Full wwPDB EM Validation Report (i)

Nov 20, 2022 – 08:08 am GMT

PDB ID	:	6GZZ
EMDB ID	:	EMD-0105
Title	:	T. thermophilus hibernating 100S ribosome (amc)
Authors	:	Flygaard, R.K.; Jenner, L.B.
Deposited on	:	2018-07-05
Resolution	:	4.13 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (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 (i)) were used in the production of this report:

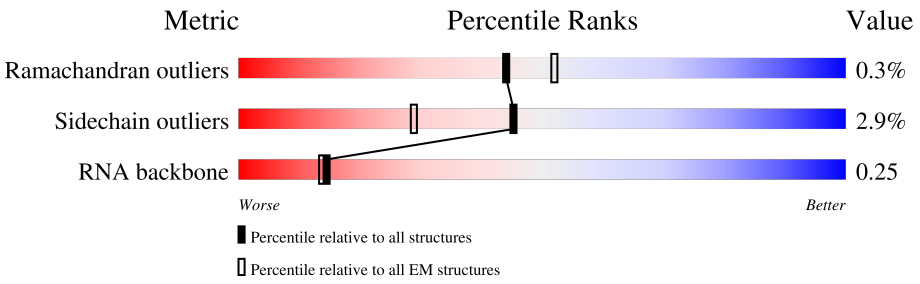
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.13 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	C1	272	22% 95% 5%
1	C2	272	21% 94% 6%
2	D1	205	15% 96% .
2	D2	205	15% 96% .
3	E1	208	32% 94% 6%
3	E2	208	36% 94% 6%
4	F1	181	33% 96% .
4	F2	181	36% 97% .

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
5	G1	170	36% 92% 7%
5	G2	170	39% 95% 5%
6	H1	50	36% 94% 6%
6	H2	50	36% 94% 6%
7	I1	138	9% 96%
7	I2	138	12% 98%
8	J1	122	34% 95% 5%
8	J2	122	34% 96%
9	K1	150	39% 92% 7%
9	K2	150	40% 96%
10	L1	141	21% 95%
10	L2	141	22% 94% 5%
11	M1	117	19% 94% 6%
11	M2	117	21% 97%
12	N1	111	14% 95% 5%
12	N2	111	13% 96%
13	O1	137	24% 93% 7%
13	O2	137	20% 94% 6%
14	P1	117	9% 94% 6%
14	P2	117	8% 95% 5%
15	Q1	101	29% 99%
15	Q2	101	27% 98%
16	R1	113	12% 97%
16	R2	113	16% 96%
17	S1	92	23% 97%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
17	S2	92	24% 97%
18	T1	102	15% 92% 8%
18	T2	102	16% 96%
19	U1	179	42% 99%
19	U2	179	42% 97%
20	V1	77	10% 96%
20	V2	77	10% 97%
21	W1	97	34% 94% 6%
21	W2	97	35% 96%
22	X1	69	22% 97%
22	X2	69	29% 96%
23	Y1	59	12% 100%
23	Y2	59	10% 93% 7%
24	Z1	63	84% 84% 11% 5%
24	Z2	63	79% 86% 14%
25	a1	59	10% 95% 5%
25	a2	59	10% 97%
26	b1	45	18% 93% 7%
26	b2	45	13% 89% 9%
27	c1	49	12% 96%
27	c2	49	6% 94% 6%
28	d1	61	34% 93% 5%
28	d2	61	34% 95%
29	A1	2912	7% 32% 51% 17%
29	A2	2912	7% 33% 49% 18%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
30	B1	122	30% 54% 16%
30	B2	122	34% 51% 16%
31	e1	36	28% 94% 6%
31	e2	36	33% 94% 6%
32	B3	237	17% 94% 6%
32	B4	237	16% 92% 8%
33	C3	206	21% 95% 5%
33	C4	206	25% 94% 6%
34	D3	208	7% 97%
34	D4	208	10% 93% 6%
35	E3	151	95% 5%
35	E4	151	97%
36	F3	101	9% 96%
36	F4	101	12% 95% 5%
37	G3	155	14% 96%
37	G4	155	14% 95% 5%
38	H3	138	97%
38	H4	138	96%
39	I3	127	16% 95% 5%
39	I4	127	14% 93% 7%
40	J3	99	34% 93% 7%
40	J4	99	36% 93% 7%
41	K3	118	21% 96%
41	K4	118	19% 97%
42	L3	125	93% 6%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
42	L4	125	95%
43	M3	117	20%, 94%, 6%
43	M4	117	22%, 97%
44	N3	60	8%, 97%
44	N4	60	8%, 92%, 8%
45	O3	88	5%, 95%, 5%
45	O4	88	95%, 5%
46	P3	84	95%
46	P4	84	96%
47	Q3	100	13%, 96%
47	Q4	100	18%, 98%
48	R3	62	26%, 95%, 5%
48	R4	62	31%, 97%
49	S3	78	10%, 91%, 8%
49	S4	78	17%, 92%, 8%
50	T3	99	8%, 98%
50	T4	99	12%, 98%
51	U3	25	8%, 92%, 8%
51	U4	25	20%, 92%, 8%
52	W4	57	30%, 68%, 28%
52	X3	57	26%, 65%, 35%
53	A3	1506	28%, 50%, 22%
53	A4	1506	29%, 49%, 22%
54	V3	119	10%, 88%, 11%
54	V4	119	9%, 91%, 7%

2 Entry composition (i)

There are 54 unique types of molecules in this entry. The entry contains 289175 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 L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	C1	272	2116	1335	420	358	3	0	0
1	C2	272	2116	1335	420	358	3	0	0

- Molecule 2 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	D1	205	1569	991	300	272	6	0	0
2	D2	205	1569	991	300	272	6	0	0

- Molecule 3 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	E1	208	1628	1037	304	284	3	0	0
3	E2	208	1628	1037	304	284	3	0	0

- Molecule 4 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	F1	181	1474	942	268	260	4	0	0
4	F2	181	1474	942	268	260	4	0	0

- Molecule 5 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	G1	170	1308	829	245	233	1	0	0
5	G2	170	1308	829	245	233	1	0	0

- Molecule 6 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	H1	50	383	245	66	71	1	0	0
6	H2	50	383	245	66	71	1	0	0

- Molecule 7 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	I1	138	1105	712	206	183	4	0	0
7	I2	138	1105	712	206	183	4	0	0

- Molecule 8 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	J1	122	933	588	171	170	4	0	0
8	J2	122	933	588	171	170	4	0	0

- Molecule 9 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	K1	150	1145	712	232	198	3	0	0
9	K2	150	1145	712	232	198	3	0	0

- Molecule 10 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	L1	141	1122	715	212	188	7	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	L2	141	1122	715	212	188	7	0	0

- Molecule 11 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
11	M1	117	960	599	202	159	0	0
11	M2	117	960	599	202	159	0	0

- Molecule 12 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
12	N1	111	882	556	176	150	0	0
12	N2	111	882	556	176	150	0	0

- Molecule 13 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	O1	137	1142	710	234	197	1	0	0
13	O2	137	1142	710	234	197	1	0	0

- Molecule 14 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	P1	117	964	610	202	151	1	0	0
14	P2	117	964	610	202	151	1	0	0

- Molecule 15 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	Q1	101	779	501	142	135	1	0	0
15	Q2	101	779	501	142	135	1	0	0

- Molecule 16 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	R1	113	900	566	177	155	2	0	0
16	R2	113	900	566	177	155	2	0	0

- Molecule 17 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
17	S1	92	726	471	131	124	0	0
17	S2	92	726	471	131	124	0	0

- Molecule 18 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	T1	102	786	505	150	126	5	0	0
18	T2	102	786	505	150	126	5	0	0

- Molecule 19 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	U1	179	1429	911	255	260	3	0	0
19	U2	179	1429	911	255	260	3	0	0

- Molecule 20 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	V1	77	613	379	129	104	1	0	0
20	V2	77	613	379	129	104	1	0	0

- Molecule 21 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	W1	97	763	481	150	131	1	0	0
21	W2	97	763	481	150	131	1	0	0

- Molecule 22 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	X1	69	581	358	118	104	1	0	0
22	X2	69	581	358	118	104	1	0	0

- Molecule 23 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
23	Y1	59	469	298	90	81	0	0
23	Y2	59	469	298	90	81	0	0

- Molecule 24 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	Z1	63	516	326	93	92	5	0	0
24	Z2	63	516	326	93	92	5	0	0

- Molecule 25 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	a1	59	459	288	90	76	5	0	0
25	a2	59	459	288	90	76	5	0	0

- Molecule 26 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	b1	45	390	241	79	66	4	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	b2	45	390	241	79	66	4	0	0

- Molecule 27 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	c1	49	430	263	108	57	2	0	0
27	c2	49	430	263	108	57	2	0	0

- Molecule 28 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	d1	61	489	312	99	76	2	0	0
28	d2	61	489	312	99	76	2	0	0

- Molecule 29 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
29	A1	2912	62707	27911	11722	20163	2911	0	0
29	A2	2912	62707	27911	11722	20163	2911	0	0

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A1	156	U	UNK	conflict	GB 55771382
A1	682	A	G	conflict	GB 55771382
A1	686	C	G	conflict	GB 55771382
A1	697	G	C	conflict	GB 55771382
A1	701	A	C	conflict	GB 55771382
A1	1106	U	G	conflict	GB 55771382
A1	1128	A	C	conflict	GB 55771382
A2	156	U	UNK	conflict	GB 55771382
A2	682	A	G	conflict	GB 55771382
A2	686	C	G	conflict	GB 55771382
A2	697	G	C	conflict	GB 55771382
A2	701	A	C	conflict	GB 55771382

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
A2	1106	U	G	conflict	GB 55771382
A2	1128	A	C	conflict	GB 55771382

- Molecule 30 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
30	B1	122	2617	1166	486	844	121	0	0
30	B2	122	2617	1166	486	844	121	0	0

- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	e1	36	299	183	67	46	3	0	0
31	e2	36	299	183	67	46	3	0	0

- Molecule 32 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	B3	237	1925	1228	344	348	5	0	0
32	B4	237	1925	1228	344	348	5	0	0

- Molecule 33 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	C3	206	1613	1016	314	282	1	0	0
33	C4	206	1613	1016	314	282	1	0	0

- Molecule 34 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	D3	208	1703	1066	339	291	7	0	0
34	D4	208	1703	1066	339	291	7	0	0

- Molecule 35 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	E3	151	1156	729	218	205	4	0	0
35	E4	151	1156	729	218	205	4	0	0

- Molecule 36 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	F3	101	843	531	155	154	3	0	0
36	F4	101	843	531	155	154	3	0	0

- Molecule 37 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	G3	155	1257	781	252	218	6	0	0
37	G4	155	1257	781	252	218	6	0	0

- Molecule 38 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	H3	138	1116	705	215	193	3	0	0
38	H4	138	1116	705	215	193	3	0	0

- Molecule 39 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
39	I3	127	1010	639	197	174	0	0
39	I4	127	1010	639	197	174	0	0

- Molecule 40 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	J3	99	802	504	157	140	1	0	0
40	J4	99	802	504	157	140	1	0	0

- Molecule 41 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	K3	118	879	546	167	163	3	0	0
41	K4	118	879	546	167	163	3	0	0

- Molecule 42 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	L3	125	976	614	196	165	1	0	0
42	L4	125	976	614	196	165	1	0	0

- Molecule 43 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	M3	117	934	577	192	163	2	0	0
43	M4	117	934	577	192	163	2	0	0

- Molecule 44 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	N3	60	492	312	104	72	4	0	0
44	N4	60	492	312	104	72	4	0	0

- Molecule 45 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	O3	88	734	459	147	126	2	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	O4	88	734	459	147	126	2	0	0

- Molecule 46 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	P3	84	706	446	140	119	1	0	0
			Total	C	N	O	S		
46	P4	84	706	446	140	119	1	0	0

- Molecule 47 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
47	Q3	100	835	534	155	144	2	0	0
			Total	C	N	O	S		
47	Q4	100	835	534	155	144	2	0	0

- Molecule 48 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
48	R3	62	515	328	101	86	0	0
			Total	C	N	O		
48	R4	62	515	328	101	86	0	0

- Molecule 49 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	S3	78	625	398	115	110	2	0	0
			Total	C	N	O	S		
49	S4	78	625	398	115	110	2	0	0

- Molecule 50 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	T3	99	763	470	162	129	2	0	0
			Total	C	N	O	S		
50	T4	99	763	470	162	129	2	0	0

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

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
51	U3	25	218	134	52	32	0	0
51	U4	25	218	134	52	32	0	0

- Molecule 52 is a protein called Ribosome hibernation promoting factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	X3	57	476	304	85	84	3	0	0
52	W4	57	476	304	85	84	3	0	0

- Molecule 53 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
53	A3	1506	32369	14408	5997	10459	1505	0	0
53	A4	1506	32369	14408	5997	10459	1505	0	0

- Molecule 54 is a protein called Ribosome hibernation promoting factor.

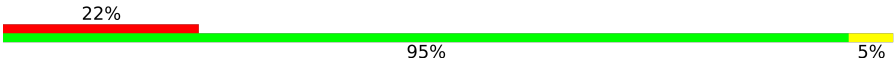
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	V3	119	963	603	179	180	1	0	0
54	V4	117	950	594	177	178	1	0	0

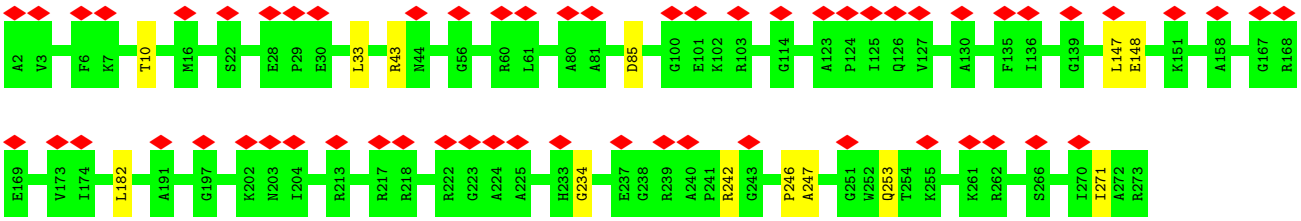
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: 50S ribosomal protein L2

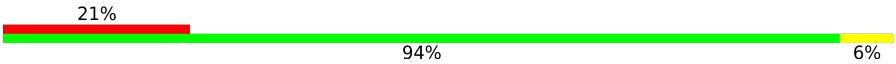
Chain C1:

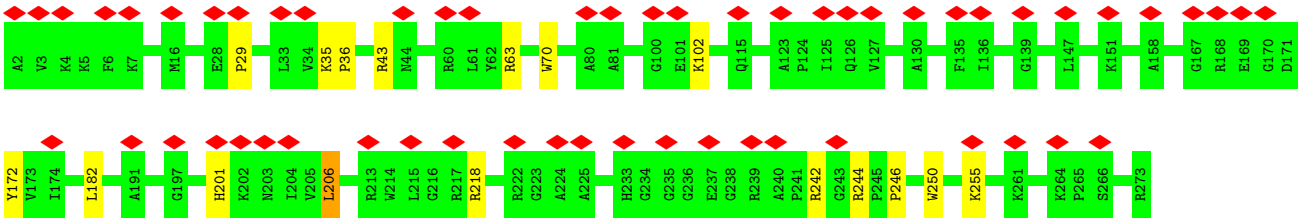




- Molecule 1: 50S ribosomal protein L2

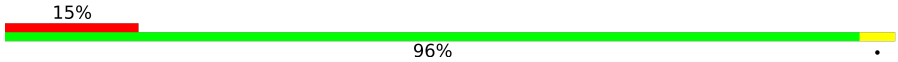
Chain C2:

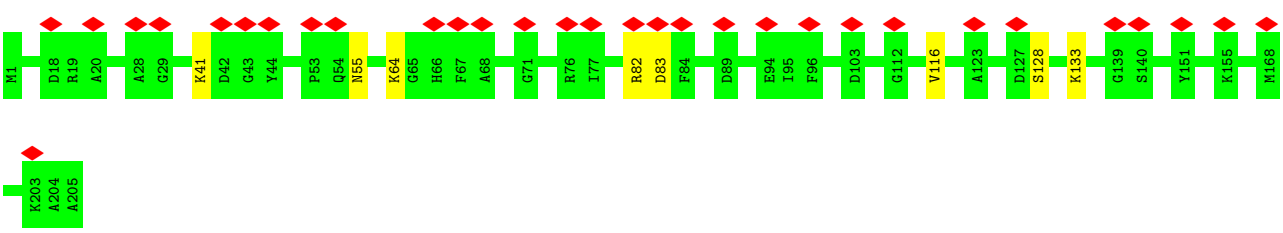




- Molecule 2: 50S ribosomal protein L3

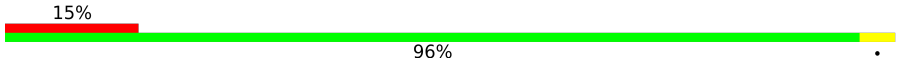
Chain D1:

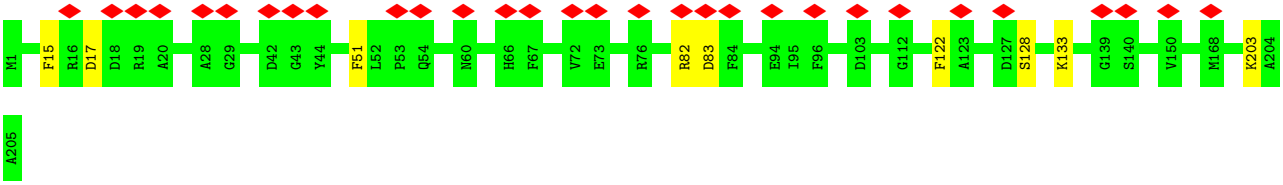




- Molecule 2: 50S ribosomal protein L3

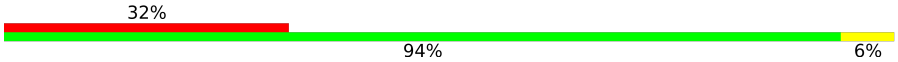
Chain D2:

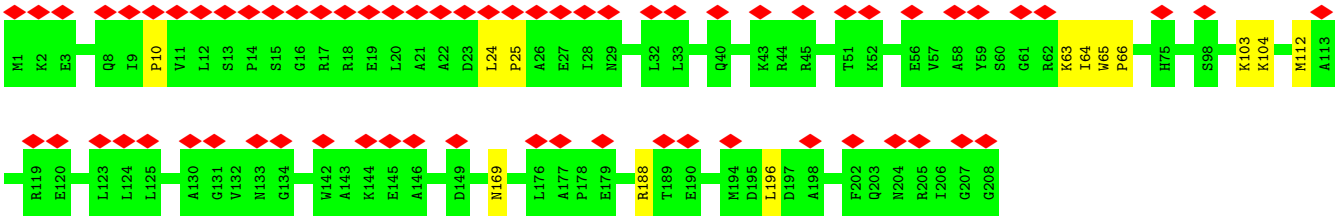




• Molecule 3: 50S ribosomal protein L4

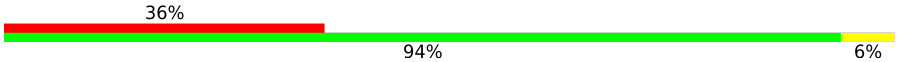
Chain E1:

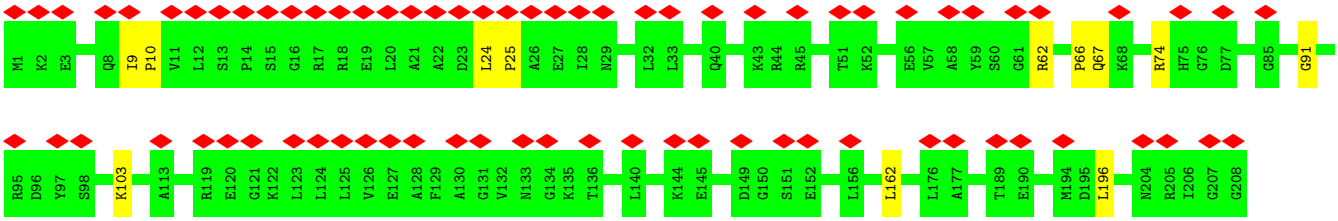




• Molecule 3: 50S ribosomal protein L4

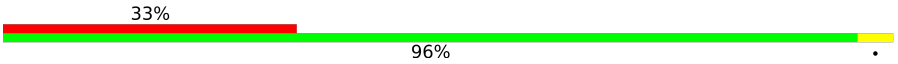
Chain E2:

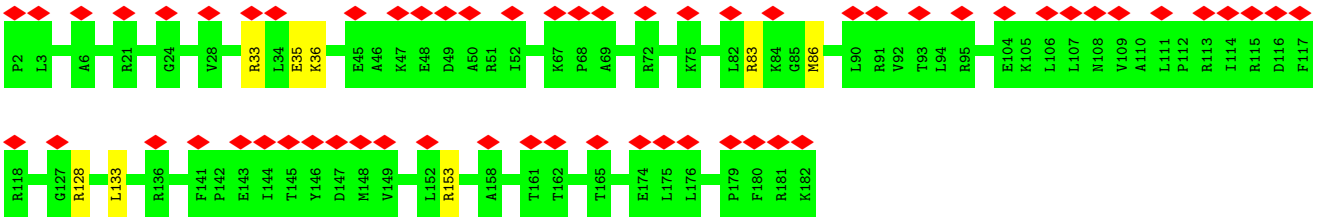




• Molecule 4: 50S ribosomal protein L5

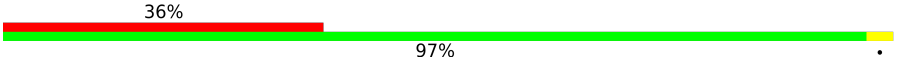
Chain F1:

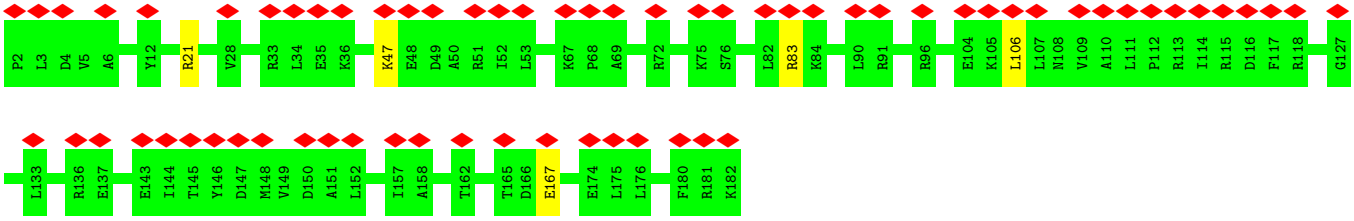




• Molecule 4: 50S ribosomal protein L5

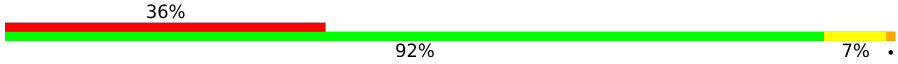
Chain F2:

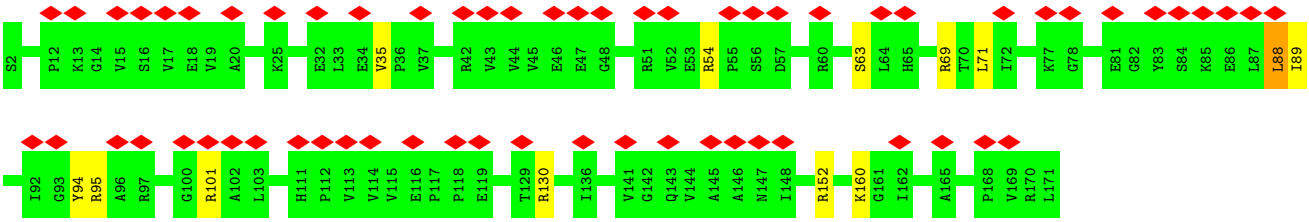




• Molecule 5: 50S ribosomal protein L6

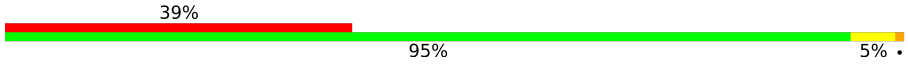
Chain G1:

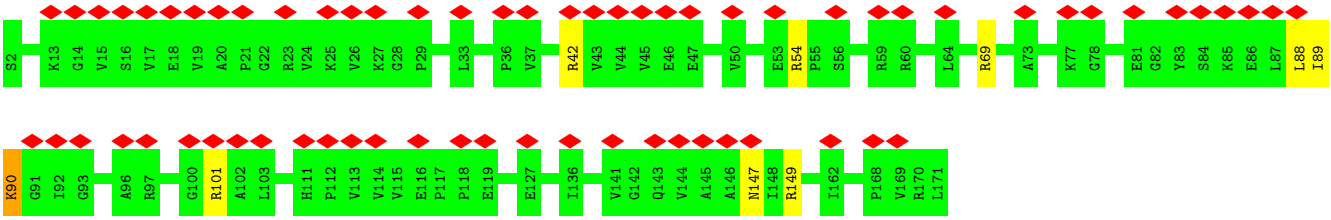




• Molecule 5: 50S ribosomal protein L6

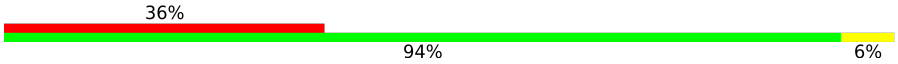
Chain G2:

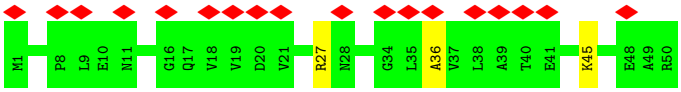




• Molecule 6: 50S ribosomal protein L9

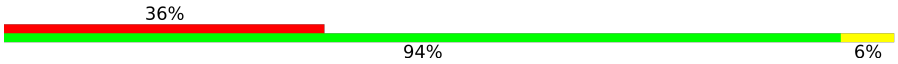
Chain H1:

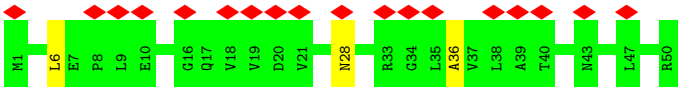




• Molecule 6: 50S ribosomal protein L9

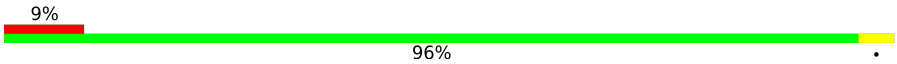
Chain H2:

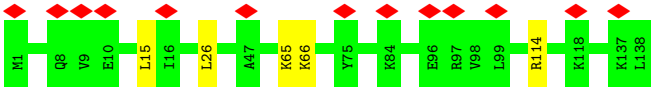




• Molecule 7: 50S ribosomal protein L13

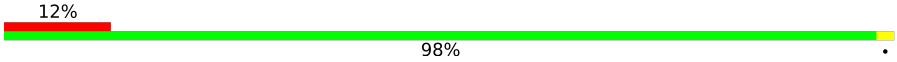
Chain I1:

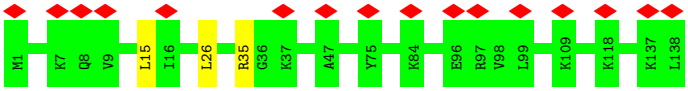




• Molecule 7: 50S ribosomal protein L13

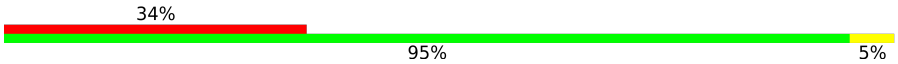
Chain I2:

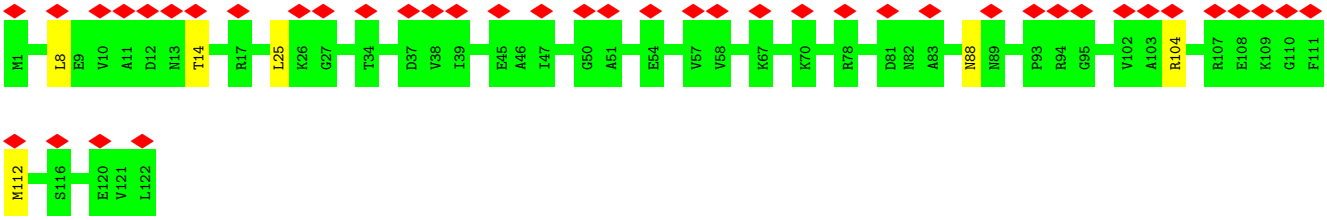




• Molecule 8: 50S ribosomal protein L14

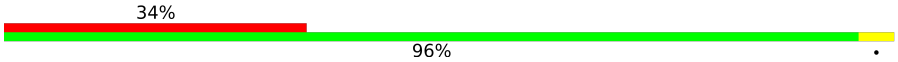
Chain J1:

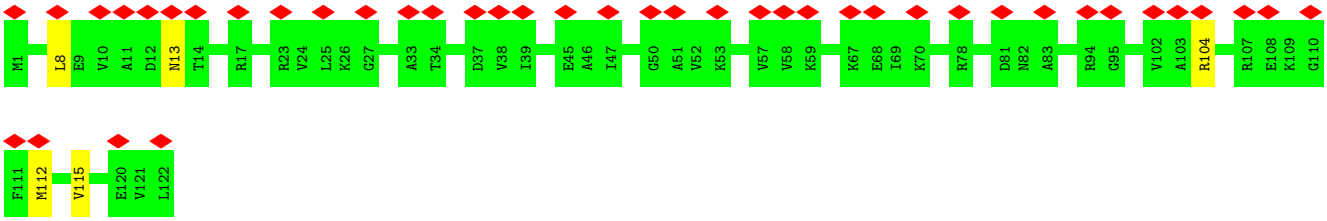




• Molecule 8: 50S ribosomal protein L14

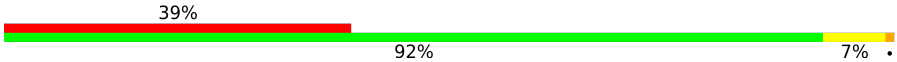
Chain J2:

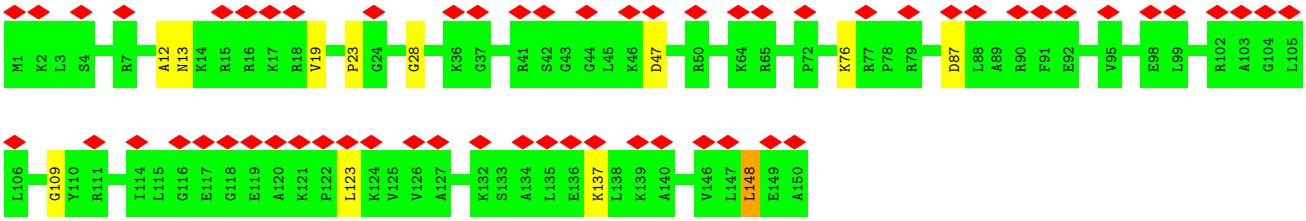




• Molecule 9: 50S ribosomal protein L15

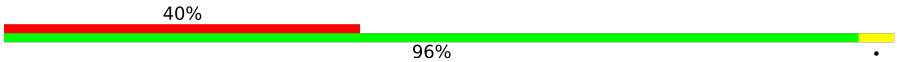
Chain K1:

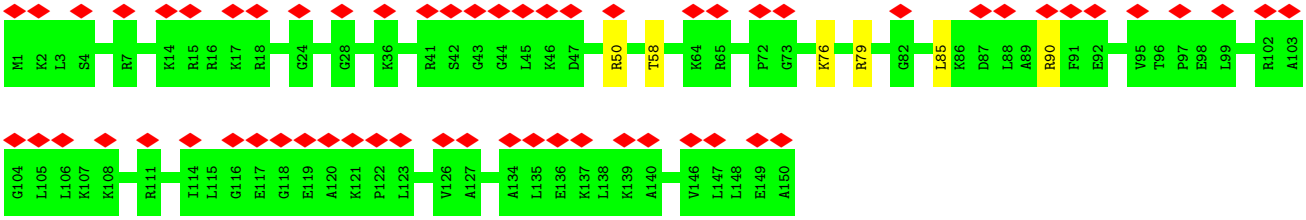




• Molecule 9: 50S ribosomal protein L15

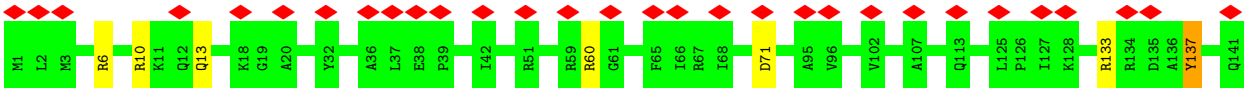
Chain K2:





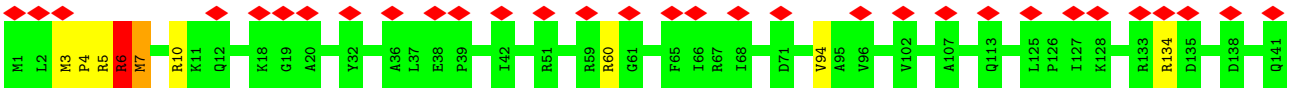
• Molecule 10: 50S ribosomal protein L16

Chain L1: 21% 95%



• Molecule 10: 50S ribosomal protein L16

Chain L2: 22% 94% 5%

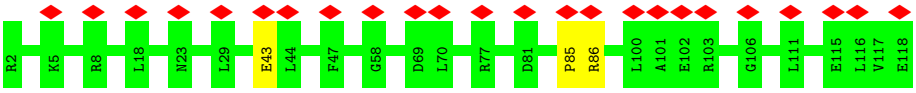


• Molecule 11: 50S ribosomal protein L17

Chain M1: 19% 94% 6%

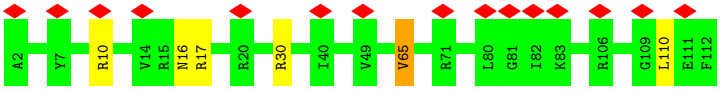
• Molecule 11: 50S ribosomal protein L17

Chain M2: 21% 97%



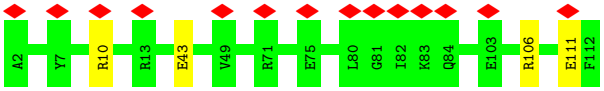
• Molecule 12: 50S ribosomal protein L18

Chain N1: 14% 95% 5%



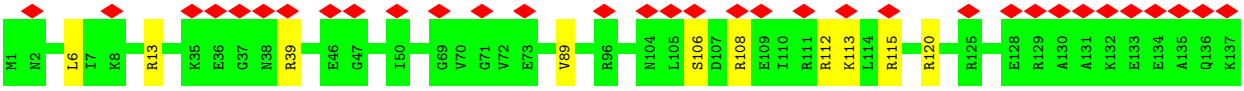
• Molecule 12: 50S ribosomal protein L18

Chain N2: 13% 96%



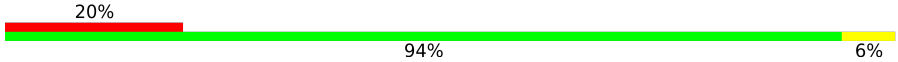
• Molecule 13: 50S ribosomal protein L19

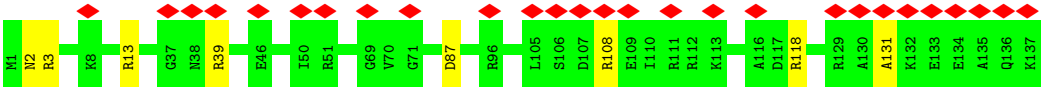
Chain O1: 24% 93% 7%



• Molecule 13: 50S ribosomal protein L19

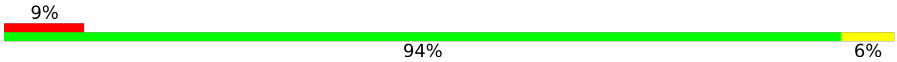
Chain O2:

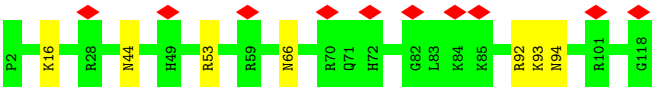




• Molecule 14: 50S ribosomal protein L20

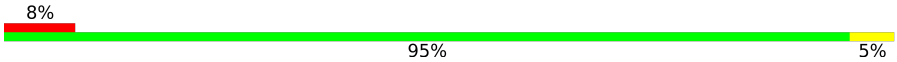
Chain P1:

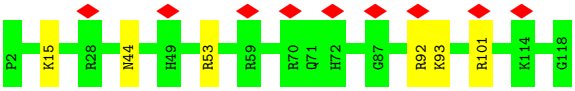




• Molecule 14: 50S ribosomal protein L20

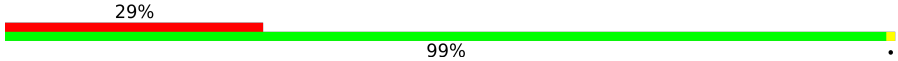
Chain P2:

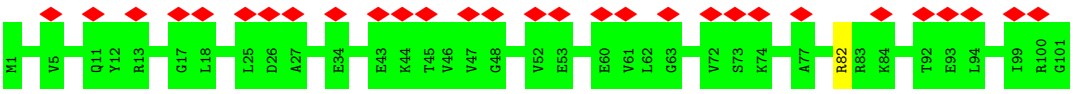




• Molecule 15: 50S ribosomal protein L21

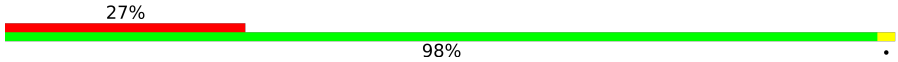
Chain Q1:

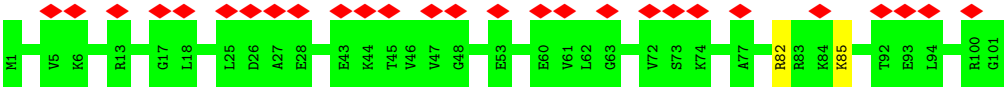




• Molecule 15: 50S ribosomal protein L21

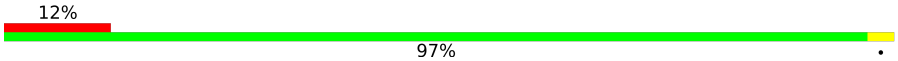
Chain Q2:

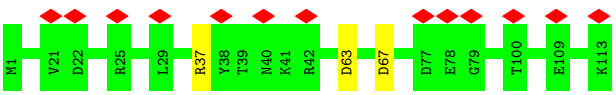




• Molecule 16: 50S ribosomal protein L22

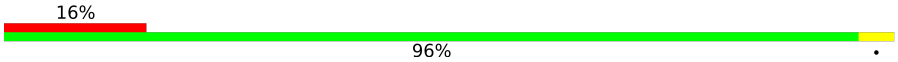
Chain R1:

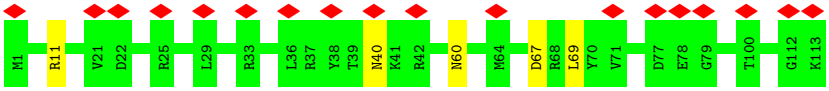




• Molecule 16: 50S ribosomal protein L22

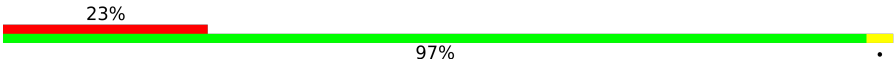
Chain R2:

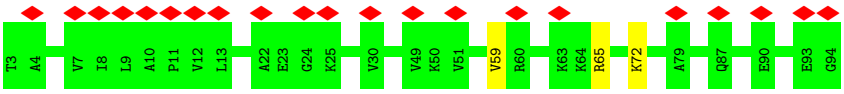




• Molecule 17: 50S ribosomal protein L23

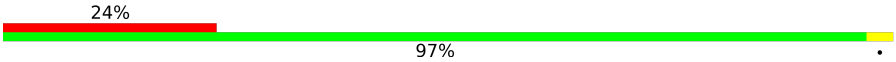
Chain S1:

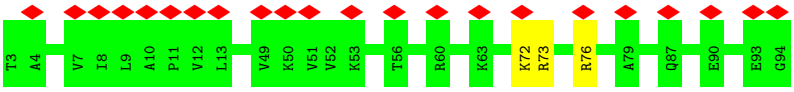




• Molecule 17: 50S ribosomal protein L23

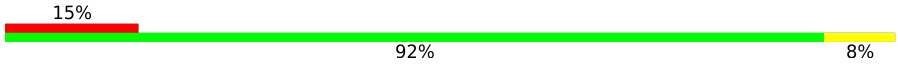
Chain S2:

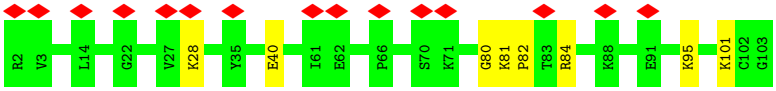




• Molecule 18: 50S ribosomal protein L24

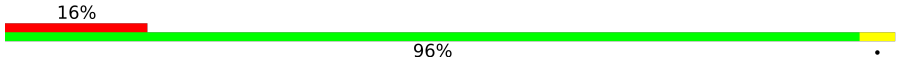
Chain T1:

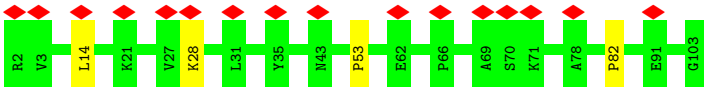




• Molecule 18: 50S ribosomal protein L24

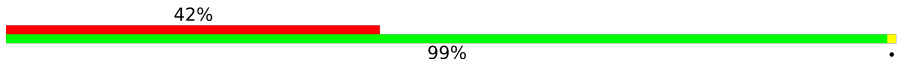
Chain T2:

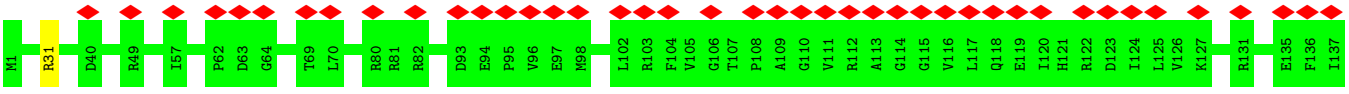


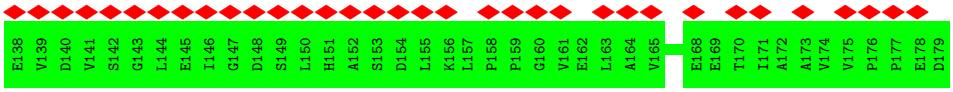


• Molecule 19: 50S ribosomal protein L25

Chain U1:

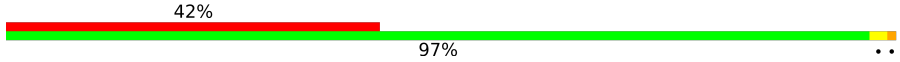


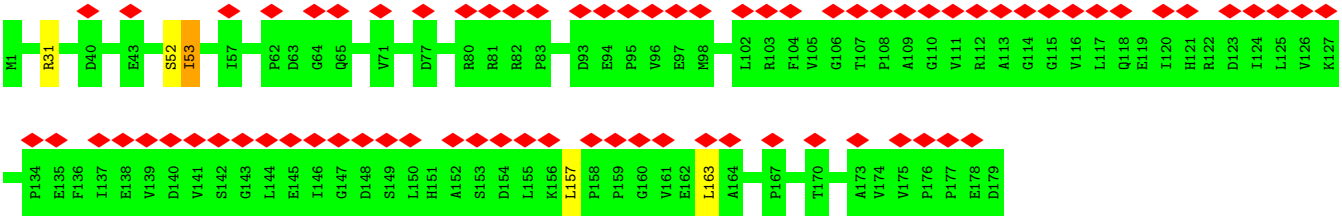




• Molecule 19: 50S ribosomal protein L25

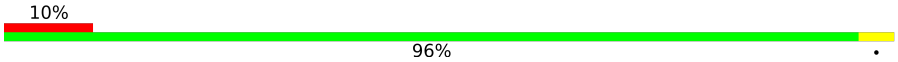
Chain U2:

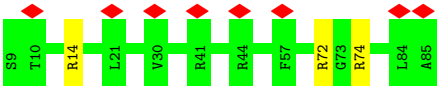




- Molecule 20: 50S ribosomal protein L27

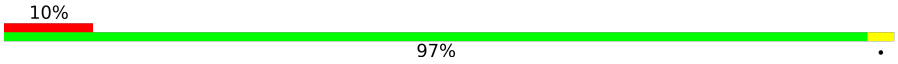
Chain V1:

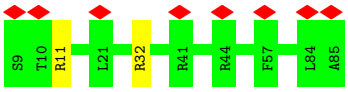




- Molecule 20: 50S ribosomal protein L27

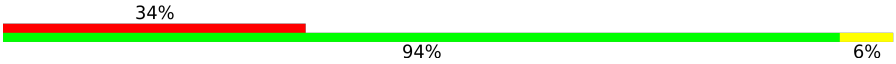
Chain V2:

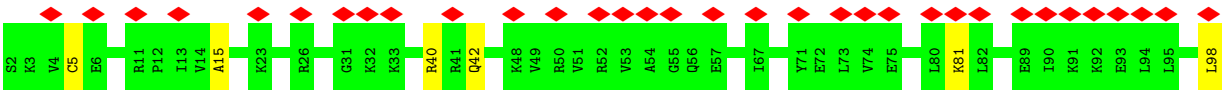




- Molecule 21: 50S ribosomal protein L28

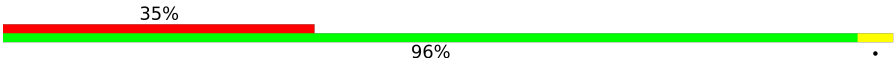
Chain W1:

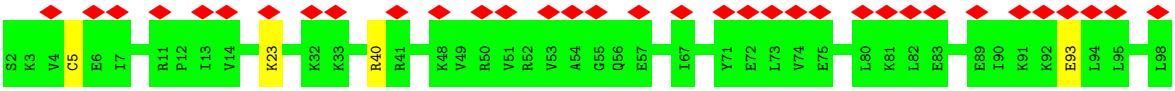




- Molecule 21: 50S ribosomal protein L28

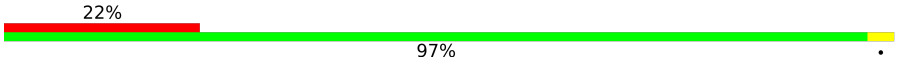
Chain W2:

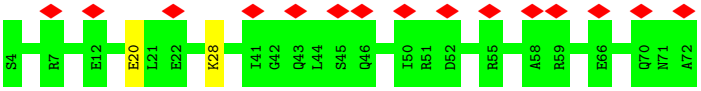




- Molecule 22: 50S ribosomal protein L29

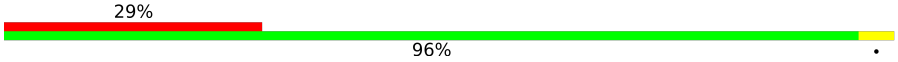
Chain X1:

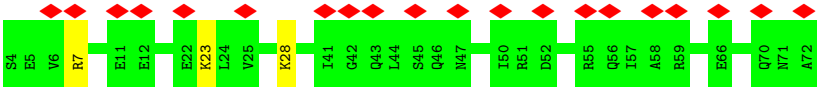




- Molecule 22: 50S ribosomal protein L29

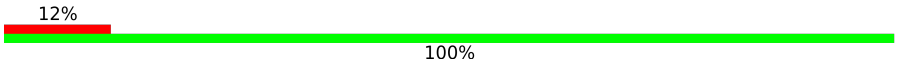
Chain X2:

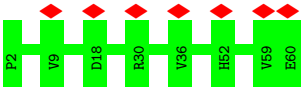




• Molecule 23: 50S ribosomal protein L30

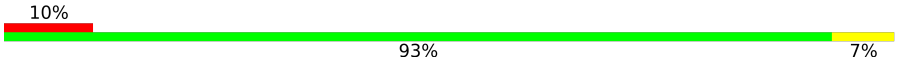
Chain Y1:

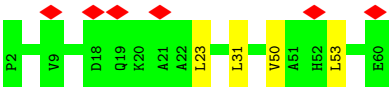




• Molecule 23: 50S ribosomal protein L30

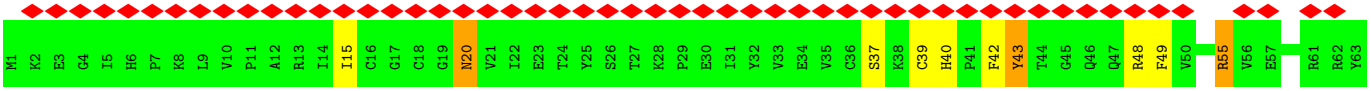
Chain Y2:





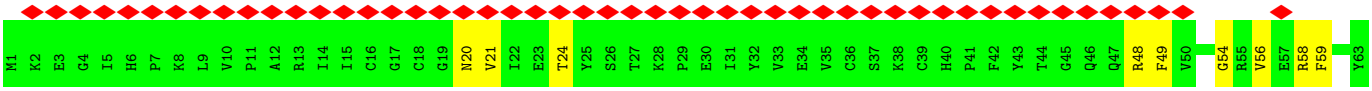
• Molecule 24: 50S ribosomal protein L31

Chain Z1:



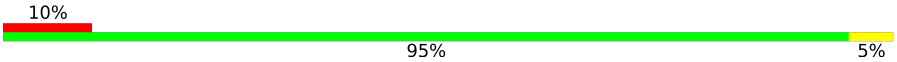
• Molecule 24: 50S ribosomal protein L31

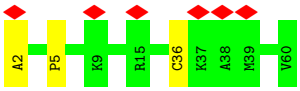
Chain Z2:



• Molecule 25: 50S ribosomal protein L32

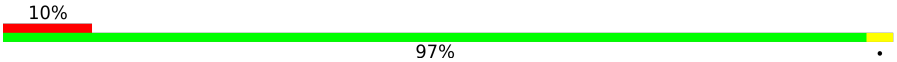
Chain a1:

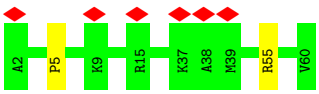




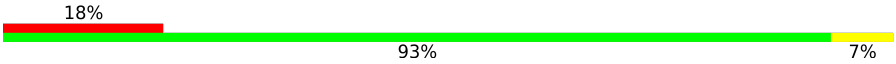
• Molecule 25: 50S ribosomal protein L32

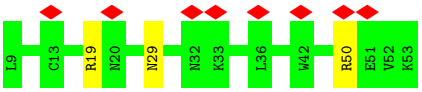
Chain a2:





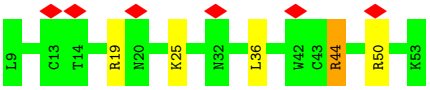
• Molecule 26: 50S ribosomal protein L33

Chain b1: 

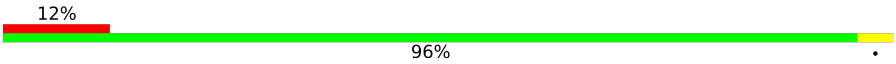


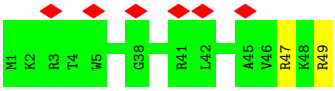
• Molecule 26: 50S ribosomal protein L33

Chain b2:

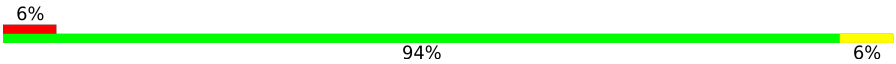


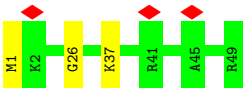
• Molecule 27: 50S ribosomal protein L34

Chain c1: 

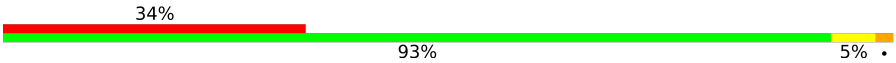


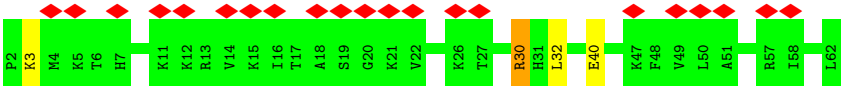
• Molecule 27: 50S ribosomal protein L34

Chain c2: 

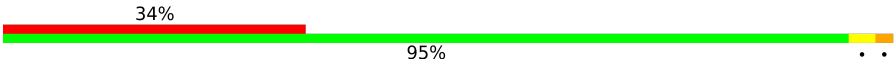


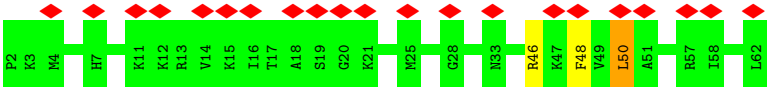
• Molecule 28: 50S ribosomal protein L35

Chain d1: 



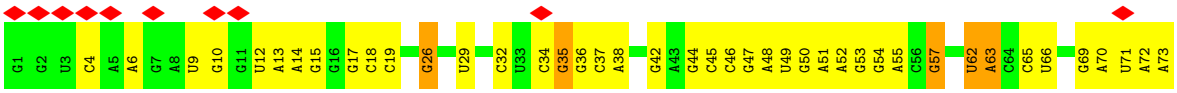
• Molecule 28: 50S ribosomal protein L35

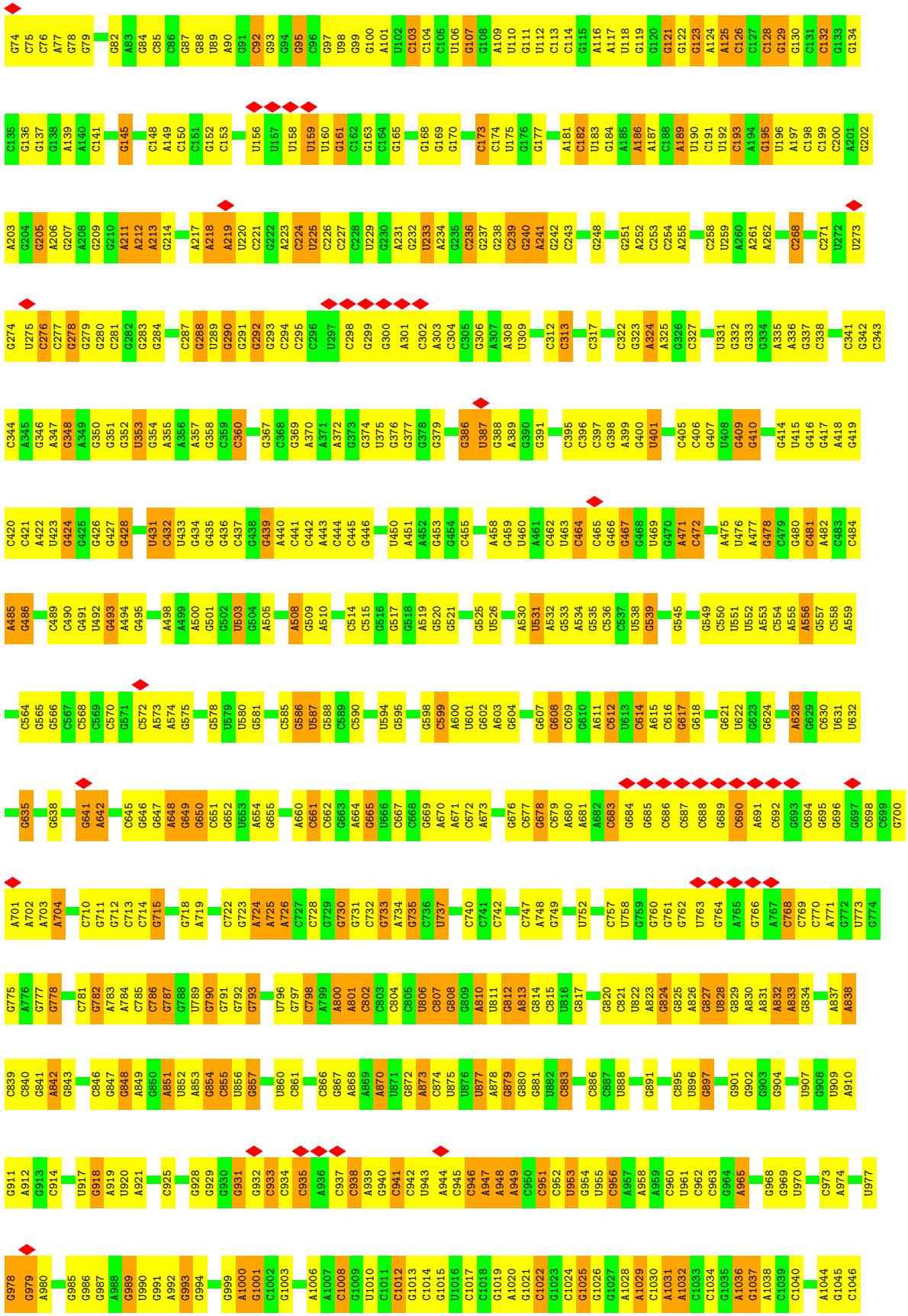
Chain d2: 

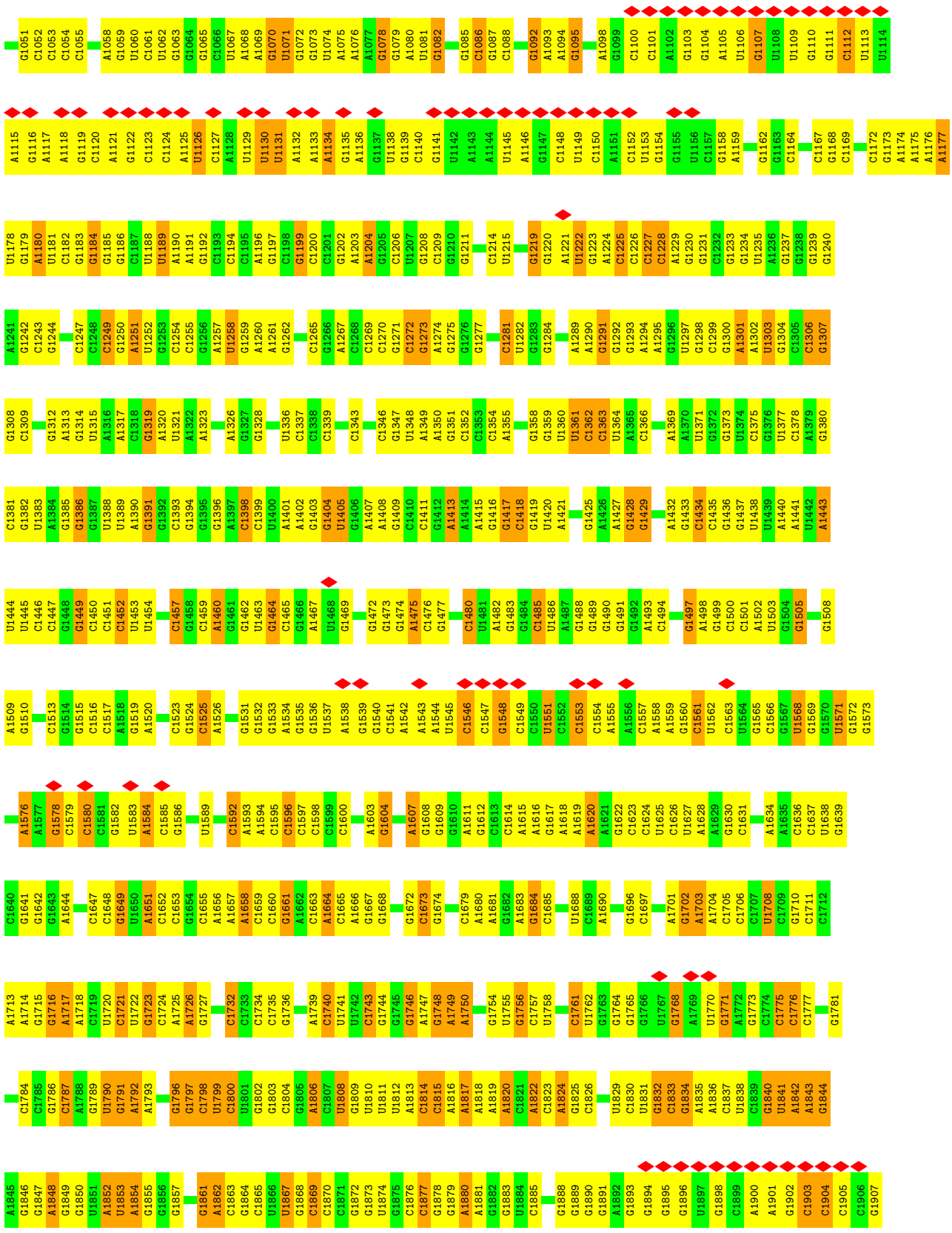


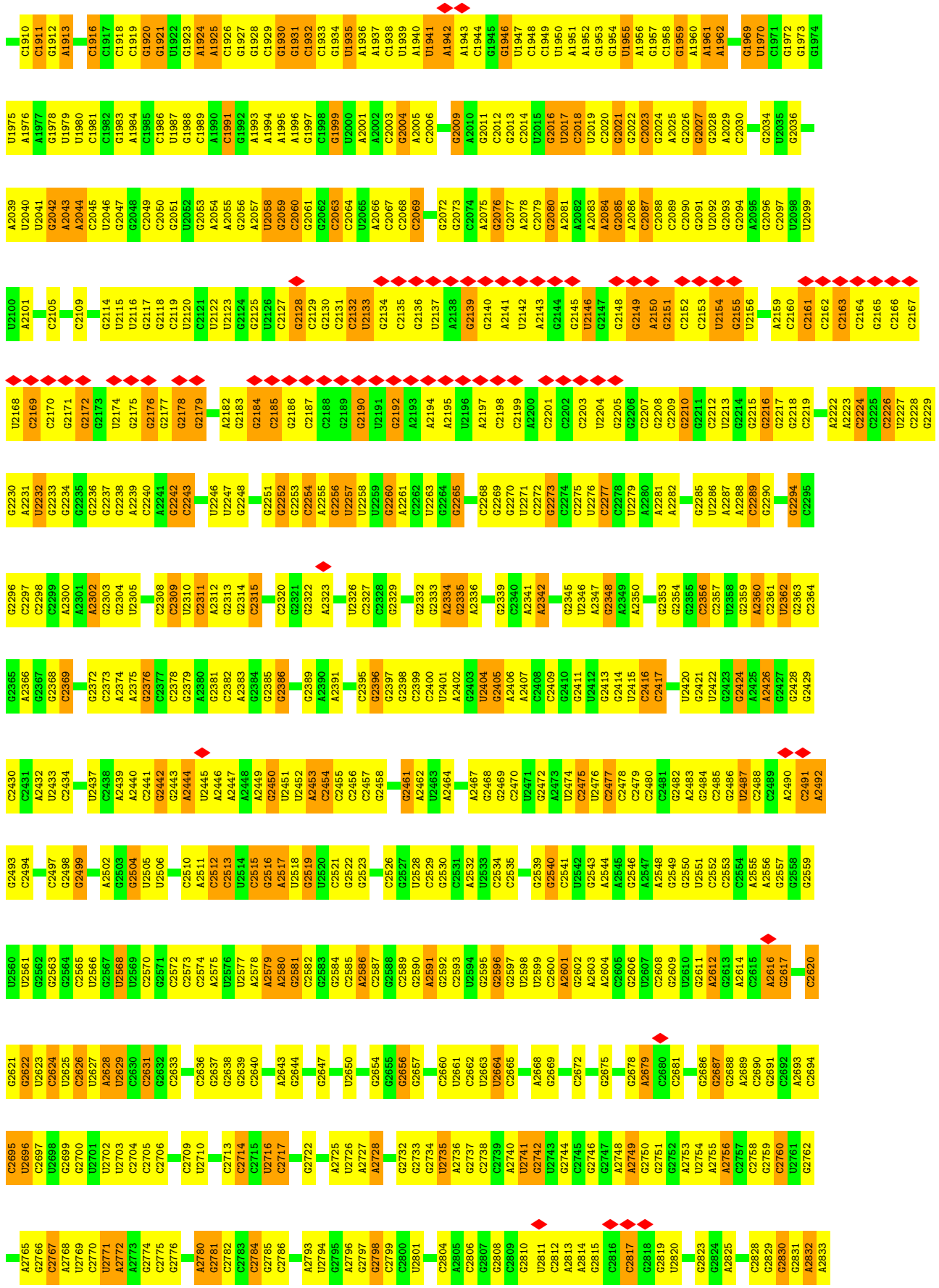
• Molecule 29: 23S ribosomal RNA

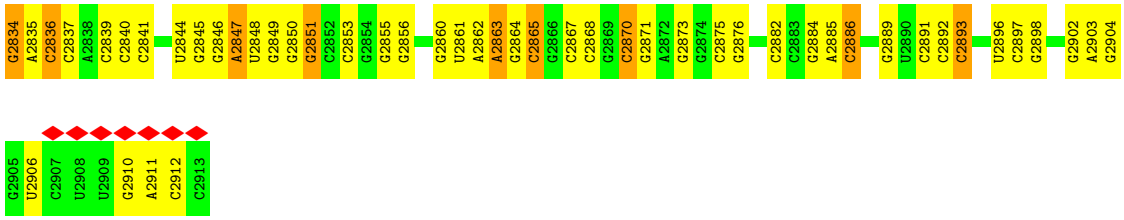
Chain A1:




G74 C75 C76 A77 G78 G79 G82 A83 G84 C85 C86 G87 G88 U89 A90 G91 C92 G93 G94 G95 C96 G97 U98 G99 G100 A101 U102 C103 C104 C105 U106 G107 G108 A109 U110 G111 U112 C113 C114 G115 A116 A117 U118 G119 G120 G121 G122 G123 A124 A125 C126 C127 C128 G129 G130 C131 C132 G133 G134
C135 G136 G137 G138 A139 A140 C141 G145 C148 A149 C150 C151 G152 C153 U156 U157 U158 U159 U160 G161 C162 G163 C164 G165 G168 G169 G170 C173 C174 U175 G176 G177 A181 C182 U183 G184 A185 A186 A187 C188 A189 U190 C191 U192 C193 A194 G195 U196 A197 C198 C199 C200 A201 G202
A203 G204 G205 A206 G207 A208 G209 G210 A211 A212 A213 G214 A217 A218 A219 U220 C221 G222 A223 C224 U225 C226 C227 C228 U229 G230 A231 G232 U233 A234 G235 C236 G237 G238 C239 G240 A241 G242 C243 G248 G251 A252 C253 C254 A255 C258 U259 A260 A261 A262 C268 C271 U272 U273
G274 U275 C276 C277 G278 G279 G280 C281 G282 G283 G284 C287 G288 U289 G290 G291 G292 G293 C294 C295 C296 U297 C298 G299 G300 A301 C302 A303 C304 C305 G306 A307 A308 U309 C312 C313 C317 C322 G323 A324 A325 G326 C327 U331 G332 G333 G334 A335 A336 G337 C338 C341 G342 C343
C344 A345 G346 A347 G348 A349 G350 G351 G352 U353 G354 A355 A356 A357 G358 C359 C360 G367 C368 G369 A370 A371 A372 G373 G374 U375 G376 G377 G378 G379 G386 U387 G388 A389 G390 G391 C395 C396 C397 G398 A399 G400 U401 C405 C406 G407 U408 G409 G410 G414 U415 G416 G417 A418 G419
C420 C421 A422 U423 G424 G425 G426 G427 G428 U431 C432 U433 G434 G435 G436 C437 G438 G439 A440 C441 C442 A443 C444 C445 G446 U450 A451 A452 G453 G454 C455 A458 G459 U460 A461 C462 U463 C464 C465 G466 G467 G468 U469 G470 A471 C472 A475 U476 A477 G478 C479 G480 C481 A482 C483 C484
A485 G486 C489 C490 G491 U492 G493 A494 G495 A498 A499 A500 G501 G502 U503 G504 A505 A508 G509 A510 C514 C515 G516 G517 G518 A519 G520 G521 G525 U526 A530 U531 A532 G533 A534 G535 C536 C537 U538 G539 G545 G549 C550 U551 U552 A553 C554 A555 A556 G557 C558 A559
C564 G565 G566 C567 C568 G569 C570 G571 C572 A573 A574 G575 G578 U579 U580 G581 C585 G586 U587 C588 C589 C590 U594 G595 G598 C599 A600 U601 G602 A603 G604 G607 G608 C609 G610 A611 G612 U613 C614 A615 C616 G617 G618 G621 U622 G623 G624 A628 G629 C630 U631 U632
G635 G638 G641 A642 C645 G646 G647 A648 G649 G650 C651 G652 U653 A654 G655 A660 G661 C662 G663 A664 G665 U666 C667 G668 G669 A670 A671 C672 A673 G676 C677 G678 C679 A680 A681 A682 C683 G684 G685 C686 C687 G688 G689 C690 A691 C692 G693 C694 G695 G696 G697 C698 C699 G700
A701 A702 A703 A704 C710 G711 G712 C713 C714 G715 G718 A719 C722 G723 A724 A725 A726 C727 C728 G729 G730 G731 C732 G733 A734 G735 C736 U737 C740 C741 C742 C747 A748 G749 U752 C757 U758 G759 G760 G761 G762 U763 G764 A765 G766 A767 C768 C769 C770 A771 G772 U773 G774
G775 A776 G777 G778 C781 G782 A783 A784 C785 C786 G787 G788 U789 G790 G791 G792 G793 U796 G797 C798 A799 A800 A801 C802 C803 C804 C805 U806 C807 G808 G809 A810 U811 G812 A813 G814 C815 U816 G817 G820 C821 U822 A823 G824 G825 A826 G827 U828 G829 A830 A831 A832 A833 G834 A837 A838
C839 C840 G841 A842 G843 C846 G847 G848 A849 G850 A851 U852 A853 G854 C855 U856 G857 U860 C861 C866 G867 A868 A869 A870 U871 G872 A873 C874 U875 U876 U877 A878 G879 G880 G881 U882 C883 C886 C887 U888 G891 C895 U896 G897 G901 G902 G903 G904 U907 G908 U909 A910
G911 A912 G913 C914 U917 G918 A919 U920 A921 C925 G928 G929 G930 G931 G932 C933 C934 C935 A936 C937 C938 G939 G940 C941 C942 U943 A944 C945 C946 A947 A948 A949 C950 C951 C952 U953 G954 U955 C956 A957 A958 A959 C960 U961 C962 C963 G964 A965 G968 G969 U970 C973 A974 U977
G978 G979 A980 G985 G986 G987 A988 G989 U990 G991 A992 G993 G994 G999 A1000 G1001 C1002 G1003 A1006 A1007 C1008 G1009 U1010 C1011 C1012 G1013 C1014 G1015 U1016 C1017 C1018 G1019 A1020 G1021 C1022 G1023 C1024 G1025 G1026 G1027 A1028 A1029 C1030 A1031 A1032 C1033 C1034 G1035 A1036 G1037 A1038 C1039 C1040 A1044 G1045 C1046

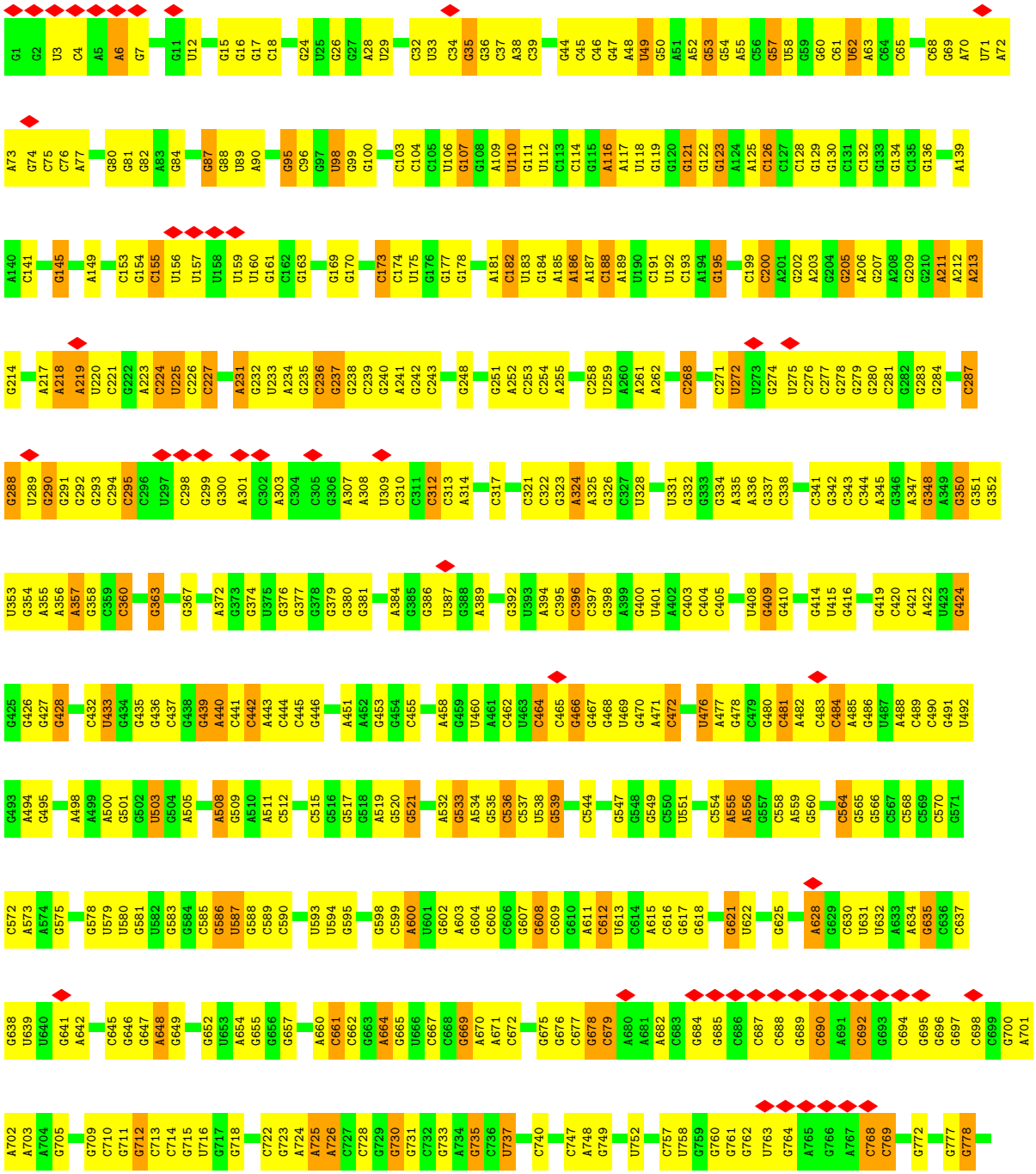

G1051 C1052 C1053 C1054 C1055 A1058 G1059 U1060 C1061 U1062 G1063 G1064 G1065 C1066 U1067 A1068 A1069 G1070 U1071 G1072 G1073 U1074 A1075 A1076 A1077 G1078 G1079 A1080 U1081 G1082 G1085 C1086 G1087 C1088 G1092 A1093 A1094 G1095 A1098 G1099 C1100 C1101 A1102 G1103 G1104 A1105 U1106 G1107 U1108 U1109 G1110 G1111 C1112 U1113 U1114
A1115 G1116 A1117 A1118 G1119 C1120 A1121 G1122 C1123 C1124 A1125 U1126 C1127 A1128 U1129 U1130 U1131 A1132 A1133 A1134 G1135 A1136 G1137 U1138 G1139 C1140 G1141 U1142 A1143 A1144 U1145 A1146 G1147 C1148 U1149 C1150 A1151 C1152 U1153 G1154 G1155 U1156 C1157 G1158 A1159 G1162 G1163 C1164 C1167 G1168 C1169 C1172 G1173 A1174 A1175 A1176 A1177
U1178 G1179 A1180 U1181 C1182 G1183 G1184 G1185 G1186 C1187 U1188 U1189 A1190 A1191 G1192 C1193 C1194 C1195 A1196 G1197 C1198 G1199 C1200 C1201 G1202 A1203 A1204 G1205 C1206 U1207 G1208 C1209 G1210 G1211 C1214 U1215 G1219 G1220 A1221 U1222 G1223 A1224 C1225 C1226 C1227 C1228 A1229 G1230 G1231 C1232 G1233 G1234 U1235 A1236 G1237 G1238 G1239 G1240
A1241 G1242 C1243 G1244 C1247 C1248 C1249 G1250 A1251 U1252 G1253 C1254 C1255 G1256 A1257 U1258 G1259 A1260 A1261 G1262 C1265 G1266 A1267 C1268 C1269 C1270 G1271 C1272 G1273 A1274 G1275 G1276 G1277 C1281 U1282 G1283 G1284 A1289 A1290 G1291 G1292 G1293 A1294 A1295 G1296 U1297 G1298 C1299 G1300 A1301 A1302 U1303 G1304 C1305 C1306 G1307
G1308 C1309 G1312 A1313 G1314 U1315 A1316 A1317 C1318 G1319 A1320 U1321 A1322 A1323 A1326 G1327 G1328 U1336 C1337 C1338 C1339 C1343 C1346 G1347 U1348 A1349 A1350 G1351 C1352 C1353 C1354 A1355 G1358 G1359 U1360 U1361 C1362 C1363 U1364 A1365 C1366 A1369 A1370 U1371 G1372 G1373 U1374 C1375 G1376 U1377 C1378 A1379 G1380
C1381 G1382 U1383 A1384 G1385 G1386 G1387 U1388 U1389 A1390 G1391 G1392 C1393 G1394 G1395 G1396 A1397 C1398 C1399 U1400 A1401 A1402 G1403 G1404 U1405 G1406 A1407 A1408 G1409 C1410 C1411 G1412 A1413 A1414 A1415 G1416 G1417 C1418 G1419 U1420 A1421 G1425 A1426 A1427 G1428 G1429 A1432 G1433 C1434 C1435 G1436 G1437 U1438 U1439 A1440 A1441 U1442 A1443
U1444 U1445 C1446 C1447 G1448 G1449 C1450 C1451 C1452 U1453 U1454 C1457 G1458 C1459 A1460 G1461 G1462 U1463 G1464 C1465 G1466 A1467 U1468 G1469 G1472 G1473 G1474 A1475 C1476 G1477 C1480 U1481 A1482 G1483 G1484 C1485 U1486 A1487 G1488 G1489 G1490 G1491 G1492 A1493 C1494 G1497 A1498 G1499 C1500 C1501 A1502 U1503 G1504 G1505 G1508
A1509 G1510 C1513 G1514 G1515 C1516 C1517 A1518 G1519 A1520 C1523 G1524 C1525 A1526 G1531 G1532 G1533 A1534 G1535 G1536 U1537 A1538 G1539 G1540 C1541 A1542 A1543 A1544 U1545 C1546 C1547 G1548 C1549 C1550 U1551 C1552 C1553 C1554 A1555 A1556 C1557 A1558 A1559 G1560 C1561 U1562 C1563 U1564 G1565 C1566 G1567 U1568 G1569 G1570 U1571 G1572 G1573
A1576 A1577 G1578 C1579 C1580 C1581 G1582 U1583 A1584 C1585 G1586 U1589 C1592 A1593 A1594 C1595 C1596 C1597 C1598 C1599 C1600 A1603 G1604 A1607 G1608 G1609 G1610 A1611 G1612 C1613 C1614 A1615 A1616 G1617 A1618 A1619 A1620 A1621 G1622 C1623 C1624 U1625 C1626 U1627 A1628 A1629 G1630 C1631 A1634 A1635 C1636 C1637 U1638 G1639
C1640 G1641 G1642 G1643 A1644 C1647 C1648 G1649 U1650 A1651 C1652 C1653 G1654 C1655 A1656 A1657 A1658 C1659 C1660 G1661 A1662 C1663 A1664 C1665 A1666 G1667 G1668 G1672 C1673 G1674 C1679 A1680 A1681 G1682 A1683 G1684 C1685 U1688 C1689 A1690 G1696 C1697 A1701 G1702 A1703 A1704 C1705 C1706 C1707 U1708 C1709 G1710 C1711 C1712
A1713 A1714 G1715 G1716 A1717 A1718 C1719 U1720 C1721 U1722 G1723 C1724 A1725 A1726 G1727 C1732 C1733 C1734 C1735 G1736 A1739 C1740 U1741 U1742 C1743 G1744 G1745 G1746 A1747 G1748 A1749 A1750 G1754 U1755 G1756 C1757 U1758 C1761 U1762 G1763 G1764 G1765 G1766 U1767 G1768 A1769 U1770 G1771 A1772 G1773 C1774 C1775 C1776 C1777 G1781
C1794 C1795 G1796 C1797 C1798 U1799 C1800 U1801 G1802 G1803 C1804 G1805 A1806 C1807 U1808 G1809 U1810 U1811 U1812 A1813 C1814 C1815 A1816 A1817 A1818 A1819 A1820 C1821 A1822 C1823 A1824 G1825 C1826 U1829 C1830 U1831 G1832 C1833 G1834 A1835 A1836 C1837 U1838 C1839 G1840 U1841 A1842 A1843 G1844
A1845 G1846 G1847 A1848 G1849 G1850 U1851 A1852 U1853 A1854 G1855 G1856 G1857 G1861 A1862 C1863 G1864 C1865 U1866 U1867 G1868 C1869 C1870 C1871 G1872 G1873 U1874 G1875 C1876 C1877 G1878 G1879 A1880 A1881 G1882 G1883 U1884 C1885 G1888 G1889 G1890 G1891 A1892 G1893 G1894 G1895 G1896 U1897 G1898 C1899 A1900 A1901 G1902 C1903 C1904 C1905 C1906 G1907

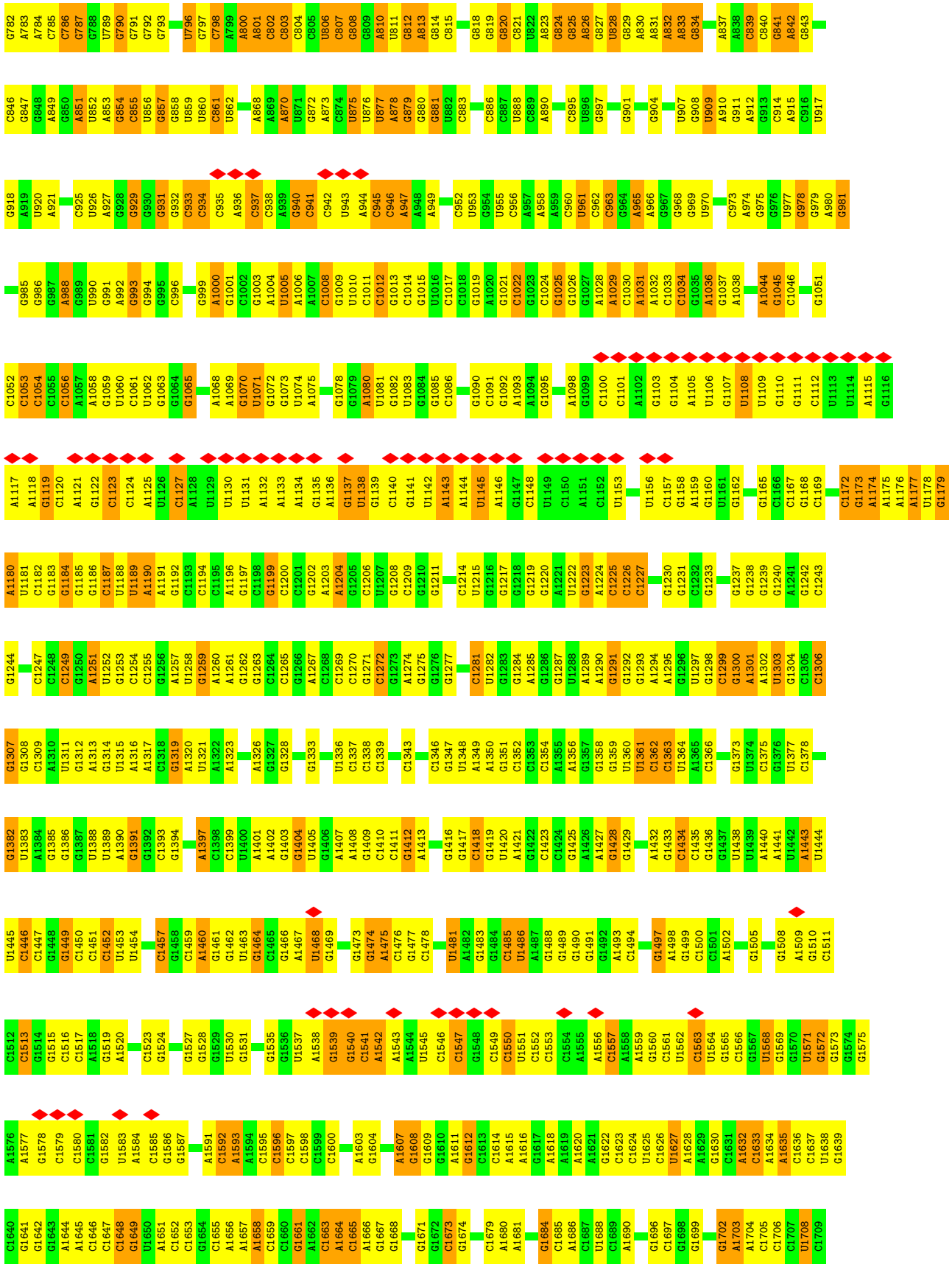

C1910 C1911 G1912 A1913 C1916 C1917 C1918 C1919 G1920 G1921 U1922 G1923 A1924 A1925 C1926 G1927 G1928 C1929 G1930 G1931 C1932 C1933 G1934 U1935 A1936 A1937 C1938 U1939 A1940 U1941 A1942 A1943 C1944 G1945 G1946 U1947 C1948 C1949 U1950 A1951 A1952 G1953 G1954 U1955 A1956 G1957 C1958 G1959 A1960 A1961 A1962 G1969 U1970 C1971 G1972 G1973 G1974
U1975 A1976 A1977 G1978 U1979 U1980 C1981 C1982 G1983 A1984 C1985 C1986 U1987 G1988 C1989 A1990 C1991 C1992 A1993 A1994 A1995 A1996 G1997 C1998 G1999 U2000 A2001 A2002 C2003 G2004 A2005 C2006 G2009 A2010 G2011 C2012 G2013 C2014 U2015 G2016 U2017 C2018 U2019 C2020 G2021 G2022 C2023 G2024 A2025 G2026 G2027 G2028 A2029 C2030 G2034 U2035 G2036
A2039 U2040 U2041 G2042 A2043 A2044 C2045 U2046 G2047 G2048 C2049 C2050 G2051 U2052 G2053 A2054 A2055 G2056 A2057 U2058 G2059 C2060 G2061 G2062 C2063 C2064 U2065 A2066 C2067 C2068 C2069 G2072 G2073 C2074 A2075 G2076 G2077 A2078 C2079 G2080 A2081 A2082 A2083 A2084 G2085 A2086 C2087 C2088 C2089 C2090 G2091 U2092 G2093 G2094 A2095 G2096 C2097 U2098 U2099
U2100 A2101 C2105 C2109 G2114 U2115 U2116 G2117 G2118 C2119 U2120 C2121 U2122 U2123 G2124 G2125 U2126 C2127 G2128 C2129 G2130 C2131 C2132 U2133 G2134 C2135 G2136 U2137 A2138 G2139 G2140 A2141 U2142 A2143 G2144 G2145 U2146 G2147 G2148 G2149 A2150 G2151 C2152 C2153 U2154 G2155 U2156 A2159 C2160 C2161 C2162 C2163 C2164 G2165 C2166 C2167
U2168 C2169 C2170 C2171 G2172 G2173 U2174 G2175 G2176 G2177 G2178 G2179 A2182 G2183 G2184 C2185 G2186 C2187 C2188 G2189 G2190 U2191 G2192 A2193 A2194 A2195 U2196 A2197 C2198 C2199 A2200 C2201 C2202 C2203 U2204 G2205 G2206 C2207 G2208 C2209 G2210 G2211 C2212 U2213 G2214 G2215 G2216 G2217 G2218 C2219 A2222 A2223 C2224 C2225 C2226 U2227 C2228 G2229
G2230 A2231 U2232 G2233 G2234 G2235 G2236 G2237 G2238 A2239 C2240 A2241 G2242 C2243 U2246 U2247 G2248 G2251 G2252 G2253 C2254 A2255 G2256 U2257 U2258 U2259 G2260 A2261 C2262 U2263 G2264 G2265 C2268 G2269 G2270 U2271 C2272 G2273 C2274 C2275 U2276 C2277 C2278 U2279 A2280 A2281 A2282 G2285 U2286 A2287 A2288 C2289 G2290 G2294 C2295
G2296 C2297 C2298 C2299 A2300 A2301 A2302 G2303 G2304 U2305 C2308 C2309 U2310 C2311 A2312 G2313 G2314 C2315 C2320 G2321 G2322 A2323 U2326 C2327 C2328 G2329 G2332 G2333 A2334 G2335 A2336 G2339 C2340 A2341 A2342 G2345 U2346 A2347 G2348 A2349 A2350 G2353 G2354 G2355 C2356 C2357 U2358 G2359 A2360 C2361 U2362 G2363 C2364
G2365 A2366 G2367 G2368 C2369 G2372 C2373 A2374 A2375 G2376 C2377 C2378 G2379 A2380 G2381 C2382 A2383 G2384 G2385 G2386 G2389 A2390 A2391 C2395 G2396 G2397 G2398 C2399 C2400 U2401 A2402 G2403 U2404 G2405 A2406 A2407 C2408 C2409 G2410 G2411 U2412 G2413 G2414 U2415 C2416 C2417 U2420 G2421 U2422 G2423 G2424 A2425 A2426 G2427 G2428 G2429
C2430 C2431 A2432 U2433 C2434 U2437 C2438 A2439 A2440 C2441 G2442 G2443 A2444 U2445 A2446 A2447 A2448 A2449 G2450 U2451 U2452 A2453 C2454 C2455 C2456 C2457 G2458 G2461 A2462 U2463 A2464 A2467 G2468 G2469 C2470 U2471 G2472 A2473 U2474 C2475 U2476 C2477 C2478 C2479 C2480 C2481 G2482 A2483 G2484 C2485 G2486 U2487 C2488 C2489 A2490 C2491 A2492
G2493 C2494 C2497 G2498 G2499 A2502 G2503 G2504 U2505 U2506 C2510 A2511 C2512 C2513 U2514 C2515 G2516 A2517 U2518 G2519 U2520 C2521 C2522 G2523 C2526 G2527 U2528 G2529 G2530 C2531 A2532 U2533 C2534 C2535 G2539 G2540 C2541 U2542 G2543 A2544 A2545 G2546 A2547 A2548 G2549 G2550 U2551 C2552 C2553 C2554 A2555 A2556 G2557 G2558 G2559
U2560 U2561 G2562 G2563 G2564 C2565 U2566 G2567 U2568 U2569 C2570 G2571 C2572 C2573 C2574 A2575 U2576 U2577 A2578 A2579 A2580 G2581 C2582 C2583 G2584 C2585 A2586 C2587 G2588 C2589 G2590 A2591 G2592 C2593 U2594 C2595 G2596 G2597 U2598 U2599 C2600 A2601 G2602 A2603 A2604 C2605 G2606 U2607 C2608 G2609 U2610 G2611 A2612 G2613 A2614 C2615 A2616 G2617 C2620
G2621 G2622 U2623 C2624 U2625 C2626 U2627 A2628 U2629 C2630 C2631 G2632 C2633 C2636 G2637 G2638 G2639 C2640 A2643 G2644 G2647 U2650 G2654 G2655 G2656 G2657 C2660 U2661 C2662 U2663 U2664 C2665 A2668 G2669 C2672 G2675 G2678 A2679 C2680 C2681 G2686 G2687 G2688 A2689 C2690 G2691 C2692 A2693 C2694
C2695 U2696 C2697 U2698 G2699 G2700 U2701 U2702 U2703 C2704 C2705 C2706 C2709 U2710 C2713 C2714 C2715 U2716 C2717 G2722 A2725 U2726 A2727 A2728 G2732 G2733 G2734 U2735 A2736 G2737 C2738 C2739 A2740 U2741 G2742 U2743 G2744 C2745 G2746 G2747 A2748 A2749 G2750 G2751 G2752 A2753 U2754 A2755 A2756 C2757 C2758 G2759 C2760 U2761 G2762
A2765 G2766 C2767 A2768 U2769 C2770 U2771 A2772 A2773 G2774 C2775 G2776 A2780 G2781 C2782 C2783 C2784 C2785 C2786 A2793 U2794 G2795 A2796 G2797 G2798 C2799 C2800 U2801 C2804 A2805 C2806 G2807 G2808 C2809 G2810 U2811 C2812 A2813 A2814 G2815 C2816 C2817 C2818 G2819 U2820 G2823 G2824 A2825 C2828 G2829 G2830 G2831 A2832 A2833

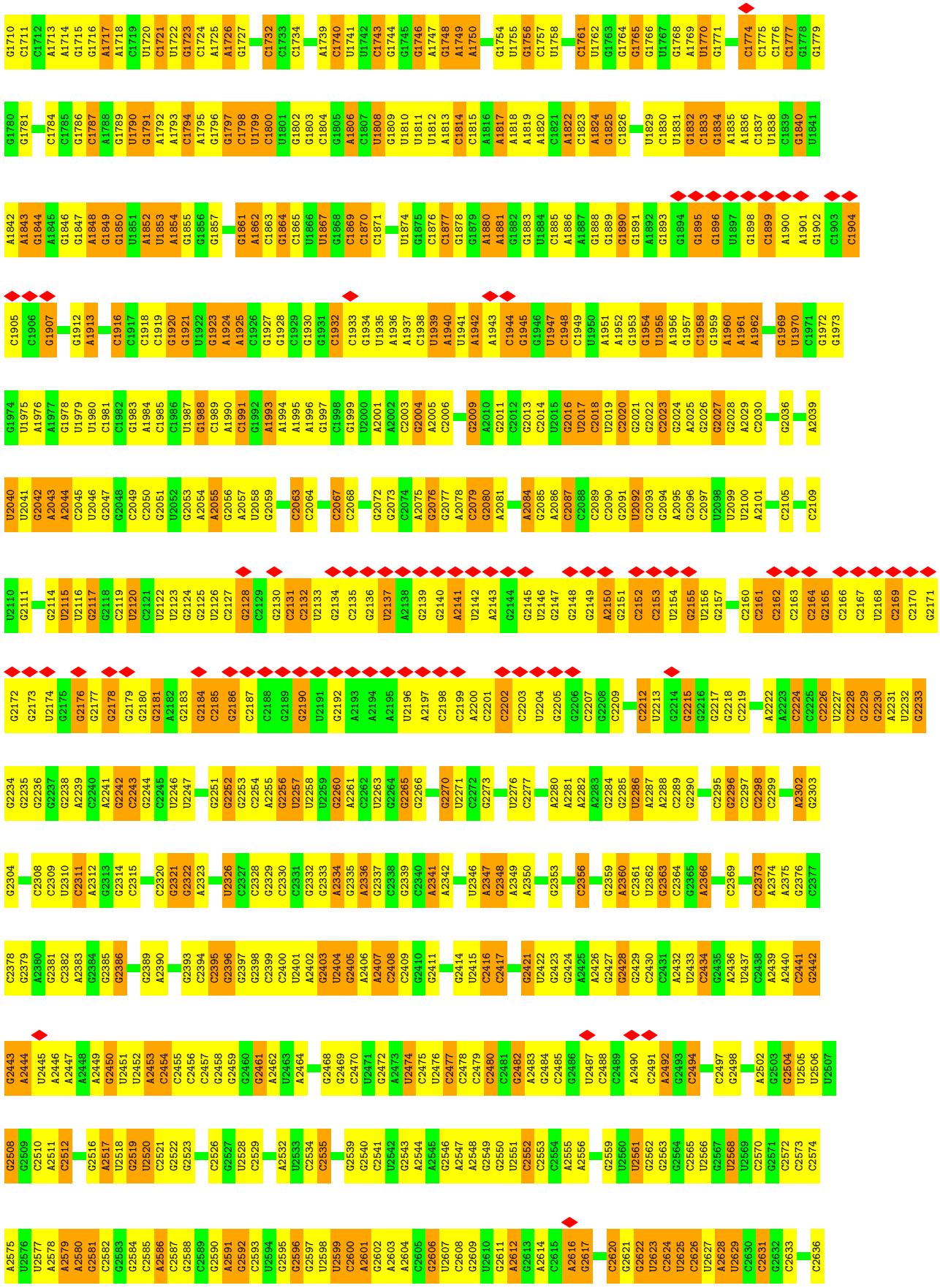


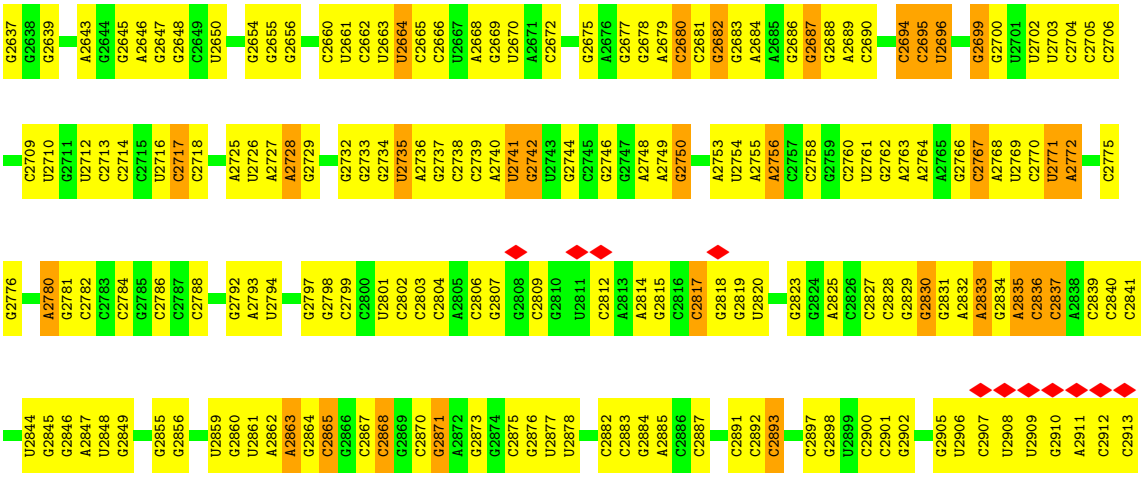
- Molecule 29: 23S ribosomal RNA

Chain A2:



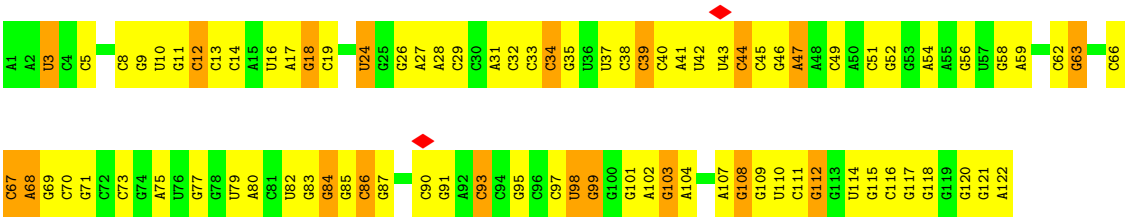

G782 A783 A784 C785 C786 G787 G788 U789 G790 G791 G792 G793 U796 G797 C798 A799 A800 A801 C802 C803 C804 C805 U806 C807 G808 G809 A810 U811 G812 A813 G814 C815 G818 G819 G820 C821 U822 A823 G824 G825 A826 G827 U828 G829 A830 A831 A832 A833 G834 A837 A838 C839 C840 G841 A842 G843
C846 G847 G848 A849 G850 A851 U852 A853 G854 C855 U856 G857 G858 U859 U860 C861 U862 A868 A869 A870 U871 G872 A873 C874 U875 U876 U877 A878 G879 G880 G881 U882 C883 C886 C887 U888 C889 A890 C895 U896 G897 G901 G904 U907 G908 U909 A910 G911 A912 G913 C914 A915 C916 U917
G918 A919 U920 A921 C925 U926 A927 G928 G929 G930 G931 G932 C933 C934 C935 A936 C937 A938 A939 G940 C941 C942 U943 A944 C945 G946 A947 A948 A949 C952 U953 G954 U955 C956 A957 A958 A959 C960 U961 C962 C963 G964 A965 A966 G967 G968 G969 U970 C973 A974 G975 G976 U977 G978 G979 A980 G981
G985 G986 G987 A988 G989 U990 G991 A992 G993 G994 G995 C996 G999 A1000 G1001 C1002 G1003 A1004 U1005 A1006 A1007 C1008 G1009 U1010 C1011 C1012 G1013 C1014 G1015 U1016 C1017 C1018 G1019 A1020 G1021 C1022 G1023 C1024 G1025 G1026 G1027 A1028 A1029 C1030 A1031 A1032 C1033 C1034 G1035 A1036 G1037 A1038 A1044 G1045 C1046 G1051
C1052 C1053 C1054 C1055 C1056 A1057 A1058 G1059 U1060 C1061 U1062 G1063 G1064 G1065 A1068 A1069 G1070 U1071 G1072 G1073 U1074 A1075 G1078 G1079 A1080 U1081 G1082 U1083 G1084 G1085 C1086 G1090 C1091 G1092 A1093 A1094 G1095 A1098 G1099 C1100 C1101 A1102 G1103 G1104 A1105 U1106 G1107 U1108 U1109 G1110 G1111 C1112 U1113 U1114 A1115 G1116
A1117 A1118 G1119 C1120 A1121 G1122 C1123 C1124 A1125 U1126 C1127 A1128 U1129 U1130 U1131 A1132 A1133 A1134 G1135 A1136 G1137 U1138 G1139 C1140 G1141 U1142 A1143 A1144 U1145 A1146 G1147 C1148 U1149 C1150 A1151 C1152 U1153 U1156 C1157 G1158 A1159 G1160 U1161 G1162 G1165 C1166 C1167 G1168 C1169 C1172 G1173 A1174 A1175 A1176 A1177 U1178 G1179
A1180 U1181 C1182 G1183 G1184 G1185 G1186 C1187 U1188 U1189 A1190 A1191 G1192 C1193 C1194 C1195 A1196 G1197 C1198 G1199 C1200 C1201 G1202 A1203 A1204 G1205 C1206 U1207 G1208 C1209 G1210 G1211 C1214 U1215 G1216 G1217 G1218 G1219 G1220 A1221 U1222 G1223 A1224 C1225 C1226 C1227 G1230 G1231 C1232 G1233 G1237 G1238 G1239 G1240 A1241 G1242 C1243
G1244 C1247 C1248 C1249 G1250 A1251 U1252 C1253 C1254 C1255 G1256 A1257 U1258 G1259 A1260 A1261 G1262 G1263 C1264 C1265 G1266 A1267 C1268 C1269 C1270 G1271 C1272 G1273 A1274 G1275 G1276 G1277 C1281 U1282 G1283 G1284 A1285 G1286 U1287 U1288 A1289 A1290 G1291 G1292 G1293 A1294 A1295 G1296 U1297 G1298 C1299 G1300 A1301 A1302 U1303 G1304 C1305 C1306
G1307 G1308 C1309 A1310 U1311 G1312 A1313 G1314 U1315 A1316 A1317 C1318 G1319 A1320 U1321 A1322 A1323 A1326 G1327 G1328 G1333 U1336 C1337 C1338 C1339 C1343 C1346 G1347 U1348 A1349 A1350 G1351 C1352 C1353 C1354 A1355 A1356 G1357 G1358 G1359 U1360 U1361 C1362 C1363 U1364 A1365 C1366 G1373 U1374 C1375 G1376 U1377 C1378
G1382 U1383 A1384 G1385 G1386 G1387 U1388 U1389 A1390 G1391 G1392 C1393 G1394 A1397 C1398 C1399 U1400 A1401 A1402 G1403 G1404 U1405 G1406 A1407 A1408 G1409 C1410 C1411 G1412 A1413 G1416 G1417 C1418 G1419 U1420 A1421 C1422 C1423 C1424 G1425 A1426 A1427 G1428 G1429 A1432 G1433 C1434 C1435 C1436 G1437 U1438 U1439 A1440 A1441 U1442 A1443 U1444
U1445 C1446 C1447 G1448 G1449 C1450 C1451 C1452 U1453 U1454 C1457 G1458 C1459 A1460 G1461 G1462 U1463 G1464 C1465 G1466 A1467 U1468 G1469 G1473 G1474 A1475 C1476 G1477 C1478 U1481 A1482 G1483 G1484 C1485 U1486 A1487 G1488 G1489 G1490 G1491 G1492 A1493 C1494 G1497 A1498 G1499 C1500 C1501 A1502 G1505 G1508 A1509 G1510 C1511
C1512 C1513 G1514 G1515 C1516 C1517 A1518 G1519 A1520 C1523 G1524 G1527 G1528 G1529 U1530 G1531 G1535 G1536 U1537 A1538 G1539 G1540 C1541 A1542 A1543 A1544 U1545 C1546 C1547 G1548 C1549 C1550 U1551 C1552 C1553 C1554 A1555 A1556 C1557 A1558 A1559 G1560 C1561 U1562 C1563 U1564 G1565 C1566 G1567 U1568 G1569 G1570 U1571 G1572 G1573 G1574 G1575
A1576 A1577 G1578 C1579 C1580 C1581 G1582 U1583 A1584 C1585 G1586 G1587 A1591 C1592 A1593 A1594 C1595 C1596 C1597 C1598 C1599 C1600 A1603 G1604 A1607 G1608 G1609 G1610 A1611 G1612 C1613 C1614 A1615 A1616 G1617 A1618 A1619 A1620 A1621 G1622 C1623 C1624 U1625 C1626 U1627 A1628 A1629 G1630 C1631 A1632 C1633 A1634 A1635 C1636 C1637 U1638 G1639
C1640 G1641 G1642 G1643 A1644 A1645 C1646 C1647 C1648 G1649 U1650 A1651 C1652 C1653 G1654 C1655 A1656 A1657 A1658 C1659 C1660 G1661 A1662 C1663 A1664 C1665 A1666 G1667 G1668 G1671 G1672 C1673 G1674 C1679 A1680 A1681 G1684 C1685 A1686 C1687 U1688 C1689 A1690 G1696 C1697 G1698 G1699 G1702 A1703 A1704 C1705 C1706 C1707 U1708 C1709


G1710 C1711 C1712 A1713 A1714 G1715 G1716 A1717 A1718 C1719 U1720 C1721 U1722 G1723 C1724 A1725 A1726 G1727 C1732 C1733 C1734 A1739 C1740 U1741 U1742 C1743 G1744 G1745 G1746 A1747 G1748 A1749 A1750 G1754 U1755 G1756 C1757 U1758 C1761 U1762 G1763 G1764 G1765 G1766 U1767 G1768 A1769 U1770 G1771 C1774 C1775 C1776 C1777 G1778 G1779
G1780 G1781 C1784 C1785 G1786 C1787 A1788 G1789 U1790 G1791 A1792 A1793 C1794 A1795 G1796 G1797 C1798 U1799 C1800 U1801 G1802 G1803 C1804 G1805 A1806 C1807 U1808 G1809 U1810 U1811 U1812 A1813 C1814 C1815 A1816 A1817 A1818 A1819 A1820 C1821 A1822 C1823 A1824 G1825 C1826 U1829 C1830 U1831 G1832 C1833 G1834 A1835 A1836 C1837 U1838 C1839 G1840 U1841
A1842 A1843 G1844 A1845 G1846 G1847 A1848 G1849 G1850 U1851 A1852 U1853 A1854 G1855 G1856 G1857 G1861 A1862 C1863 G1864 C1865 U1866 U1867 G1868 C1869 C1870 C1871 U1874 G1875 C1876 C1877 G1878 G1879 A1880 A1881 G1882 G1883 U1884 C1885 A1886 A1887 G1888 G1889 G1890 G1891 A1892 G1893 G1894 G1895 G1896 U1897 G1898 C1899 A1900 A1901 G1902 C1903 C1904
C1905 C1906 G1907 G1912 A1913 C1916 C1917 C1918 C1919 G1920 G1921 U1922 G1923 A1924 A1925 G1926 G1927 G1928 G1929 G1930 G1931 C1932 C1933 G1934 U1935 A1936 A1937 C1938 U1939 A1940 U1941 A1942 A1943 C1944 G1945 G1946 U1947 C1948 C1949 U1950 A1951 A1952 G1953 G1954 U1955 A1956 G1957 C1958 G1959 A1960 A1961 A1962 G1969 U1970 C1971 G1972 G1973
G1974 U1975 A1976 A1977 G1978 U1979 U1980 C1981 C1982 G1983 A1984 C1985 C1986 U1987 G1988 C1989 A1990 C1991 G1992 A1993 A1994 A1995 A1996 G1997 C1998 C1999 U2000 A2001 A2002 C2003 G2004 A2005 C2006 G2009 A2010 G2011 C2012 G2013 C2014 U2015 G2016 U2017 C2018 U2019 C2020 G2021 G2022 C2023 G2024 A2025 G2026 G2027 G2028 A2029 C2030 G2036 A2039
U2040 U2041 G2042 A2043 A2044 C2045 U2046 G2047 G2048 C2049 C2050 G2051 U2052 G2053 A2054 A2055 G2056 A2057 U2058 G2059 C2063 C2064 C2067 C2068 G2072 G2073 C2074 A2075 G2076 G2077 A2078 C2079 G2080 A2081 A2084 G2085 A2086 C2087 C2088 C2089 C2090 G2091 U2092 G2093 G2094 A2095 G2096 C2097 U2098 U2099 U2100 A2101 C2105 C2109
U2110 G2111 G2114 U2115 U2116 G2117 G2118 C2119 U2120 C2121 U2122 U2123 G2124 G2125 U2126 C2127 G2128 C2129 G2130 C2131 C2132 U2133 G2134 C2135 G2136 U2137 A2138 G2139 G2140 A2141 U2142 A2143 G2144 G2145 U2146 G2147 G2148 G2149 A2150 G2151 C2152 C2153 U2154 G2155 U2156 G2157 C2160 C2161 C2162 C2163 C2164 G2165 C2166 C2167 U2168 C2169 C2170 G2171
G2172 G2173 U2174 G2175 G2176 G2177 G2178 G2179 G2180 G2181 A2182 G2183 G2184 C2185 G2186 C2187 C2188 G2189 G2190 U2191 G2192 A2193 A2194 A2195 U2196 A2197 C2198 C2199 A2200 C2201 C2202 C2203 U2204 G2205 G2206 C2207 G2208 C2209 C2212 U2213 G2214 G2215 G2216 G2217 G2218 C2219 A2222 A2223 C2224 C2225 C2226 U2227 C2228 G2229 G2230 A2231 U2232 G2233
G2234 G2235 G2236 G2237 G2238 A2239 C2240 A2241 G2242 C2243 G2244 C2245 U2246 U2247 G2251 G2252 G2253 C2254 A2255 G2256 U2257 U2258 U2259 G2260 A2261 C2262 U2263 G2264 G2265 G2266 C2270 U2271 C2272 G2273 U2276 C2277 A2280 A2281 A2282 A2283 G2284 C2285 U2286 A2287 A2288 C2289 G2290 C2295 G2296 C2297 C2298 C2299 A2302 G2303
G2304 C2308 C2309 U2310 C2311 A2312 G2313 G2314 C2315 C2320 G2321 G2322 A2323 U2326 C2327 C2328 G2329 C2330 C2331 G2332 G2333 A2334 G2335 A2336 G2337 C2338 G2339 C2340 A2341 A2342 U2346 A2347 G2348 A2349 A2350 G2353 C2356 G2359 A2360 C2361 U2362 G2363 C2364 G2365 A2366 C2369 C2373 A2374 A2375 G2376 C2377
C2378 G2379 A2380 G2381 C2382 A2383 G2384 G2385 G2386 G2389 A2390 G2393 C2394 C2395 G2396 G2397 G2398 G2399 C2400 U2401 A2402 G2403 U2404 G2405 A2406 A2407 C2408 C2409 G2410 G2411 G2414 U2415 C2416 C2417 G2421 U2422 G2423 G2424 A2425 A2426 G2427 G2428 G2429 C2430 C2431 A2432 U2433 C2434 G2435 A2436 U2437 C2438 A2439 A2440 C2441 G2442
G2443 A2444 U2445 A2446 A2447 A2448 A2449 G2450 U2451 U2452 A2453 A2454 C2455 C2456 C2457 G2458 G2459 G2460 G2461 A2462 U2463 A2464 G2468 G2469 C2470 U2471 G2472 A2473 U2474 C2475 U2476 C2477 C2478 C2479 C2480 C2481 G2482 A2483 G2484 C2485 G2486 U2487 C2488 C2489 A2490 C2491 A2492 G2493 C2494 C2497 G2498 A2502 G2503 G2504 U2505 U2506 U2507
G2508 G2509 C2510 A2511 C2512 G2516 A2517 U2518 G2519 U2520 C2521 G2522 U2523 C2526 G2527 U2528 C2529 A2532 U2533 C2534 C2535 G2539 G2540 C2541 U2542 G2543 A2544 A2545 G2546 A2547 A2548 G2549 G2550 U2551 C2552 C2553 C2554 A2555 A2556 G2559 U2560 U2561 G2562 G2563 G2564 C2565 U2566 G2567 U2568 U2569 C2570 G2571 C2572 C2573 C2574
A2575 U2576 U2577 A2578 A2579 A2580 G2581 C2582 C2583 G2584 C2585 A2586 C2587 G2588 C2589 G2590 A2591 C2592 C2593 U2594 G2595 G2596 G2597 U2598 U2599 C2600 A2601 G2602 A2603 A2604 C2605 G2606 U2607 C2608 G2609 U2610 G2611 A2612 C2613 A2614 C2615 A2616 G2617 C2620 G2621 G2622 U2623 C2624 U2625 C2626 U2627 A2628 U2629 C2630 C2631 G2632 C2633 C2636



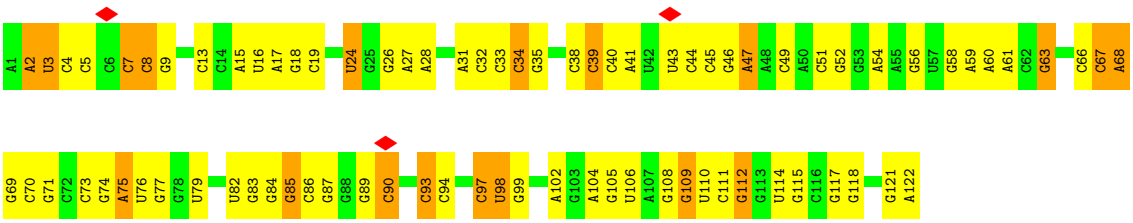
- Molecule 30: 5S ribosomal RNA

Chain B1:



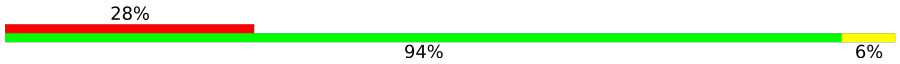
- Molecule 30: 5S ribosomal RNA

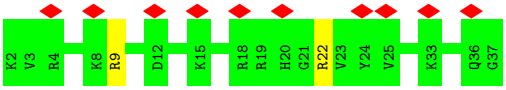
Chain B2:



- Molecule 31: 50S ribosomal protein L36

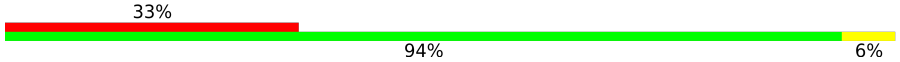
Chain e1:

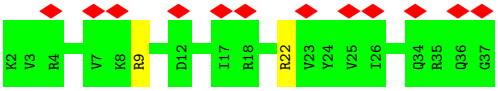




- Molecule 31: 50S ribosomal protein L36

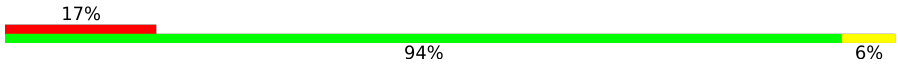
Chain e2:

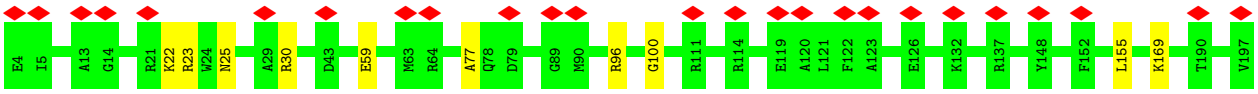


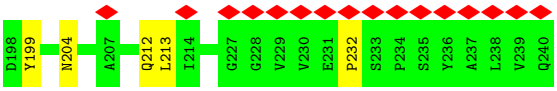


• Molecule 32: 30S ribosomal protein S2

Chain B3:

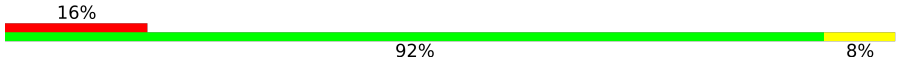


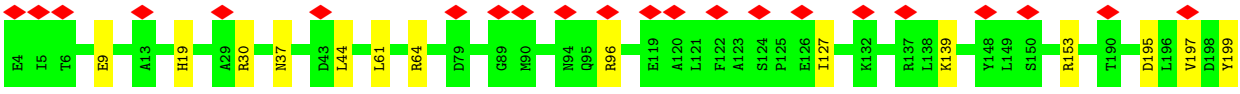


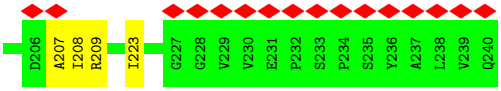


• Molecule 32: 30S ribosomal protein S2

Chain B4:

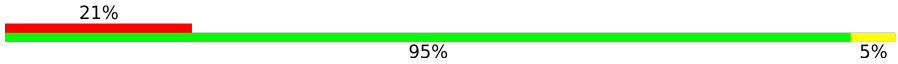


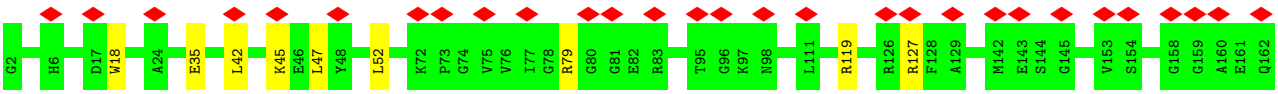


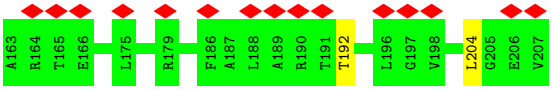


• Molecule 33: 30S ribosomal protein S3

Chain C3:

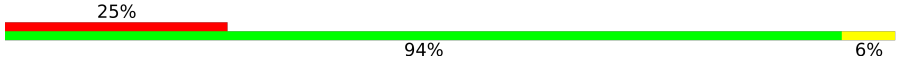


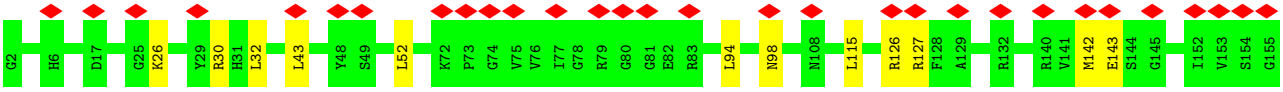


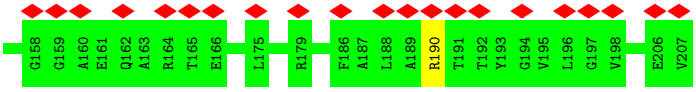


• Molecule 33: 30S ribosomal protein S3

Chain C4:

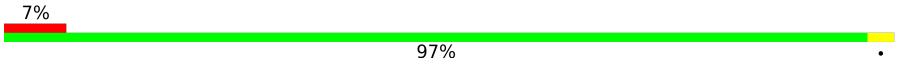


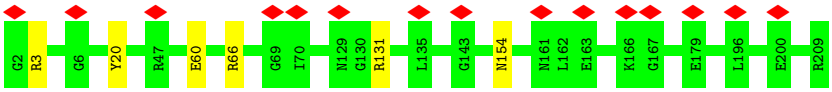




• Molecule 34: 30S ribosomal protein S4

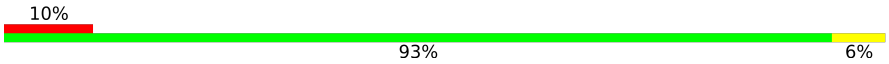
Chain D3:

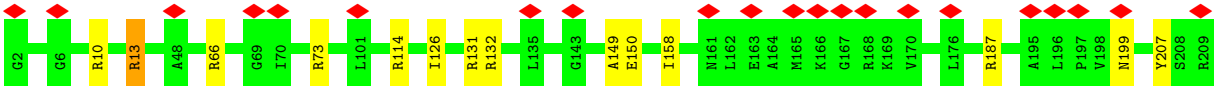




• Molecule 34: 30S ribosomal protein S4

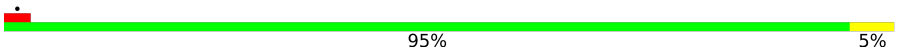
Chain D4:

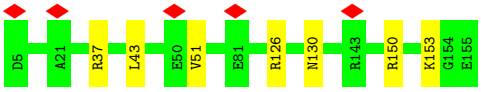




• Molecule 35: 30S ribosomal protein S5

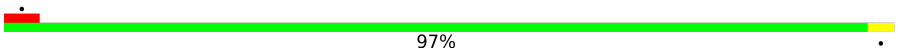
Chain E3:





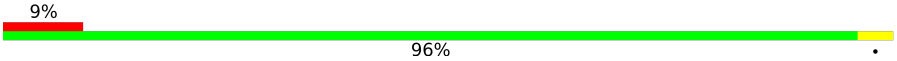
• Molecule 35: 30S ribosomal protein S5

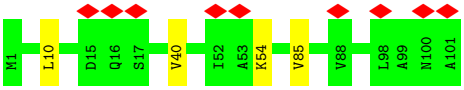
Chain E4:



• Molecule 36: 30S ribosomal protein S6

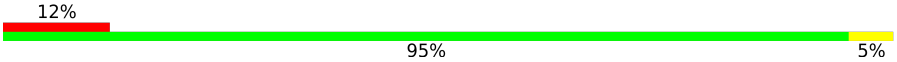
Chain F3:

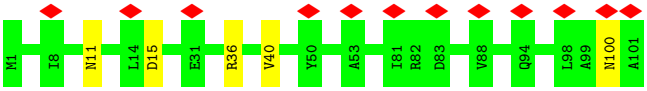




• Molecule 36: 30S ribosomal protein S6

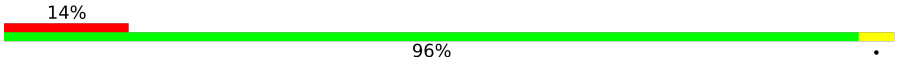
Chain F4:





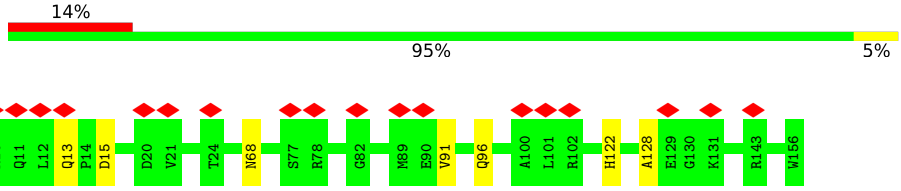
• Molecule 37: 30S ribosomal protein S7

Chain G3:



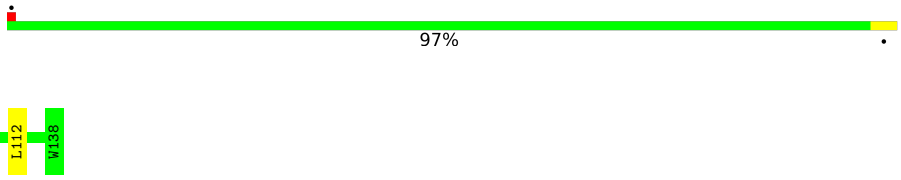
• Molecule 37: 30S ribosomal protein S7

Chain G4:



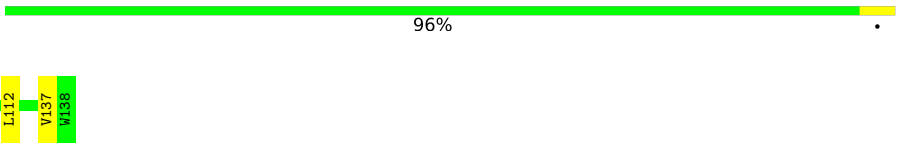
• Molecule 38: 30S ribosomal protein S8

Chain H3:



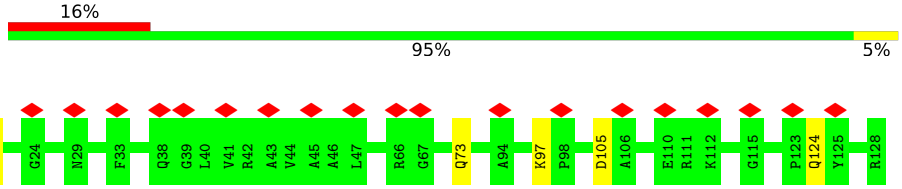
• Molecule 38: 30S ribosomal protein S8

Chain H4:



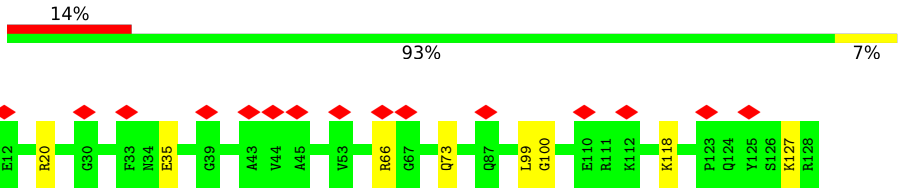
• Molecule 39: 30S ribosomal protein S9

Chain I3:



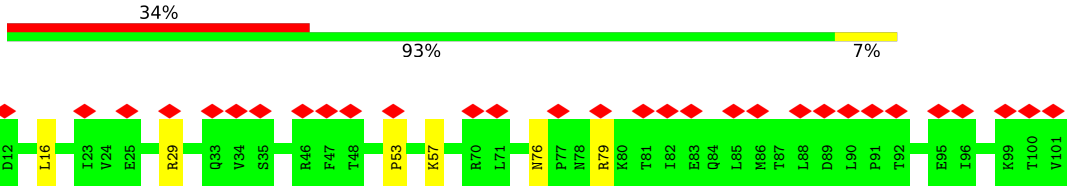
• Molecule 39: 30S ribosomal protein S9

Chain I4:



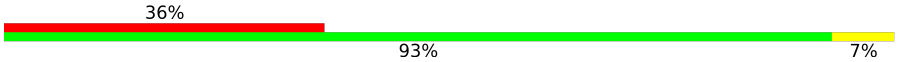
• Molecule 40: 30S ribosomal protein S10

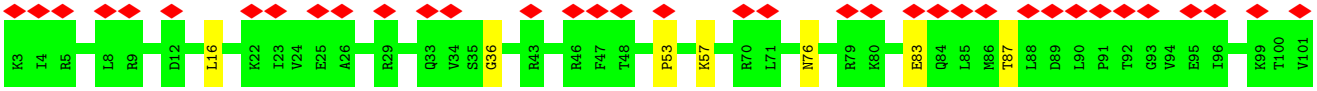
Chain J3:



• Molecule 40: 30S ribosomal protein S10

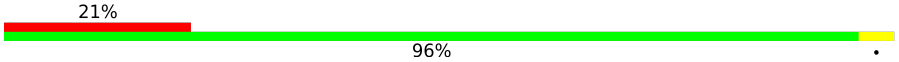
Chain J4:

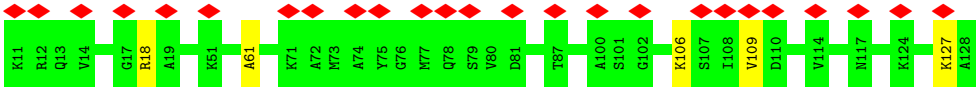




• Molecule 41: 30S ribosomal protein S11

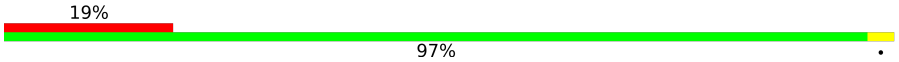
Chain K3:

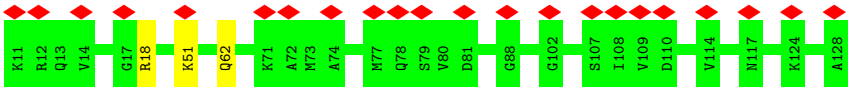




• Molecule 41: 30S ribosomal protein S11

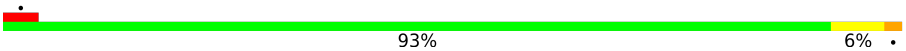
Chain K4:

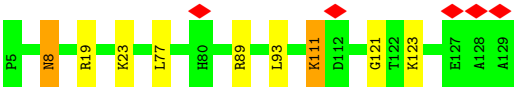




• Molecule 42: 30S ribosomal protein S12

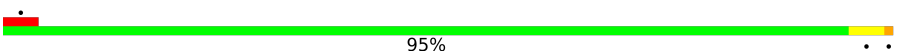
Chain L3:

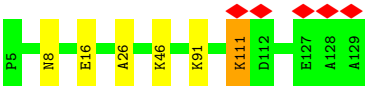




• Molecule 42: 30S ribosomal protein S12

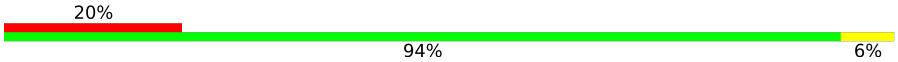
Chain L4:

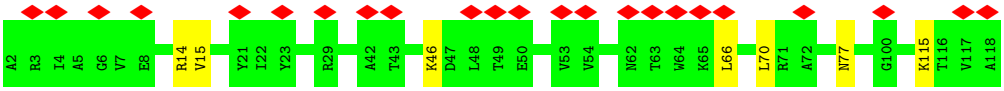




• Molecule 43: 30S ribosomal protein S13

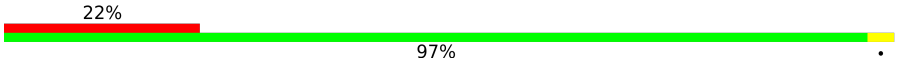
Chain M3:

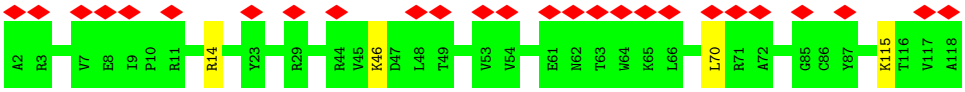




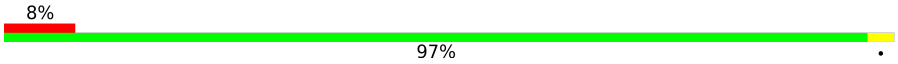
• Molecule 43: 30S ribosomal protein S13

Chain M4:

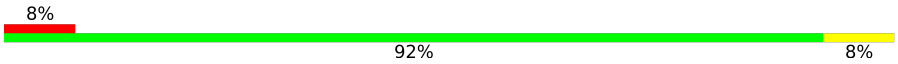


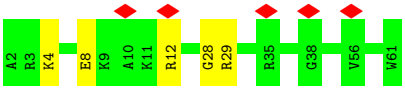


• Molecule 44: 30S ribosomal protein S14 type Z

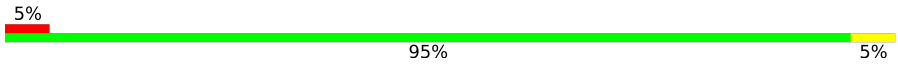
Chain N3: 

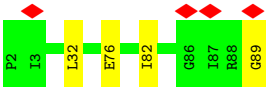
• Molecule 44: 30S ribosomal protein S14 type Z

Chain N4: 

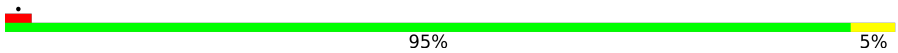


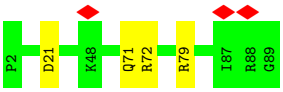
• Molecule 45: 30S ribosomal protein S15

Chain O3: 

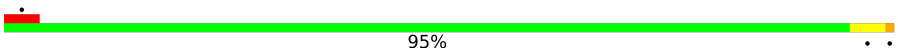


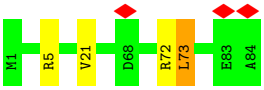
• Molecule 45: 30S ribosomal protein S15

Chain O4: 

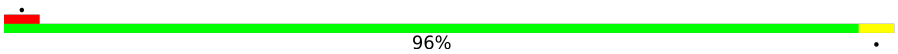


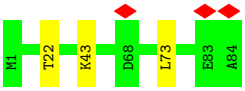
• Molecule 46: 30S ribosomal protein S16

Chain P3: 

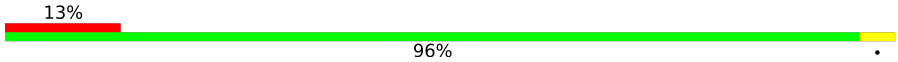


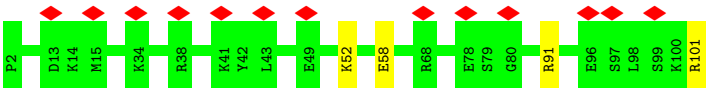
• Molecule 46: 30S ribosomal protein S16

Chain P4: 



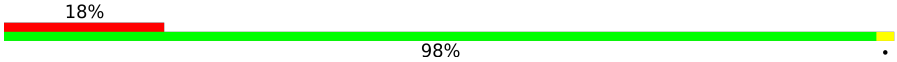
• Molecule 47: 30S ribosomal protein S17

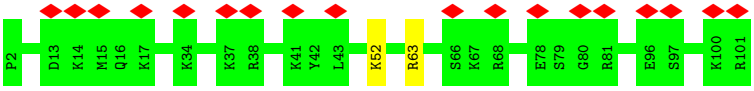
Chain Q3: 



- Molecule 47: 30S ribosomal protein S17

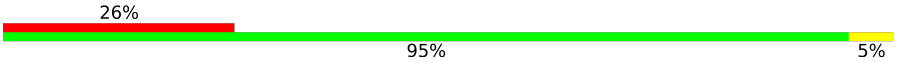
Chain Q4:

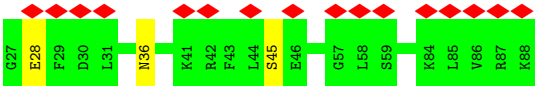




- Molecule 48: 30S ribosomal protein S18

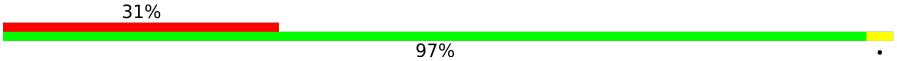
Chain R3:

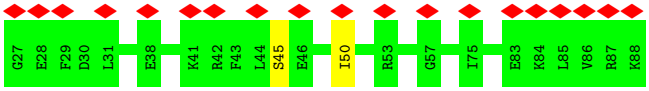




- Molecule 48: 30S ribosomal protein S18

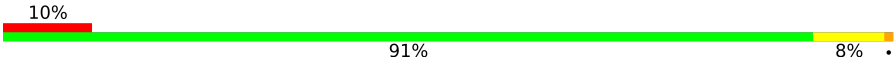
Chain R4:

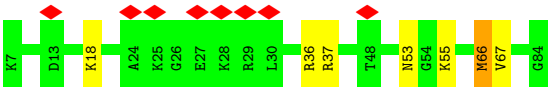




- Molecule 49: 30S ribosomal protein S19

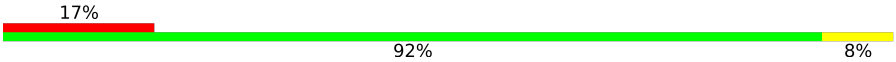
Chain S3:

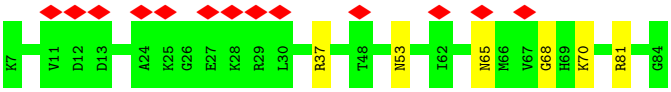




- Molecule 49: 30S ribosomal protein S19

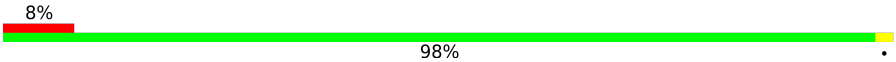
Chain S4:

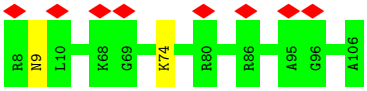




- Molecule 50: 30S ribosomal protein S20

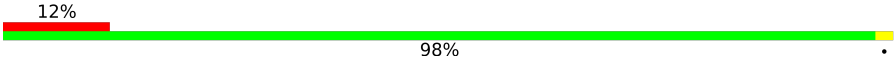
Chain T3:

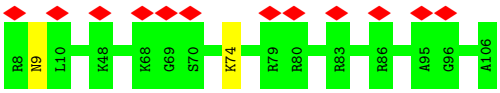




- Molecule 50: 30S ribosomal protein S20

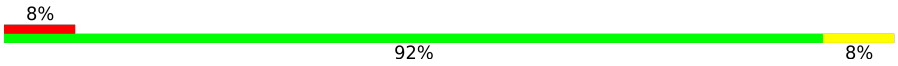
Chain T4:

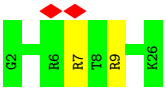




• Molecule 51: 30S ribosomal protein Thx

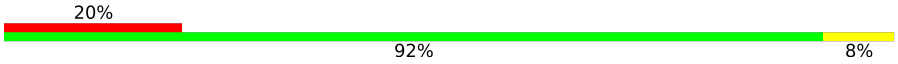
Chain U3:

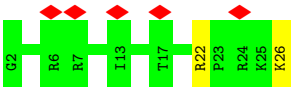




• Molecule 51: 30S ribosomal protein Thx

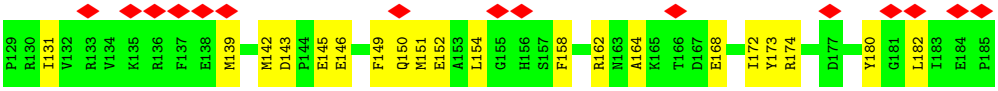
Chain U4:





• Molecule 52: Ribosome hibernation promoting factor

Chain X3:

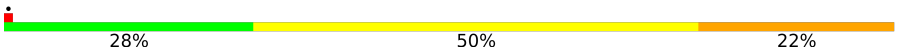


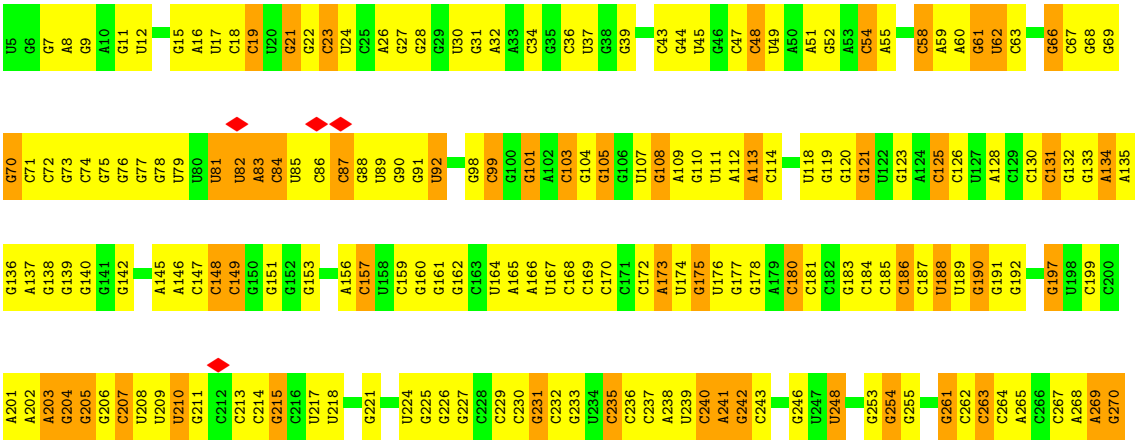
• Molecule 52: Ribosome hibernation promoting factor

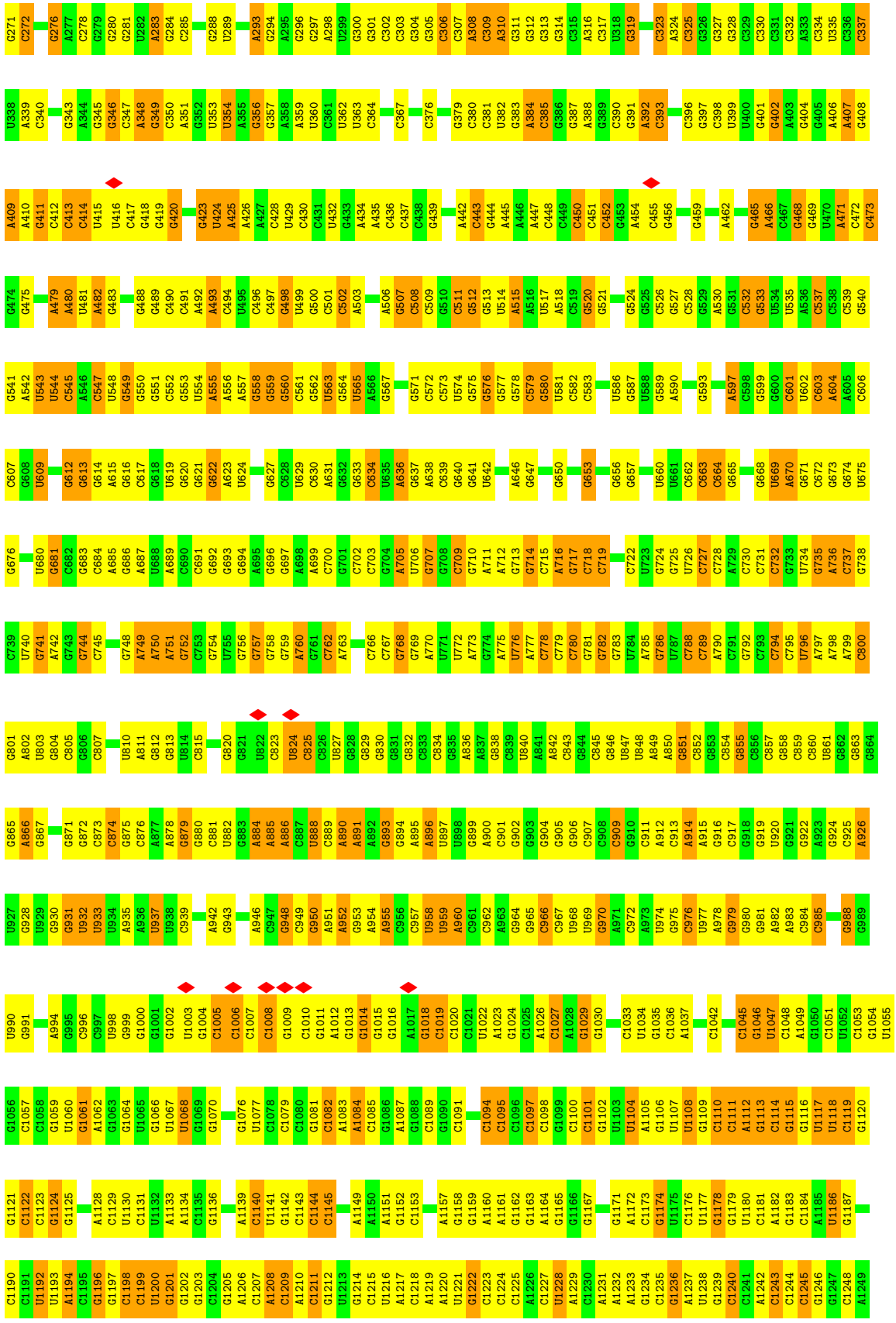
Chain W4:

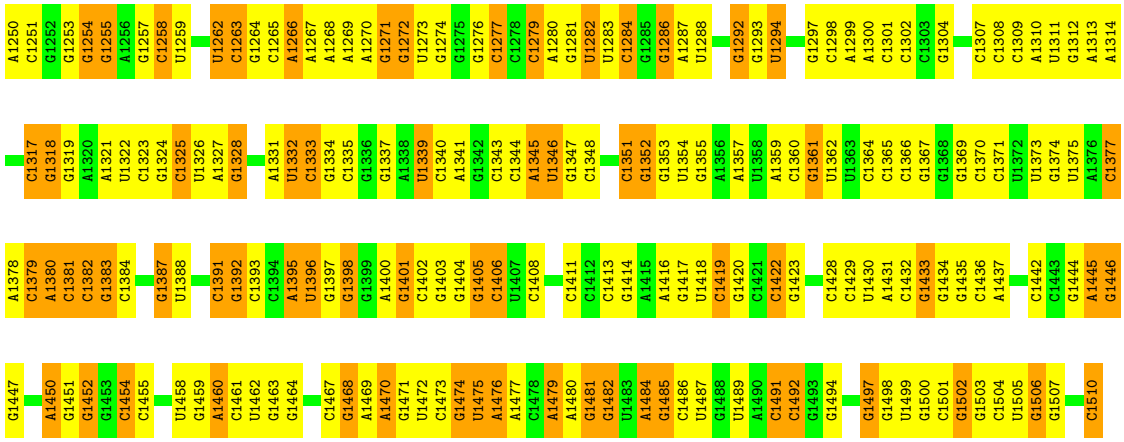
• Molecule 53: 16S ribosomal RNA

Chain A3:



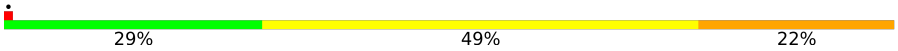


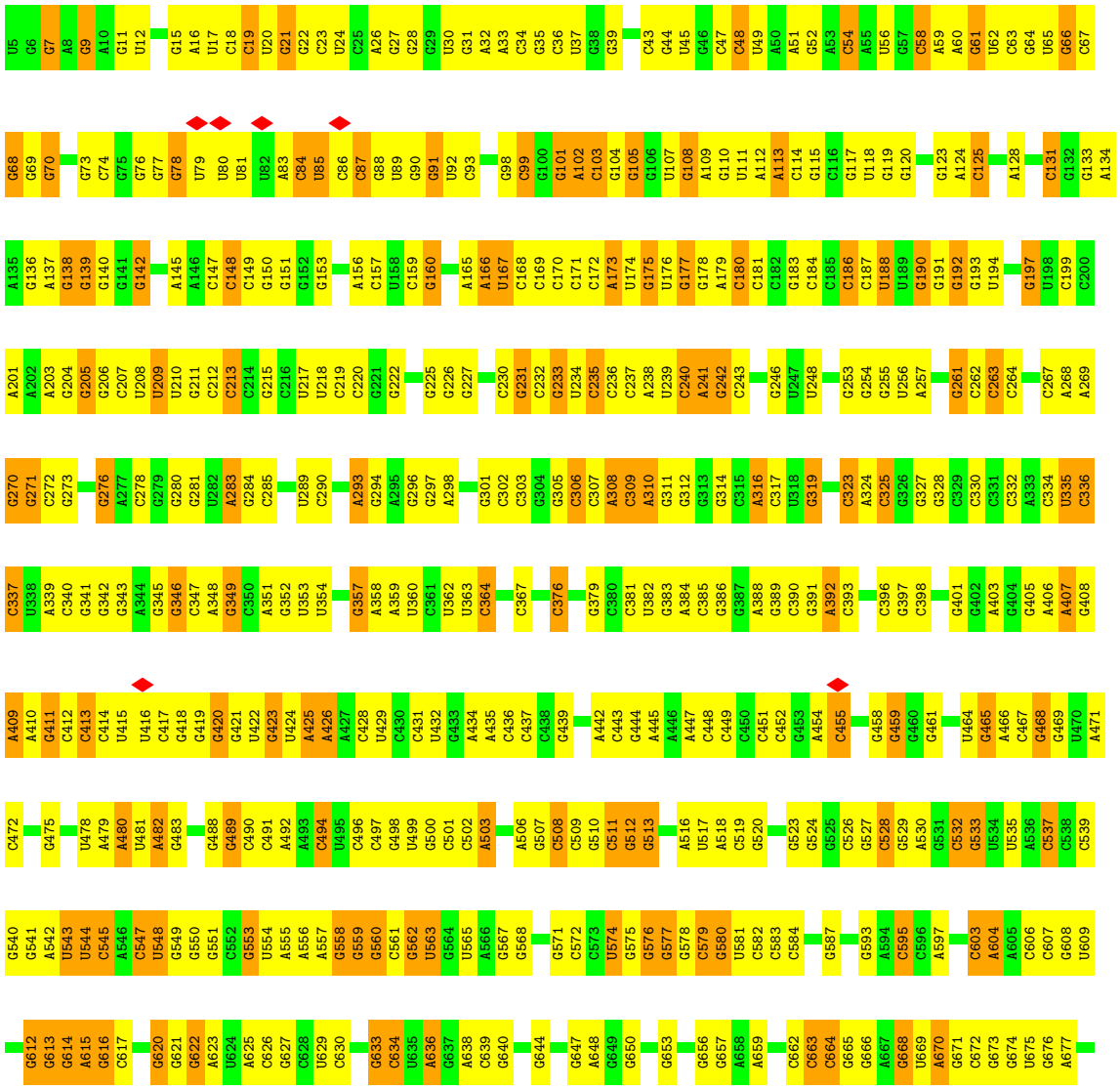

G271 C272 G276 A277 C278 G279 G280 G281 U282 A283 G284 C285 G288 U289 A293 G294 A295 G296 G297 A298 U299 G300 G301 G302 C303 G304 G305 C306 C307 A308 C309 A310 G311 G312 G313 G314 C315 A316 C317 U318 G319 C323 A324 C325 G326 G327 G328 C329 C330 C331 C332 A333 C334 U335 C336 C337
U338 A339 C340 G343 A344 G345 G346 C347 A348 G349 C350 A351 G352 U353 U354 A355 G356 G357 A358 A359 U360 C361 U362 U363 C364 C367 C376 G379 C380 C381 U382 G383 A384 C385 G386 G387 A388 G389 C390 G391 A392 C393 C396 G397 G398 U399 U400 G401 G402 A403 G404 G405 A406 A407 G408
A409 A410 G411 C412 C413 C414 U415 U416 C417 G418 G419 G420 G423 U424 A425 A426 A427 C428 U429 C430 C431 U432 G433 A434 A435 C436 C437 C438 G439 A442 C443 G444 A445 A446 A447 C448 C449 C450 C451 C452 G453 A454 C455 G456 G459 A462 G465 A466 C467 G468 G469 U470 A471 C472 C473
G474 G475 A479 A480 U481 A482 G483 G488 G489 C490 C491 A492 A493 C494 U495 C496 C497 G498 U499 G500 C501 C502 A503 A506 G507 C508 C509 G510 C511 G512 G513 U514 A515 A516 U517 A518 C519 G520 G521 G524 G525 C526 G527 C528 G529 A530 G531 C532 G533 U534 U535 A536 C537 C538 C539 G540
G541 A542 U543 U544 C545 A546 C547 U548 G549 G550 G551 C552 G553 C554 A555 A556 A557 G558 G559 G560 C561 G562 U563 G564 U565 A566 G567 G571 C572 C573 U574 G575 G576 G577 G578 C579 G580 U581 C582 C583 U586 G587 U588 G589 A590 G593 A597 C598 G599 G600 C601 U602 C603 A604 A605 C606
C607 G608 U609 G612 G613 G614 A615 G616 C617 G618 U619 G620 G621 G622 A623 U624 G627 C628 U629 C630 A631 G632 G633 C634 U635 A636 G637 A638 C639 G640 G641 U642 A646 G647 G650 G653 G656 G657 U660 U661 C662 C663 C664 G665 G668 U669 A670 G671 C672 G673 G674 U675
G676 U680 G681 C682 G683 C684 A685 G686 A687 U688 A689 C690 C691 G692 G693 G694 A695 G696 G697 A698 A699 C700 G701 C702 C703 G704 A705 U706 G707 G708 C709 G710 A711 A712 G713 G714 C715 A716 G717 C718 C719 C722 U723 G724 G725 U726 C727 C728 A729 C730 C731 C732 G733 U734 G735 A736 C737 G738
C739 U740 G741 A742 G743 G744 C745 G748 A749 A750 A751 G752 C753 G754 U755 G756 G757 G758 G759 A760 G761 C762 A763 C766 C767 G768 G769 A770 U771 U772 A773 G774 A775 U776 A777 C778 C779 C780 G781 G782 G783 U784 A785 G786 U787 C788 C789 A790 C791 G792 C793 C794 C795 U796 A797 A798 A799 C800
G801 A802 U803 G804 C805 G806 C807 U810 A811 G812 G813 U814 C815 G820 G821 U822 C823 U824 C825 C826 U827 G828 G829 G830 G831 G832 C833 C834 G835 A836 A837 G838 C839 U840 A841 A842 C843 G844 C845 G846 U847 U848 A849 A850 G851 C852 G853 C854 G855 C856 C857 G858 C859 C860 U861 G862 G863 G864
G865 A866 G867 G871 G872 C873 C874 G875 C876 A877 A878 G879 G880 C881 U882 G883 A884 A885 A886 C887 U888 C889 A890 A891 A892 G893 G894 A895 A896 U897 U898 G899 A900 C901 G902 G903 G904 G905 G906 C907 C908 C909 G910 C911 A912 C913 A914 A915 G916 C917 G918 G919 U920 G921 A922 A923 G924 C925 A926
U927 G928 U929 G930 G931 U932 U933 U934 A935 A936 U937 U938 C939 A942 G943 A946 C947 G948 C949 G950 A951 A952 G953 A954 A955 C956 C957 U958 U959 A960 C961 C962 A963 G964 G965 C966 C967 U968 U969 G970 A971 C972 A973 U974 G975 C976 U977 A978 G979 G980 G981 A982 A983 C984 C985 G988 G989
U990 G991 A994 G995 C996 C997 U998 G999 U1000 G1001 U1002 U1003 U1004 C1005 C1006 C1007 C1008 G1009 C1010 G1011 A1012 G1013 G1014 G1015 G1016 A1017 G1018 C1019 C1020 C1021 U1022 A1023 G1024 C1025 A1026 C1027 A1028 G1029 G1030 C1033 U1034 A1035 C1036 A1037 C1042 C1045 G1046 U1047 C1048 A1049 G1050 C1051 U1052 C1053 G1054 U1055
G1056 C1057 C1058 G1059 U1060 G1061 A1062 G1063 G1064 U1065 G1066 U1067 U1068 G1069 G1070 G1076 U1077 C1078 G1079 C1080 G1081 C1082 A1083 A1084 C1085 G1086 A1087 G1088 C1089 G1090 C1091 C1094 C1095 C1096 C1097 C1098 G1099 C1100 C1101 G1102 U1103 U1104 A1105 G1106 U1107 U1108 G1109 C1110 C1111 A1112 G1113 C1114 G1115 G1116 U1117 U1118 C1119 G1120
G1121 C1122 C1123 G1124 G1125 A1128 C1129 U1130 C1131 U1132 A1133 A1134 C1135 G1136 A1139 C1140 U1141 G1142 C1143 C1144 C1145 A1149 A1150 A1151 G1152 C1153 A1157 G1158 G1159 A1160 A1161 G1162 G1163 A1164 G1165 G1166 G1167 G1171 A1172 C1173 G1174 U1175 C1176 U1177 G1178 G1179 U1180 C1181 A1182 G1183 C1184 A1185 U1186 G1187
C1190 C1191 U1192 U1193 A1194 C1195 G1196 G1197 C1198 C1199 U1200 G1201 G1202 G1203 C1204 G1205 A1206 C1207 A1208 C1209 A1210 C1211 G1212 U1213 G1214 C1215 U1216 A1217 C1218 A1219 A1220 U1221 G1222 C1223 C1224 C1225 A1226 C1227 U1228 A1229 C1230 A1231 A1232 A1233 G1234 C1235 G1236 A1237 U1238 G1239 C1240 C1241 A1242 C1243 C1244 C1245 G1246 C1247 C1248 A1249

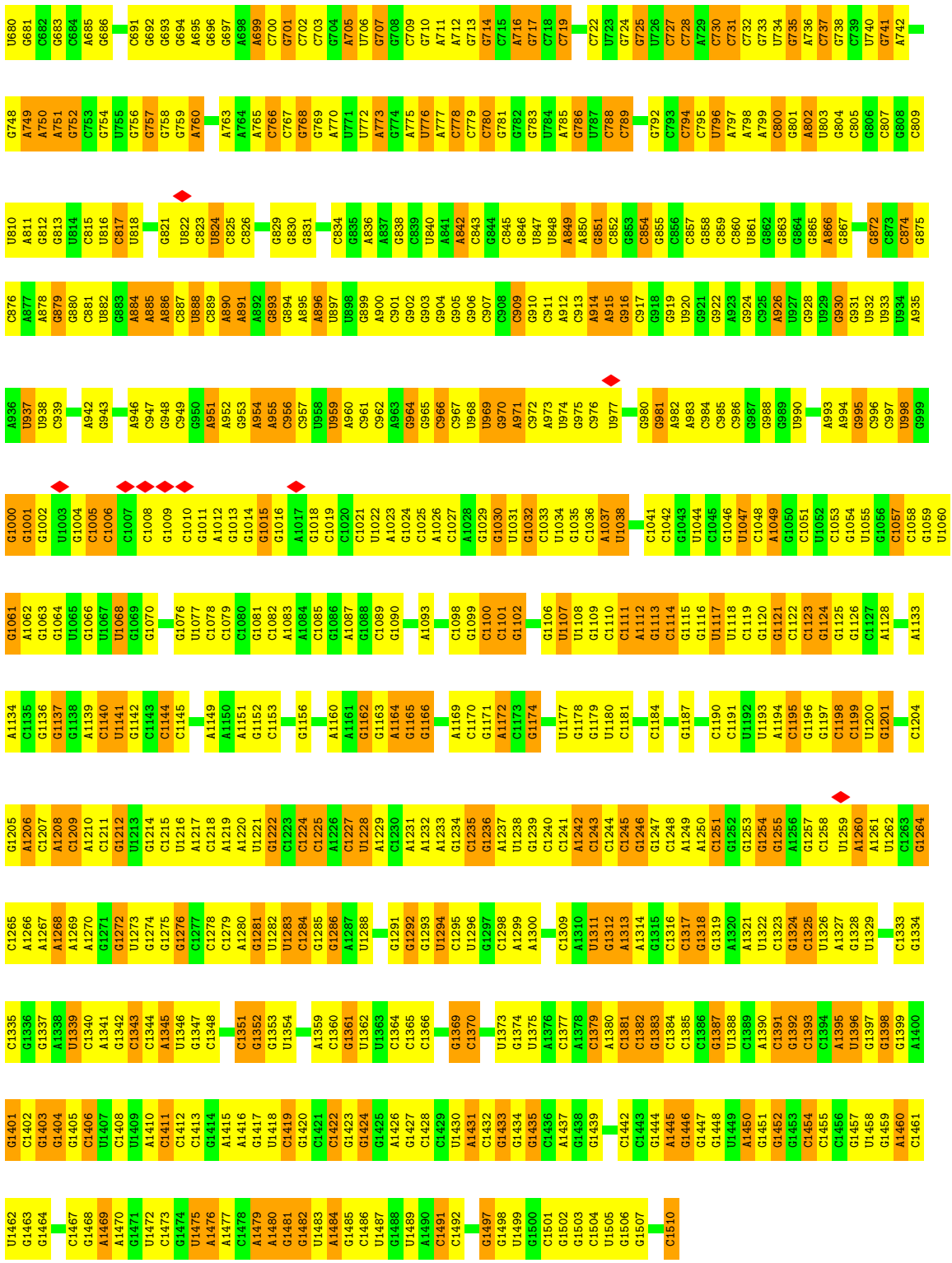


• Molecule 53: 16S ribosomal RNA

Chain A4:

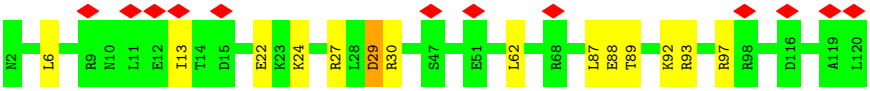






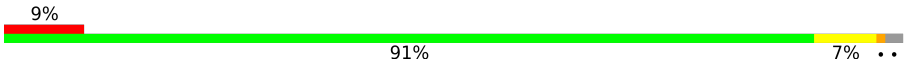
• Molecule 54: Ribosome hibernation promoting factor

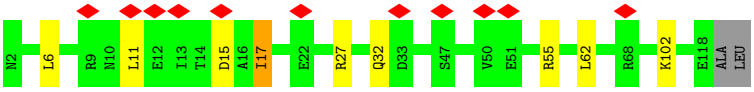
Chain V3:



• Molecule 54: Ribosome hibernation promoting factor

Chain V4:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	12126	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 ($e^-/Å^2$)	1.06	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	16.115	Depositor
Minimum map value	-7.302	Depositor
Average map value	0.038	Depositor
Map value standard deviation	0.495	Depositor
Recommended contour level	3.1	Depositor
Map size (Å)	770.0, 770.0, 770.0	wwPDB
Map dimensions	700, 700, 700	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.1, 1.1, 1.1	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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	C1	0.62	0/2166	0.82	3/2919 (0.1%)
1	C2	0.63	1/2166 (0.0%)	0.81	2/2919 (0.1%)
2	D1	0.65	0/1602	0.79	0/2160
2	D2	0.65	0/1602	0.85	1/2160 (0.0%)
3	E1	0.60	1/1663 (0.1%)	0.80	0/2249
3	E2	0.60	0/1663	0.82	1/2249 (0.0%)
4	F1	0.51	0/1499	0.77	1/2016 (0.0%)
4	F2	0.51	0/1499	0.81	1/2016 (0.0%)
5	G1	0.48	0/1333	0.77	3/1802 (0.2%)
5	G2	0.48	0/1333	0.77	0/1802
6	H1	0.54	0/387	0.83	0/523
6	H2	0.55	1/387 (0.3%)	0.86	0/523
7	I1	0.54	0/1132	0.77	2/1525 (0.1%)
7	I2	0.55	0/1132	0.78	2/1525 (0.1%)
8	J1	0.68	0/943	0.82	1/1269 (0.1%)
8	J2	0.66	0/943	0.81	1/1269 (0.1%)
9	K1	0.53	0/1162	0.92	3/1544 (0.2%)
9	K2	0.55	0/1162	0.87	0/1544
10	L1	0.60	0/1143	0.82	0/1527
10	L2	0.59	0/1143	0.87	1/1527 (0.1%)
11	M1	0.53	0/974	0.82	1/1302 (0.1%)
11	M2	0.54	0/974	0.77	0/1302
12	N1	0.48	0/892	0.82	1/1187 (0.1%)
12	N2	0.50	0/892	0.81	0/1187
13	O1	0.61	0/1156	0.79	0/1542
13	O2	0.58	0/1156	0.78	0/1542
14	P1	0.58	0/982	0.76	0/1306
14	P2	0.57	0/982	0.72	0/1306
15	Q1	0.49	0/790	0.78	0/1057
15	Q2	0.52	0/790	0.74	0/1057
16	R1	0.58	0/911	0.81	2/1220 (0.2%)
16	R2	0.56	0/911	0.77	1/1220 (0.1%)
17	S1	0.55	0/740	0.76	0/993
17	S2	0.50	0/740	0.77	0/993

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
18	T1	0.45	0/799	0.76	0/1064
18	T2	0.49	0/799	0.81	1/1064 (0.1%)
19	U1	0.51	0/1461	0.76	0/1982
19	U2	0.53	0/1461	0.75	1/1982 (0.1%)
20	V1	0.58	0/621	0.81	0/827
20	V2	0.51	0/621	0.79	0/827
21	W1	0.54	0/770	0.86	2/1022 (0.2%)
21	W2	0.60	0/770	0.88	0/1022
22	X1	0.43	0/583	0.69	0/771
22	X2	0.44	0/583	0.78	0/771
23	Y1	0.55	0/474	0.80	0/635
23	Y2	0.57	0/474	0.80	2/635 (0.3%)
24	Z1	0.48	0/528	0.89	0/709
24	Z2	0.52	0/528	0.88	0/709
25	a1	0.68	0/473	0.87	0/639
25	a2	0.62	0/473	0.78	0/639
26	b1	0.54	0/397	1.02	0/529
26	b2	0.56	0/397	0.95	1/529 (0.2%)
27	c1	0.57	0/438	0.75	0/575
27	c2	0.52	0/438	0.70	0/575
28	d1	0.51	0/495	0.92	1/649 (0.2%)
28	d2	0.57	0/495	0.91	1/649 (0.2%)
29	A1	1.35	325/70233 (0.5%)	1.74	2137/109643 (1.9%)
29	A2	1.34	330/70233 (0.5%)	1.73	2157/109643 (2.0%)
30	B1	1.05	3/2928 (0.1%)	1.64	77/4568 (1.7%)
30	B2	1.03	2/2928 (0.1%)	1.61	65/4568 (1.4%)
31	e1	0.50	0/302	0.88	0/397
31	e2	0.49	0/302	0.81	0/397
32	B3	0.60	0/1960	0.90	2/2642 (0.1%)
32	B4	0.58	0/1960	0.81	4/2642 (0.2%)
33	C3	0.51	0/1637	0.86	3/2205 (0.1%)
33	C4	0.53	0/1637	0.82	4/2205 (0.2%)
34	D3	0.55	0/1733	0.82	0/2318
34	D4	0.65	1/1733 (0.1%)	0.86	2/2318 (0.1%)
35	E3	0.59	0/1172	0.81	1/1576 (0.1%)
35	E4	0.59	0/1172	0.85	0/1576
36	F3	0.60	1/856 (0.1%)	0.81	1/1154 (0.1%)
36	F4	0.57	0/856	0.79	0/1154
37	G3	0.67	1/1276 (0.1%)	0.78	0/1709
37	G4	0.68	1/1276 (0.1%)	0.84	1/1709 (0.1%)
38	H3	0.69	0/1136	0.87	3/1527 (0.2%)
38	H4	0.68	0/1136	0.83	1/1527 (0.1%)
39	I3	0.57	0/1029	0.90	3/1379 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
39	I4	0.63	1/1029 (0.1%)	0.86	2/1379 (0.1%)
40	J3	0.44	0/815	0.85	3/1095 (0.3%)
40	J4	0.49	0/815	0.83	1/1095 (0.1%)
41	K3	0.52	0/894	0.75	0/1205
41	K4	0.54	0/894	0.73	0/1205
42	L3	0.61	0/992	0.88	3/1327 (0.2%)
42	L4	0.64	0/992	0.84	0/1327
43	M3	0.51	0/944	0.81	2/1265 (0.2%)
43	M4	0.49	0/944	0.82	1/1265 (0.1%)
44	N3	0.55	0/501	0.78	0/664
44	N4	0.58	0/501	0.85	1/664 (0.2%)
45	O3	0.57	0/745	0.82	1/992 (0.1%)
45	O4	0.55	0/745	0.77	0/992
46	P3	0.58	0/722	0.79	1/970 (0.1%)
46	P4	0.58	0/722	0.83	0/970
47	Q3	0.60	0/848	0.84	0/1131
47	Q4	0.61	0/848	0.80	0/1131
48	R3	0.56	0/520	0.81	0/690
48	R4	0.59	0/520	0.79	1/690 (0.1%)
49	S3	0.55	0/639	0.77	0/860
49	S4	0.47	0/639	0.83	0/860
50	T3	0.48	0/765	0.79	0/1007
50	T4	0.46	0/765	0.75	0/1007
51	U3	0.47	0/222	0.72	0/288
51	U4	0.48	0/222	0.68	0/288
52	W4	0.54	0/487	0.92	2/650 (0.3%)
52	X3	0.43	0/487	0.70	1/650 (0.2%)
53	A3	1.38	190/36234 (0.5%)	1.81	1283/56554 (2.3%)
53	A4	1.38	171/36234 (0.5%)	1.81	1289/56554 (2.3%)
54	V3	0.58	0/977	0.89	1/1316 (0.1%)
54	V4	0.58	0/964	0.94	2/1298 (0.2%)
All	All	1.17	1029/314149 (0.3%)	1.56	7091/469332 (1.5%)

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
1	C1	0	6
1	C2	0	10
2	D1	0	2

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
2	D2	0	4
3	E1	0	4
3	E2	0	6
4	F1	0	2
4	F2	0	2
5	G1	0	6
5	G2	0	3
6	H1	0	2
6	H2	0	2
7	I1	0	1
8	J1	0	3
8	J2	0	2
9	K1	0	5
9	K2	0	1
10	L1	0	3
10	L2	0	6
11	M1	0	4
11	M2	0	2
12	N1	0	3
12	N2	0	2
13	O1	0	4
13	O2	0	3
14	P1	0	3
14	P2	0	1
15	Q2	0	1
16	R2	0	1
18	T1	0	3
18	T2	0	1
19	U2	0	3
20	V1	0	1
21	W1	0	2
21	W2	0	2
22	X1	0	2
22	X2	0	1
23	Y2	0	1
24	Z1	0	9
24	Z2	0	5
25	a1	0	2
26	b2	0	1
27	c2	0	1
28	d1	0	2
28	d2	0	3

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
32	B3	0	9
32	B4	0	7
33	C3	0	4
33	C4	0	6
34	D3	0	5
34	D4	0	7
35	E3	0	3
35	E4	0	3
36	F3	0	1
36	F4	0	1
37	G3	0	1
37	G4	0	4
38	H4	0	3
39	I3	0	3
39	I4	0	3
40	J3	0	4
40	J4	0	5
41	K3	0	2
42	L3	0	3
42	L4	0	4
43	M3	0	2
44	N3	0	1
44	N4	0	3
45	O3	0	3
45	O4	0	3
46	P3	0	2
46	P4	0	3
47	Q3	0	1
47	Q4	0	1
48	R3	0	2
48	R4	0	1
49	S3	0	2
49	S4	0	2
54	V3	0	2
54	V4	0	2
All	All	0	241

All (1029) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	D4	187	ARG	C-N	-12.08	1.06	1.34
37	G3	12	LEU	C-N	-11.02	1.08	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	G4	91	VAL	C-N	10.68	1.58	1.34
29	A2	1824	A	N9-C4	-9.55	1.32	1.37
29	A1	1616	A	N9-C4	-9.19	1.32	1.37
29	A1	1820	A	N9-C4	-8.96	1.32	1.37
29	A1	873	A	N9-C4	-8.94	1.32	1.37
29	A2	1820	A	N9-C4	-8.89	1.32	1.37
29	A1	2044	A	N9-C4	-8.85	1.32	1.37
29	A1	1824	A	N9-C4	-8.72	1.32	1.37
29	A1	2043	A	N9-C4	-8.70	1.32	1.37
29	A2	830	A	N9-C4	-8.61	1.32	1.37
29	A2	1717	A	N9-C4	-8.54	1.32	1.37
29	A1	1717	A	N9-C4	-8.51	1.32	1.37
29	A1	2025	A	N7-C5	-8.41	1.34	1.39
29	A2	2256	G	N7-C5	-8.31	1.34	1.39
29	A1	830	A	N9-C4	-8.31	1.32	1.37
29	A1	2728	A	N9-C4	-8.25	1.32	1.37
29	A1	2580	A	N9-C4	-8.23	1.32	1.37
29	A2	2728	A	N9-C4	-8.14	1.32	1.37
29	A2	1960	A	N7-C5	-7.94	1.34	1.39
53	A3	1232	A	N9-C4	-7.94	1.33	1.37
53	A3	1374	G	N7-C5	-7.87	1.34	1.39
29	A2	1962	A	N9-C4	-7.86	1.33	1.37
29	A2	2025	A	N7-C5	-7.86	1.34	1.39
29	A2	2043	A	N9-C4	-7.84	1.33	1.37
53	A4	1395	A	N9-C4	-7.84	1.33	1.37
29	A1	1962	A	N9-C4	-7.84	1.33	1.37
53	A3	482	A	N9-C4	-7.83	1.33	1.37
53	A4	699	A	N9-C4	-7.83	1.33	1.37
29	A1	1960	A	N7-C5	-7.81	1.34	1.39
29	A2	2580	A	N9-C4	-7.78	1.33	1.37
29	A1	2604	A	N9-C4	-7.76	1.33	1.37
53	A3	1451	G	N7-C5	-7.75	1.34	1.39
29	A1	726	A	N9-C4	-7.72	1.33	1.37
29	A2	1806	A	N9-C4	-7.70	1.33	1.37
29	A2	1923	G	N7-C5	-7.70	1.34	1.39
53	A4	482	A	N9-C4	-7.68	1.33	1.37
53	A3	1395	A	N9-C4	-7.65	1.33	1.37
29	A1	2700	G	N7-C5	-7.65	1.34	1.39
29	A2	2622	G	N9-C4	-7.63	1.31	1.38
29	A1	2054	A	N9-C4	-7.63	1.33	1.37
53	A4	1374	G	N7-C5	-7.59	1.34	1.39
29	A1	2256	G	N7-C5	-7.56	1.34	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A2	2450	G	C6-N1	-7.50	1.34	1.39
29	A1	1913	A	N9-C4	-7.50	1.33	1.37
29	A2	726	A	N9-C4	-7.49	1.33	1.37
29	A2	878	A	N9-C4	-7.49	1.33	1.37
29	A1	1806	A	N9-C4	-7.46	1.33	1.37
53	A4	1026	A	N9-C4	7.42	1.42	1.37
29	A2	123	G	N9-C4	-7.39	1.32	1.38
29	A1	2076	G	N7-C5	-7.37	1.34	1.39
29	A1	1819	A	N9-C4	-7.37	1.33	1.37
29	A2	2604	A	N9-C4	-7.34	1.33	1.37
53	A4	785	A	N9-C4	-7.32	1.33	1.37
29	A1	2602	G	N7-C5	-7.31	1.34	1.39
29	A2	1984	A	N9-C4	-7.31	1.33	1.37
53	A3	557	A	N9-C4	-7.29	1.33	1.37
29	A2	2001	A	N9-C4	-7.22	1.33	1.37
29	A1	1715	G	N7-C5	-7.22	1.34	1.39
29	A2	832	A	N9-C4	-7.22	1.33	1.37
29	A2	2602	G	N7-C5	-7.19	1.34	1.39
29	A2	2079	C	N1-C6	-7.19	1.32	1.37
29	A2	733	G	C6-N1	-7.19	1.34	1.39
29	A2	2076	G	N7-C5	-7.19	1.34	1.39
29	A2	2044	A	N9-C4	-7.18	1.33	1.37
29	A1	669	G	N9-C4	-7.17	1.32	1.38
29	A1	723	G	N7-C5	-7.17	1.34	1.39
29	A1	792	G	N9-C4	-7.16	1.32	1.38
53	A3	785	A	N9-C4	-7.14	1.33	1.37
53	A3	798	A	N9-C4	-7.13	1.33	1.37
29	A1	870	A	N7-C5	-7.12	1.34	1.39
29	A2	1802	G	N7-C5	-7.11	1.34	1.39
29	A1	1802	G	N7-C5	-7.11	1.34	1.39
53	A4	541	G	N7-C5	-7.10	1.34	1.39
29	A2	1718	A	C6-N1	-7.06	1.30	1.35
29	A1	1984	A	N9-C4	-7.05	1.33	1.37
29	A1	2622	G	N9-C4	-7.04	1.32	1.38
29	A2	669	G	N9-C4	-7.04	1.32	1.38
29	A1	595	G	N7-C5	-7.02	1.35	1.39
29	A2	1819	A	N9-C4	-7.00	1.33	1.37
29	A1	2468	G	N7-C5	-7.00	1.35	1.39
29	A2	870	A	N7-C5	-6.96	1.35	1.39
53	A4	798	A	N9-C4	-6.95	1.33	1.37
29	A1	2078	A	N9-C4	-6.93	1.33	1.37
29	A1	2001	A	N9-C4	-6.92	1.33	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A4	872	G	N7-C5	-6.91	1.35	1.39
29	A2	2072	G	C6-N1	-6.90	1.34	1.39
29	A1	2603	A	N9-C4	-6.90	1.33	1.37
29	A2	784	A	N9-C4	-6.89	1.33	1.37
29	A2	2042	G	N9-C4	-6.89	1.32	1.38
29	A1	2450	G	N3-C4	-6.86	1.30	1.35
29	A1	1347	G	N9-C4	-6.86	1.32	1.38
29	A2	2450	G	N3-C4	-6.86	1.30	1.35
29	A2	2559	G	C6-N1	-6.83	1.34	1.39
29	A1	493	G	N3-C4	-6.83	1.30	1.35
29	A2	2078	A	N9-C4	-6.82	1.33	1.37
29	A1	2079	C	N1-C6	-6.82	1.33	1.37
29	A1	2559	G	C6-N1	-6.82	1.34	1.39
29	A2	873	A	N9-C4	-6.81	1.33	1.37
53	A3	872	G	C5-C6	-6.80	1.35	1.42
29	A1	993	G	C6-N1	-6.79	1.34	1.39
29	A1	878	A	N9-C4	-6.79	1.33	1.37
53	A4	1059	G	N7-C5	-6.78	1.35	1.39
29	A1	813	A	N9-C4	-6.77	1.33	1.37
29	A1	784	A	N9-C4	-6.77	1.33	1.37
29	A2	1690	A	N9-C4	-6.76	1.33	1.37
53	A4	560	G	C6-N1	-6.74	1.34	1.39
29	A1	1300	G	N9-C4	-6.73	1.32	1.38
53	A4	1451	G	N7-C5	-6.72	1.35	1.39
29	A2	1347	G	N9-C4	-6.72	1.32	1.38
29	A1	1852	A	N9-C4	-6.71	1.33	1.37
29	A1	1820	A	N3-C4	-6.71	1.30	1.34
53	A3	553	G	N1-C2	-6.71	1.32	1.37
29	A1	1806	A	C5-C4	-6.69	1.34	1.38
29	A2	2405	G	N7-C5	-6.69	1.35	1.39
29	A2	2360	A	N9-C4	-6.68	1.33	1.37
53	A3	553	G	C6-N1	-6.68	1.34	1.39
29	A1	595	G	N3-C4	-6.68	1.30	1.35
29	A1	1690	A	N9-C4	-6.67	1.33	1.37
29	A1	2072	G	C6-N1	-6.66	1.34	1.39
29	A2	1820	A	C5-C4	-6.66	1.34	1.38
29	A1	1718	A	N7-C5	-6.66	1.35	1.39
29	A2	1913	A	N9-C4	-6.65	1.33	1.37
29	A2	1806	A	C5-C4	-6.64	1.34	1.38
29	A2	595	G	N3-C4	-6.62	1.30	1.35
29	A1	1820	A	C5-C4	-6.62	1.34	1.38
30	B2	68	A	N9-C4	-6.61	1.33	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A4	553	G	N1-C2	-6.61	1.32	1.37
53	A4	615	A	N7-C5	-6.58	1.35	1.39
53	A3	120	G	C2-N3	-6.58	1.27	1.32
29	A2	1718	A	N7-C5	-6.58	1.35	1.39
29	A1	2700	G	C6-N1	-6.57	1.34	1.39
29	A2	1923	G	C8-N7	-6.57	1.27	1.30
53	A3	763	A	C5-C6	-6.57	1.35	1.41
29	A1	2054	A	C5-C4	-6.57	1.34	1.38
29	A1	1718	A	C6-N1	-6.56	1.30	1.35
29	A2	1421	A	N9-C4	-6.56	1.33	1.37
29	A2	2469	G	C8-N7	-6.55	1.27	1.30
29	A1	1923	G	N7-C5	-6.55	1.35	1.39
29	A1	1019	G	N7-C5	-6.54	1.35	1.39
53	A3	540	G	N7-C5	-6.54	1.35	1.39
53	A3	1481	G	C5-C4	-6.54	1.33	1.38
53	A3	1479	A	N7-C5	-6.54	1.35	1.39
53	A3	872	G	N7-C5	-6.53	1.35	1.39
29	A1	1817	A	N7-C5	-6.52	1.35	1.39
29	A2	213	A	N9-C4	-6.52	1.33	1.37
29	A1	477	A	N9-C4	-6.52	1.33	1.37
53	A3	884	A	N7-C5	-6.52	1.35	1.39
29	A2	792	G	N9-C4	-6.51	1.32	1.38
53	A3	1459	G	N7-C5	-6.50	1.35	1.39
53	A4	293	A	N7-C5	-6.50	1.35	1.39
29	A1	1704	A	N7-C5	-6.49	1.35	1.39
29	A1	123	G	N9-C4	-6.49	1.32	1.38
29	A2	184	G	N7-C5	-6.49	1.35	1.39
53	A3	902	G	N1-C2	-6.49	1.32	1.37
29	A2	2016	G	N3-C4	-6.49	1.30	1.35
53	A4	261	G	N9-C4	-6.48	1.32	1.38
29	A1	2450	G	C5-C4	-6.47	1.33	1.38
29	A2	595	G	N7-C5	-6.47	1.35	1.39
53	A3	560	G	C6-N1	-6.46	1.35	1.39
53	A3	799	A	C5-C4	-6.46	1.34	1.38
29	A1	1978	G	N7-C5	-6.46	1.35	1.39
29	A1	1880	A	N9-C4	-6.45	1.33	1.37
29	A2	2054	A	C5-C4	-6.45	1.34	1.38
53	A4	1314	A	N9-C4	-6.45	1.33	1.37
53	A4	902	G	N1-C2	-6.44	1.32	1.37
29	A2	1837	C	N1-C6	-6.43	1.33	1.37
53	A4	102	A	C6-N1	-6.43	1.31	1.35
29	A2	2054	A	N9-C4	-6.43	1.33	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A3	541	G	N7-C5	-6.42	1.35	1.39
53	A4	1318	G	C6-N1	-6.42	1.35	1.39
53	A4	1481	G	C6-N1	-6.41	1.35	1.39
53	A3	1314	A	N9-C4	-6.41	1.34	1.37
29	A2	2700	G	N7-C5	-6.41	1.35	1.39
53	A4	878	A	N7-C5	-6.39	1.35	1.39
29	A1	829	G	N7-C5	-6.38	1.35	1.39
29	A1	184	G	N7-C5	-6.38	1.35	1.39
29	A2	829	G	N7-C5	-6.38	1.35	1.39
29	A2	1978	G	N7-C5	-6.38	1.35	1.39
29	A1	2742	G	N1-C2	-6.37	1.32	1.37
53	A4	1463	G	N9-C4	-6.37	1.32	1.38
53	A3	878	A	N7-C5	-6.37	1.35	1.39
29	A2	1820	A	N7-C5	-6.36	1.35	1.39
29	A1	2810	G	N7-C5	-6.36	1.35	1.39
53	A4	884	A	N7-C5	-6.36	1.35	1.39
29	A1	824	G	C5-C6	-6.35	1.36	1.42
29	A2	1704	A	N7-C5	-6.35	1.35	1.39
53	A4	799	A	C5-C4	-6.35	1.34	1.38
29	A2	2469	G	C6-N1	-6.34	1.35	1.39
29	A1	2519	G	N9-C4	6.34	1.43	1.38
29	A2	1317	A	N9-C4	-6.33	1.34	1.37
29	A2	1820	A	N3-C4	-6.33	1.31	1.34
29	A2	1300	G	N9-C4	-6.33	1.32	1.38
53	A3	1463	G	N9-C4	-6.33	1.32	1.38
29	A1	2733	G	C6-N1	-6.33	1.35	1.39
29	A1	855	C	N1-C6	-6.32	1.33	1.37
53	A3	550	G	C6-N1	-6.32	1.35	1.39
53	A4	1220	A	N9-C4	-6.30	1.34	1.37
53	A3	17	U	C2-N3	-6.30	1.33	1.37
53	A4	1479	A	N7-C5	-6.30	1.35	1.39
53	A4	557	A	N9-C4	-6.29	1.34	1.37
29	A1	1031	A	N3-C4	-6.28	1.31	1.34
53	A3	1087	A	C5-C6	-6.27	1.35	1.41
53	A3	1481	G	C6-N1	-6.27	1.35	1.39
29	A1	824	G	N7-C5	-6.27	1.35	1.39
53	A3	1397	G	N9-C4	-6.26	1.32	1.38
53	A4	17	U	C2-N3	-6.26	1.33	1.37
29	A2	1611	A	N9-C4	-6.25	1.34	1.37
53	A3	884	A	C5-C6	-6.24	1.35	1.41
53	A4	885	A	N7-C5	-6.24	1.35	1.39
29	A2	725	A	N9-C4	-6.24	1.34	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A2	2076	G	C5-C6	-6.23	1.36	1.42
29	A2	723	G	N1-C2	-6.23	1.32	1.37
29	A1	724	A	N7-C5	-6.23	1.35	1.39
29	A2	2756	A	N9-C4	-6.22	1.34	1.37
29	A1	2016	G	C6-N1	-6.22	1.35	1.39
53	A3	1059	G	C6-N1	-6.22	1.35	1.39
29	A2	2444	A	N7-C5	-6.21	1.35	1.39
29	A1	1317	A	N9-C4	-6.21	1.34	1.37
29	A2	1616	A	N9-C4	-6.20	1.34	1.37
29	A1	2073	G	C6-N1	-6.20	1.35	1.39
29	A2	603	A	N9-C4	-6.20	1.34	1.37
53	A4	1087	A	C5-C6	-6.20	1.35	1.41
53	A4	551	G	N7-C5	-6.19	1.35	1.39
29	A1	1421	A	N9-C4	-6.19	1.34	1.37
53	A4	540	G	N7-C5	-6.19	1.35	1.39
29	A2	813	A	N9-C4	-6.19	1.34	1.37
53	A3	1059	G	N7-C5	-6.18	1.35	1.39
53	A4	553	G	C6-N1	-6.18	1.35	1.39
53	A4	872	G	C5-C6	-6.18	1.36	1.42
29	A1	1857	G	N9-C8	-6.18	1.33	1.37
29	A1	2450	G	C6-N1	-6.18	1.35	1.39
53	A3	858	G	N7-C5	-6.18	1.35	1.39
53	A3	316	A	N9-C4	-6.17	1.34	1.37
29	A1	2076	G	C5-C6	-6.17	1.36	1.42
53	A3	549	G	N7-C5	-6.17	1.35	1.39
29	A2	1880	A	N9-C4	-6.16	1.34	1.37
53	A4	1464	G	N7-C5	-6.16	1.35	1.39
53	A3	885	A	N7-C5	-6.16	1.35	1.39
53	A3	763	A	N7-C5	-6.16	1.35	1.39
29	A2	801	A	N9-C4	-6.16	1.34	1.37
29	A1	725	A	N9-C4	-6.15	1.34	1.37
53	A4	22	G	C6-N1	-6.14	1.35	1.39
29	A2	1180	A	N7-C5	-6.14	1.35	1.39
29	A1	195	G	N9-C4	-6.14	1.33	1.38
29	A2	2458	G	C8-N7	-6.14	1.27	1.30
29	A1	2079	C	N3-C4	-6.14	1.29	1.33
53	A4	884	A	C5-C6	-6.13	1.35	1.41
29	A2	1854	A	N9-C4	-6.13	1.34	1.37
29	A1	800	A	N7-C5	-6.13	1.35	1.39
53	A4	852	C	N1-C6	-6.12	1.33	1.37
29	A1	782	G	C5-C6	-6.12	1.36	1.42
29	A1	801	A	N9-C4	-6.11	1.34	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A2	1993	A	N7-C5	-6.11	1.35	1.39
29	A1	855	C	N3-C4	-6.11	1.29	1.33
29	A2	2059	G	N3-C4	-6.11	1.31	1.35
29	A2	2073	G	C6-N1	-6.10	1.35	1.39
53	A3	710	G	N1-C2	-6.10	1.32	1.37
53	A4	1398	G	N7-C5	-6.09	1.35	1.39
53	A3	261	G	C5-C6	-6.09	1.36	1.42
29	A1	2601	A	N9-C4	-6.09	1.34	1.37
53	A3	221	G	N3-C4	-6.09	1.31	1.35
53	A3	22	G	C6-N1	-6.08	1.35	1.39
53	A4	1481	G	C5-C4	-6.08	1.34	1.38
53	A3	1498	G	C6-N1	-6.08	1.35	1.39
53	A4	1374	G	C6-N1	-6.08	1.35	1.39
29	A1	2458	G	C8-N7	-6.08	1.27	1.30
29	A1	2586	A	N9-C4	-6.08	1.34	1.37
29	A2	834	G	N7-C5	-6.07	1.35	1.39
29	A1	2742	G	C6-N1	-6.07	1.35	1.39
53	A3	549	G	C5-C6	-6.07	1.36	1.42
29	A1	1836	A	N9-C4	-6.07	1.34	1.37
29	A2	125	A	N9-C4	-6.07	1.34	1.37
53	A4	550	G	C6-N1	-6.07	1.35	1.39
53	A3	1318	G	C6-N1	-6.07	1.35	1.39
29	A2	2504	G	N3-C4	-6.06	1.31	1.35
53	A3	293	A	N7-C5	-6.06	1.35	1.39
29	A1	2612	A	N9-C8	-6.05	1.32	1.37
30	B1	68	A	N9-C4	-6.04	1.34	1.37
53	A3	852	C	N1-C6	-6.04	1.33	1.37
53	A4	763	A	N7-C5	-6.04	1.35	1.39
29	A1	838	A	N7-C5	-6.04	1.35	1.39
53	A4	901	C	N3-C4	-6.04	1.29	1.33
29	A1	2780	A	N9-C4	6.04	1.41	1.37
29	A1	1711	C	N3-C4	-6.03	1.29	1.33
29	A1	2428	G	N7-C5	-6.03	1.35	1.39
29	A2	2011	G	C6-N1	-6.02	1.35	1.39
53	A3	901	C	N3-C4	-6.02	1.29	1.33
29	A1	125	A	N9-C4	-6.02	1.34	1.37
53	A3	1061	G	N7-C5	-6.02	1.35	1.39
29	A2	2593	C	N1-C6	-6.01	1.33	1.37
29	A1	1820	A	N7-C5	-6.01	1.35	1.39
53	A3	1124	G	C2-N3	-6.01	1.27	1.32
29	A1	189	A	N9-C4	-6.00	1.34	1.37
29	A1	1837	C	N1-C6	-6.00	1.33	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A1	2580	A	C5-C4	-6.00	1.34	1.38
29	A2	733	G	N3-C4	-6.00	1.31	1.35
29	A2	993	G	C6-N1	-6.00	1.35	1.39
29	A2	2603	A	N7-C5	-6.00	1.35	1.39
53	A4	742	A	N7-C5	-6.00	1.35	1.39
29	A2	2585	C	N3-C4	-6.00	1.29	1.33
53	A4	797	A	N9-C4	-5.99	1.34	1.37
29	A2	1999	G	N7-C5	-5.99	1.35	1.39
53	A4	1059	G	C6-N1	-5.99	1.35	1.39
29	A1	1180	A	N7-C5	-5.99	1.35	1.39
29	A1	2606	G	N7-C5	-5.98	1.35	1.39
29	A1	211	A	N9-C4	-5.97	1.34	1.37
29	A1	2593	C	N1-C6	-5.97	1.33	1.37
53	A3	1026	A	N9-C4	5.97	1.41	1.37
29	A1	2863	A	N7-C5	-5.97	1.35	1.39
29	A1	1820	A	N9-C8	-5.97	1.32	1.37
29	A1	2737	G	N7-C5	-5.97	1.35	1.39
29	A2	2468	G	C6-N1	-5.97	1.35	1.39
29	A2	2579	A	N9-C4	-5.97	1.34	1.37
53	A4	604	A	N9-C4	-5.97	1.34	1.37
29	A1	2042	G	N9-C4	-5.96	1.33	1.38
53	A4	120	G	C2-N3	-5.95	1.27	1.32
29	A2	782	G	C5-C6	-5.95	1.36	1.42
29	A1	879	G	N9-C4	-5.95	1.33	1.38
29	A1	2585	C	N3-C4	-5.94	1.29	1.33
29	A2	824	G	C5-C6	-5.94	1.36	1.42
53	A3	551	G	N7-C5	-5.94	1.35	1.39
53	A3	1395	A	N3-C4	-5.94	1.31	1.34
53	A3	1374	G	C8-N7	-5.94	1.27	1.30
29	A1	1833	C	N1-C6	-5.93	1.33	1.37
29	A2	879	G	N9-C4	-5.93	1.33	1.38
29	A1	834	G	N7-C5	-5.93	1.35	1.39
29	A2	477	A	N9-C4	-5.93	1.34	1.37
53	A3	866	A	N7-C5	-5.93	1.35	1.39
29	A2	2601	A	N9-C4	-5.92	1.34	1.37
29	A1	1854	A	N9-C4	-5.92	1.34	1.37
53	A3	797	A	N9-C4	-5.92	1.34	1.37
29	A2	2072	G	N1-C2	-5.91	1.33	1.37
29	A1	1611	A	N9-C4	-5.91	1.34	1.37
53	A3	1374	G	C6-N1	-5.91	1.35	1.39
29	A2	2077	G	N7-C5	-5.91	1.35	1.39
53	A4	763	A	C5-C6	-5.91	1.35	1.41

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A2	873	A	C5-C4	-5.91	1.34	1.38
53	A4	799	A	C5-C6	-5.90	1.35	1.41
53	A4	1459	G	N7-C5	-5.90	1.35	1.39
29	A2	2639	G	C6-N1	-5.90	1.35	1.39
29	A1	555	A	N9-C4	-5.90	1.34	1.37
29	A1	2011	G	C6-N1	-5.90	1.35	1.39
29	A2	2863	A	N7-C5	-5.89	1.35	1.39
53	A3	1459	G	C6-N1	-5.89	1.35	1.39
53	A4	1502	G	C6-N1	-5.89	1.35	1.39
29	A1	873	A	N3-C4	-5.89	1.31	1.34
53	A3	858	G	N3-C4	-5.89	1.31	1.35
53	A3	799	A	C5-C6	-5.89	1.35	1.41
29	A1	790	G	C6-N1	-5.88	1.35	1.39
29	A1	2603	A	C5-C4	-5.88	1.34	1.38
29	A1	2078	A	C5-C4	-5.88	1.34	1.38
29	A1	2579	A	N9-C4	-5.88	1.34	1.37
29	A2	2612	A	N9-C4	-5.88	1.34	1.37
29	A1	1819	A	N7-C5	-5.87	1.35	1.39
29	A2	1833	C	N1-C6	-5.87	1.33	1.37
29	A2	2472	G	C6-N1	-5.87	1.35	1.39
29	A1	2472	G	C6-N1	-5.86	1.35	1.39
29	A2	2612	A	N9-C8	-5.86	1.33	1.37
53	A3	638	A	N9-C4	-5.85	1.34	1.37
29	A2	1836	A	N9-C4	-5.85	1.34	1.37
53	A3	641	G	N9-C4	-5.84	1.33	1.38
29	A2	2078	A	C5-C4	-5.84	1.34	1.38
29	A1	553	A	N9-C4	-5.83	1.34	1.37
29	A2	723	G	N9-C4	-5.82	1.33	1.38
29	A2	2096	G	N7-C5	-5.82	1.35	1.39
29	A1	1825	G	C5-C4	-5.82	1.34	1.38
53	A4	1061	G	N7-C5	-5.82	1.35	1.39
29	A2	2737	G	N7-C5	-5.82	1.35	1.39
29	A2	2021	G	N9-C4	-5.81	1.33	1.38
29	A1	1806	A	N7-C5	-5.81	1.35	1.39
29	A1	2096	G	N7-C5	-5.81	1.35	1.39
29	A2	1177	A	N7-C5	-5.81	1.35	1.39
29	A1	2072	G	N1-C2	-5.81	1.33	1.37
29	A1	2077	G	N7-C5	-5.80	1.35	1.39
53	A3	297	G	C6-N1	-5.80	1.35	1.39
29	A2	2586	A	N9-C4	-5.80	1.34	1.37
29	A2	2639	G	C5-C4	-5.80	1.34	1.38
29	A2	2742	G	C6-N1	-5.80	1.35	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A2	1706	C	N1-C6	-5.79	1.33	1.37
29	A1	873	A	C5-C4	-5.79	1.34	1.38
29	A1	2756	A	N9-C4	-5.79	1.34	1.37
29	A1	723	G	N3-C4	-5.79	1.31	1.35
29	A2	2458	G	N7-C5	-5.79	1.35	1.39
53	A4	1395	A	N3-C4	-5.79	1.31	1.34
29	A1	1244	G	N9-C8	-5.79	1.33	1.37
29	A2	800	A	N7-C5	-5.78	1.35	1.39
29	A2	195	G	N9-C4	-5.78	1.33	1.38
53	A3	742	A	N7-C5	-5.78	1.35	1.39
53	A4	1326	U	C2-N3	-5.78	1.33	1.37
29	A2	211	A	N9-C4	-5.78	1.34	1.37
29	A1	1295	A	N9-C4	-5.78	1.34	1.37
29	A2	2580	A	C5-C4	-5.77	1.34	1.38
29	A2	801	A	N3-C4	-5.77	1.31	1.34
53	A4	1460	A	N7-C5	-5.77	1.35	1.39
29	A2	212	A	N9-C4	-5.76	1.34	1.37
29	A2	1716	G	C6-N1	-5.76	1.35	1.39
29	A2	2001	A	C5-C6	-5.76	1.35	1.41
29	A2	1798	C	N3-C4	-5.75	1.29	1.33
53	A4	280	G	C6-N1	-5.75	1.35	1.39
29	A2	1668	G	N3-C4	-5.75	1.31	1.35
29	A1	782	G	N9-C4	-5.75	1.33	1.38
29	A1	2426	A	N9-C4	-5.75	1.34	1.37
53	A3	1400	A	N9-C4	-5.75	1.34	1.37
29	A1	2596	G	N7-C5	-5.74	1.35	1.39
29	A1	603	A	N9-C4	-5.74	1.34	1.37
29	A1	195	G	N3-C4	-5.74	1.31	1.35
29	A1	723	G	N9-C8	-5.74	1.33	1.37
29	A1	2612	A	N9-C4	-5.74	1.34	1.37
53	A3	1464	G	N7-C5	-5.74	1.35	1.39
29	A2	2606	G	N7-C5	-5.73	1.35	1.39
53	A4	813	G	C6-N1	-5.73	1.35	1.39
29	A1	879	G	C5-C4	-5.73	1.34	1.38
29	A1	801	A	N3-C4	-5.73	1.31	1.34
29	A2	790	G	C6-N1	-5.73	1.35	1.39
29	A2	2287	A	N9-C4	-5.73	1.34	1.37
53	A3	1310	A	N9-C4	-5.72	1.34	1.37
53	A3	1142	G	N7-C5	-5.72	1.35	1.39
29	A2	1857	G	N9-C8	-5.72	1.33	1.37
29	A2	2469	G	N7-C5	-5.72	1.35	1.39
29	A2	2376	G	N9-C4	-5.71	1.33	1.38

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A2	2596	G	N7-C5	-5.71	1.35	1.39
29	A2	724	A	N7-C5	-5.71	1.35	1.39
29	A2	791	G	C6-N1	-5.71	1.35	1.39
53	A3	717	G	N9-C8	-5.71	1.33	1.37
53	A3	27	G	N9-C4	-5.70	1.33	1.38
29	A2	1825	G	N7-C5	-5.70	1.35	1.39
53	A4	261	G	C5-C6	-5.70	1.36	1.42
29	A2	52	A	N9-C4	-5.70	1.34	1.37
53	A3	852	C	N3-C4	-5.70	1.29	1.33
53	A3	1194	A	N9-C4	-5.70	1.34	1.37
53	A4	1061	G	N9-C8	-5.70	1.33	1.37
53	A4	852	C	N3-C4	-5.69	1.29	1.33
29	A1	2001	A	C5-C6	-5.69	1.35	1.41
53	A4	616	G	C5-C4	-5.69	1.34	1.38
29	A1	1658	A	N9-C4	-5.69	1.34	1.37
53	A4	297	G	C6-N1	-5.69	1.35	1.39
29	A1	1958	C	N3-C4	-5.69	1.29	1.33
29	A2	1658	A	N9-C4	-5.69	1.34	1.37
6	H2	6	LEU	C-N	-5.68	1.21	1.34
29	A2	879	G	C5-C4	-5.68	1.34	1.38
29	A2	195	G	N3-C4	-5.67	1.31	1.35
53	A3	281	G	N7-C5	-5.67	1.35	1.39
53	A4	1498	G	C6-N1	-5.67	1.35	1.39
29	A1	2736	A	N7-C5	-5.67	1.35	1.39
53	A4	1481	G	N1-C2	-5.67	1.33	1.37
29	A1	2458	G	N7-C5	-5.67	1.35	1.39
29	A1	2603	A	N7-C5	-5.67	1.35	1.39
29	A2	1013	G	N7-C5	-5.67	1.35	1.39
53	A4	1061	G	C6-N1	-5.67	1.35	1.39
53	A3	280	G	C6-N1	-5.66	1.35	1.39
29	A1	1244	G	C5-C4	-5.66	1.34	1.38
1	C2	250	TRP	CB-CG	-5.66	1.40	1.50
29	A2	1819	A	N7-C5	-5.66	1.35	1.39
29	A1	778	G	C6-N1	-5.66	1.35	1.39
29	A2	1806	A	N7-C5	-5.66	1.35	1.39
53	A4	281	G	N7-C5	-5.66	1.35	1.39
29	A1	1999	G	N7-C5	-5.66	1.35	1.39
29	A1	2072	G	N3-C4	-5.66	1.31	1.35
29	A1	1798	C	N3-C4	-5.66	1.29	1.33
29	A2	2742	G	N1-C2	-5.65	1.33	1.37
29	A2	2054	A	C5-C6	-5.65	1.35	1.41
53	A3	637	G	C6-N1	-5.65	1.35	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A4	113	A	N9-C4	-5.65	1.34	1.37
53	A4	783	G	N9-C4	-5.65	1.33	1.38
29	A1	2511	A	C5-C6	-5.64	1.35	1.41
53	A3	493	A	N9-C4	-5.64	1.34	1.37
53	A4	549	G	N7-C5	-5.64	1.35	1.39
53	A3	297	G	C5-C4	-5.64	1.34	1.38
29	A1	843	G	C6-N1	-5.64	1.35	1.39
29	A2	2016	G	C6-N1	-5.64	1.35	1.39
29	A1	2054	A	N3-C4	-5.63	1.31	1.34
29	A2	800	A	C5-C6	-5.63	1.35	1.41
29	A2	2622	G	N3-C4	-5.63	1.31	1.35
29	A1	1180	A	C5-C6	-5.63	1.35	1.41
29	A2	2376	G	N3-C4	-5.63	1.31	1.35
29	A2	1711	C	N1-C6	-5.63	1.33	1.37
53	A3	560	G	N3-C4	-5.63	1.31	1.35
53	A4	1401	G	C6-N1	-5.63	1.35	1.39
29	A2	829	G	C5-C6	-5.63	1.36	1.42
29	A2	881	G	N7-C5	-5.63	1.35	1.39
29	A1	2695	C	N1-C6	-5.62	1.33	1.37
29	A1	2444	A	N7-C5	-5.62	1.35	1.39
29	A2	2461	G	C5-C4	-5.62	1.34	1.38
29	A1	501	G	N9-C4	-5.62	1.33	1.38
29	A1	213	A	N9-C4	-5.62	1.34	1.37
29	A2	2600	C	C2-N3	-5.62	1.31	1.35
29	A1	829	G	C5-C6	-5.62	1.36	1.42
53	A3	261	G	N9-C4	-5.62	1.33	1.38
29	A1	1306	C	N1-C6	-5.61	1.33	1.37
29	A2	1806	A	N3-C4	-5.61	1.31	1.34
29	A2	2049	C	N1-C6	-5.61	1.33	1.37
29	A2	2859	U	C2-N3	-5.61	1.33	1.37
53	A4	851	G	N7-C5	-5.61	1.35	1.39
53	A4	866	A	N7-C5	-5.61	1.35	1.39
30	B1	98	U	C2-N3	-5.61	1.33	1.37
29	A2	2736	A	N7-C5	-5.61	1.35	1.39
29	A1	853	A	N7-C5	-5.60	1.35	1.39
29	A2	2511	A	C5-C6	-5.60	1.36	1.41
53	A3	254	G	N7-C5	-5.60	1.35	1.39
53	A4	749	A	N7-C5	-5.60	1.35	1.39
53	A3	1401	G	C6-N1	-5.60	1.35	1.39
29	A1	1923	G	N9-C4	-5.60	1.33	1.38
29	A2	873	A	N3-C4	-5.60	1.31	1.34
29	A2	824	G	N7-C5	-5.59	1.35	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A1	2021	G	N9-C8	-5.59	1.33	1.37
29	A2	602	G	N7-C5	-5.59	1.35	1.39
29	A2	1820	A	N9-C8	-5.59	1.33	1.37
53	A4	1484	A	N7-C5	-5.58	1.35	1.39
29	A1	602	G	N7-C5	-5.58	1.35	1.39
29	A2	1819	A	C5-C6	-5.58	1.36	1.41
29	A2	2296	G	C6-N1	-5.58	1.35	1.39
53	A4	879	G	N9-C4	-5.57	1.33	1.38
29	A1	1806	A	N3-C4	-5.57	1.31	1.34
29	A2	1190	A	N9-C4	-5.57	1.34	1.37
29	A1	52	A	N9-C4	-5.57	1.34	1.37
29	A1	1978	G	C6-N1	-5.57	1.35	1.39
53	A4	1498	G	C5-C4	-5.57	1.34	1.38
29	A1	35	G	C6-N1	-5.57	1.35	1.39
29	A1	2022	G	C6-N1	-5.57	1.35	1.39
29	A2	1923	G	C6-N1	-5.57	1.35	1.39
53	A4	297	G	C5-C4	-5.57	1.34	1.38
29	A1	2526	C	C5-C6	-5.57	1.29	1.34
53	A3	156	A	N7-C5	-5.57	1.35	1.39
53	A3	1326	U	C2-N3	-5.56	1.33	1.37
53	A3	1452	G	N7-C5	-5.56	1.35	1.39
29	A2	1817	A	N7-C5	-5.56	1.35	1.39
53	A4	1383	G	C5-C4	-5.56	1.34	1.38
53	A4	1374	G	C8-N7	-5.56	1.27	1.30
29	A1	1864	G	N7-C5	-5.55	1.35	1.39
29	A2	1429	G	N7-C5	-5.55	1.35	1.39
29	A2	2025	A	C5-C6	-5.55	1.36	1.41
53	A4	550	G	N1-C2	-5.55	1.33	1.37
29	A1	1177	A	N7-C5	-5.55	1.35	1.39
53	A4	1459	G	C6-N1	-5.54	1.35	1.39
29	A1	2756	A	C5-C4	-5.54	1.34	1.38
53	A3	1502	G	C6-N1	-5.54	1.35	1.39
53	A4	1124	G	N7-C5	-5.54	1.35	1.39
53	A3	1324	G	N9-C4	-5.54	1.33	1.38
53	A4	156	A	N7-C5	-5.54	1.35	1.39
29	A1	2614	A	N7-C5	-5.54	1.35	1.39
53	A3	865	G	N9-C4	-5.54	1.33	1.38
53	A3	1151	A	N9-C4	-5.54	1.34	1.37
29	A1	2639	G	C6-N1	-5.53	1.35	1.39
29	A2	1864	G	N7-C5	-5.53	1.35	1.39
29	A2	2563	G	C6-N1	-5.53	1.35	1.39
53	A3	813	G	C6-N1	-5.53	1.35	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A2	2042	G	N3-C4	-5.53	1.31	1.35
29	A1	1706	C	N1-C6	-5.53	1.33	1.37
29	A1	2639	G	C5-C4	-5.53	1.34	1.38
29	A1	1668	G	N9-C4	-5.53	1.33	1.38
53	A4	1464	G	C5-C6	-5.53	1.36	1.42
29	A1	2565	C	N1-C6	-5.53	1.33	1.37
29	A1	2073	G	N1-C2	-5.53	1.33	1.37
29	A2	2695	C	N1-C6	-5.53	1.33	1.37
53	A3	112	A	N7-C5	-5.52	1.35	1.39
53	A3	1502	G	N1-C2	-5.52	1.33	1.37
29	A1	2563	G	C6-N1	-5.52	1.35	1.39
29	A1	733	G	C6-N1	-5.51	1.35	1.39
53	A4	549	G	C5-C6	-5.51	1.36	1.42
53	A4	1447	G	C6-N1	-5.51	1.35	1.39
29	A1	1261	A	N9-C4	-5.51	1.34	1.37
29	A2	2021	G	C6-N1	-5.51	1.35	1.39
29	A1	288	G	C8-N7	-5.51	1.27	1.30
29	A1	1848	A	N9-C4	-5.51	1.34	1.37
29	A2	1924	A	N9-C4	-5.51	1.34	1.37
29	A1	2287	A	N9-C4	-5.50	1.34	1.37
29	A2	1978	G	C6-N1	-5.50	1.35	1.39
53	A3	749	A	N7-C5	-5.50	1.35	1.39
29	A1	911	G	N7-C5	-5.50	1.35	1.39
53	A3	1061	G	N9-C8	-5.50	1.33	1.37
53	A4	112	A	N7-C5	-5.50	1.35	1.39
29	A1	1803	G	C6-N1	-5.50	1.35	1.39
29	A1	1924	A	N9-C4	-5.50	1.34	1.37
29	A2	1202	G	C5-C4	-5.50	1.34	1.38
53	A4	798	A	C5-C4	-5.50	1.34	1.38
29	A1	2028	G	C6-N1	-5.50	1.35	1.39
29	A1	2054	A	N7-C5	-5.49	1.35	1.39
29	A2	2005	A	N7-C5	-5.49	1.35	1.39
53	A3	113	A	N9-C4	-5.49	1.34	1.37
53	A4	858	G	N7-C5	-5.49	1.35	1.39
53	A4	851	G	N9-C8	-5.48	1.34	1.37
29	A1	1031	A	N9-C4	-5.48	1.34	1.37
29	A2	1243	C	N3-C4	-5.48	1.30	1.33
53	A3	736	A	C5-C4	-5.48	1.34	1.38
29	A2	1177	A	C5-C6	-5.48	1.36	1.41
29	A2	2526	C	C5-C6	-5.48	1.29	1.34
29	A2	737	U	C2-N3	-5.47	1.33	1.37
29	A2	1952	A	N9-C4	-5.47	1.34	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A3	798	A	C5-C4	-5.47	1.34	1.38
53	A3	1397	G	C5-C4	-5.47	1.34	1.38
29	A1	2049	C	N1-C6	-5.47	1.33	1.37
53	A4	559	G	N3-C4	-5.47	1.31	1.35
53	A3	797	A	N7-C5	-5.47	1.35	1.39
53	A3	1498	G	C5-C4	-5.47	1.34	1.38
53	A4	902	G	C5-C6	-5.47	1.36	1.42
29	A1	1013	G	N7-C5	-5.46	1.35	1.39
29	A1	1668	G	N7-C5	-5.46	1.35	1.39
29	A2	1978	G	C5-C6	-5.46	1.36	1.42
53	A3	21	G	C6-N1	-5.46	1.35	1.39
53	A4	237	C	N3-C4	-5.46	1.30	1.33
29	A2	2054	A	N7-C5	-5.46	1.35	1.39
3	E1	65	TRP	CB-CG	-5.46	1.40	1.50
29	A1	833	A	N7-C5	-5.46	1.35	1.39
29	A2	834	G	C5-C6	-5.46	1.36	1.42
29	A2	1306	C	N1-C6	-5.46	1.33	1.37
29	A2	1923	G	C5-C6	-5.46	1.36	1.42
29	A2	2028	G	C6-N1	-5.46	1.35	1.39
29	A2	2073	G	N1-C2	-5.46	1.33	1.37
53	A3	280	G	N7-C5	-5.45	1.35	1.39
53	A3	710	G	C6-N1	-5.45	1.35	1.39
53	A4	891	A	N7-C5	-5.45	1.35	1.39
53	A3	550	G	N1-C2	-5.45	1.33	1.37
53	A4	220	C	N3-C4	-5.45	1.30	1.33
29	A1	2022	G	N9-C8	-5.45	1.34	1.37
29	A1	881	G	N7-C5	-5.44	1.35	1.39
53	A3	750	A	N7-C5	-5.44	1.35	1.39
29	A2	1339	C	N1-C6	-5.44	1.33	1.37
53	A4	891	A	N9-C4	-5.44	1.34	1.37
29	A1	2836	C	N3-C4	-5.43	1.30	1.33
53	A3	1447	G	C6-N1	-5.43	1.35	1.39
53	A4	830	G	C6-N1	-5.43	1.35	1.39
29	A1	2342	A	C5-C6	-5.43	1.36	1.41
29	A2	2700	G	C6-N1	-5.43	1.35	1.39
29	A1	1978	G	C5-C6	-5.43	1.36	1.42
29	A2	1725	A	N7-C5	-5.43	1.35	1.39
53	A4	1502	G	N1-C2	-5.43	1.33	1.37
29	A1	737	U	C2-N3	-5.42	1.33	1.37
29	A2	1031	A	N3-C4	-5.42	1.31	1.34
29	A2	2072	G	N3-C4	-5.42	1.31	1.35
53	A4	902	G	C6-N1	-5.42	1.35	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A1	1717	A	N7-C5	-5.42	1.35	1.39
29	A2	1804	C	N3-C4	-5.42	1.30	1.33
29	A2	2528	U	C2-N3	-5.42	1.33	1.37
29	A1	1825	G	N7-C5	-5.42	1.35	1.39
29	A1	1429	G	N7-C5	-5.42	1.36	1.39
29	A2	723	G	C5-C4	-5.42	1.34	1.38
53	A4	750	A	N7-C5	-5.42	1.36	1.39
29	A2	2502	A	N9-C4	-5.42	1.34	1.37
29	A1	2461	G	C6-N1	-5.41	1.35	1.39
53	A4	21	G	C6-N1	-5.41	1.35	1.39
29	A2	2603	A	C5-C6	-5.41	1.36	1.41
29	A1	1202	G	C5-C4	-5.41	1.34	1.38
29	A1	853	A	C5-C6	-5.41	1.36	1.41
53	A4	1390	A	N9-C4	-5.40	1.34	1.37
29	A1	2251	G	C5-C6	-5.40	1.36	1.42
29	A1	733	G	N3-C4	-5.40	1.31	1.35
29	A1	824	G	C5-C4	-5.40	1.34	1.38
53	A4	751	A	C5-C6	-5.40	1.36	1.41
29	A2	1803	G	C6-N1	-5.40	1.35	1.39
53	A3	559	G	C6-N1	-5.39	1.35	1.39
29	A1	2467	A	N7-C5	-5.39	1.36	1.39
53	A3	1387	G	N9-C4	-5.39	1.33	1.38
29	A2	1244	G	C5-C4	-5.39	1.34	1.38
29	A2	2251	G	C5-C6	-5.38	1.36	1.42
29	A1	1177	A	C5-C6	-5.38	1.36	1.41
29	A1	1792	A	N9-C4	-5.38	1.34	1.37
29	A2	911	G	N7-C5	-5.38	1.36	1.39
29	A2	1317	A	N9-C8	-5.38	1.33	1.37
29	A2	2614	A	N7-C5	-5.38	1.36	1.39
29	A1	595	G	C5-C6	-5.37	1.36	1.42
53	A3	751	A	C5-C6	-5.37	1.36	1.41
53	A4	560	G	N3-C4	-5.37	1.31	1.35
29	A1	1725	A	N7-C5	-5.37	1.36	1.39
29	A2	1668	G	N9-C4	-5.37	1.33	1.38
29	A2	1820	A	C5-C6	-5.37	1.36	1.41
53	A3	1369	G	N1-C2	-5.37	1.33	1.37
53	A3	1450	A	N9-C4	5.37	1.41	1.37
29	A1	424	G	C6-N1	-5.37	1.35	1.39
29	A1	1804	C	N3-C4	-5.37	1.30	1.33
53	A4	754	G	C6-N1	-5.37	1.35	1.39
53	A3	559	G	N3-C4	-5.37	1.31	1.35
29	A1	965	A	N7-C5	-5.36	1.36	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A3	1464	G	C5-C6	-5.36	1.36	1.42
53	A4	1062	A	N7-C5	-5.36	1.36	1.39
29	A2	2836	C	N3-C4	-5.36	1.30	1.33
53	A3	1087	A	N7-C5	-5.36	1.36	1.39
29	A1	493	G	C6-N1	-5.36	1.35	1.39
29	A1	2058	U	N1-C2	-5.36	1.33	1.38
29	A2	2561	U	N1-C2	-5.36	1.33	1.38
53	A3	544	U	C2-N3	-5.36	1.33	1.37
29	A1	2072	G	C5-C4	-5.36	1.34	1.38
29	A2	1294	A	N7-C5	-5.35	1.36	1.39
53	A3	1459	G	C8-N7	-5.35	1.27	1.30
53	A4	357	G	N9-C4	-5.35	1.33	1.38
53	A3	265	A	N9-C4	-5.35	1.34	1.37
53	A3	752	G	C5-C4	-5.35	1.34	1.38
53	A3	851	G	C8-N7	-5.35	1.27	1.30
29	A1	2528	U	C2-N3	-5.35	1.34	1.37
29	A1	2609	G	C5-C4	-5.35	1.34	1.38
29	A2	2508	G	N7-C5	-5.35	1.36	1.39
53	A3	540	G	C5-C6	-5.35	1.37	1.42
29	A2	833	A	N7-C5	-5.34	1.36	1.39
29	A1	2461	G	C5-C4	-5.34	1.34	1.38
53	A3	891	A	N7-C5	-5.34	1.36	1.39
29	A1	834	G	C5-C6	-5.34	1.37	1.42
29	A2	2461	G	C6-N1	-5.34	1.35	1.39
29	A1	723	G	N9-C4	-5.34	1.33	1.38
29	A1	1668	G	N3-C4	-5.34	1.31	1.35
29	A2	782	G	N9-C4	-5.34	1.33	1.38
29	A2	2468	G	N3-C4	-5.34	1.31	1.35
29	A2	555	A	N7-C5	-5.33	1.36	1.39
29	A2	824	G	N3-C4	-5.33	1.31	1.35
29	A2	1750	A	C5-C6	-5.33	1.36	1.41
53	A3	1460	A	N7-C5	-5.33	1.36	1.39
53	A3	1061	G	C6-N1	-5.33	1.35	1.39
53	A4	803	U	C2-N3	-5.33	1.34	1.37
29	A1	2218	G	N9-C4	-5.32	1.33	1.38
53	A4	597	A	C5-C6	-5.32	1.36	1.41
29	A1	832	A	N9-C4	-5.32	1.34	1.37
29	A1	1721	C	N1-C6	-5.32	1.33	1.37
53	A3	902	G	C5-C6	-5.32	1.37	1.42
53	A4	615	A	C5-C6	-5.32	1.36	1.41
29	A1	2622	G	N3-C4	-5.32	1.31	1.35
29	A2	424	G	C6-N1	-5.32	1.35	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A4	885	A	C5-C6	-5.32	1.36	1.41
53	A3	23	C	N1-C6	-5.31	1.33	1.37
29	A2	1721	C	N1-C6	-5.31	1.33	1.37
29	A2	2565	C	N1-C6	-5.31	1.33	1.37
29	A1	1923	G	C6-N1	-5.31	1.35	1.39
29	A2	870	A	C5-C6	-5.31	1.36	1.41
29	A2	2072	G	C5-C4	-5.31	1.34	1.38
29	A1	2580	A	N3-C4	-5.31	1.31	1.34
29	A2	1962	A	N3-C4	-5.31	1.31	1.34
29	A1	2296	G	C6-N1	-5.31	1.35	1.39
53	A3	255	G	N9-C4	-5.31	1.33	1.38
53	A3	539	C	N3-C4	-5.31	1.30	1.33
29	A2	1739	A	N7-C5	-5.31	1.36	1.39
29	A2	2609	G	C5-C4	-5.30	1.34	1.38
29	A1	791	G	C6-N1	-5.30	1.35	1.39
29	A1	2097	C	N1-C6	-5.30	1.33	1.37
29	A1	2504	G	N3-C4	-5.30	1.31	1.35
29	A2	2021	G	C5-C4	-5.30	1.34	1.38
53	A4	800	C	N3-C4	-5.30	1.30	1.33
53	A3	752	G	N7-C5	-5.30	1.36	1.39
53	A3	237	C	N3-C4	-5.30	1.30	1.33
29	A2	1947	U	C4-O4	-5.29	1.19	1.23
29	A1	2468	G	N3-C4	-5.29	1.31	1.35
29	A2	1295	A	N9-C4	-5.29	1.34	1.37
29	A1	2005	A	N7-C5	-5.29	1.36	1.39
29	A1	2504	G	N9-C4	-5.29	1.33	1.38
29	A2	1803	G	N3-C4	-5.29	1.31	1.35
53	A4	1482	G	C5-C4	-5.29	1.34	1.38
29	A2	1656	A	N7-C5	-5.29	1.36	1.39
29	A1	2472	G	N7-C5	-5.29	1.36	1.39
29	A2	1261	A	N9-C4	-5.29	1.34	1.37
53	A3	799	A	N9-C4	-5.29	1.34	1.37
29	A1	2018	C	C4-C5	-5.28	1.38	1.43
53	A4	851	G	C8-N7	-5.28	1.27	1.30
29	A1	1716	G	C6-N1	-5.28	1.35	1.39
29	A2	778	G	C6-N1	-5.28	1.35	1.39
29	A2	2021	G	N9-C8	-5.28	1.34	1.37
53	A4	1087	A	N7-C5	-5.28	1.36	1.39
29	A1	2025	A	C5-C6	-5.28	1.36	1.41
53	A4	1469	A	N9-C4	-5.28	1.34	1.37
53	A4	1452	G	N7-C5	-5.27	1.36	1.39
29	A1	595	G	N9-C4	-5.27	1.33	1.38

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A1	1962	A	N3-C4	-5.27	1.31	1.34
29	A1	2021	G	N9-C4	-5.27	1.33	1.38
29	A2	1750	A	N7-C5	-5.27	1.36	1.39
53	A3	855	G	N7-C5	-5.27	1.36	1.39
29	A1	1739	A	N7-C5	-5.27	1.36	1.39
29	A1	555	A	C5-C6	-5.27	1.36	1.41
29	A2	170	G	N7-C5	-5.27	1.36	1.39
53	A3	914	A	N7-C5	-5.27	1.36	1.39
53	A3	1220	A	N9-C4	-5.27	1.34	1.37
53	A3	891	A	N9-C4	-5.27	1.34	1.37
53	A4	799	A	N9-C4	-5.26	1.34	1.37
53	A3	1485	G	C5-C4	-5.26	1.34	1.38
53	A4	1059	G	C5-C6	-5.26	1.37	1.42
29	A2	595	G	C5-C6	-5.26	1.37	1.42
29	A2	1819	A	C8-N7	-5.26	1.27	1.31
53	A3	800	C	N3-C4	-5.26	1.30	1.33
29	A1	1037	G	C6-N1	-5.26	1.35	1.39
29	A2	1825	G	N9-C8	-5.26	1.34	1.37
29	A2	2265	G	C6-N1	-5.26	1.35	1.39
29	A1	919	A	N9-C4	-5.25	1.34	1.37
29	A1	2584	G	C6-N1	-5.25	1.35	1.39
29	A2	723	G	N9-C8	-5.25	1.34	1.37
53	A4	297	G	N1-C2	-5.25	1.33	1.37
53	A4	1457	G	N9-C4	-5.25	1.33	1.38
29	A2	1622	G	N7-C5	-5.25	1.36	1.39
29	A2	2504	G	N9-C4	-5.25	1.33	1.38
29	A1	486	G	N9-C4	-5.25	1.33	1.38
53	A3	851	G	C6-N1	-5.25	1.35	1.39
53	A3	851	G	N9-C8	-5.25	1.34	1.37
29	A1	2603	A	C5-C6	-5.24	1.36	1.41
29	A1	2736	A	C5-C6	-5.24	1.36	1.41
29	A2	1037	G	C6-N1	-5.24	1.35	1.39
29	A1	2600	C	C2-N3	-5.24	1.31	1.35
53	A4	280	G	N7-C5	-5.24	1.36	1.39
53	A4	752	G	N7-C5	-5.24	1.36	1.39
53	A4	1485	G	C5-C4	-5.24	1.34	1.38
29	A2	1176	A	N9-C4	-5.24	1.34	1.37
29	A2	1661	G	N7-C5	-5.24	1.36	1.39
39	I4	4	TYR	CD2-CE2	-5.24	1.31	1.39
29	A2	595	G	N9-C4	-5.24	1.33	1.38
53	A4	1151	A	N9-C4	-5.24	1.34	1.37
53	A3	1503	G	N9-C8	-5.23	1.34	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A2	1825	G	C5-C4	-5.23	1.34	1.38
29	A1	1803	G	N3-C4	-5.23	1.31	1.35
53	A4	553	G	C5-C4	-5.23	1.34	1.38
53	A3	1046	G	C5-C4	-5.23	1.34	1.38
53	A3	851	G	N7-C5	-5.22	1.36	1.39
29	A1	1717	A	N9-C8	-5.22	1.33	1.37
29	A2	2022	G	C6-N1	-5.22	1.35	1.39
29	A2	2511	A	N7-C5	-5.21	1.36	1.39
53	A3	800	C	N1-C6	-5.21	1.34	1.37
53	A4	789	C	N1-C6	-5.21	1.34	1.37
53	A4	541	G	C5-C6	-5.21	1.37	1.42
53	A4	1491	C	N3-C4	-5.21	1.30	1.33
53	A4	752	G	C5-C4	-5.21	1.34	1.38
53	A3	859	C	N1-C6	-5.21	1.34	1.37
53	A3	1474	G	N3-C4	-5.21	1.31	1.35
53	A4	1383	G	N9-C4	-5.21	1.33	1.38
29	A2	1717	A	N7-C5	-5.21	1.36	1.39
29	A2	2095	A	N9-C4	-5.21	1.34	1.37
53	A4	751	A	N7-C5	-5.21	1.36	1.39
29	A2	2341	A	N9-C4	-5.21	1.34	1.37
29	A1	501	G	N3-C4	-5.20	1.31	1.35
29	A2	853	A	N7-C5	-5.20	1.36	1.39
29	A2	2756	A	C5-C4	-5.20	1.35	1.38
53	A3	281	G	C6-N1	-5.20	1.35	1.39
53	A4	901	C	C2-N3	-5.20	1.31	1.35
29	A1	1664	A	N7-C5	-5.20	1.36	1.39
53	A4	1369	G	N1-C2	-5.20	1.33	1.37
29	A2	886	C	N1-C6	-5.19	1.34	1.37
29	A2	2617	G	N3-C4	-5.19	1.31	1.35
29	A2	978	G	N9-C4	-5.19	1.33	1.38
29	A2	2055	A	N7-C5	-5.19	1.36	1.39
29	A1	2256	G	C6-N1	-5.19	1.35	1.39
29	A2	2563	G	C5-C4	-5.19	1.34	1.38
29	A1	1317	A	N9-C8	-5.19	1.33	1.37
29	A2	1923	G	N9-C4	-5.18	1.33	1.38
29	A1	1754	G	N7-C5	-5.18	1.36	1.39
53	A3	297	G	N1-C2	-5.18	1.33	1.37
29	A1	2042	G	N3-C4	-5.17	1.31	1.35
53	A3	616	G	N3-C4	-5.17	1.31	1.35
29	A1	2617	G	N3-C4	-5.17	1.31	1.35
29	A1	1274	A	N7-C5	-5.17	1.36	1.39
29	A2	2029	A	C5-C6	-5.17	1.36	1.41

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A3	1491	C	N3-C4	-5.17	1.30	1.33
29	A1	2733	G	N1-C2	-5.17	1.33	1.37
29	A2	2027	G	C6-N1	-5.17	1.35	1.39
53	A3	786	G	C6-N1	-5.17	1.35	1.39
53	A4	297	G	N3-C4	-5.17	1.31	1.35
53	A3	895	A	C5-C4	-5.17	1.35	1.38
29	A2	1180	A	C5-C6	-5.17	1.36	1.41
29	A2	1668	G	N7-C5	-5.16	1.36	1.39
30	B2	104	A	N9-C4	-5.16	1.34	1.37
29	A1	2502	A	C5-C4	-5.16	1.35	1.38
53	A3	754	G	C6-N1	-5.16	1.35	1.39
53	A3	540	G	C5-C4	-5.16	1.34	1.38
29	A1	2252	G	N7-C5	-5.16	1.36	1.39
29	A2	2022	G	N9-C8	-5.16	1.34	1.37
29	A2	2252	G	N7-C5	-5.16	1.36	1.39
53	A4	539	C	N3-C4	-5.16	1.30	1.33
29	A2	2602	G	C5-C6	-5.15	1.37	1.42
29	A2	356	A	N9-C4	-5.15	1.34	1.37
29	A2	1717	A	N9-C8	-5.15	1.33	1.37
53	A3	991	G	N9-C4	-5.15	1.33	1.38
29	A2	1825	G	C8-N7	-5.15	1.27	1.30
53	A4	798	A	N9-C8	-5.15	1.33	1.37
53	A4	1498	G	N3-C4	-5.15	1.31	1.35
29	A1	63	A	N7-C5	-5.15	1.36	1.39
29	A1	1628	A	N9-C4	-5.15	1.34	1.37
29	A1	1825	G	C5-C6	-5.15	1.37	1.42
53	A3	885	A	C5-C6	-5.15	1.36	1.41
29	A1	2376	G	N9-C4	-5.14	1.33	1.38
29	A2	2559	G	N1-C2	-5.14	1.33	1.37
53	A4	741	G	N7-C5	-5.14	1.36	1.39
29	A2	988	A	N9-C4	-5.14	1.34	1.37
29	A1	2523	G	C5-C6	-5.14	1.37	1.42
29	A2	2096	G	N9-C8	-5.14	1.34	1.37
53	A4	336	C	N3-C4	-5.14	1.30	1.33
53	A4	710	G	N1-C2	-5.14	1.33	1.37
29	A1	2059	G	C6-N1	-5.14	1.35	1.39
29	A1	733	G	N7-C5	-5.13	1.36	1.39
29	A2	2736	A	C5-C6	-5.13	1.36	1.41
53	A3	735	G	N3-C4	-5.13	1.31	1.35
53	A3	1383	G	C5-C4	-5.13	1.34	1.38
53	A4	1054	G	N1-C2	-5.13	1.33	1.37
29	A1	195	G	C5-C4	-5.13	1.34	1.38

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A2	827	G	N7-C5	-5.12	1.36	1.39
53	A3	1397	G	N3-C4	-5.12	1.31	1.35
53	A3	1484	A	N7-C5	-5.12	1.36	1.39
53	A4	553	G	N9-C4	-5.12	1.33	1.38
53	A4	786	G	C6-N1	-5.12	1.35	1.39
29	A1	233	U	N1-C6	-5.12	1.33	1.38
29	A2	2469	G	N1-C2	-5.12	1.33	1.37
53	A4	294	G	N7-C5	-5.12	1.36	1.39
53	A4	560	G	N1-C2	-5.12	1.33	1.37
29	A2	1754	G	N7-C5	-5.12	1.36	1.39
53	A4	285	C	C4-C5	-5.12	1.38	1.43
29	A1	1317	A	N7-C5	-5.12	1.36	1.39
29	A1	2638	G	C6-N1	-5.12	1.35	1.39
29	A2	1951	A	C5-C6	-5.12	1.36	1.41
29	A2	2054	A	N3-C4	-5.12	1.31	1.34
29	A2	2584	G	C6-N1	-5.12	1.35	1.39
53	A3	858	G	C5-C4	-5.12	1.34	1.38
29	A2	820	G	C5-C4	-5.11	1.34	1.38
29	A2	843	G	N3-C4	-5.11	1.31	1.35
53	A3	146	A	N7-C5	-5.11	1.36	1.39
53	A3	902	G	C6-N1	-5.11	1.35	1.39
53	A4	915	A	N9-C4	-5.11	1.34	1.37
29	A1	1664	A	N9-C4	-5.11	1.34	1.37
53	A4	308	A	N9-C4	-5.11	1.34	1.37
29	A2	1988	G	N9-C4	-5.11	1.33	1.38
53	A3	1398	G	N7-C5	-5.11	1.36	1.39
53	A4	830	G	N7-C5	-5.11	1.36	1.39
29	A2	326	G	N7-C5	-5.10	1.36	1.39
29	A2	1714	A	N7-C5	-5.10	1.36	1.39
53	A3	1054	G	N1-C2	-5.10	1.33	1.37
29	A1	2586	A	C5-C4	-5.10	1.35	1.38
29	A2	1259	G	N9-C4	-5.10	1.33	1.38
29	A2	2600	C	N3-C4	-5.10	1.30	1.33
29	A1	1749	A	N7-C5	-5.10	1.36	1.39
29	A2	2079	C	N3-C4	-5.10	1.30	1.33
29	A2	600	A	C5-C4	-5.10	1.35	1.38
29	A2	1749	A	N7-C5	-5.09	1.36	1.39
53	A4	254	G	N9-C4	-5.09	1.33	1.38
53	A3	896	A	C5-C4	-5.09	1.35	1.38
29	A2	986	G	N7-C5	-5.09	1.36	1.39
29	A2	1119	G	N9-C4	5.09	1.42	1.38
29	A2	2523	G	C5-C6	-5.09	1.37	1.42

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A3	120	G	N3-C4	-5.08	1.31	1.35
53	A3	384	A	N9-C4	-5.08	1.34	1.37
29	A1	2078	A	N3-C4	-5.08	1.31	1.34
29	A1	2591	A	C5-C6	-5.08	1.36	1.41
53	A3	1328	G	N9-C4	-5.08	1.33	1.38
29	A2	2363	G	N9-C8	-5.08	1.34	1.37
29	A2	2472	G	N7-C5	-5.08	1.36	1.39
29	A2	2502	A	C5-C4	-5.08	1.35	1.38
53	A3	879	G	N9-C4	-5.08	1.33	1.38
29	A1	2029	A	C5-C6	-5.08	1.36	1.41
29	A2	195	G	C5-C4	-5.08	1.34	1.38
53	A4	254	G	N7-C5	-5.08	1.36	1.39
53	A4	305	G	N7-C5	-5.08	1.36	1.39
29	A1	886	C	N1-C6	-5.08	1.34	1.37
53	A3	297	G	N3-C4	-5.08	1.31	1.35
53	A4	548	U	C2-N3	-5.08	1.34	1.37
53	A4	1218	C	N3-C4	-5.08	1.30	1.33
29	A2	2018	C	C4-C5	-5.07	1.38	1.43
29	A1	2847	A	N9-C4	-5.07	1.34	1.37
53	A4	705	A	N7-C5	-5.07	1.36	1.39
29	A2	2738	C	N1-C6	-5.07	1.34	1.37
53	A3	830	G	C6-N1	-5.07	1.36	1.39
53	A4	816	U	C2-N3	-5.07	1.34	1.37
36	F3	54	LYS	C-N	-5.07	1.22	1.34
53	A3	308	A	N9-C4	-5.07	1.34	1.37
53	A4	638	A	N9-C4	-5.07	1.34	1.37
29	A1	1873	G	N7-C5	-5.07	1.36	1.39
29	A2	2390	A	N7-C5	-5.07	1.36	1.39
53	A4	895	A	C5-C4	-5.07	1.35	1.38
29	A1	2590	G	N3-C4	-5.07	1.31	1.35
29	A2	2591	A	C5-C6	-5.07	1.36	1.41
29	A1	678	G	N9-C4	-5.06	1.33	1.38
29	A2	1797	G	C6-N1	-5.06	1.36	1.39
29	A1	1604	G	N7-C5	-5.06	1.36	1.39
53	A3	798	A	N9-C8	-5.06	1.33	1.37
29	A1	2469	G	C6-N1	-5.06	1.36	1.39
29	A2	723	G	C6-N1	-5.06	1.36	1.39
53	A3	356	G	N7-C5	-5.06	1.36	1.39
29	A2	2628	A	N7-C5	-5.06	1.36	1.39
53	A3	293	A	N3-C4	-5.06	1.31	1.34
53	A3	669	U	C2-N3	-5.06	1.34	1.37
29	A1	2559	G	N3-C4	-5.05	1.31	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A3	1474	G	N9-C4	-5.05	1.33	1.38
29	A1	237	G	C8-N7	-5.05	1.27	1.30
29	A1	2296	G	N1-C2	-5.05	1.33	1.37
29	A2	1699	G	C5-C4	-5.05	1.34	1.38
53	A3	1378	A	N7-C5	-5.05	1.36	1.39
53	A4	914	A	N7-C5	-5.05	1.36	1.39
29	A1	730	G	C5-C6	-5.05	1.37	1.42
53	A3	1492	C	N1-C6	-5.05	1.34	1.37
29	A1	2511	A	N7-C5	-5.05	1.36	1.39
29	A1	2738	C	N1-C6	-5.04	1.34	1.37
29	A1	2834	G	C6-N1	-5.04	1.36	1.39
29	A2	778	G	N7-C5	-5.04	1.36	1.39
53	A3	705	A	N7-C5	-5.04	1.36	1.39
29	A1	2559	G	N1-C2	-5.04	1.33	1.37
30	B1	99	G	N9-C4	-5.04	1.33	1.38
53	A4	9	G	C5-C4	-5.04	1.34	1.38
53	A4	659	A	N9-C4	-5.04	1.34	1.37
29	A2	424	G	N1-C2	-5.04	1.33	1.37
53	A3	294	G	N7-C5	-5.04	1.36	1.39
53	A4	758	G	N9-C4	-5.04	1.33	1.38
29	A1	1952	A	N9-C4	-5.03	1.34	1.37
29	A2	726	A	N7-C5	-5.03	1.36	1.39
29	A2	1614	C	N1-C6	-5.03	1.34	1.37
53	A3	580	G	C5-C4	-5.03	1.34	1.38
53	A4	797	A	N7-C5	-5.03	1.36	1.39
29	A1	1861	G	N7-C5	-5.03	1.36	1.39
29	A1	2027	G	C6-N1	-5.03	1.36	1.39
29	A1	2628	A	N7-C5	-5.03	1.36	1.39
53	A4	855	G	N7-C5	-5.03	1.36	1.39
29	A1	827	G	C5-C6	-5.03	1.37	1.42
29	A2	428	G	N7-C5	-5.03	1.36	1.39
29	A2	723	G	C8-N7	-5.02	1.27	1.30
29	A2	2097	C	N1-C6	-5.02	1.34	1.37
53	A3	22	G	N3-C4	-5.02	1.31	1.35
53	A4	1503	G	N9-C8	-5.02	1.34	1.37
29	A2	1711	C	N3-C4	-5.02	1.30	1.33
29	A2	2607	U	C2-N3	-5.02	1.34	1.37
53	A3	1468	G	N7-C5	-5.02	1.36	1.39
29	A1	2604	A	N3-C4	-5.02	1.31	1.34
29	A2	2529	C	N1-C6	-5.02	1.34	1.37
53	A3	561	C	N3-C4	-5.02	1.30	1.33
29	A2	185	A	N9-C4	-5.02	1.34	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	A3	901	C	C2-N3	-5.02	1.31	1.35
29	A1	813	A	N3-C4	-5.02	1.31	1.34
53	A4	580	G	C5-C6	-5.01	1.37	1.42
53	A3	1481	G	N1-C2	-5.01	1.33	1.37
29	A1	1802	G	C5-C6	-5.01	1.37	1.42
29	A1	2021	G	C5-C4	-5.01	1.34	1.38
29	A1	2457	C	N1-C6	-5.01	1.34	1.37
29	A1	2833	A	N7-C5	-5.01	1.36	1.39
53	A3	580	G	C5-C6	-5.01	1.37	1.42
53	A4	540	G	C5-C6	-5.01	1.37	1.42
29	A1	1656	A	N7-C5	-5.01	1.36	1.39
29	A2	241	A	C5-C4	-5.01	1.35	1.38
29	A2	1664	A	N9-C4	-5.01	1.34	1.37
29	A2	2022	G	N1-C2	-5.00	1.33	1.37
29	A1	2529	C	N1-C6	-5.00	1.34	1.37
29	A2	1861	G	N7-C5	-5.00	1.36	1.39
53	A3	550	G	N7-C5	-5.00	1.36	1.39
53	A3	758	G	N9-C4	-5.00	1.33	1.38
53	A3	803	U	C2-N3	-5.00	1.34	1.37

All (7091) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	728	C	C2-N1-C1'	15.68	136.04	118.80
29	A2	590	C	C6-N1-C2	-15.62	114.05	120.30
53	A3	148	C	N1-C2-O2	14.95	127.87	118.90
29	A2	2681	C	C5-C6-N1	14.62	128.31	121.00
29	A2	1932	C	C2-N1-C1'	14.50	134.75	118.80
32	B3	232	PRO	C-N-CA	14.43	157.78	121.70
29	A1	590	C	C6-N1-C2	-14.33	114.57	120.30
29	A1	2224	C	N1-C2-O2	13.77	127.16	118.90
29	A2	1932	C	N1-C2-O2	13.40	126.94	118.90
53	A4	1377	C	N1-C2-O2	13.30	126.88	118.90
29	A1	2513	C	C6-N1-C2	-13.20	115.02	120.30
53	A3	1377	C	N1-C2-O2	13.18	126.81	118.90
53	A3	539	C	C6-N1-C2	-13.14	115.04	120.30
53	A3	539	C	N3-C2-O2	-13.00	112.80	121.90
53	A3	148	C	C2-N1-C1'	12.99	133.09	118.80
29	A1	2702	U	N1-C2-O2	12.87	131.81	122.80
53	A4	1228	U	N1-C2-O2	12.77	131.74	122.80
53	A3	1228	U	N1-C2-O2	12.77	131.74	122.80
53	A4	772	U	N3-C2-O2	-12.77	113.26	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2702	U	N1-C2-O2	12.64	131.65	122.80
53	A3	1244	C	N1-C2-O2	12.60	126.46	118.90
29	A1	728	C	C6-N1-C1'	-12.56	105.73	120.80
53	A4	539	C	N3-C2-O2	-12.44	113.19	121.90
29	A2	692	C	N1-C2-O2	12.39	126.33	118.90
29	A1	2702	U	C2-N1-C1'	12.36	132.53	117.70
53	A3	148	C	N3-C2-O2	-12.32	113.27	121.90
29	A2	2702	U	C2-N1-C1'	12.29	132.45	117.70
29	A2	728	C	C2-N1-C1'	12.29	132.32	118.80
29	A2	1226	C	N1-C2-O2	12.28	126.27	118.90
53	A4	199	C	N1-C2-O2	12.26	126.26	118.90
53	A3	263	C	N1-C2-O2	12.16	126.20	118.90
29	A2	1958	C	N3-C2-O2	-12.08	113.44	121.90
53	A4	539	C	C6-N1-C2	-12.08	115.47	120.30
53	A4	360	U	C2-N1-C1'	12.08	132.19	117.70
53	A4	539	C	N1-C2-O2	12.07	126.14	118.90
29	A1	1702	G	N3-C4-N9	12.07	133.24	126.00
29	A1	1867	U	C2-N1-C1'	12.06	132.18	117.70
53	A4	1360	C	C6-N1-C2	-12.06	115.48	120.30
29	A2	1303	U	N3-C2-O2	-12.05	113.77	122.20
29	A1	2224	C	C2-N1-C1'	11.98	131.98	118.80
29	A2	639	U	C2-N1-C1'	11.97	132.06	117.70
29	A2	1867	U	C2-N1-C1'	11.95	132.04	117.70
53	A4	217	U	C2-N1-C1'	11.91	132.00	117.70
29	A2	692	C	C2-N1-C1'	11.88	131.87	118.80
29	A1	1863	C	C6-N1-C2	-11.82	115.57	120.30
53	A3	1198	C	N1-C2-O2	11.76	125.96	118.90
29	A1	2717	C	C6-N1-C2	-11.75	115.60	120.30
53	A4	263	C	N1-C2-O2	11.74	125.94	118.90
29	A2	1863	C	C6-N1-C2	-11.72	115.61	120.30
29	A2	1354	C	C6-N1-C2	-11.69	115.62	120.30
29	A1	1354	C	N3-C2-O2	-11.66	113.74	121.90
53	A4	772	U	N1-C2-O2	11.64	130.95	122.80
29	A1	1303	U	N3-C2-O2	-11.63	114.06	122.20
53	A4	932	U	N3-C2-O2	-11.61	114.07	122.20
29	A2	1274	A	C8-N9-C4	-11.58	101.17	105.80
29	A2	1354	C	N3-C2-O2	-11.53	113.83	121.90
29	A1	531	U	C2-N1-C1'	11.47	131.47	117.70
29	A2	639	U	N1-C2-O2	11.46	130.82	122.80
29	A2	2119	C	C6-N1-C2	-11.46	115.72	120.30
29	A1	722	C	C2-N1-C1'	11.44	131.38	118.80
29	A2	2582	C	N1-C2-O2	11.41	125.75	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1218	C	N1-C2-O2	11.39	125.74	118.90
53	A3	1198	C	C2-N1-C1'	11.39	131.33	118.80
29	A1	1354	C	N1-C2-O2	11.35	125.71	118.90
29	A2	1932	C	C6-N1-C1'	-11.34	107.19	120.80
53	A3	718	C	N1-C2-O2	11.33	125.70	118.90
29	A1	90	A	C8-N9-C4	-11.26	101.29	105.80
29	A1	1929	C	C2-N1-C1'	11.26	131.19	118.80
29	A1	1300	G	C8-N9-C4	11.25	110.90	106.40
29	A1	2076	G	C6-C5-N7	-11.23	123.66	130.40
29	A2	2681	C	C6-N1-C2	-11.20	115.82	120.30
53	A4	672	C	C2-N1-C1'	11.19	131.11	118.80
53	A4	360	U	N1-C2-O2	11.16	130.61	122.80
29	A2	946	C	C6-N1-C2	-11.15	115.84	120.30
29	A1	1274	A	C8-N9-C4	-11.14	101.34	105.80
53	A4	1198	C	C6-N1-C2	-11.13	115.85	120.30
29	A2	2582	C	N3-C2-O2	-11.13	114.11	121.90
30	B1	33	C	C5-C6-N1	11.10	126.55	121.00
53	A4	634	C	C5-C6-N1	11.09	126.55	121.00
29	A2	2767	C	C6-N1-C2	-11.06	115.87	120.30
30	B2	33	C	C5-C6-N1	11.06	126.53	121.00
53	A4	217	U	N1-C2-O2	11.01	130.50	122.80
53	A4	443	C	N1-C2-O2	10.99	125.49	118.90
29	A1	798	C	C5-C6-N1	10.98	126.49	121.00
29	A1	2505	U	C2-N1-C1'	10.98	130.87	117.70
29	A1	722	C	N1-C2-O2	10.97	125.48	118.90
29	A2	2076	G	C6-C5-N7	-10.95	123.83	130.40
53	A4	805	C	N1-C2-O2	10.95	125.47	118.90
29	A2	2505	U	C2-N1-C1'	10.94	130.83	117.70
53	A3	526	C	N1-C2-O2	10.93	125.46	118.90
53	A3	1047	U	N1-C2-O2	10.93	130.45	122.80
29	A2	590	C	C5-C6-N1	10.91	126.46	121.00
29	A2	798	C	C2-N1-C1'	10.90	130.79	118.80
53	A3	1198	C	N3-C2-O2	-10.87	114.29	121.90
29	A1	2786	C	N1-C2-O2	10.87	125.42	118.90
29	A1	798	C	C2-N1-C1'	10.86	130.75	118.80
29	A2	1819	A	N9-C4-C5	-10.85	101.46	105.80
29	A1	1435	C	C6-N1-C2	-10.83	115.97	120.30
29	A1	2702	U	C6-N1-C1'	-10.82	106.05	121.20
29	A2	2063	C	C6-N1-C2	-10.81	115.98	120.30
53	A4	1228	U	C2-N1-C1'	10.79	130.65	117.70
29	A2	798	C	C5-C6-N1	10.78	126.39	121.00
29	A2	690	C	N1-C2-O2	10.78	125.37	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	39	C	N1-C2-O2	10.76	125.36	118.90
29	A2	2702	U	C6-N1-C1'	-10.76	106.13	121.20
29	A2	1867	U	N1-C2-O2	10.74	130.32	122.80
29	A1	2063	C	C6-N1-C2	-10.72	116.01	120.30
53	A3	443	C	N1-C2-O2	10.70	125.32	118.90
29	A1	802	C	N1-C2-O2	10.69	125.31	118.90
53	A3	270	G	N3-C4-N9	10.69	132.41	126.00
29	A2	1354	C	N1-C2-O2	10.68	125.31	118.90
29	A2	2497	C	C6-N1-C2	-10.67	116.03	120.30
53	A3	1474	G	N3-C4-N9	-10.67	119.60	126.00
29	A1	1054	C	N1-C2-O2	10.63	125.28	118.90
53	A4	1228	U	N3-C2-O2	-10.57	114.80	122.20
29	A1	2054	A	O4'-C1'-N9	10.57	116.66	108.20
53	A3	199	C	N1-C2-O2	10.57	125.24	118.90
29	A1	1354	C	C6-N1-C2	-10.55	116.08	120.30
29	A2	690	C	C2-N1-C1'	10.53	130.38	118.80
29	A1	2119	C	C6-N1-C2	-10.52	116.09	120.30
53	A4	217	U	N3-C2-O2	-10.50	114.85	122.20
29	A1	1867	U	N1-C2-O2	10.49	130.14	122.80
29	A1	1361	U	N1-C2-O2	10.48	130.13	122.80
29	A2	2829	G	N3-C4-C5	-10.47	123.37	128.60
29	A1	2076	G	C4-C5-N7	10.46	114.98	110.80
53	A3	780	C	N1-C2-O2	10.46	125.18	118.90
29	A2	1303	U	N1-C2-O2	10.44	130.10	122.80
29	A1	728	C	N1-C2-O2	10.42	125.15	118.90
29	A1	1019	G	N7-C8-N9	10.40	118.30	113.10
29	A2	2626	C	C6-N1-C2	10.38	124.45	120.30
53	A4	1000	G	N3-C4-C5	-10.38	123.41	128.60
53	A3	874	C	N1-C2-O2	10.37	125.12	118.90
53	A3	1228	U	C2-N1-C1'	10.37	130.14	117.70
53	A4	261	G	C4-C5-N7	10.37	114.95	110.80
29	A2	1435	C	C6-N1-C2	-10.35	116.16	120.30
29	A1	2254	C	C6-N1-C2	-10.34	116.16	120.30
29	A1	2226	C	C6-N1-C2	-10.34	116.17	120.30
29	A2	62	U	C6-N1-C2	-10.32	114.81	121.00
53	A3	539	C	C2-N1-C1'	10.31	130.15	118.80
29	A1	1523	C	C5-C6-N1	10.31	126.15	121.00
53	A3	737	C	C2-N1-C1'	10.29	130.12	118.80
53	A3	872	G	C4-C5-N7	10.29	114.92	110.80
53	A4	909	C	C5-C6-N1	10.27	126.14	121.00
29	A1	173	C	N1-C2-O2	10.27	125.06	118.90
53	A3	1451	G	C8-N9-C4	-10.27	102.29	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1463	U	C5-C6-N1	10.25	127.83	122.70
53	A3	1198	C	C6-N1-C2	-10.24	116.20	120.30
29	A1	1131	U	C2-N1-C1'	10.24	129.99	117.70
29	A1	1361	U	N3-C2-O2	-10.22	115.05	122.20
29	A2	1243	C	N3-C2-O2	-10.22	114.75	121.90
29	A2	1361	U	C2-N1-C1'	10.21	129.96	117.70
29	A2	639	U	N3-C2-O2	-10.21	115.05	122.20
53	A4	1063	G	N3-C2-N2	-10.20	112.76	119.90
29	A1	2582	C	N3-C2-O2	-10.20	114.76	121.90
29	A2	728	C	N3-C2-O2	-10.19	114.77	121.90
29	A2	2369	C	C2-N1-C1'	10.19	130.01	118.80
53	A3	479	A	N7-C8-N9	10.19	118.89	113.80
29	A1	1303	U	N1-C2-O2	10.16	129.91	122.80
53	A3	1381	C	N3-C4-C5	10.16	125.96	121.90
53	A3	1218	C	N3-C2-O2	-10.15	114.80	121.90
30	B2	33	C	C6-N1-C2	-10.13	116.25	120.30
53	A3	1228	U	N3-C2-O2	-10.12	115.11	122.20
29	A2	173	C	N1-C2-O2	10.12	124.97	118.90
29	A1	1274	A	N7-C8-N9	10.11	118.86	113.80
53	A3	1244	C	C6-N1-C2	-10.11	116.25	120.30
53	A4	186	C	N1-C2-O2	10.11	124.97	118.90
53	A4	1142	G	N7-C8-N9	10.11	118.16	113.10
29	A1	879	G	C8-N9-C4	10.09	110.43	106.40
29	A1	2786	C	N3-C2-O2	-10.07	114.85	121.90
53	A3	1122	C	N1-C2-O2	10.07	124.94	118.90
29	A1	1929	C	C6-N1-C2	-10.06	116.28	120.30
53	A3	215	G	C4-N9-C1'	10.05	139.56	126.50
29	A1	2468	G	C8-N9-C4	-10.01	102.39	106.40
29	A2	1361	U	N3-C2-O2	-10.01	115.19	122.20
29	A2	2076	G	C4-C5-N7	10.01	114.80	110.80
29	A1	2369	C	N1-C2-O2	10.00	124.90	118.90
29	A2	1837	C	C6-N1-C2	9.98	124.29	120.30
29	A1	2468	G	C6-C5-N7	-9.98	124.41	130.40
53	A3	1408	C	N1-C2-O2	9.97	124.88	118.90
29	A1	1702	G	C8-N9-C1'	-9.96	114.06	127.00
29	A1	2513	C	N3-C2-O2	-9.95	114.94	121.90
29	A1	2224	C	C6-N1-C1'	-9.94	108.88	120.80
29	A2	798	C	N1-C2-O2	9.94	124.86	118.90
29	A2	1837	C	N3-C4-C5	9.94	125.87	121.90
29	A1	798	C	N1-C2-O2	9.91	124.85	118.90
53	A3	1047	U	N3-C2-O2	-9.91	115.26	122.20
29	A2	1361	U	N1-C2-O2	9.90	129.73	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	276	G	N7-C8-N9	9.89	118.05	113.10
53	A4	526	C	N1-C2-O2	9.89	124.84	118.90
29	A2	123	G	C8-N9-C4	9.87	110.35	106.40
53	A4	1377	C	C2-N1-C1'	9.86	129.64	118.80
30	B2	38	C	N1-C2-O2	9.86	124.81	118.90
53	A3	1377	C	C2-N1-C1'	9.85	129.64	118.80
53	A4	1408	C	N1-C2-O2	9.84	124.80	118.90
29	A1	2767	C	C6-N1-C2	-9.83	116.37	120.30
30	B2	39	C	C6-N1-C2	-9.83	116.37	120.30
53	A3	419	G	N7-C8-N9	9.83	118.01	113.10
53	A4	872	G	C4-C5-N7	9.83	114.73	110.80
29	A2	728	C	C6-N1-C2	-9.82	116.37	120.30
29	A1	2786	C	C2-N1-C1'	9.80	129.58	118.80
29	A1	1867	U	C5-C6-N1	9.80	127.60	122.70
29	A2	1819	A	C4-C5-N7	9.80	115.60	110.70
53	A3	1276	G	N3-C4-N9	9.78	131.87	126.00
53	A3	1248	C	N1-C2-O2	9.77	124.76	118.90
29	A1	1361	U	C2-N1-C1'	9.77	129.42	117.70
53	A4	872	G	C6-C5-N7	-9.77	124.54	130.40
29	A1	1019	G	C8-N9-C4	-9.77	102.49	106.40
53	A3	1360	C	C6-N1-C2	-9.76	116.39	120.30
29	A2	2717	C	N1-C2-O2	9.76	124.76	118.90
53	A3	1244	C	N3-C2-O2	-9.76	115.07	121.90
29	A1	227	C	C2-N1-C1'	9.75	129.53	118.80
29	A1	182	C	C6-N1-C2	-9.74	116.40	120.30
30	B2	90	C	N1-C2-O2	9.74	124.74	118.90
53	A3	413	C	C6-N1-C2	-9.73	116.41	120.30
29	A1	1702	G	C6-C5-N7	-9.72	124.57	130.40
29	A1	2598	U	C2-N1-C1'	9.72	129.36	117.70
53	A3	572	C	C5-C6-N1	9.72	125.86	121.00
29	A1	2780	A	C2-N3-C4	9.71	115.45	110.60
29	A1	946	C	C6-N1-C2	-9.71	116.42	120.30
29	A2	1958	C	C6-N1-C2	-9.70	116.42	120.30
29	A1	2203	C	N3-C4-C5	9.70	125.78	121.90
29	A1	353	U	C2-N1-C1'	9.69	129.33	117.70
30	B1	39	C	C6-N1-C2	-9.67	116.43	120.30
53	A3	572	C	C6-N1-C2	-9.67	116.43	120.30
53	A4	1282	U	N1-C2-O2	9.67	129.57	122.80
30	B1	84	G	C8-N9-C4	-9.66	102.54	106.40
29	A1	2519	G	N3-C4-N9	9.64	131.78	126.00
29	A1	2468	G	N7-C8-N9	9.64	117.92	113.10
29	A1	1024	C	N1-C2-O2	9.64	124.68	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	199	C	N3-C2-O2	-9.63	115.16	121.90
34	D4	187	ARG	C-N-CA	9.62	145.76	121.70
53	A4	1142	G	C8-N9-C4	-9.62	102.55	106.40
29	A2	723	G	C8-N9-C4	9.62	110.25	106.40
53	A4	1282	U	N3-C2-O2	-9.61	115.47	122.20
30	B1	90	C	N1-C2-O2	9.60	124.66	118.90
29	A1	1024	C	N3-C2-O2	-9.60	115.18	121.90
29	A2	39	C	C5-C6-N1	9.59	125.80	121.00
29	A2	2598	U	C2-N1-C1'	9.59	129.20	117.70
29	A2	802	C	N1-C2-O2	9.58	124.65	118.90
29	A2	444	C	C5-C6-N1	9.57	125.78	121.00
29	A2	1338	C	N1-C2-O2	9.55	124.63	118.90
29	A2	1127	C	N1-C2-O2	9.54	124.62	118.90
53	A3	996	C	C6-N1-C2	-9.53	116.49	120.30
53	A4	1377	C	N3-C2-O2	-9.52	115.23	121.90
29	A1	2526	C	N1-C2-O2	9.52	124.61	118.90
53	A3	539	C	N1-C2-O2	9.52	124.61	118.90
53	A4	1491	C	N3-C2-O2	-9.52	115.24	121.90
53	A3	323	C	C6-N1-C2	-9.52	116.49	120.30
53	A3	805	C	N1-C2-O2	9.51	124.61	118.90
29	A1	669	G	N3-C4-C5	9.51	133.35	128.60
53	A4	772	U	C2-N1-C1'	9.51	129.11	117.70
53	A4	874	C	N1-C2-O2	9.50	124.60	118.90
53	A4	917	C	C6-N1-C2	-9.50	116.50	120.30
29	A1	1465	C	C6-N1-C2	-9.49	116.50	120.30
29	A1	2582	C	N1-C2-O2	9.49	124.59	118.90
29	A1	2717	C	C2-N1-C1'	9.49	129.24	118.80
29	A2	2254	C	C6-N1-C2	-9.48	116.51	120.30
53	A4	1351	C	N1-C2-O2	9.48	124.59	118.90
53	A4	909	C	C6-N1-C2	-9.47	116.51	120.30
29	A1	1352	C	C5-C6-N1	9.47	125.73	121.00
29	A2	2254	C	N1-C2-O2	9.46	124.58	118.90
53	A4	672	C	N1-C2-O2	9.44	124.56	118.90
29	A2	1274	A	N7-C8-N9	9.43	118.51	113.80
53	A3	1361	G	N9-C4-C5	-9.42	101.63	105.40
29	A2	692	C	N3-C2-O2	-9.42	115.31	121.90
53	A3	909	C	C5-C6-N1	9.41	125.70	121.00
53	A4	1361	G	N9-C4-C5	-9.41	101.64	105.40
29	A2	2309	C	C5-C6-N1	9.40	125.70	121.00
29	A1	2829	G	N3-C4-C5	-9.40	123.90	128.60
29	A1	683	C	C6-N1-C2	-9.39	116.55	120.30
29	A1	520	G	N7-C8-N9	9.38	117.79	113.10

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	322	C	C6-N1-C2	-9.37	116.55	120.30
29	A1	1019	G	C6-C5-N7	-9.37	124.78	130.40
29	A2	1836	A	N1-C6-N6	-9.36	112.98	118.60
53	A4	1087	A	C5-N7-C8	-9.34	99.23	103.90
53	A3	1282	U	N3-C2-O2	-9.33	115.67	122.20
29	A1	1438	U	C5-C6-N1	9.32	127.36	122.70
29	A2	1300	G	C8-N9-C4	9.31	110.12	106.40
53	A3	1377	C	N3-C2-O2	-9.31	115.38	121.90
53	A4	1087	A	N7-C8-N9	9.31	118.45	113.80
29	A2	2786	C	C2-N1-C1'	9.31	129.04	118.80
29	A1	786	C	C6-N1-C2	-9.30	116.58	120.30
29	A2	1119	G	N3-C4-C5	-9.30	123.95	128.60
29	A1	2717	C	C5-C6-N1	9.30	125.65	121.00
53	A4	842	A	O5'-P-OP1	-9.29	97.34	105.70
29	A2	1867	U	C5-C6-N1	9.29	127.35	122.70
53	A3	901	C	N3-C2-O2	-9.29	115.40	121.90
16	R1	63	ASP	CB-CG-OD1	9.29	126.66	118.30
29	A2	608	G	C8-N9-C4	-9.28	102.69	106.40
53	A3	964	G	C8-N9-C4	-9.28	102.69	106.40
53	A4	1026	A	C2-N3-C4	9.28	115.24	110.60
29	A2	1338	C	N3-C2-O2	-9.28	115.41	121.90
53	A4	959	U	C2-N1-C1'	9.28	128.83	117.70
53	A4	1451	G	C8-N9-C4	-9.27	102.69	106.40
53	A3	307	C	N1-C2-O2	9.27	124.46	118.90
53	A3	703	C	C6-N1-C2	-9.27	116.59	120.30
53	A4	539	C	C2-N1-C1'	9.26	128.99	118.80
53	A3	609	U	N1-C2-O2	9.26	129.28	122.80
53	A4	851	G	C4-N9-C1'	9.26	138.54	126.50
29	A1	2700	G	C6-C5-N7	-9.26	124.85	130.40
29	A2	786	C	C6-N1-C2	-9.25	116.60	120.30
53	A3	872	G	C6-C5-N7	-9.25	124.85	130.40
53	A4	170	C	C5-C6-N1	9.25	125.62	121.00
29	A1	572	C	N1-C2-O2	9.23	124.44	118.90
53	A4	1184	C	C6-N1-C2	-9.22	116.61	120.30
29	A1	2702	U	N3-C2-O2	-9.22	115.75	122.20
53	A3	901	C	N1-C2-O2	9.22	124.43	118.90
29	A2	2505	U	N1-C2-O2	9.21	129.25	122.80
29	A1	1131	U	N1-C2-O2	9.20	129.24	122.80
29	A2	1945	G	N1-C6-O6	-9.20	114.38	119.90
53	A4	1042	C	N1-C2-O2	9.20	124.42	118.90
53	A3	672	C	N1-C2-O2	9.20	124.42	118.90
53	A4	901	C	N3-C2-O2	-9.19	115.47	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2786	C	N3-C2-O2	-9.19	115.47	121.90
29	A2	2480	C	N1-C2-O2	9.19	124.41	118.90
29	A2	728	C	N1-C2-O2	9.19	124.41	118.90
53	A3	851	G	C4-N9-C1'	9.18	138.44	126.50
29	A1	227	C	N1-C2-O2	9.18	124.41	118.90
29	A1	2586	A	C8-N9-C4	9.17	109.47	105.80
53	A3	728	C	N1-C2-O2	9.17	124.40	118.90
30	B1	33	C	C6-N1-C2	-9.16	116.64	120.30
29	A2	2626	C	C5-C6-N1	-9.16	116.42	121.00
29	A2	2702	U	N3-C2-O2	-9.16	115.79	122.20
29	A2	2717	C	C2-N1-C1'	9.16	128.87	118.80
29	A1	1808	U	N3-C2-O2	-9.15	115.79	122.20
29	A1	1702	G	C4-N9-C1'	9.15	138.40	126.50
53	A3	718	C	N3-C2-O2	-9.15	115.49	121.90
53	A3	1087	A	C5-N7-C8	-9.14	99.33	103.90
53	A3	1208	A	C8-N9-C4	-9.14	102.14	105.80
53	A4	285	C	C5-C6-N1	9.14	125.57	121.00
53	A4	1361	G	C4-C5-N7	9.14	114.46	110.80
29	A1	90	A	N7-C8-N9	9.14	118.37	113.80
29	A2	2063	C	N3-C2-O2	-9.13	115.51	121.90
29	A2	2829	G	N1-C6-O6	-9.12	114.43	119.90
53	A3	1087	A	N7-C8-N9	9.11	118.36	113.80
53	A3	1491	C	N3-C2-O2	-9.11	115.53	121.90
29	A2	2309	C	C6-N1-C2	-9.10	116.66	120.30
53	A4	180	C	N1-C2-O2	9.10	124.36	118.90
29	A2	182	C	C6-N1-C2	-9.10	116.66	120.30
53	A3	1027	C	N1-C2-O2	9.10	124.36	118.90
53	A4	285	C	C6-N1-C2	-9.09	116.66	120.30
29	A1	2063	C	N3-C2-O2	-9.09	115.54	121.90
53	A3	662	C	C6-N1-C2	-9.08	116.67	120.30
53	A3	276	G	N7-C8-N9	9.08	117.64	113.10
53	A4	1178	G	N3-C4-N9	9.07	131.44	126.00
29	A2	1338	C	C2-N1-C1'	9.07	128.78	118.80
53	A4	307	C	N1-C2-O2	9.07	124.34	118.90
53	A4	1419	C	N1-C2-O2	9.07	124.34	118.90
53	A4	263	C	N3-C2-O2	-9.06	115.55	121.90
53	A3	215	G	C8-N9-C1'	-9.06	115.22	127.00
53	A3	749	A	P-O3'-C3'	9.06	130.57	119.70
29	A1	2620	C	N1-C2-O2	9.04	124.32	118.90
53	A4	672	C	C6-N1-C2	-9.03	116.69	120.30
53	A4	1122	C	C6-N1-C2	-9.02	116.69	120.30
53	A3	772	U	N3-C2-O2	-9.02	115.89	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	913	C	N1-C2-O2	9.02	124.31	118.90
53	A4	363	U	N3-C2-O2	-9.01	115.89	122.20
29	A1	227	C	C6-N1-C2	-9.00	116.70	120.30
29	A1	2289	C	C6-N1-C2	-9.00	116.70	120.30
29	A2	2700	G	C6-C5-N7	-9.00	125.00	130.40
29	A1	856	U	C5-C6-N1	-9.00	118.20	122.70
29	A1	1354	C	C2-N1-C1'	8.99	128.69	118.80
53	A4	662	C	C6-N1-C2	-8.99	116.70	120.30
53	A4	737	C	C2-N1-C1'	8.99	128.69	118.80
53	A4	496	C	N1-C2-O2	8.98	124.29	118.90
29	A1	722	C	N3-C2-O2	-8.97	115.62	121.90
29	A1	1808	U	N1-C2-O2	8.97	129.08	122.80
53	A4	1240	C	C6-N1-C2	-8.96	116.71	120.30
29	A1	1836	A	N1-C6-N6	-8.96	113.22	118.60
53	A3	332	C	C6-N1-C2	-8.96	116.72	120.30
53	A3	780	C	N3-C2-O2	-8.96	115.63	121.90
29	A1	2505	U	N1-C2-O2	8.95	129.07	122.80
29	A2	1354	C	C2-N1-C1'	8.95	128.65	118.80
53	A3	1419	C	N1-C2-O2	8.96	124.27	118.90
29	A2	1958	C	N1-C2-O2	8.94	124.27	118.90
53	A3	1263	C	N1-C2-O2	8.94	124.26	118.90
29	A1	1465	C	N1-C2-O2	8.93	124.26	118.90
29	A2	2054	A	O4'-C1'-N9	8.93	115.34	108.20
53	A4	360	U	N3-C2-O2	-8.93	115.95	122.20
30	B2	38	C	N3-C2-O2	-8.93	115.65	121.90
53	A3	1255	G	C8-N9-C4	-8.92	102.83	106.40
30	B2	7	C	N1-C2-O2	8.92	124.25	118.90
53	A3	425	A	N1-C6-N6	8.91	123.95	118.60
53	A3	148	C	C6-N1-C1'	-8.90	110.12	120.80
53	A3	186	C	N1-C2-O2	8.90	124.24	118.90
29	A2	258	C	N1-C2-O2	8.90	124.24	118.90
29	A1	1465	C	C5-C6-N1	8.88	125.44	121.00
29	A2	444	C	C6-N1-C2	-8.87	116.75	120.30
29	A1	590	C	C5-C6-N1	8.87	125.44	121.00
29	A2	1826	C	N1-C2-O2	8.87	124.22	118.90
53	A4	1377	C	C6-N1-C1'	-8.86	110.16	120.80
29	A2	1932	C	N3-C2-O2	-8.86	115.70	121.90
29	A1	1300	G	N9-C4-C5	-8.85	101.86	105.40
29	A2	2526	C	N1-C2-O2	8.85	124.21	118.90
53	A3	1377	C	C6-N1-C1'	-8.85	110.18	120.80
29	A1	2513	C	N1-C2-O2	8.85	124.21	118.90
29	A2	2063	C	N1-C2-O2	8.85	124.21	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
30	B2	34	C	C6-N1-C2	-8.85	116.76	120.30
29	A2	2786	C	N1-C2-O2	8.85	124.21	118.90
53	A3	285	C	C5-C6-N1	8.84	125.42	121.00
29	A2	1724	C	N1-C2-O2	8.84	124.20	118.90
53	A3	261	G	C4-C5-N7	8.83	114.33	110.80
29	A1	2060	C	O5'-P-OP2	-8.82	97.76	105.70
53	A3	263	C	N3-C2-O2	-8.82	115.73	121.90
53	A4	956	C	C6-N1-C2	-8.82	116.77	120.30
53	A4	951	A	C2-N3-C4	8.81	115.00	110.60
53	A3	217	U	C2-N1-C1'	8.80	128.27	117.70
29	A1	2829	G	N1-C6-O6	-8.80	114.62	119.90
29	A2	669	G	N3-C4-C5	8.80	133.00	128.60
53	A4	959	U	N3-C2-O2	-8.79	116.04	122.20
29	A1	62	U	O4'-C1'-N1	8.79	115.23	108.20
29	A2	2622	G	N3-C4-N9	-8.78	120.73	126.00
29	A2	1808	U	N3-C2-O2	-8.78	116.06	122.20
53	A3	148	C	C6-N1-C2	-8.78	116.79	120.30
29	A1	2224	C	N3-C2-O2	-8.77	115.76	121.90
29	A2	1867	U	N3-C2-O2	-8.77	116.06	122.20
53	A3	1142	G	C6-C5-N7	-8.76	125.15	130.40
53	A4	749	A	P-O3'-C3'	8.75	130.21	119.70
53	A4	360	U	C6-N1-C1'	-8.75	108.95	121.20
53	A4	1000	G	C2-N3-C4	8.75	116.28	111.90
53	A4	1087	A	N1-C6-N6	8.75	123.85	118.60
29	A2	1450	C	C6-N1-C2	-8.73	116.81	120.30
53	A3	1361	G	C4-C5-N7	8.73	114.29	110.80
53	A4	443	C	C2-N1-C1'	8.73	128.41	118.80
53	A4	779	C	N1-C2-O2	8.73	124.14	118.90
53	A3	1397	G	N3-C4-N9	-8.72	120.77	126.00
29	A1	2129	C	C6-N1-C2	-8.72	116.81	120.30
29	A1	2700	G	N3-C4-C5	-8.72	124.24	128.60
53	A3	1087	A	C4-C5-N7	8.72	115.06	110.70
53	A4	851	G	C8-N9-C1'	-8.72	115.67	127.00
53	A3	270	G	N3-C2-N2	8.71	126.00	119.90
29	A2	1724	C	N3-C2-O2	-8.71	115.81	121.90
29	A2	2863	A	N7-C8-N9	8.70	118.15	113.80
53	A3	248	U	N3-C2-O2	-8.70	116.11	122.20
53	A3	909	C	C6-N1-C2	-8.69	116.83	120.30
53	A4	558	G	O5'-P-OP1	8.69	121.12	110.70
29	A1	417	G	N3-C4-C5	-8.68	124.26	128.60
29	A1	2717	C	N1-C2-O2	8.68	124.11	118.90
30	B1	16	U	N1-C2-O2	8.68	128.88	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1959	G	C8-N9-C4	8.68	109.87	106.40
29	A2	2863	A	C8-N9-C4	-8.67	102.33	105.80
29	A1	1724	C	N1-C2-O2	8.67	124.10	118.90
29	A2	132	C	N1-C2-O2	8.67	124.10	118.90
29	A2	1174	A	N1-C6-N6	-8.67	113.40	118.60
29	A1	2063	C	N1-C2-O2	8.67	124.10	118.90
29	A1	2478	C	C5-C6-N1	8.66	125.33	121.00
29	A1	821	C	N1-C2-O2	8.66	124.10	118.90
53	A3	1335	C	N1-C2-O2	8.66	124.10	118.90
30	B1	34	C	C6-N1-C2	-8.66	116.84	120.30
29	A2	227	C	C2-N1-C1'	8.65	128.32	118.80
29	A2	1127	C	N3-C2-O2	-8.65	115.84	121.90
29	A2	963	C	N1-C2-O2	8.64	124.09	118.90
53	A4	1087	A	C4-C5-N7	8.64	115.02	110.70
29	A1	2478	C	C6-N1-C2	-8.64	116.84	120.30
53	A3	772	U	N1-C2-O2	8.64	128.85	122.80
29	A1	2254	C	C5-C6-N1	8.63	125.32	121.00
29	A2	123	G	C4-N9-C1'	-8.63	115.28	126.50
29	A2	1399	C	C6-N1-C2	-8.63	116.85	120.30
53	A3	199	C	N3-C2-O2	-8.63	115.86	121.90
29	A2	2760	C	C6-N1-C2	-8.63	116.85	120.30
29	A2	2559	G	N1-C6-O6	-8.62	114.73	119.90
29	A1	935	C	C6-N1-C2	-8.62	116.85	120.30
29	A2	1819	A	C5-N7-C8	-8.62	99.59	103.90
29	A2	2570	C	N3-C2-O2	-8.62	115.87	121.90
29	A2	1808	U	N1-C2-O2	8.59	128.81	122.80
53	A3	1408	C	N3-C2-O2	-8.59	115.89	121.90
29	A1	2454	C	N3-C4-C5	8.58	125.33	121.90
29	A1	608	G	C8-N9-C4	-8.58	102.97	106.40
29	A1	2369	C	N3-C2-O2	-8.58	115.89	121.90
53	A3	1087	A	N1-C6-N6	8.58	123.75	118.60
53	A4	1333	C	C6-N1-C2	-8.58	116.87	120.30
53	A3	215	G	N3-C4-N9	8.58	131.15	126.00
29	A1	343	C	C5-C6-N1	8.58	125.29	121.00
29	A1	2480	C	N1-C2-O2	8.57	124.04	118.90
30	B1	16	U	N3-C2-O2	-8.57	116.20	122.20
53	A4	697	G	C8-N9-C4	-8.57	102.97	106.40
29	A1	1787	C	C2-N1-C1'	8.56	128.22	118.80
29	A1	1022	C	C6-N1-C2	-8.56	116.88	120.30
29	A2	2251	G	C4-C5-N7	8.56	114.22	110.80
53	A3	792	G	C8-N9-C4	8.56	109.82	106.40
53	A3	1333	C	C6-N1-C2	-8.55	116.88	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	156	A	C8-N9-C4	-8.55	102.38	105.80
29	A2	1127	C	C2-N1-C1'	8.54	128.19	118.80
53	A4	767	C	N1-C2-O2	8.54	124.02	118.90
53	A4	464	U	C5-C6-N1	8.54	126.97	122.70
29	A2	2620	C	N1-C2-O2	8.53	124.02	118.90
29	A2	2700	G	N3-C4-C5	-8.54	124.33	128.60
29	A1	722	C	C6-N1-C1'	-8.53	110.56	120.80
53	A3	1266	A	C8-N9-C4	-8.53	102.39	105.80
53	A3	360	U	N3-C2-O2	-8.52	116.23	122.20
53	A3	1331	A	N7-C8-N9	8.52	118.06	113.80
29	A1	344	C	N1-C2-O2	8.52	124.01	118.90
29	A1	852	U	C5-C6-N1	8.52	126.96	122.70
30	B1	10	U	N3-C2-O2	-8.52	116.24	122.20
53	A3	672	C	C2-N1-C1'	8.52	128.17	118.80
29	A1	2311	C	C5-C6-N1	8.51	125.26	121.00
53	A3	1331	A	C8-N9-C4	-8.51	102.39	105.80
53	A3	1046	G	C8-N9-C4	8.51	109.80	106.40
53	A3	1474	G	N3-C2-N2	-8.51	113.94	119.90
53	A4	1408	C	N3-C2-O2	-8.51	115.95	121.90
53	A3	125	C	N1-C2-O2	8.50	124.00	118.90
53	A4	215	G	N3-C4-N9	8.50	131.10	126.00
53	A4	1000	G	N3-C4-N9	8.50	131.10	126.00
53	A3	363	U	N3-C2-O2	-8.50	116.25	122.20
29	A1	2492	A	C5-C6-N1	8.50	121.95	117.70
29	A1	2559	G	N1-C6-O6	-8.50	114.80	119.90
53	A3	180	C	N1-C2-O2	8.50	124.00	118.90
53	A3	1122	C	N3-C2-O2	-8.49	115.95	121.90
29	A2	1787	C	C6-N1-C2	-8.49	116.91	120.30
53	A4	1463	G	N3-C4-C5	8.49	132.84	128.60
29	A1	1724	C	N3-C2-O2	-8.49	115.96	121.90
29	A2	1226	C	N3-C2-O2	-8.48	115.96	121.90
53	A3	156	A	C8-N9-C4	-8.48	102.41	105.80
53	A3	762	C	C2-N1-C1'	8.48	128.13	118.80
29	A2	1837	C	C2-N3-C4	-8.48	115.66	119.90
29	A1	417	G	N3-C4-N9	8.48	131.09	126.00
53	A3	1387	G	N3-C4-C5	8.48	132.84	128.60
29	A2	2167	C	C6-N1-C2	-8.48	116.91	120.30
53	A3	549	G	C4-C5-N7	8.48	114.19	110.80
53	A3	1248	C	N3-C2-O2	-8.48	115.97	121.90
53	A3	703	C	O5'-P-OP1	-8.47	98.07	105.70
29	A1	1454	U	N1-C2-O2	8.47	128.73	122.80
29	A2	103	C	C5-C6-N1	8.47	125.24	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	353	U	N1-C2-O2	8.47	128.73	122.80
29	A2	2254	C	C5-C6-N1	8.47	125.24	121.00
29	A2	1127	C	C6-N1-C2	-8.47	116.91	120.30
53	A3	913	C	N1-C2-O2	8.47	123.98	118.90
29	A2	879	G	C8-N9-C4	8.46	109.79	106.40
29	A2	2321	G	C4-N9-C1'	8.47	137.51	126.50
53	A3	1419	C	N3-C2-O2	-8.46	115.97	121.90
53	A4	84	C	N1-C2-O2	8.46	123.98	118.90
53	A3	597	A	N9-C4-C5	-8.46	102.42	105.80
53	A4	1473	C	C6-N1-C2	-8.46	116.92	120.30
29	A1	1931	G	N3-C4-N9	8.45	131.07	126.00
29	A1	2468	G	C4-N9-C1'	8.45	137.49	126.50
29	A1	417	G	C4-N9-C1'	8.45	137.49	126.50
53	A3	1068	U	N1-C2-O2	8.45	128.72	122.80
29	A1	1596	C	N1-C2-O2	8.45	123.97	118.90
29	A1	609	C	N1-C2-O2	8.45	123.97	118.90
29	A2	1024	C	N3-C2-O2	-8.45	115.99	121.90
21	W1	42	GLN	C-N-CA	8.44	142.80	121.70
53	A4	332	C	C6-N1-C2	-8.44	116.92	120.30
29	A1	2570	C	N3-C2-O2	-8.44	116.00	121.90
53	A4	357	G	C8-N9-C4	8.44	109.77	106.40
29	A2	62	U	C5-C6-N1	8.42	126.91	122.70
29	A2	236	C	C6-N1-C2	-8.42	116.93	120.30
29	A2	2512	C	C6-N1-C2	-8.42	116.93	120.30
29	A2	227	C	C6-N1-C2	-8.42	116.93	120.30
53	A4	967	C	C2-N1-C1'	8.42	128.06	118.80
29	A2	272	U	N3-C2-O2	-8.41	116.31	122.20
29	A2	2454	C	N3-C4-C5	8.41	125.27	121.90
29	A1	472	C	C6-N1-C2	-8.41	116.94	120.30
29	A1	520	G	C8-N9-C4	-8.41	103.04	106.40
29	A2	126	C	C6-N1-C2	-8.41	116.94	120.30
29	A1	2254	C	N1-C2-O2	8.41	123.94	118.90
53	A4	276	G	C5-N7-C8	-8.41	100.10	104.30
53	A4	1068	U	N1-C2-O2	8.41	128.69	122.80
29	A1	1787	C	C6-N1-C2	-8.40	116.94	120.30
53	A3	717	G	C4-N9-C1'	8.40	137.42	126.50
29	A1	2519	G	N3-C4-C5	-8.40	124.40	128.60
30	B2	90	C	N3-C2-O2	-8.40	116.02	121.90
29	A1	802	C	N3-C2-O2	-8.39	116.02	121.90
53	A4	727	C	C6-N1-C2	-8.39	116.94	120.30
29	A1	1903	C	C6-N1-C2	-8.39	116.94	120.30
29	A2	2505	U	N3-C2-O2	-8.39	116.33	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1119	C	C6-N1-C2	-8.39	116.94	120.30
29	A2	609	C	N1-C2-O2	8.39	123.93	118.90
53	A3	479	A	C5-N7-C8	-8.38	99.71	103.90
53	A3	717	G	C8-N9-C1'	-8.38	116.11	127.00
53	A4	966	C	C5-C4-N4	-8.38	114.33	120.20
29	A2	1550	C	C6-N1-C2	-8.37	116.95	120.30
29	A1	1450	C	C6-N1-C2	-8.37	116.95	120.30
29	A1	2758	C	C6-N1-C2	-8.37	116.95	120.30
53	A4	907	C	N3-C4-C5	8.37	125.25	121.90
29	A1	2369	C	C2-N1-C1'	8.36	128.00	118.80
53	A3	851	G	C8-N9-C1'	-8.36	116.13	127.00
29	A2	1748	G	C4-C5-N7	8.36	114.14	110.80
53	A4	24	U	C5-C6-N1	8.36	126.88	122.70
53	A4	419	G	C6-C5-N7	-8.35	125.39	130.40
29	A1	1604	G	N3-C4-N9	8.35	131.01	126.00
53	A3	917	C	C6-N1-C2	-8.35	116.96	120.30
53	A4	582	C	N1-C2-O2	8.35	123.91	118.90
53	A3	1463	G	N3-C4-C5	8.34	132.77	128.60
29	A1	132	C	N1-C2-O2	8.34	123.90	118.90
29	A2	1624	C	N1-C2-O2	8.34	123.90	118.90
53	A3	776	U	C2-N1-C1'	8.34	127.71	117.70
29	A2	1837	C	C5-C4-N4	-8.34	114.36	120.20
53	A3	727	C	N1-C2-O2	8.34	123.90	118.90
29	A1	782	G	C4-C5-N7	8.34	114.13	110.80
29	A1	2521	C	N1-C2-O2	8.33	123.90	118.90
53	A3	1397	G	C4-N9-C1'	-8.33	115.67	126.50
29	A2	2119	C	C5-C6-N1	8.33	125.17	121.00
29	A1	2129	C	N1-C2-O2	8.33	123.90	118.90
29	A2	2755	A	N1-C6-N6	-8.32	113.61	118.60
29	A2	1791	G	C4-N9-C1'	8.32	137.31	126.50
29	A2	1799	U	N3-C2-O2	-8.32	116.38	122.20
53	A3	360	U	N1-C2-O2	8.32	128.62	122.80
53	A3	1110	C	C6-N1-C2	-8.31	116.97	120.30
29	A2	692	C	C6-N1-C2	-8.31	116.97	120.30
29	A2	1799	U	N1-C2-O2	8.31	128.62	122.80
53	A4	197	G	C5-C6-O6	-8.31	123.61	128.60
29	A1	1869	C	C6-N1-C2	-8.31	116.98	120.30
29	A2	2005	A	C8-N9-C4	-8.31	102.48	105.80
53	A3	24	U	C5-C6-N1	8.31	126.85	122.70
29	A2	2717	C	N3-C2-O2	-8.30	116.09	121.90
53	A3	511	C	N3-C2-O2	-8.30	116.09	121.90
29	A2	2716	U	N1-C2-O2	8.30	128.61	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	344	C	N3-C2-O2	-8.29	116.10	121.90
29	A1	854	G	C8-N9-C4	8.29	109.72	106.40
29	A2	1399	C	C2-N1-C1'	8.29	127.92	118.80
29	A2	2335	G	C4-N9-C1'	8.29	137.27	126.50
29	A2	2132	C	C5-C6-N1	8.28	125.14	121.00
29	A1	1480	C	C2-N1-C1'	8.28	127.91	118.80
29	A2	2505	U	C6-N1-C1'	-8.28	109.61	121.20
29	A1	1362	C	C6-N1-C2	-8.27	116.99	120.30
29	A2	98	U	C2-N1-C1'	8.27	127.63	117.70
53	A4	1419	C	N3-C2-O2	-8.27	116.11	121.90
29	A1	2505	U	C6-N1-C1'	-8.27	109.62	121.20
29	A1	258	C	N1-C2-O2	8.26	123.86	118.90
29	A2	937	C	C6-N1-C2	-8.26	117.00	120.30
29	A1	1362	C	N3-C2-O2	-8.26	116.12	121.90
29	A2	332	G	C8-N9-C4	-8.26	103.10	106.40
29	A1	1867	U	C6-N1-C1'	-8.26	109.64	121.20
29	A1	2005	A	C8-N9-C4	-8.25	102.50	105.80
29	A1	1799	U	N3-C2-O2	-8.25	116.43	122.20
53	A3	1325	C	N1-C2-O2	8.25	123.85	118.90
29	A1	2480	C	N3-C2-O2	-8.25	116.13	121.90
29	A1	1748	G	C4-C5-N7	8.24	114.10	110.80
29	A2	1202	G	C8-N9-C4	8.24	109.70	106.40
53	A4	323	C	C6-N1-C2	-8.24	117.00	120.30
29	A1	1819	A	C4-C5-N7	8.24	114.82	110.70
29	A2	1624	C	C2-N1-C1'	8.24	127.86	118.80
29	A1	1702	G	N3-C4-C5	-8.24	124.48	128.60
29	A1	2519	G	N1-C2-N2	-8.23	108.79	116.20
29	A2	1869	C	C6-N1-C2	-8.23	117.01	120.30
53	A3	560	G	N1-C2-N2	-8.22	108.80	116.20
29	A2	2480	C	C5-C6-N1	8.21	125.11	121.00
29	A2	1399	C	C5-C6-N1	8.21	125.10	121.00
29	A1	1454	U	C2-N1-C1'	8.21	127.55	117.70
53	A4	1406	C	O4'-C1'-N1	8.20	114.76	108.20
29	A2	1776	C	C5-C6-N1	8.20	125.10	121.00
29	A2	1823	C	C6-N1-C2	-8.20	117.02	120.30
30	B2	3	U	O5'-P-OP2	-8.20	98.32	105.70
29	A1	821	C	N3-C2-O2	-8.20	116.16	121.90
29	A2	678	G	C8-N9-C4	8.20	109.68	106.40
29	A2	2700	G	C4-N9-C1'	8.20	137.16	126.50
29	A2	1024	C	N1-C2-O2	8.20	123.82	118.90
53	A3	1397	G	C8-N9-C1'	8.20	137.66	127.00
29	A1	1480	C	N1-C2-O2	8.19	123.82	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
30	B1	49	C	C6-N1-C2	-8.20	117.02	120.30
53	A3	673	G	O4'-C1'-N9	8.19	114.75	108.20
29	A2	2478	C	C5-C6-N1	8.19	125.09	121.00
29	A1	2512	C	C6-N1-C2	-8.18	117.03	120.30
29	A2	1814	C	N1-C2-O2	8.18	123.81	118.90
29	A2	1867	U	C6-N1-C1'	-8.18	109.74	121.20
53	A3	1255	G	N7-C8-N9	8.18	117.19	113.10
53	A4	419	G	C4-C5-N7	8.18	114.07	110.80
29	A2	123	G	N3-C4-C5	8.18	132.69	128.60
29	A1	1819	A	C5-N7-C8	-8.18	99.81	103.90
53	A4	560	G	N1-C2-N2	-8.18	108.84	116.20
29	A2	1708	U	C5-C6-N1	8.17	126.78	122.70
29	A2	690	C	N3-C2-O2	-8.17	116.18	121.90
29	A2	2570	C	N1-C2-O2	8.17	123.80	118.90
53	A4	730	C	N1-C2-O2	8.17	123.80	118.90
29	A2	2521	C	N1-C2-O2	8.16	123.80	118.90
29	A2	2229	G	N3-C4-N9	8.16	130.90	126.00
29	A1	1957	G	N7-C8-N9	8.16	117.18	113.10
53	A4	597	A	N9-C4-C5	-8.16	102.54	105.80
29	A2	802	C	N3-C2-O2	-8.16	116.19	121.90
29	A2	1485	C	N1-C2-O2	8.16	123.79	118.90
29	A1	1303	U	C2-N1-C1'	8.15	127.49	117.70
29	A1	1799	U	N1-C2-O2	8.15	128.51	122.80
30	B1	90	C	C2-N1-C1'	8.15	127.77	118.80
29	A1	1867	U	N3-C2-O2	-8.15	116.50	122.20
29	A2	2376	G	N3-C4-N9	-8.15	121.11	126.00
53	A3	1311	U	N1-C2-O2	8.15	128.50	122.80
53	A4	1491	C	N1-C2-O2	8.15	123.79	118.90
29	A2	2622	G	N3-C4-C5	8.14	132.67	128.60
29	A1	2505	U	N3-C2-O2	-8.14	116.50	122.20
29	A2	854	G	C8-N9-C4	8.14	109.66	106.40
29	A2	1579	C	N1-C2-O2	8.14	123.78	118.90
29	A1	2710	U	C5-C6-N1	8.14	126.77	122.70
29	A1	1604	G	C8-N9-C1'	-8.13	116.43	127.00
29	A2	1071	U	N3-C2-O2	-8.13	116.51	122.20
53	A4	901	C	N1-C2-O2	8.13	123.78	118.90
29	A2	2586	A	C8-N9-C4	8.12	109.05	105.80
53	A4	1365	C	N1-C2-O2	8.12	123.77	118.90
29	A1	1202	G	C8-N9-C4	8.12	109.65	106.40
53	A3	289	U	N3-C2-O2	-8.12	116.51	122.20
53	A4	959	U	N1-C2-O2	8.12	128.48	122.80
29	A2	32	C	N3-C2-O2	-8.12	116.22	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	735	G	C4-C5-N7	8.12	114.05	110.80
29	A1	661	C	C6-N1-C2	-8.12	117.05	120.30
29	A1	841	G	N3-C4-C5	-8.11	124.55	128.60
29	A1	2084	A	O5'-P-OP2	-8.11	98.40	105.70
53	A3	1282	U	N1-C2-O2	8.11	128.48	122.80
53	A4	452	C	N1-C2-O2	8.11	123.77	118.90
29	A2	1140	C	C6-N1-C2	-8.11	117.06	120.30
53	A4	1228	U	C5-C6-N1	8.11	126.75	122.70
29	A1	661	C	C5-C6-N1	8.10	125.05	121.00
53	A3	1379	C	N1-C2-O2	8.10	123.76	118.90
53	A4	776	U	C2-N1-C1'	8.10	127.42	117.70
29	A1	1164	C	C6-N1-C2	-8.10	117.06	120.30
29	A2	1592	C	C2-N1-C1'	8.10	127.71	118.80
29	A1	2076	G	C5-N7-C8	-8.10	100.25	104.30
29	A1	444	C	C6-N1-C2	-8.09	117.06	120.30
53	A3	1325	C	N3-C2-O2	-8.09	116.24	121.90
29	A2	1957	G	N7-C8-N9	8.09	117.14	113.10
53	A3	964	G	N7-C8-N9	8.08	117.14	113.10
29	A1	2016	G	P-O3'-C3'	8.08	129.39	119.70
29	A1	287	C	N3-C2-O2	-8.07	116.25	121.90
29	A1	2251	G	C4-C5-N7	8.07	114.03	110.80
29	A1	2871	G	C4-C5-N7	8.07	114.03	110.80
53	A3	760	A	N9-C4-C5	-8.07	102.57	105.80
29	A2	1226	C	C2-N1-C1'	8.07	127.67	118.80
53	A4	497	C	C5-C6-N1	8.07	125.03	121.00
29	A2	2326	U	C5-C6-N1	8.06	126.73	122.70
29	A2	1523	C	C5-C6-N1	8.06	125.03	121.00
29	A1	2417	C	C6-N1-C2	-8.05	117.08	120.30
53	A4	1025	C	C6-N1-C2	-8.05	117.08	120.30
53	A3	413	C	C5-C6-N1	8.05	125.02	121.00
53	A3	1079	C	N3-C2-O2	-8.05	116.27	121.90
29	A2	1454	U	C2-N1-C1'	8.04	127.35	117.70
30	B2	90	C	C2-N1-C1'	8.04	127.65	118.80
29	A2	1604	G	N3-C4-N9	8.04	130.83	126.00
53	A3	1366	C	C6-N1-C2	-8.04	117.08	120.30
53	A3	285	C	C6-N1-C2	-8.04	117.08	120.30
29	A2	692	C	C6-N1-C1'	-8.04	111.16	120.80
53	A3	1366	C	C5-C6-N1	8.03	125.02	121.00
29	A1	2863	A	C8-N9-C4	-8.03	102.59	105.80
29	A2	1454	U	N1-C2-O2	8.03	128.42	122.80
29	A1	1604	G	C4-N9-C1'	8.03	136.94	126.50
53	A3	1476	A	C8-N9-C4	8.02	109.01	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1790	U	C2-N1-C1'	8.02	127.32	117.70
29	A1	1485	C	N1-C2-O2	8.02	123.71	118.90
29	A2	798	C	C6-N1-C2	-8.02	117.09	120.30
29	A1	1837	C	N3-C4-C5	8.02	125.11	121.90
53	A4	932	U	C6-N1-C2	-8.02	116.19	121.00
29	A1	227	C	N3-C2-O2	-8.01	116.29	121.90
53	A3	1335	C	N3-C2-O2	-8.01	116.29	121.90
29	A2	173	C	N3-C2-O2	-8.01	116.30	121.90
30	B2	49	C	C6-N1-C2	-8.01	117.10	120.30
53	A3	872	G	C5-N7-C8	-8.01	100.30	104.30
29	A1	1823	C	C6-N1-C2	-8.00	117.10	120.30
53	A3	776	U	N1-C2-O2	8.00	128.40	122.80
53	A3	606	C	C5-C4-N4	-8.00	114.60	120.20
29	A1	173	C	N3-C2-O2	-8.00	116.30	121.90
29	A2	1303	U	C2-N1-C1'	8.00	127.30	117.70
53	A3	959	U	N3-C2-O2	-8.00	116.60	122.20
29	A2	1916	C	C5-C6-N1	8.00	125.00	121.00
29	A2	782	G	C4-C5-N7	8.00	114.00	110.80
53	A3	1284	C	N3-C2-O2	-7.99	116.30	121.90
29	A2	2480	C	C2-N1-C1'	7.99	127.59	118.80
29	A1	1247	C	C6-N1-C2	-7.99	117.11	120.30
2	D2	17	ASP	CB-CG-OD1	7.99	125.49	118.30
29	A2	58	U	N3-C2-O2	-7.99	116.61	122.20
53	A4	276	G	C6-C5-N7	-7.98	125.61	130.40
53	A4	496	C	N3-C2-O2	-7.98	116.31	121.90
53	A4	148	C	C2-N1-C1'	7.98	127.58	118.80
29	A1	733	G	C6-N1-C2	-7.98	120.31	125.10
29	A1	126	C	C6-N1-C2	-7.97	117.11	120.30
29	A2	1790	U	C2-N1-C1'	7.97	127.26	117.70
29	A2	728	C	C6-N1-C1'	-7.97	111.24	120.80
53	A3	1459	G	C6-C5-N7	-7.97	125.62	130.40
29	A1	2570	C	N1-C2-O2	7.97	123.68	118.90
53	A4	780	C	N1-C2-O2	7.97	123.68	118.90
29	A1	1808	U	C2-N1-C1'	7.96	127.25	117.70
29	A1	2132	C	C5-C6-N1	7.96	124.98	121.00
53	A3	443	C	N3-C2-O2	-7.96	116.33	121.90
53	A3	1381	C	C2-N3-C4	-7.96	115.92	119.90
53	A4	212	C	C6-N1-C2	-7.96	117.12	120.30
53	A3	669	U	N3-C4-O4	-7.96	113.83	119.40
53	A4	215	G	N3-C4-C5	-7.96	124.62	128.60
29	A2	667	C	C6-N1-C2	-7.95	117.12	120.30
53	A3	1366	C	C2-N1-C1'	7.95	127.55	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	728	C	N3-C2-O2	-7.95	116.33	121.90
29	A1	1708	U	C5-C6-N1	7.95	126.67	122.70
29	A2	1438	U	C5-C6-N1	7.95	126.68	122.70
53	A3	561	C	C6-N1-C2	-7.95	117.12	120.30
29	A1	2030	C	N1-C2-O2	7.95	123.67	118.90
30	B1	116	C	N1-C2-O2	7.95	123.67	118.90
53	A3	328	G	C8-N9-C4	7.94	109.58	106.40
53	A4	502	C	C5-C6-N1	7.94	124.97	121.00
53	A3	907	C	N3-C4-C5	7.94	125.08	121.90
53	A4	805	C	N3-C2-O2	-7.94	116.34	121.90
29	A1	1711	C	N3-C2-O2	-7.93	116.35	121.90
53	A4	770	A	C5-C6-N6	-7.93	117.35	123.70
29	A1	2566	U	C5-C6-N1	7.93	126.67	122.70
53	A4	199	C	C2-N1-C1'	7.93	127.52	118.80
53	A4	1360	C	C6-N1-C1'	7.93	130.31	120.80
29	A1	1523	C	C6-N1-C2	-7.92	117.13	120.30
30	B1	84	G	C4-N9-C1'	7.92	136.80	126.50
53	A3	889	C	C6-N1-C2	-7.92	117.13	120.30
29	A2	1243	C	N1-C2-O2	7.92	123.65	118.90
29	A2	227	C	C5-C6-N1	7.92	124.96	121.00
29	A2	2829	G	N3-C4-N9	7.92	130.75	126.00
53	A4	703	C	C6-N1-C2	-7.92	117.13	120.30
53	A4	964	G	C8-N9-C4	-7.92	103.23	106.40
29	A2	1803	G	C5-C6-O6	7.91	133.35	128.60
29	A2	2573	C	N3-C2-O2	-7.91	116.36	121.90
29	A1	1702	G	N9-C4-C5	-7.91	102.24	105.40
53	A3	276	G	C5-N7-C8	-7.91	100.35	104.30
53	A3	872	G	N1-C6-O6	7.91	124.64	119.90
29	A2	2478	C	C6-N1-C2	-7.91	117.14	120.30
29	A2	1604	G	C8-N9-C1'	-7.91	116.72	127.00
29	A2	2369	C	C6-N1-C2	-7.91	117.14	120.30
29	A2	2152	C	C6-N1-C2	-7.90	117.14	120.30
30	B1	84	G	N3-C4-C5	-7.90	124.65	128.60
53	A4	306	C	C6-N1-C2	-7.90	117.14	120.30
53	A4	930	G	N3-C4-N9	7.90	130.74	126.00
29	A1	979	G	N3-C4-N9	7.89	130.74	126.00
29	A1	1300	G	C5-C6-O6	-7.89	123.86	128.60
29	A1	2810	G	C6-C5-N7	-7.89	125.66	130.40
29	A1	1819	A	N9-C4-C5	-7.89	102.64	105.80
53	A4	235	C	C6-N1-C2	-7.89	117.14	120.30
30	B2	34	C	C5-C6-N1	7.89	124.94	121.00
29	A1	332	G	C8-N9-C4	-7.89	103.25	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2382	C	C5-C6-N1	7.89	124.94	121.00
53	A4	526	C	C2-N1-C1'	7.89	127.47	118.80
29	A1	2205	G	C8-N9-C4	-7.88	103.25	106.40
53	A4	215	G	C4-N9-C1'	7.88	136.75	126.50
29	A2	2566	U	C5-C6-N1	7.88	126.64	122.70
53	A3	363	U	N1-C2-O2	7.88	128.32	122.80
53	A3	788	C	N3-C2-O2	-7.88	116.39	121.90
11	M1	111	LEU	CA-CB-CG	7.88	133.41	115.30
53	A4	1208	A	C8-N9-C4	-7.88	102.65	105.80
29	A1	798	C	C6-N1-C2	-7.87	117.15	120.30
53	A3	185	C	C6-N1-C2	-7.87	117.15	120.30
29	A1	531	U	N3-C2-O2	-7.87	116.69	122.20
53	A4	289	U	N3-C2-O2	-7.87	116.69	122.20
29	A2	466	G	N3-C4-C5	-7.87	124.67	128.60
29	A2	1833	C	C5-C6-N1	-7.87	117.07	121.00
53	A4	1318	G	N3-C2-N2	7.87	125.41	119.90
29	A2	1975	U	N3-C2-O2	-7.87	116.69	122.20
29	A2	1173	G	N7-C8-N9	7.86	117.03	113.10
53	A4	231	G	C8-N9-C4	7.86	109.55	106.40
53	A4	1469	A	C8-N9-C4	7.86	108.94	105.80
29	A2	2030	C	N1-C2-O2	7.86	123.62	118.90
53	A4	580	G	C4-C5-N7	7.86	113.94	110.80
53	A3	580	G	C4-C5-N7	7.86	113.94	110.80
29	A1	1234	G	N3-C4-N9	7.86	130.71	126.00
53	A3	261	G	C5-C6-O6	-7.85	123.89	128.60
29	A1	1916	C	C5-C6-N1	7.85	124.92	121.00
29	A2	2382	C	C5-C6-N1	7.85	124.92	121.00
53	A3	1387	G	N3-C4-N9	-7.85	121.29	126.00
29	A2	1949	C	C6-N1-C2	-7.85	117.16	120.30
29	A1	790	G	N1-C6-O6	-7.84	115.19	119.90
29	A2	191	C	C6-N1-C2	-7.84	117.16	120.30
29	A1	1130	U	C5-C6-N1	7.84	126.62	122.70
29	A2	1898	G	O4'-C1'-N9	7.84	114.47	108.20
29	A2	226	C	C6-N1-C2	-7.84	117.17	120.30
29	A1	455	C	C5-C6-N1	7.84	124.92	121.00
30	B1	79	U	N3-C2-O2	-7.84	116.71	122.20
29	A1	1837	C	C6-N1-C2	7.83	123.43	120.30
53	A4	451	C	N1-C2-O2	7.83	123.60	118.90
53	A4	792	G	C8-N9-C4	7.83	109.53	106.40
29	A2	187	A	C8-N9-C4	7.83	108.93	105.80
29	A2	2076	G	C5-N7-C8	-7.83	100.39	104.30
29	A2	227	C	N1-C2-O2	7.83	123.60	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2865	C	N1-C2-O2	7.82	123.59	118.90
29	A2	1557	C	C6-N1-C2	-7.82	117.17	120.30
29	A2	1604	G	C4-N9-C1'	7.82	136.67	126.50
53	A4	663	C	N1-C2-O2	7.82	123.59	118.90
29	A1	1120	C	N1-C2-O2	7.82	123.59	118.90
29	A1	2004	G	C8-N9-C1'	-7.81	116.85	127.00
53	A4	261	G	C5-C6-O6	-7.81	123.92	128.60
29	A1	343	C	C6-N1-C2	-7.80	117.18	120.30
29	A1	1131	U	N3-C2-O2	-7.80	116.74	122.20
29	A1	2345	G	C4-C5-N7	7.80	113.92	110.80
29	A1	599	C	C6-N1-C2	-7.80	117.18	120.30
53	A4	125	C	N1-C2-O2	7.80	123.58	118.90
29	A2	2016	G	P-O3'-C3'	7.80	129.06	119.70
29	A1	1580	C	C5-C6-N1	7.80	124.90	121.00
29	A1	2573	C	N3-C2-O2	-7.80	116.44	121.90
29	A2	661	C	C6-N1-C2	-7.80	117.18	120.30
53	A3	549	G	C6-C5-N7	-7.80	125.72	130.40
29	A1	2737	G	C4-N9-C1'	7.79	136.63	126.50
53	A4	1254	G	C4-C5-N7	7.79	113.92	110.80
29	A2	667	C	C5-C6-N1	7.79	124.89	121.00
53	A3	788	C	N1-C2-O2	7.79	123.57	118.90
29	A2	103	C	C6-N1-C2	-7.79	117.18	120.30
29	A1	901	G	N3-C4-N9	7.79	130.67	126.00
29	A1	2494	C	C6-N1-C2	-7.78	117.19	120.30
29	A2	2767	C	C5-C6-N1	7.78	124.89	121.00
29	A1	353	U	N3-C2-O2	-7.78	116.75	122.20
29	A2	1661	G	C6-C5-N7	-7.78	125.73	130.40
29	A2	2369	C	N3-C2-O2	-7.78	116.45	121.90
53	A3	511	C	N1-C2-O2	7.78	123.57	118.90
53	A4	1370	C	N3-C2-O2	-7.78	116.45	121.90
29	A2	595	G	C2-N3-C4	-7.78	108.01	111.90
29	A1	1957	G	C6-C5-N7	-7.78	125.73	130.40
29	A1	834	G	C6-C5-N7	-7.78	125.73	130.40
53	A3	951	A	O5'-P-OP2	-7.78	98.70	105.70
29	A1	669	G	C2-N3-C4	-7.77	108.01	111.90
29	A1	287	C	N1-C2-O2	7.77	123.56	118.90
29	A1	595	G	C2-N3-C4	-7.77	108.02	111.90
29	A2	946	C	C5-C6-N1	7.77	124.88	121.00
29	A2	2228	C	O4'-C1'-N1	7.77	114.41	108.20
29	A1	2227	U	N3-C2-O2	-7.77	116.76	122.20
29	A1	2863	A	N7-C8-N9	7.76	117.68	113.80
29	A2	1454	U	N3-C2-O2	-7.76	116.77	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	328	G	N9-C4-C5	-7.76	102.30	105.40
53	A4	930	G	C5-C6-O6	-7.76	123.94	128.60
40	J3	8	LEU	CA-CB-CG	7.75	133.13	115.30
53	A4	217	U	C6-N1-C1'	-7.75	110.34	121.20
29	A1	821	C	N3-C4-N4	-7.75	112.58	118.00
29	A1	960	C	C6-N1-C2	-7.75	117.20	120.30
53	A4	930	G	C8-N9-C1'	-7.75	116.93	127.00
29	A2	1932	C	C5-C6-N1	7.74	124.87	121.00
53	A4	455	C	C6-N1-C2	-7.74	117.20	120.30
29	A1	1398	C	N1-C2-O2	7.74	123.54	118.90
29	A2	1436	G	C4-N9-C1'	7.74	136.56	126.50
53	A4	1079	C	N3-C2-O2	-7.74	116.48	121.90
29	A1	2030	C	N3-C2-O2	-7.73	116.49	121.90
29	A2	1173	G	C4-N9-C1'	7.73	136.55	126.50
53	A4	779	C	N3-C2-O2	-7.73	116.49	121.90
29	A2	2321	G	C8-N9-C1'	-7.73	116.95	127.00
53	A3	1396	U	N1-C2-O2	7.73	128.21	122.80
53	A4	845	C	N1-C2-O2	7.73	123.54	118.90
29	A2	1787	C	C2-N1-C1'	7.73	127.30	118.80
53	A4	1170	C	C6-N1-C2	-7.73	117.21	120.30
29	A2	723	G	N1-C2-N2	-7.72	109.25	116.20
29	A2	1791	G	C8-N9-C1'	-7.72	116.96	127.00
29	A2	126	C	C5-C6-N1	7.72	124.86	121.00
53	A4	932	U	N1-C2-O2	7.72	128.20	122.80
29	A2	790	G	N1-C6-O6	-7.72	115.27	119.90
53	A3	1276	G	N9-C4-C5	-7.72	102.31	105.40
53	A3	221	G	N9-C4-C5	7.71	108.48	105.40
29	A1	1840	G	N3-C4-N9	-7.71	121.37	126.00
29	A2	259	U	O4'-C1'-N1	7.71	114.37	108.20
29	A2	2004	G	C8-N9-C1'	-7.71	116.97	127.00
29	A2	639	U	C6-N1-C1'	-7.71	110.41	121.20
29	A2	830	A	C8-N9-C4	7.71	108.88	105.80
53	A3	496	C	N1-C2-O2	7.71	123.53	118.90
53	A4	932	U	C2-N1-C1'	7.71	126.95	117.70
29	A1	531	U	N1-C2-O2	7.71	128.19	122.80
29	A1	2152	C	C6-N1-C2	-7.71	117.22	120.30
29	A2	2710	U	C5-C6-N1	7.71	126.55	122.70
53	A4	1404	G	C6-C5-N7	-7.71	125.78	130.40
29	A2	2030	C	N3-C2-O2	-7.70	116.51	121.90
53	A4	131	C	C6-N1-C2	-7.70	117.22	120.30
29	A1	733	G	C6-C5-N7	-7.70	125.78	130.40
53	A4	270	G	C4-N9-C1'	7.70	136.51	126.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	938	C	C2-N1-C1'	7.70	127.27	118.80
29	A1	1347	G	C8-N9-C4	7.70	109.48	106.40
29	A1	2675	G	C8-N9-C4	-7.70	103.32	106.40
53	A4	981	G	N7-C8-N9	7.70	116.95	113.10
29	A1	830	A	C8-N9-C4	7.70	108.88	105.80
29	A1	1274	A	C5-N7-C8	-7.69	100.05	103.90
29	A2	841	G	N3-C4-C5	-7.69	124.75	128.60
53	A4	170	C	C6-N1-C2	-7.69	117.22	120.30
29	A2	1071	U	N1-C2-O2	7.69	128.18	122.80
29	A2	764	G	O5'-P-OP2	-7.69	98.78	105.70
53	A3	306	C	C6-N1-C2	-7.69	117.22	120.30
29	A1	1131	U	C5-C6-N1	7.68	126.54	122.70
53	A3	663	C	N1-C2-O2	7.68	123.51	118.90
29	A1	1254	C	C6-N1-C2	-7.68	117.23	120.30
53	A3	1360	C	C6-N1-C1'	7.68	130.02	120.80
29	A2	1916	C	N1-C2-O2	7.68	123.51	118.90
29	A2	2028	G	N3-C4-C5	-7.68	124.76	128.60
53	A4	48	C	O4'-C1'-N1	7.68	114.34	108.20
53	A4	1123	C	C6-N1-C2	-7.68	117.23	120.30
29	A1	2205	G	N7-C8-N9	7.67	116.94	113.10
53	A3	1379	C	C2-N1-C1'	7.67	127.24	118.80
53	A4	749	A	OP1-P-O3'	7.67	122.08	105.20
30	B1	34	C	C5-C6-N1	7.67	124.84	121.00
53	A3	763	A	N1-C6-N6	7.67	123.20	118.60
53	A3	1027	C	N3-C2-O2	-7.67	116.53	121.90
53	A4	672	C	C5-C6-N1	7.67	124.83	121.00
53	A3	1333	C	C5-C6-N1	7.67	124.83	121.00
29	A1	802	C	C2-N1-C1'	7.66	127.23	118.80
53	A4	1379	C	C2-N1-C1'	7.66	127.23	118.80
29	A2	2067	C	N1-C2-O2	7.66	123.50	118.90
29	A2	2004	G	N3-C4-N9	7.66	130.60	126.00
53	A4	889	C	C6-N1-C2	-7.66	117.24	120.30
29	A1	2179	G	N3-C4-C5	-7.66	124.77	128.60
29	A2	1399	C	N1-C2-O2	7.66	123.49	118.90
53	A3	1186	U	C6-N1-C2	-7.66	116.41	121.00
29	A2	609	C	C6-N1-C2	-7.66	117.24	120.30
29	A2	1347	G	C8-N9-C4	7.65	109.46	106.40
29	A1	2519	G	N3-C2-N2	7.65	125.25	119.90
53	A3	1473	C	C6-N1-C2	-7.65	117.24	120.30
29	A2	2115	U	N3-C2-O2	-7.65	116.85	122.20
53	A4	87	C	C6-N1-C2	-7.65	117.24	120.30
53	A4	776	U	N1-C2-O2	7.65	128.15	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	98	U	N1-C2-O2	7.64	128.15	122.80
53	A4	1124	G	O4'-C1'-N9	7.64	114.31	108.20
29	A2	2181	G	N3-C4-N9	-7.64	121.42	126.00
53	A4	563	U	C2-N1-C1'	7.64	126.87	117.70
53	A4	1218	C	N1-C2-O2	7.64	123.48	118.90
29	A2	2251	G	C6-C5-N7	-7.64	125.82	130.40
29	A2	243	C	C5-C6-N1	7.63	124.82	121.00
53	A3	270	G	N3-C4-C5	-7.63	124.78	128.60
53	A3	735	G	C8-N9-C4	-7.63	103.35	106.40
53	A4	1311	U	N1-C2-O2	7.63	128.14	122.80
29	A2	191	C	C5-C6-N1	7.63	124.82	121.00
29	A1	287	C	C6-N1-C2	-7.63	117.25	120.30
53	A4	986	C	C5-C6-N1	7.63	124.81	121.00
29	A1	749	G	C4-C5-N7	7.62	113.85	110.80
53	A3	780	C	C2-N1-C1'	7.62	127.19	118.80
53	A4	1178	G	C4-C5-N7	7.62	113.85	110.80
29	A2	219	A	P-O3'-C3'	7.62	128.84	119.70
29	A2	1209	C	C6-N1-C2	-7.62	117.25	120.30
29	A1	1771	G	N3-C4-C5	-7.62	124.79	128.60
29	A1	2004	G	N3-C4-N9	7.62	130.57	126.00
29	A1	2687	G	C4-C5-N7	7.62	113.85	110.80
53	A4	1379	C	N1-C2-O2	7.62	123.47	118.90
29	A1	1833	C	C5-C6-N1	-7.61	117.19	121.00
29	A1	2840	C	O4'-C1'-N1	7.61	114.29	108.20
29	A2	1830	C	N1-C2-O2	7.61	123.47	118.90
53	A4	1476	A	C8-N9-C4	7.61	108.84	105.80
29	A1	1754	G	C8-N9-C4	-7.61	103.36	106.40
53	A3	675	U	C5-C6-N1	7.61	126.50	122.70
53	A4	335	U	N1-C2-O2	7.61	128.13	122.80
53	A4	1215	C	C6-N1-C2	-7.61	117.26	120.30
29	A1	1071	U	N3-C2-O2	-7.61	116.88	122.20
53	A4	986	C	C2-N3-C4	7.61	123.70	119.90
29	A1	1457	C	C6-N1-C2	-7.60	117.26	120.30
29	A1	1931	G	N9-C4-C5	-7.60	102.36	105.40
29	A2	126	C	C2-N1-C1'	7.59	127.15	118.80
53	A3	87	C	C6-N1-C2	-7.59	117.26	120.30
53	A3	653	G	C5-C6-N1	7.59	115.30	111.50
53	A3	1047	U	C2-N1-C1'	7.59	126.81	117.70
29	A1	912	A	N7-C8-N9	7.59	117.59	113.80
53	A3	979	G	C8-N9-C4	-7.59	103.36	106.40
29	A1	397	C	N3-C4-C5	7.58	124.93	121.90
29	A2	1957	G	C6-C5-N7	-7.58	125.85	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	24	U	C6-N1-C2	-7.58	116.45	121.00
53	A4	1281	G	C4-N9-C1'	-7.58	116.64	126.50
29	A2	1247	C	C6-N1-C2	-7.58	117.27	120.30
29	A1	669	G	N3-C4-N9	-7.58	121.45	126.00
29	A1	2028	G	N3-C4-C5	-7.58	124.81	128.60
29	A1	609	C	C6-N1-C2	-7.58	117.27	120.30
53	A4	1366	C	C6-N1-C2	-7.58	117.27	120.30
29	A2	661	C	C5-C6-N1	7.58	124.79	121.00
29	A2	2700	G	C8-N9-C4	-7.58	103.37	106.40
29	A1	2717	C	N3-C2-O2	-7.57	116.60	121.90
53	A4	673	G	O4'-C1'-N9	7.57	114.26	108.20
29	A1	2700	G	N3-C4-N9	7.57	130.54	126.00
29	A2	1831	U	C5-C6-N1	7.57	126.48	122.70
29	A2	1754	G	C8-N9-C4	-7.56	103.38	106.40
29	A1	1454	U	N3-C2-O2	-7.56	116.91	122.20
29	A1	1787	C	N1-C2-O2	7.56	123.44	118.90
29	A1	2675	G	C4-N9-C1'	7.56	136.33	126.50
29	A2	39	C	C2-N1-C1'	7.56	127.11	118.80
53	A4	1205	G	C5-C6-O6	-7.56	124.06	128.60
29	A1	1297	U	N3-C2-O2	-7.56	116.91	122.20
53	A3	834	C	N1-C2-O2	7.56	123.44	118.90
29	A2	1951	A	C5-N7-C8	-7.55	100.12	103.90
29	A2	2335	G	C8-N9-C1'	-7.55	117.18	127.00
53	A3	1244	C	C5-C6-N1	7.55	124.78	121.00
29	A2	2553	C	N1-C2-O2	7.55	123.43	118.90
29	A2	2725	A	C8-N9-C4	-7.55	102.78	105.80
53	A3	360	U	C2-N1-C1'	7.55	126.76	117.70
29	A2	1944	C	C6-N1-C2	-7.54	117.28	120.30
53	A3	148	C	C5-C6-N1	7.54	124.77	121.00
29	A2	812	G	C8-N9-C4	7.54	109.41	106.40
53	A3	270	G	N1-C2-N2	-7.54	109.42	116.20
53	A4	1227	C	N1-C2-O2	7.54	123.42	118.90
29	A1	243	C	C5-C6-N1	7.53	124.77	121.00
29	A2	353	U	C2-N1-C1'	7.53	126.74	117.70
29	A1	963	C	N1-C2-O2	7.53	123.42	118.90
29	A1	1716	G	N3-C4-C5	-7.53	124.83	128.60
29	A2	170	G	C8-N9-C4	-7.53	103.39	106.40
53	A3	1284	C	N1-C2-O2	7.53	123.42	118.90
29	A2	834	G	C6-C5-N7	-7.53	125.88	130.40
29	A2	2115	U	N1-C2-O2	7.53	128.07	122.80
29	A2	1978	G	C6-C5-N7	-7.53	125.88	130.40
53	A3	1326	U	C5-C6-N1	-7.53	118.94	122.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1702	G	O4'-C1'-N9	-7.53	102.18	108.20
53	A3	714	G	C4-N9-C1'	7.52	136.28	126.50
29	A2	1743	C	P-O3'-C3'	7.52	128.73	119.70
53	A3	909	C	C2-N3-C4	7.52	123.66	119.90
29	A1	2620	C	N3-C2-O2	-7.52	116.64	121.90
29	A1	93	G	N7-C8-N9	7.52	116.86	113.10
53	A3	1404	G	C4-C5-N7	7.52	113.81	110.80
29	A2	1226	C	C5-C6-N1	7.52	124.76	121.00
53	A4	815	C	N3-C2-O2	-7.51	116.64	121.90
29	A2	2321	G	N3-C4-N9	7.51	130.51	126.00
53	A3	1236	G	C5-C6-O6	-7.51	124.09	128.60
29	A1	1754	G	N7-C8-N9	7.51	116.86	113.10
53	A3	612	G	N3-C4-N9	7.51	130.50	126.00
29	A2	2417	C	C6-N1-C2	-7.51	117.30	120.30
29	A2	1622	G	N7-C8-N9	7.50	116.85	113.10
29	A1	1363	C	N3-C2-O2	-7.50	116.65	121.90
29	A1	824	G	C5-C6-O6	-7.50	124.10	128.60
29	A1	2725	A	C8-N9-C4	-7.50	102.80	105.80
29	A2	2417	C	C2-N1-C1'	7.50	127.05	118.80
53	A4	1111	C	C6-N1-C2	-7.50	117.30	120.30
29	A1	953	U	O4'-C1'-N1	7.50	114.20	108.20
53	A3	1244	C	C2-N1-C1'	7.50	127.05	118.80
29	A2	2428	G	C6-C5-N7	-7.50	125.90	130.40
53	A3	231	G	C8-N9-C4	7.50	109.40	106.40
53	A3	1262	U	C2-N1-C1'	7.50	126.69	117.70
29	A1	2004	G	C4-N9-C1'	7.49	136.24	126.50
53	A4	909	C	C2-N3-C4	7.49	123.65	119.90
29	A1	2629	U	N3-C2-O2	-7.49	116.96	122.20
29	A2	1243	C	C6-N1-C2	-7.49	117.31	120.30
53	A4	170	C	N1-C2-O2	7.49	123.39	118.90
29	A1	1771	G	C8-N9-C4	-7.48	103.41	106.40
53	A4	672	C	N3-C2-O2	-7.48	116.66	121.90
29	A1	317	C	C6-N1-C2	-7.48	117.31	120.30
29	A1	95	G	C4-N9-C1'	-7.48	116.78	126.50
53	A4	1068	U	N3-C2-O2	-7.48	116.97	122.20
29	A2	692	C	C5-C6-N1	7.47	124.74	121.00
29	A2	1890	G	N7-C8-N9	7.47	116.84	113.10
29	A1	1281	C	N1-C2-O2	7.47	123.38	118.90
29	A2	2369	C	N1-C2-O2	7.47	123.38	118.90
53	A3	70	G	N3-C4-N9	7.47	130.48	126.00
53	A4	276	G	C8-N9-C4	-7.47	103.41	106.40
29	A1	2096	G	C6-C5-N7	-7.47	125.92	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2132	C	C6-N1-C2	-7.47	117.31	120.30
29	A1	417	G	C8-N9-C1'	-7.47	117.29	127.00
29	A1	103	C	C6-N1-C2	-7.47	117.31	120.30
53	A3	1068	U	N3-C2-O2	-7.47	116.97	122.20
53	A4	363	U	N1-C2-O2	7.47	128.03	122.80
29	A2	2758	C	C6-N1-C2	-7.46	117.31	120.30
29	A2	433	U	C2-N1-C1'	7.46	126.66	117.70
53	A3	979	G	C6-C5-N7	-7.46	125.92	130.40
29	A2	1274	A	C5-N7-C8	-7.46	100.17	103.90
29	A2	2417	C	N1-C2-O2	7.46	123.38	118.90
29	A2	609	C	N3-C2-O2	-7.46	116.68	121.90
53	A3	199	C	C2-N1-C1'	7.45	127.00	118.80
53	A3	1311	U	C2-N1-C1'	7.45	126.64	117.70
53	A3	1365	C	N1-C2-O2	7.45	123.37	118.90
53	A3	1184	C	C6-N1-C2	-7.45	117.32	120.30
29	A2	1904	C	C6-N1-C2	-7.45	117.32	120.30
29	A1	1732	C	C6-N1-C2	-7.45	117.32	120.30
29	A2	2004	G	C4-N9-C1'	7.45	136.18	126.50
29	A2	2829	G	C5-C6-N1	7.45	115.22	111.50
29	A1	733	G	C4-C5-N7	7.45	113.78	110.80
29	A1	1234	G	C6-C5-N7	-7.45	125.93	130.40
29	A1	1399	C	C6-N1-C2	-7.45	117.32	120.30
29	A1	2400	C	O5'-P-OP1	-7.45	99.00	105.70
29	A2	1626	C	C2-N1-C1'	7.45	126.99	118.80
29	A2	1732	C	C6-N1-C2	-7.45	117.32	120.30
29	A1	1741	U	N1-C2-O2	7.44	128.01	122.80
29	A2	317	C	C6-N1-C2	-7.44	117.32	120.30
29	A2	1754	G	N7-C8-N9	7.44	116.82	113.10
29	A2	2105	C	C6-N1-C2	-7.44	117.32	120.30
53	A4	212	C	C2-N1-C1'	7.44	126.99	118.80
29	A2	2254	C	N3-C2-O2	-7.44	116.69	121.90
53	A3	1351	C	N1-C2-O2	7.44	123.36	118.90
29	A1	1743	C	P-O3'-C3'	7.44	128.63	119.70
29	A1	344	C	C6-N1-C2	-7.44	117.33	120.30
53	A4	957	C	N3-C4-C5	7.44	124.87	121.90
29	A1	1363	C	N1-C2-O2	7.43	123.36	118.90
29	A1	1803	G	C5-C6-O6	7.43	133.06	128.60
53	A3	1248	C	C6-N1-C2	-7.43	117.33	120.30
53	A3	1501	C	N1-C2-O2	7.43	123.36	118.90
53	A4	325	C	N1-C2-O2	7.43	123.36	118.90
29	A1	515	C	C6-N1-C2	-7.43	117.33	120.30
29	A1	1576	A	O4'-C1'-N9	7.43	114.15	108.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2021	G	C8-N9-C4	7.43	109.37	106.40
53	A4	1260	A	N1-C6-N6	-7.43	114.14	118.60
29	A1	444	C	C5-C6-N1	7.43	124.72	121.00
53	A3	1178	G	N3-C4-N9	7.43	130.46	126.00
29	A1	1607	A	P-O3'-C3'	7.43	128.62	119.70
29	A2	1281	C	N1-C2-O2	7.43	123.36	118.90
29	A2	2115	U	C2-N1-C1'	7.43	126.62	117.70
29	A1	1026	G	N3-C4-N9	7.43	130.46	126.00
29	A1	2085	G	N1-C6-O6	-7.43	115.44	119.90
29	A2	1622	G	C6-C5-N7	-7.43	125.94	130.40
29	A2	857	G	N9-C4-C5	7.42	108.37	105.40
29	A2	1428	G	C8-N9-C4	-7.42	103.43	106.40
29	A2	1770	U	C2-N1-C1'	7.42	126.61	117.70
53	A4	1178	G	C5-C6-O6	-7.42	124.15	128.60
53	A4	1199	C	C4-C5-C6	7.42	121.11	117.40
29	A1	1436	G	C8-N9-C4	-7.42	103.43	106.40
29	A2	2687	G	C4-C5-N7	7.42	113.77	110.80
53	A4	1224	C	C6-N1-C2	-7.42	117.33	120.30
29	A1	2553	C	N1-C2-O2	7.42	123.35	118.90
29	A1	2784	C	N1-C2-O2	7.42	123.35	118.90
29	A2	1803	G	C4-C5-N7	-7.42	107.83	110.80
29	A1	2149	G	C8-N9-C4	-7.41	103.44	106.40
29	A2	1948	C	C6-N1-C2	-7.41	117.33	120.30
53	A4	398	C	N3-C2-O2	-7.41	116.71	121.90
53	A3	1091	C	O5'-P-OP1	-7.41	99.03	105.70
53	A3	1117	U	N1-C2-O2	7.41	127.99	122.80
53	A3	1451	G	C6-C5-N7	-7.41	125.95	130.40
53	A4	1047	U	C5-C6-N1	7.41	126.40	122.70
29	A1	1814	C	N1-C2-O2	7.40	123.34	118.90
53	A3	1474	G	N3-C4-C5	7.40	132.30	128.60
53	A4	276	G	C4-C5-N7	7.40	113.76	110.80
53	A4	526	C	N3-C2-O2	-7.40	116.72	121.90
29	A1	828	U	N3-C2-O2	-7.40	117.02	122.20
53	A4	937	U	C2-N1-C1'	7.40	126.58	117.70
29	A1	2602	G	C6-C5-N7	-7.40	125.96	130.40
29	A2	2137	U	N3-C2-O2	-7.39	117.02	122.20
53	A3	186	C	N3-C2-O2	-7.39	116.72	121.90
53	A3	479	A	C8-N9-C4	-7.39	102.84	105.80
53	A4	582	C	C2-N1-C1'	7.39	126.94	118.80
53	A4	1422	C	C6-N1-C2	-7.39	117.34	120.30
29	A1	827	G	C4-C5-N7	7.39	113.76	110.80
29	A2	757	C	C5-C6-N1	7.39	124.69	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1808	U	C2-N1-C1'	7.39	126.57	117.70
7	I2	26	LEU	CA-CB-CG	7.39	132.29	115.30
29	A1	1019	G	C4-N9-C1'	7.38	136.10	126.50
29	A1	2600	C	N3-C4-C5	7.38	124.85	121.90
33	C4	115	LEU	CA-CB-CG	-7.38	98.32	115.30
29	A1	609	C	N3-C2-O2	-7.38	116.73	121.90
53	A3	197	G	C5-C6-O6	-7.38	124.17	128.60
53	A4	1292	G	C4-C5-N7	7.38	113.75	110.80
53	A3	541	G	N1-C6-O6	7.38	124.33	119.90
29	A2	1958	C	C2-N1-C1'	7.38	126.92	118.80
53	A4	1451	G	C6-C5-N7	-7.38	125.97	130.40
30	B1	84	G	N7-C8-N9	7.38	116.79	113.10
29	A2	32	C	N1-C2-O2	7.38	123.33	118.90
53	A3	805	C	C5-C6-N1	7.38	124.69	121.00
29	A1	1113	U	C2-N1-C1'	7.38	126.55	117.70
39	I3	16	ARG	NE-CZ-NH2	-7.38	116.61	120.30
53	A4	539	C	C5-C6-N1	7.37	124.69	121.00
53	A4	461	G	O5'-P-OP2	-7.37	99.07	105.70
29	A1	798	C	C6-N1-C1'	-7.37	111.96	120.80
29	A1	714	C	N1-C2-O2	7.36	123.32	118.90
29	A2	2427	G	C8-N9-C4	-7.36	103.45	106.40
53	A4	571	G	C4-C5-N7	7.36	113.75	110.80
29	A1	718	G	C4-N9-C1'	7.36	136.07	126.50
29	A1	2675	G	N7-C8-N9	7.36	116.78	113.10
53	A4	1369	G	N3-C2-N2	7.36	125.05	119.90
53	A3	996	C	C5-C6-N1	7.36	124.68	121.00
29	A2	2786	C	C6-N1-C2	-7.36	117.36	120.30
29	A1	856	U	C6-N1-C2	7.35	125.41	121.00
53	A4	1351	C	N3-C2-O2	-7.35	116.75	121.90
53	A3	697	G	C8-N9-C4	-7.35	103.46	106.40
29	A2	912	A	N7-C8-N9	7.35	117.47	113.80
53	A4	789	C	C5-C4-N4	-7.35	115.06	120.20
29	A2	1959	G	N9-C4-C5	-7.35	102.46	105.40
29	A1	268	C	N1-C2-O2	7.34	123.31	118.90
53	A3	1087	A	C5-C6-N6	-7.34	117.83	123.70
29	A1	812	G	C8-N9-C4	7.34	109.34	106.40
29	A2	182	C	N1-C2-O2	7.34	123.30	118.90
29	A1	993	G	C8-N9-C4	-7.34	103.47	106.40
29	A1	1790	U	N1-C2-O2	7.34	127.94	122.80
29	A1	782	G	N3-C4-C5	7.33	132.27	128.60
29	A1	1300	G	N1-C6-O6	7.33	124.30	119.90
29	A2	2772	A	N7-C8-N9	7.33	117.47	113.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1140	C	N1-C2-O2	7.33	123.30	118.90
53	A4	1198	C	C5-C6-N1	7.33	124.67	121.00
29	A2	1916	C	C6-N1-C2	-7.33	117.37	120.30
29	A1	1215	U	N3-C2-O2	-7.33	117.07	122.20
29	A1	1473	G	N3-C4-N9	7.33	130.40	126.00
29	A2	1607	A	P-O3'-C3'	7.33	128.49	119.70
29	A2	2184	G	C8-N9-C4	-7.33	103.47	106.40
53	A4	412	C	N1-C2-O2	7.33	123.30	118.90
29	A2	798	C	C6-N1-C1'	-7.33	112.01	120.80
53	A3	430	C	N1-C2-O2	7.33	123.30	118.90
53	A3	532	C	C6-N1-C2	-7.33	117.37	120.30
29	A1	52	A	C2-N3-C4	-7.32	106.94	110.60
29	A1	455	C	N1-C2-O2	7.32	123.29	118.90
29	A2	1741	U	N1-C2-O2	7.32	127.92	122.80
29	A1	182	C	N3-C2-O2	-7.32	116.78	121.90
29	A2	1300	G	N9-C4-C5	-7.32	102.47	105.40
29	A2	1748	G	C6-C5-N7	-7.32	126.01	130.40
29	A2	2829	G	C6-N1-C2	-7.32	120.71	125.10
53	A4	1121	G	C8-N9-C4	-7.32	103.47	106.40
53	A3	398	C	N3-C2-O2	-7.32	116.78	121.90
29	A2	1661	G	C4-N9-C1'	7.31	136.01	126.50
29	A1	1475	A	P-O3'-C3'	7.31	128.47	119.70
53	A4	1087	A	C5-C6-N6	-7.31	117.85	123.70
29	A1	1436	G	C4-N9-C1'	7.31	136.00	126.50
53	A4	1398	G	N7-C8-N9	7.31	116.76	113.10
29	A1	123	G	N3-C4-C5	7.31	132.25	128.60
29	A1	1428	G	C8-N9-C4	-7.31	103.48	106.40
29	A1	2477	C	C6-N1-C2	-7.31	117.38	120.30
53	A3	261	G	N1-C6-O6	7.31	124.28	119.90
53	A3	1079	C	C6-N1-C2	-7.31	117.38	120.30
53	A4	917	C	O4'-C1'-N1	7.31	114.05	108.20
53	A4	303	C	N3-C2-O2	-7.31	116.79	121.90
53	A4	1387	G	N3-C4-C5	7.31	132.25	128.60
29	A1	1761	C	N3-C2-O2	-7.30	116.79	121.90
29	A1	2829	G	N3-C4-N9	7.30	130.38	126.00
53	A4	670	A	P-O3'-C3'	7.30	128.47	119.70
53	A4	714	G	C4-N9-C1'	7.30	136.00	126.50
29	A1	1120	C	C6-N1-C2	-7.30	117.38	120.30
29	A2	1632	A	C2-N3-C4	7.30	114.25	110.60
53	A3	815	C	N3-C2-O2	-7.30	116.79	121.90
29	A1	2513	C	C5-C6-N1	7.30	124.65	121.00
53	A3	149	C	O5'-P-OP1	7.30	119.46	110.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1228	U	C5-C6-N1	7.30	126.35	122.70
53	A4	1451	G	N7-C8-N9	7.29	116.75	113.10
29	A1	2305	U	N3-C2-O2	-7.29	117.09	122.20
29	A2	241	A	N9-C4-C5	7.29	108.72	105.80
53	A3	263	C	C2-N1-C1'	7.29	126.82	118.80
53	A3	737	C	C6-N1-C1'	-7.29	112.05	120.80
53	A3	800	C	N3-C4-C5	7.29	124.82	121.90
30	B2	109	G	C5-C6-O6	-7.29	124.22	128.60
53	A3	749	A	OP1-P-O3'	7.29	121.24	105.20
29	A2	455	C	N1-C2-O2	7.29	123.27	118.90
29	A2	199	C	N1-C2-O2	7.29	123.27	118.90
53	A3	419	G	C4-C5-N7	7.29	113.72	110.80
29	A1	714	C	C6-N1-C2	-7.29	117.39	120.30
53	A3	874	C	N3-C2-O2	-7.29	116.80	121.90
53	A3	1404	G	C6-C5-N7	-7.29	126.03	130.40
53	A4	235	C	C5-C6-N1	7.29	124.64	121.00
29	A1	1398	C	N3-C2-O2	-7.28	116.80	121.90
29	A2	1635	A	C5-C6-N6	-7.28	117.87	123.70
29	A1	2309	C	C5-C6-N1	7.28	124.64	121.00
29	A1	2876	G	C8-N9-C4	7.28	109.31	106.40
29	A2	1363	C	C6-N1-C2	-7.28	117.39	120.30
53	A4	672	C	C6-N1-C1'	-7.28	112.07	120.80
53	A4	714	G	C8-N9-C1'	-7.28	117.54	127.00
53	A4	735	G	C8-N9-C4	-7.28	103.49	106.40
29	A1	879	G	N7-C8-N9	-7.27	109.46	113.10
30	B1	93	C	N1-C2-O2	7.27	123.27	118.90
53	A4	9	G	C4-C5-N7	7.27	113.71	110.80
53	A4	1431	A	C8-N9-C4	-7.27	102.89	105.80
29	A2	2332	G	C4-C5-N7	7.27	113.71	110.80
29	A1	965	A	C8-N9-C4	-7.27	102.89	105.80
30	B1	31	A	C8-N9-C4	-7.27	102.89	105.80
53	A4	1066	G	N7-C8-N9	7.27	116.73	113.10
29	A2	1297	U	N3-C2-O2	-7.27	117.11	122.20
53	A4	913	C	N3-C2-O2	-7.27	116.81	121.90
53	A4	443	C	N3-C2-O2	-7.27	116.81	121.90
29	A1	1944	C	C6-N1-C2	-7.26	117.39	120.30
29	A2	1215	U	N3-C2-O2	-7.26	117.11	122.20
53	A3	54	C	C6-N1-C2	-7.26	117.39	120.30
53	A3	560	G	C2-N3-C4	-7.26	108.27	111.90
29	A1	170	G	C8-N9-C4	-7.26	103.50	106.40
29	A1	262	A	N7-C8-N9	7.26	117.43	113.80
53	A3	451	C	N1-C2-O2	7.26	123.26	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1479	A	C8-N9-C4	-7.26	102.89	105.80
29	A2	1711	C	N3-C2-O2	-7.26	116.82	121.90
53	A4	933	U	C6-N1-C2	-7.26	116.64	121.00
53	A3	276	G	C6-C5-N7	-7.26	126.05	130.40
53	A4	24	U	C6-N1-C2	-7.26	116.64	121.00
53	A4	54	C	C6-N1-C2	-7.26	117.40	120.30
53	A4	240	C	N1-C2-O2	7.26	123.25	118.90
53	A4	419	G	N7-C8-N9	7.26	116.73	113.10
29	A2	1970	U	N1-C2-O2	7.25	127.88	122.80
53	A4	1199	C	N3-C4-C5	-7.25	119.00	121.90
29	A1	290	G	N3-C4-N9	7.25	130.35	126.00
29	A1	609	C	C2-N1-C1'	7.25	126.77	118.80
29	A2	1140	C	N1-C2-O2	7.25	123.25	118.90
29	A2	2064	C	N3-C2-O2	-7.25	116.83	121.90
53	A4	549	G	C6-C5-N7	-7.25	126.05	130.40
29	A1	1978	G	C6-C5-N7	-7.25	126.05	130.40
29	A1	1071	U	N1-C2-O2	7.24	127.87	122.80
29	A1	1120	C	C5-C6-N1	7.24	124.62	121.00
29	A2	595	G	N3-C4-N9	-7.24	121.66	126.00
53	A3	425	A	C5-C6-N6	-7.24	117.91	123.70
29	A2	1714	A	C8-N9-C4	-7.24	102.90	105.80
53	A3	582	C	N1-C2-O2	7.24	123.24	118.90
53	A4	1333	C	C5-C6-N1	7.24	124.62	121.00
29	A1	1435	C	C5-C6-N1	7.24	124.62	121.00
53	A4	815	C	N1-C2-O2	7.24	123.24	118.90
53	A4	1299	A	N7-C8-N9	7.24	117.42	113.80
53	A3	778	C	C6-N1-C2	7.23	123.19	120.30
53	A4	541	G	N1-C6-O6	7.23	124.24	119.90
53	A4	27	G	N3-C4-N9	7.23	130.34	126.00
29	A1	1561	C	C6-N1-C2	-7.23	117.41	120.30
29	A2	690	C	C6-N1-C1'	-7.23	112.12	120.80
29	A2	2688	G	C4-C5-N7	7.23	113.69	110.80
53	A3	1222	G	C6-C5-N7	-7.23	126.06	130.40
29	A2	669	G	C2-N3-C4	-7.23	108.29	111.90
53	A3	756	G	C4-C5-N7	7.23	113.69	110.80
53	A4	360	U	C5-C6-N1	7.22	126.31	122.70
29	A1	182	C	N1-C2-O2	7.22	123.23	118.90
29	A1	1929	C	C6-N1-C1'	-7.22	112.13	120.80
29	A2	2067	C	N3-C2-O2	-7.22	116.84	121.90
30	B2	98	U	O4'-C1'-N1	7.22	113.98	108.20
29	A2	881	G	C6-C5-N7	-7.22	126.07	130.40
29	A2	2064	C	N1-C2-O2	7.22	123.23	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1931	G	C4-C5-N7	7.22	113.69	110.80
53	A3	1501	C	N3-C2-O2	-7.22	116.85	121.90
29	A1	1592	C	C5-C6-N1	7.22	124.61	121.00
53	A3	1198	C	C5-C6-N1	7.22	124.61	121.00
53	A4	524	G	C8-N9-C4	7.22	109.29	106.40
53	A4	1404	G	C4-C5-N7	7.22	113.69	110.80
29	A2	1541	C	N3-C4-N4	-7.21	112.95	118.00
53	A4	572	C	N1-C2-O2	7.21	123.23	118.90
53	A4	261	G	C5-N7-C8	-7.21	100.69	104.30
29	A2	2865	C	N1-C2-O2	7.21	123.23	118.90
29	A1	1580	C	C6-N1-C2	-7.21	117.42	120.30
29	A1	2080	G	C4-C5-N7	7.21	113.68	110.80
29	A2	1761	C	C5-C6-N1	7.21	124.60	121.00
53	A4	532	C	C6-N1-C2	-7.21	117.42	120.30
29	A1	177	G	N3-C4-C5	-7.21	125.00	128.60
29	A1	2129	C	C5-C6-N1	7.20	124.60	121.00
29	A1	718	G	C8-N9-C1'	-7.20	117.64	127.00
29	A1	2385	G	C8-N9-C4	-7.20	103.52	106.40
29	A2	669	G	N3-C4-N9	-7.20	121.68	126.00
29	A2	1758	U	N3-C2-O2	-7.20	117.16	122.20
53	A4	93	C	C5-C6-N1	7.20	124.60	121.00
29	A2	2717	C	C6-N1-C2	-7.20	117.42	120.30
53	A3	419	G	C8-N9-C4	-7.20	103.52	106.40
29	A1	1929	C	C5-C6-N1	7.20	124.60	121.00
29	A2	749	G	C4-C5-N7	7.20	113.68	110.80
53	A3	662	C	C5-C6-N1	7.20	124.60	121.00
29	A2	52	A	C2-N3-C4	-7.19	107.00	110.60
53	A4	1184	C	C5-C6-N1	7.19	124.60	121.00
29	A1	828	U	C6-N1-C2	-7.19	116.68	121.00
29	A1	1918	C	N1-C2-O2	7.19	123.22	118.90
29	A1	2650	U	C2-N1-C1'	7.19	126.33	117.70
29	A2	2185	C	O4'-C1'-N1	7.19	113.95	108.20
53	A4	805	C	C5-C6-N1	7.19	124.60	121.00
53	A3	905	G	C4-N9-C1'	7.19	135.85	126.50
29	A2	1925	A	N1-C6-N6	-7.19	114.29	118.60
29	A1	2491	C	N1-C2-O2	7.19	123.21	118.90
53	A3	425	A	C4-C5-N7	7.18	114.29	110.70
53	A3	1117	U	C5-C6-N1	7.18	126.29	122.70
29	A1	1282	U	N3-C2-O2	-7.18	117.17	122.20
29	A1	2864	G	C6-C5-N7	-7.18	126.09	130.40
29	A1	1622	G	C4-C5-N7	7.18	113.67	110.80
53	A3	714	G	C8-N9-C1'	-7.18	117.67	127.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1993	A	C8-N9-C4	-7.18	102.93	105.80
29	A1	857	G	C8-N9-C4	-7.17	103.53	106.40
29	A1	994	G	C8-N9-C4	-7.17	103.53	106.40
53	A4	1218	C	N3-C2-O2	-7.17	116.88	121.90
29	A2	604	G	C4-C5-N7	7.17	113.67	110.80
53	A3	1491	C	N1-C2-O2	7.17	123.20	118.90
53	A4	424	U	O4'-C1'-N1	7.17	113.94	108.20
53	A3	215	G	C6-C5-N7	-7.17	126.10	130.40
53	A4	26	A	C5-C6-N1	7.17	121.28	117.70
29	A2	2131	C	C6-N1-C2	-7.17	117.43	120.30
29	A2	1301	A	N1-C6-N6	-7.16	114.30	118.60
29	A2	802	C	C2-N1-C1'	7.16	126.68	118.80
29	A2	945	C	O4'-C1'-N1	7.16	113.93	108.20
53	A4	1398	G	C4-N9-C1'	7.16	135.81	126.50
29	A2	1890	G	C8-N9-C4	-7.16	103.54	106.40
53	A3	672	C	C6-N1-C2	-7.16	117.44	120.30
29	A1	262	A	C8-N9-C4	-7.16	102.94	105.80
29	A2	2675	G	C8-N9-C4	-7.16	103.54	106.40
53	A3	419	G	C5-N7-C8	-7.16	100.72	104.30
53	A3	221	G	O4'-C1'-N9	7.16	113.92	108.20
29	A2	2376	G	C4-N9-C1'	-7.15	117.20	126.50
29	A2	2488	C	C6-N1-C2	-7.15	117.44	120.30
29	A1	2105	C	C6-N1-C2	-7.15	117.44	120.30
29	A1	1398	C	C2-N1-C1'	7.15	126.67	118.80
29	A2	714	C	N1-C2-O2	7.15	123.19	118.90
29	A2	733	G	N1-C2-N3	7.15	128.19	123.90
29	A1	2710	U	C6-N1-C2	-7.15	116.71	121.00
29	A2	1635	A	N1-C6-N6	7.15	122.89	118.60
53	A4	1473	C	C5-C6-N1	7.15	124.57	121.00
53	A3	552	C	N3-C2-O2	-7.15	116.90	121.90
29	A2	2322	G	N3-C4-N9	7.14	130.29	126.00
29	A1	1314	G	C8-N9-C4	7.14	109.26	106.40
29	A2	1626	C	N3-C2-O2	-7.14	116.90	121.90
29	A1	126	C	C5-C6-N1	7.14	124.57	121.00
53	A4	424	U	C5-C6-N1	-7.14	119.13	122.70
53	A3	815	C	N1-C2-O2	7.14	123.18	118.90
53	A4	662	C	C5-C6-N1	7.14	124.57	121.00
53	A4	1366	C	C5-C6-N1	7.14	124.57	121.00
29	A1	1716	G	N3-C4-N9	7.14	130.28	126.00
29	A1	1748	G	C6-C5-N7	-7.14	126.12	130.40
29	A2	2802	C	N1-C2-O2	7.14	123.18	118.90
29	A1	683	C	N3-C2-O2	-7.13	116.91	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2081	A	C8-N9-C4	-7.13	102.95	105.80
29	A1	2209	C	O4'-C1'-N1	7.13	113.91	108.20
29	A1	846	C	C6-N1-C2	-7.13	117.45	120.30
53	A3	979	G	N7-C8-N9	7.13	116.67	113.10
29	A1	437	C	C6-N1-C2	-7.13	117.45	120.30
29	A1	2780	A	N3-C4-C5	-7.13	121.81	126.80
29	A2	426	G	N1-C6-O6	7.13	124.18	119.90
53	A4	142	G	C4-C5-N7	7.13	113.65	110.80
53	A4	663	C	C2-N1-C1'	7.13	126.64	118.80
29	A1	1465	C	N3-C2-O2	-7.13	116.91	121.90
29	A2	489	C	C6-N1-C2	-7.13	117.45	120.30
29	A1	531	U	C6-N1-C1'	-7.12	111.23	121.20
29	A1	595	G	N3-C4-N9	-7.12	121.73	126.00
29	A2	858	G	N3-C4-N9	7.12	130.27	126.00
53	A4	1220	A	C4-C5-N7	7.12	114.26	110.70
29	A2	1157	C	N3-C4-C5	7.12	124.75	121.90
29	A2	1497	G	N3-C4-C5	-7.12	125.04	128.60
53	A3	415	U	N3-C2-O2	-7.12	117.22	122.20
53	A3	621	G	C5-C6-O6	-7.12	124.33	128.60
29	A2	520	G	N7-C8-N9	7.12	116.66	113.10
53	A3	1026	A	C2-N3-C4	7.12	114.16	110.60
29	A2	1282	U	N3-C2-O2	-7.11	117.22	122.20
29	A2	1298	G	C8-N9-C1'	-7.11	117.75	127.00
29	A2	2385	G	C8-N9-C4	-7.11	103.56	106.40
29	A1	1454	U	C5-C6-N1	7.11	126.25	122.70
53	A4	1392	G	C4-C5-N7	7.11	113.64	110.80
29	A1	1790	U	N3-C2-O2	-7.11	117.23	122.20
53	A4	1266	A	C5-N7-C8	7.11	107.45	103.90
53	A4	697	G	N7-C8-N9	7.10	116.65	113.10
29	A1	2251	G	C6-C5-N7	-7.10	126.14	130.40
29	A2	690	C	C6-N1-C2	-7.10	117.46	120.30
53	A3	1452	G	C5-N7-C8	-7.10	100.75	104.30
53	A4	413	C	C6-N1-C2	-7.10	117.46	120.30
29	A1	2735	U	C6-N1-C2	-7.10	116.74	121.00
53	A3	511	C	C2-N1-C1'	7.10	126.61	118.80
29	A2	1119	G	C8-N9-C4	-7.09	103.56	106.40
53	A3	1228	U	C6-N1-C1'	-7.09	111.27	121.20
29	A1	1877	C	C6-N1-C2	7.09	123.14	120.30
29	A2	322	C	N3-C2-O2	-7.09	116.94	121.90
29	A2	1761	C	C2-N1-C1'	7.09	126.59	118.80
29	A2	1791	G	N3-C4-N9	7.09	130.25	126.00
53	A4	1236	G	N3-C4-N9	7.09	130.25	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1957	G	C8-N9-C4	-7.08	103.57	106.40
29	A2	1449	G	N3-C4-N9	7.08	130.25	126.00
29	A2	1661	G	C4-C5-N7	7.08	113.63	110.80
53	A3	215	G	N3-C4-C5	-7.08	125.06	128.60
53	A3	325	C	N1-C2-O2	7.08	123.15	118.90
29	A2	2180	G	C5-N7-C8	-7.08	100.76	104.30
53	A4	1404	G	N1-C6-O6	7.08	124.15	119.90
29	A2	177	G	N3-C4-C5	-7.08	125.06	128.60
29	A2	1622	G	C4-C5-N7	7.08	113.63	110.80
53	A4	675	U	C5-C6-N1	7.08	126.24	122.70
29	A1	1750	A	C5-N7-C8	-7.08	100.36	103.90
29	A2	1718	A	C5-C6-N1	7.08	121.24	117.70
53	A3	149	C	O5'-P-OP2	-7.08	99.33	105.70
29	A1	2851	G	C6-C5-N7	-7.08	126.16	130.40
29	A2	2081	A	C8-N9-C4	-7.07	102.97	105.80
29	A2	730	G	C8-N9-C4	-7.07	103.57	106.40
53	A3	272	C	C6-N1-C2	-7.07	117.47	120.30
53	A4	561	C	N3-C2-O2	-7.07	116.95	121.90
53	A3	496	C	N3-C2-O2	-7.07	116.95	121.90
53	A4	511	C	N3-C2-O2	-7.07	116.95	121.90
29	A2	1732	C	N1-C2-O2	7.07	123.14	118.90
53	A4	148	C	OP1-P-O3'	7.07	120.75	105.20
29	A1	1975	U	N3-C2-O2	-7.06	117.25	122.20
29	A1	2737	G	N7-C8-N9	7.06	116.63	113.10
29	A2	170	G	C6-C5-N7	-7.06	126.16	130.40
29	A2	2600	C	N3-C4-C5	7.06	124.73	121.90
29	A1	409	G	N3-C4-C5	-7.06	125.07	128.60
53	A3	636	A	O4'-C1'-N9	7.06	113.85	108.20
53	A3	783	G	N7-C8-N9	7.06	116.63	113.10
53	A4	1475	U	OP2-P-O3'	7.06	120.74	105.20
29	A1	191	C	C6-N1-C2	-7.06	117.48	120.30
29	A1	2254	C	N3-C2-O2	-7.06	116.96	121.90
29	A1	2622	G	N3-C4-N9	-7.06	121.76	126.00
29	A2	1626	C	C6-N1-C2	-7.06	117.48	120.30
53	A4	142	G	C6-C5-N7	-7.06	126.16	130.40
29	A1	2376	G	C4-N9-C1'	-7.06	117.32	126.50
29	A2	182	C	N3-C2-O2	-7.06	116.96	121.90
40	J3	8	LEU	CB-CG-CD1	-7.06	99.00	111.00
53	A3	663	C	C2-N1-C1'	7.06	126.56	118.80
53	A3	1042	C	C5-C4-N4	-7.06	115.26	120.20
53	A3	1198	C	C6-N1-C1'	-7.06	112.33	120.80
29	A1	728	C	N3-C4-N4	7.06	122.94	118.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2265	G	C4-C5-N7	7.06	113.62	110.80
53	A4	1165	G	C6-C5-N7	-7.06	126.17	130.40
29	A1	2595	G	C4-N9-C1'	7.06	135.67	126.50
29	A1	993	G	N3-C4-C5	-7.05	125.07	128.60
29	A1	1012	C	C6-N1-C2	-7.05	117.48	120.30
29	A2	1957	G	C8-N9-C4	-7.05	103.58	106.40
53	A3	276	G	C4-C5-N7	7.05	113.62	110.80
53	A4	415	U	N3-C2-O2	-7.05	117.26	122.20
53	A4	1281	G	O4'-C1'-N9	7.05	113.84	108.20
29	A2	312	C	C5-C6-N1	7.05	124.53	121.00
53	A3	263	C	C5-C6-N1	7.05	124.53	121.00
53	A3	502	C	C6-N1-C2	-7.05	117.48	120.30
53	A4	800	C	N3-C4-C5	7.05	124.72	121.90
53	A4	131	C	C5-C6-N1	7.05	124.52	121.00
29	A2	177	G	N3-C4-N9	7.04	130.23	126.00
29	A2	1298	G	C4-N9-C1'	7.04	135.66	126.50
53	A3	1452	G	C4-C5-N7	7.04	113.62	110.80
29	A2	1790	U	N1-C2-O2	7.04	127.73	122.80
29	A2	2784	C	N1-C2-O2	7.04	123.12	118.90
53	A4	502	C	C6-N1-C2	-7.04	117.48	120.30
53	A4	874	C	N3-C2-O2	-7.04	116.97	121.90
29	A1	1194	C	C5-C6-N1	7.04	124.52	121.00
29	A1	1592	C	C2-N1-C1'	7.04	126.54	118.80
53	A4	1165	G	C4-C5-N7	7.04	113.61	110.80
53	A4	1506	G	C8-N9-C1'	-7.04	117.85	127.00
29	A1	2265	G	N3-C4-N9	7.04	130.22	126.00
29	A2	2629	U	N3-C2-O2	-7.04	117.28	122.20
53	A4	425	A	N9-C4-C5	-7.04	102.99	105.80
53	A3	789	C	C5-C4-N4	-7.03	115.28	120.20
29	A1	1834	G	C4-N9-C1'	7.03	135.64	126.50
29	A2	2840	C	O4'-C1'-N1	7.03	113.83	108.20
29	A2	828	U	C6-N1-C2	-7.03	116.78	121.00
53	A3	959	U	N1-C2-O2	7.03	127.72	122.80
53	A4	748	G	C8-N9-C4	-7.03	103.59	106.40
53	A4	872	G	N1-C6-O6	7.03	124.12	119.90
53	A4	997	C	C5-C6-N1	7.03	124.51	121.00
29	A1	2237	G	C4-C5-N7	7.03	113.61	110.80
53	A4	1506	G	C4-N9-C1'	7.02	135.63	126.50
29	A1	1853	U	C5-C6-N1	7.02	126.21	122.70
29	A1	2688	G	C4-C5-N7	7.02	113.61	110.80
29	A2	901	G	N3-C4-C5	-7.02	125.09	128.60
29	A2	857	G	C8-N9-C4	-7.02	103.59	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1165	G	C4-N9-C1'	7.02	135.63	126.50
53	A3	240	C	N1-C2-O2	7.02	123.11	118.90
29	A1	1449	G	N3-C4-N9	7.02	130.21	126.00
29	A1	1579	C	C6-N1-C2	-7.02	117.49	120.30
53	A3	285	C	C2-N1-C1'	7.02	126.52	118.80
53	A4	511	C	N1-C2-O2	7.02	123.11	118.90
29	A1	2051	G	N3-C4-C5	-7.01	125.09	128.60
29	A1	1126	U	N1-C2-O2	7.01	127.71	122.80
29	A2	2226	C	C6-N1-C2	-7.01	117.50	120.30
53	A3	1124	G	N3-C2-N2	-7.01	114.99	119.90
53	A4	763	A	N1-C6-N6	7.01	122.81	118.60
29	A2	609	C	C2-N1-C1'	7.01	126.51	118.80
29	A1	1761	C	N1-C2-O2	7.01	123.10	118.90
29	A2	2573	C	N1-C2-O2	7.00	123.10	118.90
53	A4	917	C	C6-N1-C1'	7.00	129.21	120.80
29	A2	1777	C	C5-C6-N1	7.00	124.50	121.00
53	A3	83	A	O4'-C1'-N9	7.00	113.80	108.20
53	A3	582	C	C2-N1-C1'	7.00	126.50	118.80
29	A2	847	G	C4-C5-N7	7.00	113.60	110.80
53	A3	937	U	N1-C2-O2	7.00	127.70	122.80
29	A1	960	C	N3-C2-O2	-7.00	117.00	121.90
29	A1	1817	A	O5'-P-OP1	7.00	119.10	110.70
29	A2	828	U	N3-C2-O2	-7.00	117.30	122.20
29	A2	1046	C	N1-C2-O2	7.00	123.10	118.90
29	A2	2620	C	N3-C2-O2	-7.00	117.00	121.90
29	A2	2273	G	N3-C4-N9	6.99	130.19	126.00
53	A3	468	G	P-O3'-C3'	6.99	128.09	119.70
53	A4	241	A	P-O3'-C3'	6.99	128.09	119.70
42	L3	77	LEU	CA-CB-CG	-6.99	99.23	115.30
29	A1	1399	C	C5-C6-N1	6.99	124.49	121.00
29	A2	2373	C	C5-C6-N1	6.99	124.49	121.00
29	A2	35	G	N3-C4-C5	-6.98	125.11	128.60
29	A2	802	C	C6-N1-C2	-6.98	117.51	120.30
30	B2	90	C	C6-N1-C2	-6.98	117.51	120.30
29	A1	126	C	C2-N1-C1'	6.98	126.48	118.80
29	A2	2265	G	N1-C6-O6	-6.98	115.71	119.90
53	A4	1276	G	N9-C4-C5	-6.98	102.61	105.40
29	A1	219	A	P-O3'-C3'	6.98	128.07	119.70
53	A4	981	G	C8-N9-C4	-6.98	103.61	106.40
29	A1	1393	C	N3-C4-C5	6.98	124.69	121.90
29	A2	174	C	O4'-C1'-N1	6.98	113.78	108.20
53	A3	512	G	N3-C2-N2	6.98	124.78	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	215	G	C8-N9-C1'	-6.98	117.93	127.00
29	A2	2735	U	C6-N1-C2	-6.97	116.81	121.00
53	A3	235	C	C6-N1-C2	-6.97	117.51	120.30
53	A4	421	G	N7-C8-N9	6.97	116.59	113.10
29	A2	2700	G	N3-C4-N9	6.97	130.18	126.00
53	A4	170	C	C2-N1-C1'	6.97	126.47	118.80
53	A4	571	G	N9-C4-C5	-6.97	102.61	105.40
29	A1	2260	G	C4-C5-N7	6.97	113.59	110.80
29	A1	1054	C	C2-N1-C1'	6.97	126.47	118.80
29	A1	1799	U	C2-N1-C1'	6.97	126.06	117.70
29	A2	1800	C	N1-C2-O2	6.97	123.08	118.90
53	A3	419	G	C6-C5-N7	-6.97	126.22	130.40
53	A3	696	G	C8-N9-C4	-6.97	103.61	106.40
53	A4	84	C	C5-C6-N1	6.96	124.48	121.00
29	A1	728	C	C5-C4-N4	-6.96	115.33	120.20
53	A3	1243	C	N1-C2-O2	6.96	123.08	118.90
30	B1	49	C	N3-C2-O2	-6.96	117.03	121.90
53	A3	1029	G	C4-N9-C1'	-6.96	117.45	126.50
29	A1	564	C	C6-N1-C2	-6.96	117.52	120.30
29	A1	2129	C	C2-N1-C1'	6.96	126.45	118.80
29	A1	2756	A	C8-N9-C4	6.96	108.58	105.80
53	A3	1369	G	N3-C2-N2	6.96	124.77	119.90
53	A3	1487	U	C5-C6-N1	6.96	126.18	122.70
53	A4	872	G	C5-N7-C8	-6.96	100.82	104.30
29	A1	2327	C	C5-C6-N1	6.95	124.48	121.00
29	A1	2497	C	C6-N1-C2	-6.95	117.52	120.30
29	A2	2322	G	C2-N3-C4	6.95	115.38	111.90
29	A1	2132	C	C2-N3-C4	6.95	123.38	119.90
29	A1	2309	C	C6-N1-C2	-6.95	117.52	120.30
29	A2	2315	C	N3-C2-O2	-6.95	117.03	121.90
53	A3	520	G	N3-C4-N9	6.95	130.17	126.00
53	A3	526	C	N3-C2-O2	-6.95	117.03	121.90
53	A4	465	G	N3-C2-N2	-6.95	115.04	119.90
29	A1	1970	U	N1-C2-O2	6.95	127.66	122.80
29	A1	938	C	C6-N1-C2	-6.95	117.52	120.30
29	A2	993	G	N3-C4-C5	-6.95	125.13	128.60
29	A2	1019	G	C2-N3-C4	-6.95	108.43	111.90
29	A1	2240	C	C5-C6-N1	6.94	124.47	121.00
29	A2	268	C	N1-C2-O2	6.94	123.07	118.90
29	A2	1270	C	N3-C4-C5	6.94	124.68	121.90
29	A2	2595	G	C4-N9-C1'	6.94	135.53	126.50
29	A1	730	G	C4-C5-N7	6.94	113.58	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	827	G	C6-C5-N7	-6.94	126.24	130.40
29	A2	2833	A	C5-C6-N1	6.94	121.17	117.70
53	A4	188	U	C2-N1-C1'	6.94	126.03	117.70
53	A3	1215	C	C6-N1-C2	-6.94	117.53	120.30
29	A1	2700	G	C4-N9-C1'	6.93	135.52	126.50
29	A2	2696	U	N3-C2-O2	-6.93	117.35	122.20
29	A1	1622	G	N7-C8-N9	6.93	116.57	113.10
53	A3	254	G	C6-C5-N7	-6.93	126.24	130.40
53	A3	409	A	N1-C6-N6	-6.93	114.44	118.60
53	A3	1006	C	C6-N1-C2	-6.93	117.53	120.30
29	A1	123	G	C8-N9-C4	6.93	109.17	106.40
29	A1	1932	C	N1-C2-O2	6.93	123.06	118.90
53	A4	285	C	N1-C2-O2	6.93	123.06	118.90
53	A4	524	G	N9-C4-C5	-6.93	102.63	105.40
29	A1	960	C	N1-C2-O2	6.93	123.06	118.90
53	A3	552	C	C6-N1-C2	-6.93	117.53	120.30
53	A3	1059	G	C5-C6-N1	-6.93	108.04	111.50
53	A4	789	C	N3-C4-C5	6.93	124.67	121.90
29	A1	2786	C	C6-N1-C1'	-6.92	112.49	120.80
53	A4	423	G	N3-C4-N9	6.92	130.16	126.00
29	A1	1791	G	C4-N9-C1'	6.92	135.50	126.50
29	A2	769	C	C6-N1-C2	6.92	123.07	120.30
29	A2	2494	C	C6-N1-C2	-6.92	117.53	120.30
53	A3	1339	U	N1-C2-O2	6.92	127.64	122.80
53	A4	1165	G	C8-N9-C1'	-6.92	118.00	127.00
53	A4	1480	A	OP1-P-O3'	6.92	120.43	105.20
29	A1	174	C	O4'-C1'-N1	6.92	113.74	108.20
53	A3	1236	G	N3-C4-N9	6.92	130.15	126.00
29	A2	966	A	N7-C8-N9	6.92	117.26	113.80
29	A1	2335	G	C4-N9-C1'	6.92	135.49	126.50
53	A4	1396	U	N1-C2-O2	6.92	127.64	122.80
29	A1	2273	G	N3-C4-N9	6.91	130.15	126.00
29	A2	472	C	C6-N1-C2	-6.91	117.53	120.30
5	G1	88	LEU	CA-CB-CG	6.91	131.19	115.30
53	A3	236	C	N3-C2-O2	-6.91	117.06	121.90
53	A4	1005	C	P-O3'-C3'	6.91	127.99	119.70
29	A2	2710	U	C6-N1-C2	-6.91	116.86	121.00
53	A4	967	C	N1-C2-O2	6.91	123.04	118.90
53	A4	1487	U	C5-C6-N1	6.91	126.15	122.70
29	A2	1646	C	N1-C2-O2	6.90	123.04	118.90
29	A1	1463	U	C5-C6-N1	6.90	126.15	122.70
29	A2	854	G	N9-C4-C5	-6.90	102.64	105.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1108	U	P-O3'-C3'	6.90	127.98	119.70
53	A3	241	A	P-O3'-C3'	6.90	127.98	119.70
53	A3	1406	C	O4'-C1'-N1	6.90	113.72	108.20
29	A1	1270	C	N3-C4-C5	6.90	124.66	121.90
29	A1	2849	G	C5-C6-N1	6.90	114.95	111.50
29	A2	1750	A	C4-C5-N7	6.90	114.15	110.70
53	A3	276	G	C8-N9-C4	-6.90	103.64	106.40
29	A1	2417	C	N1-C2-O2	6.90	123.04	118.90
53	A3	991	G	N3-C4-C5	6.90	132.05	128.60
53	A4	620	G	N3-C4-N9	6.90	130.14	126.00
29	A2	458	A	N1-C6-N6	-6.90	114.46	118.60
29	A1	1720	U	C6-N1-C2	-6.89	116.86	121.00
29	A1	1254	C	C5-C6-N1	6.89	124.45	121.00
29	A2	2477	C	C6-N1-C2	-6.89	117.54	120.30
53	A4	1047	U	P-O3'-C3'	6.89	127.97	119.70
29	A2	2480	C	C6-N1-C2	-6.89	117.54	120.30
29	A2	807	C	N1-C2-O2	6.89	123.03	118.90
30	B2	67	C	C6-N1-C2	-6.89	117.54	120.30
53	A3	772	U	C2-N1-C1'	6.89	125.97	117.70
29	A1	2829	G	C5-C6-N1	6.89	114.94	111.50
44	N4	29	ARG	NE-CZ-NH1	-6.89	116.86	120.30
29	A1	807	C	N1-C2-O2	6.88	123.03	118.90
29	A2	212	A	C8-N9-C4	6.88	108.55	105.80
53	A4	1101	C	C6-N1-C2	-6.88	117.55	120.30
29	A1	236	C	C6-N1-C2	-6.88	117.55	120.30
29	A2	1720	U	C6-N1-C2	-6.88	116.87	121.00
29	A1	2417	C	C2-N1-C1'	6.88	126.37	118.80
29	A1	1436	G	N3-C4-C5	-6.88	125.16	128.60
53	A3	1033	C	C6-N1-C2	-6.88	117.55	120.30
29	A2	1202	G	N7-C8-N9	-6.88	109.66	113.10
53	A4	1122	C	C5-C6-N1	6.88	124.44	121.00
29	A1	1768	G	C4-C5-N7	6.88	113.55	110.80
29	A2	2334	A	N7-C8-N9	6.88	117.24	113.80
53	A3	156	A	N7-C8-N9	6.88	117.24	113.80
29	A1	2115	U	N1-C2-O2	6.87	127.61	122.80
29	A1	2014	C	C6-N1-C2	-6.87	117.55	120.30
29	A2	1012	C	C6-N1-C2	-6.87	117.55	120.30
29	A2	2624	C	OP2-P-O3'	6.87	120.32	105.20
53	A3	665	G	C4-C5-N7	6.87	113.55	110.80
29	A1	1652	C	C6-N1-C2	-6.87	117.55	120.30
29	A2	1530	U	C2-N1-C1'	6.87	125.94	117.70
29	A2	1596	C	N1-C2-O2	6.87	123.02	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1973	G	C6-C5-N7	-6.87	126.28	130.40
29	A2	1684	G	N7-C8-N9	6.87	116.53	113.10
53	A3	1101	C	C6-N1-C2	-6.87	117.55	120.30
29	A1	2837	C	N1-C2-O2	6.86	123.02	118.90
29	A2	1804	C	C2-N3-C4	-6.86	116.47	119.90
53	A3	303	C	N3-C2-O2	-6.86	117.10	121.90
53	A3	1087	A	C6-C5-N7	-6.86	127.50	132.30
29	A1	901	G	C6-C5-N7	-6.86	126.28	130.40
29	A2	1951	A	N7-C8-N9	6.86	117.23	113.80
29	A2	2681	C	C4-C5-C6	-6.86	113.97	117.40
53	A3	1318	G	N3-C2-N2	6.86	124.70	119.90
53	A4	1459	G	C6-C5-N7	-6.86	126.28	130.40
53	A3	1029	G	N3-C4-C5	6.86	132.03	128.60
29	A2	1614	C	C5-C6-N1	-6.86	117.57	121.00
29	A2	1702	G	OP1-P-O3'	6.86	120.29	105.20
53	A4	1477	A	C8-N9-C4	-6.86	103.06	105.80
29	A1	1222	U	N1-C2-O2	6.86	127.60	122.80
30	B2	7	C	N3-C2-O2	-6.86	117.10	121.90
53	A3	1452	G	C6-C5-N7	-6.86	126.29	130.40
53	A3	670	A	P-O3'-C3'	6.85	127.92	119.70
53	A3	672	C	N3-C2-O2	-6.85	117.10	121.90
29	A2	1475	A	C8-N9-C4	-6.85	103.06	105.80
29	A2	1883	G	N3-C2-N2	-6.85	115.10	119.90
29	A2	2480	C	N3-C2-O2	-6.85	117.10	121.90
29	A2	1896	G	C8-N9-C4	-6.85	103.66	106.40
53	A3	28	G	N9-C4-C5	6.85	108.14	105.40
29	A1	182	C	C5-C6-N1	6.85	124.42	121.00
29	A2	2584	G	N1-C2-N3	6.85	128.01	123.90
53	A3	235	C	C5-C6-N1	6.85	124.42	121.00
53	A4	1042	C	N3-C2-O2	-6.85	117.11	121.90
29	A1	489	C	C6-N1-C2	-6.85	117.56	120.30
29	A1	1008	C	C6-N1-C2	6.85	123.04	120.30
29	A2	345	A	C8-N9-C4	6.85	108.54	105.80
29	A2	639	U	C5-C6-N1	6.85	126.12	122.70
53	A3	289	U	N1-C2-O2	6.85	127.59	122.80
29	A1	2833	A	C5-C6-N1	6.84	121.12	117.70
29	A2	1714	A	N7-C8-N9	6.84	117.22	113.80
29	A2	2322	G	N3-C4-C5	-6.84	125.18	128.60
53	A4	1381	C	N3-C4-C5	6.84	124.64	121.90
29	A1	1120	C	N3-C2-O2	-6.84	117.11	121.90
29	A1	2517	A	C5-C6-N1	6.84	121.12	117.70
29	A2	2382	C	C6-N1-C2	-6.84	117.56	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	897	G	N3-C2-N2	6.84	124.69	119.90
29	A1	1958	C	N3-C2-O2	-6.84	117.11	121.90
29	A2	420	C	C6-N1-C2	-6.84	117.56	120.30
30	B1	49	C	N1-C2-O2	6.84	123.00	118.90
53	A3	1477	A	C8-N9-C4	-6.84	103.06	105.80
53	A4	99	C	N1-C2-O2	6.84	123.00	118.90
29	A1	1750	A	C4-C5-N7	6.84	114.12	110.70
53	A3	1310	A	C5-N7-C8	-6.84	100.48	103.90
29	A2	2176	G	C4-N9-C1'	6.83	135.39	126.50
53	A4	139	G	C4-C5-N7	6.83	113.53	110.80
29	A1	1716	G	N1-C2-N2	-6.83	110.05	116.20
29	A1	2129	C	N3-C2-O2	-6.83	117.12	121.90
29	A1	2165	G	N3-C4-N9	6.83	130.10	126.00
29	A1	2559	G	C5-C6-O6	6.83	132.70	128.60
53	A3	558	G	O5'-P-OP1	6.83	118.90	110.70
53	A3	716	A	O4'-C1'-N9	6.83	113.67	108.20
53	A4	1228	U	C6-N1-C1'	-6.83	111.63	121.20
29	A2	1281	C	N3-C2-O2	-6.83	117.12	121.90
53	A3	719	C	N1-C2-O2	6.83	123.00	118.90
53	A4	1059	G	C2-N3-C4	-6.83	108.48	111.90
29	A1	2851	G	C4-N9-C1'	6.83	135.38	126.50
30	B2	79	U	N3-C2-O2	-6.83	117.42	122.20
53	A3	955	A	N9-C4-C5	-6.83	103.07	105.80
53	A3	1506	G	C4-N9-C1'	6.83	135.38	126.50
53	A4	1243	C	N1-C2-O2	6.83	123.00	118.90
53	A4	563	U	N3-C2-O2	-6.83	117.42	122.20
29	A1	1281	C	N3-C2-O2	-6.82	117.12	121.90
29	A1	1803	G	N1-C6-O6	-6.82	115.81	119.90
29	A1	2573	C	N1-C2-O2	6.82	122.99	118.90
29	A1	2781	G	O5'-P-OP2	-6.82	99.56	105.70
53	A4	156	A	N7-C8-N9	6.82	117.21	113.80
53	A4	1254	G	N9-C4-C5	-6.82	102.67	105.40
53	A3	511	C	N3-C4-C5	6.82	124.63	121.90
29	A2	722	C	N3-C2-O2	-6.82	117.13	121.90
29	A2	2737	G	N7-C8-N9	6.82	116.51	113.10
53	A3	236	C	N1-C2-O2	6.82	122.99	118.90
53	A3	1455	C	N1-C2-O2	6.82	122.99	118.90
29	A2	1375	C	N1-C2-O2	6.82	122.99	118.90
29	A2	2849	G	C5-C6-N1	6.82	114.91	111.50
29	A2	2737	G	C4-N9-C1'	6.81	135.36	126.50
53	A4	1325	C	N3-C2-O2	-6.81	117.13	121.90
29	A1	585	C	O4'-C1'-N1	6.81	113.65	108.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	622	G	C4-C5-N7	6.81	113.52	110.80
29	A1	1929	C	N1-C2-O2	6.81	122.98	118.90
29	A1	2076	G	N7-C8-N9	6.81	116.50	113.10
29	A2	2369	C	C6-N1-C1'	-6.81	112.63	120.80
53	A4	139	G	N9-C4-C5	-6.81	102.68	105.40
53	A4	357	G	N3-C4-C5	6.81	132.00	128.60
53	A4	1431	A	N7-C8-N9	6.81	117.20	113.80
29	A1	1944	C	C5-C6-N1	6.81	124.40	121.00
53	A3	248	U	N1-C2-O2	6.81	127.56	122.80
53	A4	967	C	C6-N1-C1'	-6.81	112.63	120.80
29	A1	17	G	C8-N9-C4	-6.81	103.68	106.40
29	A1	227	C	C5-C6-N1	6.81	124.40	121.00
29	A2	396	C	C6-N1-C2	-6.81	117.58	120.30
29	A2	478	G	C8-N9-C4	6.80	109.12	106.40
53	A3	415	U	N1-C2-O2	6.80	127.56	122.80
53	A3	560	G	N1-C2-N3	6.80	127.98	123.90
53	A4	737	C	C6-N1-C2	-6.80	117.58	120.30
53	A4	1220	A	N9-C4-C5	-6.80	103.08	105.80
53	A3	905	G	C8-N9-C1'	-6.80	118.16	127.00
29	A1	2829	G	C6-N1-C2	-6.80	121.02	125.10
29	A2	2650	U	C2-N1-C1'	6.80	125.86	117.70
53	A3	675	U	C6-N1-C2	-6.80	116.92	121.00
53	A3	1047	U	C5-C6-N1	6.80	126.10	122.70
53	A4	840	U	N3-C2-O2	-6.80	117.44	122.20
29	A1	533	G	C8-N9-C4	6.80	109.12	106.40
29	A2	782	G	N3-C4-C5	6.80	132.00	128.60
29	A1	241	A	N9-C4-C5	6.80	108.52	105.80
29	A2	2362	U	C2-N1-C1'	6.80	125.86	117.70
29	A1	1457	C	N3-C2-O2	-6.80	117.14	121.90
29	A2	1790	U	N3-C2-O2	-6.80	117.44	122.20
29	A1	1086	C	N1-C2-O2	6.79	122.98	118.90
29	A1	2237	G	C6-C5-N7	-6.79	126.32	130.40
53	A3	767	C	N1-C2-O2	6.79	122.98	118.90
53	A4	180	C	N3-C4-C5	6.79	124.62	121.90
53	A4	215	G	C6-C5-N7	-6.79	126.32	130.40
30	B1	37	U	C5-C6-N1	6.79	126.09	122.70
29	A2	1454	U	C5-C6-N1	6.79	126.10	122.70
53	A4	148	C	C6-N1-C1'	-6.79	112.65	120.80
29	A1	2342	A	C4-C5-N7	6.79	114.09	110.70
53	A3	363	U	C2-N1-C1'	6.79	125.85	117.70
29	A2	1140	C	N3-C2-O2	-6.79	117.15	121.90
30	B2	38	C	C2-N1-C1'	6.79	126.27	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	7	G	N3-C4-N9	6.79	130.07	126.00
29	A1	2700	G	C8-N9-C4	-6.79	103.69	106.40
29	A2	2735	U	N1-C2-N3	6.79	118.97	114.90
53	A4	285	C	C2-N1-C1'	6.79	126.26	118.80
29	A2	428	G	C6-C5-N7	-6.78	126.33	130.40
30	B2	112	G	O4'-C1'-N9	6.78	113.63	108.20
53	A3	965	G	N7-C8-N9	6.78	116.49	113.10
29	A1	2598	U	C6-N1-C1'	-6.78	111.70	121.20
53	A4	966	C	N3-C4-N4	6.78	122.75	118.00
29	A2	182	C	C5-C6-N1	6.78	124.39	121.00
53	A4	780	C	N3-C2-O2	-6.78	117.15	121.90
29	A1	555	A	C4-C5-N7	6.78	114.09	110.70
53	A3	1332	U	N1-C2-O2	6.78	127.54	122.80
29	A1	360	C	N1-C2-O2	6.77	122.96	118.90
53	A3	926	A	N1-C6-N6	-6.77	114.53	118.60
29	A1	1973	G	C6-C5-N7	-6.77	126.34	130.40
29	A1	2265	G	C6-C5-N7	-6.77	126.34	130.40
29	A2	2087	C	N3-C4-C5	6.77	124.61	121.90
29	A1	2417	C	C5-C6-N1	6.77	124.39	121.00
29	A1	827	G	C6-C5-N7	-6.77	126.34	130.40
29	A1	2382	C	C6-N1-C2	-6.76	117.59	120.30
29	A2	851	A	N9-C4-C5	-6.76	103.09	105.80
29	A2	925	C	N1-C2-O2	6.76	122.96	118.90
29	A2	1819	A	C6-C5-N7	-6.76	127.56	132.30
53	A3	760	A	C4-C5-N7	6.76	114.08	110.70
53	A4	110	G	N7-C8-N9	6.76	116.48	113.10
29	A1	1464	G	O4'-C1'-N9	6.76	113.61	108.20
29	A1	1600	C	C5-C6-N1	6.76	124.38	121.00
29	A1	2165	G	N3-C4-C5	-6.76	125.22	128.60
29	A2	2863	A	C5-N7-C8	-6.76	100.52	103.90
29	A2	1787	C	N3-C2-O2	-6.76	117.17	121.90
53	A3	589	G	C4-C5-N7	6.76	113.50	110.80
53	A4	677	A	N1-C6-N6	6.76	122.66	118.60
53	A4	1506	G	O4'-C1'-N9	6.76	113.61	108.20
29	A1	1578	G	C5-C6-O6	-6.76	124.55	128.60
53	A3	1339	U	N3-C2-O2	-6.76	117.47	122.20
53	A4	563	U	C5-C6-N1	6.76	126.08	122.70
29	A2	1626	C	N1-C2-O2	6.75	122.95	118.90
53	A4	665	G	C4-C5-N7	6.75	113.50	110.80
29	A1	1202	G	N7-C8-N9	-6.75	109.72	113.10
29	A1	1840	G	N3-C4-C5	6.75	131.98	128.60
29	A1	1938	C	N1-C2-O2	6.75	122.95	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2868	C	N1-C2-O2	6.75	122.95	118.90
29	A2	1551	U	N3-C2-O2	-6.75	117.47	122.20
29	A2	2076	G	N1-C6-O6	6.75	123.95	119.90
29	A2	2330	C	C6-N1-C2	-6.75	117.60	120.30
53	A3	1445	A	N1-C6-N6	6.75	122.65	118.60
53	A4	1178	G	C6-C5-N7	-6.75	126.35	130.40
29	A1	397	C	N3-C4-N4	-6.75	113.27	118.00
29	A1	730	G	C8-N9-C4	-6.75	103.70	106.40
29	A1	1649	G	N1-C6-O6	-6.75	115.85	119.90
29	A1	2851	G	C8-N9-C1'	-6.75	118.22	127.00
29	A2	735	G	C5-N7-C8	-6.75	100.92	104.30
29	A2	1814	C	N3-C2-O2	-6.75	117.17	121.90
29	A2	2227	U	N3-C2-O2	-6.75	117.47	122.20
29	A1	1282	U	N1-C2-O2	6.75	127.53	122.80
53	A3	1474	G	N9-C4-C5	6.75	108.10	105.40
53	A3	1475	U	OP2-P-O3'	6.75	120.05	105.20
53	A4	1087	A	C6-C5-N7	-6.75	127.58	132.30
29	A1	847	G	N1-C6-O6	-6.74	115.85	119.90
29	A2	1158	G	C8-N9-C4	-6.74	103.70	106.40
29	A2	2238	G	C6-C5-N7	-6.74	126.35	130.40
29	A2	1777	C	C6-N1-C2	-6.74	117.60	120.30
53	A3	543	U	N3-C2-O2	-6.74	117.48	122.20
53	A3	1464	G	C4-C5-N7	6.74	113.50	110.80
29	A1	1732	C	N1-C2-O2	6.74	122.94	118.90
29	A1	2535	C	N3-C2-O2	-6.74	117.18	121.90
53	A3	603	C	C6-N1-C2	-6.74	117.60	120.30
53	A4	212	C	N3-C2-O2	-6.74	117.18	121.90
53	A4	261	G	N1-C6-O6	6.74	123.94	119.90
29	A1	1804	C	C2-N3-C4	-6.74	116.53	119.90
29	A1	2005	A	N7-C8-N9	6.74	117.17	113.80
29	A1	2517	A	C2-N3-C4	6.74	113.97	110.60
29	A2	490	C	C6-N1-C2	-6.74	117.61	120.30
29	A2	1883	G	N9-C4-C5	6.74	108.09	105.40
53	A3	407	A	P-O3'-C3'	6.74	127.78	119.70
53	A4	964	G	N7-C8-N9	6.74	116.47	113.10
29	A1	2260	G	N9-C4-C5	-6.73	102.71	105.40
29	A1	2810	G	C8-N9-C4	-6.73	103.71	106.40
53	A4	1000	G	C4-N9-C1'	6.73	135.25	126.50
29	A1	490	C	C6-N1-C2	-6.73	117.61	120.30
29	A2	2390	A	N1-C6-N6	6.73	122.64	118.60
53	A4	187	C	C5-C6-N1	6.73	124.37	121.00
53	A4	261	G	N9-C4-C5	-6.73	102.71	105.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2865	C	N3-C2-O2	-6.73	117.19	121.90
30	B1	90	C	N3-C2-O2	-6.73	117.19	121.90
53	A3	135	A	C8-N9-C4	-6.73	103.11	105.80
53	A3	1248	C	C2-N1-C1'	6.73	126.20	118.80
53	A4	334	C	N3-C2-O2	-6.73	117.19	121.90
53	A4	1033	C	C6-N1-C2	-6.73	117.61	120.30
16	R1	67	ASP	CB-CG-OD1	6.73	124.36	118.30
29	A2	875	U	O5'-P-OP1	-6.73	99.65	105.70
29	A2	2051	G	N3-C4-C5	-6.73	125.24	128.60
29	A1	2076	G	N1-C6-O6	6.73	123.94	119.90
29	A1	446	G	C4-C5-N7	6.72	113.49	110.80
29	A1	1787	C	N3-C2-O2	-6.72	117.19	121.90
29	A1	2077	G	C6-C5-N7	-6.72	126.37	130.40
29	A2	1045	G	C4-N9-C1'	6.72	135.24	126.50
53	A3	1481	G	C5-C6-N1	6.72	114.86	111.50
46	P3	73	LEU	CA-CB-CG	-6.72	99.84	115.30
29	A1	1300	G	C4-C5-N7	6.72	113.49	110.80
29	A1	2675	G	N3-C4-C5	-6.72	125.24	128.60
29	A2	2602	G	C6-C5-N7	-6.72	126.37	130.40
29	A1	187	A	C8-N9-C4	6.72	108.49	105.80
29	A2	935	C	C6-N1-C2	-6.72	117.61	120.30
29	A2	1119	G	N3-C4-N9	6.72	130.03	126.00
29	A1	1929	C	N3-C2-O2	-6.71	117.20	121.90
29	A2	860	U	C5-C4-O4	6.71	129.93	125.90
29	A2	1143	A	C8-N9-C4	-6.71	103.11	105.80
29	A1	1817	A	C5-N7-C8	-6.71	100.54	103.90
29	A2	1652	C	C6-N1-C2	-6.71	117.61	120.30
53	A3	672	C	C5-C6-N1	6.71	124.36	121.00
7	I1	26	LEU	CA-CB-CG	6.71	130.73	115.30
29	A1	2694	C	N3-C4-C5	6.71	124.58	121.90
29	A2	1026	G	N3-C4-N9	6.71	130.03	126.00
29	A2	1812	U	N1-C2-O2	6.71	127.50	122.80
53	A4	148	C	P-O3'-C3'	6.71	127.75	119.70
53	A4	1178	G	N9-C4-C5	-6.71	102.72	105.40
30	B2	4	C	C6-N1-C2	-6.71	117.62	120.30
53	A3	70	G	C6-C5-N7	-6.71	126.38	130.40
29	A1	531	U	C5-C6-N1	6.70	126.05	122.70
29	A1	1826	C	N1-C2-O2	6.70	122.92	118.90
29	A2	798	C	C2-N3-C4	6.70	123.25	119.90
53	A3	1142	G	N3-C4-N9	6.70	130.02	126.00
53	A4	905	G	C4-C5-N7	6.70	113.48	110.80
53	A4	1318	G	N1-C2-N2	-6.70	110.17	116.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1732	C	C2-N1-C1'	6.70	126.17	118.80
29	A1	2864	G	N7-C8-N9	6.70	116.45	113.10
29	A2	861	C	N1-C2-O2	6.70	122.92	118.90
29	A2	2180	G	C4-C5-N7	6.70	113.48	110.80
53	A3	526	C	C2-N1-C1'	6.70	126.17	118.80
53	A4	826	C	N3-C2-O2	-6.70	117.21	121.90
29	A1	2334	A	O4'-C1'-N9	6.70	113.56	108.20
53	A3	639	C	C5-C6-N1	6.70	124.35	121.00
53	A3	800	C	C2-N3-C4	-6.70	116.55	119.90
29	A1	641	G	C4-N9-C1'	6.70	135.21	126.50
29	A1	1375	C	N1-C2-O2	6.70	122.92	118.90
29	A2	126	C	C5-C4-N4	-6.70	115.51	120.20
29	A2	2190	G	C8-N9-C4	-6.70	103.72	106.40
53	A4	826	C	N1-C2-O2	6.70	122.92	118.90
53	A4	1063	G	N1-C2-N2	6.70	122.23	116.20
29	A1	1771	G	C4-N9-C1'	6.69	135.20	126.50
29	A2	2005	A	N7-C8-N9	6.69	117.15	113.80
53	A4	1124	G	C2-N3-C4	-6.69	108.55	111.90
29	A2	2376	G	N3-C2-N2	-6.69	115.22	119.90
53	A3	1276	G	C5-C6-N1	6.69	114.85	111.50
29	A1	493	G	C2-N3-C4	-6.69	108.56	111.90
29	A1	2169	C	C6-N1-C2	-6.69	117.62	120.30
29	A2	1352	C	C5-C6-N1	6.69	124.34	121.00
29	A2	1436	G	N3-C4-C5	-6.69	125.25	128.60
53	A4	1334	G	C8-N9-C4	6.69	109.08	106.40
29	A2	426	G	C4-C5-N7	6.69	113.48	110.80
29	A1	375	U	N3-C2-O2	-6.69	117.52	122.20
53	A3	1209	C	C2-N1-C1'	6.69	126.16	118.80
53	A4	910	G	N3-C4-C5	6.69	131.94	128.60
29	A2	1812	U	N3-C2-O2	-6.69	117.52	122.20
29	A2	1282	U	N1-C2-O2	6.68	127.48	122.80
29	A2	2321	G	O4'-C1'-N9	6.68	113.55	108.20
53	A3	1140	C	C2-N1-C1'	6.68	126.15	118.80
29	A1	2622	G	N3-C4-C5	6.68	131.94	128.60
53	A4	1510	C	C6-N1-C2	-6.68	117.63	120.30
53	A3	1451	G	N7-C8-N9	6.68	116.44	113.10
53	A4	1455	C	N1-C2-O2	6.68	122.91	118.90
29	A1	1120	C	C2-N1-C1'	6.68	126.15	118.80
29	A2	110	U	O4'-C1'-N1	6.68	113.54	108.20
29	A2	298	C	C6-N1-C2	-6.68	117.63	120.30
53	A3	1145	C	N3-C2-O2	-6.68	117.22	121.90
53	A4	1468	G	C6-C5-N7	-6.68	126.39	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2092	U	N3-C2-O2	-6.68	117.53	122.20
29	A1	828	U	C2-N1-C1'	6.68	125.71	117.70
29	A1	2468	G	C4-C5-C6	6.68	122.81	118.80
29	A2	481	C	N3-C2-O2	-6.68	117.23	121.90
29	A2	1600	C	C5-C6-N1	6.68	124.34	121.00
53	A4	1299	A	C5-C6-N6	-6.68	118.36	123.70
29	A1	2360	A	O5'-P-OP2	-6.67	99.69	105.70
29	A1	2376	G	N3-C4-N9	-6.67	122.00	126.00
29	A2	1358	G	N3-C4-C5	-6.67	125.26	128.60
53	A3	490	C	C6-N1-C2	-6.67	117.63	120.30
29	A2	1435	C	C5-C6-N1	6.67	124.34	121.00
29	A1	2584	G	N1-C2-N3	6.67	127.90	123.90
53	A4	1042	C	C5-C4-N4	-6.67	115.53	120.20
1	C1	85	ASP	CB-CG-OD1	6.67	124.30	118.30
29	A2	2452	U	C5-C4-O4	-6.67	121.90	125.90
53	A4	1452	G	C6-C5-N7	-6.67	126.40	130.40
29	A1	224	C	N3-C2-O2	-6.67	117.23	121.90
29	A1	730	G	N7-C8-N9	6.67	116.43	113.10
29	A2	2868	C	N1-C2-O2	6.67	122.90	118.90
29	A2	2242	G	C6-C5-N7	-6.67	126.40	130.40
29	A1	781	C	C6-N1-C2	6.66	122.97	120.30
53	A3	798	A	C8-N9-C4	6.66	108.47	105.80
53	A4	420	G	N3-C4-N9	6.66	130.00	126.00
29	A1	288	G	C4-N9-C1'	6.66	135.16	126.50
29	A2	17	G	C8-N9-C4	-6.66	103.73	106.40
29	A2	1475	A	P-O3'-C3'	6.66	127.69	119.70
29	A2	2321	G	N3-C4-C5	-6.66	125.27	128.60
29	A1	375	U	N1-C2-O2	6.66	127.46	122.80
29	A1	2312	A	O4'-C1'-N9	6.66	113.53	108.20
29	A2	714	C	C6-N1-C2	-6.66	117.64	120.30
53	A3	203	A	N9-C4-C5	-6.66	103.14	105.80
29	A2	268	C	N3-C2-O2	-6.66	117.24	121.90
29	A2	2076	G	N7-C8-N9	6.66	116.43	113.10
29	A2	2616	A	O4'-C1'-N9	6.66	113.53	108.20
53	A3	886	A	C2-N3-C4	6.65	113.93	110.60
53	A4	798	A	C8-N9-C4	6.65	108.46	105.80
53	A4	1209	C	N3-C4-C5	6.65	124.56	121.90
29	A2	1354	C	C5-C6-N1	6.65	124.33	121.00
29	A1	1832	G	P-O3'-C3'	6.65	127.68	119.70
29	A2	2488	C	C5-C6-N1	6.65	124.33	121.00
53	A3	893	G	C8-N9-C1'	-6.65	118.35	127.00
29	A1	1837	C	C2-N3-C4	-6.65	116.58	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	690	C	C5-C6-N1	6.65	124.32	121.00
53	A3	727	C	N3-C2-O2	-6.65	117.25	121.90
53	A4	549	G	C4-C5-N7	6.65	113.46	110.80
53	A4	1272	G	C6-C5-N7	-6.65	126.41	130.40
29	A2	2573	C	C6-N1-C2	-6.65	117.64	120.30
29	A1	2240	C	C6-N1-C2	-6.64	117.64	120.30
29	A2	1528	G	N7-C8-N9	6.64	116.42	113.10
29	A2	2909	U	N1-C2-O2	6.64	127.45	122.80
30	B1	112	G	O4'-C1'-N9	6.64	113.51	108.20
53	A3	1392	G	N7-C8-N9	6.64	116.42	113.10
29	A1	2044	A	N3-C4-N9	-6.64	122.09	127.40
29	A1	2452	U	C5-C4-O4	-6.64	121.92	125.90
29	A1	2573	C	C6-N1-C2	-6.64	117.64	120.30
53	A4	1370	C	N1-C2-O2	6.64	122.88	118.90
29	A2	1014	C	C5-C6-N1	6.64	124.32	121.00
53	A4	1244	C	C5-C6-N1	6.64	124.32	121.00
29	A2	1457	C	N3-C2-O2	-6.64	117.25	121.90
29	A2	2181	G	N3-C2-N2	-6.64	115.25	119.90
29	A1	823	A	N1-C2-N3	6.63	132.62	129.30
29	A1	2786	C	C6-N1-C2	-6.63	117.65	120.30
29	A2	98	U	N3-C2-O2	-6.63	117.56	122.20
29	A2	212	A	N9-C4-C5	-6.63	103.15	105.80
53	A4	668	G	C8-N9-C4	-6.63	103.75	106.40
53	A4	1360	C	N3-C4-C5	-6.63	119.25	121.90
29	A2	1450	C	C5-C6-N1	6.63	124.32	121.00
29	A2	1787	C	N1-C2-O2	6.63	122.88	118.90
53	A4	560	G	N1-C2-N3	6.63	127.88	123.90
29	A1	749	G	N9-C4-C5	-6.63	102.75	105.40
29	A2	586	G	C8-N9-C4	6.63	109.05	106.40
29	A2	1107	G	N3-C4-C5	-6.63	125.28	128.60
33	C3	52	LEU	CA-CB-CG	6.63	130.54	115.30
53	A3	1396	U	N3-C2-O2	-6.63	117.56	122.20
29	A1	1480	C	N3-C2-O2	-6.63	117.26	121.90
29	A1	1616	A	N3-C4-C5	6.63	131.44	126.80
29	A2	1452	C	N1-C2-O2	6.63	122.88	118.90
29	A1	586	G	C8-N9-C4	6.62	109.05	106.40
29	A1	1393	C	N1-C2-O2	6.62	122.88	118.90
29	A2	2598	U	C6-N1-C1'	-6.62	111.92	121.20
29	A1	1925	A	N1-C6-N6	-6.62	114.63	118.60
29	A2	90	A	C8-N9-C4	-6.62	103.15	105.80
29	A2	599	C	C6-N1-C2	-6.62	117.65	120.30
29	A2	1362	C	C6-N1-C2	-6.62	117.65	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2454	C	N1-C2-O2	6.62	122.87	118.90
29	A2	2580	A	P-O3'-C3'	6.62	127.65	119.70
53	A3	1408	C	C2-N1-C1'	6.62	126.08	118.80
53	A4	407	A	P-O3'-C3'	6.62	127.65	119.70
29	A1	2212	C	N1-C2-O2	6.62	122.87	118.90
29	A1	2416	C	C6-N1-C2	-6.62	117.65	120.30
29	A2	520	G	C8-N9-C4	-6.62	103.75	106.40
53	A3	473	C	C6-N1-C2	-6.62	117.65	120.30
29	A1	2871	G	C6-C5-N7	-6.62	126.43	130.40
29	A2	2378	C	N1-C2-O2	6.62	122.87	118.90
29	A2	1362	C	N3-C2-O2	-6.62	117.27	121.90
29	A1	2286	U	C6-N1-C2	-6.61	117.03	121.00
29	A2	963	C	C2-N1-C1'	6.61	126.08	118.80
53	A3	676	G	C6-C5-N7	-6.61	126.43	130.40
29	A1	2311	C	C6-N1-C2	-6.61	117.66	120.30
29	A2	1834	G	C4-N9-C1'	6.61	135.10	126.50
29	A2	2819	G	C5-C6-O6	-6.61	124.63	128.60
29	A1	2626	C	C5-C6-N1	-6.61	117.69	121.00
29	A2	426	G	C5-C6-O6	-6.61	124.63	128.60
29	A2	2780	A	C2-N3-C4	6.61	113.91	110.60
53	A3	1236	G	N9-C4-C5	-6.61	102.76	105.40
29	A2	757	C	C6-N1-C2	-6.61	117.66	120.30
29	A1	1312	G	N7-C8-N9	6.61	116.40	113.10
29	A2	1008	C	C6-N1-C2	6.61	122.94	120.30
53	A3	527	G	N7-C8-N9	6.61	116.40	113.10
53	A3	1110	C	C5-C6-N1	6.61	124.30	121.00
37	G4	91	VAL	C-N-CA	6.61	138.22	121.70
53	A4	1397	G	C8-N9-C1'	6.61	135.59	127.00
29	A1	387	U	C5-C6-N1	6.61	126.00	122.70
29	A1	730	G	C5-N7-C8	-6.61	101.00	104.30
29	A1	2580	A	P-O3'-C3'	6.61	127.63	119.70
53	A3	1468	G	C6-C5-N7	-6.61	126.44	130.40
29	A2	2315	C	C6-N1-C2	-6.60	117.66	120.30
29	A2	1622	G	C5-N7-C8	-6.60	101.00	104.30
29	A2	1896	G	N7-C8-N9	6.60	116.40	113.10
29	A2	2716	U	N3-C2-O2	-6.60	117.58	122.20
29	A2	1420	U	N1-C2-O2	6.60	127.42	122.80
29	A2	1647	C	C5-C6-N1	6.60	124.30	121.00
29	A2	2521	C	N3-C2-O2	-6.60	117.28	121.90
53	A4	289	U	N1-C2-O2	6.60	127.42	122.80
29	A1	205	G	C8-N9-C4	6.59	109.04	106.40
29	A1	2059	G	C8-N9-C1'	-6.59	118.43	127.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1746	G	C4-C5-N7	6.59	113.44	110.80
29	A2	1948	C	N1-C2-O2	6.59	122.86	118.90
29	A1	2028	G	N3-C4-N9	6.59	129.96	126.00
32	B4	61	LEU	CA-CB-CG	6.59	130.46	115.30
29	A2	2595	G	C8-N9-C1'	-6.59	118.43	127.00
53	A3	323	C	C2-N1-C1'	6.59	126.05	118.80
53	A4	930	G	C4-N9-C1'	6.59	135.07	126.50
29	A1	420	C	C6-N1-C2	-6.59	117.66	120.30
29	A1	1026	G	N3-C4-C5	-6.59	125.31	128.60
30	B2	16	U	N1-C2-O2	6.59	127.41	122.80
53	A3	443	C	C2-N1-C1'	6.59	126.05	118.80
29	A1	1019	G	N3-C4-C5	-6.58	125.31	128.60
53	A3	756	G	N9-C4-C5	-6.58	102.77	105.40
53	A4	415	U	N1-C2-O2	6.58	127.41	122.80
29	A1	969	G	C4-N9-C1'	6.58	135.06	126.50
29	A1	2378	C	C6-N1-C2	-6.58	117.67	120.30
29	A1	2521	C	N3-C2-O2	-6.58	117.29	121.90
29	A2	2080	G	C4-C5-N7	6.58	113.43	110.80
53	A3	1236	G	C4-C5-N7	6.58	113.43	110.80
53	A4	1264	G	N3-C4-N9	6.58	129.95	126.00
29	A1	1852	A	P-O3'-C3'	6.58	127.60	119.70
29	A1	2454	C	N1-C2-O2	6.58	122.85	118.90
30	B1	63	G	C8-N9-C1'	-6.58	118.44	127.00
53	A3	425	A	N9-C4-C5	-6.58	103.17	105.80
53	A3	1506	G	C8-N9-C1'	-6.58	118.44	127.00
29	A2	352	G	C8-N9-C4	-6.58	103.77	106.40
29	A1	287	C	C2-N1-C1'	6.58	126.04	118.80
53	A4	561	C	N1-C2-O2	6.58	122.85	118.90
53	A4	1215	C	C5-C6-N1	6.58	124.29	121.00
29	A2	2356	C	C5-C6-N1	6.58	124.29	121.00
53	A3	423	G	C4-C5-N7	6.58	113.43	110.80
29	A1	669	G	C4-N9-C1'	-6.58	117.95	126.50
29	A1	1517	C	C2-N1-C1'	6.58	126.03	118.80
29	A2	126	C	N3-C4-N4	6.58	122.60	118.00
29	A2	2376	G	C8-N9-C1'	6.58	135.55	127.00
53	A3	845	C	N1-C2-O2	6.58	122.84	118.90
29	A1	798	C	C2-N3-C4	6.57	123.19	119.90
29	A1	2068	C	C2-N3-C4	-6.57	116.61	119.90
53	A3	71	C	C6-N1-C2	-6.57	117.67	120.30
53	A3	673	G	C8-N9-C4	-6.57	103.77	106.40
53	A4	511	C	C2-N1-C1'	6.57	126.03	118.80
53	A3	676	G	C4-C5-N7	6.57	113.43	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2851	G	N3-C4-N9	6.57	129.94	126.00
30	B2	63	G	N3-C4-N9	6.57	129.94	126.00
53	A4	490	C	C6-N1-C2	-6.57	117.67	120.30
29	A2	2670	U	C5-C6-N1	6.57	125.98	122.70
53	A3	240	C	C2-N1-C1'	6.57	126.03	118.80
29	A1	1480	C	C6-N1-C1'	-6.57	112.92	120.80
53	A4	261	G	N3-C4-C5	6.56	131.88	128.60
29	A1	1622	G	C5-N7-C8	-6.56	101.02	104.30
29	A2	2332	G	C6-C5-N7	-6.56	126.46	130.40
53	A4	737	C	N3-C2-O2	-6.56	117.31	121.90
53	A3	285	C	N1-C2-O2	6.56	122.84	118.90
53	A4	1339	U	N1-C2-O2	6.56	127.39	122.80
29	A1	458	A	N1-C6-N6	-6.56	114.67	118.60
53	A4	480	A	C2-N3-C4	6.56	113.88	110.60
29	A1	1748	G	O4'-C1'-N9	-6.56	102.95	108.20
29	A1	2700	G	C4-C5-C6	6.56	122.73	118.80
29	A2	1832	G	P-O3'-C3'	6.56	127.57	119.70
53	A3	1244	C	C2-N3-C4	6.56	123.18	119.90
53	A4	615	A	N1-C6-N6	6.56	122.53	118.60
29	A2	2742	G	N3-C4-C5	-6.56	125.32	128.60
29	A1	1702	G	C4-C5-C6	6.55	122.73	118.80
29	A2	963	C	N3-C2-O2	-6.55	117.31	121.90
29	A2	1457	C	C6-N1-C2	-6.55	117.68	120.30
29	A2	90	A	N7-C8-N9	6.55	117.08	113.80
29	A2	1215	U	N1-C2-O2	6.55	127.39	122.80
53	A4	995	G	N3-C4-N9	6.55	129.93	126.00
29	A1	1741	U	N3-C2-O2	-6.55	117.61	122.20
29	A1	1804	C	N3-C4-C5	6.55	124.52	121.90
29	A2	236	C	C5-C6-N1	6.55	124.28	121.00
29	A2	1614	C	C6-N1-C2	6.55	122.92	120.30
53	A3	270	G	C8-N9-C1'	-6.55	118.48	127.00
29	A2	1517	C	C2-N1-C1'	6.55	126.00	118.80
29	A2	1791	G	O4'-C1'-N9	6.55	113.44	108.20
29	A2	2417	C	N3-C2-O2	-6.55	117.31	121.90
53	A3	237	C	N3-C2-O2	-6.55	117.32	121.90
53	A3	852	C	C2-N3-C4	-6.55	116.62	119.90
53	A3	1066	G	N7-C8-N9	6.55	116.38	113.10
53	A4	886	A	C2-N3-C4	6.55	113.88	110.60
29	A1	1718	A	C4-N9-C1'	6.55	138.09	126.30
53	A3	240	C	N3-C2-O2	-6.55	117.32	121.90
30	B1	63	G	N3-C4-N9	6.55	129.93	126.00
53	A4	419	G	C5-N7-C8	-6.55	101.03	104.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1418	C	N1-C2-O2	6.54	122.83	118.90
29	A2	272	U	N1-C2-O2	6.54	127.38	122.80
53	A4	572	C	N3-C2-O2	-6.54	117.32	121.90
53	A4	1479	A	C4-N9-C1'	6.54	138.08	126.30
29	A1	455	C	C2-N1-C1'	6.54	126.00	118.80
30	B1	67	C	C6-N1-C2	-6.54	117.68	120.30
53	A3	609	U	N3-C2-O2	-6.54	117.62	122.20
53	A4	222	G	N3-C4-N9	-6.54	122.07	126.00
53	A4	939	C	C5-C6-N1	6.54	124.27	121.00
53	A4	1506	G	C6-C5-N7	-6.54	126.47	130.40
53	A3	976	C	C6-N1-C2	-6.54	117.68	120.30
53	A4	240	C	C2-N1-C1'	6.54	126.00	118.80
29	A1	2620	C	C2-N1-C1'	6.54	125.99	118.80
29	A2	348	G	N3-C4-N9	6.54	129.92	126.00
29	A2	993	G	C8-N9-C4	-6.54	103.78	106.40
29	A2	2084	A	C5-C6-N1	6.54	120.97	117.70
29	A2	2180	G	N7-C8-N9	6.54	116.37	113.10
53	A3	1059	G	C6-N1-C2	6.54	129.02	125.10
53	A4	148	C	N1-C2-O2	6.54	122.82	118.90
53	A4	270	G	C8-N9-C1'	-6.54	118.50	127.00
29	A2	1029	A	C8-N9-C4	-6.54	103.19	105.80
53	A3	1452	G	N7-C8-N9	6.54	116.37	113.10
29	A1	969	G	C8-N9-C1'	-6.53	118.51	127.00
29	A1	2523	G	C4-C5-N7	6.53	113.41	110.80
29	A2	262	A	N7-C8-N9	6.53	117.07	113.80
29	A2	830	A	N3-C4-C5	6.53	131.37	126.80
29	A2	2416	C	C6-N1-C2	-6.53	117.69	120.30
53	A3	1005	C	P-O3'-C3'	6.53	127.54	119.70
29	A1	298	C	C6-N1-C2	-6.53	117.69	120.30
29	A1	872	G	C4-C5-N7	6.53	113.41	110.80
29	A1	979	G	C8-N9-C1'	-6.53	118.51	127.00
29	A1	2424	G	C2-N3-C4	6.53	115.17	111.90
29	A2	2322	G	C4-N9-C1'	6.53	134.99	126.50
53	A3	270	G	N9-C4-C5	-6.53	102.79	105.40
53	A4	27	G	N9-C4-C5	-6.53	102.79	105.40
29	A2	749	G	N9-C4-C5	-6.53	102.79	105.40
29	A1	2741	U	N1-C2-O2	6.53	127.37	122.80
29	A2	2265	G	N3-C4-C5	-6.53	125.34	128.60
53	A3	597	A	C4-C5-N7	6.53	113.96	110.70
53	A4	443	C	C5-C6-N1	6.53	124.26	121.00
29	A1	1616	A	C4-C5-C6	-6.53	113.74	117.00
29	A2	181	A	C8-N9-C4	-6.53	103.19	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1741	U	N3-C2-O2	-6.53	117.63	122.20
29	A2	1748	G	O4'-C1'-N9	-6.53	102.98	108.20
53	A4	1292	G	N9-C4-C5	-6.53	102.79	105.40
29	A1	1923	G	C2-N3-C4	-6.52	108.64	111.90
29	A1	841	G	N3-C4-N9	6.52	129.91	126.00
29	A1	1418	C	N3-C2-O2	-6.52	117.33	121.90
29	A1	1903	C	C2-N1-C1'	6.52	125.97	118.80
29	A1	2210	G	C6-C5-N7	-6.52	126.49	130.40
29	A2	879	G	N3-C4-C5	6.52	131.86	128.60
29	A1	1889	G	C4-N9-C1'	6.52	134.97	126.50
29	A2	802	C	C5-C6-N1	6.52	124.26	121.00
29	A2	1957	G	C5-N7-C8	-6.52	101.04	104.30
53	A4	905	G	C6-C5-N7	-6.52	126.49	130.40
28	d1	32	LEU	CA-CB-CG	6.51	130.28	115.30
29	A1	2204	U	C2-N1-C1'	6.51	125.52	117.70
29	A2	2871	G	C4-C5-N7	6.51	113.41	110.80
29	A1	2875	C	C6-N1-C2	6.51	122.91	120.30
53	A4	560	G	C2-N3-C4	-6.51	108.64	111.90
29	A1	1718	A	O4'-C1'-N9	6.51	113.41	108.20
53	A3	184	C	N1-C2-O2	6.51	122.81	118.90
29	A1	792	G	N3-C4-C5	6.51	131.85	128.60
53	A3	1144	C	N3-C2-O2	-6.51	117.34	121.90
53	A4	1079	C	C6-N1-C2	-6.51	117.70	120.30
29	A2	62	U	C2-N1-C1'	6.51	125.51	117.70
53	A3	337	C	N1-C2-O2	6.51	122.81	118.90
53	A3	913	C	N3-C2-O2	-6.51	117.34	121.90
53	A4	1398	G	C6-C5-N7	-6.51	126.50	130.40
29	A1	439	G	C4-C5-N7	6.50	113.40	110.80
29	A1	1019	G	C4-C5-C6	6.50	122.70	118.80
29	A1	1251	A	C8-N9-C4	-6.50	103.20	105.80
29	A2	1189	U	C2-N1-C1'	6.50	125.50	117.70
29	A1	1925	A	C5-C6-N1	6.50	120.95	117.70
29	A1	2735	U	N1-C2-N3	6.50	118.80	114.90
53	A4	205	G	C2-N3-C4	-6.50	108.65	111.90
29	A2	2141	A	N1-C6-N6	6.50	122.50	118.60
29	A1	730	G	C6-C5-N7	-6.50	126.50	130.40
29	A1	1713	A	C5-C6-N1	6.50	120.95	117.70
29	A2	533	G	N3-C4-C5	6.50	131.85	128.60
29	A1	280	G	N3-C4-C5	-6.50	125.35	128.60
29	A1	786	C	N3-C2-O2	-6.50	117.35	121.90
29	A2	104	C	C6-N1-C2	-6.49	117.70	120.30
53	A4	443	C	C6-N1-C1'	-6.49	113.01	120.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1750	A	C5-N7-C8	-6.49	100.66	103.90
53	A3	1450	A	C2-N3-C4	6.49	113.85	110.60
53	A4	673	G	C8-N9-C4	-6.49	103.80	106.40
29	A2	1804	C	N3-C4-C5	6.49	124.49	121.90
53	A3	1373	U	C6-N1-C1'	6.49	130.28	121.20
29	A2	881	G	C4-N9-C1'	6.48	134.93	126.50
29	A1	2526	C	N3-C2-O2	-6.48	117.36	121.90
53	A3	480	A	C2-N3-C4	6.48	113.84	110.60
29	A2	515	C	C6-N1-C2	-6.48	117.71	120.30
53	A4	496	C	C2-N1-C1'	6.48	125.93	118.80
29	A1	1740	C	N3-C4-C5	6.48	124.49	121.90
29	A1	1014	C	C5-C6-N1	6.48	124.24	121.00
29	A2	1826	C	N3-C2-O2	-6.48	117.37	121.90
29	A2	2552	C	N1-C2-O2	6.48	122.79	118.90
53	A3	970	G	C2-N3-C4	6.48	115.14	111.90
29	A1	1718	A	C5-C6-N1	6.48	120.94	117.70
29	A2	648	A	C8-N9-C4	-6.48	103.21	105.80
29	A2	2341	A	O4'-C1'-N9	6.48	113.38	108.20
29	A1	259	U	O4'-C1'-N1	6.47	113.38	108.20
29	A1	879	G	N3-C4-C5	6.47	131.84	128.60
29	A1	1312	G	C8-N9-C4	-6.47	103.81	106.40
29	A1	1796	G	C8-N9-C4	-6.47	103.81	106.40
29	A1	1957	G	C5-N7-C8	-6.47	101.06	104.30
29	A2	224	C	N3-C2-O2	-6.47	117.37	121.90
29	A2	572	C	C6-N1-C2	-6.47	117.71	120.30
29	A2	662	C	C6-N1-C2	-6.47	117.71	120.30
29	A2	1005	U	C5-C6-N1	-6.47	119.46	122.70
53	A3	1479	A	C4-N9-C1'	6.47	137.95	126.30
53	A4	696	G	C8-N9-C4	-6.47	103.81	106.40
29	A2	437	C	C6-N1-C2	-6.47	117.71	120.30
53	A3	872	G	C5-C6-O6	-6.47	124.72	128.60
29	A2	2178	G	C8-N9-C4	-6.47	103.81	106.40
53	A3	1029	G	C8-N9-C4	6.47	108.99	106.40
53	A4	188	U	N1-C2-O2	6.47	127.33	122.80
53	A3	700	C	N1-C2-O2	6.47	122.78	118.90
53	A4	1025	C	N3-C2-O2	-6.46	117.37	121.90
29	A2	1449	G	N3-C4-C5	-6.46	125.37	128.60
29	A1	1180	A	C4-C5-N7	6.46	113.93	110.70
53	A3	1276	G	C4-C5-N7	6.46	113.38	110.80
53	A4	1348	C	C5-C6-N1	6.46	124.23	121.00
29	A2	1343	C	C6-N1-C2	-6.46	117.72	120.30
53	A4	263	C	C5-C6-N1	6.46	124.23	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1046	C	N1-C2-O2	6.46	122.78	118.90
29	A1	1649	G	C4-N9-C1'	-6.46	118.10	126.50
29	A2	1913	A	N3-C4-N9	-6.46	122.23	127.40
32	B4	208	ILE	CG1-CB-CG2	-6.46	97.19	111.40
29	A1	232	G	C2-N3-C4	-6.46	108.67	111.90
29	A1	897	G	N1-C2-N2	-6.46	110.39	116.20
29	A1	2265	G	C8-N9-C1'	-6.46	118.61	127.00
29	A1	2275	C	N3-C2-O2	-6.46	117.38	121.90
29	A2	2242	G	C8-N9-C4	-6.46	103.82	106.40
29	A2	2251	G	N9-C4-C5	-6.46	102.82	105.40
53	A4	263	C	C2-N1-C1'	6.46	125.90	118.80
53	A4	896	A	C5-C6-N1	6.46	120.93	117.70
29	A2	2014	C	C6-N1-C2	-6.46	117.72	120.30
29	A2	2875	C	C6-N1-C2	6.46	122.88	120.30
53	A3	840	U	N3-C2-O2	-6.46	117.68	122.20
29	A1	1243	C	N3-C2-O2	-6.45	117.38	121.90
29	A1	2281	A	O4'-C1'-N9	6.45	113.36	108.20
29	A2	2373	C	N1-C2-O2	6.45	122.77	118.90
53	A3	874	C	C2-N1-C1'	6.45	125.90	118.80
53	A4	236	C	N3-C2-O2	-6.45	117.38	121.90
53	A3	762	C	N3-C2-O2	-6.45	117.39	121.90
53	A3	813	G	C8-N9-C4	-6.45	103.82	106.40
29	A1	979	G	C4-N9-C1'	6.45	134.88	126.50
29	A2	1799	U	C2-N1-C1'	6.45	125.44	117.70
29	A2	1951	A	N1-C6-N6	6.45	122.47	118.60
53	A3	597	A	C5-C6-N6	-6.45	118.54	123.70
53	A4	240	C	N3-C2-O2	-6.45	117.39	121.90
29	A2	1803	G	N1-C6-O6	-6.45	116.03	119.90
29	A1	2696	U	N3-C2-O2	-6.45	117.69	122.20
53	A4	620	G	C4-C5-N7	6.44	113.38	110.80
29	A1	604	G	C4-C5-N7	6.44	113.38	110.80
29	A1	2242	G	C8-N9-C4	-6.44	103.82	106.40
53	A3	348	A	C8-N9-C4	6.44	108.38	105.80
53	A4	770	A	C4-C5-N7	6.44	113.92	110.70
29	A1	2472	G	C4-N9-C1'	6.44	134.87	126.50
29	A2	679	C	C6-N1-C2	-6.44	117.72	120.30
29	A2	1528	G	C4-C5-N7	6.44	113.38	110.80
29	A2	1647	C	N1-C2-O2	6.44	122.77	118.90
29	A2	1817	A	C4-C5-N7	6.44	113.92	110.70
53	A4	1235	C	N3-C2-O2	-6.44	117.39	121.90
53	A4	1361	G	C6-C5-N7	-6.44	126.53	130.40
29	A1	1830	C	N1-C2-O2	6.44	122.76	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1481	U	N3-C2-O2	-6.44	117.69	122.20
29	A2	2771	U	OP1-P-O3'	6.44	119.37	105.20
29	A1	107	G	N3-C4-N9	6.44	129.86	126.00
29	A1	410	G	C6-C5-N7	-6.44	126.54	130.40
29	A1	1450	C	C5-C6-N1	6.44	124.22	121.00
29	A2	1194	C	C5-C6-N1	6.44	124.22	121.00
29	A2	1740	C	N3-C4-C5	6.44	124.47	121.90
29	A2	2428	G	C4-N9-C1'	6.44	134.87	126.50
29	A1	1831	U	C5-C6-N1	6.44	125.92	122.70
29	A2	360	C	N1-C2-O2	6.43	122.76	118.90
29	A2	1175	A	C2-N3-C4	-6.43	107.38	110.60
29	A2	1338	C	C6-N1-C2	-6.43	117.73	120.30
29	A2	2620	C	C2-N1-C1'	6.43	125.88	118.80
29	A2	2893	C	C5-C4-N4	-6.43	115.70	120.20
53	A3	805	C	N3-C2-O2	-6.43	117.40	121.90
53	A4	1038	U	C5-C6-N1	6.43	125.92	122.70
29	A1	830	A	N3-C4-C5	6.43	131.30	126.80
29	A1	1672	G	C5-C6-O6	-6.43	124.74	128.60
29	A1	1905	C	C6-N1-C2	-6.43	117.73	120.30
29	A1	2450	G	C6-N1-C2	-6.43	121.24	125.10
29	A2	2396	G	C8-N9-C4	-6.43	103.83	106.40
53	A3	160	G	C4-C5-N7	6.43	113.37	110.80
53	A4	1369	G	N1-C2-N2	-6.43	110.41	116.20
29	A1	1732	C	C2-N1-C1'	6.43	125.87	118.80
29	A1	1822	A	C4-C5-N7	6.43	113.92	110.70
29	A1	2595	G	C8-N9-C1'	-6.43	118.64	127.00
29	A2	786	C	N3-C2-O2	-6.43	117.40	121.90
53	A3	637	G	C5-C6-N1	6.43	114.71	111.50
53	A3	1482	G	O5'-P-OP2	-6.43	99.92	105.70
29	A1	1765	G	C4-C5-N7	6.43	113.37	110.80
53	A4	1124	G	C5-C6-N1	-6.43	108.29	111.50
53	A4	1222	G	C2-N3-C4	-6.43	108.69	111.90
29	A2	221	C	N1-C2-O2	6.42	122.75	118.90
29	A2	2396	G	N7-C8-N9	6.42	116.31	113.10
53	A3	1472	U	O4'-C1'-N1	6.42	113.34	108.20
29	A2	466	G	N3-C4-N9	6.42	129.85	126.00
29	A2	2276	U	N3-C2-O2	-6.42	117.70	122.20
53	A3	392	A	C2-N3-C4	6.42	113.81	110.60
53	A3	533	G	C4-N9-C1'	6.42	134.85	126.50
53	A4	337	C	N1-C2-O2	6.42	122.75	118.90
53	A4	1326	U	C5-C6-N1	-6.42	119.49	122.70
29	A2	57	G	N9-C4-C5	-6.42	102.83	105.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2700	G	N7-C8-N9	6.42	116.31	113.10
29	A2	2750	G	C5-C6-O6	-6.42	124.75	128.60
53	A4	160	G	C5-C6-O6	-6.42	124.75	128.60
29	A1	1134	A	C4-N9-C1'	6.42	137.86	126.30
29	A1	1418	C	C6-N1-C2	-6.42	117.73	120.30
29	A2	262	A	C8-N9-C4	-6.42	103.23	105.80
53	A3	118	U	C5-C6-N1	6.42	125.91	122.70
53	A3	1474	G	C8-N9-C1'	6.42	135.34	127.00
53	A4	701	G	C4-N9-C1'	6.42	134.84	126.50
53	A4	834	C	C6-N1-C2	6.42	122.87	120.30
29	A2	58	U	N1-C2-O2	6.42	127.29	122.80
29	A2	2295	C	N1-C2-O2	6.42	122.75	118.90
29	A2	2353	G	N3-C4-N9	6.42	129.85	126.00
29	A2	1240	G	O4'-C1'-N9	6.42	113.33	108.20
29	A2	1485	C	C5-C6-N1	6.42	124.21	121.00
53	A4	1452	G	C4-C5-N7	6.42	113.37	110.80
29	A1	2735	U	N3-C2-O2	-6.41	117.71	122.20
29	A2	2675	G	C4-N9-C1'	6.41	134.84	126.50
29	A1	2771	U	OP1-P-O3'	6.41	119.30	105.20
29	A1	1723	G	C4-C5-N7	6.41	113.36	110.80
53	A3	99	C	N1-C2-O2	6.41	122.75	118.90
53	A4	653	G	N3-C4-N9	6.41	129.84	126.00
29	A1	2260	G	C8-N9-C1'	-6.41	118.67	127.00
29	A2	363	G	N7-C8-N9	6.41	116.30	113.10
29	A2	26	G	O5'-P-OP1	-6.41	99.94	105.70
29	A2	107	G	N3-C4-N9	6.41	129.84	126.00
29	A2	806	U	C5-C6-N1	6.41	125.90	122.70
29	A2	1528	G	C5-N7-C8	-6.41	101.10	104.30
29	A2	2675	G	N7-C8-N9	6.41	116.30	113.10
53	A4	520	G	C5-C6-N1	6.40	114.70	111.50
29	A1	1249	C	N1-C2-O2	6.40	122.74	118.90
29	A1	1352	C	C2-N3-C4	6.40	123.10	119.90
29	A1	1413	A	N1-C6-N6	-6.40	114.76	118.60
29	A1	2640	C	N3-C2-O2	-6.40	117.42	121.90
29	A2	2281	A	O4'-C1'-N9	6.40	113.32	108.20
53	A4	1224	C	C5-C6-N1	6.40	124.20	121.00
29	A1	443	A	C8-N9-C4	-6.40	103.24	105.80
29	A2	1706	C	C2-N3-C4	-6.40	116.70	119.90
29	A2	2011	G	N1-C6-O6	-6.40	116.06	119.90
29	A2	353	U	C5-C6-N1	6.40	125.90	122.70
29	A2	2229	G	N3-C4-C5	-6.40	125.40	128.60
53	A4	995	G	N3-C4-C5	-6.40	125.40	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1396	U	N3-C2-O2	-6.40	117.72	122.20
29	A1	993	G	N1-C6-O6	-6.40	116.06	119.90
29	A1	2756	A	N9-C4-C5	-6.39	103.24	105.80
29	A2	2782	C	C6-N1-C2	-6.39	117.74	120.30
53	A3	1459	G	N3-C4-N9	6.39	129.84	126.00
29	A2	852	U	C6-N1-C2	-6.39	117.16	121.00
29	A2	1363	C	N3-C2-O2	-6.39	117.43	121.90
30	B2	38	C	C6-N1-C2	-6.39	117.74	120.30
53	A3	955	A	C4-C5-N7	6.39	113.90	110.70
54	V4	11	LEU	CA-CB-CG	6.39	130.00	115.30
29	A1	1622	G	C6-C5-N7	-6.39	126.57	130.40
29	A2	1983	G	N9-C4-C5	-6.39	102.84	105.40
53	A3	281	G	C4-C5-N7	6.39	113.36	110.80
53	A3	1506	G	O4'-C1'-N9	6.39	113.31	108.20
53	A4	1015	G	P-O3'-C3'	6.39	127.37	119.70
29	A2	278	G	O4'-C1'-N9	6.39	113.31	108.20
29	A1	969	G	N1-C2-N2	-6.39	110.45	116.20
29	A1	1079	G	C4-C5-N7	6.39	113.35	110.80
29	A2	55	A	C8-N9-C4	-6.38	103.25	105.80
29	A2	925	C	C6-N1-C2	-6.38	117.75	120.30
29	A2	2750	G	C4-C5-N7	6.38	113.35	110.80
53	A4	597	A	C4-C5-N7	6.38	113.89	110.70
53	A4	1165	G	N3-C4-N9	6.38	129.83	126.00
53	A4	772	U	N3-C4-O4	-6.38	114.93	119.40
29	A1	1706	C	C2-N3-C4	-6.38	116.71	119.90
29	A1	2896	U	O5'-P-OP1	-6.38	99.96	105.70
53	A4	541	G	C8-N9-C4	-6.38	103.85	106.40
29	A2	481	C	N1-C2-O2	6.38	122.73	118.90
29	A2	1045	G	C8-N9-C1'	-6.38	118.71	127.00
29	A2	2700	G	C4-C5-C6	6.38	122.63	118.80
29	A1	1696	G	C8-N9-C4	-6.38	103.85	106.40
29	A2	628	A	C8-N9-C4	-6.38	103.25	105.80
29	A2	941	C	N1-C2-O2	6.38	122.73	118.90
29	A2	994	G	C8-N9-C4	-6.38	103.85	106.40
29	A2	2315	C	N1-C2-O2	6.38	122.73	118.90
53	A4	533	G	C4-N9-C1'	6.38	134.79	126.50
29	A1	1438	U	C6-N1-C2	-6.38	117.17	121.00
29	A1	2115	U	N3-C2-O2	-6.38	117.74	122.20
29	A2	1923	G	C2-N3-C4	-6.38	108.71	111.90
29	A2	2581	G	C6-C5-N7	-6.38	126.57	130.40
53	A4	1001	G	N3-C4-N9	6.38	129.83	126.00
29	A1	1592	C	C6-N1-C2	-6.38	117.75	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	397	C	C4-C5-C6	-6.37	114.21	117.40
29	A2	2022	G	N1-C2-N2	-6.37	110.46	116.20
29	A2	2523	G	C4-C5-N7	6.37	113.35	110.80
53	A3	593	G	N3-C4-N9	6.37	129.82	126.00
9	K1	47	ASP	C-N-CD	-6.37	106.58	120.60
53	A3	110	G	N7-C8-N9	6.37	116.29	113.10
53	A3	1373	U	C2-N1-C1'	-6.37	110.05	117.70
53	A4	281	G	C4-C5-N7	6.37	113.35	110.80
29	A1	1452	C	N1-C2-O2	6.37	122.72	118.90
53	A3	1510	C	C6-N1-C2	-6.37	117.75	120.30
29	A1	2450	G	N1-C2-N3	6.37	127.72	123.90
29	A2	647	G	C5-C6-N1	6.37	114.68	111.50
29	A2	825	G	C8-N9-C1'	-6.37	118.72	127.00
29	A2	1119	G	C2-N3-C4	6.37	115.08	111.90
29	A2	1723	G	C4-C5-N7	6.37	113.35	110.80
53	A4	970	G	C5-C6-N1	6.37	114.68	111.50
29	A2	1174	A	C8-N9-C4	-6.37	103.25	105.80
53	A4	1392	G	N7-C8-N9	6.37	116.28	113.10
29	A1	791	G	C8-N9-C4	6.37	108.95	106.40
53	A3	1019	C	C6-N1-C2	-6.37	117.75	120.30
53	A4	65	U	N3-C2-O2	-6.36	117.75	122.20
53	A4	554	U	C4-C5-C6	6.36	123.52	119.70
29	A1	2596	G	C2-N3-C4	-6.36	108.72	111.90
29	A1	2097	C	N1-C2-O2	6.36	122.72	118.90
29	A2	981	G	C6-C5-N7	-6.36	126.58	130.40
29	A2	2482	G	C2-N3-C4	-6.36	108.72	111.90
53	A3	269	A	C5-N7-C8	-6.36	100.72	103.90
53	A4	676	G	N1-C6-O6	-6.36	116.08	119.90
53	A4	1037	A	N9-C4-C5	-6.36	103.26	105.80
29	A1	2624	C	P-O3'-C3'	6.36	127.33	119.70
29	A2	2020	C	C6-N1-C2	6.36	122.84	120.30
53	A4	541	G	C6-C5-N7	-6.36	126.58	130.40
29	A1	714	C	N3-C2-O2	-6.36	117.45	121.90
29	A1	2830	G	N1-C6-O6	-6.36	116.08	119.90
29	A2	1837	C	C5-C6-N1	-6.36	117.82	121.00
43	M3	66	LEU	CA-CB-CG	6.36	129.92	115.30
53	A3	1352	G	C8-N9-C4	-6.36	103.86	106.40
53	A4	571	G	N3-C4-N9	6.36	129.81	126.00
53	A4	603	C	C6-N1-C2	-6.36	117.76	120.30
29	A1	1696	G	C6-C5-N7	-6.36	126.59	130.40
53	A3	520	G	C5-C6-N1	6.36	114.68	111.50
53	A3	1381	C	N1-C2-O2	6.36	122.71	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1085	C	N3-C4-C5	6.35	124.44	121.90
29	A1	1398	C	C6-N1-C2	-6.35	117.76	120.30
29	A1	2468	G	N3-C4-C5	-6.35	125.42	128.60
29	A2	1661	G	C8-N9-C1'	-6.35	118.74	127.00
29	A2	2551	U	C6-N1-C2	-6.35	117.19	121.00
53	A3	937	U	C2-N1-C1'	6.35	125.32	117.70
53	A3	1479	A	C8-N9-C4	-6.35	103.26	105.80
53	A4	1450	A	C2-N3-C4	6.35	113.78	110.60
29	A1	360	C	N3-C2-O2	-6.35	117.45	121.90
29	A2	287	C	O4'-C1'-N1	6.35	113.28	108.20
29	A2	1622	G	N1-C6-O6	6.35	123.71	119.90
29	A2	2624	C	P-O3'-C3'	6.35	127.32	119.70
29	A1	531	U	C6-N1-C2	-6.35	117.19	121.00
16	R2	67	ASP	CB-CG-OD1	6.35	124.01	118.30
29	A2	1542	A	N9-C4-C5	-6.35	103.26	105.80
29	A2	1942	A	C8-N9-C4	6.35	108.34	105.80
53	A4	994	A	C8-N9-C4	-6.35	103.26	105.80
29	A1	2021	G	C8-N9-C4	6.35	108.94	106.40
29	A2	205	G	C8-N9-C4	6.35	108.94	106.40
53	A3	737	C	C6-N1-C2	-6.35	117.76	120.30
53	A3	553	G	N1-C2-N2	-6.34	110.49	116.20
53	A3	1381	C	N3-C2-O2	-6.34	117.46	121.90
53	A4	276	G	C4-N9-C1'	6.34	134.75	126.50
53	A4	1042	C	N3-C4-C5	6.34	124.44	121.90
29	A1	648	A	C8-N9-C4	-6.34	103.26	105.80
29	A1	2624	C	OP2-P-O3'	6.34	119.15	105.20
29	A2	2596	G	C2-N3-C4	-6.34	108.73	111.90
53	A3	1122	C	C6-N1-C2	-6.34	117.76	120.30
53	A3	1459	G	C4-N9-C1'	6.34	134.75	126.50
53	A4	581	U	C5-C6-N1	6.34	125.87	122.70
53	A3	1186	U	C5-C6-N1	6.34	125.87	122.70
53	A3	1263	C	C2-N1-C1'	6.34	125.78	118.80
53	A4	209	U	C2-N1-C1'	6.34	125.31	117.70
29	A1	442	C	N3-C4-C5	6.34	124.44	121.90
29	A1	1113	U	N3-C2-O2	-6.34	117.76	122.20
53	A4	730	C	C5-C6-N1	6.34	124.17	121.00
53	A4	1172	A	C5-C6-N1	6.34	120.87	117.70
53	A3	1369	G	N1-C2-N2	-6.34	110.50	116.20
29	A2	1254	C	C6-N1-C2	-6.34	117.77	120.30
29	A2	2905	G	C6-C5-N7	-6.34	126.60	130.40
30	B2	102	A	C8-N9-C4	-6.34	103.27	105.80
53	A4	334	C	N1-C2-O2	6.34	122.70	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1454	C	N3-C2-O2	-6.34	117.46	121.90
53	A4	668	G	N7-C8-N9	6.33	116.27	113.10
29	A1	2568	U	O4'-C1'-N1	6.33	113.27	108.20
53	A3	1331	A	O5'-P-OP1	-6.33	100.00	105.70
53	A4	421	G	C5-N7-C8	-6.33	101.13	104.30
29	A1	572	C	N3-C2-O2	-6.33	117.47	121.90
29	A1	616	C	C6-N1-C2	-6.33	117.77	120.30
53	A3	634	C	N3-C4-C5	6.33	124.43	121.90
53	A3	896	A	C5-C6-N1	6.33	120.87	117.70
53	A4	1397	G	C4-N9-C1'	-6.33	118.27	126.50
29	A1	2204	U	N3-C2-O2	-6.33	117.77	122.20
29	A2	2580	A	OP2-P-O3'	6.33	119.12	105.20
53	A3	1473	C	C5-C6-N1	6.33	124.16	121.00
29	A1	931	G	N3-C4-C5	6.33	131.76	128.60
29	A2	2754	U	C5-C6-N1	6.33	125.86	122.70
53	A3	1506	G	C6-C5-N7	-6.33	126.60	130.40
53	A4	118	U	C4-C5-C6	-6.33	115.90	119.70
29	A1	2265	G	C4-N9-C1'	6.33	134.72	126.50
29	A2	107	G	N9-C4-C5	-6.33	102.87	105.40
29	A2	2169	C	C6-N1-C2	-6.33	117.77	120.30
29	A2	2334	A	C5-N7-C8	-6.33	100.74	103.90
29	A2	2520	U	N3-C2-O2	-6.33	117.77	122.20
29	A2	2582	C	C6-N1-C2	-6.33	117.77	120.30
29	A1	2260	G	C6-C5-N7	-6.32	126.61	130.40
29	A2	660	A	C8-N9-C4	-6.32	103.27	105.80
53	A4	805	C	C2-N1-C1'	6.32	125.76	118.80
53	A3	229	C	N3-C2-O2	-6.32	117.47	121.90
29	A1	733	G	N1-C2-N3	6.32	127.69	123.90
29	A1	2224	C	C5-C6-N1	6.32	124.16	121.00
29	A2	858	G	N3-C4-C5	-6.32	125.44	128.60
29	A2	879	G	N7-C8-N9	-6.32	109.94	113.10
53	A4	65	U	N1-C2-O2	6.32	127.22	122.80
29	A1	1130	U	C6-N1-C2	-6.32	117.21	121.00
29	A1	2849	G	N1-C6-O6	-6.32	116.11	119.90
29	A1	842	A	N7-C8-N9	6.32	116.96	113.80
29	A2	2311	C	C5-C6-N1	6.32	124.16	121.00
53	A3	561	C	N3-C2-O2	-6.32	117.48	121.90
53	A4	1397	G	N3-C4-N9	-6.32	122.21	126.00
29	A1	1883	G	N3-C2-N2	-6.32	115.48	119.90
29	A2	410	G	C6-C5-N7	-6.32	126.61	130.40
29	A2	428	G	C4-C5-N7	6.32	113.33	110.80
29	A2	1000	A	C8-N9-C4	6.32	108.33	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1824	A	C8-N9-C4	6.32	108.33	105.80
29	A2	2028	G	N3-C4-N9	6.32	129.79	126.00
53	A3	1392	G	C4-C5-N7	6.32	113.33	110.80
29	A2	1822	A	C4-C5-N7	6.31	113.86	110.70
53	A4	382	U	C5-C6-N1	-6.31	119.54	122.70
7	I2	15	LEU	CA-CB-CG	6.31	129.81	115.30
53	A3	311	G	N3-C4-N9	6.31	129.79	126.00
29	A2	2356	C	C2-N1-C1'	6.31	125.74	118.80
30	B2	5	C	C6-N1-C2	-6.31	117.78	120.30
53	A3	890	A	P-O3'-C3'	6.31	127.27	119.70
53	A4	890	A	P-O3'-C3'	6.31	127.27	119.70
30	B1	12	C	C6-N1-C2	-6.31	117.78	120.30
29	A2	2428	G	C4-C5-N7	6.31	113.32	110.80
53	A4	1457	G	N3-C4-N9	-6.31	122.22	126.00
29	A2	2202	C	C6-N1-C2	-6.31	117.78	120.30
53	A4	118	U	C5-C6-N1	6.31	125.85	122.70
53	A4	1201	G	C4-N9-C1'	-6.31	118.30	126.50
29	A1	288	G	P-O3'-C3'	6.30	127.27	119.70
29	A1	586	G	N9-C4-C5	-6.30	102.88	105.40
29	A1	2242	G	C6-C5-N7	-6.30	126.62	130.40
53	A4	1398	G	C5-N7-C8	-6.30	101.15	104.30
53	A3	414	C	C6-N1-C2	-6.30	117.78	120.30
29	A1	1354	C	C5-C6-N1	6.30	124.15	121.00
29	A1	1449	G	N3-C4-C5	-6.30	125.45	128.60
29	A1	2606	G	C8-N9-C4	-6.30	103.88	106.40
29	A2	723	G	N3-C2-N2	6.30	124.31	119.90
29	A2	2830	G	N1-C6-O6	-6.30	116.12	119.90
53	A4	874	C	C2-N1-C1'	6.30	125.73	118.80
29	A2	977	U	N1-C2-O2	6.30	127.21	122.80
29	A2	1563	C	C5-C4-N4	-6.30	115.79	120.20
53	A3	404	G	C6-C5-N7	-6.30	126.62	130.40
53	A4	965	G	N7-C8-N9	6.30	116.25	113.10
29	A1	1361	U	C6-N1-C1'	-6.30	112.38	121.20
29	A1	1596	C	N3-C2-O2	-6.30	117.49	121.90
53	A3	1459	G	N3-C4-C5	-6.30	125.45	128.60
29	A2	791	G	C2-N3-C4	-6.30	108.75	111.90
30	B2	63	G	C8-N9-C1'	-6.30	118.81	127.00
53	A4	423	G	C4-C5-N7	6.30	113.32	110.80
53	A4	425	A	C8-N9-C4	6.30	108.32	105.80
53	A4	673	G	N7-C8-N9	6.30	116.25	113.10
29	A1	1761	C	C2-N1-C1'	6.29	125.72	118.80
29	A1	2602	G	C8-N9-C4	-6.29	103.88	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	442	C	C6-N1-C2	-6.29	117.78	120.30
29	A2	1671	G	C4-N9-C1'	-6.29	118.32	126.50
29	A2	1758	U	N1-C2-O2	6.29	127.21	122.80
53	A4	423	G	N9-C4-C5	-6.29	102.88	105.40
29	A1	901	G	C4-C5-N7	6.29	113.32	110.80
29	A1	2755	A	N1-C6-N6	-6.29	114.83	118.60
29	A2	32	C	C6-N1-C2	-6.29	117.78	120.30
29	A2	1297	U	N1-C2-N3	6.29	118.67	114.90
29	A1	1234	G	C4-N9-C1'	6.29	134.68	126.50
29	A2	2260	G	C4-C5-N7	6.29	113.32	110.80
53	A4	335	U	C2-N1-C1'	6.29	125.25	117.70
29	A1	2760	C	N1-C2-O2	6.29	122.67	118.90
29	A2	1054	C	C2-N1-C1'	6.29	125.72	118.80
29	A2	1718	A	C4-N9-C1'	6.29	137.62	126.30
29	A2	1899	C	C6-N1-C2	-6.29	117.78	120.30
53	A3	430	C	N3-C2-O2	-6.29	117.50	121.90
29	A1	375	U	C2-N1-C1'	6.29	125.24	117.70
29	A1	925	C	C6-N1-C2	-6.29	117.79	120.30
29	A1	1758	U	N3-C2-O2	-6.29	117.80	122.20
53	A4	1101	C	N1-C2-O2	6.29	122.67	118.90
29	A1	1771	G	N7-C8-N9	6.28	116.24	113.10
29	A2	62	U	N3-C2-O2	-6.28	117.80	122.20
29	A2	2417	C	C5-C6-N1	6.28	124.14	121.00
53	A4	1112	A	O4'-C1'-N9	6.28	113.23	108.20
53	A4	1281	G	C8-N9-C4	6.28	108.91	106.40
29	A1	1614	C	C5-C6-N1	-6.28	117.86	121.00
29	A2	2626	C	C2-N1-C1'	-6.28	111.89	118.80
53	A3	54	C	O4'-C1'-N1	6.28	113.23	108.20
53	A4	1142	G	C5-N7-C8	-6.28	101.16	104.30
29	A1	353	U	C6-N1-C1'	-6.28	112.41	121.20
29	A1	2491	C	N3-C2-O2	-6.28	117.50	121.90
29	A2	2105	C	C5-C6-N1	6.28	124.14	121.00
53	A3	748	G	C8-N9-C4	-6.28	103.89	106.40
29	A2	1770	U	N1-C2-O2	6.28	127.19	122.80
53	A3	527	G	C8-N9-C4	-6.28	103.89	106.40
29	A1	931	G	N3-C4-N9	-6.28	122.23	126.00
29	A2	2229	G	C4-N9-C1'	6.28	134.66	126.50
53	A3	399	U	N1-C2-O2	6.28	127.19	122.80
53	A3	770	A	C5-C6-N6	-6.28	118.68	123.70
53	A4	231	G	N7-C8-N9	-6.28	109.96	113.10
53	A4	1245	C	C6-N1-C2	-6.28	117.79	120.30
29	A1	842	A	C8-N9-C4	-6.28	103.29	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1249	C	N3-C2-O2	-6.28	117.51	121.90
29	A1	2602	G	N7-C8-N9	6.28	116.24	113.10
29	A2	2076	G	C2-N3-C4	-6.28	108.76	111.90
53	A3	893	G	C4-N9-C1'	6.28	134.66	126.50
53	A4	582	C	C5-C6-N1	6.28	124.14	121.00
53	A4	1387	G	N3-C4-N9	-6.27	122.23	126.00
29	A1	467	G	C4-N9-C1'	-6.27	118.35	126.50
29	A1	2868	C	C2-N1-C1'	6.27	125.70	118.80
30	B1	9	G	C8-N9-C4	6.27	108.91	106.40
29	A2	1436	G	C8-N9-C4	-6.27	103.89	106.40
53	A3	540	G	C6-C5-N7	-6.27	126.64	130.40
53	A4	187	C	N1-C2-O2	6.27	122.66	118.90
53	A4	527	G	N7-C8-N9	6.27	116.24	113.10
29	A1	1604	G	N3-C4-C5	-6.27	125.47	128.60
29	A2	807	C	N3-C2-O2	-6.27	117.51	121.90
53	A4	893	G	C8-N9-C1'	-6.27	118.85	127.00
53	A4	1501	C	O5'-P-OP1	-6.27	100.06	105.70
29	A2	332	G	N7-C8-N9	6.27	116.23	113.10
29	A2	1361	U	C6-N1-C1'	-6.27	112.42	121.20
29	A2	2893	C	N3-C4-C5	6.27	124.41	121.90
29	A1	224	C	N1-C2-O2	6.26	122.66	118.90
29	A1	446	G	C6-C5-N7	-6.26	126.64	130.40
29	A1	807	C	N3-C2-O2	-6.26	117.52	121.90
29	A2	1852	A	P-O3'-C3'	6.26	127.22	119.70
29	A2	1949	C	O5'-P-OP1	-6.26	100.06	105.70
53	A3	1481	G	O5'-P-OP1	-6.26	100.06	105.70
53	A4	845	C	N3-C2-O2	-6.26	117.52	121.90
53	A4	1339	U	N3-C2-O2	-6.26	117.81	122.20
29	A1	26	G	O5'-P-OP1	-6.26	100.06	105.70
29	A2	353	U	N1-C2-O2	6.26	127.18	122.80
29	A2	1819	A	C8-N9-C1'	-6.26	116.43	127.70
53	A3	180	C	N3-C4-C5	6.26	124.41	121.90
53	A3	621	G	N9-C4-C5	-6.26	102.89	105.40
29	A2	1732	C	N3-C2-O2	-6.26	117.52	121.90
53	A4	699	A	C5-N7-C8	-6.26	100.77	103.90
29	A2	556	A	N7-C8-N9	6.26	116.93	113.80
29	A2	2001	A	N9-C4-C5	-6.26	103.30	105.80
53	A3	770	A	C4-C5-N7	6.26	113.83	110.70
53	A4	1335	C	N1-C2-O2	6.26	122.66	118.90
29	A1	205	G	N9-C4-C5	-6.26	102.90	105.40
29	A1	268	C	N3-C2-O2	-6.26	117.52	121.90
29	A1	1955	U	N3-C2-O2	-6.26	117.82	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1485	C	C2-N1-C1'	6.26	125.68	118.80
29	A2	2849	G	N1-C6-O6	-6.26	116.15	119.90
53	A3	217	U	N1-C2-O2	6.26	127.18	122.80
53	A4	1464	G	C4-C5-N7	6.26	113.30	110.80
29	A1	1485	C	C2-N1-C1'	6.25	125.68	118.80
29	A1	555	A	C5-N7-C8	-6.25	100.77	103.90
29	A1	647	G	C5-C6-N1	6.25	114.63	111.50
29	A1	758	U	N3-C2-O2	-6.25	117.82	122.20
29	A1	1297	U	N1-C2-N3	6.25	118.65	114.90
29	A1	2051	G	N3-C4-N9	6.25	129.75	126.00
29	A1	2226	C	N3-C2-O2	-6.25	117.52	121.90
29	A1	2714	C	C5-C6-N1	6.25	124.13	121.00
29	A2	227	C	N3-C2-O2	-6.25	117.52	121.90
53	A3	118	U	C4-C5-C6	-6.25	115.95	119.70
29	A1	683	C	O5'-P-OP2	-6.25	100.07	105.70
29	A1	1215	U	N1-C2-O2	6.25	127.18	122.80
29	A1	1391	G	C4-N9-C1'	6.25	134.63	126.50
29	A1	2679	A	O4'-C1'-N9	6.25	113.20	108.20
29	A2	2786	C	C6-N1-C1'	-6.25	113.30	120.80
53	A3	781	G	C5-C6-N1	6.25	114.63	111.50
29	A1	1791	G	C8-N9-C1'	-6.25	118.88	127.00
29	A2	205	G	N9-C4-C5	-6.25	102.90	105.40
29	A2	2059	G	OP2-P-O3'	6.25	118.95	105.20
29	A2	2836	C	N3-C2-O2	-6.25	117.53	121.90
53	A4	756	G	C4-C5-N7	6.25	113.30	110.80
29	A2	1157	C	C5-C4-N4	-6.25	115.83	120.20
53	A4	28	G	N7-C8-N9	6.25	116.22	113.10
53	A4	907	C	C2-N3-C4	-6.25	116.78	119.90
29	A1	1584	A	C8-N9-C4	-6.25	103.30	105.80
29	A1	2850	G	C5-C6-O6	-6.25	124.85	128.60
29	A2	2373	C	C4-C5-C6	-6.25	114.28	117.40
53	A4	1276	G	C4-C5-N7	6.25	113.30	110.80
29	A1	1726	A	C8-N9-C4	-6.25	103.30	105.80
29	A2	2577	U	C2-N1-C1'	6.25	125.19	117.70
53	A3	307	C	N3-C2-O2	-6.25	117.53	121.90
29	A1	1000	A	C8-N9-C4	6.24	108.30	105.80
29	A2	1025	G	C4-C5-N7	6.24	113.30	110.80
29	A2	1226	C	C6-N1-C2	-6.24	117.80	120.30
53	A3	637	G	N1-C6-O6	-6.24	116.15	119.90
53	A3	663	C	C6-N1-C2	-6.24	117.80	120.30
53	A4	677	A	N9-C4-C5	-6.24	103.30	105.80
53	A4	1101	C	N3-C2-O2	-6.24	117.53	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	292	G	N3-C2-N2	-6.24	115.53	119.90
29	A1	1983	G	N9-C4-C5	-6.24	102.90	105.40
29	A2	170	G	N7-C8-N9	6.24	116.22	113.10
53	A3	502	C	C5-C6-N1	6.24	124.12	121.00
29	A2	1272	C	C6-N1-C2	6.24	122.80	120.30
53	A3	188	U	C2-N1-C1'	6.24	125.19	117.70
53	A4	872	G	C5-C6-O6	-6.24	124.86	128.60
29	A1	1948	C	C5-C6-N1	6.24	124.12	121.00
29	A2	123	G	N7-C8-N9	-6.24	109.98	113.10
29	A2	827	G	C4-C5-N7	6.24	113.30	110.80
53	A4	663	C	N3-C2-O2	-6.24	117.53	121.90
29	A1	2656	G	C4-C5-N7	6.24	113.30	110.80
29	A2	1173	G	C8-N9-C1'	-6.24	118.89	127.00
29	A2	1175	A	N1-C2-N3	6.24	132.42	129.30
53	A3	553	G	N3-C2-N2	6.24	124.27	119.90
53	A3	917	C	O4'-C1'-N1	6.24	113.19	108.20
53	A4	1264	G	N9-C4-C5	-6.24	102.91	105.40
29	A1	733	G	N1-C2-N2	-6.24	110.59	116.20
29	A2	687	C	C6-N1-C2	-6.24	117.81	120.30
29	A2	1137	G	N3-C4-N9	6.24	129.74	126.00
53	A3	1311	U	C6-N1-C1'	-6.24	112.47	121.20
29	A1	2836	C	N3-C2-O2	-6.23	117.54	121.90
53	A3	204	G	C6-C5-N7	-6.23	126.66	130.40
29	A2	1624	C	C6-N1-C1'	-6.23	113.32	120.80
29	A2	1978	G	C4-C5-N7	6.23	113.29	110.80
53	A3	214	C	C5-C6-N1	6.23	124.11	121.00
53	A4	27	G	C8-N9-C1'	-6.23	118.90	127.00
53	A3	613	G	C4-C5-N7	6.23	113.29	110.80
53	A4	125	C	N3-C2-O2	-6.23	117.54	121.90
53	A4	183	G	N3-C4-N9	6.23	129.74	126.00
53	A4	748	G	N7-C8-N9	6.23	116.21	113.10
29	A2	1713	A	C5-C6-N1	6.23	120.81	117.70
29	A2	2559	G	C5-C6-O6	6.23	132.34	128.60
29	A1	1017	C	N1-C2-O2	6.22	122.64	118.90
29	A1	2053	G	C6-C5-N7	-6.22	126.67	130.40
29	A2	1036	A	C4-C5-C6	-6.22	113.89	117.00
53	A3	622	G	C4-C5-N7	6.22	113.29	110.80
53	A4	176	U	C5-C6-N1	6.22	125.81	122.70
29	A1	969	G	N3-C4-N9	6.22	129.73	126.00
29	A2	735	G	C6-C5-N7	-6.22	126.67	130.40
29	A2	1542	A	N1-C6-N6	6.22	122.33	118.60
38	H3	112	LEU	CA-CB-CG	6.22	129.61	115.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	334	C	N1-C2-O2	6.22	122.63	118.90
30	B1	63	G	C4-N9-C1'	6.22	134.59	126.50
29	A2	57	G	C4-C5-N7	6.22	113.29	110.80
29	A2	685	G	N3-C4-N9	6.22	129.73	126.00
29	A2	1918	C	C6-N1-C2	6.22	122.79	120.30
53	A4	212	C	N1-C2-O2	6.22	122.63	118.90
53	A4	776	U	N3-C2-O2	-6.22	117.85	122.20
53	A4	1433	G	OP2-P-O3'	6.22	118.88	105.20
29	A1	1134	A	N7-C8-N9	6.22	116.91	113.80
29	A1	1864	G	C6-C5-N7	-6.22	126.67	130.40
29	A1	445	C	O4'-C1'-N1	6.22	113.17	108.20
53	A3	1317	C	P-O3'-C3'	6.22	127.16	119.70
53	A3	1345	A	C4-C5-N7	6.22	113.81	110.70
29	A1	912	A	C5-N7-C8	-6.21	100.79	103.90
53	A3	737	C	N1-C2-O2	6.21	122.63	118.90
29	A2	1853	U	C5-C6-N1	6.21	125.81	122.70
53	A3	601	C	C6-N1-C2	-6.21	117.81	120.30
53	A3	1288	U	C6-N1-C2	-6.21	117.27	121.00
53	A4	180	C	N3-C2-O2	-6.21	117.55	121.90
53	A4	634	C	C4-C5-C6	-6.21	114.29	117.40
29	A1	874	C	O4'-C1'-N1	6.21	113.17	108.20
29	A1	2780	A	N3-C4-N9	6.21	132.37	127.40
29	A2	901	G	N3-C4-N9	6.21	129.73	126.00
29	A2	2802	C	C2-N1-C1'	6.21	125.63	118.80
53	A3	737	C	N3-C2-O2	-6.21	117.55	121.90
29	A1	103	C	C5-C6-N1	6.21	124.11	121.00
29	A2	49	U	N3-C2-O2	-6.21	117.85	122.20
29	A2	2591	A	C5-N7-C8	-6.21	100.80	103.90
53	A3	860	C	O5'-P-OP1	-6.21	100.11	105.70
53	A3	1379	C	N3-C2-O2	-6.21	117.55	121.90
53	A4	561	C	C6-N1-C2	-6.21	117.82	120.30
53	A4	634	C	C6-N1-C2	-6.21	117.82	120.30
29	A1	2732	G	C5-C6-N1	6.21	114.60	111.50
29	A2	787	G	C6-C5-N7	-6.21	126.68	130.40
53	A3	314	G	N3-C4-C5	-6.21	125.50	128.60
53	A3	663	C	N3-C2-O2	-6.21	117.56	121.90
53	A4	719	C	N1-C2-O2	6.21	122.62	118.90
53	A4	1335	C	N3-C2-O2	-6.21	117.56	121.90
29	A2	2600	C	N1-C2-O2	6.21	122.62	118.90
53	A4	1281	G	N3-C4-C5	6.21	131.70	128.60
29	A1	556	A	N7-C8-N9	6.20	116.90	113.80
29	A1	2063	C	C2-N1-C1'	6.20	125.62	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1338	C	C6-N1-C1'	-6.20	113.36	120.80
29	A2	1726	A	C8-N9-C4	-6.20	103.32	105.80
29	A2	2421	G	C4-C5-N7	6.20	113.28	110.80
53	A4	1408	C	C2-N1-C1'	6.20	125.62	118.80
29	A1	1702	G	O4'-C1'-N9	-6.20	103.24	108.20
29	A1	2313	G	C8-N9-C4	-6.20	103.92	106.40
29	A2	709	G	N3-C4-N9	-6.20	122.28	126.00
29	A2	800	A	C5-N7-C8	-6.20	100.80	103.90
29	A2	1732	C	C5-C6-N1	6.20	124.10	121.00
29	A2	1912	G	C4-N9-C1'	6.20	134.56	126.50
29	A2	2161	C	C6-N1-C2	-6.20	117.82	120.30
53	A3	541	G	C8-N9-C4	-6.20	103.92	106.40
53	A4	431	C	N1-C2-O2	6.20	122.62	118.90
53	A4	1205	G	N3-C4-N9	6.20	129.72	126.00
29	A1	824	G	C4-C5-N7	6.20	113.28	110.80
29	A1	1746	G	C4-C5-N7	6.20	113.28	110.80
53	A3	703	C	C5-C6-N1	6.20	124.10	121.00
29	A1	428	G	C4-C5-N7	6.20	113.28	110.80
29	A1	678	G	C2-N3-C4	-6.20	108.80	111.90
29	A1	985	G	C8-N9-C4	-6.20	103.92	106.40
29	A1	1690	A	C4-C5-N7	6.20	113.80	110.70
29	A2	685	G	N3-C4-C5	-6.20	125.50	128.60
53	A4	307	C	N3-C2-O2	-6.20	117.56	121.90
53	A4	354	U	C5-C4-O4	-6.20	122.18	125.90
29	A2	1770	U	N3-C2-O2	-6.19	117.86	122.20
29	A1	1164	C	C5-C6-N1	6.19	124.10	121.00
29	A1	2746	G	C4-C5-N7	6.19	113.28	110.80
29	A2	1527	G	C4-C5-N7	6.19	113.28	110.80
29	A2	2867	C	N3-C2-O2	-6.19	117.56	121.90
29	A2	2875	C	N3-C4-C5	6.19	124.38	121.90
29	A1	1131	U	C6-N1-C1'	-6.19	112.53	121.20
29	A1	2368	G	C4-N9-C1'	6.19	134.55	126.50
29	A1	2396	G	C8-N9-C4	-6.19	103.92	106.40
53	A4	363	U	C2-N1-C1'	6.19	125.13	117.70
53	A4	1452	G	C5-N7-C8	-6.19	101.20	104.30
29	A1	2151	G	C8-N9-C1'	6.19	135.05	127.00
29	A2	2905	G	N1-C6-O6	6.19	123.61	119.90
53	A4	1235	C	N1-C2-O2	6.19	122.61	118.90
29	A1	970	U	C5-C6-N1	6.19	125.79	122.70
29	A2	587	U	C6-N1-C2	-6.19	117.29	121.00
53	A3	443	C	C5-C6-N1	6.19	124.09	121.00
29	A2	2450	G	N1-C2-N3	6.19	127.61	123.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	184	C	N1-C2-O2	6.19	122.61	118.90
29	A1	787	G	C6-C5-N7	-6.18	126.69	130.40
29	A1	824	G	C5-N7-C8	-6.18	101.21	104.30
30	B1	116	C	N3-C2-O2	-6.18	117.57	121.90
29	A2	669	G	C4-N9-C1'	-6.18	118.46	126.50
29	A1	834	G	C4-N9-C1'	6.18	134.54	126.50
29	A2	1474	G	C4-C5-N7	6.18	113.27	110.80
29	A2	1539	G	OP1-P-O3'	6.18	118.80	105.20
53	A3	187	C	C5-C6-N1	6.18	124.09	121.00
29	A1	55	A	C8-N9-C4	-6.18	103.33	105.80
29	A1	426	G	N3-C4-C5	6.18	131.69	128.60
29	A2	322	C	C5-C6-N1	6.18	124.09	121.00
53	A3	750	A	O5'-P-OP2	-6.18	100.14	105.70
29	A1	2700	G	N1-C2-N3	6.18	127.61	123.90
53	A3	1277	C	C6-N1-C2	-6.18	117.83	120.30
29	A1	288	G	C8-N9-C1'	-6.18	118.97	127.00
29	A1	1393	C	N3-C2-O2	-6.18	117.58	121.90
29	A1	2598	U	O4'-C1'-N1	6.18	113.14	108.20
53	A3	754	G	N3-C4-C5	-6.18	125.51	128.60
53	A3	1196	G	N1-C6-O6	6.18	123.61	119.90
39	I4	99	LEU	CA-CB-CG	6.18	129.51	115.30
53	A4	482	A	C4-C5-C6	-6.18	113.91	117.00
29	A1	792	G	N3-C4-N9	-6.17	122.30	126.00
29	A1	2105	C	C5-C6-N1	6.17	124.09	121.00
29	A1	2690	C	N1-C2-O2	6.17	122.61	118.90
29	A2	1189	U	N3-C2-O2	-6.17	117.88	122.20
29	A2	1844	G	C8-N9-C4	-6.17	103.93	106.40
29	A2	1961	A	N1-C6-N6	-6.17	114.89	118.60
29	A2	2434	C	N3-C2-O2	-6.17	117.58	121.90
53	A3	125	C	N3-C2-O2	-6.17	117.58	121.90
53	A3	1292	G	C4-C5-N7	6.17	113.27	110.80
29	A2	433	U	C6-N1-C2	-6.17	117.30	121.00
53	A3	970	G	N3-C4-C5	-6.17	125.51	128.60
29	A1	2064	C	N1-C2-O2	6.17	122.60	118.90
53	A3	1085	C	N3-C4-C5	6.17	124.37	121.90
29	A2	1647	C	C2-N1-C1'	6.17	125.59	118.80
29	A1	2064	C	N3-C2-O2	-6.17	117.58	121.90
29	A1	2185	C	O4'-C1'-N1	6.17	113.13	108.20
29	A2	622	U	N3-C2-O2	-6.17	117.88	122.20
29	A2	1592	C	N1-C2-O2	6.17	122.60	118.90
29	A2	2735	U	N3-C2-O2	-6.17	117.88	122.20
29	A1	409	G	N3-C4-N9	6.17	129.70	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	723	G	N9-C4-C5	-6.17	102.93	105.40
53	A4	817	C	N1-C2-O2	6.17	122.60	118.90
21	W1	98	LEU	CA-CB-CG	6.17	129.48	115.30
29	A1	1095	G	N3-C4-N9	6.17	129.70	126.00
29	A2	258	C	N3-C2-O2	-6.17	117.58	121.90
53	A3	700	C	C2-N1-C1'	6.17	125.58	118.80
53	A4	634	C	C5-C4-N4	-6.17	115.88	120.20
29	A1	806	U	C5-C6-N1	6.16	125.78	122.70
29	A2	2591	A	N7-C8-N9	6.16	116.88	113.80
53	A3	105	G	C4-N9-C1'	6.16	134.51	126.50
53	A3	792	G	N7-C8-N9	-6.16	110.02	113.10
53	A3	1157	A	N9-C4-C5	-6.16	103.33	105.80
53	A4	663	C	C6-N1-C2	-6.16	117.83	120.30
29	A1	2322	G	N3-C4-C5	-6.16	125.52	128.60
29	A1	1343	C	C6-N1-C2	-6.16	117.84	120.30
29	A1	1732	C	C5-C6-N1	6.16	124.08	121.00
29	A2	1046	C	N3-C2-O2	-6.16	117.59	121.90
53	A3	354	U	C5-C6-N1	6.16	125.78	122.70
53	A3	779	C	N1-C2-O2	6.16	122.60	118.90
53	A4	765	A	C8-N9-C4	-6.16	103.34	105.80
29	A1	98	U	N1-C2-O2	6.16	127.11	122.80
53	A3	162	G	C4-C5-N7	6.16	113.26	110.80
53	A3	539	C	C5-C6-N1	6.16	124.08	121.00
53	A4	860	C	O5'-P-OP1	-6.16	100.16	105.70
53	A4	1201	G	N3-C4-N9	-6.16	122.30	126.00
53	A4	1313	A	C2-N3-C4	6.16	113.68	110.60
29	A1	1831	U	O5'-P-OP1	6.16	118.09	110.70
53	A4	167	U	C2-N1-C1'	6.16	125.09	117.70
29	A1	1473	G	C4-N9-C1'	6.15	134.50	126.50
29	A2	199	C	N3-C2-O2	-6.15	117.59	121.90
29	A2	612	C	N3-C4-C5	6.15	124.36	121.90
53	A3	482	A	N1-C2-N3	-6.15	126.22	129.30
29	A1	280	G	N3-C4-N9	6.15	129.69	126.00
29	A1	599	C	N3-C2-O2	-6.15	117.59	121.90
29	A1	802	C	C5-C6-N1	6.15	124.08	121.00
29	A2	440	A	C2-N3-C4	6.15	113.68	110.60
29	A2	1825	G	C4-C5-N7	6.15	113.26	110.80
29	A2	1836	A	C5-C6-N6	6.15	128.62	123.70
29	A1	478	G	C8-N9-C4	6.15	108.86	106.40
29	A1	1942	A	C8-N9-C4	6.15	108.26	105.80
29	A2	1690	A	C4-C5-N7	6.15	113.78	110.70
29	A2	2001	A	C4-C5-N7	6.15	113.78	110.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2072	G	N1-C2-N2	-6.15	110.67	116.20
29	A2	2696	U	N1-C2-O2	6.15	127.11	122.80
53	A3	1045	C	N1-C2-O2	6.15	122.59	118.90
29	A1	2629	U	N1-C2-O2	6.15	127.10	122.80
29	A2	1086	C	C6-N1-C2	-6.15	117.84	120.30
53	A4	614	G	N3-C4-N9	6.15	129.69	126.00
53	A4	789	C	C2-N3-C4	-6.15	116.83	119.90
53	A4	951	A	C5-C6-N1	6.15	120.78	117.70
29	A1	2276	U	N3-C2-O2	-6.15	117.90	122.20
29	A2	1945	G	O5'-P-OP1	-6.15	100.17	105.70
29	A2	2562	G	N9-C4-C5	-6.15	102.94	105.40
53	A3	783	G	C5-N7-C8	-6.15	101.23	104.30
29	A2	1713	A	N9-C4-C5	-6.14	103.34	105.80
53	A4	766	C	N1-C2-O2	6.14	122.59	118.90
30	B1	70	C	C6-N1-C2	-6.14	117.84	120.30
53	A3	1351	C	N3-C2-O2	-6.14	117.60	121.90
29	A1	650	G	C8-N9-C4	-6.14	103.94	106.40
29	A2	941	C	C6-N1-C2	-6.14	117.84	120.30
53	A3	763	A	C4-C5-N7	6.14	113.77	110.70
29	A1	344	C	C2-N1-C1'	6.14	125.55	118.80
29	A1	1485	C	C5-C6-N1	6.14	124.07	121.00
29	A2	625	G	C6-C5-N7	-6.14	126.72	130.40
29	A2	1347	G	N3-C4-C5	6.14	131.67	128.60
29	A2	2096	G	C6-C5-N7	-6.14	126.72	130.40
53	A4	169	C	N3-C2-O2	-6.14	117.60	121.90
53	A4	526	C	C6-N1-C2	-6.14	117.84	120.30
29	A2	409	G	N3-C4-C5	-6.13	125.53	128.60
29	A2	1883	G	N3-C4-N9	-6.13	122.32	126.00
29	A1	126	C	N3-C4-N4	6.13	122.29	118.00
29	A2	1287	G	C4-C5-N7	6.13	113.25	110.80
29	A2	1748	G	N9-C4-C5	-6.13	102.95	105.40
29	A2	2017	U	N3-C2-O2	-6.13	117.91	122.20
53	A4	349	G	C8-N9-C4	-6.13	103.95	106.40
29	A1	401	U	N3-C4-O4	6.13	123.69	119.40
29	A1	628	A	C8-N9-C4	-6.13	103.35	105.80
29	A1	1956	A	O4'-C1'-N9	6.13	113.11	108.20
53	A3	385	C	N3-C2-O2	-6.13	117.61	121.90
29	A1	1168	G	N3-C4-N9	6.13	129.68	126.00
29	A1	2001	A	N9-C4-C5	-6.13	103.35	105.80
29	A1	665	G	C4-N9-C1'	6.13	134.47	126.50
29	A1	2396	G	N7-C8-N9	6.13	116.17	113.10
29	A2	675	G	C8-N9-C4	-6.13	103.95	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1152	G	N3-C2-N2	-6.13	115.61	119.90
29	A1	552	U	N1-C2-O2	6.13	127.09	122.80
29	A1	572	C	C2-N1-C1'	6.13	125.54	118.80
29	A1	1624	C	N1-C2-O2	6.13	122.58	118.90
29	A1	2417	C	N3-C2-O2	-6.13	117.61	121.90
30	B1	10	U	N1-C2-O2	6.13	127.09	122.80
53	A3	653	G	C4-C5-N7	6.13	113.25	110.80
53	A4	571	G	C6-C5-N7	-6.13	126.72	130.40
53	A4	1201	G	C8-N9-C1'	6.13	134.97	127.00
29	A2	96	C	C6-N1-C2	-6.12	117.85	120.30
29	A2	2298	C	N1-C2-O2	6.12	122.58	118.90
29	A1	1761	C	C6-N1-C2	-6.12	117.85	120.30
29	A1	1812	U	N3-C2-O2	-6.12	117.91	122.20
53	A3	183	G	N3-C4-N9	6.12	129.68	126.00
53	A4	1123	C	C5-C6-N1	6.12	124.06	121.00
29	A1	2219	C	N1-C2-O2	6.12	122.57	118.90
29	A2	1718	A	N1-C6-N6	-6.12	114.93	118.60
53	A4	852	C	C2-N3-C4	-6.12	116.84	119.90
29	A1	2523	G	C6-C5-N7	-6.12	126.73	130.40
30	B1	86	C	C5-C6-N1	6.12	124.06	121.00
29	A1	1126	U	N3-C2-O2	-6.12	117.92	122.20
29	A2	1062	U	C5-C6-N1	6.12	125.76	122.70
29	A1	431	U	C6-N1-C2	6.12	124.67	121.00
29	A1	1844	G	C8-N9-C4	-6.12	103.95	106.40
53	A3	1263	C	N3-C2-O2	-6.12	117.62	121.90
53	A3	1360	C	C5-C6-N1	6.12	124.06	121.00
53	A4	1481	G	O5'-P-OP2	-6.12	100.19	105.70
29	A1	595	G	N3-C4-C5	6.11	131.66	128.60
29	A1	1347	G	N3-C4-C5	6.11	131.66	128.60
53	A4	725	G	N3-C4-C5	-6.11	125.54	128.60
53	A4	965	G	C6-C5-N7	-6.11	126.73	130.40
29	A1	1436	G	N7-C8-N9	6.11	116.16	113.10
29	A1	1800	C	N1-C2-O2	6.11	122.57	118.90
29	A1	2051	G	C4-N9-C1'	6.11	134.44	126.50
29	A1	2636	C	C5-C6-N1	6.11	124.06	121.00
53	A4	905	G	C8-N9-C1'	-6.11	119.06	127.00
53	A3	776	U	C6-N1-C1'	-6.11	112.65	121.20
29	A1	897	G	N3-C4-N9	6.11	129.66	126.00
29	A1	2238	G	C6-C5-N7	-6.11	126.73	130.40
29	A2	812	G	N7-C8-N9	-6.11	110.05	113.10
53	A3	261	G	C5-N7-C8	-6.11	101.25	104.30
29	A1	170	G	C6-C5-N7	-6.11	126.74	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	968	G	C8-N9-C4	6.11	108.84	106.40
29	A1	1651	A	N7-C8-N9	6.11	116.85	113.80
29	A2	978	G	N3-C4-C5	6.11	131.65	128.60
29	A2	1951	A	C4-C5-N7	6.11	113.75	110.70
29	A2	2408	C	C6-N1-C2	-6.11	117.86	120.30
29	A2	2837	C	N1-C2-O2	6.11	122.56	118.90
53	A4	222	G	N9-C4-C5	6.11	107.84	105.40
29	A2	1519	G	C8-N9-C4	-6.10	103.96	106.40
29	A2	2690	C	N1-C2-O2	6.10	122.56	118.90
29	A2	1842	A	N1-C6-N6	-6.10	114.94	118.60
53	A3	612	G	C6-C5-N7	-6.10	126.74	130.40
29	A1	2656	G	C6-C5-N7	-6.10	126.74	130.40
29	A1	654	A	N7-C8-N9	6.10	116.85	113.80
29	A1	1180	A	N9-C4-C5	-6.10	103.36	105.80
53	A3	1222	G	C4-N9-C1'	6.10	134.43	126.50
53	A4	1089	C	N3-C2-O2	-6.10	117.63	121.90
53	A4	1392	G	C5-N7-C8	-6.10	101.25	104.30
29	A2	2675	G	N3-C4-C5	-6.10	125.55	128.60
53	A4	1403	G	C4-C5-N7	6.10	113.24	110.80
53	A3	1055	U	N3-C2-O2	-6.10	117.93	122.20
53	A4	253	G	C4-C5-N7	6.10	113.24	110.80
29	A1	829	G	C6-C5-N7	-6.09	126.74	130.40
29	A1	1265	C	N1-C2-O2	6.09	122.56	118.90
29	A1	2016	G	C4-N9-C1'	6.09	134.42	126.50
29	A2	791	G	C8-N9-C4	6.09	108.84	106.40
29	A2	1803	G	N9-C4-C5	6.09	107.84	105.40
29	A2	2260	G	C6-C5-N7	-6.09	126.74	130.40
29	A2	2421	G	C6-C5-N7	-6.09	126.74	130.40
53	A3	1192	U	N1-C2-O2	6.09	127.07	122.80
53	A4	526	C	C5-C6-N1	6.09	124.05	121.00
53	A4	1445	A	N1-C6-N6	6.09	122.26	118.60
29	A1	2376	G	C8-N9-C1'	6.09	134.92	127.00
29	A2	2198	C	N1-C2-O2	6.09	122.56	118.90
29	A2	2512	C	N3-C4-C5	-6.09	119.46	121.90
42	L3	93	LEU	CA-CB-CG	6.09	129.31	115.30
29	A1	471	A	O4'-C1'-N9	6.09	113.07	108.20
29	A2	1540	G	C8-N9-C4	-6.09	103.96	106.40
53	A4	1431	A	C5-N7-C8	-6.09	100.85	103.90
29	A2	2631	C	C5-C6-N1	6.09	124.05	121.00
53	A3	19	C	N1-C2-O2	6.09	122.55	118.90
53	A3	497	C	C5-C6-N1	6.09	124.04	121.00
53	A4	563	U	N1-C2-O2	6.09	127.06	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1375	U	C5-C6-N1	-6.09	119.66	122.70
29	A1	1850	G	C8-N9-C1'	-6.09	119.09	127.00
53	A4	452	C	N3-C2-O2	-6.09	117.64	121.90
29	A1	1921	G	C4-N9-C1'	6.09	134.41	126.50
29	A2	758	U	N3-C2-O2	-6.09	117.94	122.20
29	A2	1265	C	N1-C2-O2	6.09	122.55	118.90
29	A2	1947	U	N3-C4-O4	-6.09	115.14	119.40
53	A3	130	C	N3-C2-O2	-6.09	117.64	121.90
53	A3	1361	G	C8-N9-C4	6.09	108.83	106.40
29	A1	1031	A	N1-C6-N6	-6.08	114.95	118.60
29	A1	2132	C	C4-C5-C6	-6.08	114.36	117.40
53	A4	1506	G	N3-C4-N9	6.08	129.65	126.00
29	A2	2235	G	C8-N9-C4	6.08	108.83	106.40
29	A2	2870	C	C5-C6-N1	6.08	124.04	121.00
53	A3	323	C	N3-C2-O2	-6.08	117.64	121.90
53	A4	1345	A	N9-C4-C5	-6.08	103.37	105.80
29	A1	2096	G	N3-C4-N9	6.08	129.65	126.00
29	A1	2589	C	O5'-P-OP1	-6.08	100.23	105.70
29	A2	1412	G	P-O3'-C3'	6.08	127.00	119.70
29	A1	1194	C	C5-C4-N4	-6.08	115.94	120.20
29	A1	1649	G	C6-C5-N7	6.08	134.05	130.40
29	A1	2428	G	C6-C5-N7	-6.08	126.75	130.40
29	A1	2863	A	C5-N7-C8	-6.08	100.86	103.90
29	A2	2873	G	N3-C4-N9	6.08	129.65	126.00
53	A3	221	G	C4-C5-N7	-6.08	108.37	110.80
53	A3	1272	G	N7-C8-N9	6.08	116.14	113.10
53	A3	673	G	N7-C8-N9	6.08	116.14	113.10
53	A4	906	G	N1-C6-O6	-6.08	116.25	119.90
29	A2	830	A	C6-N1-C2	6.08	122.25	118.60
29	A2	1239	G	C4-C5-N7	6.08	113.23	110.80
29	A2	1461	G	C8-N9-C4	-6.07	103.97	106.40
29	A2	1945	G	C2-N3-C4	6.07	114.94	111.90
29	A2	2526	C	N3-C2-O2	-6.07	117.65	121.90
53	A3	541	G	C6-C5-N7	-6.07	126.76	130.40
53	A3	744	G	C2-N3-C4	6.07	114.94	111.90
29	A1	2265	G	N9-C4-C5	-6.07	102.97	105.40
29	A2	1417	G	N7-C8-N9	6.07	116.14	113.10
29	A2	1420	U	C2-N1-C1'	6.07	124.98	117.70
29	A2	2244	G	N3-C4-C5	-6.07	125.56	128.60
53	A3	1387	G	C4-N9-C1'	-6.07	118.61	126.50
53	A4	236	C	N1-C2-O2	6.07	122.54	118.90
29	A1	1013	G	C8-N9-C4	-6.07	103.97	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1649	G	C8-N9-C1'	6.07	134.89	127.00
29	A1	2053	G	C4-C5-N7	6.07	113.23	110.80
29	A1	2257	U	N1-C2-O2	6.07	127.05	122.80
29	A1	2631	C	C5-C6-N1	6.07	124.03	121.00
29	A2	2341	A	N1-C6-N6	-6.07	114.96	118.60
53	A3	621	G	C4-C5-N7	6.07	113.23	110.80
29	A1	1853	U	O4'-C1'-N1	-6.07	103.35	108.20
53	A4	1479	A	N7-C8-N9	6.07	116.83	113.80
29	A1	1308	G	N1-C6-O6	-6.06	116.26	119.90
29	A1	1396	G	N3-C4-N9	6.06	129.64	126.00
29	A2	1628	A	C5-N7-C8	-6.06	100.87	103.90
53	A4	970	G	C4-C5-N7	6.06	113.23	110.80
29	A1	2672	C	C5-C6-N1	6.06	124.03	121.00
30	B1	110	U	C5-C6-N1	6.06	125.73	122.70
53	A3	1309	C	C6-N1-C2	6.06	122.72	120.30
39	I3	105	ASP	CB-CG-OD1	6.06	123.75	118.30
53	A3	762	C	N1-C2-O2	6.06	122.54	118.90
29	A2	970	U	C5-C6-N1	6.06	125.73	122.70
29	A2	2335	G	C6-C5-N7	-6.06	126.76	130.40
29	A2	2680	C	C6-N1-C2	-6.06	117.88	120.30
53	A3	928	G	N9-C4-C5	-6.06	102.98	105.40
53	A4	263	C	C6-N1-C2	-6.06	117.88	120.30
29	A2	141	C	O4'-C1'-N1	6.06	113.05	108.20
29	A2	1300	G	N3-C4-C5	6.06	131.63	128.60
29	A2	1956	A	O4'-C1'-N9	6.06	113.05	108.20
29	A2	2260	G	N9-C4-C5	-6.06	102.98	105.40
29	A2	2687	G	C6-C5-N7	-6.06	126.77	130.40
53	A4	1285	G	C6-C5-N7	-6.06	126.77	130.40
53	A4	1469	A	N9-C4-C5	-6.06	103.38	105.80
29	A1	1702	G	N1-C2-N2	-6.05	110.75	116.20
29	A2	1249	C	N3-C2-O2	-6.05	117.66	121.90
29	A2	2870	C	C6-N1-C2	-6.05	117.88	120.30
29	A2	926	U	C5-C6-N1	6.05	125.73	122.70
29	A2	2100	U	N1-C2-O2	6.05	127.04	122.80
29	A1	2076	G	C2-N3-C4	-6.05	108.87	111.90
29	A2	2051	G	N3-C4-N9	6.05	129.63	126.00
29	A2	2328	C	C5-C6-N1	6.05	124.03	121.00
53	A3	263	C	C6-N1-C2	-6.05	117.88	120.30
53	A3	958	U	N3-C2-O2	-6.05	117.96	122.20
53	A3	1142	G	C4-N9-C1'	6.05	134.37	126.50
29	A2	1912	G	O4'-C1'-N9	6.05	113.04	108.20
29	A2	2523	G	C6-C5-N7	-6.05	126.77	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	639	C	C5-C6-N1	6.05	124.03	121.00
29	A1	2737	G	C8-N9-C1'	-6.05	119.14	127.00
29	A2	39	C	C4-C5-C6	-6.05	114.38	117.40
29	A2	290	G	N3-C4-C5	6.05	131.62	128.60
53	A4	311	G	N3-C4-N9	6.05	129.63	126.00
53	A4	519	C	C6-N1-C2	-6.05	117.88	120.30
29	A1	834	G	C5-C6-O6	-6.05	124.97	128.60
29	A1	1240	G	O4'-C1'-N9	6.05	113.04	108.20
29	A2	586	G	N9-C4-C5	-6.05	102.98	105.40
29	A2	1080	A	C8-N9-C4	-6.05	103.38	105.80
29	A1	660	A	C8-N9-C4	-6.04	103.38	105.80
29	A1	1714	A	C8-N9-C4	-6.04	103.38	105.80
29	A1	2237	G	N9-C4-C5	-6.04	102.98	105.40
29	A1	2416	C	N3-C2-O2	-6.04	117.67	121.90
29	A2	1604	G	N3-C4-C5	-6.04	125.58	128.60
29	A1	881	G	C4-N9-C1'	6.04	134.36	126.50
29	A1	1883	G	N9-C4-C5	6.04	107.82	105.40
29	A1	2289	C	N3-C2-O2	-6.04	117.67	121.90
29	A1	2656	G	N7-C8-N9	6.04	116.12	113.10
29	A2	2608	C	C5-C6-N1	6.04	124.02	121.00
53	A3	28	G	N3-C4-N9	-6.04	122.37	126.00
53	A3	1405	G	C6-N1-C2	-6.04	121.47	125.10
29	A1	177	G	N3-C4-N9	6.04	129.62	126.00
29	A1	1113	U	N1-C2-O2	6.04	127.03	122.80
29	A1	1383	U	C5-C6-N1	6.04	125.72	122.70
29	A1	1978	G	C4-C5-N7	6.04	113.22	110.80
29	A1	2591	A	C5-N7-C8	-6.04	100.88	103.90
29	A2	941	C	N3-C2-O2	-6.04	117.67	121.90
53	A3	173	A	C2-N3-C4	6.04	113.62	110.60
53	A4	955	A	C4-N9-C1'	6.04	137.17	126.30
29	A1	1300	G	N3-C4-C5	6.04	131.62	128.60
29	A1	2296	G	C4-C5-N7	6.04	113.22	110.80
29	A2	1523	C	C6-N1-C2	-6.04	117.88	120.30
29	A1	773	U	N1-C2-O2	6.04	127.03	122.80
29	A1	2492	A	C4-C5-C6	-6.04	113.98	117.00
29	A1	2871	G	C5-N7-C8	-6.04	101.28	104.30
29	A2	985	G	C8-N9-C4	-6.04	103.98	106.40
29	A1	1822	A	C5-N7-C8	-6.04	100.88	103.90
29	A2	834	G	C5-C6-O6	-6.04	124.98	128.60
29	A2	2868	C	C2-N1-C1'	6.04	125.44	118.80
53	A3	349	G	N3-C4-C5	-6.04	125.58	128.60
53	A3	1223	C	C6-N1-C2	-6.04	117.89	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	183	G	C4-C5-N7	6.04	113.21	110.80
29	A2	834	G	C4-N9-C1'	6.03	134.34	126.50
29	A2	1223	G	N3-C4-N9	-6.03	122.38	126.00
29	A2	2094	G	C6-C5-N7	-6.03	126.78	130.40
53	A3	580	G	C5-C6-O6	-6.03	124.98	128.60
29	A1	1916	C	C6-N1-C2	-6.03	117.89	120.30
29	A2	925	C	N3-C2-O2	-6.03	117.68	121.90
29	A1	1834	G	C8-N9-C1'	-6.03	119.16	127.00
53	A4	543	U	N3-C2-O2	-6.03	117.98	122.20
29	A1	2080	G	C5-C6-N1	6.03	114.51	111.50
29	A1	2484	G	N3-C2-N2	-6.03	115.68	119.90
29	A1	2754	U	C5-C6-N1	6.03	125.71	122.70
53	A3	676	G	N1-C6-O6	6.03	123.52	119.90
53	A4	813	G	C8-N9-C4	-6.03	103.99	106.40
29	A2	637	C	C5-C6-N1	6.03	124.01	121.00
29	A2	1517	C	N1-C2-O2	6.03	122.52	118.90
29	A2	2044	A	N3-C4-N9	-6.03	122.58	127.40
53	A3	1142	G	C4-C5-C6	6.03	122.42	118.80
53	A3	1324	G	C5-C6-N1	-6.03	108.49	111.50
53	A3	1375	U	C5-C6-N1	-6.03	119.69	122.70
53	A3	1475	U	P-O3'-C3'	6.03	126.93	119.70
53	A4	1288	U	C6-N1-C2	-6.03	117.38	121.00
29	A1	1358	G	N3-C4-C5	-6.03	125.59	128.60
29	A2	740	C	N1-C2-O2	6.03	122.52	118.90
29	A2	1809	G	C4-N9-C1'	6.03	134.33	126.50
30	B2	85	G	N9-C4-C5	-6.03	102.99	105.40
53	A3	813	G	C4-C5-N7	6.03	113.21	110.80
53	A3	1318	G	N1-C2-N2	-6.03	110.78	116.20
29	A1	2001	A	C4-C5-N7	6.02	113.71	110.70
53	A3	190	G	O4'-C1'-N9	6.02	113.02	108.20
53	A3	349	G	C4-N9-C1'	6.02	134.33	126.50
53	A3	776	U	N3-C2-O2	-6.02	117.98	122.20
53	A3	882	U	C2-N1-C1'	6.02	124.93	117.70
29	A1	1092	G	O4'-C1'-N9	6.02	113.02	108.20
29	A2	445	C	C6-N1-C2	-6.02	117.89	120.30
29	A2	1070	G	P-O3'-C3'	6.02	126.93	119.70
29	A2	2022	G	C8-N9-C4	6.02	108.81	106.40
29	A2	2717	C	C6-N1-C1'	-6.02	113.57	120.80
53	A3	61	G	N3-C4-N9	6.02	129.61	126.00
53	A3	217	U	C6-N1-C1'	-6.02	112.77	121.20
29	A1	1791	G	N3-C4-N9	6.02	129.61	126.00
29	A2	1410	C	N3-C2-O2	-6.02	117.69	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1119	C	C5-C6-N1	6.02	124.01	121.00
53	A3	1157	A	C5-C6-N6	-6.02	118.88	123.70
29	A1	758	U	N1-C2-O2	6.02	127.01	122.80
29	A1	901	G	N3-C4-C5	-6.02	125.59	128.60
29	A1	1175	A	O4'-C1'-N9	6.02	113.02	108.20
29	A1	1911	C	C6-N1-C2	-6.02	117.89	120.30
29	A1	2896	U	N3-C2-O2	-6.02	117.99	122.20
29	A2	860	U	N3-C4-O4	-6.02	115.19	119.40
53	A4	190	G	O4'-C1'-N9	6.02	113.02	108.20
29	A1	1095	G	C4-N9-C1'	6.02	134.32	126.50
29	A1	1812	U	N1-C2-O2	6.02	127.01	122.80
29	A2	2794	U	N1-C2-O2	6.02	127.01	122.80
53	A3	710	G	N3-C2-N2	6.02	124.11	119.90
53	A4	227	G	C6-C5-N7	-6.02	126.79	130.40
29	A1	278	G	N3-C4-N9	6.02	129.61	126.00
53	A3	1211	C	C5-C4-N4	-6.02	115.99	120.20
29	A1	1732	C	N3-C2-O2	-6.01	117.69	121.90
29	A1	2165	G	C4-N9-C1'	6.01	134.32	126.50
29	A2	1361	U	C5-C6-N1	6.01	125.71	122.70
29	A2	1718	A	O4'-C1'-N9	6.01	113.01	108.20
29	A2	1817	A	C5-N7-C8	-6.01	100.89	103.90
53	A3	1451	G	C4-C5-C6	6.01	122.41	118.80
53	A4	1343	C	C6-N1-C2	-6.01	117.89	120.30
29	A1	520	G	C5-N7-C8	-6.01	101.29	104.30
29	A1	126	C	C5-C4-N4	-6.01	115.99	120.20
29	A2	1022	C	C6-N1-C2	-6.01	117.90	120.30
29	A2	1970	U	N3-C2-O2	-6.01	117.99	122.20
29	A1	1025	G	C4-C5-N7	6.01	113.20	110.80
29	A1	1903	C	C5-C6-N1	6.01	124.00	121.00
29	A1	2072	G	N1-C2-N2	-6.01	110.79	116.20
29	A2	912	A	C5-N7-C8	-6.01	100.90	103.90
53	A3	130	C	N1-C2-O2	6.01	122.50	118.90
53	A3	697	G	N7-C8-N9	6.01	116.10	113.10
29	A1	1777	C	C5-C6-N1	6.01	124.00	121.00
29	A2	1013	G	C8-N9-C4	-6.01	104.00	106.40
29	A2	1779	G	C8-N9-C4	6.01	108.80	106.40
29	A1	1935	U	C6-N1-C2	-6.00	117.40	121.00
29	A1	2472	G	C6-C5-N7	-6.00	126.80	130.40
53	A4	270	G	N3-C4-N9	6.00	129.60	126.00
53	A4	1325	C	N1-C2-O2	6.00	122.50	118.90
29	A2	2479	C	N1-C2-O2	6.00	122.50	118.90
53	A3	1220	A	N9-C4-C5	-6.00	103.40	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	65	U	C2-N1-C1'	6.00	124.90	117.70
29	A1	1523	C	C2-N1-C1'	6.00	125.40	118.80
29	A2	800	A	N7-C8-N9	6.00	116.80	113.80
29	A2	1774	C	C6-N1-C2	-6.00	117.90	120.30
53	A3	735	G	N7-C8-N9	6.00	116.10	113.10
53	A4	1392	G	C6-C5-N7	-6.00	126.80	130.40
29	A1	1652	C	C4-C5-C6	6.00	120.40	117.40
30	B1	47	A	C2-N3-C4	6.00	113.60	110.60
29	A2	80	G	C4-C5-N7	6.00	113.20	110.80
53	A3	142	G	N1-C2-N2	-6.00	110.80	116.20
53	A4	710	G	C4-C5-N7	6.00	113.20	110.80
29	A1	587	U	C6-N1-C2	-6.00	117.40	121.00
29	A1	1473	G	C8-N9-C1'	-6.00	119.21	127.00
29	A1	1889	G	N3-C4-C5	-6.00	125.60	128.60
29	A2	2396	G	C5-N7-C8	-6.00	101.30	104.30
30	B2	85	G	C4-C5-N7	6.00	113.20	110.80
53	A3	507	G	C6-C5-N7	-6.00	126.80	130.40
53	A3	689	A	C5-C6-N6	-6.00	118.90	123.70
29	A1	2011	G	N1-C6-O6	-5.99	116.30	119.90
29	A2	2833	A	N1-C6-N6	-5.99	115.00	118.60
53	A4	296	G	N9-C4-C5	-5.99	103.00	105.40
53	A4	576	G	N7-C8-N9	5.99	116.10	113.10
53	A4	783	G	C2-N3-C4	-5.99	108.90	111.90
29	A1	241	A	N1-C6-N6	-5.99	115.00	118.60
29	A1	2210	G	C4-C5-N7	5.99	113.20	110.80
29	A2	621	G	C8-N9-C4	5.99	108.80	106.40
29	A2	910	A	C8-N9-C4	-5.99	103.40	105.80
53	A4	550	G	N3-C4-N9	5.99	129.59	126.00
29	A2	426	G	C5-N7-C8	-5.99	101.30	104.30
29	A2	1684	G	C8-N9-C4	-5.99	104.00	106.40
53	A3	253	G	C4-C5-N7	5.99	113.20	110.80
53	A3	1326	U	C6-N1-C2	5.99	124.59	121.00
29	A1	1604	G	C6-C5-N7	-5.99	126.81	130.40
29	A1	1787	C	C5-C6-N1	5.99	123.99	121.00
29	A1	1809	G	C4-N9-C1'	5.99	134.28	126.50
29	A1	2468	G	C5-N7-C8	-5.99	101.31	104.30
29	A2	2709	C	N1-C2-O2	5.99	122.49	118.90
53	A3	12	U	N3-C2-O2	-5.99	118.01	122.20
53	A3	617	C	N3-C4-C5	5.99	124.30	121.90
53	A3	668	G	C2-N3-C4	-5.99	108.91	111.90
53	A3	1392	G	C5-N7-C8	-5.99	101.31	104.30
53	A4	763	A	C4-C5-N7	5.99	113.69	110.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1195	C	C6-N1-C2	-5.99	117.91	120.30
29	A1	212	A	C8-N9-C4	5.99	108.19	105.80
29	A1	1352	C	C6-N1-C2	-5.99	117.91	120.30
29	A1	1571	U	N1-C2-O2	5.99	126.99	122.80
53	A3	466	A	N9-C4-C5	-5.99	103.41	105.80
53	A3	571	G	N3-C4-N9	5.99	129.59	126.00
53	A3	696	G	N7-C8-N9	5.99	116.09	113.10
53	A3	1208	A	N7-C8-N9	5.99	116.79	113.80
53	A4	1345	A	C4-C5-N7	5.99	113.69	110.70
29	A1	49	U	N3-C2-O2	-5.98	118.01	122.20
29	A1	1874	U	N3-C2-O2	-5.98	118.01	122.20
29	A2	2053	G	C4-C5-N7	5.98	113.19	110.80
53	A3	354	U	C5-C4-O4	-5.98	122.31	125.90
29	A1	1684	G	N7-C8-N9	5.98	116.09	113.10
29	A2	1776	C	C4-C5-C6	-5.98	114.41	117.40
53	A3	334	C	N3-C2-O2	-5.98	117.71	121.90
53	A3	540	G	C4-C5-N7	5.98	113.19	110.80
53	A4	424	U	C2-N1-C1'	-5.98	110.52	117.70
53	A4	1114	C	C6-N1-C2	-5.98	117.91	120.30
29	A1	207	G	C8-N9-C4	5.98	108.79	106.40
29	A1	830	A	C6-N1-C2	5.98	122.19	118.60
29	A1	2479	C	N1-C2-O2	5.98	122.49	118.90
29	A2	2051	G	C4-N9-C1'	5.98	134.28	126.50
53	A4	503	A	C8-N9-C4	-5.98	103.41	105.80
29	A2	1878	G	C8-N9-C4	5.98	108.79	106.40
29	A1	1363	C	C6-N1-C2	-5.98	117.91	120.30
29	A2	544	C	C6-N1-C2	-5.98	117.91	120.30
29	A2	2063	C	C2-N1-C1'	5.98	125.38	118.80
29	A2	2224	C	N1-C2-O2	5.98	122.49	118.90
53	A3	203	A	C8-N9-C4	5.98	108.19	105.80
29	A1	485	A	OP1-P-O3'	5.97	118.34	105.20
29	A2	828	U	C2-N1-C1'	5.97	124.87	117.70
29	A2	1646	C	N3-C2-O2	-5.97	117.72	121.90
53	A3	741	G	N1-C6-O6	5.97	123.48	119.90
53	A3	1089	C	N3-C2-O2	-5.97	117.72	121.90
53	A4	813	G	C4-C5-N7	5.97	113.19	110.80
29	A1	227	C	C6-N1-C1'	-5.97	113.63	120.80
29	A2	1862	A	C5-N7-C8	-5.97	100.91	103.90
53	A3	26	A	N1-C6-N6	-5.97	115.02	118.60
53	A3	187	C	N1-C2-O2	5.97	122.48	118.90
53	A3	1328	G	C8-N9-C4	5.97	108.79	106.40
29	A1	662	C	C6-N1-C2	-5.97	117.91	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	910	A	C8-N9-C4	-5.97	103.41	105.80
29	A1	1054	C	N3-C2-O2	-5.97	117.72	121.90
29	A1	501	G	N3-C4-N9	-5.97	122.42	126.00
29	A1	768	C	C6-N1-C2	-5.97	117.91	120.30
29	A1	901	G	C4-N9-C1'	5.97	134.26	126.50
29	A1	2472	G	C8-N9-C1'	-5.97	119.24	127.00
29	A2	969	G	C4-N9-C1'	5.97	134.26	126.50
29	A2	1865	C	C5-C6-N1	5.97	123.98	121.00
29	A2	2568	U	O4'-C1'-N1	5.97	112.98	108.20
53	A3	188	U	N1-C2-O2	5.97	126.98	122.80
53	A3	965	G	C8-N9-C4	-5.97	104.01	106.40
53	A3	1370	C	N3-C2-O2	-5.97	117.72	121.90
53	A4	580	G	C5-C6-O6	-5.97	125.02	128.60
29	A1	2449	A	C5-C6-N1	5.97	120.68	117.70
29	A2	1173	G	C6-C5-N7	-5.97	126.82	130.40
29	A2	2608	C	C6-N1-C2	-5.97	117.91	120.30
53	A4	43	C	N1-C2-O2	5.97	122.48	118.90
29	A1	1938	C	C2-N3-C4	5.97	122.88	119.90
29	A2	968	G	C8-N9-C4	5.97	108.79	106.40
29	A2	2636	C	C5-C6-N1	5.97	123.98	121.00
30	B2	16	U	N3-C2-O2	-5.97	118.02	122.20
53	A3	1463	G	C4-C5-N7	5.97	113.19	110.80
29	A1	918	G	C8-N9-C4	5.96	108.79	106.40
29	A1	2886	C	C6-N1-C2	-5.96	117.91	120.30
40	J3	16	LEU	CB-CG-CD1	-5.96	100.86	111.00
53	A3	762	C	C6-N1-C2	-5.96	117.91	120.30
29	A2	1663	C	C6-N1-C2	-5.96	117.92	120.30
29	A2	2772	A	C5-N7-C8	-5.96	100.92	103.90
53	A3	544	U	C6-N1-C2	5.96	124.58	121.00
53	A4	768	G	C4-C5-N7	5.96	113.19	110.80
53	A3	304	G	C4-C5-N7	5.96	113.18	110.80
29	A2	202	G	N1-C6-O6	-5.96	116.33	119.90
29	A2	1798	C	N3-C2-O2	-5.96	117.73	121.90
29	A2	2260	G	C8-N9-C1'	-5.96	119.25	127.00
53	A3	1332	U	N3-C2-O2	-5.96	118.03	122.20
53	A4	1019	C	N3-C2-O2	-5.96	117.73	121.90
29	A1	2094	G	C6-C5-N7	-5.96	126.83	130.40
29	A2	2040	U	C2-N1-C1'	5.96	124.85	117.70
29	A2	2376	G	N3-C4-C5	5.96	131.58	128.60
29	A2	2539	G	C4-C5-N7	5.96	113.18	110.80
53	A3	473	C	C5-C6-N1	5.96	123.98	121.00
53	A4	186	C	N3-C2-O2	-5.96	117.73	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	576	G	C8-N9-C4	-5.96	104.02	106.40
29	A2	960	C	C6-N1-C2	-5.96	117.92	120.30
29	A1	2600	C	C6-N1-C2	5.95	122.68	120.30
29	A2	2196	U	O4'-C1'-N1	5.95	112.96	108.20
53	A3	1059	G	C2-N3-C4	-5.95	108.92	111.90
53	A4	175	G	O4'-C1'-N9	5.95	112.96	108.20
53	A4	986	C	C6-N1-C2	-5.95	117.92	120.30
29	A1	1957	G	C2-N3-C4	-5.95	108.92	111.90
29	A2	2308	C	C6-N1-C2	-5.95	117.92	120.30
29	A2	2421	G	C5-C6-O6	-5.95	125.03	128.60
53	A4	800	C	C2-N3-C4	-5.95	116.92	119.90
29	A1	1465	C	C2-N1-C1'	5.95	125.34	118.80
29	A2	834	G	N1-C6-O6	5.95	123.47	119.90
29	A2	1399	C	N3-C2-O2	-5.95	117.73	121.90
53	A3	552	C	C2-N1-C1'	5.95	125.34	118.80
29	A1	107	G	N9-C4-C5	-5.95	103.02	105.40
53	A3	134	A	C8-N9-C4	-5.95	103.42	105.80
53	A4	905	G	C4-N9-C1'	5.95	134.23	126.50
29	A1	877	U	N1-C2-O2	5.95	126.96	122.80
53	A3	276	G	C4-N9-C1'	5.95	134.23	126.50
53	A4	990	U	C5-C6-N1	5.95	125.67	122.70
53	A4	1058	C	C6-N1-C1'	5.95	127.94	120.80
53	A4	1292	G	C6-C5-N7	-5.95	126.83	130.40
29	A1	742	C	C6-N1-C2	-5.95	117.92	120.30
29	A2	433	U	N3-C2-O2	-5.95	118.04	122.20
29	A2	1078	G	C5-C6-O6	-5.95	125.03	128.60
53	A4	696	G	N7-C8-N9	5.95	116.07	113.10
29	A1	2209	C	C2-N1-C1'	-5.94	112.26	118.80
29	A2	114	C	N3-C2-O2	-5.94	117.74	121.90
29	A2	2859	U	N3-C4-O4	-5.94	115.24	119.40
53	A3	907	C	C2-N3-C4	-5.94	116.93	119.90
53	A4	1326	U	C6-N1-C2	5.94	124.57	121.00
29	A1	1473	G	N3-C4-C5	-5.94	125.63	128.60
53	A3	1381	C	C6-N1-C2	5.94	122.68	120.30
53	A4	173	A	N1-C2-N3	-5.94	126.33	129.30
53	A4	1475	U	P-O3'-C3'	5.94	126.83	119.70
29	A2	6	A	C8-N9-C4	-5.94	103.42	105.80
29	A2	714	C	N3-C2-O2	-5.94	117.74	121.90
53	A4	1201	G	N3-C4-C5	5.94	131.57	128.60
29	A1	2740	A	C8-N9-C4	-5.94	103.42	105.80
29	A1	2084	A	C5-C6-N1	5.94	120.67	117.70
29	A2	2335	G	N3-C4-N9	5.94	129.56	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1331	A	C5-N7-C8	-5.94	100.93	103.90
53	A4	169	C	N1-C2-O2	5.94	122.46	118.90
53	A4	497	C	C5-C4-N4	-5.94	116.04	120.20
53	A4	1206	A	P-O3'-C3'	5.94	126.83	119.70
53	A4	1433	G	P-O3'-C3'	5.94	126.83	119.70
53	A4	1404	G	N9-C4-C5	-5.94	103.03	105.40
29	A1	191	C	C5-C6-N1	5.93	123.97	121.00
29	A1	409	G	C8-N9-C4	-5.93	104.03	106.40
29	A1	1036	A	C4-C5-C6	-5.93	114.03	117.00
29	A1	2345	G	C6-C5-N7	-5.93	126.84	130.40
29	A2	2257	U	N1-C2-O2	5.93	126.95	122.80
29	A2	2472	G	C4-N9-C1'	5.93	134.22	126.50
53	A3	642	U	N3-C2-O2	-5.93	118.05	122.20
53	A4	770	A	N1-C6-N6	5.93	122.16	118.60
53	A4	1281	G	C6-C5-N7	5.93	133.96	130.40
29	A1	1508	G	C4-C5-N7	5.93	113.17	110.80
29	A1	1817	A	C4-C5-N7	5.93	113.67	110.70
29	A2	1541	C	N3-C4-C5	5.93	124.27	121.90
30	B2	31	A	C8-N9-C4	-5.93	103.43	105.80
53	A4	420	G	N3-C4-C5	-5.93	125.63	128.60
53	A4	799	A	C5-C6-N1	5.93	120.67	117.70
29	A1	258	C	N3-C4-C5	5.93	124.27	121.90
29	A1	1032	A	C5-C6-N1	5.93	120.67	117.70
29	A1	2499	G	C6-C5-N7	-5.93	126.84	130.40
29	A1	2851	G	C4-C5-N7	5.93	113.17	110.80
29	A2	2390	A	C5-C6-N6	-5.93	118.96	123.70
29	A1	1062	U	C2-N1-C1'	5.93	124.81	117.70
29	A1	722	C	C5-C6-N1	5.93	123.96	121.00
29	A1	1814	C	N3-C2-O2	-5.93	117.75	121.90
53	A3	105	G	C8-N9-C1'	-5.93	119.30	127.00
53	A3	558	G	C4-N9-C1'	-5.93	118.80	126.50
53	A3	1212	G	C6-C5-N7	-5.93	126.84	130.40
53	A4	84	C	C6-N1-C2	-5.93	117.93	120.30
53	A4	701	G	N3-C4-N9	5.93	129.56	126.00
29	A1	32	C	N3-C2-O2	-5.92	117.75	121.90
29	A1	635	G	N3-C4-N9	5.92	129.56	126.00
29	A1	1054	C	C5-C6-N1	5.92	123.96	121.00
29	A1	1404	G	C4-C5-N7	5.92	113.17	110.80
29	A2	595	G	N3-C4-C5	5.92	131.56	128.60
29	A2	854	G	C2-N3-C4	-5.92	108.94	111.90
29	A2	1939	U	C5-C6-N1	5.92	125.66	122.70
53	A3	508	C	C5-C4-N4	-5.92	116.05	120.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1292	G	N9-C4-C5	-5.92	103.03	105.40
53	A4	860	C	C2-N1-C1'	5.92	125.32	118.80
29	A1	948	A	C5-N7-C8	-5.92	100.94	103.90
29	A1	141	C	O4'-C1'-N1	5.92	112.94	108.20
53	A3	772	U	O4'-C1'-N1	5.92	112.94	108.20
53	A4	735	G	O4'-C1'-N9	5.92	112.94	108.20
29	A1	145	G	C4-C5-N7	5.92	113.17	110.80
29	A2	2865	C	N3-C2-O2	-5.92	117.76	121.90
29	A1	979	G	C4-C5-N7	5.92	113.17	110.80
29	A1	2161	C	C6-N1-C2	-5.92	117.93	120.30
30	B1	16	U	C2-N1-C1'	5.92	124.80	117.70
29	A2	1418	C	C2-N1-C1'	5.92	125.31	118.80
53	A3	589	G	N9-C4-C5	-5.92	103.03	105.40
53	A4	12	U	N3-C2-O2	-5.92	118.06	122.20
53	A4	926	A	N1-C6-N6	-5.92	115.05	118.60
29	A1	1228	C	O4'-C1'-N1	5.92	112.93	108.20
29	A1	2870	C	C5-C6-N1	5.92	123.96	121.00
53	A3	231	G	N7-C8-N9	-5.92	110.14	113.10
53	A3	612	G	N3-C4-C5	-5.92	125.64	128.60
53	A4	177	G	C4-C5-N7	5.92	113.17	110.80
53	A4	1165	G	N9-C4-C5	-5.92	103.03	105.40
29	A1	820	G	N9-C4-C5	-5.92	103.03	105.40
29	A1	2059	G	C6-C5-N7	-5.92	126.85	130.40
29	A1	2566	U	C6-N1-C2	-5.92	117.45	121.00
29	A2	1474	G	C5-C6-O6	-5.92	125.05	128.60
53	A3	906	G	N1-C6-O6	-5.92	116.35	119.90
53	A3	1470	A	O4'-C1'-N9	5.92	112.93	108.20
1	C2	182	LEU	CA-CB-CG	5.91	128.90	115.30
29	A2	384	A	N7-C8-N9	5.91	116.76	113.80
29	A2	730	G	N7-C8-N9	5.91	116.06	113.10
29	A2	1916	C	C2-N1-C1'	5.91	125.30	118.80
53	A3	669	U	C5-C4-O4	5.91	129.45	125.90
53	A4	1212	G	C6-C5-N7	-5.91	126.85	130.40
29	A2	1249	C	N1-C2-O2	5.91	122.45	118.90
29	A2	862	U	N3-C2-O2	-5.91	118.06	122.20
29	A2	1819	A	C5-C6-N6	-5.91	118.97	123.70
53	A4	1042	C	C2-N1-C1'	5.91	125.30	118.80
29	A1	391	G	C4-N9-C1'	-5.91	118.82	126.50
29	A1	782	G	C5-C6-O6	-5.91	125.06	128.60
29	A2	952	C	C6-N1-C2	-5.91	117.94	120.30
29	A2	2714	C	C5-C6-N1	5.91	123.95	121.00
53	A3	714	G	C6-C5-N7	-5.91	126.86	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1018	G	N3-C4-C5	-5.91	125.64	128.60
53	A4	489	G	C6-C5-N7	-5.91	126.85	130.40
53	A3	1276	G	C8-N9-C1'	-5.91	119.32	127.00
29	A1	1131	U	C6-N1-C2	-5.91	117.46	121.00
29	A1	2251	G	N9-C4-C5	-5.91	103.04	105.40
29	A1	2767	C	C5-C6-N1	5.91	123.95	121.00
53	A3	270	G	C4-N9-C1'	5.91	134.18	126.50
53	A3	1236	G	C6-C5-N7	-5.91	126.86	130.40
53	A4	966	C	C5-C6-N1	5.91	123.95	121.00
53	A4	1140	C	C2-N1-C1'	5.91	125.30	118.80
29	A1	630	C	C6-N1-C2	-5.90	117.94	120.30
29	A2	1173	G	C5-N7-C8	-5.90	101.35	104.30
53	A3	1194	A	C8-N9-C4	5.90	108.16	105.80
29	A2	1913	A	C4-C5-C6	-5.90	114.05	117.00
29	A2	2868	C	N3-C2-O2	-5.90	117.77	121.90
53	A4	54	C	O4'-C1'-N1	5.90	112.92	108.20
53	A4	1041	C	C6-N1-C2	-5.90	117.94	120.30
53	A4	1142	G	C4-N9-C1'	5.90	134.18	126.50
29	A1	1019	G	C5-N7-C8	-5.90	101.35	104.30
29	A2	1382	G	C4-N9-C1'	5.90	134.17	126.50
29	A2	1553	C	N3-C2-O2	-5.90	117.77	121.90
30	B2	63	G	C4-N9-C1'	5.90	134.17	126.50
29	A2	466	G	N1-C6-O6	-5.90	116.36	119.90
53	A4	337	C	C6-N1-C2	-5.90	117.94	120.30
29	A1	722	C	C6-N1-C2	-5.90	117.94	120.30
29	A1	941	C	C6-N1-C2	-5.90	117.94	120.30
29	A1	1062	U	C5-C6-N1	5.90	125.65	122.70
53	A3	350	C	N3-C2-O2	-5.90	117.77	121.90
53	A3	799	A	C5-C6-N1	5.90	120.65	117.70
53	A4	237	C	N3-C2-O2	-5.90	117.77	121.90
53	A4	773	A	C8-N9-C4	-5.90	103.44	105.80
53	A4	1468	G	C4-C5-N7	5.90	113.16	110.80
29	A1	848	G	C4-C5-N7	5.90	113.16	110.80
29	A1	1748	G	N9-C4-C5	-5.90	103.04	105.40
29	A1	1889	G	N3-C4-N9	5.90	129.54	126.00
29	A2	53	G	C8-N9-C4	-5.90	104.04	106.40
29	A2	1251	A	C8-N9-C4	-5.90	103.44	105.80
29	A2	2893	C	C2-N3-C4	-5.90	116.95	119.90
29	A1	2492	A	C2-N3-C4	5.89	113.55	110.60
29	A2	2016	G	C6-N1-C2	-5.89	121.56	125.10
29	A2	2519	G	N3-C4-C5	-5.89	125.65	128.60
53	A3	84	C	N3-C2-O2	-5.89	117.77	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1097	C	N1-C2-O2	5.89	122.44	118.90
33	C4	43	LEU	CA-CB-CG	5.89	128.86	115.30
53	A4	98	G	N3-C4-N9	5.89	129.54	126.00
29	A2	272	U	C2-N1-C1'	5.89	124.77	117.70
29	A2	860	U	C5-C6-N1	-5.89	119.75	122.70
29	A2	1417	G	C8-N9-C4	-5.89	104.04	106.40
29	A2	1571	U	N3-C2-O2	-5.89	118.08	122.20
53	A4	737	C	C6-N1-C1'	-5.89	113.73	120.80
29	A1	2163	C	N1-C2-O2	5.89	122.43	118.90
29	A2	1661	G	N3-C4-N9	5.89	129.53	126.00
29	A2	2581	G	C4-C5-N7	5.89	113.16	110.80
53	A3	717	G	O4'-C1'-N9	5.89	112.91	108.20
29	A1	791	G	C2-N3-C4	-5.89	108.96	111.90
53	A3	950	G	N3-C4-C5	-5.89	125.66	128.60
53	A3	1486	C	O4'-C1'-N1	5.89	112.91	108.20
53	A4	1246	G	C6-C5-N7	-5.89	126.87	130.40
29	A1	685	G	N3-C4-C5	-5.88	125.66	128.60
29	A1	2096	G	C4-N9-C1'	5.88	134.15	126.50
29	A2	310	C	C6-N1-C2	-5.88	117.95	120.30
29	A2	1217	G	C4-C5-N7	5.88	113.15	110.80
53	A4	663	C	C5-C6-N1	5.88	123.94	121.00
53	A4	882	U	C2-N1-C1'	5.88	124.76	117.70
29	A1	2016	G	N1-C2-N2	-5.88	110.91	116.20
29	A1	2396	G	N1-C6-O6	5.88	123.43	119.90
29	A2	1388	U	O4'-C1'-N1	5.88	112.91	108.20
29	A2	2396	G	C4-C5-N7	5.88	113.15	110.80
29	A2	2517	A	C5-C6-N1	5.88	120.64	117.70
53	A3	452	C	N1-C2-O2	5.88	122.43	118.90
53	A4	772	U	C6-N1-C1'	-5.88	112.96	121.20
29	A1	458	A	C2-N3-C4	5.88	113.54	110.60
29	A1	2019	U	C6-N1-C2	-5.88	117.47	121.00
30	B1	104	A	C5-N7-C8	-5.88	100.96	103.90
29	A2	1754	G	C5-N7-C8	-5.88	101.36	104.30
53	A3	933	U	N3-C2-O2	-5.88	118.08	122.20
53	A4	108	G	C8-N9-C4	-5.88	104.05	106.40
29	A1	757	C	N3-C2-O2	-5.88	117.78	121.90
29	A1	1616	A	N3-C4-N9	-5.88	122.70	127.40
29	A1	2087	C	C2-N3-C4	-5.88	116.96	119.90
29	A2	1579	C	N3-C2-O2	-5.88	117.78	121.90
29	A1	254	C	N1-C2-O2	5.88	122.43	118.90
29	A1	1086	C	C6-N1-C2	-5.88	117.95	120.30
53	A3	763	A	C5-N7-C8	-5.88	100.96	103.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1548	G	C6-C5-N7	-5.88	126.88	130.40
29	A1	1926	C	N1-C2-O2	5.88	122.43	118.90
29	A1	2119	C	N3-C2-O2	-5.88	117.79	121.90
29	A2	145	G	C4-C5-N7	5.88	113.15	110.80
53	A4	177	G	C6-C5-N7	-5.88	126.87	130.40
29	A1	2867	C	N3-C2-O2	-5.88	117.79	121.90
29	A2	956	C	N1-C2-O2	5.88	122.42	118.90
29	A1	1517	C	N1-C2-O2	5.87	122.42	118.90
29	A1	2414	G	C8-N9-C4	-5.87	104.05	106.40
29	A2	159	U	C2-N1-C1'	5.87	124.75	117.70
29	A2	2286	U	C6-N1-C2	-5.87	117.48	121.00
53	A3	960	A	C2-N3-C4	5.87	113.54	110.60
8	J1	8	LEU	CA-CB-CG	5.87	128.81	115.30
29	A1	1672	G	C4-C5-N7	5.87	113.15	110.80
53	A3	221	G	N1-C6-O6	-5.87	116.38	119.90
29	A2	104	C	N3-C2-O2	-5.87	117.79	121.90
29	A1	1112	C	C6-N1-C2	-5.87	117.95	120.30
29	A1	1716	G	C6-N1-C2	-5.87	121.58	125.10
29	A2	2631	C	C6-N1-C2	-5.87	117.95	120.30
29	A2	2688	G	C5-N7-C8	-5.87	101.37	104.30
53	A4	893	G	C4-N9-C1'	5.87	134.13	126.50
29	A1	1571	U	N3-C2-O2	-5.87	118.09	122.20
29	A2	2709	C	N3-C2-O2	-5.87	117.79	121.90
29	A1	1078	G	C4-C5-N7	5.87	113.15	110.80
29	A1	1508	G	C8-N9-C1'	5.87	134.62	127.00
29	A2	2100	U	C2-N1-C1'	5.87	124.74	117.70
53	A3	289	U	C2-N1-C1'	5.87	124.74	117.70
53	A4	924	G	C4-N9-C1'	5.87	134.13	126.50
29	A1	128	C	N3-C4-C5	5.86	124.25	121.90
29	A1	2580	A	OP2-P-O3'	5.86	118.10	105.20
29	A2	2053	G	C6-C5-N7	-5.86	126.88	130.40
53	A3	1196	G	C5-C6-O6	-5.86	125.08	128.60
53	A4	540	G	C6-C5-N7	-5.86	126.88	130.40
29	A1	812	G	N7-C8-N9	-5.86	110.17	113.10
29	A1	1817	A	N7-C8-N9	5.86	116.73	113.80
53	A3	214	C	C6-N1-C2	-5.86	117.95	120.30
53	A3	1215	C	C5-C6-N1	5.86	123.93	121.00
29	A1	1394	G	C4-N9-C1'	5.86	134.12	126.50
29	A1	2237	G	C5-C6-O6	-5.86	125.08	128.60
29	A1	2369	C	C6-N1-C1'	-5.86	113.77	120.80
29	A2	1627	U	C5-C6-N1	5.86	125.63	122.70
29	A2	2396	G	N1-C6-O6	5.86	123.42	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2864	G	N7-C8-N9	5.86	116.03	113.10
29	A1	432	C	P-O3'-C3'	5.86	126.73	119.70
29	A2	1624	C	N3-C2-O2	-5.86	117.80	121.90
29	A2	1802	G	C6-C5-N7	-5.86	126.89	130.40
29	A2	1993	A	N7-C8-N9	5.86	116.73	113.80
53	A3	160	G	N9-C4-C5	-5.86	103.06	105.40
29	A1	1209	C	N3-C2-O2	-5.86	117.80	121.90
29	A2	841	G	N3-C4-N9	5.86	129.51	126.00
53	A3	952	A	C2-N3-C4	5.86	113.53	110.60
53	A4	568	G	O5'-P-OP1	-5.86	100.43	105.70
29	A2	604	G	C5-N7-C8	-5.86	101.37	104.30
29	A2	1710	G	N1-C2-N2	-5.86	110.93	116.20
53	A3	1122	C	C2-N1-C1'	5.86	125.24	118.80
53	A4	110	G	C8-N9-C4	-5.86	104.06	106.40
29	A1	1189	U	N3-C2-O2	-5.85	118.10	122.20
53	A4	930	G	N9-C4-C5	-5.85	103.06	105.40
29	A1	1234	G	C8-N9-C1'	-5.85	119.39	127.00
29	A1	1754	G	C5-N7-C8	-5.85	101.37	104.30
29	A2	639	U	C6-N1-C2	-5.85	117.49	121.00
29	A2	1708	U	C2-N1-C1'	5.85	124.72	117.70
29	A1	740	C	N3-C2-O2	-5.85	117.81	121.90
29	A1	938	C	N1-C2-O2	5.85	122.41	118.90
29	A1	1272	C	C6-N1-C2	5.85	122.64	120.30
29	A2	1790	U	C5-C6-N1	5.85	125.62	122.70
53	A3	131	C	C5-C6-N1	5.85	123.92	121.00
53	A4	497	C	C4-C5-C6	-5.85	114.47	117.40
53	A4	620	G	C4-N9-C1'	5.85	134.10	126.50
53	A4	672	C	C2-N3-C4	5.85	122.82	119.90
29	A2	1083	U	C5-C6-N1	5.85	125.62	122.70
29	A2	1298	G	N3-C4-C5	-5.85	125.68	128.60
29	A2	2566	U	C6-N1-C2	-5.85	117.49	121.00
33	C3	204	LEU	CA-CB-CG	5.85	128.75	115.30
53	A3	511	C	C6-N1-C1'	-5.85	113.78	120.80
53	A4	332	C	N3-C2-O2	-5.85	117.81	121.90
53	A4	788	C	N3-C2-O2	-5.85	117.81	121.90
53	A3	1152	G	N3-C2-N2	-5.85	115.81	119.90
53	A4	757	G	C4-C5-N7	5.85	113.14	110.80
29	A1	857	G	N9-C4-C5	5.84	107.74	105.40
29	A1	883	C	N1-C2-O2	5.84	122.41	118.90
29	A1	1526	A	C5-C6-N6	-5.84	119.02	123.70
53	A3	412	C	N3-C2-O2	-5.84	117.81	121.90
53	A3	1391	C	C5-C6-N1	5.84	123.92	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1468	G	C4-N9-C1'	5.84	134.10	126.50
53	A4	1442	C	N1-C2-O2	5.84	122.41	118.90
29	A1	1958	C	C6-N1-C2	-5.84	117.96	120.30
30	B1	54	A	N1-C2-N3	-5.84	126.38	129.30
29	A2	2599	U	N1-C2-O2	5.84	126.89	122.80
53	A4	994	A	N7-C8-N9	5.84	116.72	113.80
29	A2	2009	G	C4-N9-C1'	5.84	134.09	126.50
29	A2	2228	C	C2-N1-C1'	-5.84	112.37	118.80
29	A1	1614	C	C2-N3-C4	-5.84	116.98	119.90
29	A1	2322	G	C4-N9-C1'	5.84	134.09	126.50
29	A1	2837	C	N3-C4-C5	5.84	124.24	121.90
29	A2	1685	C	N3-C2-O2	-5.84	117.81	121.90
29	A2	1714	A	N1-C6-N6	5.84	122.10	118.60
53	A3	240	C	C6-N1-C2	-5.84	117.96	120.30
53	A3	1332	U	C2-N1-C1'	5.84	124.71	117.70
53	A4	1442	C	N3-C4-C5	5.84	124.24	121.90
29	A2	2620	C	N3-C4-C5	-5.84	119.56	121.90
29	A1	1790	U	C5-C6-N1	5.84	125.62	122.70
29	A1	2348	G	N7-C8-N9	5.84	116.02	113.10
29	A2	1123	C	C6-N1-C2	-5.84	117.97	120.30
29	A2	2746	G	C4-C5-N7	5.84	113.14	110.80
53	A3	1018	G	C4-N9-C1'	5.83	134.09	126.50
29	A2	288	G	P-O3'-C3'	5.83	126.70	119.70
29	A2	2819	G	N1-C6-O6	5.83	123.40	119.90
53	A3	183	G	C4-C5-N7	5.83	113.13	110.80
53	A3	261	G	N3-C4-C5	5.83	131.52	128.60
53	A4	701	G	C8-N9-C1'	-5.83	119.42	127.00
53	A3	526	C	C5-C6-N1	5.83	123.92	121.00
53	A3	749	A	N1-C2-N3	-5.83	126.38	129.30
29	A2	409	G	N3-C4-N9	5.83	129.50	126.00
29	A2	2755	A	N9-C4-C5	5.83	108.13	105.80
29	A1	646	G	C6-C5-N7	-5.83	126.90	130.40
29	A1	963	C	N3-C2-O2	-5.83	117.82	121.90
29	A1	2873	G	N3-C4-N9	5.83	129.50	126.00
29	A2	187	A	N9-C4-C5	-5.83	103.47	105.80
29	A2	472	C	O4'-C1'-N1	5.83	112.86	108.20
29	A2	1973	G	N1-C6-O6	5.83	123.40	119.90
29	A1	802	C	C6-N1-C2	-5.83	117.97	120.30
29	A2	1597	C	N1-C2-O2	5.83	122.40	118.90
29	A1	1490	G	C8-N9-C4	-5.83	104.07	106.40
29	A1	1501	C	C5-C4-N4	-5.83	116.12	120.20
29	A1	1836	A	C5-C6-N6	5.83	128.36	123.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2272	C	N3-C4-C5	5.83	124.23	121.90
29	A1	2867	C	N1-C2-O2	5.83	122.39	118.90
29	A2	1685	C	N1-C2-O2	5.83	122.39	118.90
29	A2	1794	C	C6-N1-C2	-5.83	117.97	120.30
29	A2	2666	C	C6-N1-C2	-5.83	117.97	120.30
53	A3	1481	G	C6-N1-C2	-5.83	121.61	125.10
53	A4	359	A	N7-C8-N9	5.83	116.71	113.80
53	A4	606	C	C5-C4-N4	-5.83	116.12	120.20
53	A4	1032	G	C4-N9-C1'	-5.83	118.93	126.50
53	A4	1281	G	N7-C8-N9	-5.83	110.19	113.10
29	A1	768	C	C5-C6-N1	5.82	123.91	121.00
29	A2	800	A	C8-N9-C4	-5.82	103.47	105.80
53	A4	411	G	C8-N9-C4	-5.82	104.07	106.40
53	A3	1112	A	C5-C6-N6	-5.82	119.04	123.70
53	A3	1381	C	C5-C4-N4	-5.82	116.12	120.20
29	A1	304	C	N1-C2-O2	5.82	122.39	118.90
29	A1	1291	G	N1-C6-O6	-5.82	116.41	119.90
29	A1	241	A	C5-C6-N1	5.82	120.61	117.70
29	A1	495	G	C4-C5-N7	5.82	113.13	110.80
29	A2	192	U	C6-N1-C2	-5.82	117.51	121.00
53	A4	998	U	C5-C6-N1	5.82	125.61	122.70
29	A1	768	C	N3-C4-N4	5.82	122.07	118.00
29	A1	860	U	C5-C4-O4	5.82	129.39	125.90
29	A1	977	U	N1-C2-O2	5.82	126.87	122.80
29	A1	1883	G	O4'-C1'-N9	5.82	112.86	108.20
29	A1	2512	C	N3-C4-C5	-5.82	119.57	121.90
29	A2	1822	A	C5-N7-C8	-5.82	100.99	103.90
53	A3	781	G	N3-C4-C5	-5.82	125.69	128.60
53	A3	1286	G	N1-C2-N2	-5.82	110.96	116.20
53	A4	792	G	N7-C8-N9	-5.82	110.19	113.10
53	A4	1299	A	C5-N7-C8	-5.82	100.99	103.90
53	A4	1391	C	C5-C6-N1	5.82	123.91	121.00
29	A2	931	G	C8-N9-C4	5.82	108.73	106.40
29	A2	1093	A	C8-N9-C4	-5.82	103.47	105.80
29	A2	1394	G	C4-N9-C1'	5.82	134.06	126.50
29	A2	1541	C	O5'-P-OP1	-5.82	100.47	105.70
29	A2	2430	C	N1-C2-O2	5.82	122.39	118.90
53	A3	397	G	N3-C4-C5	-5.82	125.69	128.60
53	A3	465	G	N3-C2-N2	-5.82	115.83	119.90
53	A4	776	U	C6-N1-C1'	-5.82	113.06	121.20
29	A1	57	G	N9-C4-C5	-5.81	103.07	105.40
29	A2	2004	G	N3-C4-C5	-5.81	125.69	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	576	G	N7-C8-N9	5.81	116.01	113.10
29	A1	1925	A	C2-N3-C4	5.81	113.51	110.60
53	A3	604	A	N1-C6-N6	-5.81	115.11	118.60
53	A3	1277	C	C5-C6-N1	5.81	123.91	121.00
53	A3	1365	C	N3-C2-O2	-5.81	117.83	121.90
53	A4	19	C	N1-C2-O2	5.81	122.39	118.90
29	A1	218	A	C4-C5-N7	5.81	113.61	110.70
29	A1	1819	A	C6-C5-N7	-5.81	128.23	132.30
29	A2	825	G	N3-C4-N9	5.81	129.49	126.00
53	A3	1481	G	N1-C2-N2	-5.81	110.97	116.20
53	A3	1506	G	N3-C4-N9	5.81	129.49	126.00
29	A1	324	A	C5-C6-N1	5.81	120.61	117.70
29	A1	873	A	C4-C5-C6	-5.81	114.09	117.00
29	A2	589	C	C6-N1-C2	-5.81	117.98	120.30
29	A2	1361	U	C6-N1-C2	-5.81	117.51	121.00
29	A2	2629	U	N1-C2-O2	5.81	126.87	122.80
53	A3	813	G	C6-C5-N7	-5.81	126.92	130.40
29	A1	2620	C	N3-C4-C5	-5.81	119.58	121.90
29	A2	800	A	C4-C5-N7	5.81	113.60	110.70
29	A2	1434	C	O4'-C1'-N1	5.81	112.85	108.20
29	A2	2407	A	N1-C2-N3	-5.81	126.40	129.30
29	A2	2540	G	C8-N9-C4	-5.81	104.08	106.40
30	B2	122	A	C8-N9-C4	5.81	108.12	105.80
53	A4	7	G	C6-C5-N7	-5.81	126.92	130.40
29	A1	1036	A	N1-C2-N3	-5.81	126.40	129.30
29	A1	2492	A	N1-C2-N3	-5.81	126.40	129.30
29	A2	121	G	C4-C5-N7	5.81	113.12	110.80
30	B2	68	A	C8-N9-C4	5.81	108.12	105.80
53	A3	70	G	C8-N9-C1'	-5.81	119.45	127.00
29	A1	332	G	N7-C8-N9	5.80	116.00	113.10
29	A1	614	C	C5-C4-N4	-5.80	116.14	120.20
29	A1	757	C	C6-N1-C2	-5.80	117.98	120.30
29	A2	1112	C	C6-N1-C2	-5.80	117.98	120.30
29	A2	1877	C	C6-N1-C2	5.80	122.62	120.30
53	A3	1272	G	C8-N9-C4	-5.80	104.08	106.40
53	A4	305	G	C6-C5-N7	-5.80	126.92	130.40
53	A4	1317	C	P-O3'-C3'	5.80	126.66	119.70
53	A4	1424	G	C4-N9-C1'	-5.80	118.95	126.50
29	A1	159	U	C2-N1-C1'	5.80	124.66	117.70
29	A1	2586	A	N7-C8-N9	-5.80	110.90	113.80
29	A2	322	C	C2-N1-C1'	5.80	125.18	118.80
29	A2	1616	A	C2-N3-C4	-5.80	107.70	110.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2876	G	O4'-C1'-N9	5.80	112.84	108.20
29	A1	630	C	N3-C2-O2	-5.80	117.84	121.90
29	A1	1046	C	N3-C2-O2	-5.80	117.84	121.90
29	A2	444	C	C2-N3-C4	5.80	122.80	119.90
29	A2	1945	G	N9-C4-C5	5.80	107.72	105.40
29	A2	2700	G	C8-N9-C1'	-5.80	119.46	127.00
53	A4	1373	U	C6-N1-C1'	5.80	129.32	121.20
53	A4	1398	G	C4-C5-N7	5.80	113.12	110.80
29	A2	637	C	C6-N1-C2	-5.80	117.98	120.30
29	A2	969	G	C8-N9-C1'	-5.80	119.46	127.00
29	A2	1604	G	C6-C5-N7	-5.80	126.92	130.40
29	A2	2582	C	C2-N1-C1'	5.80	125.18	118.80
53	A3	1502	G	N1-C2-N2	-5.80	110.98	116.20
53	A4	84	C	N3-C2-O2	-5.80	117.84	121.90
53	A4	283	A	N9-C4-C5	-5.80	103.48	105.80
29	A1	2513	C	C2-N1-C1'	5.80	125.18	118.80
29	A1	1389	U	N3-C2-O2	-5.80	118.14	122.20
29	A1	1708	U	C2-N1-C1'	5.80	124.66	117.70
29	A1	2059	G	C4-N9-C1'	5.80	134.03	126.50
29	A1	2260	G	C4-N9-C1'	5.80	134.04	126.50
29	A2	604	G	C6-C5-N7	-5.80	126.92	130.40
29	A2	2716	U	C2-N1-C1'	5.80	124.66	117.70
53	A4	108	G	N3-C4-C5	-5.80	125.70	128.60
53	A4	562	G	C4-C5-N7	5.80	113.12	110.80
53	A4	930	G	C6-N1-C2	-5.80	121.62	125.10
29	A1	32	C	C6-N1-C2	-5.79	117.98	120.30
29	A1	1561	C	C5-C6-N1	5.79	123.90	121.00
29	A2	1137	G	N3-C4-C5	-5.79	125.70	128.60
53	A3	319	G	C8-N9-C4	-5.79	104.08	106.40
53	A4	27	G	C4-C5-N7	5.79	113.12	110.80
29	A1	290	G	C8-N9-C1'	-5.79	119.47	127.00
29	A2	141	C	C6-N1-C2	-5.79	117.98	120.30
29	A2	628	A	O4'-C1'-N9	5.79	112.83	108.20
29	A1	229	U	O4'-C1'-N1	5.79	112.83	108.20
29	A1	352	G	C8-N9-C4	-5.79	104.08	106.40
29	A1	1070	G	P-O3'-C3'	5.79	126.65	119.70
29	A1	1420	U	N1-C2-O2	5.79	126.85	122.80
29	A1	1803	G	C4-C5-N7	-5.79	108.48	110.80
29	A1	1955	U	N1-C2-O2	5.79	126.86	122.80
53	A4	1373	U	C2-N1-C1'	-5.79	110.75	117.70
53	A4	1405	G	C6-N1-C2	-5.79	121.63	125.10
29	A1	1833	C	N1-C2-O2	5.79	122.37	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2009	G	C4-N9-C1'	5.79	134.02	126.50
29	A2	782	G	C5-C6-O6	-5.79	125.13	128.60
29	A2	1758	U	C2-N1-C1'	5.79	124.65	117.70
29	A1	57	G	C5-C6-O6	-5.79	125.13	128.60
29	A1	1231	G	N3-C2-N2	-5.79	115.85	119.90
29	A2	1062	U	C2-N1-C1'	5.79	124.64	117.70
29	A2	2229	G	C8-N9-C1'	-5.79	119.48	127.00
53	A3	70	G	N9-C4-C5	-5.79	103.08	105.40
53	A3	653	G	N3-C4-N9	5.79	129.47	126.00
29	A1	1080	A	N9-C4-C5	5.79	108.11	105.80
29	A1	1661	G	C8-N9-C4	-5.79	104.08	106.40
29	A1	47	G	C8-N9-C4	5.78	108.71	106.40
29	A1	1548	G	C4-C5-N7	5.78	113.11	110.80
29	A1	2335	G	C8-N9-C1'	-5.78	119.48	127.00
29	A2	2229	G	C6-C5-N7	-5.78	126.93	130.40
53	A3	1068	U	C2-N1-C1'	5.78	124.64	117.70
53	A4	1166	G	C5-C6-O6	-5.78	125.13	128.60
53	A4	1211	C	C6-N1-C2	-5.78	117.99	120.30
53	A4	1452	G	N7-C8-N9	5.78	115.99	113.10
29	A1	278	G	C6-C5-N7	-5.78	126.93	130.40
29	A1	2700	G	N1-C2-N2	-5.78	111.00	116.20
29	A2	2867	C	N1-C2-O2	5.78	122.37	118.90
53	A3	760	A	N3-C4-N9	5.78	132.03	127.40
29	A2	114	C	N1-C2-O2	5.78	122.37	118.90
29	A2	1032	A	C5-C6-N1	5.78	120.59	117.70
29	A2	1106	U	C6-N1-C2	-5.78	117.53	121.00
29	A2	1168	G	N3-C4-N9	5.78	129.47	126.00
53	A3	1055	U	N1-C2-O2	5.78	126.85	122.80
53	A3	1262	U	N3-C2-O2	-5.78	118.15	122.20
53	A4	716	A	N3-C4-N9	5.78	132.03	127.40
53	A4	1424	G	C8-N9-C1'	5.78	134.51	127.00
29	A1	1460	A	C5-C6-N6	-5.78	119.08	123.70
29	A2	2009	G	C8-N9-C1'	-5.78	119.49	127.00
29	A1	221	C	N1-C2-O2	5.78	122.37	118.90
29	A1	817	G	C8-N9-C4	-5.78	104.09	106.40
29	A1	1274	A	C4-C5-N7	5.78	113.59	110.70
29	A2	2909	U	C2-N1-C1'	5.78	124.63	117.70
53	A3	185	C	C5-C6-N1	5.78	123.89	121.00
53	A3	827	U	C5-C6-N1	5.78	125.59	122.70
53	A3	1450	A	C8-N9-C4	-5.78	103.49	105.80
53	A4	467	C	C5-C6-N1	5.78	123.89	121.00
53	A4	519	C	N3-C2-O2	-5.78	117.86	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2172	G	C4-N9-C1'	5.78	134.01	126.50
29	A2	793	G	C4-C5-N7	5.78	113.11	110.80
53	A4	323	C	C2-N1-C1'	5.78	125.15	118.80
53	A3	1479	A	N7-C8-N9	5.77	116.69	113.80
29	A2	116	A	O5'-P-OP2	-5.77	100.50	105.70
29	A2	2598	U	O4'-C1'-N1	5.77	112.82	108.20
53	A3	760	A	C6-C5-N7	-5.77	128.26	132.30
29	A1	1624	C	C2-N1-C1'	5.77	125.15	118.80
29	A2	635	G	N3-C4-N9	5.77	129.46	126.00
29	A2	2270	G	C8-N9-C4	-5.77	104.09	106.40
29	A1	846	C	C5-C6-N1	5.77	123.88	121.00
29	A2	1490	G	C8-N9-C4	-5.77	104.09	106.40
29	A2	1571	U	N1-C2-O2	5.77	126.84	122.80
29	A2	2799	C	N1-C2-O2	5.77	122.36	118.90
53	A3	762	C	C6-N1-C1'	-5.77	113.88	120.80
53	A4	550	G	N3-C4-C5	-5.77	125.72	128.60
29	A1	212	A	N9-C4-C5	-5.77	103.49	105.80
29	A1	979	G	N9-C4-C5	-5.77	103.09	105.40
29	A1	1460	A	C4-C5-N7	5.77	113.58	110.70
29	A1	2386	G	N3-C4-C5	-5.77	125.72	128.60
29	A2	872	G	C4-C5-N7	5.77	113.11	110.80
29	A2	1916	C	N3-C2-O2	-5.77	117.86	121.90
29	A2	2224	C	C2-N1-C1'	5.77	125.14	118.80
29	A2	2494	C	C5-C6-N1	5.77	123.88	121.00
53	A3	1279	C	C2-N3-C4	5.77	122.78	119.90
29	A2	665	G	C8-N9-C4	-5.77	104.09	106.40
29	A2	2802	C	C6-N1-C2	-5.77	117.99	120.30
29	A1	1597	C	N1-C2-O2	5.76	122.36	118.90
29	A1	1679	C	C6-N1-C2	-5.76	117.99	120.30
29	A1	1973	G	N1-C6-O6	5.76	123.36	119.90
29	A2	1436	G	C8-N9-C1'	-5.76	119.50	127.00
29	A2	2687	G	N9-C4-C5	-5.76	103.09	105.40
53	A3	323	C	C5-C6-N1	5.76	123.88	121.00
53	A3	397	G	N3-C4-N9	5.76	129.46	126.00
53	A3	781	G	N3-C4-N9	5.76	129.46	126.00
29	A2	1194	C	C5-C4-N4	-5.76	116.17	120.20
29	A1	466	G	C4-N9-C1'	5.76	133.99	126.50
29	A1	2631	C	N1-C2-O2	5.76	122.36	118.90
53	A3	1404	G	N9-C4-C5	-5.76	103.09	105.40
53	A4	105	G	C4-N9-C1'	5.76	133.99	126.50
29	A1	2868	C	N3-C2-O2	-5.76	117.87	121.90
29	A2	730	G	C4-C5-N7	5.76	113.10	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	934	C	C6-N1-C2	-5.76	118.00	120.30
53	A3	878	A	N1-C6-N6	5.76	122.06	118.60
53	A4	346	G	N9-C4-C5	-5.76	103.10	105.40
29	A2	678	G	N3-C4-C5	5.76	131.48	128.60
29	A1	421	C	C5-C6-N1	5.76	123.88	121.00
29	A2	2153	C	C6-N1-C2	-5.76	118.00	120.30
53	A3	210	U	N3-C2-O2	-5.76	118.17	122.20
53	A4	636	A	O4'-C1'-N9	5.76	112.81	108.20
53	A4	1089	C	C6-N1-C2	-5.76	118.00	120.30
29	A1	202	G	N1-C6-O6	-5.75	116.45	119.90
29	A1	2063	C	C5-C6-N1	5.75	123.88	121.00
30	B1	90	C	C6-N1-C1'	-5.75	113.89	120.80
53	A4	1066	G	C8-N9-C4	-5.75	104.10	106.40
29	A1	735	G	C4-C5-N7	5.75	113.10	110.80
29	A2	241	A	C5-C6-N1	5.75	120.58	117.70
29	A2	321	C	C6-N1-C2	-5.75	118.00	120.30
29	A2	1446	C	N1-C2-O2	5.75	122.35	118.90
29	A2	1761	C	C6-N1-C2	-5.75	118.00	120.30
29	A2	1855	G	N3-C4-N9	5.75	129.45	126.00
53	A3	204	G	C4-N9-C1'	5.75	133.98	126.50
53	A3	1464	G	C6-C5-N7	-5.75	126.95	130.40
53	A4	101	G	C4-N9-C1'	5.75	133.98	126.50
53	A4	959	U	C6-N1-C1'	-5.75	113.15	121.20
29	A1	641	G	C8-N9-C1'	-5.75	119.52	127.00
29	A1	1834	G	C6-C5-N7	-5.75	126.95	130.40
29	A1	1862	A	C5-N7-C8	-5.75	101.02	103.90
29	A2	188	C	N1-C2-O2	5.75	122.35	118.90
29	A2	343	C	C5-C6-N1	5.75	123.88	121.00
29	A2	1874	U	N3-C2-O2	-5.75	118.17	122.20
29	A2	2449	A	C5-C6-N1	5.75	120.58	117.70
53	A3	217	U	N3-C2-O2	-5.75	118.17	122.20
53	A3	1454	C	N3-C2-O2	-5.75	117.87	121.90
29	A1	95	G	C8-N9-C1'	5.75	134.47	127.00
29	A1	827	G	N3-C2-N2	-5.75	115.88	119.90
29	A1	2273	G	N9-C4-C5	-5.75	103.10	105.40
29	A2	1592	C	C6-N1-C2	-5.75	118.00	120.30
29	A1	428	G	C6-C5-N7	-5.75	126.95	130.40
29	A1	2356	C	C2-N1-C1'	5.75	125.12	118.80
29	A2	484	C	C5-C6-N1	5.75	123.87	121.00
29	A2	730	G	C6-C5-N7	-5.75	126.95	130.40
29	A2	2369	C	C5-C6-N1	5.75	123.87	121.00
29	A2	2699	G	N3-C4-C5	-5.75	125.73	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	932	U	N1-C2-O2	5.75	126.82	122.80
53	A4	1463	G	C4-C5-N7	5.75	113.10	110.80
29	A1	17	G	N7-C8-N9	5.75	115.97	113.10
29	A1	1946	G	C4-C5-N7	5.75	113.10	110.80
29	A1	2362	U	C2-N1-C1'	5.75	124.60	117.70
29	A2	1973	G	C4-C5-N7	5.75	113.10	110.80
29	A2	2077	G	C6-C5-N7	-5.75	126.95	130.40
52	W4	161	PHE	CA-C-N	-5.75	104.56	117.20
29	A1	873	A	N1-C6-N6	-5.75	115.15	118.60
29	A2	1054	C	N1-C2-O2	5.75	122.35	118.90
29	A2	1312	G	C8-N9-C4	-5.75	104.10	106.40
29	A1	878	A	C8-N9-C4	5.74	108.10	105.80
29	A1	2799	C	N1-C2-O2	5.74	122.35	118.90
29	A2	1653	C	C6-N1-C2	-5.74	118.00	120.30
53	A3	337	C	C6-N1-C2	-5.74	118.00	120.30
53	A3	1184	C	C5-C6-N1	5.74	123.87	121.00
53	A3	1397	G	N9-C4-C5	5.74	107.70	105.40
29	A1	2498	G	C4-C5-N7	5.74	113.10	110.80
29	A2	2742	G	N1-C6-O6	-5.74	116.46	119.90
53	A3	653	G	C5-C6-O6	-5.74	125.16	128.60
53	A4	609	U	N1-C2-O2	5.74	126.82	122.80
53	A4	613	G	C6-C5-N7	5.74	133.84	130.40
29	A1	199	C	N3-C2-O2	-5.74	117.88	121.90
29	A2	1955	U	N1-C2-O2	5.74	126.82	122.80
29	A2	2244	G	N1-C6-O6	-5.74	116.46	119.90
29	A2	2469	G	C6-C5-N7	-5.74	126.96	130.40
53	A4	1255	G	C8-N9-C4	-5.74	104.10	106.40
53	A4	1457	G	N3-C4-C5	5.74	131.47	128.60
29	A1	1652	C	O4'-C1'-N1	5.74	112.79	108.20
29	A1	2356	C	C5-C6-N1	5.74	123.87	121.00
29	A1	2579	A	N3-C4-N9	-5.74	122.81	127.40
29	A1	2608	C	C6-N1-C2	-5.74	118.01	120.30
29	A2	2859	U	N3-C2-O2	-5.74	118.19	122.20
53	A3	173	A	C5-C6-N1	5.74	120.57	117.70
53	A3	1446	G	N9-C4-C5	-5.74	103.11	105.40
53	A4	1463	G	C5-N7-C8	-5.74	101.43	104.30
29	A1	1983	G	C8-N9-C4	5.73	108.69	106.40
53	A3	1047	U	OP2-P-O3'	5.73	117.81	105.20
53	A4	716	A	O4'-C1'-N9	5.73	112.79	108.20
29	A1	688	C	C6-N1-C2	5.73	122.59	120.30
42	L3	123	LYS	C-N-CA	5.73	136.03	121.70
53	A3	587	G	C8-N9-C4	-5.73	104.11	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	757	G	C4-C5-N7	5.73	113.09	110.80
53	A3	1486	C	N3-C2-O2	-5.73	117.89	121.90
53	A4	528	C	C6-N1-C2	-5.73	118.01	120.30
53	A4	1117	U	C5-C6-N1	5.73	125.57	122.70
53	A4	1361	G	C5-C6-O6	-5.73	125.16	128.60
29	A1	2780	A	N1-C6-N6	-5.73	115.16	118.60
29	A2	947	A	C8-N9-C4	-5.73	103.51	105.80
29	A2	1883	G	O4'-C1'-N9	5.73	112.78	108.20
29	A2	1896	G	N1-C6-O6	5.73	123.34	119.90
53	A3	349	G	C8-N9-C4	-5.73	104.11	106.40
53	A3	1005	C	OP1-P-O3'	5.73	117.81	105.20
53	A3	1018	G	N3-C4-N9	5.73	129.44	126.00
53	A4	459	G	N3-C4-N9	5.73	129.44	126.00
29	A1	187	A	N9-C4-C5	-5.73	103.51	105.80
29	A2	1300	G	C2-N3-C4	-5.73	109.04	111.90
53	A3	653	G	C6-N1-C2	-5.73	121.66	125.10
53	A3	959	U	C2-N1-C1'	5.73	124.57	117.70
53	A4	750	A	OP1-P-OP2	-5.73	111.01	119.60
53	A4	1467	C	N3-C2-O2	-5.73	117.89	121.90
29	A1	2413	G	C8-N9-C4	5.73	108.69	106.40
29	A2	2909	U	N3-C2-O2	-5.73	118.19	122.20
29	A1	114	C	N3-C2-O2	-5.72	117.89	121.90
29	A1	1660	C	N3-C4-N4	5.72	122.01	118.00
29	A2	2456	C	C6-N1-C2	-5.72	118.01	120.30
53	A3	1286	G	N9-C4-C5	-5.72	103.11	105.40
53	A4	1361	G	C8-N9-C4	5.72	108.69	106.40
29	A1	1703	A	O5'-P-OP1	-5.72	100.55	105.70
29	A2	955	U	C2-N1-C1'	5.72	124.57	117.70
29	A2	1671	G	C8-N9-C1'	5.72	134.44	127.00
53	A3	606	C	N3-C4-C5	5.72	124.19	121.90
53	A3	1200	U	O4'-C1'-N1	5.72	112.78	108.20
53	A4	183	G	N9-C4-C5	-5.72	103.11	105.40
53	A4	289	U	C2-N1-C1'	5.72	124.57	117.70
53	A4	770	A	N1-C2-N3	-5.72	126.44	129.30
53	A4	813	G	C6-C5-N7	-5.72	126.97	130.40
53	A4	1479	A	O4'-C1'-N9	5.72	112.78	108.20
29	A2	2404	U	N1-C2-O2	5.72	126.81	122.80
53	A4	1228	U	C2-N3-C4	5.72	130.43	127.00
29	A1	1736	G	C4-N9-C1'	5.72	133.94	126.50
29	A1	2742	G	N3-C4-C5	-5.72	125.74	128.60
29	A2	57	G	C5-C6-O6	-5.72	125.17	128.60
29	A2	1598	C	C6-N1-C2	-5.72	118.01	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2215	G	C4-N9-C1'	-5.72	119.07	126.50
53	A3	663	C	C5-C6-N1	5.72	123.86	121.00
53	A4	597	A	C5-C6-N6	-5.72	119.12	123.70
53	A4	826	C	C2-N1-C1'	5.72	125.09	118.80
53	A4	1361	G	N1-C6-O6	5.72	123.33	119.90
53	A4	1467	C	N1-C2-O2	5.72	122.33	118.90
29	A2	1945	G	C5-C6-O6	5.72	132.03	128.60
29	A1	2396	G	C5-N7-C8	-5.72	101.44	104.30
29	A1	2446	A	C2-N3-C4	5.72	113.46	110.60
29	A2	1468	U	C5-C6-N1	5.72	125.56	122.70
29	A2	1622	G	C5-C6-O6	-5.72	125.17	128.60
53	A3	846	G	N7-C8-N9	5.72	115.96	113.10
53	A4	1459	G	C4-N9-C1'	5.72	133.93	126.50
29	A1	612	C	N3-C4-C5	5.71	124.19	121.90
29	A2	1189	U	N1-C2-O2	5.71	126.80	122.80
29	A2	2040	U	C5-C6-N1	5.71	125.56	122.70
30	B2	49	C	N3-C2-O2	-5.71	117.90	121.90
53	A3	98	G	N3-C4-N9	5.71	129.43	126.00
53	A3	794	C	C6-N1-C2	-5.71	118.01	120.30
29	A1	1955	U	C2-N1-C1'	5.71	124.56	117.70
29	A2	1382	G	N3-C4-C5	-5.71	125.74	128.60
29	A1	1394	G	N3-C4-N9	5.71	129.43	126.00
29	A1	2687	G	C6-C5-N7	-5.71	126.97	130.40
29	A2	1383	U	C5-C6-N1	5.71	125.56	122.70
29	A2	1925	A	C5-C6-N1	5.71	120.56	117.70
29	A2	2756	A	C8-N9-C4	5.71	108.08	105.80
53	A3	1326	U	C2-N1-C1'	-5.71	110.85	117.70
53	A4	349	G	N3-C4-C5	-5.71	125.75	128.60
53	A4	1047	U	OP2-P-O3'	5.71	117.77	105.20
29	A2	2181	G	N3-C4-C5	5.71	131.46	128.60
29	A1	290	G	N9-C4-C5	-5.71	103.12	105.40
29	A1	733	G	N3-C4-N9	5.71	129.43	126.00
29	A1	782	G	C5-N7-C8	-5.71	101.45	104.30
29	A2	1389	U	N1-C2-O2	5.71	126.80	122.80
29	A2	2396	G	C5-C6-O6	-5.71	125.17	128.60
53	A3	1387	G	C2-N3-C4	-5.71	109.05	111.90
53	A3	1433	G	OP2-P-O3'	5.71	117.76	105.20
29	A1	1918	C	N3-C4-C5	5.71	124.18	121.90
29	A2	224	C	N1-C2-O2	5.71	122.32	118.90
29	A2	2601	A	O5'-P-OP2	-5.71	100.56	105.70
53	A3	332	C	N3-C2-O2	-5.71	117.91	121.90
29	A1	2396	G	C4-C5-N7	5.70	113.08	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2457	C	C2-N3-C4	-5.70	117.05	119.90
29	A1	2687	G	C4-N9-C1'	5.70	133.91	126.50
29	A1	2688	G	C5-N7-C8	-5.70	101.45	104.30
29	A2	360	C	N3-C2-O2	-5.70	117.91	121.90
53	A4	61	G	N3-C4-N9	5.70	129.42	126.00
53	A4	455	C	C5-C6-N1	5.70	123.85	121.00
53	A3	103	C	N3-C4-C5	5.70	124.18	121.90
29	A1	2009	G	C8-N9-C1'	-5.70	119.59	127.00
29	A2	2687	G	C4-N9-C1'	5.70	133.91	126.50
53	A3	805	C	C2-N1-C1'	5.70	125.07	118.80
53	A3	840	U	C6-N1-C2	-5.70	117.58	121.00
53	A3	1286	G	N3-C2-N2	5.70	123.89	119.90
29	A2	348	G	N3-C4-C5	-5.70	125.75	128.60
29	A2	1684	G	C6-C5-N7	-5.70	126.98	130.40
30	B2	54	A	N1-C2-N3	-5.70	126.45	129.30
53	A3	874	C	C6-N1-C1'	-5.70	113.96	120.80
53	A4	316	A	C2-N3-C4	5.70	113.45	110.60
53	A4	579	C	O4'-C1'-N1	5.70	112.76	108.20
29	A2	1119	G	C4-N9-C1'	5.70	133.91	126.50
53	A4	1361	G	C5-N7-C8	-5.70	101.45	104.30
29	A2	1993	A	N1-C6-N6	5.70	122.02	118.60
29	A1	2696	U	N1-C2-O2	5.69	126.79	122.80
29	A2	521	G	N3-C4-C5	-5.69	125.75	128.60
29	A2	1454	U	C6-N1-C2	-5.69	117.58	121.00
53	A3	1348	C	C5-C6-N1	5.69	123.85	121.00
29	A1	931	G	C4-N9-C1'	-5.69	119.10	126.50
29	A1	1706	C	N3-C2-O2	-5.69	117.92	121.90
29	A2	664	A	O4'-C1'-N9	-5.69	103.64	108.20
29	A2	2019	U	C6-N1-C2	-5.69	117.58	121.00
53	A3	110	G	C8-N9-C4	-5.69	104.12	106.40
30	B1	108	G	N3-C4-N9	5.69	129.41	126.00
29	A2	446	G	C4-C5-N7	5.69	113.08	110.80
29	A2	792	G	N3-C4-C5	5.69	131.44	128.60
29	A2	1389	U	N3-C2-O2	-5.69	118.22	122.20
29	A2	2378	C	N3-C2-O2	-5.69	117.92	121.90
53	A3	423	G	N9-C4-C5	-5.69	103.12	105.40
53	A3	1112	A	C5-C6-N1	5.69	120.55	117.70
29	A2	1017	C	N1-C2-O2	5.69	122.31	118.90
53	A3	581	U	C5-C6-N1	5.69	125.54	122.70
53	A4	468	G	P-O3'-C3'	5.69	126.53	119.70
29	A1	733	G	C4-N9-C1'	5.69	133.89	126.50
29	A1	834	G	C4-C5-N7	5.69	113.08	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	970	U	C6-N1-C2	-5.69	117.59	121.00
29	A1	1029	A	C8-N9-C4	-5.69	103.53	105.80
29	A1	2210	G	N7-C8-N9	5.69	115.94	113.10
29	A1	2810	G	N7-C8-N9	5.69	115.94	113.10
53	A4	464	U	C6-N1-C2	-5.69	117.59	121.00
29	A1	2870	C	C6-N1-C2	-5.69	118.03	120.30
29	A2	1038	A	N1-C6-N6	-5.69	115.19	118.60
29	A2	1140	C	C2-N1-C1'	5.69	125.05	118.80
29	A2	1637	C	C6-N1-C2	-5.69	118.03	120.30
53	A4	754	G	N3-C4-C5	-5.69	125.76	128.60
29	A1	821	C	C5-C4-N4	5.68	124.18	120.20
29	A1	1034	C	C5-C6-N1	5.68	123.84	121.00
29	A1	1086	C	C5-C6-N1	5.68	123.84	121.00
29	A1	2305	U	N1-C2-O2	5.68	126.78	122.80
29	A2	343	C	C6-N1-C2	-5.68	118.03	120.30
29	A2	1172	C	C2-N1-C1'	5.68	125.05	118.80
29	A2	1547	C	C6-N1-C2	-5.68	118.03	120.30
53	A3	233	G	C8-N9-C1'	-5.68	119.61	127.00
53	A4	233	G	C8-N9-C1'	-5.68	119.61	127.00
53	A4	1200	U	O4'-C1'-N1	5.68	112.75	108.20
29	A2	259	U	C2-N1-C1'	-5.68	110.88	117.70
29	A2	2155	G	C8-N9-C4	-5.68	104.13	106.40
53	A3	337	C	N3-C2-O2	-5.68	117.92	121.90
53	A4	955	A	O4'-C1'-N9	-5.68	103.66	108.20
29	A1	1926	C	N3-C2-O2	-5.68	117.92	121.90
29	A2	961	U	C5-C6-N1	5.68	125.54	122.70
29	A2	1649	G	N1-C6-O6	-5.68	116.49	119.90
53	A4	703	C	C5-C6-N1	5.68	123.84	121.00
53	A4	971	A	C2-N3-C4	5.68	113.44	110.60
29	A2	185	A	C8-N9-C4	5.68	108.07	105.80
29	A2	2242	G	N3-C4-C5	-5.68	125.76	128.60
53	A3	593	G	C8-N9-C1'	-5.68	119.62	127.00
53	A3	1371	C	N1-C2-O2	5.68	122.31	118.90
29	A1	1651	A	C8-N9-C4	-5.68	103.53	105.80
29	A2	2378	C	C6-N1-C2	-5.68	118.03	120.30
53	A3	849	A	C4-C5-N7	5.68	113.54	110.70
53	A4	1068	U	C2-N1-C1'	5.68	124.51	117.70
29	A1	1802	G	C6-C5-N7	-5.68	127.00	130.40
29	A1	1970	U	N3-C2-O2	-5.68	118.23	122.20
29	A2	1948	C	N3-C2-O2	-5.68	117.93	121.90
4	F1	133	LEU	CA-CB-CG	5.67	128.35	115.30
29	A1	933	C	N1-C2-O2	5.67	122.31	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2016	G	C6-N1-C2	-5.67	121.69	125.10
29	A1	2179	G	C2-N3-C4	5.67	114.74	111.90
30	B2	110	U	C5-C6-N1	5.67	125.54	122.70
53	A4	799	A	C4-C5-N7	5.67	113.54	110.70
29	A1	768	C	C5-C4-N4	-5.67	116.23	120.20
29	A1	1519	G	C8-N9-C4	-5.67	104.13	106.40
29	A1	2044	A	N3-C4-C5	5.67	130.77	126.80
29	A2	2780	A	N3-C4-C5	-5.67	122.83	126.80
53	A3	184	C	N3-C2-O2	-5.67	117.93	121.90
53	A3	1142	G	N3-C4-C5	-5.67	125.76	128.60
53	A4	85	U	C5-C6-N1	5.67	125.54	122.70
29	A1	69	G	C4-N9-C1'	-5.67	119.13	126.50
29	A2	1734	C	N3-C4-C5	5.67	124.17	121.90
29	A2	2597	G	C4-N9-C1'	5.67	133.87	126.50
53	A3	119	G	N1-C6-O6	5.67	123.30	119.90
53	A4	834	C	N3-C4-C5	5.67	124.17	121.90
29	A1	1653	C	C6-N1-C2	-5.67	118.03	120.30
29	A1	2069	C	C5-C6-N1	5.67	123.83	121.00
29	A1	2776	G	N3-C4-N9	5.67	129.40	126.00
29	A2	827	G	N7-C8-N9	5.67	115.94	113.10
29	A2	1410	C	N1-C2-O2	5.67	122.30	118.90
29	A2	2474	U	N1-C2-O2	5.67	126.77	122.80
29	A2	2905	G	C4-C5-N7	5.67	113.07	110.80
53	A3	1240	C	C5-C6-N1	5.67	123.83	121.00
29	A1	98	U	C2-N1-C1'	5.67	124.50	117.70
29	A2	1983	G	C8-N9-C4	5.67	108.67	106.40
53	A4	227	G	C4-C5-N7	5.67	113.07	110.80
53	A4	335	U	N3-C2-O2	-5.67	118.23	122.20
29	A2	345	A	N7-C8-N9	-5.67	110.97	113.80
29	A2	2173	G	N1-C6-O6	-5.67	116.50	119.90
29	A1	2675	G	N3-C4-N9	5.66	129.40	126.00
29	A2	758	U	N1-C2-O2	5.66	126.77	122.80
29	A2	2063	C	C5-C6-N1	5.66	123.83	121.00
53	A3	466	A	N3-C4-N9	5.66	131.93	127.40
53	A4	577	G	C6-C5-N7	-5.66	127.00	130.40
53	A4	878	A	N1-C6-N6	5.66	122.00	118.60
30	B2	39	C	C5-C6-N1	5.66	123.83	121.00
53	A3	781	G	C6-N1-C2	-5.66	121.70	125.10
53	A3	882	U	N3-C2-O2	-5.66	118.24	122.20
53	A4	166	A	C8-N9-C4	-5.66	103.53	105.80
29	A1	2242	G	N3-C4-C5	-5.66	125.77	128.60
30	B1	83	G	C4-C5-N7	5.66	113.06	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	98	U	C6-N1-C1'	-5.66	113.28	121.20
29	A2	733	G	N1-C2-N2	-5.66	111.11	116.20
53	A3	597	A	N3-C4-N9	5.66	131.93	127.40
53	A4	680	U	C5-C6-N1	5.66	125.53	122.70
29	A1	810	A	C4-C5-C6	-5.66	114.17	117.00
29	A1	2717	C	C2-N3-C4	5.66	122.73	119.90
29	A2	2687	G	C8-N9-C1'	-5.66	119.64	127.00
53	A4	187	C	C6-N1-C2	-5.66	118.04	120.30
53	A4	498	G	C6-C5-N7	-5.66	127.00	130.40
29	A1	2728	A	O4'-C1'-N9	-5.66	103.67	108.20
53	A3	1157	A	C4-C5-N7	5.66	113.53	110.70
53	A4	544	U	O4'-C1'-N1	5.66	112.72	108.20
29	A1	1973	G	C4-C5-N7	5.66	113.06	110.80
29	A1	2179	G	C8-N9-C4	-5.66	104.14	106.40
29	A2	104	C	N1-C2-O2	5.66	122.29	118.90
29	A2	1389	U	C5-C6-N1	5.66	125.53	122.70
29	A2	446	G	C6-C5-N7	-5.65	127.01	130.40
29	A2	2688	G	C6-C5-N7	-5.65	127.01	130.40
53	A3	893	G	N3-C4-N9	5.65	129.39	126.00
29	A1	2133	U	C2-N1-C1'	5.65	124.48	117.70
29	A1	599	C	N1-C2-O2	5.65	122.29	118.90
29	A1	2385	G	N7-C8-N9	5.65	115.93	113.10
29	A2	829	G	C6-C5-N7	-5.65	127.01	130.40
29	A2	1352	C	N1-C2-O2	5.65	122.29	118.90
29	A2	1663	C	C2-N1-C1'	5.65	125.02	118.80
53	A4	412	C	N3-C2-O2	-5.65	117.94	121.90
29	A2	1896	G	C6-C5-N7	-5.65	127.01	130.40
29	A2	2633	C	C2-N3-C4	-5.65	117.08	119.90
29	A1	1417	G	N7-C8-N9	5.65	115.92	113.10
29	A1	1614	C	C6-N1-C2	5.65	122.56	120.30
29	A2	2053	G	N1-C6-O6	5.65	123.29	119.90
53	A3	1371	C	C5-C6-N1	5.65	123.82	121.00
53	A4	28	G	C8-N9-C4	-5.65	104.14	106.40
29	A1	2782	C	C6-N1-C2	-5.65	118.04	120.30
29	A1	641	G	C6-C5-N7	-5.64	127.01	130.40
29	A1	951	C	P-O3'-C3'	5.64	126.47	119.70
29	A1	1180	A	C6-C5-N7	-5.64	128.35	132.30
29	A1	1930	G	OP1-P-O3'	5.64	117.62	105.20
30	B1	62	C	C5-C6-N1	5.64	123.82	121.00
29	A2	76	C	C5-C6-N1	5.64	123.82	121.00
29	A1	804	C	N3-C2-O2	-5.64	117.95	121.90
29	A1	1391	G	C8-N9-C1'	-5.64	119.66	127.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1713	A	C8-N9-C4	5.64	108.06	105.80
30	B2	109	G	N3-C4-N9	5.64	129.39	126.00
53	A3	502	C	O4'-C1'-N1	5.64	112.71	108.20
53	A4	955	A	C8-N9-C1'	-5.64	117.54	127.70
29	A1	123	G	N3-C4-N9	-5.64	122.61	126.00
29	A1	192	U	C6-N1-C2	-5.64	117.61	121.00
29	A1	2232	U	C6-N1-C2	-5.64	117.61	121.00
29	A1	2690	C	N3-C2-O2	-5.64	117.95	121.90
29	A2	350	G	N3-C4-N9	5.64	129.38	126.00
53	A3	169	C	N1-C2-O2	5.64	122.28	118.90
29	A1	240	G	P-O3'-C3'	5.64	126.47	119.70
29	A1	1841	U	N1-C2-O2	5.64	126.75	122.80
29	A1	2252	G	N3-C4-C5	-5.64	125.78	128.60
29	A2	123	G	C8-N9-C1'	5.64	134.33	127.00
53	A3	1117	U	C2-N1-C1'	5.64	124.47	117.70
53	A3	1401	G	N3-C4-C5	-5.64	125.78	128.60
53	A4	565	U	N1-C2-O2	5.64	126.75	122.80
29	A1	1702	G	N3-C2-N2	5.64	123.85	119.90
29	A2	1918	C	N3-C4-C5	5.64	124.16	121.90
29	A2	1957	G	C4-C5-N7	5.64	113.06	110.80
29	A2	2616	A	C8-N9-C4	-5.64	103.55	105.80
53	A3	580	G	C6-C5-N7	-5.64	127.02	130.40
26	b2	36	LEU	CA-CB-CG	5.64	128.26	115.30
29	A2	1651	A	N7-C8-N9	5.64	116.62	113.80
29	A2	2238	G	N7-C8-N9	5.64	115.92	113.10
53	A4	1309	C	C6-N1-C2	5.64	122.55	120.30
29	A1	1271	G	C8-N9-C4	-5.63	104.15	106.40
29	A1	2204	U	N1-C2-O2	5.63	126.74	122.80
29	A2	1896	G	C5-N7-C8	-5.63	101.48	104.30
29	A2	2004	G	C6-C5-N7	-5.63	127.02	130.40
53	A4	780	C	C2-N1-C1'	5.63	125.00	118.80
53	A4	930	G	C6-C5-N7	-5.63	127.02	130.40
53	A4	1144	C	C6-N1-C2	-5.63	118.05	120.30
29	A2	2416	C	N3-C2-O2	-5.63	117.96	121.90
53	A4	954	A	N9-C4-C5	-5.63	103.55	105.80
53	A4	1472	U	O4'-C1'-N1	5.63	112.71	108.20
29	A1	186	A	C5-C6-N1	5.63	120.52	117.70
29	A1	1434	C	O4'-C1'-N1	5.63	112.71	108.20
29	A1	2710	U	C2-N1-C1'	5.63	124.46	117.70
29	A2	1592	C	C5-C6-N1	5.63	123.82	121.00
29	A2	1635	A	N9-C4-C5	-5.63	103.55	105.80
29	A2	1652	C	O4'-C1'-N1	5.63	112.70	108.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2690	C	N3-C2-O2	-5.63	117.96	121.90
53	A3	63	C	O4'-C1'-N1	5.63	112.70	108.20
53	A3	82	U	C5-C6-N1	5.63	125.52	122.70
53	A3	1145	C	N1-C2-O2	5.63	122.28	118.90
53	A4	701	G	N3-C4-C5	-5.63	125.78	128.60
53	A4	778	C	C6-N1-C2	5.63	122.55	120.30
29	A1	76	C	C6-N1-C2	-5.63	118.05	120.30
29	A1	737	U	C4-C5-C6	-5.63	116.32	119.70
29	A1	834	G	N1-C6-O6	5.63	123.28	119.90
53	A4	1026	A	N3-C4-N9	5.63	131.90	127.40
53	A4	1374	G	C6-C5-N7	-5.63	127.02	130.40
29	A1	787	G	C4-N9-C1'	5.63	133.82	126.50
29	A1	932	G	C4-C5-N7	5.63	113.05	110.80
29	A2	1269	C	N3-C4-C5	5.63	124.15	121.90
29	A2	2233	G	O4'-C1'-N9	5.63	112.70	108.20
29	A2	2591	A	C8-N9-C4	-5.63	103.55	105.80
53	A3	149	C	OP1-P-OP2	-5.63	111.16	119.60
53	A3	638	A	C5-N7-C8	-5.63	101.09	103.90
53	A4	988	G	C4-C5-N7	5.63	113.05	110.80
29	A1	1045	G	N3-C4-N9	5.63	129.38	126.00
29	A1	1961	A	N1-C6-N6	-5.63	115.22	118.60
29	A1	2163	C	C5-C6-N1	5.63	123.81	121.00
29	A2	660	A	N7-C8-N9	5.63	116.61	113.80
29	A2	1158	G	N7-C8-N9	5.63	115.91	113.10
29	A2	1312	G	N7-C8-N9	5.63	115.91	113.10
29	A2	2694	C	N3-C2-O2	-5.63	117.96	121.90
53	A4	409	A	N1-C6-N6	-5.63	115.22	118.60
53	A4	580	G	C6-C5-N7	-5.63	127.02	130.40
53	A4	1379	C	N3-C2-O2	-5.63	117.96	121.90
53	A4	1388	U	N3-C2-O2	-5.63	118.26	122.20
29	A1	1095	G	C8-N9-C1'	-5.62	119.69	127.00
29	A2	1461	G	N7-C8-N9	5.62	115.91	113.10
29	A1	829	G	C4-C5-N7	5.62	113.05	110.80
29	A1	1082	G	C5-C6-O6	-5.62	125.23	128.60
29	A1	2302	A	C4-N9-C1'	5.62	136.42	126.30
29	A2	35	G	N1-C6-O6	-5.62	116.53	119.90
29	A2	177	G	C5-C6-N1	5.62	114.31	111.50
29	A2	938	C	C6-N1-C2	-5.62	118.05	120.30
29	A2	1923	G	C4-C5-N7	5.62	113.05	110.80
53	A4	271	G	C2-N3-C4	5.62	114.71	111.90
53	A4	1178	G	C5-C6-N1	5.62	114.31	111.50
53	A4	1464	G	C6-C5-N7	-5.62	127.03	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	757	C	N1-C2-O2	5.62	122.27	118.90
29	A1	820	G	C4-C5-N7	5.62	113.05	110.80
29	A1	1598	C	C6-N1-C2	-5.62	118.05	120.30
29	A1	1833	C	C6-N1-C2	5.62	122.55	120.30
29	A1	2700	G	C6-N1-C2	-5.62	121.73	125.10
29	A2	295	C	O4'-C1'-N1	5.62	112.70	108.20
29	A2	2386	G	N3-C4-C5	-5.62	125.79	128.60
29	A2	2472	G	C8-N9-C1'	-5.62	119.69	127.00
53	A3	905	G	C4-C5-N7	5.62	113.05	110.80
53	A4	267	C	N1-C2-O2	5.62	122.27	118.90
29	A1	76	C	C5-C6-N1	5.62	123.81	121.00
29	A2	2218	G	C4-C5-N7	5.62	113.05	110.80
53	A4	845	C	C2-N1-C1'	5.62	124.98	118.80
53	A4	1058	C	C2-N1-C1'	-5.62	112.62	118.80
53	A4	1240	C	C5-C6-N1	5.62	123.81	121.00
29	A1	714	C	C5-C6-N1	5.62	123.81	121.00
29	A1	1437	G	N3-C4-N9	5.62	129.37	126.00
29	A2	1145	U	C6-N1-C2	-5.62	117.63	121.00
29	A2	2356	C	C6-N1-C2	-5.62	118.05	120.30
29	A2	2472	G	C6-C5-N7	-5.62	127.03	130.40
29	A2	2686	G	N3-C4-C5	5.62	131.41	128.60
53	A3	641	G	C2-N3-C4	-5.62	109.09	111.90
53	A3	1374	G	C6-C5-N7	-5.62	127.03	130.40
53	A4	184	C	N3-C2-O2	-5.62	117.97	121.90
53	A4	719	C	C5-C6-N1	5.62	123.81	121.00
53	A4	959	U	C6-N1-C2	-5.62	117.63	121.00
29	A2	2579	A	N3-C4-N9	-5.62	122.91	127.40
53	A3	1464	G	C5-C6-O6	-5.62	125.23	128.60
53	A4	887	C	O5'-P-OP1	-5.62	100.64	105.70
29	A1	941	C	N3-C2-O2	-5.62	117.97	121.90
29	A2	387	U	C5-C6-N1	5.62	125.51	122.70
29	A2	403	C	C6-N1-C2	-5.62	118.05	120.30
29	A2	1714	A	C5-N7-C8	-5.62	101.09	103.90
29	A2	1817	A	C2-N3-C4	5.62	113.41	110.60
29	A2	1932	C	C6-N1-C2	-5.62	118.05	120.30
53	A4	1333	C	N1-C2-O2	-5.62	115.53	118.90
29	A1	467	G	N3-C4-C5	5.61	131.41	128.60
29	A1	628	A	O4'-C1'-N9	5.61	112.69	108.20
29	A1	1873	G	C4-N9-C1'	5.61	133.80	126.50
53	A4	63	C	O5'-P-OP1	-5.61	100.65	105.70
53	A4	199	C	C6-N1-C1'	-5.61	114.06	120.80
29	A1	925	C	C5-C6-N1	5.61	123.81	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1299	A	C8-N9-C4	-5.61	103.56	105.80
30	B1	37	U	C6-N1-C2	-5.61	117.63	121.00
29	A2	740	C	N3-C2-O2	-5.61	117.97	121.90
29	A2	1614	C	C2-N3-C4	-5.61	117.09	119.90
29	A2	1679	C	C6-N1-C2	-5.61	118.06	120.30
29	A2	1954	G	O4'-C1'-N9	5.61	112.69	108.20
29	A2	2740	A	C8-N9-C4	-5.61	103.56	105.80
53	A3	1397	G	N3-C4-C5	5.61	131.41	128.60
53	A4	1333	C	C6-N1-C1'	5.61	127.53	120.80
29	A1	1863	C	N3-C4-C5	-5.61	119.66	121.90
29	A1	2478	C	N1-C2-O2	5.61	122.27	118.90
30	B1	102	A	C8-N9-C4	-5.61	103.56	105.80
29	A2	2602	G	N7-C8-N9	5.61	115.90	113.10
53	A3	397	G	C6-C5-N7	-5.61	127.03	130.40
53	A3	672	C	C2-N3-C4	5.61	122.70	119.90
53	A3	1404	G	N1-C6-O6	5.61	123.26	119.90
29	A1	205	G	C4-C5-N7	5.61	113.04	110.80
29	A1	539	G	C2-N3-C4	-5.61	109.10	111.90
29	A2	39	C	C6-N1-C1'	-5.61	114.07	120.80
29	A2	421	C	N1-C2-O2	5.61	122.26	118.90
53	A3	979	G	C4-C5-N7	5.61	113.04	110.80
53	A4	68	G	N3-C4-C5	5.61	131.40	128.60
53	A4	1393	C	C6-N1-C2	5.61	122.54	120.30
53	A4	854	C	N3-C2-O2	-5.60	117.98	121.90
29	A1	114	C	C6-N1-C2	-5.60	118.06	120.30
29	A1	1019	G	N3-C4-N9	5.60	129.36	126.00
29	A1	1358	G	N1-C6-O6	-5.60	116.54	119.90
29	A1	1957	G	C4-C5-N7	5.60	113.04	110.80
29	A1	2218	G	C4-C5-N7	5.60	113.04	110.80
29	A2	508	A	N1-C6-N6	-5.60	115.24	118.60
29	A2	1209	C	N3-C2-O2	-5.60	117.98	121.90
29	A2	1225	C	C2-N3-C4	5.60	122.70	119.90
29	A2	1358	G	N1-C6-O6	-5.60	116.54	119.90
53	A3	388	A	N9-C4-C5	-5.60	103.56	105.80
53	A4	779	C	N3-C4-C5	5.60	124.14	121.90
29	A2	1457	C	N1-C2-O2	5.60	122.26	118.90
29	A2	1645	A	C8-N9-C4	-5.60	103.56	105.80
29	A1	57	G	C4-C5-N7	5.60	113.04	110.80
29	A2	231	A	C8-N9-C4	-5.60	103.56	105.80
29	A2	564	C	C6-N1-C2	-5.60	118.06	120.30
29	A2	2430	C	N3-C4-C5	5.60	124.14	121.90
29	A2	2833	A	C6-N1-C2	-5.60	115.24	118.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	23	C	N3-C4-C5	5.60	124.14	121.90
53	A4	335	U	C6-N1-C1'	-5.60	113.36	121.20
29	A1	2146	U	N1-C2-O2	5.60	126.72	122.80
29	A1	2737	G	C8-N9-C4	-5.60	104.16	106.40
29	A1	2801	U	C5-C6-N1	5.60	125.50	122.70
29	A2	1026	G	N3-C4-C5	-5.60	125.80	128.60
29	A2	2265	G	N3-C4-N9	5.60	129.36	126.00
53	A3	313	G	C6-C5-N7	-5.60	127.04	130.40
53	A4	1284	C	O4'-C1'-N1	5.60	112.68	108.20
53	A4	1352	G	C8-N9-C4	-5.60	104.16	106.40
29	A2	630	C	C6-N1-C2	-5.60	118.06	120.30
29	A2	1366	C	C6-N1-C2	5.60	122.54	120.30
29	A2	1862	A	N7-C8-N9	5.60	116.60	113.80
29	A2	2457	C	C2-N3-C4	-5.60	117.10	119.90
53	A3	1346	U	N1-C2-O2	5.60	126.72	122.80
29	A1	153	C	C6-N1-C2	-5.59	118.06	120.30
29	A2	646	G	C6-C5-N7	-5.59	127.04	130.40
29	A2	1319	G	O4'-C1'-N9	5.59	112.67	108.20
53	A3	1101	C	N1-C2-O2	5.59	122.26	118.90
53	A4	714	G	C6-C5-N7	-5.59	127.04	130.40
53	A4	1087	A	C8-N9-C4	-5.59	103.56	105.80
29	A1	409	G	C2-N3-C4	5.59	114.70	111.90
29	A1	2810	G	C4-C5-C6	5.59	122.16	118.80
29	A2	714	C	C5-C6-N1	5.59	123.80	121.00
53	A3	508	C	N3-C4-C5	5.59	124.14	121.90
53	A4	70	G	C4-N9-C1'	5.59	133.77	126.50
53	A4	93	C	C5-C4-N4	-5.59	116.28	120.20
53	A4	593	G	N3-C4-N9	5.59	129.36	126.00
29	A1	1197	G	C6-C5-N7	5.59	133.75	130.40
29	A2	735	G	N7-C8-N9	5.59	115.90	113.10
29	A2	2090	C	N3-C2-O2	-5.59	117.99	121.90
53	A3	1008	C	C6-N1-C2	-5.59	118.06	120.30
54	V3	6	LEU	CA-CB-CG	5.59	128.16	115.30
53	A4	583	C	N3-C2-O2	-5.59	117.99	121.90
29	A1	93	G	C8-N9-C4	-5.59	104.16	106.40
29	A1	401	U	C6-N1-C2	-5.59	117.65	121.00
29	A2	716	U	N3-C2-O2	-5.59	118.29	122.20
53	A3	183	G	N9-C4-C5	-5.59	103.16	105.40
53	A3	613	G	C8-N9-C1'	5.59	134.26	127.00
53	A3	1497	G	C8-N9-C4	5.59	108.64	106.40
53	A4	497	C	C6-N1-C2	-5.59	118.06	120.30
53	A4	893	G	N3-C4-N9	5.59	129.35	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2084	A	P-O3'-C3'	5.59	126.41	119.70
29	A1	700	G	N3-C4-C5	5.59	131.39	128.60
29	A2	787	G	C4-N9-C1'	5.59	133.76	126.50
29	A2	1382	G	C8-N9-C4	-5.59	104.17	106.40
29	A2	1436	G	N3-C4-N9	5.59	129.35	126.00
29	A2	2585	C	N3-C2-O2	-5.59	117.99	121.90
53	A3	43	C	N1-C2-O2	5.59	122.25	118.90
53	A3	269	A	N7-C8-N9	5.59	116.59	113.80
53	A3	1381	C	C5-C6-N1	-5.59	118.21	121.00
53	A3	1392	G	C6-C5-N7	-5.59	127.05	130.40
39	I4	100	GLY	C-N-CA	5.59	135.67	121.70
53	A4	664	C	C6-N1-C2	-5.59	118.07	120.30
53	A4	1199	C	C6-N1-C2	-5.59	118.06	120.30
29	A2	1651	A	C8-N9-C4	-5.58	103.57	105.80
29	A2	2732	G	N1-C6-O6	-5.58	116.55	119.90
53	A4	1209	C	N1-C2-O2	5.58	122.25	118.90
29	A1	1001	G	N3-C4-N9	5.58	129.35	126.00
29	A1	1517	C	C5-C6-N1	5.58	123.79	121.00
29	A2	495	G	C4-C5-N7	5.58	113.03	110.80
29	A2	1883	G	C8-N9-C1'	5.58	134.26	127.00
29	A2	2003	C	C6-N1-C2	-5.58	118.07	120.30
53	A4	255	G	C4-C5-N7	5.58	113.03	110.80
53	A4	1222	G	C4-C5-N7	5.58	113.03	110.80
29	A1	258	C	N3-C2-O2	-5.58	117.99	121.90
29	A1	963	C	C2-N1-C1'	5.58	124.94	118.80
29	A1	979	G	C5-C6-N1	5.58	114.29	111.50
29	A1	999	G	C8-N9-C4	5.58	108.63	106.40
29	A1	2004	G	C6-C5-N7	-5.58	127.05	130.40
29	A2	2539	G	C6-C5-N7	-5.58	127.05	130.40
53	A4	511	C	C6-N1-C1'	-5.58	114.10	120.80
53	A4	882	U	N3-C2-O2	-5.58	118.29	122.20
29	A1	1748	G	N1-C6-O6	5.58	123.25	119.90
53	A3	825	C	C6-N1-C1'	5.58	127.50	120.80
29	A2	1825	G	N9-C4-C5	-5.58	103.17	105.40
29	A2	1923	G	C6-C5-N7	-5.58	127.05	130.40
53	A3	813	G	N7-C8-N9	5.58	115.89	113.10
29	A1	119	G	C5-C6-O6	-5.58	125.25	128.60
29	A1	2875	C	N3-C4-C5	5.58	124.13	121.90
29	A2	1204	A	C8-N9-C4	5.58	108.03	105.80
53	A3	136	G	C2-N3-C4	-5.58	109.11	111.90
53	A3	952	A	N1-C2-N3	-5.58	126.51	129.30
29	A1	1622	G	C5-C6-O6	-5.58	125.25	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2741	U	N3-C2-O2	-5.58	118.30	122.20
29	A1	2817	C	C6-N1-C2	-5.58	118.07	120.30
29	A2	259	U	C5-C6-N1	-5.58	119.91	122.70
29	A2	2405	G	C2-N3-C4	-5.58	109.11	111.90
53	A3	1101	C	N3-C2-O2	-5.58	118.00	121.90
53	A3	1388	U	N3-C2-O2	-5.58	118.30	122.20
53	A4	886	A	C4-N9-C1'	5.58	136.34	126.30
53	A4	1051	C	C6-N1-C2	-5.58	118.07	120.30
29	A1	808	G	C4-C5-N7	5.57	113.03	110.80
29	A1	2606	G	C6-C5-N7	-5.57	127.06	130.40
29	A2	322	C	N1-C2-O2	5.57	122.24	118.90
29	A2	1519	G	N7-C8-N9	5.57	115.89	113.10
29	A2	2162	C	N1-C2-O2	5.57	122.24	118.90
29	A2	2591	A	N1-C6-N6	5.57	121.94	118.60
53	A3	354	U	C6-N1-C2	-5.57	117.66	121.00
53	A4	794	C	C6-N1-C2	-5.57	118.07	120.30
29	A1	1873	G	C6-C5-N7	-5.57	127.06	130.40
29	A1	1997	G	C8-N9-C1'	-5.57	119.76	127.00
29	A2	1497	G	N3-C4-N9	5.57	129.34	126.00
29	A1	854	G	N9-C4-C5	-5.57	103.17	105.40
29	A1	1702	G	OP1-P-O3'	5.57	117.46	105.20
29	A1	1705	C	N3-C4-C5	5.57	124.13	121.90
53	A3	1220	A	C4-C5-N7	5.57	113.48	110.70
53	A3	1459	G	C4-C5-C6	5.57	122.14	118.80
53	A4	217	U	C6-N1-C2	-5.57	117.66	121.00
53	A4	524	G	N1-C2-N2	-5.57	111.19	116.20
29	A1	1720	U	C5-C6-N1	5.57	125.48	122.70
29	A1	2687	G	C8-N9-C1'	-5.57	119.76	127.00
53	A3	1276	G	N3-C4-C5	-5.57	125.81	128.60
53	A4	1000	G	C5-C6-N1	5.57	114.28	111.50
29	A1	2749	A	C2-N3-C4	5.57	113.38	110.60
53	A3	269	A	C4-C5-N7	5.57	113.48	110.70
53	A3	728	C	N3-C2-O2	-5.57	118.00	121.90
53	A4	725	G	C4-N9-C1'	5.57	133.74	126.50
53	A4	749	A	N1-C2-N3	-5.57	126.52	129.30
53	A4	813	G	N7-C8-N9	5.57	115.88	113.10
53	A4	937	U	N1-C2-O2	5.57	126.70	122.80
53	A4	1294	U	O4'-C1'-N1	5.57	112.65	108.20
53	A4	1422	C	C5-C6-N1	5.57	123.78	121.00
29	A1	1034	C	C5-C4-N4	-5.57	116.31	120.20
29	A1	1997	G	N3-C4-N9	5.57	129.34	126.00
29	A2	970	U	C6-N1-C2	-5.57	117.66	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2302	A	C4-N9-C1'	5.57	136.32	126.30
29	A2	2405	G	C6-C5-N7	-5.57	127.06	130.40
53	A3	131	C	C4-C5-C6	-5.57	114.62	117.40
53	A3	754	G	C8-N9-C4	-5.57	104.17	106.40
53	A4	915	A	C8-N9-C4	5.57	108.03	105.80
29	A1	907	U	C2-N1-C1'	5.56	124.38	117.70
29	A1	1054	C	C6-N1-C1'	-5.56	114.12	120.80
53	A4	388	A	N9-C4-C5	-5.56	103.57	105.80
29	A2	2405	G	N1-C6-O6	5.56	123.24	119.90
53	A3	1345	A	N9-C4-C5	-5.56	103.58	105.80
9	K1	28	GLY	N-CA-C	5.56	127.00	113.10
29	A1	292	G	C8-N9-C4	-5.56	104.17	106.40
29	A1	1152	C	C6-N1-C2	-5.56	118.08	120.30
53	A3	716	A	N3-C4-N9	5.56	131.85	127.40
53	A3	1408	C	C6-N1-C2	-5.56	118.08	120.30
29	A1	2430	C	N1-C2-O2	5.56	122.23	118.90
29	A2	1300	G	C4-C5-N7	5.56	113.02	110.80
29	A2	2265	G	C4-N9-C1'	5.56	133.73	126.50
29	A2	2599	U	C5-C6-N1	5.56	125.48	122.70
53	A3	1059	G	C6-C5-N7	-5.56	127.06	130.40
29	A2	933	C	C6-N1-C2	5.56	122.52	120.30
53	A3	1222	G	C8-N9-C1'	-5.56	119.78	127.00
53	A4	1026	A	N3-C4-C5	-5.56	122.91	126.80
29	A1	1141	G	N3-C4-N9	5.56	129.33	126.00
29	A2	1227	C	C5-C4-N4	-5.56	116.31	120.20
29	A2	1394	G	N3-C4-N9	5.56	129.33	126.00
53	A3	48	C	C6-N1-C2	5.56	122.52	120.30
53	A4	609	U	C6-N1-C2	5.56	124.33	121.00
29	A1	148	C	C5-C6-N1	5.55	123.78	121.00
29	A1	2150	A	C2-N3-C4	5.55	113.38	110.60
29	A1	2369	C	C6-N1-C2	-5.55	118.08	120.30
29	A1	2581	G	C6-C5-N7	-5.55	127.07	130.40
29	A2	1826	C	C2-N1-C1'	5.55	124.91	118.80
29	A1	1865	C	C5-C6-N1	5.55	123.78	121.00
29	A1	1932	C	N3-C2-O2	-5.55	118.01	121.90
30	B1	86	C	C6-N1-C2	-5.55	118.08	120.30
29	A2	2602	G	C8-N9-C4	-5.55	104.18	106.40
53	A3	1334	G	C8-N9-C4	5.55	108.62	106.40
53	A4	716	A	C5-C6-N6	-5.55	119.26	123.70
29	A1	2004	G	N3-C4-C5	-5.55	125.82	128.60
23	Y2	31	LEU	CA-CB-CG	5.55	128.07	115.30
29	A2	585	C	O4'-C1'-N1	5.55	112.64	108.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2553	C	C5-C6-N1	5.55	123.78	121.00
29	A2	2725	A	N7-C8-N9	5.55	116.58	113.80
29	A2	2737	G	C8-N9-C4	-5.55	104.18	106.40
53	A3	359	A	C8-N9-C4	-5.55	103.58	105.80
53	A3	599	G	N3-C4-N9	5.55	129.33	126.00
29	A1	2416	C	N1-C2-O2	5.55	122.23	118.90
4	F2	106	LEU	CA-CB-CG	5.55	128.06	115.30
53	A3	185	C	N1-C2-O2	5.55	122.23	118.90
53	A4	763	A	C5-N7-C8	-5.55	101.13	103.90
53	A4	1351	C	C2-N1-C1'	5.55	124.90	118.80
29	A1	1957	G	N1-C6-O6	5.55	123.23	119.90
29	A2	768	C	C2-N3-C4	5.55	122.67	119.90
29	A2	798	C	N3-C2-O2	-5.55	118.02	121.90
29	A1	1031	A	N9-C4-C5	5.55	108.02	105.80
29	A1	1225	C	C6-N1-C1'	5.55	127.45	120.80
29	A2	533	G	N3-C4-N9	-5.55	122.67	126.00
29	A2	1955	U	C2-N1-C1'	5.55	124.36	117.70
53	A3	1463	G	C5-N7-C8	-5.55	101.53	104.30
29	A1	1045	G	C4-N9-C1'	5.54	133.71	126.50
29	A1	2027	G	N1-C2-N2	-5.54	111.21	116.20
29	A1	2044	A	C4-C5-C6	-5.54	114.23	117.00
29	A2	1271	G	C8-N9-C4	-5.54	104.18	106.40
53	A3	1422	C	N1-C2-O2	5.54	122.23	118.90
53	A4	91	G	O4'-C1'-N9	5.54	112.64	108.20
29	A1	1904	C	C6-N1-C2	-5.54	118.08	120.30
29	A1	2017	U	N3-C2-O2	-5.54	118.32	122.20
29	A2	768	C	C6-N1-C2	-5.54	118.08	120.30
29	A2	978	G	N3-C4-N9	-5.54	122.67	126.00
29	A2	2680	C	N3-C2-O2	-5.54	118.02	121.90
53	A4	735	G	N7-C8-N9	5.54	115.87	113.10
29	A1	1596	C	C6-N1-C2	-5.54	118.08	120.30
29	A2	213	A	N1-C6-N6	-5.54	115.28	118.60
29	A2	243	C	C6-N1-C2	-5.54	118.08	120.30
29	A2	1848	A	C8-N9-C4	5.54	108.02	105.80
29	A2	2092	U	N1-C2-O2	5.54	126.68	122.80
53	A3	411	G	N7-C8-N9	5.54	115.87	113.10
53	A3	550	G	N1-C2-N2	-5.54	111.21	116.20
53	A4	634	C	N3-C4-N4	5.54	121.88	118.00
53	A4	675	U	C6-N1-C2	-5.54	117.67	121.00
53	A3	931	G	C8-N9-C4	-5.54	104.18	106.40
53	A4	673	G	C4-N9-C1'	5.54	133.70	126.50
29	A1	458	A	C5-C6-N1	5.54	120.47	117.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2165	G	C6-C5-N7	-5.54	127.08	130.40
53	A4	1398	G	C8-N9-C4	-5.54	104.18	106.40
29	A1	278	G	N3-C4-C5	-5.54	125.83	128.60
29	A1	685	G	N3-C4-N9	5.54	129.32	126.00
29	A1	2028	G	C5-C6-N1	5.54	114.27	111.50
29	A2	1955	U	N3-C2-O2	-5.54	118.32	122.20
29	A2	1957	G	C2-N3-C4	-5.54	109.13	111.90
53	A4	544	U	C2-N1-C1'	-5.54	111.06	117.70
53	A4	805	C	C6-N1-C2	-5.54	118.08	120.30
29	A1	129	G	C8-N9-C4	5.54	108.61	106.40
29	A1	455	C	C6-N1-C2	-5.54	118.09	120.30
29	A1	1930	G	C8-N9-C4	5.54	108.61	106.40
29	A1	1931	G	C5-C6-N1	5.54	114.27	111.50
29	A1	2149	G	N7-C8-N9	5.54	115.87	113.10
29	A2	119	G	C4-C5-N7	5.54	113.02	110.80
29	A2	212	A	C4-C5-N7	5.54	113.47	110.70
29	A2	827	G	N3-C2-N2	-5.54	116.03	119.90
29	A2	1263	G	C6-C5-N7	-5.54	127.08	130.40
29	A2	1397	A	N1-C6-N6	-5.54	115.28	118.60
53	A3	108	G	P-O3'-C3'	5.54	126.34	119.70
53	A3	302	C	N1-C2-O2	5.54	122.22	118.90
29	A1	112	U	C5-C6-N1	-5.53	119.93	122.70
29	A1	417	G	C2-N3-C4	5.53	114.67	111.90
29	A1	986	G	N7-C8-N9	5.53	115.87	113.10
29	A1	1242	G	C4-C5-N7	5.53	113.01	110.80
29	A2	1179	G	N1-C6-O6	-5.53	116.58	119.90
29	A2	1513	C	O4'-C1'-N1	5.53	112.63	108.20
53	A3	267	C	N1-C2-O2	5.53	122.22	118.90
53	A4	1025	C	N1-C2-O2	5.53	122.22	118.90
53	A4	1481	G	C5-C6-N1	5.53	114.27	111.50
29	A1	95	G	C8-N9-C4	5.53	108.61	106.40
53	A3	1157	A	N1-C6-N6	5.53	121.92	118.60
53	A4	1381	C	C2-N3-C4	-5.53	117.13	119.90
29	A1	672	C	C6-N1-C2	-5.53	118.09	120.30
29	A1	1644	A	C5-C6-N6	-5.53	119.28	123.70
29	A1	2190	G	N1-C6-O6	5.53	123.22	119.90
29	A2	808	G	C4-C5-N7	5.53	113.01	110.80
53	A4	970	G	C5-C6-O6	-5.53	125.28	128.60
53	A4	1446	G	N3-C4-N9	5.53	129.32	126.00
29	A2	1420	U	N3-C2-O2	-5.53	118.33	122.20
53	A4	550	G	N1-C2-N2	-5.53	111.22	116.20
29	A1	409	G	C4-N9-C1'	5.53	133.69	126.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1352	C	C4-C5-C6	-5.53	114.64	117.40
29	A1	1425	G	C8-N9-C4	-5.53	104.19	106.40
29	A2	768	C	C5-C6-N1	5.53	123.76	121.00
29	A2	1425	G	C8-N9-C4	-5.53	104.19	106.40
29	A2	1648	C	N1-C2-O2	5.53	122.22	118.90
53	A3	84	C	N1-C2-O2	5.53	122.22	118.90
53	A4	969	U	P-O3'-C3'	5.53	126.33	119.70
29	A1	938	C	N3-C2-O2	-5.53	118.03	121.90
29	A1	1834	G	N3-C4-N9	5.53	129.32	126.00
29	A2	1905	C	C5-C6-N1	5.53	123.76	121.00
29	A2	2273	G	N9-C4-C5	-5.53	103.19	105.40
53	A3	1348	C	C6-N1-C2	-5.52	118.09	120.30
29	A1	973	C	C5-C4-N4	-5.52	116.33	120.20
29	A1	2853	C	N3-C4-C5	5.52	124.11	121.90
29	A2	1622	G	C8-N9-C4	-5.52	104.19	106.40
29	A2	1857	G	C2-N3-C4	-5.52	109.14	111.90
29	A2	2198	C	N3-C2-O2	-5.52	118.03	121.90
53	A4	770	A	N9-C4-C5	-5.52	103.59	105.80
53	A4	1178	G	N3-C4-C5	-5.52	125.84	128.60
29	A1	421	C	N1-C2-O2	5.52	122.21	118.90
29	A1	624	G	N3-C4-N9	-5.52	122.69	126.00
29	A1	1298	G	C4-N9-C1'	5.52	133.68	126.50
29	A1	1951	A	C4-C5-N7	5.52	113.46	110.70
29	A1	2353	G	N3-C4-N9	5.52	129.31	126.00
29	A2	810	A	C4-C5-C6	-5.52	114.24	117.00
29	A2	1530	U	C5-C6-N1	5.52	125.46	122.70
29	A2	2228	C	C6-N1-C1'	5.52	127.42	120.80
53	A3	283	A	N9-C4-C5	-5.52	103.59	105.80
53	A3	545	C	C6-N1-C2	-5.52	118.09	120.30
53	A3	1504	C	N3-C2-O2	-5.52	118.04	121.90
53	A4	769	G	C5-C6-N1	5.52	114.26	111.50
53	A4	1222	G	C6-C5-N7	-5.52	127.09	130.40
29	A1	1833	C	N3-C2-O2	-5.52	118.04	121.90
29	A1	2061	G	C4-C5-N7	5.52	113.01	110.80
29	A2	877	U	O4'-C1'-N1	5.52	112.61	108.20
29	A2	2873	G	N3-C4-C5	-5.52	125.84	128.60
53	A3	58	C	N1-C2-O2	5.52	122.21	118.90
53	A4	397	G	C8-N9-C4	-5.52	104.19	106.40
29	A1	1189	U	C2-N1-C1'	5.52	124.32	117.70
29	A1	2051	G	C8-N9-C1'	-5.52	119.83	127.00
29	A2	17	G	N7-C8-N9	5.52	115.86	113.10
29	A2	2841	C	C2-N3-C4	-5.52	117.14	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	690	C	C2-N1-C1'	5.51	124.87	118.80
29	A1	1417	G	C8-N9-C4	-5.51	104.19	106.40
29	A1	1734	C	N3-C4-C5	5.51	124.11	121.90
29	A1	1889	G	C6-C5-N7	-5.51	127.09	130.40
29	A1	2012	C	N3-C2-O2	-5.51	118.04	121.90
29	A2	973	C	N3-C4-C5	5.51	124.11	121.90
29	A2	1199	G	N3-C4-N9	5.51	129.31	126.00
29	A2	1404	G	C4-C5-N7	5.51	113.01	110.80
29	A2	1716	G	N3-C4-C5	-5.51	125.84	128.60
53	A4	494	C	C5-C4-N4	-5.51	116.34	120.20
29	A1	624	G	N3-C4-C5	5.51	131.36	128.60
29	A1	2650	U	N1-C2-O2	5.51	126.66	122.80
29	A1	2664	U	C5-C6-N1	5.51	125.46	122.70
29	A2	1608	G	C4-N9-C1'	5.51	133.67	126.50
53	A3	699	A	C5-N7-C8	-5.51	101.14	103.90
29	A1	1386	G	O4'-C1'-N9	5.51	112.61	108.20
29	A1	1921	G	N7-C8-N9	5.51	115.86	113.10
29	A2	1461	G	C6-C5-N7	-5.51	127.09	130.40
29	A2	2100	U	O4'-C1'-N1	5.51	112.61	108.20
53	A3	185	C	N3-C2-O2	-5.51	118.04	121.90
53	A4	949	C	C6-N1-C2	-5.51	118.09	120.30
53	A4	1205	G	C4-C5-N7	5.51	113.00	110.80
29	A1	322	C	N3-C2-O2	-5.51	118.04	121.90
29	A1	2737	G	C6-C5-N7	-5.51	127.09	130.40
29	A2	1045	G	N3-C4-N9	5.51	129.31	126.00
53	A4	750	A	O5'-P-OP2	-5.51	100.74	105.70
53	A4	1381	C	N3-C2-O2	-5.51	118.04	121.90
29	A1	2243	C	C5-C6-N1	5.51	123.75	121.00
29	A1	2474	U	N1-C2-O2	5.51	126.66	122.80
29	A1	2687	G	N9-C4-C5	-5.51	103.20	105.40
29	A2	1905	C	N1-C2-O2	5.51	122.20	118.90
29	A2	2706	C	N1-C2-O2	5.51	122.20	118.90
53	A3	571	G	C5-C6-N1	5.51	114.25	111.50
53	A3	1307	C	C5-C4-N4	-5.51	116.34	120.20
29	A2	1834	G	C6-C5-N7	-5.51	127.10	130.40
29	A2	2027	G	N1-C2-N2	-5.51	111.24	116.20
29	A2	2322	G	C8-N9-C1'	-5.51	119.84	127.00
30	B2	47	A	C2-N3-C4	5.51	113.35	110.60
53	A4	78	G	C5-C6-O6	-5.51	125.30	128.60
29	A2	1850	G	C8-N9-C1'	-5.50	119.84	127.00
53	A4	620	G	C8-N9-C1'	-5.50	119.84	127.00
53	A4	730	C	C2-N1-C1'	5.50	124.86	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2656	G	C5-N7-C8	-5.50	101.55	104.30
29	A2	1972	G	C8-N9-C4	5.50	108.60	106.40
29	A2	2254	C	C2-N3-C4	5.50	122.65	119.90
29	A2	2401	U	C5-C6-N1	5.50	125.45	122.70
53	A3	1446	G	N3-C4-N9	5.50	129.30	126.00
29	A1	121	G	C4-C5-N7	5.50	113.00	110.80
29	A1	1269	C	N3-C4-C5	5.50	124.10	121.90
29	A1	1546	C	C6-N1-C2	-5.50	118.10	120.30
29	A1	2456	C	C6-N1-C2	-5.50	118.10	120.30
29	A2	1830	C	N3-C2-O2	-5.50	118.05	121.90
29	A1	2572	C	C6-N1-C2	-5.50	118.10	120.30
53	A3	311	G	N3-C4-C5	-5.50	125.85	128.60
29	A1	1705	C	C2-N3-C4	-5.50	117.15	119.90
29	A1	2539	G	C4-C5-N7	5.50	113.00	110.80
29	A2	1706	C	N3-C2-O2	-5.50	118.05	121.90
29	A2	1957	G	N1-C6-O6	5.50	123.20	119.90
29	A1	481	C	C2-N1-C1'	5.50	124.85	118.80
29	A1	1905	C	C5-C6-N1	5.50	123.75	121.00
29	A1	2260	G	N3-C4-N9	5.50	129.30	126.00
29	A2	929	G	C8-N9-C4	-5.50	104.20	106.40
29	A2	1756	G	C6-C5-N7	-5.50	127.10	130.40
29	A2	2040	U	N3-C2-O2	-5.50	118.35	122.20
53	A3	1087	A	N9-C4-C5	-5.50	103.60	105.80
53	A3	1158	G	N3-C2-N2	5.50	123.75	119.90
53	A4	242	G	N1-C6-O6	5.50	123.20	119.90
29	A2	1238	G	C8-N9-C4	5.50	108.60	106.40
53	A3	1380	A	C2-N3-C4	5.50	113.35	110.60
29	A1	1624	C	N3-C2-O2	-5.49	118.05	121.90
29	A1	1718	A	C8-N9-C1'	-5.49	117.81	127.70
29	A1	1850	G	N9-C4-C5	-5.49	103.20	105.40
29	A1	2178	G	C8-N9-C4	-5.49	104.20	106.40
29	A2	999	G	C8-N9-C4	5.49	108.60	106.40
53	A3	714	G	C5-C6-N1	-5.49	108.75	111.50
53	A3	1014	G	N3-C4-C5	-5.49	125.85	128.60
53	A4	620	G	N9-C4-C5	-5.49	103.20	105.40
53	A4	1311	U	C2-N1-C1'	5.49	124.29	117.70
29	A1	921	A	C8-N9-C4	-5.49	103.60	105.80
29	A1	1864	G	C4-C5-N7	5.49	113.00	110.80
29	A2	803	C	N3-C2-O2	-5.49	118.06	121.90
53	A3	233	G	C4-N9-C1'	5.49	133.64	126.50
29	A1	353	U	C5-C6-N1	5.49	125.44	122.70
29	A1	1727	G	C5-N7-C8	-5.49	101.55	104.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2243	C	C5-C4-N4	-5.49	116.36	120.20
29	A2	1172	C	N1-C2-O2	5.49	122.19	118.90
29	A2	1720	U	C5-C6-N1	5.49	125.44	122.70
53	A4	1228	U	C6-N1-C2	-5.49	117.70	121.00
53	A4	1299	A	N1-C6-N6	5.49	121.89	118.60
53	A4	1405	G	N3-C4-C5	-5.49	125.86	128.60
29	A1	93	G	C6-C5-N7	-5.49	127.11	130.40
29	A1	2591	A	N7-C8-N9	5.49	116.54	113.80
53	A3	323	C	N1-C2-O2	5.49	122.19	118.90
53	A4	64	G	C8-N9-C4	-5.49	104.20	106.40
29	A1	881	G	C6-C5-N7	-5.49	127.11	130.40
29	A1	1382	G	C4-N9-C1'	5.49	133.63	126.50
30	B1	79	U	N1-C2-O2	5.49	126.64	122.80
53	A3	1387	G	C8-N9-C1'	5.49	134.13	127.00
29	A1	1420	U	C2-N1-C1'	5.49	124.28	117.70
29	A1	1649	G	C5-C6-N1	5.49	114.24	111.50
29	A2	39	C	N3-C2-O2	-5.49	118.06	121.90
29	A2	2090	C	N1-C2-O2	5.49	122.19	118.90
53	A4	582	C	C6-N1-C1'	-5.49	114.22	120.80
53	A3	1339	U	C2-N1-C1'	5.48	124.28	117.70
53	A4	838	G	N3-C4-N9	5.48	129.29	126.00
29	A1	2523	G	C5-C6-O6	-5.48	125.31	128.60
29	A2	35	G	C6-N1-C2	-5.48	121.81	125.10
29	A2	408	U	C6-N1-C2	-5.48	117.71	121.00
29	A2	1255	C	N3-C2-O2	-5.48	118.06	121.90
53	A3	184	C	N3-C4-C5	5.48	124.09	121.90
53	A3	580	G	C5-N7-C8	-5.48	101.56	104.30
53	A4	308	A	N1-C6-N6	-5.48	115.31	118.60
53	A4	1504	C	N3-C2-O2	-5.48	118.06	121.90
29	A1	481	C	C6-N1-C2	-5.48	118.11	120.30
29	A1	1239	G	C4-C5-N7	5.48	112.99	110.80
29	A2	2864	G	C6-C5-N7	-5.48	127.11	130.40
53	A4	1387	G	C2-N3-C4	-5.48	109.16	111.90
53	A4	1404	G	C5-C6-O6	-5.48	125.31	128.60
29	A1	690	C	N1-C2-O2	5.48	122.19	118.90
29	A1	1389	U	N1-C2-O2	5.48	126.64	122.80
29	A1	1825	G	C4-C5-N7	5.48	112.99	110.80
53	A3	873	C	N1-C2-O2	5.48	122.19	118.90
53	A3	930	G	C5-C6-N1	5.48	114.24	111.50
29	A1	191	C	C2-N1-C1'	5.48	124.83	118.80
29	A2	2081	A	N7-C8-N9	5.48	116.54	113.80
53	A4	103	C	N3-C4-C5	5.48	124.09	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1548	G	C5-C6-O6	-5.48	125.31	128.60
29	A1	2864	G	C8-N9-C4	-5.48	104.21	106.40
29	A2	1418	C	C6-N1-C2	-5.48	118.11	120.30
29	A1	2096	G	C8-N9-C1'	-5.47	119.88	127.00
29	A2	1417	G	C6-C5-N7	-5.47	127.11	130.40
29	A2	1673	C	C5-C6-N1	5.47	123.74	121.00
29	A2	2053	G	C5-C6-O6	-5.47	125.31	128.60
53	A3	197	G	C4-C5-N7	5.47	112.99	110.80
53	A3	207	C	C6-N1-C2	-5.47	118.11	120.30
53	A4	171	C	N1-C2-O2	5.47	122.19	118.90
53	A4	1463	G	N3-C4-N9	-5.47	122.72	126.00
29	A1	1352	C	N1-C2-O2	5.47	122.18	118.90
29	A1	2080	G	C5-N7-C8	-5.47	101.56	104.30
29	A1	2128	G	O4'-C1'-N9	5.47	112.58	108.20
29	A2	343	C	N1-C2-O2	5.47	122.18	118.90
29	A2	1703	A	O5'-P-OP1	-5.47	100.78	105.70
53	A4	933	U	N1-C2-N3	5.47	118.18	114.90
29	A1	2742	G	N1-C6-O6	-5.47	116.62	119.90
29	A2	2414	G	C8-N9-C4	-5.47	104.21	106.40
53	A3	964	G	C5-N7-C8	-5.47	101.56	104.30
29	A2	95	G	C4-N9-C1'	-5.47	119.39	126.50
29	A2	2552	C	N3-C2-O2	-5.47	118.07	121.90
29	A2	2572	C	C6-N1-C2	-5.47	118.11	120.30
29	A2	2603	A	C5-C6-N1	5.47	120.44	117.70
29	A2	2664	U	C5-C6-N1	5.47	125.44	122.70
53	A4	1506	G	C4-C5-N7	5.47	112.99	110.80
29	A1	2085	G	O4'-C1'-N9	5.47	112.57	108.20
53	A3	135	A	N7-C8-N9	5.47	116.53	113.80
29	A1	1549	C	C2-N1-C1'	5.47	124.81	118.80
29	A1	2832	A	O4'-C1'-N9	5.47	112.57	108.20
29	A2	503	U	C5-C6-N1	5.47	125.43	122.70
29	A2	969	G	N1-C2-N2	-5.47	111.28	116.20
29	A2	1308	G	C8-N9-C4	5.47	108.59	106.40
29	A2	1889	G	N3-C4-C5	-5.47	125.87	128.60
29	A2	2684	A	C5-C6-N1	5.47	120.43	117.70
53	A3	424	U	O4'-C1'-N1	5.47	112.57	108.20
53	A3	672	C	C6-N1-C1'	-5.47	114.24	120.80
29	A1	141	C	C6-N1-C2	-5.46	118.11	120.30
29	A1	2216	G	C5-N7-C8	5.46	107.03	104.30
29	A2	986	G	N7-C8-N9	5.46	115.83	113.10
29	A2	1706	C	N3-C4-C5	5.46	124.09	121.90
29	A2	2051	G	C8-N9-C1'	-5.46	119.89	127.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2227	U	C6-N1-C2	-5.46	117.72	121.00
29	A2	95	G	C8-N9-C4	5.46	108.58	106.40
29	A2	1804	C	C5-C6-N1	-5.46	118.27	121.00
53	A4	1236	G	N9-C4-C5	-5.46	103.22	105.40
29	A1	872	G	C5-N7-C8	-5.46	101.57	104.30
29	A1	2184	G	C8-N9-C4	-5.46	104.22	106.40
29	A2	205	G	C4-C5-N7	5.46	112.98	110.80
53	A3	794	C	C5-C6-N1	5.46	123.73	121.00
53	A3	1222	G	N3-C4-N9	5.46	129.28	126.00
53	A4	597	A	N1-C6-N6	5.46	121.88	118.60
53	A4	638	A	C4-C5-C6	-5.46	114.27	117.00
29	A1	909	U	N1-C2-O2	5.46	126.62	122.80
29	A1	1454	U	C6-N1-C2	-5.46	117.72	121.00
29	A2	852	U	C5-C6-N1	5.46	125.43	122.70
29	A2	1137	G	C4-N9-C1'	5.46	133.60	126.50
29	A2	1907	G	C4-N9-C1'	5.46	133.60	126.50
29	A1	1415	A	N7-C8-N9	5.46	116.53	113.80
29	A1	1652	C	N1-C2-N3	5.46	123.02	119.20
29	A1	2059	G	C4-C5-N7	5.46	112.98	110.80
29	A1	2059	G	N1-C2-N2	-5.46	111.29	116.20
29	A2	237	G	N3-C4-N9	5.46	129.28	126.00
29	A2	1463	U	N1-C2-O2	5.46	126.62	122.80
29	A2	2428	G	C8-N9-C1'	-5.46	119.90	127.00
53	A4	1281	G	C8-N9-C1'	5.46	134.10	127.00
53	A4	1390	A	C5-N7-C8	-5.46	101.17	103.90
29	A1	989	G	C8-N9-C4	5.46	108.58	106.40
29	A1	1636	C	C5-C6-N1	5.46	123.73	121.00
29	A2	595	G	C8-N9-C4	-5.46	104.22	106.40
29	A2	1549	C	C6-N1-C2	-5.46	118.12	120.30
29	A2	2251	G	N1-C6-O6	5.46	123.17	119.90
29	A1	1916	C	C2-N1-C1'	5.46	124.80	118.80
29	A1	2088	C	C6-N1-C2	-5.46	118.12	120.30
53	A4	309	C	C6-N1-C2	-5.46	118.12	120.30
53	A4	1248	C	C6-N1-C2	-5.46	118.12	120.30
29	A1	503	U	C5-C6-N1	5.45	125.43	122.70
29	A1	854	G	C4-N9-C1'	-5.45	119.41	126.50
29	A2	17	G	C6-C5-N7	-5.45	127.13	130.40
29	A2	1727	G	C5-N7-C8	-5.45	101.57	104.30
29	A2	2176	G	C8-N9-C1'	-5.45	119.91	127.00
29	A2	2718	C	C6-N1-C2	-5.45	118.12	120.30
53	A3	589	G	C6-C5-N7	-5.45	127.13	130.40
53	A3	763	A	C6-C5-N7	-5.45	128.48	132.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	948	G	OP2-P-O3'	5.45	117.20	105.20
53	A4	1397	G	N9-C4-C5	5.45	107.58	105.40
29	A1	119	G	C6-C5-N7	-5.45	127.13	130.40
29	A1	2139	G	N7-C8-N9	5.45	115.83	113.10
29	A1	2516	G	C5-C6-N1	5.45	114.23	111.50
29	A1	2781	G	N7-C8-N9	5.45	115.83	113.10
29	A1	2841	C	C2-N3-C4	-5.45	117.17	119.90
53	A3	459	G	C4-C5-N7	5.45	112.98	110.80
53	A4	142	G	N3-C4-N9	5.45	129.27	126.00
29	A1	1037	G	N3-C4-C5	-5.45	125.88	128.60
29	A1	1855	G	N3-C4-N9	5.45	129.27	126.00
29	A2	2395	C	N3-C4-C5	5.45	124.08	121.90
53	A3	1098	C	C6-N1-C2	-5.45	118.12	120.30
29	A1	1825	G	N9-C4-C5	-5.45	103.22	105.40
29	A1	1916	C	C4-C5-C6	-5.45	114.67	117.40
29	A1	2688	G	C6-C5-N7	-5.45	127.13	130.40
53	A3	27	G	C8-N9-C4	5.45	108.58	106.40
53	A3	1400	A	O4'-C1'-N9	5.45	112.56	108.20
53	A4	337	C	N3-C2-O2	-5.45	118.09	121.90
53	A4	540	G	C4-C5-N7	5.45	112.98	110.80
29	A1	17	G	C6-C5-N7	-5.45	127.13	130.40
29	A1	2586	A	N9-C4-C5	-5.45	103.62	105.80
29	A2	464	C	N1-C2-O2	5.45	122.17	118.90
29	A2	616	C	N3-C2-O2	-5.45	118.09	121.90
29	A2	2252	G	N3-C4-C5	-5.45	125.88	128.60
30	B2	79	U	N1-C2-O2	5.45	126.61	122.80
29	A1	464	C	N1-C2-O2	5.45	122.17	118.90
29	A1	1842	A	N1-C6-N6	-5.45	115.33	118.60
29	A1	2165	G	C2-N3-C4	5.45	114.62	111.90
29	A1	2606	G	N3-C4-C5	-5.45	125.88	128.60
29	A2	476	U	C5-C6-N1	5.45	125.42	122.70
29	A2	825	G	C4-N9-C1'	5.45	133.58	126.50
29	A2	827	G	C8-N9-C4	-5.45	104.22	106.40
53	A3	549	G	N9-C4-C5	-5.45	103.22	105.40
53	A3	748	G	N7-C8-N9	5.45	115.82	113.10
53	A3	931	G	N3-C4-N9	-5.45	122.73	126.00
53	A4	620	G	C6-C5-N7	-5.45	127.13	130.40
53	A4	1450	A	C4-N9-C1'	5.45	136.10	126.30
29	A1	585	C	N3-C2-O2	-5.44	118.09	121.90
29	A1	851	A	C5-C6-N1	5.44	120.42	117.70
29	A2	679	C	N3-C2-O2	-5.44	118.09	121.90
29	A2	1429	G	C6-C5-N7	-5.44	127.13	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	114	C	N1-C2-O2	5.44	122.17	118.90
29	A1	183	U	C6-N1-C2	-5.44	117.73	121.00
29	A1	870	A	C8-N9-C4	-5.44	103.62	105.80
29	A2	2849	G	N3-C2-N2	5.44	123.71	119.90
29	A1	466	G	N3-C4-C5	-5.44	125.88	128.60
29	A2	1632	A	N3-C4-C5	-5.44	122.99	126.80
30	B2	97	C	C6-N1-C2	-5.44	118.12	120.30
53	A4	1276	G	N3-C4-N9	5.44	129.26	126.00
29	A2	1948	C	C5-C6-N1	5.44	123.72	121.00
29	A2	2877	U	O4'-C1'-N1	5.44	112.55	108.20
53	A3	576	G	C8-N9-C4	-5.44	104.22	106.40
53	A3	825	C	C2-N1-C1'	-5.44	112.82	118.80
53	A3	1288	U	C5-C6-N1	5.44	125.42	122.70
53	A4	955	A	C2-N3-C4	5.44	113.32	110.60
53	A4	1268	A	C8-N9-C4	-5.44	103.62	105.80
29	A1	236	C	C5-C6-N1	5.44	123.72	121.00
29	A1	641	G	O4'-C1'-N9	5.44	112.55	108.20
29	A1	1239	G	N1-C6-O6	5.44	123.16	119.90
29	A1	1756	G	C6-C5-N7	-5.44	127.14	130.40
53	A3	1198	C	O4'-C1'-N1	5.44	112.55	108.20
53	A4	87	C	N3-C2-O2	-5.44	118.09	121.90
29	A1	2022	G	N1-C2-N2	-5.44	111.31	116.20
29	A2	590	C	N3-C2-O2	-5.44	118.09	121.90
29	A2	1197	G	C6-C5-N7	5.44	133.66	130.40
29	A2	1765	G	C5-C6-O6	-5.44	125.34	128.60
53	A3	1193	U	N3-C2-O2	-5.44	118.39	122.20
53	A4	550	G	C6-C5-N7	-5.44	127.14	130.40
29	A1	197	A	C4-C5-N7	5.43	113.42	110.70
29	A1	1076	A	N1-C6-N6	-5.43	115.34	118.60
29	A1	1209	C	C6-N1-C2	-5.43	118.13	120.30
29	A1	1301	A	N1-C6-N6	-5.43	115.34	118.60
29	A1	1804	C	C5-C6-N1	-5.43	118.28	121.00
29	A1	95	G	N3-C4-C5	5.43	131.32	128.60
29	A1	391	G	C8-N9-C1'	5.43	134.06	127.00
29	A1	1307	G	N1-C6-O6	-5.43	116.64	119.90
29	A1	1711	C	N1-C2-N3	5.43	123.00	119.20
29	A1	2252	G	N3-C4-N9	5.43	129.26	126.00
29	A1	2626	C	C6-N1-C2	5.43	122.47	120.30
29	A2	1592	C	C6-N1-C1'	-5.43	114.28	120.80
29	A2	2423	G	N3-C2-N2	5.43	123.70	119.90
29	A2	2444	A	C5-C6-N6	-5.43	119.35	123.70
29	A2	2552	C	C6-N1-C2	-5.43	118.13	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1481	G	O5'-P-OP2	-5.43	100.81	105.70
53	A4	1047	U	C5-C4-O4	-5.43	122.64	125.90
29	A1	1014	C	C6-N1-C2	-5.43	118.13	120.30
29	A1	938	C	O4'-C1'-N1	5.43	112.54	108.20
29	A2	170	G	N1-C6-O6	5.43	123.16	119.90
29	A2	737	U	C4-C5-C6	-5.43	116.44	119.70
29	A2	1921	G	C4-N9-C1'	5.43	133.56	126.50
53	A3	496	C	C2-N1-C1'	5.43	124.77	118.80
33	C4	52	LEU	CA-CB-CG	5.43	127.79	115.30
53	A4	98	G	C6-N1-C2	-5.43	121.84	125.10
53	A4	160	G	N9-C4-C5	-5.43	103.23	105.40
53	A4	580	G	C5-N7-C8	-5.43	101.58	104.30
53	A4	767	C	C2-N1-C1'	5.43	124.77	118.80
29	A1	170	G	N7-C8-N9	5.43	115.81	113.10
29	A1	181	A	C8-N9-C4	-5.43	103.63	105.80
29	A1	2760	C	C6-N1-C2	-5.43	118.13	120.30
29	A2	1300	G	N1-C6-O6	5.43	123.16	119.90
53	A4	285	C	N3-C2-O2	-5.43	118.10	121.90
30	B1	85	G	C4-C5-N7	5.43	112.97	110.80
29	A2	290	G	N3-C4-N9	-5.43	122.74	126.00
29	A2	323	G	N9-C4-C5	-5.43	103.23	105.40
29	A2	2005	A	C5-N7-C8	-5.43	101.19	103.90
53	A3	160	G	N3-C4-N9	5.43	129.26	126.00
53	A3	349	G	C6-C5-N7	-5.43	127.14	130.40
53	A3	776	U	C5-C6-N1	5.43	125.41	122.70
53	A3	1262	U	N1-C2-O2	5.43	126.60	122.80
53	A4	212	C	O4'-C1'-N1	5.43	112.54	108.20
53	A4	766	C	N3-C2-O2	-5.43	118.10	121.90
53	A4	772	U	C5-C4-O4	5.43	129.16	125.90
53	A4	1244	C	C5-C4-N4	-5.43	116.40	120.20
5	G1	152	ARG	C-N-CA	5.42	135.26	121.70
29	A1	199	C	N1-C2-O2	5.42	122.16	118.90
29	A1	1673	C	C5-C6-N1	5.42	123.71	121.00
29	A1	1809	G	C8-N9-C1'	-5.42	119.95	127.00
29	A1	1868	G	N9-C4-C5	-5.42	103.23	105.40
29	A2	76	C	C6-N1-C2	-5.42	118.13	120.30
29	A2	909	U	C5-C6-N1	5.42	125.41	122.70
53	A3	267	C	N3-C2-O2	-5.42	118.10	121.90
53	A3	579	C	O4'-C1'-N1	5.42	112.54	108.20
53	A3	1474	G	C4-N9-C1'	-5.42	119.45	126.50
53	A4	917	C	N1-C2-N3	5.42	123.00	119.20
29	A2	1138	U	N1-C2-O2	5.42	126.60	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1824	A	N3-C4-C5	5.42	130.60	126.80
29	A2	2028	G	C5-C6-N1	5.42	114.21	111.50
53	A3	210	U	N1-C2-O2	5.42	126.59	122.80
53	A4	58	C	N1-C2-O2	5.42	122.15	118.90
53	A4	74	C	C6-N1-C2	-5.42	118.13	120.30
53	A4	754	G	C8-N9-C4	-5.42	104.23	106.40
53	A4	1446	G	N9-C4-C5	-5.42	103.23	105.40
29	A1	2521	C	C2-N1-C1'	5.42	124.76	118.80
29	A1	955	U	C5-C6-N1	5.42	125.41	122.70
29	A1	1497	G	N3-C4-C5	-5.42	125.89	128.60
29	A1	1685	C	N3-C2-O2	-5.42	118.11	121.90
29	A1	1862	A	N7-C8-N9	5.42	116.51	113.80
29	A1	1935	U	C5-C6-N1	5.42	125.41	122.70
29	A2	996	C	N3-C2-O2	-5.42	118.11	121.90
29	A2	2662	C	N3-C4-C5	5.42	124.07	121.90
53	A3	71	C	C5-C6-N1	5.42	123.71	121.00
53	A3	750	A	OP1-P-OP2	-5.42	111.47	119.60
53	A3	1026	A	N3-C4-N9	5.42	131.73	127.40
53	A4	314	G	N3-C4-C5	-5.42	125.89	128.60
53	A4	939	C	C6-N1-C2	-5.42	118.13	120.30
53	A4	1502	G	O4'-C1'-N9	5.42	112.53	108.20
29	A2	1680	A	O4'-C1'-N9	5.42	112.53	108.20
29	A2	1809	G	C8-N9-C1'	-5.42	119.96	127.00
53	A3	565	U	N1-C2-O2	5.42	126.59	122.80
1	C1	234	GLY	N-CA-C	-5.41	99.57	113.10
29	A1	622	U	N3-C2-O2	-5.41	118.41	122.20
29	A1	2475	C	N3-C2-O2	-5.41	118.11	121.90
29	A1	2672	C	C6-N1-C2	-5.41	118.13	120.30
29	A2	830	A	C2-N3-C4	-5.41	107.89	110.60
29	A2	1636	C	C6-N1-C2	-5.41	118.14	120.30
29	A2	2265	G	N1-C2-N2	-5.41	111.33	116.20
29	A2	2497	C	C5-C6-N1	5.41	123.71	121.00
53	A3	1104	U	C5-C6-N1	-5.41	119.99	122.70
53	A4	932	U	C5-C4-O4	5.41	129.15	125.90
29	A1	1714	A	N1-C6-N6	5.41	121.85	118.60
29	A1	2016	G	N3-C4-C5	-5.41	125.89	128.60
29	A2	782	G	C5-N7-C8	-5.41	101.59	104.30
29	A2	1308	G	N1-C6-O6	-5.41	116.65	119.90
30	B2	19	C	C6-N1-C2	-5.41	118.14	120.30
53	A3	1029	G	N3-C4-N9	-5.41	122.75	126.00
53	A4	1464	G	C5-C6-O6	-5.41	125.35	128.60
29	A1	549	G	C4-C5-N7	5.41	112.96	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1242	G	C4-C5-N7	5.41	112.96	110.80
53	A4	1311	U	C5-C6-N1	5.41	125.40	122.70
29	A1	649	G	C4-N9-C1'	5.41	133.53	126.50
30	B1	24	U	N1-C2-O2	5.41	126.58	122.80
19	U2	163	LEU	CA-CB-CG	5.41	127.74	115.30
29	A2	1924	A	P-O3'-C3'	5.41	126.19	119.70
29	A2	2281	A	C4-N9-C1'	5.41	136.03	126.30
53	A3	346	G	N9-C4-C5	-5.41	103.24	105.40
53	A4	1000	G	C8-N9-C4	-5.41	104.24	106.40
29	A1	1449	G	C5-C6-O6	-5.41	125.36	128.60
29	A1	1796	G	N7-C8-N9	5.41	115.80	113.10
29	A2	1239	G	C6-C5-N7	-5.41	127.16	130.40
29	A2	1833	C	N3-C2-O2	-5.41	118.12	121.90
53	A3	991	G	C2-N3-C4	-5.41	109.20	111.90
53	A4	614	G	C8-N9-C1'	-5.41	119.97	127.00
53	A4	1281	G	N3-C4-N9	-5.41	122.76	126.00
29	A1	2845	G	C4-N9-C1'	5.40	133.53	126.50
29	A2	2251	G	C5-C6-O6	-5.40	125.36	128.60
53	A3	889	C	N3-C2-O2	-5.40	118.12	121.90
29	A1	1704	A	N1-C6-N6	5.40	121.84	118.60
29	A1	2192	G	N1-C2-N2	5.40	121.06	116.20
29	A1	2468	G	N1-C2-N3	5.40	127.14	123.90
29	A1	2650	U	C6-N1-C1'	-5.40	113.64	121.20
29	A2	2230	G	C8-N9-C4	-5.40	104.24	106.40
29	A2	2296	G	C4-C5-N7	5.40	112.96	110.80
29	A2	2606	G	C8-N9-C4	-5.40	104.24	106.40
53	A3	872	G	N7-C8-N9	5.40	115.80	113.10
53	A3	1144	C	N1-C2-O2	5.40	122.14	118.90
29	A1	1167	C	C6-N1-C2	-5.40	118.14	120.30
29	A1	2781	G	C4-N9-C1'	5.40	133.52	126.50
29	A2	491	G	C6-C5-N7	-5.40	127.16	130.40
29	A2	1833	C	N1-C2-O2	5.40	122.14	118.90
29	A2	1952	A	C5-N7-C8	-5.40	101.20	103.90
29	A2	2802	C	C5-C6-N1	5.40	123.70	121.00
53	A3	360	U	C6-N1-C1'	-5.40	113.64	121.20
53	A3	621	G	C8-N9-C4	5.40	108.56	106.40
53	A4	437	C	N1-C2-O2	5.40	122.14	118.90
29	A1	1184	G	C8-N9-C4	-5.40	104.24	106.40
53	A3	26	A	C5-C6-N1	5.40	120.40	117.70
53	A4	965	G	C4-N9-C1'	5.40	133.52	126.50
29	A1	2005	A	C5-N7-C8	-5.40	101.20	103.90
29	A2	1031	A	N1-C6-N6	-5.40	115.36	118.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1973	G	C2-N3-C4	-5.40	109.20	111.90
29	A2	2780	A	N3-C4-N9	5.40	131.72	127.40
53	A3	932	U	C2-N1-C1'	5.40	124.18	117.70
53	A4	1387	G	C4-N9-C1'	-5.40	119.48	126.50
29	A2	1298	G	N3-C4-N9	5.40	129.24	126.00
29	A2	1853	U	O4'-C1'-N1	-5.40	103.88	108.20
29	A1	1204	A	C8-N9-C4	5.39	107.96	105.80
29	A1	2591	A	C4-C5-N7	5.39	113.40	110.70
29	A2	2100	U	N3-C2-O2	-5.39	118.42	122.20
29	A2	2260	G	C4-N9-C1'	5.39	133.51	126.50
53	A3	272	C	N3-C2-O2	-5.39	118.12	121.90
53	A3	420	G	N3-C4-N9	5.39	129.24	126.00
53	A3	709	C	C6-N1-C2	-5.39	118.14	120.30
53	A3	917	C	C6-N1-C1'	5.39	127.27	120.80
53	A4	138	G	C5-N7-C8	-5.39	101.60	104.30
53	A4	1373	U	N1-C2-N3	5.39	118.14	114.90
53	A4	1398	G	C8-N9-C1'	-5.39	119.99	127.00
29	A1	824	G	N1-C6-O6	5.39	123.14	119.90
29	A1	2327	C	N1-C2-O2	5.39	122.14	118.90
29	A1	2407	A	N1-C2-N3	-5.39	126.60	129.30
29	A2	1528	G	C5-C6-O6	-5.39	125.36	128.60
53	A4	119	G	N1-C6-O6	5.39	123.14	119.90
53	A4	520	G	N3-C4-N9	5.39	129.24	126.00
53	A4	574	U	C6-N1-C2	-5.39	117.77	121.00
53	A4	794	C	C5-C6-N1	5.39	123.70	121.00
29	A1	728	C	C6-N1-C2	-5.39	118.14	120.30
29	A1	1300	G	C2-N3-C4	-5.39	109.20	111.90
29	A2	439	G	C4-C5-N7	5.39	112.95	110.80
29	A2	2577	U	N1-C2-O2	5.39	126.57	122.80
53	A3	573	C	N1-C2-O2	5.39	122.13	118.90
53	A3	639	C	C4-C5-C6	-5.39	114.71	117.40
53	A3	1272	G	C6-C5-N7	-5.39	127.17	130.40
33	C4	32	LEU	CA-CB-CG	5.39	127.69	115.30
53	A4	105	G	C8-N9-C1'	-5.39	119.99	127.00
53	A4	528	C	C2-N1-C1'	5.39	124.73	118.80
53	A4	730	C	N3-C2-O2	-5.39	118.13	121.90
53	A4	770	A	C5-C6-N1	5.39	120.39	117.70
54	V4	6	LEU	CA-CB-CG	5.39	127.70	115.30
29	A2	2520	U	C6-N1-C2	-5.39	117.77	121.00
29	A1	161	G	O4'-C1'-N9	5.39	112.51	108.20
29	A2	2492	A	C5-C6-N1	5.39	120.39	117.70
29	A2	2758	C	O4'-C1'-N1	5.39	112.51	108.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	74	C	C6-N1-C2	-5.39	118.14	120.30
29	A1	1836	A	C4-C5-C6	-5.38	114.31	117.00
29	A1	2414	G	N7-C8-N9	5.38	115.79	113.10
29	A1	2742	G	N3-C2-N2	5.38	123.67	119.90
30	B1	28	A	C5-C6-N1	5.38	120.39	117.70
30	B1	68	A	C8-N9-C4	5.38	107.95	105.80
29	A2	248	G	C5-C6-O6	-5.38	125.37	128.60
29	A2	647	G	N3-C4-N9	5.38	129.23	126.00
29	A2	839	C	C6-N1-C2	5.38	122.45	120.30
53	A3	459	G	C5-C6-O6	-5.38	125.37	128.60
53	A3	1098	C	C2-N1-C1'	5.38	124.72	118.80
53	A4	781	G	C5-C6-N1	5.38	114.19	111.50
29	A1	1312	G	C6-C5-N7	-5.38	127.17	130.40
29	A1	1680	A	O4'-C1'-N9	5.38	112.51	108.20
29	A1	2132	C	N1-C2-O2	5.38	122.13	118.90
29	A2	2728	A	O4'-C1'-N9	-5.38	103.89	108.20
53	A4	213	C	C6-N1-C2	-5.38	118.15	120.30
29	A1	616	C	N3-C2-O2	-5.38	118.13	121.90
29	A1	1460	A	N7-C8-N9	5.38	116.49	113.80
29	A2	2742	G	C5-C6-N1	5.38	114.19	111.50
53	A3	392	A	C5-C6-N1	5.38	120.39	117.70
53	A3	1361	G	C6-C5-N7	-5.38	127.17	130.40
53	A4	731	C	N3-C4-C5	-5.38	119.75	121.90
53	A4	772	U	C6-N1-C2	-5.38	117.77	121.00
53	A4	1090	G	C4-N9-C1'	-5.38	119.50	126.50
29	A1	1234	G	N9-C4-C5	-5.38	103.25	105.40
29	A2	1009	G	N3-C4-C5	-5.38	125.91	128.60
53	A3	768	G	C4-C5-N7	5.38	112.95	110.80
53	A3	928	G	N3-C4-N9	5.38	129.23	126.00
53	A4	615	A	C4-C5-N7	5.38	113.39	110.70
29	A1	1681	A	C8-N9-C4	-5.38	103.65	105.80
8	J2	8	LEU	CA-CB-CG	5.38	127.67	115.30
29	A2	1127	C	C5-C6-N1	5.38	123.69	121.00
29	A1	1684	G	C8-N9-C4	-5.38	104.25	106.40
29	A2	1997	G	C8-N9-C1'	-5.38	120.01	127.00
53	A3	387	G	C8-N9-C4	5.38	108.55	106.40
53	A4	337	C	C5-C6-N1	5.38	123.69	121.00
53	A4	1392	G	C4-N9-C1'	5.38	133.49	126.50
29	A1	1095	G	C6-C5-N7	-5.38	127.17	130.40
29	A2	1307	G	N1-C6-O6	-5.38	116.67	119.90
29	A2	2776	G	N3-C4-N9	5.38	129.22	126.00
53	A3	859	C	N3-C2-O2	-5.38	118.14	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	78	G	C6-C5-N7	-5.37	127.18	130.40
29	A1	426	G	N3-C4-N9	-5.37	122.78	126.00
29	A2	81	G	N3-C4-C5	-5.37	125.91	128.60
29	A2	1978	G	N1-C2-N2	-5.37	111.36	116.20
29	A2	2067	C	C6-N1-C2	-5.37	118.15	120.30
29	A2	2760	C	C5-C6-N1	5.37	123.69	121.00
53	A3	554	U	C4-C5-C6	5.37	122.92	119.70
53	A3	582	C	C5-C6-N1	5.37	123.69	121.00
53	A3	875	G	C8-N9-C4	5.37	108.55	106.40
53	A4	11	G	C8-N9-C4	5.37	108.55	106.40
53	A4	261	G	C6-C5-N7	-5.37	127.18	130.40
29	A1	860	U	C5-C6-N1	-5.37	120.01	122.70
29	A2	87	G	C5-C6-O6	-5.37	125.38	128.60
29	A2	1711	C	C2-N3-C4	-5.37	117.21	119.90
29	A2	2256	G	C8-N9-C4	-5.37	104.25	106.40
29	A2	2802	C	N3-C2-O2	-5.37	118.14	121.90
53	A3	278	C	C6-N1-C2	-5.37	118.15	120.30
53	A3	508	C	C2-N3-C4	-5.37	117.22	119.90
53	A3	558	G	C8-N9-C1'	5.37	133.98	127.00
53	A3	637	G	C6-N1-C2	-5.37	121.88	125.10
53	A3	937	U	N3-C2-O2	-5.37	118.44	122.20
53	A3	1212	G	N7-C8-N9	5.37	115.79	113.10
53	A4	886	A	C8-N9-C4	-5.37	103.65	105.80
53	A4	1299	A	C4-C5-N7	5.37	113.39	110.70
53	A4	1379	C	C6-N1-C1'	-5.37	114.35	120.80
53	A3	161	G	C4-C5-N7	5.37	112.95	110.80
53	A4	1272	G	N7-C8-N9	5.37	115.78	113.10
29	A1	1596	C	C5-C6-N1	5.37	123.68	121.00
29	A2	1889	G	N3-C4-N9	5.37	129.22	126.00
53	A4	489	G	C4-C5-N7	5.37	112.95	110.80
29	A2	654	A	C8-N9-C4	5.37	107.95	105.80
30	B2	9	G	C8-N9-C4	5.37	108.55	106.40
53	A3	1087	A	C8-N9-C4	-5.37	103.65	105.80
53	A4	741	G	N1-C6-O6	5.37	123.12	119.90
29	A1	1836	A	N3-C4-N9	-5.37	123.11	127.40
29	A2	186	A	C5-C6-N1	5.37	120.38	117.70
29	A2	556	A	C8-N9-C4	-5.37	103.65	105.80
29	A2	1478	C	C6-N1-C2	-5.37	118.15	120.30
29	A2	2022	G	N9-C4-C5	-5.37	103.25	105.40
53	A3	520	G	N3-C4-C5	-5.37	125.92	128.60
53	A3	985	C	C6-N1-C2	-5.37	118.15	120.30
53	A3	1178	G	C4-N9-C1'	5.37	133.47	126.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	I1	15	LEU	CA-CB-CG	5.36	127.64	115.30
29	A1	358	G	C4-C5-N7	5.36	112.94	110.80
29	A1	978	G	N3-C4-C5	5.36	131.28	128.60
29	A1	1969	G	C8-N9-C4	-5.36	104.25	106.40
29	A1	2018	C	C5-C6-N1	5.36	123.68	121.00
29	A1	2893	C	C5-C4-N4	-5.36	116.45	120.20
29	A2	966	A	C5-N7-C8	-5.36	101.22	103.90
29	A2	1449	G	C5-C6-O6	-5.36	125.38	128.60
29	A2	1834	G	C8-N9-C1'	-5.36	120.03	127.00
35	E3	43	LEU	CB-CG-CD2	-5.36	101.88	111.00
53	A3	348	A	N9-C4-C5	-5.36	103.66	105.80
29	A1	417	G	C6-C5-N7	-5.36	127.18	130.40
29	A1	1447	C	C2-N1-C1'	5.36	124.70	118.80
29	A2	1710	G	N3-C2-N2	5.36	123.65	119.90
53	A3	160	G	C6-C5-N7	-5.36	127.18	130.40
53	A3	482	A	C8-N9-C4	5.36	107.94	105.80
53	A3	1499	U	N3-C2-O2	-5.36	118.45	122.20
53	A4	527	G	C8-N9-C4	-5.36	104.25	106.40
29	A2	1481	U	N1-C2-O2	5.36	126.55	122.80
29	A2	2224	C	N3-C2-O2	-5.36	118.15	121.90
53	A3	1232	A	C4-C5-C6	-5.36	114.32	117.00
53	A3	1379	C	C6-N1-C2	-5.36	118.16	120.30
29	A1	1134	A	C8-N9-C1'	-5.36	118.05	127.70
29	A1	1727	G	C4-C5-N7	5.36	112.94	110.80
29	A2	495	G	C6-C5-N7	-5.36	127.19	130.40
53	A3	845	C	N3-C2-O2	-5.36	118.15	121.90
53	A4	577	G	N1-C2-N2	-5.36	111.38	116.20
29	A1	1791	G	O4'-C1'-N9	5.36	112.49	108.20
29	A1	2686	G	N3-C4-C5	5.36	131.28	128.60
29	A2	1819	A	N1-C6-N6	5.36	121.81	118.60
53	A4	240	C	C6-N1-C2	-5.36	118.16	120.30
29	A1	1418	C	C2-N1-C1'	5.36	124.69	118.80
29	A1	1928	G	C6-C5-N7	-5.36	127.19	130.40
29	A2	358	G	C4-C5-N7	5.36	112.94	110.80
29	A2	2385	G	N7-C8-N9	5.36	115.78	113.10
53	A3	210	U	C2-N1-C1'	5.36	124.13	117.70
53	A3	642	U	N1-C2-O2	5.36	126.55	122.80
53	A4	87	C	N1-C2-O2	5.36	122.11	118.90
53	A4	390	C	C6-N1-C2	-5.36	118.16	120.30
53	A4	587	G	C8-N9-C4	-5.36	104.26	106.40
53	A4	937	U	C5-C6-N1	5.36	125.38	122.70
29	A1	1199	G	N3-C4-N9	5.35	129.21	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2003	C	C6-N1-C2	-5.35	118.16	120.30
29	A1	2368	G	C8-N9-C1'	-5.35	120.04	127.00
29	A2	433	U	C5-C6-N1	5.35	125.38	122.70
29	A2	2117	G	C8-N9-C4	5.35	108.54	106.40
29	A2	2336	A	C8-N9-C4	-5.35	103.66	105.80
53	A3	411	G	C8-N9-C4	-5.35	104.26	106.40
53	A4	233	G	C4-N9-C1'	5.35	133.46	126.50
29	A1	508	A	N1-C6-N6	-5.35	115.39	118.60
29	A1	1319	G	O4'-C1'-N9	5.35	112.48	108.20
29	A2	782	G	OP2-P-O3'	5.35	116.97	105.20
29	A2	1391	G	C4-N9-C1'	5.35	133.46	126.50
29	A2	2178	G	N3-C4-C5	-5.35	125.92	128.60
29	A2	2521	C	C2-N1-C1'	5.35	124.69	118.80
29	A2	2694	C	N1-C2-O2	5.35	122.11	118.90
53	A3	1042	C	C2-N1-C1'	5.35	124.69	118.80
53	A3	1059	G	C5-N7-C8	-5.35	101.62	104.30
53	A3	1446	G	C8-N9-C4	5.35	108.54	106.40
29	A1	683	C	N1-C2-O2	5.35	122.11	118.90
29	A1	842	A	C5-N7-C8	-5.35	101.23	103.90
29	A1	1385	G	C4-N9-C1'	5.35	133.46	126.50
29	A1	1773	G	N7-C8-N9	5.35	115.77	113.10
29	A2	1939	U	C6-N1-C2	-5.35	117.79	121.00
29	A2	2311	C	C6-N1-C2	-5.35	118.16	120.30
53	A3	237	C	N1-C2-O2	5.35	122.11	118.90
53	A3	305	G	C6-C5-N7	-5.35	127.19	130.40
29	A1	2608	C	C5-C6-N1	5.35	123.67	121.00
30	B1	38	C	N3-C2-O2	-5.35	118.16	121.90
29	A2	1540	G	O4'-C1'-N9	5.35	112.48	108.20
29	A2	2469	G	N3-C4-N9	5.35	129.21	126.00
29	A2	2900	C	N1-C2-O2	5.35	122.11	118.90
53	A4	27	G	C4-N9-C1'	5.35	133.45	126.50
53	A4	884	A	C5-N7-C8	-5.35	101.23	103.90
53	A4	947	C	C6-N1-C2	-5.35	118.16	120.30
53	A4	1450	A	N3-C4-N9	5.35	131.68	127.40
29	A1	130	G	N3-C4-N9	5.35	129.21	126.00
29	A1	1225	C	P-O3'-C3'	5.35	126.11	119.70
29	A1	2043	A	C8-N9-C4	5.35	107.94	105.80
29	A2	2028	G	C8-N9-C4	-5.35	104.26	106.40
29	A2	2434	C	N1-C2-O2	5.35	122.11	118.90
29	A2	2453	A	P-O3'-C3'	5.35	126.11	119.70
53	A3	884	A	C5-N7-C8	-5.35	101.23	103.90
53	A3	948	G	P-O3'-C3'	5.35	126.11	119.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1254	G	C6-C5-N7	-5.35	127.19	130.40
29	A1	647	G	N3-C4-N9	5.34	129.21	126.00
29	A1	1366	C	C6-N1-C2	5.34	122.44	120.30
29	A1	1578	G	N1-C6-O6	5.34	123.11	119.90
53	A3	197	G	N9-C4-C5	-5.34	103.26	105.40
53	A4	227	G	N7-C8-N9	5.34	115.77	113.10
53	A4	799	A	C4-C5-C6	-5.34	114.33	117.00
29	A1	824	G	C8-N9-C1'	5.34	133.94	127.00
29	A1	2081	A	N7-C8-N9	5.34	116.47	113.80
29	A1	2468	G	N1-C6-O6	5.34	123.10	119.90
29	A2	28	A	N7-C8-N9	5.34	116.47	113.80
29	A2	130	G	N3-C4-N9	5.34	129.21	126.00
29	A2	2442	G	N1-C6-O6	5.34	123.11	119.90
53	A3	550	G	N3-C4-C5	-5.34	125.93	128.60
53	A4	261	G	C2-N3-C4	-5.34	109.23	111.90
53	A4	392	A	C2-N3-C4	5.34	113.27	110.60
53	A4	1140	C	N3-C2-O2	-5.34	118.16	121.90
29	A1	2305	U	C6-N1-C2	-5.34	117.80	121.00
29	A1	2396	G	C6-C5-N7	-5.34	127.20	130.40
29	A1	2597	G	C4-N9-C1'	5.34	133.44	126.50
29	A2	1272	C	N3-C4-C5	5.34	124.04	121.90
53	A3	879	G	C8-N9-C4	5.34	108.54	106.40
53	A3	1178	G	N3-C4-C5	-5.34	125.93	128.60
53	A4	866	A	C4-N9-C1'	5.34	135.91	126.30
53	A4	1001	G	N3-C4-C5	-5.34	125.93	128.60
53	A4	1114	C	C6-N1-C1'	5.34	127.21	120.80
29	A2	2772	A	C8-N9-C4	-5.34	103.67	105.80
53	A4	614	G	C4-N9-C1'	5.34	133.44	126.50
53	A4	933	U	C5-C6-N1	5.34	125.37	122.70
29	A2	599	C	C5-C6-N1	5.34	123.67	121.00
29	A2	1034	C	C5-C6-N1	5.34	123.67	121.00
29	A2	1624	C	O4'-C1'-N1	5.34	112.47	108.20
29	A2	1795	A	C2-N3-C4	5.34	113.27	110.60
29	A2	1863	C	N3-C4-C5	-5.34	119.77	121.90
53	A3	527	G	C6-C5-N7	-5.34	127.20	130.40
38	H4	112	LEU	CA-CB-CG	5.34	127.58	115.30
29	A1	2133	U	N3-C2-O2	-5.33	118.47	122.20
29	A1	2633	C	C2-N3-C4	-5.33	117.23	119.90
29	A2	1240	G	C8-N9-C1'	5.33	133.94	127.00
29	A2	1904	C	C5-C6-N1	5.33	123.67	121.00
43	M3	70	LEU	CA-CB-CG	5.33	127.57	115.30
29	A1	1167	C	N3-C2-O2	-5.33	118.17	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1517	C	C5-C6-N1	5.33	123.67	121.00
29	A2	2164	C	N3-C4-N4	-5.33	114.27	118.00
29	A2	2421	G	N1-C6-O6	5.33	123.10	119.90
53	A3	1445	A	C5-C6-N6	-5.33	119.43	123.70
53	A4	138	G	C4-C5-N7	5.33	112.93	110.80
53	A4	204	G	C4-N9-C1'	5.33	133.43	126.50
53	A4	867	G	N1-C6-O6	-5.33	116.70	119.90
29	A1	1696	G	C4-N9-C1'	5.33	133.43	126.50
29	A1	2376	G	C6-C5-N7	5.33	133.60	130.40
29	A2	2212	C	C5-C6-N1	5.33	123.67	121.00
53	A3	270	G	C6-C5-N7	-5.33	127.20	130.40
53	A3	515	A	C2-N3-C4	5.33	113.27	110.60
53	A3	1396	U	C2-N1-C1'	5.33	124.10	117.70
53	A4	170	C	C4-C5-C6	-5.33	114.73	117.40
53	A4	444	G	C5-C6-O6	5.33	131.80	128.60
53	A3	455	C	C5-C6-N1	5.33	123.67	121.00
29	A1	348	G	N3-C4-C5	-5.33	125.94	128.60
29	A1	354	G	C8-N9-C4	5.33	108.53	106.40
29	A1	830	A	C2-N3-C4	-5.33	107.94	110.60
29	A1	2186	G	C6-C5-N7	-5.33	127.20	130.40
29	A1	2255	A	N1-C6-N6	-5.33	115.40	118.60
30	B1	70	C	C5-C6-N1	5.33	123.66	121.00
29	A2	178	G	C8-N9-C4	-5.33	104.27	106.40
29	A2	218	A	C4-C5-N7	5.33	113.36	110.70
53	A4	319	G	N3-C4-N9	-5.33	122.80	126.00
53	A4	533	G	C8-N9-C1'	-5.33	120.07	127.00
29	A2	324	A	C2-N3-C4	5.33	113.26	110.60
29	A2	2487	U	C5-C6-N1	5.33	125.36	122.70
29	A2	2656	G	C6-C5-N7	-5.33	127.20	130.40
29	A1	901	G	C8-N9-C1'	-5.33	120.08	127.00
29	A1	1696	G	N7-C8-N9	5.33	115.76	113.10
29	A1	2693	A	C5-C6-N1	5.33	120.36	117.70
29	A2	24	G	C8-N9-C4	5.33	108.53	106.40
29	A2	481	C	C2-N1-C1'	5.33	124.66	118.80
29	A2	981	G	C4-N9-C1'	5.33	133.42	126.50
53	A3	550	G	N3-C4-N9	5.33	129.19	126.00
53	A3	1059	G	N7-C8-N9	5.33	115.76	113.10
53	A3	1266	A	N1-C6-N6	-5.33	115.41	118.60
29	A1	1634	A	O4'-C1'-N9	5.32	112.46	108.20
29	A2	2863	A	C4-C5-N7	5.32	113.36	110.70
53	A3	385	C	C6-N1-C2	-5.32	118.17	120.30
53	A3	503	A	C8-N9-C4	-5.32	103.67	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1459	G	N1-C2-N2	-5.32	111.41	116.20
53	A4	376	C	C6-N1-C2	-5.32	118.17	120.30
53	A4	615	A	C5-C6-N6	-5.32	119.44	123.70
53	A4	849	A	C4-C5-N7	5.32	113.36	110.70
29	A1	234	A	C2-N3-C4	5.32	113.26	110.60
29	A2	163	G	O4'-C1'-N9	5.32	112.46	108.20
29	A2	692	C	C2-N3-C4	5.32	122.56	119.90
29	A2	2656	G	C8-N9-C4	-5.32	104.27	106.40
53	A3	180	C	N3-C2-O2	-5.32	118.17	121.90
53	A4	584	C	N3-C4-C5	5.32	124.03	121.90
29	A1	1449	G	C6-C5-N7	-5.32	127.21	130.40
29	A2	861	C	N3-C2-O2	-5.32	118.18	121.90
29	A2	1843	A	C5-C6-N1	5.32	120.36	117.70
53	A3	412	C	N1-C2-O2	5.32	122.09	118.90
53	A3	599	G	C4-C5-N7	5.32	112.93	110.80
53	A3	867	G	N1-C6-O6	-5.32	116.71	119.90
53	A4	1312	G	N3-C4-C5	-5.32	125.94	128.60
29	A1	2491	C	N3-C4-C5	5.32	124.03	121.90
29	A1	2725	A	N7-C8-N9	5.32	116.46	113.80
53	A3	1474	G	C2-N3-C4	-5.32	109.24	111.90
53	A4	550	G	C4-N9-C1'	5.32	133.41	126.50
53	A4	1164	A	C6-C5-N7	-5.32	128.58	132.30
53	A4	1313	A	C5-C6-N1	5.32	120.36	117.70
29	A1	225	U	C6-N1-C2	-5.32	117.81	121.00
29	A1	1380	G	N3-C4-C5	-5.32	125.94	128.60
29	A1	1973	G	C2-N3-C4	-5.32	109.24	111.90
29	A1	2404	U	C2-N1-C1'	5.32	124.08	117.70
29	A1	2539	G	C6-C5-N7	-5.32	127.21	130.40
29	A1	2709	C	N3-C2-O2	-5.32	118.18	121.90
18	T2	14	LEU	CA-CB-CG	5.32	127.53	115.30
29	A2	258	C	N3-C4-C5	5.32	124.03	121.90
29	A2	1975	U	N1-C2-O2	5.32	126.52	122.80
29	A2	2137	U	C6-N1-C2	-5.32	117.81	121.00
53	A3	480	A	N3-C4-C5	-5.32	123.08	126.80
53	A3	1258	C	C5-C6-N1	5.32	123.66	121.00
29	A1	1274	A	C6-C5-N7	-5.32	128.58	132.30
29	A1	1911	C	N3-C4-N4	5.32	121.72	118.00
29	A1	2404	U	N1-C2-O2	5.32	126.52	122.80
29	A1	2709	C	N1-C2-O2	5.32	122.09	118.90
30	B1	18	G	O5'-P-OP2	-5.32	100.92	105.70
29	A2	1436	G	N7-C8-N9	5.32	115.76	113.10
29	A2	2817	C	C5-C6-N1	5.32	123.66	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	533	G	C8-N9-C1'	-5.32	120.09	127.00
53	A3	1381	C	C6-N1-C1'	-5.32	114.42	120.80
29	A2	1833	C	C6-N1-C2	5.31	122.43	120.30
29	A2	2650	U	N1-C2-O2	5.31	126.52	122.80
53	A4	7	G	C4-N9-C1'	5.31	133.41	126.50
29	A1	954	G	O4'-C1'-N9	5.31	112.45	108.20
29	A2	1945	G	C6-C5-N7	5.31	133.59	130.40
29	A2	2523	G	C5-C6-O6	-5.31	125.41	128.60
53	A3	98	G	C6-N1-C2	-5.31	121.91	125.10
53	A4	270	G	N7-C8-N9	5.31	115.76	113.10
53	A4	349	G	C4-N9-C1'	5.31	133.41	126.50
53	A4	778	C	C2-N1-C1'	-5.31	112.95	118.80
53	A4	1241	C	C5-C6-N1	5.31	123.66	121.00
29	A1	2640	C	N1-C2-O2	5.31	122.09	118.90
30	B1	104	A	N7-C8-N9	5.31	116.45	113.80
29	A1	1644	A	C8-N9-C4	5.31	107.92	105.80
29	A1	2559	G	N9-C4-C5	5.31	107.52	105.40
29	A2	1849	G	C2-N3-C4	5.31	114.55	111.90
29	A2	2309	C	C4-C5-C6	-5.31	114.75	117.40
53	A3	92	U	O4'-C1'-N1	5.31	112.45	108.20
53	A3	1379	C	C6-N1-C1'	-5.31	114.43	120.80
53	A4	310	A	C5-C6-N6	-5.31	119.45	123.70
53	A4	423	G	C5-C6-O6	-5.31	125.42	128.60
53	A4	1497	G	C8-N9-C4	5.31	108.52	106.40
29	A1	1505	G	C4-N9-C1'	5.31	133.40	126.50
29	A2	421	C	C5-C6-N1	5.31	123.65	121.00
29	A2	657	G	C8-N9-C4	5.31	108.52	106.40
29	A2	2334	A	C4-C5-N7	5.31	113.35	110.70
29	A2	2411	G	C8-N9-C4	5.31	108.52	106.40
53	A3	437	C	N1-C2-O2	5.31	122.08	118.90
53	A4	875	G	C8-N9-C4	5.31	108.52	106.40
53	A4	932	U	O4'-C1'-N1	5.31	112.45	108.20
53	A4	970	G	N3-C4-N9	5.31	129.18	126.00
29	A1	1924	A	P-O3'-C3'	5.31	126.07	119.70
29	A1	2737	G	C4-C5-N7	5.31	112.92	110.80
29	A2	1572	G	N3-C4-C5	5.31	131.25	128.60
29	A2	1612	G	C5-C6-N1	5.31	114.15	111.50
29	A2	2737	G	C5-N7-C8	-5.31	101.65	104.30
30	B2	94	C	C6-N1-C2	5.31	122.42	120.30
53	A3	404	G	N7-C8-N9	5.31	115.75	113.10
53	A3	515	A	C4-N9-C1'	5.31	135.85	126.30
53	A4	35	G	N3-C4-C5	-5.31	125.95	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	613	G	N1-C6-O6	-5.31	116.72	119.90
29	A1	1273	G	C8-N9-C4	-5.30	104.28	106.40
29	A2	2092	U	C2-N1-C1'	5.30	124.07	117.70
53	A3	813	G	C5-N7-C8	-5.30	101.65	104.30
53	A3	1051	C	C6-N1-C2	-5.30	118.18	120.30
29	A1	241	A	C8-N9-C4	-5.30	103.68	105.80
53	A3	939	C	C5-C6-N1	5.30	123.65	121.00
53	A4	707	G	C4-C5-N7	5.30	112.92	110.80
29	A1	947	A	N1-C2-N3	-5.30	126.65	129.30
29	A1	1076	A	C8-N9-C4	-5.30	103.68	105.80
29	A2	1750	A	C6-C5-N7	-5.30	128.59	132.30
29	A2	1791	G	C6-C5-N7	-5.30	127.22	130.40
30	B2	32	C	C6-N1-C2	-5.30	118.18	120.30
53	A3	539	C	C6-N1-C1'	-5.30	114.44	120.80
53	A3	1143	C	N1-C2-O2	5.30	122.08	118.90
53	A3	1422	C	N3-C2-O2	-5.30	118.19	121.90
29	A1	491	G	C6-C5-N7	-5.30	127.22	130.40
29	A1	1930	G	N9-C4-C5	-5.30	103.28	105.40
29	A1	2498	G	C6-C5-N7	-5.30	127.22	130.40
29	A2	1864	G	C6-C5-N7	-5.30	127.22	130.40
29	A2	2623	U	N1-C2-N3	5.30	118.08	114.90
29	A2	2700	G	N1-C2-N3	5.30	127.08	123.90
53	A4	168	C	C2-N3-C4	5.30	122.55	119.90
53	A4	1032	G	N3-C4-N9	-5.30	122.82	126.00
29	A2	955	U	N3-C2-O2	-5.30	118.49	122.20
53	A3	261	G	C2-N3-C4	-5.30	109.25	111.90
53	A3	309	C	C6-N1-C2	-5.30	118.18	120.30
53	A3	673	G	C4-N9-C1'	5.30	133.39	126.50
29	A1	119	G	C4-C5-N7	5.30	112.92	110.80
29	A1	130	G	N3-C4-C5	-5.30	125.95	128.60
29	A1	938	C	C5-C6-N1	5.30	123.65	121.00
29	A1	2059	G	N9-C4-C5	-5.30	103.28	105.40
29	A1	2442	G	C5-C6-O6	-5.30	125.42	128.60
53	A3	680	U	C5-C6-N1	5.30	125.35	122.70
53	A4	167	U	C5-C6-N1	5.30	125.35	122.70
29	A1	2468	G	C8-N9-C1'	-5.29	120.12	127.00
29	A2	1702	G	C8-N9-C4	5.29	108.52	106.40
29	A2	2750	G	N9-C4-C5	-5.29	103.28	105.40
53	A3	886	A	C4-N9-C1'	5.29	135.83	126.30
53	A4	1254	G	N3-C4-N9	5.29	129.18	126.00
29	A1	92	C	N3-C2-O2	-5.29	118.19	121.90
29	A1	248	G	C5-C6-O6	-5.29	125.42	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1447	C	C5-C6-N1	5.29	123.65	121.00
29	A2	1014	C	C6-N1-C2	-5.29	118.18	120.30
53	A3	664	C	C6-N1-C2	-5.29	118.18	120.30
53	A3	780	C	C6-N1-C1'	-5.29	114.45	120.80
53	A4	1032	G	N3-C4-C5	5.29	131.25	128.60
29	A1	798	C	N3-C2-O2	-5.29	118.20	121.90
29	A1	925	C	C2-N1-C1'	5.29	124.62	118.80
30	B1	45	C	C6-N1-C2	-5.29	118.18	120.30
29	A2	1649	G	C6-C5-N7	5.29	133.57	130.40
29	A2	1798	C	N1-C2-O2	5.29	122.08	118.90
30	B2	122	A	N9-C4-C5	-5.29	103.68	105.80
38	H3	59	LEU	CA-CB-CG	5.29	127.47	115.30
53	A4	1059	G	C6-C5-N7	-5.29	127.22	130.40
29	A1	1972	G	N9-C4-C5	-5.29	103.28	105.40
29	A1	2139	G	C8-N9-C4	-5.29	104.28	106.40
53	A3	310	A	C5-C6-N6	-5.29	119.47	123.70
53	A4	364	C	N3-C2-O2	-5.29	118.20	121.90
53	A4	1049	A	O5'-P-OP1	-5.29	100.94	105.70
29	A1	1399	C	C2-N1-C1'	5.29	124.62	118.80
29	A2	883	C	C6-N1-C2	-5.29	118.18	120.30
29	A2	2622	G	C2-N3-C4	-5.29	109.25	111.90
29	A2	2780	A	C4-N9-C1'	5.29	135.82	126.30
53	A3	482	A	C4-C5-C6	-5.29	114.36	117.00
53	A3	558	G	N3-C4-C5	5.29	131.25	128.60
53	A3	1042	C	N3-C4-N4	5.29	121.70	118.00
53	A3	1201	G	N3-C4-C5	5.29	131.24	128.60
53	A3	1294	U	O4'-C1'-N1	5.29	112.43	108.20
53	A3	1451	G	N3-C4-C5	-5.29	125.95	128.60
29	A1	2251	G	C5-C6-O6	-5.29	125.43	128.60
29	A2	1428	G	C6-C5-N7	-5.29	127.23	130.40
53	A4	381	C	N3-C2-O2	-5.29	118.20	121.90
53	A4	572	C	C6-N1-C2	-5.29	118.19	120.30
29	A1	464	C	N3-C2-O2	-5.29	118.20	121.90
29	A1	1508	G	C5-N7-C8	-5.29	101.66	104.30
29	A2	965	A	C8-N9-C4	-5.29	103.69	105.80
29	A2	1393	C	N1-C2-O2	5.29	122.07	118.90
53	A3	885	A	C5-C6-N1	5.29	120.34	117.70
53	A4	63	C	O4'-C1'-N1	5.29	112.43	108.20
29	A1	651	C	C6-N1-C2	-5.28	118.19	120.30
29	A1	1080	A	C8-N9-C4	-5.28	103.69	105.80
23	Y2	53	LEU	CA-CB-CG	5.28	127.45	115.30
29	A2	1029	A	N7-C8-N9	5.28	116.44	113.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1681	A	C8-N9-C4	-5.28	103.69	105.80
29	A2	2521	C	C6-N1-C2	-5.28	118.19	120.30
53	A3	606	C	C2-N1-C1'	5.28	124.61	118.80
53	A4	173	A	C2-N3-C4	5.28	113.24	110.60
53	A4	423	G	C8-N9-C1'	-5.28	120.13	127.00
53	A4	1264	G	C4-C5-N7	5.28	112.91	110.80
53	A4	1448	G	C4-C5-N7	5.28	112.91	110.80
29	A1	2662	C	N3-C4-C5	5.28	124.01	121.90
29	A2	2252	G	C6-C5-N7	-5.28	127.23	130.40
29	A2	2252	G	N3-C4-N9	5.28	129.17	126.00
29	A2	2540	G	N7-C8-N9	5.28	115.74	113.10
53	A3	563	U	C5-C6-N1	5.28	125.34	122.70
29	A1	443	A	N9-C4-C5	5.28	107.91	105.80
29	A1	601	U	C6-N1-C2	-5.28	117.83	121.00
29	A1	1460	A	N9-C4-C5	-5.28	103.69	105.80
29	A1	1937	A	C8-N9-C4	-5.28	103.69	105.80
29	A1	1991	C	N1-C2-O2	5.28	122.07	118.90
29	A2	678	G	N9-C4-C5	-5.28	103.29	105.40
53	A3	663	C	OP1-P-O3'	5.28	116.81	105.20
29	A1	1242	G	N9-C4-C5	-5.28	103.29	105.40
29	A1	1924	A	C5-C6-N1	5.28	120.34	117.70
53	A3	512	G	N9-C4-C5	-5.28	103.29	105.40
53	A3	1144	C	C6-N1-C2	-5.28	118.19	120.30
53	A3	1328	G	N7-C8-N9	-5.28	110.46	113.10
53	A4	872	G	N7-C8-N9	5.28	115.74	113.10
29	A1	852	U	C6-N1-C2	-5.28	117.83	121.00
29	A1	1624	C	O4'-C1'-N1	5.28	112.42	108.20
29	A1	2873	G	N3-C4-C5	-5.28	125.96	128.60
53	A3	824	U	C2-N1-C1'	5.28	124.03	117.70
53	A4	1288	U	C5-C6-N1	5.28	125.34	122.70
29	A2	1568	U	C5-C6-N1	5.27	125.34	122.70
53	A3	1276	G	C5-C6-O6	-5.27	125.44	128.60
53	A4	110	G	C4-N9-C1'	5.27	133.36	126.50
53	A4	328	G	N3-C4-N9	5.27	129.16	126.00
29	A1	2090	C	N3-C2-O2	-5.27	118.21	121.90
30	B1	90	C	C5-C6-N1	5.27	123.64	121.00
29	A2	312	C	C4-C5-C6	-5.27	114.76	117.40
53	A3	70	G	C4-N9-C1'	5.27	133.35	126.50
53	A3	149	C	N1-C2-O2	5.27	122.06	118.90
53	A4	290	C	N3-C4-C5	5.27	124.01	121.90
29	A1	2296	G	N3-C4-N9	5.27	129.16	126.00
29	A2	1169	C	C6-N1-C2	-5.27	118.19	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1674	G	C8-N9-C4	-5.27	104.29	106.40
53	A3	603	C	C5-C6-N1	5.27	123.64	121.00
29	A2	343	C	C2-N1-C1'	5.27	124.60	118.80
29	A2	857	G	N3-C2-N2	-5.27	116.21	119.90
29	A2	2421	G	N9-C4-C5	-5.27	103.29	105.40
53	A3	1122	C	C5-C6-N1	5.27	123.64	121.00
53	A3	1450	A	N7-C8-N9	5.27	116.44	113.80
29	A1	2059	G	O4'-C1'-N9	-5.27	103.99	108.20
29	A2	1299	C	C6-N1-C2	5.27	122.41	120.30
29	A2	2443	G	C4-C5-N7	5.27	112.91	110.80
53	A3	169	C	N3-C2-O2	-5.27	118.21	121.90
53	A4	66	G	N3-C4-N9	5.27	129.16	126.00
53	A4	443	C	C4-C5-C6	-5.27	114.77	117.40
53	A4	482	A	C8-N9-C4	5.27	107.91	105.80
29	A2	1438	U	C6-N1-C2	-5.27	117.84	121.00
53	A3	1046	G	N7-C8-N9	-5.27	110.47	113.10
29	A1	191	C	N1-C2-O2	5.26	122.06	118.90
29	A1	733	G	C8-N9-C1'	-5.26	120.16	127.00
29	A1	1303	U	C6-N1-C1'	-5.26	113.83	121.20
29	A1	2523	G	C5-N7-C8	-5.26	101.67	104.30
29	A2	237	G	C8-N9-C1'	-5.26	120.16	127.00
29	A2	290	G	C4-N9-C1'	-5.26	119.66	126.50
29	A2	483	C	C5-C4-N4	-5.26	116.52	120.20
29	A2	1932	C	C2-N3-C4	5.26	122.53	119.90
29	A2	2218	G	N9-C4-C5	-5.26	103.29	105.40
29	A2	2396	G	C6-C5-N7	-5.26	127.24	130.40
53	A3	134	A	N7-C8-N9	5.26	116.43	113.80
53	A3	199	C	C6-N1-C1'	-5.26	114.48	120.80
53	A3	583	C	N3-C4-C5	5.26	124.01	121.90
53	A3	1266	A	N9-C4-C5	5.26	107.91	105.80
53	A3	1373	U	N1-C2-N3	5.26	118.06	114.90
53	A4	7	G	C4-C5-N7	5.26	112.91	110.80
53	A4	728	C	C5-C6-N1	5.26	123.63	121.00
53	A4	846	G	N7-C8-N9	5.26	115.73	113.10
53	A4	1220	A	C5-N7-C8	-5.26	101.27	103.90
53	A4	1442	C	N3-C2-O2	-5.26	118.22	121.90
29	A1	969	G	C6-C5-N7	-5.26	127.24	130.40
29	A1	1959	G	N3-C2-N2	5.26	123.58	119.90
29	A2	1849	G	N3-C4-C5	-5.26	125.97	128.60
29	A2	1850	G	C4-N9-C1'	5.26	133.34	126.50
53	A4	606	C	C2-N1-C1'	5.26	124.59	118.80
29	A1	618	G	C2-N3-C4	-5.26	109.27	111.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1394	G	C6-C5-N7	-5.26	127.24	130.40
29	A1	1690	A	C5-C6-N6	-5.26	119.49	123.70
29	A1	2528	U	N1-C2-O2	5.26	126.48	122.80
29	A1	2737	G	C5-N7-C8	-5.26	101.67	104.30
29	A2	1086	C	C5-C6-N1	5.26	123.63	121.00
29	A2	1190	A	N1-C6-N6	5.26	121.76	118.60
29	A2	1272	C	C5-C6-N1	-5.26	118.37	121.00
29	A2	1896	G	C4-C5-N7	5.26	112.91	110.80
53	A3	1271	G	N3-C4-N9	5.26	129.16	126.00
29	A1	66	U	C5-C4-O4	-5.26	122.74	125.90
29	A1	877	U	C2-N1-C1'	5.26	124.01	117.70
29	A1	941	C	N1-C2-O2	5.26	122.06	118.90
29	A1	1978	G	N1-C2-N2	-5.26	111.47	116.20
29	A1	2154	U	C6-N1-C1'	5.26	128.56	121.20
29	A2	2741	U	N1-C2-O2	5.26	126.48	122.80
53	A3	871	G	C8-N9-C4	-5.26	104.30	106.40
53	A4	781	G	N1-C6-O6	-5.26	116.74	119.90
53	A4	905	G	N9-C4-C5	-5.26	103.30	105.40
29	A1	1549	C	N1-C2-O2	5.26	122.06	118.90
29	A1	2004	G	N1-C2-N2	-5.26	111.47	116.20
29	A1	2226	C	C5-C6-N1	5.26	123.63	121.00
29	A2	32	C	C2-N1-C1'	5.26	124.58	118.80
53	A3	1297	G	N3-C2-N2	5.26	123.58	119.90
53	A4	1254	G	C5-N7-C8	-5.26	101.67	104.30
29	A1	935	C	C5-C6-N1	5.26	123.63	121.00
29	A1	977	U	C2-N1-C1'	5.26	124.01	117.70
29	A1	2029	A	N1-C6-N6	5.26	121.75	118.60
29	A1	2053	G	N1-C6-O6	5.26	123.05	119.90
29	A2	235	G	C4-C5-N7	5.26	112.90	110.80
29	A2	599	C	C2-N1-C1'	5.26	124.58	118.80
29	A2	856	U	C5-C6-N1	-5.26	120.07	122.70
29	A2	1053	C	C2-N1-C1'	5.26	124.58	118.80
29	A2	1463	U	C6-N1-C2	-5.26	117.85	121.00
29	A2	1549	C	C2-N1-C1'	5.26	124.58	118.80
29	A2	1913	A	N1-C6-N6	-5.26	115.45	118.60
53	A3	838	G	N3-C4-N9	5.26	129.15	126.00
53	A4	1055	U	N3-C2-O2	-5.26	118.52	122.20
53	A4	1286	G	N7-C8-N9	5.26	115.73	113.10
29	A2	730	G	C5-N7-C8	-5.25	101.67	104.30
29	A2	812	G	C4-N9-C1'	-5.25	119.67	126.50
29	A2	1819	A	C4-N9-C1'	5.25	135.76	126.30
29	A2	2347	A	C8-N9-C4	5.25	107.90	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	217	U	C5-C6-N1	5.25	125.33	122.70
53	A4	482	A	N1-C2-N3	-5.25	126.67	129.30
53	A4	1487	U	C6-N1-C2	-5.25	117.85	121.00
29	A1	2746	G	N3-C4-N9	5.25	129.15	126.00
29	A1	2780	A	C5-C6-N1	5.25	120.33	117.70
29	A2	881	G	N3-C4-N9	5.25	129.15	126.00
53	A3	1101	C	C5-C6-N1	5.25	123.63	121.00
53	A3	1142	G	N1-C6-O6	5.25	123.05	119.90
29	A1	19	C	C6-N1-C2	-5.25	118.20	120.30
29	A2	605	C	C5-C4-N4	-5.25	116.52	120.20
29	A2	929	G	N7-C8-N9	5.25	115.72	113.10
29	A2	1583	U	C6-N1-C2	-5.25	117.85	121.00
53	A3	544	U	C5-C6-N1	-5.25	120.07	122.70
53	A3	719	C	N3-C4-C5	5.25	124.00	121.90
53	A3	754	G	N3-C4-N9	5.25	129.15	126.00
53	A3	769	G	C5-C6-N1	5.25	114.13	111.50
53	A3	1262	U	O4'-C1'-N1	5.25	112.40	108.20
53	A4	278	C	C6-N1-C2	-5.25	118.20	120.30
29	A2	2739	C	N3-C2-O2	-5.25	118.22	121.90
29	A1	1624	C	C6-N1-C2	-5.25	118.20	120.30
30	B1	44	C	C5-C4-N4	-5.25	116.53	120.20
30	B1	49	C	C2-N1-C1'	5.25	124.57	118.80
29	A2	114	C	C6-N1-C2	-5.25	118.20	120.30
29	A2	616	C	C6-N1-C2	-5.25	118.20	120.30
29	A2	1226	C	C6-N1-C1'	-5.25	114.50	120.80
53	A4	256	U	N3-C2-O2	-5.25	118.53	122.20
53	A4	705	A	C4-N9-C1'	5.25	135.75	126.30
53	A4	813	G	C5-N7-C8	-5.25	101.68	104.30
29	A1	827	G	C5-N7-C8	-5.25	101.68	104.30
29	A1	2252	G	C6-C5-N7	-5.25	127.25	130.40
29	A1	2540	G	C8-N9-C4	-5.25	104.30	106.40
29	A2	439	G	C6-C5-N7	-5.25	127.25	130.40
29	A2	1243	C	C2-N1-C1'	5.25	124.57	118.80
29	A2	1446	C	C5-C6-N1	5.25	123.62	121.00
29	A2	1991	C	N1-C2-O2	5.25	122.05	118.90
30	B2	24	U	N3-C2-O2	-5.25	118.53	122.20
53	A4	663	C	OP1-P-O3'	5.25	116.74	105.20
53	A4	889	C	N3-C2-O2	-5.25	118.23	121.90
29	A1	2044	A	C6-N1-C2	5.25	121.75	118.60
29	A2	2128	G	C8-N9-C4	-5.25	104.30	106.40
53	A3	157	C	C6-N1-C2	-5.25	118.20	120.30
53	A3	1115	G	N3-C4-N9	-5.25	122.85	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	222	G	N3-C2-N2	-5.25	116.23	119.90
29	A2	1920	G	N3-C4-N9	5.24	129.15	126.00
53	A3	288	G	C4-C5-N7	5.24	112.90	110.80
53	A4	421	G	C4-C5-N7	5.24	112.90	110.80
29	A1	1436	G	N3-C4-N9	5.24	129.15	126.00
29	A1	1883	G	N3-C4-N9	-5.24	122.86	126.00
29	A2	484	C	C4-C5-C6	-5.24	114.78	117.40
29	A2	2068	C	C2-N3-C4	-5.24	117.28	119.90
29	A2	2586	A	N7-C8-N9	-5.24	111.18	113.80
53	A3	1113	G	C5-C6-O6	-5.24	125.45	128.60
53	A4	357	G	N7-C8-N9	-5.24	110.48	113.10
29	A1	322	C	N1-C2-O2	5.24	122.04	118.90
29	A1	829	G	C2-N3-C4	-5.24	109.28	111.90
29	A1	2362	U	N1-C2-O2	5.24	126.47	122.80
29	A1	2810	G	N3-C4-C5	-5.24	125.98	128.60
29	A2	749	G	C5-C6-O6	-5.24	125.46	128.60
29	A2	1362	C	C2-N1-C1'	5.24	124.56	118.80
29	A2	1836	A	N3-C4-N9	-5.24	123.21	127.40
53	A3	572	C	C2-N1-C1'	5.24	124.56	118.80
53	A3	638	A	C4-C5-N7	5.24	113.32	110.70
53	A3	846	G	C8-N9-C4	-5.24	104.30	106.40
53	A4	535	U	N3-C2-O2	-5.24	118.53	122.20
53	A4	840	U	C6-N1-C2	-5.24	117.86	121.00
29	A1	1930	G	P-O3'-C3'	5.24	125.99	119.70
29	A1	2616	A	O4'-C1'-N9	5.24	112.39	108.20
29	A2	1596	C	N3-C2-O2	-5.24	118.23	121.90
29	A2	1895	G	C4-N9-C1'	5.24	133.31	126.50
29	A2	1919	C	N3-C2-O2	-5.24	118.23	121.90
53	A3	1398	G	C6-C5-N7	-5.24	127.26	130.40
53	A4	256	U	N1-C2-O2	5.24	126.47	122.80
29	A1	2254	C	C2-N3-C4	5.24	122.52	119.90
29	A2	2712	U	N3-C2-O2	-5.24	118.53	122.20
9	K1	148	LEU	CA-CB-CG	5.24	127.34	115.30
29	A1	2017	U	C5-C6-N1	-5.24	120.08	122.70
53	A3	11	G	C8-N9-C4	5.24	108.49	106.40
53	A3	770	A	N1-C2-N3	-5.24	126.68	129.30
53	A4	1205	G	N9-C4-C5	-5.24	103.31	105.40
53	A4	1457	G	C2-N3-C4	-5.24	109.28	111.90
29	A1	78	G	C4-N9-C1'	5.23	133.30	126.50
29	A1	1736	G	C8-N9-C1'	-5.23	120.20	127.00
29	A1	1799	U	C6-N1-C1'	-5.23	113.88	121.20
29	A1	2430	C	N3-C4-C5	5.23	123.99	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	489	C	N3-C2-O2	-5.23	118.24	121.90
29	A2	1865	C	C4-C5-C6	-5.23	114.78	117.40
29	A2	2186	G	C4-N9-C1'	5.23	133.30	126.50
29	A2	2511	A	C4-C5-N7	5.23	113.32	110.70
29	A2	2737	G	C4-C5-N7	5.23	112.89	110.80
53	A3	119	G	C5-C6-O6	-5.23	125.46	128.60
53	A3	1392	G	C4-N9-C1'	5.23	133.30	126.50
29	A1	1889	G	C8-N9-C1'	-5.23	120.20	127.00
29	A2	1822	A	N9-C4-C5	-5.23	103.71	105.80
29	A2	1993	A	C6-C5-N7	-5.23	128.64	132.30
29	A2	2699	G	N3-C4-N9	5.23	129.14	126.00
53	A3	161	G	C6-C5-N7	-5.23	127.26	130.40
53	A3	557	A	C8-N9-C4	5.23	107.89	105.80
53	A3	579	C	C6-N1-C2	-5.23	118.21	120.30
53	A3	1366	C	N1-C2-O2	5.23	122.04	118.90
53	A4	582	C	C2-N3-C4	5.23	122.52	119.90
53	A4	796	U	N1-C2-N3	-5.23	111.76	114.90
29	A2	1265	C	N3-C2-O2	-5.23	118.24	121.90
53	A4	545	C	N1-C2-O2	-5.23	115.76	118.90
29	A1	935	C	N3-C4-C5	-5.23	119.81	121.90
29	A1	1748	G	C5-C6-O6	-5.23	125.46	128.60
29	A1	1867	U	C2-N3-C4	5.23	130.14	127.00
29	A2	940	G	N3-C4-N9	5.23	129.14	126.00
29	A2	1705	C	N3-C4-C5	5.23	123.99	121.90
29	A2	2878	U	C2-N1-C1'	5.23	123.97	117.70
30	B2	3	U	C2-N1-C1'	5.23	123.97	117.70
53	A3	754	G	C6-C5-N7	-5.23	127.26	130.40
53	A4	93	C	N3-C4-N4	5.23	121.66	118.00
53	A4	768	G	C6-C5-N7	-5.23	127.26	130.40
53	A4	1026	A	C8-N9-C4	-5.23	103.71	105.80
53	A4	1392	G	N9-C4-C5	-5.23	103.31	105.40
53	A4	1435	G	C4-C5-N7	5.23	112.89	110.80
29	A2	488	A	C4-C5-N7	5.23	113.31	110.70
29	A2	635	G	C5-C6-O6	-5.23	125.46	128.60
29	A2	969	G	N3-C4-N9	5.23	129.14	126.00
29	A2	1107	G	N3-C4-N9	5.23	129.14	126.00
33	C3	42	LEU	CA-CB-CG	5.23	127.32	115.30
53	A3	1111	C	O5'-P-OP2	-5.23	101.00	105.70
53	A4	1486	C	O4'-C1'-N1	5.23	112.38	108.20
29	A1	239	C	N1-C2-O2	5.22	122.03	118.90
29	A1	1459	C	C2-N3-C4	5.22	122.51	119.90
29	A1	1600	C	C6-N1-C2	-5.22	118.21	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1921	G	C8-N9-C4	-5.22	104.31	106.40
29	A1	2294	G	C8-N9-C1'	-5.22	120.21	127.00
29	A1	2510	C	N1-C2-O2	-5.22	115.77	118.90
29	A2	357	A	N9-C4-C5	5.22	107.89	105.80
29	A2	1608	G	O4'-C1'-N9	5.22	112.38	108.20
29	A2	2234	G	C8-N9-C4	-5.22	104.31	106.40
53	A3	1245	C	C6-N1-C2	-5.22	118.21	120.30
53	A4	995	G	C4-N9-C1'	5.22	133.29	126.50
29	A1	197	A	C5-C6-N6	-5.22	119.52	123.70
29	A1	198	C	C6-N1-C2	5.22	122.39	120.30
29	A1	1385	G	N3-C2-N2	-5.22	116.24	119.90
29	A1	1814	C	C2-N1-C1'	5.22	124.54	118.80
29	A2	154	G	N3-C4-N9	-5.22	122.87	126.00
29	A2	468	G	C4-C5-N7	5.22	112.89	110.80
29	A2	1898	G	N3-C4-C5	-5.22	125.99	128.60
29	A2	2400	C	O5'-P-OP1	-5.22	101.00	105.70
53	A3	547	C	C6-N1-C2	-5.22	118.21	120.30
53	A4	267	C	N3-C2-O2	-5.22	118.25	121.90
53	A4	997	C	C5-C4-N4	-5.22	116.55	120.20
29	A2	1716	G	N1-C6-O6	-5.22	116.77	119.90
53	A4	74	C	N3-C2-O2	-5.22	118.25	121.90
29	A1	55	A	N7-C8-N9	5.22	116.41	113.80
29	A2	1346	C	C6-N1-C2	-5.22	118.21	120.30
29	A2	1690	A	C5-N7-C8	-5.22	101.29	103.90
29	A2	2454	C	N3-C2-O2	-5.22	118.25	121.90
53	A3	1047	U	P-O3'-C3'	5.22	125.96	119.70
53	A4	197	G	N1-C6-O6	5.22	123.03	119.90
53	A4	1030	G	C8-N9-C4	5.22	108.49	106.40
29	A2	790	G	N1-C2-N2	-5.22	111.50	116.20
53	A3	1450	A	C4-N9-C1'	5.22	135.69	126.30
5	G1	71	LEU	CA-CB-CG	-5.22	103.30	115.30
29	A1	798	C	C4-C5-C6	-5.22	114.79	117.40
29	A1	1107	G	C8-N9-C4	-5.22	104.31	106.40
29	A1	2277	C	C5-C6-N1	5.22	123.61	121.00
30	B1	85	G	N3-C4-N9	5.22	129.13	126.00
29	A2	234	A	C2-N3-C4	5.22	113.21	110.60
29	A2	608	G	N7-C8-N9	5.22	115.71	113.10
29	A2	1597	C	N3-C2-O2	-5.22	118.25	121.90
29	A2	2408	C	P-O3'-C3'	5.22	125.96	119.70
29	A2	2539	G	N1-C6-O6	5.22	123.03	119.90
53	A3	229	C	N1-C2-O2	5.22	122.03	118.90
53	A3	233	G	C6-C5-N7	-5.22	127.27	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	98	U	N3-C2-O2	-5.21	118.55	122.20
29	A1	163	G	O4'-C1'-N9	5.21	112.37	108.20
29	A2	1239	G	N9-C4-C5	-5.21	103.31	105.40
29	A2	1748	G	N1-C6-O6	5.21	123.03	119.90
29	A2	2362	U	N1-C2-O2	5.21	126.45	122.80
53	A4	799	A	N1-C2-N3	-5.21	126.69	129.30
29	A1	1219	G	N3-C2-N2	-5.21	116.25	119.90
29	A1	1346	C	C6-N1-C2	-5.21	118.22	120.30
29	A1	2376	G	N3-C4-C5	5.21	131.21	128.60
29	A2	834	G	C4-C5-N7	5.21	112.89	110.80
53	A3	772	U	C6-N1-C1'	-5.21	113.90	121.20
53	A3	1037	A	C4-C5-N7	5.21	113.31	110.70
53	A4	756	G	N9-C4-C5	-5.21	103.31	105.40
29	A1	1508	G	N3-C4-C5	5.21	131.21	128.60
29	A1	1787	C	C6-N1-C1'	-5.21	114.55	120.80
29	A1	1812	U	C2-N1-C1'	5.21	123.95	117.70
29	A1	2396	G	C5-C6-O6	-5.21	125.47	128.60
29	A1	2585	C	N3-C2-O2	-5.21	118.25	121.90
29	A2	975	G	C4-N9-C1'	5.21	133.28	126.50
29	A2	2374	A	N1-C6-N6	5.21	121.73	118.60
53	A3	623	A	N7-C8-N9	5.21	116.41	113.80
53	A4	681	G	N1-C6-O6	5.21	123.03	119.90
53	A4	1037	A	C4-C5-N7	5.21	113.31	110.70
53	A4	1324	G	C5-C6-N1	-5.21	108.89	111.50
29	A2	1447	C	C6-N1-C2	-5.21	118.22	120.30
53	A3	1037	A	N9-C4-C5	-5.21	103.72	105.80
53	A4	354	U	C5-C6-N1	5.21	125.31	122.70
29	A1	1660	C	C5-C4-N4	-5.21	116.55	120.20
29	A1	2150	A	O4'-C1'-N9	-5.21	104.03	108.20
29	A1	2675	G	C8-N9-C1'	-5.21	120.23	127.00
29	A1	2833	A	C6-N1-C2	-5.21	115.47	118.60
30	B1	80	A	C8-N9-C4	-5.21	103.72	105.80
29	A2	155	C	C6-N1-C2	-5.21	118.22	120.30
29	A2	1363	C	N1-C2-O2	5.21	122.03	118.90
29	A2	2147	G	O4'-C1'-N9	5.21	112.37	108.20
53	A3	1067	U	C5-C4-O4	5.21	129.03	125.90
29	A1	1080	A	O4'-C1'-N9	5.21	112.36	108.20
29	A1	1748	G	C5-N7-C8	-5.21	101.70	104.30
29	A1	1874	U	N1-C2-O2	5.21	126.44	122.80
29	A2	352	G	N7-C8-N9	5.21	115.70	113.10
29	A2	969	G	N1-C2-N3	5.21	127.02	123.90
29	A2	2829	G	C2-N3-C4	5.21	114.50	111.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	751	A	C4-C5-N7	5.21	113.30	110.70
53	A3	799	A	C4-C5-N7	5.21	113.30	110.70
53	A4	421	G	C8-N9-C4	-5.21	104.32	106.40
53	A4	1283	U	O5'-P-OP2	-5.21	101.01	105.70
29	A1	851	A	C4-C5-N7	5.21	113.30	110.70
29	A1	872	G	C6-C5-N7	-5.21	127.28	130.40
29	A2	1947	U	C2-N1-C1'	-5.21	111.45	117.70
53	A4	1295	C	C6-N1-C2	-5.21	118.22	120.30
29	A2	1991	C	C2-N1-C1'	5.20	124.52	118.80
30	B2	2	A	C5-C6-N1	5.20	120.30	117.70
53	A3	390	C	C6-N1-C2	-5.20	118.22	120.30
29	A1	2801	U	N1-C2-O2	5.20	126.44	122.80
29	A2	1916	C	C4-C5-C6	-5.20	114.80	117.40
29	A2	2511	A	N1-C6-N6	5.20	121.72	118.60
53	A4	1242	A	C2-N3-C4	5.20	113.20	110.60
29	A1	1716	G	N1-C2-N3	5.20	127.02	123.90
29	A1	1852	A	C8-N9-C4	5.20	107.88	105.80
29	A1	2794	U	N1-C2-O2	5.20	126.44	122.80
3	E2	162	LEU	CA-CB-CG	-5.20	103.34	115.30
29	A2	536	C	C5-C6-N1	-5.20	118.40	121.00
29	A2	1652	C	C4-C5-C6	5.20	120.00	117.40
29	A2	2265	G	C8-N9-C1'	-5.20	120.24	127.00
29	A2	2281	A	C4-C5-N7	5.20	113.30	110.70
53	A3	502	C	N1-C2-O2	5.20	122.02	118.90
53	A3	796	U	N1-C2-N3	-5.20	111.78	114.90
53	A3	1171	G	N3-C4-N9	-5.20	122.88	126.00
53	A4	237	C	N3-C4-C5	5.20	123.98	121.90
53	A4	264	C	N1-C2-O2	5.20	122.02	118.90
53	A4	1098	C	C5-C6-N1	5.20	123.60	121.00
29	A1	77	A	C2-N3-C4	5.20	113.20	110.60
29	A1	841	G	C4-N9-C1'	5.20	133.26	126.50
29	A1	1298	G	C6-C5-N7	-5.20	127.28	130.40
29	A1	2454	C	N3-C2-O2	-5.20	118.26	121.90
30	B1	19	C	C6-N1-C2	-5.20	118.22	120.30
29	A2	363	G	C5-N7-C8	-5.20	101.70	104.30
29	A2	1394	G	N3-C4-C5	-5.20	126.00	128.60
29	A2	1665	C	C2-N1-C1'	5.20	124.52	118.80
29	A2	1715	G	C2-N3-C4	-5.20	109.30	111.90
29	A2	1802	G	C4-C5-N7	5.20	112.88	110.80
53	A3	27	G	N1-C6-O6	-5.20	116.78	119.90
53	A3	350	C	N1-C2-O2	5.20	122.02	118.90
53	A3	397	G	C8-N9-C4	-5.20	104.32	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	625	A	C8-N9-C1'	-5.20	118.34	127.70
53	A4	768	G	C5-C6-O6	-5.20	125.48	128.60
53	A4	1334	G	N7-C8-N9	-5.20	110.50	113.10
29	A1	822	U	O5'-P-OP1	-5.20	101.02	105.70
29	A1	973	C	N3-C4-C5	5.20	123.98	121.90
29	A1	1714	A	N7-C8-N9	5.20	116.40	113.80
53	A3	660	U	C5-C4-O4	5.20	129.02	125.90
53	A4	381	C	N1-C2-O2	5.20	122.02	118.90
29	A1	608	G	C6-C5-N7	-5.20	127.28	130.40
29	A1	790	G	N1-C2-N2	-5.20	111.52	116.20
29	A1	1710	G	N1-C2-N2	-5.20	111.52	116.20
30	B2	24	U	N1-C2-O2	5.20	126.44	122.80
53	A3	700	C	N3-C2-O2	-5.20	118.26	121.90
53	A3	939	C	C6-N1-C2	-5.20	118.22	120.30
43	M4	70	LEU	CA-CB-CG	5.20	127.25	115.30
53	A4	1206	A	OP1-P-O3'	5.20	116.63	105.20
29	A1	2400	C	C6-N1-C2	-5.19	118.22	120.30
29	A2	2717	C	C5-C6-N1	5.19	123.60	121.00
53	A3	308	A	N1-C6-N6	-5.19	115.48	118.60
53	A4	459	G	C4-C5-N7	5.19	112.88	110.80
29	A1	2272	C	O4'-C1'-N1	5.19	112.35	108.20
29	A1	2342	A	C5-N7-C8	-5.19	101.30	103.90
29	A1	2603	A	C5-C6-N1	5.19	120.30	117.70
29	A2	790	G	C5-C6-O6	5.19	131.72	128.60
29	A2	1727	G	C4-C5-N7	5.19	112.88	110.80
29	A2	1921	G	N7-C8-N9	5.19	115.70	113.10
29	A2	2243	C	C5-C4-N4	-5.19	116.56	120.20
29	A2	2626	C	C2-N3-C4	-5.19	117.30	119.90
29	A2	2827	C	C5-C6-N1	5.19	123.60	121.00
30	B2	76	U	N3-C2-O2	-5.19	118.56	122.20
53	A3	108	G	N3-C4-C5	-5.19	126.00	128.60
53	A3	404	G	C4-C5-N7	5.19	112.88	110.80
53	A3	480	A	C4-N9-C1'	5.19	135.65	126.30
53	A3	593	G	N3-C4-C5	-5.19	126.00	128.60
53	A3	705	A	C4-N9-C1'	5.19	135.65	126.30
53	A3	1308	C	C6-N1-C2	-5.19	118.22	120.30
53	A4	139	G	C8-N9-C4	5.19	108.48	106.40
53	A4	1142	G	C6-C5-N7	-5.19	127.28	130.40
29	A1	800	A	C8-N9-C4	-5.19	103.72	105.80
29	A2	1632	A	C4-N9-C1'	5.19	135.64	126.30
53	A3	75	G	C8-N9-C4	-5.19	104.32	106.40
53	A4	170	C	C2-N3-C4	5.19	122.50	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	193	G	N3-C4-N9	5.19	129.11	126.00
53	A4	220	C	C2-N1-C1'	-5.19	113.09	118.80
53	A4	1099	G	N9-C4-C5	-5.19	103.32	105.40
29	A1	99	G	N3-C4-N9	5.19	129.11	126.00
29	A2	491	G	C8-N9-C4	-5.19	104.32	106.40
53	A4	885	A	C5-C6-N1	5.19	120.30	117.70
29	A1	1079	G	C5-C6-O6	-5.19	125.49	128.60
29	A1	1477	G	N3-C4-C5	-5.19	126.01	128.60
29	A1	2273	G	C8-N9-C4	5.19	108.47	106.40
29	A2	1065	G	C8-N9-C1'	-5.19	120.26	127.00
29	A2	1418	C	N1-C2-O2	5.19	122.01	118.90
29	A2	1633	C	O5'-P-OP1	-5.19	101.03	105.70
53	A3	768	G	C6-C5-N7	-5.19	127.29	130.40
53	A4	444	G	N1-C6-O6	-5.19	116.79	119.90
53	A4	1051	C	C5-C6-N1	5.19	123.59	121.00
29	A1	2210	G	C5-N7-C8	-5.19	101.71	104.30
29	A2	116	A	N7-C8-N9	5.19	116.39	113.80
29	A2	1452	C	N3-C2-O2	-5.19	118.27	121.90
30	B2	98	U	N1-C2-N3	5.19	118.01	114.90
53	A3	637	G	N3-C4-C5	-5.19	126.01	128.60
29	A1	667	C	C6-N1-C2	-5.18	118.23	120.30
29	A1	2348	G	C5-N7-C8	-5.18	101.71	104.30
29	A1	2559	G	C4-C5-N7	-5.18	108.73	110.80
29	A1	2716	U	N3-C2-O2	-5.18	118.57	122.20
29	A2	225	U	C6-N1-C2	-5.18	117.89	121.00
29	A2	1870	C	N3-C4-C5	5.18	123.97	121.90
29	A2	2023	C	N3-C2-O2	-5.18	118.27	121.90
29	A2	2284	G	N3-C4-N9	-5.18	122.89	126.00
53	A4	303	C	C2-N3-C4	-5.18	117.31	119.90
53	A4	1428	C	N3-C4-C5	5.18	123.97	121.90
29	A1	53	G	C8-N9-C4	-5.18	104.33	106.40
29	A1	2722	G	C8-N9-C4	-5.18	104.33	106.40
30	B1	103	G	N7-C8-N9	5.18	115.69	113.10
29	A2	35	G	O4'-C1'-N9	5.18	112.35	108.20
29	A2	232	G	C2-N3-C4	-5.18	109.31	111.90
29	A2	1592	C	N3-C2-O2	-5.18	118.27	121.90
29	A2	1656	A	N1-C6-N6	5.18	121.71	118.60
29	A2	2258	U	C5-C6-N1	5.18	125.29	122.70
53	A3	81	U	N1-C2-O2	5.18	126.43	122.80
53	A3	1271	G	C4-N9-C1'	5.18	133.24	126.50
53	A4	1258	C	C6-N1-C2	-5.18	118.23	120.30
29	A1	2290	G	C4-C5-N7	5.18	112.87	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	986	G	C5-N7-C8	-5.18	101.71	104.30
29	A2	2680	C	N1-C2-O2	5.18	122.01	118.90
53	A3	443	C	C6-N1-C2	-5.18	118.23	120.30
53	A4	802	A	C8-N9-C4	-5.18	103.73	105.80
53	A4	896	A	C5-C6-N6	-5.18	119.56	123.70
29	A1	439	G	N9-C4-C5	-5.18	103.33	105.40
29	A2	2541	C	N3-C2-O2	-5.18	118.28	121.90
53	A3	337	C	C5-C6-N1	5.18	123.59	121.00
53	A3	779	C	N3-C2-O2	-5.18	118.28	121.90
53	A4	217	U	C5-C6-N1	5.18	125.29	122.70
12	N1	30	ARG	NE-CZ-NH1	-5.18	117.71	120.30
29	A1	1189	U	N1-C2-O2	5.18	126.42	122.80
29	A2	688	C	O4'-C1'-N1	5.18	112.34	108.20
29	A2	1065	G	C4-N9-C1'	5.18	133.23	126.50
29	A1	196	U	N3-C2-O2	-5.18	118.58	122.20
29	A1	324	A	C2-N3-C4	5.18	113.19	110.60
29	A1	628	A	N7-C8-N9	5.18	116.39	113.80
29	A2	468	G	C5-C6-O6	-5.18	125.49	128.60
29	A2	2523	G	C5-N7-C8	-5.18	101.71	104.30
29	A2	2535	C	N3-C2-O2	-5.18	118.28	121.90
53	A3	613	G	C5-N7-C8	-5.18	101.71	104.30
53	A4	1087	A	N9-C4-C5	-5.18	103.73	105.80
53	A4	1455	C	C2-N1-C1'	5.18	124.50	118.80
29	A1	406	C	C5-C6-N1	5.17	123.59	121.00
29	A1	641	G	N3-C4-N9	5.17	129.10	126.00
29	A1	1883	G	C8-N9-C1'	5.17	133.73	127.00
30	B1	39	C	C5-C6-N1	5.17	123.59	121.00
29	A2	879	G	C4-N9-C1'	-5.17	119.77	126.50
29	A2	1716	G	C6-N1-C2	-5.17	122.00	125.10
29	A2	1718	A	C8-N9-C1'	-5.17	118.39	127.70
53	A4	910	G	N3-C4-N9	-5.17	122.90	126.00
29	A1	556	A	C5-N7-C8	-5.17	101.31	103.90
29	A1	1169	C	C6-N1-C2	-5.17	118.23	120.30
29	A1	1711	C	C2-N3-C4	-5.17	117.31	119.90
29	A1	2016	G	C6-C5-N7	-5.17	127.30	130.40
29	A2	241	A	N1-C6-N6	-5.17	115.50	118.60
29	A2	555	A	C4-C5-N7	5.17	113.29	110.70
29	A2	1385	G	N3-C2-N2	-5.17	116.28	119.90
29	A2	1708	U	C6-N1-C2	-5.17	117.90	121.00
30	B2	118	G	C8-N9-C4	-5.17	104.33	106.40
53	A4	1038	U	C6-N1-C2	-5.17	117.90	121.00
53	A4	1348	C	C2-N3-C4	5.17	122.49	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1298	G	N3-C4-C5	-5.17	126.02	128.60
29	A1	2487	U	O4'-C1'-N1	5.17	112.34	108.20
29	A2	1447	C	C2-N1-C1'	5.17	124.49	118.80
29	A2	1477	G	N3-C4-C5	-5.17	126.01	128.60
29	A2	1913	A	N3-C4-C5	5.17	130.42	126.80
53	A3	148	C	P-O3'-C3'	5.17	125.91	119.70
53	A4	7	G	C8-N9-C1'	-5.17	120.28	127.00
53	A4	897	U	O5'-P-OP1	-5.17	101.05	105.70
29	A1	860	U	N3-C4-O4	-5.17	115.78	119.40
29	A1	1941	U	C2-N1-C1'	5.17	123.90	117.70
29	A2	1167	C	C6-N1-C2	-5.17	118.23	120.30
29	A2	1889	G	C4-N9-C1'	5.17	133.22	126.50
29	A1	19	C	N1-C2-O2	5.17	122.00	118.90
29	A1	1619	A	N1-C6-N6	-5.17	115.50	118.60
29	A1	1674	G	C8-N9-C4	-5.17	104.33	106.40
29	A1	1765	G	C5-N7-C8	-5.17	101.72	104.30
29	A1	2342	A	N9-C4-C5	-5.17	103.73	105.80
29	A2	68	C	C5-C6-N1	5.17	123.58	121.00
29	A2	155	C	O4'-C1'-N1	5.17	112.33	108.20
29	A2	1972	G	N9-C4-C5	-5.17	103.33	105.40
29	A2	2233	G	N1-C2-N3	5.17	127.00	123.90
53	A3	1018	G	C8-N9-C1'	-5.17	120.28	127.00
53	A3	1335	C	C6-N1-C2	-5.17	118.23	120.30
53	A3	1442	C	N3-C2-O2	-5.17	118.28	121.90
34	D4	13	ARG	C-N-CA	5.17	134.62	121.70
29	A1	1790	U	C6-N1-C2	-5.17	117.90	121.00
29	A1	2258	U	C5-C4-O4	-5.17	122.80	125.90
29	A2	1036	A	N1-C2-N3	-5.17	126.72	129.30
29	A2	1139	G	C6-C5-N7	-5.17	127.30	130.40
29	A2	1291	G	N1-C6-O6	-5.17	116.80	119.90
29	A2	1960	A	O5'-P-OP2	-5.17	101.05	105.70
53	A3	1422	C	C6-N1-C2	-5.17	118.23	120.30
53	A4	760	A	N9-C4-C5	-5.17	103.73	105.80
53	A4	885	A	C8-N9-C4	-5.17	103.73	105.80
53	A4	1174	G	C4-C5-N7	5.17	112.87	110.80
29	A1	150	C	O4'-C1'-N1	5.17	112.33	108.20
29	A1	1126	U	C2-N1-C1'	5.17	123.90	117.70
29	A1	1815	C	C2-N1-C1'	-5.17	113.12	118.80
29	A2	2001	A	C8-N9-C4	5.17	107.87	105.80
53	A3	1442	C	N3-C4-C5	5.17	123.97	121.90
53	A4	1348	C	C6-N1-C2	-5.17	118.23	120.30
29	A1	459	G	N1-C6-O6	-5.16	116.80	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1086	C	N3-C2-O2	-5.16	118.29	121.90
29	A1	2085	G	N9-C4-C5	5.16	107.47	105.40
29	A2	2461	G	C4-C5-N7	5.16	112.86	110.80
29	A2	2864	G	C8-N9-C4	-5.16	104.33	106.40
29	A2	2867	C	C6-N1-C2	-5.16	118.23	120.30
53	A4	311	G	N3-C4-C5	-5.16	126.02	128.60
28	d2	50	LEU	CA-CB-CG	5.16	127.17	115.30
29	A2	446	G	C5-N7-C8	-5.16	101.72	104.30
53	A3	905	G	N3-C4-N9	5.16	129.10	126.00
53	A4	342	G	C8-N9-C4	-5.16	104.33	106.40
29	A1	848	G	C5-C6-O6	-5.16	125.50	128.60
29	A1	855	C	C6-N1-C1'	5.16	126.99	120.80
29	A1	910	A	N7-C8-N9	5.16	116.38	113.80
29	A1	1726	A	N9-C4-C5	5.16	107.86	105.80
29	A2	1026	G	C6-C5-N7	-5.16	127.30	130.40
29	A2	1425	G	C6-C5-N7	-5.16	127.30	130.40
29	A2	2656	G	N7-C8-N9	5.16	115.68	113.10
53	A3	261	G	N9-C4-C5	-5.16	103.34	105.40
53	A4	1141	U	C6-N1-C2	-5.16	117.90	121.00
29	A1	2165	G	C8-N9-C1'	-5.16	120.29	127.00
30	B1	3	U	N3-C2-O2	-5.16	118.59	122.20
29	A2	955	U	N1-C2-O2	5.16	126.41	122.80
29	A2	1944	C	O4'-C1'-N1	5.16	112.33	108.20
53	A3	296	G	C6-C5-N7	-5.16	127.31	130.40
29	A1	232	G	N1-C2-N3	5.16	126.99	123.90
29	A1	735	G	C5-N7-C8	-5.16	101.72	104.30
29	A2	237	G	C4-N9-C1'	5.16	133.20	126.50
29	A1	493	G	N1-C2-N3	5.16	126.99	123.90
29	A1	790	G	C5-C6-O6	5.16	131.69	128.60
29	A1	1265	C	N3-C2-O2	-5.16	118.29	121.90
29	A1	2208	G	C4-N9-C1'	5.16	133.20	126.50
29	A1	2359	G	C8-N9-C4	5.16	108.46	106.40
29	A2	1071	U	C2-N1-C1'	5.16	123.89	117.70
53	A3	669	U	C2-N1-C1'	-5.16	111.51	117.70
53	A3	1500	G	C5-C6-O6	-5.16	125.51	128.60
53	A4	834	C	N1-C2-O2	5.16	121.99	118.90
29	A2	2829	G	N1-C2-N2	-5.15	111.56	116.20
29	A1	182	C	C2-N1-C1'	5.15	124.47	118.80
29	A1	237	G	C8-N9-C1'	-5.15	120.30	127.00
29	A1	1837	C	C5-C4-N4	-5.15	116.59	120.20
29	A2	16	G	C5-C6-O6	-5.15	125.51	128.60
29	A2	713	C	C6-N1-C2	-5.15	118.24	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	665	G	N9-C4-C5	-5.15	103.34	105.40
53	A3	896	A	C5-C6-N6	-5.15	119.58	123.70
53	A3	1171	G	N9-C4-C5	5.15	107.46	105.40
53	A4	608	G	O4'-C1'-N9	5.15	112.32	108.20
53	A4	1113	G	C4-C5-N7	5.15	112.86	110.80
29	A1	2080	G	C5-C6-O6	-5.15	125.51	128.60
29	A1	2146	U	C5-C6-N1	5.15	125.28	122.70
29	A1	2709	C	C2-N1-C1'	5.15	124.47	118.80
29	A2	2650	U	C6-N1-C1'	-5.15	113.99	121.20
53	A3	99	C	N3-C4-C5	5.15	123.96	121.90
53	A3	1373	U	C5-C4-O4	5.15	128.99	125.90
53	A4	824	U	C2-N1-C1'	5.15	123.88	117.70
53	A4	1365	C	O5'-P-OP1	-5.15	101.06	105.70
29	A1	243	C	C6-N1-C2	-5.15	118.24	120.30
29	A1	295	C	O4'-C1'-N1	5.15	112.32	108.20
29	A2	200	C	C4-C5-C6	-5.15	114.83	117.40
53	A4	1433	G	O4'-C1'-N9	5.15	112.32	108.20
29	A1	660	A	N7-C8-N9	5.15	116.37	113.80
29	A1	1038	A	N1-C6-N6	-5.15	115.51	118.60
29	A1	1715	G	C5-C6-N1	-5.15	108.93	111.50
29	A1	1868	G	C5-C6-O6	-5.15	125.51	128.60
29	A1	2176	G	C8-N9-C4	-5.15	104.34	106.40
29	A1	2190	G	C4-C5-N7	5.15	112.86	110.80
29	A1	2511	A	C4-C5-N7	5.15	113.27	110.70
29	A1	2612	A	N7-C8-N9	5.15	116.37	113.80
29	A2	881	G	C8-N9-C1'	-5.15	120.31	127.00
29	A2	2203	C	C6-N1-C2	-5.15	118.24	120.30
53	A4	188	U	C5-C6-N1	5.15	125.27	122.70
53	A4	513	G	C2-N3-C4	5.15	114.47	111.90
53	A4	858	G	N3-C4-N9	5.15	129.09	126.00
53	A4	1220	A	C8-N9-C4	5.15	107.86	105.80
29	A1	897	G	N9-C4-C5	-5.15	103.34	105.40
29	A1	1443	A	N1-C6-N6	-5.15	115.51	118.60
29	A2	458	A	C2-N3-C4	5.15	113.17	110.60
29	A2	847	G	C6-C5-N7	-5.15	127.31	130.40
29	A2	2235	G	N9-C4-C5	-5.15	103.34	105.40
53	A3	175	G	C6-C5-N7	-5.15	127.31	130.40
53	A3	363	U	O5'-P-OP1	-5.15	101.07	105.70
29	A1	740	C	N1-C2-O2	5.14	121.99	118.90
29	A1	1275	G	N3-C4-C5	-5.14	126.03	128.60
29	A1	2577	U	C2-N1-C1'	5.14	123.87	117.70
29	A2	348	G	C4-N9-C1'	5.14	133.19	126.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2700	G	N1-C2-N2	-5.14	111.57	116.20
53	A3	754	G	C4-N9-C1'	5.14	133.19	126.50
53	A3	882	U	N1-C2-O2	5.14	126.40	122.80
53	A3	1115	G	N3-C4-C5	5.14	131.17	128.60
53	A4	131	C	N3-C2-O2	-5.14	118.30	121.90
53	A4	583	C	N1-C2-O2	5.14	121.99	118.90
53	A4	1225	C	N3-C4-C5	5.14	123.96	121.90
29	A1	259	U	C2-N1-C1'	-5.14	111.53	117.70
29	A1	313	C	N1-C2-O2	5.14	121.99	118.90
29	A1	1172	C	C5-C4-N4	-5.14	116.60	120.20
29	A1	2780	A	C4-N9-C1'	5.14	135.56	126.30
29	A2	2341	A	C4-N9-C1'	-5.14	117.04	126.30
53	A3	805	C	C6-N1-C2	-5.14	118.24	120.30
53	A3	888	U	C2-N3-C4	5.14	130.09	127.00
53	A3	1018	G	C2-N3-C4	5.14	114.47	111.90
53	A4	1382	C	O4'-C1'-N1	-5.14	104.09	108.20
53	A4	1385	C	N1-C2-O2	5.14	121.99	118.90
29	A1	1242	G	C5-C6-O6	-5.14	125.52	128.60
29	A1	2456	C	C6-N1-C1'	5.14	126.97	120.80
29	A2	2905	G	C5-C6-O6	-5.14	125.52	128.60
53	A3	197	G	C6-C5-N7	-5.14	127.32	130.40
53	A3	1118	U	O4'-C1'-N1	5.14	112.31	108.20
53	A3	1391	C	C6-N1-C2	-5.14	118.24	120.30
29	A1	989	G	N9-C4-C5	-5.14	103.34	105.40
29	A1	1546	C	C5-C6-N1	5.14	123.57	121.00
29	A1	2633	C	C5-C6-N1	-5.14	118.43	121.00
29	A2	183	U	C6-N1-C2	-5.14	117.92	121.00
29	A2	1690	A	C5-C6-N6	-5.14	119.59	123.70
53	A3	779	C	N3-C4-C5	5.14	123.96	121.90
53	A4	768	G	N3-C4-N9	5.14	129.08	126.00
53	A4	1026	A	N1-C2-N3	-5.14	126.73	129.30
53	A4	1343	C	C5-C6-N1	5.14	123.57	121.00
53	A4	1459	G	N3-C4-N9	5.14	129.08	126.00
29	A1	651	C	C5-C6-N1	5.14	123.57	121.00
29	A1	1925	A	O4'-C1'-N9	5.14	112.31	108.20
29	A1	1999	G	C8-N9-C4	-5.14	104.34	106.40
29	A2	1174	A	N7-C8-N9	5.14	116.37	113.80
53	A3	533	G	C6-C5-N7	-5.14	127.32	130.40
53	A4	1379	C	C6-N1-C2	-5.14	118.25	120.30
53	A4	1467	C	C6-N1-C2	-5.14	118.25	120.30
29	A1	834	G	N3-C4-N9	5.14	129.08	126.00
29	A2	628	A	N7-C8-N9	5.14	116.37	113.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2348	G	N1-C6-O6	5.14	122.98	119.90
53	A4	1450	A	N7-C8-N9	5.14	116.37	113.80
29	A1	804	C	O4'-C1'-N1	5.13	112.31	108.20
29	A1	1234	G	N3-C4-C5	-5.13	126.03	128.60
29	A1	1405	U	N1-C2-O2	5.13	126.39	122.80
29	A1	1519	G	N7-C8-N9	5.13	115.67	113.10
10	L2	6	ARG	C-N-CA	5.13	134.54	121.70
29	A2	796	U	N1-C2-O2	5.13	126.39	122.80
32	B3	100	GLY	N-CA-C	-5.13	100.27	113.10
53	A3	760	A	C8-N9-C1'	-5.13	118.46	127.70
53	A3	1382	C	O4'-C1'-N1	-5.13	104.09	108.20
29	A1	1551	U	O4'-C1'-N1	5.13	112.31	108.20
29	A1	1946	G	C5-C6-N1	5.13	114.07	111.50
29	A2	433	U	N1-C2-O2	5.13	126.39	122.80
29	A1	193	C	O4'-C1'-N1	5.13	112.31	108.20
29	A1	1197	G	N9-C4-C5	5.13	107.45	105.40
29	A2	1026	G	C4-N9-C1'	5.13	133.17	126.50
29	A2	1037	G	OP2-P-O3'	5.13	116.49	105.20
29	A2	1840	G	N3-C4-C5	5.13	131.17	128.60
30	B2	93	C	N1-C2-O2	5.13	121.98	118.90
53	A3	215	G	N7-C8-N9	5.13	115.67	113.10
53	A4	267	C	C6-N1-C2	-5.13	118.25	120.30
53	A4	1015	G	OP2-P-O3'	5.13	116.49	105.20
30	B1	85	G	C5-C6-N1	5.13	114.06	111.50
29	A2	827	G	C5-N7-C8	-5.13	101.73	104.30
29	A2	2120	U	C5-C6-N1	5.13	125.27	122.70
29	A2	2184	G	N3-C4-C5	-5.13	126.03	128.60
30	B2	49	C	N1-C2-O2	5.13	121.98	118.90
53	A3	728	C	C2-N1-C1'	5.13	124.44	118.80
29	A1	17	G	N3-C4-C5	-5.13	126.04	128.60
29	A1	1067	U	O5'-P-OP1	-5.13	101.08	105.70
29	A1	1672	G	N3-C4-N9	5.13	129.08	126.00
29	A1	2248	G	C4-N9-C1'	-5.13	119.83	126.50
30	B1	84	G	N3-C4-N9	5.13	129.08	126.00
29	A2	324	A	C5-C6-N1	5.13	120.26	117.70
29	A2	937	C	C5-C6-N1	5.13	123.56	121.00
29	A2	993	G	N1-C2-N2	-5.13	111.58	116.20
29	A2	1628	A	N7-C8-N9	5.13	116.36	113.80
29	A2	2320	C	C6-N1-C2	-5.13	118.25	120.30
29	A2	2362	U	N3-C2-O2	-5.13	118.61	122.20
29	A2	2403	G	C8-N9-C4	5.13	108.45	106.40
29	A2	2694	C	C2-N1-C1'	5.13	124.44	118.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	966	C	C2-N3-C4	5.13	122.46	119.90
32	B4	44	LEU	CA-CB-CG	5.13	127.10	115.30
53	A4	1162	G	C2-N3-C4	5.13	114.47	111.90
1	C1	182	LEU	CA-CB-CG	5.13	127.09	115.30
29	A1	931	G	C8-N9-C1'	5.13	133.66	127.00
29	A1	1312	G	C5-N7-C8	-5.13	101.74	104.30
29	A1	1986	C	C6-N1-C2	-5.13	118.25	120.30
29	A1	2760	C	N3-C2-O2	-5.13	118.31	121.90
30	B1	47	A	C5-C6-N1	5.13	120.26	117.70
29	A2	321	C	O4'-C1'-N1	5.13	112.30	108.20
29	A2	2281	A	N7-C8-N9	5.13	116.36	113.80
29	A2	2596	G	N1-C6-O6	5.13	122.98	119.90
29	A2	2597	G	C6-C5-N7	-5.13	127.32	130.40
53	A3	261	G	C6-C5-N7	-5.13	127.32	130.40
53	A3	555	A	OP2-P-O3'	5.13	116.48	105.20
53	A4	526	C	C6-N1-C1'	-5.13	114.65	120.80
53	A4	1170	C	C5-C6-N1	5.13	123.56	121.00
53	A4	1457	G	C4-N9-C1'	-5.13	119.83	126.50
29	A2	2332	G	N1-C6-O6	5.12	122.97	119.90
53	A4	1055	U	N1-C2-O2	5.12	126.39	122.80
29	A1	1822	A	N9-C4-C5	-5.12	103.75	105.80
29	A1	2513	C	O4'-C1'-N1	5.12	112.30	108.20
29	A1	2515	C	N1-C2-O2	-5.12	115.83	118.90
29	A2	227	C	C6-N1-C1'	-5.12	114.65	120.80
29	A2	1790	U	C6-N1-C2	-5.12	117.93	121.00
53	A3	314	G	N1-C6-O6	-5.12	116.83	119.90
53	A3	1097	C	O4'-C1'-N1	5.12	112.30	108.20
53	A4	27	G	C6-C5-N7	-5.12	127.33	130.40
29	A1	749	G	C5-C6-O6	-5.12	125.53	128.60
29	A2	77	A	C2-N3-C4	5.12	113.16	110.60
29	A2	847	G	N9-C4-C5	-5.12	103.35	105.40
29	A2	1119	G	N1-C6-O6	-5.12	116.83	119.90
29	A2	1743	C	OP2-P-O3'	5.12	116.47	105.20
29	A2	2600	C	N3-C2-O2	-5.12	118.32	121.90
38	H3	92	ARG	NE-CZ-NH1	-5.12	117.74	120.30
53	A3	349	G	N3-C4-N9	5.12	129.07	126.00
53	A3	393	C	C6-N1-C2	-5.12	118.25	120.30
53	A3	527	G	C5-N7-C8	-5.12	101.74	104.30
53	A3	832	G	C6-C5-N7	-5.12	127.33	130.40
53	A3	1145	C	C6-N1-C2	-5.12	118.25	120.30
53	A3	1467	C	N3-C2-O2	-5.12	118.31	121.90
53	A4	302	C	N1-C2-O2	5.12	121.97	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1058	A	C4-C5-N7	5.12	113.26	110.70
29	A2	2510	C	C5-C6-N1	-5.12	118.44	121.00
53	A3	121	G	C4-C5-N7	5.12	112.85	110.80
29	A1	288	G	N7-C8-N9	5.12	115.66	113.10
29	A1	386	G	C8-N9-C4	-5.12	104.35	106.40
29	A1	881	G	C8-N9-C1'	-5.12	120.35	127.00
29	A1	949	A	C5-N7-C8	-5.12	101.34	103.90
29	A1	1597	C	N3-C2-O2	-5.12	118.32	121.90
29	A2	1704	A	N1-C6-N6	5.12	121.67	118.60
29	A2	2152	C	C5-C6-N1	5.12	123.56	121.00
53	A3	296	G	N9-C4-C5	-5.12	103.35	105.40
53	A3	700	C	O4'-C1'-N1	5.12	112.29	108.20
29	A1	437	C	C5-C6-N1	5.12	123.56	121.00
29	A1	1234	G	C4-C5-N7	5.12	112.85	110.80
29	A1	2028	G	N1-C2-N2	-5.12	111.59	116.20
29	A2	1542	A	C5-C6-N6	-5.12	119.61	123.70
53	A4	192	G	N3-C4-N9	5.12	129.07	126.00
29	A1	485	A	P-O3'-C3'	5.12	125.84	119.70
29	A1	969	G	N1-C2-N3	5.12	126.97	123.90
29	A1	993	G	N1-C2-N2	-5.12	111.60	116.20
29	A1	1823	C	N3-C2-O2	-5.12	118.32	121.90
30	B1	83	G	C6-C5-N7	-5.12	127.33	130.40
1	C2	206	LEU	CA-CB-CG	-5.12	103.54	115.30
29	A2	787	G	C4-C5-N7	5.12	112.85	110.80
29	A2	1242	G	C5-C6-O6	-5.12	125.53	128.60
29	A2	1530	U	O4'-C1'-N1	5.12	112.29	108.20
29	A2	2016	G	N1-C2-N3	5.12	126.97	123.90
53	A3	132	G	N1-C6-O6	-5.12	116.83	119.90
53	A3	1094	C	C5-C6-N1	5.12	123.56	121.00
53	A4	117	G	C6-C5-N7	-5.12	127.33	130.40
29	A1	1239	G	C5-C6-O6	-5.11	125.53	128.60
29	A1	1620	A	C5-C6-N6	-5.11	119.61	123.70
29	A1	1776	C	C5-C6-N1	5.11	123.56	121.00
29	A1	2251	G	N1-C6-O6	5.11	122.97	119.90
29	A1	2348	G	C8-N9-C4	-5.11	104.36	106.40
30	B1	103	G	C5-N7-C8	-5.11	101.74	104.30
29	A2	363	G	C8-N9-C4	-5.11	104.36	106.40
29	A2	679	C	O4'-C1'-N1	5.11	112.29	108.20
29	A2	1600	C	C6-N1-C2	-5.11	118.25	120.30
29	A2	2084	A	C5-C6-N6	-5.11	119.61	123.70
29	A2	2625	U	N3-C2-O2	-5.11	118.62	122.20
53	A3	450	C	N3-C2-O2	-5.11	118.32	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	780	C	C6-N1-C2	-5.11	118.25	120.30
53	A3	1455	C	C2-N1-C1'	5.11	124.42	118.80
53	A4	1057	C	C6-N1-C2	-5.11	118.25	120.30
53	A4	1379	C	C5-C6-N1	5.11	123.56	121.00
29	A1	533	G	N9-C4-C5	-5.11	103.36	105.40
29	A2	2080	G	C5-N7-C8	-5.11	101.74	104.30
53	A3	1026	A	N3-C4-C5	-5.11	123.22	126.80
29	A1	1071	U	C6-N1-C2	-5.11	117.93	121.00
29	A1	2076	G	N9-C4-C5	-5.11	103.36	105.40
29	A2	1058	A	C4-C5-N7	5.11	113.26	110.70
29	A2	1127	C	C6-N1-C1'	-5.11	114.67	120.80
29	A2	2150	A	C2-N3-C4	5.11	113.16	110.60
29	A2	2360	A	C5-N7-C8	-5.11	101.34	103.90
30	B2	70	C	C6-N1-C2	-5.11	118.26	120.30
53	A3	1200	U	C2-N1-C1'	-5.11	111.57	117.70
53	A4	194	U	C5-C4-O4	-5.11	122.83	125.90
29	A1	2581	G	C4-N9-C1'	5.11	133.14	126.50
29	A2	1928	G	C8-N9-C4	-5.11	104.36	106.40
53	A3	110	G	C4-N9-C1'	5.11	133.14	126.50
53	A4	33	A	C5-C6-N1	5.11	120.25	117.70
29	A1	1355	A	O4'-C1'-N9	5.11	112.28	108.20
29	A1	2243	C	N3-C4-N4	5.11	121.58	118.00
29	A2	1925	A	C2-N3-C4	5.11	113.15	110.60
29	A2	2290	G	C4-C5-N7	5.11	112.84	110.80
53	A4	101	G	O4'-C1'-N9	5.11	112.29	108.20
53	A4	574	U	C5-C6-N1	5.11	125.25	122.70
29	A1	119	G	N3-C4-N9	5.11	129.06	126.00
29	A1	177	G	N1-C2-N2	-5.11	111.61	116.20
29	A1	955	U	N1-C2-O2	5.11	126.37	122.80
29	A1	1656	A	N1-C6-N6	5.11	121.66	118.60
29	A1	2273	G	C6-N1-C2	-5.11	122.04	125.10
29	A1	2453	A	P-O3'-C3'	5.11	125.83	119.70
29	A2	95	G	N3-C4-C5	5.11	131.15	128.60
29	A2	1037	G	N3-C4-C5	-5.11	126.05	128.60
29	A2	1718	A	C6-N1-C2	-5.11	115.54	118.60
29	A2	1896	G	C5-C6-O6	-5.11	125.54	128.60
53	A3	716	A	C4-N9-C1'	5.11	135.49	126.30
53	A3	988	G	N3-C4-N9	-5.11	122.94	126.00
53	A3	1098	C	C5-C6-N1	5.11	123.55	121.00
53	A3	1450	A	N3-C4-N9	5.11	131.49	127.40
53	A4	547	C	C6-N1-C2	-5.11	118.26	120.30
53	A4	707	G	N1-C6-O6	-5.11	116.84	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1006	C	C6-N1-C2	-5.11	118.26	120.30
29	A1	1168	G	C5-C6-O6	-5.10	125.54	128.60
29	A1	1578	G	C4-C5-N7	5.10	112.84	110.80
29	A2	2591	A	C4-C5-N7	5.10	113.25	110.70
29	A1	237	G	N3-C4-N9	5.10	129.06	126.00
29	A1	622	U	O4'-C1'-N1	5.10	112.28	108.20
29	A1	698	C	C5-C6-N1	5.10	123.55	121.00
29	A1	1797	G	C2-N3-C4	-5.10	109.35	111.90
30	B1	108	G	N3-C4-C5	-5.10	126.05	128.60
29	A2	55	A	N7-C8-N9	5.10	116.35	113.80
29	A2	712	G	N1-C6-O6	5.10	122.96	119.90
29	A2	1954	G	N3-C2-N2	5.10	123.47	119.90
29	A2	2590	G	C4-C5-N7	5.10	112.84	110.80
30	B2	8	C	C6-N1-C2	-5.10	118.26	120.30
53	A3	673	G	C2-N3-C4	-5.10	109.35	111.90
53	A3	1387	G	N3-C2-N2	-5.10	116.33	119.90
29	A1	993	G	N1-C2-N3	5.10	126.96	123.90
29	A1	1022	C	N3-C2-O2	-5.10	118.33	121.90
29	A1	2834	G	N1-C6-O6	-5.10	116.84	119.90
29	A2	1834	G	N3-C4-N9	5.10	129.06	126.00
29	A2	2750	G	N3-C4-N9	5.10	129.06	126.00
53	A3	512	G	N3-C4-N9	5.10	129.06	126.00
53	A3	681	G	N1-C6-O6	5.10	122.96	119.90
29	A1	1919	C	N3-C4-C5	5.10	123.94	121.90
29	A1	2691	G	N3-C4-C5	-5.10	126.05	128.60
29	A2	1464	G	O4'-C1'-N9	5.10	112.28	108.20
29	A2	1978	G	C8-N9-C1'	-5.10	120.37	127.00
53	A4	386	G	C4-C5-N7	5.10	112.84	110.80
53	A4	714	G	C5-C6-N1	-5.10	108.95	111.50
29	A1	259	U	C5-C6-N1	-5.10	120.15	122.70
29	A1	1972	G	C8-N9-C4	5.10	108.44	106.40
29	A2	154	G	N3-C4-C5	5.10	131.15	128.60
29	A2	1819	A	N3-C4-N9	5.10	131.48	127.40
29	A2	2670	U	C2-N3-C4	5.10	130.06	127.00
53	A3	237	C	N3-C4-C5	5.10	123.94	121.90
53	A3	550	G	C6-C5-N7	-5.10	127.34	130.40
53	A3	754	G	N7-C8-N9	5.10	115.65	113.10
53	A4	502	C	O4'-C1'-N1	5.10	112.28	108.20
53	A4	541	G	N7-C8-N9	5.10	115.65	113.10
53	A4	1030	G	C4-N9-C1'	-5.10	119.87	126.50
29	A1	883	C	N3-C2-O2	-5.10	118.33	121.90
29	A1	2023	C	N3-C2-O2	-5.10	118.33	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2186	G	C6-C5-N7	-5.10	127.34	130.40
30	B2	47	A	N1-C6-N6	-5.10	115.54	118.60
53	A4	843	C	N3-C2-O2	-5.10	118.33	121.90
29	A1	1727	G	N7-C8-N9	5.09	115.65	113.10
29	A1	2289	C	C2-N1-C1'	5.09	124.40	118.80
29	A1	2428	G	C4-N9-C1'	5.09	133.12	126.50
29	A2	428	G	C5-N7-C8	-5.09	101.75	104.30
29	A2	2672	C	N3-C2-O2	-5.09	118.33	121.90
53	A3	1308	C	C5-C6-N1	5.09	123.55	121.00
53	A4	716	A	C4-C5-N7	5.09	113.25	110.70
29	A2	585	C	N3-C2-O2	-5.09	118.33	121.90
53	A3	1046	G	N9-C4-C5	-5.09	103.36	105.40
29	A1	635	G	C5-C6-O6	-5.09	125.55	128.60
29	A1	812	G	C4-N9-C1'	-5.09	119.88	126.50
29	A1	2234	G	C4-C5-N7	-5.09	108.76	110.80
30	B1	93	C	N3-C4-C5	5.09	123.94	121.90
29	A2	129	G	C8-N9-C4	5.09	108.44	106.40
29	A2	855	C	C2-N3-C4	-5.09	117.35	119.90
29	A2	2510	C	N1-C2-O2	-5.09	115.84	118.90
29	A2	2746	G	C5-C6-N1	5.09	114.05	111.50
53	A3	66	G	N3-C4-N9	5.09	129.06	126.00
53	A3	537	C	N3-C4-C5	5.09	123.94	121.90
53	A4	78	G	N9-C4-C5	-5.09	103.36	105.40
53	A4	352	G	N3-C4-C5	-5.09	126.05	128.60
53	A4	1396	U	C2-N1-C1'	5.09	123.81	117.70
29	A1	665	G	C8-N9-C1'	-5.09	120.38	127.00
29	A1	821	C	O4'-C1'-N1	5.09	112.27	108.20
29	A1	1358	G	N9-C4-C5	5.09	107.44	105.40
29	A1	2226	C	C2-N1-C1'	5.09	124.40	118.80
29	A1	2233	G	C4-N9-C1'	-5.09	119.88	126.50
29	A1	2596	G	N1-C6-O6	5.09	122.95	119.90
29	A2	1907	G	C8-N9-C1'	-5.09	120.39	127.00
29	A2	2441	C	O4'-C1'-N1	5.09	112.27	108.20
53	A3	61	G	N3-C4-C5	-5.09	126.06	128.60
53	A3	479	A	O4'-C1'-N9	-5.09	104.13	108.20
53	A3	582	C	C6-N1-C1'	-5.09	114.69	120.80
53	A3	699	A	C4-C5-N7	5.09	113.25	110.70
53	A4	512	G	N9-C4-C5	-5.09	103.36	105.40
53	A4	1251	C	C6-N1-C1'	5.09	126.91	120.80
29	A2	1184	G	C8-N9-C4	-5.09	104.36	106.40
29	A2	2265	G	N3-C2-N2	5.09	123.46	119.90
29	A2	2520	U	C2-N1-C1'	5.09	123.81	117.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	763	A	C5-C6-N6	-5.09	119.63	123.70
53	A4	1102	G	C4-N9-C1'	-5.09	119.89	126.50
29	A1	92	C	N1-C2-O2	5.09	121.95	118.90
29	A1	678	G	N3-C4-C5	5.09	131.14	128.60
29	A1	2096	G	C4-C5-N7	5.09	112.83	110.80
29	A2	1787	C	N3-C4-C5	-5.09	119.86	121.90
39	I3	19	LEU	CA-CB-CG	5.09	127.00	115.30
29	A1	1180	A	C5-N7-C8	-5.08	101.36	103.90
53	A3	205	G	N7-C8-N9	5.08	115.64	113.10
53	A4	1100	C	N1-C2-O2	5.08	121.95	118.90
29	A1	1225	C	C2-N1-C1'	-5.08	113.21	118.80
29	A1	2405	G	N3-C2-N2	-5.08	116.34	119.90
29	A1	2491	C	C2-N1-C1'	5.08	124.39	118.80
29	A2	119	G	C5-C6-O6	-5.08	125.55	128.60
29	A2	947	A	N7-C8-N9	5.08	116.34	113.80
29	A2	1997	G	N3-C4-N9	5.08	129.05	126.00
53	A3	1332	U	C5-C6-N1	5.08	125.24	122.70
29	A1	800	A	C5-N7-C8	-5.08	101.36	103.90
29	A1	1258	U	N3-C2-O2	-5.08	118.64	122.20
29	A1	1460	A	N1-C6-N6	5.08	121.65	118.60
29	A1	1568	U	C5-C6-N1	5.08	125.24	122.70
29	A1	2069	C	N1-C2-O2	5.08	121.95	118.90
29	A1	2154	U	C2-N1-C1'	-5.08	111.60	117.70
29	A1	2834	G	C5-C6-N1	5.08	114.04	111.50
29	A2	181	A	N7-C8-N9	5.08	116.34	113.80
29	A2	2258	U	C5-C4-O4	-5.08	122.85	125.90
53	A3	544	U	N1-C2-O2	5.08	126.36	122.80
53	A4	167	U	N1-C2-O2	5.08	126.36	122.80
29	A1	1399	C	N1-C2-O2	5.08	121.95	118.90
29	A1	1868	G	C8-N9-C4	5.08	108.43	106.40
29	A2	1044	A	C5-C6-N1	5.08	120.24	117.70
29	A2	2841	C	N3-C2-O2	-5.08	118.34	121.90
53	A3	1263	C	C5-C6-N1	5.08	123.54	121.00
53	A4	420	G	C4-N9-C1'	5.08	133.10	126.50
53	A4	604	A	C4-C5-C6	-5.08	114.46	117.00
53	A4	1066	G	C5-N7-C8	-5.08	101.76	104.30
29	A1	533	G	N3-C4-C5	5.08	131.14	128.60
29	A1	1690	A	C5-N7-C8	-5.08	101.36	103.90
29	A1	2510	C	C5-C6-N1	-5.08	118.46	121.00
29	A2	841	G	C6-N1-C2	-5.08	122.05	125.10
29	A2	1791	G	N3-C4-C5	-5.08	126.06	128.60
29	A2	2255	A	N1-C6-N6	-5.08	115.55	118.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	656	G	C4-C5-N7	5.08	112.83	110.80
53	A3	1307	C	C6-N1-C2	-5.08	118.27	120.30
53	A4	809	C	C5-C4-N4	-5.08	116.65	120.20
29	A2	990	U	O5'-P-OP2	-5.08	101.13	105.70
53	A3	242	G	N3-C4-C5	5.08	131.14	128.60
53	A3	535	U	N3-C2-O2	-5.08	118.65	122.20
53	A3	1354	U	N1-C2-O2	5.08	126.35	122.80
53	A4	579	C	C6-N1-C2	-5.08	118.27	120.30
29	A1	782	G	OP2-P-O3'	5.08	116.36	105.20
29	A1	793	G	C4-C5-N7	5.08	112.83	110.80
29	A2	2597	G	C8-N9-C1'	-5.08	120.40	127.00
29	A2	2737	G	C8-N9-C1'	-5.08	120.40	127.00
53	A3	782	G	N3-C4-N9	5.08	129.04	126.00
53	A4	227	G	C5-N7-C8	-5.08	101.76	104.30
53	A4	537	C	N3-C4-C5	5.08	123.93	121.90
29	A1	782	G	C4-N9-C1'	-5.07	119.91	126.50
29	A1	1525	C	C6-N1-C2	-5.07	118.27	120.30
29	A1	1768	G	N3-C4-N9	5.07	129.04	126.00
29	A1	1867	U	C6-N1-C2	-5.07	117.96	121.00
29	A1	1878	G	C8-N9-C4	5.07	108.43	106.40
30	B1	83	G	C4-N9-C1'	5.07	133.10	126.50
29	A2	800	A	C6-C5-N7	-5.07	128.75	132.30
29	A2	1833	C	C4-C5-C6	5.07	119.94	117.40
36	F3	10	LEU	CA-CB-CG	5.07	126.97	115.30
53	A4	888	U	C2-N3-C4	5.07	130.04	127.00
53	A4	1284	C	N3-C2-O2	-5.07	118.35	121.90
29	A1	2442	G	P-O3'-C3'	5.07	125.79	119.70
29	A2	1921	G	C8-N9-C4	-5.07	104.37	106.40
29	A2	1969	G	C8-N9-C4	-5.07	104.37	106.40
53	A3	1059	G	C8-N9-C4	-5.07	104.37	106.40
29	A1	667	C	C5-C6-N1	5.07	123.53	121.00
29	A1	1803	G	N9-C4-C5	5.07	107.43	105.40
29	A1	2597	G	C6-C5-N7	-5.07	127.36	130.40
29	A2	1137	G	C8-N9-C1'	-5.07	120.41	127.00
29	A2	1421	A	C4-C5-C6	-5.07	114.46	117.00
29	A2	2682	G	C8-N9-C4	5.07	108.43	106.40
29	A2	2758	C	C6-N1-C1'	5.07	126.89	120.80
29	A2	2876	G	C4-N9-C1'	-5.07	119.91	126.50
53	A3	574	U	C6-N1-C2	-5.07	117.96	121.00
53	A3	1475	U	C6-N1-C2	-5.07	117.96	121.00
53	A4	937	U	C6-N1-C1'	-5.07	114.10	121.20
29	A2	549	G	C4-C5-N7	5.07	112.83	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	1748	G	C5-N7-C8	-5.07	101.77	104.30
29	A2	2601	A	C5-N7-C8	-5.07	101.36	103.90
53	A4	160	G	C4-C5-N7	5.07	112.83	110.80
53	A4	1292	G	C5-C6-O6	-5.07	125.56	128.60
29	A1	704	A	OP2-P-O3'	5.07	116.35	105.20
29	A1	715	G	C6-C5-N7	-5.07	127.36	130.40
29	A1	787	G	C4-C5-N7	5.07	112.83	110.80
29	A1	1429	G	C6-C5-N7	-5.07	127.36	130.40
29	A1	2656	G	C8-N9-C4	-5.07	104.37	106.40
29	A2	1394	G	C6-C5-N7	-5.07	127.36	130.40
52	X3	131	ILE	CG1-CB-CG2	-5.07	100.25	111.40
53	A4	772	U	O4'-C1'-N1	5.07	112.25	108.20
29	A1	93	G	C4-N9-C1'	5.07	133.09	126.50
29	A1	432	C	OP2-P-O3'	5.07	116.34	105.20
29	A1	2315	C	O4'-C1'-N1	5.07	112.25	108.20
29	A1	2606	G	C4-N9-C1'	5.07	133.09	126.50
29	A2	851	A	C4-C5-N7	5.07	113.23	110.70
29	A2	2330	C	N3-C4-C5	-5.07	119.87	121.90
29	A2	2521	C	C5-C6-N1	5.07	123.53	121.00
30	B2	75	A	C5-C6-N6	-5.07	119.65	123.70
53	A3	1108	U	C2-N1-C1'	5.07	123.78	117.70
53	A3	1174	G	C4-C5-N7	5.07	112.83	110.80
53	A4	253	G	C6-C5-N7	-5.07	127.36	130.40
29	A1	2345	G	N9-C4-C5	-5.06	103.37	105.40
29	A2	685	G	C4-N9-C1'	5.06	133.08	126.50
29	A2	1714	A	C6-C5-N7	-5.06	128.75	132.30
29	A2	2699	G	N1-C6-O6	-5.06	116.86	119.90
53	A3	402	G	C4-C5-N7	5.06	112.83	110.80
53	A3	689	A	N1-C6-N6	5.06	121.64	118.60
53	A4	852	C	N3-C2-O2	-5.06	118.36	121.90
29	A1	617	G	C6-C5-N7	-5.06	127.36	130.40
29	A1	1548	G	N3-C4-N9	5.06	129.04	126.00
30	B1	24	U	N3-C2-O2	-5.06	118.66	122.20
30	B1	90	C	C6-N1-C2	-5.06	118.28	120.30
29	A2	1249	C	C6-N1-C2	-5.06	118.28	120.30
29	A2	2281	A	C5-N7-C8	-5.06	101.37	103.90
29	A2	2296	G	C6-C5-N7	-5.06	127.36	130.40
29	A2	2694	C	C6-N1-C2	-5.06	118.28	120.30
45	O3	89	GLY	N-CA-C	5.06	125.76	113.10
53	A4	26	A	C6-N1-C2	-5.06	115.56	118.60
53	A4	717	G	C5-N7-C8	-5.06	101.77	104.30
53	A4	916	G	N1-C6-O6	-5.06	116.86	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A4	1410	A	C4-C5-N7	5.06	113.23	110.70
29	A1	387	U	C6-N1-C2	-5.06	117.96	121.00
29	A1	1997	G	C4-N9-C1'	5.06	133.08	126.50
29	A1	2194	A	OP1-P-O3'	5.06	116.33	105.20
53	A3	1254	G	N3-C4-N9	5.06	129.04	126.00
29	A1	669	G	C8-N9-C4	5.06	108.42	106.40
29	A2	1054	C	C6-N1-C1'	-5.06	114.73	120.80
29	A2	2273	G	C8-N9-C4	5.06	108.42	106.40
29	A2	2386	G	C4-C5-N7	-5.06	108.78	110.80
29	A2	2416	C	N1-C2-O2	5.06	121.94	118.90
29	A2	2517	A	C2-N3-C4	5.06	113.13	110.60
53	A3	593	G	C4-N9-C1'	5.06	133.08	126.50
53	A4	595	C	N3-C2-O2	-5.06	118.36	121.90
53	A4	763	A	C5-C6-N6	-5.06	119.65	123.70
29	A1	1553	C	C6-N1-C1'	5.06	126.87	120.80
29	A1	1758	U	C2-N1-C1'	5.06	123.77	117.70
29	A1	1854	A	N1-C6-N6	-5.06	115.57	118.60
29	A1	2742	G	C5-C6-N1	5.06	114.03	111.50
29	A1	2871	G	N9-C4-C5	-5.06	103.38	105.40
29	A1	2904	G	C4-C5-N7	5.06	112.82	110.80
29	A2	1460	A	C2-N3-C4	5.06	113.13	110.60
29	A2	1485	C	C6-N1-C2	-5.06	118.28	120.30
29	A2	1597	C	C6-N1-C2	-5.06	118.28	120.30
29	A2	2835	A	C5-N7-C8	-5.06	101.37	103.90
29	A2	2859	U	N1-C2-O2	5.06	126.34	122.80
53	A4	443	C	O4'-C1'-N1	5.06	112.25	108.20
53	A4	737	C	N1-C2-O2	5.06	121.93	118.90
29	A1	669	G	C8-N9-C1'	5.06	133.57	127.00
29	A1	2896	U	N1-C2-O2	5.06	126.34	122.80
53	A4	568	G	N1-C6-O6	-5.06	116.87	119.90
29	A1	1297	U	O4'-C1'-N1	5.05	112.24	108.20
29	A1	1951	A	C5-N7-C8	-5.05	101.37	103.90
29	A2	2746	G	N3-C4-N9	5.05	129.03	126.00
30	B2	90	C	C5-C6-N1	5.05	123.53	121.00
53	A3	425	A	C6-C5-N7	-5.05	128.76	132.30
53	A3	466	A	C8-N9-C1'	-5.05	118.60	127.70
53	A3	653	G	N3-C4-C5	-5.05	126.07	128.60
53	A3	1397	G	N3-C2-N2	-5.05	116.36	119.90
53	A3	1433	G	P-O3'-C3'	5.05	125.77	119.70
53	A3	1463	G	N3-C4-N9	-5.05	122.97	126.00
29	A1	1826	C	C2-N1-C1'	5.05	124.36	118.80
29	A2	604	G	N1-C6-O6	5.05	122.93	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	2709	C	C2-N1-C1'	5.05	124.36	118.80
30	B2	109	G	N9-C4-C5	-5.05	103.38	105.40
53	A4	717	G	N3-C4-C5	5.05	131.13	128.60
29	A1	928	G	C4-C5-N7	5.05	112.82	110.80
29	A1	1620	A	O4'-C1'-N9	5.05	112.24	108.20
29	A1	2210	G	C8-N9-C4	-5.05	104.38	106.40
29	A2	254	C	N1-C2-O2	5.05	121.93	118.90
29	A2	842	A	O5'-P-OP2	-5.05	101.15	105.70
29	A2	1303	U	C6-N1-C1'	-5.05	114.13	121.20
29	A2	1940	A	C8-N9-C4	-5.05	103.78	105.80
29	A2	2596	G	C6-C5-N7	-5.05	127.37	130.40
29	A2	2656	G	C4-C5-N7	5.05	112.82	110.80
53	A3	1014	G	C4-N9-C1'	5.05	133.07	126.50
53	A3	1442	C	N3-C4-N4	-5.05	114.46	118.00
53	A4	524	G	C2-N3-C4	-5.05	109.37	111.90
53	A4	1477	A	O4'-C1'-N9	5.05	112.24	108.20
29	A1	678	G	N3-C4-N9	-5.05	122.97	126.00
29	A1	1255	C	N1-C2-O2	5.05	121.93	118.90
29	A2	232	G	C6-C5-N7	-5.05	127.37	130.40
29	A2	723	G	N7-C8-N9	-5.05	110.58	113.10
29	A2	1485	C	N3-C2-O2	-5.05	118.36	121.90
29	A2	2718	C	N3-C2-O2	-5.05	118.36	121.90
53	A3	101	G	C4-N9-C1'	5.05	133.06	126.50
53	A3	455	C	C6-N1-C2	-5.05	118.28	120.30
53	A4	763	A	C6-C5-N7	-5.05	128.76	132.30
29	A1	446	G	C5-N7-C8	-5.05	101.78	104.30
29	A1	901	G	N1-C2-N2	-5.05	111.66	116.20
29	A1	1843	A	C5-C6-N1	5.05	120.22	117.70
29	A2	539	G	C2-N3-C4	-5.05	109.38	111.90
29	A2	826	A	N7-C8-N9	5.05	116.32	113.80
29	A2	2480	C	C4-C5-C6	-5.05	114.88	117.40
29	A1	854	G	N3-C4-C5	5.05	131.12	128.60
29	A1	2296	G	C6-C5-N7	-5.05	127.37	130.40
29	A2	241	A	C8-N9-C4	-5.05	103.78	105.80
29	A2	458	A	C5-C6-N1	5.05	120.22	117.70
29	A2	712	G	C6-C5-N7	-5.05	127.37	130.40
29	A2	1339	C	C6-N1-C2	5.05	122.32	120.30
29	A2	1486	U	N1-C2-O2	5.05	126.33	122.80
29	A2	1948	C	C2-N1-C1'	5.05	124.35	118.80
29	A2	2302	A	C4-C5-N7	5.05	113.22	110.70
29	A2	2577	U	N3-C2-O2	-5.05	118.67	122.20
53	A3	62	U	N1-C2-O2	5.05	126.33	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	553	G	C4-C5-N7	5.05	112.82	110.80
53	A3	799	A	C4-C5-C6	-5.05	114.48	117.00
53	A3	1298	C	C6-N1-C2	-5.05	118.28	120.30
53	A4	160	G	N3-C4-N9	5.05	129.03	126.00
53	A4	562	G	C5-C6-O6	-5.05	125.57	128.60
29	A1	2061	G	C6-C5-N7	-5.04	127.37	130.40
29	A2	1528	G	N1-C6-O6	5.04	122.93	119.90
53	A3	631	A	C8-N9-C4	5.04	107.82	105.80
29	A1	1684	G	C6-C5-N7	-5.04	127.37	130.40
29	A1	1773	G	C8-N9-C4	-5.04	104.38	106.40
29	A1	2155	G	C8-N9-C4	-5.04	104.38	106.40
29	A1	2772	A	N7-C8-N9	5.04	116.32	113.80
29	A2	2137	U	N1-C2-O2	5.04	126.33	122.80
29	A2	2233	G	N1-C2-N2	-5.04	111.66	116.20
29	A2	2347	A	N7-C8-N9	-5.04	111.28	113.80
29	A2	2592	G	C8-N9-C1'	-5.04	120.44	127.00
53	A3	564	G	C5-N7-C8	-5.04	101.78	104.30
53	A3	1029	G	C8-N9-C1'	5.04	133.56	127.00
53	A4	255	G	C6-C5-N7	-5.04	127.37	130.40
29	A1	991	G	C6-C5-N7	-5.04	127.38	130.40
29	A1	1394	G	N3-C4-C5	-5.04	126.08	128.60
29	A1	1997	G	C6-C5-N7	-5.04	127.38	130.40
29	A1	2237	G	N3-C4-N9	5.04	129.03	126.00
29	A1	2279	U	C5-C4-O4	5.04	128.93	125.90
29	A2	2519	G	N3-C4-N9	5.04	129.02	126.00
29	A1	1457	C	N1-C2-O2	5.04	121.92	118.90
29	A1	1622	G	N1-C6-O6	5.04	122.92	119.90
29	A2	2359	G	C8-N9-C4	5.04	108.42	106.40
53	A4	1479	A	C4-C5-C6	5.04	119.52	117.00
29	A1	276	C	N3-C2-O2	-5.04	118.37	121.90
29	A1	428	G	C5-N7-C8	-5.04	101.78	104.30
29	A1	1134	A	C8-N9-C4	-5.04	103.78	105.80
29	A1	1743	C	OP2-P-O3'	5.04	116.29	105.20
29	A2	1705	C	C2-N3-C4	-5.04	117.38	119.90
29	A2	2801	U	N1-C2-O2	5.04	126.33	122.80
30	B2	90	C	C6-N1-C1'	-5.04	114.75	120.80
53	A3	612	G	C4-N9-C1'	5.04	133.05	126.50
53	A3	732	C	N1-C2-O2	5.04	121.92	118.90
53	A4	119	G	C5-C6-O6	-5.04	125.58	128.60
29	A1	1920	G	N3-C4-N9	5.04	129.02	126.00
29	A1	911	G	C8-N9-C4	-5.04	104.39	106.40
29	A1	1375	C	C5-C6-N1	5.04	123.52	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	2697	C	N3-C4-C5	5.04	123.91	121.90
29	A2	829	G	C2-N3-C4	-5.04	109.38	111.90
29	A2	854	G	C4-C5-N7	5.04	112.81	110.80
53	A3	300	G	C8-N9-C4	-5.04	104.39	106.40
53	A3	472	C	C5-C6-N1	5.04	123.52	121.00
53	A3	1199	C	C6-N1-C2	-5.04	118.29	120.30
53	A4	204	G	C8-N9-C1'	-5.04	120.45	127.00
29	A2	2219	C	N3-C2-O2	-5.03	118.38	121.90
53	A3	624	U	N1-C2-N3	5.03	117.92	114.90
53	A3	988	G	N3-C4-C5	5.03	131.12	128.60
53	A3	1084	A	C5-C6-N1	5.03	120.22	117.70
53	A3	1452	G	C2-N3-C4	-5.03	109.38	111.90
53	A3	1467	C	N1-C2-O2	5.03	121.92	118.90
53	A4	1374	G	N3-C4-C5	-5.03	126.08	128.60
29	A2	1300	G	C5-C6-O6	-5.03	125.58	128.60
53	A3	450	C	N1-C2-O2	5.03	121.92	118.90
53	A4	151	G	N3-C4-C5	5.03	131.12	128.60
29	A1	1227	C	N1-C2-O2	5.03	121.92	118.90
29	A1	1428	G	C6-C5-N7	-5.03	127.38	130.40
29	A1	1771	G	N3-C4-N9	5.03	129.02	126.00
29	A2	1449	G	C6-C5-N7	-5.03	127.38	130.40
29	A2	2633	C	C5-C6-N1	-5.03	118.48	121.00
53	A3	415	U	C6-N1-C2	-5.03	117.98	121.00
53	A3	420	G	N3-C4-C5	-5.03	126.08	128.60
53	A3	471	A	C5-C6-N6	-5.03	119.67	123.70
53	A4	264	C	C2-N1-C1'	5.03	124.33	118.80
53	A4	553	G	N3-C2-N2	5.03	123.42	119.90
53	A4	1392	G	N3-C4-N9	5.03	129.02	126.00
29	A1	1647	C	C5-C4-N4	-5.03	116.68	120.20
29	A1	2593	C	C2-N1-C1'	5.03	124.33	118.80
29	A2	2241	A	C5-C6-N1	5.03	120.22	117.70
53	A3	1117	U	C2-N3-C4	5.03	130.02	127.00
53	A4	1411	C	N1-C2-O2	5.03	121.92	118.90
29	A1	49	U	C2-N1-C1'	5.03	123.73	117.70
29	A1	1690	A	C4-C5-C6	-5.03	114.49	117.00
29	A1	1704	A	C5-N7-C8	-5.03	101.39	103.90
29	A1	1822	A	N7-C8-N9	5.03	116.31	113.80
29	A1	2541	C	N3-C2-O2	-5.03	118.38	121.90
30	B1	85	G	N9-C4-C5	-5.03	103.39	105.40
29	A2	886	C	C2-N3-C4	-5.03	117.39	119.90
29	A2	2863	A	C6-C5-N7	-5.03	128.78	132.30
53	A3	498	G	C6-C5-N7	-5.03	127.38	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	A3	1404	G	C5-C6-O6	-5.03	125.58	128.60
53	A4	612	G	N1-C6-O6	-5.03	116.88	119.90
53	A4	666	G	N7-C8-N9	5.03	115.61	113.10
53	A4	778	C	C5-C6-N1	-5.03	118.49	121.00
29	A1	642	A	O5'-P-OP2	-5.03	101.18	105.70
29	A1	841	G	C6-N1-C2	-5.03	122.08	125.10
29	A2	17	G	N3-C4-C5	-5.03	126.09	128.60
29	A2	358	G	C6-C5-N7	-5.03	127.38	130.40
29	A2	1025	G	C5-N7-C8	-5.03	101.79	104.30
29	A2	1542	A	C4-C5-N7	5.03	113.21	110.70
53	A3	480	A	N3-C4-N9	5.03	131.42	127.40
53	A3	895	A	C5-C6-N1	5.03	120.21	117.70
29	A1	956	C	N1-C2-O2	5.02	121.91	118.90
29	A1	2776	G	N9-C4-C5	-5.02	103.39	105.40
29	A2	1446	C	C2-N1-C1'	5.02	124.33	118.80
53	A4	1431	A	C4-C5-N7	5.02	113.21	110.70
29	A1	614	C	C5-C6-N1	5.02	123.51	121.00
29	A1	728	C	C5-C6-N1	5.02	123.51	121.00
29	A2	2366	A	C5-C6-N1	5.02	120.21	117.70
29	A2	2450	G	N1-C2-N2	-5.02	111.68	116.20
53	A4	593	G	C8-N9-C1'	-5.02	120.47	127.00
53	A4	917	C	N3-C4-N4	-5.02	114.48	118.00
53	A4	1354	U	N3-C2-O2	-5.02	118.68	122.20
29	A1	495	G	C6-C5-N7	-5.02	127.39	130.40
29	A2	52	A	N9-C4-C5	-5.02	103.79	105.80
29	A2	818	G	C8-N9-C4	5.02	108.41	106.40
29	A2	1770	U	C6-N1-C1'	-5.02	114.17	121.20
29	A2	1831	U	C2-N1-C1'	5.02	123.72	117.70
29	A2	2097	C	N3-C4-C5	5.02	123.91	121.90
53	A3	1095	C	C6-N1-C2	-5.02	118.29	120.30
53	A3	1131	C	C6-N1-C2	-5.02	118.29	120.30
29	A1	1490	G	C6-C5-N7	-5.02	127.39	130.40
29	A1	1750	A	N7-C8-N9	5.02	116.31	113.80
29	A1	1765	G	N7-C8-N9	5.02	115.61	113.10
29	A1	2511	A	N1-C6-N6	5.02	121.61	118.60
29	A1	2591	A	N1-C6-N6	5.02	121.61	118.60
29	A2	630	C	N3-C2-O2	-5.02	118.39	121.90
29	A2	1443	A	N1-C6-N6	-5.02	115.59	118.60
30	B2	5	C	N3-C2-O2	-5.02	118.39	121.90
53	A3	1447	G	N1-C6-O6	-5.02	116.89	119.90
53	A4	1335	C	C6-N1-C2	-5.02	118.29	120.30
29	A1	786	C	C5-C6-N1	5.02	123.51	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	1704	A	C6-C5-N7	-5.02	128.79	132.30
29	A1	1815	C	C6-N1-C1'	5.02	126.82	120.80
29	A1	1928	G	C4-C5-N7	5.02	112.81	110.80
29	A2	1056	C	N3-C4-N4	-5.02	114.49	118.00
29	A2	1881	A	C2-N3-C4	5.02	113.11	110.60
29	A2	2084	A	C2-N3-C4	5.02	113.11	110.60
53	A3	970	G	C5-C6-N1	5.02	114.01	111.50
53	A3	1114	C	C6-N1-C2	-5.02	118.29	120.30
29	A1	323	G	C6-C5-N7	-5.02	127.39	130.40
29	A2	130	G	N3-C4-C5	-5.02	126.09	128.60
29	A2	786	C	C5-C6-N1	5.02	123.51	121.00
48	R4	50	ILE	CG1-CB-CG2	-5.02	100.36	111.40
53	A4	1107	U	N3-C2-O2	-5.02	118.69	122.20
29	A1	608	G	N7-C8-N9	5.01	115.61	113.10
29	A1	1294	A	N7-C8-N9	5.01	116.31	113.80
29	A1	2054	A	C4-N9-C1'	-5.01	117.28	126.30
29	A1	2413	G	N7-C8-N9	-5.01	110.59	113.10
29	A2	132	C	N3-C2-O2	-5.01	118.39	121.90
29	A2	1727	G	N7-C8-N9	5.01	115.61	113.10
29	A2	1814	C	C2-N1-C1'	5.01	124.31	118.80
29	A2	2595	G	N3-C4-N9	5.01	129.01	126.00
29	A2	2755	A	C5-C6-N6	5.01	127.71	123.70
53	A3	227	G	C6-C5-N7	-5.01	127.39	130.40
53	A3	707	G	N1-C6-O6	-5.01	116.89	119.90
53	A3	1082	C	C5-C6-N1	-5.01	118.49	121.00
40	J4	53	PRO	C-N-CA	5.01	134.24	121.70
53	A4	215	G	C4-C5-C6	5.01	121.81	118.80
29	A2	851	A	C8-N9-C4	5.01	107.81	105.80
29	A2	1168	G	C4-C5-N7	5.01	112.81	110.80
29	A1	197	A	N9-C4-C5	-5.01	103.80	105.80
29	A1	2357	C	C6-N1-C2	5.01	122.31	120.30
29	A1	2798	G	C8-N9-C4	5.01	108.41	106.40
29	A2	1912	G	C8-N9-C1'	-5.01	120.48	127.00
29	A2	2683	G	C8-N9-C4	5.01	108.41	106.40
53	A3	221	G	C6-N1-C2	-5.01	122.09	125.10
53	A3	444	G	C5-C6-O6	5.01	131.61	128.60
53	A3	601	C	N3-C2-O2	-5.01	118.39	121.90
53	A3	744	G	N7-C8-N9	5.01	115.61	113.10
32	B4	223	ILE	CG1-CB-CG2	-5.01	100.38	111.40
53	A4	142	G	N9-C4-C5	-5.01	103.39	105.40
53	A4	639	C	C4-C5-C6	-5.01	114.89	117.40
53	A4	959	U	N1-C1'-C2'	5.01	120.52	114.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A1	471	A	O5'-P-OP2	-5.01	101.19	105.70
29	A1	855	C	N3-C4-N4	-5.01	114.49	118.00
29	A2	579	U	N1-C2-O2	5.01	126.31	122.80
29	A2	819	G	N1-C2-N2	-5.01	111.69	116.20
29	A2	1297	U	O4'-C1'-N1	5.01	112.21	108.20
29	A2	1959	G	OP2-P-O3'	5.01	116.22	105.20
29	A2	2428	G	N7-C8-N9	5.01	115.61	113.10
29	A2	2528	U	C6-N1-C2	5.01	124.00	121.00
53	A3	497	C	C4-C5-C6	-5.01	114.90	117.40
53	A3	641	G	N3-C4-C5	5.01	131.10	128.60
53	A3	770	A	N9-C4-C5	-5.01	103.80	105.80
53	A3	1223	C	C5-C6-N1	5.01	123.50	121.00
53	A4	117	G	C4-N9-C1'	5.01	133.01	126.50
53	A4	426	A	C2-N3-C4	5.01	113.10	110.60
53	A4	633	G	N7-C8-N9	5.01	115.60	113.10
53	A4	1373	U	C5-C4-O4	5.01	128.91	125.90
29	A1	802	C	C6-N1-C1'	-5.01	114.79	120.80
29	A1	1685	C	N1-C2-O2	5.01	121.91	118.90
29	A1	1775	C	N3-C4-C5	5.01	123.90	121.90
29	A1	1910	C	C5-C6-N1	5.01	123.50	121.00
29	A2	1244	G	C8-N9-C4	5.01	108.40	106.40
53	A4	906	G	C4-N9-C1'	-5.01	119.99	126.50
29	A1	713	C	C6-N1-C1'	5.01	126.81	120.80
29	A1	800	A	N7-C8-N9	5.01	116.30	113.80
29	A1	1715	G	C4-C5-C6	5.01	121.80	118.80
29	A1	2163	C	C6-N1-C2	-5.01	118.30	120.30
29	A2	159	U	O4'-C1'-N1	5.01	112.20	108.20
29	A2	1004	A	C8-N9-C4	5.01	107.80	105.80
29	A2	1071	U	C6-N1-C2	-5.01	118.00	121.00
29	A2	1187	C	N3-C4-C5	5.01	123.90	121.90
29	A2	1593	A	C4-C5-C6	-5.01	114.50	117.00
29	A2	2341	A	C8-N9-C1'	5.01	136.71	127.70
53	A3	177	G	C4-N9-C1'	5.01	133.01	126.50
53	A3	849	A	C5-N7-C8	-5.01	101.40	103.90
53	A4	508	C	C2-N3-C4	-5.01	117.40	119.90
53	A4	548	U	N3-C4-O4	-5.01	115.89	119.40
29	A2	1275	G	N3-C4-C5	-5.00	126.10	128.60
29	A2	1905	C	C6-N1-C2	-5.00	118.30	120.30
29	A2	2314	G	C8-N9-C4	-5.00	104.40	106.40
53	A3	716	A	C5-C6-N6	-5.00	119.70	123.70
53	A4	309	C	C6-N1-C1'	5.00	126.81	120.80
29	A1	2873	G	C4-N9-C1'	5.00	133.00	126.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	A2	207	G	C8-N9-C4	5.00	108.40	106.40
29	A2	740	C	C2-N1-C1'	5.00	124.30	118.80
29	A2	1997	G	C6-C5-N7	-5.00	127.40	130.40
53	A3	843	C	C2-N3-C4	-5.00	117.40	119.90
53	A4	930	G	C5-C6-N1	5.00	114.00	111.50
29	A1	1037	G	C4-N9-C1'	5.00	133.00	126.50
29	A1	1597	C	C6-N1-C2	-5.00	118.30	120.30
29	A1	1776	C	C6-N1-C1'	5.00	126.80	120.80
29	A1	2405	G	C2-N3-C4	-5.00	109.40	111.90
30	B1	32	C	C6-N1-C2	-5.00	118.30	120.30
29	A2	1651	A	C4-N9-C1'	5.00	135.30	126.30
29	A2	2459	G	N9-C4-C5	-5.00	103.40	105.40
52	W4	162	ARG	O-C-N	5.00	130.70	122.70
53	A4	849	A	N7-C8-N9	5.00	116.30	113.80
53	A4	1137	G	N1-C2-N2	-5.00	111.70	116.20
53	A4	1387	G	N1-C6-O6	5.00	122.90	119.90

There are no chirality outliers.

All (241) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
32	B3	155	LEU	Peptide
32	B3	169	LYS	Peptide
32	B3	199	TYR	Peptide
32	B3	204	ASN	Peptide
32	B3	212	GLN	Peptide
32	B3	213	LEU	Peptide
32	B3	22	LYS	Peptide
32	B3	59	GLU	Peptide
32	B3	77	ALA	Peptide
32	B4	127	ILE	Peptide
32	B4	139	LYS	Peptide
32	B4	19	HIS	Peptide
32	B4	195	ASP	Peptide
32	B4	199	TYR	Peptide
32	B4	207	ALA	Peptide
32	B4	9	GLU	Peptide
1	C1	10	THR	Peptide
1	C1	148	GLU	Peptide
1	C1	242	ARG	Peptide
1	C1	246	PRO	Peptide
1	C1	247	ALA	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
1	C1	33	LEU	Peptide
1	C2	172	TYR	Peptide
1	C2	201	HIS	Peptide
1	C2	206	LEU	Peptide
1	C2	218	ARG	Peptide
1	C2	244	ARG	Peptide
1	C2	246	PRO	Peptide
1	C2	35	LYS	Peptide
1	C2	36	PRO	Peptide
1	C2	63	ARG	Peptide
1	C2	70	TRP	Peptide
33	C3	18	TRP	Peptide
33	C3	192	THR	Peptide
33	C3	35	GLU	Peptide
33	C3	47	LEU	Peptide
33	C4	127	ARG	Peptide
33	C4	142	MET	Peptide
33	C4	143	GLU	Peptide
33	C4	190	ARG	Peptide
33	C4	94	LEU	Peptide
33	C4	98	ASN	Peptide
2	D1	128	SER	Peptide
2	D1	133	LYS	Peptide
2	D2	128	SER	Peptide
2	D2	133	LYS	Peptide
2	D2	15	PHE	Peptide
2	D2	51	PHE	Peptide
34	D3	131	ARG	Peptide
34	D3	154	ASN	Peptide
34	D3	20	TYR	Peptide
34	D3	60	GLU	Peptide
34	D3	66	ARG	Peptide
34	D4	126	ILE	Peptide
34	D4	131	ARG	Peptide
34	D4	149	ALA	Peptide
34	D4	150	GLU	Peptide
34	D4	158	ILE	Peptide
34	D4	207	TYR	Peptide
34	D4	66	ARG	Peptide
3	E1	10	PRO	Peptide
3	E1	24	LEU	Peptide
3	E1	25	PRO	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
3	E1	66	PRO	Peptide
3	E2	24	LEU	Peptide
3	E2	25	PRO	Peptide
3	E2	62	ARG	Peptide
3	E2	66	PRO	Peptide
3	E2	9	ILE	Peptide
3	E2	91	GLY	Peptide
35	E3	130	ASN	Peptide
35	E3	153	LYS	Peptide
35	E3	51	VAL	Peptide
35	E4	11	ILE	Peptide
35	E4	51	VAL	Peptide
35	E4	7	GLU	Peptide
4	F1	128	ARG	Peptide
4	F1	35	GLU	Peptide
4	F2	167	GLU	Peptide
4	F2	47	LYS	Peptide
36	F3	85	VAL	Peptide
36	F4	11	ASN	Peptide
5	G1	160	LYS	Peptide
5	G1	35	VAL	Peptide
5	G1	63	SER	Peptide
5	G1	88	LEU	Peptide
5	G1	89	ILE	Peptide
5	G1	94	TYR	Peptide
5	G2	88	LEU	Peptide
5	G2	89	ILE	Peptide
5	G2	90	LYS	Peptide
37	G3	15	ASP	Peptide
37	G4	122	HIS	Peptide
37	G4	128	ALA	Peptide
37	G4	15	ASP	Peptide
37	G4	96	GLN	Peptide
6	H1	36	ALA	Peptide
6	H1	45	LYS	Peptide
6	H2	28	ASN	Peptide
6	H2	36	ALA	Peptide
38	H4	29	SER	Peptide
38	H4	41	ARG	Peptide
38	H4	96	GLY	Peptide
7	I1	66	LYS	Peptide
39	I3	124	GLN	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
39	I3	73	GLN	Peptide
39	I3	97	LYS	Peptide
39	I4	118	LYS	Peptide
39	I4	35	GLU	Peptide
39	I4	73	GLN	Peptide
8	J1	112	MET	Peptide
8	J1	14	THR	Peptide
8	J1	25	LEU	Peptide
8	J2	112	MET	Peptide
8	J2	115	VAL	Peptide
40	J3	29	ARG	Peptide
40	J3	53	PRO	Peptide
40	J3	57	LYS	Peptide
40	J3	76	ASN	Peptide
40	J4	16	LEU	Peptide
40	J4	36	GLY	Peptide
40	J4	57	LYS	Peptide
40	J4	83	GLU	Peptide
40	J4	87	THR	Peptide
9	K1	109	GLY	Peptide
9	K1	12	ALA	Peptide
9	K1	123	LEU	Peptide
9	K1	23	PRO	Peptide
9	K1	87	ASP	Peptide
9	K2	90	ARG	Peptide
41	K3	109	VAL	Peptide
41	K3	61	ALA	Peptide
10	L1	13	GLN	Peptide
10	L1	137	TYR	Peptide
10	L1	71	ASP	Peptide
10	L2	134	ARG	Peptide
10	L2	4	PRO	Peptide
10	L2	5	ARG	Peptide
10	L2	6	ARG	Peptide
10	L2	7	MET	Peptide
10	L2	94	VAL	Peptide
42	L3	111	LYS	Peptide
42	L3	121	GLY	Peptide
42	L3	8	ASN	Peptide
42	L4	111	LYS	Peptide
42	L4	16	GLU	Peptide
42	L4	26	ALA	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
42	L4	91	LYS	Peptide
11	M1	43	GLU	Peptide
11	M1	70	LEU	Peptide
11	M1	77	ARG	Peptide
11	M1	85	PRO	Peptide
11	M2	43	GLU	Peptide
11	M2	85	PRO	Peptide
43	M3	15	VAL	Peptide
43	M3	77	ASN	Peptide
12	N1	16	ASN	Peptide
12	N1	17	ARG	Peptide
12	N1	65	VAL	Peptide
12	N2	111	GLU	Peptide
12	N2	43	GLU	Peptide
44	N3	26	ARG	Peptide
44	N4	28	GLY	Peptide
44	N4	4	LYS	Peptide
44	N4	8	GLU	Peptide
13	O1	106	SER	Peptide
13	O1	113	LYS	Peptide
13	O1	115	ARG	Peptide
13	O1	6	LEU	Peptide
13	O2	131	ALA	Peptide
13	O2	3	ARG	Peptide
13	O2	87	ASP	Peptide
45	O3	32	LEU	Peptide
45	O3	76	GLU	Peptide
45	O3	82	ILE	Peptide
45	O4	21	ASP	Peptide
45	O4	71	GLN	Peptide
45	O4	72	ARG	Peptide
14	P1	53	ARG	Peptide
14	P1	93	LYS	Peptide
14	P1	94	ASN	Peptide
14	P2	93	LYS	Peptide
46	P3	21	VAL	Peptide
46	P3	73	LEU	Peptide
46	P4	22	THR	Peptide
46	P4	43	LYS	Peptide
46	P4	73	LEU	Peptide
15	Q2	85	LYS	Peptide
47	Q3	58	GLU	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
47	Q4	63	ARG	Peptide
16	R2	69	LEU	Peptide
48	R3	28	GLU	Peptide
48	R3	45	SER	Peptide
48	R4	45	SER	Peptide
49	S3	18	LYS	Peptide
49	S3	66	MET	Peptide
49	S4	65	ASN	Peptide
49	S4	68	GLY	Peptide
18	T1	101	LYS	Peptide
18	T1	40	GLU	Peptide
18	T1	82	PRO	Peptide
18	T2	82	PRO	Peptide
19	U2	157	LEU	Peptide
19	U2	52	SER	Peptide
19	U2	53	ILE	Peptide
20	V1	72	ARG	Peptide
54	V3	22	GLU	Peptide
54	V3	24	LYS	Peptide
54	V4	102	LYS	Peptide
54	V4	32	GLN	Peptide
21	W1	15	ALA	Peptide
21	W1	5	CYS	Peptide
21	W2	5	CYS	Peptide
21	W2	93	GLU	Peptide
22	X1	20	GLU	Peptide
22	X1	28	LYS	Peptide
22	X2	28	LYS	Peptide
23	Y2	23	LEU	Peptide
24	Z1	15	ILE	Peptide
24	Z1	20	ASN	Peptide
24	Z1	37	SER	Peptide
24	Z1	39	CYS	Peptide
24	Z1	40	HIS	Peptide
24	Z1	42	PHE	Peptide
24	Z1	43	TYR	Peptide
24	Z1	49	PHE	Peptide
24	Z1	55	ARG	Peptide
24	Z2	21	VAL	Peptide
24	Z2	49	PHE	Peptide
24	Z2	54	GLY	Peptide
24	Z2	58	ARG	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
24	Z2	59	PHE	Peptide
25	a1	2	ALA	Peptide
25	a1	36	CYS	Peptide
26	b2	44	ARG	Peptide
27	c2	26	GLY	Peptide
28	d1	30	ARG	Peptide
28	d1	40	GLU	Peptide
28	d2	46	ARG	Peptide
28	d2	48	PHE	Peptide
28	d2	50	LEU	Peptide

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C1	270/272 (99%)	205 (76%)	65 (24%)	0	100	100
1	C2	270/272 (99%)	210 (78%)	59 (22%)	1 (0%)	34	71
2	D1	203/205 (99%)	152 (75%)	49 (24%)	2 (1%)	15	53
2	D2	203/205 (99%)	144 (71%)	57 (28%)	2 (1%)	15	53
3	E1	206/208 (99%)	163 (79%)	43 (21%)	0	100	100
3	E2	206/208 (99%)	160 (78%)	45 (22%)	1 (0%)	29	67
4	F1	179/181 (99%)	146 (82%)	33 (18%)	0	100	100
4	F2	179/181 (99%)	142 (79%)	37 (21%)	0	100	100
5	G1	168/170 (99%)	127 (76%)	41 (24%)	0	100	100
5	G2	168/170 (99%)	124 (74%)	43 (26%)	1 (1%)	25	64
6	H1	48/50 (96%)	38 (79%)	10 (21%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	H2	48/50 (96%)	35 (73%)	13 (27%)	0	100	100
7	I1	136/138 (99%)	110 (81%)	26 (19%)	0	100	100
7	I2	136/138 (99%)	108 (79%)	28 (21%)	0	100	100
8	J1	120/122 (98%)	95 (79%)	25 (21%)	0	100	100
8	J2	120/122 (98%)	103 (86%)	17 (14%)	0	100	100
9	K1	148/150 (99%)	102 (69%)	46 (31%)	0	100	100
9	K2	148/150 (99%)	105 (71%)	42 (28%)	1 (1%)	22	61
10	L1	139/141 (99%)	112 (81%)	27 (19%)	0	100	100
10	L2	139/141 (99%)	106 (76%)	31 (22%)	2 (1%)	11	46
11	M1	115/117 (98%)	97 (84%)	18 (16%)	0	100	100
11	M2	115/117 (98%)	94 (82%)	21 (18%)	0	100	100
12	N1	109/111 (98%)	89 (82%)	20 (18%)	0	100	100
12	N2	109/111 (98%)	88 (81%)	21 (19%)	0	100	100
13	O1	135/137 (98%)	105 (78%)	30 (22%)	0	100	100
13	O2	135/137 (98%)	107 (79%)	28 (21%)	0	100	100
14	P1	115/117 (98%)	100 (87%)	15 (13%)	0	100	100
14	P2	115/117 (98%)	99 (86%)	16 (14%)	0	100	100
15	Q1	99/101 (98%)	75 (76%)	24 (24%)	0	100	100
15	Q2	99/101 (98%)	80 (81%)	19 (19%)	0	100	100
16	R1	111/113 (98%)	92 (83%)	19 (17%)	0	100	100
16	R2	111/113 (98%)	83 (75%)	28 (25%)	0	100	100
17	S1	90/92 (98%)	71 (79%)	19 (21%)	0	100	100
17	S2	90/92 (98%)	71 (79%)	19 (21%)	0	100	100
18	T1	100/102 (98%)	72 (72%)	27 (27%)	1 (1%)	15	53
18	T2	100/102 (98%)	67 (67%)	32 (32%)	1 (1%)	15	53
19	U1	177/179 (99%)	129 (73%)	48 (27%)	0	100	100
19	U2	177/179 (99%)	129 (73%)	47 (27%)	1 (1%)	25	64
20	V1	75/77 (97%)	59 (79%)	16 (21%)	0	100	100
20	V2	75/77 (97%)	55 (73%)	20 (27%)	0	100	100
21	W1	95/97 (98%)	71 (75%)	24 (25%)	0	100	100
21	W2	95/97 (98%)	81 (85%)	14 (15%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	X1	67/69 (97%)	56 (84%)	11 (16%)	0	100	100
22	X2	67/69 (97%)	54 (81%)	13 (19%)	0	100	100
23	Y1	57/59 (97%)	46 (81%)	11 (19%)	0	100	100
23	Y2	57/59 (97%)	45 (79%)	12 (21%)	0	100	100
24	Z1	61/63 (97%)	42 (69%)	18 (30%)	1 (2%)	9	44
24	Z2	61/63 (97%)	39 (64%)	21 (34%)	1 (2%)	9	44
25	a1	57/59 (97%)	38 (67%)	19 (33%)	0	100	100
25	a2	57/59 (97%)	42 (74%)	15 (26%)	0	100	100
26	b1	43/45 (96%)	28 (65%)	15 (35%)	0	100	100
26	b2	43/45 (96%)	33 (77%)	10 (23%)	0	100	100
27	c1	47/49 (96%)	42 (89%)	5 (11%)	0	100	100
27	c2	47/49 (96%)	41 (87%)	6 (13%)	0	100	100
28	d1	59/61 (97%)	47 (80%)	12 (20%)	0	100	100
28	d2	59/61 (97%)	44 (75%)	15 (25%)	0	100	100
31	e1	34/36 (94%)	27 (79%)	7 (21%)	0	100	100
31	e2	34/36 (94%)	26 (76%)	8 (24%)	0	100	100
32	B3	235/237 (99%)	184 (78%)	51 (22%)	0	100	100
32	B4	235/237 (99%)	190 (81%)	45 (19%)	0	100	100
33	C3	204/206 (99%)	158 (78%)	46 (22%)	0	100	100
33	C4	204/206 (99%)	162 (79%)	42 (21%)	0	100	100
34	D3	206/208 (99%)	159 (77%)	47 (23%)	0	100	100
34	D4	206/208 (99%)	161 (78%)	44 (21%)	1 (0%)	29	67
35	E3	149/151 (99%)	121 (81%)	28 (19%)	0	100	100
35	E4	149/151 (99%)	119 (80%)	30 (20%)	0	100	100
36	F3	99/101 (98%)	84 (85%)	15 (15%)	0	100	100
36	F4	99/101 (98%)	86 (87%)	13 (13%)	0	100	100
37	G3	153/155 (99%)	129 (84%)	24 (16%)	0	100	100
37	G4	153/155 (99%)	120 (78%)	33 (22%)	0	100	100
38	H3	136/138 (99%)	112 (82%)	24 (18%)	0	100	100
38	H4	136/138 (99%)	113 (83%)	23 (17%)	0	100	100
39	I3	125/127 (98%)	89 (71%)	36 (29%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	I4	125/127 (98%)	92 (74%)	33 (26%)	0	100	100
40	J3	97/99 (98%)	74 (76%)	23 (24%)	0	100	100
40	J4	97/99 (98%)	72 (74%)	25 (26%)	0	100	100
41	K3	116/118 (98%)	91 (78%)	25 (22%)	0	100	100
41	K4	116/118 (98%)	97 (84%)	19 (16%)	0	100	100
42	L3	123/125 (98%)	102 (83%)	21 (17%)	0	100	100
42	L4	123/125 (98%)	95 (77%)	28 (23%)	0	100	100
43	M3	115/117 (98%)	99 (86%)	16 (14%)	0	100	100
43	M4	115/117 (98%)	87 (76%)	28 (24%)	0	100	100
44	N3	58/60 (97%)	45 (78%)	13 (22%)	0	100	100
44	N4	58/60 (97%)	46 (79%)	12 (21%)	0	100	100
45	O3	86/88 (98%)	72 (84%)	14 (16%)	0	100	100
45	O4	86/88 (98%)	74 (86%)	12 (14%)	0	100	100
46	P3	82/84 (98%)	69 (84%)	13 (16%)	0	100	100
46	P4	82/84 (98%)	64 (78%)	18 (22%)	0	100	100
47	Q3	98/100 (98%)	78 (80%)	20 (20%)	0	100	100
47	Q4	98/100 (98%)	78 (80%)	20 (20%)	0	100	100
48	R3	60/62 (97%)	50 (83%)	10 (17%)	0	100	100
48	R4	60/62 (97%)	50 (83%)	10 (17%)	0	100	100
49	S3	76/78 (97%)	68 (90%)	6 (8%)	2 (3%)	5	34
49	S4	76/78 (97%)	57 (75%)	18 (24%)	1 (1%)	12	48
50	T3	97/99 (98%)	82 (84%)	14 (14%)	1 (1%)	15	53
50	T4	97/99 (98%)	80 (82%)	16 (16%)	1 (1%)	15	53
51	U3	23/25 (92%)	18 (78%)	5 (22%)	0	100	100
51	U4	23/25 (92%)	19 (83%)	4 (17%)	0	100	100
52	W4	55/57 (96%)	40 (73%)	12 (22%)	3 (6%)	2	21
52	X3	55/57 (96%)	39 (71%)	14 (26%)	2 (4%)	3	28
54	V3	117/119 (98%)	90 (77%)	25 (21%)	2 (2%)	9	43
54	V4	115/119 (97%)	90 (78%)	23 (20%)	2 (2%)	9	43
All	All	11544/11750 (98%)	9056 (78%)	2458 (21%)	30 (0%)	44	76

All (30) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
50	T3	74	LYS
52	X3	143	ASP
52	X3	164	ALA
54	V3	93	ARG
50	T4	74	LYS
52	W4	163	ASN
52	W4	174	ARG
54	V4	17	ILE
24	Z1	43	TYR
9	K2	58	THR
19	U2	53	ILE
24	Z2	24	THR
34	D4	10	ARG
49	S4	70	LYS
52	W4	164	ALA
5	G2	90	LYS
10	L2	7	MET
49	S3	67	VAL
54	V3	29	ASP
2	D1	83	ASP
2	D1	82	ARG
54	V4	15	ASP
2	D2	82	ARG
2	D2	83	ASP
10	L2	6	ARG
49	S3	66	MET
1	C2	29	PRO
3	E2	10	PRO
18	T2	53	PRO
18	T1	80	GLY

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C1	214/214 (100%)	210 (98%)	4 (2%)	57	74
1	C2	214/214 (100%)	210 (98%)	4 (2%)	57	74

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	D1	165/165 (100%)	161 (98%)	4 (2%)	49	68
2	D2	165/165 (100%)	163 (99%)	2 (1%)	71	83
3	E1	165/165 (100%)	157 (95%)	8 (5%)	25	52
3	E2	165/165 (100%)	161 (98%)	4 (2%)	49	68
4	F1	155/155 (100%)	150 (97%)	5 (3%)	39	62
4	F2	155/155 (100%)	153 (99%)	2 (1%)	69	82
5	G1	142/142 (100%)	137 (96%)	5 (4%)	36	60
5	G2	142/142 (100%)	136 (96%)	6 (4%)	30	55
6	H1	41/41 (100%)	40 (98%)	1 (2%)	49	68
6	H2	41/41 (100%)	41 (100%)	0	100	100
7	I1	117/117 (100%)	115 (98%)	2 (2%)	60	78
7	I2	117/117 (100%)	116 (99%)	1 (1%)	78	88
8	J1	100/100 (100%)	98 (98%)	2 (2%)	55	73
8	J2	100/100 (100%)	98 (98%)	2 (2%)	55	73
9	K1	116/116 (100%)	111 (96%)	5 (4%)	29	55
9	K2	116/116 (100%)	112 (97%)	4 (3%)	37	61
10	L1	111/111 (100%)	106 (96%)	5 (4%)	27	54
10	L2	111/111 (100%)	108 (97%)	3 (3%)	44	66
11	M1	100/100 (100%)	98 (98%)	2 (2%)	55	73
11	M2	100/100 (100%)	99 (99%)	1 (1%)	76	86
12	N1	87/87 (100%)	84 (97%)	3 (3%)	37	61
12	N2	87/87 (100%)	85 (98%)	2 (2%)	50	70
13	O1	120/120 (100%)	114 (95%)	6 (5%)	24	51
13	O2	120/120 (100%)	115 (96%)	5 (4%)	30	55
14	P1	93/93 (100%)	89 (96%)	4 (4%)	29	55
14	P2	93/93 (100%)	88 (95%)	5 (5%)	22	49
15	Q1	82/82 (100%)	81 (99%)	1 (1%)	71	83
15	Q2	82/82 (100%)	81 (99%)	1 (1%)	71	83
16	R1	92/92 (100%)	91 (99%)	1 (1%)	73	84
16	R2	92/92 (100%)	89 (97%)	3 (3%)	38	61
17	S1	74/74 (100%)	71 (96%)	3 (4%)	30	56

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	S2	74/74 (100%)	71 (96%)	3 (4%)	30	56
18	T1	85/85 (100%)	81 (95%)	4 (5%)	26	53
18	T2	85/85 (100%)	84 (99%)	1 (1%)	71	83
19	U1	158/158 (100%)	157 (99%)	1 (1%)	86	92
19	U2	158/158 (100%)	157 (99%)	1 (1%)	86	92
20	V1	62/62 (100%)	60 (97%)	2 (3%)	39	62
20	V2	62/62 (100%)	60 (97%)	2 (3%)	39	62
21	W1	82/82 (100%)	80 (98%)	2 (2%)	49	68
21	W2	82/82 (100%)	80 (98%)	2 (2%)	49	68
22	X1	64/64 (100%)	64 (100%)	0	100	100
22	X2	64/64 (100%)	62 (97%)	2 (3%)	40	63
23	Y1	51/51 (100%)	51 (100%)	0	100	100
23	Y2	51/51 (100%)	50 (98%)	1 (2%)	55	73
24	Z1	57/57 (100%)	54 (95%)	3 (5%)	22	50
24	Z2	57/57 (100%)	54 (95%)	3 (5%)	22	50
25	a1	51/51 (100%)	50 (98%)	1 (2%)	55	73
25	a2	51/51 (100%)	49 (96%)	2 (4%)	32	57
26	b1	44/44 (100%)	41 (93%)	3 (7%)	16	43
26	b2	44/44 (100%)	40 (91%)	4 (9%)	9	32
27	c1	42/42 (100%)	40 (95%)	2 (5%)	25	52
27	c2	42/42 (100%)	40 (95%)	2 (5%)	25	52
28	d1	51/51 (100%)	49 (96%)	2 (4%)	32	57
28	d2	51/51 (100%)	51 (100%)	0	100	100
31	e1	33/33 (100%)	31 (94%)	2 (6%)	18	46
31	e2	33/33 (100%)	31 (94%)	2 (6%)	18	46
32	B3	205/205 (100%)	201 (98%)	4 (2%)	55	73
32	B4	205/205 (100%)	198 (97%)	7 (3%)	37	61
33	C3	160/160 (100%)	156 (98%)	4 (2%)	47	68
33	C4	160/160 (100%)	157 (98%)	3 (2%)	57	74
34	D3	180/180 (100%)	179 (99%)	1 (1%)	86	92
34	D4	180/180 (100%)	175 (97%)	5 (3%)	43	65

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
35	E3	116/116 (100%)	113 (97%)	3 (3%)	46	67
35	E4	116/116 (100%)	115 (99%)	1 (1%)	78	88
36	F3	90/90 (100%)	89 (99%)	1 (1%)	73	84
36	F4	90/90 (100%)	86 (96%)	4 (4%)	28	54
37	G3	126/126 (100%)	122 (97%)	4 (3%)	39	62
37	G4	126/126 (100%)	124 (98%)	2 (2%)	62	79
38	H3	119/119 (100%)	118 (99%)	1 (1%)	81	89
38	H4	119/119 (100%)	118 (99%)	1 (1%)	81	89
39	I3	98/98 (100%)	98 (100%)	0	100	100
39	I4	98/98 (100%)	95 (97%)	3 (3%)	40	63
40	J3	89/89 (100%)	88 (99%)	1 (1%)	73	84
40	J4	89/89 (100%)	88 (99%)	1 (1%)	73	84
41	K3	89/89 (100%)	86 (97%)	3 (3%)	37	61
41	K4	89/89 (100%)	86 (97%)	3 (3%)	37	61
42	L3	104/104 (100%)	99 (95%)	5 (5%)	25	52
42	L4	104/104 (100%)	101 (97%)	3 (3%)	42	64
43	M3	94/94 (100%)	91 (97%)	3 (3%)	39	62
43	M4	94/94 (100%)	91 (97%)	3 (3%)	39	62
44	N3	49/49 (100%)	48 (98%)	1 (2%)	55	73
44	N4	49/49 (100%)	48 (98%)	1 (2%)	55	73
45	O3	79/79 (100%)	79 (100%)	0	100	100
45	O4	79/79 (100%)	78 (99%)	1 (1%)	69	82
46	P3	72/72 (100%)	70 (97%)	2 (3%)	43	65
46	P4	72/72 (100%)	72 (100%)	0	100	100
47	Q3	95/95 (100%)	92 (97%)	3 (3%)	39	62
47	Q4	95/95 (100%)	94 (99%)	1 (1%)	73	84
48	R3	55/55 (100%)	54 (98%)	1 (2%)	59	76
48	R4	55/55 (100%)	55 (100%)	0	100	100
49	S3	67/67 (100%)	63 (94%)	4 (6%)	19	47
49	S4	67/67 (100%)	64 (96%)	3 (4%)	27	54
50	T3	76/76 (100%)	75 (99%)	1 (1%)	69	82

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
50	T4	76/76 (100%)	75 (99%)	1 (1%)	69 82
51	U3	20/20 (100%)	18 (90%)	2 (10%)	7 28
51	U4	20/20 (100%)	18 (90%)	2 (10%)	7 28
52	W4	50/50 (100%)	35 (70%)	15 (30%)	0 2
52	X3	50/50 (100%)	33 (66%)	17 (34%)	0 1
54	V3	101/101 (100%)	91 (90%)	10 (10%)	8 29
54	V4	100/101 (99%)	96 (96%)	4 (4%)	31 57
All	All	9775/9776 (100%)	9487 (97%)	288 (3%)	45 64

All (288) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C1	43	ARG
1	C1	147	LEU
1	C1	253	GLN
1	C1	271	ILE
2	D1	41	LYS
2	D1	55	ASN
2	D1	64	LYS
2	D1	116	VAL
3	E1	63	LYS
3	E1	64	ILE
3	E1	103	LYS
3	E1	104	LYS
3	E1	112	MET
3	E1	169	ASN
3	E1	188	ARG
3	E1	196	LEU
4	F1	33	ARG
4	F1	36	LYS
4	F1	83	ARG
4	F1	86	MET
4	F1	153	ARG
5	G1	54	ARG
5	G1	69	ARG
5	G1	95	ARG
5	G1	101	ARG
5	G1	130	ARG
6	H1	27	ARG
7	I1	65	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	I1	114	ARG
8	J1	88	ASN
8	J1	104	ARG
9	K1	13	ASN
9	K1	19	VAL
9	K1	76	LYS
9	K1	137	LYS
9	K1	148	LEU
10	L1	6	ARG
10	L1	10	ARG
10	L1	60	ARG
10	L1	133	ARG
10	L1	137	TYR
11	M1	33	ARG
11	M1	96	ARG
12	N1	10	ARG
12	N1	65	VAL
12	N1	110	LEU
13	O1	13	ARG
13	O1	39	ARG
13	O1	89	VAL
13	O1	108	ARG
13	O1	112	ARG
13	O1	120	ARG
14	P1	16	LYS
14	P1	44	ASN
14	P1	66	ASN
14	P1	92	ARG
15	Q1	82	ARG
16	R1	37	ARG
17	S1	59	VAL
17	S1	65	ARG
17	S1	72	LYS
18	T1	28	LYS
18	T1	81	LYS
18	T1	84	ARG
18	T1	95	LYS
19	U1	31	ARG
20	V1	14	ARG
20	V1	74	ARG
21	W1	40	ARG
21	W1	81	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
24	Z1	20	ASN
24	Z1	48	ARG
24	Z1	55	ARG
25	a1	5	PRO
26	b1	19	ARG
26	b1	29	ASN
26	b1	50	ARG
27	c1	47	ARG
27	c1	49	ARG
28	d1	3	LYS
28	d1	30	ARG
31	e1	9	ARG
31	e1	22	ARG
1	C2	43	ARG
1	C2	102	LYS
1	C2	242	ARG
1	C2	255	LYS
2	D2	122	PHE
2	D2	203	LYS
3	E2	67	GLN
3	E2	74	ARG
3	E2	103	LYS
3	E2	196	LEU
4	F2	21	ARG
4	F2	83	ARG
5	G2	42	ARG
5	G2	54	ARG
5	G2	69	ARG
5	G2	101	ARG
5	G2	147	ASN
5	G2	149	ARG
7	I2	35	ARG
8	J2	13	ASN
8	J2	104	ARG
9	K2	50	ARG
9	K2	76	LYS
9	K2	79	ARG
9	K2	85	LEU
10	L2	3	MET
10	L2	10	ARG
10	L2	60	ARG
11	M2	86	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
12	N2	10	ARG
12	N2	106	ARG
13	O2	2	ASN
13	O2	13	ARG
13	O2	39	ARG
13	O2	108	ARG
13	O2	118	ARG
14	P2	15	LYS
14	P2	44	ASN
14	P2	53	ARG
14	P2	92	ARG
14	P2	101	ARG
15	Q2	82	ARG
16	R2	11	ARG
16	R2	40	ASN
16	R2	60	ASN
17	S2	72	LYS
17	S2	73	ARG
17	S2	76	ARG
18	T2	28	LYS
19	U2	31	ARG
20	V2	11	ARG
20	V2	32	ARG
21	W2	23	LYS
21	W2	40	ARG
22	X2	7	ARG
22	X2	23	LYS
23	Y2	50	VAL
24	Z2	20	ASN
24	Z2	48	ARG
24	Z2	56	VAL
25	a2	5	PRO
25	a2	55	ARG
26	b2	19	ARG
26	b2	25	LYS
26	b2	44	ARG
26	b2	50	ARG
27	c2	1	MET
27	c2	37	LYS
31	e2	9	ARG
31	e2	22	ARG
32	B3	23	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	B3	25	ASN
32	B3	30	ARG
32	B3	96	ARG
33	C3	45	LYS
33	C3	79	ARG
33	C3	119	ARG
33	C3	127	ARG
34	D3	3	ARG
35	E3	37	ARG
35	E3	126	ARG
35	E3	150	ARG
36	F3	40	VAL
37	G3	6	ARG
37	G3	37	ASN
37	G3	44	TYR
37	G3	76	ARG
38	H3	69	ARG
40	J3	79	ARG
41	K3	18	ARG
41	K3	106	LYS
41	K3	127	LYS
42	L3	8	ASN
42	L3	19	ARG
42	L3	23	LYS
42	L3	89	ARG
42	L3	111	LYS
43	M3	14	ARG
43	M3	46	LYS
43	M3	115	LYS
44	N3	35	ARG
46	P3	5	ARG
46	P3	72	ARG
47	Q3	52	LYS
47	Q3	91	ARG
47	Q3	101	ARG
48	R3	36	ASN
49	S3	36	ARG
49	S3	37	ARG
49	S3	53	ASN
49	S3	55	LYS
50	T3	9	ASN
51	U3	7	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
51	U3	9	ARG
52	X3	139	MET
52	X3	142	MET
52	X3	145	GLU
52	X3	146	GLU
52	X3	149	PHE
52	X3	150	GLN
52	X3	151	MET
52	X3	152	GLU
52	X3	154	LEU
52	X3	158	PHE
52	X3	162	ARG
52	X3	168	GLU
52	X3	172	ILE
52	X3	173	TYR
52	X3	174	ARG
52	X3	180	TYR
52	X3	182	LEU
54	V3	13	ILE
54	V3	27	ARG
54	V3	29	ASP
54	V3	30	ARG
54	V3	62	LEU
54	V3	87	LEU
54	V3	88	GLU
54	V3	89	THR
54	V3	92	LYS
54	V3	97	ARG
32	B4	30	ARG
32	B4	37	ASN
32	B4	64	ARG
32	B4	96	ARG
32	B4	153	ARG
32	B4	197	VAL
32	B4	209	ARG
33	C4	26	LYS
33	C4	30	ARG
33	C4	126	ARG
34	D4	13	ARG
34	D4	73	ARG
34	D4	114	ARG
34	D4	132	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	D4	199	ASN
35	E4	150	ARG
36	F4	15	ASP
36	F4	36	ARG
36	F4	40	VAL
36	F4	100	ASN
37	G4	13	GLN
37	G4	68	ASN
38	H4	137	VAL
39	I4	20	ARG
39	I4	66	ARG
39	I4	127	LYS
40	J4	76	ASN
41	K4	18	ARG
41	K4	51	LYS
41	K4	62	GLN
42	L4	8	ASN
42	L4	46	LYS
42	L4	111	LYS
43	M4	14	ARG
43	M4	46	LYS
43	M4	115	LYS
44	N4	12	ARG
45	O4	79	ARG
47	Q4	52	LYS
49	S4	37	ARG
49	S4	53	ASN
49	S4	81	ARG
50	T4	9	ASN
51	U4	22	ARG
51	U4	26	LYS
52	W4	145	GLU
52	W4	146	GLU
52	W4	149	PHE
52	W4	150	GLN
52	W4	160	VAL
52	W4	162	ARG
52	W4	169	ILE
52	W4	171	VAL
52	W4	172	ILE
52	W4	173	TYR
52	W4	174	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
52	W4	175	ARG
52	W4	180	TYR
52	W4	182	LEU
52	W4	184	GLU
54	V4	17	ILE
54	V4	27	ARG
54	V4	55	ARG
54	V4	62	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (140) such sidechains are listed below:

Mol	Chain	Res	Type
1	C1	87	ASN
1	C1	116	GLN
1	C1	166	GLN
1	C1	203	ASN
1	C1	253	GLN
2	D1	48	GLN
2	D1	55	ASN
2	D1	135	HIS
2	D1	137	HIS
2	D1	180	ASN
3	E1	40	GLN
3	E1	169	ASN
3	E1	203	GLN
6	H1	28	ASN
6	H1	43	ASN
8	J1	82	ASN
8	J1	88	ASN
9	K1	13	ASN
9	K1	70	GLN
10	L1	46	GLN
10	L1	141	GLN
11	M1	11	ASN
11	M1	23	ASN
12	N1	16	ASN
12	N1	68	GLN
13	O1	84	GLN
14	P1	44	ASN
14	P1	66	ASN
14	P1	75	ASN
16	R1	61	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
16	R1	111	HIS
17	S1	55	ASN
19	U1	32	HIS
19	U1	118	GLN
20	V1	12	ASN
20	V1	29	GLN
20	V1	35	ASN
20	V1	80	HIS
21	W1	19	GLN
23	Y1	32	GLN
24	Z1	20	ASN
26	b1	49	HIS
31	e1	34	GLN
1	C2	115	GLN
1	C2	186	HIS
1	C2	203	ASN
2	D2	54	GLN
2	D2	135	HIS
2	D2	137	HIS
4	F2	40	ASN
4	F2	66	GLN
5	G2	147	ASN
7	I2	8	GLN
7	I2	101	HIS
8	J2	5	GLN
8	J2	82	ASN
9	K2	68	GLN
9	K2	70	GLN
10	L2	123	HIS
11	M2	71	GLN
12	N2	16	ASN
12	N2	38	GLN
13	O2	2	ASN
13	O2	84	GLN
14	P2	44	ASN
15	Q2	11	GLN
16	R2	40	ASN
16	R2	62	HIS
17	S2	55	ASN
19	U2	85	HIS
20	V2	70	GLN
21	W2	56	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
22	X2	46	GLN
22	X2	65	ASN
22	X2	71	ASN
24	Z2	20	ASN
26	b2	26	ASN
27	c2	6	GLN
31	e2	36	GLN
32	B3	76	GLN
33	C3	63	ASN
33	C3	110	ASN
34	D3	199	ASN
36	F3	64	GLN
37	G3	56	GLN
37	G3	106	GLN
37	G3	148	ASN
38	H3	70	GLN
38	H3	78	GLN
39	I3	23	ASN
39	I3	117	HIS
41	K3	22	HIS
41	K3	116	HIS
42	L3	75	HIS
43	M3	40	ASN
43	M3	77	ASN
43	M3	101	GLN
43	M3	106	ASN
45	O3	51	HIS
47	Q3	94	ASN
48	R3	36	ASN
49	S3	47	HIS
49	S3	83	HIS
50	T3	9	ASN
32	B4	19	HIS
32	B4	37	ASN
32	B4	76	GLN
32	B4	135	GLN
32	B4	212	GLN
33	C4	28	GLN
33	C4	98	ASN
33	C4	102	ASN
33	C4	108	ASN
33	C4	110	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	C4	136	GLN
33	C4	162	GLN
34	D4	62	GLN
34	D4	199	ASN
34	D4	201	GLN
36	F4	100	ASN
37	G4	28	ASN
37	G4	37	ASN
37	G4	68	ASN
37	G4	84	ASN
37	G4	148	ASN
40	J4	62	HIS
40	J4	68	HIS
40	J4	76	ASN
41	K4	13	GLN
41	K4	22	HIS
41	K4	93	GLN
41	K4	116	HIS
42	L4	75	HIS
45	O4	28	GLN
45	O4	37	ASN
49	S4	23	ASN
50	T4	26	ASN
52	W4	163	ASN
54	V4	49	HIS
54	V4	107	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	A1	2911/2912 (99%)	1374 (47%)	31 (1%)
29	A2	2911/2912 (99%)	1347 (46%)	39 (1%)
30	B1	121/122 (99%)	61 (50%)	1 (0%)
30	B2	121/122 (99%)	61 (50%)	0
53	A3	1505/1506 (99%)	771 (51%)	28 (1%)
53	A4	1505/1506 (99%)	757 (50%)	27 (1%)
All	All	9074/9080 (99%)	4371 (48%)	126 (1%)

All (4371) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	A1	4	C
29	A1	6	A
29	A1	9	U
29	A1	10	G
29	A1	12	U
29	A1	13	A
29	A1	14	A
29	A1	15	G
29	A1	18	C
29	A1	26	G
29	A1	29	U
29	A1	34	C
29	A1	35	G
29	A1	36	G
29	A1	37	C
29	A1	38	A
29	A1	42	G
29	A1	44	G
29	A1	45	C
29	A1	46	C
29	A1	48	A
29	A1	50	G
29	A1	51	A
29	A1	54	G
29	A1	57	G
29	A1	62	U
29	A1	63	A
29	A1	65	C
29	A1	70	A
29	A1	71	U
29	A1	72	A
29	A1	73	A
29	A1	74	G
29	A1	75	C
29	A1	79	G
29	A1	82	G
29	A1	84	G
29	A1	85	C
29	A1	87	G
29	A1	88	G
29	A1	89	U
29	A1	92	C
29	A1	95	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	97	G
29	A1	100	G
29	A1	101	A
29	A1	103	C
29	A1	104	C
29	A1	106	U
29	A1	107	G
29	A1	109	A
29	A1	110	U
29	A1	111	G
29	A1	113	C
29	A1	116	A
29	A1	117	A
29	A1	118	U
29	A1	121	G
29	A1	122	G
29	A1	124	A
29	A1	125	A
29	A1	126	C
29	A1	128	C
29	A1	129	G
29	A1	132	C
29	A1	134	G
29	A1	136	G
29	A1	137	G
29	A1	139	A
29	A1	145	G
29	A1	149	A
29	A1	152	G
29	A1	156	U
29	A1	158	U
29	A1	159	U
29	A1	160	U
29	A1	161	G
29	A1	165	G
29	A1	168	G
29	A1	169	G
29	A1	173	C
29	A1	175	U
29	A1	182	C
29	A1	186	A
29	A1	189	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	190	U
29	A1	193	C
29	A1	195	G
29	A1	200	C
29	A1	203	A
29	A1	205	G
29	A1	206	A
29	A1	209	G
29	A1	211	A
29	A1	212	A
29	A1	213	A
29	A1	214	G
29	A1	217	A
29	A1	218	A
29	A1	219	A
29	A1	220	U
29	A1	223	A
29	A1	224	C
29	A1	225	U
29	A1	226	C
29	A1	231	A
29	A1	233	U
29	A1	236	C
29	A1	238	G
29	A1	239	C
29	A1	240	G
29	A1	241	A
29	A1	242	G
29	A1	251	G
29	A1	252	A
29	A1	253	C
29	A1	255	A
29	A1	261	A
29	A1	268	C
29	A1	271	C
29	A1	273	U
29	A1	274	G
29	A1	275	U
29	A1	276	C
29	A1	277	C
29	A1	278	G
29	A1	279	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	281	C
29	A1	283	G
29	A1	284	G
29	A1	289	U
29	A1	290	G
29	A1	291	G
29	A1	292	G
29	A1	293	G
29	A1	294	C
29	A1	299	G
29	A1	300	G
29	A1	301	A
29	A1	302	C
29	A1	303	A
29	A1	306	G
29	A1	308	A
29	A1	309	U
29	A1	312	C
29	A1	313	C
29	A1	324	A
29	A1	325	A
29	A1	327	C
29	A1	331	U
29	A1	333	G
29	A1	335	A
29	A1	336	A
29	A1	337	G
29	A1	338	C
29	A1	341	C
29	A1	342	G
29	A1	346	G
29	A1	347	A
29	A1	348	G
29	A1	350	G
29	A1	351	G
29	A1	353	U
29	A1	355	A
29	A1	357	A
29	A1	360	C
29	A1	367	G
29	A1	369	G
29	A1	370	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	372	A
29	A1	374	G
29	A1	376	G
29	A1	377	G
29	A1	379	G
29	A1	386	G
29	A1	387	U
29	A1	388	G
29	A1	389	A
29	A1	395	C
29	A1	396	C
29	A1	398	G
29	A1	399	A
29	A1	400	G
29	A1	401	U
29	A1	405	C
29	A1	407	G
29	A1	409	G
29	A1	410	G
29	A1	414	G
29	A1	415	U
29	A1	416	G
29	A1	418	A
29	A1	419	G
29	A1	422	A
29	A1	424	G
29	A1	427	G
29	A1	428	G
29	A1	431	U
29	A1	432	C
29	A1	433	U
29	A1	434	G
29	A1	435	G
29	A1	436	G
29	A1	439	G
29	A1	440	A
29	A1	441	C
29	A1	450	U
29	A1	451	A
29	A1	453	G
29	A1	460	U
29	A1	462	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	463	U
29	A1	464	C
29	A1	465	C
29	A1	467	G
29	A1	469	U
29	A1	471	A
29	A1	472	C
29	A1	475	A
29	A1	476	U
29	A1	478	G
29	A1	480	G
29	A1	481	C
29	A1	482	A
29	A1	484	C
29	A1	485	A
29	A1	486	G
29	A1	492	U
29	A1	493	G
29	A1	494	A
29	A1	498	A
29	A1	500	A
29	A1	503	U
29	A1	505	A
29	A1	508	A
29	A1	509	G
29	A1	510	A
29	A1	514	C
29	A1	517	G
29	A1	519	A
29	A1	521	G
29	A1	525	G
29	A1	526	U
29	A1	531	U
29	A1	532	A
29	A1	534	A
29	A1	535	G
29	A1	536	C
29	A1	538	U
29	A1	539	G
29	A1	545	G
29	A1	550	C
29	A1	551	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	554	C
29	A1	556	A
29	A1	557	G
29	A1	558	C
29	A1	559	A
29	A1	565	G
29	A1	566	G
29	A1	568	C
29	A1	570	C
29	A1	573	A
29	A1	574	A
29	A1	575	G
29	A1	578	G
29	A1	580	U
29	A1	581	G
29	A1	586	G
29	A1	587	U
29	A1	588	G
29	A1	594	U
29	A1	598	G
29	A1	599	C
29	A1	600	A
29	A1	607	G
29	A1	608	G
29	A1	611	A
29	A1	612	C
29	A1	614	C
29	A1	615	A
29	A1	617	G
29	A1	621	G
29	A1	628	A
29	A1	631	U
29	A1	632	U
29	A1	635	G
29	A1	638	G
29	A1	641	G
29	A1	642	A
29	A1	645	C
29	A1	648	A
29	A1	649	G
29	A1	650	G
29	A1	652	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	655	G
29	A1	661	C
29	A1	664	A
29	A1	665	G
29	A1	670	A
29	A1	671	A
29	A1	673	A
29	A1	676	G
29	A1	677	C
29	A1	678	G
29	A1	679	C
29	A1	680	A
29	A1	681	A
29	A1	683	C
29	A1	684	G
29	A1	686	C
29	A1	687	C
29	A1	689	G
29	A1	690	C
29	A1	691	A
29	A1	692	C
29	A1	694	C
29	A1	695	G
29	A1	696	G
29	A1	701	A
29	A1	702	A
29	A1	703	A
29	A1	704	A
29	A1	710	C
29	A1	711	G
29	A1	712	G
29	A1	715	G
29	A1	719	A
29	A1	724	A
29	A1	725	A
29	A1	726	A
29	A1	730	G
29	A1	731	G
29	A1	732	C
29	A1	733	G
29	A1	734	A
29	A1	735	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	737	U
29	A1	747	C
29	A1	748	A
29	A1	752	U
29	A1	760	G
29	A1	761	G
29	A1	762	G
29	A1	763	U
29	A1	764	G
29	A1	766	G
29	A1	768	C
29	A1	769	C
29	A1	770	C
29	A1	771	A
29	A1	775	G
29	A1	777	G
29	A1	778	G
29	A1	782	G
29	A1	783	A
29	A1	785	C
29	A1	786	C
29	A1	787	G
29	A1	789	U
29	A1	790	G
29	A1	793	G
29	A1	796	U
29	A1	797	G
29	A1	798	C
29	A1	800	A
29	A1	801	A
29	A1	802	C
29	A1	806	U
29	A1	807	C
29	A1	808	G
29	A1	810	A
29	A1	811	U
29	A1	812	G
29	A1	813	A
29	A1	814	G
29	A1	815	C
29	A1	824	G
29	A1	825	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	826	A
29	A1	827	G
29	A1	828	U
29	A1	831	A
29	A1	832	A
29	A1	833	A
29	A1	837	A
29	A1	838	A
29	A1	839	C
29	A1	840	C
29	A1	842	A
29	A1	848	G
29	A1	849	A
29	A1	851	A
29	A1	854	G
29	A1	855	C
29	A1	857	G
29	A1	861	C
29	A1	866	C
29	A1	867	G
29	A1	868	A
29	A1	870	A
29	A1	873	A
29	A1	875	U
29	A1	877	U
29	A1	879	G
29	A1	880	G
29	A1	883	C
29	A1	888	U
29	A1	891	G
29	A1	895	C
29	A1	896	U
29	A1	897	G
29	A1	902	G
29	A1	904	G
29	A1	914	C
29	A1	917	U
29	A1	918	G
29	A1	920	U
29	A1	929	G
29	A1	931	G
29	A1	933	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	934	C
29	A1	935	C
29	A1	937	C
29	A1	938	C
29	A1	939	A
29	A1	940	G
29	A1	941	C
29	A1	942	C
29	A1	943	U
29	A1	944	A
29	A1	945	C
29	A1	946	C
29	A1	947	A
29	A1	948	A
29	A1	949	A
29	A1	952	C
29	A1	953	U
29	A1	956	C
29	A1	958	A
29	A1	961	U
29	A1	962	C
29	A1	965	A
29	A1	974	A
29	A1	978	G
29	A1	979	G
29	A1	980	A
29	A1	987	G
29	A1	989	G
29	A1	990	U
29	A1	992	A
29	A1	993	G
29	A1	1000	A
29	A1	1001	G
29	A1	1003	G
29	A1	1006	A
29	A1	1008	C
29	A1	1010	U
29	A1	1012	C
29	A1	1015	G
29	A1	1020	A
29	A1	1021	G
29	A1	1022	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1025	G
29	A1	1028	A
29	A1	1029	A
29	A1	1030	C
29	A1	1031	A
29	A1	1032	A
29	A1	1036	A
29	A1	1037	G
29	A1	1040	C
29	A1	1044	A
29	A1	1051	G
29	A1	1052	C
29	A1	1053	C
29	A1	1055	C
29	A1	1059	G
29	A1	1060	U
29	A1	1061	C
29	A1	1063	G
29	A1	1065	G
29	A1	1068	A
29	A1	1069	A
29	A1	1070	G
29	A1	1071	U
29	A1	1072	G
29	A1	1073	G
29	A1	1074	U
29	A1	1075	A
29	A1	1078	G
29	A1	1081	U
29	A1	1082	G
29	A1	1085	G
29	A1	1086	C
29	A1	1087	G
29	A1	1088	C
29	A1	1092	G
29	A1	1093	A
29	A1	1094	A
29	A1	1095	G
29	A1	1098	A
29	A1	1100	C
29	A1	1101	C
29	A1	1103	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1104	G
29	A1	1105	A
29	A1	1106	U
29	A1	1107	G
29	A1	1109	U
29	A1	1110	G
29	A1	1111	G
29	A1	1112	C
29	A1	1115	A
29	A1	1116	G
29	A1	1117	A
29	A1	1118	A
29	A1	1119	G
29	A1	1121	A
29	A1	1122	G
29	A1	1123	C
29	A1	1124	C
29	A1	1125	A
29	A1	1126	U
29	A1	1127	C
29	A1	1129	U
29	A1	1130	U
29	A1	1131	U
29	A1	1132	A
29	A1	1133	A
29	A1	1134	A
29	A1	1135	G
29	A1	1136	A
29	A1	1138	U
29	A1	1139	G
29	A1	1140	C
29	A1	1145	U
29	A1	1146	A
29	A1	1148	C
29	A1	1149	U
29	A1	1150	C
29	A1	1153	U
29	A1	1154	G
29	A1	1158	G
29	A1	1159	A
29	A1	1162	G
29	A1	1173	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1174	A
29	A1	1176	A
29	A1	1177	A
29	A1	1178	U
29	A1	1179	G
29	A1	1180	A
29	A1	1181	U
29	A1	1182	C
29	A1	1183	G
29	A1	1184	G
29	A1	1185	G
29	A1	1186	G
29	A1	1188	U
29	A1	1189	U
29	A1	1190	A
29	A1	1191	A
29	A1	1192	G
29	A1	1196	A
29	A1	1199	G
29	A1	1200	C
29	A1	1203	A
29	A1	1204	A
29	A1	1206	C
29	A1	1208	G
29	A1	1211	G
29	A1	1214	C
29	A1	1219	G
29	A1	1220	G
29	A1	1221	A
29	A1	1222	U
29	A1	1223	G
29	A1	1224	A
29	A1	1225	C
29	A1	1226	C
29	A1	1227	C
29	A1	1228	C
29	A1	1229	A
29	A1	1230	G
29	A1	1233	G
29	A1	1235	U
29	A1	1237	G
29	A1	1249	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1250	G
29	A1	1251	A
29	A1	1252	U
29	A1	1257	A
29	A1	1258	U
29	A1	1259	G
29	A1	1260	A
29	A1	1262	G
29	A1	1267	A
29	A1	1272	C
29	A1	1273	G
29	A1	1277	G
29	A1	1281	C
29	A1	1284	G
29	A1	1289	A
29	A1	1290	A
29	A1	1291	G
29	A1	1292	G
29	A1	1293	G
29	A1	1299	C
29	A1	1301	A
29	A1	1302	A
29	A1	1303	U
29	A1	1304	G
29	A1	1306	C
29	A1	1307	G
29	A1	1309	C
29	A1	1313	A
29	A1	1315	U
29	A1	1319	G
29	A1	1320	A
29	A1	1321	U
29	A1	1323	A
29	A1	1326	A
29	A1	1328	G
29	A1	1336	U
29	A1	1337	C
29	A1	1339	C
29	A1	1348	U
29	A1	1349	A
29	A1	1350	A
29	A1	1351	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1359	G
29	A1	1360	U
29	A1	1361	U
29	A1	1362	C
29	A1	1363	C
29	A1	1364	U
29	A1	1369	A
29	A1	1371	U
29	A1	1373	G
29	A1	1377	U
29	A1	1378	C
29	A1	1381	C
29	A1	1386	G
29	A1	1388	U
29	A1	1390	A
29	A1	1391	G
29	A1	1398	C
29	A1	1401	A
29	A1	1402	A
29	A1	1403	G
29	A1	1404	G
29	A1	1405	U
29	A1	1407	A
29	A1	1408	A
29	A1	1409	G
29	A1	1411	C
29	A1	1413	A
29	A1	1416	G
29	A1	1417	G
29	A1	1418	C
29	A1	1419	G
29	A1	1427	A
29	A1	1428	G
29	A1	1429	G
29	A1	1432	A
29	A1	1433	G
29	A1	1434	C
29	A1	1440	A
29	A1	1441	A
29	A1	1443	A
29	A1	1444	U
29	A1	1445	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1446	C
29	A1	1449	G
29	A1	1451	C
29	A1	1452	C
29	A1	1453	U
29	A1	1457	C
29	A1	1460	A
29	A1	1462	G
29	A1	1464	G
29	A1	1467	A
29	A1	1469	G
29	A1	1472	G
29	A1	1474	G
29	A1	1476	C
29	A1	1480	C
29	A1	1482	A
29	A1	1483	G
29	A1	1485	C
29	A1	1486	U
29	A1	1488	G
29	A1	1489	G
29	A1	1491	G
29	A1	1493	A
29	A1	1494	C
29	A1	1497	G
29	A1	1498	A
29	A1	1499	G
29	A1	1500	C
29	A1	1502	A
29	A1	1503	U
29	A1	1505	G
29	A1	1509	A
29	A1	1510	G
29	A1	1513	C
29	A1	1515	G
29	A1	1516	C
29	A1	1520	A
29	A1	1524	G
29	A1	1525	C
29	A1	1531	G
29	A1	1532	G
29	A1	1533	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1534	A
29	A1	1535	G
29	A1	1536	G
29	A1	1537	U
29	A1	1538	A
29	A1	1539	G
29	A1	1540	G
29	A1	1541	C
29	A1	1542	A
29	A1	1543	A
29	A1	1544	A
29	A1	1545	U
29	A1	1546	C
29	A1	1547	C
29	A1	1548	G
29	A1	1551	U
29	A1	1553	C
29	A1	1554	C
29	A1	1555	A
29	A1	1557	C
29	A1	1558	A
29	A1	1559	A
29	A1	1560	G
29	A1	1561	C
29	A1	1562	U
29	A1	1563	C
29	A1	1565	G
29	A1	1566	C
29	A1	1568	U
29	A1	1569	G
29	A1	1571	U
29	A1	1572	G
29	A1	1573	G
29	A1	1576	A
29	A1	1578	G
29	A1	1580	C
29	A1	1582	G
29	A1	1583	U
29	A1	1584	A
29	A1	1585	C
29	A1	1586	G
29	A1	1589	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1592	C
29	A1	1593	A
29	A1	1594	A
29	A1	1595	C
29	A1	1596	C
29	A1	1603	A
29	A1	1604	G
29	A1	1607	A
29	A1	1608	G
29	A1	1609	G
29	A1	1612	G
29	A1	1615	A
29	A1	1617	G
29	A1	1618	A
29	A1	1620	A
29	A1	1623	C
29	A1	1625	U
29	A1	1626	C
29	A1	1627	U
29	A1	1630	G
29	A1	1631	C
29	A1	1637	C
29	A1	1638	U
29	A1	1639	G
29	A1	1641	G
29	A1	1642	G
29	A1	1648	C
29	A1	1649	G
29	A1	1651	A
29	A1	1655	C
29	A1	1657	A
29	A1	1658	A
29	A1	1659	C
29	A1	1661	G
29	A1	1663	C
29	A1	1664	A
29	A1	1665	C
29	A1	1666	A
29	A1	1667	G
29	A1	1673	C
29	A1	1683	A
29	A1	1684	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1688	U
29	A1	1697	C
29	A1	1701	A
29	A1	1702	G
29	A1	1703	A
29	A1	1708	U
29	A1	1716	G
29	A1	1717	A
29	A1	1721	C
29	A1	1722	U
29	A1	1723	G
29	A1	1726	A
29	A1	1732	C
29	A1	1735	C
29	A1	1740	C
29	A1	1743	C
29	A1	1744	G
29	A1	1746	G
29	A1	1747	A
29	A1	1748	G
29	A1	1749	A
29	A1	1750	A
29	A1	1755	U
29	A1	1756	G
29	A1	1757	C
29	A1	1761	C
29	A1	1762	U
29	A1	1764	G
29	A1	1768	G
29	A1	1770	U
29	A1	1771	G
29	A1	1775	C
29	A1	1776	C
29	A1	1781	G
29	A1	1784	C
29	A1	1786	G
29	A1	1787	C
29	A1	1789	G
29	A1	1790	U
29	A1	1791	G
29	A1	1792	A
29	A1	1793	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1796	G
29	A1	1797	G
29	A1	1798	C
29	A1	1799	U
29	A1	1800	C
29	A1	1806	A
29	A1	1808	U
29	A1	1810	U
29	A1	1811	U
29	A1	1813	A
29	A1	1814	C
29	A1	1815	C
29	A1	1816	A
29	A1	1817	A
29	A1	1818	A
29	A1	1820	A
29	A1	1822	A
29	A1	1824	A
29	A1	1829	U
29	A1	1832	G
29	A1	1833	C
29	A1	1834	G
29	A1	1835	A
29	A1	1838	U
29	A1	1840	G
29	A1	1841	U
29	A1	1842	A
29	A1	1843	A
29	A1	1844	G
29	A1	1846	G
29	A1	1847	G
29	A1	1848	A
29	A1	1849	G
29	A1	1852	A
29	A1	1853	U
29	A1	1854	A
29	A1	1861	G
29	A1	1862	A
29	A1	1867	U
29	A1	1869	C
29	A1	1870	C
29	A1	1872	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1876	C
29	A1	1877	C
29	A1	1879	G
29	A1	1880	A
29	A1	1881	A
29	A1	1885	C
29	A1	1888	G
29	A1	1890	G
29	A1	1891	G
29	A1	1893	G
29	A1	1894	G
29	A1	1895	G
29	A1	1896	G
29	A1	1898	G
29	A1	1900	A
29	A1	1901	A
29	A1	1902	G
29	A1	1903	C
29	A1	1904	C
29	A1	1907	G
29	A1	1911	C
29	A1	1912	G
29	A1	1913	A
29	A1	1916	C
29	A1	1920	G
29	A1	1921	G
29	A1	1924	A
29	A1	1925	A
29	A1	1927	G
29	A1	1930	G
29	A1	1931	G
29	A1	1932	C
29	A1	1933	C
29	A1	1934	G
29	A1	1935	U
29	A1	1936	A
29	A1	1939	U
29	A1	1940	A
29	A1	1941	U
29	A1	1942	A
29	A1	1943	A
29	A1	1946	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	1947	U
29	A1	1949	C
29	A1	1950	U
29	A1	1953	G
29	A1	1954	G
29	A1	1955	U
29	A1	1959	G
29	A1	1961	A
29	A1	1962	A
29	A1	1969	G
29	A1	1970	U
29	A1	1976	A
29	A1	1979	U
29	A1	1980	U
29	A1	1981	C
29	A1	1987	U
29	A1	1988	G
29	A1	1989	C
29	A1	1991	C
29	A1	1993	A
29	A1	1994	A
29	A1	1995	A
29	A1	1996	A
29	A1	1999	G
29	A1	2006	C
29	A1	2009	G
29	A1	2013	G
29	A1	2016	G
29	A1	2017	U
29	A1	2018	C
29	A1	2020	C
29	A1	2021	G
29	A1	2023	C
29	A1	2024	G
29	A1	2026	G
29	A1	2027	G
29	A1	2034	G
29	A1	2036	G
29	A1	2039	A
29	A1	2040	U
29	A1	2042	G
29	A1	2043	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2044	A
29	A1	2045	C
29	A1	2046	U
29	A1	2047	G
29	A1	2050	C
29	A1	2055	A
29	A1	2056	G
29	A1	2057	A
29	A1	2058	U
29	A1	2060	C
29	A1	2063	C
29	A1	2066	A
29	A1	2067	C
29	A1	2069	C
29	A1	2075	A
29	A1	2076	G
29	A1	2080	G
29	A1	2083	A
29	A1	2084	A
29	A1	2085	G
29	A1	2086	A
29	A1	2087	C
29	A1	2089	C
29	A1	2091	G
29	A1	2092	U
29	A1	2093	G
29	A1	2099	U
29	A1	2101	A
29	A1	2109	C
29	A1	2114	G
29	A1	2116	U
29	A1	2117	G
29	A1	2118	G
29	A1	2120	U
29	A1	2122	U
29	A1	2123	U
29	A1	2125	G
29	A1	2127	C
29	A1	2128	G
29	A1	2130	G
29	A1	2131	C
29	A1	2132	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2133	U
29	A1	2134	G
29	A1	2135	C
29	A1	2136	G
29	A1	2137	U
29	A1	2139	G
29	A1	2140	G
29	A1	2141	A
29	A1	2142	U
29	A1	2143	A
29	A1	2145	G
29	A1	2146	U
29	A1	2148	G
29	A1	2149	G
29	A1	2150	A
29	A1	2151	G
29	A1	2153	C
29	A1	2154	U
29	A1	2155	G
29	A1	2156	U
29	A1	2159	A
29	A1	2160	C
29	A1	2161	C
29	A1	2162	C
29	A1	2163	C
29	A1	2164	C
29	A1	2166	C
29	A1	2167	C
29	A1	2168	U
29	A1	2169	C
29	A1	2170	C
29	A1	2171	G
29	A1	2172	G
29	A1	2174	U
29	A1	2175	G
29	A1	2176	G
29	A1	2177	G
29	A1	2178	G
29	A1	2179	G
29	A1	2182	A
29	A1	2183	G
29	A1	2184	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2185	C
29	A1	2187	C
29	A1	2190	G
29	A1	2192	G
29	A1	2195	A
29	A1	2197	A
29	A1	2198	C
29	A1	2199	C
29	A1	2201	C
29	A1	2207	C
29	A1	2210	G
29	A1	2213	U
29	A1	2215	G
29	A1	2216	G
29	A1	2217	G
29	A1	2222	A
29	A1	2223	A
29	A1	2224	C
29	A1	2226	C
29	A1	2228	C
29	A1	2229	G
29	A1	2230	G
29	A1	2231	A
29	A1	2232	U
29	A1	2236	G
29	A1	2239	A
29	A1	2242	G
29	A1	2243	C
29	A1	2246	U
29	A1	2247	U
29	A1	2252	G
29	A1	2253	G
29	A1	2254	C
29	A1	2256	G
29	A1	2257	U
29	A1	2260	G
29	A1	2261	A
29	A1	2263	U
29	A1	2265	G
29	A1	2268	C
29	A1	2269	G
29	A1	2270	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2271	U
29	A1	2273	G
29	A1	2277	C
29	A1	2282	A
29	A1	2285	G
29	A1	2288	A
29	A1	2289	C
29	A1	2294	G
29	A1	2297	C
29	A1	2298	C
29	A1	2300	A
29	A1	2302	A
29	A1	2303	G
29	A1	2304	G
29	A1	2308	C
29	A1	2309	C
29	A1	2310	U
29	A1	2311	C
29	A1	2314	G
29	A1	2315	C
29	A1	2320	C
29	A1	2323	A
29	A1	2326	U
29	A1	2329	G
29	A1	2332	G
29	A1	2333	G
29	A1	2334	A
29	A1	2335	G
29	A1	2336	A
29	A1	2339	G
29	A1	2341	A
29	A1	2342	A
29	A1	2346	U
29	A1	2347	A
29	A1	2348	G
29	A1	2350	A
29	A1	2354	G
29	A1	2356	C
29	A1	2360	A
29	A1	2361	C
29	A1	2362	U
29	A1	2363	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2364	C
29	A1	2366	A
29	A1	2369	C
29	A1	2372	G
29	A1	2373	C
29	A1	2374	A
29	A1	2375	A
29	A1	2376	G
29	A1	2379	G
29	A1	2381	G
29	A1	2383	A
29	A1	2386	G
29	A1	2389	G
29	A1	2391	A
29	A1	2395	C
29	A1	2396	G
29	A1	2397	G
29	A1	2398	G
29	A1	2399	C
29	A1	2401	U
29	A1	2402	A
29	A1	2404	U
29	A1	2405	G
29	A1	2406	A
29	A1	2409	C
29	A1	2411	G
29	A1	2415	U
29	A1	2416	C
29	A1	2417	C
29	A1	2420	U
29	A1	2421	G
29	A1	2422	U
29	A1	2424	G
29	A1	2426	A
29	A1	2429	G
29	A1	2432	A
29	A1	2433	U
29	A1	2434	C
29	A1	2437	U
29	A1	2439	A
29	A1	2440	A
29	A1	2441	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2442	G
29	A1	2443	G
29	A1	2444	A
29	A1	2445	U
29	A1	2447	A
29	A1	2450	G
29	A1	2451	U
29	A1	2453	A
29	A1	2454	C
29	A1	2455	C
29	A1	2461	G
29	A1	2462	A
29	A1	2464	A
29	A1	2470	C
29	A1	2475	C
29	A1	2476	U
29	A1	2477	C
29	A1	2482	G
29	A1	2483	A
29	A1	2485	C
29	A1	2486	G
29	A1	2487	U
29	A1	2488	C
29	A1	2490	A
29	A1	2491	C
29	A1	2492	A
29	A1	2493	G
29	A1	2499	G
29	A1	2504	G
29	A1	2506	U
29	A1	2512	C
29	A1	2513	C
29	A1	2515	C
29	A1	2516	G
29	A1	2517	A
29	A1	2518	U
29	A1	2519	G
29	A1	2522	G
29	A1	2530	G
29	A1	2532	A
29	A1	2534	C
29	A1	2540	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2543	G
29	A1	2544	A
29	A1	2546	G
29	A1	2548	A
29	A1	2549	G
29	A1	2550	G
29	A1	2551	U
29	A1	2552	C
29	A1	2555	A
29	A1	2556	A
29	A1	2557	G
29	A1	2561	U
29	A1	2568	U
29	A1	2574	C
29	A1	2575	A
29	A1	2578	A
29	A1	2579	A
29	A1	2580	A
29	A1	2581	G
29	A1	2586	A
29	A1	2587	C
29	A1	2591	A
29	A1	2592	G
29	A1	2596	G
29	A1	2599	U
29	A1	2601	A
29	A1	2611	G
29	A1	2612	A
29	A1	2616	A
29	A1	2617	G
29	A1	2620	C
29	A1	2621	G
29	A1	2622	G
29	A1	2623	U
29	A1	2625	U
29	A1	2626	C
29	A1	2627	U
29	A1	2628	A
29	A1	2629	U
29	A1	2631	C
29	A1	2637	G
29	A1	2643	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2644	G
29	A1	2647	G
29	A1	2654	G
29	A1	2656	G
29	A1	2657	G
29	A1	2660	C
29	A1	2661	U
29	A1	2663	U
29	A1	2664	U
29	A1	2665	C
29	A1	2668	A
29	A1	2669	G
29	A1	2678	G
29	A1	2679	A
29	A1	2681	C
29	A1	2687	G
29	A1	2689	A
29	A1	2695	C
29	A1	2696	U
29	A1	2699	G
29	A1	2703	U
29	A1	2704	C
29	A1	2705	C
29	A1	2706	C
29	A1	2713	C
29	A1	2714	C
29	A1	2716	U
29	A1	2717	C
29	A1	2726	U
29	A1	2727	A
29	A1	2728	A
29	A1	2734	G
29	A1	2735	U
29	A1	2741	U
29	A1	2742	G
29	A1	2744	G
29	A1	2748	A
29	A1	2749	A
29	A1	2750	G
29	A1	2751	G
29	A1	2753	A
29	A1	2756	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2759	G
29	A1	2760	C
29	A1	2762	G
29	A1	2765	A
29	A1	2766	G
29	A1	2767	C
29	A1	2768	A
29	A1	2769	U
29	A1	2770	C
29	A1	2771	U
29	A1	2772	A
29	A1	2774	G
29	A1	2775	C
29	A1	2780	A
29	A1	2781	G
29	A1	2784	C
29	A1	2785	G
29	A1	2793	A
29	A1	2796	A
29	A1	2797	G
29	A1	2798	G
29	A1	2804	C
29	A1	2806	C
29	A1	2808	G
29	A1	2811	U
29	A1	2812	C
29	A1	2813	A
29	A1	2814	A
29	A1	2815	G
29	A1	2817	C
29	A1	2819	G
29	A1	2820	U
29	A1	2823	G
29	A1	2825	A
29	A1	2828	C
29	A1	2830	G
29	A1	2831	G
29	A1	2832	A
29	A1	2834	G
29	A1	2835	A
29	A1	2836	C
29	A1	2839	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A1	2844	U
29	A1	2846	G
29	A1	2847	A
29	A1	2848	U
29	A1	2851	G
29	A1	2855	G
29	A1	2856	G
29	A1	2860	G
29	A1	2861	U
29	A1	2862	A
29	A1	2863	A
29	A1	2865	C
29	A1	2870	C
29	A1	2882	C
29	A1	2884	G
29	A1	2885	A
29	A1	2886	C
29	A1	2889	G
29	A1	2891	C
29	A1	2892	C
29	A1	2893	C
29	A1	2897	C
29	A1	2898	G
29	A1	2902	G
29	A1	2903	A
29	A1	2906	U
29	A1	2910	G
29	A1	2911	A
29	A1	2912	C
30	B1	3	U
30	B1	5	C
30	B1	8	C
30	B1	11	G
30	B1	12	C
30	B1	13	C
30	B1	14	C
30	B1	17	A
30	B1	18	G
30	B1	24	U
30	B1	26	G
30	B1	27	A
30	B1	29	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
30	B1	34	C
30	B1	35	G
30	B1	39	C
30	B1	40	C
30	B1	41	A
30	B1	42	U
30	B1	43	U
30	B1	44	C
30	B1	46	G
30	B1	47	A
30	B1	51	C
30	B1	52	G
30	B1	56	G
30	B1	58	G
30	B1	59	A
30	B1	63	G
30	B1	66	C
30	B1	67	C
30	B1	68	A
30	B1	69	G
30	B1	71	G
30	B1	73	C
30	B1	75	A
30	B1	77	G
30	B1	82	U
30	B1	84	G
30	B1	86	C
30	B1	87	G
30	B1	91	G
30	B1	93	C
30	B1	95	G
30	B1	97	C
30	B1	98	U
30	B1	99	G
30	B1	101	G
30	B1	103	G
30	B1	107	A
30	B1	108	G
30	B1	109	G
30	B1	111	C
30	B1	112	G
30	B1	114	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
30	B1	115	G
30	B1	117	G
30	B1	118	G
30	B1	120	G
30	B1	121	G
30	B1	122	A
29	A2	3	U
29	A2	4	C
29	A2	6	A
29	A2	7	G
29	A2	12	U
29	A2	15	G
29	A2	18	C
29	A2	29	U
29	A2	33	U
29	A2	34	C
29	A2	35	G
29	A2	36	G
29	A2	37	C
29	A2	38	A
29	A2	44	G
29	A2	45	C
29	A2	46	C
29	A2	47	G
29	A2	48	A
29	A2	49	U
29	A2	50	G
29	A2	53	G
29	A2	54	G
29	A2	57	G
29	A2	60	G
29	A2	61	C
29	A2	62	U
29	A2	63	A
29	A2	65	C
29	A2	69	G
29	A2	70	A
29	A2	71	U
29	A2	72	A
29	A2	73	A
29	A2	74	G
29	A2	75	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	82	G
29	A2	84	G
29	A2	87	G
29	A2	88	G
29	A2	89	U
29	A2	95	G
29	A2	98	U
29	A2	99	G
29	A2	100	G
29	A2	106	U
29	A2	107	G
29	A2	109	A
29	A2	110	U
29	A2	112	U
29	A2	116	A
29	A2	117	A
29	A2	118	U
29	A2	121	G
29	A2	122	G
29	A2	123	G
29	A2	126	C
29	A2	128	C
29	A2	134	G
29	A2	136	G
29	A2	139	A
29	A2	145	G
29	A2	149	A
29	A2	153	C
29	A2	155	C
29	A2	156	U
29	A2	157	U
29	A2	160	U
29	A2	161	G
29	A2	169	G
29	A2	173	C
29	A2	175	U
29	A2	182	C
29	A2	186	A
29	A2	188	C
29	A2	189	A
29	A2	193	C
29	A2	195	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	200	C
29	A2	203	A
29	A2	205	G
29	A2	206	A
29	A2	209	G
29	A2	211	A
29	A2	213	A
29	A2	214	G
29	A2	217	A
29	A2	218	A
29	A2	219	A
29	A2	220	U
29	A2	223	A
29	A2	224	C
29	A2	225	U
29	A2	227	C
29	A2	231	A
29	A2	233	U
29	A2	236	C
29	A2	237	G
29	A2	238	G
29	A2	239	C
29	A2	240	G
29	A2	242	G
29	A2	251	G
29	A2	252	A
29	A2	253	C
29	A2	255	A
29	A2	261	A
29	A2	268	C
29	A2	272	U
29	A2	274	G
29	A2	275	U
29	A2	276	C
29	A2	277	C
29	A2	279	G
29	A2	280	G
29	A2	281	C
29	A2	283	G
29	A2	284	G
29	A2	287	C
29	A2	288	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	289	U
29	A2	290	G
29	A2	291	G
29	A2	292	G
29	A2	293	G
29	A2	294	C
29	A2	295	C
29	A2	299	G
29	A2	300	G
29	A2	301	A
29	A2	303	A
29	A2	307	A
29	A2	308	A
29	A2	309	U
29	A2	312	C
29	A2	313	C
29	A2	314	A
29	A2	324	A
29	A2	325	A
29	A2	328	U
29	A2	331	U
29	A2	334	G
29	A2	335	A
29	A2	336	A
29	A2	337	G
29	A2	338	C
29	A2	341	C
29	A2	342	G
29	A2	344	C
29	A2	347	A
29	A2	348	G
29	A2	350	G
29	A2	351	G
29	A2	354	G
29	A2	355	A
29	A2	357	A
29	A2	360	C
29	A2	363	G
29	A2	367	G
29	A2	372	A
29	A2	374	G
29	A2	376	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	377	G
29	A2	379	G
29	A2	380	G
29	A2	381	G
29	A2	386	G
29	A2	389	A
29	A2	392	G
29	A2	394	A
29	A2	395	C
29	A2	396	C
29	A2	397	C
29	A2	398	G
29	A2	400	G
29	A2	401	U
29	A2	404	C
29	A2	405	C
29	A2	409	G
29	A2	414	G
29	A2	415	U
29	A2	416	G
29	A2	419	G
29	A2	422	A
29	A2	424	G
29	A2	427	G
29	A2	428	G
29	A2	432	C
29	A2	433	U
29	A2	435	G
29	A2	436	G
29	A2	439	G
29	A2	440	A
29	A2	441	C
29	A2	442	C
29	A2	443	A
29	A2	451	A
29	A2	453	G
29	A2	460	U
29	A2	462	C
29	A2	464	C
29	A2	465	C
29	A2	466	G
29	A2	467	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	469	U
29	A2	470	G
29	A2	471	A
29	A2	472	C
29	A2	476	U
29	A2	480	G
29	A2	481	C
29	A2	482	A
29	A2	484	C
29	A2	485	A
29	A2	486	G
29	A2	492	U
29	A2	494	A
29	A2	498	A
29	A2	500	A
29	A2	501	G
29	A2	503	U
29	A2	505	A
29	A2	508	A
29	A2	509	G
29	A2	511	A
29	A2	512	C
29	A2	517	G
29	A2	519	A
29	A2	521	G
29	A2	532	A
29	A2	533	G
29	A2	534	A
29	A2	535	G
29	A2	536	C
29	A2	537	C
29	A2	538	U
29	A2	539	G
29	A2	547	G
29	A2	551	U
29	A2	554	C
29	A2	555	A
29	A2	556	A
29	A2	558	C
29	A2	559	A
29	A2	560	G
29	A2	564	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	565	G
29	A2	566	G
29	A2	568	C
29	A2	570	C
29	A2	573	A
29	A2	575	G
29	A2	578	G
29	A2	580	U
29	A2	581	G
29	A2	583	G
29	A2	586	G
29	A2	587	U
29	A2	588	G
29	A2	593	U
29	A2	594	U
29	A2	598	G
29	A2	600	A
29	A2	607	G
29	A2	608	G
29	A2	611	A
29	A2	612	C
29	A2	613	U
29	A2	615	A
29	A2	617	G
29	A2	618	G
29	A2	621	G
29	A2	628	A
29	A2	631	U
29	A2	632	U
29	A2	634	A
29	A2	635	G
29	A2	638	G
29	A2	641	G
29	A2	642	A
29	A2	645	C
29	A2	648	A
29	A2	649	G
29	A2	652	G
29	A2	655	G
29	A2	661	C
29	A2	664	A
29	A2	669	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	670	A
29	A2	671	A
29	A2	672	C
29	A2	676	G
29	A2	677	C
29	A2	678	G
29	A2	679	C
29	A2	682	A
29	A2	684	G
29	A2	689	G
29	A2	690	C
29	A2	692	C
29	A2	694	C
29	A2	695	G
29	A2	696	G
29	A2	697	G
29	A2	698	C
29	A2	700	G
29	A2	701	A
29	A2	702	A
29	A2	703	A
29	A2	705	G
29	A2	710	C
29	A2	711	G
29	A2	712	G
29	A2	715	G
29	A2	718	G
29	A2	725	A
29	A2	726	A
29	A2	730	G
29	A2	731	G
29	A2	735	G
29	A2	737	U
29	A2	747	C
29	A2	748	A
29	A2	752	U
29	A2	760	G
29	A2	761	G
29	A2	762	G
29	A2	763	U
29	A2	768	C
29	A2	769	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	772	G
29	A2	777	G
29	A2	778	G
29	A2	783	A
29	A2	785	C
29	A2	786	C
29	A2	787	G
29	A2	789	U
29	A2	790	G
29	A2	796	U
29	A2	797	G
29	A2	798	C
29	A2	800	A
29	A2	801	A
29	A2	802	C
29	A2	803	C
29	A2	804	C
29	A2	806	U
29	A2	807	C
29	A2	808	G
29	A2	810	A
29	A2	811	U
29	A2	812	G
29	A2	813	A
29	A2	814	G
29	A2	815	C
29	A2	820	G
29	A2	821	C
29	A2	823	A
29	A2	824	G
29	A2	825	G
29	A2	826	A
29	A2	828	U
29	A2	831	A
29	A2	832	A
29	A2	833	A
29	A2	834	G
29	A2	837	A
29	A2	839	C
29	A2	840	C
29	A2	841	G
29	A2	842	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	846	C
29	A2	849	A
29	A2	851	A
29	A2	854	G
29	A2	855	C
29	A2	857	G
29	A2	859	U
29	A2	861	C
29	A2	868	A
29	A2	870	A
29	A2	875	U
29	A2	876	U
29	A2	877	U
29	A2	878	A
29	A2	879	G
29	A2	880	G
29	A2	881	G
29	A2	888	U
29	A2	890	A
29	A2	895	C
29	A2	897	G
29	A2	904	G
29	A2	907	U
29	A2	908	G
29	A2	909	U
29	A2	914	C
29	A2	915	A
29	A2	917	U
29	A2	918	G
29	A2	920	U
29	A2	921	A
29	A2	927	A
29	A2	929	G
29	A2	931	G
29	A2	932	G
29	A2	933	C
29	A2	934	C
29	A2	936	A
29	A2	937	C
29	A2	940	G
29	A2	941	C
29	A2	942	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	943	U
29	A2	944	A
29	A2	945	C
29	A2	946	C
29	A2	947	A
29	A2	949	A
29	A2	953	U
29	A2	958	A
29	A2	961	U
29	A2	962	C
29	A2	963	C
29	A2	965	A
29	A2	974	A
29	A2	978	G
29	A2	979	G
29	A2	980	A
29	A2	981	G
29	A2	988	A
29	A2	991	G
29	A2	992	A
29	A2	993	G
29	A2	1000	A
29	A2	1001	G
29	A2	1003	G
29	A2	1005	U
29	A2	1006	A
29	A2	1008	C
29	A2	1010	U
29	A2	1011	C
29	A2	1012	C
29	A2	1015	G
29	A2	1021	G
29	A2	1022	C
29	A2	1025	G
29	A2	1028	A
29	A2	1029	A
29	A2	1030	C
29	A2	1031	A
29	A2	1033	C
29	A2	1034	C
29	A2	1036	A
29	A2	1044	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1045	G
29	A2	1051	G
29	A2	1052	C
29	A2	1053	C
29	A2	1054	C
29	A2	1056	C
29	A2	1059	G
29	A2	1060	U
29	A2	1061	C
29	A2	1063	G
29	A2	1065	G
29	A2	1068	A
29	A2	1069	A
29	A2	1070	G
29	A2	1071	U
29	A2	1072	G
29	A2	1073	G
29	A2	1074	U
29	A2	1075	A
29	A2	1080	A
29	A2	1081	U
29	A2	1082	G
29	A2	1085	G
29	A2	1090	G
29	A2	1091	C
29	A2	1092	G
29	A2	1095	G
29	A2	1098	A
29	A2	1100	C
29	A2	1101	C
29	A2	1103	G
29	A2	1104	G
29	A2	1105	A
29	A2	1108	U
29	A2	1109	U
29	A2	1110	G
29	A2	1111	G
29	A2	1115	A
29	A2	1117	A
29	A2	1118	A
29	A2	1119	G
29	A2	1120	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1121	A
29	A2	1122	G
29	A2	1123	C
29	A2	1124	C
29	A2	1125	A
29	A2	1127	C
29	A2	1130	U
29	A2	1131	U
29	A2	1132	A
29	A2	1133	A
29	A2	1134	A
29	A2	1135	G
29	A2	1136	A
29	A2	1137	G
29	A2	1138	U
29	A2	1141	G
29	A2	1142	U
29	A2	1143	A
29	A2	1144	A
29	A2	1145	U
29	A2	1146	A
29	A2	1148	C
29	A2	1153	U
29	A2	1156	U
29	A2	1159	A
29	A2	1160	G
29	A2	1162	G
29	A2	1165	G
29	A2	1172	C
29	A2	1173	G
29	A2	1174	A
29	A2	1177	A
29	A2	1178	U
29	A2	1179	G
29	A2	1180	A
29	A2	1182	C
29	A2	1183	G
29	A2	1184	G
29	A2	1185	G
29	A2	1186	G
29	A2	1187	C
29	A2	1188	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1189	U
29	A2	1190	A
29	A2	1191	A
29	A2	1192	G
29	A2	1196	A
29	A2	1199	G
29	A2	1200	C
29	A2	1203	A
29	A2	1204	A
29	A2	1206	C
29	A2	1208	G
29	A2	1211	G
29	A2	1214	C
29	A2	1219	G
29	A2	1220	G
29	A2	1222	U
29	A2	1223	G
29	A2	1224	A
29	A2	1225	C
29	A2	1226	C
29	A2	1227	C
29	A2	1230	G
29	A2	1231	G
29	A2	1233	G
29	A2	1237	G
29	A2	1249	C
29	A2	1251	A
29	A2	1252	U
29	A2	1253	G
29	A2	1257	A
29	A2	1258	U
29	A2	1259	G
29	A2	1260	A
29	A2	1262	G
29	A2	1267	A
29	A2	1272	C
29	A2	1277	G
29	A2	1281	C
29	A2	1284	G
29	A2	1285	A
29	A2	1289	A
29	A2	1290	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1291	G
29	A2	1292	G
29	A2	1293	G
29	A2	1299	C
29	A2	1300	G
29	A2	1301	A
29	A2	1302	A
29	A2	1303	U
29	A2	1304	G
29	A2	1306	C
29	A2	1307	G
29	A2	1309	C
29	A2	1311	U
29	A2	1313	A
29	A2	1314	G
29	A2	1315	U
29	A2	1316	A
29	A2	1319	G
29	A2	1320	A
29	A2	1321	U
29	A2	1323	A
29	A2	1326	A
29	A2	1328	G
29	A2	1333	G
29	A2	1336	U
29	A2	1337	C
29	A2	1348	U
29	A2	1349	A
29	A2	1350	A
29	A2	1351	G
29	A2	1356	A
29	A2	1359	G
29	A2	1360	U
29	A2	1361	U
29	A2	1362	C
29	A2	1363	C
29	A2	1364	U
29	A2	1373	G
29	A2	1377	U
29	A2	1378	C
29	A2	1382	G
29	A2	1386	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1390	A
29	A2	1391	G
29	A2	1397	A
29	A2	1401	A
29	A2	1402	A
29	A2	1403	G
29	A2	1404	G
29	A2	1405	U
29	A2	1407	A
29	A2	1408	A
29	A2	1409	G
29	A2	1411	C
29	A2	1413	A
29	A2	1416	G
29	A2	1418	C
29	A2	1419	G
29	A2	1423	C
29	A2	1427	A
29	A2	1428	G
29	A2	1432	A
29	A2	1433	G
29	A2	1434	C
29	A2	1440	A
29	A2	1441	A
29	A2	1443	A
29	A2	1444	U
29	A2	1445	U
29	A2	1446	C
29	A2	1449	G
29	A2	1451	C
29	A2	1452	C
29	A2	1453	U
29	A2	1457	C
29	A2	1459	C
29	A2	1460	A
29	A2	1462	G
29	A2	1464	G
29	A2	1466	G
29	A2	1467	A
29	A2	1468	U
29	A2	1469	G
29	A2	1473	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1474	G
29	A2	1475	A
29	A2	1476	C
29	A2	1481	U
29	A2	1483	G
29	A2	1485	C
29	A2	1486	U
29	A2	1488	G
29	A2	1489	G
29	A2	1491	G
29	A2	1493	A
29	A2	1494	C
29	A2	1497	G
29	A2	1498	A
29	A2	1499	G
29	A2	1500	C
29	A2	1502	A
29	A2	1505	G
29	A2	1508	G
29	A2	1509	A
29	A2	1510	G
29	A2	1511	C
29	A2	1513	C
29	A2	1515	G
29	A2	1516	C
29	A2	1520	A
29	A2	1524	G
29	A2	1531	G
29	A2	1535	G
29	A2	1537	U
29	A2	1538	A
29	A2	1539	G
29	A2	1540	G
29	A2	1541	C
29	A2	1542	A
29	A2	1543	A
29	A2	1546	C
29	A2	1547	C
29	A2	1550	C
29	A2	1552	C
29	A2	1556	A
29	A2	1557	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1559	A
29	A2	1560	G
29	A2	1561	C
29	A2	1562	U
29	A2	1563	C
29	A2	1564	U
29	A2	1565	G
29	A2	1566	C
29	A2	1568	U
29	A2	1569	G
29	A2	1571	U
29	A2	1572	G
29	A2	1573	G
29	A2	1575	G
29	A2	1577	A
29	A2	1578	G
29	A2	1580	C
29	A2	1582	G
29	A2	1584	A
29	A2	1585	C
29	A2	1586	G
29	A2	1587	G
29	A2	1591	A
29	A2	1592	C
29	A2	1593	A
29	A2	1595	C
29	A2	1596	C
29	A2	1603	A
29	A2	1607	A
29	A2	1608	G
29	A2	1609	G
29	A2	1612	G
29	A2	1615	A
29	A2	1618	A
29	A2	1620	A
29	A2	1623	C
29	A2	1625	U
29	A2	1627	U
29	A2	1630	G
29	A2	1632	A
29	A2	1633	C
29	A2	1634	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1635	A
29	A2	1638	U
29	A2	1639	G
29	A2	1641	G
29	A2	1642	G
29	A2	1644	A
29	A2	1648	C
29	A2	1649	G
29	A2	1655	C
29	A2	1657	A
29	A2	1658	A
29	A2	1659	C
29	A2	1661	G
29	A2	1663	C
29	A2	1664	A
29	A2	1665	C
29	A2	1666	A
29	A2	1667	G
29	A2	1673	C
29	A2	1684	G
29	A2	1686	A
29	A2	1688	U
29	A2	1696	G
29	A2	1697	C
29	A2	1702	G
29	A2	1703	A
29	A2	1708	U
29	A2	1717	A
29	A2	1721	C
29	A2	1722	U
29	A2	1723	G
29	A2	1726	A
29	A2	1732	C
29	A2	1740	C
29	A2	1743	C
29	A2	1744	G
29	A2	1746	G
29	A2	1747	A
29	A2	1748	G
29	A2	1749	A
29	A2	1750	A
29	A2	1755	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1756	G
29	A2	1757	C
29	A2	1761	C
29	A2	1762	U
29	A2	1764	G
29	A2	1765	G
29	A2	1766	G
29	A2	1768	G
29	A2	1769	A
29	A2	1770	U
29	A2	1771	G
29	A2	1774	C
29	A2	1775	C
29	A2	1777	C
29	A2	1781	G
29	A2	1784	C
29	A2	1786	G
29	A2	1787	C
29	A2	1789	G
29	A2	1790	U
29	A2	1791	G
29	A2	1792	A
29	A2	1793	A
29	A2	1794	C
29	A2	1796	G
29	A2	1797	G
29	A2	1798	C
29	A2	1799	U
29	A2	1800	C
29	A2	1806	A
29	A2	1808	U
29	A2	1810	U
29	A2	1811	U
29	A2	1813	A
29	A2	1814	C
29	A2	1815	C
29	A2	1817	A
29	A2	1818	A
29	A2	1822	A
29	A2	1824	A
29	A2	1825	G
29	A2	1829	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1832	G
29	A2	1833	C
29	A2	1834	G
29	A2	1835	A
29	A2	1838	U
29	A2	1840	G
29	A2	1843	A
29	A2	1844	G
29	A2	1846	G
29	A2	1847	G
29	A2	1848	A
29	A2	1849	G
29	A2	1850	G
29	A2	1852	A
29	A2	1853	U
29	A2	1854	A
29	A2	1861	G
29	A2	1862	A
29	A2	1864	G
29	A2	1867	U
29	A2	1869	C
29	A2	1870	C
29	A2	1871	C
29	A2	1876	C
29	A2	1877	C
29	A2	1880	A
29	A2	1881	A
29	A2	1885	C
29	A2	1886	A
29	A2	1888	G
29	A2	1891	G
29	A2	1893	G
29	A2	1895	G
29	A2	1896	G
29	A2	1899	C
29	A2	1900	A
29	A2	1901	A
29	A2	1902	G
29	A2	1904	C
29	A2	1907	G
29	A2	1913	A
29	A2	1916	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1920	G
29	A2	1921	G
29	A2	1923	G
29	A2	1924	A
29	A2	1925	A
29	A2	1927	G
29	A2	1930	G
29	A2	1932	C
29	A2	1933	C
29	A2	1934	G
29	A2	1935	U
29	A2	1936	A
29	A2	1937	A
29	A2	1938	C
29	A2	1939	U
29	A2	1940	A
29	A2	1941	U
29	A2	1942	A
29	A2	1943	A
29	A2	1944	C
29	A2	1945	G
29	A2	1947	U
29	A2	1948	C
29	A2	1953	G
29	A2	1954	G
29	A2	1955	U
29	A2	1958	C
29	A2	1960	A
29	A2	1961	A
29	A2	1962	A
29	A2	1969	G
29	A2	1970	U
29	A2	1976	A
29	A2	1979	U
29	A2	1980	U
29	A2	1981	C
29	A2	1985	C
29	A2	1987	U
29	A2	1988	G
29	A2	1989	C
29	A2	1990	A
29	A2	1991	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	1993	A
29	A2	1994	A
29	A2	1995	A
29	A2	1996	A
29	A2	2006	C
29	A2	2009	G
29	A2	2013	G
29	A2	2016	G
29	A2	2017	U
29	A2	2018	C
29	A2	2020	C
29	A2	2023	C
29	A2	2024	G
29	A2	2026	G
29	A2	2027	G
29	A2	2036	G
29	A2	2039	A
29	A2	2040	U
29	A2	2043	A
29	A2	2044	A
29	A2	2045	C
29	A2	2046	U
29	A2	2047	G
29	A2	2050	C
29	A2	2055	A
29	A2	2056	G
29	A2	2057	A
29	A2	2058	U
29	A2	2063	C
29	A2	2067	C
29	A2	2075	A
29	A2	2076	G
29	A2	2079	C
29	A2	2080	G
29	A2	2084	A
29	A2	2085	G
29	A2	2086	A
29	A2	2087	C
29	A2	2089	C
29	A2	2091	G
29	A2	2092	U
29	A2	2093	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2099	U
29	A2	2101	A
29	A2	2109	C
29	A2	2111	G
29	A2	2114	G
29	A2	2115	U
29	A2	2116	U
29	A2	2117	G
29	A2	2120	U
29	A2	2122	U
29	A2	2123	U
29	A2	2124	G
29	A2	2125	G
29	A2	2126	U
29	A2	2127	C
29	A2	2128	G
29	A2	2130	G
29	A2	2131	C
29	A2	2132	C
29	A2	2133	U
29	A2	2134	G
29	A2	2135	C
29	A2	2136	G
29	A2	2137	U
29	A2	2139	G
29	A2	2140	G
29	A2	2141	A
29	A2	2142	U
29	A2	2143	A
29	A2	2145	G
29	A2	2146	U
29	A2	2148	G
29	A2	2149	G
29	A2	2150	A
29	A2	2151	G
29	A2	2152	C
29	A2	2153	C
29	A2	2154	U
29	A2	2155	G
29	A2	2156	U
29	A2	2157	G
29	A2	2160	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2161	C
29	A2	2162	C
29	A2	2163	C
29	A2	2164	C
29	A2	2165	G
29	A2	2166	C
29	A2	2168	U
29	A2	2169	C
29	A2	2170	C
29	A2	2171	G
29	A2	2172	G
29	A2	2174	U
29	A2	2176	G
29	A2	2177	G
29	A2	2178	G
29	A2	2179	G
29	A2	2181	G
29	A2	2183	G
29	A2	2184	G
29	A2	2185	C
29	A2	2186	G
29	A2	2187	C
29	A2	2190	G
29	A2	2192	G
29	A2	2197	A
29	A2	2199	C
29	A2	2200	A
29	A2	2201	C
29	A2	2202	C
29	A2	2204	U
29	A2	2205	G
29	A2	2207	C
29	A2	2209	C
29	A2	2212	C
29	A2	2213	U
29	A2	2215	G
29	A2	2217	G
29	A2	2222	A
29	A2	2224	C
29	A2	2226	C
29	A2	2228	C
29	A2	2229	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2230	G
29	A2	2231	A
29	A2	2232	U
29	A2	2233	G
29	A2	2236	G
29	A2	2239	A
29	A2	2242	G
29	A2	2243	C
29	A2	2246	U
29	A2	2247	U
29	A2	2252	G
29	A2	2253	G
29	A2	2256	G
29	A2	2257	U
29	A2	2260	G
29	A2	2261	A
29	A2	2263	U
29	A2	2265	G
29	A2	2266	G
29	A2	2270	G
29	A2	2271	U
29	A2	2277	C
29	A2	2280	A
29	A2	2282	A
29	A2	2285	G
29	A2	2286	U
29	A2	2288	A
29	A2	2289	C
29	A2	2297	C
29	A2	2298	C
29	A2	2299	C
29	A2	2302	A
29	A2	2303	G
29	A2	2304	G
29	A2	2310	U
29	A2	2311	C
29	A2	2312	A
29	A2	2321	G
29	A2	2322	G
29	A2	2323	A
29	A2	2326	U
29	A2	2329	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2333	G
29	A2	2334	A
29	A2	2336	A
29	A2	2337	G
29	A2	2339	G
29	A2	2341	A
29	A2	2342	A
29	A2	2346	U
29	A2	2347	A
29	A2	2348	G
29	A2	2349	A
29	A2	2350	A
29	A2	2356	C
29	A2	2360	A
29	A2	2361	C
29	A2	2363	G
29	A2	2364	C
29	A2	2366	A
29	A2	2373	C
29	A2	2375	A
29	A2	2379	G
29	A2	2381	G
29	A2	2383	A
29	A2	2386	G
29	A2	2389	G
29	A2	2393	G
29	A2	2394	C
29	A2	2395	C
29	A2	2396	G
29	A2	2397	G
29	A2	2398	G
29	A2	2399	C
29	A2	2402	A
29	A2	2403	G
29	A2	2404	U
29	A2	2405	G
29	A2	2406	A
29	A2	2407	A
29	A2	2409	C
29	A2	2415	U
29	A2	2416	C
29	A2	2417	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2421	G
29	A2	2422	U
29	A2	2424	G
29	A2	2426	A
29	A2	2428	G
29	A2	2429	G
29	A2	2432	A
29	A2	2433	U
29	A2	2434	C
29	A2	2436	A
29	A2	2437	U
29	A2	2439	A
29	A2	2440	A
29	A2	2441	C
29	A2	2442	G
29	A2	2443	G
29	A2	2444	A
29	A2	2445	U
29	A2	2446	A
29	A2	2447	A
29	A2	2450	G
29	A2	2451	U
29	A2	2453	A
29	A2	2454	C
29	A2	2455	C
29	A2	2461	G
29	A2	2462	A
29	A2	2464	A
29	A2	2470	C
29	A2	2474	U
29	A2	2475	C
29	A2	2476	U
29	A2	2477	C
29	A2	2480	C
29	A2	2482	G
29	A2	2483	A
29	A2	2484	G
29	A2	2485	C
29	A2	2490	A
29	A2	2491	C
29	A2	2492	A
29	A2	2494	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2498	G
29	A2	2504	G
29	A2	2506	U
29	A2	2508	G
29	A2	2512	C
29	A2	2516	G
29	A2	2517	A
29	A2	2518	U
29	A2	2519	G
29	A2	2520	U
29	A2	2522	G
29	A2	2532	A
29	A2	2534	C
29	A2	2535	C
29	A2	2543	G
29	A2	2544	A
29	A2	2546	G
29	A2	2547	A
29	A2	2548	A
29	A2	2549	G
29	A2	2550	G
29	A2	2552	C
29	A2	2555	A
29	A2	2556	A
29	A2	2561	U
29	A2	2568	U
29	A2	2574	C
29	A2	2575	A
29	A2	2578	A
29	A2	2579	A
29	A2	2580	A
29	A2	2581	G
29	A2	2586	A
29	A2	2587	C
29	A2	2588	G
29	A2	2591	A
29	A2	2592	G
29	A2	2596	G
29	A2	2599	U
29	A2	2600	C
29	A2	2601	A
29	A2	2606	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2611	G
29	A2	2612	A
29	A2	2616	A
29	A2	2617	G
29	A2	2620	C
29	A2	2621	G
29	A2	2622	G
29	A2	2623	U
29	A2	2625	U
29	A2	2626	C
29	A2	2627	U
29	A2	2628	A
29	A2	2629	U
29	A2	2631	C
29	A2	2637	G
29	A2	2643	A
29	A2	2645	G
29	A2	2646	A
29	A2	2647	G
29	A2	2648	G
29	A2	2654	G
29	A2	2655	G
29	A2	2660	C
29	A2	2661	U
29	A2	2663	U
29	A2	2664	U
29	A2	2665	C
29	A2	2668	A
29	A2	2669	G
29	A2	2677	G
29	A2	2678	G
29	A2	2679	A
29	A2	2680	C
29	A2	2682	G
29	A2	2687	G
29	A2	2689	A
29	A2	2694	C
29	A2	2695	C
29	A2	2696	U
29	A2	2699	G
29	A2	2703	U
29	A2	2704	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2705	C
29	A2	2713	C
29	A2	2717	C
29	A2	2726	U
29	A2	2727	A
29	A2	2728	A
29	A2	2729	G
29	A2	2733	G
29	A2	2734	G
29	A2	2735	U
29	A2	2741	U
29	A2	2742	G
29	A2	2744	G
29	A2	2748	A
29	A2	2749	A
29	A2	2750	G
29	A2	2753	A
29	A2	2756	A
29	A2	2761	U
29	A2	2762	G
29	A2	2763	A
29	A2	2764	A
29	A2	2766	G
29	A2	2767	C
29	A2	2768	A
29	A2	2769	U
29	A2	2770	C
29	A2	2771	U
29	A2	2772	A
29	A2	2775	C
29	A2	2780	A
29	A2	2781	G
29	A2	2788	C
29	A2	2792	G
29	A2	2793	A
29	A2	2797	G
29	A2	2798	G
29	A2	2803	C
29	A2	2804	C
29	A2	2806	C
29	A2	2807	G
29	A2	2809	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2812	C
29	A2	2814	A
29	A2	2815	G
29	A2	2817	C
29	A2	2818	G
29	A2	2820	U
29	A2	2823	G
29	A2	2825	A
29	A2	2828	C
29	A2	2830	G
29	A2	2831	G
29	A2	2832	A
29	A2	2833	A
29	A2	2834	G
29	A2	2835	A
29	A2	2836	C
29	A2	2837	C
29	A2	2839	C
29	A2	2844	U
29	A2	2845	G
29	A2	2846	G
29	A2	2847	A
29	A2	2848	U
29	A2	2855	G
29	A2	2856	G
29	A2	2860	G
29	A2	2861	U
29	A2	2862	A
29	A2	2863	A
29	A2	2865	C
29	A2	2868	C
29	A2	2871	G
29	A2	2882	C
29	A2	2883	C
29	A2	2884	G
29	A2	2885	A
29	A2	2887	C
29	A2	2891	C
29	A2	2892	C
29	A2	2893	C
29	A2	2897	C
29	A2	2898	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	2901	C
29	A2	2902	G
29	A2	2906	U
29	A2	2907	C
29	A2	2908	U
29	A2	2910	G
29	A2	2911	A
29	A2	2912	C
29	A2	2913	C
30	B2	2	A
30	B2	3	U
30	B2	7	C
30	B2	8	C
30	B2	13	C
30	B2	15	A
30	B2	17	A
30	B2	18	G
30	B2	24	U
30	B2	26	G
30	B2	27	A
30	B2	28	A
30	B2	34	C
30	B2	35	G
30	B2	39	C
30	B2	40	C
30	B2	41	A
30	B2	43	U
30	B2	44	C
30	B2	45	C
30	B2	46	G
30	B2	47	A
30	B2	51	C
30	B2	52	G
30	B2	56	G
30	B2	58	G
30	B2	59	A
30	B2	60	A
30	B2	61	A
30	B2	63	G
30	B2	66	C
30	B2	67	C
30	B2	68	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
30	B2	69	G
30	B2	71	G
30	B2	73	C
30	B2	74	G
30	B2	75	A
30	B2	77	G
30	B2	82	U
30	B2	83	G
30	B2	84	G
30	B2	85	G
30	B2	86	C
30	B2	87	G
30	B2	89	G
30	B2	90	C
30	B2	93	C
30	B2	97	C
30	B2	98	U
30	B2	99	G
30	B2	105	G
30	B2	106	U
30	B2	108	G
30	B2	109	G
30	B2	111	C
30	B2	112	G
30	B2	114	U
30	B2	115	G
30	B2	117	G
30	B2	121	G
53	A3	7	G
53	A3	8	A
53	A3	9	G
53	A3	15	G
53	A3	16	A
53	A3	18	C
53	A3	19	C
53	A3	21	G
53	A3	23	C
53	A3	30	U
53	A3	31	G
53	A3	32	A
53	A3	34	C
53	A3	36	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	37	U
53	A3	39	G
53	A3	44	G
53	A3	45	U
53	A3	47	C
53	A3	48	C
53	A3	49	U
53	A3	51	A
53	A3	52	G
53	A3	54	C
53	A3	55	A
53	A3	58	C
53	A3	59	A
53	A3	60	A
53	A3	61	G
53	A3	62	U
53	A3	66	G
53	A3	67	C
53	A3	68	G
53	A3	69	G
53	A3	70	G
53	A3	72	C
53	A3	73	G
53	A3	76	G
53	A3	77	G
53	A3	78	G
53	A3	79	U
53	A3	81	U
53	A3	82	U
53	A3	83	A
53	A3	84	C
53	A3	85	U
53	A3	86	C
53	A3	87	C
53	A3	88	G
53	A3	89	U
53	A3	90	G
53	A3	91	G
53	A3	92	U
53	A3	99	C
53	A3	101	G
53	A3	103	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	104	G
53	A3	107	U
53	A3	108	G
53	A3	109	A
53	A3	111	U
53	A3	113	A
53	A3	114	C
53	A3	121	G
53	A3	123	G
53	A3	125	C
53	A3	126	C
53	A3	128	A
53	A3	131	C
53	A3	133	G
53	A3	134	A
53	A3	137	A
53	A3	138	G
53	A3	139	G
53	A3	140	G
53	A3	145	A
53	A3	147	C
53	A3	148	C
53	A3	149	C
53	A3	151	G
53	A3	153	G
53	A3	157	C
53	A3	159	C
53	A3	164	U
53	A3	165	A
53	A3	166	A
53	A3	167	U
53	A3	168	C
53	A3	170	C
53	A3	172	C
53	A3	173	A
53	A3	174	U
53	A3	175	G
53	A3	176	U
53	A3	178	G
53	A3	180	C
53	A3	181	C
53	A3	186	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	188	U
53	A3	189	U
53	A3	190	G
53	A3	191	G
53	A3	192	G
53	A3	197	G
53	A3	201	A
53	A3	202	A
53	A3	203	A
53	A3	204	G
53	A3	206	G
53	A3	207	C
53	A3	208	U
53	A3	209	U
53	A3	210	U
53	A3	211	G
53	A3	213	C
53	A3	215	G
53	A3	218	U
53	A3	224	U
53	A3	225	G
53	A3	226	G
53	A3	230	C
53	A3	231	G
53	A3	232	C
53	A3	235	C
53	A3	238	A
53	A3	239	U
53	A3	240	C
53	A3	242	G
53	A3	243	C
53	A3	246	G
53	A3	248	U
53	A3	254	G
53	A3	261	G
53	A3	262	C
53	A3	263	C
53	A3	264	C
53	A3	268	A
53	A3	269	A
53	A3	270	G
53	A3	271	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	272	C
53	A3	276	G
53	A3	283	A
53	A3	284	G
53	A3	293	A
53	A3	298	A
53	A3	301	G
53	A3	306	C
53	A3	308	A
53	A3	309	C
53	A3	310	A
53	A3	312	G
53	A3	317	C
53	A3	319	G
53	A3	323	C
53	A3	324	A
53	A3	325	C
53	A3	327	G
53	A3	330	C
53	A3	335	U
53	A3	337	C
53	A3	339	A
53	A3	340	C
53	A3	343	G
53	A3	345	G
53	A3	346	G
53	A3	347	C
53	A3	348	A
53	A3	349	G
53	A3	351	A
53	A3	353	U
53	A3	354	U
53	A3	356	G
53	A3	357	G
53	A3	362	U
53	A3	364	C
53	A3	367	C
53	A3	376	C
53	A3	379	G
53	A3	380	C
53	A3	381	C
53	A3	382	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	383	G
53	A3	384	A
53	A3	385	C
53	A3	391	G
53	A3	392	A
53	A3	393	C
53	A3	396	C
53	A3	401	G
53	A3	402	G
53	A3	406	A
53	A3	408	G
53	A3	409	A
53	A3	410	A
53	A3	411	G
53	A3	413	C
53	A3	414	C
53	A3	416	U
53	A3	417	C
53	A3	418	G
53	A3	420	G
53	A3	423	G
53	A3	424	U
53	A3	425	A
53	A3	426	A
53	A3	428	C
53	A3	429	U
53	A3	432	U
53	A3	434	A
53	A3	435	A
53	A3	436	C
53	A3	439	G
53	A3	442	A
53	A3	443	C
53	A3	445	A
53	A3	447	A
53	A3	448	C
53	A3	450	C
53	A3	452	C
53	A3	454	A
53	A3	456	G
53	A3	462	A
53	A3	465	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	466	A
53	A3	469	G
53	A3	471	A
53	A3	473	C
53	A3	475	G
53	A3	479	A
53	A3	480	A
53	A3	481	U
53	A3	482	A
53	A3	483	G
53	A3	488	G
53	A3	489	G
53	A3	491	C
53	A3	492	A
53	A3	493	A
53	A3	494	C
53	A3	498	G
53	A3	499	U
53	A3	500	G
53	A3	501	C
53	A3	502	C
53	A3	506	A
53	A3	507	G
53	A3	508	C
53	A3	509	C
53	A3	511	C
53	A3	512	G
53	A3	513	G
53	A3	514	U
53	A3	515	A
53	A3	517	U
53	A3	518	A
53	A3	520	G
53	A3	521	G
53	A3	524	G
53	A3	528	C
53	A3	530	A
53	A3	532	C
53	A3	533	G
53	A3	537	C
53	A3	542	A
53	A3	543	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	544	U
53	A3	545	C
53	A3	547	C
53	A3	548	U
53	A3	549	G
53	A3	555	A
53	A3	556	A
53	A3	558	G
53	A3	559	G
53	A3	560	G
53	A3	562	G
53	A3	563	U
53	A3	565	U
53	A3	567	G
53	A3	575	G
53	A3	576	G
53	A3	577	G
53	A3	578	G
53	A3	579	C
53	A3	580	G
53	A3	586	U
53	A3	590	A
53	A3	597	A
53	A3	601	C
53	A3	602	U
53	A3	603	C
53	A3	604	A
53	A3	607	C
53	A3	609	U
53	A3	612	G
53	A3	613	G
53	A3	614	G
53	A3	615	A
53	A3	619	U
53	A3	620	G
53	A3	622	G
53	A3	627	G
53	A3	629	U
53	A3	630	C
53	A3	633	G
53	A3	634	C
53	A3	636	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	640	G
53	A3	646	A
53	A3	647	G
53	A3	650	G
53	A3	653	G
53	A3	657	G
53	A3	663	C
53	A3	664	C
53	A3	669	U
53	A3	670	A
53	A3	671	G
53	A3	674	G
53	A3	681	G
53	A3	683	G
53	A3	684	C
53	A3	685	A
53	A3	686	G
53	A3	687	A
53	A3	691	C
53	A3	692	G
53	A3	693	G
53	A3	694	G
53	A3	702	C
53	A3	705	A
53	A3	706	U
53	A3	707	G
53	A3	709	C
53	A3	711	A
53	A3	712	A
53	A3	713	G
53	A3	714	G
53	A3	715	C
53	A3	716	A
53	A3	717	G
53	A3	718	C
53	A3	719	C
53	A3	722	C
53	A3	724	G
53	A3	725	G
53	A3	726	U
53	A3	727	C
53	A3	730	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	731	C
53	A3	732	C
53	A3	734	U
53	A3	735	G
53	A3	736	A
53	A3	737	C
53	A3	738	G
53	A3	740	U
53	A3	741	G
53	A3	744	G
53	A3	745	C
53	A3	749	A
53	A3	750	A
53	A3	751	A
53	A3	752	G
53	A3	757	G
53	A3	759	G
53	A3	760	A
53	A3	762	C
53	A3	766	C
53	A3	768	G
53	A3	773	A
53	A3	775	A
53	A3	776	U
53	A3	777	A
53	A3	778	C
53	A3	780	C
53	A3	782	G
53	A3	786	G
53	A3	788	C
53	A3	789	C
53	A3	790	A
53	A3	794	C
53	A3	795	C
53	A3	796	U
53	A3	800	C
53	A3	801	G
53	A3	802	A
53	A3	804	G
53	A3	807	C
53	A3	810	U
53	A3	811	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	812	G
53	A3	820	G
53	A3	823	C
53	A3	824	U
53	A3	825	C
53	A3	829	G
53	A3	836	A
53	A3	842	A
53	A3	847	U
53	A3	848	U
53	A3	850	A
53	A3	851	G
53	A3	854	C
53	A3	855	G
53	A3	857	C
53	A3	861	U
53	A3	863	G
53	A3	866	A
53	A3	874	C
53	A3	876	C
53	A3	879	G
53	A3	880	G
53	A3	881	C
53	A3	884	A
53	A3	885	A
53	A3	886	A
53	A3	888	U
53	A3	890	A
53	A3	891	A
53	A3	893	G
53	A3	894	G
53	A3	896	A
53	A3	897	U
53	A3	899	G
53	A3	900	A
53	A3	904	G
53	A3	909	C
53	A3	911	C
53	A3	912	A
53	A3	914	A
53	A3	915	A
53	A3	916	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	919	G
53	A3	920	U
53	A3	922	G
53	A3	924	G
53	A3	925	C
53	A3	926	A
53	A3	931	G
53	A3	932	U
53	A3	933	U
53	A3	935	A
53	A3	937	U
53	A3	942	A
53	A3	943	G
53	A3	946	A
53	A3	948	G
53	A3	949	C
53	A3	950	G
53	A3	952	A
53	A3	953	G
53	A3	954	A
53	A3	955	A
53	A3	957	C
53	A3	958	U
53	A3	959	U
53	A3	960	A
53	A3	962	C
53	A3	966	C
53	A3	967	C
53	A3	968	U
53	A3	969	U
53	A3	970	G
53	A3	972	C
53	A3	974	U
53	A3	975	G
53	A3	976	C
53	A3	977	U
53	A3	978	A
53	A3	979	G
53	A3	980	G
53	A3	981	G
53	A3	982	A
53	A3	983	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	984	C
53	A3	985	C
53	A3	988	G
53	A3	990	U
53	A3	994	A
53	A3	998	U
53	A3	999	G
53	A3	1000	G
53	A3	1002	G
53	A3	1003	U
53	A3	1004	G
53	A3	1005	C
53	A3	1006	C
53	A3	1007	C
53	A3	1008	C
53	A3	1009	G
53	A3	1010	C
53	A3	1011	G
53	A3	1012	A
53	A3	1013	G
53	A3	1014	G
53	A3	1015	G
53	A3	1016	G
53	A3	1018	G
53	A3	1019	C
53	A3	1020	C
53	A3	1022	U
53	A3	1023	A
53	A3	1024	G
53	A3	1027	C
53	A3	1029	G
53	A3	1030	G
53	A3	1034	U
53	A3	1035	G
53	A3	1036	C
53	A3	1045	C
53	A3	1046	G
53	A3	1047	U
53	A3	1048	C
53	A3	1049	A
53	A3	1053	C
53	A3	1057	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	1060	U
53	A3	1061	G
53	A3	1062	A
53	A3	1064	G
53	A3	1068	U
53	A3	1070	G
53	A3	1076	G
53	A3	1077	U
53	A3	1081	G
53	A3	1082	C
53	A3	1083	A
53	A3	1084	A
53	A3	1094	C
53	A3	1095	C
53	A3	1097	C
53	A3	1100	C
53	A3	1101	C
53	A3	1102	G
53	A3	1104	U
53	A3	1105	A
53	A3	1106	G
53	A3	1107	U
53	A3	1108	U
53	A3	1109	G
53	A3	1110	C
53	A3	1111	C
53	A3	1112	A
53	A3	1113	G
53	A3	1114	C
53	A3	1115	G
53	A3	1116	G
53	A3	1118	U
53	A3	1119	C
53	A3	1120	G
53	A3	1121	G
53	A3	1122	C
53	A3	1123	C
53	A3	1124	G
53	A3	1125	G
53	A3	1128	A
53	A3	1129	C
53	A3	1130	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	1133	A
53	A3	1134	A
53	A3	1136	G
53	A3	1139	A
53	A3	1140	C
53	A3	1141	U
53	A3	1145	C
53	A3	1149	A
53	A3	1153	C
53	A3	1159	G
53	A3	1160	A
53	A3	1161	A
53	A3	1162	G
53	A3	1163	G
53	A3	1164	A
53	A3	1165	G
53	A3	1167	G
53	A3	1172	A
53	A3	1173	C
53	A3	1174	G
53	A3	1176	C
53	A3	1177	U
53	A3	1178	G
53	A3	1179	G
53	A3	1180	U
53	A3	1181	C
53	A3	1182	A
53	A3	1183	G
53	A3	1186	U
53	A3	1187	G
53	A3	1190	C
53	A3	1192	U
53	A3	1194	A
53	A3	1196	G
53	A3	1197	G
53	A3	1198	C
53	A3	1199	C
53	A3	1200	U
53	A3	1201	G
53	A3	1202	G
53	A3	1203	G
53	A3	1205	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	1206	A
53	A3	1207	C
53	A3	1208	A
53	A3	1209	C
53	A3	1210	A
53	A3	1211	C
53	A3	1214	G
53	A3	1216	U
53	A3	1217	A
53	A3	1219	A
53	A3	1221	U
53	A3	1222	G
53	A3	1224	C
53	A3	1225	C
53	A3	1227	C
53	A3	1228	U
53	A3	1229	A
53	A3	1231	A
53	A3	1233	A
53	A3	1234	G
53	A3	1235	C
53	A3	1236	G
53	A3	1237	A
53	A3	1238	U
53	A3	1239	G
53	A3	1240	C
53	A3	1242	A
53	A3	1243	C
53	A3	1245	C
53	A3	1246	G
53	A3	1250	A
53	A3	1251	C
53	A3	1253	G
53	A3	1254	G
53	A3	1255	G
53	A3	1257	G
53	A3	1258	C
53	A3	1259	U
53	A3	1262	U
53	A3	1263	C
53	A3	1264	G
53	A3	1265	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	1266	A
53	A3	1267	A
53	A3	1268	A
53	A3	1269	A
53	A3	1270	A
53	A3	1271	G
53	A3	1272	G
53	A3	1273	U
53	A3	1277	C
53	A3	1279	C
53	A3	1280	A
53	A3	1281	G
53	A3	1282	U
53	A3	1283	U
53	A3	1284	C
53	A3	1286	G
53	A3	1287	A
53	A3	1292	G
53	A3	1293	G
53	A3	1294	U
53	A3	1299	A
53	A3	1300	A
53	A3	1301	C
53	A3	1302	C
53	A3	1304	G
53	A3	1312	G
53	A3	1313	A
53	A3	1317	C
53	A3	1318	G
53	A3	1319	G
53	A3	1321	A
53	A3	1322	U
53	A3	1323	C
53	A3	1325	C
53	A3	1327	A
53	A3	1328	G
53	A3	1332	U
53	A3	1333	C
53	A3	1337	G
53	A3	1339	U
53	A3	1340	C
53	A3	1341	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	1343	C
53	A3	1344	C
53	A3	1345	A
53	A3	1346	U
53	A3	1347	G
53	A3	1351	C
53	A3	1352	G
53	A3	1353	G
53	A3	1355	G
53	A3	1357	A
53	A3	1359	A
53	A3	1361	G
53	A3	1362	U
53	A3	1364	C
53	A3	1367	G
53	A3	1377	C
53	A3	1379	C
53	A3	1380	A
53	A3	1381	C
53	A3	1382	C
53	A3	1383	G
53	A3	1384	C
53	A3	1387	G
53	A3	1391	C
53	A3	1392	G
53	A3	1393	C
53	A3	1395	A
53	A3	1396	U
53	A3	1398	G
53	A3	1401	G
53	A3	1402	C
53	A3	1403	G
53	A3	1405	G
53	A3	1406	C
53	A3	1411	C
53	A3	1413	C
53	A3	1414	G
53	A3	1416	A
53	A3	1417	G
53	A3	1418	U
53	A3	1419	C
53	A3	1420	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	1422	C
53	A3	1423	G
53	A3	1428	C
53	A3	1429	C
53	A3	1430	U
53	A3	1431	A
53	A3	1432	C
53	A3	1433	G
53	A3	1434	G
53	A3	1435	G
53	A3	1436	C
53	A3	1437	A
53	A3	1444	G
53	A3	1445	A
53	A3	1446	G
53	A3	1450	A
53	A3	1452	G
53	A3	1454	C
53	A3	1458	U
53	A3	1460	A
53	A3	1461	C
53	A3	1462	U
53	A3	1468	G
53	A3	1469	A
53	A3	1470	A
53	A3	1471	G
53	A3	1474	G
53	A3	1476	A
53	A3	1479	A
53	A3	1480	A
53	A3	1481	G
53	A3	1482	G
53	A3	1484	A
53	A3	1485	G
53	A3	1489	U
53	A3	1492	C
53	A3	1494	G
53	A3	1497	G
53	A3	1502	G
53	A3	1505	U
53	A3	1506	G
53	A3	1507	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	1510	C
53	A4	7	G
53	A4	9	G
53	A4	15	G
53	A4	16	A
53	A4	18	C
53	A4	19	C
53	A4	20	U
53	A4	21	G
53	A4	23	C
53	A4	30	U
53	A4	31	G
53	A4	32	A
53	A4	34	C
53	A4	36	C
53	A4	37	U
53	A4	39	G
53	A4	44	G
53	A4	45	U
53	A4	47	C
53	A4	48	C
53	A4	49	U
53	A4	51	A
53	A4	52	G
53	A4	54	C
53	A4	56	U
53	A4	58	C
53	A4	59	A
53	A4	60	A
53	A4	61	G
53	A4	62	U
53	A4	66	G
53	A4	67	C
53	A4	68	G
53	A4	69	G
53	A4	70	G
53	A4	73	G
53	A4	76	G
53	A4	77	G
53	A4	78	G
53	A4	79	U
53	A4	80	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	81	U
53	A4	83	A
53	A4	84	C
53	A4	85	U
53	A4	86	C
53	A4	87	C
53	A4	88	G
53	A4	89	U
53	A4	90	G
53	A4	91	G
53	A4	92	U
53	A4	99	C
53	A4	101	G
53	A4	102	A
53	A4	103	C
53	A4	104	G
53	A4	107	U
53	A4	109	A
53	A4	111	U
53	A4	113	A
53	A4	114	C
53	A4	115	G
53	A4	123	G
53	A4	124	A
53	A4	125	C
53	A4	128	A
53	A4	131	C
53	A4	133	G
53	A4	134	A
53	A4	136	G
53	A4	137	A
53	A4	138	G
53	A4	139	G
53	A4	140	G
53	A4	142	G
53	A4	145	A
53	A4	147	C
53	A4	148	C
53	A4	149	C
53	A4	150	G
53	A4	153	G
53	A4	157	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	159	C
53	A4	160	G
53	A4	165	A
53	A4	166	A
53	A4	167	U
53	A4	172	C
53	A4	173	A
53	A4	174	U
53	A4	175	G
53	A4	177	G
53	A4	178	G
53	A4	179	A
53	A4	180	C
53	A4	181	C
53	A4	186	C
53	A4	188	U
53	A4	190	G
53	A4	191	G
53	A4	192	G
53	A4	197	G
53	A4	201	A
53	A4	203	A
53	A4	206	G
53	A4	207	C
53	A4	208	U
53	A4	209	U
53	A4	210	U
53	A4	211	G
53	A4	213	C
53	A4	218	U
53	A4	219	C
53	A4	225	G
53	A4	226	G
53	A4	230	C
53	A4	231	G
53	A4	232	C
53	A4	233	G
53	A4	234	U
53	A4	235	C
53	A4	238	A
53	A4	239	U
53	A4	240	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	242	G
53	A4	243	C
53	A4	246	G
53	A4	248	U
53	A4	257	A
53	A4	261	G
53	A4	262	C
53	A4	263	C
53	A4	268	A
53	A4	269	A
53	A4	270	G
53	A4	271	G
53	A4	272	C
53	A4	273	G
53	A4	276	G
53	A4	283	A
53	A4	284	G
53	A4	293	A
53	A4	298	A
53	A4	301	G
53	A4	306	C
53	A4	308	A
53	A4	309	C
53	A4	310	A
53	A4	312	G
53	A4	316	A
53	A4	317	C
53	A4	319	G
53	A4	323	C
53	A4	324	A
53	A4	325	C
53	A4	327	G
53	A4	330	C
53	A4	335	U
53	A4	336	C
53	A4	337	C
53	A4	339	A
53	A4	340	C
53	A4	341	G
53	A4	343	G
53	A4	345	G
53	A4	346	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	347	C
53	A4	348	A
53	A4	349	G
53	A4	351	A
53	A4	353	U
53	A4	357	G
53	A4	358	A
53	A4	362	U
53	A4	364	C
53	A4	367	C
53	A4	376	C
53	A4	379	G
53	A4	383	G
53	A4	384	A
53	A4	385	C
53	A4	389	G
53	A4	391	G
53	A4	392	A
53	A4	393	C
53	A4	396	C
53	A4	401	G
53	A4	403	A
53	A4	405	G
53	A4	406	A
53	A4	408	G
53	A4	409	A
53	A4	410	A
53	A4	411	G
53	A4	413	C
53	A4	414	C
53	A4	416	U
53	A4	417	C
53	A4	418	G
53	A4	420	G
53	A4	422	U
53	A4	423	G
53	A4	425	A
53	A4	426	A
53	A4	428	C
53	A4	429	U
53	A4	432	U
53	A4	434	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	435	A
53	A4	436	C
53	A4	439	G
53	A4	442	A
53	A4	445	A
53	A4	447	A
53	A4	448	C
53	A4	449	C
53	A4	454	A
53	A4	455	C
53	A4	458	G
53	A4	459	G
53	A4	465	G
53	A4	466	A
53	A4	469	G
53	A4	471	A
53	A4	472	C
53	A4	475	G
53	A4	478	U
53	A4	479	A
53	A4	480	A
53	A4	481	U
53	A4	482	A
53	A4	483	G
53	A4	488	G
53	A4	489	G
53	A4	491	C
53	A4	492	A
53	A4	494	C
53	A4	499	U
53	A4	500	G
53	A4	501	C
53	A4	503	A
53	A4	506	A
53	A4	507	G
53	A4	508	C
53	A4	509	C
53	A4	510	G
53	A4	511	C
53	A4	512	G
53	A4	513	G
53	A4	516	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	517	U
53	A4	518	A
53	A4	523	G
53	A4	528	C
53	A4	529	G
53	A4	530	A
53	A4	532	C
53	A4	533	G
53	A4	537	C
53	A4	542	A
53	A4	543	U
53	A4	544	U
53	A4	545	C
53	A4	547	C
53	A4	548	U
53	A4	553	G
53	A4	555	A
53	A4	556	A
53	A4	558	G
53	A4	559	G
53	A4	560	G
53	A4	562	G
53	A4	563	U
53	A4	567	G
53	A4	574	U
53	A4	575	G
53	A4	576	G
53	A4	577	G
53	A4	578	G
53	A4	579	C
53	A4	580	G
53	A4	595	C
53	A4	603	C
53	A4	604	A
53	A4	607	C
53	A4	612	G
53	A4	613	G
53	A4	614	G
53	A4	615	A
53	A4	616	G
53	A4	617	C
53	A4	620	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	621	G
53	A4	622	G
53	A4	623	A
53	A4	626	C
53	A4	627	G
53	A4	629	U
53	A4	630	C
53	A4	633	G
53	A4	634	C
53	A4	636	A
53	A4	640	G
53	A4	644	G
53	A4	647	G
53	A4	648	A
53	A4	650	G
53	A4	656	G
53	A4	657	G
53	A4	663	C
53	A4	664	C
53	A4	668	G
53	A4	669	U
53	A4	670	A
53	A4	671	G
53	A4	674	G
53	A4	683	G
53	A4	685	A
53	A4	686	G
53	A4	691	C
53	A4	692	G
53	A4	693	G
53	A4	694	G
53	A4	695	A
53	A4	699	A
53	A4	700	C
53	A4	701	G
53	A4	702	C
53	A4	705	A
53	A4	706	U
53	A4	707	G
53	A4	709	C
53	A4	711	A
53	A4	712	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	713	G
53	A4	714	G
53	A4	716	A
53	A4	717	G
53	A4	719	C
53	A4	722	C
53	A4	724	G
53	A4	725	G
53	A4	727	C
53	A4	728	C
53	A4	730	C
53	A4	731	C
53	A4	732	C
53	A4	733	G
53	A4	734	U
53	A4	735	G
53	A4	736	A
53	A4	737	C
53	A4	738	G
53	A4	740	U
53	A4	741	G
53	A4	749	A
53	A4	750	A
53	A4	751	A
53	A4	752	G
53	A4	757	G
53	A4	759	G
53	A4	760	A
53	A4	766	C
53	A4	768	G
53	A4	773	A
53	A4	775	A
53	A4	776	U
53	A4	777	A
53	A4	778	C
53	A4	780	C
53	A4	786	G
53	A4	788	C
53	A4	789	C
53	A4	794	C
53	A4	795	C
53	A4	796	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	800	C
53	A4	801	G
53	A4	802	A
53	A4	804	G
53	A4	807	C
53	A4	810	U
53	A4	811	A
53	A4	812	G
53	A4	817	C
53	A4	818	U
53	A4	821	G
53	A4	822	U
53	A4	823	C
53	A4	824	U
53	A4	825	C
53	A4	829	G
53	A4	831	G
53	A4	836	A
53	A4	842	A
53	A4	847	U
53	A4	848	U
53	A4	849	A
53	A4	850	A
53	A4	851	G
53	A4	854	C
53	A4	857	C
53	A4	859	C
53	A4	861	U
53	A4	863	G
53	A4	865	G
53	A4	866	A
53	A4	872	G
53	A4	874	C
53	A4	876	C
53	A4	879	G
53	A4	880	G
53	A4	881	C
53	A4	884	A
53	A4	885	A
53	A4	886	A
53	A4	888	U
53	A4	890	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	891	A
53	A4	893	G
53	A4	894	G
53	A4	896	A
53	A4	899	G
53	A4	900	A
53	A4	903	G
53	A4	904	G
53	A4	909	C
53	A4	911	C
53	A4	912	A
53	A4	914	A
53	A4	915	A
53	A4	916	G
53	A4	919	G
53	A4	920	U
53	A4	922	G
53	A4	926	A
53	A4	928	G
53	A4	930	G
53	A4	931	G
53	A4	935	A
53	A4	937	U
53	A4	938	U
53	A4	942	A
53	A4	943	G
53	A4	946	A
53	A4	948	G
53	A4	951	A
53	A4	952	A
53	A4	953	G
53	A4	954	A
53	A4	955	A
53	A4	956	C
53	A4	959	U
53	A4	960	A
53	A4	961	C
53	A4	962	C
53	A4	964	G
53	A4	966	C
53	A4	968	U
53	A4	969	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	970	G
53	A4	971	A
53	A4	972	C
53	A4	973	A
53	A4	974	U
53	A4	975	G
53	A4	976	C
53	A4	977	U
53	A4	980	G
53	A4	981	G
53	A4	982	A
53	A4	983	A
53	A4	984	C
53	A4	985	C
53	A4	993	A
53	A4	995	G
53	A4	996	C
53	A4	998	U
53	A4	1000	G
53	A4	1001	G
53	A4	1002	G
53	A4	1004	G
53	A4	1005	C
53	A4	1006	C
53	A4	1008	C
53	A4	1009	G
53	A4	1010	C
53	A4	1011	G
53	A4	1012	A
53	A4	1013	G
53	A4	1014	G
53	A4	1015	G
53	A4	1016	G
53	A4	1018	G
53	A4	1021	C
53	A4	1022	U
53	A4	1023	A
53	A4	1024	G
53	A4	1027	C
53	A4	1029	G
53	A4	1030	G
53	A4	1031	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	1032	G
53	A4	1034	U
53	A4	1035	G
53	A4	1036	C
53	A4	1037	A
53	A4	1038	U
53	A4	1044	U
53	A4	1046	G
53	A4	1047	U
53	A4	1048	C
53	A4	1049	A
53	A4	1053	C
53	A4	1057	C
53	A4	1060	U
53	A4	1061	G
53	A4	1064	G
53	A4	1068	U
53	A4	1070	G
53	A4	1076	G
53	A4	1077	U
53	A4	1078	C
53	A4	1081	G
53	A4	1082	C
53	A4	1083	A
53	A4	1093	A
53	A4	1100	C
53	A4	1101	C
53	A4	1102	G
53	A4	1106	G
53	A4	1107	U
53	A4	1108	U
53	A4	1109	G
53	A4	1110	C
53	A4	1111	C
53	A4	1112	A
53	A4	1113	G
53	A4	1114	C
53	A4	1115	G
53	A4	1116	G
53	A4	1117	U
53	A4	1118	U
53	A4	1119	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	1120	G
53	A4	1121	G
53	A4	1123	C
53	A4	1124	G
53	A4	1125	G
53	A4	1126	G
53	A4	1128	A
53	A4	1133	A
53	A4	1134	A
53	A4	1136	G
53	A4	1137	G
53	A4	1139	A
53	A4	1140	C
53	A4	1141	U
53	A4	1145	C
53	A4	1149	A
53	A4	1153	C
53	A4	1156	G
53	A4	1160	A
53	A4	1162	G
53	A4	1163	G
53	A4	1164	A
53	A4	1165	G
53	A4	1166	G
53	A4	1169	A
53	A4	1171	G
53	A4	1172	A
53	A4	1174	G
53	A4	1177	U
53	A4	1179	G
53	A4	1180	U
53	A4	1181	C
53	A4	1187	G
53	A4	1190	C
53	A4	1191	C
53	A4	1193	U
53	A4	1194	A
53	A4	1195	C
53	A4	1196	G
53	A4	1197	G
53	A4	1198	C
53	A4	1199	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	1201	G
53	A4	1204	C
53	A4	1206	A
53	A4	1207	C
53	A4	1208	A
53	A4	1209	C
53	A4	1210	A
53	A4	1212	G
53	A4	1214	G
53	A4	1216	U
53	A4	1217	A
53	A4	1219	A
53	A4	1221	U
53	A4	1222	G
53	A4	1224	C
53	A4	1225	C
53	A4	1227	C
53	A4	1228	U
53	A4	1229	A
53	A4	1231	A
53	A4	1232	A
53	A4	1233	A
53	A4	1234	G
53	A4	1235	C
53	A4	1236	G
53	A4	1237	A
53	A4	1238	U
53	A4	1239	G
53	A4	1242	A
53	A4	1243	C
53	A4	1245	C
53	A4	1246	G
53	A4	1247	G
53	A4	1249	A
53	A4	1250	A
53	A4	1251	C
53	A4	1253	G
53	A4	1254	G
53	A4	1255	G
53	A4	1257	G
53	A4	1259	U
53	A4	1260	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	1261	A
53	A4	1262	U
53	A4	1264	G
53	A4	1265	C
53	A4	1267	A
53	A4	1268	A
53	A4	1269	A
53	A4	1270	A
53	A4	1272	G
53	A4	1273	U
53	A4	1274	G
53	A4	1275	G
53	A4	1276	G
53	A4	1278	C
53	A4	1279	C
53	A4	1280	A
53	A4	1281	G
53	A4	1283	U
53	A4	1284	C
53	A4	1286	G
53	A4	1291	G
53	A4	1292	G
53	A4	1293	G
53	A4	1294	U
53	A4	1296	U
53	A4	1298	C
53	A4	1300	A
53	A4	1311	U
53	A4	1312	G
53	A4	1313	A
53	A4	1316	C
53	A4	1317	C
53	A4	1318	G
53	A4	1319	G
53	A4	1321	A
53	A4	1322	U
53	A4	1323	C
53	A4	1324	G
53	A4	1325	C
53	A4	1327	A
53	A4	1328	G
53	A4	1329	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	1337	G
53	A4	1339	U
53	A4	1340	C
53	A4	1341	A
53	A4	1342	G
53	A4	1343	C
53	A4	1344	C
53	A4	1345	A
53	A4	1346	U
53	A4	1347	G
53	A4	1351	C
53	A4	1352	G
53	A4	1353	G
53	A4	1359	A
53	A4	1361	G
53	A4	1362	U
53	A4	1364	C
53	A4	1369	G
53	A4	1370	C
53	A4	1379	C
53	A4	1380	A
53	A4	1381	C
53	A4	1382	C
53	A4	1383	G
53	A4	1384	C
53	A4	1387	G
53	A4	1391	C
53	A4	1392	G
53	A4	1393	C
53	A4	1395	A
53	A4	1396	U
53	A4	1398	G
53	A4	1399	G
53	A4	1401	G
53	A4	1402	C
53	A4	1403	G
53	A4	1404	G
53	A4	1406	C
53	A4	1411	C
53	A4	1412	C
53	A4	1413	C
53	A4	1415	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	1416	A
53	A4	1417	G
53	A4	1418	U
53	A4	1419	C
53	A4	1420	G
53	A4	1422	C
53	A4	1423	G
53	A4	1424	G
53	A4	1426	A
53	A4	1427	G
53	A4	1430	U
53	A4	1431	A
53	A4	1432	C
53	A4	1433	G
53	A4	1434	G
53	A4	1435	G
53	A4	1437	A
53	A4	1439	G
53	A4	1444	G
53	A4	1445	A
53	A4	1446	G
53	A4	1450	A
53	A4	1452	G
53	A4	1454	C
53	A4	1458	U
53	A4	1460	A
53	A4	1461	C
53	A4	1462	U
53	A4	1469	A
53	A4	1470	A
53	A4	1476	A
53	A4	1479	A
53	A4	1480	A
53	A4	1481	G
53	A4	1482	G
53	A4	1483	U
53	A4	1484	A
53	A4	1489	U
53	A4	1492	C
53	A4	1497	G
53	A4	1499	U
53	A4	1505	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	1507	G
53	A4	1510	C

All (126) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
29	A1	123	G
29	A1	219	A
29	A1	240	G
29	A1	288	G
29	A1	423	U
29	A1	432	C
29	A1	485	A
29	A1	530	A
29	A1	951	C
29	A1	1070	G
29	A1	1179	G
29	A1	1225	C
29	A1	1257	A
29	A1	1418	C
29	A1	1475	A
29	A1	1607	A
29	A1	1743	C
29	A1	1832	G
29	A1	1852	A
29	A1	1890	G
29	A1	1930	G
29	A1	2004	G
29	A1	2016	G
29	A1	2041	U
29	A1	2042	G
29	A1	2059	G
29	A1	2453	A
29	A1	2556	A
29	A1	2580	A
29	A1	2624	C
29	A1	2771	U
30	B1	17	A
29	A2	111	G
29	A2	219	A
29	A2	271	C
29	A2	288	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	A2	833	A
29	A2	854	G
29	A2	1070	G
29	A2	1108	U
29	A2	1179	G
29	A2	1180	A
29	A2	1181	U
29	A2	1257	A
29	A2	1390	A
29	A2	1412	G
29	A2	1427	A
29	A2	1475	A
29	A2	1545	U
29	A2	1607	A
29	A2	1702	G
29	A2	1743	C
29	A2	1832	G
29	A2	1852	A
29	A2	1890	G
29	A2	1937	A
29	A2	1942	A
29	A2	2004	G
29	A2	2016	G
29	A2	2041	U
29	A2	2042	G
29	A2	2084	A
29	A2	2168	U
29	A2	2296	G
29	A2	2408	C
29	A2	2453	A
29	A2	2580	A
29	A2	2616	A
29	A2	2623	U
29	A2	2624	C
29	A2	2771	U
53	A3	105	G
53	A3	108	G
53	A3	205	G
53	A3	241	A
53	A3	339	A
53	A3	407	A
53	A3	424	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A3	468	G
53	A3	480	A
53	A3	562	G
53	A3	670	A
53	A3	705	A
53	A3	749	A
53	A3	890	A
53	A3	942	A
53	A3	948	G
53	A3	1005	C
53	A3	1047	U
53	A3	1111	C
53	A3	1117	U
53	A3	1144	C
53	A3	1272	G
53	A3	1274	G
53	A3	1317	C
53	A3	1433	G
53	A3	1469	A
53	A3	1475	U
53	A3	1491	C
53	A4	101	G
53	A4	105	G
53	A4	108	G
53	A4	148	C
53	A4	205	G
53	A4	241	A
53	A4	407	A
53	A4	468	G
53	A4	615	A
53	A4	670	A
53	A4	705	A
53	A4	717	G
53	A4	749	A
53	A4	890	A
53	A4	969	U
53	A4	1005	C
53	A4	1015	G
53	A4	1047	U
53	A4	1111	C
53	A4	1144	C
53	A4	1206	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	A4	1272	G
53	A4	1317	C
53	A4	1433	G
53	A4	1469	A
53	A4	1475	U
53	A4	1491	C

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
37	G3	1
34	D4	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G3	12:LEU	C	13:GLN	N	1.08
1	D4	187:ARG	C	188:LEU	N	1.06

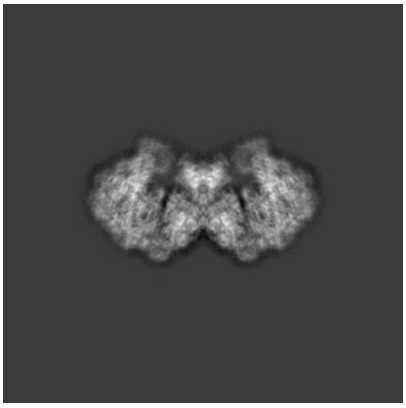
6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-0105. These allow visual inspection of the internal detail of the map and identification of artifacts.

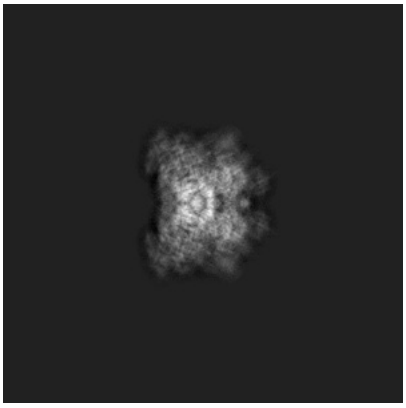
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections (i)

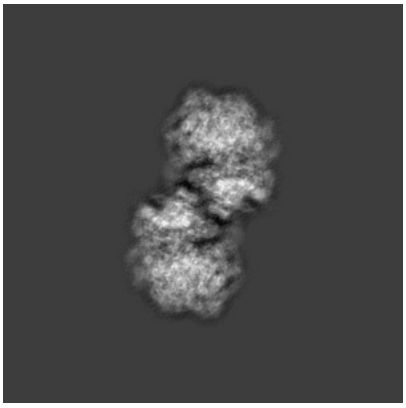
6.1.1 Primary map



X



Y

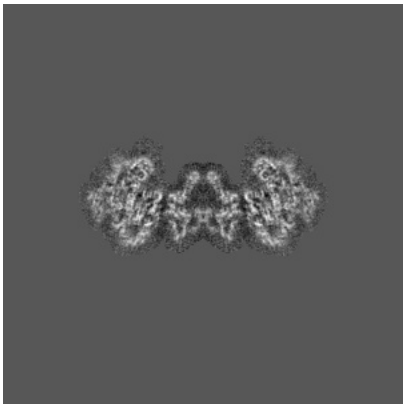


Z

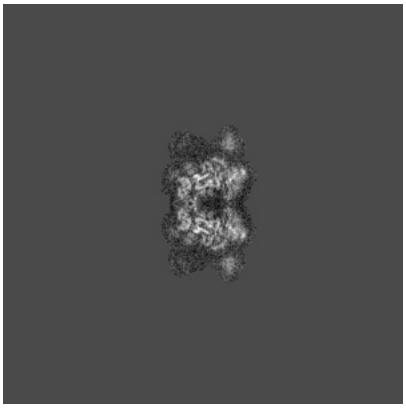
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

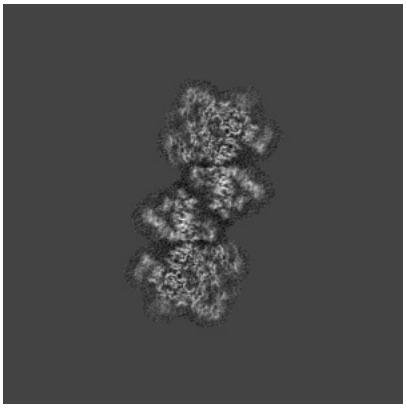
6.2.1 Primary map



X Index: 350



Y Index: 350

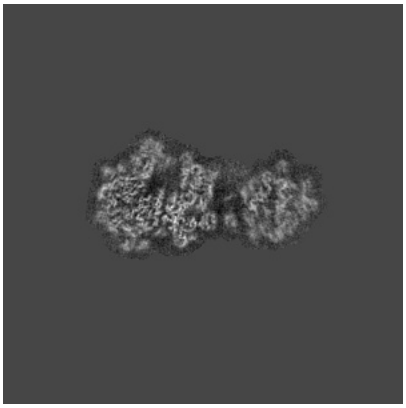


Z Index: 350

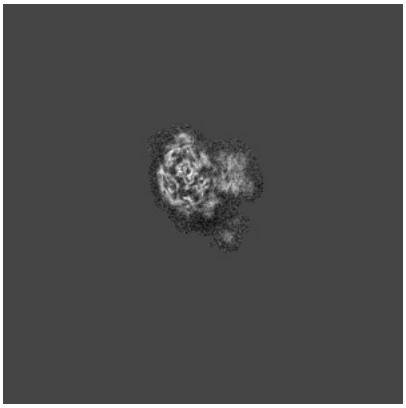
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

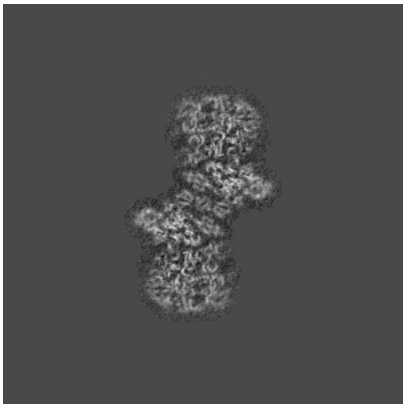
6.3.1 Primary map



X Index: 324



Y Index: 384



Z Index: 327

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

6.4 Orthogonal surface views (i)

6.4.1 Primary map

X

Y

Z

The images above show the 3D surface view of the map at the recommended contour level 3.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

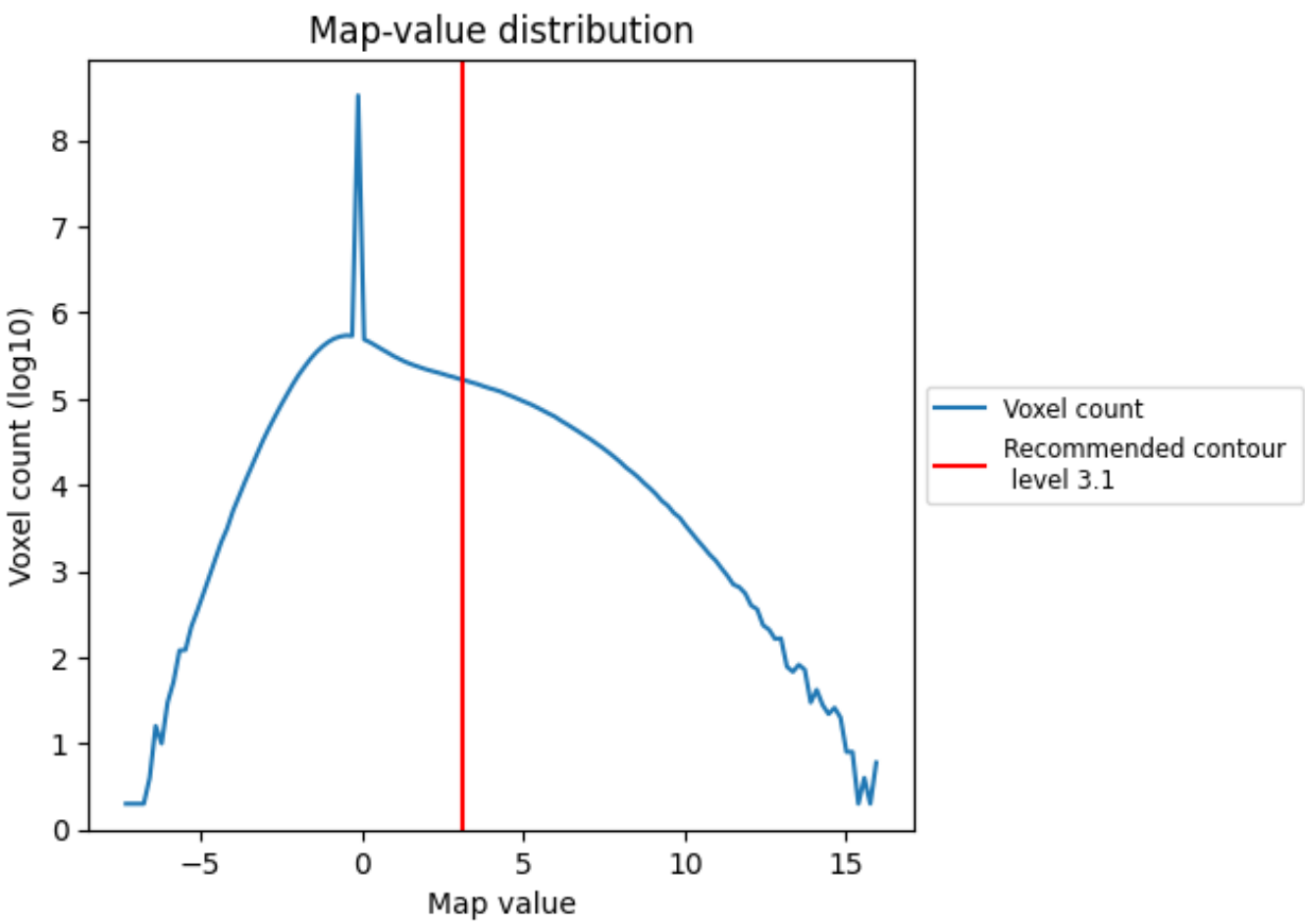
6.5 Mask visualisation (i)

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

7 Map analysis (i)

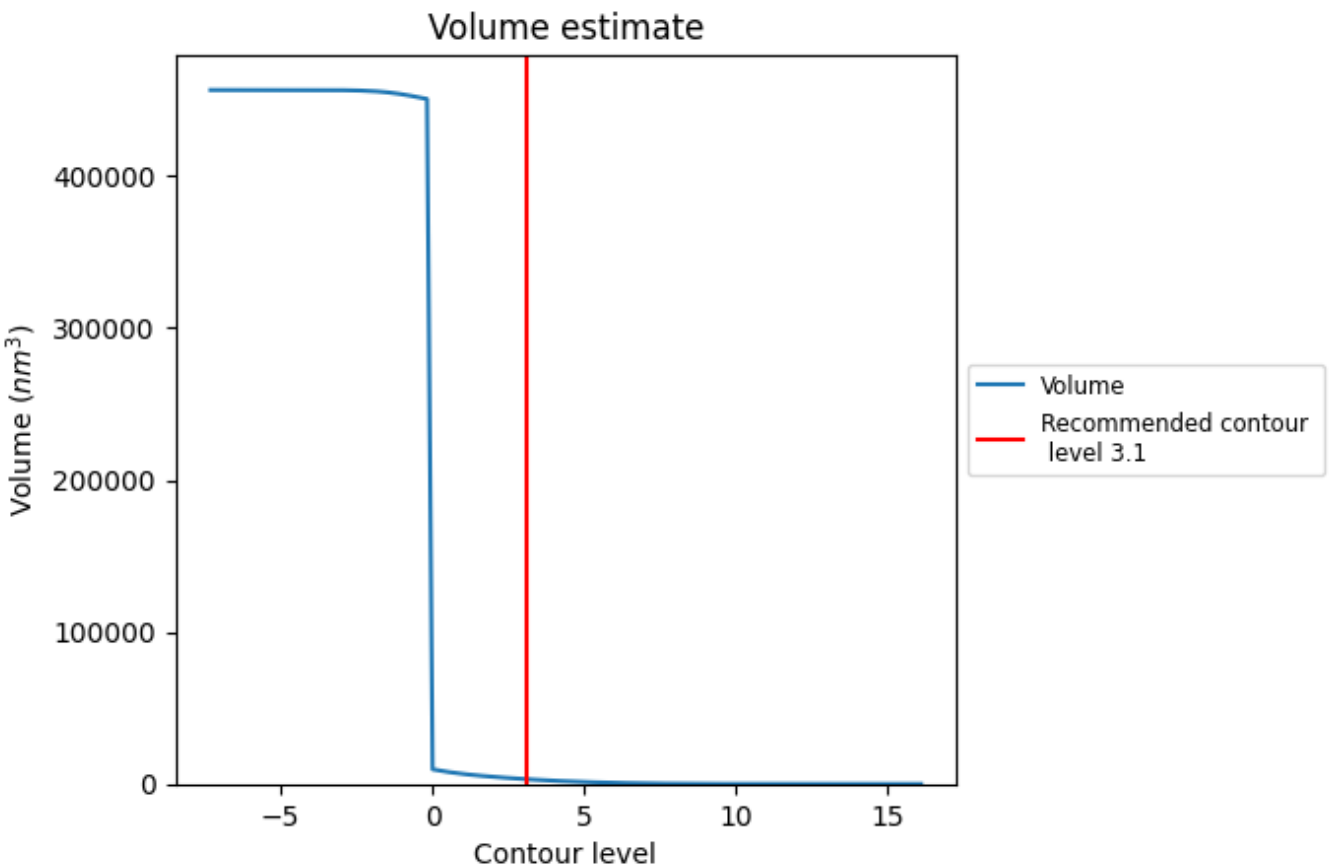
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution (i)



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

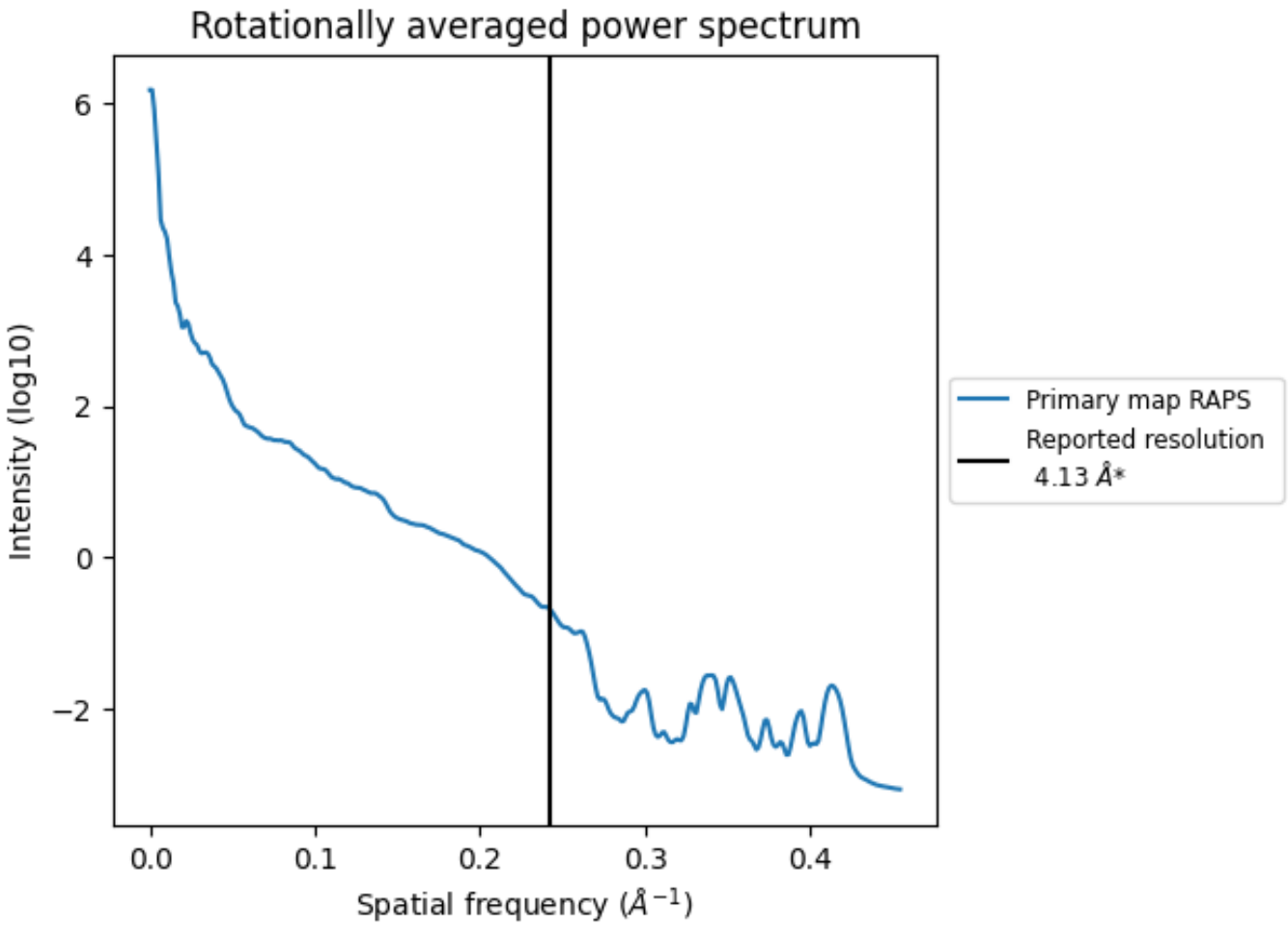
7.2 Volume estimate (i)



The volume at the recommended contour level is 3146 nm^3; this corresponds to an approximate mass of 2842 kDa.

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

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.242 Å^{-1}

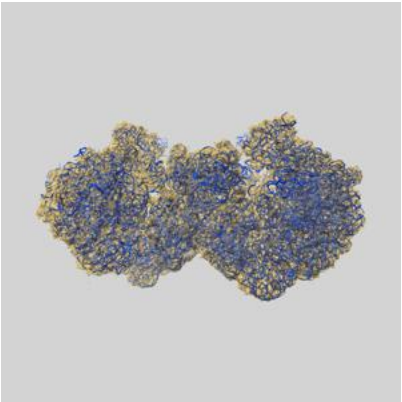
8 Fourier-Shell correlation (i)

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

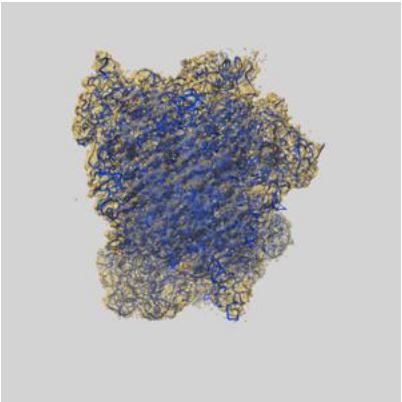
9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-0105 and PDB model 6GZZ. Per-residue inclusion information can be found in section 3 on page 18.

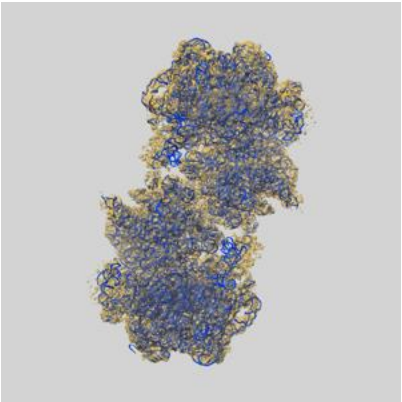
9.1 Map-model overlay (i)



X



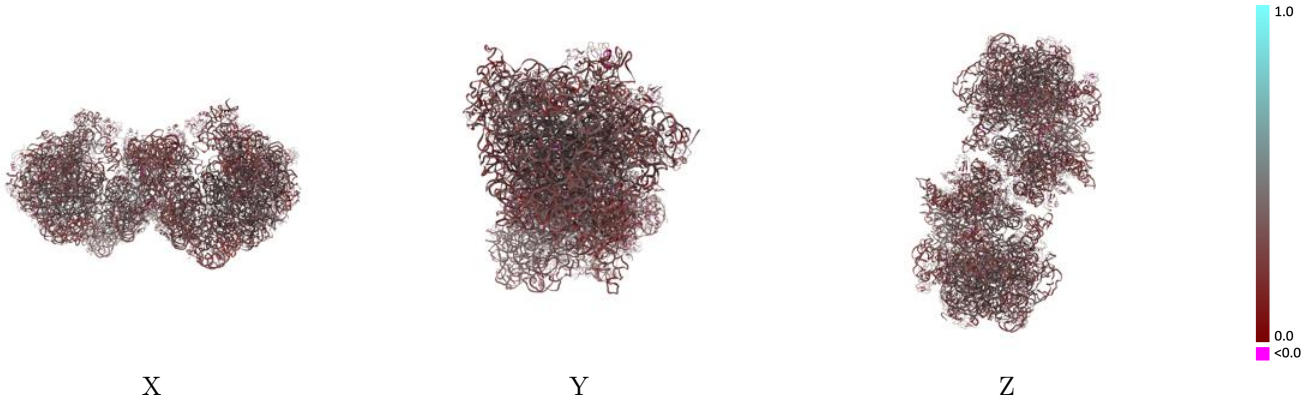
Y



Z

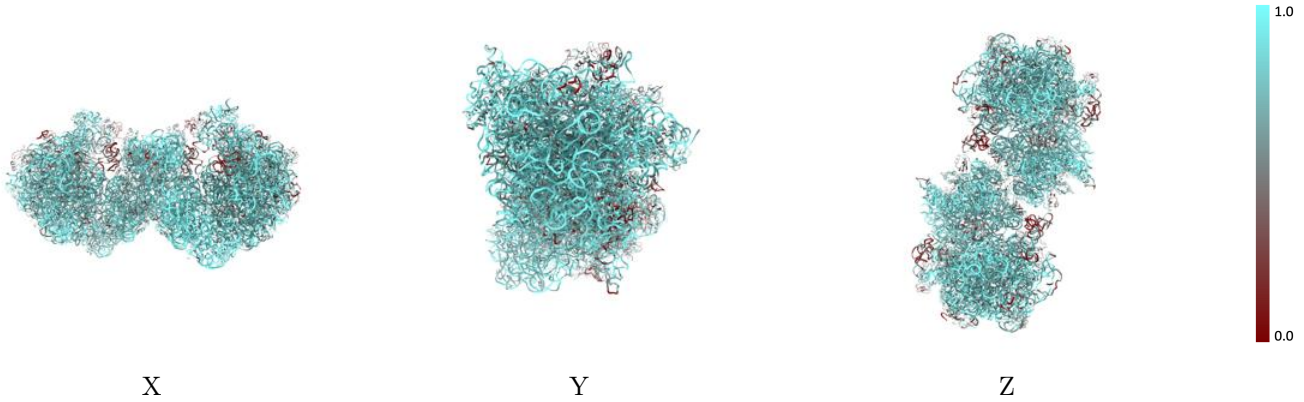
The images above show the 3D surface view of the map at the recommended contour level 3.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)



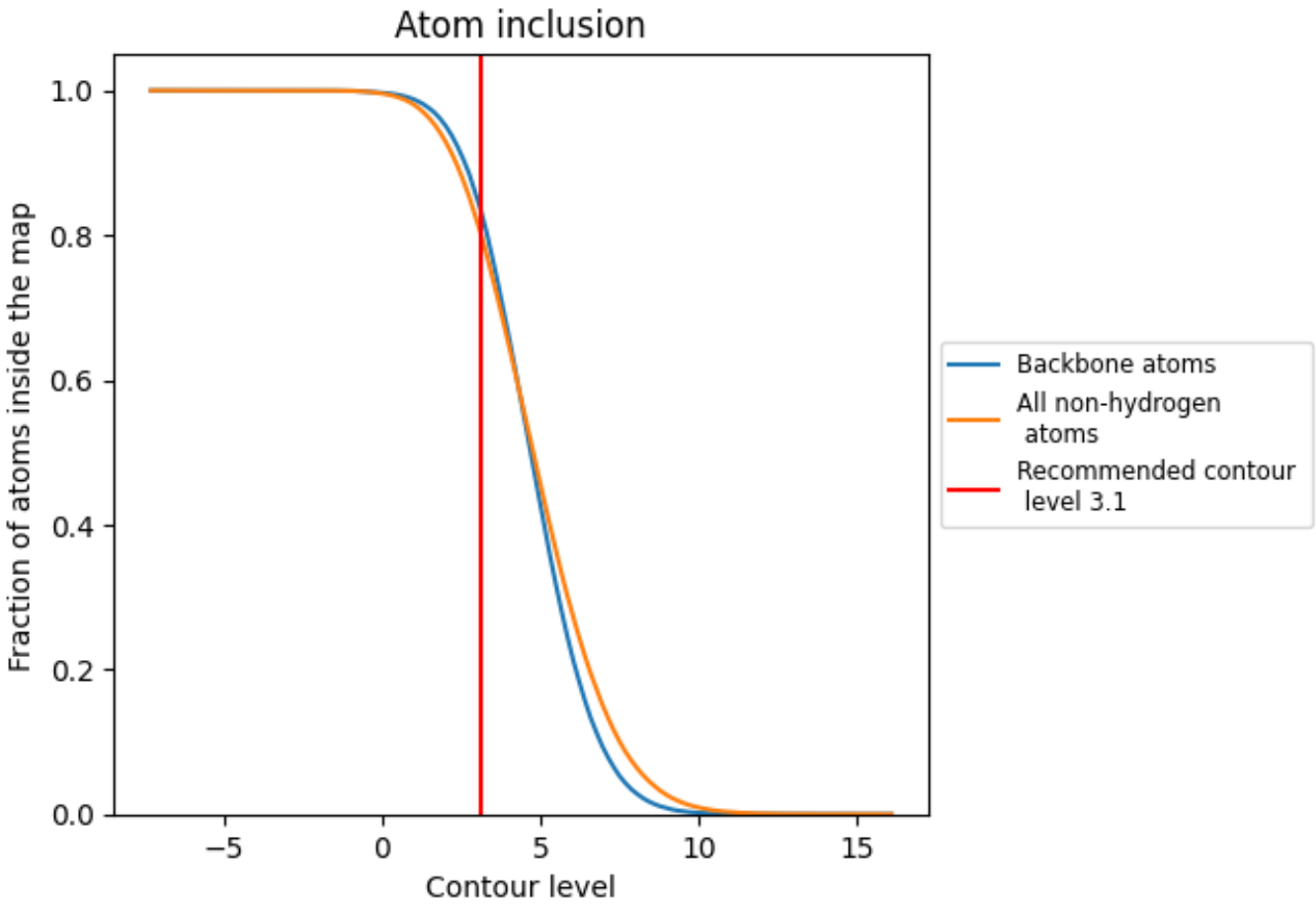
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model (i)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (3.1).

9.4 Atom inclusion (i)



At the recommended contour level, 84% of all backbone atoms, 81% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (3.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8062	0.3170
A1	0.8439	0.3320
A2	0.8453	0.3330
A3	0.9343	0.3190
A4	0.9325	0.3200
B1	0.8961	0.2920
B2	0.9014	0.2950
B3	0.7010	0.2960
B4	0.6957	0.2900
C1	0.6582	0.3220
C2	0.6528	0.3320
C3	0.6386	0.2870
C4	0.6341	0.2840
D1	0.6560	0.3400
D2	0.6514	0.3470
D3	0.8079	0.2650
D4	0.8042	0.2600
E1	0.5365	0.3020
E2	0.5428	0.3040
E3	0.8207	0.3280
E4	0.8216	0.3330
F1	0.5445	0.2530
F2	0.5333	0.2540
F3	0.7146	0.2650
F4	0.7319	0.2600
G1	0.5272	0.2670
G2	0.5366	0.2700
G3	0.7061	0.2940
G4	0.7127	0.3000
H1	0.4827	0.2930
H2	0.4853	0.2940
H3	0.8597	0.3210
H4	0.8559	0.3260
I1	0.6887	0.3250
I2	0.7017	0.3330

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
I3	0.7109	0.2810
I4	0.7315	0.2790
J1	0.4918	0.3600
J2	0.5027	0.3650
J3	0.5270	0.2370
J4	0.5488	0.2530
K1	0.4824	0.3110
K2	0.4734	0.3130
K3	0.6756	0.2940
K4	0.6849	0.3010
L1	0.6562	0.3190
L2	0.6359	0.3150
L3	0.8059	0.3260
L4	0.7996	0.3310
M1	0.6344	0.3170
M2	0.6409	0.3180
M3	0.6566	0.2640
M4	0.6442	0.2450
N1	0.7630	0.2860
N2	0.7594	0.2970
N3	0.7302	0.2420
N4	0.7281	0.2440
O1	0.6480	0.3300
O2	0.6471	0.3260
O3	0.7938	0.2790
O4	0.7952	0.2930
P1	0.7061	0.2950
P2	0.6974	0.2980
P3	0.8187	0.3120
P4	0.8306	0.3210
Q1	0.5617	0.3240
Q2	0.5774	0.3220
Q3	0.6943	0.3090
Q4	0.6856	0.3160
R1	0.6736	0.3260
R2	0.6563	0.3210
R3	0.5749	0.3050
R4	0.5486	0.2890
S1	0.6259	0.2830
S2	0.6231	0.2910
S3	0.8020	0.2330
S4	0.7774	0.2300

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
T1	0.6866	0.2750
T2	0.7022	0.2860
T3	0.6793	0.2830
T4	0.6861	0.2860
U1	0.5183	0.2520
U2	0.5298	0.2610
U3	0.7065	0.2710
U4	0.6965	0.2680
V1	0.7726	0.2890
V2	0.7709	0.2880
V3	0.6954	0.2990
V4	0.7140	0.3000
W1	0.5196	0.3120
W2	0.5047	0.3020
W4	0.6212	0.2710
X1	0.6114	0.2770
X2	0.6007	0.2820
X3	0.6320	0.2780
Y1	0.6842	0.3300
Y2	0.6601	0.3210
Z1	0.1540	0.1940
Z2	0.2160	0.1880
a1	0.7629	0.3140
a2	0.7360	0.3190
b1	0.7467	0.2680
b2	0.7787	0.2410
c1	0.6859	0.2960
c2	0.7111	0.2980
d1	0.5690	0.3180
d2	0.5502	0.3160
e1	0.6154	0.2360
e2	0.5944	0.2760