.85	114.01	102.64
8	A	1939	5MU	O4-C4-C5	-5.84	118.13	124.90
55	v	54	5MU	C5M-C5-C6	-5.76	115.16	122.85
34	a	1519	MA6	N3-C2-N1	-5.75	119.69	128.68
8	A	1939	5MU	C4-N3-C2	-5.73	119.93	127.35
56	w	8	4SU	C4-N3-C2	-5.63	121.87	127.34
55	v	8	4SU	C5-C4-N3	5.55	119.84	114.69
8	A	2605	PSU	N1-C2-N3	5.52	121.38	115.13
8	A	1835	2MG	CM2-N2-C2	-5.44	111.83	123.86
8	A	2604	PSU	C4-N3-C2	-5.36	118.62	126.34
56	w	37	MIA	C12-N6-C6	-5.26	114.76	122.55
56	w	54	5MU	N3-C2-N1	5.26	121.87	114.89
8	A	2030	6MZ	N3-C2-N1	-5.20	120.55	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	w	39	PSU	C6-C5-C4	5.15	121.80	118.20
8	A	1915	3TD	N1-C2-N3	5.14	120.19	116.14
8	A	2604	PSU	N1-C2-N3	5.13	120.94	115.13
8	A	2605	PSU	C4-N3-C2	-5.09	119.00	126.34
8	A	2580	PSU	N1-C2-N3	5.07	120.87	115.13
56	w	39	PSU	N1-C2-N3	4.98	120.77	115.13
56	w	46	G7M	O3'-C3'-C4'	4.94	125.33	111.05
56	w	39	PSU	C4-N3-C2	-4.89	119.29	126.34
56	w	8	4SU	C5-C4-N3	4.85	119.19	114.69
55	v	55	PSU	C4-N3-C2	-4.82	119.39	126.34
55	v	54	5MU	O4-C4-C5	-4.80	119.34	124.90
8	A	955	PSU	C6-C5-C4	4.77	121.53	118.20
8	A	955	PSU	C4-N3-C2	-4.68	119.59	126.34
8	A	1911	PSU	C4-N3-C2	-4.64	119.66	126.34
8	A	1939	5MU	N3-C2-N1	4.64	121.04	114.89
56	w	32	PSU	C4-N3-C2	-4.62	119.68	126.34
56	w	54	5MU	C4-N3-C2	-4.57	121.43	127.35
8	A	2504	PSU	C4-N3-C2	-4.53	119.82	126.34
8	A	2605	PSU	C6-N1-C2	-4.52	118.06	122.68
8	A	2069	G7M	N2-C2-N1	4.52	126.33	116.71
56	w	37	MIA	C16-C14-C13	-4.49	109.67	122.65
34	a	967	5MC	C5-C6-N1	-4.49	118.72	123.34
8	A	2580	PSU	C6-N1-C2	-4.46	118.12	122.68
56	w	54	5MU	C5M-C5-C4	4.45	123.67	118.77
8	A	1835	2MG	C5-C6-N1	4.44	121.79	113.95
56	w	8	4SU	N3-C2-N1	4.44	120.78	114.89
8	A	2457	PSU	C4-N3-C2	-4.42	119.97	126.34
8	A	1917	PSU	C4-N3-C2	-4.41	119.99	126.34
56	w	37	MIA	C15-C14-C13	-4.40	109.94	122.65
8	A	1911	PSU	N1-C2-N3	4.37	120.08	115.13
8	A	747	5MC	C5-C6-N1	-4.37	118.84	123.34
55	v	54	5MU	C4-N3-C2	-4.27	121.83	127.35
55	v	8	4SU	C5-C4-S4	-4.27	118.97	124.47
8	A	1917	PSU	N1-C2-N3	4.21	119.90	115.13
8	A	2580	PSU	C4-N3-C2	-4.21	120.27	126.34
8	A	1915	3TD	C4-N3-C2	-4.19	120.06	124.61
8	A	1962	5MC	C5-C6-N1	-4.14	119.08	123.34
8	A	2457	PSU	N1-C2-N3	4.12	119.80	115.13
56	w	32	PSU	N1-C2-N3	4.12	119.79	115.13
56	w	37	MIA	N3-C2-N1	-4.11	119.42	126.98
8	A	1911	PSU	C6-C5-C4	4.08	121.05	118.20
8	A	955	PSU	N1-C2-N3	4.08	119.75	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	516	PSU	N1-C2-N3	4.06	119.73	115.13
34	a	516	PSU	C4-N3-C2	-4.04	120.52	126.34
8	A	2504	PSU	C6-C5-C4	4.01	121.00	118.20
8	A	2552	OMU	C5-C4-N3	4.00	120.83	114.84
8	A	1618	6MZ	C1'-N9-C4	-4.00	119.62	126.64
34	a	1407	5MC	C5-C6-N1	-3.94	119.28	123.34
8	A	2069	G7M	N2-C2-N3	-3.87	112.21	119.74
55	v	55	PSU	N1-C2-N3	3.84	119.48	115.13
8	A	2605	PSU	C6-C5-C4	3.82	120.87	118.20
34	a	1498	UR3	C4-N3-C2	-3.81	120.97	124.56
8	A	1917	PSU	C6-C5-C4	3.79	120.85	118.20
8	A	746	PSU	N1-C2-N3	3.77	119.40	115.13
56	w	55	PSU	C4-N3-C2	-3.76	120.92	126.34
8	A	2504	PSU	N1-C2-N3	3.74	119.37	115.13
8	A	2552	OMU	N3-C2-N1	3.73	119.84	114.89
34	a	516	PSU	C6-C5-C4	3.68	120.77	118.20
8	A	745	1MG	CM1-N1-C2	-3.68	116.90	120.72
34	a	1207	2MG	CM2-N2-C2	-3.64	115.81	123.86
8	A	2445	2MG	CM2-N2-C2	-3.64	115.81	123.86
34	a	1516	2MG	C5-C6-N1	3.63	120.37	113.95
55	v	54	5MU	N3-C2-N1	3.61	119.69	114.89
55	v	55	PSU	C6-C5-C4	3.59	120.71	118.20
56	w	37	MIA	C11-S10-C2	3.59	104.95	102.27
56	w	54	5MU	C5-C4-N3	3.57	118.36	115.31
56	w	39	PSU	C6-N1-C2	-3.56	119.04	122.68
8	A	746	PSU	C4-N3-C2	-3.55	121.22	126.34
56	w	54	5MU	C5M-C5-C6	-3.55	118.10	122.85
56	w	46	G7M	C2-N1-C6	-3.53	118.60	125.10
8	A	1917	PSU	C6-N1-C2	-3.49	119.11	122.68
8	A	2503	2MA	C5-C6-N1	3.49	120.04	114.02
34	a	516	PSU	C6-N1-C2	-3.49	119.12	122.68
8	A	746	PSU	C6-N1-C2	-3.46	119.14	122.68
8	A	2251	OMG	C5-C6-N1	3.43	120.01	113.95
8	A	745	1MG	C5-C6-N1	3.43	119.06	113.90
8	A	2552	OMU	O4-C4-C5	-3.35	119.28	125.16
34	a	1519	MA6	C10-N6-C9	3.34	126.90	116.12
8	A	746	PSU	C6-C5-C4	3.28	120.49	118.20
8	A	1911	PSU	C6-N1-C2	-3.27	119.34	122.68
34	a	1519	MA6	C1'-N9-C4	-3.19	121.03	126.64
56	w	8	4SU	C5-C4-S4	-3.19	120.36	124.47
34	a	1518	MA6	C10-N6-C9	3.14	126.24	116.12
34	a	527	G7M	CN7-N7-C8	-3.12	110.41	125.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	v	20	H2U	N3-C2-N1	3.12	119.95	116.65
8	A	2580	PSU	O2-C2-N1	-3.11	119.37	122.79
8	A	1962	5MC	C1'-N1-C6	-3.11	115.95	121.12
8	A	2069	G7M	CN7-N7-C8	-3.11	110.48	125.43
34	a	516	PSU	O2-C2-N1	-3.08	119.40	122.79
55	v	54	5MU	C1'-N1-C2	3.08	123.14	117.57
56	w	37	MIA	S10-C2-N1	3.04	126.52	116.01
8	A	2069	G7M	C2-N1-C6	-3.03	119.51	125.10
56	w	55	PSU	O2-C2-N1	-3.02	119.47	122.79
56	w	32	PSU	C6-C5-C4	2.98	120.28	118.20
8	A	1939	5MU	C5M-C5-C6	-2.97	118.88	122.85
8	A	955	PSU	C6-N1-C2	-2.95	119.66	122.68
8	A	1835	2MG	O6-C6-N1	-2.94	117.18	120.65
34	a	527	G7M	C2-N1-C6	-2.92	119.71	125.10
55	v	8	4SU	N3-C2-N1	2.90	118.75	114.89
8	A	2552	OMU	CM2-O2'-C2'	-2.90	106.92	114.52
55	v	20	H2U	C5-C4-N3	2.89	119.89	116.65
55	v	20	H2U	O2-C2-N1	-2.87	119.50	123.11
8	A	2457	PSU	C6-N1-C2	-2.86	119.76	122.68
8	A	2604	PSU	C6-N1-C2	-2.79	119.83	122.68
56	w	54	5MU	O4-C4-C5	-2.78	121.68	124.90
8	A	1618	6MZ	C2-N1-C6	2.74	118.94	116.59
8	A	2503	2MA	C8-N7-C5	2.73	108.19	102.99
55	v	20	H2U	C5-C6-N1	2.73	120.59	111.61
8	A	2504	PSU	C6-N1-C2	-2.72	119.90	122.68
56	w	32	PSU	C6-N1-C2	-2.72	119.91	122.68
8	A	2580	PSU	O4'-C1'-C2'	2.72	108.97	105.14
56	w	8	4SU	C6-N1-C2	-2.70	117.54	120.99
8	A	2503	2MA	CM2-C2-N1	2.68	122.19	116.23
8	A	2605	PSU	O2-C2-N1	-2.67	119.85	122.79
8	A	745	1MG	O6-C6-C5	-2.67	119.47	124.19
8	A	1911	PSU	O2-C2-N1	-2.64	119.88	122.79
56	w	54	5MU	C6-N1-C2	-2.64	118.63	121.30
55	v	54	5MU	O4-C4-N3	-2.63	115.07	120.12
56	w	54	5MU	C3'-C2'-C1'	2.62	106.41	101.43
55	v	55	PSU	C6-N1-C2	-2.62	120.01	122.68
8	A	747	5MC	CM5-C5-C6	-2.61	119.36	122.85
55	v	54	5MU	C1'-N1-C6	-2.61	116.79	121.12
34	a	1402	4OC	C5-C4-N4	-2.60	117.32	122.61
34	a	1207	2MG	C5-C6-N1	2.60	118.54	113.95
34	a	966	2MG	C3'-C2'-C1'	2.59	104.88	100.98
34	a	1519	MA6	C9-N6-C6	-2.57	111.73	119.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2251	OMG	O6-C6-C5	-2.55	119.39	124.37
8	A	1835	2MG	C8-N7-C5	2.55	107.84	102.99
34	a	966	2MG	C8-N7-C5	2.54	107.82	102.99
8	A	1917	PSU	O2-C2-N1	-2.52	120.01	122.79
56	w	39	PSU	O2-C2-N1	-2.52	120.02	122.79
34	a	1516	2MG	O6-C6-C5	-2.51	119.48	124.37
8	A	1939	5MU	O2-C2-N1	-2.49	119.47	122.79
56	w	37	MIA	C1'-N9-C4	-2.45	122.34	126.64
34	a	966	2MG	C5-C6-N1	2.44	118.27	113.95
8	A	1939	5MU	O4-C4-N3	-2.44	115.44	120.12
8	A	1939	5MU	C5M-C5-C4	2.44	121.45	118.77
56	w	37	MIA	C2-N3-C4	2.42	118.66	115.32
8	A	2251	OMG	C8-N7-C5	2.41	107.58	102.99
34	a	1407	5MC	CM5-C5-C6	-2.39	119.65	122.85
56	w	32	PSU	O4'-C1'-C2'	2.38	108.50	105.14
34	a	967	5MC	C5-C4-N4	-2.37	117.93	121.48
56	w	55	PSU	C6-C5-C4	-2.37	116.54	118.20
34	a	527	G7M	N2-C2-N3	2.37	124.34	119.74
8	A	2605	PSU	O4'-C1'-C2'	2.36	108.48	105.14
8	A	2552	OMU	C2'-C1'-N1	-2.36	109.64	114.22
56	w	32	PSU	O2-C2-N1	-2.35	120.20	122.79
55	v	55	PSU	O2-C2-N1	-2.32	120.24	122.79
56	w	55	PSU	C3'-C2'-C1'	2.30	104.32	101.64
8	A	746	PSU	O2-C2-N1	-2.29	120.27	122.79
34	a	1516	2MG	C8-N7-C5	2.28	107.33	102.99
34	a	1498	UR3	C3U-N3-C4	2.26	121.12	117.89
8	A	745	1MG	C2-N1-C6	2.25	122.77	120.95
34	a	967	5MC	C1'-N1-C6	-2.24	117.39	121.12
8	A	2251	OMG	N1-C2-N3	-2.23	119.16	123.32
56	w	8	4SU	O4'-C1'-N1	2.22	113.43	108.36
58	y	101	FME	C-CA-N	2.21	113.73	109.73
56	w	37	MIA	C16-C14-C15	-2.20	109.74	114.60
8	A	2604	PSU	C5-C6-N1	-2.20	118.81	122.11
34	a	1402	4OC	CM2-O2'-C2'	-2.16	108.85	114.52
8	A	2251	OMG	C2-N1-C6	-2.16	121.12	125.10
34	a	1207	2MG	O3'-C3'-C2'	2.15	118.79	111.82
8	A	2445	2MG	C5-C6-N1	2.14	117.73	113.95
8	A	2030	6MZ	O3'-C3'-C4'	-2.13	104.90	111.05
8	A	2030	6MZ	C1'-N9-C4	-2.13	122.91	126.64
34	a	1402	4OC	C1'-N1-C6	-2.11	116.24	120.84
34	a	967	5MC	CM5-C5-C6	-2.08	120.07	122.85
8	A	2503	2MA	O3'-C3'-C4'	-2.05	105.12	111.05

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2604	PSU	O2-C2-N3	-2.04	117.96	121.82
8	A	2030	6MZ	C2-N1-C6	2.04	118.34	116.59
56	w	54	5MU	O2-C2-N1	-2.04	120.08	122.79
34	a	1207	2MG	C8-N7-C5	2.03	106.87	102.99
8	A	745	1MG	CM1-N1-C6	2.03	120.32	117.55

There are no chirality outliers.

All (57) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
34	a	967	5MC	O4'-C4'-C5'-O5'
34	a	967	5MC	C3'-C4'-C5'-O5'
34	a	1498	UR3	O4'-C1'-N1-C6
34	a	1498	UR3	O4'-C1'-N1-C2
34	a	1519	MA6	C5-C6-N6-C9
34	a	1519	MA6	C5-C6-N6-C10
55	v	54	5MU	C3'-C4'-C5'-O5'
55	v	54	5MU	O4'-C4'-C5'-O5'
55	v	55	PSU	O4'-C1'-C5-C4
55	v	55	PSU	O4'-C1'-C5-C6
8	A	1618	6MZ	N1-C6-N6-C9
8	A	1915	3TD	O4'-C1'-C5-C4
8	A	1915	3TD	O4'-C1'-C5-C6
8	A	1939	5MU	O4'-C4'-C5'-O5'
8	A	2030	6MZ	C3'-C4'-C5'-O5'
8	A	2445	2MG	C3'-C4'-C5'-O5'
8	A	2498	OMC	C1'-C2'-O2'-CM2
8	A	2503	2MA	O4'-C4'-C5'-O5'
56	w	32	PSU	O4'-C1'-C5-C4
56	w	32	PSU	O4'-C1'-C5-C6
56	w	37	MIA	C5-C6-N6-C12
56	w	37	MIA	C12-C13-C14-C16
56	w	39	PSU	C2'-C1'-C5-C4
56	w	39	PSU	O4'-C1'-C5-C4
56	w	39	PSU	O4'-C1'-C5-C6
58	y	101	FME	O1-CN-N-CA
58	y	101	FME	CB-CA-N-CN
34	a	966	2MG	O4'-C4'-C5'-O5'
34	a	966	2MG	C3'-C4'-C5'-O5'
8	A	1835	2MG	C3'-C4'-C5'-O5'
8	A	1939	5MU	C3'-C4'-C5'-O5'
8	A	2030	6MZ	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
34	a	1519	MA6	N1-C6-N6-C10
8	A	1835	2MG	O4'-C4'-C5'-O5'
58	y	101	FME	N-CA-CB-CG
56	w	37	MIA	N1-C6-N6-C12
8	A	2445	2MG	O4'-C4'-C5'-O5'
8	A	2552	OMU	O4'-C1'-N1-C6
58	y	101	FME	CB-CG-SD-CE
8	A	2552	OMU	O4'-C1'-N1-C2
8	A	2030	6MZ	N1-C6-N6-C9
34	a	527	G7M	C3'-C4'-C5'-O5'
34	a	966	2MG	C4'-C5'-O5'-P
55	v	20	H2U	C4'-C5'-O5'-P
56	w	46	G7M	C4'-C5'-O5'-P
34	a	527	G7M	O4'-C4'-C5'-O5'
34	a	1519	MA6	C4'-C5'-O5'-P
8	A	747	5MC	C4'-C5'-O5'-P
8	A	2069	G7M	O4'-C4'-C5'-O5'
8	A	2503	2MA	C3'-C4'-C5'-O5'
8	A	2604	PSU	O4'-C4'-C5'-O5'
8	A	1618	6MZ	C5-C6-N6-C9
55	v	54	5MU	C2'-C1'-N1-C2
8	A	746	PSU	O4'-C1'-C5-C6
56	w	55	PSU	O4'-C1'-C5-C6
8	A	747	5MC	C2'-C1'-N1-C2
8	A	2498	OMC	O4'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

4.5 Carbohydrates (i)

There are no monosaccharides in this entry.

4.6 Ligand geometry (i)

Of 3 ligands modelled in this entry, 1 is monoatomic - leaving 2 for Mogul analysis.

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
61	AM2	a	2001	-	40,40,40	0.24	0	53,60,60	0.60	2 (3%)
62	GDP	x	801	-	24,30,30	5.24	12 (50%)	30,47,47	1.86	11 (36%)

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
61	AM2	a	2001	-	-	4/12/84/84	0/4/4/4
62	GDP	x	801	-	-	7/12/32/32	0/3/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
62	x	801	GDP	C2'-C1'	-17.38	1.27	1.53
62	x	801	GDP	O4'-C1'	10.27	1.55	1.41
62	x	801	GDP	C3'-C4'	-10.01	1.27	1.53
62	x	801	GDP	C2-N2	4.96	1.46	1.34
62	x	801	GDP	O4'-C4'	4.81	1.55	1.45
62	x	801	GDP	C2'-C3'	4.65	1.66	1.53
62	x	801	GDP	C4-N3	4.14	1.47	1.37
62	x	801	GDP	C2-N3	4.06	1.43	1.33
62	x	801	GDP	C2-N1	3.48	1.46	1.37
62	x	801	GDP	C5-C4	-3.03	1.35	1.43
62	x	801	GDP	C6-N1	3.01	1.42	1.37
62	x	801	GDP	C5-C6	2.22	1.51	1.47

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
62	x	801	GDP	N2-C2-N1	4.60	126.50	116.71
62	x	801	GDP	C3'-C2'-C1'	3.21	105.81	100.98
62	x	801	GDP	N2-C2-N3	-3.20	113.50	119.74
62	x	801	GDP	C2'-C3'-C4'	2.63	107.75	102.64
62	x	801	GDP	PA-O3A-PB	-2.62	123.84	132.83
62	x	801	GDP	C5-C6-N1	2.54	118.43	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
61	a	2001	AM2	CA1-OA4-CA5	2.47	117.04	113.06
62	x	801	GDP	O6-C6-C5	-2.30	119.89	124.37
62	x	801	GDP	C2-N1-C6	-2.22	121.01	125.10
62	x	801	GDP	O3B-PB-O1B	2.08	118.84	110.68
62	x	801	GDP	C8-N7-C5	2.08	106.96	102.99
62	x	801	GDP	O3B-PB-O3A	2.07	111.57	104.64
61	a	2001	AM2	OA4-CA1-CA2	2.07	114.86	110.25

There are no chirality outliers.

All (11) torsion outliers are listed below:

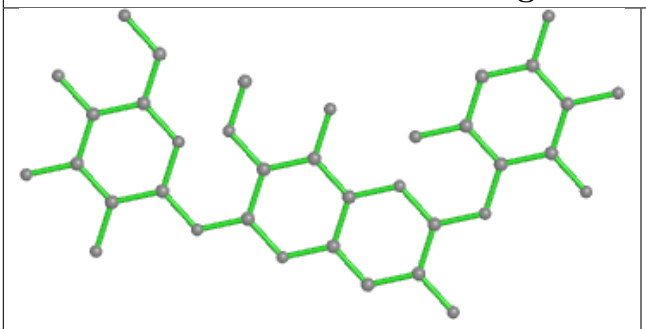
Mol	Chain	Res	Type	Atoms
61	a	2001	AM2	CA8-CA7-NA7-CA9
62	x	801	GDP	C5'-O5'-PA-O3A
61	a	2001	AM2	OB1-CB5-CB6-OB6
62	x	801	GDP	PA-O3A-PB-O3B
61	a	2001	AM2	OA4-CA1-OA1-CC1
62	x	801	GDP	C5'-O5'-PA-O1A
62	x	801	GDP	C5'-O5'-PA-O2A
61	a	2001	AM2	CA6-CA7-NA7-CA9
62	x	801	GDP	PA-O3A-PB-O2B
62	x	801	GDP	PB-O3A-PA-O1A
62	x	801	GDP	PB-O3A-PA-O2A

There are no ring outliers.

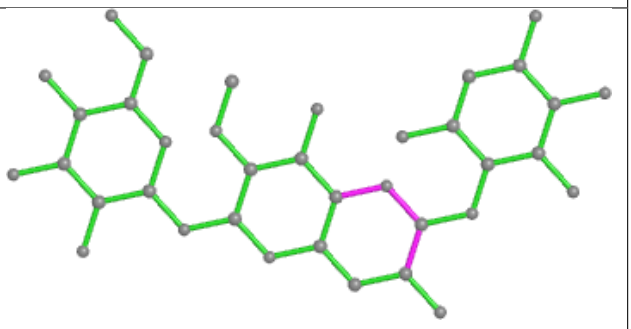
No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

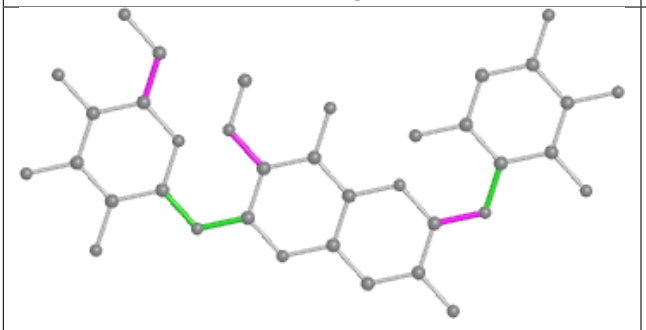
Ligand AM2 a 2001



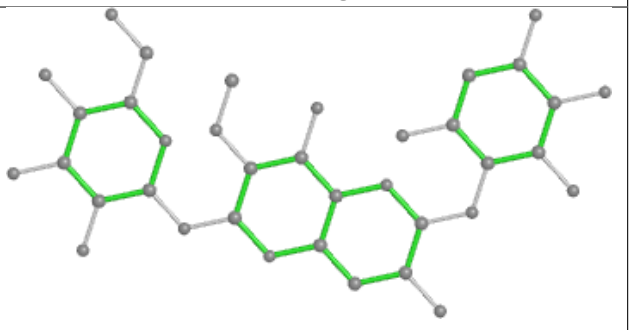
Bond lengths



Bond angles

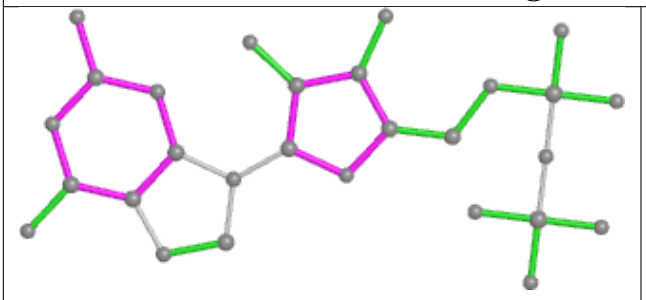


Torsions

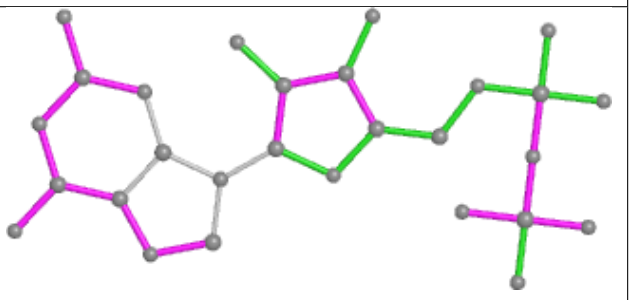


Rings

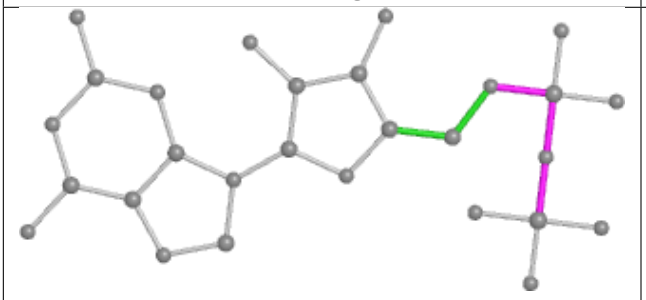
Ligand GDP x 801



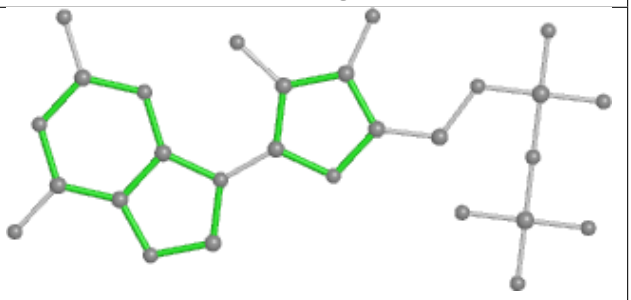
Bond lengths



Bond angles



Torsions



Rings

4.7 Other polymers

There are no such residues in this entry.

4.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

5 Map visualisation

This section contains visualisations of the EMDB entry EMD-13465. 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.

5.1 Orthogonal projections

This section was not generated.

5.2 Central slices

This section was not generated.

5.3 Largest variance slices

This section was not generated.

5.4 Orthogonal standard-deviation projections (False-color)

This section was not generated.

5.5 Orthogonal surface views

This section was not generated.

5.6 Mask visualisation

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

6 Map analysis

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

6.1 Map-value distribution

This section was not generated.

6.2 Volume estimate versus contour level

This section was not generated.

6.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

7 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

8 Map-model fit

This section was not generated.