Full wwPDB X-ray Structure Validation Report (i)

Apr 30, 2024 – 12:56 am BST

PDB ID	:	5NDW
Title	:	Crystal structure of aminoglycoside TC007 bound to the yeast 80S ribosome
Authors	:	Prokhorova, I.; Djumagulov, M.; Urzhumtsev, A.; Yusupov, M.; Yusupova, G.
Deposited on	:	2017-03-09
Resolution	:	3.70 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp
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:

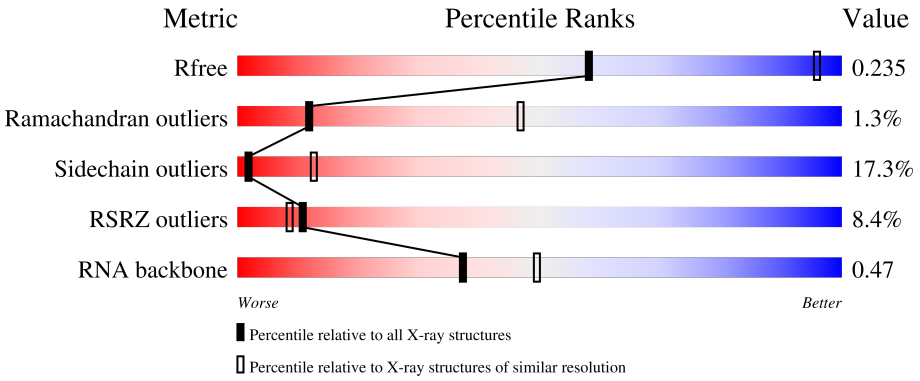
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.70 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)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1049 (3.88-3.52)
Ramachandran outliers	138981	1069 (3.88-3.52)
Sidechain outliers	138945	1065 (3.88-3.52)
RSRZ outliers	127900	1578 (3.90-3.50)
RNA backbone	3102	1027 (4.40-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	3396	57% 28% 6% 9%
1	5	3396	59% 27% · 9%
2	2	1800	3% 64% 29% 6% ·
2	6	1800	% 66% 25% 5% ·
3	3	121	67% 31% ·

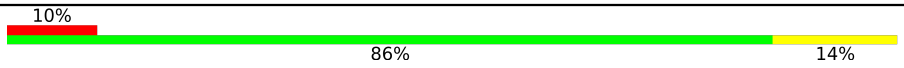
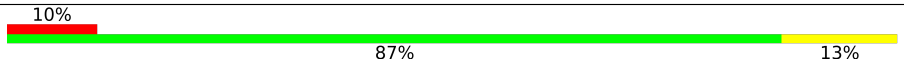
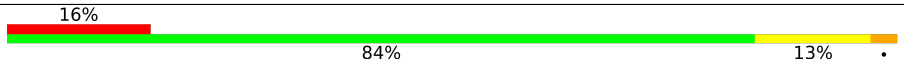
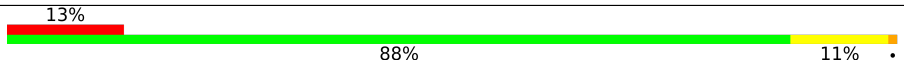
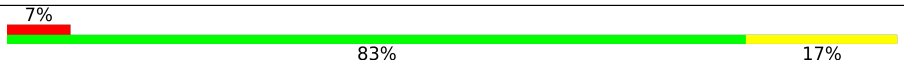
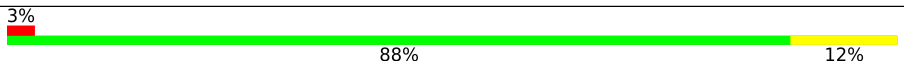
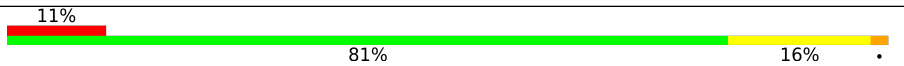
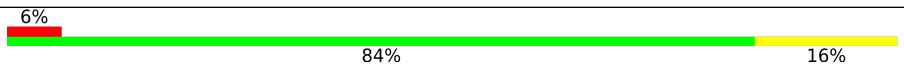
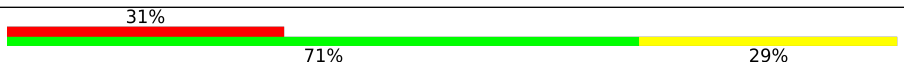
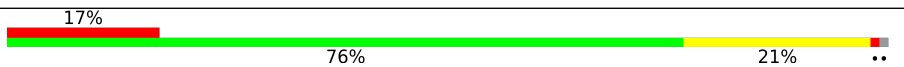
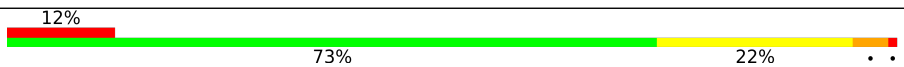
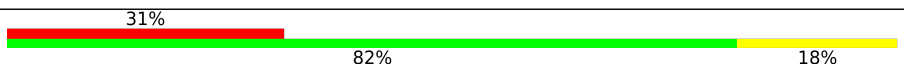
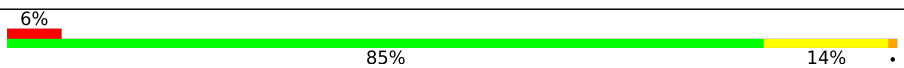
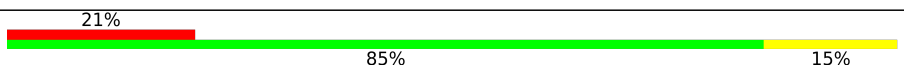
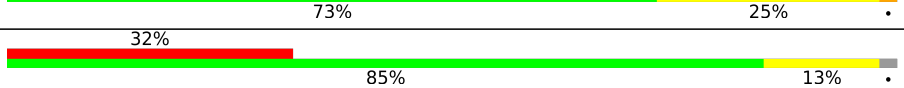
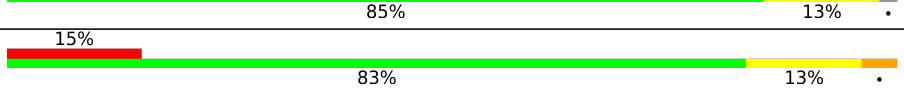
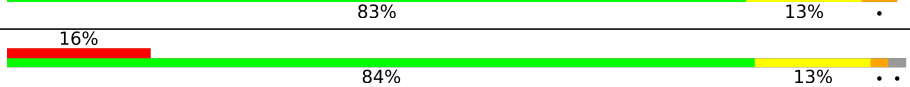
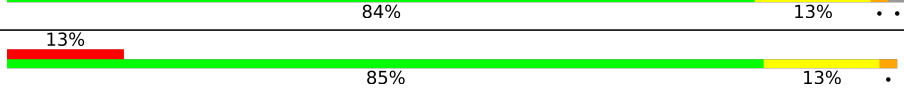
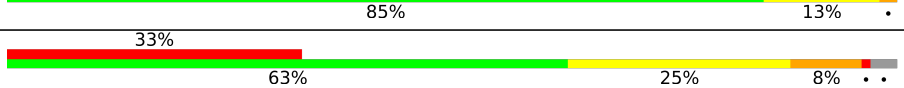
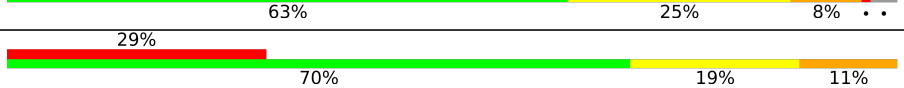
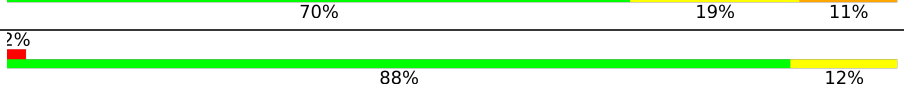
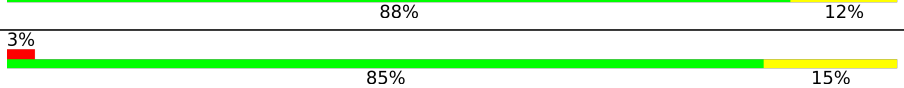
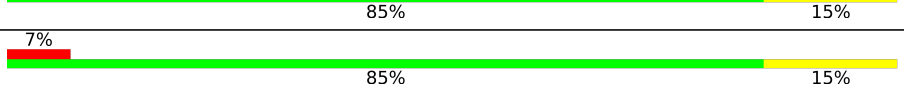
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
3	7	121	79% 20%
4	4	158	64% 31% 5%
4	8	158	64% 32%
5	C0	105	32% 76% 14% 9%
5	c0	105	19% 68% 20% 11%
6	C1	156	30% 87% 11%
6	c1	156	13% 74% 19% 6%
7	C2	143	39% 62% 20% 17%
7	c2	143	38% 65% 21% 13%
8	C3	150	5% 83% 17%
8	c3	150	9% 84% 15%
9	C4	128	5% 79% 19%
9	c4	128	21% 84% 16%
10	C5	141	10% 70% 17% 12%
10	c5	141	13% 74% 13% 11%
11	C6	141	33% 78% 21%
11	c6	141	30% 80% 18%
12	C7	136	15% 71% 14% 12%
12	c7	136	5% 76% 12% 11%
13	C8	145	11% 77% 20%
13	c8	145	10% 81% 17%
14	C9	143	10% 87% 12%
14	c9	143	8% 85% 14%
15	D0	107	37% 77% 20%
15	d0	107	9% 74% 21%

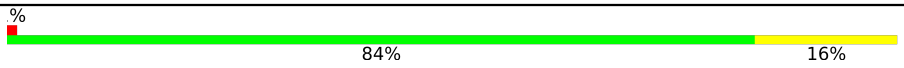
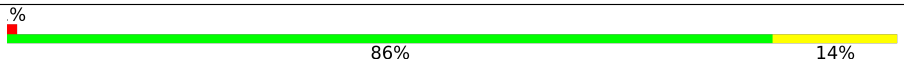
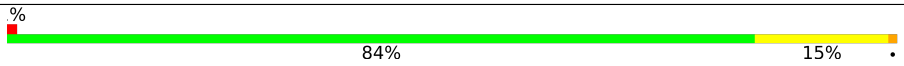
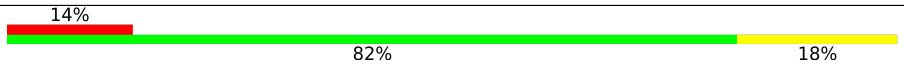
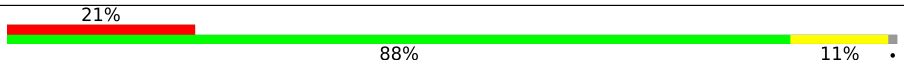
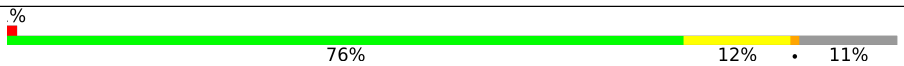
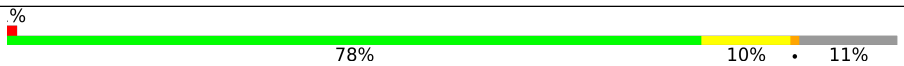
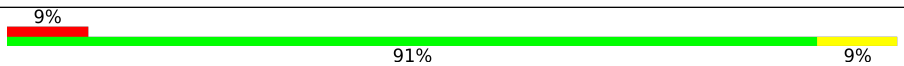
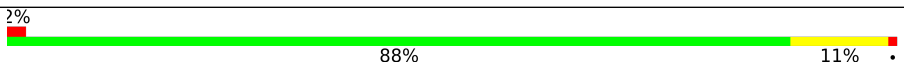
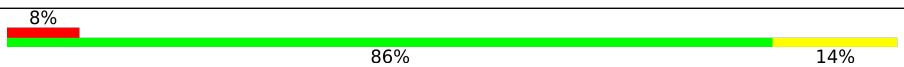
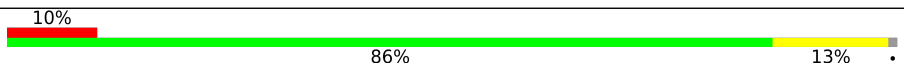
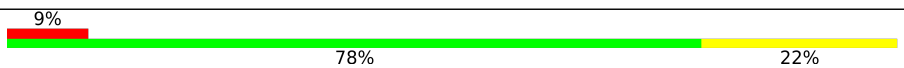
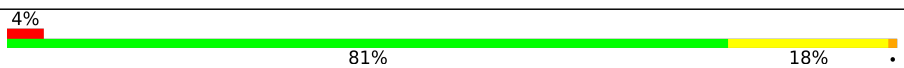
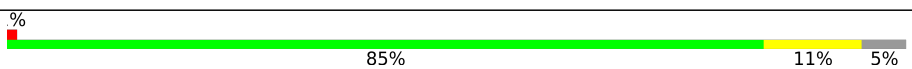
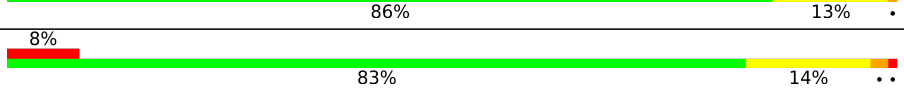
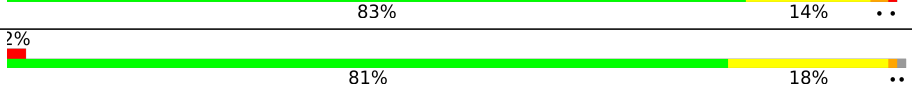
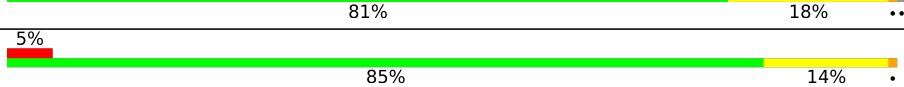
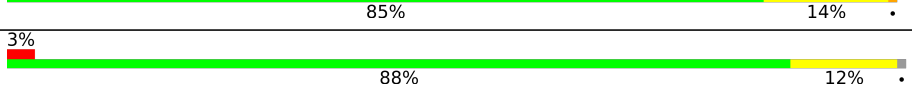
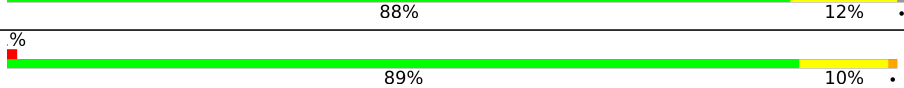
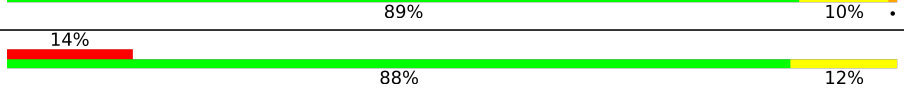
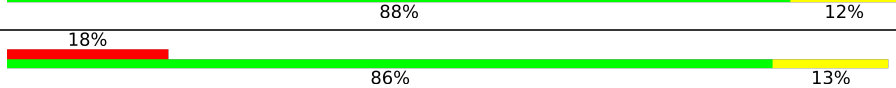
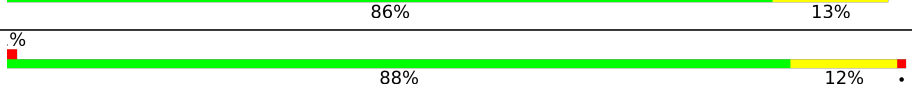
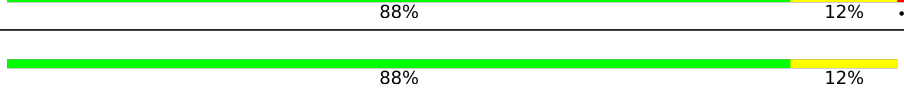
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
16	D1	87	
16	d1	87	
17	D2	129	
17	d2	129	
18	D3	144	
18	d3	144	
19	D4	134	
19	d4	134	
20	D5	70	
20	d5	70	
21	D6	97	
21	d6	97	
22	D7	81	
22	d7	81	
23	D8	63	
23	d8	63	
24	D9	53	
24	d9	53	
25	E0	61	
25	e0	61	
26	E1	73	
26	e1	73	
27	L2	252	
27	l2	252	
28	L3	386	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
28	l3	386	
29	L4	361	
29	l4	361	
30	L5	296	
30	l5	296	
31	L6	176	
31	l6	176	
32	L7	223	
32	l7	223	
33	L8	233	
33	l8	233	
34	L9	191	
34	l9	191	
35	M0	221	
35	m0	221	
36	M1	169	
36	m1	169	
37	M3	194	
37	m3	194	
38	M4	137	
38	m4	137	
39	M5	203	
39	m5	203	
40	M6	197	
40	m6	197	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
41	M7	184	2% 83% 16%
41	m7	184	2% 85% 14%
42	M8	185	13% 88% 12%
42	m8	185	15% 90% 10%
43	M9	188	5% 88% 12%
43	m9	188	6% 83% 15%
44	N0	172	11% 81% 17%
44	n0	172	4% 85% 15%
45	N1	159	20% 77% 23%
45	n1	159	30% 85% 15%
46	N2	100	12% 82% 18%
46	n2	100	13% 81% 16%
47	N3	136	4% 90% 10%
47	n3	136	2% 93% 7%
48	N4	155	16% 77% 7% 16%
48	n4	155	12% 77% 5% 16%
49	N5	121	7% 84% 15%
49	n5	121	29% 74% 26%
50	N6	126	3% 84% 13%
50	n6	126	8% 80% 17%
51	N7	135	19% 84% 13%
51	n7	135	11% 82% 16%
52	N8	148	7% 89% 11%
52	n8	148	12% 87% 13%
53	N9	58	24% 81% 19%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
53	n9	58	36% 86% 10%
54	O0	100	8% 84% 13%
54	o0	100	7% 87% 13%
55	O1	109	7% 84% 14%
55	o1	109	7% 80% 18%
56	O2	127	89% 11%
56	o2	127	2% 86% 13%
57	O3	106	% 90% 10%
57	o3	106	87% 13%
58	O4	112	22% 87% 13%
58	o4	112	10% 88% 10%
59	O5	119	3% 81% 19%
59	o5	119	10% 77% 21%
60	O6	99	5% 79% 21%
60	o6	99	8% 75% 25%
61	O7	87	80% 20%
61	o7	87	3% 85% 10% 5%
62	O8	77	17% 79% 21%
62	o8	77	21% 86% 14%
63	O9	50	4% 84% 14%
63	o9	50	20% 90% 10%
64	Q0	52	2% 87% 13%
64	q0	52	4% 87% 12%
65	Q1	25	84% 16%
65	q1	25	4% 84% 16%

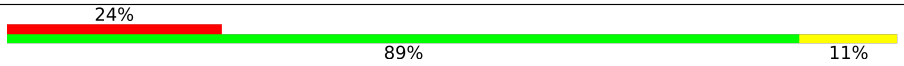
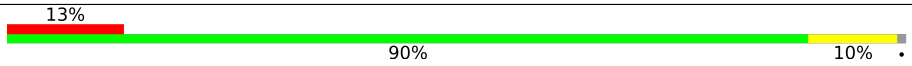
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
66	Q2	105	17% 81% 19%
66	q2	105	27% 87% 12%
67	Q3	91	88% 12%
67	q3	91	% 85% 15%
68	S0	206	10% 83% 17%
68	s0	206	11% 84% 15%
69	S1	216	15% 75% 22%
69	s1	216	32% 83% 15%
70	S2	217	13% 80% 19%
70	s2	217	10% 84% 15%
71	S3	223	21% 83% 17%
71	s3	223	11% 82% 16%
72	S4	260	21% 84% 15%
72	s4	260	6% 87% 13%
73	S5	206	20% 85% 15%
73	s5	206	17% 82% 18%
74	S6	236	19% 80% 16%
74	s6	236	14% 78% 14% 8%
75	S7	184	18% 79% 20%
75	s7	184	10% 83% 16%
76	S8	200	18% 83% 10% 6%
76	s8	200	14% 80% 12% 8%
77	S9	185	19% 84% 16%
77	s9	185	16% 86% 13%
78	SM	272	8% 48% 10% 42%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
78	sM	272	
79	SR	318	
79	sR	318	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
80	MG	1	3413	-	-	-	X
80	MG	1	3418	-	-	-	X
80	MG	1	3431	-	-	-	X
80	MG	1	3441	-	-	-	X
80	MG	1	3448	-	-	-	X
80	MG	1	3461	-	-	-	X
80	MG	1	3480	-	-	-	X
80	MG	1	3492	-	-	-	X
80	MG	1	3498	-	-	-	X
80	MG	1	3504	-	-	-	X
80	MG	1	3505	-	-	-	X
80	MG	1	3515	-	-	-	X
80	MG	1	3517	-	-	-	X
80	MG	1	3523	-	-	-	X
80	MG	1	3544	-	-	-	X
80	MG	1	3548	-	-	-	X
80	MG	1	3550	-	-	-	X
80	MG	1	3551	-	-	-	X
80	MG	1	3552	-	-	-	X
80	MG	1	3559	-	-	-	X
80	MG	1	3564	-	-	-	X
80	MG	1	3567	-	-	-	X
80	MG	1	3569	-	-	-	X
80	MG	1	3571	-	-	-	X
80	MG	1	3576	-	-	-	X
80	MG	1	3580	-	-	-	X
80	MG	1	3590	-	-	-	X
80	MG	1	3598	-	-	-	X
80	MG	1	3608	-	-	-	X
80	MG	1	3609	-	-	-	X
80	MG	1	3623	-	-	-	X
80	MG	1	3658	-	-	-	X

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
80	MG	1	3659	-	-	-	X
80	MG	1	3664	-	-	-	X
80	MG	1	3667	-	-	-	X
80	MG	1	3674	-	-	-	X
80	MG	1	3687	-	-	-	X
80	MG	1	3690	-	-	-	X
80	MG	1	3699	-	-	-	X
80	MG	1	3706	-	-	-	X
80	MG	1	3708	-	-	-	X
80	MG	1	3709	-	-	-	X
80	MG	1	3712	-	-	-	X
80	MG	1	3713	-	-	-	X
80	MG	1	3737	-	-	-	X
80	MG	1	3739	-	-	-	X
80	MG	1	3740	-	-	-	X
80	MG	1	3741	-	-	-	X
80	MG	1	3744	-	-	-	X
80	MG	1	3761	-	-	-	X
80	MG	1	3763	-	-	-	X
80	MG	1	3775	-	-	-	X
80	MG	1	3829	-	-	-	X
80	MG	1	3841	-	-	-	X
80	MG	1	3842	-	-	-	X
80	MG	1	3853	-	-	-	X
80	MG	1	3854	-	-	-	X
80	MG	1	3856	-	-	-	X
80	MG	1	3858	-	-	-	X
80	MG	1	3860	-	-	-	X
80	MG	1	3862	-	-	-	X
80	MG	1	3864	-	-	-	X
80	MG	1	3867	-	-	-	X
80	MG	1	3868	-	-	-	X
80	MG	1	3876	-	-	-	X
80	MG	1	3877	-	-	-	X
80	MG	1	3880	-	-	-	X
80	MG	2	1908	-	-	-	X
80	MG	2	1944	-	-	-	X
80	MG	2	1947	-	-	-	X
80	MG	2	1968	-	-	-	X
80	MG	2	1973	-	-	-	X
80	MG	2	1977	-	-	-	X
80	MG	2	2022	-	-	-	X

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
80	MG	2	2026	-	-	-	X
80	MG	2	2027	-	-	-	X
80	MG	3	201	-	-	-	X
80	MG	4	202	-	-	-	X
80	MG	4	203	-	-	-	X
80	MG	4	206	-	-	-	X
80	MG	4	207	-	-	-	X
80	MG	4	214	-	-	-	X
80	MG	5	3426	-	-	-	X
80	MG	5	3430	-	-	-	X
80	MG	5	3431	-	-	-	X
80	MG	5	3437	-	-	-	X
80	MG	5	3445	-	-	-	X
80	MG	5	3457	-	-	-	X
80	MG	5	3459	-	-	-	X
80	MG	5	3463	-	-	-	X
80	MG	5	3464	-	-	-	X
80	MG	5	3466	-	-	-	X
80	MG	5	3471	-	-	-	X
80	MG	5	3480	-	-	-	X
80	MG	5	3481	-	-	-	X
80	MG	5	3488	-	-	-	X
80	MG	5	3491	-	-	-	X
80	MG	5	3493	-	-	-	X
80	MG	5	3506	-	-	-	X
80	MG	5	3513	-	-	-	X
80	MG	5	3516	-	-	-	X
80	MG	5	3543	-	-	-	X
80	MG	5	3556	-	-	-	X
80	MG	5	3565	-	-	-	X
80	MG	5	3588	-	-	-	X
80	MG	5	3595	-	-	-	X
80	MG	5	3598	-	-	-	X
80	MG	5	3601	-	-	-	X
80	MG	5	3603	-	-	-	X
80	MG	5	3614	-	-	-	X
80	MG	5	3619	-	-	-	X
80	MG	5	3627	-	-	-	X
80	MG	5	3635	-	-	-	X
80	MG	5	3640	-	-	-	X
80	MG	5	3650	-	-	-	X
80	MG	5	3664	-	-	-	X

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
80	MG	5	3667	-	-	-	X
80	MG	5	3694	-	-	-	X
80	MG	5	3696	-	-	-	X
80	MG	5	3697	-	-	-	X
80	MG	5	3698	-	-	-	X
80	MG	5	3701	-	-	-	X
80	MG	5	3702	-	-	-	X
80	MG	5	3705	-	-	-	X
80	MG	5	3707	-	-	-	X
80	MG	5	3713	-	-	-	X
80	MG	5	3725	-	-	-	X
80	MG	5	3728	-	-	-	X
80	MG	5	3731	-	-	-	X
80	MG	5	3735	-	-	-	X
80	MG	5	3736	-	-	-	X
80	MG	5	3738	-	-	-	X
80	MG	5	3740	-	-	-	X
80	MG	5	3750	-	-	-	X
80	MG	5	3764	-	-	-	X
80	MG	5	3768	-	-	-	X
80	MG	5	3800	-	-	-	X
80	MG	5	3822	-	-	-	X
80	MG	5	3829	-	-	-	X
80	MG	5	3832	-	-	-	X
80	MG	5	3834	-	-	-	X
80	MG	5	3843	-	-	-	X
80	MG	5	3846	-	-	-	X
80	MG	5	3847	-	-	-	X
80	MG	6	1901	-	-	-	X
80	MG	6	1904	-	-	-	X
80	MG	6	1908	-	-	-	X
80	MG	6	1913	-	-	-	X
80	MG	6	1915	-	-	-	X
80	MG	6	1921	-	-	-	X
80	MG	6	1939	-	-	-	X
80	MG	6	1940	-	-	-	X
80	MG	6	1965	-	-	-	X
80	MG	6	1967	-	-	-	X
80	MG	6	1979	-	-	-	X
80	MG	6	1981	-	-	-	X
80	MG	6	1995	-	-	-	X
80	MG	6	1996	-	-	-	X

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
80	MG	6	2009	-	-	-	X
80	MG	6	2033	-	-	-	X
80	MG	6	2038	-	-	-	X
80	MG	6	2041	-	-	-	X
80	MG	6	2046	-	-	-	X
80	MG	6	2047	-	-	-	X
80	MG	6	2050	-	-	-	X
80	MG	6	2054	-	-	-	X
80	MG	6	2060	-	-	-	X
80	MG	8	203	-	-	-	X
80	MG	8	206	-	-	-	X
80	MG	C4	202	-	-	-	X
80	MG	M6	201	-	-	-	X
80	MG	N0	201	-	-	-	X
80	MG	O1	201	-	-	-	X
80	MG	O1	202	-	-	-	X
80	MG	O3	202	-	-	-	X
80	MG	O4	502	-	-	-	X
80	MG	c1	201	-	-	-	X
80	MG	c1	202	-	-	-	X
80	MG	d2	201	-	-	-	X
80	MG	d3	201	-	-	-	X
80	MG	l3	401	-	-	-	X
80	MG	l5	301	-	-	-	X
80	MG	m6	201	-	-	-	X
80	MG	n1	201	-	-	-	X
80	MG	n6	201	-	-	-	X
80	MG	n8	201	-	-	-	X
80	MG	o3	201	-	-	-	X
80	MG	q2	503	-	-	-	X
80	MG	q2	504	-	-	-	X

2 Entry composition

There are 83 unique types of molecules in this entry. The entry contains 400111 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	1	3090	Total	C	N	O	P	0	0	0
			66081	29518	11903	21570	3090			
1	5	3080	Total	C	N	O	P	0	0	0
			65880	29427	11878	21495	3080			

- Molecule 2 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	2	1770	Total	C	N	O	P	0	0	0
			37692	16850	6663	12409	1770			
2	6	1736	Total	C	N	O	P	0	0	0
			36971	16529	6541	12165	1736			

- Molecule 3 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	3	121	Total	C	N	O	P	0	0	0
			2579	1152	461	845	121			
3	7	121	Total	C	N	O	P	0	0	0
			2579	1152	461	845	121			

- Molecule 4 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	4	158	Total	C	N	O	P	0	0	0
			3353	1500	586	1109	158			
4	8	158	Total	C	N	O	P	0	0	0
			3353	1500	586	1109	158			

- Molecule 5 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	C0	96	Total	C	N	O	S	0	0	0
			772	499	126	145	2			
5	c0	93	Total	C	N	O	S	0	0	0
			746	481	122	141	2			

- Molecule 6 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	C1	154	Total	C	N	O	S	0	0	0
			1207	771	229	204	3			
6	c1	146	Total	C	N	O	S	0	0	0
			1168	747	221	197	3			

- Molecule 7 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	C2	119	Total	C	N	O	S	0	0	0
			865	545	151	167	2			
7	c2	124	Total	C	N	O	S	0	0	0
			890	560	156	172	2			

- Molecule 8 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	C3	150	Total	C	N	O	S	0	0	0
			1192	759	224	207	2			
8	c3	150	Total	C	N	O	S	0	0	0
			1192	759	224	207	2			

- Molecule 9 is a protein called 40S ribosomal protein S14-B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	C4	127	Total	C	N	O	S	0	0	0
			891	545	182	163	1			
9	c4	128	Total	C	N	O	S	0	0	0
			949	582	188	176	3			

- Molecule 10 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	C5	124	Total	C	N	O	S	0	0	0
			977	622	182	166	7			

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	c5	125	Total 987	C 627	N 186	O 167	S 7	0	0	0

- Molecule 11 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
11	C6	141	Total 1105	C 708	N 203	O 194	0	0	0
11	c6	141	Total 1105	C 708	N 203	O 194	0	0	0

- Molecule 12 is a protein called 40S ribosomal protein S17-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	C7	120	Total 926	C 577	N 177	O 170	S 2	0	0	0
12	c7	121	Total 926	C 575	N 178	O 171	S 2	0	0	0

- Molecule 13 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	C8	145	Total 1192	C 743	N 237	O 210	S 2	0	0	0
13	c8	145	Total 1192	C 743	N 237	O 210	S 2	0	0	0

- Molecule 14 is a protein called 40S ribosomal protein S19-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	C9	143	Total 1112	C 694	N 208	O 208	S 2	0	0	0
14	c9	143	Total 1112	C 694	N 208	O 208	S 2	0	0	0

- Molecule 15 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	d0	104	Total 828	C 524	N 150	O 153	S 1	0	0	0
15	D0	105	Total 841	C 532	N 153	O 155	S 1	0	0	0

- Molecule 16 is a protein called 40S ribosomal protein S21-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	d1	87	Total	C	N	O	S	0	0	0
			684	420	125	137	2			
16	D1	87	Total	C	N	O	S	0	0	0
			684	420	125	137	2			

- Molecule 17 is a protein called 40S ribosomal protein S22-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	d2	129	Total	C	N	O	S	0	0	0
			1021	650	188	180	3			
17	D2	129	Total	C	N	O	S	0	0	0
			1021	650	188	180	3			

- Molecule 18 is a protein called 40S ribosomal protein S23-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	d3	144	Total	C	N	O	S	0	0	0
			1121	708	220	191	2			
18	D3	144	Total	C	N	O	S	0	0	0
			1121	708	220	191	2			

- Molecule 19 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	d4	134	Total	C	N	O	0	0	0
			1073	676	208	189			
19	D4	134	Total	C	N	O	0	0	0
			1073	676	208	189			

- Molecule 20 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	d5	69	Total	C	N	O	0	0	0
			558	357	103	98			
20	D5	70	Total	C	N	O	0	0	0
			563	360	104	99			

- Molecule 21 is a protein called 40S ribosomal protein S26-B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	d6	97	Total	C	N	O	S	0	0	0
			769	475	160	129	5			
21	D6	97	Total	C	N	O	S	0	0	0
			769	475	160	129	5			

- Molecule 22 is a protein called 40S ribosomal protein S27-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	d7	81	Total	C	N	O	S	0	0	0
			610	382	110	113	5			
22	D7	81	Total	C	N	O	S	0	0	0
			610	382	110	113	5			

- Molecule 23 is a protein called 40S ribosomal protein S28-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	d8	63	Total	C	N	O	S	0	0	0
			497	306	99	91	1			
23	D8	63	Total	C	N	O	S	0	0	0
			497	306	99	91	1			

- Molecule 24 is a protein called 40S ribosomal protein S29-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	d9	53	Total	C	N	O	S	0	0	0
			442	274	92	72	4			
24	D9	52	Total	C	N	O	S	0	0	0
			433	269	91	69	4			

- Molecule 25 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	e0	61	Total	C	N	O	S	0	0	0
			482	304	99	78	1			
25	E0	60	Total	C	N	O	S	0	0	0
			475	299	98	77	1			

- Molecule 26 is a protein called Ubiquitin-40S ribosomal protein S31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	e1	73	Total	C	N	O	S	0	0	0
			586	374	112	96	4			

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	E1	71	Total	C	N	O	S	0	0	0
			566	362	106	94	4			

- Molecule 27 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	l2	252	Total	C	N	O	S	0	0	0
			1912	1190	388	333	1			
27	L2	252	Total	C	N	O	S	0	0	0
			1914	1191	388	334	1			

- Molecule 28 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	l3	386	Total	C	N	O	S	0	0	0
			3075	1950	584	533	8			
28	L3	386	Total	C	N	O	S	0	0	0
			3075	1950	584	533	8			

- Molecule 29 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	l4	361	Total	C	N	O	S	0	0	0
			2748	1729	522	494	3			
29	L4	361	Total	C	N	O	S	0	0	0
			2748	1729	522	494	3			

- Molecule 30 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	l5	294	Total	C	N	O	S	0	0	0
			2359	1489	412	456	2			
30	L5	296	Total	C	N	O	S	0	0	0
			2375	1501	414	458	2			

- Molecule 31 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	l6	157	Total	C	N	O	S	0	0	0
			1248	806	224	217	1			
31	L6	157	Total	C	N	O	S	0	0	0
			1248	806	224	217	1			

- Molecule 32 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	l7	223	Total	C	N	O	S	0	0	0
			1791	1155	325	310	1			
32	L7	222	Total	C	N	O	S	0	0	0
			1784	1151	324	308	1			

- Molecule 33 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	l8	231	Total	C	N	O	S	0	0	0
			1764	1130	316	315	3			
33	L8	233	Total	C	N	O	S	0	0	0
			1804	1151	323	327	3			

- Molecule 34 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	l9	191	Total	C	N	O	S	0	0	0
			1518	963	274	277	4			
34	L9	191	Total	C	N	O	S	0	0	0
			1518	963	274	277	4			

- Molecule 35 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	m0	209	Total	C	N	O	S	0	0	0
			1696	1077	321	293	5			
35	M0	211	Total	C	N	O	S	0	0	0
			1705	1083	322	294	6			

- Molecule 36 is a protein called 60S ribosomal protein L11-B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	m1	169	Total	C	N	O	S	0	0	0
			1353	847	253	249	4			
36	M1	169	Total	C	N	O	S	0	0	0
			1353	847	253	249	4			

- Molecule 37 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
37	m3	194	Total	C	N	O	0	0	0
			1548	965	316	267			
37	M3	193	Total	C	N	O	0	0	0
			1543	962	315	266			

- Molecule 38 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	m4	137	Total	C	N	O	S	0	0	0
			1059	678	200	179	2			
38	M4	136	Total	C	N	O	S	0	0	0
			1053	675	199	177	2			

- Molecule 39 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	m5	203	Total	C	N	O	S	0	0	0
			1720	1077	361	281	1			
39	M5	203	Total	C	N	O	S	0	0	0
			1720	1077	361	281	1			

- Molecule 40 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	m6	197	Total	C	N	O	S	0	0	0
			1555	1003	289	262	1			
40	M6	197	Total	C	N	O	S	0	0	0
			1555	1003	289	262	1			

- Molecule 41 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
41	m7	183	Total	C	N	O	0	0	0
			1420	882	281	257			
41	M7	183	Total	C	N	O	0	0	0
			1420	882	281	257			

- Molecule 42 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	m8	185	Total	C	N	O	S	0	0	0
			1441	908	290	241	2			

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	M8	185	Total	C	N	O	S	0	0	0
			1441	908	290	241	2			

- Molecule 43 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
43	m9	184	Total	C	N	O	0	0	0
			1490	917	321	252			
43	M9	188	Total	C	N	O	0	0	0
			1521	935	326	260			

- Molecule 44 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	n0	171	Total	C	N	O	S	0	0	0
			1437	925	266	243	3			
44	N0	172	Total	C	N	O	S	0	0	0
			1445	930	267	244	4			

- Molecule 45 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	n1	159	Total	C	N	O	S	0	0	0
			1276	805	246	221	4			
45	N1	159	Total	C	N	O	S	0	0	0
			1276	805	246	221	4			

- Molecule 46 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
46	n2	98	Total	C	N	O	0	0	0
			778	505	127	146			
46	N2	100	Total	C	N	O	0	0	0
			796	516	131	149			

- Molecule 47 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	n3	135	Total	C	N	O	S	0	0	0
			997	625	188	177	7			
47	N3	136	Total	C	N	O	S	0	0	0
			1003	628	189	179	7			

- Molecule 48 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	n4	130	Total	C	N	O	S	0	0	0
			1007	634	200	172	1			
48	N4	130	Total	C	N	O	S	0	0	0
			965	606	192	166	1			

- Molecule 49 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	n5	120	Total	C	N	O	S	0	0	0
			959	617	168	172	2			
49	N5	121	Total	C	N	O	S	0	0	0
			964	620	169	173	2			

- Molecule 50 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
50	n6	122	Total	C	N	O	0	0	0
			963	606	187	170			
50	N6	126	Total	C	N	O	0	0	0
			993	625	192	176			

- Molecule 51 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
51	n7	135	Total	C	N	O	0	0	0
			1092	710	202	180			
51	N7	135	Total	C	N	O	0	0	0
			1092	710	202	180			

- Molecule 52 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	n8	148	Total	C	N	O	S	0	0	0
			1173	749	231	190	3			
52	N8	148	Total	C	N	O	S	0	0	0
			1173	749	231	190	3			

- Molecule 53 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
53	n9	56	Total 444	C 277	N 96	O 71	0	0	0
53	N9	58	Total 462	C 289	N 100	O 73	0	0	0

- Molecule 54 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	o0	100	Total 767	C 492	N 128	O 146	S 1	0	0	0
54	O0	97	Total 743	C 479	N 124	O 139	S 1	0	0	0

- Molecule 55 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	o1	109	Total 883	C 559	N 167	O 156	S 1	0	0	0
55	O1	109	Total 876	C 556	N 167	O 152	S 1	0	0	0

- Molecule 56 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	o2	127	Total 1020	C 647	N 205	O 167	S 1	0	0	0
56	O2	127	Total 1020	C 647	N 205	O 167	S 1	0	0	0

- Molecule 57 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
57	o3	106	Total 850	C 540	N 165	O 144	S 1	0	0	0
57	O3	106	Total 850	C 540	N 165	O 144	S 1	0	0	0

- Molecule 58 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
58	o4	112	Total 880	C 545	N 179	O 152	S 4	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
58	O4	112	Total 880	C 545	N 179	O 152	S 4	0	0	0

- Molecule 59 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
59	o5	119	Total 965	C 612	N 185	O 167	S 1	0	0	0
59	O5	119	Total 969	C 615	N 186	O 167	S 1	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
60	o6	99	Total 770	C 481	N 156	O 131	S 2	0	0	0
60	O6	99	Total 771	C 481	N 156	O 132	S 2	0	0	0

- Molecule 61 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
61	o7	83	Total 656	C 399	N 143	O 109	S 5	0	0	0
61	O7	87	Total 681	C 414	N 148	O 114	S 5	0	0	0

- Molecule 62 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
62	o8	77	Total 608	C 388	N 114	O 106	0	0	0
62	O8	77	Total 612	C 391	N 115	O 106	0	0	0

- Molecule 63 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
63	o9	50	Total 436	C 272	N 97	O 65	S 2	0	0	0
63	O9	50	Total 436	C 272	N 97	O 65	S 2	0	0	0

- Molecule 64 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
64	q0	52	Total	C	N	O	S	0	0	0
			417	259	86	67	5			
64	Q0	52	Total	C	N	O	S	0	0	0
			417	259	86	67	5			

- Molecule 65 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
65	q1	25	Total	C	N	O	S	0	0	0
			233	142	63	27	1			
65	Q1	25	Total	C	N	O	S	0	0	0
			233	142	63	27	1			

- Molecule 66 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
66	q2	104	Total	C	N	O	S	0	0	0
			836	525	169	137	5			
66	Q2	105	Total	C	N	O	S	0	0	0
			847	534	170	138	5			

- Molecule 67 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
67	q3	91	Total	C	N	O	S	0	0	0
			694	429	138	121	6			
67	Q3	91	Total	C	N	O	S	0	0	0
			694	429	138	121	6			

- Molecule 68 is a protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
68	S0	206	Total	C	N	O	S	0	0	0
			1577	1014	278	283	2			
68	s0	206	Total	C	N	O	S	0	0	0
			1583	1017	281	283	2			

- Molecule 69 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
69	S1	214	Total	C	N	O	S	0	0	0
			1709	1084	310	311	4			
69	s1	216	Total	C	N	O	S	0	0	0
			1722	1091	312	315	4			

- Molecule 70 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
70	S2	217	Total	C	N	O	S	0	0	0
			1635	1047	289	297	2			
70	s2	217	Total	C	N	O	S	0	0	0
			1635	1047	289	297	2			

- Molecule 71 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
71	S3	223	Total	C	N	O	S	0	0	0
			1734	1101	313	314	6			
71	s3	223	Total	C	N	O	S	0	0	0
			1734	1101	313	314	6			

- Molecule 72 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
72	S4	260	Total	C	N	O	S	0	0	0
			2068	1316	389	360	3			
72	s4	260	Total	C	N	O	S	0	0	0
			2068	1316	389	360	3			

- Molecule 73 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
73	S5	206	Total	C	N	O	S	0	0	0
			1609	1007	300	299	3			
73	s5	206	Total	C	N	O	S	0	0	0
			1609	1007	300	299	3			

- Molecule 74 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
74	S6	226	Total	C	N	O	S	0	0	0
			1799	1129	346	321	3			

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
74	s6	218	Total	C	N	O	S	0	0	0
			1755	1102	337	313	3			

- Molecule 75 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
75	s7	184	Total	C	N	O	0	0	0
			1481	951	265	265			
75	S7	184	Total	C	N	O	0	0	0
			1481	951	265	265			

- Molecule 76 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
76	s8	185	Total	C	N	O	S	0	0	0
			1466	910	293	261	2			
76	S8	188	Total	C	N	O	S	0	0	0
			1489	925	298	264	2			

- Molecule 77 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
77	S9	185	Total	C	N	O	S	0	0	0
			1494	943	289	261	1			
77	s9	185	Total	C	N	O	S	0	0	0
			1494	943	289	261	1			

- Molecule 78 is a protein called Suppressor protein STM1.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
78	sM	131	Total	C	N	O	0	0	0
			958	564	193	201			
78	SM	159	Total	C	N	O	0	0	0
			1104	652	221	231			

- Molecule 79 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
79	sR	316	Total	C	N	O	S	0	0	0
			2427	1535	415	469	8			
79	SR	318	Total	C	N	O	S	0	0	0
			2437	1541	418	470	8			

- Molecule 80 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
80	1	485	Total Mg 485 485	0	0
80	2	128	Total Mg 128 128	0	0
80	3	13	Total Mg 13 13	0	0
80	4	19	Total Mg 19 19	1	0
80	5	449	Total Mg 449 449	1	0
80	6	160	Total Mg 160 160	0	0
80	7	8	Total Mg 8 8	0	0
80	8	10	Total Mg 10 10	0	0
80	c1	2	Total Mg 2 2	0	0
80	c3	1	Total Mg 1 1	0	0
80	C4	3	Total Mg 3 3	0	0
80	C6	1	Total Mg 1 1	0	0
80	c7	1	Total Mg 1 1	0	0
80	C8	1	Total Mg 1 1	0	0
80	c8	2	Total Mg 2 2	0	0
80	C9	1	Total Mg 1 1	0	0
80	c9	1	Total Mg 1 1	0	0
80	d2	1	Total Mg 1 1	0	0
80	D2	1	Total Mg 1 1	0	0
80	d3	1	Total Mg 1 1	0	0
80	d9	2	Total Mg 2 2	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
80	l2	2	Total Mg 2 2	0	0
80	L2	2	Total Mg 2 2	0	0
80	l3	3	Total Mg 3 3	0	0
80	L3	2	Total Mg 2 2	0	0
80	l4	1	Total Mg 1 1	0	0
80	l5	1	Total Mg 1 1	0	0
80	L6	3	Total Mg 3 3	0	0
80	l7	1	Total Mg 1 1	0	0
80	L7	2	Total Mg 2 2	0	0
80	L9	1	Total Mg 1 1	0	0
80	m0	2	Total Mg 2 2	0	0
80	M0	2	Total Mg 2 2	0	0
80	m5	1	Total Mg 1 1	0	0
80	M5	3	Total Mg 3 3	0	0
80	m6	1	Total Mg 1 1	0	0
80	M6	1	Total Mg 1 1	0	0
80	m7	2	Total Mg 2 2	0	0
80	M7	4	Total Mg 4 4	0	0
80	M8	1	Total Mg 1 1	0	0
80	N0	1	Total Mg 1 1	0	0
80	n1	1	Total Mg 1 1	0	0

Continued on next page...

Continued from previous page...

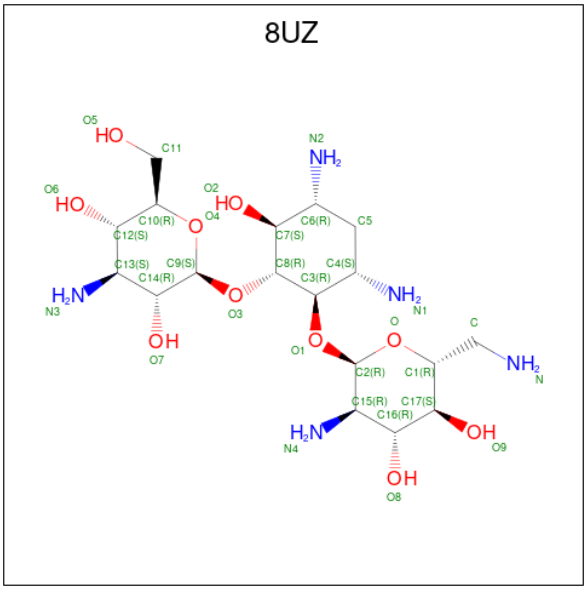
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
80	n3	1	Total Mg 1 1	0	0
80	N3	1	Total Mg 1 1	0	0
80	n6	1	Total Mg 1 1	0	0
80	N6	1	Total Mg 1 1	0	0
80	n7	1	Total Mg 1 1	0	0
80	N7	1	Total Mg 1 1	0	0
80	n8	1	Total Mg 1 1	0	0
80	N8	1	Total Mg 1 1	0	0
80	O1	2	Total Mg 2 2	0	0
80	o2	2	Total Mg 2 2	0	0
80	O2	1	Total Mg 1 1	0	0
80	o3	2	Total Mg 2 2	0	0
80	O3	2	Total Mg 2 2	0	0
80	o4	1	Total Mg 1 1	0	0
80	O4	1	Total Mg 1 1	0	0
80	O5	1	Total Mg 1 1	0	0
80	O6	1	Total Mg 1 1	0	0
80	o7	2	Total Mg 2 2	0	0
80	O7	2	Total Mg 2 2	0	0
80	q2	3	Total Mg 3 3	0	0
80	Q2	1	Total Mg 1 1	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
80	s0	1	Total Mg 1 1	0	0
80	S1	1	Total Mg 1 1	0	0
80	S4	1	Total Mg 1 1	0	0
80	s4	1	Total Mg 1 1	0	0
80	S6	1	Total Mg 1 1	0	0
80	s6	1	Total Mg 1 1	0	0
80	s8	1	Total Mg 1 1	0	0
80	SM	2	Total Mg 2 2	0	0

- Molecule 81 is TC007 (three-letter code: 8UZ) (formula: $C_{18}H_{37}N_5O_{10}$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
81	1	1	Total C N O 33 18 5 10	0	0
81	1	1	Total C N O 33 18 5 10	0	0
81	1	1	Total C N O 33 18 5 10	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
81	1	1	Total C N O 33 18 5 10	0	0
81	1	1	Total C N O 33 18 5 10	0	0
81	1	1	Total C N O 33 18 5 10	0	0
81	1	1	Total C N O 33 18 5 10	0	0
81	1	1	Total C N O 33 18 5 10	0	0
81	1	1	Total C N O 33 18 5 10	0	0
81	1	1	Total C N O 33 18 5 10	0	0
81	2	1	Total C N O 33 18 5 10	0	0
81	2	1	Total C N O 33 18 5 10	0	0
81	2	1	Total C N O 33 18 5 10	0	0
81	3	1	Total C N O 33 18 5 10	0	0
81	4	1	Total C N O 33 18 5 10	0	0
81	5	1	Total C N O 33 18 5 10	0	0
81	5	1	Total C N O 33 18 5 10	0	0
81	5	1	Total C N O 33 18 5 10	0	0
81	5	1	Total C N O 33 18 5 10	0	0
81	5	1	Total C N O 33 18 5 10	0	0
81	5	1	Total C N O 33 18 5 10	0	0
81	5	1	Total C N O 33 18 5 10	0	0
81	5	1	Total C N O 33 18 5 10	0	0
81	6	1	Total C N O 33 18 5 10	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
81	7	1	Total C N O 33 18 5 10	0	0

- Molecule 82 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
82	d6	1	Total Zn 1 1	0	0
82	D6	1	Total Zn 1 1	0	0
82	D7	1	Total Zn 1 1	0	0
82	d9	1	Total Zn 1 1	0	0
82	D9	1	Total Zn 1 1	0	0
82	e1	1	Total Zn 1 1	0	0
82	E1	1	Total Zn 1 1	0	0
82	o4	1	Total Zn 1 1	0	0
82	O4	1	Total Zn 1 1	0	0
82	o7	1	Total Zn 1 1	0	0
82	O7	1	Total Zn 1 1	0	0
82	q0	1	Total Zn 1 1	0	0
82	Q0	1	Total Zn 1 1	0	0
82	q2	1	Total Zn 1 1	0	0
82	Q2	1	Total Zn 1 1	0	0
82	q3	1	Total Zn 1 1	0	0
82	Q3	1	Total Zn 1 1	0	0

- Molecule 83 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
83	1	597	Total O 597 597	3	0
83	2	154	Total O 154 154	0	0
83	3	23	Total O 23 23	0	0
83	4	7	Total O 7 7	0	0
83	5	556	Total O 556 556	0	0
83	6	204	Total O 204 204	0	0
83	7	19	Total O 19 19	0	0
83	8	10	Total O 10 10	0	0
83	C3	2	Total O 2 2	0	0
83	C4	1	Total O 1 1	0	0
83	c4	1	Total O 1 1	0	0
83	C6	1	Total O 1 1	0	0
83	c6	1	Total O 1 1	0	0
83	C7	1	Total O 1 1	0	0
83	c8	1	Total O 1 1	0	0
83	C9	3	Total O 3 3	0	0
83	c9	4	Total O 4 4	0	0
83	D0	1	Total O 1 1	0	0
83	d3	1	Total O 1 1	0	0
83	D3	2	Total O 2 2	0	0
83	d6	3	Total O 3 3	0	0
83	D6	1	Total O 1 1	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
83	d9	2	Total O 2 2	0	0
83	l2	4	Total O 4 4	0	0
83	L2	3	Total O 3 3	0	0
83	l3	4	Total O 4 4	0	0
83	L3	1	Total O 1 1	0	0
83	l4	3	Total O 3 3	0	0
83	L4	1	Total O 1 1	0	0
83	l5	3	Total O 3 3	0	0
83	L5	2	Total O 2 2	0	0
83	l9	2	Total O 2 2	0	0
83	M0	2	Total O 2 2	0	0
83	M3	3	Total O 3 3	0	0
83	m5	3	Total O 3 3	0	0
83	M5	1	Total O 1 1	0	0
83	M6	3	Total O 3 3	0	0
83	m7	3	Total O 3 3	0	0
83	M7	4	Total O 4 4	0	0
83	m8	1	Total O 1 1	0	0
83	m9	5	Total O 5 5	0	0
83	M9	2	Total O 2 2	0	0
83	n1	2	Total O 2 2	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
83	N1	3	Total O 3 3	0	0
83	n3	3	Total O 3 3	0	0
83	N3	3	Total O 3 3	0	0
83	N5	1	Total O 1 1	0	0
83	N6	3	Total O 3 3	0	0
83	n8	3	Total O 3 3	0	0
83	N8	1	Total O 1 1	0	0
83	o1	3	Total O 3 3	0	0
83	O1	5	Total O 5 5	0	0
83	o2	5	Total O 5 5	0	0
83	O2	3	Total O 3 3	0	0
83	o4	4	Total O 4 4	0	0
83	O4	1	Total O 1 1	0	0
83	O5	1	Total O 1 1	0	0
83	o6	3	Total O 3 3	0	0
83	o7	1	Total O 1 1	0	0
83	O7	4	Total O 4 4	0	0
83	O9	2	Total O 2 2	0	0
83	q0	1	Total O 1 1	0	0
83	q2	1	Total O 1 1	0	0
83	Q2	1	Total O 1 1	0	0

Continued on next page...

Continued from previous page...

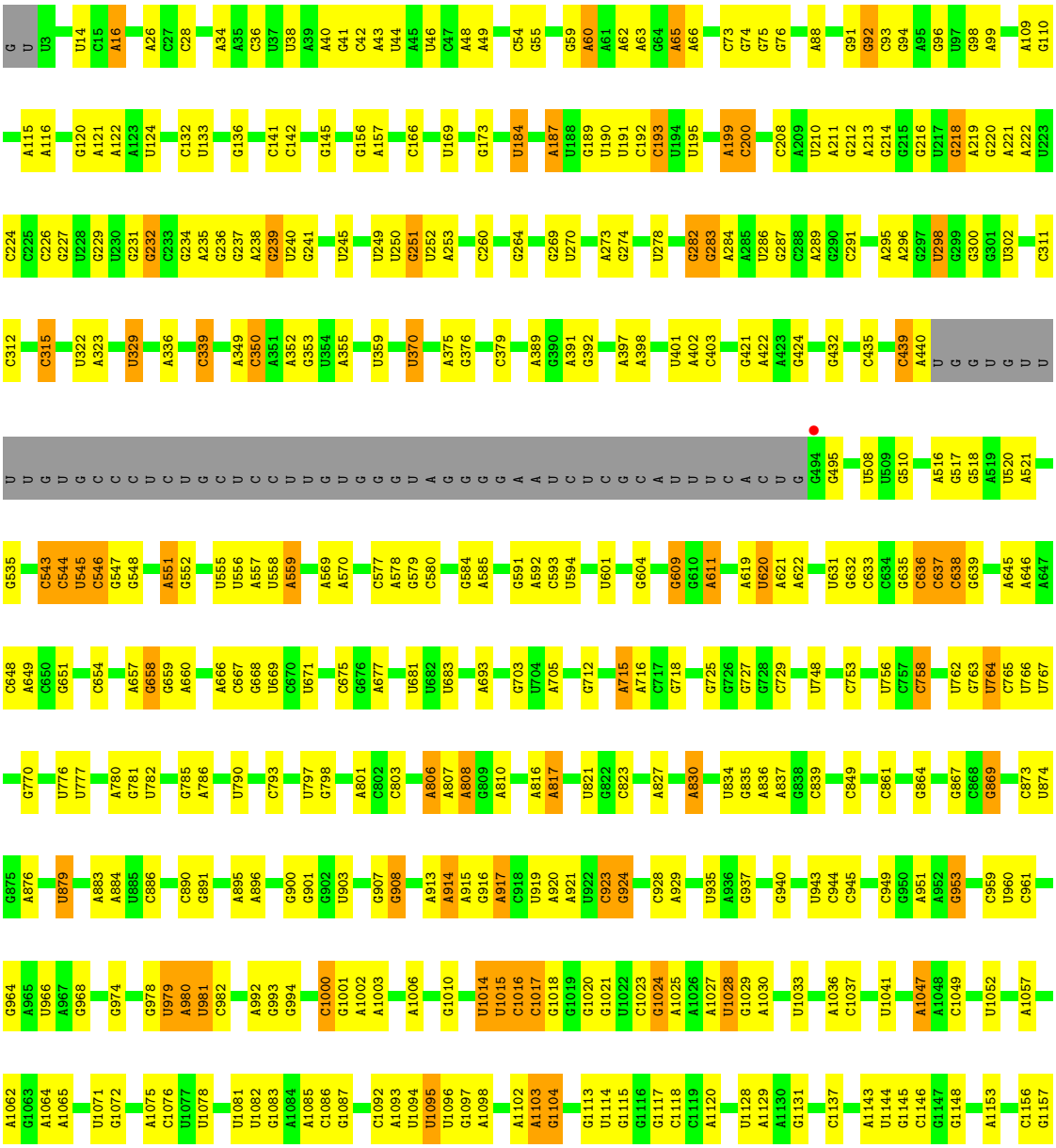
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
83	S6	1	Total O 1 1	0	0
83	S9	1	Total O 1 1	0	0
83	sM	3	Total O 3 3	0	0
83	SM	1	Total O 1 1	0	0

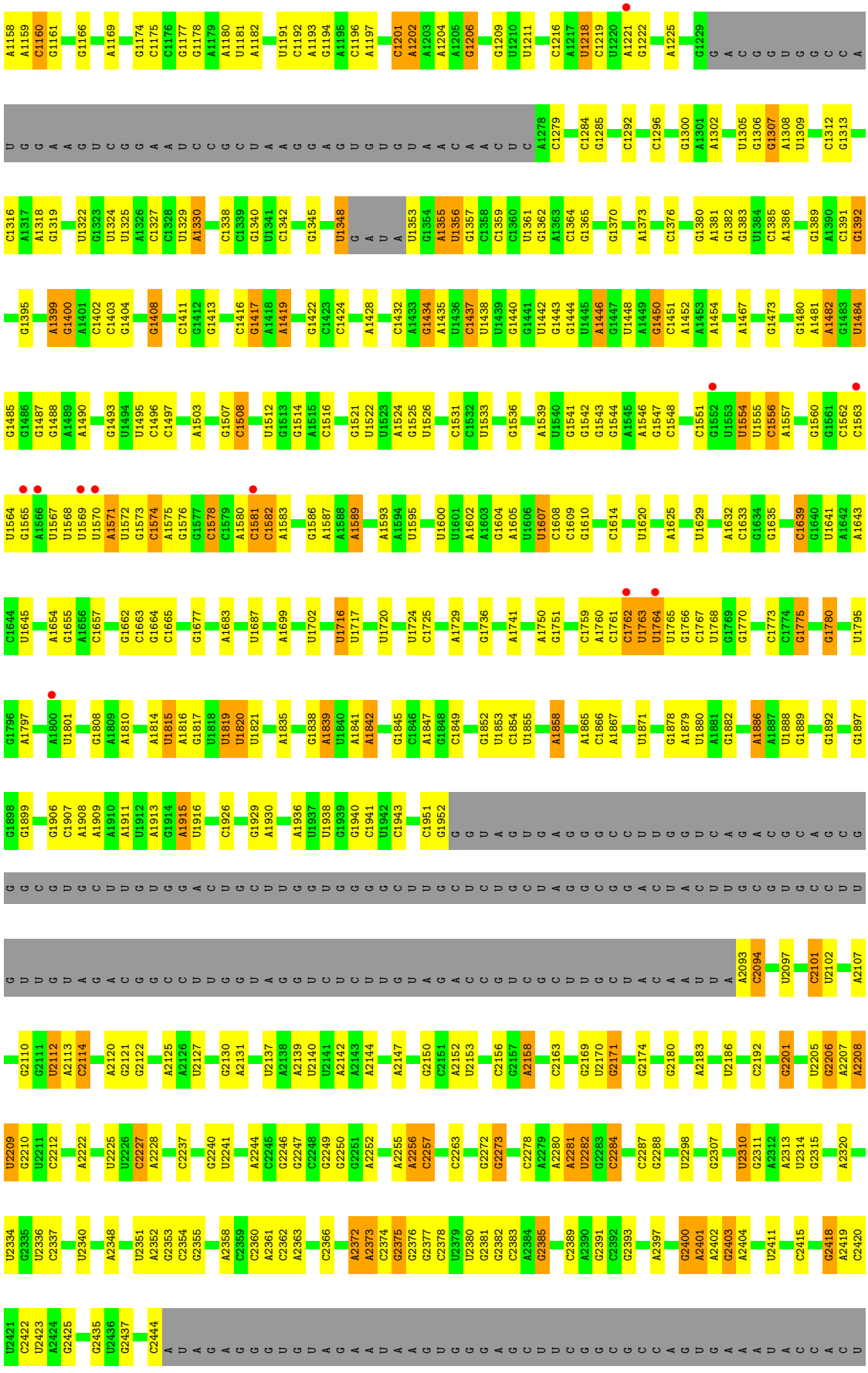
3 Residue-property plots (i)

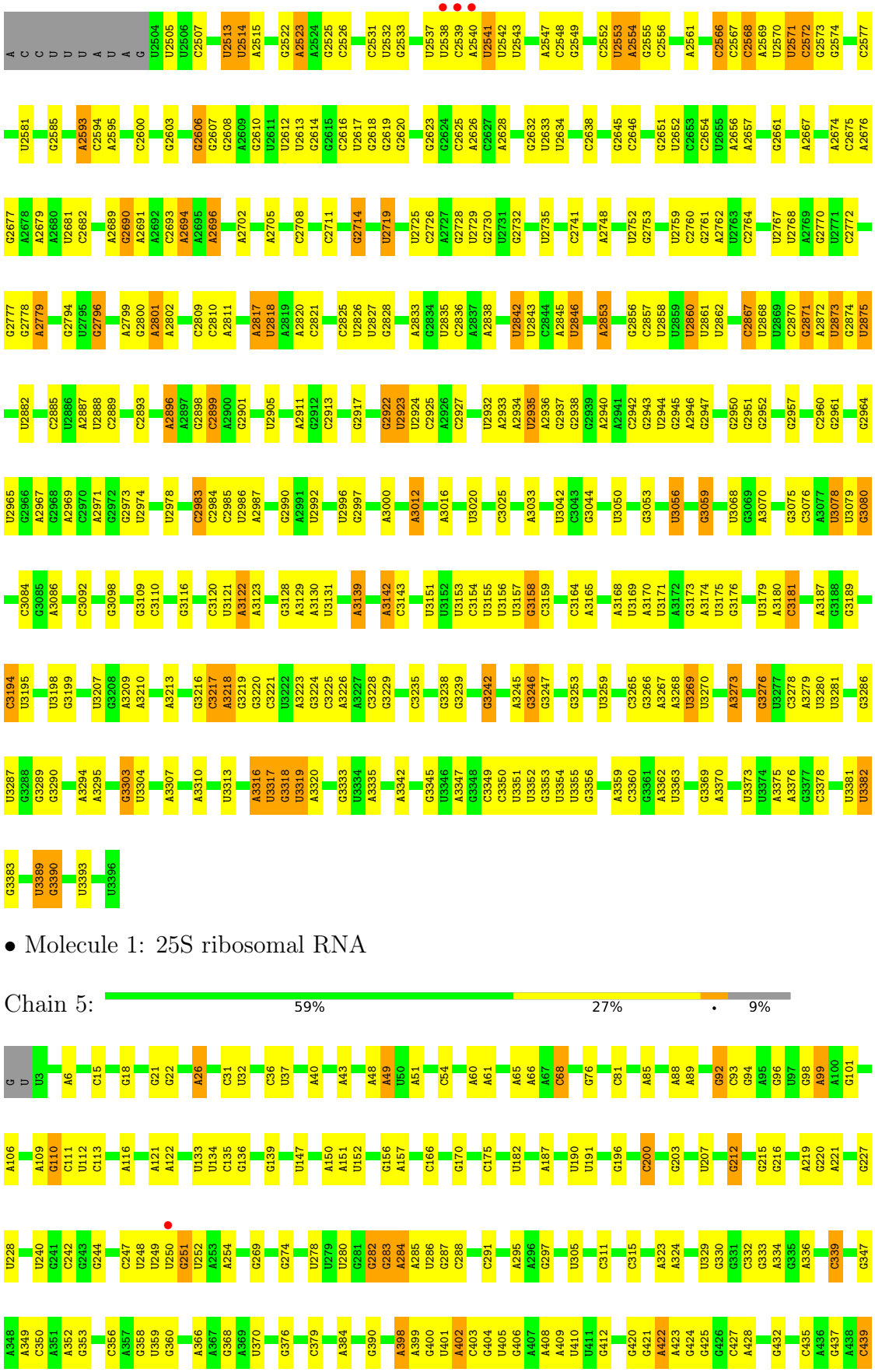
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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 dot above a residue indicates a poor fit to the electron density (RSRZ > 2). 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: 25S ribosomal RNA

Chain 1:

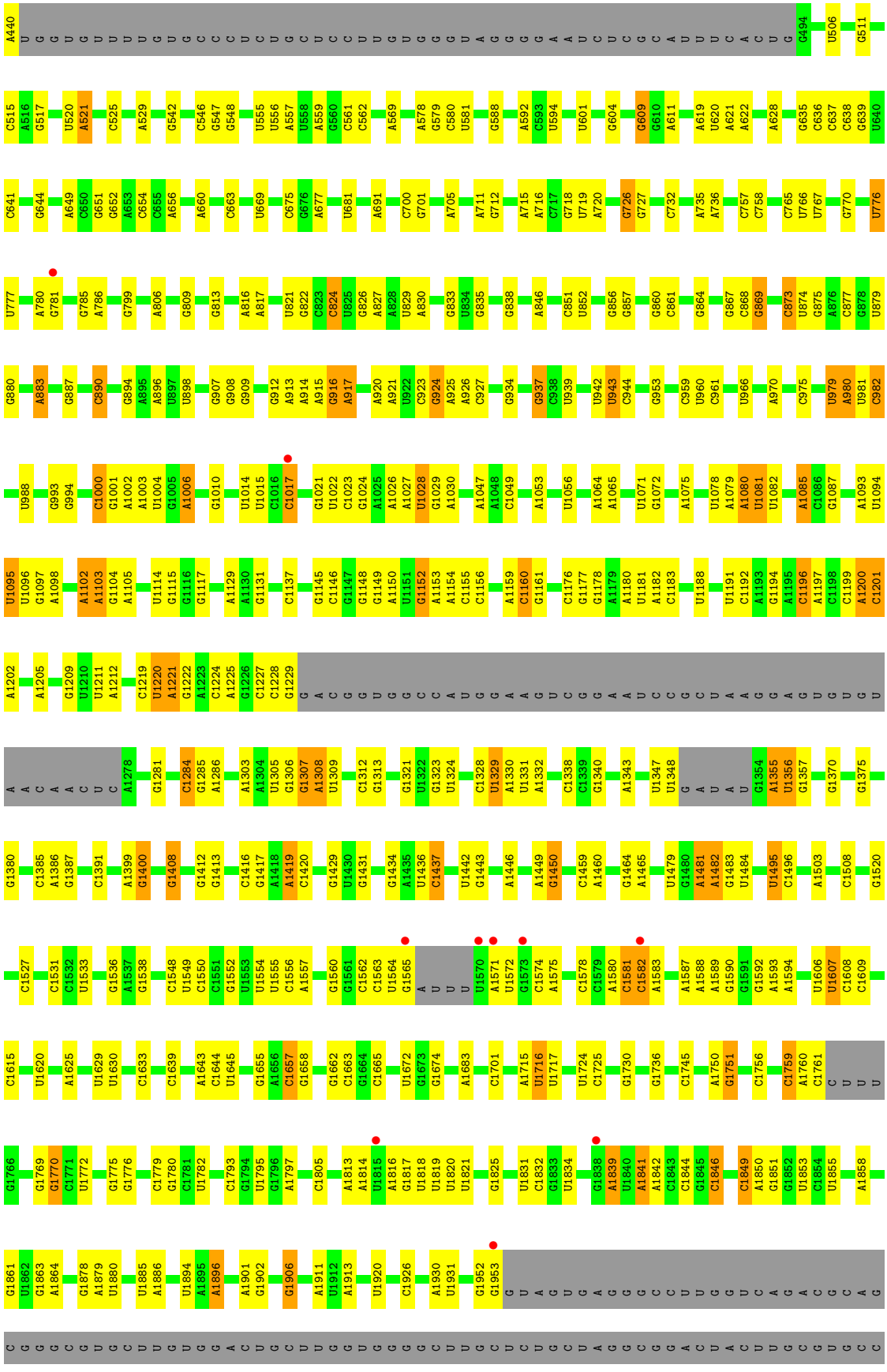


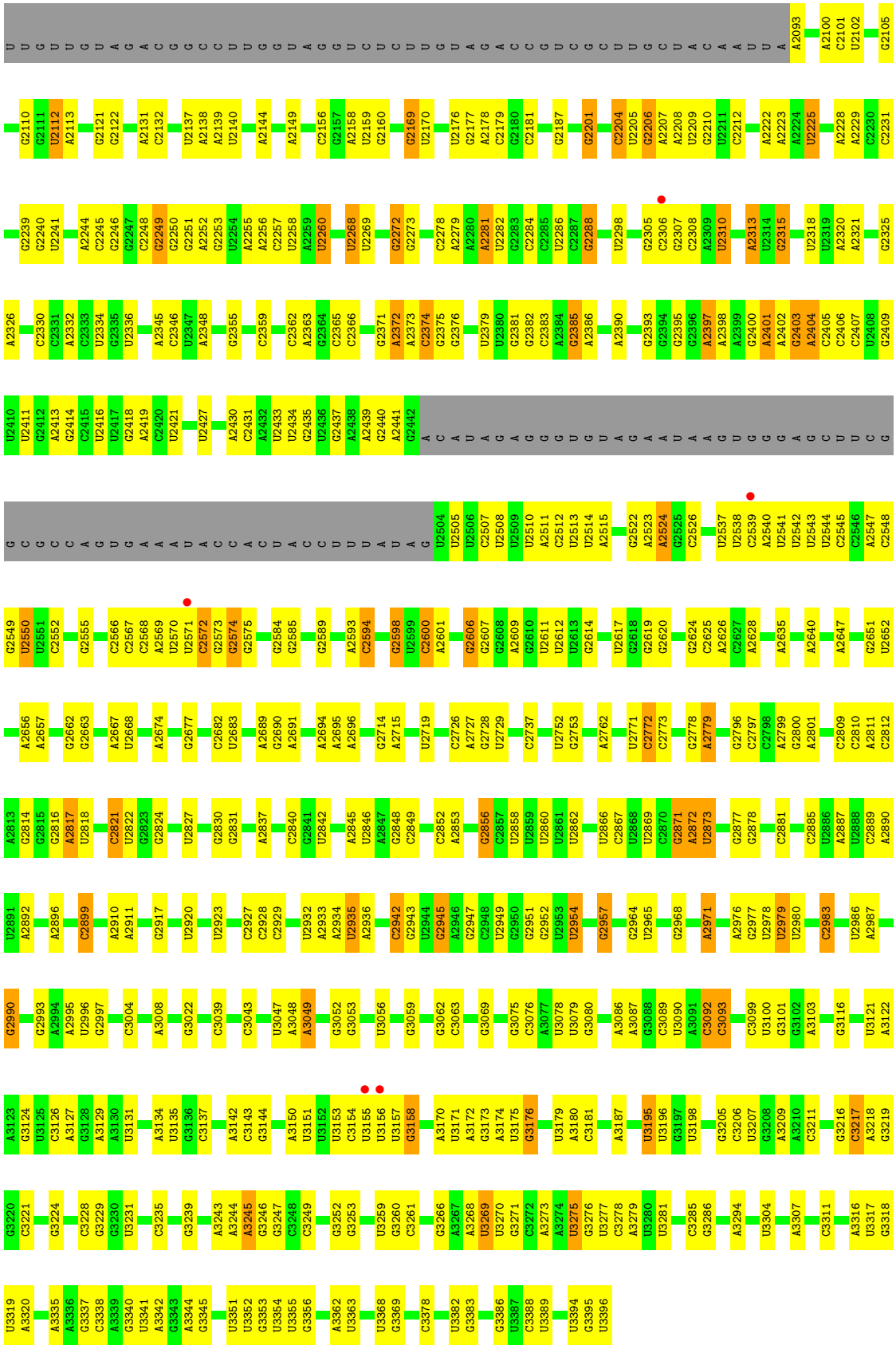

A1158 A1159 C1160 G1161 G1166 A1169 G1174 C1175 C1176 G1177 G1178 A1179 A1180 U1181 A1182 U1191 C1192 A1193 G1194 A1195 C1196 A1197 C1201 A1202 A1203 A1204 A1205 G1206 G1209 U1210 U1211 C1216 A1217 U1218 C1219 U1220 A1221 G1222 A1225 G1229 G A C G G U C G A A G U C C A A U C C A G C C U A A G G U G A U G G C A A C A A G U G U G U G G C C G C C A A U U A C G G C C A A G U G C C A A U U G C C A A U U G C C A A U



• Molecule 1: 25S ribosomal RNA

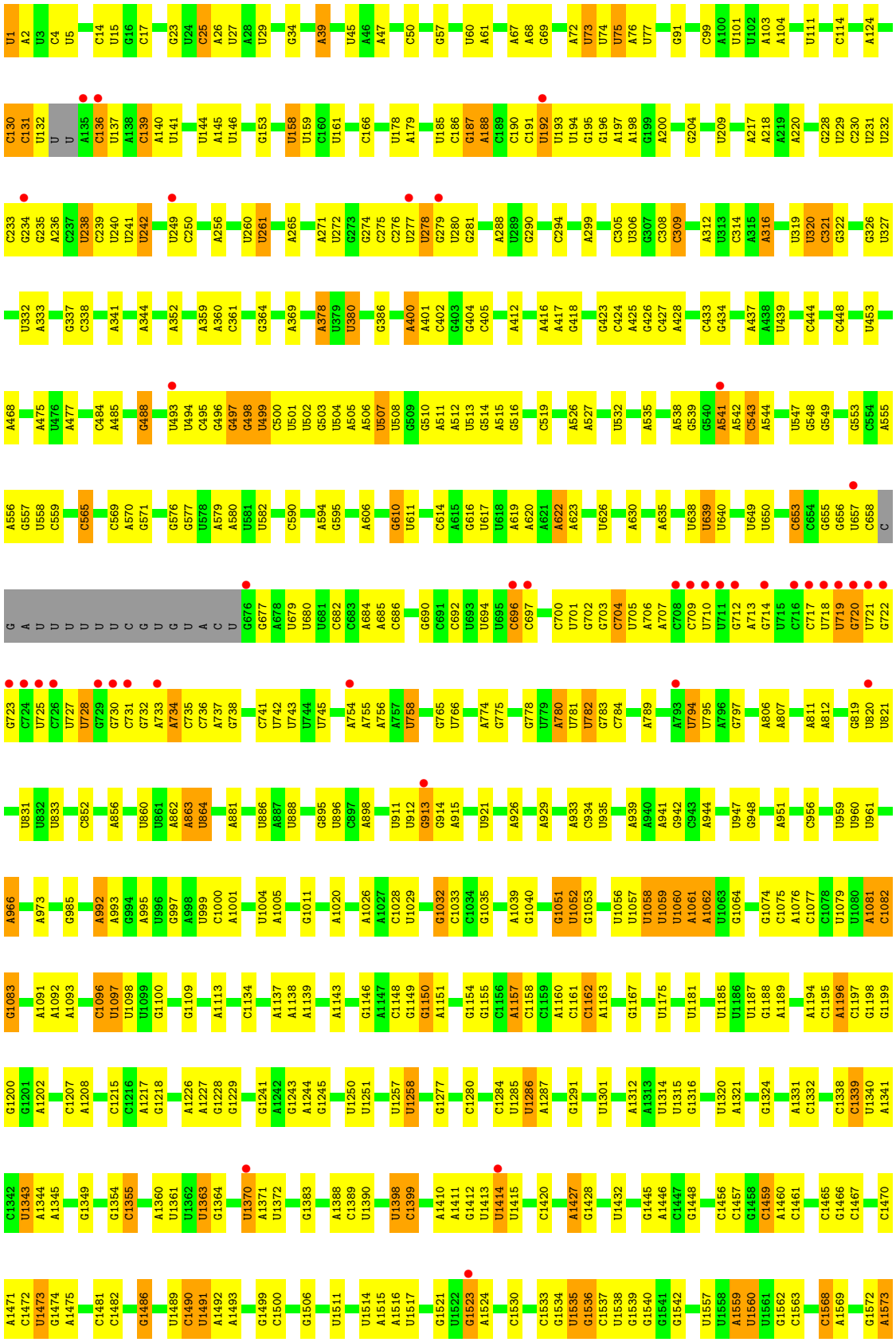
Chain 5:

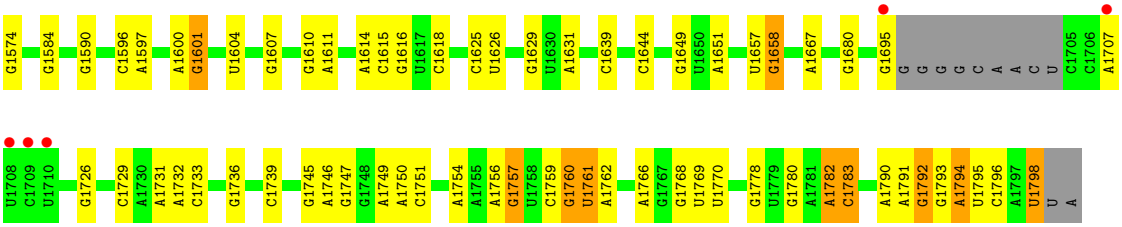




• Molecule 2: 18S ribosomal RNA

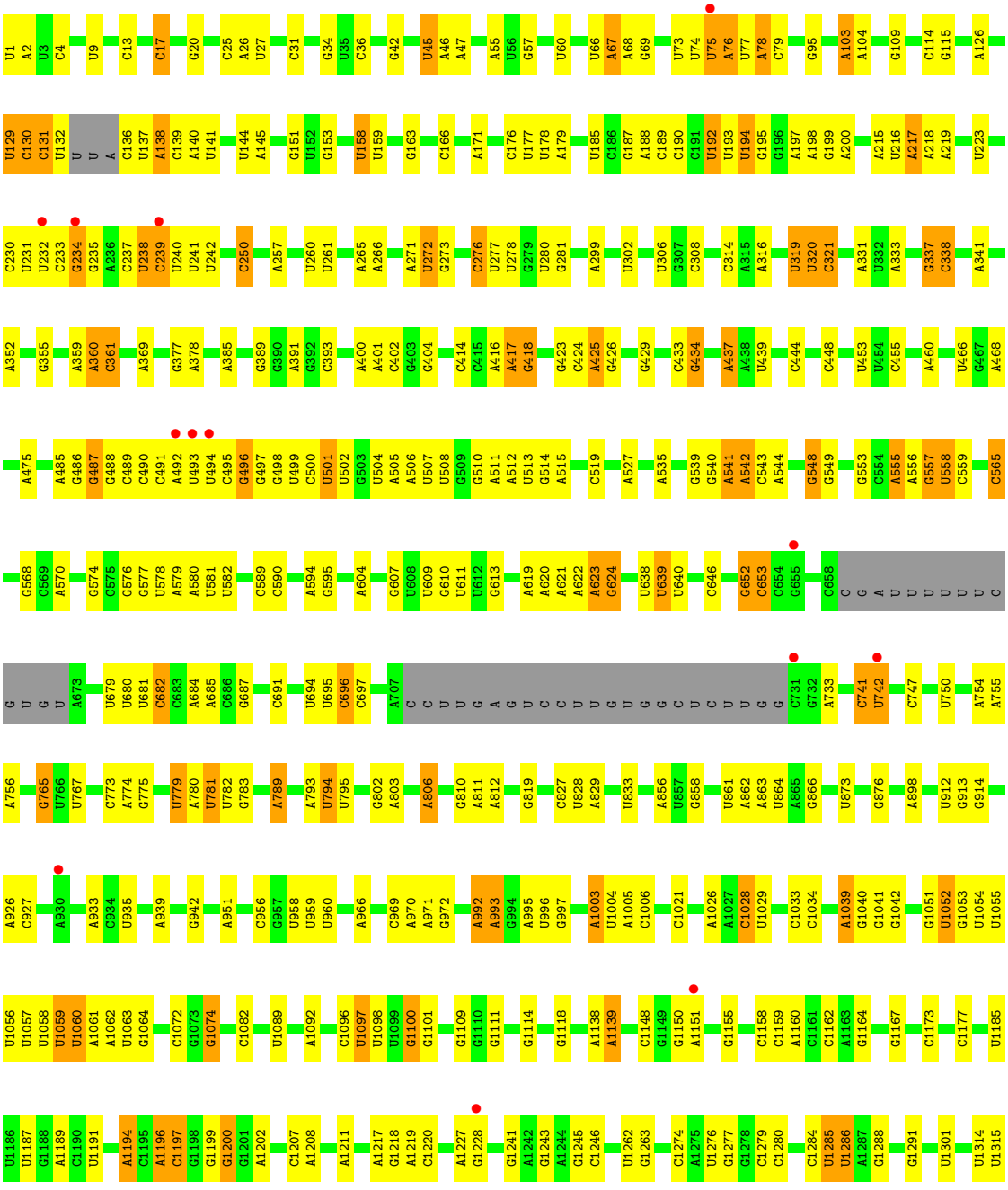
Chain 2:

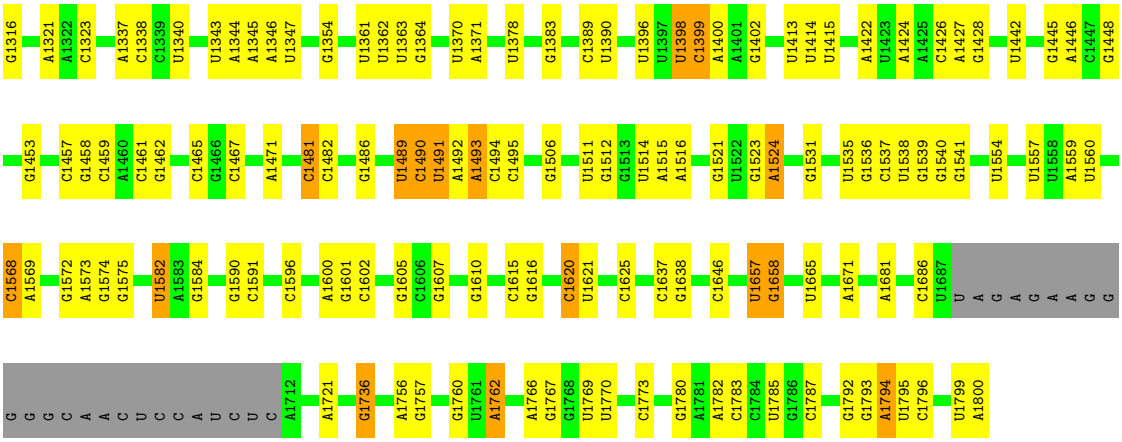




• Molecule 2: 18S ribosomal RNA

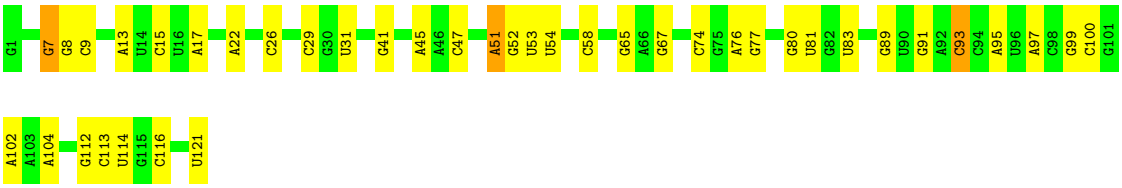
Chain 6:





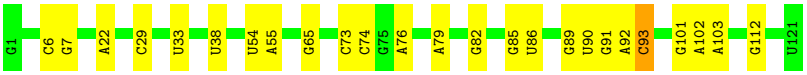
• Molecule 3: 5S ribosomal RNA

Chain 3:



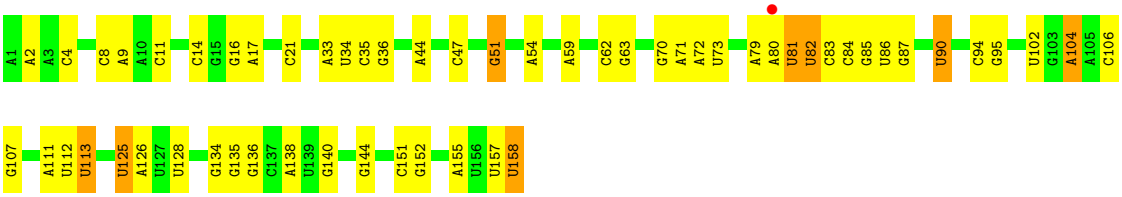
• Molecule 3: 5S ribosomal RNA

Chain 7:



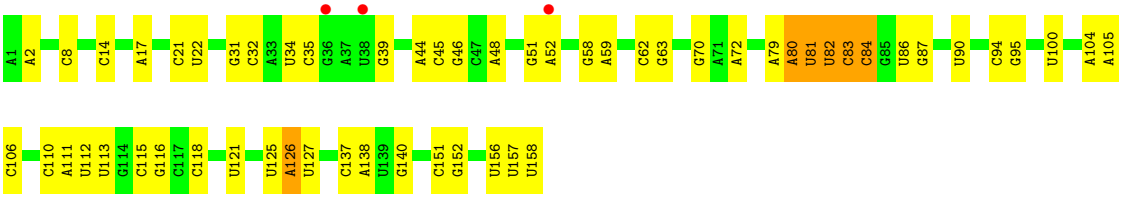
• Molecule 4: 5.8S ribosomal RNA

Chain 4:



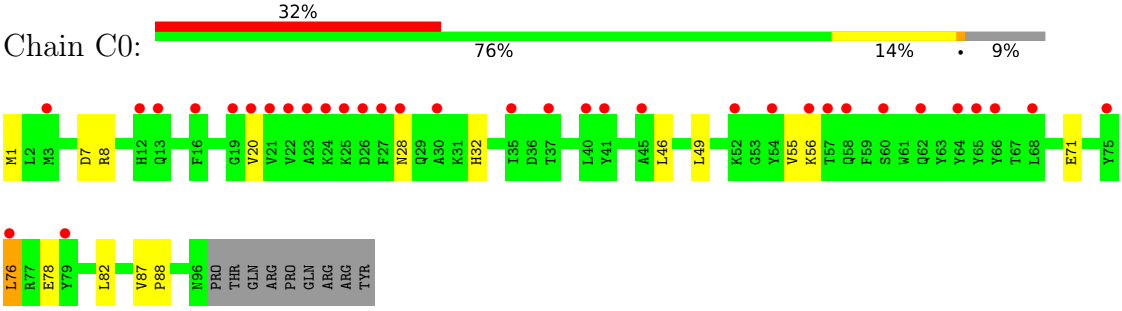
• Molecule 4: 5.8S ribosomal RNA

Chain 8:



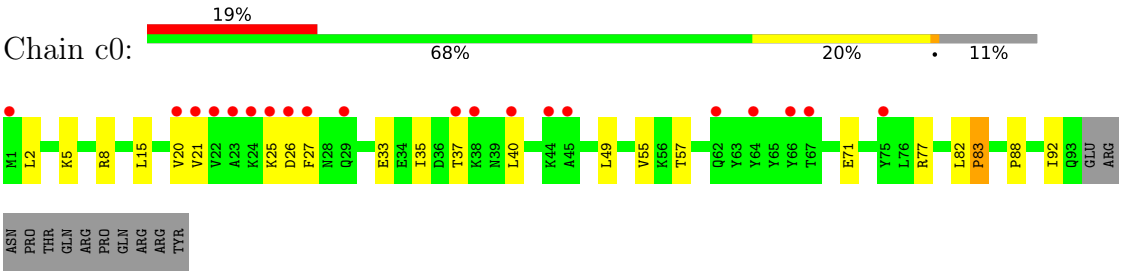
• Molecule 5: 40S ribosomal protein S10-A

Chain C0:



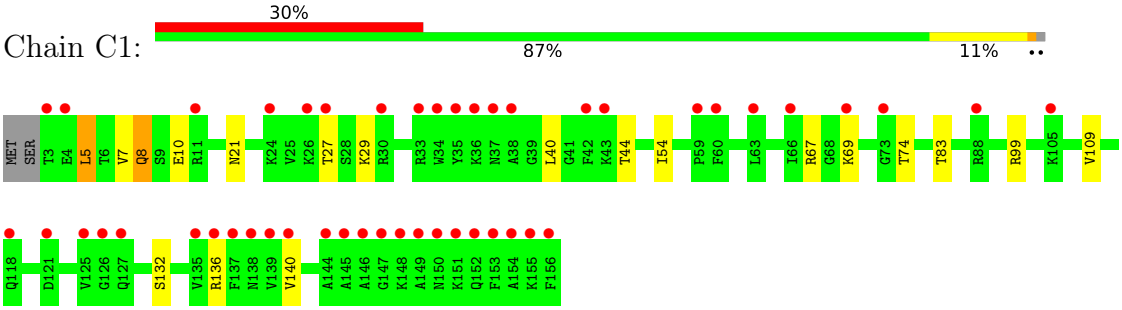
• Molecule 5: 40S ribosomal protein S10-A

Chain c0:



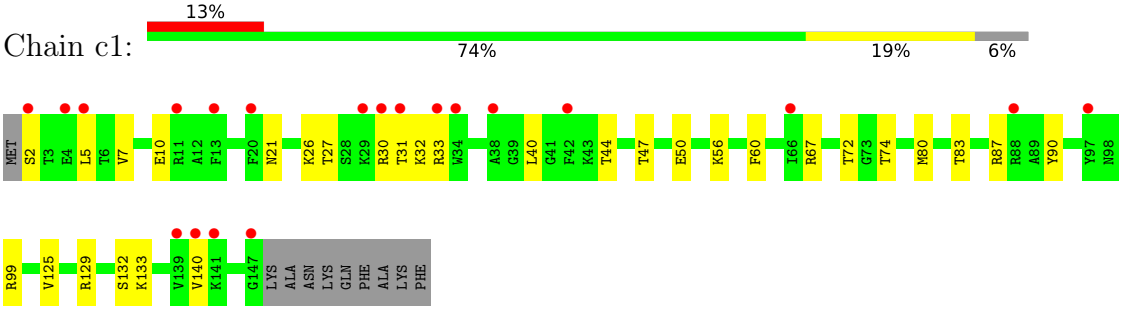
• Molecule 6: 40S ribosomal protein S11-A

Chain C1:



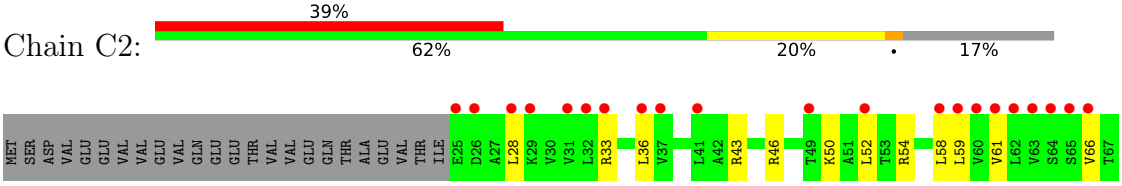
• Molecule 6: 40S ribosomal protein S11-A

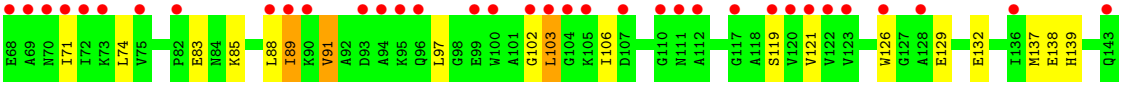
Chain c1:



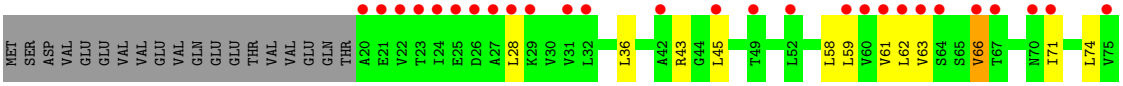
• Molecule 7: 40S ribosomal protein S12

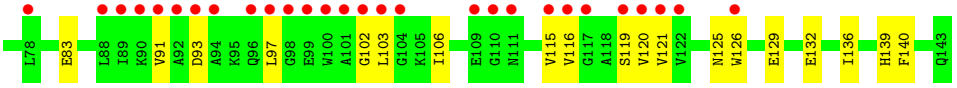
Chain C2:



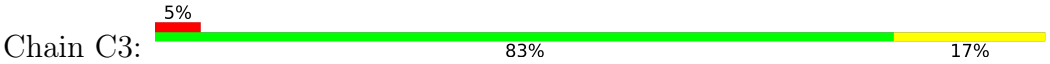


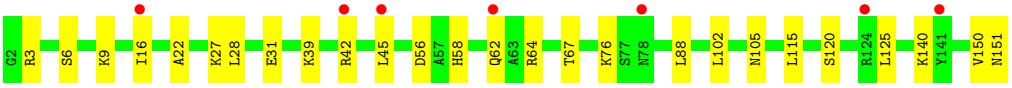
• Molecule 7: 40S ribosomal protein S12



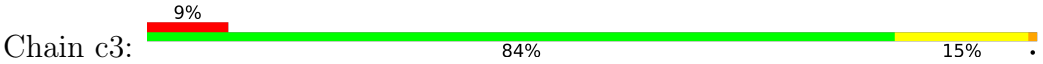


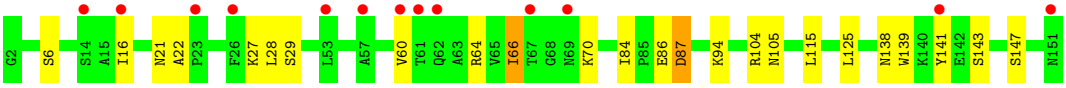
• Molecule 8: 40S ribosomal protein S13



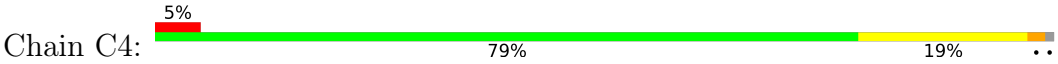


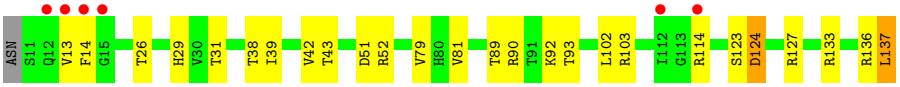
• Molecule 8: 40S ribosomal protein S13



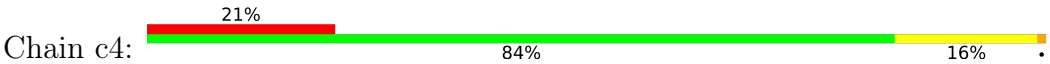


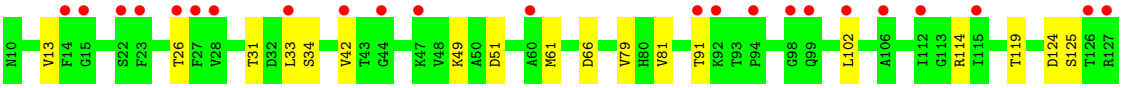
• Molecule 9: 40S ribosomal protein S14-B

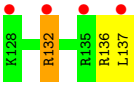




• Molecule 9: 40S ribosomal protein S14-B

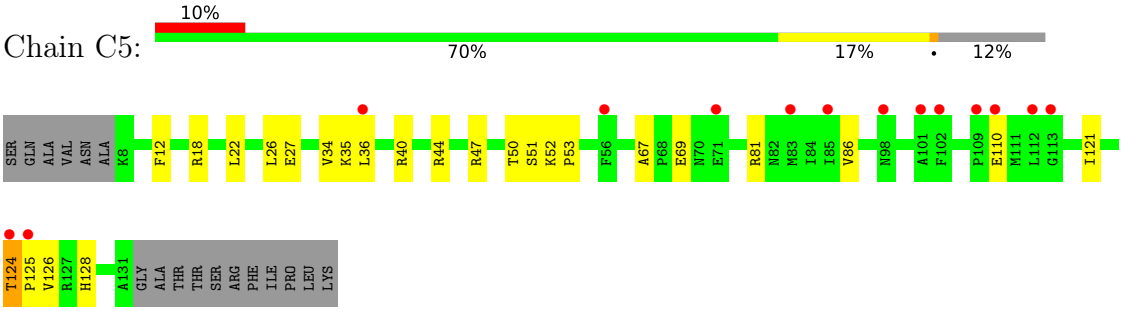






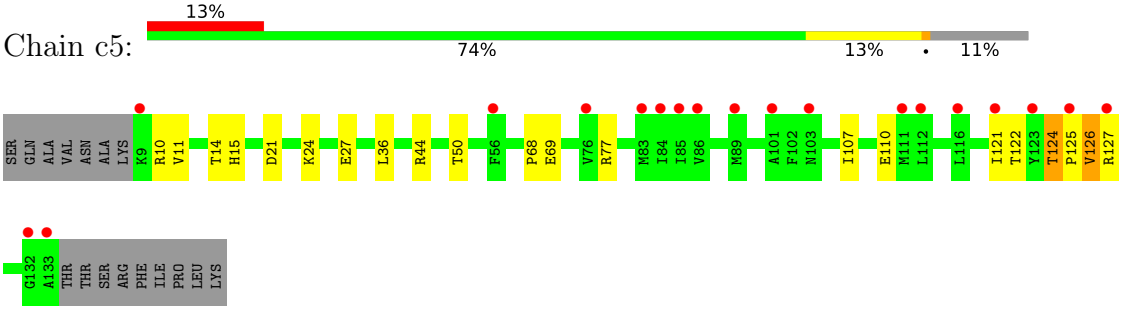
• Molecule 10: 40S ribosomal protein S15

Chain C5:



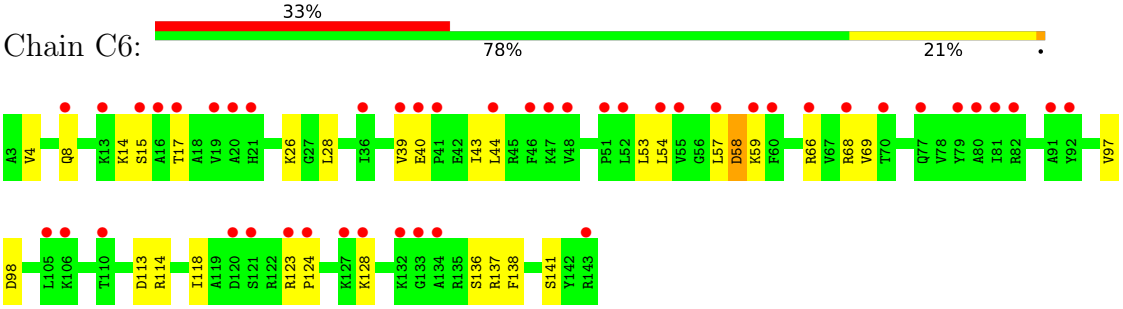
• Molecule 10: 40S ribosomal protein S15

Chain c5:



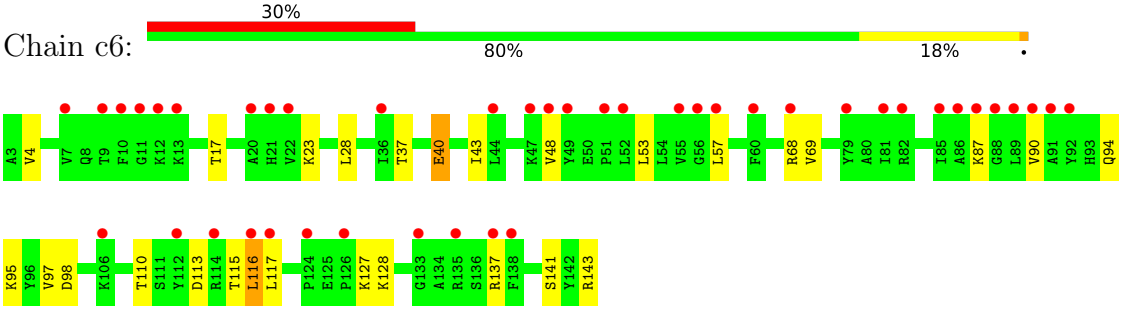
• Molecule 11: 40S ribosomal protein S16-A

Chain C6:



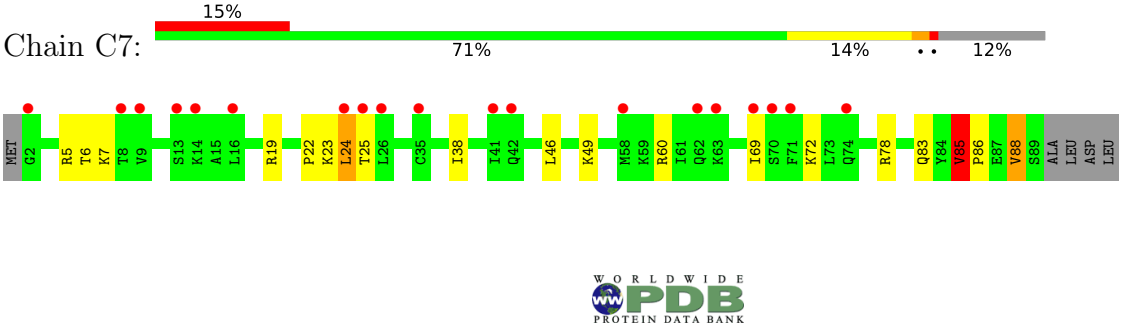
• Molecule 11: 40S ribosomal protein S16-A

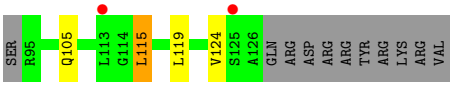
Chain c6:



• Molecule 12: 40S ribosomal protein S17-A

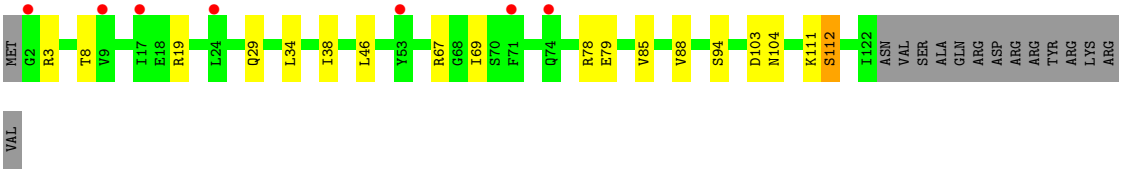
Chain C7:





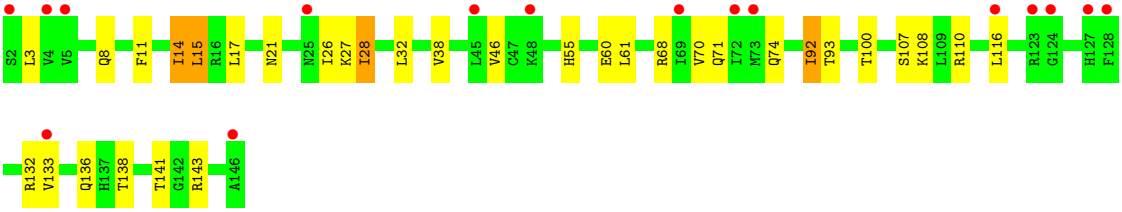
• Molecule 12: 40S ribosomal protein S17-A

Chain c7:



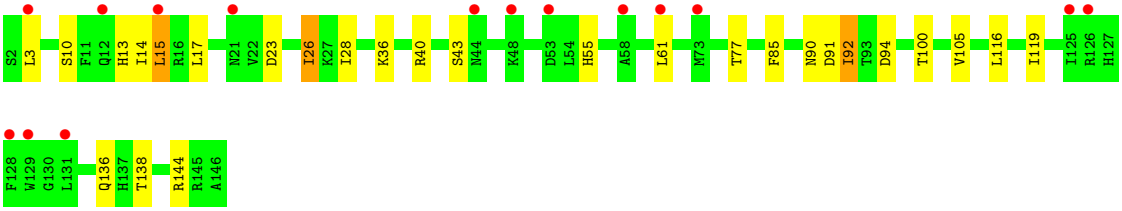
• Molecule 13: 40S ribosomal protein S18-A

Chain C8:



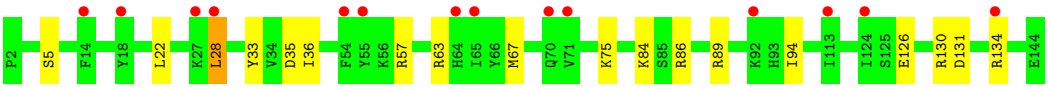
• Molecule 13: 40S ribosomal protein S18-A

Chain c8:



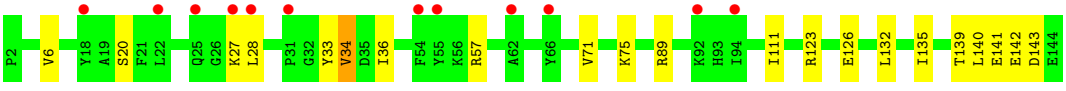
• Molecule 14: 40S ribosomal protein S19-A

Chain C9:



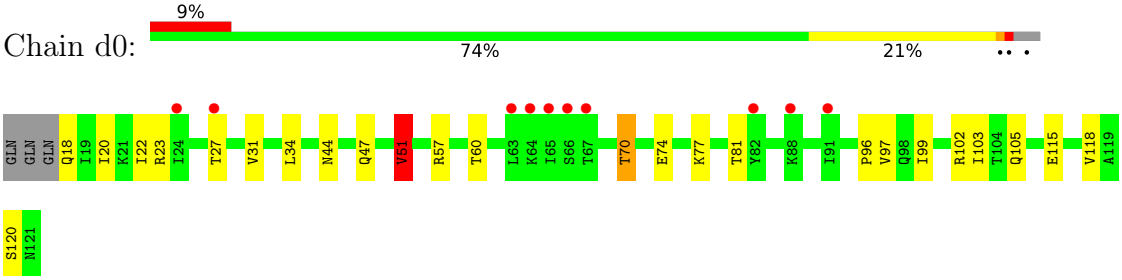
• Molecule 14: 40S ribosomal protein S19-A

Chain c9:



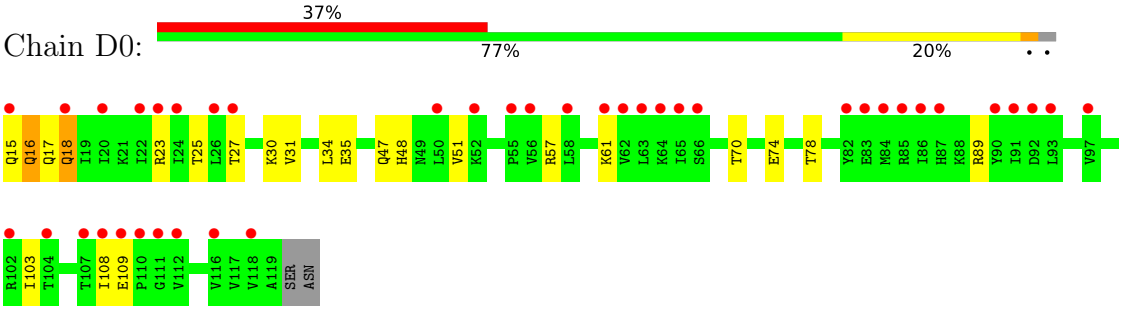
• Molecule 15: 40S ribosomal protein S20

Chain d0:



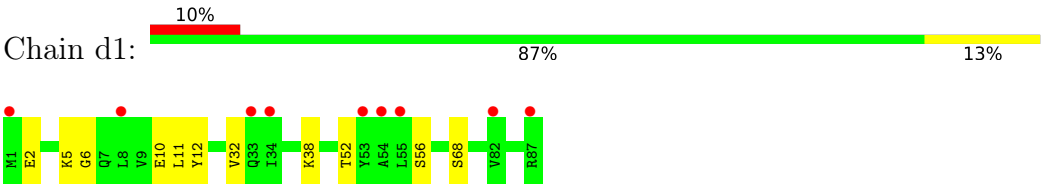
• Molecule 15: 40S ribosomal protein S20

Chain D0:



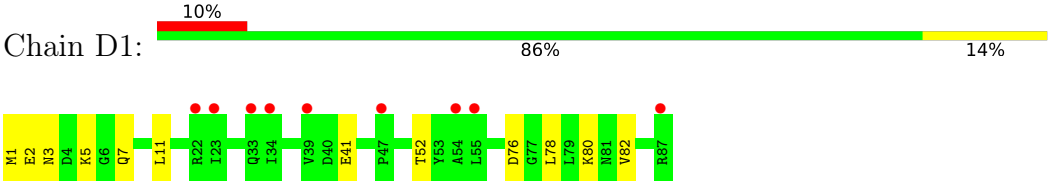
• Molecule 16: 40S ribosomal protein S21-A

Chain d1:



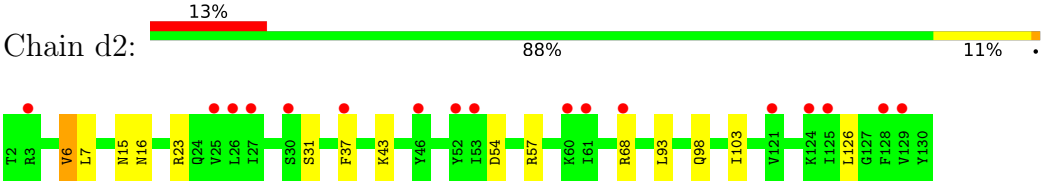
• Molecule 16: 40S ribosomal protein S21-A

Chain D1:



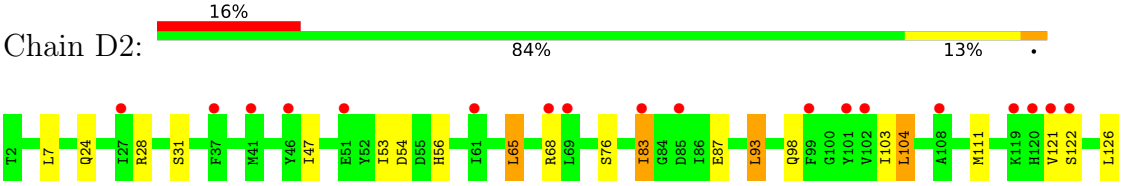
• Molecule 17: 40S ribosomal protein S22-A

Chain d2:



• Molecule 17: 40S ribosomal protein S22-A

Chain D2:

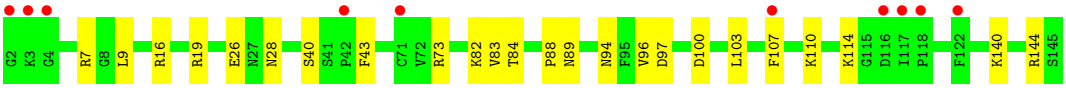


• Molecule 18: 40S ribosomal protein S23-A

Chain d3:

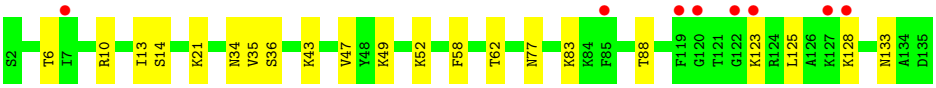
• Molecule 18: 40S ribosomal protein S23-A

Chain D3:



• Molecule 19: 40S ribosomal protein S24-A

Chain d4:

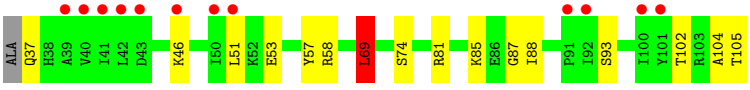


• Molecule 19: 40S ribosomal protein S24-A

Chain D4:

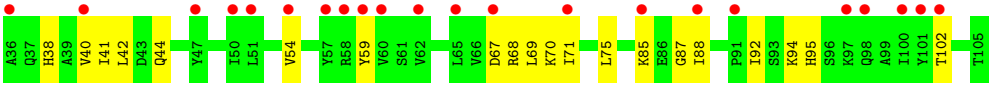
• Molecule 20: 40S ribosomal protein S25-A

Chain d5:



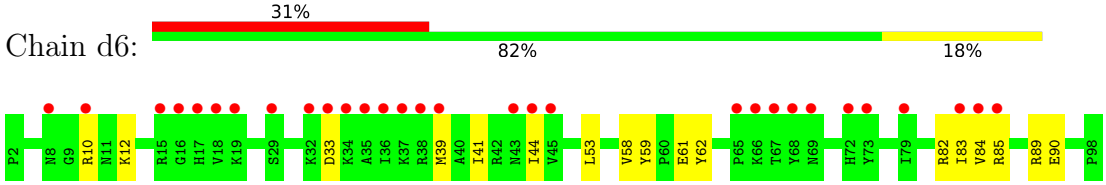
• Molecule 20: 40S ribosomal protein S25-A

Chain D5:



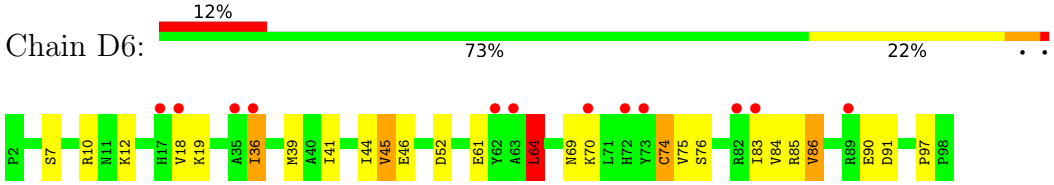
• Molecule 21: 40S ribosomal protein S26-B

Chain d6:



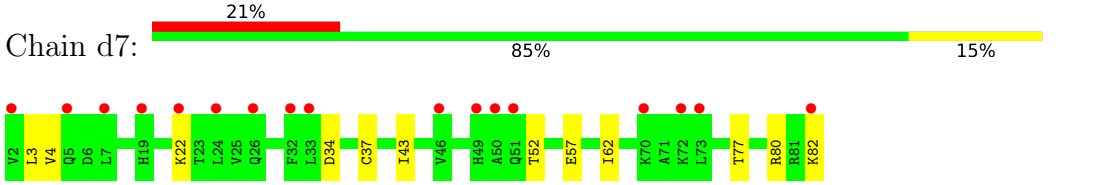
• Molecule 21: 40S ribosomal protein S26-B

Chain D6:



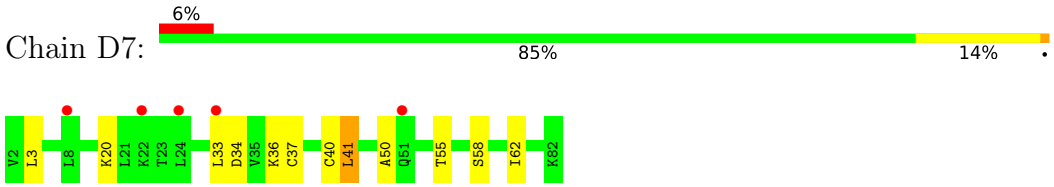
• Molecule 22: 40S ribosomal protein S27-A

Chain d7:



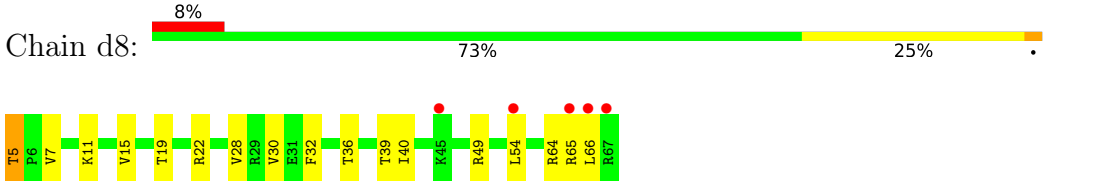
• Molecule 22: 40S ribosomal protein S27-A

Chain D7:



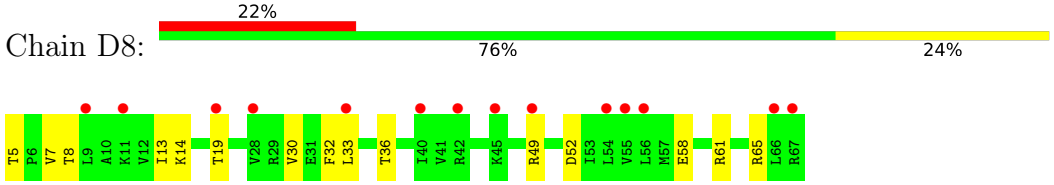
• Molecule 23: 40S ribosomal protein S28-A

Chain d8:



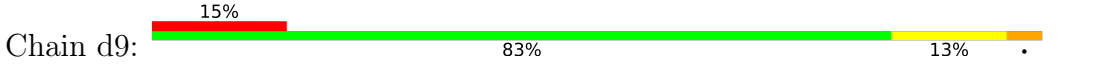
• Molecule 23: 40S ribosomal protein S28-A

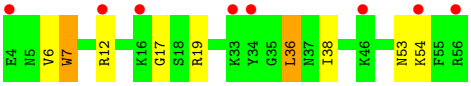
Chain D8:



• Molecule 24: 40S ribosomal protein S29-A

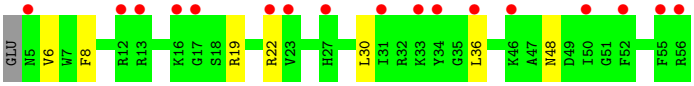
Chain d9:





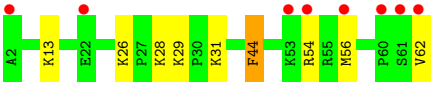
• Molecule 24: 40S ribosomal protein S29-A

Chain D9:



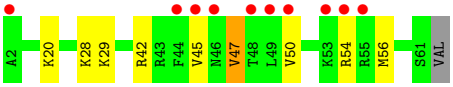
• Molecule 25: 40S ribosomal protein S30-A

Chain e0:



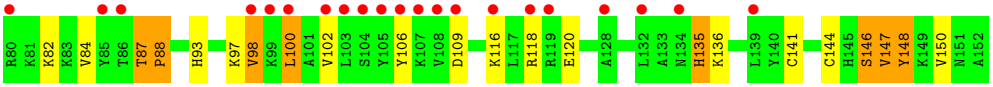
• Molecule 25: 40S ribosomal protein S30-A

Chain E0:



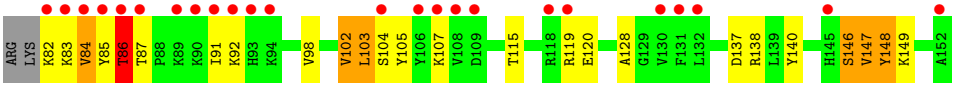
• Molecule 26: Ubiquitin-40S ribosomal protein S31

Chain e1:



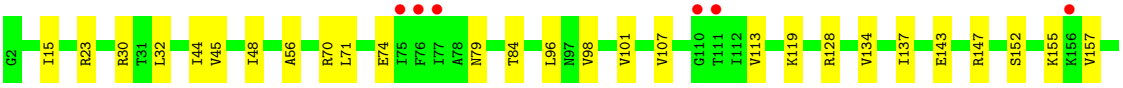
• Molecule 26: Ubiquitin-40S ribosomal protein S31

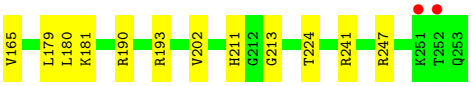
Chain E1:



• Molecule 27: 60S ribosomal protein L2-A

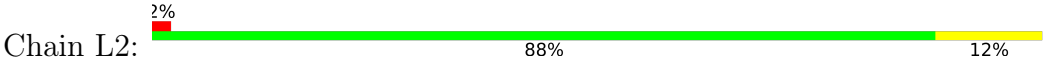
Chain l2:

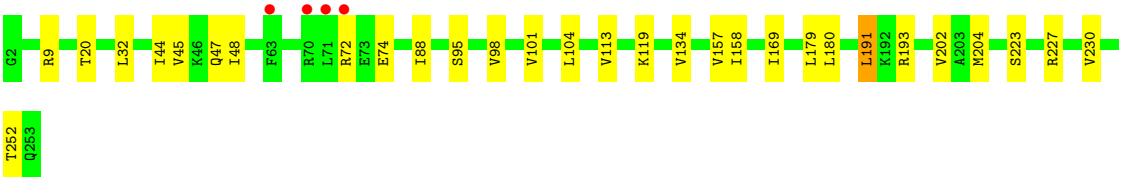




• Molecule 27: 60S ribosomal protein L2-A

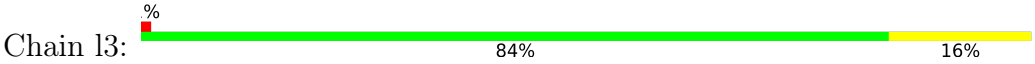
Chain L2:

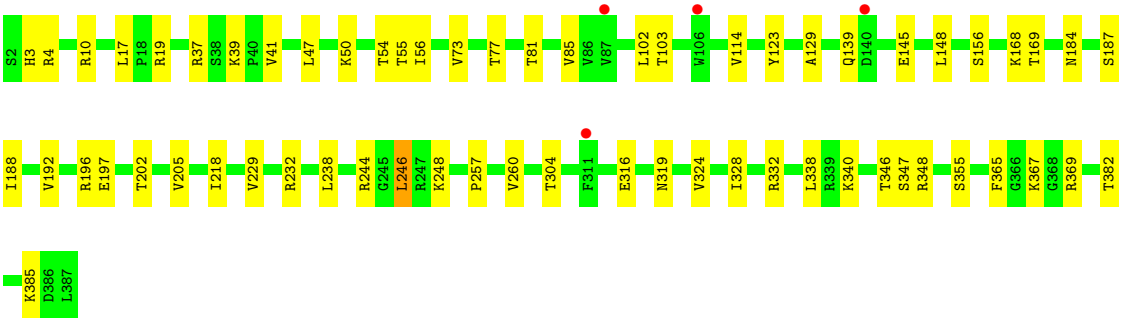




• Molecule 28: 60S ribosomal protein L3

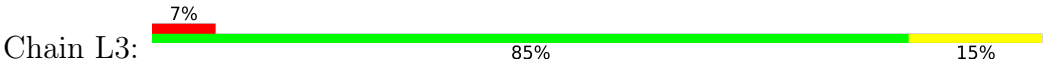
Chain l3:

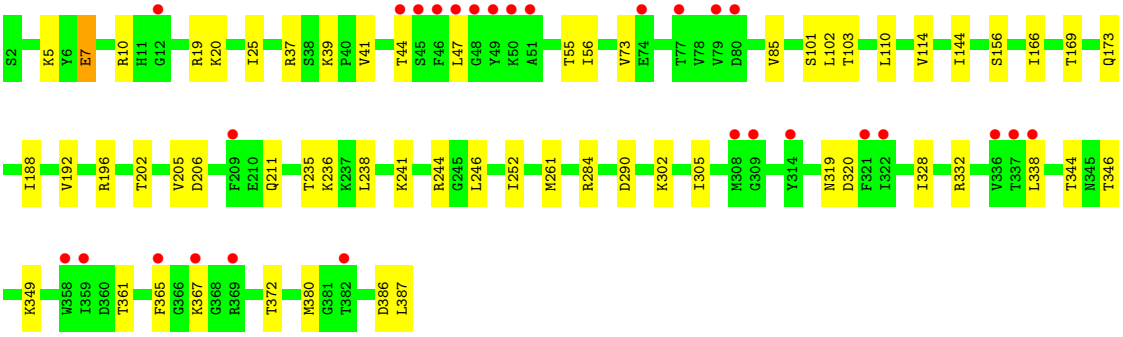




• Molecule 28: 60S ribosomal protein L3

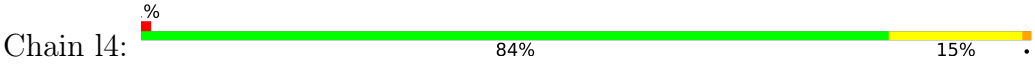
Chain L3:

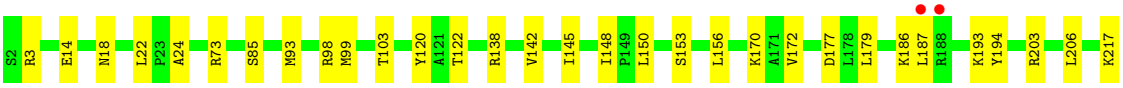


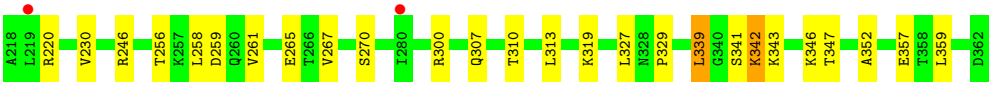


• Molecule 29: 60S ribosomal protein L4-A

Chain l4:

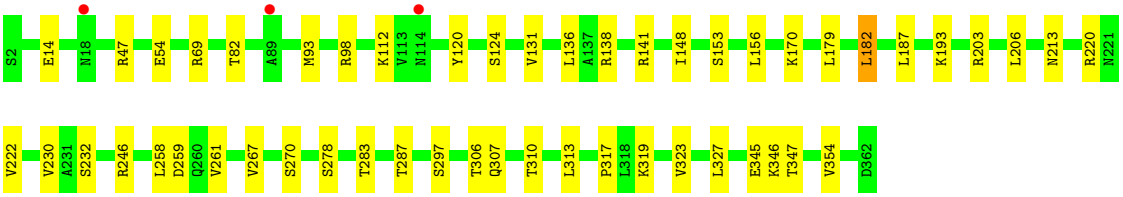






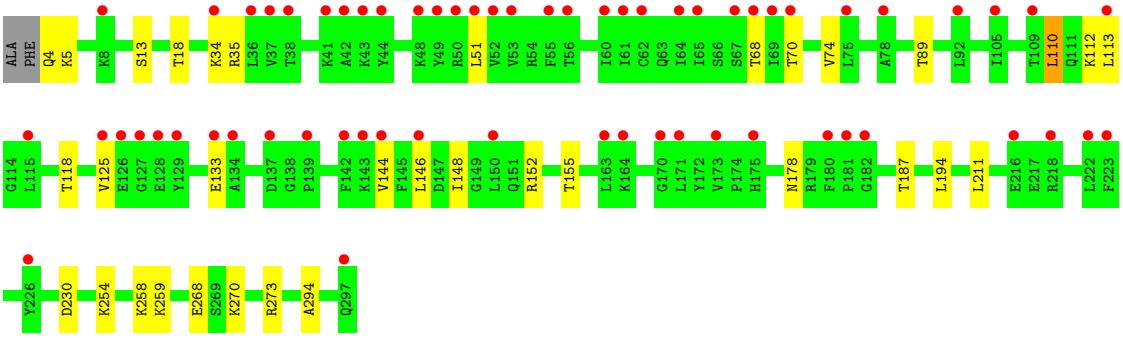
• Molecule 29: 60S ribosomal protein L4-A

Chain L4:



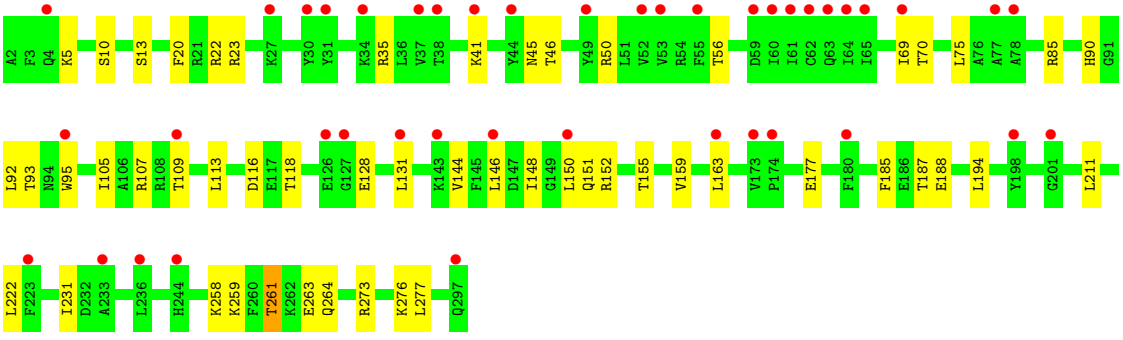
• Molecule 30: 60S ribosomal protein L5

Chain l5:



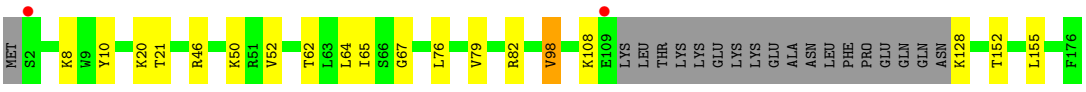
• Molecule 30: 60S ribosomal protein L5

Chain L5:



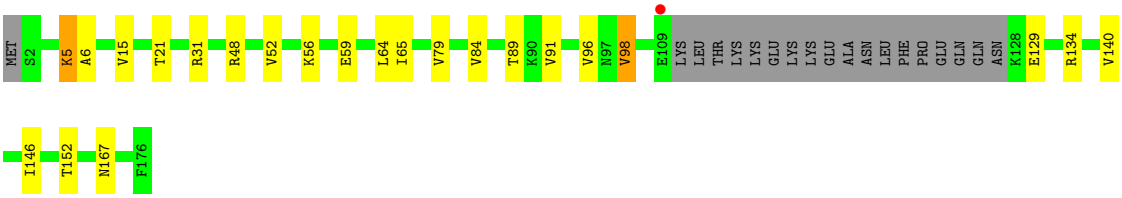
• Molecule 31: 60S ribosomal protein L6-A

Chain l6:



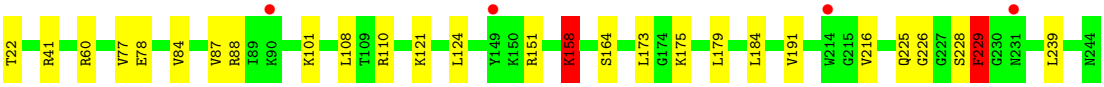
• Molecule 31: 60S ribosomal protein L6-A

Chain L6:



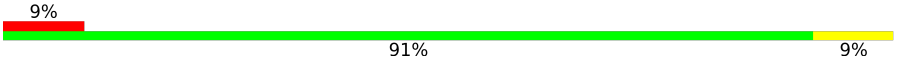
• Molecule 32: 60S ribosomal protein L7-A

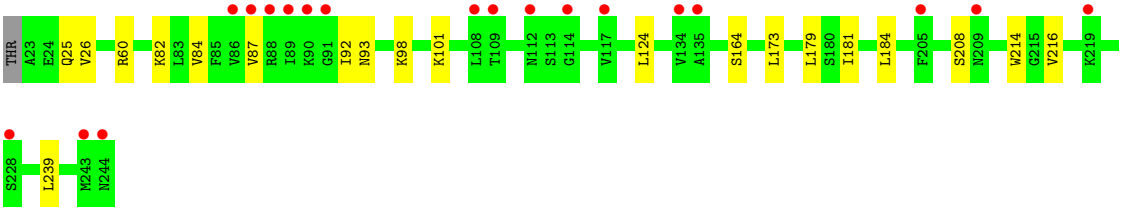
Chain l7:



• Molecule 32: 60S ribosomal protein L7-A

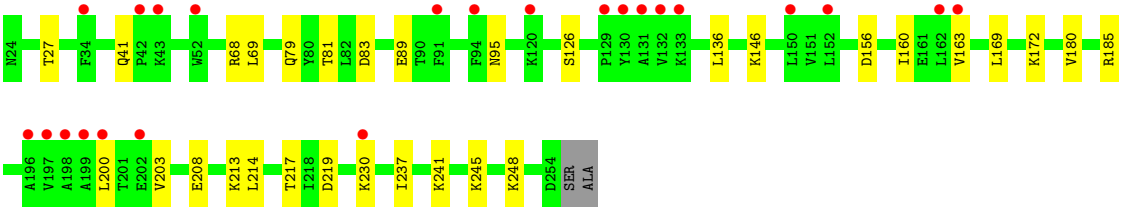
Chain L7:





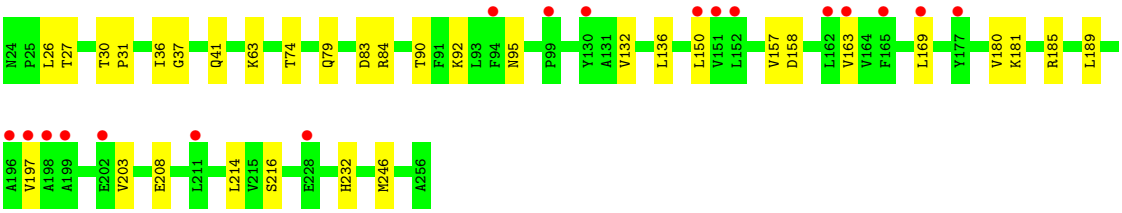
• Molecule 33: 60S ribosomal protein L8-A

Chain l8:



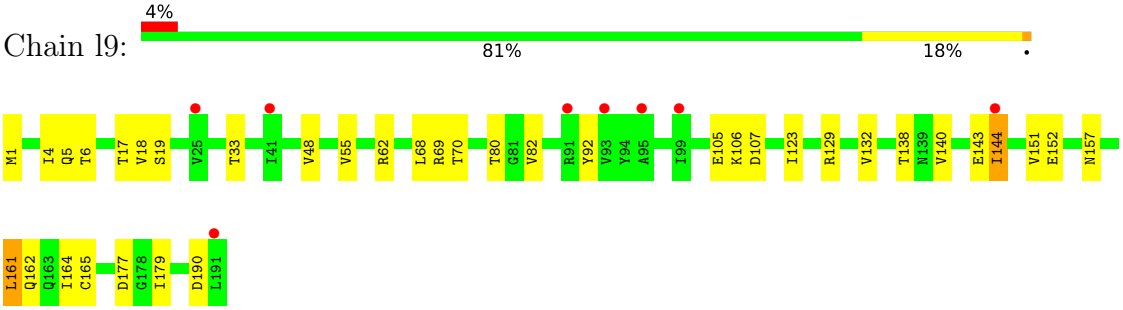
• Molecule 33: 60S ribosomal protein L8-A

Chain L8:



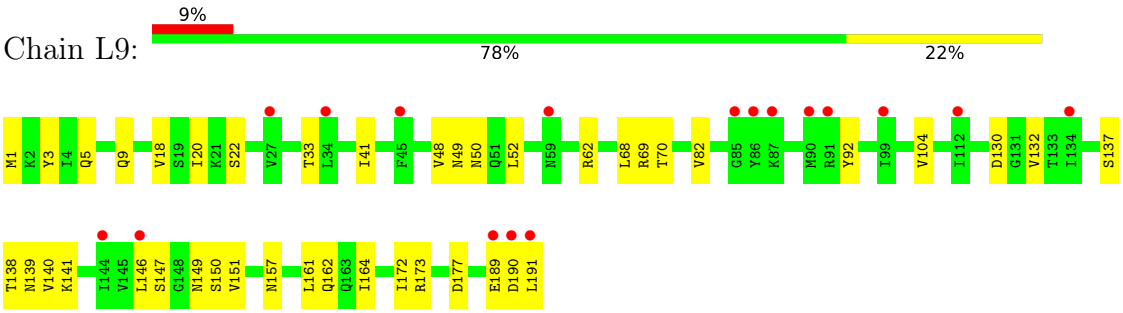
• Molecule 34: 60S ribosomal protein L9-A

Chain l9:



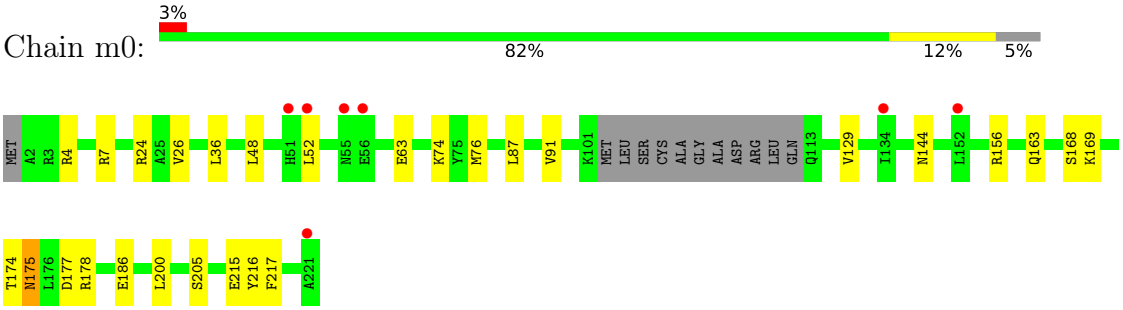
• Molecule 34: 60S ribosomal protein L9-A

Chain L9:



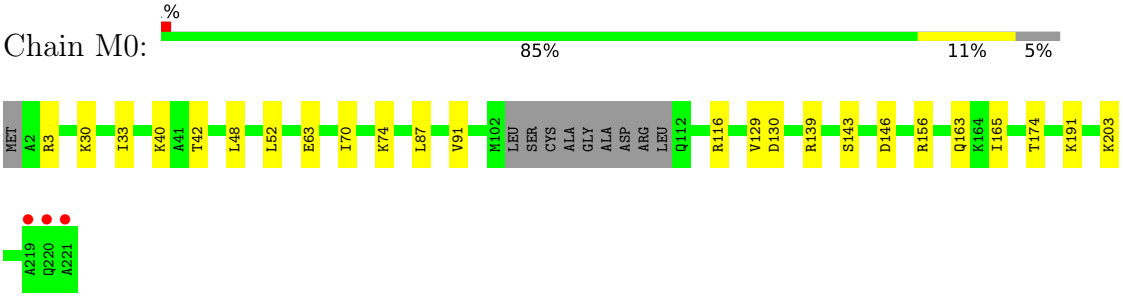
• Molecule 35: 60S ribosomal protein L10

Chain m0:



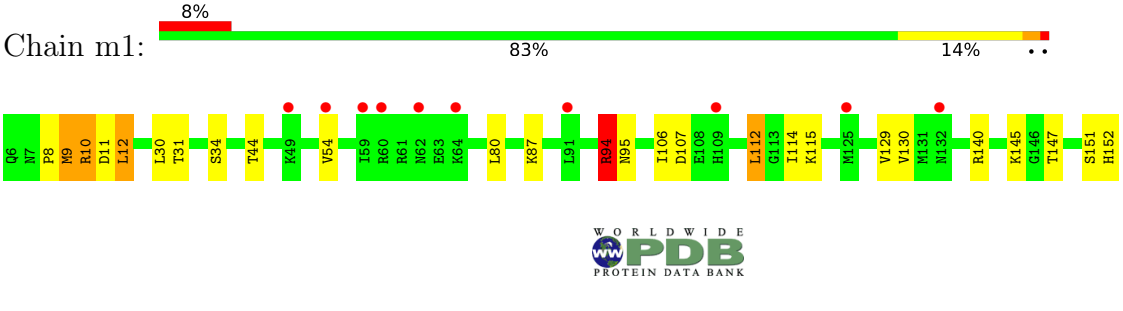
• Molecule 35: 60S ribosomal protein L10

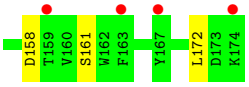
Chain M0:



• Molecule 36: 60S ribosomal protein L11-B

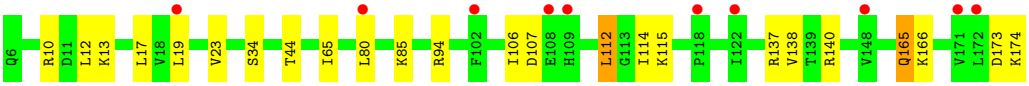
Chain m1:





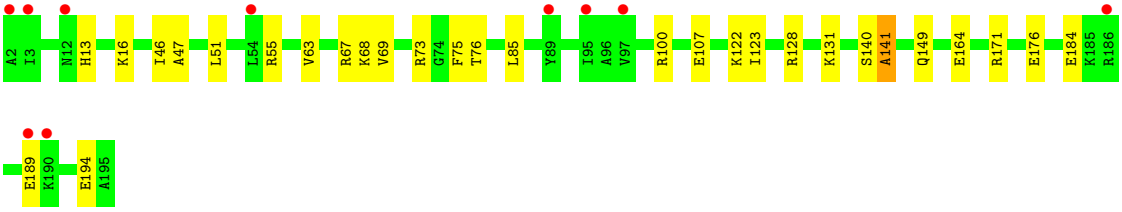
• Molecule 36: 60S ribosomal protein L11-B

Chain M1:



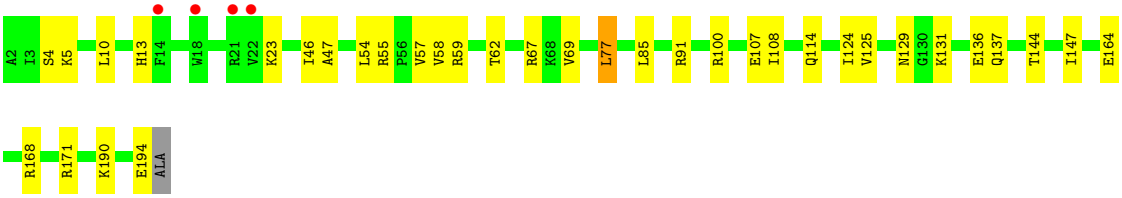
• Molecule 37: 60S ribosomal protein L13-A

Chain m3:



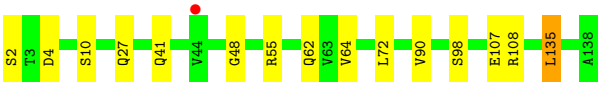
• Molecule 37: 60S ribosomal protein L13-A

Chain M3:



• Molecule 38: 60S ribosomal protein L14-A

Chain m4:

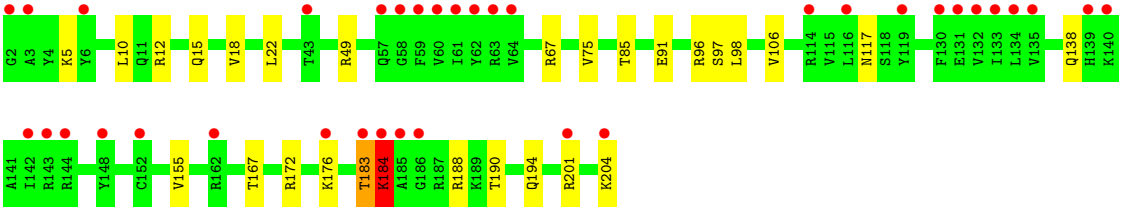


• Molecule 38: 60S ribosomal protein L14-A

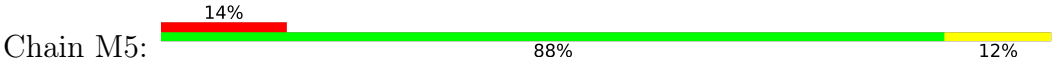
Chain M4:

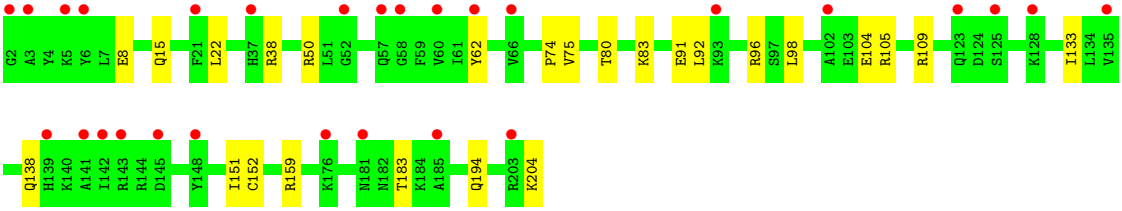
• Molecule 39: 60S ribosomal protein L15-A

Chain m5:

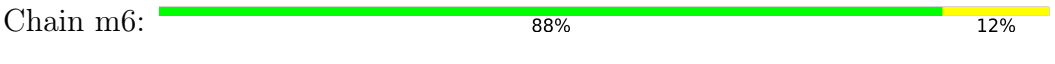


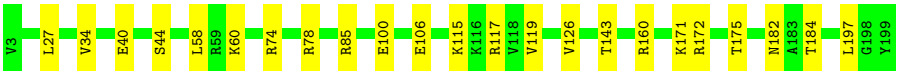
• Molecule 39: 60S ribosomal protein L15-A



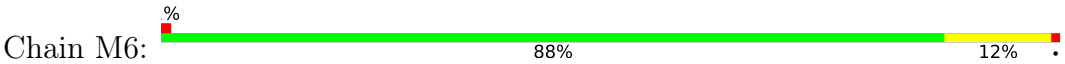


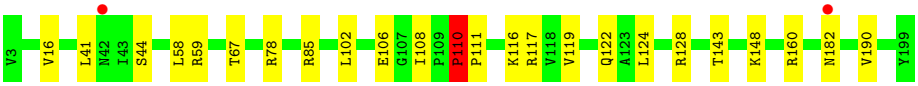
• Molecule 40: 60S ribosomal protein L16-A



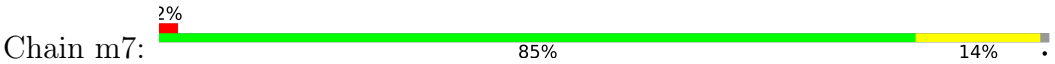


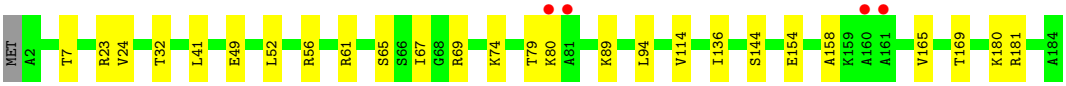
• Molecule 40: 60S ribosomal protein L16-A



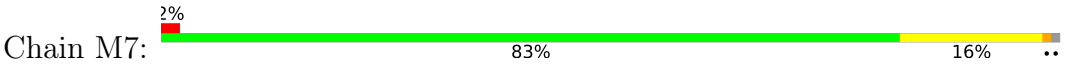


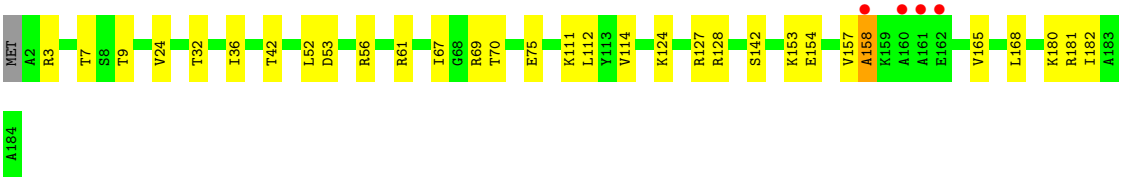
• Molecule 41: 60S ribosomal protein L17-A





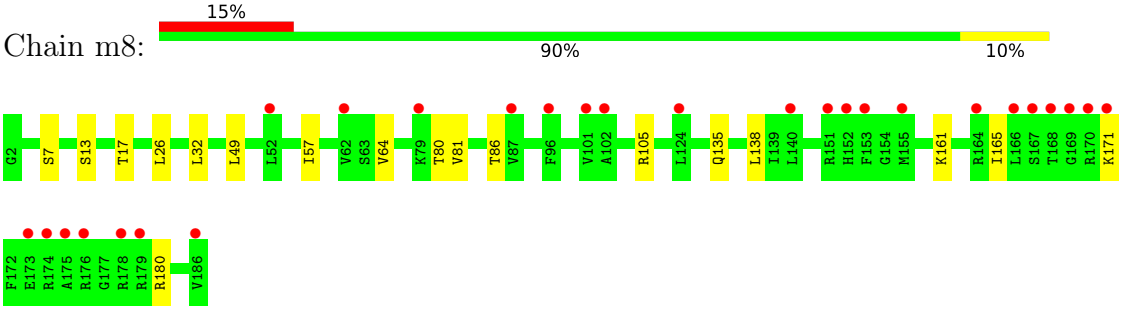
• Molecule 41: 60S ribosomal protein L17-A





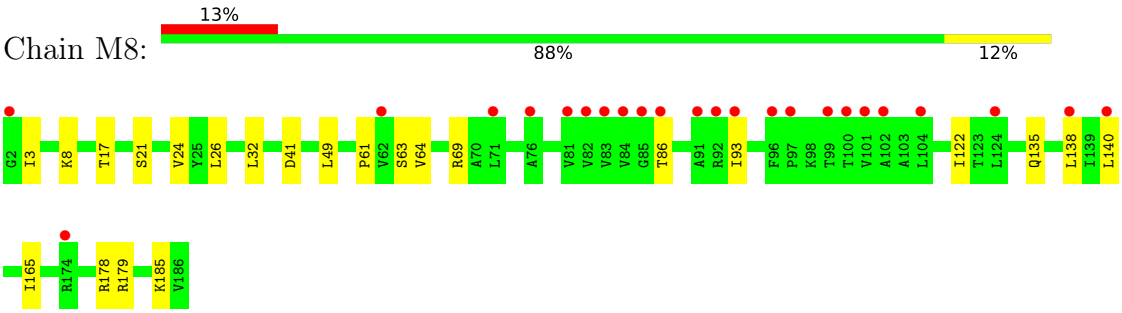
• Molecule 42: 60S ribosomal protein L18-A

Chain m8:



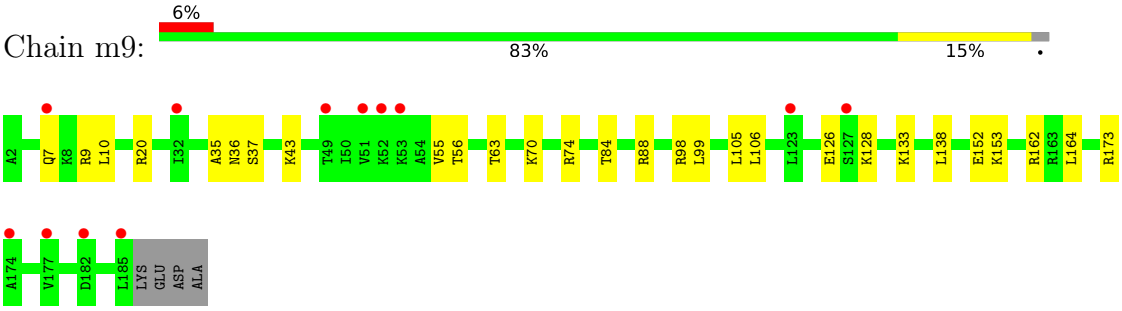
• Molecule 42: 60S ribosomal protein L18-A

Chain M8:



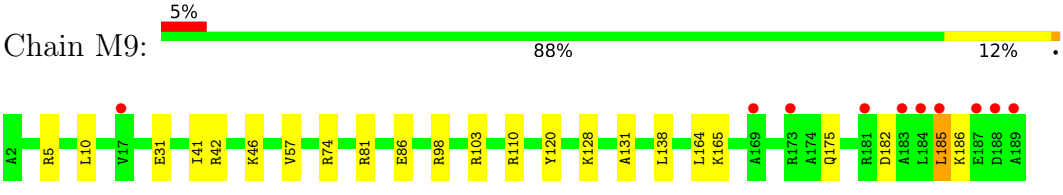
• Molecule 43: 60S ribosomal protein L19-A

Chain m9:



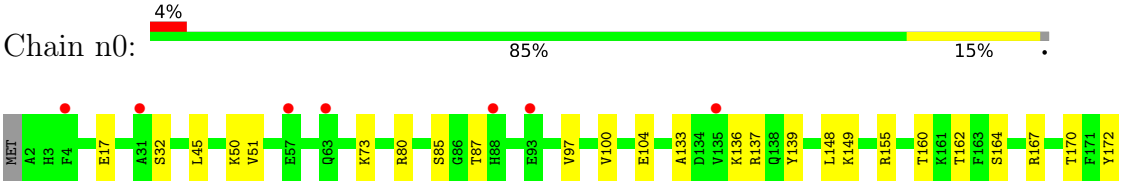
• Molecule 43: 60S ribosomal protein L19-A

Chain M9:



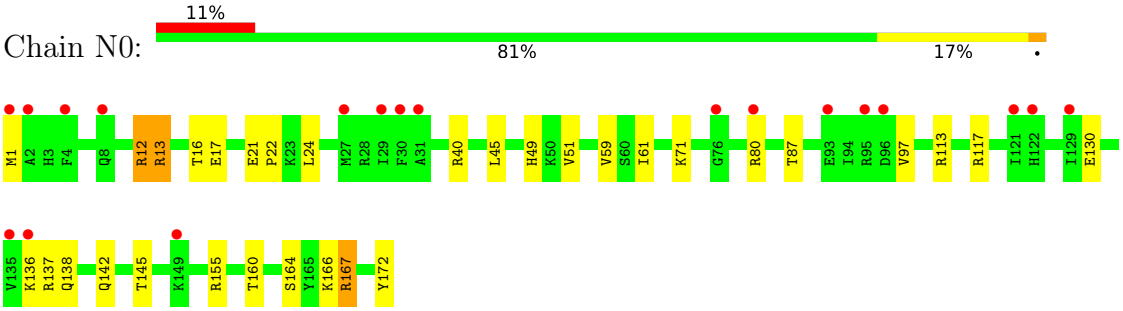
• Molecule 44: 60S ribosomal protein L20-A

Chain n0:



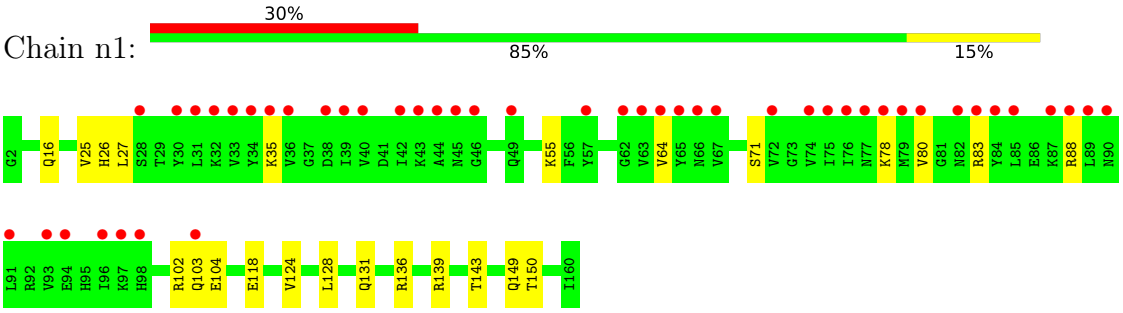
• Molecule 44: 60S ribosomal protein L20-A

Chain N0:



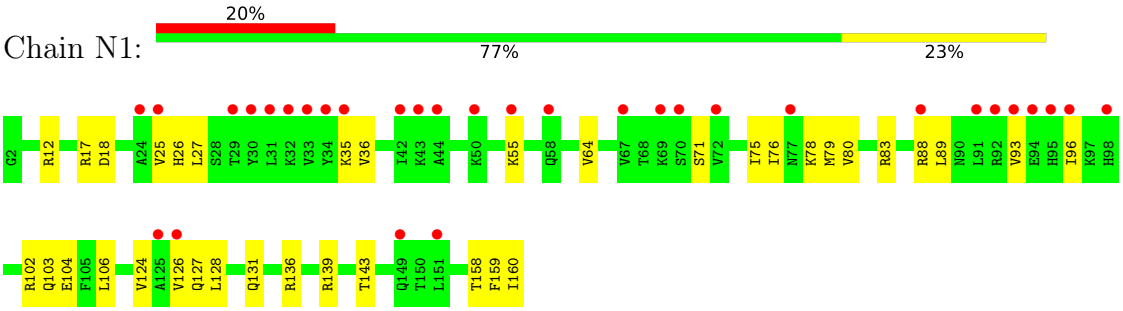
• Molecule 45: 60S ribosomal protein L21-A

Chain n1:



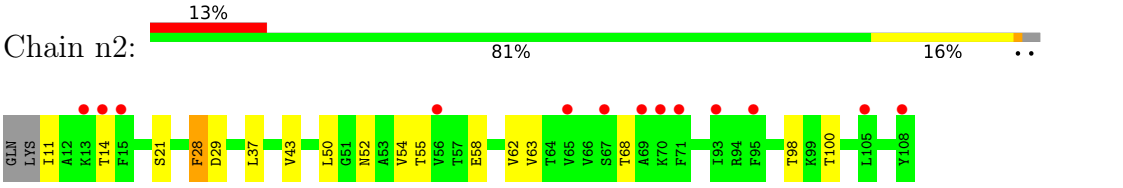
• Molecule 45: 60S ribosomal protein L21-A

Chain N1:



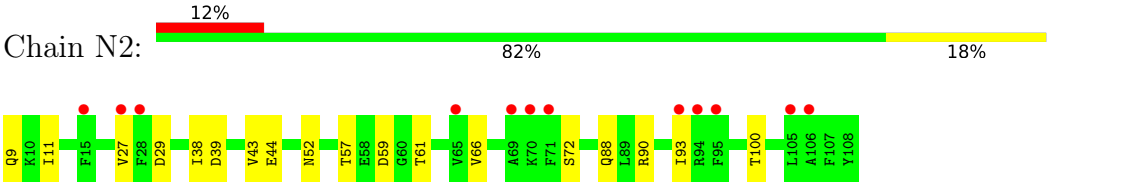
• Molecule 46: 60S ribosomal protein L22-A

Chain n2:



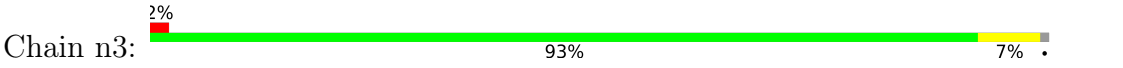
• Molecule 46: 60S ribosomal protein L22-A

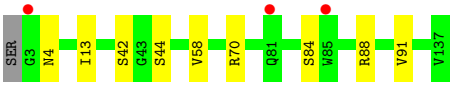
Chain N2:



• Molecule 47: 60S ribosomal protein L23-A

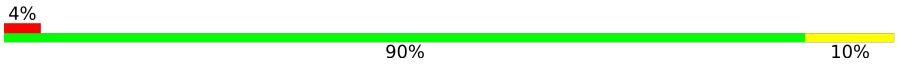
Chain n3:

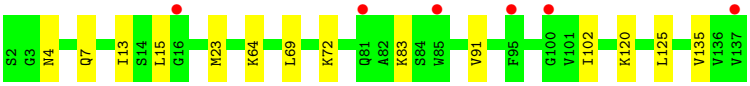




• Molecule 47: 60S ribosomal protein L23-A

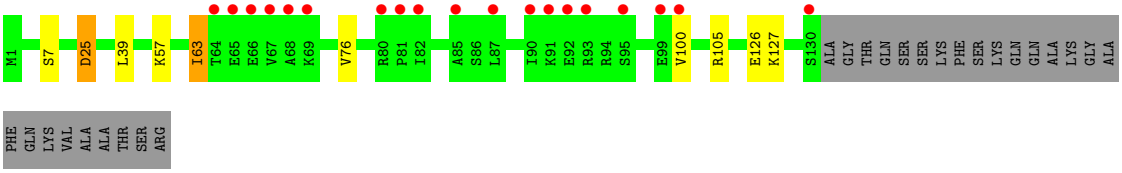
Chain N3:





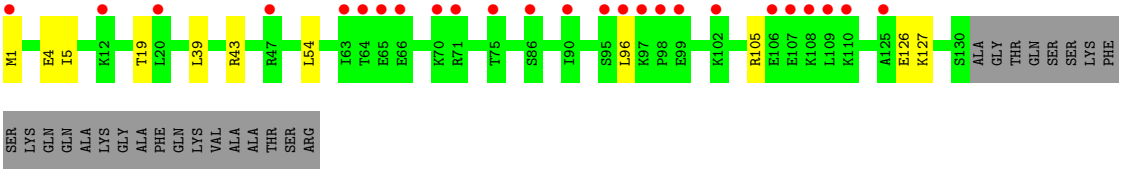
• Molecule 48: 60S ribosomal protein L24-A

Chain n4:



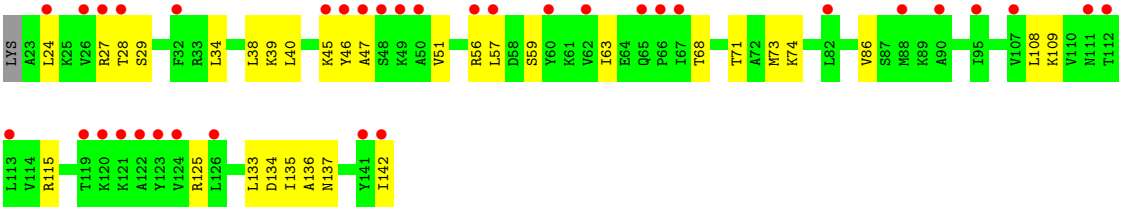
• Molecule 48: 60S ribosomal protein L24-A

Chain N4:



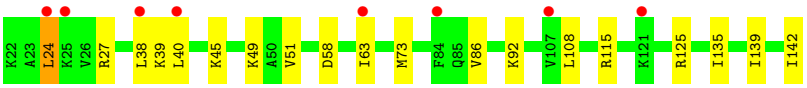
• Molecule 49: 60S ribosomal protein L25

Chain n5:



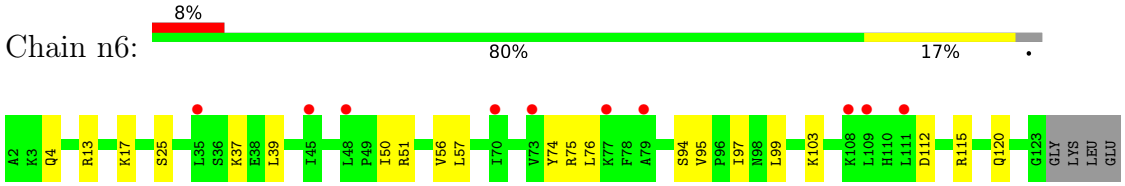
• Molecule 49: 60S ribosomal protein L25

Chain N5:



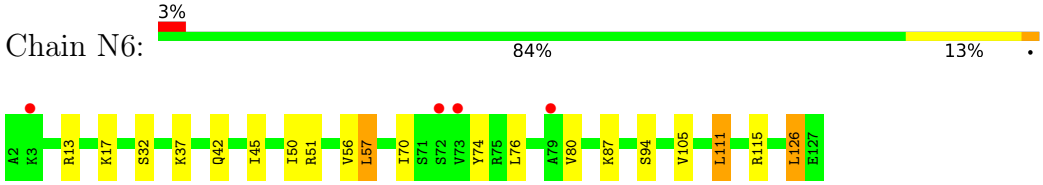
• Molecule 50: 60S ribosomal protein L26-A

Chain n6:



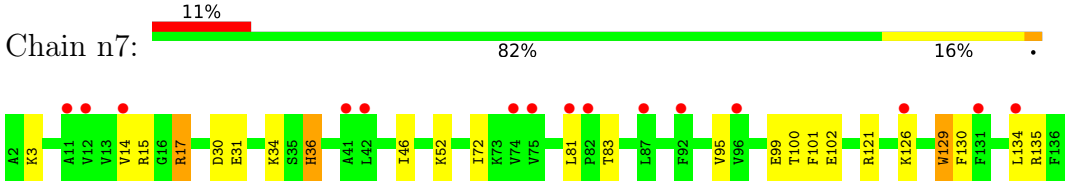
• Molecule 50: 60S ribosomal protein L26-A

Chain N6:



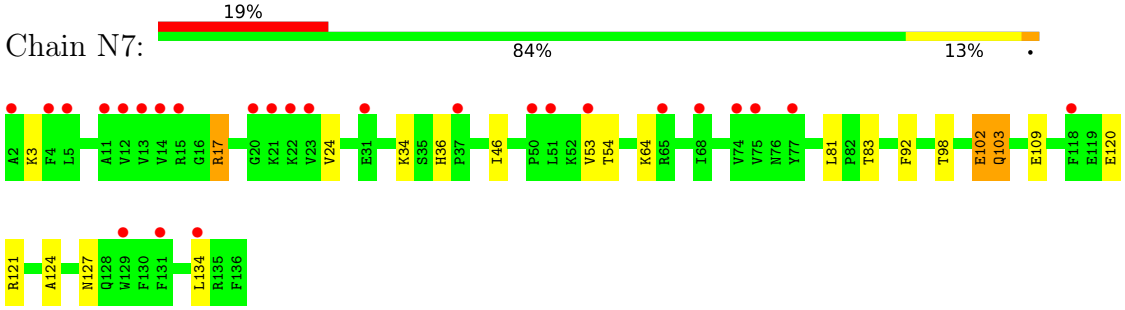
• Molecule 51: 60S ribosomal protein L27-A

Chain n7:



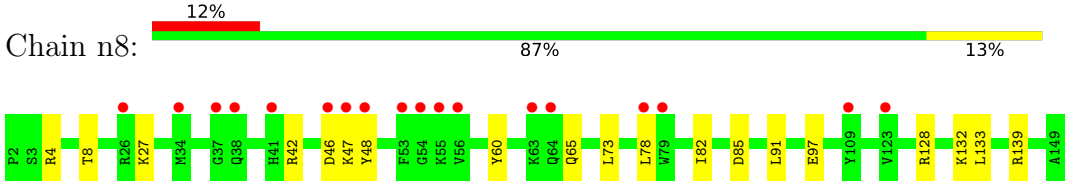
• Molecule 51: 60S ribosomal protein L27-A

Chain N7:



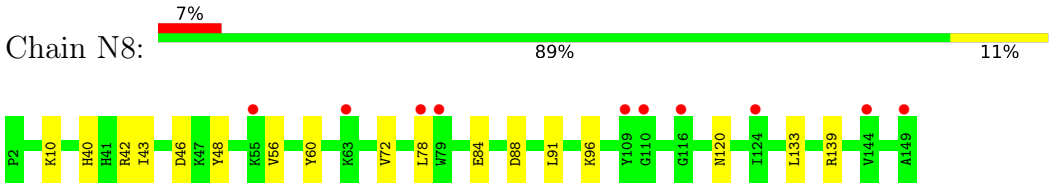
• Molecule 52: 60S ribosomal protein L28

Chain n8:



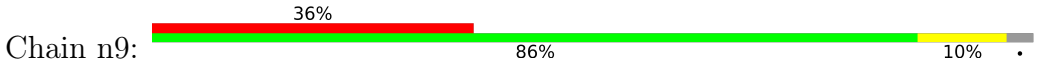
• Molecule 52: 60S ribosomal protein L28

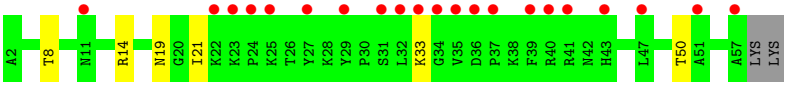
Chain N8:



• Molecule 53: 60S ribosomal protein L29

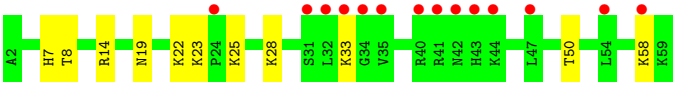
Chain n9:





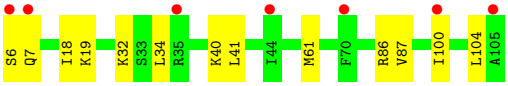
• Molecule 53: 60S ribosomal protein L29

Chain N9:



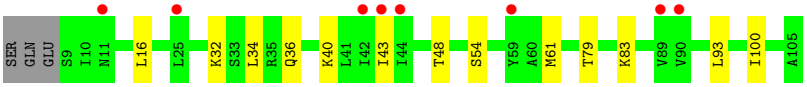
• Molecule 54: 60S ribosomal protein L30

Chain o0:



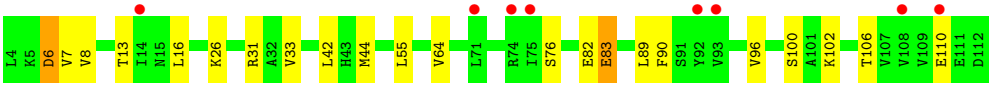
• Molecule 54: 60S ribosomal protein L30

Chain O0:



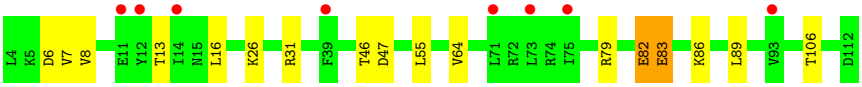
• Molecule 55: 60S ribosomal protein L31-A

Chain o1:



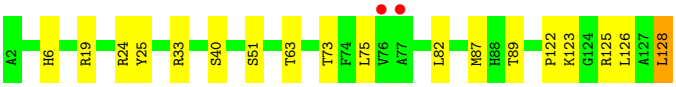
• Molecule 55: 60S ribosomal protein L31-A

Chain O1:



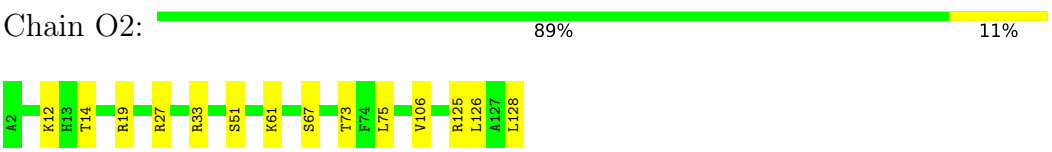
• Molecule 56: 60S ribosomal protein L32

Chain o2:



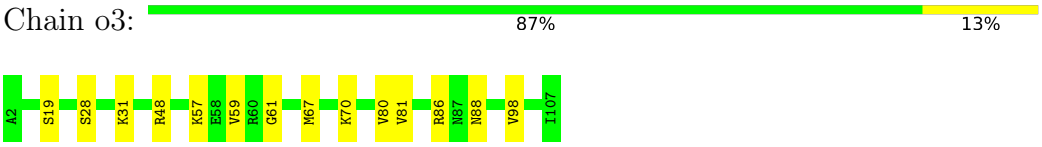
• Molecule 56: 60S ribosomal protein L32

Chain O2:



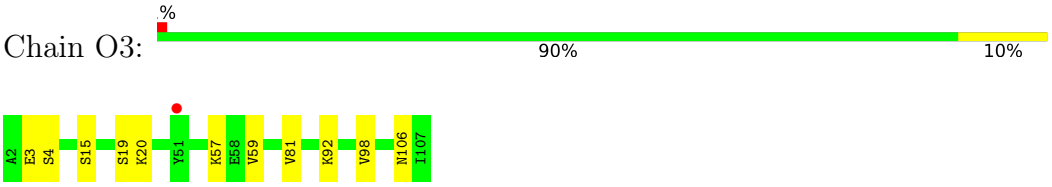
• Molecule 57: 60S ribosomal protein L33-A

Chain o3:



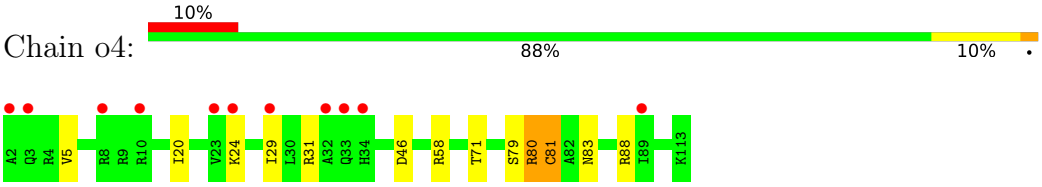
• Molecule 57: 60S ribosomal protein L33-A

Chain O3:



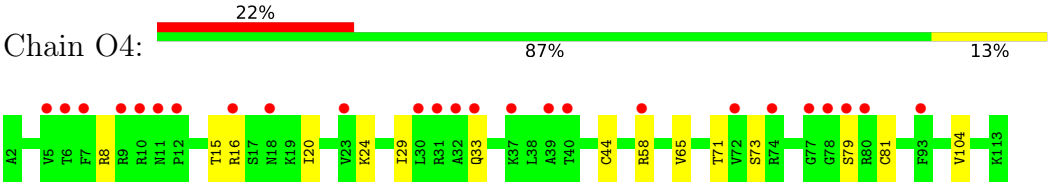
• Molecule 58: 60S ribosomal protein L34-A

Chain o4:



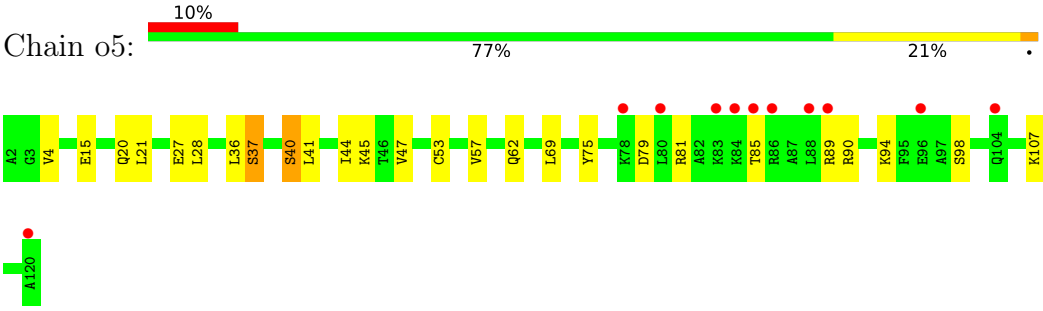
• Molecule 58: 60S ribosomal protein L34-A

Chain O4:



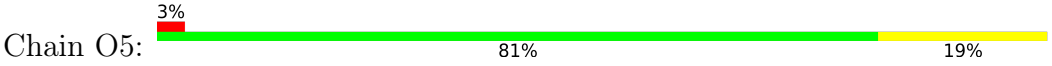
• Molecule 59: 60S ribosomal protein L35-A

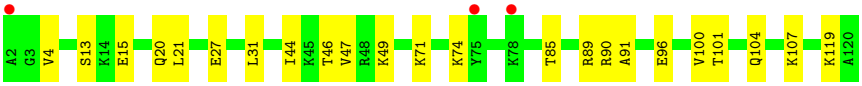
Chain o5:



• Molecule 59: 60S ribosomal protein L35-A

Chain O5:



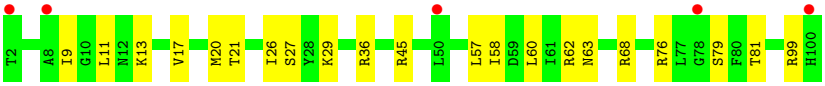


• Molecule 60: 60S ribosomal protein L36-A

Chain o6:

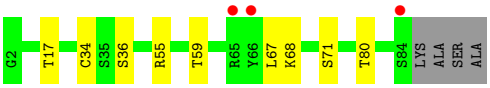
• Molecule 60: 60S ribosomal protein L36-A

Chain O6:



• Molecule 61: 60S ribosomal protein L37-A

Chain o7:

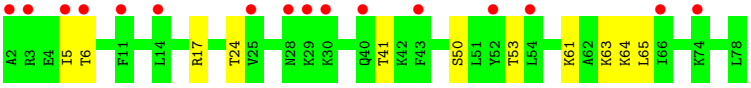


• Molecule 61: 60S ribosomal protein L37-A

Chain O7:

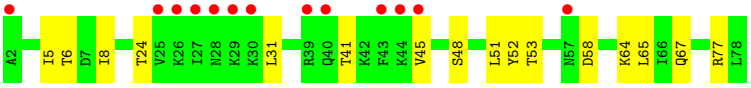
• Molecule 62: 60S ribosomal protein L38

Chain o8:



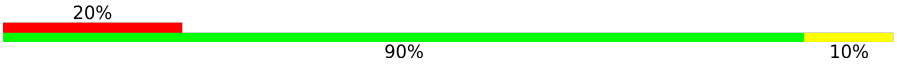
• Molecule 62: 60S ribosomal protein L38

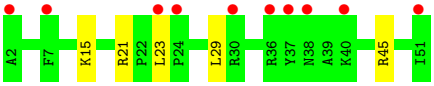
Chain O8:



• Molecule 63: 60S ribosomal protein L39

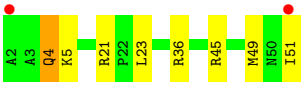
Chain o9:





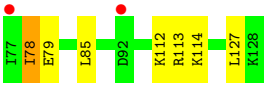
• Molecule 63: 60S ribosomal protein L39

Chain O9:



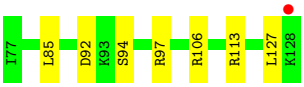
• Molecule 64: Ubiquitin-60S ribosomal protein L40

Chain q0:



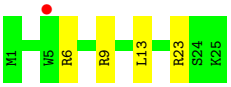
• Molecule 64: Ubiquitin-60S ribosomal protein L40

Chain Q0:



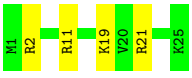
• Molecule 65: 60S ribosomal protein L41-A

Chain q1:



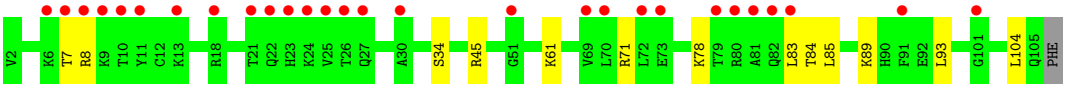
• Molecule 65: 60S ribosomal protein L41-A

Chain Q1:



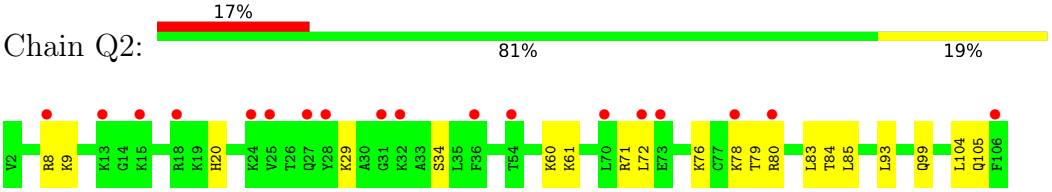
• Molecule 66: 60S ribosomal protein L42-A

Chain q2:



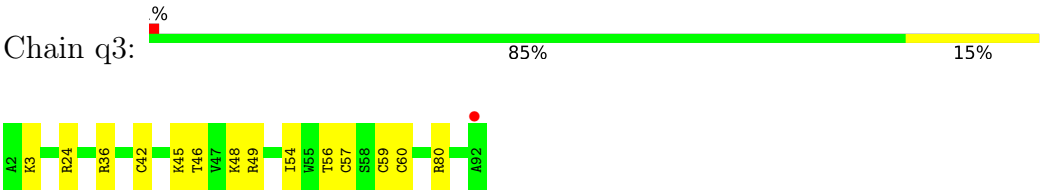
• Molecule 66: 60S ribosomal protein L42-A

Chain Q2:



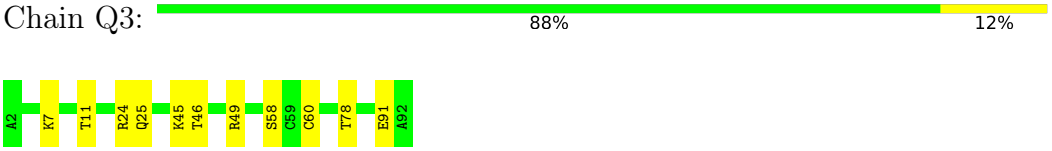
• Molecule 67: 60S ribosomal protein L43-A

Chain q3:



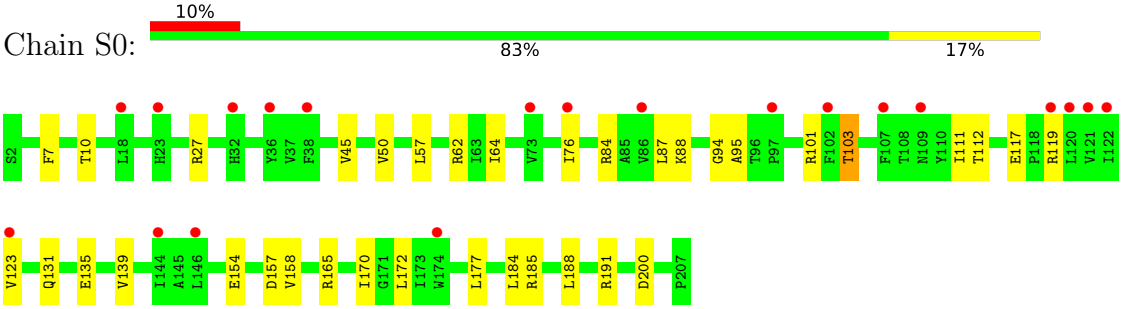
• Molecule 67: 60S ribosomal protein L43-A

Chain Q3:



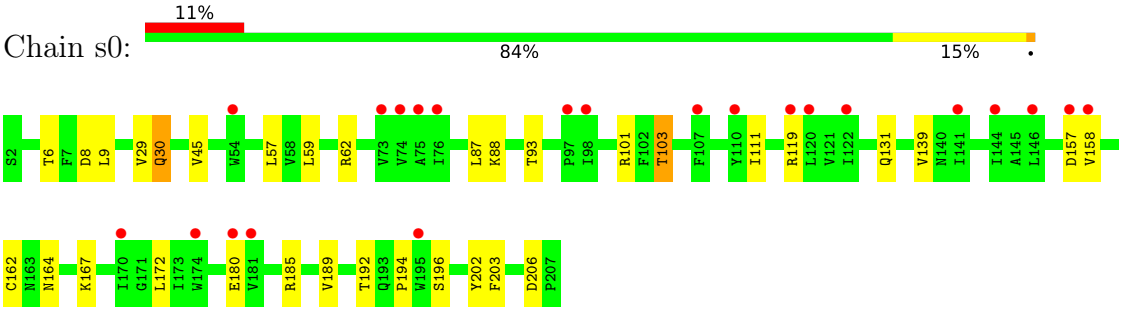
• Molecule 68: 40S ribosomal protein S0-A

Chain S0:



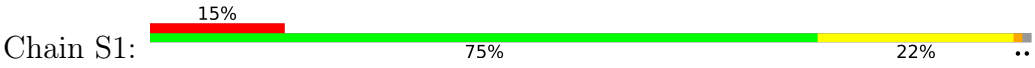
• Molecule 68: 40S ribosomal protein S0-A

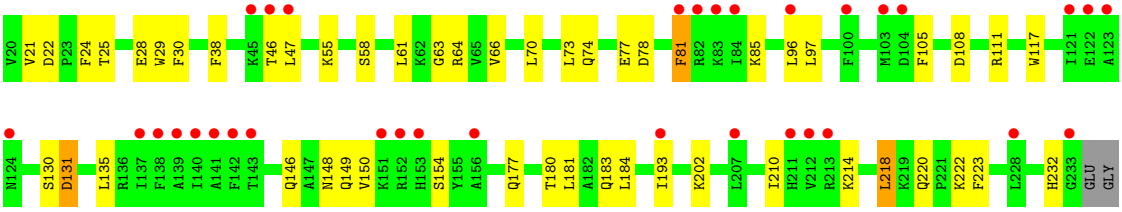
Chain s0:



• Molecule 69: 40S ribosomal protein S1-A

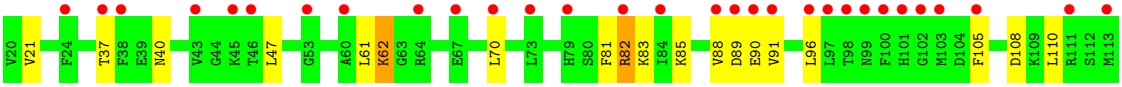
Chain S1:

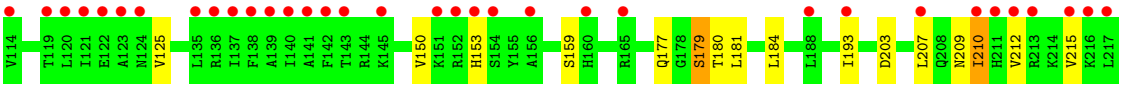




• Molecule 69: 40S ribosomal protein S1-A

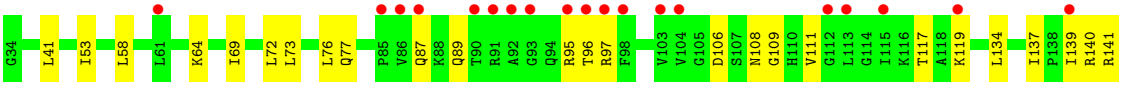
Chain s1:

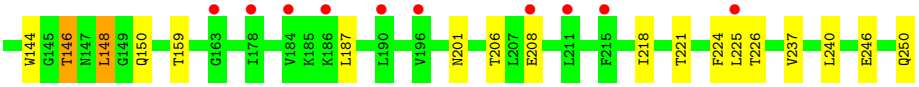




• Molecule 70: 40S ribosomal protein S2

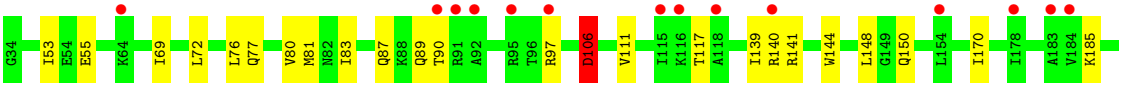
Chain S2:

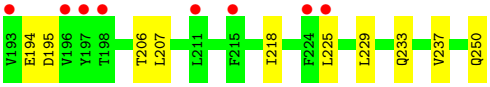




• Molecule 70: 40S ribosomal protein S2

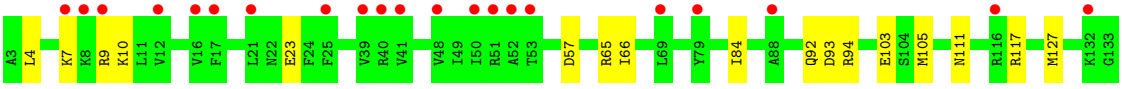
Chain s2:

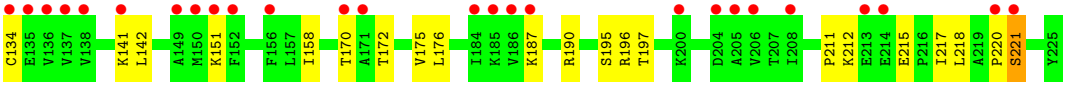




• Molecule 71: 40S ribosomal protein S3

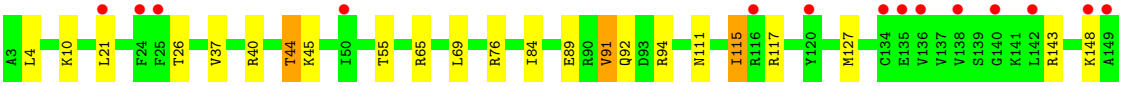
Chain S3:





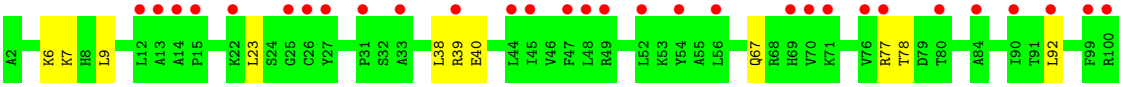
• Molecule 71: 40S ribosomal protein S3

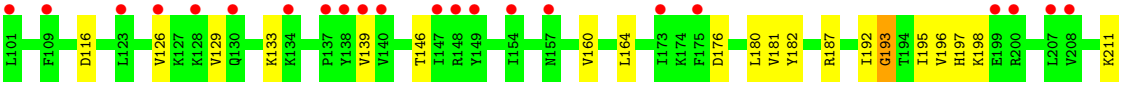
Chain s3:



• Molecule 72: 40S ribosomal protein S4-A

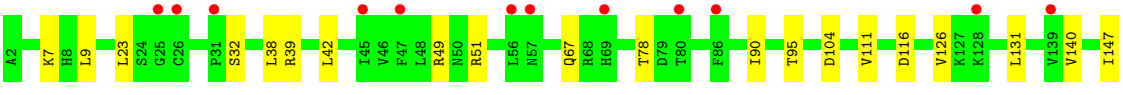
Chain S4:

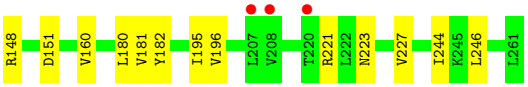




• Molecule 72: 40S ribosomal protein S4-A

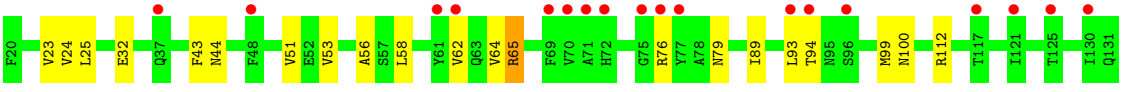
Chain s4:

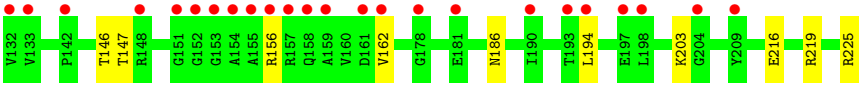




• Molecule 73: 40S ribosomal protein S5

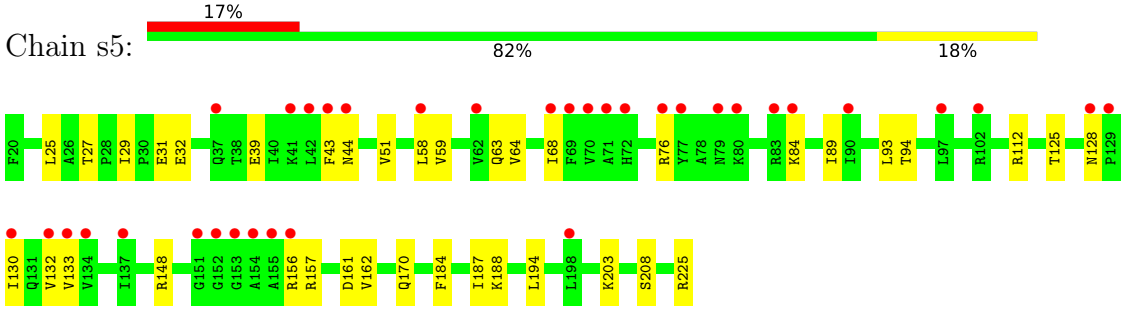
Chain S5:





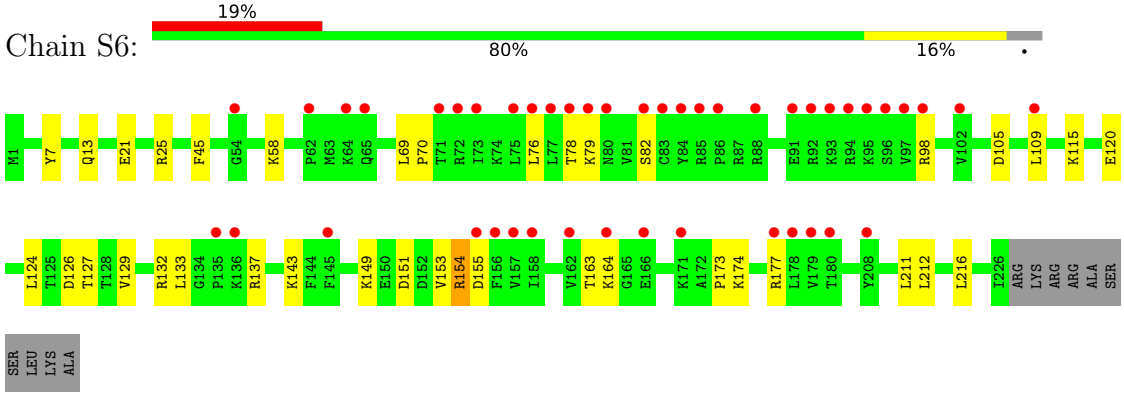
• Molecule 73: 40S ribosomal protein S5

Chain s5:



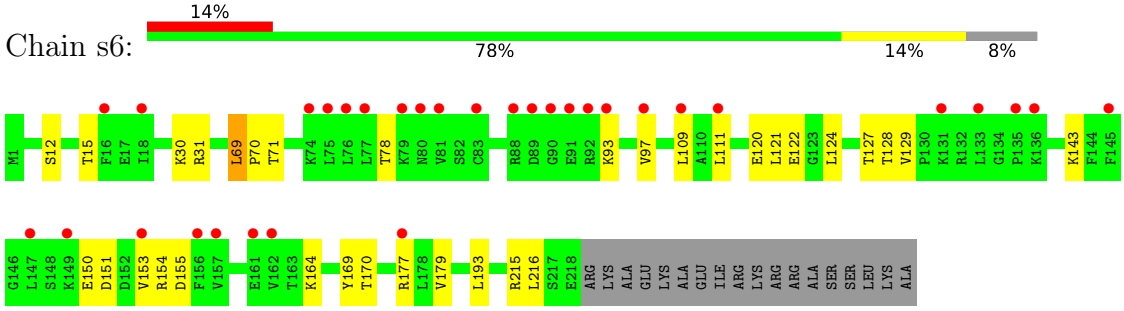
• Molecule 74: 40S ribosomal protein S6-A

Chain S6:



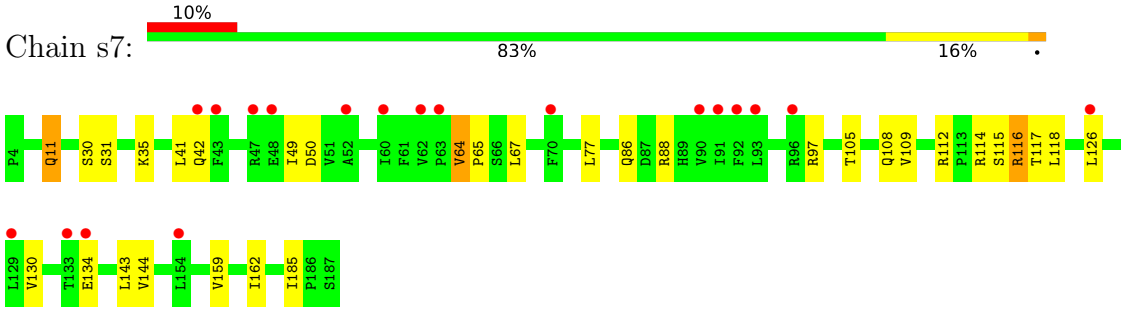
• Molecule 74: 40S ribosomal protein S6-A

Chain s6:



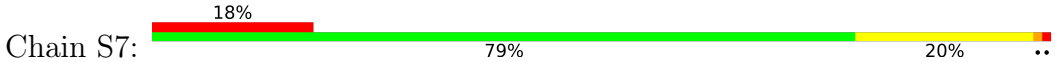
• Molecule 75: 40S ribosomal protein S7-A

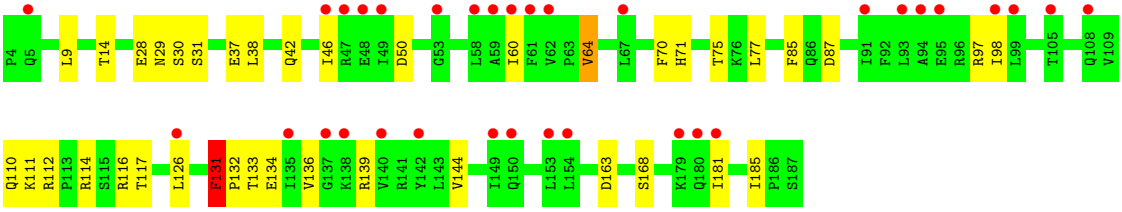
Chain s7:



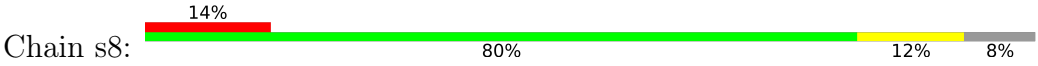
• Molecule 75: 40S ribosomal protein S7-A

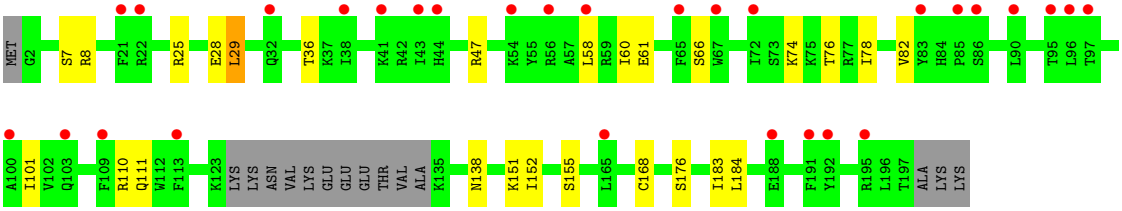
Chain S7:



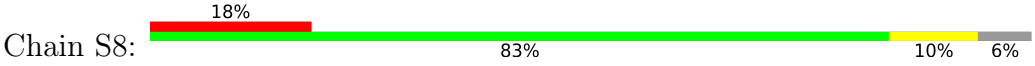


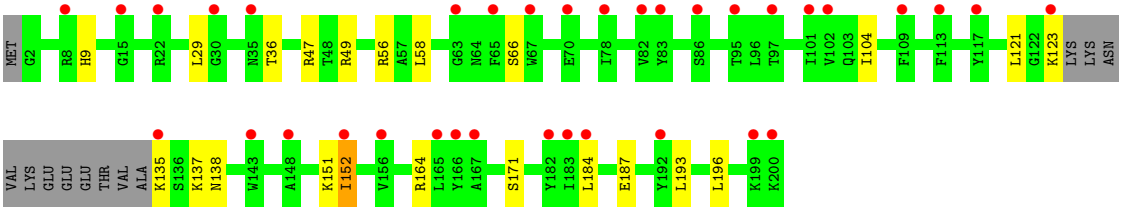
• Molecule 76: 40S ribosomal protein S8-A



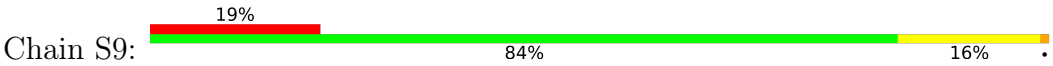


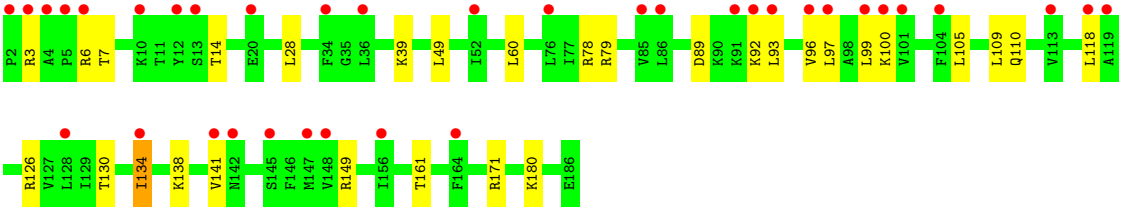
• Molecule 76: 40S ribosomal protein S8-A



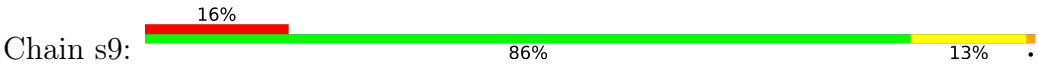


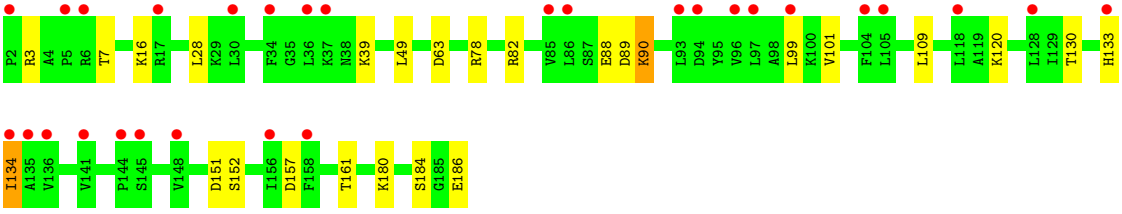
• Molecule 77: 40S ribosomal protein S9-A





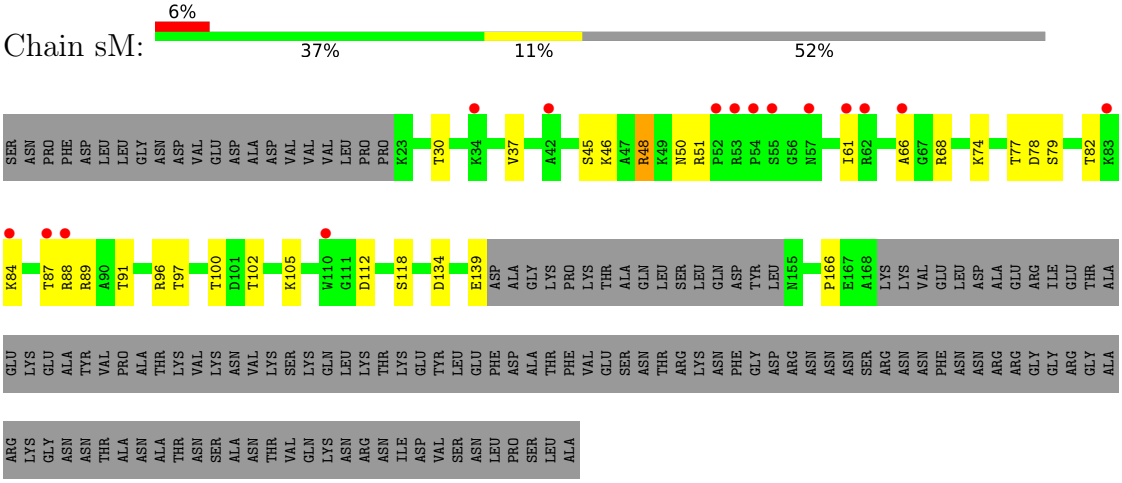
• Molecule 77: 40S ribosomal protein S9-A





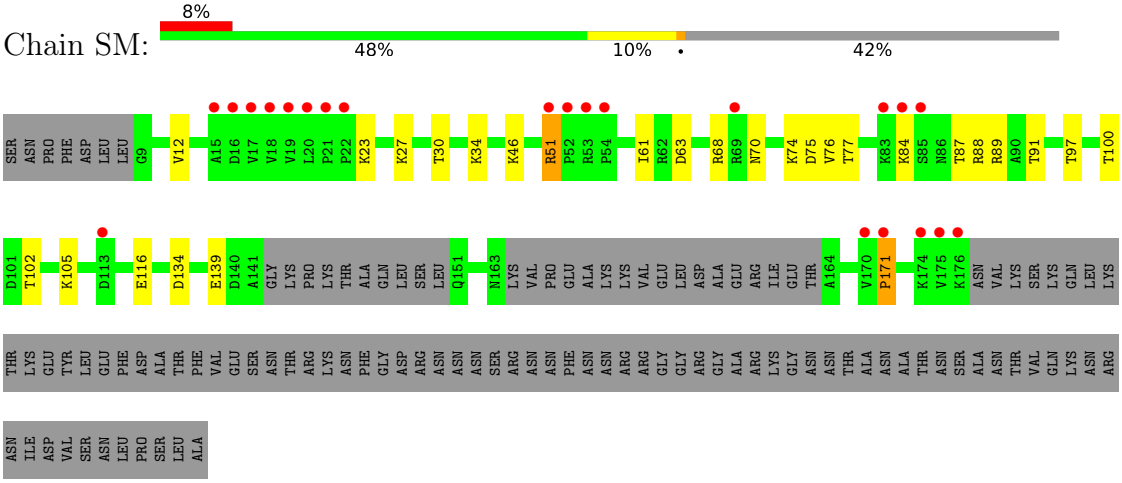
• Molecule 78: Suppressor protein STM1

Chain sM:



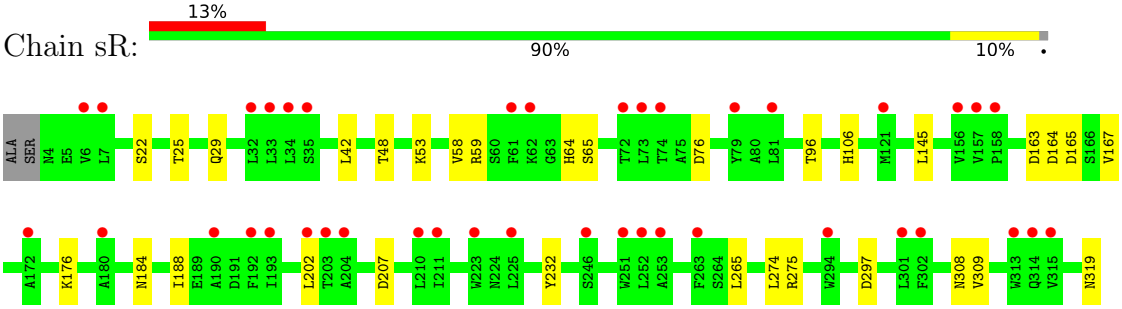
• Molecule 78: Suppressor protein STM1

Chain SM:



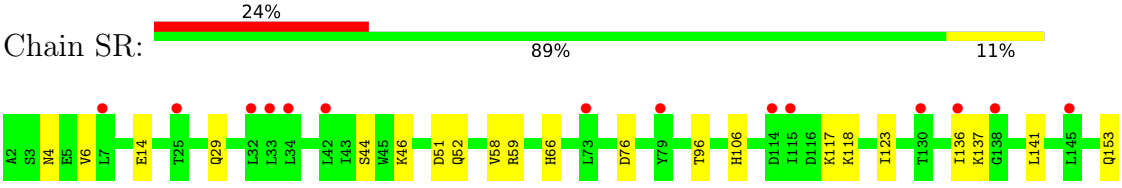
• Molecule 79: Guanine nucleotide-binding protein subunit beta-like protein

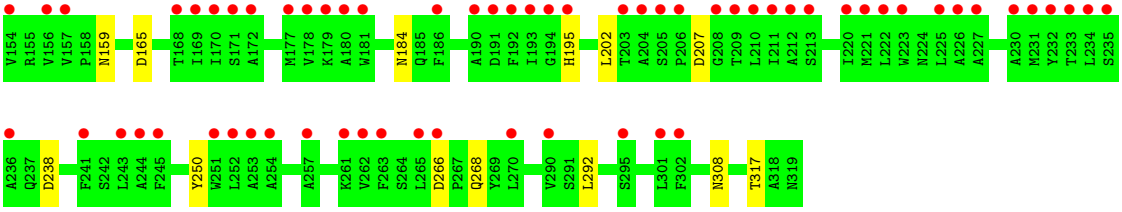
Chain sR:



• Molecule 79: Guanine nucleotide-binding protein subunit beta-like protein

Chain SR:




V154 R155 V156 V157 P158 N159 D165 T168 I169 I170 S171 A172 M177 V178 K179 A180 W181 N184 Q185 F186 A190 D191 F192 I193 G194 H195 L202 T203 A204 S205 P206 D207 G208 T209 L210 I211 A212 S213 I220 M221 L222 W223 N224 L225 A226 A227 A230 M231 Y232 T233 L234 S235
A236 Q237 D238 F241 S242 L243 A244 F245 Y250 W251 L252 A253 A254 A257 K261 V262 F263 S264 L265 D266 P267 Q268 Y269 L270 V290 S291 L292 S295 L301 F302 N308 T317 A318 N319

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	442.14Å 298.76Å 299.77Å 90.00° 99.49° 90.00°	Depositor
Resolution (Å)	147.83 – 3.70 147.83 – 3.70	Depositor EDS
% Data completeness (in resolution range)	99.9 (147.83-3.70) 92.7 (147.83-3.70)	Depositor EDS
R_{merge}	0.30	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.75 (at 3.67Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.192 , 0.235 0.192 , 0.235	Depositor DCC
R_{free} test set	16291 reflections (2.00%)	wwPDB-VP
Wilson B-factor (Å^2)	118.6	Xtriage
Anisotropy	0.323	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.28 , 98.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	400111	wwPDB-VP
Average B, all atoms (Å^2)	150.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.42% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, 8UZ, MG

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	1	0.92	42/73963 (0.1%)	1.53	1261/115306 (1.1%)
1	5	0.84	20/73738 (0.0%)	1.45	984/114951 (0.9%)
2	2	0.68	6/42154 (0.0%)	1.30	354/65680 (0.5%)
2	6	0.68	4/41349 (0.0%)	1.29	326/64423 (0.5%)
3	3	0.81	0/2883	1.42	33/4491 (0.7%)
3	7	0.66	0/2883	1.16	10/4491 (0.2%)
4	4	0.84	0/3746	1.47	52/5832 (0.9%)
4	8	0.81	0/3746	1.44	41/5832 (0.7%)
5	C0	0.39	0/789	0.66	1/1067 (0.1%)
5	c0	0.35	0/762	0.68	2/1029 (0.2%)
6	C1	0.51	0/1233	0.69	1/1665 (0.1%)
6	c1	0.49	0/1194	0.69	0/1610
7	C2	0.36	0/873	0.71	1/1185 (0.1%)
7	c2	0.35	0/898	0.67	0/1220
8	C3	0.46	0/1215	0.66	0/1638
8	c3	0.44	0/1215	0.60	0/1638
9	C4	0.41	0/901	0.71	2/1217 (0.2%)
9	c4	0.37	0/960	0.61	0/1290
10	C5	0.48	1/998 (0.1%)	0.63	0/1341
10	c5	0.42	0/1008	0.68	0/1353
11	C6	0.49	1/1125 (0.1%)	0.66	1/1510 (0.1%)
11	c6	0.56	1/1125 (0.1%)	0.64	0/1510
12	C7	0.40	0/935	0.73	2/1254 (0.2%)
12	c7	0.40	0/935	0.62	0/1255
13	C8	0.45	0/1211	0.71	1/1628 (0.1%)
13	c8	0.43	0/1211	0.69	1/1628 (0.1%)
14	C9	0.41	0/1130	0.63	1/1517 (0.1%)
14	c9	0.42	0/1130	0.60	0/1517
15	D0	0.42	0/851	0.64	1/1150 (0.1%)
15	d0	0.40	0/838	0.62	0/1133
16	D1	0.50	0/693	0.66	0/935
16	d1	0.46	0/693	0.63	0/935

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	D2	0.44	0/1038	0.70	4/1395 (0.3%)
17	d2	0.44	0/1038	0.65	1/1395 (0.1%)
18	D3	0.52	0/1139	0.73	0/1518
18	d3	0.48	0/1139	0.70	0/1518
19	D4	0.41	0/1087	0.63	1/1449 (0.1%)
19	d4	0.42	0/1087	0.68	0/1449
20	D5	0.41	0/571	0.71	0/768
20	d5	0.35	0/566	0.63	1/761 (0.1%)
21	D6	0.50	0/782	0.82	2/1047 (0.2%)
21	d6	0.42	0/782	0.63	0/1047
22	D7	0.36	0/620	0.65	1/838 (0.1%)
22	d7	0.40	0/620	0.66	0/838
23	D8	0.40	0/499	0.63	0/670
23	d8	0.68	1/499 (0.2%)	0.66	1/670 (0.1%)
24	D9	0.57	0/443	0.70	0/588
24	d9	0.54	0/452	0.72	1/600 (0.2%)
25	E0	0.43	0/483	0.66	0/643
25	e0	0.45	0/490	0.67	0/653
26	E1	0.46	0/577	0.88	3/770 (0.4%)
26	e1	0.42	0/597	0.81	1/795 (0.1%)
27	L2	0.53	0/1948	0.73	1/2617 (0.0%)
27	l2	0.55	0/1946	0.71	0/2614
28	L3	0.60	2/3146 (0.1%)	0.71	0/4228
28	l3	0.58	0/3146	0.71	1/4228 (0.0%)
29	L4	0.57	0/2800	0.75	0/3790
29	l4	0.53	0/2800	0.71	1/3790 (0.0%)
30	L5	0.50	0/2425	0.65	0/3271
30	l5	0.38	0/2408	0.55	1/3248 (0.0%)
31	L6	0.59	0/1269	0.72	0/1705
31	l6	0.59	0/1269	0.70	0/1705
32	L7	0.57	1/1821 (0.1%)	0.67	0/2451
32	l7	0.55	0/1828	0.67	1/2461 (0.0%)
33	L8	0.47	1/1836 (0.1%)	0.62	0/2481
33	l8	0.41	0/1796	0.61	1/2430 (0.0%)
34	L9	0.54	0/1539	0.70	1/2073 (0.0%)
34	l9	0.54	0/1539	0.70	1/2073 (0.0%)
35	M0	0.59	0/1741	0.74	0/2335
35	m0	0.53	0/1732	0.69	0/2323
36	M1	0.46	0/1374	0.69	1/1842 (0.1%)
36	m1	0.37	0/1374	0.61	1/1842 (0.1%)
37	M3	0.54	1/1568 (0.1%)	0.70	0/2106
37	m3	0.49	0/1573	0.68	1/2113 (0.0%)
38	M4	0.50	0/1068	0.64	0/1438

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	m4	0.53	0/1074	0.68	1/1446 (0.1%)
39	M5	0.58	2/1757 (0.1%)	0.70	0/2354
39	m5	0.51	0/1757	0.71	0/2354
40	M6	0.66	0/1585	0.69	0/2128
40	m6	0.70	0/1585	0.74	1/2128 (0.0%)
41	M7	0.59	0/1443	0.76	0/1944
41	m7	0.59	0/1443	0.75	0/1944
42	M8	0.50	0/1465	0.71	0/1965
42	m8	0.45	0/1465	0.65	0/1965
43	M9	0.48	0/1538	0.65	1/2050 (0.0%)
43	m9	0.45	0/1507	0.60	0/2009
44	N0	0.57	0/1481	0.69	1/1990 (0.1%)
44	n0	0.56	0/1473	0.66	0/1980
45	N1	0.51	0/1300	0.65	0/1743
45	n1	0.49	0/1300	0.60	0/1743
46	N2	0.46	0/812	0.64	0/1099
46	n2	0.41	0/794	0.57	1/1076 (0.1%)
47	N3	0.62	0/1018	0.73	1/1369 (0.1%)
47	n3	0.60	0/1012	0.75	0/1361
48	N4	0.50	0/978	0.60	0/1302
48	n4	0.49	0/1021	0.60	0/1356
49	N5	0.48	0/979	0.69	0/1321
49	n5	0.48	0/974	0.72	0/1314
50	N6	0.55	0/1004	0.76	3/1341 (0.2%)
50	n6	0.57	1/974 (0.1%)	0.73	0/1302
51	N7	0.47	1/1118 (0.1%)	0.60	0/1497
51	n7	0.77	1/1118 (0.1%)	0.62	0/1497
52	N8	0.54	0/1204	0.74	0/1612
52	n8	0.49	0/1204	0.71	0/1612
53	N9	0.52	0/473	0.65	0/629
53	n9	0.43	0/455	0.68	0/607
54	O0	0.46	0/751	0.63	0/1008
54	o0	0.41	0/775	0.62	1/1040 (0.1%)
55	O1	0.58	0/890	0.70	0/1196
55	o1	0.56	0/897	0.69	0/1205
56	O2	0.57	0/1041	0.74	0/1394
56	o2	0.56	0/1041	0.74	1/1394 (0.1%)
57	O3	0.62	0/868	0.78	0/1168
57	o3	0.66	0/868	0.76	1/1168 (0.1%)
58	O4	0.48	0/890	0.64	0/1189
58	o4	0.45	0/890	0.62	0/1189
59	O5	0.52	0/978	0.66	0/1301
59	o5	0.56	2/974 (0.2%)	0.65	0/1297

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
60	O6	0.48	0/778	0.66	0/1034
60	o6	0.46	0/777	0.65	0/1033
61	O7	0.65	2/696 (0.3%)	0.79	0/923
61	o7	0.60	0/671	0.76	0/890
62	O8	0.44	0/618	0.59	0/826
62	o8	0.42	0/614	0.59	0/822
63	O9	0.56	0/443	0.75	0/588
63	o9	0.51	0/443	0.64	0/588
64	Q0	0.60	0/423	0.78	0/562
64	q0	0.59	0/423	0.77	0/562
65	Q1	0.59	0/234	0.77	0/300
65	q1	0.55	0/234	0.69	0/300
66	Q2	0.54	0/860	0.75	0/1136
66	q2	0.45	0/848	0.61	0/1120
67	Q3	0.59	0/701	0.68	0/934
67	q3	0.48	0/701	0.70	0/934
68	S0	0.42	0/1617	0.61	0/2215
68	s0	0.42	1/1623 (0.1%)	0.62	0/2222
69	S1	0.39	0/1735	0.68	2/2335 (0.1%)
69	s1	0.36	0/1748	0.62	0/2352
70	S2	0.44	0/1665	0.66	0/2263
70	s2	0.43	0/1665	0.63	0/2263
71	S3	0.45	0/1759	0.60	0/2368
71	s3	0.42	0/1759	0.62	0/2368
72	S4	0.41	0/2109	0.66	1/2839 (0.0%)
72	s4	0.43	0/2109	0.67	0/2839
73	S5	0.38	0/1629	0.58	0/2202
73	s5	0.42	0/1629	0.60	0/2202
74	S6	0.40	0/1823	0.57	0/2439
74	s6	0.43	0/1779	0.61	0/2379
75	S7	0.42	0/1506	0.68	1/2028 (0.0%)
75	s7	0.39	0/1506	0.68	1/2028 (0.0%)
76	S8	0.44	0/1514	0.65	1/2021 (0.0%)
76	s8	0.46	0/1491	0.65	1/1992 (0.1%)
77	S9	0.41	0/1519	0.61	0/2035
77	s9	0.42	0/1519	0.61	1/2035 (0.0%)
78	SM	0.44	0/1113	0.70	2/1502 (0.1%)
78	sM	0.43	0/964	0.67	2/1291 (0.2%)
79	SR	0.33	0/2490	0.57	0/3389
79	sR	0.37	0/2480	0.59	1/3376 (0.0%)
All	All	0.70	91/425229 (0.0%)	1.19	3127/623929 (0.5%)

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
5	c0	0	1
7	C2	0	2
7	c2	0	1
9	C4	0	2
9	c4	0	1
10	C5	0	1
10	c5	0	3
11	C6	0	2
11	c6	0	1
12	C7	0	3
12	c7	0	3
13	C8	0	1
13	c8	0	1
15	d0	0	3
17	D2	0	1
17	d2	0	1
18	D3	0	1
19	D4	0	2
20	D5	0	3
20	d5	0	2
21	D6	0	3
22	D7	0	1
24	d9	0	1
25	e0	0	1
26	E1	0	4
26	e1	0	6
27	l2	0	3
28	L3	0	3
28	l3	0	1
29	L4	0	1
29	l4	0	3
30	L5	0	1
30	l5	0	2
31	l6	0	1
32	l7	0	2
33	L8	0	1
34	L9	0	1
36	m1	0	3
37	M3	0	1
37	m3	0	1

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
38	m4	0	1
39	m5	0	2
40	M6	0	1
41	M7	0	2
43	M9	0	1
44	N0	0	3
44	n0	0	2
48	n4	0	1
50	n6	0	1
51	N7	0	2
51	n7	0	1
53	N9	0	1
53	n9	0	1
55	O1	0	1
55	o1	0	2
56	o2	0	1
58	o4	0	2
59	O5	0	1
60	O6	0	1
66	Q2	0	1
67	q3	0	1
68	S0	0	2
69	S1	0	2
70	S2	0	2
70	s2	0	2
71	S3	0	1
71	s3	0	4
72	S4	0	1
73	S5	0	4
73	s5	0	1
74	s6	0	1
75	S7	0	4
75	s7	0	4
77	s9	0	3
78	SM	0	1
79	SR	0	1
All	All	0	137

All (91) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
51	n7	36	HIS	C-N	20.49	1.73	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	d8	5	THR	C-N	12.69	1.58	1.34
11	c6	4	VAL	C-N	10.62	1.54	1.34
1	5	1103	A	N9-C4	9.38	1.43	1.37
1	1	2093	A	N9-C4	8.68	1.43	1.37
10	C5	67	ALA	C-N	7.60	1.48	1.34
1	5	2401	A	N3-C4	7.42	1.39	1.34
1	1	2983	C	N1-C6	-7.26	1.32	1.37
11	C6	124	PRO	C-N	7.20	1.50	1.34
33	L8	158	ASP	C-N	-7.10	1.20	1.34
50	n6	99	LEU	C-N	-7.07	1.17	1.34
1	1	3012	A	N9-C4	-7.04	1.33	1.37
37	M3	125	VAL	C-N	-6.98	1.18	1.34
1	5	2872	A	N9-C4	6.93	1.42	1.37
1	1	1302	A	N9-C4	-6.93	1.33	1.37
1	1	1654	A	N9-C4	-6.92	1.33	1.37
1	1	1858	A	N9-C4	6.80	1.42	1.37
1	1	2911	A	N9-C4	-6.70	1.33	1.37
2	2	1749	A	N9-C4	-6.64	1.33	1.37
1	1	2820	A	N9-C4	-6.53	1.33	1.37
1	1	1589	A	N9-C4	-6.51	1.33	1.37
1	5	1839	A	N9-C4	-6.45	1.33	1.37
2	2	1746	A	N9-C4	-6.44	1.33	1.37
2	2	541	A	N9-C4	6.41	1.41	1.37
61	O7	62	GLY	C-O	-6.38	1.13	1.23
1	1	3209	A	C5-C4	6.31	1.43	1.38
1	5	1196	C	C4-C5	6.28	1.48	1.43
59	o5	37	SER	C-N	6.19	1.48	1.34
39	M5	152	CYS	CB-SG	-6.12	1.71	1.82
1	1	2853	A	N9-C4	-6.00	1.34	1.37
1	1	1907	C	N1-C6	-5.96	1.33	1.37
1	1	895	A	C5-C6	-5.96	1.35	1.41
1	5	1221	A	N9-C4	5.94	1.41	1.37
28	L3	7	GLU	CB-CG	5.94	1.63	1.52
2	6	541	A	N9-C4	5.93	1.41	1.37
1	1	1911	A	N7-C5	-5.91	1.35	1.39
1	5	1412	G	N7-C5	-5.90	1.35	1.39
1	5	1412	G	C5-C6	-5.87	1.36	1.42
1	1	3142	A	N9-C4	-5.81	1.34	1.37
1	1	1524	A	N9-C4	-5.80	1.34	1.37
1	1	2811	A	C5-C4	-5.74	1.34	1.38
1	1	895	A	N7-C5	-5.73	1.35	1.39
1	1	2693	C	N1-C6	-5.73	1.33	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	1452	A	N9-C4	-5.71	1.34	1.37
1	1	1330	A	N9-C4	-5.61	1.34	1.37
1	5	2363	A	N9-C4	-5.59	1.34	1.37
1	1	284	A	N7-C5	-5.58	1.35	1.39
1	1	2139	A	N9-C4	-5.58	1.34	1.37
1	5	1152	G	N9-C4	-5.56	1.33	1.38
1	5	2911	A	N9-C4	-5.56	1.34	1.37
28	L3	7	GLU	CG-CD	5.55	1.60	1.51
2	6	992	A	N9-C4	-5.52	1.34	1.37
1	1	2932	U	C2-N3	-5.49	1.33	1.37
1	1	2702	A	N7-C5	-5.49	1.35	1.39
2	6	234	G	N9-C4	5.48	1.42	1.38
59	o5	75	TYR	C-N	5.47	1.46	1.34
1	1	2377	G	C6-N1	-5.41	1.35	1.39
1	5	1343	A	N9-C4	-5.41	1.34	1.37
32	L7	214	TRP	CB-CG	-5.41	1.40	1.50
1	1	660	A	N9-C4	-5.39	1.34	1.37
1	1	1319	G	C6-N1	-5.35	1.35	1.39
61	O7	62	GLY	CA-C	5.35	1.60	1.51
1	1	397	A	C6-N1	-5.34	1.31	1.35
1	5	2401	A	C5-C4	5.34	1.42	1.38
1	1	810	A	N7-C5	-5.34	1.36	1.39
51	N7	36	HIS	C-N	5.26	1.44	1.34
2	2	966	A	N9-C4	-5.25	1.34	1.37
1	5	2601	A	N9-C4	-5.21	1.34	1.37
1	1	1911	A	C5-C6	-5.20	1.36	1.41
39	M5	8	GLU	CG-CD	5.18	1.59	1.51
1	5	94	G	N9-C4	-5.18	1.33	1.38
1	1	2625	C	N3-C4	-5.17	1.30	1.33
1	1	60	A	N9-C4	-5.17	1.34	1.37
2	2	1732	A	N9-C4	-5.15	1.34	1.37
1	1	1322	U	C4-O4	5.15	1.27	1.23
1	1	817	A	N9-C4	5.14	1.41	1.37
1	5	336	A	N9-C4	-5.14	1.34	1.37
1	1	1432	C	N1-C6	-5.14	1.34	1.37
68	s0	192	THR	C-N	5.14	1.45	1.34
1	1	2391	G	C6-N1	-5.13	1.35	1.39
1	1	1399	A	N9-C4	-5.10	1.34	1.37
1	5	920	A	C5-C6	-5.08	1.36	1.41
1	5	1152	G	C6-N1	5.08	1.43	1.39
1	1	806	A	N9-C4	-5.08	1.34	1.37
1	1	2679	A	C5-C6	-5.07	1.36	1.41

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	2635	A	N9-C4	5.05	1.40	1.37
1	5	2968	G	C5-C6	-5.04	1.37	1.42
1	1	1839	A	N9-C4	-5.04	1.34	1.37
1	1	1882	G	C6-N1	-5.04	1.36	1.39
2	6	803	A	N9-C4	5.02	1.40	1.37
2	2	400	A	N9-C4	-5.00	1.34	1.37

All (3127) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	2	1059	U	O5'-P-OP2	-30.24	74.41	110.70
2	2	1059	U	OP1-P-OP2	17.12	145.28	119.60
2	2	1059	U	O5'-P-OP1	-16.80	90.55	110.70
2	2	1058	U	OP2-P-O3'	-13.98	74.45	105.20
1	5	1152	G	N3-C4-C5	13.14	135.17	128.60
1	5	1592	G	C5-C6-O6	-12.74	120.96	128.60
4	8	115	C	C6-N1-C2	12.53	125.31	120.30
1	1	2212	C	C5-C6-N1	12.46	127.23	121.00
1	1	2212	C	N1-C2-O2	12.41	126.34	118.90
1	5	2400	G	C4-C5-N7	11.71	115.49	110.80
1	5	2917	G	O5'-P-OP2	-11.59	95.27	105.70
1	5	2403	G	N1-C6-O6	11.43	126.76	119.90
1	5	2548	C	N1-C2-O2	11.32	125.69	118.90
1	5	1356	U	N3-C2-O2	-11.30	114.29	122.20
1	1	638	C	O5'-P-OP2	-11.26	95.56	105.70
1	5	2968	G	C5-C6-O6	-11.16	121.90	128.60
1	1	1413	G	N1-C6-O6	11.15	126.59	119.90
1	1	1432	C	C6-N1-C2	-11.03	115.89	120.30
1	1	2871	G	O5'-P-OP2	-11.00	95.80	105.70
1	1	645	A	N1-C6-N6	-10.99	112.01	118.60
1	5	2400	G	N9-C4-C5	-10.93	101.03	105.40
1	1	1916	U	O5'-P-OP2	-10.90	95.89	105.70
1	5	2968	G	N1-C6-O6	10.89	126.43	119.90
1	1	2861	U	O5'-P-OP1	-10.86	95.93	105.70
2	2	1058	U	OP1-P-O3'	-10.77	81.51	105.20
1	5	1152	G	C8-N9-C1'	10.73	140.95	127.00
1	1	1443	G	C5-C6-O6	-10.70	122.18	128.60
1	5	2983	C	O5'-P-OP1	-10.66	96.11	105.70
1	5	1152	G	C4-N9-C1'	-10.59	112.73	126.50
1	1	891	G	C5-C6-O6	-10.56	122.27	128.60
1	1	1160	C	C6-N1-C2	10.54	124.51	120.30
1	1	1495	U	C5-C6-N1	-10.52	117.44	122.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1152	G	N3-C4-N9	-10.47	119.72	126.00
1	5	2821	C	C6-N1-C2	-10.46	116.12	120.30
2	6	1467	C	C6-N1-C2	-10.42	116.13	120.30
1	1	2310	U	O5'-P-OP1	-10.35	96.38	105.70
2	2	1280	C	C6-N1-C2	-10.35	116.16	120.30
1	5	1592	G	N1-C6-O6	10.35	126.11	119.90
1	5	2400	G	C5-C6-O6	-10.21	122.47	128.60
2	6	129	U	OP1-P-O3'	-10.21	82.75	105.20
1	1	1451	C	C6-N1-C2	10.11	124.34	120.30
1	1	2996	U	N1-C2-O2	10.03	129.82	122.80
1	5	2548	C	C6-N1-C2	-10.00	116.30	120.30
1	5	2403	G	C6-C5-N7	-9.98	124.41	130.40
2	2	309	C	C6-N1-C2	-9.95	116.32	120.30
4	4	158	U	O4'-C1'-N1	9.94	116.15	108.20
1	1	981	U	O5'-P-OP1	-9.90	96.78	105.70
1	5	2548	C	N3-C2-O2	-9.88	114.98	121.90
1	1	1403	C	C6-N1-C2	9.88	124.25	120.30
1	1	2913	C	C6-N1-C2	9.85	124.24	120.30
2	2	1096	C	N1-C2-O2	9.80	124.78	118.90
2	6	129	U	OP2-P-O3'	-9.73	83.78	105.20
1	1	2192	C	C6-N1-C2	-9.72	116.41	120.30
1	5	1356	U	N1-C2-O2	9.72	129.60	122.80
1	1	2827	U	C5-C6-N1	-9.68	117.86	122.70
1	5	700	C	C6-N1-C2	-9.66	116.44	120.30
1	5	1793	C	C6-N1-C2	9.63	124.15	120.30
1	5	439	C	C6-N1-C2	-9.60	116.46	120.30
1	1	2821	C	C6-N1-C2	-9.59	116.47	120.30
2	2	405	C	C6-N1-C2	9.56	124.13	120.30
1	1	891	G	N1-C6-O6	9.53	125.62	119.90
1	1	2273	G	O5'-P-OP2	-9.52	97.13	105.70
1	5	439	C	N1-C2-O2	9.52	124.61	118.90
1	1	966	U	N3-C4-O4	9.49	126.04	119.40
1	1	631	U	O5'-P-OP2	-9.46	97.19	105.70
1	1	1926	C	O5'-P-OP2	-9.46	97.19	105.70
1	5	200	C	C6-N1-C2	-9.46	116.52	120.30
1	5	2572	C	N1-C2-O2	9.42	124.55	118.90
1	5	2355	G	N1-C6-O6	9.41	125.55	119.90
1	5	2400	G	N1-C6-O6	9.40	125.54	119.90
1	5	3269	U	C5-C6-N1	9.38	127.39	122.70
1	1	2679	A	N1-C6-N6	9.35	124.21	118.60
1	1	2922	G	C6-C5-N7	-9.34	124.80	130.40
2	2	1751	C	C6-N1-C2	9.31	124.03	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1454	A	C8-N9-C4	9.31	109.52	105.80
1	1	1338	C	C6-N1-C2	-9.27	116.59	120.30
1	5	439	C	C2-N1-C1'	9.27	128.99	118.80
1	5	1308	A	C8-N9-C4	-9.22	102.11	105.80
1	5	3278	C	N1-C2-O2	9.21	124.42	118.90
1	1	55	G	C8-N9-C4	9.19	110.08	106.40
1	1	945	C	C6-N1-C2	-9.19	116.63	120.30
2	2	453	U	C2-N1-C1'	9.16	128.69	117.70
1	1	645	A	N9-C4-C5	9.15	109.46	105.80
1	1	2355	G	N1-C6-O6	9.14	125.38	119.90
1	5	982	C	C6-N1-C2	-9.13	116.65	120.30
1	5	2403	G	C4-C5-C6	9.13	124.28	118.80
1	1	639	G	N1-C6-O6	9.11	125.36	119.90
1	5	424	G	N1-C6-O6	9.10	125.36	119.90
4	4	125	U	N1-C2-O2	9.10	129.17	122.80
1	1	914	A	N1-C6-N6	-9.09	113.15	118.60
4	4	140	G	N1-C6-O6	9.08	125.35	119.90
3	3	15	C	C6-N1-C2	9.07	123.93	120.30
1	1	1763	U	C2-N1-C1'	9.07	128.58	117.70
1	5	824	C	C6-N1-C2	-9.07	116.67	120.30
1	5	3217	C	C6-N1-C2	9.06	123.93	120.30
4	4	54	A	N1-C6-N6	9.05	124.03	118.60
1	1	1665	C	C6-N1-C2	9.04	123.91	120.30
1	5	2156	C	C6-N1-C2	9.03	123.91	120.30
1	5	408	A	C8-N9-C4	-9.02	102.19	105.80
1	5	2383	C	C6-N1-C2	-9.01	116.69	120.30
1	1	1422	G	N1-C6-O6	9.00	125.30	119.90
1	5	833	G	C8-N9-C4	9.00	110.00	106.40
2	6	320	U	C5-C6-N1	8.98	127.19	122.70
1	1	884	A	N1-C6-N6	8.98	123.99	118.60
13	C8	15	LEU	CA-CB-CG	8.97	135.93	115.30
1	1	546	C	O5'-P-OP1	-8.93	97.67	105.70
1	5	2181	C	C6-N1-C2	8.86	123.84	120.30
1	5	1312	C	C6-N1-C2	-8.83	116.77	120.30
1	1	1866	C	N1-C2-O2	8.80	124.18	118.90
1	1	2693	C	C6-N1-C2	8.79	123.82	120.30
1	1	1589	A	C8-N9-C4	8.79	109.32	105.80
1	5	875	G	O5'-P-OP2	-8.77	97.81	105.70
1	1	3025	C	C6-N1-C2	8.76	123.80	120.30
1	1	667	C	C6-N1-C2	8.74	123.80	120.30
1	5	1413	G	N1-C6-O6	8.74	125.14	119.90
1	5	860	G	C4-C5-N7	8.71	114.28	110.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	6	558	U	C2-N1-C1'	8.70	128.15	117.70
1	1	1306	G	C6-C5-N7	-8.69	125.18	130.40
1	1	3266	G	C8-N9-C4	-8.69	102.92	106.40
2	2	1420	C	C6-N1-C2	8.69	123.78	120.30
1	1	2093	A	C2-N3-C4	8.69	114.94	110.60
1	1	289	A	O5'-P-OP1	-8.67	97.90	105.70
1	1	1279	C	C6-N1-C2	-8.67	116.83	120.30
4	8	14	C	O5'-P-OP2	-8.64	97.93	105.70
1	5	2885	C	O5'-P-OP2	-8.63	97.94	105.70
1	1	2937	G	C5-C6-O6	-8.62	123.43	128.60
43	M9	185	LEU	CA-CB-CG	8.61	135.10	115.30
2	6	794	U	C2-N1-C1'	8.61	128.03	117.70
1	1	924	G	N1-C6-O6	-8.59	114.75	119.90
1	1	1941	C	C6-N1-C2	-8.59	116.87	120.30
1	5	3093	C	C6-N1-C2	8.58	123.73	120.30
1	1	2608	G	C8-N9-C4	8.58	109.83	106.40
2	6	589	C	C6-N1-C2	-8.57	116.87	120.30
1	5	21	G	N1-C6-O6	-8.57	114.76	119.90
1	1	2171	G	N1-C6-O6	-8.57	114.76	119.90
1	5	835	G	N3-C4-N9	-8.56	120.86	126.00
4	4	134	G	O5'-P-OP1	-8.56	98.00	105.70
1	5	2821	C	N3-C2-O2	-8.56	115.91	121.90
1	5	2548	C	C2-N1-C1'	8.55	128.21	118.80
2	6	1490	C	C6-N1-C2	-8.54	116.89	120.30
1	1	312	C	C6-N1-C2	-8.53	116.89	120.30
1	1	753	C	C6-N1-C2	8.51	123.70	120.30
1	1	979	U	C6-N1-C2	-8.50	115.90	121.00
4	8	45	C	C6-N1-C2	8.50	123.70	120.30
1	1	1493	G	N1-C6-O6	-8.49	114.80	119.90
1	5	1412	G	N1-C6-O6	8.49	124.99	119.90
1	1	2944	U	C6-N1-C2	-8.48	115.91	121.00
2	6	337	G	C4-C5-N7	8.48	114.19	110.80
1	5	1911	A	N1-C6-N6	-8.47	113.52	118.60
6	C1	5	LEU	CA-CB-CG	8.46	134.76	115.30
2	2	1077	C	C6-N1-C2	-8.46	116.92	120.30
1	5	2400	G	C8-N9-C4	8.45	109.78	106.40
1	5	1839	A	C8-N9-C4	8.44	109.18	105.80
1	5	3205	G	N1-C6-O6	8.44	124.96	119.90
1	1	1507	G	N1-C6-O6	8.44	124.96	119.90
1	1	924	G	C5-C6-O6	8.43	133.66	128.60
3	3	47	C	C6-N1-C2	-8.42	116.93	120.30
1	5	2606	G	N3-C4-N9	8.42	131.05	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2400	G	C5-C6-O6	-8.41	123.55	128.60
1	1	1889	G	N1-C6-O6	8.41	124.94	119.90
1	1	2862	U	C6-N1-C2	8.41	126.05	121.00
1	1	42	C	N3-C4-C5	8.40	125.26	121.90
2	6	697	C	C6-N1-C2	-8.39	116.94	120.30
4	8	81	U	N3-C2-O2	-8.39	116.33	122.20
1	1	979	U	N3-C2-O2	-8.38	116.33	122.20
29	l4	339	LEU	CA-CB-CG	8.38	134.57	115.30
1	1	46	U	O5'-P-OP1	-8.37	98.17	105.70
1	1	1604	G	N3-C4-C5	-8.37	124.42	128.60
1	1	1306	G	N3-C4-N9	8.37	131.02	126.00
1	1	92	G	C4-C5-N7	8.36	114.14	110.80
1	5	1550	C	C6-N1-C2	-8.36	116.95	120.30
1	1	545	U	C2-N1-C1'	8.35	127.72	117.70
1	1	2212	C	C2-N1-C1'	8.35	127.99	118.80
1	1	2568	C	N1-C2-O2	8.35	123.91	118.90
1	5	1437	C	C6-N1-C2	-8.35	116.96	120.30
1	1	3076	C	N3-C4-C5	-8.32	118.57	121.90
2	6	234	G	N3-C4-C5	-8.31	124.44	128.60
1	1	424	G	O5'-P-OP2	-8.31	98.22	105.70
1	1	675	C	C6-N1-C2	-8.30	116.98	120.30
1	5	1592	G	C4-C5-N7	8.30	114.12	110.80
1	5	2881	C	C6-N1-C2	8.30	123.62	120.30
1	5	2160	G	C8-N9-C4	8.28	109.71	106.40
1	1	2212	C	C4-C5-C6	-8.27	113.27	117.40
1	5	1220	U	C5-C6-N1	8.27	126.83	122.70
1	5	1633	C	C6-N1-C2	-8.27	116.99	120.30
1	5	2245	C	C6-N1-C2	8.26	123.60	120.30
1	5	2968	G	C4-C5-N7	8.26	114.10	110.80
1	1	648	C	C6-N1-C2	-8.25	117.00	120.30
1	1	1495	U	C4-C5-C6	8.25	124.65	119.70
1	5	1412	G	C5-C6-O6	-8.25	123.65	128.60
1	1	1609	C	O5'-P-OP2	-8.25	98.28	105.70
1	1	3217	C	C2-N1-C1'	8.23	127.85	118.80
1	1	379	C	C6-N1-C2	8.21	123.59	120.30
1	1	1385	C	C6-N1-C2	8.21	123.58	120.30
26	E1	105	TYR	C-N-CA	8.20	142.20	121.70
1	5	979	U	C6-N1-C2	-8.20	116.08	121.00
1	1	2937	G	N1-C6-O6	8.19	124.81	119.90
2	6	1173	C	C6-N1-C2	-8.19	117.03	120.30
1	1	1306	G	C5-C6-O6	-8.19	123.69	128.60
1	1	3319	U	O5'-P-OP1	-8.18	98.34	105.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	635	G	N9-C4-C5	-8.18	102.13	105.40
1	5	3124	G	C6-C5-N7	-8.17	125.50	130.40
1	1	1092	C	C6-N1-C2	-8.17	117.03	120.30
2	6	1773	C	C6-N1-C2	-8.15	117.04	120.30
1	1	1201	C	C6-N1-C2	-8.15	117.04	120.30
1	5	925	A	N1-C6-N6	8.14	123.49	118.60
1	1	392	G	C8-N9-C4	-8.14	103.14	106.40
1	1	2311	G	C5-C6-O6	-8.13	123.72	128.60
1	5	726	G	C8-N9-C4	-8.13	103.15	106.40
1	1	981	U	C5-C6-N1	8.11	126.75	122.70
1	1	92	G	N9-C4-C5	-8.10	102.16	105.40
1	1	2156	C	C6-N1-C2	8.10	123.54	120.30
1	1	2400	G	C4-C5-N7	8.08	114.03	110.80
1	5	347	G	C5-C6-O6	-8.08	123.75	128.60
1	1	1432	C	N3-C4-C5	-8.08	118.67	121.90
2	6	501	U	N1-C2-O2	8.07	128.45	122.80
1	5	860	G	N1-C6-O6	8.04	124.72	119.90
2	6	1541	G	N1-C6-O6	-8.04	115.08	119.90
1	1	636	C	C6-N1-C2	-8.04	117.09	120.30
1	1	693	A	O5'-P-OP1	-8.03	98.47	105.70
1	1	2572	C	C2-N1-C1'	8.03	127.63	118.80
1	1	3217	C	N1-C2-O2	8.03	123.72	118.90
1	5	860	G	C5-C6-O6	-8.03	123.78	128.60
2	6	607	G	N1-C6-O6	8.02	124.71	119.90
2	2	1363	U	N3-C2-O2	-8.02	116.59	122.20
1	5	1412	G	C6-C5-N7	-8.01	125.59	130.40
1	1	218	G	O5'-P-OP2	-8.00	98.50	105.70
1	1	2682	C	C6-N1-C2	8.00	123.50	120.30
4	8	81	U	N1-C2-O2	8.00	128.40	122.80
1	5	1152	G	C5-N7-C8	-7.99	100.30	104.30
2	6	1465	C	C6-N1-C2	-7.99	117.10	120.30
1	5	353	G	O5'-P-OP2	-7.98	98.52	105.70
1	1	2922	G	N3-C4-N9	7.97	130.78	126.00
1	1	2572	C	C6-N1-C2	-7.97	117.11	120.30
2	6	742	U	C6-N1-C2	-7.97	116.22	121.00
1	1	1015	U	O5'-P-OP2	-7.97	98.53	105.70
1	1	2206	G	C8-N9-C1'	-7.97	116.64	127.00
1	5	2635	A	C8-N9-C4	-7.97	102.61	105.80
1	5	2952	G	N1-C6-O6	7.96	124.68	119.90
1	1	1381	A	C8-N9-C4	7.96	108.98	105.80
1	1	1762	C	P-O3'-C3'	7.96	129.25	119.70
2	2	1096	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})
1	5	1137	C	N1-C2-O2	7.94	123.66	118.90
1	5	1114	U	C5-C4-O4	-7.94	121.14	125.90
1	5	1663	C	C6-N1-C2	7.93	123.47	120.30
1	5	2594	C	O5'-P-OP1	-7.93	98.56	105.70
1	1	2612	U	C6-N1-C2	-7.92	116.25	121.00
1	1	924	G	N9-C4-C5	7.92	108.57	105.40
1	5	1582	C	C2-N1-C1'	7.91	127.50	118.80
1	1	2568	C	N3-C2-O2	-7.91	116.36	121.90
2	2	758	U	N3-C2-O2	-7.91	116.66	122.20
1	1	3084	C	C6-N1-C2	-7.90	117.14	120.30
1	1	953	G	N1-C6-O6	-7.89	115.16	119.90
1	1	1495	U	N1-C2-N3	7.89	119.63	114.90
2	2	131	C	C2-N1-C1'	7.89	127.47	118.80
2	2	864	U	C6-N1-C2	-7.89	116.27	121.00
1	5	1307	G	P-O3'-C3'	7.88	129.15	119.70
1	1	2867	C	C6-N1-C2	7.87	123.45	120.30
1	5	54	C	C6-N1-C2	7.87	123.45	120.30
2	2	1363	U	N1-C2-O2	7.86	128.30	122.80
1	5	1913	A	N1-C6-N6	7.86	123.31	118.60
1	1	1319	G	N1-C6-O6	-7.86	115.19	119.90
1	1	3266	G	N9-C4-C5	7.86	108.54	105.40
1	1	1408	G	N1-C6-O6	7.84	124.61	119.90
1	1	2183	A	N1-C6-N6	7.84	123.31	118.60
2	2	1096	C	N3-C2-O2	-7.84	116.41	121.90
1	1	1548	C	C6-N1-C2	-7.84	117.17	120.30
2	2	1011	G	C8-N9-C4	-7.83	103.27	106.40
1	1	353	G	C8-N9-C4	7.83	109.53	106.40
1	1	3075	G	N1-C6-O6	7.83	124.60	119.90
1	5	2409	G	C8-N9-C4	7.83	109.53	106.40
2	6	590	C	C6-N1-C2	-7.82	117.17	120.30
1	1	1194	G	C5-C6-O6	-7.82	123.91	128.60
1	1	2400	G	N1-C6-O6	7.82	124.59	119.90
2	2	1280	C	N3-C4-C5	-7.82	118.77	121.90
1	1	1443	G	N1-C6-O6	7.81	124.59	119.90
1	5	2406	C	C6-N1-C2	7.81	123.42	120.30
1	1	780	A	N1-C6-N6	-7.80	113.92	118.60
1	5	439	C	N3-C2-O2	-7.80	116.44	121.90
2	2	1745	G	N3-C4-N9	7.80	130.68	126.00
1	1	2934	A	N1-C6-N6	7.80	123.28	118.60
1	1	2925	C	N1-C2-O2	7.79	123.58	118.90
1	1	1773	C	C6-N1-C2	7.79	123.42	120.30
2	6	1196	A	P-O3'-C3'	7.79	129.04	119.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	895	A	C4-C5-N7	7.79	114.59	110.70
2	6	499	U	C5-C6-N1	7.78	126.59	122.70
1	5	1413	G	C6-C5-N7	-7.78	125.73	130.40
1	5	1581	C	N1-C2-O2	7.77	123.56	118.90
1	1	2996	U	N3-C2-O2	-7.77	116.76	122.20
1	1	2809	C	C6-N1-C2	-7.76	117.19	120.30
4	4	4	C	O5'-P-OP2	-7.76	98.71	105.70
1	1	1507	G	C5-C6-O6	-7.76	123.94	128.60
1	5	2871	G	N1-C6-O6	7.76	124.56	119.90
1	1	1306	G	N1-C6-O6	7.76	124.56	119.90
1	1	142	C	C6-N1-C2	-7.75	117.20	120.30
1	1	1604	G	C4-N9-C1'	7.75	136.58	126.50
1	1	924	G	C4-C5-N7	-7.75	107.70	110.80
1	1	1542	G	C4-C5-N7	7.74	113.90	110.80
57	o3	88	ASN	C-N-CA	-7.73	102.36	121.70
1	1	2827	U	N3-C4-O4	-7.73	113.99	119.40
1	1	633	C	C6-N1-C2	7.73	123.39	120.30
1	5	1307	G	O5'-P-OP1	-7.73	98.74	105.70
1	5	2376	G	C5-C6-O6	-7.73	123.96	128.60
2	2	1161	C	O5'-P-OP2	-7.73	98.74	105.70
1	1	2767	U	O5'-P-OP2	-7.73	98.75	105.70
1	5	1730	G	N3-C4-C5	-7.72	124.74	128.60
2	2	1059	U	N3-C2-O2	-7.72	116.80	122.20
1	1	2206	G	N3-C4-N9	7.70	130.62	126.00
1	1	2572	C	N1-C2-O2	7.70	123.52	118.90
1	5	2572	C	N3-C2-O2	-7.70	116.51	121.90
1	5	3245	A	N1-C2-N3	7.70	133.15	129.30
1	1	3278	C	N1-C2-O2	7.69	123.52	118.90
2	6	794	U	C6-N1-C1'	-7.69	110.43	121.20
1	5	3245	A	N7-C8-N9	7.69	117.64	113.80
1	1	1156	C	C5-C4-N4	-7.66	114.84	120.20
1	1	1389	G	C8-N9-C4	7.66	109.46	106.40
1	1	823	C	C6-N1-C2	-7.66	117.24	120.30
1	5	3076	C	C6-N1-C2	-7.66	117.24	120.30
1	1	1348	U	C6-N1-C2	-7.65	116.41	121.00
1	1	1424	C	C6-N1-C2	7.65	123.36	120.30
1	1	2212	C	N3-C2-O2	-7.65	116.55	121.90
1	1	1359	C	C6-N1-C2	7.64	123.36	120.30
1	1	3076	C	C6-N1-C2	-7.64	117.25	120.30
2	2	1467	C	C6-N1-C2	-7.63	117.25	120.30
1	1	2209	U	O5'-P-OP2	-7.63	98.83	105.70
1	1	609	G	C5-C6-O6	-7.62	124.03	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	439	C	C5-C6-N1	7.61	124.81	121.00
4	8	44	A	N1-C6-N6	7.61	123.16	118.60
1	5	1592	G	C6-C5-N7	-7.61	125.84	130.40
2	2	1157	A	C8-N9-C4	-7.60	102.76	105.80
1	5	1861	G	C8-N9-C4	-7.60	103.36	106.40
1	1	2612	U	C5-C6-N1	7.60	126.50	122.70
1	5	1412	G	C4-C5-N7	7.59	113.84	110.80
1	1	1444	G	N1-C6-O6	7.58	124.45	119.90
2	6	1491	U	N3-C2-O2	-7.58	116.89	122.20
2	6	1582	U	C6-N1-C2	7.58	125.55	121.00
2	2	14	C	C6-N1-C2	-7.58	117.27	120.30
1	1	2964	G	O5'-P-OP1	-7.58	98.88	105.70
1	1	917	A	O5'-P-OP2	-7.57	98.88	105.70
1	1	2208	A	P-O3'-C3'	7.57	128.79	119.70
4	4	54	A	C6-C5-N7	-7.57	127.00	132.30
1	1	2206	G	C4-N9-C1'	7.57	136.34	126.50
1	1	2967	A	N1-C6-N6	7.57	123.14	118.60
1	5	2268	U	C5-C6-N1	7.57	126.48	122.70
1	5	2403	G	C5-C6-N1	-7.57	107.72	111.50
1	1	1526	U	O5'-P-OP2	-7.57	98.89	105.70
1	5	915	A	O5'-P-OP1	-7.56	98.90	105.70
1	5	2816	G	N1-C6-O6	7.56	124.44	119.90
1	1	1546	A	C8-N9-C4	-7.56	102.78	105.80
2	6	103	A	P-O3'-C3'	7.55	128.75	119.70
1	5	3004	C	C6-N1-C2	7.54	123.32	120.30
1	5	3195	U	C5-C6-N1	7.53	126.46	122.70
1	5	423	A	N1-C6-N6	-7.52	114.09	118.60
1	5	2993	G	N1-C6-O6	-7.52	115.39	119.90
2	6	501	U	N3-C2-O2	-7.52	116.94	122.20
1	5	1145	G	N3-C4-N9	7.52	130.51	126.00
2	6	414	C	C6-N1-C2	7.51	123.31	120.30
1	5	2831	G	C5-C6-O6	-7.51	124.09	128.60
1	1	1820	U	P-O3'-C3'	7.51	128.71	119.70
1	1	298	U	N1-C2-O2	7.50	128.05	122.80
1	5	2355	G	C6-C5-N7	-7.50	125.90	130.40
3	3	104	A	O5'-P-OP2	-7.50	98.95	105.70
2	6	558	U	N3-C2-O2	-7.50	116.95	122.20
1	1	748	U	C6-N1-C2	-7.49	116.50	121.00
1	1	1854	C	C6-N1-C2	-7.49	117.30	120.30
1	1	895	A	C5-C6-N6	-7.49	117.71	123.70
1	1	1852	G	N1-C6-O6	7.49	124.39	119.90
2	6	13	C	C6-N1-C2	-7.49	117.30	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	3194	C	C2-N1-C1'	7.49	127.03	118.80
2	2	1562	G	C8-N9-C4	7.49	109.39	106.40
1	1	3226	A	O5'-P-OP1	-7.48	98.97	105.70
2	6	577	G	C6-C5-N7	-7.47	125.92	130.40
3	3	83	U	C5-C6-N1	-7.46	118.97	122.70
3	3	116	C	C6-N1-C2	-7.46	117.31	120.30
2	6	781	U	C2-N1-C1'	7.46	126.66	117.70
1	1	1413	G	C5-C6-O6	-7.46	124.12	128.60
1	1	2711	C	C6-N1-C2	-7.46	117.31	120.30
1	1	1000	C	C6-N1-C2	7.46	123.28	120.30
1	5	3260	G	N3-C4-N9	7.46	130.48	126.00
1	1	2355	G	C6-C5-N7	-7.45	125.93	130.40
1	1	3382	U	C2-N1-C1'	7.45	126.64	117.70
1	1	1028	U	P-O3'-C3'	7.44	128.63	119.70
1	5	2831	G	N1-C6-O6	7.44	124.37	119.90
1	5	2572	C	C2-N1-C1'	7.44	126.98	118.80
2	6	765	G	C8-N9-C4	7.44	109.38	106.40
3	3	80	G	C8-N9-C4	-7.43	103.43	106.40
1	1	1451	C	N3-C2-O2	7.43	127.10	121.90
2	2	1459	C	C6-N1-C2	-7.43	117.33	120.30
1	1	1417	G	C4-C5-N7	7.42	113.77	110.80
1	5	3103	A	C8-N9-C4	7.42	108.77	105.80
1	1	3269	U	N3-C2-O2	-7.42	117.00	122.20
2	2	131	C	N1-C2-O2	7.42	123.35	118.90
2	2	992	A	C5-N7-C8	-7.42	100.19	103.90
1	5	887	G	N1-C6-O6	7.41	124.34	119.90
1	1	1417	G	N9-C4-C5	-7.40	102.44	105.40
2	6	794	U	O5'-P-OP1	7.40	119.58	110.70
1	5	980	A	C8-N9-C4	-7.37	102.85	105.80
2	6	1458	G	C4-C5-N7	7.36	113.75	110.80
1	5	2430	A	C5-C6-N1	-7.36	114.02	117.70
1	5	1056	U	N3-C2-O2	-7.36	117.05	122.20
1	5	2715	A	C8-N9-C4	7.36	108.74	105.80
1	1	1016	C	N1-C2-O2	7.35	123.31	118.90
1	5	3266	G	N9-C4-C5	7.33	108.33	105.40
2	6	1028	C	C6-N1-C2	7.33	123.23	120.30
1	1	2354	C	C6-N1-C2	-7.32	117.37	120.30
2	6	130	C	OP1-P-OP2	7.32	130.58	119.60
1	5	1303	A	C8-N9-C4	7.32	108.73	105.80
1	1	2623	G	C6-C5-N7	-7.31	126.01	130.40
1	5	920	A	N1-C6-N6	7.31	122.99	118.60
2	2	192	U	C2-N1-C1'	7.30	126.47	117.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	3382	U	N3-C2-O2	-7.30	117.09	122.20
1	1	2420	C	C6-N1-C2	-7.30	117.38	120.30
1	5	1495	U	C5-C6-N1	7.30	126.35	122.70
1	1	1399	A	C8-N9-C4	7.29	108.72	105.80
1	5	2251	G	N1-C6-O6	7.29	124.28	119.90
1	1	895	A	N1-C6-N6	7.29	122.97	118.60
1	1	1929	G	C4-C5-N7	7.29	113.72	110.80
1	5	1607	U	P-O3'-C3'	7.29	128.45	119.70
1	5	2325	G	O5'-P-OP2	-7.29	99.14	105.70
1	1	1016	C	C2-N1-C1'	7.29	126.82	118.80
1	1	1307	G	P-O3'-C3'	7.29	128.44	119.70
1	1	145	G	C8-N9-C4	-7.28	103.49	106.40
1	1	291	C	C6-N1-C2	7.28	123.21	120.30
1	1	632	G	N1-C6-O6	7.28	124.27	119.90
1	1	1296	C	C6-N1-C2	-7.28	117.39	120.30
38	m4	135	LEU	CA-CB-CG	7.28	132.05	115.30
1	5	2365	C	N3-C4-C5	7.27	124.81	121.90
2	6	234	G	C8-N9-C4	-7.27	103.49	106.40
1	5	2620	G	N1-C6-O6	7.27	124.26	119.90
1	1	2996	U	C2-N1-C1'	7.27	126.42	117.70
1	5	1356	U	C2-N1-C1'	7.26	126.41	117.70
1	1	1507	G	C6-C5-N7	-7.25	126.05	130.40
2	6	1118	G	N1-C6-O6	7.25	124.25	119.90
1	1	1852	G	N3-C4-C5	7.25	132.22	128.60
1	1	1146	C	C6-N1-C2	7.25	123.20	120.30
1	5	942	U	N1-C2-O2	7.25	127.87	122.80
1	5	2943	G	C6-C5-N7	-7.25	126.05	130.40
1	1	2240	G	O5'-P-OP1	-7.24	99.18	105.70
1	1	3198	U	O5'-P-OP1	-7.24	99.19	105.70
2	6	781	U	N1-C2-O2	7.24	127.87	122.80
26	e1	100	LEU	CA-CB-CG	7.24	131.94	115.30
2	2	1572	G	C5-C6-O6	-7.23	124.26	128.60
2	6	741	C	P-O3'-C3'	7.23	128.38	119.70
2	6	1389	C	N1-C2-O2	7.23	123.24	118.90
1	1	1866	C	N3-C2-O2	-7.23	116.84	121.90
1	1	867	G	N1-C6-O6	7.22	124.23	119.90
1	1	1145	G	N3-C4-N9	7.22	130.33	126.00
1	1	1417	G	C5-C6-O6	-7.22	124.27	128.60
2	2	639	U	N1-C2-O2	7.22	127.86	122.80
1	1	891	G	C4-C5-N7	7.22	113.69	110.80
2	2	507	U	N3-C2-O2	-7.22	117.15	122.20
1	1	2093	A	N3-C4-C5	-7.22	121.75	126.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	4	9	A	C8-N9-C4	7.21	108.69	105.80
4	4	14	C	C6-N1-C2	7.21	123.19	120.30
2	2	704	C	C2-N1-C1'	7.21	126.73	118.80
1	1	116	A	N1-C6-N6	-7.21	114.27	118.60
1	5	1481	A	C8-N9-C4	-7.21	102.92	105.80
1	5	2385	G	N3-C4-C5	7.21	132.20	128.60
2	6	1074	G	N1-C6-O6	7.20	124.22	119.90
1	5	2281	A	O4'-C1'-N9	7.19	113.95	108.20
1	1	1103	A	P-O3'-C3'	7.19	128.32	119.70
1	5	1450	G	N1-C6-O6	7.19	124.21	119.90
1	5	398	A	C8-N9-C4	7.18	108.67	105.80
2	2	576	G	C8-N9-C4	-7.18	103.53	106.40
3	3	100	C	O5'-P-OP1	-7.18	99.23	105.70
1	5	953	G	C5-C6-O6	7.18	132.91	128.60
2	6	794	U	N1-C2-O2	7.18	127.83	122.80
1	1	580	C	C6-N1-C2	7.18	123.17	120.30
1	1	2287	C	O5'-P-OP1	-7.18	99.24	105.70
1	1	91	G	N1-C6-O6	7.18	124.21	119.90
1	5	2899	C	C6-N1-C2	-7.18	117.43	120.30
1	5	216	G	O5'-P-OP1	-7.17	99.24	105.70
1	1	1607	U	P-O3'-C3'	7.17	128.31	119.70
2	6	996	U	C5-C6-N1	7.17	126.29	122.70
4	4	82	U	N3-C2-O2	-7.17	117.18	122.20
1	1	593	C	C6-N1-C2	7.16	123.17	120.30
1	5	106	A	C8-N9-C4	7.16	108.67	105.80
1	1	1855	U	N3-C2-O2	-7.16	117.19	122.20
2	6	1686	C	C6-N1-C2	-7.16	117.44	120.30
2	2	1059	U	C2-N1-C1'	7.16	126.29	117.70
1	1	98	G	C8-N9-C4	7.16	109.26	106.40
2	2	1560	U	N3-C2-O2	-7.16	117.19	122.20
1	5	412	G	N1-C6-O6	7.15	124.19	119.90
1	5	966	U	C6-N1-C2	-7.15	116.71	121.00
1	5	942	U	N3-C2-O2	-7.14	117.20	122.20
1	5	821	U	C5-C6-N1	7.14	126.27	122.70
2	2	939	A	N1-C6-N6	7.13	122.88	118.60
1	5	333	G	C8-N9-C4	7.13	109.25	106.40
2	2	995	A	C8-N9-C4	7.13	108.65	105.80
1	5	1103	A	O5'-P-OP1	7.13	119.25	110.70
1	1	91	G	C5-C6-O6	-7.12	124.33	128.60
1	5	379	C	C6-N1-C2	7.12	123.15	120.30
1	5	1779	C	C2-N1-C1'	7.12	126.64	118.80
1	5	424	G	C5-C6-O6	-7.12	124.33	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1382	G	N3-C4-C5	7.12	132.16	128.60
2	2	1600	A	N1-C6-N6	7.12	122.87	118.60
4	8	94	C	C6-N1-C2	7.12	123.15	120.30
1	5	400	G	C8-N9-C4	-7.12	103.55	106.40
1	5	2400	G	N3-C4-C5	7.11	132.16	128.60
1	5	2355	G	C5-C6-O6	-7.11	124.34	128.60
1	1	2827	U	C2-N3-C4	-7.11	122.74	127.00
1	1	979	U	C5-C4-O4	7.09	130.15	125.90
2	2	1058	U	N1-C2-O2	7.08	127.76	122.80
1	1	1578	C	C2-N1-C1'	7.08	126.58	118.80
1	5	1417	G	N1-C6-O6	7.08	124.15	119.90
2	6	194	U	C2-N1-C1'	7.08	126.19	117.70
1	1	315	C	C6-N1-C2	-7.07	117.47	120.30
12	C7	23	LYS	C-N-CA	7.07	139.38	121.70
2	2	1746	A	C8-N9-C4	7.07	108.63	105.80
1	5	1152	G	C4-C5-C6	-7.07	114.56	118.80
1	1	1589	A	N1-C6-N6	7.07	122.84	118.60
2	6	1458	G	N9-C4-C5	-7.07	102.57	105.40
1	5	1901	A	N1-C6-N6	-7.06	114.36	118.60
2	2	1148	C	C6-N1-C2	-7.06	117.47	120.30
2	2	1470	C	C6-N1-C2	-7.06	117.47	120.30
2	2	1316	G	O5'-P-OP2	-7.06	99.35	105.70
1	5	2572	C	C6-N1-C2	-7.06	117.48	120.30
1	5	3022	G	C8-N9-C4	-7.06	103.58	106.40
2	6	501	U	C2-N1-C1'	7.05	126.16	117.70
1	1	1604	G	N3-C4-N9	7.05	130.23	126.00
1	5	2817	A	C8-N9-C4	7.05	108.62	105.80
1	1	1581	C	P-O3'-C3'	7.05	128.16	119.70
2	2	1736	G	N1-C6-O6	7.04	124.13	119.90
2	6	1148	C	C6-N1-C2	-7.04	117.48	120.30
1	1	2896	A	N1-C6-N6	7.04	122.83	118.60
2	2	1324	G	N3-C4-N9	-7.04	121.77	126.00
2	6	750	U	C6-N1-C2	7.04	125.22	121.00
2	6	453	U	C2-N1-C1'	7.04	126.14	117.70
2	6	67	A	C8-N9-C4	7.03	108.61	105.80
1	1	1342	C	C6-N1-C2	7.03	123.11	120.30
1	1	2651	G	C5-C6-O6	-7.03	124.38	128.60
1	5	347	G	N1-C6-O6	7.03	124.12	119.90
1	1	2606	G	C6-C5-N7	-7.02	126.19	130.40
1	5	2624	G	N1-C6-O6	7.02	124.11	119.90
1	5	2816	G	C5-C6-N1	-7.02	107.99	111.50
1	1	895	A	C6-C5-N7	-7.02	127.39	132.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	285	A	N7-C8-N9	7.02	117.31	113.80
1	5	1152	G	C4-C5-N7	7.02	113.61	110.80
1	1	1444	G	C5-C6-O6	-7.02	124.39	128.60
1	1	200	C	N3-C4-C5	-7.01	119.09	121.90
1	1	510	G	N1-C6-O6	7.01	124.11	119.90
1	1	2278	C	C6-N1-C2	-7.01	117.50	120.30
1	5	3124	G	N1-C6-O6	7.01	124.11	119.90
2	6	1481	C	C6-N1-C2	-7.01	117.50	120.30
2	6	163	G	C8-N9-C4	-7.01	103.60	106.40
1	5	3195	U	C2-N1-C1'	7.01	126.11	117.70
1	1	2566	C	C6-N1-C2	-7.00	117.50	120.30
1	5	2272	G	OP1-P-O3'	7.00	120.60	105.20
1	5	3053	G	C6-C5-N7	-7.00	126.20	130.40
2	6	453	U	N1-C2-O2	6.99	127.70	122.80
1	5	3245	A	C8-N9-C4	-6.99	103.00	105.80
1	5	1329	U	P-O3'-C3'	6.99	128.09	119.70
1	1	2348	A	N1-C6-N6	-6.99	114.41	118.60
2	2	1059	U	C6-N1-C2	-6.98	116.81	121.00
1	5	3124	G	C4-C5-N7	6.98	113.59	110.80
1	1	1419	A	N1-C6-N6	6.98	122.79	118.60
1	1	637	C	P-O3'-C3'	6.98	128.07	119.70
1	1	2935	U	C5-C6-N1	6.96	126.18	122.70
1	5	726	G	N7-C8-N9	6.96	116.58	113.10
1	1	2174	G	N3-C4-C5	6.96	132.08	128.60
1	5	2873	U	C6-N1-C2	-6.96	116.82	121.00
2	2	1745	G	N3-C4-C5	-6.96	125.12	128.60
1	5	428	A	C8-N9-C4	6.96	108.58	105.80
1	5	2548	C	C5-C6-N1	6.96	124.48	121.00
1	1	1858	A	N1-C6-N6	-6.96	114.43	118.60
2	6	1286	U	C5-C4-O4	-6.96	121.73	125.90
1	1	2645	G	N1-C6-O6	6.95	124.07	119.90
2	2	1324	G	N3-C2-N2	-6.95	115.03	119.90
1	1	830	A	C8-N9-C4	6.95	108.58	105.80
2	2	1759	C	C6-N1-C2	6.95	123.08	120.30
1	5	332	C	C6-N1-C2	6.95	123.08	120.30
1	1	329	U	N1-C2-O2	6.95	127.66	122.80
2	2	369	A	C8-N9-C4	-6.94	103.02	105.80
1	5	1312	C	N3-C4-C5	-6.93	119.13	121.90
2	2	158	U	P-O3'-C3'	6.93	128.02	119.70
2	2	704	C	C6-N1-C2	-6.93	117.53	120.30
1	1	1609	C	C6-N1-C2	6.92	123.07	120.30
1	5	1303	A	N1-C6-N6	6.92	122.75	118.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	200	C	N3-C4-C5	-6.92	119.13	121.90
1	5	2288	G	O5'-P-OP1	-6.92	99.47	105.70
2	2	1754	A	C8-N9-C4	-6.92	103.03	105.80
1	1	1866	C	C2-N1-C1'	6.91	126.41	118.80
1	5	2920	U	O5'-P-OP1	-6.91	99.48	105.70
1	5	49	A	N1-C6-N6	6.91	122.75	118.60
1	5	1387	G	C8-N9-C4	-6.91	103.64	106.40
1	5	3053	G	N1-C6-O6	6.91	124.05	119.90
1	1	1858	A	N3-C4-C5	-6.90	121.97	126.80
1	1	1892	G	C8-N9-C4	6.90	109.16	106.40
3	3	7	G	C5-C6-O6	6.90	132.74	128.60
1	1	208	C	C6-N1-C2	-6.90	117.54	120.30
1	1	329	U	N3-C2-O2	-6.89	117.37	122.20
1	5	2315	G	N1-C6-O6	6.89	124.04	119.90
4	4	73	U	N3-C2-O2	-6.89	117.38	122.20
1	5	1459	C	C6-N1-C2	-6.89	117.54	120.30
1	1	1589	A	N9-C4-C5	-6.89	103.05	105.80
1	5	2139	A	O5'-P-OP2	-6.89	99.50	105.70
4	8	115	C	N3-C4-C5	6.89	124.66	121.90
1	5	402	A	O5'-P-OP1	-6.89	99.50	105.70
2	6	577	G	N1-C6-O6	6.88	124.03	119.90
1	1	1858	A	C2-N3-C4	6.88	114.04	110.60
2	2	1355	C	C6-N1-C2	-6.88	117.55	120.30
1	5	2169	G	N3-C4-N9	-6.87	121.88	126.00
1	1	91	G	C6-C5-N7	-6.87	126.28	130.40
1	5	3205	G	C5-C6-O6	-6.87	124.48	128.60
1	1	2298	U	O5'-P-OP2	-6.87	99.52	105.70
1	1	3269	U	P-O3'-C3'	6.87	127.94	119.70
2	2	626	U	C6-N1-C2	-6.87	116.88	121.00
1	5	2968	G	C6-C5-N7	-6.87	126.28	130.40
1	1	2679	A	C4-C5-N7	6.87	114.13	110.70
1	1	935	U	C6-N1-C2	-6.86	116.88	121.00
1	1	1348	U	C5-C6-N1	6.86	126.13	122.70
1	1	2568	C	C6-N1-C2	-6.85	117.56	120.30
2	2	617	U	C2-N1-C1'	6.85	125.92	117.70
2	6	1646	C	C6-N1-C2	-6.85	117.56	120.30
1	1	34	A	O5'-P-OP2	-6.85	99.53	105.70
1	1	1542	G	C5-C6-O6	-6.85	124.49	128.60
2	2	1061	A	O4'-C1'-N9	6.84	113.68	108.20
1	1	1493	G	C5-C6-O6	6.84	132.71	128.60
1	1	2817	A	C8-N9-C4	-6.84	103.06	105.80
2	2	704	C	N1-C2-O2	6.84	123.00	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2967	A	C5-C6-N6	-6.83	118.23	123.70
2	6	320	U	C6-N1-C2	-6.83	116.90	121.00
1	5	1328	C	C6-N1-C2	-6.83	117.57	120.30
1	5	3116	G	N1-C6-O6	-6.83	115.80	119.90
1	5	1149	G	N3-C4-N9	6.82	130.09	126.00
2	2	780	A	C8-N9-C4	-6.82	103.07	105.80
2	6	308	C	N3-C4-C5	6.82	124.63	121.90
1	1	1497	C	C6-N1-C2	6.81	123.03	120.30
1	1	1855	U	C6-N1-C2	-6.81	116.91	121.00
1	1	2965	U	N3-C4-C5	6.81	118.69	114.60
2	2	1083	G	C8-N9-C4	6.81	109.12	106.40
1	5	1531	C	C6-N1-C2	6.80	123.02	120.30
1	5	1000	C	C6-N1-C2	6.80	123.02	120.30
2	6	499	U	C6-N1-C2	-6.80	116.92	121.00
1	1	273	A	N1-C6-N6	-6.80	114.52	118.60
1	1	1417	G	N1-C6-O6	6.79	123.97	119.90
3	3	7	G	N1-C6-O6	-6.79	115.83	119.90
1	1	2606	G	C4-N9-C1'	6.79	135.32	126.50
1	1	1838	G	C4-C5-N7	6.79	113.51	110.80
1	5	2872	A	C2-N3-C4	6.79	113.99	110.60
1	5	2772	C	P-O3'-C3'	6.78	127.84	119.70
1	1	1888	U	N3-C2-O2	-6.78	117.45	122.20
1	1	2553	U	N3-C2-O2	-6.78	117.45	122.20
1	1	718	G	N3-C4-C5	6.78	131.99	128.60
1	5	827	A	O5'-P-OP1	-6.78	99.60	105.70
1	5	2952	G	C5-C6-O6	-6.78	124.53	128.60
21	D6	64	LEU	CA-CB-CG	6.77	130.88	115.30
1	1	660	A	C5-C6-N6	6.77	129.12	123.70
1	1	2572	C	N3-C2-O2	-6.77	117.16	121.90
1	1	1145	G	C6-C5-N7	-6.77	126.34	130.40
1	5	1149	G	C5-C6-O6	-6.77	124.54	128.60
2	6	131	C	C2-N1-C1'	6.76	126.24	118.80
1	1	283	G	C4-N9-C1'	6.76	135.29	126.50
1	1	1820	U	OP2-P-O3'	6.76	120.07	105.20
1	1	1157	G	N9-C4-C5	-6.75	102.70	105.40
2	6	337	G	C5-N7-C8	-6.75	100.92	104.30
2	6	1568	C	P-O3'-C3'	6.75	127.81	119.70
1	1	1194	G	N1-C6-O6	6.75	123.95	119.90
1	1	2821	C	N3-C4-C5	-6.75	119.20	121.90
1	5	2821	C	N1-C2-O2	6.75	122.95	118.90
1	5	1716	U	P-O3'-C3'	6.75	127.80	119.70
1	5	2403	G	C4-N9-C1'	6.75	135.28	126.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2620	G	N3-C4-C5	6.75	131.97	128.60
12	C7	115	LEU	CA-CB-CG	6.75	130.81	115.30
1	1	2675	C	C2-N1-C1'	6.74	126.22	118.80
1	5	2249	G	N9-C1'-C2'	-6.74	104.58	112.00
1	5	2315	G	C6-C5-N7	-6.74	126.35	130.40
1	5	1145	G	N9-C4-C5	-6.74	102.70	105.40
1	1	2679	A	N9-C4-C5	-6.74	103.10	105.80
1	5	101	G	N1-C6-O6	6.74	123.94	119.90
1	5	867	G	N1-C6-O6	6.74	123.94	119.90
1	5	2416	U	O5'-P-OP2	-6.74	99.64	105.70
1	5	2600	C	C6-N1-C2	-6.74	117.61	120.30
1	5	1730	G	N3-C4-N9	6.73	130.04	126.00
1	1	1522	U	N3-C2-O2	-6.73	117.49	122.20
1	1	1362	G	C8-N9-C4	6.73	109.09	106.40
2	6	234	G	C4-N9-C1'	6.73	135.25	126.50
2	6	1582	U	C5-C6-N1	-6.73	119.34	122.70
1	1	1764	U	C5-C6-N1	6.72	126.06	122.70
2	2	794	U	N1-C2-O2	6.72	127.51	122.80
2	2	1600	A	C6-C5-N7	-6.72	127.59	132.30
1	1	1716	U	P-O3'-C3'	6.72	127.77	119.70
1	1	36	C	C6-N1-C2	-6.72	117.61	120.30
2	6	355	G	O5'-P-OP2	-6.72	99.66	105.70
1	5	2401	A	N9-C4-C5	-6.71	103.11	105.80
1	1	780	A	C4-C5-N7	-6.71	107.34	110.70
2	6	1277	G	N9-C4-C5	6.71	108.08	105.40
1	1	1929	G	C5-C6-O6	-6.71	124.58	128.60
1	5	1115	G	C4-N9-C1'	6.71	135.22	126.50
1	5	2405	C	C6-N1-C2	6.71	122.98	120.30
1	1	1780	G	C8-N9-C4	-6.71	103.72	106.40
1	5	2222	A	O5'-P-OP2	-6.70	99.67	105.70
1	5	2278	C	N1-C2-O2	6.70	122.92	118.90
1	1	1444	G	C4-C5-N7	6.70	113.48	110.80
2	6	558	U	C6-N1-C2	-6.70	116.98	121.00
2	6	1773	C	N3-C4-C5	-6.70	119.22	121.90
1	5	2872	A	C8-N9-C4	-6.70	103.12	105.80
1	1	1763	U	C6-N1-C2	-6.69	116.98	121.00
1	1	1493	G	C4-C5-N7	-6.69	108.12	110.80
2	6	338	C	C6-N1-C2	6.69	122.98	120.30
1	1	964	G	OP2-P-O3'	6.68	119.90	105.20
1	1	2360	C	C2-N3-C4	-6.68	116.56	119.90
3	3	8	G	C8-N9-C4	6.67	109.07	106.40
1	5	2837	A	C8-N9-C4	6.67	108.47	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	6	558	U	N1-C2-O2	6.67	127.47	122.80
1	1	793	C	C2-N1-C1'	6.67	126.13	118.80
75	s7	118	LEU	CA-CB-CG	6.67	130.63	115.30
1	1	1507	G	C4-C5-N7	6.66	113.47	110.80
3	3	29	C	C6-N1-C2	-6.66	117.64	120.30
1	5	94	G	N3-C4-C5	6.66	131.93	128.60
1	5	2251	G	C5-C6-O6	-6.66	124.61	128.60
1	5	2866	U	N3-C2-O2	-6.65	117.54	122.20
1	5	757	C	C6-N1-C2	6.65	122.96	120.30
1	1	1348	U	C2-N1-C1'	6.65	125.68	117.70
1	5	3260	G	N3-C4-C5	-6.64	125.28	128.60
1	1	1411	C	N3-C4-C5	6.64	124.56	121.90
2	2	1399	C	N1-C2-O2	6.64	122.88	118.90
2	6	389	G	N1-C6-O6	6.64	123.88	119.90
1	1	920	A	N1-C6-N6	6.64	122.58	118.60
1	1	2212	C	C6-N1-C2	-6.64	117.65	120.30
1	1	2944	U	C5-C6-N1	6.63	126.02	122.70
1	5	700	C	N3-C4-C5	-6.63	119.25	121.90
1	5	2374	C	O5'-P-OP1	-6.63	99.73	105.70
1	1	1663	C	C6-N1-C2	6.63	122.95	120.30
1	1	1586	G	N3-C4-N9	-6.62	122.03	126.00
1	1	1838	G	C5-C6-O6	-6.62	124.62	128.60
1	1	725	G	C8-N9-C4	6.62	109.05	106.40
1	1	116	A	N9-C4-C5	6.62	108.45	105.80
1	1	2708	C	C6-N1-C2	6.61	122.94	120.30
2	6	858	G	C6-C5-N7	-6.61	126.44	130.40
1	5	2965	U	C5-C4-O4	-6.60	121.94	125.90
1	1	2256	A	O4'-C1'-N9	6.60	113.48	108.20
1	5	420	G	C6-C5-N7	-6.60	126.44	130.40
1	1	2646	C	C6-N1-C2	6.60	122.94	120.30
1	5	282	G	C8-N9-C4	-6.60	103.76	106.40
1	5	1161	G	N1-C6-O6	6.60	123.86	119.90
1	1	65	A	P-O3'-C3'	6.60	127.62	119.70
1	1	2913	C	N1-C2-N3	-6.59	114.58	119.20
2	6	794	U	O5'-P-OP2	-6.59	99.77	105.70
1	1	92	G	C8-N9-C4	6.59	109.04	106.40
2	6	652	G	P-O3'-C3'	6.59	127.61	119.70
78	SM	171	PRO	N-CA-CB	6.59	111.21	103.30
2	2	852	C	C6-N1-C2	6.58	122.93	120.30
4	4	125	U	N3-C2-O2	-6.58	117.59	122.20
1	5	360	G	N3-C4-C5	-6.58	125.31	128.60
34	l9	161	LEU	CA-CB-CG	6.58	130.44	115.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	3266	G	C5-C6-O6	6.58	132.55	128.60
2	6	151	G	N3-C4-N9	-6.58	122.05	126.00
1	5	2284	C	C2-N1-C1'	6.58	126.04	118.80
1	1	666	A	C8-N9-C4	6.57	108.43	105.80
7	C2	103	LEU	CA-CB-CG	6.57	130.42	115.30
1	1	432	G	C5-C6-N1	-6.57	108.22	111.50
1	1	886	C	C6-N1-C2	6.57	122.93	120.30
1	5	347	G	C4-C5-N7	6.57	113.43	110.80
1	1	2403	G	C6-C5-N7	-6.57	126.46	130.40
2	6	613	G	N3-C4-C5	-6.57	125.32	128.60
1	1	2726	C	N3-C2-O2	-6.57	117.30	121.90
1	1	645	A	C8-N9-C4	-6.56	103.17	105.80
1	1	1120	A	N1-C6-N6	-6.56	114.67	118.60
1	1	1202	A	N1-C6-N6	6.56	122.53	118.60
1	1	2311	G	O5'-P-OP1	-6.55	99.80	105.70
1	5	81	C	C6-N1-C2	-6.55	117.68	120.30
2	6	1059	U	C2-N1-C1'	6.55	125.57	117.70
1	5	2550	U	N3-C2-O2	-6.55	117.61	122.20
2	6	1762	A	OP1-P-O3'	-6.55	90.80	105.20
1	1	1327	C	N3-C4-C5	-6.55	119.28	121.90
2	2	569	C	C6-N1-C2	6.55	122.92	120.30
1	1	1443	G	C4-C5-N7	6.54	113.42	110.80
1	5	1146	C	C6-N1-C2	6.54	122.92	120.30
1	5	975	C	C6-N1-C2	6.54	122.92	120.30
2	6	377	G	N1-C6-O6	6.54	123.82	119.90
1	1	2965	U	C5-C4-O4	-6.54	121.98	125.90
1	1	3370	A	N1-C6-N6	6.54	122.52	118.60
28	l3	246	LEU	CA-CB-CG	6.54	130.34	115.30
1	5	99	A	N1-C6-N6	-6.54	114.68	118.60
1	5	1227	C	C6-N1-C2	-6.54	117.69	120.30
1	5	2366	C	C6-N1-C2	6.53	122.91	120.30
1	5	94	G	N3-C4-N9	-6.53	122.08	126.00
1	1	2418	G	C5-N7-C8	-6.53	101.04	104.30
1	5	1356	U	C6-N1-C2	-6.52	117.09	121.00
1	5	2315	G	C4-C5-N7	6.52	113.41	110.80
2	2	192	U	N3-C2-O2	-6.52	117.63	122.20
1	1	797	U	C6-N1-C2	-6.52	117.09	121.00
1	1	1435	A	N1-C6-N6	-6.52	114.69	118.60
2	2	1143	A	O5'-P-OP2	-6.52	99.83	105.70
2	2	1751	C	N3-C4-C5	6.52	124.51	121.90
1	1	2222	A	N1-C6-N6	-6.52	114.69	118.60
1	5	1930	A	C8-N9-C4	-6.52	103.19	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	2	344	A	C8-N9-C4	6.51	108.41	105.80
1	5	2821	C	C2-N1-C1'	6.51	125.97	118.80
1	1	3075	G	C4-C5-N7	6.51	113.41	110.80
1	5	1306	G	OP2-P-O3'	6.51	119.53	105.20
1	1	2284	C	N1-C2-O2	6.51	122.81	118.90
1	5	2170	U	O5'-P-OP1	-6.51	99.84	105.70
1	5	3311	C	N3-C4-C5	6.51	124.50	121.90
2	6	1041	G	C8-N9-C4	-6.51	103.80	106.40
1	5	2881	C	N3-C4-C5	6.51	124.50	121.90
1	1	667	C	C5-C6-N1	-6.50	117.75	121.00
2	2	1490	C	P-O3'-C3'	6.50	127.50	119.70
1	5	2817	A	N9-C4-C5	-6.50	103.20	105.80
1	5	2376	G	N3-C4-N9	6.50	129.90	126.00
4	4	44	A	O5'-P-OP1	-6.50	99.85	105.70
1	1	725	G	C4-N9-C1'	-6.50	118.06	126.50
1	1	2227	C	P-O3'-C3'	6.50	127.49	119.70
1	1	283	G	C8-N9-C1'	-6.49	118.56	127.00
1	1	793	C	C6-N1-C2	-6.49	117.70	120.30
1	1	979	U	P-O3'-C3'	6.49	127.48	119.70
1	1	2556	C	N3-C2-O2	-6.49	117.36	121.90
1	5	247	C	C6-N1-C2	-6.49	117.71	120.30
1	5	1161	G	C6-C5-N7	-6.48	126.51	130.40
2	6	136	C	N1-C2-O2	6.48	122.79	118.90
2	2	1572	G	C4-C5-N7	6.48	113.39	110.80
1	1	884	A	C5-C6-N6	-6.48	118.52	123.70
1	1	2282	U	O5'-P-OP2	-6.48	99.87	105.70
1	5	601	U	C5-C6-N1	6.48	125.94	122.70
2	6	1541	G	C5-C6-O6	6.48	132.49	128.60
1	1	915	A	N7-C8-N9	6.48	117.04	113.80
1	1	2606	G	C8-N9-C1'	-6.48	118.58	127.00
1	5	2877	G	N3-C4-N9	6.48	129.88	126.00
4	8	46	G	N1-C6-O6	-6.48	116.01	119.90
1	1	3194	C	C6-N1-C1'	-6.47	113.04	120.80
1	5	61	A	C8-N9-C4	-6.47	103.21	105.80
1	1	145	G	N3-C4-C5	-6.47	125.37	128.60
1	1	1403	C	N3-C4-C5	6.47	124.49	121.90
1	5	821	U	C6-N1-C2	-6.47	117.12	121.00
2	6	1039	A	O4'-C1'-N9	6.47	113.37	108.20
1	1	545	U	N3-C2-O2	-6.46	117.67	122.20
1	5	2598	G	O5'-P-OP2	-6.46	99.88	105.70
2	6	541	A	C8-N9-C4	-6.46	103.21	105.80
1	5	1103	A	N3-C4-C5	-6.46	122.28	126.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	6	939	A	C8-N9-C4	-6.46	103.22	105.80
1	1	919	U	N3-C2-O2	-6.46	117.68	122.20
1	5	1078	U	N1-C2-N3	6.46	118.78	114.90
1	5	1825	G	N1-C6-O6	-6.46	116.03	119.90
1	1	3042	U	C6-N1-C2	-6.46	117.13	121.00
1	5	384	A	C8-N9-C4	6.46	108.38	105.80
1	5	3043	C	C6-N1-C2	-6.46	117.72	120.30
1	1	1145	G	N9-C4-C5	-6.46	102.82	105.40
1	1	645	A	C4-C5-N7	-6.45	107.47	110.70
1	5	2325	G	N3-C4-C5	6.45	131.83	128.60
1	1	251	G	C4-N9-C1'	6.45	134.89	126.50
1	1	1145	G	C5-C6-O6	-6.45	124.73	128.60
1	1	2996	U	C6-N1-C1'	-6.45	112.17	121.20
1	1	966	U	C6-N1-C2	-6.45	117.13	121.00
1	1	2616	C	C6-N1-C2	6.45	122.88	120.30
1	1	232	G	O4'-C1'-N9	6.44	113.35	108.20
1	5	1863	G	C8-N9-C4	6.44	108.98	106.40
1	1	1306	G	C4-C5-N7	6.44	113.38	110.80
1	1	1542	G	C6-C5-N7	-6.44	126.53	130.40
32	l7	229	PHE	CB-CG-CD1	6.44	125.31	120.80
1	1	793	C	N3-C2-O2	-6.44	117.39	121.90
1	5	1308	A	N9-C4-C5	6.44	108.37	105.80
1	1	1402	C	C6-N1-C2	6.43	122.87	120.30
1	1	2735	U	C6-N1-C2	-6.43	117.14	121.00
1	1	1169	A	N1-C6-N6	-6.43	114.74	118.60
1	1	1865	A	N9-C4-C5	-6.43	103.23	105.80
1	5	3209	A	C8-N9-C4	6.43	108.37	105.80
1	1	3080	G	C5-C6-O6	-6.43	124.74	128.60
1	1	2606	G	N3-C4-N9	6.42	129.85	126.00
4	4	33	A	O5'-P-OP2	6.42	118.40	110.70
1	1	2922	G	C4-N9-C1'	6.41	134.84	126.50
1	5	1324	U	C6-N1-C2	6.41	124.85	121.00
1	5	2241	U	C5-C4-O4	6.41	129.75	125.90
1	1	545	U	N1-C2-O2	6.41	127.29	122.80
2	6	163	G	N9-C4-C5	6.41	107.96	105.40
1	1	2867	C	N3-C2-O2	6.41	126.39	121.90
1	1	867	G	C5-C6-O6	-6.41	124.76	128.60
2	6	455	C	C6-N1-C2	-6.41	117.74	120.30
1	1	924	G	C8-N9-C4	-6.40	103.84	106.40
1	1	2645	G	C6-C5-N7	-6.40	126.56	130.40
1	5	3039	C	C6-N1-C2	6.40	122.86	120.30
1	5	3382	U	N1-C2-O2	6.40	127.28	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1143	A	C8-N9-C4	6.40	108.36	105.80
2	2	507	U	C2-N1-C1'	6.40	125.38	117.70
1	5	2824	G	C6-C5-N7	-6.40	126.56	130.40
1	1	1516	C	C6-N1-C2	6.40	122.86	120.30
1	5	2651	G	N1-C6-O6	6.39	123.74	119.90
1	1	2209	U	C5-C6-N1	6.39	125.90	122.70
1	1	923	C	C6-N1-C2	6.39	122.86	120.30
1	5	203	G	N1-C6-O6	-6.39	116.06	119.90
2	2	320	U	O5'-P-OP1	-6.39	99.95	105.70
1	5	2231	C	C2-N1-C1'	6.39	125.83	118.80
1	5	1078	U	N1-C2-O2	-6.38	118.33	122.80
2	6	577	G	C4-C5-N7	6.38	113.35	110.80
1	1	1604	G	C6-C5-N7	-6.38	126.57	130.40
1	1	1148	G	C8-N9-C4	6.38	108.95	106.40
1	5	2727	A	N1-C6-N6	-6.38	114.77	118.60
1	1	1443	G	N3-C2-N2	-6.38	115.43	119.90
1	5	3278	C	N3-C2-O2	-6.38	117.44	121.90
2	2	577	G	N1-C6-O6	6.38	123.72	119.90
1	1	1166	G	C4-C5-N7	6.37	113.35	110.80
2	2	794	U	C2-N1-C1'	6.37	125.34	117.70
2	6	266	A	C8-N9-C4	6.37	108.35	105.80
40	m6	27	LEU	CA-CB-CG	-6.37	100.65	115.30
2	2	590	C	C6-N1-C2	-6.37	117.75	120.30
1	5	635	G	C8-N9-C4	6.37	108.95	106.40
2	2	1456	C	C2-N1-C1'	6.37	125.80	118.80
1	1	2556	C	N1-C2-O2	6.37	122.72	118.90
2	2	553	G	C6-C5-N7	-6.37	126.58	130.40
2	2	1572	G	N1-C6-O6	6.37	123.72	119.90
1	5	637	C	C6-N1-C2	6.37	122.85	120.30
1	1	336	A	N9-C4-C5	-6.36	103.25	105.80
2	2	1768	G	N1-C6-O6	-6.36	116.08	119.90
1	1	2311	G	N1-C6-O6	6.36	123.72	119.90
1	5	2852	C	N3-C4-C5	-6.36	119.36	121.90
2	6	1059	U	O4'-C1'-N1	6.36	113.29	108.20
1	1	3053	G	N1-C6-O6	6.36	123.72	119.90
2	2	934	C	C2-N1-C1'	6.36	125.79	118.80
2	6	1340	U	C2-N1-C1'	6.36	125.33	117.70
2	2	364	G	C8-N9-C4	6.35	108.94	106.40
2	2	1370	U	P-O3'-C3'	6.35	127.32	119.70
9	C4	137	LEU	CA-CB-CG	6.35	129.91	115.30
1	1	1435	A	C6-N1-C2	-6.35	114.79	118.60
1	1	657	A	OP1-P-O3'	6.35	119.17	105.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	2	614	C	C6-N1-C2	-6.35	117.76	120.30
1	1	1028	U	OP2-P-O3'	6.35	119.17	105.20
2	6	779	U	O4'-C1'-N1	6.35	113.28	108.20
1	1	914	A	N9-C4-C5	6.35	108.34	105.80
1	1	2608	G	N7-C8-N9	-6.35	109.93	113.10
1	5	1581	C	N3-C4-C5	6.34	124.44	121.90
1	1	3218	A	N1-C6-N6	6.34	122.41	118.60
1	1	2913	C	N3-C2-O2	6.34	126.34	121.90
1	1	3217	C	N3-C2-O2	-6.34	117.46	121.90
1	5	311	C	C6-N1-C2	-6.34	117.76	120.30
1	1	1542	G	N1-C6-O6	6.34	123.70	119.90
1	1	2696	A	O5'-P-OP2	-6.34	100.00	105.70
1	5	2381	G	N1-C6-O6	6.34	123.70	119.90
2	6	696	C	C6-N1-C2	-6.34	117.76	120.30
1	5	833	G	N9-C4-C5	-6.34	102.87	105.40
1	5	2927	C	N3-C4-C5	6.34	124.43	121.90
1	1	2937	G	C4-C5-N7	6.33	113.33	110.80
1	5	979	U	N3-C2-O2	-6.33	117.77	122.20
1	1	2828	G	N1-C6-O6	-6.33	116.10	119.90
2	2	1082	C	C2-N1-C1'	6.33	125.76	118.80
1	5	1701	C	C6-N1-C2	-6.33	117.77	120.30
1	5	3344	A	C8-N9-C4	6.33	108.33	105.80
2	6	1398	U	C2-N1-C1'	6.33	125.29	117.70
1	5	2957	G	N3-C4-C5	6.33	131.76	128.60
2	2	1399	C	N3-C2-O2	-6.32	117.47	121.90
1	1	1206	G	C8-N9-C4	-6.32	103.87	106.40
3	3	114	U	O5'-P-OP2	-6.32	100.01	105.70
1	1	651	G	C6-C5-N7	-6.32	126.61	130.40
1	1	979	U	N1-C2-N3	6.32	118.69	114.90
2	2	577	G	C4-C5-N7	6.31	113.33	110.80
2	6	682	C	C6-N1-C2	-6.31	117.77	120.30
1	1	1422	G	C6-C5-N7	-6.31	126.61	130.40
1	1	28	C	C5-C6-N1	-6.31	117.85	121.00
2	2	1154	G	N1-C6-O6	-6.31	116.11	119.90
1	5	1053	A	N1-C6-N6	6.31	122.38	118.60
1	5	2177	G	C8-N9-C4	6.31	108.92	106.40
1	1	1554	U	N1-C2-O2	-6.30	118.39	122.80
1	5	2934	A	N1-C6-N6	6.30	122.38	118.60
1	1	2158	A	N1-C6-N6	6.30	122.38	118.60
1	1	2209	U	C2-N1-C1'	6.30	125.26	117.70
1	1	2553	U	N1-C2-O2	6.30	127.21	122.80
4	4	82	U	C2-N1-C1'	6.30	125.26	117.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2873	U	N3-C2-O2	-6.30	117.79	122.20
1	1	2263	C	C6-N1-C2	6.30	122.82	120.30
1	5	274	G	C8-N9-C4	6.30	108.92	106.40
1	1	3139	A	C8-N9-C4	-6.29	103.28	105.80
1	1	2247	G	C8-N9-C4	-6.29	103.88	106.40
1	5	860	G	N9-C4-C5	-6.29	102.88	105.40
2	6	192	U	C2-N1-C1'	6.29	125.25	117.70
1	5	1779	C	N3-C4-N4	6.29	122.40	118.00
1	1	1413	G	C6-C5-N7	-6.28	126.63	130.40
1	1	73	C	C6-N1-C2	-6.28	117.79	120.30
1	1	1852	G	C4-C5-N7	6.28	113.31	110.80
1	1	2818	U	O5'-P-OP1	-6.28	100.05	105.70
1	5	1188	U	N3-C2-O2	-6.28	117.80	122.20
1	1	3098	G	C5-C6-N1	6.28	114.64	111.50
1	1	639	G	N3-C4-C5	6.28	131.74	128.60
2	2	1059	U	N1-C2-O2	6.28	127.19	122.80
1	5	2873	U	N3-C2-O2	-6.28	117.81	122.20
1	1	234	G	O5'-P-OP1	-6.27	100.05	105.70
1	1	3278	C	C2-N1-C1'	6.27	125.70	118.80
2	2	543	C	C4-C5-C6	6.27	120.54	117.40
1	5	366	A	C8-N9-C4	6.27	108.31	105.80
1	5	3245	A	C2-N3-C4	-6.27	107.47	110.60
2	6	1560	U	N3-C2-O2	-6.27	117.81	122.20
1	1	1400	G	N1-C6-O6	-6.27	116.14	119.90
1	5	435	C	C6-N1-C2	6.27	122.81	120.30
1	5	1839	A	N7-C8-N9	-6.27	110.67	113.80
1	1	1866	C	C6-N1-C1'	-6.27	113.28	120.80
1	5	2945	G	O5'-P-OP2	-6.27	100.06	105.70
1	1	1114	U	N3-C4-C5	-6.26	110.84	114.60
1	1	1815	U	P-O3'-C3'	6.26	127.22	119.70
1	5	1495	U	C6-N1-C2	-6.26	117.24	121.00
1	1	2651	G	N1-C6-O6	6.26	123.66	119.90
2	2	130	C	C6-N1-C2	-6.26	117.80	120.30
1	5	2600	C	C5-C6-N1	6.26	124.13	121.00
1	1	282	G	P-O3'-C3'	6.26	127.21	119.70
1	1	1157	G	C8-N9-C4	6.26	108.90	106.40
1	1	1404	G	N1-C6-O6	6.26	123.65	119.90
2	2	1096	C	C6-N1-C2	-6.26	117.80	120.30
1	5	3100	U	C6-N1-C2	6.26	124.75	121.00
2	6	653	C	C5-C6-N1	6.26	124.13	121.00
1	1	1482	A	O5'-P-OP2	-6.25	100.07	105.70
1	1	1102	A	C8-N9-C4	6.25	108.30	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2152	A	C8-N9-C4	-6.25	103.30	105.80
1	5	359	U	C6-N1-C2	-6.25	117.25	121.00
1	1	2730	G	N3-C4-N9	-6.25	122.25	126.00
34	L9	191	LEU	CA-CB-CG	6.25	129.67	115.30
1	1	2818	U	N3-C2-O2	6.25	126.57	122.20
1	1	935	U	N3-C2-O2	-6.25	117.83	122.20
1	1	2256	A	OP1-P-O3'	6.25	118.94	105.20
2	6	1042	G	N1-C6-O6	6.24	123.64	119.90
1	1	1166	G	N1-C6-O6	6.24	123.64	119.90
1	1	1438	U	C6-N1-C2	-6.24	117.26	121.00
1	1	2818	U	N3-C4-O4	6.24	123.77	119.40
4	4	14	C	C2-N1-C1'	-6.24	111.94	118.80
1	1	1889	G	C5-C6-O6	-6.24	124.86	128.60
1	5	2935	U	C5-C6-N1	6.24	125.82	122.70
1	1	1581	C	C6-N1-C2	-6.23	117.81	120.30
2	2	864	U	C2-N1-C1'	6.23	125.18	117.70
1	1	1157	G	N1-C6-O6	6.23	123.64	119.90
1	1	2933	A	N1-C6-N6	-6.23	114.86	118.60
1	5	1413	G	C4-C5-N7	6.23	113.29	110.80
2	2	1490	C	C6-N1-C2	-6.23	117.81	120.30
1	1	2603	G	O5'-P-OP2	-6.23	100.10	105.70
1	5	809	G	C5-C6-O6	-6.23	124.86	128.60
1	1	1480	G	C4-C5-N7	6.22	113.29	110.80
2	2	136	C	C2-N1-C1'	6.22	125.65	118.80
1	5	1413	G	C5-C6-O6	-6.22	124.87	128.60
1	1	224	C	C5-C4-N4	-6.22	115.85	120.20
1	1	1348	U	N3-C2-O2	-6.22	117.85	122.20
2	6	638	U	N1-C2-O2	6.22	127.15	122.80
1	1	793	C	N1-C2-O2	6.22	122.63	118.90
1	1	2620	G	N3-C4-C5	6.22	131.71	128.60
1	5	1779	C	C5-C6-N1	6.22	124.11	121.00
1	5	1331	U	C6-N1-C2	6.21	124.73	121.00
1	5	1145	G	C6-C5-N7	-6.21	126.67	130.40
1	5	1156	C	C6-N1-C2	6.21	122.78	120.30
2	6	418	G	C8-N9-C4	6.21	108.88	106.40
4	4	54	A	C5-N7-C8	-6.21	100.80	103.90
2	2	305	C	C6-N1-C2	6.20	122.78	120.30
1	5	1200	A	N1-C6-N6	6.20	122.32	118.60
2	2	1324	G	N9-C4-C5	6.20	107.88	105.40
2	6	607	G	C5-C6-O6	-6.20	124.88	128.60
1	5	2386	A	C8-N9-C4	6.20	108.28	105.80
2	6	302	U	C5-C6-N1	6.20	125.80	122.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	822	G	C8-N9-C4	-6.20	103.92	106.40
1	5	988	U	C6-N1-C2	6.20	124.72	121.00
1	1	3084	C	N3-C4-C5	-6.20	119.42	121.90
2	6	171	A	N1-C2-N3	6.20	132.40	129.30
1	1	2862	U	C5-C6-N1	-6.19	119.60	122.70
1	1	1437	C	C6-N1-C2	-6.19	117.82	120.30
2	2	308	C	N3-C4-C5	6.19	124.38	121.90
2	6	1600	A	C6-C5-N7	-6.19	127.97	132.30
1	5	2132	C	C5-C6-N1	6.19	124.09	121.00
2	2	794	U	P-O3'-C3'	6.19	127.12	119.70
2	6	741	C	C6-N1-C2	6.18	122.77	120.30
1	1	1016	C	C6-N1-C2	-6.18	117.83	120.30
1	1	1508	C	C6-N1-C2	-6.18	117.83	120.30
2	6	1097	U	P-O3'-C3'	6.18	127.12	119.70
1	1	350	C	C6-N1-C2	-6.18	117.83	120.30
2	2	1258	U	N3-C2-O2	-6.18	117.87	122.20
1	1	3269	U	N1-C2-O2	6.18	127.12	122.80
2	2	780	A	N1-C2-N3	6.18	132.39	129.30
1	5	1520	G	C5-C6-O6	-6.18	124.89	128.60
3	7	82	G	N1-C6-O6	-6.18	116.19	119.90
1	1	2860	U	N1-C2-O2	6.18	127.12	122.80
1	5	2715	A	N9-C4-C5	-6.18	103.33	105.80
2	2	1597	A	N1-C6-N6	6.18	122.31	118.60
1	5	1858	A	C8-N9-C4	-6.17	103.33	105.80
2	6	217	A	P-O3'-C3'	6.17	127.11	119.70
1	1	2943	G	C6-C5-N7	-6.17	126.70	130.40
2	6	765	G	C5-N7-C8	6.17	107.39	104.30
1	1	2818	U	C5-C4-O4	-6.17	122.20	125.90
1	1	1076	C	O5'-P-OP2	-6.17	100.15	105.70
2	2	734	A	P-O3'-C3'	6.17	127.10	119.70
1	1	1382	G	C8-N9-C4	6.17	108.87	106.40
1	5	1436	U	N1-C2-O2	6.16	127.11	122.80
2	2	261	U	N3-C2-O2	-6.16	117.89	122.20
1	5	2612	U	N3-C4-O4	6.16	123.71	119.40
1	5	2892	A	N1-C6-N6	6.16	122.30	118.60
4	8	140	G	N1-C6-O6	6.16	123.60	119.90
1	1	1158	A	O5'-P-OP2	-6.16	100.16	105.70
1	1	2256	A	P-O3'-C3'	6.16	127.09	119.70
1	1	2257	C	N1-C2-O2	6.16	122.59	118.90
1	1	2554	A	P-O3'-C3'	6.16	127.09	119.70
1	5	1633	C	C2-N1-C1'	6.16	125.57	118.80
1	1	2263	C	N3-C4-C5	6.16	124.36	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2376	G	N1-C6-O6	6.16	123.59	119.90
1	5	663	C	C6-N1-C2	-6.15	117.84	120.30
2	6	558	U	P-O3'-C3'	6.15	127.08	119.70
2	2	704	C	N3-C2-O2	-6.15	117.59	121.90
1	5	2872	A	N3-C4-C5	-6.15	122.49	126.80
1	1	1578	C	C5-C6-N1	6.15	124.08	121.00
1	1	3333	G	N1-C6-O6	-6.15	116.21	119.90
1	5	799	G	N1-C6-O6	6.15	123.59	119.90
2	6	276	C	C6-N1-C2	6.15	122.76	120.30
1	5	1149	G	C6-C5-N7	-6.15	126.71	130.40
1	5	2822	U	C5-C6-N1	6.15	125.78	122.70
2	6	765	G	N7-C8-N9	-6.15	110.03	113.10
1	1	2568	C	C2-N1-C1'	6.15	125.56	118.80
5	c0	83	PRO	N-CA-CB	6.15	110.68	103.30
1	1	3382	U	C6-N1-C2	-6.15	117.31	121.00
75	S7	31	SER	N-CA-C	6.15	127.59	111.00
1	5	427	C	C6-N1-C2	6.14	122.76	120.30
1	5	2403	G	C8-N9-C1'	-6.14	119.01	127.00
1	1	302	U	N3-C2-O2	-6.14	117.90	122.20
1	5	651	G	C5-C6-O6	-6.14	124.92	128.60
1	1	1399	A	N3-C4-C5	6.14	131.10	126.80
2	2	1745	G	C4-N9-C1'	6.14	134.48	126.50
1	1	2809	C	C5-C6-N1	6.14	124.07	121.00
1	1	669	U	C6-N1-C2	6.14	124.68	121.00
3	3	26	C	C6-N1-C2	-6.14	117.84	120.30
1	5	2606	G	N3-C2-N2	6.14	124.20	119.90
1	5	3089	C	N3-C2-O2	-6.14	117.61	121.90
17	D2	104	LEU	CA-CB-CG	6.14	129.41	115.30
1	1	2820	A	C4-C5-C6	-6.13	113.93	117.00
1	5	3089	C	N1-C2-O2	6.13	122.58	118.90
3	7	93	C	C2-N3-C4	-6.13	116.83	119.90
1	1	1589	A	C5-C6-N6	-6.13	118.80	123.70
1	1	891	G	N9-C4-C5	-6.13	102.95	105.40
1	1	2340	U	C5-C6-N1	6.13	125.76	122.70
1	5	2105	G	C8-N9-C4	6.13	108.85	106.40
2	6	460	A	O5'-P-OP1	-6.13	100.18	105.70
1	5	2332	A	N1-C6-N6	6.13	122.28	118.60
1	5	2362	C	N3-C2-O2	-6.13	117.61	121.90
1	5	2949	U	C5-C6-N1	-6.12	119.64	122.70
1	5	405	U	OP2-P-O3'	6.12	118.67	105.20
1	5	1303	A	N9-C4-C5	-6.12	103.35	105.80
1	5	3069	G	C5-C6-O6	6.12	132.27	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	8	105	A	N1-C6-N6	6.12	122.27	118.60
1	1	2825	C	N1-C2-O2	6.12	122.57	118.90
1	5	2837	A	N9-C4-C5	-6.12	103.35	105.80
1	1	2899	C	N3-C2-O2	-6.12	117.62	121.90
2	2	1739	C	C6-N1-C2	6.12	122.75	120.30
2	6	1490	C	C5-C6-N1	6.12	124.06	121.00
2	6	1211	A	C8-N9-C4	-6.12	103.35	105.80
1	5	1417	G	C4-C5-N7	6.12	113.25	110.80
2	6	1286	U	C5-C6-N1	6.12	125.76	122.70
1	1	1677	G	N1-C6-O6	6.11	123.57	119.90
2	2	192	U	C6-N1-C2	-6.11	117.33	121.00
1	1	2620	G	N1-C6-O6	6.11	123.57	119.90
1	1	1938	U	C6-N1-C2	6.11	124.67	121.00
1	5	609	G	O5'-P-OP2	-6.11	100.20	105.70
1	5	1028	U	N1-C2-O2	6.11	127.08	122.80
1	5	1902	G	N1-C6-O6	6.11	123.56	119.90
1	5	2325	G	C4-C5-N7	6.11	113.24	110.80
1	1	1720	U	C5-C4-O4	6.11	129.56	125.90
1	5	1115	G	C6-C5-N7	-6.11	126.74	130.40
1	1	635	G	O5'-P-OP2	6.10	118.02	110.70
1	1	1654	A	C8-N9-C4	6.10	108.24	105.80
1	1	92	G	C5-C6-O6	-6.10	124.94	128.60
1	5	1878	G	C8-N9-C4	-6.10	103.96	106.40
1	5	1150	A	C8-N9-C4	-6.10	103.36	105.80
1	5	2169	G	C6-C5-N7	6.10	134.06	130.40
1	1	200	C	N1-C2-O2	-6.10	115.24	118.90
1	1	222	A	N1-C6-N6	6.10	122.26	118.60
1	1	508	U	C6-N1-C2	-6.10	117.34	121.00
1	1	3382	U	N3-C2-O2	-6.10	117.93	122.20
1	5	297	G	O4'-C1'-N9	6.10	113.08	108.20
1	5	359	U	N1-C2-N3	6.10	118.56	114.90
1	5	639	G	C8-N9-C4	6.10	108.84	106.40
1	1	439	C	C5-C6-N1	6.09	124.05	121.00
1	1	2139	A	OP1-P-O3'	6.09	118.61	105.20
1	5	873	C	P-O3'-C3'	6.09	127.01	119.70
2	6	306	U	C6-N1-C2	6.09	124.66	121.00
2	6	377	G	C5-C6-O6	-6.09	124.94	128.60
1	5	1375	G	C5-C6-O6	-6.09	124.94	128.60
1	1	3370	A	O5'-P-OP2	-6.09	100.22	105.70
1	1	2794	G	N3-C4-C5	6.09	131.64	128.60
1	1	63	A	C4-C5-C6	6.08	120.04	117.00
1	5	1196	C	C5-C4-N4	6.08	124.46	120.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	61	A	N9-C4-C5	6.08	108.23	105.80
1	5	2433	U	C6-N1-C2	6.08	124.65	121.00
2	2	507	U	N1-C2-O2	6.08	127.06	122.80
1	5	776	U	N3-C2-O2	-6.08	117.94	122.20
1	5	1906	G	N1-C6-O6	6.08	123.55	119.90
1	1	2147	A	C8-N9-C4	6.08	108.23	105.80
1	5	2246	G	N1-C6-O6	6.08	123.55	119.90
2	6	1489	U	C5-C6-N1	6.08	125.74	122.70
1	1	2381	G	C5-C6-O6	-6.08	124.95	128.60
1	5	3269	U	C6-N1-C2	-6.08	117.35	121.00
4	4	140	G	C5-C6-O6	-6.07	124.96	128.60
1	5	525	C	C6-N1-C2	-6.07	117.87	120.30
1	1	827	A	C8-N9-C4	6.07	108.23	105.80
1	5	2872	A	P-O3'-C3'	6.07	126.98	119.70
44	N0	24	LEU	CA-CB-CG	6.07	129.26	115.30
1	1	1764	U	C6-N1-C2	-6.07	117.36	121.00
17	d2	93	LEU	CA-CB-CG	6.07	129.26	115.30
1	1	1306	G	C8-N9-C1'	-6.07	119.11	127.00
1	1	2922	G	C8-N9-C1'	-6.06	119.12	127.00
1	1	370	U	O5'-P-OP2	-6.06	100.24	105.70
1	5	3022	G	N9-C4-C5	6.06	107.83	105.40
1	5	291	C	C6-N1-C2	6.06	122.72	120.30
2	6	321	C	N1-C2-O2	6.06	122.54	118.90
1	1	1495	U	C2-N1-C1'	-6.06	110.43	117.70
1	1	2612	U	C2-N1-C1'	6.06	124.97	117.70
1	1	2613	U	C6-N1-C2	-6.06	117.36	121.00
1	1	1943	C	C6-N1-C2	-6.06	117.88	120.30
1	5	2809	C	N3-C4-C5	-6.06	119.48	121.90
2	6	302	U	C2-N1-C1'	6.06	124.97	117.70
1	1	352	A	C8-N9-C4	6.05	108.22	105.80
1	1	1819	U	C5-C6-N1	6.05	125.73	122.70
2	2	1782	A	C5-C6-N1	-6.05	114.67	117.70
1	5	3076	C	C5-C6-N1	6.05	124.03	121.00
1	1	1365	G	C8-N9-C4	-6.05	103.98	106.40
1	5	638	C	C6-N1-C2	-6.05	117.88	120.30
2	2	1291	G	C5-N7-C8	-6.05	101.27	104.30
2	2	1745	G	C8-N9-C1'	-6.05	119.14	127.00
1	5	1520	G	N1-C6-O6	6.05	123.53	119.90
1	5	2606	G	C8-N9-C1'	-6.05	119.14	127.00
1	5	3180	A	C8-N9-C4	6.05	108.22	105.80
2	2	1339	C	P-O3'-C3'	6.05	126.96	119.70
2	2	1465	C	C6-N1-C2	-6.05	117.88	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	3362	A	O4'-C1'-N9	6.05	113.04	108.20
1	1	2987	A	N1-C6-N6	6.04	122.23	118.60
4	4	11	C	C6-N1-C2	-6.04	117.88	120.30
1	5	409	A	O5'-P-OP1	-6.04	100.26	105.70
1	1	1095	U	C6-N1-C2	-6.04	117.38	121.00
2	2	782	U	P-O3'-C3'	6.04	126.95	119.70
2	2	497	G	P-O3'-C3'	6.04	126.94	119.70
1	1	901	G	O5'-P-OP1	-6.04	100.27	105.70
1	5	3092	C	O5'-P-OP2	6.04	117.94	110.70
3	7	92	A	O5'-P-OP1	-6.04	100.27	105.70
1	1	1003	A	O5'-P-OP1	-6.03	100.27	105.70
2	2	1757	G	C8-N9-C4	-6.03	103.99	106.40
2	2	1611	A	N1-C2-N3	6.03	132.31	129.30
1	5	1211	U	C5-C6-N1	-6.03	119.69	122.70
2	6	1457	C	N1-C2-O2	6.03	122.52	118.90
2	6	1511	U	C6-N1-C2	-6.03	117.38	121.00
1	5	420	G	N1-C6-O6	6.02	123.51	119.90
1	1	115	A	C8-N9-C4	6.02	108.21	105.80
1	5	2381	G	C5-C6-O6	-6.02	124.99	128.60
1	1	1930	A	C8-N9-C4	-6.02	103.39	105.80
1	5	1793	C	N3-C4-C5	6.02	124.31	121.90
2	6	992	A	C8-N9-C4	6.02	108.21	105.80
1	1	1404	G	N3-C4-C5	6.02	131.61	128.60
1	1	1865	A	C8-N9-C4	6.02	108.21	105.80
1	1	2613	U	N1-C2-N3	6.02	118.51	114.90
1	1	3012	A	C2-N3-C4	-6.02	107.59	110.60
1	5	2507	C	C6-N1-C2	-6.02	117.89	120.30
1	1	1454	A	N9-C4-C5	-6.01	103.39	105.80
1	1	817	A	O5'-P-OP1	-6.01	100.29	105.70
1	1	2355	G	C5-C6-O6	-6.01	124.99	128.60
2	2	1399	C	C2-N1-C1'	6.01	125.41	118.80
1	5	2326	A	N1-C6-N6	6.01	122.21	118.60
1	1	2139	A	N1-C6-N6	-6.01	114.99	118.60
2	2	1032	G	C8-N9-C4	6.01	108.80	106.40
1	5	1081	U	P-O3'-C3'	6.01	126.91	119.70
1	5	2779	A	O5'-P-OP1	-6.01	100.29	105.70
2	6	639	U	N3-C2-O2	-6.01	117.99	122.20
2	2	1572	G	N9-C4-C5	-6.01	103.00	105.40
1	1	2967	A	N9-C4-C5	-6.01	103.40	105.80
1	5	3286	G	N1-C6-O6	-6.01	116.30	119.90
2	6	542	A	P-O3'-C3'	6.01	126.91	119.70
2	2	321	C	N1-C2-O2	6.00	122.50	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	2	1733	C	C6-N1-C2	6.00	122.70	120.30
1	5	1183	C	C6-N1-C2	6.00	122.70	120.30
1	5	31	C	N3-C4-C5	6.00	124.30	121.90
1	5	1196	C	N3-C2-O2	-6.00	117.70	121.90
1	5	2156	C	C5-C6-N1	-6.00	118.00	121.00
2	6	576	G	N1-C6-O6	6.00	123.50	119.90
1	5	227	G	N3-C4-N9	6.00	129.60	126.00
1	5	432	G	N1-C6-O6	6.00	123.50	119.90
1	5	644	G	N9-C4-C5	6.00	107.80	105.40
2	6	433	C	O5'-P-OP1	-5.99	100.31	105.70
1	1	2735	U	C2-N1-C1'	5.99	124.89	117.70
1	1	3217	C	C6-N1-C1'	-5.99	113.61	120.80
1	5	227	G	N3-C4-C5	-5.99	125.61	128.60
1	5	3101	G	N1-C6-O6	5.99	123.49	119.90
2	6	1426	C	C6-N1-C2	5.99	122.69	120.30
1	1	1353	U	C6-N1-C2	-5.99	117.41	121.00
2	6	1568	C	C6-N1-C2	-5.99	117.91	120.30
1	5	1849	C	C2-N3-C4	-5.98	116.91	119.90
1	5	2403	G	N3-C4-N9	5.98	129.59	126.00
1	5	3135	U	N3-C4-O4	5.98	123.59	119.40
1	5	2313	A	C4-C5-N7	-5.98	107.71	110.70
1	1	966	U	C5-C6-N1	5.98	125.69	122.70
1	5	2651	G	C5-C6-O6	-5.98	125.01	128.60
1	5	1483	G	O4'-C1'-N9	5.98	112.98	108.20
1	1	291	C	C2-N1-C1'	-5.97	112.23	118.80
1	1	2142	A	O5'-P-OP2	-5.97	100.32	105.70
2	6	163	G	N3-C4-N9	-5.97	122.42	126.00
2	6	1607	G	C6-C5-N7	-5.97	126.81	130.40
1	1	73	C	N3-C4-C5	-5.97	119.51	121.90
1	1	570	A	N1-C6-N6	5.97	122.18	118.60
2	2	863	A	O4'-C1'-N9	5.97	112.98	108.20
1	5	2860	U	N1-C2-O2	5.97	126.98	122.80
1	1	798	G	C8-N9-C4	-5.97	104.01	106.40
1	1	2360	C	N3-C4-C5	5.97	124.29	121.90
3	3	58	C	C6-N1-C2	-5.97	117.91	120.30
1	5	2911	A	O5'-P-OP2	-5.97	100.33	105.70
50	N6	126	LEU	CA-CB-CG	5.97	129.03	115.30
1	1	2893	C	O5'-P-OP1	-5.97	100.33	105.70
2	2	73	U	OP1-P-O3'	5.97	118.33	105.20
1	5	1775	G	C5-C6-O6	-5.97	125.02	128.60
1	1	28	C	C2-N3-C4	-5.96	116.92	119.90
1	1	3195	U	C5-C6-N1	5.96	125.68	122.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	809	G	C4-C5-N7	5.96	113.18	110.80
1	5	2878	G	N1-C6-O6	5.96	123.47	119.90
1	1	2801	A	N1-C6-N6	5.96	122.17	118.60
1	5	2968	G	OP2-P-O3'	5.96	118.31	105.20
2	6	337	G	C5-C6-O6	-5.96	125.03	128.60
1	5	3209	A	N9-C4-C5	-5.95	103.42	105.80
1	1	924	G	O4'-C1'-N9	-5.95	103.44	108.20
1	1	3129	A	C8-N9-C4	5.95	108.18	105.80
1	1	3317	U	N3-C2-O2	-5.95	118.03	122.20
1	5	635	G	C4-C5-N7	5.95	113.18	110.80
1	5	1196	C	N3-C4-C5	-5.95	119.52	121.90
1	5	3266	G	C4-C5-N7	-5.95	108.42	110.80
1	1	835	G	O4'-C1'-N9	5.95	112.96	108.20
1	1	1355	A	P-O3'-C3'	5.95	126.84	119.70
1	1	2380	U	C6-N1-C2	5.95	124.57	121.00
3	3	67	G	N1-C6-O6	5.95	123.47	119.90
2	6	320	U	N3-C4-O4	5.95	123.56	119.40
1	1	116	A	C8-N9-C4	-5.94	103.42	105.80
1	1	764	U	OP2-P-O3'	5.94	118.28	105.20
1	1	1604	G	C8-N9-C1'	-5.94	119.27	127.00
2	6	1197	C	C6-N1-C2	-5.94	117.92	120.30
1	1	895	A	C5-N7-C8	-5.94	100.93	103.90
1	1	2363	A	N1-C6-N6	-5.94	115.03	118.60
2	2	1563	C	C6-N1-C2	5.94	122.68	120.30
1	5	1420	C	C6-N1-C2	-5.94	117.92	120.30
1	1	284	A	C4-C5-C6	5.94	119.97	117.00
1	1	3389	U	OP2-P-O3'	5.94	118.27	105.20
1	5	1633	C	C5-C6-N1	5.94	123.97	121.00
1	5	2395	G	N1-C6-O6	5.94	123.47	119.90
1	1	2403	G	N1-C6-O6	5.94	123.46	119.90
2	2	720	G	OP1-P-O3'	5.94	118.26	105.20
1	1	1484	U	P-O3'-C3'	5.94	126.82	119.70
1	5	101	G	C5-C6-O6	-5.94	125.04	128.60
1	5	2206	G	P-O3'-C3'	5.94	126.82	119.70
1	5	2954	U	N1-C2-O2	5.94	126.95	122.80
1	1	2192	C	N3-C2-O2	-5.93	117.75	121.90
1	1	2418	G	C4-C5-N7	5.93	113.17	110.80
2	2	934	C	N1-C2-O2	5.93	122.46	118.90
1	5	1844	C	N1-C2-O2	-5.93	115.34	118.90
1	1	639	G	C2-N3-C4	-5.93	108.93	111.90
1	1	2632	G	O5'-P-OP1	-5.93	100.36	105.70
1	1	2874	G	C5-C6-N1	-5.93	108.53	111.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2873	U	N1-C2-N3	5.93	118.46	114.90
1	5	953	G	N1-C6-O6	-5.93	116.34	119.90
1	5	2606	G	N9-C4-C5	-5.92	103.03	105.40
1	1	2860	U	N3-C2-O2	-5.92	118.05	122.20
2	2	797	G	C8-N9-C4	5.92	108.77	106.40
1	5	1417	G	C5-C6-O6	-5.92	125.05	128.60
1	1	1306	G	N9-C4-C5	-5.92	103.03	105.40
2	2	278	U	N1-C2-O2	5.92	126.94	122.80
1	1	953	G	N3-C2-N2	5.92	124.04	119.90
2	2	1644	C	C6-N1-C2	-5.92	117.93	120.30
1	5	1152	G	C5-C6-O6	-5.92	125.05	128.60
1	5	1284	C	P-O3'-C3'	5.92	126.80	119.70
1	5	3337	G	N3-C4-C5	5.92	131.56	128.60
1	1	803	C	C2-N1-C1'	5.92	125.31	118.80
1	1	2741	C	N3-C4-C5	-5.92	119.53	121.90
1	1	2950	G	N1-C6-O6	-5.92	116.35	119.90
1	5	1841	A	O5'-P-OP1	-5.92	100.38	105.70
1	1	1763	U	C5-C6-N1	5.92	125.66	122.70
1	5	3099	C	C5-C4-N4	-5.92	116.06	120.20
1	1	63	A	C8-N9-C4	-5.91	103.44	105.80
1	1	1865	A	N1-C6-N6	5.91	122.15	118.60
1	5	227	G	C4-N9-C1'	5.91	134.18	126.50
2	2	966	A	C8-N9-C4	5.91	108.16	105.80
4	8	31	G	C8-N9-C4	5.91	108.76	106.40
2	6	378	A	N9-C4-C5	-5.91	103.44	105.80
1	1	543	C	N1-C2-O2	5.91	122.44	118.90
1	1	1385	C	C5-C6-N1	-5.91	118.05	121.00
1	1	3012	A	C8-N9-C4	5.91	108.16	105.80
2	2	332	U	N1-C2-O2	5.91	126.93	122.80
1	5	868	C	C6-N1-C2	5.91	122.66	120.30
1	5	3175	U	O5'-P-OP2	-5.90	100.39	105.70
1	1	397	A	N1-C6-N6	-5.90	115.06	118.60
1	1	601	U	C5-C6-N1	5.90	125.65	122.70
4	4	104	A	N1-C6-N6	5.90	122.14	118.60
1	5	347	G	N9-C4-C5	-5.90	103.04	105.40
1	5	2372	A	OP2-P-O3'	-5.90	92.22	105.20
1	5	2390	A	N1-C6-N6	-5.90	115.06	118.60
1	5	3216	G	N1-C6-O6	5.90	123.44	119.90
1	5	2315	G	C5-C6-O6	-5.90	125.06	128.60
1	1	2608	G	N9-C4-C5	-5.89	103.04	105.40
2	2	895	G	N9-C4-C5	5.89	107.76	105.40
1	5	215	G	N1-C6-O6	5.89	123.44	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2144	A	C5-C6-N1	5.89	120.65	117.70
1	1	651	G	C4-C5-C6	5.89	122.33	118.80
1	1	2719	U	C6-N1-C2	5.89	124.53	121.00
1	1	1169	A	N9-C4-C5	5.89	108.16	105.80
1	5	2719	U	C6-N1-C2	5.89	124.53	121.00
1	1	3189	G	O5'-P-OP1	-5.89	100.40	105.70
1	1	189	G	O5'-P-OP1	-5.89	100.40	105.70
2	2	728	U	C2-N1-C1'	5.89	124.76	117.70
2	2	1075	C	C6-N1-C2	-5.89	117.94	120.30
1	1	264	G	C8-N9-C4	-5.88	104.05	106.40
1	1	1356	U	C2-N1-C1'	-5.88	110.64	117.70
1	1	1166	G	N3-C4-C5	5.88	131.54	128.60
1	1	1909	A	N9-C4-C5	-5.88	103.45	105.80
2	2	192	U	N1-C2-O2	5.88	126.92	122.80
1	1	116	A	C2-N3-C4	5.88	113.54	110.60
1	1	1451	C	C5-C4-N4	-5.88	116.08	120.20
1	1	1773	C	N3-C4-C5	5.88	124.25	121.90
3	3	89	G	C8-N9-C4	5.88	108.75	106.40
1	5	2869	U	O5'-P-OP1	-5.88	100.41	105.70
2	2	1729	C	C6-N1-C2	5.88	122.65	120.30
2	6	417	A	P-O3'-C3'	5.88	126.76	119.70
2	2	1061	A	C8-N9-C4	-5.88	103.45	105.80
2	6	639	U	C2-N1-C1'	5.88	124.75	117.70
1	5	1197	A	C8-N9-C4	5.88	108.15	105.80
1	5	358	G	N3-C4-N9	-5.88	122.47	126.00
2	6	1620	C	C6-N1-C2	-5.88	117.95	120.30
1	1	729	C	C6-N1-C2	-5.87	117.95	120.30
1	1	2969	A	O5'-P-OP1	-5.87	100.41	105.70
1	1	2101	C	OP1-P-O3'	5.87	118.11	105.20
2	2	1658	G	N3-C4-C5	5.87	131.54	128.60
1	5	835	G	N3-C4-C5	5.87	131.54	128.60
1	5	939	U	N3-C2-O2	-5.87	118.09	122.20
1	1	1115	G	C5-N7-C8	-5.87	101.36	104.30
2	2	278	U	P-O3'-C3'	5.87	126.74	119.70
1	1	3080	G	N1-C6-O6	5.87	123.42	119.90
1	1	251	G	C8-N9-C1'	-5.87	119.37	127.00
1	5	517	G	C6-C5-N7	-5.87	126.88	130.40
1	5	3269	U	P-O3'-C3'	5.87	126.74	119.70
1	1	1399	A	C2-N3-C4	-5.87	107.67	110.60
1	1	1497	C	N3-C4-C5	5.87	124.25	121.90
2	2	427	C	C6-N1-C2	5.87	122.65	120.30
1	1	124	U	N3-C2-O2	-5.86	118.09	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2355	G	C4-C5-N7	5.86	113.14	110.80
1	5	1149	G	C4-C5-N7	5.86	113.15	110.80
1	5	732	C	C6-N1-C2	-5.86	117.95	120.30
1	5	2169	G	C8-N9-C1'	5.86	134.62	127.00
1	1	2730	G	N9-C4-C5	5.86	107.74	105.40
2	6	1	U	C6-N1-C2	-5.86	117.48	121.00
1	1	2208	A	C8-N9-C4	-5.86	103.46	105.80
1	5	652	G	N3-C4-C5	-5.86	125.67	128.60
2	6	192	U	N1-C2-O2	5.86	126.90	122.80
4	8	2	A	C2-N3-C4	-5.86	107.67	110.60
1	1	632	G	C4-C5-N7	5.85	113.14	110.80
1	1	671	U	O5'-P-OP2	-5.85	100.43	105.70
1	5	2871	G	C5-N7-C8	-5.85	101.37	104.30
2	6	1277	G	C8-N9-C4	-5.85	104.06	106.40
5	c0	88	PRO	N-CA-CB	5.85	110.32	103.30
1	1	510	G	N3-C4-C5	5.85	131.53	128.60
1	5	1080	A	O4'-C1'-N9	5.85	112.88	108.20
1	5	384	A	N9-C4-C5	-5.85	103.46	105.80
1	5	3261	C	C6-N1-C2	5.85	122.64	120.30
1	1	2873	U	C5-C4-O4	5.85	129.41	125.90
2	2	1052	U	C2-N1-C1'	5.85	124.72	117.70
1	5	324	A	OP2-P-O3'	5.85	118.06	105.20
1	1	900	G	C8-N9-C4	-5.84	104.06	106.40
1	1	1380	G	C8-N9-C4	5.84	108.74	106.40
1	1	1838	G	C6-C5-N7	-5.84	126.89	130.40
1	1	1940	G	C8-N9-C4	5.84	108.74	106.40
1	1	2137	U	O4'-C1'-N1	5.84	112.88	108.20
1	1	2593	A	P-O3'-C3'	5.84	126.71	119.70
4	4	125	U	C2-N1-C1'	5.84	124.71	117.70
2	6	864	U	N3-C2-O2	-5.84	118.11	122.20
2	6	1340	U	C5-C6-N1	5.84	125.62	122.70
1	1	2600	C	C6-N1-C2	-5.84	117.96	120.30
2	2	1523	G	N3-C4-C5	-5.84	125.68	128.60
1	5	2385	G	N3-C4-N9	-5.84	122.50	126.00
2	6	802	G	N3-C4-C5	-5.84	125.68	128.60
1	1	2741	C	C6-N1-C2	-5.84	117.97	120.30
1	5	869	G	C6-C5-N7	5.84	133.90	130.40
2	6	1442	U	C6-N1-C2	-5.84	117.50	121.00
1	1	1300	G	C4-C5-N7	5.83	113.13	110.80
1	5	1201	C	C5-C6-N1	5.83	123.92	121.00
1	5	1846	C	C6-N1-C2	5.83	122.63	120.30
1	1	1178	G	N1-C6-O6	-5.83	116.40	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1495	U	N1-C2-O2	-5.83	118.72	122.80
2	2	488	G	O5'-P-OP1	5.83	117.70	110.70
1	5	3063	C	C6-N1-C2	5.83	122.63	120.30
2	2	131	C	N3-C2-O2	-5.83	117.82	121.90
1	1	2871	G	C4-C5-N7	5.82	113.13	110.80
1	1	3221	C	C6-N1-C2	-5.82	117.97	120.30
1	5	980	A	N9-C4-C5	5.82	108.13	105.80
2	2	1472	C	C6-N1-C2	5.82	122.63	120.30
1	1	424	G	N1-C6-O6	5.82	123.39	119.90
1	1	1175	C	C6-N1-C2	-5.82	117.97	120.30
1	1	1300	G	C6-C5-N7	-5.82	126.91	130.40
1	1	2237	C	C2-N1-C1'	-5.82	112.40	118.80
1	1	3382	U	C5-C6-N1	5.82	125.61	122.70
1	5	1145	G	C8-N9-C1'	-5.82	119.43	127.00
1	5	2647	A	N1-C6-N6	5.82	122.09	118.60
1	1	651	G	C8-N9-C4	-5.82	104.07	106.40
1	1	1838	G	N3-C4-N9	5.82	129.49	126.00
1	1	2882	U	C2-N3-C4	-5.82	123.51	127.00
2	2	1491	U	P-O3'-C3'	5.81	126.68	119.70
1	5	2625	C	C6-N1-C2	5.81	122.63	120.30
1	1	2362	C	C6-N1-C2	-5.81	117.97	120.30
1	1	2868	U	C6-N1-C2	-5.81	117.51	121.00
2	2	1	U	P-O3'-C3'	5.81	126.68	119.70
1	1	1892	G	O5'-P-OP2	-5.81	100.47	105.70
1	1	2625	C	N3-C4-C5	5.81	124.22	121.90
2	2	864	U	C5-C6-N1	5.81	125.61	122.70
1	1	945	C	N3-C4-C5	-5.81	119.58	121.90
1	5	2949	U	C2-N1-C1'	-5.81	110.73	117.70
1	5	2612	U	C5-C6-N1	5.80	125.60	122.70
4	8	58	G	OP1-P-OP2	-5.80	110.89	119.60
2	2	187	G	P-O3'-C3'	5.80	126.66	119.70
2	2	453	U	C6-N1-C1'	-5.80	113.08	121.20
1	5	1779	C	C6-N1-C2	-5.80	117.98	120.30
1	5	282	G	N7-C8-N9	5.80	116.00	113.10
1	1	2353	G	C8-N9-C4	-5.80	104.08	106.40
1	5	356	C	C6-N1-C2	5.80	122.62	120.30
1	1	1417	G	C8-N9-C4	5.79	108.72	106.40
1	1	3362	A	N1-C6-N6	5.79	122.08	118.60
1	1	3370	A	C5-C6-N6	-5.79	119.06	123.70
2	2	1134	C	C6-N1-C2	5.79	122.62	120.30
1	5	2881	C	OP2-P-O3'	5.79	117.95	105.20
2	6	993	A	N3-C4-C5	-5.79	122.74	126.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	8	39	G	C8-N9-C4	-5.79	104.08	106.40
36	M1	112	LEU	CA-CB-CG	5.79	128.62	115.30
1	1	1174	G	C4-N9-C1'	5.79	134.03	126.50
1	5	628	A	N1-C6-N6	5.79	122.08	118.60
1	5	2245	C	C5-C6-N1	-5.79	118.10	121.00
2	6	1139	A	C8-N9-C4	5.79	108.12	105.80
78	sM	166	PRO	N-CA-CB	5.79	110.25	103.30
1	5	937	G	N1-C6-O6	-5.79	116.43	119.90
1	5	2612	U	C6-N1-C2	-5.79	117.53	121.00
1	1	1016	C	N3-C2-O2	-5.79	117.85	121.90
1	1	184	U	O5'-P-OP2	-5.79	100.49	105.70
1	1	2209	U	C6-N1-C2	-5.79	117.53	121.00
1	1	2241	U	N1-C2-N3	5.79	118.37	114.90
1	5	368	G	C8-N9-C4	5.79	108.71	106.40
4	8	70	G	N9-C4-C5	-5.79	103.08	105.40
1	1	1145	G	C4-C5-N7	5.78	113.11	110.80
1	1	1913	A	N1-C6-N6	5.78	122.07	118.60
2	6	319	U	OP1-P-O3'	5.78	117.92	105.20
1	5	860	G	C6-C5-N7	-5.78	126.93	130.40
1	1	1083	G	C8-N9-C4	5.78	108.71	106.40
4	4	17	A	N1-C6-N6	5.78	122.07	118.60
1	5	2355	G	C4-C5-N7	5.78	113.11	110.80
2	2	29	U	C6-N1-C2	5.78	124.47	121.00
1	5	207	U	C6-N1-C2	-5.78	117.53	121.00
1	1	55	G	N9-C4-C5	-5.78	103.09	105.40
1	5	1329	U	N1-C2-N3	5.78	118.36	114.90
1	1	1174	G	C6-C5-N7	-5.77	126.94	130.40
1	1	3181	C	N3-C2-O2	-5.77	117.86	121.90
2	2	992	A	N7-C8-N9	5.77	116.69	113.80
1	5	2726	C	N3-C2-O2	-5.77	117.86	121.90
1	1	3317	U	P-O3'-C3'	5.77	126.63	119.70
1	5	3275	U	P-O3'-C3'	5.77	126.62	119.70
1	1	1428	A	C8-N9-C4	5.77	108.11	105.80
1	1	1345	G	C5-C6-O6	-5.77	125.14	128.60
1	1	2925	C	N3-C4-C5	5.77	124.21	121.90
1	1	1495	U	C5-C4-O4	5.76	129.36	125.90
2	6	802	G	C8-N9-C4	-5.76	104.09	106.40
4	8	121	U	C6-N1-C2	-5.76	117.54	121.00
1	1	91	G	C4-C5-N7	5.76	113.11	110.80
2	6	864	U	C6-N1-C2	-5.76	117.54	121.00
47	N3	15	LEU	CA-CB-CG	-5.76	102.05	115.30
1	1	1413	G	N3-C2-N2	-5.76	115.87	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2606	G	N3-C4-C5	-5.76	125.72	128.60
4	4	16	G	N1-C6-O6	5.76	123.36	119.90
2	6	55	A	N1-C6-N6	5.76	122.06	118.60
1	1	890	C	N3-C4-C5	5.76	124.20	121.90
1	1	980	A	C8-N9-C4	-5.76	103.50	105.80
1	1	1411	C	C2-N3-C4	-5.76	117.02	119.90
2	2	124	A	C8-N9-C4	-5.76	103.50	105.80
1	5	1176	C	C6-N1-C2	5.76	122.60	120.30
1	1	212	G	C8-N9-C4	-5.76	104.10	106.40
1	1	2768	U	O5'-P-OP2	-5.75	100.52	105.70
1	5	21	G	O5'-P-OP2	-5.75	100.52	105.70
2	6	555	A	C8-N9-C4	-5.75	103.50	105.80
1	1	660	A	C2-N3-C4	-5.75	107.72	110.60
1	1	1382	G	N1-C6-O6	5.75	123.35	119.90
1	1	3390	G	O5'-P-OP2	-5.75	100.52	105.70
2	2	794	U	C5-C6-N1	5.75	125.58	122.70
1	5	406	G	O4'-C1'-N9	5.75	112.80	108.20
2	2	577	G	C6-C5-N7	-5.75	126.95	130.40
1	5	2332	A	N9-C4-C5	-5.75	103.50	105.80
2	2	412	A	C8-N9-C4	5.75	108.10	105.80
3	3	99	G	N1-C6-O6	5.75	123.35	119.90
2	6	958	U	C6-N1-C2	-5.75	117.55	121.00
1	1	883	A	O5'-P-OP1	5.75	117.60	110.70
2	6	1762	A	OP2-P-O3'	5.75	117.84	105.20
1	1	3053	G	C6-C5-N7	-5.74	126.95	130.40
1	5	437	G	N1-C6-O6	5.74	123.35	119.90
1	5	2376	G	N3-C4-C5	-5.74	125.73	128.60
1	1	3075	G	C5-C6-O6	-5.74	125.16	128.60
1	1	1819	U	C6-N1-C2	-5.74	117.56	121.00
1	1	2403	G	C5-C6-O6	-5.74	125.16	128.60
2	2	278	U	N3-C2-O2	-5.74	118.18	122.20
1	5	966	U	C5-C6-N1	5.74	125.57	122.70
2	6	1493	A	P-O3'-C3'	5.74	126.59	119.70
3	7	90	U	N3-C2-O2	-5.74	118.18	122.20
1	1	355	A	O5'-P-OP1	-5.74	100.53	105.70
1	1	2375	G	O5'-P-OP1	-5.74	100.54	105.70
4	4	72	A	O5'-P-OP1	-5.74	100.53	105.70
2	6	45	U	C2-N1-C1'	-5.74	110.81	117.70
1	5	196	G	N3-C4-C5	-5.74	125.73	128.60
13	c8	15	LEU	CA-CB-CG	5.74	128.50	115.30
1	1	2352	A	C5-C6-N6	-5.74	119.11	123.70
2	2	306	U	C6-N1-C2	5.74	124.44	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2978	U	N1-C2-N3	5.73	118.34	114.90
1	5	1137	C	N3-C2-O2	-5.73	117.89	121.90
1	1	923	C	N3-C4-C5	5.73	124.19	121.90
1	1	1003	A	N1-C6-N6	5.73	122.04	118.60
1	1	1440	G	OP1-P-O3'	5.73	117.81	105.20
1	1	2171	G	C4-C5-N7	-5.73	108.51	110.80
2	6	163	G	N3-C2-N2	-5.73	115.89	119.90
1	1	658	G	C4-N9-C1'	5.73	133.95	126.50
1	1	2922	G	C4-C5-N7	5.73	113.09	110.80
1	5	1380	G	C8-N9-C4	5.73	108.69	106.40
1	5	2305	G	C8-N9-C4	-5.73	104.11	106.40
1	1	1435	A	N1-C2-N3	5.73	132.16	129.30
1	1	3120	C	C6-N1-C2	-5.73	118.01	120.30
2	6	1274	C	N1-C2-O2	5.73	122.34	118.90
1	1	585	A	N1-C6-N6	-5.72	115.17	118.60
1	1	2273	G	O5'-P-OP1	5.72	117.57	110.70
1	1	2690	G	O5'-P-OP1	-5.72	100.55	105.70
1	1	2809	C	N1-C2-O2	-5.72	115.47	118.90
2	2	1277	G	C8-N9-C4	-5.72	104.11	106.40
1	5	652	G	N3-C4-N9	5.72	129.44	126.00
1	5	925	A	N9-C4-C5	-5.72	103.51	105.80
1	5	2374	C	C6-N1-C1'	-5.72	113.93	120.80
4	4	47	C	N3-C4-N4	-5.72	113.99	118.00
1	5	37	U	N3-C2-O2	-5.72	118.19	122.20
4	8	8	C	N1-C2-O2	-5.72	115.47	118.90
1	1	517	G	C8-N9-C4	-5.72	104.11	106.40
1	1	1614	C	C6-N1-C2	-5.72	118.01	120.30
2	6	1006	C	C6-N1-C2	-5.72	118.01	120.30
1	1	2153	U	C6-N1-C2	-5.72	117.57	121.00
1	5	22	G	O5'-P-OP2	-5.72	100.55	105.70
27	L2	191	LEU	CA-CB-CG	-5.72	102.15	115.30
1	5	2204	C	N1-C1'-C2'	-5.72	105.71	112.00
1	1	1662	G	C8-N9-C4	5.71	108.69	106.40
1	1	2905	U	C2-N1-C1'	-5.71	110.84	117.70
1	1	1699	A	C8-N9-C4	5.71	108.08	105.80
1	5	2144	A	O4'-C1'-N9	5.71	112.77	108.20
2	6	590	C	C5-C6-N1	5.71	123.86	121.00
1	1	780	A	C5-C6-N6	5.71	128.27	123.70
1	5	18	G	N3-C4-N9	-5.71	122.58	126.00
1	5	691	A	OP1-P-O3'	5.71	117.76	105.20
1	5	1878	G	N9-C4-C5	5.71	107.68	105.40
1	1	239	G	C8-N9-C4	-5.71	104.12	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2358	A	O5'-P-OP2	-5.71	100.56	105.70
2	2	696	C	C6-N1-C2	-5.71	118.02	120.30
2	2	1033	C	C6-N1-C2	5.71	122.58	120.30
1	1	1554	U	C2-N1-C1'	-5.71	110.85	117.70
1	5	3022	G	O4'-C1'-N9	5.71	112.76	108.20
1	1	2337	C	C6-N1-C2	-5.70	118.02	120.30
2	2	326	G	C8-N9-C4	-5.70	104.12	106.40
1	5	1496	C	C2-N1-C1'	5.70	125.07	118.80
1	5	1931	U	N1-C2-O2	5.70	126.79	122.80
2	6	1458	G	N3-C4-N9	5.70	129.42	126.00
2	2	316	A	O5'-P-OP1	-5.70	100.57	105.70
2	2	1568	C	P-O3'-C3'	5.70	126.54	119.70
1	1	42	C	C6-N1-C2	5.70	122.58	120.30
1	1	890	C	OP2-P-O3'	5.70	117.73	105.20
1	1	1017	C	C2-N1-C1'	5.70	125.06	118.80
2	2	992	A	N1-C6-N6	5.70	122.02	118.60
1	5	3231	U	C5-C6-N1	-5.70	119.85	122.70
2	6	1602	C	C6-N1-C2	5.70	122.58	120.30
1	1	2870	C	C6-N1-C2	5.69	122.58	120.30
1	5	2856	G	N1-C6-O6	5.69	123.32	119.90
1	1	917	A	O5'-P-OP1	5.69	117.53	110.70
1	5	3216	G	C5-C6-O6	-5.69	125.19	128.60
1	1	715	A	P-O3'-C3'	5.69	126.53	119.70
1	1	1604	G	C8-N9-C4	-5.69	104.12	106.40
1	1	2355	G	N9-C4-C5	-5.69	103.12	105.40
1	5	1582	C	C5-C6-N1	5.69	123.84	121.00
1	5	2952	G	C4-C5-N7	5.69	113.08	110.80
2	6	361	C	C5-C6-N1	5.69	123.84	121.00
2	6	1279	C	C6-N1-C2	-5.69	118.03	120.30
1	5	1437	C	C5-C6-N1	5.68	123.84	121.00
1	1	2620	G	C4-C5-N7	5.68	113.07	110.80
1	5	330	G	N1-C6-O6	5.68	123.31	119.90
1	1	339	C	O5'-P-OP1	-5.68	100.59	105.70
2	2	1059	U	C5-C6-N1	5.68	125.54	122.70
1	5	3217	C	C5-C6-N1	-5.68	118.16	121.00
26	E1	86	THR	C-N-CA	5.68	135.90	121.70
1	1	660	A	N1-C6-N6	-5.68	115.19	118.60
1	1	283	G	O4'-C1'-N9	-5.68	103.66	108.20
1	1	2973	G	N7-C8-N9	-5.68	110.26	113.10
2	2	25	C	P-O3'-C3'	5.68	126.51	119.70
2	2	1511	U	C6-N1-C2	-5.68	117.59	121.00
2	6	239	C	C6-N1-C2	-5.68	118.03	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	6	453	U	N3-C2-O2	-5.68	118.23	122.20
1	1	3109	G	N1-C6-O6	5.67	123.31	119.90
1	5	1442	U	C2-N1-C1'	-5.67	110.89	117.70
2	6	158	U	P-O3'-C3'	5.67	126.51	119.70
2	6	623	A	N1-C6-N6	5.67	122.00	118.60
2	2	565	C	C6-N1-C2	5.67	122.57	120.30
2	6	747	C	C6-N1-C2	-5.67	118.03	120.30
1	1	1383	G	N3-C4-C5	5.67	131.43	128.60
1	1	2679	A	C5-C6-N6	-5.67	119.17	123.70
2	2	1534	G	C8-N9-C4	5.67	108.67	106.40
1	5	1329	U	N3-C2-O2	-5.67	118.23	122.20
1	1	1556	C	C6-N1-C2	-5.67	118.03	120.30
1	5	1481	A	N7-C8-N9	5.67	116.63	113.80
1	5	1834	U	N3-C4-O4	5.67	123.37	119.40
4	4	14	C	C5-C6-N1	-5.67	118.17	121.00
1	5	1552	G	C4-C5-N7	5.67	113.07	110.80
1	5	2871	G	N3-C4-C5	5.67	131.43	128.60
1	1	2875	U	N3-C2-O2	-5.66	118.24	122.20
1	5	32	U	C6-N1-C2	-5.66	117.60	121.00
1	1	2917	G	N1-C6-O6	5.66	123.30	119.90
1	1	1495	U	C2-N3-C4	-5.66	123.61	127.00
2	2	610	G	C8-N9-C1'	-5.66	119.64	127.00
1	5	2112	U	P-O3'-C3'	5.66	126.49	119.70
1	1	3318	G	C8-N9-C4	-5.66	104.14	106.40
3	3	7	G	N9-C4-C5	5.66	107.66	105.40
1	5	1482	A	O5'-P-OP2	-5.66	100.61	105.70
4	8	110	C	OP2-P-O3'	5.66	117.64	105.20
1	5	139	G	C8-N9-C4	5.65	108.66	106.40
1	5	3216	G	O5'-P-OP2	-5.65	100.61	105.70
1	1	350	C	N3-C2-O2	-5.65	117.94	121.90
1	1	1076	C	N1-C2-O2	5.65	122.29	118.90
4	4	8	C	OP2-P-O3'	5.65	117.63	105.20
1	5	92	G	C5-C6-O6	-5.65	125.21	128.60
1	5	2348	A	N1-C6-N6	-5.65	115.21	118.60
4	8	17	A	N1-C6-N6	5.65	121.99	118.60
1	1	1113	G	N3-C2-N2	-5.65	115.94	119.90
1	1	1819	U	C2-N1-C1'	5.65	124.48	117.70
1	5	1751	G	C8-N9-C4	5.65	108.66	106.40
1	1	1104	G	O5'-P-OP1	-5.65	100.62	105.70
1	1	839	C	C5-C6-N1	-5.65	118.18	121.00
1	1	3267	A	N1-C6-N6	-5.65	115.21	118.60
4	4	90	U	C6-N1-C2	5.65	124.39	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1056	U	C6-N1-C2	-5.65	117.61	121.00
2	6	1467	C	C5-C6-N1	5.65	123.82	121.00
2	6	1301	U	O5'-P-OP2	-5.65	100.62	105.70
1	1	510	G	C5-C6-O6	-5.64	125.21	128.60
1	1	1319	G	C5-C6-O6	5.64	131.99	128.60
1	1	1838	G	N9-C4-C5	-5.64	103.14	105.40
2	2	1782	A	C8-N9-C4	-5.64	103.54	105.80
2	6	1658	G	C4-C5-N7	5.64	113.06	110.80
1	1	968	G	C4-C5-N7	5.64	113.06	110.80
1	1	1306	G	C4-N9-C1'	5.64	133.83	126.50
1	5	644	G	N3-C4-N9	-5.64	122.61	126.00
1	1	88	A	C8-N9-C4	5.64	108.06	105.80
1	1	884	A	N9-C4-C5	-5.64	103.54	105.80
1	1	935	U	N1-C2-N3	5.64	118.28	114.90
1	5	1436	U	N3-C2-O2	-5.64	118.25	122.20
1	1	703	G	O5'-P-OP1	-5.64	100.63	105.70
1	1	2120	A	O5'-P-OP2	-5.64	100.63	105.70
1	5	36	C	C6-N1-C2	-5.64	118.05	120.30
1	5	2719	U	N3-C2-O2	5.64	126.15	122.20
2	6	779	U	N1-C2-O2	5.64	126.75	122.80
1	1	577	C	C6-N1-C2	5.64	122.55	120.30
1	1	2208	A	OP1-P-O3'	5.64	117.60	105.20
2	2	192	U	C5-C6-N1	5.64	125.52	122.70
1	5	1625	A	C8-N9-C4	5.64	108.05	105.80
1	5	3195	U	N1-C2-O2	5.64	126.75	122.80
1	1	961	C	O5'-P-OP1	-5.63	100.63	105.70
1	5	2321	A	C8-N9-C4	5.63	108.05	105.80
1	5	3134	A	C4-C5-N7	5.63	113.52	110.70
1	1	884	A	O5'-P-OP1	-5.63	100.63	105.70
1	1	1156	C	N3-C4-N4	5.63	121.94	118.00
1	5	2979	U	O5'-P-OP1	-5.63	100.63	105.70
1	1	63	A	N1-C6-N6	5.63	121.98	118.60
1	1	966	U	N3-C4-C5	-5.63	111.22	114.60
1	1	1480	G	C5-C6-O6	-5.63	125.22	128.60
1	5	1581	C	P-O3'-C3'	5.63	126.46	119.70
1	5	1581	C	C6-N1-C1'	-5.63	114.04	120.80
1	5	2524	A	O4'-C1'-N9	5.63	112.70	108.20
1	5	1805	C	C6-N1-C2	5.63	122.55	120.30
1	1	1897	G	C5-C6-O6	-5.63	125.22	128.60
1	1	2679	A	C6-C5-N7	-5.63	128.36	132.30
1	5	1588	A	N1-C6-N6	5.63	121.98	118.60
1	1	251	G	N3-C4-N9	5.63	129.38	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	806	A	O4'-C1'-N9	-5.63	103.70	108.20
1	1	2645	G	C4-C5-N7	5.63	113.05	110.80
1	5	1115	G	C8-N9-C1'	-5.63	119.69	127.00
1	5	669	U	C6-N1-C2	5.62	124.38	121.00
1	5	2379	U	N1-C2-O2	-5.62	118.86	122.80
1	1	62	A	C8-N9-C4	5.62	108.05	105.80
1	1	2896	A	C6-C5-N7	-5.62	128.36	132.30
1	1	3016	A	O5'-P-OP2	-5.62	100.64	105.70
2	6	194	U	N1-C2-O2	5.62	126.74	122.80
1	1	551	A	O4'-C1'-N9	5.62	112.70	108.20
1	1	1392	G	N1-C6-O6	-5.62	116.53	119.90
1	1	1432	C	N1-C2-O2	-5.62	115.53	118.90
1	1	1493	G	C2-N3-C4	5.62	114.71	111.90
2	2	1792	G	C8-N9-C4	-5.62	104.15	106.40
1	5	2933	A	O5'-P-OP2	-5.62	100.64	105.70
1	1	38	U	C6-N1-C2	5.62	124.37	121.00
1	1	2853	A	N1-C6-N6	5.62	121.97	118.60
2	2	130	C	N1-C2-O2	5.62	122.27	118.90
1	5	934	G	C4-N9-C1'	5.62	133.80	126.50
2	2	1060	U	C5-C6-N1	5.62	125.51	122.70
2	6	781	U	C6-N1-C1'	-5.62	113.34	121.20
1	5	1772	U	C5-C6-N1	-5.62	119.89	122.70
2	2	734	A	OP1-P-O3'	5.61	117.55	105.20
2	6	95	G	N1-C6-O6	-5.61	116.53	119.90
1	1	2171	G	C6-C5-N7	5.61	133.77	130.40
1	1	2422	C	N3-C4-C5	5.61	124.14	121.90
1	1	2978	U	C6-N1-C2	-5.61	117.63	121.00
1	1	3370	A	O5'-P-OP1	5.61	117.43	110.70
1	5	1095	U	C2-N1-C1'	5.61	124.43	117.70
1	1	884	A	C4-C5-N7	5.61	113.50	110.70
2	2	1052	U	N3-C2-O2	-5.61	118.28	122.20
1	5	1224	C	C6-N1-C2	5.61	122.54	120.30
1	5	1582	C	C6-N1-C2	-5.61	118.06	120.30
1	5	2971	A	N7-C8-N9	5.61	116.60	113.80
2	6	377	G	N9-C4-C5	-5.61	103.16	105.40
5	C0	76	LEU	CA-CB-CG	5.61	128.20	115.30
9	C4	124	ASP	N-CA-C	5.61	126.14	111.00
1	1	1196	C	O4'-C1'-N1	5.61	112.68	108.20
1	1	2183	A	C5-C6-N6	-5.61	119.22	123.70
1	5	2400	G	C6-C5-N7	-5.60	127.04	130.40
1	1	1370	G	C4-C5-N7	5.60	113.04	110.80
2	2	1058	U	N3-C2-O2	-5.60	118.28	122.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	2	1768	G	C5-C6-O6	5.60	131.96	128.60
1	5	88	A	C8-N9-C4	5.60	108.04	105.80
4	8	151	C	N1-C2-O2	5.60	122.26	118.90
37	m3	51	LEU	CA-CB-CG	5.60	128.18	115.30
2	2	1667	A	N1-C6-N6	-5.60	115.24	118.60
1	5	1581	C	C4-C5-C6	-5.60	114.60	117.40
1	5	2858	U	O5'-P-OP1	-5.60	100.66	105.70
2	2	1011	G	N9-C4-C5	5.60	107.64	105.40
4	4	102	U	O5'-P-OP2	-5.60	100.66	105.70
1	1	3246	G	N3-C4-C5	-5.59	125.80	128.60
2	6	866	G	C8-N9-C4	5.59	108.64	106.40
1	1	968	G	C5-C6-O6	-5.59	125.24	128.60
1	1	2794	G	C5-C6-O6	-5.59	125.24	128.60
1	1	2874	G	C5-C6-O6	5.59	131.96	128.60
2	2	1761	U	P-O3'-C3'	5.59	126.41	119.70
4	4	73	U	N1-C2-O2	5.59	126.72	122.80
1	5	1609	C	C6-N1-C2	5.59	122.54	120.30
1	1	234	G	C8-N9-C4	-5.59	104.16	106.40
1	1	1586	G	N9-C4-C5	5.59	107.64	105.40
1	1	2610	G	N3-C4-C5	5.59	131.40	128.60
2	2	1761	U	OP2-P-O3'	5.59	117.50	105.20
2	6	1458	G	C6-C5-N7	-5.59	127.05	130.40
4	8	32	C	C6-N1-C2	5.59	122.54	120.30
4	4	54	A	N7-C8-N9	5.59	116.59	113.80
2	6	1089	U	C6-N1-C2	5.59	124.35	121.00
1	1	620	U	C2-N1-C1'	-5.59	110.99	117.70
1	1	879	U	N3-C2-O2	5.59	126.11	122.20
4	4	107	G	N1-C6-O6	-5.59	116.55	119.90
1	5	94	G	C2-N3-C4	-5.59	109.11	111.90
1	5	2313	A	N1-C6-N6	-5.59	115.25	118.60
1	1	300	G	C8-N9-C4	-5.59	104.17	106.40
1	1	1852	G	C2-N3-C4	-5.59	109.11	111.90
1	1	2922	G	N3-C4-C5	-5.59	125.81	128.60
1	1	2984	C	C2-N1-C1'	-5.59	112.66	118.80
2	2	5	U	C6-N1-C2	-5.59	117.65	121.00
2	2	204	G	C5-N7-C8	-5.59	101.51	104.30
1	5	1443	G	C4-C5-N7	5.59	113.03	110.80
2	6	425	A	C8-N9-C4	-5.59	103.56	105.80
2	6	131	C	C5-C6-N1	5.58	123.79	121.00
1	1	834	U	C6-N1-C2	5.58	124.35	121.00
1	5	284	A	C8-N9-C4	-5.58	103.57	105.80
1	5	912	G	C8-N9-C4	5.58	108.63	106.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2279	A	C8-N9-C4	-5.58	103.57	105.80
2	6	1280	C	C6-N1-C2	-5.58	118.07	120.30
1	1	1889	G	C6-C5-N7	-5.58	127.05	130.40
1	5	3093	C	N3-C2-O2	5.58	125.81	121.90
1	1	940	G	N1-C6-O6	5.58	123.25	119.90
2	2	1768	G	C4-C5-N7	-5.58	108.57	110.80
1	5	2866	U	C5-C4-O4	5.58	129.25	125.90
1	1	1897	G	N1-C6-O6	5.58	123.25	119.90
2	2	242	U	C2-N1-C1'	5.58	124.39	117.70
1	5	3205	G	C6-C5-N7	-5.58	127.05	130.40
1	1	2732	G	O5'-P-OP2	-5.58	100.68	105.70
2	2	1473	U	N3-C2-O2	-5.58	118.30	122.20
1	1	142	C	C5-C6-N1	5.57	123.79	121.00
1	5	1145	G	C5-C6-O6	-5.57	125.26	128.60
1	5	2976	A	O5'-P-OP2	-5.57	100.69	105.70
2	6	1785	U	O5'-P-OP1	-5.57	100.68	105.70
2	6	604	A	N1-C6-N6	-5.57	115.26	118.60
1	5	2726	C	C6-N1-C2	-5.57	118.07	120.30
1	1	2985	C	N3-C4-N4	5.57	121.90	118.00
1	1	2256	A	O5'-P-OP1	-5.57	100.69	105.70
1	5	2990	G	N3-C2-N2	-5.57	116.00	119.90
56	o2	128	LEU	CA-CB-CG	5.57	128.11	115.30
4	4	94	C	C6-N1-C2	5.57	122.53	120.30
1	1	2281	A	O4'-C1'-N9	5.56	112.65	108.20
1	1	2422	C	C2-N3-C4	-5.56	117.12	119.90
1	1	3012	A	N3-C4-C5	5.56	130.69	126.80
1	1	611	A	C4-C5-C6	5.56	119.78	117.00
1	1	1604	G	C4-C5-C6	5.56	122.14	118.80
1	5	285	A	C5-N7-C8	-5.56	101.12	103.90
2	6	1200	G	N3-C4-C5	5.56	131.38	128.60
2	2	1456	C	N3-C2-O2	-5.56	118.01	121.90
2	2	1707	A	C8-N9-C4	-5.56	103.58	105.80
2	6	360	A	C8-N9-C4	5.56	108.02	105.80
1	1	2651	G	N3-C4-C5	5.56	131.38	128.60
1	5	18	G	N3-C4-C5	5.56	131.38	128.60
1	5	196	G	C8-N9-C4	-5.56	104.18	106.40
1	5	1145	G	C4-C5-N7	5.56	113.02	110.80
1	1	92	G	C5-N7-C8	-5.56	101.52	104.30
1	1	264	G	N3-C4-C5	-5.56	125.82	128.60
1	5	1861	G	O5'-P-OP1	-5.56	100.70	105.70
2	6	391	A	C8-N9-C4	5.56	108.02	105.80
1	5	2376	G	C6-C5-N7	-5.56	127.07	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2770	G	C8-N9-C4	-5.55	104.18	106.40
1	1	2842	U	N3-C2-O2	-5.55	118.31	122.20
1	1	2320	A	C8-N9-C4	5.55	108.02	105.80
1	5	1332	A	C8-N9-C4	-5.55	103.58	105.80
1	5	1449	A	N1-C6-N6	5.55	121.93	118.60
1	1	951	A	C8-N9-C4	5.55	108.02	105.80
1	5	1152	G	C2-N3-C4	-5.55	109.12	111.90
1	5	1442	U	C6-N1-C2	5.55	124.33	121.00
2	2	131	C	C6-N1-C1'	-5.55	114.14	120.80
1	5	890	C	OP2-P-O3'	5.55	117.40	105.20
1	5	2363	A	N1-C6-N6	-5.55	115.27	118.60
2	6	1457	C	N3-C2-O2	-5.55	118.02	121.90
1	1	3070	A	C8-N9-C4	5.54	108.02	105.80
1	5	1375	G	C4-C5-N7	5.54	113.02	110.80
1	5	1481	A	P-O3'-C3'	5.54	126.35	119.70
1	1	3362	A	C4-C5-N7	5.54	113.47	110.70
2	2	261	U	C6-N1-C2	-5.54	117.68	121.00
1	5	639	G	N9-C1'-C2'	-5.54	105.91	112.00
1	5	835	G	N3-C2-N2	-5.54	116.02	119.90
2	6	136	C	N3-C2-O2	-5.54	118.02	121.90
4	8	72	A	N1-C6-N6	5.54	121.92	118.60
1	1	790	U	C6-N1-C2	5.54	124.32	121.00
1	1	2400	G	C6-C5-N7	-5.54	127.08	130.40
1	5	809	G	N1-C6-O6	5.54	123.22	119.90
1	5	3260	G	C8-N9-C1'	-5.54	119.80	127.00
2	6	389	G	C6-C5-N7	-5.54	127.08	130.40
1	1	2378	C	C5-C4-N4	-5.54	116.33	120.20
1	1	2382	G	C5-C6-O6	-5.54	125.28	128.60
4	8	151	C	C6-N1-C2	-5.53	118.09	120.30
1	1	3273	A	O5'-P-OP2	-5.53	100.72	105.70
4	4	54	A	C4-C5-N7	5.53	113.47	110.70
1	5	339	C	O5'-P-OP1	-5.53	100.72	105.70
1	5	1419	A	N1-C6-N6	5.53	121.92	118.60
1	5	517	G	N1-C6-O6	5.53	123.22	119.90
2	2	166	C	C6-N1-C2	-5.53	118.09	120.30
1	5	1672	U	C6-N1-C1'	5.53	128.94	121.20
1	5	2719	U	C2-N1-C1'	-5.53	111.07	117.70
2	6	802	G	C2-N3-C4	5.53	114.66	111.90
1	1	3382	U	N1-C2-O2	5.53	126.67	122.80
2	2	1600	A	C2-N3-C4	-5.53	107.84	110.60
1	1	2257	C	O5'-P-OP1	-5.52	100.73	105.70
1	5	282	G	P-O3'-C3'	5.52	126.33	119.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2171	G	C5-C6-O6	5.52	131.91	128.60
1	1	2978	U	O4'-C1'-N1	5.52	112.62	108.20
3	3	116	C	C5-C6-N1	5.52	123.76	121.00
1	5	1527	C	N1-C2-O2	5.52	122.21	118.90
1	1	3390	G	C4-C5-N7	5.52	113.01	110.80
1	5	1615	C	N3-C2-O2	-5.52	118.03	121.90
1	1	353	G	C4-N9-C1'	-5.52	119.32	126.50
1	1	2835	U	C6-N1-C2	5.52	124.31	121.00
1	5	2169	G	C4-N9-C1'	-5.52	119.33	126.50
77	s9	99	LEU	CA-CB-CG	5.52	128.00	115.30
2	2	1291	G	N7-C8-N9	5.52	115.86	113.10
1	5	1896	A	OP2-P-O3'	5.52	117.34	105.20
1	1	1014	U	C5-C6-N1	5.52	125.46	122.70
1	1	1166	G	C8-N9-C4	5.52	108.61	106.40
1	5	408	A	N7-C8-N9	5.52	116.56	113.80
1	5	1450	G	C5-C6-O6	-5.52	125.29	128.60
1	1	1391	C	N3-C4-N4	5.51	121.86	118.00
1	1	1432	C	C5-C6-N1	5.51	123.76	121.00
1	1	2922	G	C4-C5-C6	5.51	122.11	118.80
1	5	521	A	C8-N9-C4	-5.51	103.59	105.80
2	6	109	G	N3-C4-C5	5.51	131.36	128.60
2	6	1194	A	N1-C6-N6	5.51	121.91	118.60
2	6	1600	A	N7-C8-N9	5.51	116.56	113.80
1	1	2973	G	C8-N9-C4	5.51	108.61	106.40
2	2	405	C	N3-C4-C5	5.51	124.11	121.90
1	1	821	U	C2-N1-C1'	-5.51	111.09	117.70
1	1	1417	G	C6-C5-N7	-5.51	127.09	130.40
1	1	2661	G	N1-C6-O6	5.51	123.21	119.90
1	5	1308	A	N7-C8-N9	5.51	116.56	113.80
2	6	272	U	P-O3'-C3'	5.51	126.31	119.70
2	6	1512	G	C4-C5-N7	5.51	113.00	110.80
1	1	1443	G	C5-N7-C8	-5.51	101.55	104.30
1	5	1582	C	N1-C2-O2	5.51	122.20	118.90
1	5	3076	C	N3-C4-C5	-5.51	119.70	121.90
1	1	120	G	N3-C4-C5	-5.50	125.85	128.60
1	1	1512	U	C6-N1-C2	-5.50	117.70	121.00
1	1	3276	G	N3-C4-C5	5.50	131.35	128.60
1	1	669	U	C5-C6-N1	-5.50	119.95	122.70
4	8	17	A	N9-C4-C5	-5.50	103.60	105.80
2	2	941	A	N1-C6-N6	-5.50	115.30	118.60
2	2	1600	A	C4-C5-N7	5.50	113.45	110.70
1	5	1429	G	C8-N9-C1'	-5.50	119.85	127.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2842	U	N1-C2-O2	5.50	126.65	122.80
2	6	858	G	N1-C6-O6	5.50	123.20	119.90
1	5	2809	C	C6-N1-C2	-5.50	118.10	120.30
4	8	70	G	C4-C5-N7	5.50	113.00	110.80
1	1	636	C	N3-C4-C5	-5.50	119.70	121.90
1	1	1338	C	N3-C2-O2	-5.50	118.05	121.90
1	1	2694	A	N1-C6-N6	-5.50	115.30	118.60
2	2	577	G	C5-N7-C8	-5.50	101.55	104.30
1	1	2093	A	C8-N9-C4	-5.50	103.60	105.80
1	1	2163	C	C6-N1-C2	-5.50	118.10	120.30
1	1	2186	U	O5'-P-OP2	-5.50	100.75	105.70
1	1	2984	C	N1-C2-O2	-5.50	115.60	118.90
1	1	2654	C	C6-N1-C2	-5.50	118.10	120.30
1	5	1853	U	C6-N1-C2	-5.50	117.70	121.00
1	5	1188	U	N1-C2-N3	5.49	118.20	114.90
4	4	17	A	C2-N3-C4	-5.49	107.85	110.60
1	5	868	C	C2-N1-C1'	-5.49	112.76	118.80
1	1	920	A	C6-C5-N7	-5.49	128.46	132.30
3	3	100	C	O5'-P-OP2	5.49	117.29	110.70
1	5	1408	G	N3-C4-C5	5.49	131.34	128.60
30	l5	110	LEU	CA-CB-CG	5.49	127.93	115.30
1	1	1166	G	C5-C6-O6	-5.49	125.31	128.60
1	1	2363	A	N9-C4-C5	5.49	108.00	105.80
2	2	1137	A	C8-N9-C4	5.49	108.00	105.80
1	5	835	G	N9-C4-C5	5.49	107.59	105.40
2	2	1768	G	N9-C4-C5	5.49	107.59	105.40
1	5	2132	C	N3-C4-N4	5.49	121.84	118.00
1	1	2932	U	N3-C4-O4	-5.49	115.56	119.40
2	2	610	G	C4-N9-C1'	5.49	133.63	126.50
2	2	959	U	N3-C2-O2	-5.49	118.36	122.20
2	6	1338	C	C6-N1-C2	-5.49	118.11	120.30
23	d8	66	LEU	CA-CB-CG	5.49	127.92	115.30
1	1	2826	U	N3-C4-O4	-5.48	115.56	119.40
1	1	3246	G	N3-C4-N9	5.48	129.29	126.00
2	2	1195	C	O5'-P-OP1	-5.48	100.76	105.70
1	1	2628	A	C8-N9-C4	-5.48	103.61	105.80
1	5	2240	G	C8-N9-C4	-5.48	104.21	106.40
1	5	3090	U	C6-N1-C2	-5.48	117.71	121.00
1	5	3099	C	C6-N1-C2	5.48	122.49	120.30
1	1	637	C	C5-C6-N1	5.48	123.74	121.00
1	1	1554	U	P-O3'-C3'	5.48	126.28	119.70
2	2	1189	A	C8-N9-C4	5.48	107.99	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	2	1035	G	C8-N9-C4	5.48	108.59	106.40
2	6	429	G	N1-C6-O6	5.48	123.19	119.90
2	6	781	U	O4'-C1'-N1	-5.48	103.82	108.20
1	1	2114	C	N3-C2-O2	-5.48	118.06	121.90
1	5	3176	G	N1-C6-O6	5.48	123.19	119.90
1	5	2310	U	C5-C6-N1	5.48	125.44	122.70
1	1	632	G	N9-C4-C5	-5.47	103.21	105.40
1	5	1825	G	C5-C6-O6	5.47	131.88	128.60
1	5	2093	A	C8-N9-C4	5.47	107.99	105.80
1	1	1664	G	C8-N9-C4	5.47	108.59	106.40
2	2	1001	A	O5'-P-OP1	-5.47	100.78	105.70
1	5	1102	A	C8-N9-C4	5.47	107.99	105.80
1	5	1306	G	N3-C4-N9	5.47	129.28	126.00
1	5	2606	G	C4-N9-C1'	5.47	133.62	126.50
1	1	221	A	N9-C4-C5	5.47	107.99	105.80
1	1	1359	C	N3-C4-C5	5.47	124.09	121.90
1	1	2257	C	C2-N1-C1'	5.47	124.82	118.80
2	2	386	G	O5'-P-OP2	-5.47	100.78	105.70
2	6	1600	A	C4-N9-C1'	5.47	136.15	126.30
1	1	2572	C	C5-C6-N1	5.47	123.73	121.00
2	2	1058	U	C2-N1-C1'	5.47	124.26	117.70
1	1	639	G	N3-C2-N2	-5.47	116.07	119.90
1	1	2986	U	N3-C4-O4	5.47	123.23	119.40
2	2	961	U	C6-N1-C2	-5.47	117.72	121.00
2	2	1491	U	C2-N1-C1'	5.47	124.26	117.70
1	5	3039	C	N3-C4-C5	5.47	124.09	121.90
1	1	199	A	O4'-C1'-N9	5.47	112.57	108.20
1	1	424	G	C5-C6-O6	-5.47	125.32	128.60
1	1	1452	A	C5-N7-C8	-5.47	101.17	103.90
1	1	2206	G	N9-C4-C5	-5.47	103.21	105.40
2	2	378	A	N9-C4-C5	-5.47	103.61	105.80
4	8	126	A	P-O3'-C3'	5.47	126.26	119.70
1	1	2110	G	N3-C4-C5	-5.46	125.87	128.60
1	1	2796	G	OP1-P-OP2	5.46	127.80	119.60
1	1	2871	G	C6-C5-N7	-5.46	127.12	130.40
2	2	719	U	C2-N1-C1'	5.46	124.26	117.70
2	2	992	A	C4-C5-N7	5.46	113.43	110.70
1	5	1340	G	N3-C4-N9	-5.46	122.72	126.00
1	5	2359	C	C6-N1-C2	-5.46	118.11	120.30
1	5	2932	U	C5-C4-O4	5.46	129.18	125.90
1	1	2389	C	N1-C2-O2	-5.46	115.62	118.90
4	8	83	C	C6-N1-C2	-5.46	118.11	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2541	U	P-O3'-C3'	5.46	126.25	119.70
1	5	1745	C	C6-N1-C2	5.46	122.48	120.30
1	5	1851	G	C8-N9-C4	-5.46	104.22	106.40
1	5	2149	A	OP2-P-O3'	5.46	117.22	105.20
2	6	1794	A	N1-C6-N6	-5.46	115.32	118.60
1	1	953	G	C5-C6-O6	5.46	131.88	128.60
1	1	1161	G	C6-C5-N7	-5.46	127.12	130.40
3	3	7	G	C4-C5-N7	-5.46	108.62	110.80
1	1	2725	U	C6-N1-C2	5.46	124.27	121.00
1	1	2922	G	N3-C2-N2	5.46	123.72	119.90
1	1	3044	G	N3-C4-C5	5.46	131.33	128.60
1	1	3276	G	C6-N1-C2	5.46	128.37	125.10
1	5	2110	G	N3-C4-N9	5.46	129.27	126.00
2	2	1389	C	C6-N1-C2	-5.46	118.12	120.30
2	2	136	C	C5-C6-N1	5.45	123.73	121.00
2	2	1611	A	C2-N3-C4	-5.45	107.87	110.60
1	5	883	A	C5-N7-C8	-5.45	101.17	103.90
1	5	2363	A	N9-C4-C5	5.45	107.98	105.80
1	5	2817	A	C5-C6-N6	-5.45	119.34	123.70
1	1	2101	C	P-O3'-C3'	5.45	126.24	119.70
1	1	2183	A	C6-C5-N7	-5.45	128.48	132.30
1	1	1028	U	C2-N1-C1'	5.45	124.24	117.70
1	1	3020	U	N3-C2-O2	-5.45	118.38	122.20
2	6	1033	C	C6-N1-C2	5.45	122.48	120.30
2	6	1399	C	C6-N1-C2	-5.45	118.12	120.30
1	1	224	C	N3-C4-N4	5.45	121.81	118.00
1	1	609	G	N1-C6-O6	5.45	123.17	119.90
1	5	358	G	N3-C2-N2	-5.45	116.09	119.90
1	5	2268	U	C4-C5-C6	-5.45	116.43	119.70
1	5	2286	U	O5'-P-OP2	-5.45	100.80	105.70
2	6	1189	A	C8-N9-C4	5.45	107.98	105.80
2	6	1596	C	N3-C2-O2	-5.45	118.08	121.90
1	5	2993	G	N3-C2-N2	5.45	123.71	119.90
72	S4	193	GLY	N-CA-C	5.45	126.72	113.10
1	1	1376	C	N1-C2-O2	-5.45	115.63	118.90
1	1	2923	U	C5-C6-N1	5.45	125.42	122.70
2	2	653	C	C6-N1-C2	-5.45	118.12	120.30
1	5	1450	G	N3-C4-C5	5.45	131.32	128.60
2	6	623	A	N9-C4-C5	-5.45	103.62	105.80
19	D4	50	ALA	C-N-CA	5.45	135.31	121.70
1	5	1901	A	N9-C4-C5	5.44	107.98	105.80
2	6	31	C	C6-N1-C2	-5.44	118.12	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	6	138	A	C2-N3-C4	5.44	113.32	110.60
2	6	250	C	C6-N1-C2	-5.44	118.12	120.30
1	1	91	G	N9-C4-C5	-5.44	103.22	105.40
1	1	725	G	N3-C4-C5	5.44	131.32	128.60
1	1	2246	G	O5'-P-OP1	-5.44	100.80	105.70
1	1	3078	U	P-O3'-C3'	5.44	126.23	119.70
1	5	915	A	OP1-P-OP2	5.44	127.76	119.60
1	5	3052	G	N1-C6-O6	5.44	123.17	119.90
2	6	136	C	C2-N1-C1'	5.44	124.78	118.80
2	6	385	A	C8-N9-C4	-5.44	103.62	105.80
1	5	1343	A	N1-C6-N6	5.44	121.86	118.60
1	1	770	G	O4'-C1'-N9	5.44	112.55	108.20
1	5	1194	G	N3-C4-C5	-5.44	125.88	128.60
1	5	2187	G	N3-C4-C5	-5.44	125.88	128.60
1	5	2268	U	N1-C2-N3	-5.44	111.64	114.90
1	5	580	C	N3-C4-N4	-5.44	114.19	118.00
1	1	389	A	C8-N9-C4	-5.43	103.63	105.80
1	1	3242	G	C5-C6-O6	-5.43	125.34	128.60
2	2	1277	G	N9-C4-C5	5.43	107.57	105.40
2	2	1456	C	C6-N1-C2	-5.43	118.13	120.30
1	1	1542	G	C5-N7-C8	-5.43	101.58	104.30
1	1	2174	G	N3-C4-N9	-5.43	122.74	126.00
1	1	2858	U	N1-C2-N3	5.43	118.16	114.90
1	5	669	U	C5-C6-N1	-5.43	119.98	122.70
2	6	369	A	C8-N9-C4	-5.43	103.63	105.80
1	1	1525	G	C8-N9-C4	-5.43	104.23	106.40
2	2	1198	G	N3-C4-C5	5.43	131.31	128.60
1	5	2431	C	C6-N1-C2	-5.43	118.13	120.30
1	1	2094	C	N1-C2-O2	5.43	122.16	118.90
1	1	2400	G	N9-C4-C5	-5.43	103.23	105.40
1	1	2719	U	N3-C2-O2	5.43	126.00	122.20
2	2	498	G	N3-C4-C5	-5.43	125.89	128.60
1	5	1665	C	C2-N1-C1'	-5.43	112.83	118.80
1	1	212	G	N3-C4-C5	-5.42	125.89	128.60
1	1	274	G	N1-C6-O6	-5.42	116.64	119.90
1	5	282	G	C2'-C3'-O3'	5.42	122.38	113.70
2	6	1285	U	C6-N1-C2	-5.42	117.75	121.00
2	6	1610	G	N3-C4-N9	5.42	129.25	126.00
2	2	807	A	O5'-P-OP2	-5.42	100.82	105.70
1	1	2373	A	O5'-P-OP1	-5.42	100.82	105.70
1	1	3393	U	C5-C6-N1	-5.42	119.99	122.70
2	2	230	C	N1-C2-O2	5.42	122.15	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1911	A	N9-C4-C5	5.42	107.97	105.80
1	5	2858	U	N1-C2-N3	5.42	118.15	114.90
3	7	6	C	C6-N1-C2	5.42	122.47	120.30
1	1	278	U	C2-N1-C1'	-5.42	111.20	117.70
1	1	2667	A	C8-N9-C4	5.42	107.97	105.80
1	1	3276	G	N1-C2-N3	-5.42	120.65	123.90
3	3	93	C	C6-N1-C2	-5.42	118.13	120.30
4	4	82	U	C6-N1-C2	-5.42	117.75	121.00
1	5	2138	A	OP1-P-OP2	5.42	127.73	119.60
1	1	559	A	O5'-P-OP2	-5.42	100.82	105.70
1	1	1361	U	OP2-P-O3'	5.42	117.12	105.20
1	1	2809	C	N3-C4-C5	-5.42	119.73	121.90
1	5	94	G	C5-C6-N1	-5.42	108.79	111.50
1	5	926	A	OP2-P-O3'	5.42	117.12	105.20
1	5	2362	C	N1-C2-O2	5.42	122.15	118.90
1	5	2846	U	N3-C4-O4	-5.42	115.61	119.40
33	l8	69	LEU	CA-CB-CG	5.42	127.75	115.30
1	1	2212	C	C6-N1-C1'	-5.41	114.30	120.80
2	2	1751	C	C5-C6-N1	-5.41	118.29	121.00
1	5	1582	C	P-O3'-C3'	5.41	126.20	119.70
1	5	2840	C	O5'-P-OP1	-5.41	100.83	105.70
2	6	993	A	C8-N9-C4	-5.41	103.64	105.80
1	1	659	G	N3-C2-N2	5.41	123.69	119.90
1	1	1665	C	N3-C4-C5	5.41	124.06	121.90
1	1	16	A	C8-N9-C4	5.41	107.96	105.80
1	1	1543	G	OP1-P-O3'	5.41	117.10	105.20
2	2	308	C	N3-C4-N4	-5.41	114.21	118.00
2	2	1562	G	N9-C4-C5	-5.41	103.24	105.40
2	6	437	A	C8-N9-C4	5.41	107.97	105.80
1	1	908	G	C5-C6-O6	5.41	131.84	128.60
1	1	1353	U	N3-C2-O2	-5.41	118.41	122.20
1	5	288	C	C6-N1-C2	-5.41	118.14	120.30
1	5	1085	A	C8-N9-C4	-5.41	103.64	105.80
1	5	1759	C	N1-C2-O2	5.41	122.14	118.90
1	5	2330	C	C2-N1-C1'	5.41	124.75	118.80
1	5	3260	G	C4-N9-C1'	5.41	133.53	126.50
2	6	36	C	C6-N1-C2	5.41	122.46	120.30
15	D0	16	GLN	C-N-CA	5.41	135.22	121.70
1	1	675	C	N3-C4-C5	-5.41	119.74	121.90
1	1	1137	C	OP2-P-O3'	5.41	117.09	105.20
1	1	1395	G	N1-C6-O6	5.41	123.14	119.90
1	1	1940	G	N1-C6-O6	5.41	123.14	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2858	U	C2-N1-C1'	-5.41	111.21	117.70
2	2	956	C	C6-N1-C2	-5.41	118.14	120.30
1	5	644	G	C5-C6-O6	5.41	131.84	128.60
1	5	1160	C	C6-N1-C2	5.41	122.46	120.30
1	5	2169	G	N9-C4-C5	5.41	107.56	105.40
1	5	3062	G	C8-N9-C4	5.41	108.56	106.40
1	1	1635	G	N3-C4-C5	5.40	131.30	128.60
1	5	2624	G	C5-C6-O6	-5.40	125.36	128.60
1	5	2871	G	O5'-P-OP2	-5.40	100.84	105.70
1	1	1364	C	OP2-P-O3'	5.40	117.09	105.20
2	2	704	C	O4'-C1'-N1	5.40	112.52	108.20
1	1	1639	C	C6-N1-C2	-5.40	118.14	120.30
1	1	2150	G	N3-C2-N2	-5.40	116.12	119.90
1	1	790	U	C5-C6-N1	-5.40	120.00	122.70
1	5	2397	A	O4'-C1'-N9	-5.40	103.88	108.20
2	2	1277	G	C5-C6-O6	5.40	131.84	128.60
1	5	1148	G	C2-N3-C4	-5.40	109.20	111.90
1	5	2400	G	C5-N7-C8	-5.40	101.60	104.30
1	5	2890	A	C8-N9-C4	-5.40	103.64	105.80
1	1	1157	G	C4-C5-N7	5.39	112.96	110.80
2	2	1081	A	P-O3'-C3'	5.39	126.17	119.70
1	5	212	G	N3-C4-C5	-5.39	125.90	128.60
1	5	379	C	C2-N1-C1'	-5.39	112.87	118.80
1	5	398	A	N9-C4-C5	-5.39	103.64	105.80
1	5	427	C	C5-C4-N4	-5.39	116.42	120.20
1	1	116	A	C4-C5-N7	-5.39	108.00	110.70
1	1	639	G	N9-C1'-C2'	-5.39	106.07	112.00
1	1	1858	A	C8-N9-C4	-5.39	103.64	105.80
1	5	410	U	N1-C2-O2	-5.39	119.03	122.80
1	1	1062	A	C8-N9-C4	5.39	107.96	105.80
1	1	1166	G	N9-C4-C5	-5.39	103.24	105.40
1	5	943	U	C5-C6-N1	-5.39	120.01	122.70
2	6	1389	C	C2-N1-C1'	5.39	124.73	118.80
1	5	3075	G	N1-C6-O6	5.39	123.13	119.90
2	2	309	C	C2-N1-C1'	5.39	124.72	118.80
1	1	1442	U	C5-C4-O4	-5.38	122.67	125.90
1	1	1444	G	C5-N7-C8	-5.38	101.61	104.30
1	1	2376	G	N3-C2-N2	-5.38	116.13	119.90
2	2	1181	U	C6-N1-C2	-5.38	117.77	121.00
1	5	1150	A	N7-C8-N9	5.38	116.49	113.80
1	5	3286	G	C6-C5-N7	5.38	133.63	130.40
2	2	547	U	O5'-P-OP2	-5.38	100.86	105.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1846	C	O5'-P-OP1	5.38	117.16	110.70
2	6	20	G	N1-C6-O6	5.38	123.13	119.90
21	D6	86	VAL	N-CA-C	-5.38	96.47	111.00
1	1	1773	C	C5-C6-N1	-5.38	118.31	121.00
1	1	2714	G	N3-C4-C5	5.38	131.29	128.60
1	1	2144	A	C5-C6-N1	5.38	120.39	117.70
1	1	2885	C	O5'-P-OP2	-5.38	100.86	105.70
2	2	309	C	C5-C6-N1	5.38	123.69	121.00
2	2	1370	U	OP2-P-O3'	5.38	117.03	105.20
2	2	888	U	C6-N1-C2	-5.38	117.78	121.00
1	5	637	C	N3-C4-C5	5.38	124.05	121.90
1	5	2574	G	N9-C4-C5	-5.38	103.25	105.40
1	5	2609	A	C8-N9-C4	5.38	107.95	105.80
1	5	1527	C	N3-C2-O2	-5.38	118.14	121.90
2	6	496	G	O4'-C1'-N9	-5.38	103.90	108.20
1	5	927	C	C2-N1-C1'	5.37	124.71	118.80
1	5	3134	A	N1-C6-N6	5.37	121.82	118.60
1	1	836	A	C4-C5-C6	-5.37	114.31	117.00
1	1	1551	C	N3-C4-C5	5.37	124.05	121.90
1	1	2853	A	C4-C5-N7	5.37	113.39	110.70
2	2	1600	A	C5-N7-C8	-5.37	101.21	103.90
1	5	1017	C	C6-N1-C2	-5.37	118.15	120.30
1	1	1194	G	C4-C5-N7	5.37	112.95	110.80
1	1	1600	U	C6-N1-C2	5.37	124.22	121.00
1	1	2924	U	N3-C2-O2	-5.37	118.44	122.20
2	2	61	A	O4'-C1'-N9	5.37	112.49	108.20
1	5	838	G	OP2-P-O3'	5.37	117.01	105.20
2	6	153	G	N3-C4-C5	5.37	131.28	128.60
2	6	1340	U	C6-N1-C2	-5.37	117.78	121.00
1	1	2794	G	C4-N9-C1'	-5.37	119.52	126.50
2	2	327	U	C5-C6-N1	5.37	125.38	122.70
2	2	1320	U	O5'-P-OP2	-5.37	100.87	105.70
1	5	2873	U	C2-N1-C1'	5.37	124.14	117.70
1	5	2928	C	N1-C2-O2	5.37	122.12	118.90
1	5	3195	U	C6-N1-C1'	-5.37	113.69	121.20
2	6	1539	G	N1-C6-O6	5.37	123.12	119.90
1	5	2606	G	N3-C4-C5	-5.36	125.92	128.60
1	5	2877	G	N3-C4-C5	-5.36	125.92	128.60
1	5	2935	U	C6-N1-C2	-5.36	117.78	121.00
2	6	927	C	C6-N1-C2	-5.36	118.16	120.30
1	1	75	G	O5'-P-OP2	-5.36	100.87	105.70
1	5	1464	G	N3-C4-N9	-5.36	122.78	126.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2772	C	OP2-P-O3'	5.36	117.00	105.20
1	1	903	U	C2-N1-C1'	-5.36	111.27	117.70
1	1	1574	C	C6-N1-C2	-5.36	118.16	120.30
1	5	1460	A	C8-N9-C4	5.36	107.94	105.80
1	5	1832	C	OP2-P-O3'	5.36	116.99	105.20
1	5	3388	C	C6-N1-C2	5.36	122.44	120.30
1	1	2748	A	C8-N9-C4	5.36	107.94	105.80
1	1	2278	C	O5'-P-OP2	-5.36	100.88	105.70
1	1	2423	U	C2-N1-C1'	5.36	124.13	117.70
1	1	2943	G	C4-N9-C1'	5.36	133.47	126.50
1	5	1343	A	C8-N9-C4	5.36	107.94	105.80
1	5	1674	G	C8-N9-C4	5.36	108.54	106.40
2	6	163	G	N7-C8-N9	5.36	115.78	113.10
1	1	890	C	C5-C6-N1	-5.36	118.32	121.00
1	1	1338	C	C2-N1-C1'	5.36	124.69	118.80
2	2	948	G	N3-C4-C5	5.36	131.28	128.60
1	1	645	A	C6-C5-N7	5.35	136.05	132.30
1	1	2702	A	N1-C6-N6	5.35	121.81	118.60
2	2	1324	G	N1-C2-N2	5.35	121.02	116.20
1	5	860	G	C5-N7-C8	-5.35	101.62	104.30
1	5	2812	C	N3-C4-C5	5.35	124.04	121.90
3	3	81	U	C2-N1-C1'	-5.35	111.28	117.70
1	5	1375	G	N1-C6-O6	5.35	123.11	119.90
1	5	1220	U	C2-N1-C1'	5.35	124.12	117.70
1	5	1906	G	O4'-C1'-N9	-5.35	103.92	108.20
1	1	1775	G	C5-C6-O6	-5.35	125.39	128.60
1	5	3278	C	C2-N1-C1'	5.35	124.68	118.80
1	1	3246	G	C6-C5-N7	-5.34	127.19	130.40
2	2	1062	A	O4'-C1'-N9	5.34	112.48	108.20
2	6	576	G	C5-C6-O6	-5.34	125.39	128.60
1	1	3075	G	C6-C5-N7	-5.34	127.19	130.40
2	2	913	G	OP1-P-O3'	5.34	116.96	105.20
2	2	1794	A	N9-C4-C5	5.34	107.94	105.80
1	5	221	A	N9-C4-C5	5.34	107.94	105.80
1	5	619	A	OP1-P-O3'	5.34	116.95	105.20
1	5	1199	C	O5'-P-OP1	-5.34	100.89	105.70
1	5	1228	C	C6-N1-C2	-5.34	118.16	120.30
2	6	1100	G	C2-N3-C4	-5.34	109.23	111.90
1	1	315	C	C5-C6-N1	5.34	123.67	121.00
1	1	1403	C	N3-C2-O2	5.34	125.64	121.90
1	5	864	G	N3-C4-N9	5.34	129.20	126.00
1	5	1582	C	C6-N1-C1'	-5.34	114.39	120.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	3195	U	O4'-C1'-N1	-5.34	103.93	108.20
2	6	378	A	N1-C6-N6	5.34	121.80	118.60
1	1	2425	G	N3-C2-N2	-5.34	116.16	119.90
1	1	803	C	C6-N1-C2	-5.34	118.17	120.30
1	1	1556	C	C5-C6-N1	5.34	123.67	121.00
1	1	3362	A	C5-N7-C8	-5.34	101.23	103.90
2	2	639	U	N3-C2-O2	-5.34	118.46	122.20
2	2	1075	C	C5-C6-N1	5.34	123.67	121.00
69	S1	218	LEU	CA-CB-CG	5.34	127.57	115.30
1	5	352	A	C8-N9-C4	5.33	107.93	105.80
1	5	2572	C	C5-C6-N1	5.33	123.67	121.00
1	1	44	U	C6-N1-C2	5.33	124.20	121.00
1	1	2247	G	O5'-P-OP1	-5.33	100.90	105.70
4	4	14	C	N3-C4-C5	5.33	124.03	121.90
1	5	356	C	C5-C6-N1	-5.33	118.33	121.00
1	1	187	A	C8-N9-C4	-5.33	103.67	105.80
4	4	113	U	N3-C4-O4	-5.33	115.67	119.40
1	1	1582	C	C2-N1-C1'	-5.33	112.94	118.80
2	2	1196	A	P-O3'-C3'	5.33	126.10	119.70
1	5	424	G	C6-C5-N7	-5.33	127.20	130.40
17	D2	28	ARG	C-N-CD	-5.33	108.87	120.60
1	1	2201	G	N3-C4-C5	-5.33	125.94	128.60
1	5	511	G	C5-C6-O6	-5.33	125.40	128.60
1	5	656	A	C5-N7-C8	-5.33	101.24	103.90
1	5	1161	G	C5-C6-O6	-5.33	125.40	128.60
1	5	2987	A	C2-N3-C4	5.33	113.26	110.60
2	6	576	G	C6-C5-N7	-5.33	127.20	130.40
2	6	1671	A	N1-C6-N6	-5.33	115.40	118.60
11	C6	28	LEU	CA-CB-CG	5.33	127.55	115.30
1	1	41	G	N1-C6-O6	-5.33	116.70	119.90
1	1	1929	G	N1-C6-O6	5.33	123.10	119.90
1	1	2514	U	O5'-P-OP1	-5.33	100.91	105.70
1	5	291	C	N3-C4-C5	5.33	124.03	121.90
1	5	3047	U	N1-C2-O2	-5.33	119.07	122.80
1	1	2651	G	C4-C5-N7	5.33	112.93	110.80
1	1	226	C	C6-N1-C2	-5.32	118.17	120.30
1	1	287	G	N1-C6-O6	5.32	123.09	119.90
1	1	1446	A	C8-N9-C4	-5.32	103.67	105.80
1	5	2201	G	C6-C5-N7	-5.32	127.21	130.40
2	6	78	A	C8-N9-C4	-5.32	103.67	105.80
1	1	1306	G	N3-C4-C5	-5.32	125.94	128.60
1	1	3122	A	N1-C6-N6	-5.32	115.41	118.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2320	A	C8-N9-C4	5.32	107.93	105.80
1	5	3211	C	C6-N1-C2	5.32	122.43	120.30
1	1	864	G	OP2-P-O3'	5.32	116.90	105.20
2	2	947	U	C5-C6-N1	5.32	125.36	122.70
1	1	2603	G	N9-C4-C5	-5.32	103.27	105.40
4	4	135	G	C4-C5-N7	-5.32	108.67	110.80
1	1	667	C	N1-C2-O2	5.32	122.09	118.90
1	1	1024	G	P-O3'-C3'	5.32	126.08	119.70
1	1	2311	G	C4-C5-N7	5.32	112.93	110.80
1	1	3056	U	C6-N1-C2	5.32	124.19	121.00
1	5	1355	A	P-O3'-C3'	5.32	126.08	119.70
1	1	1544	G	N9-C4-C5	-5.32	103.27	105.40
2	2	1607	G	N3-C4-C5	-5.32	125.94	128.60
2	6	487	G	N3-C4-N9	5.32	129.19	126.00
2	2	433	C	C6-N1-C2	5.31	122.42	120.30
1	5	384	A	N1-C6-N6	5.31	121.79	118.60
1	1	1853	U	N1-C2-O2	-5.31	119.08	122.80
1	1	1915	A	C8-N9-C4	5.31	107.92	105.80
2	2	1600	A	C5-C6-N1	-5.31	115.04	117.70
36	m1	112	LEU	CA-CB-CG	5.31	127.52	115.30
1	1	1482	A	N7-C8-N9	5.31	116.46	113.80
1	1	3310	A	N1-C6-N6	5.31	121.79	118.60
1	1	668	G	C8-N9-C4	5.31	108.52	106.40
2	2	1097	U	O4'-C1'-N1	5.31	112.45	108.20
2	2	238	U	C5-C6-N1	5.31	125.35	122.70
1	5	2574	G	C4-C5-N7	5.31	112.92	110.80
1	1	837	A	C2-N3-C4	-5.31	107.95	110.60
2	2	1778	G	C8-N9-C4	-5.31	104.28	106.40
1	5	227	G	C8-N9-C1'	-5.31	120.10	127.00
1	1	1169	A	C5-C6-N6	5.30	127.94	123.70
1	1	3316	A	P-O3'-C3'	5.30	126.06	119.70
2	2	1343	U	C6-N1-C2	-5.30	117.82	121.00
1	5	824	C	N3-C4-C5	-5.30	119.78	121.90
1	5	2849	C	O5'-P-OP2	-5.30	100.93	105.70
2	6	1607	G	N1-C6-O6	5.30	123.08	119.90
17	D2	65	LEU	CA-CB-CG	5.30	127.50	115.30
1	1	1356	U	N3-C2-O2	5.30	125.91	122.20
2	2	1794	A	N1-C6-N6	-5.30	115.42	118.60
1	5	26	A	N1-C6-N6	5.30	121.78	118.60
1	5	1115	G	N7-C8-N9	5.30	115.75	113.10
1	1	3268	A	C8-N9-C4	-5.30	103.68	105.80
2	2	939	A	C5-C6-N6	-5.30	119.46	123.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2606	G	C6-C5-N7	-5.30	127.22	130.40
2	2	895	G	C4-C5-N7	-5.30	108.68	110.80
1	1	2110	G	N3-C4-N9	5.30	129.18	126.00
2	2	622	A	OP1-P-O3'	5.30	116.85	105.20
1	5	1004	U	N3-C4-O4	5.30	123.11	119.40
1	5	1149	G	N3-C4-C5	-5.30	125.95	128.60
1	1	229	G	C8-N9-C4	-5.29	104.28	106.40
1	1	1702	U	C6-N1-C2	-5.29	117.82	121.00
1	1	195	U	OP1-P-O3'	5.29	116.84	105.20
2	2	1427	A	N9-C4-C5	5.29	107.92	105.80
1	5	1913	A	C5-C6-N6	-5.29	119.47	123.70
2	6	391	A	O5'-P-OP2	-5.29	100.94	105.70
2	6	466	U	C6-N1-C2	-5.29	117.82	121.00
1	1	2946	A	OP2-P-O3'	5.29	116.84	105.20
1	5	880	G	N1-C6-O6	-5.29	116.72	119.90
1	5	2977	G	N1-C2-N2	-5.29	111.44	116.20
1	5	953	G	N3-C2-N2	5.29	123.60	119.90
2	2	1332	C	C6-N1-C2	-5.29	118.18	120.30
1	5	3307	A	C5-C6-N6	-5.29	119.47	123.70
1	1	3278	C	N3-C2-O2	-5.29	118.20	121.90
2	6	1060	U	C2-N1-C1'	5.29	124.04	117.70
1	1	2401	A	O4'-C1'-N9	5.29	112.43	108.20
1	5	1775	G	N1-C6-O6	5.29	123.07	119.90
1	1	929	A	OP1-P-O3'	5.28	116.82	105.20
1	1	964	G	C8-N9-C4	-5.28	104.29	106.40
1	1	1218	U	C2-N1-C1'	5.28	124.04	117.70
1	1	2112	U	P-O3'-C3'	5.28	126.04	119.70
2	2	498	G	C8-N9-C4	-5.28	104.29	106.40
1	5	2137	U	C2-N1-C1'	5.28	124.04	117.70
2	6	1059	U	C5-C6-N1	5.28	125.34	122.70
2	6	1657	U	C3'-C2'-C1'	5.28	105.73	101.50
1	1	632	G	C5-C6-O6	-5.28	125.43	128.60
1	1	2761	G	N1-C6-O6	-5.28	116.73	119.90
1	1	3303	G	C8-N9-C4	5.28	108.51	106.40
1	5	1878	G	C5-C6-O6	5.28	131.77	128.60
1	1	753	C	N3-C4-C5	5.28	124.01	121.90
1	1	915	A	C8-N9-C4	-5.28	103.69	105.80
1	5	3266	G	N1-C6-O6	-5.28	116.73	119.90
1	1	216	G	N1-C6-O6	5.28	123.07	119.90
1	1	273	A	C6-C5-N7	5.28	136.00	132.30
1	1	1581	C	OP2-P-O3'	5.28	116.81	105.20
1	1	2372	A	C8-N9-C4	5.28	107.91	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	193	C	C6-N1-C2	-5.28	118.19	120.30
1	1	966	U	C5-C4-O4	-5.28	122.73	125.90
1	1	1047	A	O5'-P-OP2	-5.28	100.95	105.70
1	1	2764	C	C6-N1-C2	-5.28	118.19	120.30
1	1	2794	G	N1-C6-O6	5.28	123.07	119.90
2	2	1649	G	C8-N9-C4	5.28	108.51	106.40
1	5	2824	G	N3-C4-N9	5.28	129.17	126.00
1	1	1610	G	C6-C5-N7	-5.28	127.23	130.40
1	1	1614	C	N3-C2-O2	-5.28	118.21	121.90
3	3	113	C	C6-N1-C2	5.28	122.41	120.30
1	5	1078	U	C6-N1-C1'	5.28	128.59	121.20
3	7	85	G	N3-C4-C5	5.28	131.24	128.60
14	C9	28	LEU	CA-CB-CG	5.28	127.43	115.30
2	2	1420	C	N3-C4-C5	5.27	124.01	121.90
1	5	2837	A	N1-C6-N6	5.27	121.76	118.60
1	5	1146	C	C5-C6-N1	-5.27	118.36	121.00
1	5	1370	G	N1-C6-O6	5.27	123.06	119.90
1	5	1429	G	C6-C5-N7	-5.27	127.24	130.40
1	5	2983	C	O5'-P-OP2	5.27	117.03	110.70
1	1	1610	G	N1-C6-O6	5.27	123.06	119.90
1	1	2846	U	N3-C2-O2	-5.27	118.51	122.20
50	N6	111	LEU	CA-CB-CG	-5.27	103.18	115.30
1	1	1202	A	C5-C6-N6	-5.27	119.48	123.70
1	1	2857	C	N3-C4-C5	-5.27	119.79	121.90
4	4	136	G	C8-N9-C4	5.27	108.51	106.40
1	5	3245	A	C4-C5-C6	5.27	119.64	117.00
3	7	91	G	N3-C2-N2	-5.27	116.21	119.90
1	5	2246	G	C5-C6-O6	-5.27	125.44	128.60
1	5	1000	C	N3-C4-C5	5.27	124.01	121.90
2	6	1736	G	N1-C6-O6	5.27	123.06	119.90
1	1	869	G	C5-C6-N1	5.26	114.13	111.50
1	1	1886	A	N1-C6-N6	-5.26	115.44	118.60
1	5	826	G	N1-C6-O6	5.26	123.06	119.90
1	5	2260	U	C6-N1-C2	-5.26	117.84	121.00
1	1	919	U	N1-C2-O2	5.26	126.48	122.80
2	2	130	C	N3-C2-O2	-5.26	118.22	121.90
2	2	926	A	N1-C2-N3	5.26	131.93	129.30
1	5	920	A	C2-N3-C4	-5.26	107.97	110.60
1	5	1825	G	C4-C5-N7	-5.26	108.70	110.80
1	5	2382	G	C5-C6-O6	-5.26	125.44	128.60
2	6	779	U	C2-N1-C1'	5.26	124.01	117.70
1	1	1316	C	C6-N1-C2	5.26	122.40	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2961	G	C8-N9-C4	-5.26	104.30	106.40
4	4	140	G	C6-C5-N7	-5.26	127.24	130.40
1	5	3245	A	C6-C5-N7	-5.26	128.62	132.30
1	1	2150	G	N1-C6-O6	5.26	123.05	119.90
1	1	3217	C	C5-C6-N1	5.26	123.63	121.00
1	1	3318	G	C4-N9-C1'	5.26	133.33	126.50
1	5	287	G	N9-C4-C5	-5.26	103.30	105.40
1	5	562	C	C6-N1-C2	-5.26	118.20	120.30
1	5	917	A	O5'-P-OP2	-5.26	100.97	105.70
1	5	3338	C	N3-C4-C5	5.26	124.00	121.90
2	6	9	U	C5-C6-N1	5.26	125.33	122.70
1	1	3068	U	C2-N1-C1'	-5.25	111.40	117.70
1	5	1855	U	C5-C4-O4	5.25	129.05	125.90
1	5	2413	A	C2-N3-C4	-5.25	107.97	110.60
2	6	858	G	C4-N9-C1'	5.25	133.33	126.50
1	1	584	G	O5'-P-OP2	-5.25	100.97	105.70
1	1	1161	G	C8-N9-C4	-5.25	104.30	106.40
1	5	1878	G	N1-C6-O6	-5.25	116.75	119.90
1	5	2240	G	C6-C5-N7	-5.25	127.25	130.40
2	6	75	U	P-O3'-C3'	5.25	126.00	119.70
2	6	548	G	N1-C6-O6	5.25	123.05	119.90
1	1	2174	G	N3-C2-N2	-5.25	116.23	119.90
2	2	204	G	C4-C5-N7	5.25	112.90	110.80
2	2	1736	G	C5-C6-O6	-5.25	125.45	128.60
1	5	422	A	C8-N9-C4	-5.25	103.70	105.80
2	6	1491	U	C6-N1-C2	-5.25	117.85	121.00
1	5	2827	U	C5-C6-N1	-5.25	120.08	122.70
1	5	3049	A	N1-C6-N6	5.25	121.75	118.60
1	1	1174	G	C8-N9-C1'	-5.25	120.18	127.00
3	3	83	U	C6-N1-C2	5.25	124.15	121.00
1	1	782	U	OP2-P-O3'	5.24	116.74	105.20
1	5	1155	C	O5'-P-OP1	-5.24	100.98	105.70
1	5	1581	C	C2-N1-C1'	5.24	124.57	118.80
1	5	3205	G	C4-C5-N7	5.24	112.90	110.80
2	6	1625	C	C6-N1-C2	5.24	122.40	120.30
1	1	2420	C	C5-C6-N1	5.24	123.62	121.00
1	1	2645	G	C5-C6-O6	-5.24	125.45	128.60
1	1	2940	A	C5-C6-N1	5.24	120.32	117.70
2	2	1760	G	N1-C6-O6	5.24	123.04	119.90
1	5	283	G	C4-N9-C1'	5.24	133.31	126.50
1	5	1657	C	C6-N1-C2	-5.24	118.20	120.30
1	5	799	G	C6-C5-N7	-5.24	127.26	130.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	2951	G	C4-C5-N7	5.24	112.90	110.80
1	1	63	A	O5'-P-OP1	-5.24	100.99	105.70
1	1	350	C	N1-C2-O2	5.24	122.04	118.90
1	1	891	G	C6-C5-N7	-5.24	127.26	130.40
2	2	1154	G	C5-C6-O6	5.24	131.74	128.60
1	5	1730	G	C8-N9-C4	-5.24	104.31	106.40
1	5	2619	G	C6-C5-N7	-5.24	127.26	130.40
2	6	1495	C	C6-N1-C2	-5.24	118.21	120.30
1	1	2817	A	C2-N3-C4	5.23	113.22	110.60
1	5	1437	C	N3-C4-N4	5.23	121.66	118.00
2	6	176	C	N1-C2-O2	5.23	122.04	118.90
1	1	96	G	N3-C4-C5	5.23	131.22	128.60
1	1	2541	U	C2-N1-C1'	5.23	123.98	117.70
1	5	1465	A	N1-C6-N6	-5.23	115.46	118.60
2	6	151	G	C6-C5-N7	5.23	133.54	130.40
2	6	320	U	O5'-P-OP1	-5.23	100.99	105.70
1	1	1571	A	P-O3'-C3'	5.23	125.98	119.70
1	1	2617	U	N1-C2-O2	-5.23	119.14	122.80
4	4	104	A	C5-C6-N6	-5.23	119.52	123.70
1	5	3243	A	O4'-C1'-N9	-5.23	104.02	108.20
1	1	2180	G	N3-C4-C5	5.23	131.22	128.60
1	1	2425	G	N1-C6-O6	5.23	123.04	119.90
1	5	2404	A	N3-C4-C5	5.23	130.46	126.80
1	1	1602	A	N1-C6-N6	-5.23	115.46	118.60
1	5	1715	A	OP1-P-O3'	5.23	116.70	105.20
1	5	2651	G	C8-N9-C4	5.23	108.49	106.40
2	6	192	U	C5-C6-N1	5.23	125.31	122.70
1	1	94	G	O5'-P-OP1	-5.23	101.00	105.70
1	5	2830	G	C2-N3-C4	-5.23	109.29	111.90
2	6	581	U	C2-N1-C1'	-5.23	111.43	117.70
2	2	294	C	C6-N1-C2	5.22	122.39	120.30
2	2	616	G	N9-C4-C5	5.22	107.49	105.40
4	4	51	G	N1-C6-O6	5.22	123.03	119.90
1	1	1450	G	OP1-P-OP2	-5.22	111.77	119.60
1	5	601	U	C2-N1-C1'	5.22	123.97	117.70
4	8	118	C	C6-N1-C2	-5.22	118.21	120.30
1	1	780	A	N9-C4-C5	5.22	107.89	105.80
1	1	928	C	N3-C4-C5	5.22	123.99	121.90
1	5	439	C	C6-N1-C1'	-5.22	114.53	120.80
2	6	624	G	N1-C6-O6	5.22	123.03	119.90
1	1	1322	U	N3-C4-C5	-5.22	111.47	114.60
3	3	8	G	N3-C4-C5	5.22	131.21	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	913	A	N1-C6-N6	5.22	121.73	118.60
1	5	925	A	C2-N3-C4	-5.22	107.99	110.60
2	6	176	C	N3-C2-O2	-5.22	118.25	121.90
2	6	1458	G	C8-N9-C1'	-5.22	120.21	127.00
1	1	1211	U	C6-N1-C2	5.22	124.13	121.00
1	1	2836	C	C6-N1-C2	-5.22	118.21	120.30
1	5	2366	C	N3-C4-C5	5.22	123.99	121.90
1	1	2403	G	O5'-P-OP2	-5.22	101.00	105.70
1	1	3220	G	N1-C6-O6	5.22	123.03	119.90
1	5	718	G	O4'-C1'-N9	5.22	112.37	108.20
1	5	2628	A	N1-C6-N6	5.22	121.73	118.60
1	1	611	A	C6-C5-N7	-5.21	128.65	132.30
1	1	1399	A	N1-C6-N6	5.21	121.73	118.60
1	1	1413	G	C2-N3-C4	-5.21	109.29	111.90
2	2	209	U	O5'-P-OP1	-5.21	101.01	105.70
1	5	909	G	N1-C6-O6	-5.21	116.77	119.90
1	5	2942	C	C6-N1-C2	-5.21	118.21	120.30
1	5	2964	G	OP1-P-O3'	5.21	116.67	105.20
3	7	79	A	N1-C6-N6	-5.21	115.47	118.60
4	8	121	U	N3-C2-O2	-5.21	118.55	122.20
1	5	2181	C	N3-C4-C5	5.21	123.98	121.90
2	6	1453	G	C8-N9-C4	5.21	108.48	106.40
50	N6	57	LEU	CA-CB-CG	5.21	127.29	115.30
1	1	1000	C	N3-C4-C5	5.21	123.98	121.90
1	1	1422	G	C5-C6-O6	-5.21	125.47	128.60
1	1	2934	A	C2-N3-C4	-5.21	108.00	110.60
1	1	3373	U	C6-N1-C2	5.21	124.13	121.00
2	2	306	U	C5-C6-N1	-5.21	120.10	122.70
4	8	46	G	C5-C6-O6	5.21	131.72	128.60
2	6	1686	C	C5-C6-N1	5.21	123.60	121.00
79	sR	165	ASP	C-N-CA	5.21	134.72	121.70
1	1	3216	G	N3-C4-C5	5.21	131.20	128.60
1	5	601	U	C6-N1-C2	-5.21	117.88	121.00
3	3	51	A	C8-N9-C4	-5.20	103.72	105.80
3	3	77	G	C8-N9-C4	5.20	108.48	106.40
1	5	1672	U	O4'-C1'-N1	5.20	112.36	108.20
1	5	2204	C	P-O3'-C3'	5.20	125.94	119.70
2	6	1003	A	C8-N9-C4	5.20	107.88	105.80
1	1	1941	C	C5-C6-N1	5.20	123.60	121.00
1	5	3252	G	N3-C4-C5	5.20	131.20	128.60
4	8	82	U	P-O3'-C3'	5.20	125.94	119.70
1	1	359	U	N1-C2-N3	5.20	118.02	114.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1086	C	C6-N1-C2	-5.20	118.22	120.30
1	1	3220	G	C5-C6-O6	-5.20	125.48	128.60
2	2	91	G	C8-N9-C4	5.20	108.48	106.40
1	5	1075	A	C8-N9-C4	5.20	107.88	105.80
17	D2	93	LEU	CA-CB-CG	5.20	127.26	115.30
1	1	645	A	C5-C6-N6	5.20	127.86	123.70
1	1	1078	U	C6-N1-C2	-5.20	117.88	121.00
1	1	2206	G	O4'-C1'-N9	-5.20	104.04	108.20
1	1	211	A	O5'-P-OP1	-5.20	101.03	105.70
1	5	2332	A	C8-N9-C4	5.20	107.88	105.80
4	8	100	U	C2-N1-C1'	5.20	123.93	117.70
2	2	1760	G	C5-C6-O6	-5.19	125.48	128.60
1	5	1592	G	N3-C4-N9	5.19	129.12	126.00
1	5	3008	A	N1-C6-N6	-5.19	115.48	118.60
1	1	260	C	C6-N1-C2	5.19	122.38	120.30
1	1	839	C	C6-N1-C2	5.19	122.38	120.30
1	1	2960	C	OP2-P-O3'	5.19	116.62	105.20
3	3	31	U	C6-N1-C2	-5.19	117.89	121.00
1	5	368	G	N9-C4-C5	-5.19	103.32	105.40
1	5	2286	U	C2-N1-C1'	-5.19	111.47	117.70
1	1	620	U	N1-C2-N3	5.19	118.01	114.90
1	1	2186	U	O5'-P-OP1	5.19	116.93	110.70
1	1	2372	A	N7-C8-N9	-5.19	111.20	113.80
1	1	62	A	N9-C4-C5	-5.19	103.72	105.80
2	2	39	A	O4'-C1'-N9	5.19	112.35	108.20
2	2	1473	U	N1-C2-O2	5.19	126.43	122.80
1	5	711	A	N1-C6-N6	-5.19	115.49	118.60
2	6	789	A	N1-C6-N6	-5.19	115.49	118.60
1	1	637	C	C4-C5-C6	-5.19	114.81	117.40
2	2	1729	C	N3-C4-C5	5.18	123.97	121.90
1	5	423	A	N9-C4-C5	5.18	107.87	105.80
1	5	529	A	C8-N9-C4	-5.18	103.73	105.80
2	6	42	G	N1-C6-O6	5.18	123.01	119.90
2	6	553	G	N1-C6-O6	5.18	123.01	119.90
1	1	1871	U	N3-C2-O2	-5.18	118.57	122.20
1	5	2430	A	N1-C6-N6	5.18	121.71	118.60
1	1	1028	U	C5-C6-N1	5.18	125.29	122.70
2	6	639	U	N1-C2-O2	5.18	126.43	122.80
1	1	54	C	C6-N1-C2	5.18	122.37	120.30
1	1	632	G	C6-C5-N7	-5.18	127.29	130.40
1	1	808	A	C8-N9-C4	-5.18	103.73	105.80
1	1	2654	C	C5-C6-N1	5.18	123.59	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2817	A	N9-C4-C5	5.18	107.87	105.80
1	1	2937	G	C6-C5-N7	-5.18	127.29	130.40
1	5	280	U	O5'-P-OP2	-5.18	101.04	105.70
1	5	1858	A	N9-C4-C5	5.18	107.87	105.80
1	5	2625	C	N3-C2-O2	5.18	125.53	121.90
2	6	765	G	C4-C5-N7	-5.18	108.73	110.80
78	sM	134	ASP	CB-CG-OD2	5.18	122.96	118.30
1	1	2209	U	P-O3'-C3'	5.18	125.91	119.70
1	1	2620	G	C2-N3-C4	-5.18	109.31	111.90
1	5	2892	A	N9-C4-C5	-5.18	103.73	105.80
1	5	2987	A	N1-C2-N3	-5.18	126.71	129.30
2	2	499	U	C3'-C2'-C1'	5.17	105.64	101.50
1	5	1552	G	N9-C4-C5	-5.17	103.33	105.40
2	6	393	C	C6-N1-C2	5.17	122.37	120.30
2	6	565	C	C2-N1-C1'	5.17	124.49	118.80
2	6	810	G	N1-C6-O6	5.17	123.00	119.90
1	1	869	G	O5'-P-OP1	5.17	116.91	110.70
1	1	1206	G	N3-C4-C5	-5.17	126.01	128.60
1	1	353	G	O4'-C1'-N9	-5.17	104.06	108.20
1	1	2383	C	C6-N1-C2	5.17	122.37	120.30
1	1	2868	U	C2-N1-C1'	5.17	123.91	117.70
1	1	2901	G	N1-C6-O6	5.17	123.00	119.90
2	2	1093	A	N1-C6-N6	5.17	121.70	118.60
1	5	32	U	N3-C2-O2	-5.17	118.58	122.20
1	5	887	G	C5-C6-O6	-5.17	125.50	128.60
1	5	1858	A	N1-C6-N6	-5.17	115.50	118.60
1	5	2240	G	N7-C8-N9	5.17	115.69	113.10
2	6	302	U	C6-N1-C2	-5.17	117.90	121.00
76	S8	121	LEU	CA-CB-CG	5.17	127.19	115.30
1	1	1197	A	N1-C6-N6	5.17	121.70	118.60
1	1	336	A	N1-C6-N6	5.17	121.70	118.60
2	2	75	U	N3-C2-O2	-5.17	118.58	122.20
1	5	216	G	N1-C6-O6	5.17	123.00	119.90
2	6	1591	C	C6-N1-C2	-5.17	118.23	120.30
1	1	2150	G	N3-C4-C5	5.17	131.18	128.60
1	5	1481	A	C4-N9-C1'	5.17	135.60	126.30
1	5	1776	G	C8-N9-C4	-5.17	104.33	106.40
1	5	2954	U	N3-C2-O2	-5.17	118.58	122.20
1	1	1521	G	N3-C4-N9	-5.17	122.90	126.00
1	5	18	G	N3-C2-N2	-5.17	116.28	119.90
78	SM	134	ASP	CB-CG-OD2	5.17	122.95	118.30
1	1	756	U	C6-N1-C2	5.16	124.10	121.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2354	C	N3-C4-C5	-5.16	119.83	121.90
1	1	2870	C	P-O3'-C3'	5.16	125.90	119.70
1	5	68	C	N1-C2-O2	5.16	122.00	118.90
1	5	2371	G	N3-C4-N9	5.16	129.10	126.00
2	6	558	U	C5-C6-N1	5.16	125.28	122.70
2	6	1524	A	C8-N9-C4	-5.16	103.73	105.80
1	1	1508	C	OP1-P-O3'	5.16	116.56	105.20
2	2	75	U	C2-N1-C1'	5.16	123.89	117.70
1	5	2620	G	C2-N3-C4	-5.16	109.32	111.90
1	1	339	C	N3-C4-C5	5.16	123.96	121.90
1	1	1381	A	N9-C4-C5	-5.16	103.74	105.80
1	1	2180	G	C8-N9-C4	5.16	108.46	106.40
2	2	881	A	C8-N9-C4	5.16	107.86	105.80
2	2	1052	U	O4'-C1'-N1	5.16	112.33	108.20
1	5	2831	G	C4-C5-N7	5.16	112.86	110.80
1	1	2646	C	C5-C6-N1	-5.16	118.42	121.00
2	2	1783	C	C2-N1-C1'	5.16	124.47	118.80
1	5	1006	A	C8-N9-C4	5.16	107.86	105.80
1	5	1338	C	N3-C4-N4	5.16	121.61	118.00
1	5	1913	A	C6-C5-N7	-5.16	128.69	132.30
1	5	2401	A	N3-C4-N9	5.16	131.53	127.40
1	5	2848	G	N9-C4-C5	5.16	107.46	105.40
2	6	1060	U	C5-C6-N1	5.16	125.28	122.70
4	8	84	C	N1-C2-O2	-5.16	115.80	118.90
1	1	949	C	N3-C4-C5	5.16	123.96	121.90
1	1	3280	U	N3-C2-O2	5.16	125.81	122.20
3	3	45	A	C8-N9-C4	-5.16	103.74	105.80
1	1	2348	A	N9-C4-C5	5.16	107.86	105.80
1	1	3056	U	N3-C2-O2	5.16	125.81	122.20
1	5	106	A	N9-C4-C5	-5.16	103.74	105.80
1	5	924	G	O5'-P-OP1	-5.16	101.06	105.70
1	5	3090	U	N3-C4-C5	-5.16	111.51	114.60
1	1	3110	C	C6-N1-C2	-5.15	118.24	120.30
1	1	2853	A	C5-C6-N6	-5.15	119.58	123.70
1	5	48	A	C5-C6-N6	5.15	127.82	123.70
1	5	877	C	C6-N1-C2	5.15	122.36	120.30
1	5	2574	G	O4'-C1'-N9	-5.15	104.08	108.20
1	1	1437	C	C5-C6-N1	5.15	123.58	121.00
1	1	1582	C	C6-N1-C1'	5.15	126.98	120.80
1	5	1437	C	N3-C4-C5	-5.15	119.84	121.90
1	5	2298	U	N3-C2-O2	-5.15	118.59	122.20
1	1	2385	G	N1-C6-O6	5.15	122.99	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1531	C	C5-C4-N4	-5.15	116.60	120.20
2	6	1458	G	C5-C6-O6	-5.15	125.51	128.60
1	1	1940	G	N9-C4-C5	-5.15	103.34	105.40
2	2	1096	C	C6-N1-C1'	-5.15	114.62	120.80
76	s8	29	LEU	CA-CB-CG	5.15	127.14	115.30
1	1	251	G	N3-C4-C5	-5.14	126.03	128.60
2	2	29	U	C2-N1-C1'	-5.14	111.53	117.70
1	5	1229	G	N3-C4-C5	-5.14	126.03	128.60
1	5	2611	U	O5'-P-OP1	5.14	116.88	110.70
2	6	163	G	C2-N3-C4	-5.14	109.33	111.90
2	6	1034	C	C6-N1-C2	5.14	122.36	120.30
1	1	2613	U	O5'-P-OP2	-5.14	101.07	105.70
1	1	2748	A	N9-C4-C5	-5.14	103.74	105.80
1	1	3318	G	C6-C5-N7	-5.14	127.31	130.40
1	5	439	C	C2-N3-C4	5.14	122.47	119.90
1	5	1024	G	N3-C4-C5	-5.14	126.03	128.60
1	5	3100	U	N3-C2-O2	5.14	125.80	122.20
2	6	45	U	O4'-C1'-N1	5.14	112.31	108.20
1	1	1625	A	C8-N9-C4	5.14	107.86	105.80
1	5	813	G	C5-C6-O6	-5.14	125.52	128.60
2	6	1422	A	N9-C4-C5	-5.14	103.74	105.80
1	1	2961	G	OP1-P-O3'	5.14	116.51	105.20
2	2	1486	G	C4-C5-N7	5.14	112.86	110.80
1	5	701	G	C8-N9-C4	-5.14	104.34	106.40
1	5	1205	A	N1-C6-N6	5.14	121.68	118.60
1	5	1400	G	N1-C6-O6	-5.14	116.82	119.90
2	6	1323	C	C6-N1-C2	-5.14	118.24	120.30
1	1	227	G	N3-C4-N9	5.14	129.08	126.00
1	1	992	A	C8-N9-C4	5.14	107.86	105.80
1	5	609	G	C5-C6-O6	-5.14	125.52	128.60
2	6	434	G	O5'-P-OP2	-5.14	101.08	105.70
4	8	72	A	C5-C6-N6	-5.14	119.59	123.70
1	1	1454	A	N7-C8-N9	-5.14	111.23	113.80
2	2	1798	U	N3-C2-O2	-5.14	118.61	122.20
4	4	47	C	N3-C4-C5	5.14	123.95	121.90
1	5	894	G	N3-C4-N9	5.14	129.08	126.00
1	5	1343	A	C2-N3-C4	-5.13	108.03	110.60
1	5	1590	G	C8-N9-C4	5.13	108.45	106.40
1	5	1782	U	C2-N1-C1'	5.13	123.86	117.70
2	6	767	U	C2-N1-C1'	5.13	123.86	117.70
1	1	1085	A	N1-C6-N6	5.13	121.68	118.60
1	5	912	G	N9-C4-C5	-5.13	103.35	105.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	1609	C	N3-C4-C5	5.13	123.95	121.90
1	1	1204	A	N1-C6-N6	5.13	121.68	118.60
1	1	2943	G	C8-N9-C4	-5.13	104.35	106.40
2	2	497	G	C3'-C2'-C1'	5.13	105.61	101.50
54	o0	104	LEU	CA-CB-CG	5.13	127.10	115.30
1	1	968	G	N9-C4-C5	-5.13	103.35	105.40
1	5	3158	G	C8-N9-C4	-5.13	104.35	106.40
1	1	96	G	C2-N3-C4	-5.13	109.34	111.90
1	1	884	A	C6-C5-N7	-5.13	128.71	132.30
2	2	1389	C	C2-N1-C1'	5.13	124.44	118.80
4	4	140	G	N9-C4-C5	-5.13	103.35	105.40
1	5	1495	U	C2-N1-C1'	5.13	123.85	117.70
1	1	3216	G	C8-N9-C4	5.13	108.45	106.40
1	5	970	A	N9-C1'-C2'	-5.13	106.36	112.00
1	5	2726	C	C5-C4-N4	5.13	123.79	120.20
2	6	1605	G	C8-N9-C4	-5.13	104.35	106.40
1	5	1323	G	C5-C6-O6	-5.12	125.53	128.60
1	5	1606	U	OP2-P-O3'	5.12	116.47	105.20
1	5	3195	U	N1-C2-N3	-5.12	111.83	114.90
2	6	557	G	C4-N9-C1'	5.12	133.16	126.50
1	1	1473	G	C8-N9-C4	5.12	108.45	106.40
2	2	1324	G	C8-N9-C1'	5.12	133.66	127.00
1	5	506	U	C6-N1-C2	-5.12	117.93	121.00
1	5	2817	A	C4-C5-C6	-5.12	114.44	117.00
1	1	758	C	C6-N1-C2	-5.12	118.25	120.30
2	2	1331	A	N1-C6-N6	-5.12	115.53	118.60
1	5	2403	G	C5-C6-O6	-5.12	125.53	128.60
2	6	1773	C	C5-C6-N1	5.12	123.56	121.00
24	d9	36	LEU	CA-CB-CG	5.12	127.08	115.30
1	1	1113	G	C8-N9-C4	-5.12	104.35	106.40
1	1	2857	C	O5'-P-OP1	-5.12	101.09	105.70
2	2	1162	C	C6-N1-C2	-5.12	118.25	120.30
1	5	1672	U	C2-N1-C1'	-5.12	111.56	117.70
1	1	141	C	C6-N1-C2	-5.12	118.25	120.30
2	2	15	U	OP2-P-O3'	5.12	116.46	105.20
1	5	2404	A	C8-N9-C4	5.12	107.85	105.80
1	1	63	A	C6-C5-N7	-5.12	128.72	132.30
1	1	651	G	N3-C4-C5	-5.12	126.04	128.60
1	1	1842	A	O4'-C1'-N9	-5.12	104.11	108.20
1	1	2376	G	N1-C6-O6	5.12	122.97	119.90
1	1	3390	G	N1-C6-O6	5.12	122.97	119.90
2	2	1490	C	OP1-P-O3'	5.12	116.45	105.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	3	9	C	C6-N1-C2	5.12	122.35	120.30
1	5	228	U	C6-N1-C2	-5.12	117.93	121.00
1	5	1851	G	N7-C8-N9	5.12	115.66	113.10
1	1	3050	U	N1-C2-O2	5.11	126.38	122.80
2	2	1286	U	C6-N1-C1'	5.11	128.36	121.20
1	5	1303	A	C4-C5-N7	5.11	113.26	110.70
2	6	163	G	N1-C2-N3	5.11	126.97	123.90
2	6	577	G	N7-C8-N9	5.11	115.66	113.10
2	2	1473	U	C5-C4-O4	5.11	128.97	125.90
1	5	2105	G	C4-N9-C1'	-5.11	119.86	126.50
1	5	2225	U	C6-N1-C2	-5.11	117.93	121.00
1	1	2973	G	C5-N7-C8	5.11	106.86	104.30
1	1	3128	G	OP2-P-O3'	5.11	116.44	105.20
1	1	3194	C	C5-C6-N1	5.11	123.56	121.00
1	5	1931	U	N3-C2-O2	-5.11	118.62	122.20
2	6	238	U	P-O3'-C3'	5.11	125.83	119.70
1	1	3128	G	N3-C4-C5	-5.11	126.05	128.60
26	E1	84	VAL	C-N-CA	5.11	134.47	121.70
1	1	1487	G	C6-C5-N7	-5.11	127.34	130.40
2	2	1726	G	O5'-P-OP1	-5.11	101.10	105.70
1	5	251	G	N3-C4-C5	-5.11	126.05	128.60
1	1	3109	G	C5-C6-O6	-5.11	125.54	128.60
1	5	1831	U	OP2-P-O3'	5.11	116.43	105.20
1	5	3320	A	C8-N9-C4	5.11	107.84	105.80
1	1	3033	A	C8-N9-C4	-5.10	103.76	105.80
1	5	641	C	C5-C6-N1	5.10	123.55	121.00
1	1	1157	G	C5-C6-O6	-5.10	125.54	128.60
1	1	1197	A	N9-C4-C5	-5.10	103.76	105.80
2	2	1150	G	C3'-C2'-C1'	5.10	105.58	101.50
2	2	1536	G	C4-N9-C1'	5.10	133.13	126.50
3	3	7	G	N3-C4-C5	-5.10	126.05	128.60
1	1	120	G	N3-C4-N9	5.10	129.06	126.00
1	1	1178	G	C5-C6-O6	5.10	131.66	128.60
2	2	1241	G	O4'-C1'-N9	5.10	112.28	108.20
1	1	1086	C	C5-C6-N1	5.10	123.55	121.00
1	1	2415	C	N3-C4-C5	5.10	123.94	121.90
1	5	2971	A	C8-N9-C4	-5.10	103.76	105.80
1	1	2617	U	N1-C2-N3	5.10	117.96	114.90
1	5	48	A	N9-C4-C5	5.10	107.84	105.80
2	6	577	G	C5-N7-C8	-5.10	101.75	104.30
2	6	1187	U	C6-N1-C2	-5.10	117.94	121.00
4	8	2	A	C8-N9-C4	-5.10	103.76	105.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2366	C	C4-C5-C6	-5.09	114.85	117.40
1	5	1775	G	C4-C5-N7	5.09	112.84	110.80
1	5	1920	U	C5-C4-O4	5.09	128.96	125.90
20	d5	69	LEU	CA-CB-CG	5.09	127.02	115.30
69	S1	73	LEU	CA-CB-CG	5.09	127.02	115.30
1	1	639	G	C8-N9-C4	5.09	108.44	106.40
1	1	1888	U	N1-C2-O2	5.09	126.36	122.80
1	1	1493	G	C5-N7-C8	5.09	106.84	104.30
1	5	1594	A	C8-N9-C4	5.09	107.84	105.80
1	5	2980	U	C2-N1-C1'	5.09	123.81	117.70
1	1	1496	C	O5'-P-OP2	-5.09	101.12	105.70
1	1	1554	U	N3-C2-O2	5.09	125.76	122.20
1	1	2984	C	C6-N1-C1'	5.09	126.91	120.80
1	5	1450	G	C4-C5-N7	5.09	112.84	110.80
1	5	2817	A	C4-C5-N7	5.09	113.25	110.70
1	5	3043	C	N3-C4-C5	-5.09	119.86	121.90
2	6	864	U	C2-N1-C1'	5.09	123.81	117.70
2	6	1491	U	N1-C2-O2	5.09	126.36	122.80
1	1	353	G	N7-C8-N9	-5.09	110.56	113.10
1	1	648	C	N3-C4-C5	-5.09	119.86	121.90
1	1	1145	G	N1-C6-O6	5.09	122.95	119.90
1	5	511	G	N3-C2-N2	-5.09	116.34	119.90
1	5	2651	G	C4-C5-N7	5.09	112.83	110.80
1	1	1075	A	N1-C6-N6	-5.09	115.55	118.60
1	1	1404	G	C5-C6-O6	-5.09	125.55	128.60
1	1	2137	U	C2-N1-C1'	5.09	123.80	117.70
1	5	1538	G	C8-N9-C4	-5.09	104.36	106.40
1	5	2651	G	N9-C4-C5	-5.09	103.36	105.40
1	5	3144	G	C5-C6-O6	-5.09	125.55	128.60
2	6	417	A	N3-C4-C5	-5.09	123.24	126.80
2	6	1246	C	C2-N1-C1'	5.09	124.39	118.80
1	1	1764	U	C2-N1-C1'	5.08	123.80	117.70
1	1	876	A	C2-N3-C4	-5.08	108.06	110.60
1	1	1801	U	O5'-P-OP2	-5.08	101.12	105.70
1	1	1908	A	C8-N9-C4	5.08	107.83	105.80
1	5	2619	G	C4-C5-N7	5.08	112.83	110.80
1	1	60	A	C2-N3-C4	-5.08	108.06	110.60
1	1	116	A	N3-C4-C5	-5.08	123.24	126.80
1	1	1556	C	C2-N1-C1'	5.08	124.39	118.80
1	1	1655	G	N1-C2-N2	-5.08	111.63	116.20
1	1	1720	U	C6-N1-C2	-5.08	117.95	121.00
1	1	3044	G	OP2-P-O3'	5.08	116.38	105.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	580	C	N3-C4-C5	5.08	123.93	121.90
2	6	1286	U	N3-C4-O4	5.08	122.96	119.40
2	2	1798	U	C2-N1-C1'	5.08	123.80	117.70
1	1	966	U	C2-N1-C1'	5.08	123.80	117.70
1	1	2633	U	O5'-P-OP2	5.08	116.79	110.70
2	2	1573	A	OP2-P-O3'	5.08	116.37	105.20
1	5	1548	C	C6-N1-C2	-5.08	118.27	120.30
1	5	2617	U	C6-N1-C2	-5.08	117.95	121.00
1	5	3394	U	C6-N1-C2	5.08	124.05	121.00
2	6	501	U	C6-N1-C1'	-5.08	114.09	121.20
1	1	2507	C	C6-N1-C2	-5.08	118.27	120.30
1	1	2675	C	C6-N1-C1'	-5.08	114.71	120.80
1	5	1588	A	O5'-P-OP1	-5.08	101.13	105.70
2	6	1114	G	O4'-C1'-N9	5.08	112.26	108.20
1	1	336	A	C4-C5-N7	5.08	113.24	110.70
1	1	1899	G	O5'-P-OP1	-5.08	101.13	105.70
2	2	111	U	C2-N1-C1'	5.08	123.79	117.70
2	2	380	U	C2-N1-C1'	5.08	123.79	117.70
2	2	453	U	N3-C2-O2	-5.08	118.65	122.20
1	5	2240	G	N1-C6-O6	5.08	122.94	119.90
2	6	76	A	P-O3'-C3'	5.08	125.79	119.70
2	6	687	G	N9-C4-C5	5.08	107.43	105.40
1	1	1024	G	OP1-P-O3'	5.07	116.36	105.20
2	6	1462	G	N1-C6-O6	-5.07	116.86	119.90
2	2	61	A	C8-N9-C4	-5.07	103.77	105.80
2	2	1560	U	N1-C2-O2	5.07	126.35	122.80
1	1	666	A	N7-C8-N9	-5.07	111.27	113.80
1	1	2097	U	C6-N1-C2	-5.07	117.96	121.00
1	1	2623	G	N1-C6-O6	5.07	122.94	119.90
1	1	3059	G	C8-N9-C4	5.07	108.43	106.40
1	1	3158	G	N1-C6-O6	-5.07	116.86	119.90
2	2	1363	U	C2-N1-C1'	5.07	123.78	117.70
1	5	770	G	C8-N9-C4	-5.07	104.37	106.40
2	6	234	G	N3-C4-N9	5.07	129.04	126.00
2	6	794	U	N1-C2-N3	-5.07	111.86	114.90
1	1	48	A	N9-C4-C5	5.07	107.83	105.80
2	2	1	U	OP2-P-O3'	5.07	116.35	105.20
2	2	1414	U	C6-N1-C2	-5.07	117.96	121.00
2	2	1535	U	O5'-P-OP1	5.07	116.78	110.70
1	5	1321	G	N3-C4-C5	5.07	131.13	128.60
46	n2	28	PHE	C-N-CA	5.07	134.37	121.70
2	2	553	G	N1-C6-O6	5.07	122.94	119.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	2	1082	C	N1-C2-O2	5.07	121.94	118.90
4	8	112	U	N1-C2-O2	-5.07	119.25	122.80
4	8	126	A	OP1-P-O3'	5.07	116.34	105.20
2	2	1601	G	O5'-P-OP2	-5.06	101.14	105.70
1	1	798	G	N7-C8-N9	5.06	115.63	113.10
1	1	1490	A	C8-N9-C4	5.06	107.83	105.80
1	1	2381	G	N9-C4-C5	-5.06	103.38	105.40
4	4	134	G	O5'-P-OP2	5.06	116.78	110.70
4	4	144	G	C8-N9-C4	5.06	108.42	106.40
1	1	391	A	N1-C6-N6	5.06	121.64	118.60
1	1	2943	G	N7-C8-N9	5.06	115.63	113.10
2	6	806	A	O5'-P-OP2	-5.06	101.14	105.70
1	1	298	U	C6-N1-C1'	-5.06	114.12	121.20
1	1	1118	C	C6-N1-C2	-5.06	118.28	120.30
1	1	2779	A	C8-N9-C4	5.06	107.82	105.80
1	1	3290	G	C8-N9-C4	-5.06	104.38	106.40
4	4	2	A	C2-N3-C4	-5.06	108.07	110.60
4	4	81	U	O4'-C1'-N1	5.06	112.25	108.20
1	5	2797	C	C6-N1-C2	5.06	122.32	120.30
2	6	646	C	C6-N1-C2	-5.06	118.28	120.30
2	6	1060	U	C6-N1-C2	-5.06	117.96	121.00
1	1	611	A	N1-C6-N6	5.06	121.64	118.60
1	1	1448	U	C6-N1-C2	5.06	124.03	121.00
1	1	1663	C	C5-C6-N1	-5.06	118.47	121.00
1	1	2888	U	C5-C4-O4	-5.06	122.86	125.90
1	5	2288	G	C4-N9-C1'	5.06	133.07	126.50
2	6	453	U	C6-N1-C1'	-5.06	114.12	121.20
1	1	591	G	C4-C5-N7	5.06	112.82	110.80
1	1	1434	G	C8-N9-C4	5.05	108.42	106.40
1	1	1446	A	N9-C4-C5	5.05	107.82	105.80
4	4	54	A	C4-C5-C6	5.05	119.53	117.00
1	5	770	G	N9-C4-C5	5.05	107.42	105.40
1	5	1219	C	N3-C2-O2	-5.05	118.36	121.90
1	5	2160	G	N9-C4-C5	-5.05	103.38	105.40
4	8	84	C	N3-C2-O2	5.05	125.44	121.90
1	1	1763	U	N3-C2-O2	-5.05	118.66	122.20
1	1	2735	U	C5-C6-N1	5.05	125.23	122.70
1	1	3390	G	C5-C6-O6	-5.05	125.57	128.60
1	5	898	U	C6-N1-C2	-5.05	117.97	121.00
1	5	3124	G	N9-C4-C5	-5.05	103.38	105.40
1	5	3126	C	O5'-P-OP2	-5.05	101.15	105.70
1	1	2320	A	C2-N3-C4	-5.05	108.08	110.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	4	70	G	C8-N9-C4	5.05	108.42	106.40
1	5	1863	G	N3-C4-C5	5.05	131.12	128.60
1	5	2382	G	N3-C4-C5	5.05	131.12	128.60
3	7	89	G	N1-C6-O6	5.05	122.93	119.90
1	1	620	U	C6-N1-C1'	5.05	128.27	121.20
1	1	1340	G	C8-N9-C4	5.05	108.42	106.40
1	1	1373	A	OP2-P-O3'	5.05	116.31	105.20
1	1	1531	C	O5'-P-OP1	5.05	116.76	110.70
1	1	2381	G	N1-C6-O6	5.05	122.93	119.90
1	1	2896	A	C5-N7-C8	-5.05	101.38	103.90
1	5	98	G	C8-N9-C4	5.05	108.42	106.40
2	2	1610	G	N3-C4-C5	-5.05	126.08	128.60
1	5	934	G	C6-C5-N7	-5.05	127.37	130.40
1	5	1429	G	N3-C4-N9	5.05	129.03	126.00
1	5	2811	A	O5'-P-OP2	-5.05	101.16	105.70
4	8	80	A	C2-N3-C4	5.04	113.12	110.60
2	2	453	U	C5-C6-N1	5.04	125.22	122.70
1	5	1442	U	C5-C6-N1	-5.04	120.18	122.70
2	6	1074	G	C4-C5-N7	5.04	112.82	110.80
2	2	720	G	P-O3'-C3'	5.04	125.75	119.70
3	3	97	A	N1-C6-N6	5.04	121.62	118.60
4	4	36	G	N1-C6-O6	5.04	122.92	119.90
1	5	2421	U	C5-C6-N1	-5.04	120.18	122.70
1	1	2616	C	N3-C2-O2	5.04	125.43	121.90
1	1	3242	G	N1-C6-O6	5.04	122.92	119.90
2	2	188	A	O5'-P-OP1	-5.04	101.17	105.70
1	5	51	A	C5-C6-N6	-5.04	119.67	123.70
2	6	565	C	C6-N1-C1'	-5.04	114.75	120.80
2	6	687	G	N3-C4-N9	-5.04	122.98	126.00
2	6	1524	A	OP2-P-O3'	5.04	116.28	105.20
1	1	2934	A	N9-C4-C5	-5.04	103.78	105.80
2	6	555	A	P-O3'-C3'	5.04	125.74	119.70
2	6	1340	U	N3-C2-O2	-5.04	118.67	122.20
1	1	55	G	N1-C6-O6	5.04	122.92	119.90
1	1	2935	U	C2-N1-C1'	5.04	123.74	117.70
2	2	256	A	C8-N9-C4	-5.04	103.79	105.80
1	5	48	A	N3-C4-N9	-5.04	123.37	127.40
1	5	1770	G	C4-N9-C1'	5.04	133.05	126.50
2	6	1787	C	C6-N1-C2	5.04	122.31	120.30
1	1	1365	G	N3-C4-C5	-5.03	126.08	128.60
1	1	1413	G	C4-C5-N7	5.03	112.81	110.80
1	1	1892	G	N3-C4-C5	5.03	131.12	128.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2127	U	N3-C2-O2	5.03	125.72	122.20
1	1	2943	G	C4-C5-C6	5.03	121.82	118.80
1	1	3362	A	C2-N3-C4	-5.03	108.08	110.60
2	2	1051	G	P-O3'-C3'	5.03	125.74	119.70
2	6	194	U	N3-C2-O2	-5.03	118.68	122.20
1	5	2239	G	N1-C6-O6	5.03	122.92	119.90
1	5	2862	U	C5-C6-N1	-5.03	120.18	122.70
1	1	619	A	OP1-P-O3'	5.03	116.27	105.20
1	1	2571	U	C2-N1-C1'	5.03	123.74	117.70
1	5	1303	A	C5-C6-N6	-5.03	119.67	123.70
1	5	1413	G	C2-N3-C4	-5.03	109.38	111.90
1	5	1795	U	N1-C2-O2	5.03	126.32	122.80
1	5	2986	U	C6-N1-C2	-5.03	117.98	121.00
1	1	2833	A	C5-C6-N1	5.03	120.21	117.70
1	5	916	G	P-O3'-C3'	5.03	125.73	119.70
1	5	1408	G	N1-C6-O6	5.03	122.92	119.90
1	5	2427	U	O5'-P-OP1	5.03	116.73	110.70
1	5	3049	A	C5-C6-N6	-5.03	119.68	123.70
1	1	544	C	O4'-C1'-N1	5.03	112.22	108.20
1	1	639	G	C5-C6-N1	-5.03	108.99	111.50
1	1	1897	G	C4-C5-N7	5.03	112.81	110.80
1	1	1911	A	O5'-P-OP1	-5.03	101.17	105.70
1	1	3056	U	N1-C2-O2	-5.03	119.28	122.80
2	2	23	G	C8-N9-C4	-5.03	104.39	106.40
1	5	934	G	C8-N9-C1'	-5.03	120.46	127.00
1	5	2346	C	N3-C2-O2	5.03	125.42	121.90
1	5	2620	G	N3-C4-N9	-5.03	122.98	126.00
1	1	1507	G	O4'-C1'-N9	-5.03	104.18	108.20
1	1	1607	U	N3-C2-O2	-5.03	118.68	122.20
2	2	139	C	P-O3'-C3'	5.03	125.73	119.70
2	2	187	G	OP1-P-O3'	5.03	116.26	105.20
2	2	913	G	P-O3'-C3'	5.03	125.73	119.70
1	5	412	G	N3-C2-N2	-5.03	116.38	119.90
1	1	1595	U	C2-N1-C1'	-5.02	111.67	117.70
2	2	1559	A	O4'-C1'-N9	5.02	112.22	108.20
1	5	200	C	C5-C4-N4	5.02	123.72	120.20
1	5	278	U	C6-N1-C2	-5.02	117.98	121.00
1	5	515	C	C6-N1-C2	-5.02	118.29	120.30
1	5	2719	U	N1-C2-O2	-5.02	119.28	122.80
2	2	526	A	C8-N9-C4	-5.02	103.79	105.80
2	2	1398	U	C6-N1-C2	-5.02	117.99	121.00
1	5	2612	U	N3-C4-C5	-5.02	111.59	114.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	6	972	G	C5-C6-O6	-5.02	125.59	128.60
2	6	1274	C	N3-C2-O2	-5.02	118.38	121.90
2	2	1596	C	N1-C2-O2	5.02	121.91	118.90
1	1	2725	U	C5-C6-N1	-5.02	120.19	122.70
1	1	3159	C	C2-N1-C1'	-5.02	113.28	118.80
2	2	1466	G	C8-N9-C4	5.02	108.41	106.40
1	5	110	G	C8-N9-C4	5.02	108.41	106.40
1	5	400	G	N3-C4-C5	-5.02	126.09	128.60
1	5	915	A	N7-C8-N9	5.02	116.31	113.80
1	5	1105	A	C8-N9-C4	-5.02	103.79	105.80
1	5	2626	A	N1-C6-N6	5.02	121.61	118.60
1	5	3275	U	OP1-P-O3'	5.02	116.24	105.20
2	6	1177	C	C6-N1-C2	5.02	122.31	120.30
2	2	915	A	OP1-P-OP2	-5.02	112.08	119.60
1	5	1324	U	C5-C6-N1	-5.02	120.19	122.70
2	6	17	C	C6-N1-C2	-5.02	118.29	120.30
4	8	137	C	C6-N1-C2	5.02	122.31	120.30
22	D7	41	LEU	CA-CB-CG	5.02	126.84	115.30
1	1	2868	U	C5-C6-N1	5.02	125.21	122.70
1	5	1911	A	C4-C5-N7	-5.02	108.19	110.70
1	1	1348	U	N1-C2-O2	5.01	126.31	122.80
1	1	2362	C	N3-C2-O2	-5.01	118.39	121.90
1	1	2759	U	C2-N1-C1'	5.01	123.72	117.70
1	1	3142	A	N3-C4-C5	5.01	130.31	126.80
1	1	3303	G	N3-C4-C5	5.01	131.11	128.60
1	5	898	U	C5-C6-N1	5.01	125.21	122.70
1	5	2978	U	OP1-P-O3'	5.01	116.23	105.20
1	1	2566	C	N3-C4-C5	-5.01	119.89	121.90
1	5	1391	C	C5-C4-N4	-5.01	116.69	120.20
1	5	1437	C	N1-C2-O2	-5.01	115.89	118.90
1	5	3180	A	N1-C6-N6	5.01	121.61	118.60
1	1	1216	C	C6-N1-C2	5.01	122.31	120.30
1	1	2366	C	N3-C4-C5	5.01	123.90	121.90
1	1	3225	C	C6-N1-C2	-5.01	118.30	120.30
2	2	453	U	N1-C2-O2	5.01	126.31	122.80
2	2	929	A	N1-C6-N6	-5.01	115.59	118.60
2	2	1000	C	O4'-C1'-N1	5.01	112.21	108.20
2	2	1187	U	C5-C4-O4	5.01	128.91	125.90
2	2	1604	U	C6-N1-C2	-5.01	117.99	121.00
1	5	1834	U	C6-N1-C2	-5.01	117.99	121.00
2	6	1200	G	N3-C4-N9	-5.01	122.99	126.00
1	1	435	C	C6-N1-C2	5.01	122.30	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2858	U	C6-N1-C1'	5.01	128.21	121.20
2	2	1215	C	C6-N1-C2	-5.01	118.30	120.30
1	5	2345	A	N1-C6-N6	5.01	121.61	118.60
2	6	956	C	C6-N1-C2	-5.01	118.30	120.30
1	1	1382	G	N9-C4-C5	-5.01	103.40	105.40
1	1	2523	A	C8-N9-C4	5.01	107.80	105.80
1	1	545	U	C6-N1-C1'	-5.01	114.19	121.20
1	1	1578	C	C6-N1-C1'	-5.01	114.79	120.80
1	1	2513	U	OP1-P-O3'	5.01	116.21	105.20
2	6	1052	U	C6-N1-C2	-5.01	118.00	121.00
1	1	3056	U	C2-N1-C1'	-5.00	111.69	117.70
2	2	1610	G	N3-C4-N9	5.00	129.00	126.00
2	2	1629	G	N3-C4-C5	-5.00	126.10	128.60
1	1	1853	U	N3-C2-O2	5.00	125.70	122.20
2	2	1157	A	N7-C8-N9	5.00	116.30	113.80
1	5	3048	A	C8-N9-C4	-5.00	103.80	105.80
2	6	773	C	C6-N1-C2	-5.00	118.30	120.30
3	7	29	C	C6-N1-C2	-5.00	118.30	120.30
1	1	1324	U	O5'-P-OP1	-5.00	101.20	105.70
1	1	1370	G	C5-C6-O6	-5.00	125.60	128.60
1	1	1544	G	C4-C5-N7	5.00	112.80	110.80
1	1	1936	A	C8-N9-C4	5.00	107.80	105.80
1	1	2351	U	N3-C4-C5	5.00	117.60	114.60
2	2	364	G	N9-C4-C5	-5.00	103.40	105.40
1	5	2407	C	C6-N1-C2	-5.00	118.30	120.30
1	5	3137	C	OP1-P-O3'	5.00	116.20	105.20
1	5	3176	G	C5-C6-N1	-5.00	109.00	111.50
2	6	131	C	N1-C2-O2	5.00	121.90	118.90
2	6	1721	A	N1-C6-N6	-5.00	115.60	118.60

There are no chirality outliers.

All (137) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
7	C2	102	GLY	Peptide
7	C2	88	LEU	Peptide
9	C4	123	SER	Peptide
9	C4	90	ARG	Peptide
10	C5	124	THR	Peptide
11	C6	113	ASP	Peptide
11	C6	40	GLU	Peptide
12	C7	22	PRO	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
12	C7	24	LEU	Peptide
12	C7	85	VAL	Peptide
13	C8	27	LYS	Peptide
17	D2	54	ASP	Peptide
18	D3	88	PRO	Peptide
19	D4	46	GLU	Peptide
19	D4	50	ALA	Peptide
20	D5	54	VAL	Peptide
20	D5	87	GLY	Peptide
20	D5	94	LYS	Peptide
21	D6	10	ARG	Peptide
21	D6	74	CYS	Peptide
21	D6	97	PRO	Peptide
22	D7	50	ALA	Peptide
26	E1	102	VAL	Peptide
26	E1	138	ARG	Peptide
26	E1	146	SER	Peptide
26	E1	147	VAL	Peptide
28	L3	290	ASP	Peptide
28	L3	346	THR	Peptide
28	L3	349	LYS	Peptide
29	L4	182	LEU	Peptide
30	L5	258	LYS	Peptide
33	L8	30	THR	Peptide
34	L9	49	ASN	Peptide
37	M3	129	ASN	Peptide
40	M6	110	PRO	Peptide
41	M7	157	VAL	Peptide
41	M7	158	ALA	Peptide
43	M9	128	LYS	Peptide
44	N0	12	ARG	Peptide
44	N0	166	LYS	Peptide
44	N0	22	PRO	Peptide
51	N7	102	GLU	Peptide
51	N7	124	ALA	Peptide
53	N9	19	ASN	Peptide
55	O1	83	GLU	Peptide
59	O5	90	ARG	Peptide
60	O6	27	SER	Peptide
66	Q2	99	GLN	Peptide
68	S0	188	LEU	Peptide
68	S0	94	GLY	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
69	S1	131	ASP	Peptide
69	S1	81	PHE	Peptide
70	S2	106	ASP	Peptide
70	S2	144	TRP	Peptide
71	S3	221	SER	Peptide
72	S4	193	GLY	Peptide
73	S5	44	ASN	Peptide
73	S5	56	ALA	Peptide
73	S5	62	VAL	Peptide
73	S5	65	ARG	Peptide
75	S7	110	GLN	Peptide
75	S7	131	PHE	Peptide
75	S7	30	SER	Peptide
75	S7	64	VAL	Peptide
78	SM	51	ARG	Peptide
79	SR	96	THR	Peptide
5	c0	25	LYS	Peptide
7	c2	102	GLY	Peptide
9	c4	125	SER	Peptide
10	c5	124	THR	Peptide
10	c5	50	THR	Peptide
10	c5	68	PRO	Peptide
11	c6	40	GLU	Peptide
12	c7	111	LYS	Peptide
12	c7	112	SER	Peptide
12	c7	94	SER	Peptide
13	c8	90	ASN	Peptide
15	d0	51	VAL	Peptide
15	d0	70	THR	Peptide
15	d0	96	PRO	Peptide
17	d2	54	ASP	Peptide
20	d5	69	LEU	Peptide
20	d5	87	GLY	Peptide
24	d9	17	GLY	Peptide
25	e0	44	PHE	Peptide
26	e1	135	HIS	Peptide
26	e1	146	SER	Peptide
26	e1	147	VAL	Peptide
26	e1	82	LYS	Peptide
26	e1	87	THR	Peptide
26	e1	88	PRO	Peptide
27	l2	143	GLU	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
27	l2	211	HIS	Peptide
27	l2	213	GLY	Peptide
28	l3	346	THR	Peptide
29	l4	300	ARG	Peptide
29	l4	339	LEU	Peptide
29	l4	352	ALA	Peptide
30	l5	270	LYS	Peptide
30	l5	294	ALA	Peptide
31	l6	67	GLY	Peptide
32	l7	158	LYS	Peptide
32	l7	226	GLY	Peptide
36	m1	151	SER	Peptide
36	m1	9	MET	Peptide
36	m1	94	ARG	Peptide
37	m3	141	ALA	Peptide
38	m4	48	GLY	Peptide
39	m5	184	LYS	Peptide
39	m5	67	ARG	Peptide
44	n0	133	ALA	Peptide
44	n0	170	THR	Peptide
48	n4	25	ASP	Peptide
50	n6	75	ARG	Peptide
51	n7	101	PHE	Peptide
53	n9	19	ASN	Peptide
55	o1	6	ASP	Peptide
55	o1	82	GLU	Peptide
56	o2	122	PRO	Peptide
58	o4	80	ARG	Peptide
58	o4	81	CYS	Peptide
67	q3	49	ARG	Peptide
70	s2	106	ASP	Peptide
70	s2	144	TRP	Peptide
71	s3	143	ARG	Peptide
71	s3	215	GLU	Peptide
71	s3	219	ALA	Peptide
71	s3	221	SER	Peptide
73	s5	44	ASN	Peptide
74	s6	164	LYS	Peptide
75	s7	115	SER	Peptide
75	s7	130	VAL	Peptide
75	s7	31	SER	Peptide
75	s7	64	VAL	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
77	s9	88	GLU	Peptide
77	s9	89	ASP	Peptide
77	s9	90	LYS	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 X-ray entries followed by that with respect to entries of similar resolution.

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
5	C0	94/105 (90%)	80 (85%)	12 (13%)	2 (2%)	7 38
5	c0	91/105 (87%)	68 (75%)	19 (21%)	4 (4%)	2 24
6	C1	152/156 (97%)	136 (90%)	14 (9%)	2 (1%)	12 47
6	c1	144/156 (92%)	130 (90%)	12 (8%)	2 (1%)	11 45
7	C2	117/143 (82%)	87 (74%)	26 (22%)	4 (3%)	3 30
7	c2	122/143 (85%)	95 (78%)	22 (18%)	5 (4%)	3 26
8	C3	148/150 (99%)	135 (91%)	11 (7%)	2 (1%)	11 45
8	c3	148/150 (99%)	134 (90%)	10 (7%)	4 (3%)	5 33
9	C4	125/128 (98%)	112 (90%)	11 (9%)	2 (2%)	9 43
9	c4	126/128 (98%)	112 (89%)	13 (10%)	1 (1%)	19 56
10	C5	122/141 (86%)	102 (84%)	15 (12%)	5 (4%)	3 26
10	c5	123/141 (87%)	104 (85%)	16 (13%)	3 (2%)	6 35
11	C6	139/141 (99%)	121 (87%)	13 (9%)	5 (4%)	3 29
11	c6	139/141 (99%)	128 (92%)	10 (7%)	1 (1%)	22 59
12	C7	116/136 (85%)	98 (84%)	14 (12%)	4 (3%)	3 30
12	c7	119/136 (88%)	104 (87%)	13 (11%)	2 (2%)	9 42

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
13	C8	143/145 (99%)	125 (87%)	15 (10%)	3 (2%)	7 38
13	c8	143/145 (99%)	126 (88%)	13 (9%)	4 (3%)	5 33
14	C9	141/143 (99%)	127 (90%)	14 (10%)	0	100 100
14	c9	141/143 (99%)	129 (92%)	11 (8%)	1 (1%)	22 59
15	D0	103/107 (96%)	95 (92%)	7 (7%)	1 (1%)	15 51
15	d0	102/107 (95%)	87 (85%)	12 (12%)	3 (3%)	4 32
16	D1	85/87 (98%)	70 (82%)	14 (16%)	1 (1%)	13 48
16	d1	85/87 (98%)	76 (89%)	8 (9%)	1 (1%)	13 48
17	D2	127/129 (98%)	118 (93%)	7 (6%)	2 (2%)	9 43
17	d2	127/129 (98%)	118 (93%)	8 (6%)	1 (1%)	19 56
18	D3	142/144 (99%)	120 (84%)	18 (13%)	4 (3%)	5 33
18	d3	142/144 (99%)	134 (94%)	8 (6%)	0	100 100
19	D4	132/134 (98%)	119 (90%)	10 (8%)	3 (2%)	6 36
19	d4	132/134 (98%)	115 (87%)	15 (11%)	2 (2%)	10 44
20	D5	68/70 (97%)	53 (78%)	14 (21%)	1 (2%)	10 44
20	d5	67/70 (96%)	61 (91%)	5 (8%)	1 (2%)	10 44
21	D6	95/97 (98%)	66 (70%)	22 (23%)	7 (7%)	1 13
21	d6	95/97 (98%)	76 (80%)	17 (18%)	2 (2%)	7 38
22	D7	79/81 (98%)	74 (94%)	5 (6%)	0	100 100
22	d7	79/81 (98%)	73 (92%)	5 (6%)	1 (1%)	12 47
23	D8	61/63 (97%)	53 (87%)	8 (13%)	0	100 100
23	d8	61/63 (97%)	53 (87%)	8 (13%)	0	100 100
24	D9	50/53 (94%)	47 (94%)	3 (6%)	0	100 100
24	d9	51/53 (96%)	46 (90%)	3 (6%)	2 (4%)	3 27
25	E0	58/61 (95%)	53 (91%)	4 (7%)	1 (2%)	9 42
25	e0	59/61 (97%)	54 (92%)	5 (8%)	0	100 100
26	E1	69/73 (94%)	39 (56%)	20 (29%)	10 (14%)	0 3
26	e1	71/73 (97%)	43 (61%)	21 (30%)	7 (10%)	0 8
27	L2	250/252 (99%)	235 (94%)	15 (6%)	0	100 100
27	l2	250/252 (99%)	231 (92%)	18 (7%)	1 (0%)	34 69
28	L3	384/386 (100%)	354 (92%)	30 (8%)	0	100 100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
28	l3	384/386 (100%)	367 (96%)	15 (4%)	2 (0%)	29 66
29	L4	359/361 (99%)	321 (89%)	36 (10%)	2 (1%)	25 62
29	l4	359/361 (99%)	328 (91%)	27 (8%)	4 (1%)	14 50
30	L5	294/296 (99%)	261 (89%)	28 (10%)	5 (2%)	9 42
30	l5	292/296 (99%)	280 (96%)	11 (4%)	1 (0%)	41 74
31	L6	153/176 (87%)	144 (94%)	5 (3%)	4 (3%)	5 34
31	l6	153/176 (87%)	139 (91%)	12 (8%)	2 (1%)	12 47
32	L7	220/223 (99%)	206 (94%)	13 (6%)	1 (0%)	29 66
32	l7	221/223 (99%)	206 (93%)	11 (5%)	4 (2%)	8 41
33	L8	231/233 (99%)	208 (90%)	19 (8%)	4 (2%)	9 42
33	l8	229/233 (98%)	201 (88%)	26 (11%)	2 (1%)	17 54
34	L9	189/191 (99%)	176 (93%)	12 (6%)	1 (0%)	29 66
34	l9	189/191 (99%)	173 (92%)	15 (8%)	1 (0%)	29 66
35	M0	207/221 (94%)	195 (94%)	11 (5%)	1 (0%)	29 66
35	m0	205/221 (93%)	192 (94%)	12 (6%)	1 (0%)	29 66
36	M1	167/169 (99%)	142 (85%)	23 (14%)	2 (1%)	13 48
36	m1	167/169 (99%)	147 (88%)	12 (7%)	8 (5%)	2 22
37	M3	191/194 (98%)	171 (90%)	18 (9%)	2 (1%)	15 51
37	m3	192/194 (99%)	167 (87%)	22 (12%)	3 (2%)	9 43
38	M4	134/137 (98%)	124 (92%)	8 (6%)	2 (2%)	10 44
38	m4	135/137 (98%)	132 (98%)	3 (2%)	0	100 100
39	M5	201/203 (99%)	185 (92%)	14 (7%)	2 (1%)	15 51
39	m5	201/203 (99%)	191 (95%)	8 (4%)	2 (1%)	15 51
40	M6	195/197 (99%)	187 (96%)	6 (3%)	2 (1%)	15 51
40	m6	195/197 (99%)	188 (96%)	7 (4%)	0	100 100
41	M7	181/184 (98%)	171 (94%)	9 (5%)	1 (1%)	25 62
41	m7	181/184 (98%)	171 (94%)	9 (5%)	1 (1%)	25 62
42	M8	183/185 (99%)	171 (93%)	12 (7%)	0	100 100
42	m8	183/185 (99%)	172 (94%)	11 (6%)	0	100 100
43	M9	186/188 (99%)	177 (95%)	8 (4%)	1 (0%)	29 66
43	m9	182/188 (97%)	177 (97%)	4 (2%)	1 (0%)	29 66

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
44	N0	170/172 (99%)	157 (92%)	11 (6%)	2 (1%)	13 48
44	n0	169/172 (98%)	166 (98%)	3 (2%)	0	100 100
45	N1	157/159 (99%)	146 (93%)	10 (6%)	1 (1%)	25 62
45	n1	157/159 (99%)	150 (96%)	6 (4%)	1 (1%)	25 62
46	N2	98/100 (98%)	87 (89%)	10 (10%)	1 (1%)	15 51
46	n2	96/100 (96%)	89 (93%)	7 (7%)	0	100 100
47	N3	134/136 (98%)	129 (96%)	5 (4%)	0	100 100
47	n3	133/136 (98%)	130 (98%)	2 (2%)	1 (1%)	19 56
48	N4	128/155 (83%)	116 (91%)	12 (9%)	0	100 100
48	n4	128/155 (83%)	115 (90%)	10 (8%)	3 (2%)	6 36
49	N5	119/121 (98%)	113 (95%)	5 (4%)	1 (1%)	19 56
49	n5	118/121 (98%)	106 (90%)	10 (8%)	2 (2%)	9 42
50	N6	124/126 (98%)	118 (95%)	6 (5%)	0	100 100
50	n6	120/126 (95%)	116 (97%)	4 (3%)	0	100 100
51	N7	133/135 (98%)	122 (92%)	9 (7%)	2 (2%)	10 44
51	n7	133/135 (98%)	114 (86%)	16 (12%)	3 (2%)	6 36
52	N8	146/148 (99%)	132 (90%)	13 (9%)	1 (1%)	22 59
52	n8	146/148 (99%)	133 (91%)	10 (7%)	3 (2%)	7 38
53	N9	56/58 (97%)	52 (93%)	4 (7%)	0	100 100
53	n9	54/58 (93%)	46 (85%)	7 (13%)	1 (2%)	8 40
54	O0	95/100 (95%)	90 (95%)	5 (5%)	0	100 100
54	o0	98/100 (98%)	92 (94%)	6 (6%)	0	100 100
55	O1	107/109 (98%)	100 (94%)	4 (4%)	3 (3%)	5 33
55	o1	107/109 (98%)	99 (92%)	4 (4%)	4 (4%)	3 28
56	O2	125/127 (98%)	116 (93%)	8 (6%)	1 (1%)	19 56
56	o2	125/127 (98%)	115 (92%)	9 (7%)	1 (1%)	19 56
57	O3	104/106 (98%)	100 (96%)	4 (4%)	0	100 100
57	o3	104/106 (98%)	97 (93%)	6 (6%)	1 (1%)	15 51
58	O4	110/112 (98%)	105 (96%)	5 (4%)	0	100 100
58	o4	110/112 (98%)	104 (94%)	5 (4%)	1 (1%)	17 54
59	O5	117/119 (98%)	105 (90%)	11 (9%)	1 (1%)	17 54

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
59	o5	117/119 (98%)	106 (91%)	10 (8%)	1 (1%)	17 54
60	O6	97/99 (98%)	84 (87%)	12 (12%)	1 (1%)	15 51
60	o6	97/99 (98%)	89 (92%)	5 (5%)	3 (3%)	4 32
61	O7	85/87 (98%)	78 (92%)	7 (8%)	0	100 100
61	o7	81/87 (93%)	74 (91%)	7 (9%)	0	100 100
62	O8	75/77 (97%)	69 (92%)	6 (8%)	0	100 100
62	o8	75/77 (97%)	68 (91%)	6 (8%)	1 (1%)	12 47
63	O9	48/50 (96%)	44 (92%)	3 (6%)	1 (2%)	7 38
63	o9	48/50 (96%)	47 (98%)	1 (2%)	0	100 100
64	Q0	50/52 (96%)	47 (94%)	3 (6%)	0	100 100
64	q0	50/52 (96%)	46 (92%)	3 (6%)	1 (2%)	7 39
65	Q1	23/25 (92%)	23 (100%)	0	0	100 100
65	q1	23/25 (92%)	23 (100%)	0	0	100 100
66	Q2	103/105 (98%)	91 (88%)	12 (12%)	0	100 100
66	q2	102/105 (97%)	97 (95%)	5 (5%)	0	100 100
67	Q3	89/91 (98%)	82 (92%)	6 (7%)	1 (1%)	14 50
67	q3	89/91 (98%)	81 (91%)	8 (9%)	0	100 100
68	S0	204/206 (99%)	172 (84%)	27 (13%)	5 (2%)	5 35
68	s0	204/206 (99%)	176 (86%)	21 (10%)	7 (3%)	3 30
69	S1	212/216 (98%)	167 (79%)	42 (20%)	3 (1%)	11 45
69	s1	214/216 (99%)	190 (89%)	19 (9%)	5 (2%)	6 36
70	S2	215/217 (99%)	192 (89%)	19 (9%)	4 (2%)	8 40
70	s2	215/217 (99%)	203 (94%)	11 (5%)	1 (0%)	29 66
71	S3	221/223 (99%)	201 (91%)	15 (7%)	5 (2%)	6 36
71	s3	221/223 (99%)	198 (90%)	15 (7%)	8 (4%)	3 29
72	S4	258/260 (99%)	233 (90%)	23 (9%)	2 (1%)	19 56
72	s4	258/260 (99%)	232 (90%)	24 (9%)	2 (1%)	19 56
73	S5	204/206 (99%)	175 (86%)	26 (13%)	3 (2%)	10 44
73	s5	204/206 (99%)	181 (89%)	20 (10%)	3 (2%)	10 44
74	S6	224/236 (95%)	208 (93%)	9 (4%)	7 (3%)	4 32
74	s6	216/236 (92%)	198 (92%)	15 (7%)	3 (1%)	11 45

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
75	S7	182/184 (99%)	151 (83%)	24 (13%)	7 (4%)	3 27
75	s7	182/184 (99%)	153 (84%)	25 (14%)	4 (2%)	6 37
76	S8	184/200 (92%)	160 (87%)	22 (12%)	2 (1%)	14 50
76	s8	181/200 (90%)	171 (94%)	8 (4%)	2 (1%)	14 50
77	S9	183/185 (99%)	159 (87%)	22 (12%)	2 (1%)	14 50
77	s9	183/185 (99%)	169 (92%)	13 (7%)	1 (0%)	29 66
78	SM	155/272 (57%)	125 (81%)	27 (17%)	3 (2%)	8 40
78	sM	125/272 (46%)	105 (84%)	17 (14%)	3 (2%)	6 35
79	SR	316/318 (99%)	293 (93%)	23 (7%)	0	100 100
79	sR	314/318 (99%)	290 (92%)	24 (8%)	0	100 100
All	All	22224/23150 (96%)	20097 (90%)	1833 (8%)	294 (1%)	12 47

All (294) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	C0	88	PRO
7	c2	91	VAL
10	c5	11	VAL
10	c5	126	VAL
11	C6	58	ASP
11	C6	59	LYS
11	c6	116	LEU
13	C8	28	ILE
13	C8	92	ILE
13	c8	91	ASP
14	c9	34	VAL
17	d2	6	VAL
17	D2	83	ILE
18	D3	97	ASP
22	d7	62	ILE
26	e1	102	VAL
31	l6	98	VAL
31	L6	98	VAL
33	L8	36	ILE
34	L9	50	ASN
36	m1	10	ARG
36	m1	95	ASN
36	m1	115	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
38	M4	8	LYS
39	m5	184	LYS
53	n9	21	ILE
60	o6	33	ALA
69	s1	210	ILE
71	S3	220	PRO
71	s3	220	PRO
74	S6	149	LYS
74	S6	153	VAL
74	S6	154	ARG
75	s7	65	PRO
75	S7	111	LYS
78	SM	171	PRO
5	c0	82	LEU
5	c0	92	ILE
6	C1	8	GLN
6	c1	7	VAL
6	c1	133	LYS
7	C2	91	VAL
7	c2	63	VAL
8	c3	66	ILE
11	C6	39	VAL
11	C6	138	PHE
12	C7	88	VAL
12	c7	88	VAL
18	D3	89	ASN
19	d4	52	LYS
19	d4	123	LYS
19	D4	4	ALA
21	D6	45	VAL
21	D6	46	GLU
21	D6	75	VAL
26	e1	98	VAL
26	E1	84	VAL
26	E1	98	VAL
26	E1	103	LEU
26	E1	128	ALA
30	L5	276	LYS
31	L6	5	LYS
33	L8	37	GLY
36	M1	165	GLN
40	M6	111	PRO

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
43	M9	131	ALA
45	N1	124	VAL
48	n4	76	VAL
51	n7	17	ARG
51	n7	130	PHE
51	N7	17	ARG
55	o1	7	VAL
60	o6	34	SER
60	o6	63	ASN
68	s0	30	GLN
71	s3	217	ILE
71	s3	221	SER
73	S5	58	LEU
74	s6	153	VAL
75	s7	64	VAL
75	S7	112	ARG
75	S7	133	THR
75	S7	134	GLU
78	sM	66	ALA
7	C2	54	ARG
7	C2	89	ILE
7	c2	119	SER
8	C3	28	LEU
9	C4	124	ASP
10	C5	81	ARG
13	c8	26	ILE
15	D0	18	GLN
18	D3	114	LYS
19	D4	5	VAL
24	d9	7	TRP
24	d9	19	ARG
26	e1	88	PRO
26	E1	102	VAL
26	E1	137	ASP
26	E1	148	TYR
28	l3	129	ALA
30	L5	20	PHE
30	L5	261	THR
31	L6	6	ALA
32	l7	229	PHE
35	m0	175	ASN
36	m1	11	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
44	N0	13	ARG
47	n3	42	SER
49	N5	24	LEU
51	n7	129	TRP
55	o1	83	GLU
55	O1	82	GLU
55	O1	83	GLU
59	o5	40	SER
59	O5	91	ALA
62	o8	17	ARG
63	O9	4	GLN
68	s0	29	VAL
69	S1	63	GLY
69	s1	179	SER
70	S2	146	THR
71	S3	221	SER
71	s3	44	THR
71	s3	91	VAL
71	s3	115	ILE
72	s4	196	VAL
73	S5	64	VAL
74	S6	173	PRO
74	S6	174	LYS
74	s6	70	PRO
75	s7	116	ARG
5	C0	87	VAL
7	C2	106	ILE
7	c2	106	ILE
10	C5	18	ARG
12	C7	85	VAL
12	C7	86	PRO
12	C7	124	VAL
13	c8	92	ILE
15	d0	97	VAL
16	D1	82	VAL
18	D3	96	VAL
20	d5	104	ALA
21	d6	62	TYR
26	e1	87	THR
26	e1	136	LYS
26	e1	148	TYR
26	E1	86	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
26	E1	104	SER
29	l4	329	PRO
29	l4	341	SER
29	L4	317	PRO
30	L5	259	LYS
32	l7	158	LYS
32	l7	228	SER
37	M3	77	LEU
39	m5	183	THR
39	M5	74	PRO
40	M6	110	PRO
41	m7	158	ALA
48	n4	63	ILE
49	n5	47	ALA
58	o4	83	ASN
68	S0	191	ARG
69	s1	209	ASN
70	S2	109	GLY
71	S3	217	ILE
71	s3	45	LYS
73	s5	58	LEU
73	s5	184	PHE
76	S8	152	ILE
78	sM	87	THR
78	SM	87	THR
5	c0	83	PRO
6	C1	7	VAL
8	c3	87	ASP
9	c4	132	ARG
10	C5	125	PRO
10	c5	125	PRO
11	C6	114	ARG
12	c7	103	ASP
15	d0	51	VAL
17	D2	31	SER
28	l3	187	SER
29	l4	24	ALA
29	l4	342	LYS
32	l7	191	VAL
32	L7	164	SER
33	l8	203	VAL
33	L8	31	PRO

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	m1	8	PRO
36	m1	12	LEU
36	m1	94	ARG
37	m3	140	SER
41	M7	158	ALA
43	m9	35	ALA
44	N0	167	ARG
48	n4	25	ASP
49	n5	136	ALA
52	n8	48	TYR
52	n8	78	LEU
52	N8	48	TYR
55	o1	42	LEU
57	o3	61	GLY
64	q0	78	ILE
67	Q3	58	SER
68	S0	95	ALA
68	s0	103	THR
68	s0	206	ASP
69	s1	62	LYS
69	s1	82	ARG
70	S2	148	LEU
70	s2	106	ASP
71	S3	212	LYS
71	s3	216	PRO
72	S4	196	VAL
73	S5	51	VAL
75	s7	11	GLN
75	S7	131	PHE
77	S9	100	LYS
77	S9	134	ILE
77	s9	134	ILE
78	sM	48	ARG
8	C3	22	ALA
10	C5	126	VAL
21	D6	64	LEU
25	E0	47	VAL
30	L5	116	ASP
33	L8	157	VAL
34	l9	144	ILE
36	M1	114	ILE
37	m3	141	ALA

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
37	M3	47	ALA
39	M5	75	VAL
45	n1	136	ARG
51	N7	103	GLN
52	n8	47	LYS
55	O1	7	VAL
56	O2	12	LYS
68	s0	189	VAL
69	S1	130	SER
74	S6	70	PRO
75	S7	132	PRO
76	S8	9	HIS
78	SM	12	VAL
5	c0	35	ILE
9	C4	42	VAL
10	C5	53	PRO
15	d0	118	VAL
26	e1	84	VAL
26	E1	87	THR
31	L6	140	VAL
68	S0	103	THR
68	S0	158	VAL
70	S2	150	GLN
71	S3	211	PRO
72	S4	195	ILE
74	S6	69	LEU
74	s6	69	LEU
8	c3	22	ALA
16	d1	6	GLY
21	D6	86	VAL
36	m1	114	ILE
55	o1	33	VAL
56	o2	6	HIS
68	S0	64	ILE
68	s0	158	VAL
68	s0	194	PRO
76	s8	101	ILE
7	c2	66	VAL
13	C8	14	ILE
19	D4	35	VAL
20	D5	41	ILE
21	d6	59	TYR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	D6	36	ILE
27	l2	56	ALA
35	M0	70	ILE
37	m3	47	ALA
46	N2	11	ILE
69	S1	210	ILE
72	s4	90	ILE
76	s8	78	ILE
13	c8	14	ILE
21	D6	19	LYS
29	L4	131	VAL
30	l5	125	VAL
31	l6	10	TYR
33	l8	237	ILE
38	M4	6	ILE
60	O6	9	ILE
75	S7	98	ILE
8	c3	60	VAL
73	s5	29	ILE

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 X-ray entries followed by that with respect to entries of similar resolution.

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
5	C0	77/98 (79%)	63 (82%)	14 (18%)	1 11
5	c0	73/98 (74%)	57 (78%)	16 (22%)	1 6
6	C1	128/137 (93%)	110 (86%)	18 (14%)	3 20
6	c1	129/137 (94%)	101 (78%)	28 (22%)	1 7
7	C2	88/119 (74%)	61 (69%)	27 (31%)	0 2
7	c2	88/119 (74%)	62 (70%)	26 (30%)	0 2
8	C3	127/127 (100%)	103 (81%)	24 (19%)	1 9
8	c3	127/127 (100%)	105 (83%)	22 (17%)	2 12
9	C4	81/97 (84%)	59 (73%)	22 (27%)	0 3

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
9	c4	97/97 (100%)	77 (79%)	20 (21%)	1 7
10	C5	101/117 (86%)	82 (81%)	19 (19%)	1 10
10	c5	102/117 (87%)	85 (83%)	17 (17%)	2 14
11	C6	117/117 (100%)	94 (80%)	23 (20%)	1 8
11	c6	117/117 (100%)	90 (77%)	27 (23%)	1 6
12	C7	94/124 (76%)	75 (80%)	19 (20%)	1 8
12	c7	92/124 (74%)	78 (85%)	14 (15%)	3 17
13	C8	128/128 (100%)	96 (75%)	32 (25%)	0 4
13	c8	128/128 (100%)	104 (81%)	24 (19%)	1 10
14	C9	115/115 (100%)	97 (84%)	18 (16%)	2 16
14	c9	115/115 (100%)	94 (82%)	21 (18%)	1 10
15	D0	98/100 (98%)	75 (76%)	23 (24%)	1 5
15	d0	97/100 (97%)	75 (77%)	22 (23%)	1 6
16	D1	74/74 (100%)	63 (85%)	11 (15%)	3 18
16	d1	74/74 (100%)	64 (86%)	10 (14%)	4 21
17	D2	110/110 (100%)	92 (84%)	18 (16%)	2 15
17	d2	110/110 (100%)	97 (88%)	13 (12%)	5 26
18	D3	119/119 (100%)	100 (84%)	19 (16%)	2 15
18	d3	119/119 (100%)	102 (86%)	17 (14%)	3 19
19	D4	112/112 (100%)	90 (80%)	22 (20%)	1 9
19	d4	112/112 (100%)	93 (83%)	19 (17%)	2 13
20	D5	61/61 (100%)	45 (74%)	16 (26%)	0 4
20	d5	61/61 (100%)	47 (77%)	14 (23%)	1 6
21	D6	83/83 (100%)	63 (76%)	20 (24%)	0 5
21	d6	83/83 (100%)	68 (82%)	15 (18%)	1 11
22	D7	70/70 (100%)	59 (84%)	11 (16%)	2 16
22	d7	70/70 (100%)	59 (84%)	11 (16%)	2 16
23	D8	56/56 (100%)	41 (73%)	15 (27%)	0 3
23	d8	56/56 (100%)	40 (71%)	16 (29%)	0 2
24	D9	46/47 (98%)	39 (85%)	7 (15%)	3 17
24	d9	47/47 (100%)	40 (85%)	7 (15%)	3 18

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
25	E0	51/52 (98%)	42 (82%)	9 (18%)	2 12
25	e0	52/52 (100%)	43 (83%)	9 (17%)	2 12
26	E1	62/64 (97%)	46 (74%)	16 (26%)	0 4
26	e1	64/64 (100%)	48 (75%)	16 (25%)	0 4
27	L2	193/194 (100%)	163 (84%)	30 (16%)	2 17
27	l2	192/194 (99%)	157 (82%)	35 (18%)	1 11
28	L3	320/322 (99%)	264 (82%)	56 (18%)	2 12
28	l3	319/322 (99%)	260 (82%)	59 (18%)	1 10
29	L4	288/288 (100%)	239 (83%)	49 (17%)	2 13
29	l4	288/288 (100%)	237 (82%)	51 (18%)	2 12
30	L5	244/244 (100%)	196 (80%)	48 (20%)	1 8
30	l5	243/244 (100%)	212 (87%)	31 (13%)	4 23
31	L6	135/153 (88%)	114 (84%)	21 (16%)	2 17
31	l6	135/153 (88%)	118 (87%)	17 (13%)	4 23
32	L7	186/187 (100%)	168 (90%)	18 (10%)	8 33
32	l7	187/187 (100%)	163 (87%)	24 (13%)	4 23
33	L8	187/191 (98%)	160 (86%)	27 (14%)	3 19
33	l8	178/191 (93%)	150 (84%)	28 (16%)	2 16
34	L9	171/171 (100%)	132 (77%)	39 (23%)	1 6
34	l9	171/171 (100%)	134 (78%)	37 (22%)	1 7
35	M0	177/187 (95%)	154 (87%)	23 (13%)	4 22
35	m0	177/187 (95%)	149 (84%)	28 (16%)	2 16
36	M1	147/147 (100%)	124 (84%)	23 (16%)	2 17
36	m1	147/147 (100%)	124 (84%)	23 (16%)	2 17
37	M3	154/154 (100%)	122 (79%)	32 (21%)	1 7
37	m3	154/154 (100%)	129 (84%)	25 (16%)	2 15
38	M4	107/108 (99%)	93 (87%)	14 (13%)	4 22
38	m4	108/108 (100%)	94 (87%)	14 (13%)	4 22
39	M5	175/175 (100%)	154 (88%)	21 (12%)	5 25
39	m5	175/175 (100%)	148 (85%)	27 (15%)	2 17
40	M6	160/160 (100%)	137 (86%)	23 (14%)	3 19

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
40	m6	160/160 (100%)	138 (86%)	22 (14%)	3 21
41	M7	140/146 (96%)	111 (79%)	29 (21%)	1 7
41	m7	140/146 (96%)	115 (82%)	25 (18%)	2 11
42	M8	150/150 (100%)	127 (85%)	23 (15%)	2 17
42	m8	150/150 (100%)	132 (88%)	18 (12%)	5 25
43	M9	153/153 (100%)	132 (86%)	21 (14%)	3 21
43	m9	150/153 (98%)	123 (82%)	27 (18%)	1 11
44	N0	156/156 (100%)	127 (81%)	29 (19%)	1 10
44	n0	155/156 (99%)	132 (85%)	23 (15%)	3 18
45	N1	136/136 (100%)	101 (74%)	35 (26%)	0 4
45	n1	136/136 (100%)	113 (83%)	23 (17%)	2 13
46	N2	87/87 (100%)	70 (80%)	17 (20%)	1 9
46	n2	85/87 (98%)	68 (80%)	17 (20%)	1 8
47	N3	104/104 (100%)	91 (88%)	13 (12%)	4 23
47	n3	103/104 (99%)	95 (92%)	8 (8%)	12 42
48	N4	85/129 (66%)	74 (87%)	11 (13%)	4 22
48	n4	97/129 (75%)	89 (92%)	8 (8%)	11 41
49	N5	104/105 (99%)	85 (82%)	19 (18%)	1 10
49	n5	104/105 (99%)	75 (72%)	29 (28%)	0 2
50	N6	109/109 (100%)	89 (82%)	20 (18%)	1 10
50	n6	106/109 (97%)	87 (82%)	19 (18%)	2 11
51	N7	115/115 (100%)	96 (84%)	19 (16%)	2 14
51	n7	115/115 (100%)	93 (81%)	22 (19%)	1 9
52	N8	118/118 (100%)	102 (86%)	16 (14%)	3 21
52	n8	118/118 (100%)	102 (86%)	16 (14%)	3 21
53	N9	46/46 (100%)	36 (78%)	10 (22%)	1 7
53	n9	44/46 (96%)	40 (91%)	4 (9%)	9 36
54	O0	81/84 (96%)	68 (84%)	13 (16%)	2 15
54	o0	84/84 (100%)	72 (86%)	12 (14%)	3 19
55	O1	92/96 (96%)	77 (84%)	15 (16%)	2 15
55	o1	94/96 (98%)	76 (81%)	18 (19%)	1 9

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
56	O2	109/109 (100%)	96 (88%)	13 (12%)	5 25
56	o2	109/109 (100%)	93 (85%)	16 (15%)	3 18
57	O3	90/90 (100%)	79 (88%)	11 (12%)	5 24
57	o3	90/90 (100%)	78 (87%)	12 (13%)	4 22
58	O4	95/95 (100%)	80 (84%)	15 (16%)	2 16
58	o4	95/95 (100%)	83 (87%)	12 (13%)	4 23
59	O5	104/104 (100%)	83 (80%)	21 (20%)	1 8
59	o5	103/104 (99%)	77 (75%)	26 (25%)	0 4
60	O6	81/81 (100%)	62 (76%)	19 (24%)	1 5
60	o6	80/81 (99%)	58 (72%)	22 (28%)	0 3
61	O7	70/70 (100%)	54 (77%)	16 (23%)	1 6
61	o7	68/70 (97%)	59 (87%)	9 (13%)	4 22
62	O8	68/68 (100%)	52 (76%)	16 (24%)	1 5
62	o8	67/68 (98%)	57 (85%)	10 (15%)	3 18
63	O9	45/45 (100%)	37 (82%)	8 (18%)	2 12
63	o9	45/45 (100%)	40 (89%)	5 (11%)	6 28
64	Q0	47/47 (100%)	40 (85%)	7 (15%)	3 18
64	q0	47/47 (100%)	40 (85%)	7 (15%)	3 18
65	Q1	23/23 (100%)	19 (83%)	4 (17%)	2 12
65	q1	23/23 (100%)	19 (83%)	4 (17%)	2 12
66	Q2	90/90 (100%)	71 (79%)	19 (21%)	1 7
66	q2	89/90 (99%)	76 (85%)	13 (15%)	3 18
67	Q3	71/71 (100%)	61 (86%)	10 (14%)	3 20
67	q3	71/71 (100%)	58 (82%)	13 (18%)	1 10
68	S0	164/173 (95%)	134 (82%)	30 (18%)	1 10
68	s0	165/173 (95%)	138 (84%)	27 (16%)	2 15
69	S1	191/192 (100%)	144 (75%)	47 (25%)	0 5
69	s1	192/192 (100%)	156 (81%)	36 (19%)	1 10
70	S2	176/176 (100%)	137 (78%)	39 (22%)	1 6
70	s2	176/176 (100%)	143 (81%)	33 (19%)	1 10
71	S3	182/182 (100%)	149 (82%)	33 (18%)	1 11

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
71	s3	182/182 (100%)	148 (81%)	34 (19%)	1 10
72	S4	221/221 (100%)	183 (83%)	38 (17%)	2 13
72	s4	221/221 (100%)	190 (86%)	31 (14%)	3 20
73	S5	173/173 (100%)	148 (86%)	25 (14%)	3 18
73	s5	173/173 (100%)	139 (80%)	34 (20%)	1 8
74	S6	188/201 (94%)	156 (83%)	32 (17%)	2 13
74	s6	187/201 (93%)	157 (84%)	30 (16%)	2 15
75	S7	165/165 (100%)	135 (82%)	30 (18%)	1 11
75	s7	165/165 (100%)	139 (84%)	26 (16%)	2 16
76	S8	150/161 (93%)	130 (87%)	20 (13%)	4 22
76	s8	148/161 (92%)	124 (84%)	24 (16%)	2 15
77	S9	158/158 (100%)	129 (82%)	29 (18%)	1 10
77	s9	158/158 (100%)	135 (85%)	23 (15%)	3 18
78	SM	97/227 (43%)	73 (75%)	24 (25%)	0 5
78	sM	94/227 (41%)	68 (72%)	26 (28%)	0 2
79	SR	259/261 (99%)	226 (87%)	33 (13%)	4 23
79	sR	258/261 (99%)	228 (88%)	30 (12%)	5 27
All	All	18669/19450 (96%)	15436 (83%)	3233 (17%)	2 12

All (3233) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	C0	1	MET
5	C0	7	ASP
5	C0	8	ARG
5	C0	20	VAL
5	C0	28	ASN
5	C0	32	HIS
5	C0	46	LEU
5	C0	49	LEU
5	C0	55	VAL
5	C0	56	LYS
5	C0	71	GLU
5	C0	76	LEU
5	C0	78	GLU
5	C0	82	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	c0	2	LEU
5	c0	5	LYS
5	c0	8	ARG
5	c0	15	LEU
5	c0	20	VAL
5	c0	21	VAL
5	c0	26	ASP
5	c0	27	PHE
5	c0	33	GLU
5	c0	37	THR
5	c0	40	LEU
5	c0	49	LEU
5	c0	55	VAL
5	c0	57	THR
5	c0	71	GLU
5	c0	77	ARG
6	C1	5	LEU
6	C1	8	GLN
6	C1	10	GLU
6	C1	21	ASN
6	C1	27	THR
6	C1	29	LYS
6	C1	40	LEU
6	C1	44	THR
6	C1	54	ILE
6	C1	67	ARG
6	C1	69	LYS
6	C1	74	THR
6	C1	83	THR
6	C1	99	ARG
6	C1	109	VAL
6	C1	132	SER
6	C1	136	ARG
6	C1	140	VAL
6	c1	2	SER
6	c1	5	LEU
6	c1	10	GLU
6	c1	21	ASN
6	c1	26	LYS
6	c1	27	THR
6	c1	30	ARG
6	c1	31	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	c1	32	LYS
6	c1	33	ARG
6	c1	40	LEU
6	c1	44	THR
6	c1	47	THR
6	c1	50	GLU
6	c1	56	LYS
6	c1	60	PHE
6	c1	67	ARG
6	c1	72	THR
6	c1	74	THR
6	c1	80	MET
6	c1	83	THR
6	c1	87	ARG
6	c1	90	TYR
6	c1	99	ARG
6	c1	125	VAL
6	c1	129	ARG
6	c1	132	SER
6	c1	140	VAL
7	C2	28	LEU
7	C2	33	ARG
7	C2	36	LEU
7	C2	43	ARG
7	C2	46	ARG
7	C2	50	LYS
7	C2	52	LEU
7	C2	58	LEU
7	C2	59	LEU
7	C2	61	VAL
7	C2	66	VAL
7	C2	71	ILE
7	C2	74	LEU
7	C2	83	GLU
7	C2	85	LYS
7	C2	89	ILE
7	C2	91	VAL
7	C2	97	LEU
7	C2	103	LEU
7	C2	119	SER
7	C2	121	VAL
7	C2	126	TRP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	C2	129	GLU
7	C2	132	GLU
7	C2	137	MET
7	C2	138	GLU
7	C2	139	HIS
7	c2	28	LEU
7	c2	36	LEU
7	c2	43	ARG
7	c2	45	LEU
7	c2	58	LEU
7	c2	59	LEU
7	c2	61	VAL
7	c2	62	LEU
7	c2	66	VAL
7	c2	71	ILE
7	c2	74	LEU
7	c2	83	GLU
7	c2	93	ASP
7	c2	97	LEU
7	c2	103	LEU
7	c2	115	VAL
7	c2	116	VAL
7	c2	120	VAL
7	c2	121	VAL
7	c2	125	ASN
7	c2	126	TRP
7	c2	129	GLU
7	c2	132	GLU
7	c2	136	ILE
7	c2	139	HIS
7	c2	140	PHE
8	C3	3	ARG
8	C3	6	SER
8	C3	9	LYS
8	C3	16	ILE
8	C3	27	LYS
8	C3	31	GLU
8	C3	39	LYS
8	C3	42	ARG
8	C3	45	LEU
8	C3	56	ASP
8	C3	58	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	C3	62	GLN
8	C3	64	ARG
8	C3	67	THR
8	C3	76	LYS
8	C3	88	LEU
8	C3	102	LEU
8	C3	105	ASN
8	C3	115	LEU
8	C3	120	SER
8	C3	125	LEU
8	C3	140	LYS
8	C3	150	VAL
8	C3	151	ASN
8	c3	6	SER
8	c3	16	ILE
8	c3	21	ASN
8	c3	27	LYS
8	c3	28	LEU
8	c3	29	SER
8	c3	64	ARG
8	c3	66	ILE
8	c3	70	LYS
8	c3	84	ILE
8	c3	86	GLU
8	c3	87	ASP
8	c3	94	LYS
8	c3	104	ARG
8	c3	105	ASN
8	c3	115	LEU
8	c3	125	LEU
8	c3	138	ASN
8	c3	139	TRP
8	c3	141	TYR
8	c3	143	SER
8	c3	147	SER
9	C4	13	VAL
9	C4	14	PHE
9	C4	26	THR
9	C4	29	HIS
9	C4	31	THR
9	C4	38	THR
9	C4	39	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
9	C4	43	THR
9	C4	51	ASP
9	C4	52	ARG
9	C4	79	VAL
9	C4	81	VAL
9	C4	89	THR
9	C4	92	LYS
9	C4	93	THR
9	C4	102	LEU
9	C4	103	ARG
9	C4	114	ARG
9	C4	127	ARG
9	C4	133	ARG
9	C4	136	ARG
9	C4	137	LEU
9	c4	13	VAL
9	c4	26	THR
9	c4	31	THR
9	c4	33	LEU
9	c4	34	SER
9	c4	42	VAL
9	c4	49	LYS
9	c4	51	ASP
9	c4	61	MET
9	c4	66	ASP
9	c4	79	VAL
9	c4	81	VAL
9	c4	91	THR
9	c4	102	LEU
9	c4	114	ARG
9	c4	119	THR
9	c4	124	ASP
9	c4	132	ARG
9	c4	136	ARG
9	c4	137	LEU
10	C5	12	PHE
10	C5	22	LEU
10	C5	26	LEU
10	C5	27	GLU
10	C5	34	VAL
10	C5	35	LYS
10	C5	36	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
10	C5	40	ARG
10	C5	44	ARG
10	C5	47	ARG
10	C5	50	THR
10	C5	51	SER
10	C5	52	LYS
10	C5	69	GLU
10	C5	86	VAL
10	C5	110	GLU
10	C5	121	ILE
10	C5	124	THR
10	C5	128	HIS
10	c5	10	ARG
10	c5	14	THR
10	c5	15	HIS
10	c5	21	ASP
10	c5	24	LYS
10	c5	27	GLU
10	c5	36	LEU
10	c5	44	ARG
10	c5	69	GLU
10	c5	77	ARG
10	c5	107	ILE
10	c5	110	GLU
10	c5	121	ILE
10	c5	122	THR
10	c5	124	THR
10	c5	126	VAL
10	c5	127	ARG
11	C6	4	VAL
11	C6	8	GLN
11	C6	14	LYS
11	C6	15	SER
11	C6	17	THR
11	C6	26	LYS
11	C6	43	ILE
11	C6	44	LEU
11	C6	53	LEU
11	C6	54	LEU
11	C6	57	LEU
11	C6	58	ASP
11	C6	66	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
11	C6	68	ARG
11	C6	69	VAL
11	C6	97	VAL
11	C6	98	ASP
11	C6	118	ILE
11	C6	123	ARG
11	C6	128	LYS
11	C6	136	SER
11	C6	137	ARG
11	C6	141	SER
11	c6	17	THR
11	c6	23	LYS
11	c6	28	LEU
11	c6	37	THR
11	c6	40	GLU
11	c6	43	ILE
11	c6	48	VAL
11	c6	53	LEU
11	c6	57	LEU
11	c6	68	ARG
11	c6	69	VAL
11	c6	87	LYS
11	c6	90	VAL
11	c6	94	GLN
11	c6	95	LYS
11	c6	97	VAL
11	c6	98	ASP
11	c6	110	THR
11	c6	113	ASP
11	c6	115	THR
11	c6	116	LEU
11	c6	117	LEU
11	c6	127	LYS
11	c6	128	LYS
11	c6	137	ARG
11	c6	141	SER
11	c6	143	ARG
12	C7	5	ARG
12	C7	6	THR
12	C7	7	LYS
12	C7	19	ARG
12	C7	24	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
12	C7	25	THR
12	C7	38	ILE
12	C7	46	LEU
12	C7	49	LYS
12	C7	60	ARG
12	C7	69	ILE
12	C7	72	LYS
12	C7	78	ARG
12	C7	83	GLN
12	C7	85	VAL
12	C7	88	VAL
12	C7	105	GLN
12	C7	115	LEU
12	C7	119	LEU
12	c7	3	ARG
12	c7	8	THR
12	c7	19	ARG
12	c7	29	GLN
12	c7	34	LEU
12	c7	38	ILE
12	c7	46	LEU
12	c7	67	ARG
12	c7	69	ILE
12	c7	78	ARG
12	c7	79	GLU
12	c7	85	VAL
12	c7	104	ASN
12	c7	112	SER
13	C8	3	LEU
13	C8	8	GLN
13	C8	11	PHE
13	C8	14	ILE
13	C8	15	LEU
13	C8	17	LEU
13	C8	21	ASN
13	C8	26	ILE
13	C8	28	ILE
13	C8	32	LEU
13	C8	38	VAL
13	C8	46	VAL
13	C8	55	HIS
13	C8	60	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
13	C8	61	LEU
13	C8	68	ARG
13	C8	70	VAL
13	C8	71	GLN
13	C8	74	GLN
13	C8	92	ILE
13	C8	93	THR
13	C8	100	THR
13	C8	107	SER
13	C8	108	LYS
13	C8	110	ARG
13	C8	116	LEU
13	C8	132	ARG
13	C8	133	VAL
13	C8	136	GLN
13	C8	138	THR
13	C8	141	THR
13	C8	143	ARG
13	c8	3	LEU
13	c8	10	SER
13	c8	13	HIS
13	c8	15	LEU
13	c8	17	LEU
13	c8	23	ASP
13	c8	26	ILE
13	c8	28	ILE
13	c8	36	LYS
13	c8	40	ARG
13	c8	43	SER
13	c8	55	HIS
13	c8	61	LEU
13	c8	77	THR
13	c8	85	PHE
13	c8	92	ILE
13	c8	94	ASP
13	c8	100	THR
13	c8	105	VAL
13	c8	116	LEU
13	c8	119	ILE
13	c8	136	GLN
13	c8	138	THR
13	c8	144	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
14	C9	5	SER
14	C9	22	LEU
14	C9	28	LEU
14	C9	33	TYR
14	C9	35	ASP
14	C9	36	ILE
14	C9	57	ARG
14	C9	63	ARG
14	C9	67	MET
14	C9	75	LYS
14	C9	84	LYS
14	C9	86	ARG
14	C9	89	ARG
14	C9	94	ILE
14	C9	126	GLU
14	C9	130	ARG
14	C9	131	ASP
14	C9	134	ARG
14	c9	6	VAL
14	c9	20	SER
14	c9	27	LYS
14	c9	28	LEU
14	c9	33	TYR
14	c9	34	VAL
14	c9	36	ILE
14	c9	57	ARG
14	c9	71	VAL
14	c9	75	LYS
14	c9	89	ARG
14	c9	111	ILE
14	c9	123	ARG
14	c9	126	GLU
14	c9	132	LEU
14	c9	135	ILE
14	c9	139	THR
14	c9	140	LEU
14	c9	141	GLU
14	c9	142	GLU
14	c9	143	ASP
15	d0	18	GLN
15	d0	20	ILE
15	d0	22	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
15	d0	23	ARG
15	d0	27	THR
15	d0	31	VAL
15	d0	34	LEU
15	d0	44	ASN
15	d0	47	GLN
15	d0	51	VAL
15	d0	57	ARG
15	d0	60	THR
15	d0	70	THR
15	d0	74	GLU
15	d0	77	LYS
15	d0	81	THR
15	d0	99	ILE
15	d0	102	ARG
15	d0	103	ILE
15	d0	105	GLN
15	d0	115	GLU
15	d0	120	SER
15	D0	15	GLN
15	D0	16	GLN
15	D0	17	GLN
15	D0	18	GLN
15	D0	23	ARG
15	D0	25	THR
15	D0	27	THR
15	D0	30	LYS
15	D0	31	VAL
15	D0	34	LEU
15	D0	35	GLU
15	D0	47	GLN
15	D0	48	HIS
15	D0	51	VAL
15	D0	57	ARG
15	D0	61	LYS
15	D0	70	THR
15	D0	74	GLU
15	D0	78	THR
15	D0	89	ARG
15	D0	103	ILE
15	D0	108	ILE
15	D0	109	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
16	d1	2	GLU
16	d1	5	LYS
16	d1	10	GLU
16	d1	11	LEU
16	d1	12	TYR
16	d1	32	VAL
16	d1	38	LYS
16	d1	52	THR
16	d1	56	SER
16	d1	68	SER
16	D1	1	MET
16	D1	2	GLU
16	D1	3	ASN
16	D1	5	LYS
16	D1	7	GLN
16	D1	11	LEU
16	D1	41	GLU
16	D1	52	THR
16	D1	76	ASP
16	D1	78	LEU
16	D1	80	LYS
17	d2	6	VAL
17	d2	7	LEU
17	d2	15	ASN
17	d2	16	ASN
17	d2	23	ARG
17	d2	31	SER
17	d2	37	PHE
17	d2	43	LYS
17	d2	57	ARG
17	d2	68	ARG
17	d2	98	GLN
17	d2	103	ILE
17	d2	126	LEU
17	D2	7	LEU
17	D2	24	GLN
17	D2	47	ILE
17	D2	53	ILE
17	D2	56	HIS
17	D2	65	LEU
17	D2	68	ARG
17	D2	76	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
17	D2	83	ILE
17	D2	87	GLU
17	D2	93	LEU
17	D2	98	GLN
17	D2	103	ILE
17	D2	104	LEU
17	D2	111	MET
17	D2	121	VAL
17	D2	122	SER
17	D2	126	LEU
18	d3	3	LYS
18	d3	9	LEU
18	d3	11	SER
18	d3	14	LYS
18	d3	16	ARG
18	d3	19	ARG
18	d3	47	SER
18	d3	56	LYS
18	d3	73	ARG
18	d3	79	ASN
18	d3	84	THR
18	d3	96	VAL
18	d3	100	ASP
18	d3	103	LEU
18	d3	107	PHE
18	d3	127	VAL
18	d3	130	VAL
18	D3	7	ARG
18	D3	9	LEU
18	D3	16	ARG
18	D3	19	ARG
18	D3	26	GLU
18	D3	28	ASN
18	D3	40	SER
18	D3	43	PHE
18	D3	73	ARG
18	D3	82	LYS
18	D3	83	VAL
18	D3	84	THR
18	D3	94	ASN
18	D3	100	ASP
18	D3	103	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
18	D3	107	PHE
18	D3	110	LYS
18	D3	140	LYS
18	D3	144	ARG
19	d4	6	THR
19	d4	10	ARG
19	d4	13	ILE
19	d4	14	SER
19	d4	21	LYS
19	d4	34	ASN
19	d4	35	VAL
19	d4	36	SER
19	d4	43	LYS
19	d4	47	VAL
19	d4	49	LYS
19	d4	58	PHE
19	d4	62	THR
19	d4	77	ASN
19	d4	83	LYS
19	d4	88	THR
19	d4	125	LEU
19	d4	128	LYS
19	d4	133	ASN
19	D4	14	SER
19	D4	17	LEU
19	D4	21	LYS
19	D4	32	ARG
19	D4	34	ASN
19	D4	35	VAL
19	D4	46	GLU
19	D4	47	VAL
19	D4	49	LYS
19	D4	51	GLU
19	D4	57	VAL
19	D4	61	ARG
19	D4	62	THR
19	D4	88	THR
19	D4	96	LEU
19	D4	99	LYS
19	D4	100	VAL
19	D4	102	LYS
19	D4	121	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	D4	124	ARG
19	D4	127	LYS
19	D4	128	LYS
20	d5	37	GLN
20	d5	46	LYS
20	d5	51	LEU
20	d5	53	GLU
20	d5	57	TYR
20	d5	58	ARG
20	d5	69	LEU
20	d5	74	SER
20	d5	81	ARG
20	d5	85	LYS
20	d5	88	ILE
20	d5	93	SER
20	d5	102	THR
20	d5	105	THR
20	D5	38	HIS
20	D5	40	VAL
20	D5	42	LEU
20	D5	44	GLN
20	D5	59	TYR
20	D5	67	ASP
20	D5	68	ARG
20	D5	69	LEU
20	D5	70	LYS
20	D5	71	ILE
20	D5	75	LEU
20	D5	85	LYS
20	D5	88	ILE
20	D5	92	ILE
20	D5	95	HIS
20	D5	102	THR
21	d6	10	ARG
21	d6	12	LYS
21	d6	33	ASP
21	d6	39	MET
21	d6	41	ILE
21	d6	44	ILE
21	d6	53	LEU
21	d6	58	VAL
21	d6	61	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	d6	82	ARG
21	d6	83	ILE
21	d6	84	VAL
21	d6	85	ARG
21	d6	89	ARG
21	d6	90	GLU
21	D6	7	SER
21	D6	12	LYS
21	D6	18	VAL
21	D6	36	ILE
21	D6	39	MET
21	D6	41	ILE
21	D6	44	ILE
21	D6	45	VAL
21	D6	52	ASP
21	D6	61	GLU
21	D6	64	LEU
21	D6	69	ASN
21	D6	70	LYS
21	D6	74	CYS
21	D6	76	SER
21	D6	83	ILE
21	D6	84	VAL
21	D6	85	ARG
21	D6	90	GLU
21	D6	91	ASP
22	d7	3	LEU
22	d7	4	VAL
22	d7	22	LYS
22	d7	34	ASP
22	d7	37	CYS
22	d7	43	ILE
22	d7	52	THR
22	d7	57	GLU
22	d7	77	THR
22	d7	80	ARG
22	d7	82	LYS
22	D7	3	LEU
22	D7	20	LYS
22	D7	33	LEU
22	D7	34	ASP
22	D7	36	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
22	D7	37	CYS
22	D7	40	CYS
22	D7	41	LEU
22	D7	55	THR
22	D7	58	SER
22	D7	62	ILE
23	d8	5	THR
23	d8	7	VAL
23	d8	11	LYS
23	d8	15	VAL
23	d8	19	THR
23	d8	22	ARG
23	d8	28	VAL
23	d8	30	VAL
23	d8	32	PHE
23	d8	36	THR
23	d8	39	THR
23	d8	40	ILE
23	d8	49	ARG
23	d8	54	LEU
23	d8	64	ARG
23	d8	65	ARG
23	D8	5	THR
23	D8	7	VAL
23	D8	8	THR
23	D8	13	ILE
23	D8	14	LYS
23	D8	19	THR
23	D8	30	VAL
23	D8	32	PHE
23	D8	33	LEU
23	D8	36	THR
23	D8	49	ARG
23	D8	52	ASP
23	D8	58	GLU
23	D8	61	ARG
23	D8	65	ARG
24	d9	6	VAL
24	d9	7	TRP
24	d9	12	ARG
24	d9	36	LEU
24	d9	38	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
24	d9	53	ASN
24	d9	54	LYS
24	D9	6	VAL
24	D9	8	PHE
24	D9	19	ARG
24	D9	22	ARG
24	D9	30	LEU
24	D9	36	LEU
24	D9	48	ASN
25	e0	13	LYS
25	e0	26	LYS
25	e0	28	LYS
25	e0	29	LYS
25	e0	31	LYS
25	e0	44	PHE
25	e0	54	ARG
25	e0	56	MET
25	e0	62	VAL
25	E0	20	LYS
25	E0	28	LYS
25	E0	29	LYS
25	E0	42	ARG
25	E0	45	VAL
25	E0	47	VAL
25	E0	50	VAL
25	E0	54	ARG
25	E0	56	MET
26	e1	93	HIS
26	e1	97	LYS
26	e1	98	VAL
26	e1	100	LEU
26	e1	106	TYR
26	e1	109	ASP
26	e1	116	LYS
26	e1	118	ARG
26	e1	120	GLU
26	e1	135	HIS
26	e1	141	CYS
26	e1	144	CYS
26	e1	146	SER
26	e1	147	VAL
26	e1	148	TYR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
26	e1	150	VAL
26	E1	82	LYS
26	E1	83	LYS
26	E1	85	TYR
26	E1	86	THR
26	E1	91	ILE
26	E1	92	LYS
26	E1	103	LEU
26	E1	107	LYS
26	E1	115	THR
26	E1	119	ARG
26	E1	120	GLU
26	E1	140	TYR
26	E1	146	SER
26	E1	147	VAL
26	E1	148	TYR
26	E1	149	LYS
27	l2	15	ILE
27	l2	23	ARG
27	l2	30	ARG
27	l2	32	LEU
27	l2	44	ILE
27	l2	45	VAL
27	l2	48	ILE
27	l2	70	ARG
27	l2	71	LEU
27	l2	74	GLU
27	l2	79	ASN
27	l2	84	THR
27	l2	96	LEU
27	l2	98	VAL
27	l2	101	VAL
27	l2	107	VAL
27	l2	113	VAL
27	l2	119	LYS
27	l2	128	ARG
27	l2	134	VAL
27	l2	137	ILE
27	l2	147	ARG
27	l2	152	SER
27	l2	155	LYS
27	l2	157	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
27	l2	165	VAL
27	l2	179	LEU
27	l2	180	LEU
27	l2	181	LYS
27	l2	190	ARG
27	l2	193	ARG
27	l2	202	VAL
27	l2	224	THR
27	l2	241	ARG
27	l2	247	ARG
27	L2	9	ARG
27	L2	20	THR
27	L2	32	LEU
27	L2	44	ILE
27	L2	45	VAL
27	L2	47	GLN
27	L2	48	ILE
27	L2	72	ARG
27	L2	74	GLU
27	L2	88	ILE
27	L2	95	SER
27	L2	98	VAL
27	L2	101	VAL
27	L2	104	LEU
27	L2	113	VAL
27	L2	119	LYS
27	L2	134	VAL
27	L2	157	VAL
27	L2	158	ILE
27	L2	169	ILE
27	L2	179	LEU
27	L2	180	LEU
27	L2	191	LEU
27	L2	193	ARG
27	L2	202	VAL
27	L2	204	MET
27	L2	223	SER
27	L2	227	ARG
27	L2	230	VAL
27	L2	252	THR
28	l3	3	HIS
28	l3	4	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
28	l3	10	ARG
28	l3	17	LEU
28	l3	19	ARG
28	l3	37	ARG
28	l3	39	LYS
28	l3	41	VAL
28	l3	47	LEU
28	l3	50	LYS
28	l3	54	THR
28	l3	55	THR
28	l3	56	ILE
28	l3	73	VAL
28	l3	77	THR
28	l3	81	THR
28	l3	85	VAL
28	l3	102	LEU
28	l3	103	THR
28	l3	114	VAL
28	l3	123	TYR
28	l3	139	GLN
28	l3	145	GLU
28	l3	148	LEU
28	l3	156	SER
28	l3	168	LYS
28	l3	169	THR
28	l3	184	ASN
28	l3	188	ILE
28	l3	192	VAL
28	l3	196	ARG
28	l3	197	GLU
28	l3	202	THR
28	l3	205	VAL
28	l3	218	ILE
28	l3	229	VAL
28	l3	232	ARG
28	l3	238	LEU
28	l3	244	ARG
28	l3	246	LEU
28	l3	248	LYS
28	l3	257	PRO
28	l3	260	VAL
28	l3	304	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
28	l3	316	GLU
28	l3	319	ASN
28	l3	324	VAL
28	l3	328	ILE
28	l3	332	ARG
28	l3	338	LEU
28	l3	340	LYS
28	l3	347	SER
28	l3	348	ARG
28	l3	355	SER
28	l3	365	PHE
28	l3	367	LYS
28	l3	369	ARG
28	l3	382	THR
28	l3	385	LYS
28	L3	5	LYS
28	L3	7	GLU
28	L3	10	ARG
28	L3	19	ARG
28	L3	20	LYS
28	L3	25	ILE
28	L3	37	ARG
28	L3	39	LYS
28	L3	41	VAL
28	L3	44	THR
28	L3	47	LEU
28	L3	55	THR
28	L3	56	ILE
28	L3	73	VAL
28	L3	85	VAL
28	L3	101	SER
28	L3	102	LEU
28	L3	103	THR
28	L3	110	LEU
28	L3	114	VAL
28	L3	144	ILE
28	L3	156	SER
28	L3	166	ILE
28	L3	169	THR
28	L3	173	GLN
28	L3	188	ILE
28	L3	192	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
28	L3	196	ARG
28	L3	202	THR
28	L3	205	VAL
28	L3	206	ASP
28	L3	211	GLN
28	L3	235	THR
28	L3	236	LYS
28	L3	238	LEU
28	L3	241	LYS
28	L3	244	ARG
28	L3	246	LEU
28	L3	252	ILE
28	L3	261	MET
28	L3	284	ARG
28	L3	302	LYS
28	L3	305	ILE
28	L3	319	ASN
28	L3	320	ASP
28	L3	328	ILE
28	L3	332	ARG
28	L3	338	LEU
28	L3	344	THR
28	L3	361	THR
28	L3	365	PHE
28	L3	367	LYS
28	L3	372	THR
28	L3	380	MET
28	L3	386	ASP
28	L3	387	LEU
29	l4	3	ARG
29	l4	14	GLU
29	l4	18	ASN
29	l4	22	LEU
29	l4	73	ARG
29	l4	85	SER
29	l4	93	MET
29	l4	98	ARG
29	l4	99	MET
29	l4	103	THR
29	l4	120	TYR
29	l4	122	THR
29	l4	138	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	l4	142	VAL
29	l4	145	ILE
29	l4	148	ILE
29	l4	150	LEU
29	l4	153	SER
29	l4	156	LEU
29	l4	170	LYS
29	l4	172	VAL
29	l4	177	ASP
29	l4	179	LEU
29	l4	186	LYS
29	l4	187	LEU
29	l4	193	LYS
29	l4	194	TYR
29	l4	203	ARG
29	l4	206	LEU
29	l4	217	LYS
29	l4	220	ARG
29	l4	230	VAL
29	l4	246	ARG
29	l4	256	THR
29	l4	258	LEU
29	l4	259	ASP
29	l4	261	VAL
29	l4	265	GLU
29	l4	267	VAL
29	l4	270	SER
29	l4	307	GLN
29	l4	310	THR
29	l4	313	LEU
29	l4	319	LYS
29	l4	327	LEU
29	l4	342	LYS
29	l4	343	LYS
29	l4	346	LYS
29	l4	347	THR
29	l4	357	GLU
29	l4	359	LEU
29	L4	14	GLU
29	L4	47	ARG
29	L4	54	GLU
29	L4	69	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	L4	82	THR
29	L4	93	MET
29	L4	98	ARG
29	L4	112	LYS
29	L4	120	TYR
29	L4	124	SER
29	L4	136	LEU
29	L4	138	ARG
29	L4	141	ARG
29	L4	148	ILE
29	L4	153	SER
29	L4	156	LEU
29	L4	170	LYS
29	L4	179	LEU
29	L4	182	LEU
29	L4	187	LEU
29	L4	193	LYS
29	L4	203	ARG
29	L4	206	LEU
29	L4	213	ASN
29	L4	220	ARG
29	L4	222	VAL
29	L4	230	VAL
29	L4	232	SER
29	L4	246	ARG
29	L4	258	LEU
29	L4	259	ASP
29	L4	261	VAL
29	L4	267	VAL
29	L4	270	SER
29	L4	278	SER
29	L4	283	THR
29	L4	287	THR
29	L4	297	SER
29	L4	306	THR
29	L4	307	GLN
29	L4	310	THR
29	L4	313	LEU
29	L4	319	LYS
29	L4	323	VAL
29	L4	327	LEU
29	L4	345	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	L4	346	LYS
29	L4	347	THR
29	L4	354	VAL
30	l5	4	GLN
30	l5	5	LYS
30	l5	13	SER
30	l5	18	THR
30	l5	34	LYS
30	l5	35	ARG
30	l5	51	LEU
30	l5	68	THR
30	l5	70	THR
30	l5	74	VAL
30	l5	89	THR
30	l5	110	LEU
30	l5	112	LYS
30	l5	113	LEU
30	l5	118	THR
30	l5	133	GLU
30	l5	144	VAL
30	l5	146	LEU
30	l5	148	ILE
30	l5	152	ARG
30	l5	155	THR
30	l5	178	ASN
30	l5	187	THR
30	l5	194	LEU
30	l5	211	LEU
30	l5	230	ASP
30	l5	254	LYS
30	l5	258	LYS
30	l5	259	LYS
30	l5	268	GLU
30	l5	273	ARG
30	L5	5	LYS
30	L5	10	SER
30	L5	13	SER
30	L5	22	ARG
30	L5	23	ARG
30	L5	35	ARG
30	L5	41	LYS
30	L5	45	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
30	L5	46	THR
30	L5	50	ARG
30	L5	56	THR
30	L5	69	ILE
30	L5	70	THR
30	L5	75	LEU
30	L5	85	ARG
30	L5	90	HIS
30	L5	92	LEU
30	L5	93	THR
30	L5	95	TRP
30	L5	105	ILE
30	L5	107	ARG
30	L5	109	THR
30	L5	113	LEU
30	L5	118	THR
30	L5	128	GLU
30	L5	131	LEU
30	L5	144	VAL
30	L5	146	LEU
30	L5	148	ILE
30	L5	150	LEU
30	L5	151	GLN
30	L5	152	ARG
30	L5	155	THR
30	L5	159	VAL
30	L5	163	LEU
30	L5	177	GLU
30	L5	185	PHE
30	L5	187	THR
30	L5	188	GLU
30	L5	194	LEU
30	L5	211	LEU
30	L5	222	LEU
30	L5	231	ILE
30	L5	261	THR
30	L5	263	GLU
30	L5	264	GLN
30	L5	273	ARG
30	L5	277	LEU
31	l6	8	LYS
31	l6	20	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	l6	21	THR
31	l6	46	ARG
31	l6	50	LYS
31	l6	52	VAL
31	l6	62	THR
31	l6	64	LEU
31	l6	65	ILE
31	l6	76	LEU
31	l6	79	VAL
31	l6	82	ARG
31	l6	98	VAL
31	l6	108	LYS
31	l6	128	LYS
31	l6	152	THR
31	l6	155	LEU
31	L6	5	LYS
31	L6	15	VAL
31	L6	21	THR
31	L6	31	ARG
31	L6	48	ARG
31	L6	52	VAL
31	L6	56	LYS
31	L6	59	GLU
31	L6	64	LEU
31	L6	65	ILE
31	L6	79	VAL
31	L6	84	VAL
31	L6	89	THR
31	L6	91	VAL
31	L6	96	VAL
31	L6	98	VAL
31	L6	129	GLU
31	L6	134	ARG
31	L6	146	ILE
31	L6	152	THR
31	L6	167	ASN
32	l7	22	THR
32	l7	41	ARG
32	l7	60	ARG
32	l7	77	VAL
32	l7	78	GLU
32	l7	84	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	l7	87	VAL
32	l7	88	ARG
32	l7	101	LYS
32	l7	108	LEU
32	l7	110	ARG
32	l7	121	LYS
32	l7	124	LEU
32	l7	151	ARG
32	l7	158	LYS
32	l7	164	SER
32	l7	173	LEU
32	l7	175	LYS
32	l7	179	LEU
32	l7	184	LEU
32	l7	216	VAL
32	l7	225	GLN
32	l7	229	PHE
32	l7	239	LEU
32	L7	25	GLN
32	L7	26	VAL
32	L7	60	ARG
32	L7	82	LYS
32	L7	84	VAL
32	L7	87	VAL
32	L7	92	ILE
32	L7	93	ASN
32	L7	98	LYS
32	L7	101	LYS
32	L7	124	LEU
32	L7	173	LEU
32	L7	179	LEU
32	L7	181	ILE
32	L7	184	LEU
32	L7	208	SER
32	L7	216	VAL
32	L7	239	LEU
33	l8	27	THR
33	l8	41	GLN
33	l8	68	ARG
33	l8	79	GLN
33	l8	81	THR
33	l8	83	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	l8	89	GLU
33	l8	95	ASN
33	l8	126	SER
33	l8	136	LEU
33	l8	146	LYS
33	l8	156	ASP
33	l8	160	ILE
33	l8	163	VAL
33	l8	169	LEU
33	l8	172	LYS
33	l8	180	VAL
33	l8	185	ARG
33	l8	200	LEU
33	l8	208	GLU
33	l8	213	LYS
33	l8	214	LEU
33	l8	217	THR
33	l8	219	ASP
33	l8	230	LYS
33	l8	241	LYS
33	l8	245	LYS
33	l8	248	LYS
33	L8	26	LEU
33	L8	27	THR
33	L8	41	GLN
33	L8	63	LYS
33	L8	74	THR
33	L8	79	GLN
33	L8	83	ASP
33	L8	84	ARG
33	L8	90	THR
33	L8	92	LYS
33	L8	95	ASN
33	L8	132	VAL
33	L8	136	LEU
33	L8	150	LEU
33	L8	163	VAL
33	L8	169	LEU
33	L8	180	VAL
33	L8	181	LYS
33	L8	185	ARG
33	L8	189	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	L8	197	VAL
33	L8	203	VAL
33	L8	208	GLU
33	L8	214	LEU
33	L8	216	SER
33	L8	232	HIS
33	L8	246	MET
34	l9	1	MET
34	l9	4	ILE
34	l9	5	GLN
34	l9	6	THR
34	l9	17	THR
34	l9	18	VAL
34	l9	19	SER
34	l9	33	THR
34	l9	48	VAL
34	l9	55	VAL
34	l9	62	ARG
34	l9	68	LEU
34	l9	69	ARG
34	l9	70	THR
34	l9	80	THR
34	l9	82	VAL
34	l9	92	TYR
34	l9	105	GLU
34	l9	106	LYS
34	l9	107	ASP
34	l9	123	ILE
34	l9	129	ARG
34	l9	132	VAL
34	l9	138	THR
34	l9	140	VAL
34	l9	143	GLU
34	l9	144	ILE
34	l9	151	VAL
34	l9	152	GLU
34	l9	157	ASN
34	l9	161	LEU
34	l9	162	GLN
34	l9	164	ILE
34	l9	165	CYS
34	l9	177	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	l9	179	ILE
34	l9	190	ASP
34	L9	1	MET
34	L9	3	TYR
34	L9	5	GLN
34	L9	9	GLN
34	L9	18	VAL
34	L9	20	ILE
34	L9	22	SER
34	L9	33	THR
34	L9	41	ILE
34	L9	48	VAL
34	L9	52	LEU
34	L9	62	ARG
34	L9	68	LEU
34	L9	69	ARG
34	L9	70	THR
34	L9	82	VAL
34	L9	92	TYR
34	L9	104	VAL
34	L9	130	ASP
34	L9	132	VAL
34	L9	137	SER
34	L9	138	THR
34	L9	139	ASN
34	L9	140	VAL
34	L9	141	LYS
34	L9	146	LEU
34	L9	147	SER
34	L9	149	ASN
34	L9	150	SER
34	L9	151	VAL
34	L9	157	ASN
34	L9	161	LEU
34	L9	162	GLN
34	L9	164	ILE
34	L9	172	ILE
34	L9	173	ARG
34	L9	177	ASP
34	L9	189	GLU
34	L9	190	ASP
35	m0	4	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	m0	7	ARG
35	m0	24	ARG
35	m0	26	VAL
35	m0	36	LEU
35	m0	48	LEU
35	m0	52	LEU
35	m0	63	GLU
35	m0	74	LYS
35	m0	76	MET
35	m0	87	LEU
35	m0	91	VAL
35	m0	129	VAL
35	m0	144	ASN
35	m0	156	ARG
35	m0	163	GLN
35	m0	168	SER
35	m0	169	LYS
35	m0	174	THR
35	m0	175	ASN
35	m0	177	ASP
35	m0	178	ARG
35	m0	186	GLU
35	m0	200	LEU
35	m0	205	SER
35	m0	215	GLU
35	m0	216	TYR
35	m0	217	PHE
35	M0	3	ARG
35	M0	30	LYS
35	M0	33	ILE
35	M0	40	LYS
35	M0	42	THR
35	M0	48	LEU
35	M0	52	LEU
35	M0	63	GLU
35	M0	74	LYS
35	M0	87	LEU
35	M0	91	VAL
35	M0	116	ARG
35	M0	129	VAL
35	M0	130	ASP
35	M0	139	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	M0	143	SER
35	M0	146	ASP
35	M0	156	ARG
35	M0	163	GLN
35	M0	165	ILE
35	M0	174	THR
35	M0	191	LYS
35	M0	203	LYS
36	m1	9	MET
36	m1	10	ARG
36	m1	12	LEU
36	m1	30	LEU
36	m1	31	THR
36	m1	34	SER
36	m1	44	THR
36	m1	54	VAL
36	m1	80	LEU
36	m1	87	LYS
36	m1	94	ARG
36	m1	106	ILE
36	m1	107	ASP
36	m1	112	LEU
36	m1	129	VAL
36	m1	130	VAL
36	m1	140	ARG
36	m1	145	LYS
36	m1	147	THR
36	m1	152	HIS
36	m1	158	ASP
36	m1	161	SER
36	m1	172	LEU
36	M1	10	ARG
36	M1	12	LEU
36	M1	13	LYS
36	M1	17	LEU
36	M1	19	LEU
36	M1	23	VAL
36	M1	34	SER
36	M1	44	THR
36	M1	65	ILE
36	M1	80	LEU
36	M1	85	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	M1	94	ARG
36	M1	106	ILE
36	M1	107	ASP
36	M1	112	LEU
36	M1	115	LYS
36	M1	137	ARG
36	M1	138	VAL
36	M1	140	ARG
36	M1	165	GLN
36	M1	166	LYS
36	M1	173	ASP
36	M1	174	LYS
37	m3	13	HIS
37	m3	16	LYS
37	m3	46	ILE
37	m3	55	ARG
37	m3	63	VAL
37	m3	67	ARG
37	m3	68	LYS
37	m3	69	VAL
37	m3	73	ARG
37	m3	75	PHE
37	m3	76	THR
37	m3	85	LEU
37	m3	100	ARG
37	m3	107	GLU
37	m3	122	LYS
37	m3	123	ILE
37	m3	128	ARG
37	m3	131	LYS
37	m3	149	GLN
37	m3	164	GLU
37	m3	171	ARG
37	m3	176	GLU
37	m3	184	GLU
37	m3	189	GLU
37	m3	194	GLU
37	M3	4	SER
37	M3	5	LYS
37	M3	10	LEU
37	M3	13	HIS
37	M3	23	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
37	M3	46	ILE
37	M3	54	LEU
37	M3	55	ARG
37	M3	57	VAL
37	M3	58	VAL
37	M3	59	ARG
37	M3	62	THR
37	M3	67	ARG
37	M3	69	VAL
37	M3	77	LEU
37	M3	85	LEU
37	M3	91	ARG
37	M3	100	ARG
37	M3	107	GLU
37	M3	108	ILE
37	M3	114	GLN
37	M3	124	ILE
37	M3	131	LYS
37	M3	136	GLU
37	M3	137	GLN
37	M3	144	THR
37	M3	147	ILE
37	M3	164	GLU
37	M3	168	ARG
37	M3	171	ARG
37	M3	190	LYS
37	M3	194	GLU
38	m4	2	SER
38	m4	4	ASP
38	m4	10	SER
38	m4	27	GLN
38	m4	41	GLN
38	m4	55	ARG
38	m4	62	GLN
38	m4	64	VAL
38	m4	72	LEU
38	m4	90	VAL
38	m4	98	SER
38	m4	107	GLU
38	m4	108	ARG
38	m4	135	LEU
38	M4	4	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
38	M4	5	SER
38	M4	10	SER
38	M4	20	VAL
38	M4	42	LYS
38	M4	47	ASP
38	M4	58	ILE
38	M4	64	VAL
38	M4	102	LYS
38	M4	108	ARG
38	M4	113	THR
38	M4	126	GLN
38	M4	129	TYR
38	M4	133	LYS
39	m5	5	LYS
39	m5	10	LEU
39	m5	12	ARG
39	m5	15	GLN
39	m5	18	VAL
39	m5	22	LEU
39	m5	49	ARG
39	m5	75	VAL
39	m5	85	THR
39	m5	91	GLU
39	m5	96	ARG
39	m5	97	SER
39	m5	98	LEU
39	m5	106	VAL
39	m5	117	ASN
39	m5	138	GLN
39	m5	155	VAL
39	m5	167	THR
39	m5	172	ARG
39	m5	176	LYS
39	m5	183	THR
39	m5	184	LYS
39	m5	188	ARG
39	m5	190	THR
39	m5	194	GLN
39	m5	201	ARG
39	m5	204	LYS
39	M5	15	GLN
39	M5	22	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
39	M5	38	ARG
39	M5	50	ARG
39	M5	62	TYR
39	M5	80	THR
39	M5	83	LYS
39	M5	91	GLU
39	M5	92	LEU
39	M5	96	ARG
39	M5	98	LEU
39	M5	104	GLU
39	M5	105	ARG
39	M5	109	ARG
39	M5	133	ILE
39	M5	138	GLN
39	M5	151	ILE
39	M5	159	ARG
39	M5	183	THR
39	M5	194	GLN
39	M5	204	LYS
40	m6	34	VAL
40	m6	40	GLU
40	m6	44	SER
40	m6	58	LEU
40	m6	60	LYS
40	m6	74	ARG
40	m6	78	ARG
40	m6	85	ARG
40	m6	100	GLU
40	m6	106	GLU
40	m6	115	LYS
40	m6	117	ARG
40	m6	119	VAL
40	m6	126	VAL
40	m6	143	THR
40	m6	160	ARG
40	m6	171	LYS
40	m6	172	ARG
40	m6	175	THR
40	m6	182	ASN
40	m6	184	THR
40	m6	197	LEU
40	M6	16	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	M6	41	LEU
40	M6	44	SER
40	M6	58	LEU
40	M6	59	ARG
40	M6	67	THR
40	M6	78	ARG
40	M6	85	ARG
40	M6	102	LEU
40	M6	106	GLU
40	M6	108	ILE
40	M6	110	PRO
40	M6	116	LYS
40	M6	117	ARG
40	M6	119	VAL
40	M6	122	GLN
40	M6	124	LEU
40	M6	128	ARG
40	M6	143	THR
40	M6	148	LYS
40	M6	160	ARG
40	M6	182	ASN
40	M6	190	VAL
41	m7	7	THR
41	m7	23	ARG
41	m7	24	VAL
41	m7	32	THR
41	m7	41	LEU
41	m7	49	GLU
41	m7	52	LEU
41	m7	56	ARG
41	m7	61	ARG
41	m7	65	SER
41	m7	67	ILE
41	m7	69	ARG
41	m7	74	LYS
41	m7	79	THR
41	m7	80	LYS
41	m7	89	LYS
41	m7	94	LEU
41	m7	114	VAL
41	m7	136	ILE
41	m7	144	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	m7	154	GLU
41	m7	165	VAL
41	m7	169	THR
41	m7	180	LYS
41	m7	181	ARG
41	M7	3	ARG
41	M7	7	THR
41	M7	9	THR
41	M7	24	VAL
41	M7	32	THR
41	M7	36	ILE
41	M7	42	THR
41	M7	52	LEU
41	M7	53	ASP
41	M7	56	ARG
41	M7	61	ARG
41	M7	67	ILE
41	M7	69	ARG
41	M7	70	THR
41	M7	75	GLU
41	M7	111	LYS
41	M7	112	LEU
41	M7	114	VAL
41	M7	124	LYS
41	M7	127	ARG
41	M7	128	ARG
41	M7	142	SER
41	M7	153	LYS
41	M7	154	GLU
41	M7	165	VAL
41	M7	168	LEU
41	M7	180	LYS
41	M7	181	ARG
41	M7	182	ILE
42	m8	7	SER
42	m8	13	SER
42	m8	17	THR
42	m8	26	LEU
42	m8	32	LEU
42	m8	49	LEU
42	m8	57	ILE
42	m8	64	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
42	m8	80	THR
42	m8	81	VAL
42	m8	86	THR
42	m8	105	ARG
42	m8	135	GLN
42	m8	138	LEU
42	m8	161	LYS
42	m8	165	ILE
42	m8	171	LYS
42	m8	180	ARG
42	M8	3	ILE
42	M8	8	LYS
42	M8	17	THR
42	M8	21	SER
42	M8	24	VAL
42	M8	26	LEU
42	M8	32	LEU
42	M8	41	ASP
42	M8	49	LEU
42	M8	61	PRO
42	M8	63	SER
42	M8	64	VAL
42	M8	69	ARG
42	M8	86	THR
42	M8	93	ILE
42	M8	122	ILE
42	M8	135	GLN
42	M8	138	LEU
42	M8	140	LEU
42	M8	165	ILE
42	M8	178	ARG
42	M8	179	ARG
42	M8	185	LYS
43	m9	7	GLN
43	m9	9	ARG
43	m9	10	LEU
43	m9	20	ARG
43	m9	36	ASN
43	m9	37	SER
43	m9	43	LYS
43	m9	55	VAL
43	m9	56	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
43	m9	63	THR
43	m9	70	LYS
43	m9	74	ARG
43	m9	84	THR
43	m9	88	ARG
43	m9	98	ARG
43	m9	99	LEU
43	m9	105	LEU
43	m9	106	LEU
43	m9	126	GLU
43	m9	128	LYS
43	m9	133	LYS
43	m9	138	LEU
43	m9	152	GLU
43	m9	153	LYS
43	m9	162	ARG
43	m9	164	LEU
43	m9	173	ARG
43	M9	5	ARG
43	M9	10	LEU
43	M9	31	GLU
43	M9	41	ILE
43	M9	42	ARG
43	M9	46	LYS
43	M9	57	VAL
43	M9	74	ARG
43	M9	81	ARG
43	M9	86	GLU
43	M9	98	ARG
43	M9	103	ARG
43	M9	110	ARG
43	M9	120	TYR
43	M9	138	LEU
43	M9	164	LEU
43	M9	165	LYS
43	M9	175	GLN
43	M9	182	ASP
43	M9	185	LEU
43	M9	186	LYS
44	n0	17	GLU
44	n0	32	SER
44	n0	45	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
44	n0	50	LYS
44	n0	51	VAL
44	n0	73	LYS
44	n0	80	ARG
44	n0	85	SER
44	n0	87	THR
44	n0	97	VAL
44	n0	100	VAL
44	n0	104	GLU
44	n0	136	LYS
44	n0	137	ARG
44	n0	139	TYR
44	n0	148	LEU
44	n0	149	LYS
44	n0	155	ARG
44	n0	160	THR
44	n0	162	THR
44	n0	164	SER
44	n0	167	ARG
44	n0	172	TYR
44	N0	1	MET
44	N0	12	ARG
44	N0	13	ARG
44	N0	16	THR
44	N0	17	GLU
44	N0	21	GLU
44	N0	40	ARG
44	N0	45	LEU
44	N0	49	HIS
44	N0	51	VAL
44	N0	59	VAL
44	N0	61	ILE
44	N0	71	LYS
44	N0	80	ARG
44	N0	87	THR
44	N0	97	VAL
44	N0	113	ARG
44	N0	117	ARG
44	N0	130	GLU
44	N0	136	LYS
44	N0	137	ARG
44	N0	138	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
44	N0	142	GLN
44	N0	145	THR
44	N0	155	ARG
44	N0	160	THR
44	N0	164	SER
44	N0	167	ARG
44	N0	172	TYR
45	n1	16	GLN
45	n1	25	VAL
45	n1	26	HIS
45	n1	27	LEU
45	n1	35	LYS
45	n1	55	LYS
45	n1	64	VAL
45	n1	71	SER
45	n1	78	LYS
45	n1	80	VAL
45	n1	83	ARG
45	n1	88	ARG
45	n1	102	ARG
45	n1	103	GLN
45	n1	104	GLU
45	n1	118	GLU
45	n1	124	VAL
45	n1	128	LEU
45	n1	131	GLN
45	n1	139	ARG
45	n1	143	THR
45	n1	149	GLN
45	n1	150	THR
45	N1	12	ARG
45	N1	17	ARG
45	N1	18	ASP
45	N1	25	VAL
45	N1	26	HIS
45	N1	27	LEU
45	N1	35	LYS
45	N1	36	VAL
45	N1	55	LYS
45	N1	64	VAL
45	N1	71	SER
45	N1	75	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
45	N1	76	ILE
45	N1	78	LYS
45	N1	79	MET
45	N1	80	VAL
45	N1	83	ARG
45	N1	88	ARG
45	N1	89	LEU
45	N1	93	VAL
45	N1	96	ILE
45	N1	102	ARG
45	N1	103	GLN
45	N1	104	GLU
45	N1	106	LEU
45	N1	126	VAL
45	N1	127	GLN
45	N1	128	LEU
45	N1	131	GLN
45	N1	136	ARG
45	N1	139	ARG
45	N1	143	THR
45	N1	158	THR
45	N1	159	PHE
45	N1	160	ILE
46	n2	11	ILE
46	n2	14	THR
46	n2	21	SER
46	n2	28	PHE
46	n2	29	ASP
46	n2	37	LEU
46	n2	43	VAL
46	n2	50	LEU
46	n2	52	ASN
46	n2	54	VAL
46	n2	55	THR
46	n2	58	GLU
46	n2	62	VAL
46	n2	63	VAL
46	n2	68	THR
46	n2	98	THR
46	n2	100	THR
46	N2	9	GLN
46	N2	27	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
46	N2	29	ASP
46	N2	38	ILE
46	N2	39	ASP
46	N2	43	VAL
46	N2	44	GLU
46	N2	52	ASN
46	N2	57	THR
46	N2	59	ASP
46	N2	61	THR
46	N2	66	VAL
46	N2	72	SER
46	N2	88	GLN
46	N2	90	ARG
46	N2	93	ILE
46	N2	100	THR
47	n3	4	ASN
47	n3	13	ILE
47	n3	44	SER
47	n3	58	VAL
47	n3	70	ARG
47	n3	84	SER
47	n3	88	ARG
47	n3	91	VAL
47	N3	4	ASN
47	N3	7	GLN
47	N3	13	ILE
47	N3	23	MET
47	N3	64	LYS
47	N3	69	LEU
47	N3	72	LYS
47	N3	83	LYS
47	N3	91	VAL
47	N3	102	ILE
47	N3	120	LYS
47	N3	125	LEU
47	N3	135	VAL
48	n4	7	SER
48	n4	39	LEU
48	n4	57	LYS
48	n4	63	ILE
48	n4	100	VAL
48	n4	105	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
48	n4	126	GLU
48	n4	127	LYS
48	N4	1	MET
48	N4	4	GLU
48	N4	5	ILE
48	N4	19	THR
48	N4	39	LEU
48	N4	43	ARG
48	N4	54	LEU
48	N4	96	LEU
48	N4	105	ARG
48	N4	126	GLU
48	N4	127	LYS
49	n5	24	LEU
49	n5	27	ARG
49	n5	28	THR
49	n5	29	SER
49	n5	34	LEU
49	n5	38	LEU
49	n5	39	LYS
49	n5	40	LEU
49	n5	45	LYS
49	n5	46	TYR
49	n5	51	VAL
49	n5	56	ARG
49	n5	57	LEU
49	n5	59	SER
49	n5	63	ILE
49	n5	68	THR
49	n5	71	THR
49	n5	73	MET
49	n5	74	LYS
49	n5	86	VAL
49	n5	108	LEU
49	n5	109	LYS
49	n5	115	ARG
49	n5	125	ARG
49	n5	133	LEU
49	n5	134	ASP
49	n5	135	ILE
49	n5	137	ASN
49	n5	142	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
49	N5	24	LEU
49	N5	27	ARG
49	N5	38	LEU
49	N5	39	LYS
49	N5	40	LEU
49	N5	45	LYS
49	N5	49	LYS
49	N5	51	VAL
49	N5	58	ASP
49	N5	63	ILE
49	N5	73	MET
49	N5	86	VAL
49	N5	92	LYS
49	N5	108	LEU
49	N5	115	ARG
49	N5	125	ARG
49	N5	135	ILE
49	N5	139	ILE
49	N5	142	ILE
50	n6	4	GLN
50	n6	13	ARG
50	n6	17	LYS
50	n6	25	SER
50	n6	37	LYS
50	n6	39	LEU
50	n6	50	ILE
50	n6	51	ARG
50	n6	56	VAL
50	n6	57	LEU
50	n6	74	TYR
50	n6	76	LEU
50	n6	94	SER
50	n6	95	VAL
50	n6	97	ILE
50	n6	103	LYS
50	n6	112	ASP
50	n6	115	ARG
50	n6	120	GLN
50	N6	13	ARG
50	N6	17	LYS
50	N6	32	SER
50	N6	37	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
50	N6	42	GLN
50	N6	45	ILE
50	N6	50	ILE
50	N6	51	ARG
50	N6	56	VAL
50	N6	57	LEU
50	N6	70	ILE
50	N6	74	TYR
50	N6	76	LEU
50	N6	80	VAL
50	N6	87	LYS
50	N6	94	SER
50	N6	105	VAL
50	N6	111	LEU
50	N6	115	ARG
50	N6	126	LEU
51	n7	3	LYS
51	n7	14	VAL
51	n7	15	ARG
51	n7	17	ARG
51	n7	30	ASP
51	n7	31	GLU
51	n7	34	LYS
51	n7	36	HIS
51	n7	46	ILE
51	n7	52	LYS
51	n7	72	ILE
51	n7	81	LEU
51	n7	83	THR
51	n7	95	VAL
51	n7	99	GLU
51	n7	100	THR
51	n7	102	GLU
51	n7	121	ARG
51	n7	126	LYS
51	n7	129	TRP
51	n7	134	LEU
51	n7	135	ARG
51	N7	3	LYS
51	N7	17	ARG
51	N7	24	VAL
51	N7	34	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
51	N7	46	ILE
51	N7	53	VAL
51	N7	54	THR
51	N7	64	LYS
51	N7	81	LEU
51	N7	83	THR
51	N7	92	PHE
51	N7	98	THR
51	N7	102	GLU
51	N7	103	GLN
51	N7	109	GLU
51	N7	120	GLU
51	N7	121	ARG
51	N7	127	ASN
51	N7	134	LEU
52	n8	4	ARG
52	n8	8	THR
52	n8	27	LYS
52	n8	42	ARG
52	n8	46	ASP
52	n8	60	TYR
52	n8	65	GLN
52	n8	73	LEU
52	n8	82	ILE
52	n8	85	ASP
52	n8	91	LEU
52	n8	97	GLU
52	n8	128	ARG
52	n8	132	LYS
52	n8	133	LEU
52	n8	139	ARG
52	N8	10	LYS
52	N8	40	HIS
52	N8	42	ARG
52	N8	43	ILE
52	N8	46	ASP
52	N8	56	VAL
52	N8	60	TYR
52	N8	72	VAL
52	N8	78	LEU
52	N8	84	GLU
52	N8	88	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
52	N8	91	LEU
52	N8	96	LYS
52	N8	120	ASN
52	N8	133	LEU
52	N8	139	ARG
53	n9	8	THR
53	n9	14	ARG
53	n9	33	LYS
53	n9	50	THR
53	N9	7	HIS
53	N9	8	THR
53	N9	14	ARG
53	N9	22	LYS
53	N9	23	LYS
53	N9	25	LYS
53	N9	28	LYS
53	N9	33	LYS
53	N9	50	THR
53	N9	58	LYS
54	o0	6	SER
54	o0	7	GLN
54	o0	18	ILE
54	o0	19	LYS
54	o0	32	LYS
54	o0	34	LEU
54	o0	40	LYS
54	o0	41	LEU
54	o0	61	MET
54	o0	86	ARG
54	o0	87	VAL
54	o0	100	ILE
54	O0	16	LEU
54	O0	32	LYS
54	O0	34	LEU
54	O0	36	GLN
54	O0	40	LYS
54	O0	43	ILE
54	O0	48	THR
54	O0	54	SER
54	O0	61	MET
54	O0	79	THR
54	O0	83	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
54	O0	93	LEU
54	O0	100	ILE
55	o1	6	ASP
55	o1	8	VAL
55	o1	13	THR
55	o1	16	LEU
55	o1	26	LYS
55	o1	31	ARG
55	o1	44	MET
55	o1	55	LEU
55	o1	64	VAL
55	o1	76	SER
55	o1	83	GLU
55	o1	89	LEU
55	o1	90	PHE
55	o1	96	VAL
55	o1	100	SER
55	o1	102	LYS
55	o1	106	THR
55	o1	110	GLU
55	O1	6	ASP
55	O1	8	VAL
55	O1	13	THR
55	O1	16	LEU
55	O1	26	LYS
55	O1	31	ARG
55	O1	46	THR
55	O1	47	ASP
55	O1	55	LEU
55	O1	64	VAL
55	O1	79	ARG
55	O1	82	GLU
55	O1	86	LYS
55	O1	89	LEU
55	O1	106	THR
56	o2	19	ARG
56	o2	24	ARG
56	o2	25	TYR
56	o2	33	ARG
56	o2	40	SER
56	o2	51	SER
56	o2	63	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
56	o2	73	THR
56	o2	75	LEU
56	o2	82	LEU
56	o2	87	MET
56	o2	89	THR
56	o2	123	LYS
56	o2	125	ARG
56	o2	126	LEU
56	o2	128	LEU
56	O2	14	THR
56	O2	19	ARG
56	O2	27	ARG
56	O2	33	ARG
56	O2	51	SER
56	O2	61	LYS
56	O2	67	SER
56	O2	73	THR
56	O2	75	LEU
56	O2	106	VAL
56	O2	125	ARG
56	O2	126	LEU
56	O2	128	LEU
57	o3	19	SER
57	o3	28	SER
57	o3	31	LYS
57	o3	48	ARG
57	o3	57	LYS
57	o3	59	VAL
57	o3	67	MET
57	o3	70	LYS
57	o3	80	VAL
57	o3	81	VAL
57	o3	86	ARG
57	o3	98	VAL
57	O3	3	GLU
57	O3	4	SER
57	O3	15	SER
57	O3	19	SER
57	O3	20	LYS
57	O3	57	LYS
57	O3	59	VAL
57	O3	81	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
57	O3	92	LYS
57	O3	98	VAL
57	O3	106	ASN
58	o4	5	VAL
58	o4	20	ILE
58	o4	24	LYS
58	o4	29	ILE
58	o4	31	ARG
58	o4	46	ASP
58	o4	58	ARG
58	o4	71	THR
58	o4	79	SER
58	o4	80	ARG
58	o4	81	CYS
58	o4	88	ARG
58	O4	8	ARG
58	O4	15	THR
58	O4	16	ARG
58	O4	20	ILE
58	O4	24	LYS
58	O4	29	ILE
58	O4	33	GLN
58	O4	44	CYS
58	O4	58	ARG
58	O4	65	VAL
58	O4	71	THR
58	O4	73	SER
58	O4	79	SER
58	O4	81	CYS
58	O4	104	VAL
59	o5	4	VAL
59	o5	15	GLU
59	o5	20	GLN
59	o5	21	LEU
59	o5	27	GLU
59	o5	28	LEU
59	o5	36	LEU
59	o5	37	SER
59	o5	40	SER
59	o5	41	LEU
59	o5	44	ILE
59	o5	45	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
59	o5	47	VAL
59	o5	53	CYS
59	o5	57	VAL
59	o5	62	GLN
59	o5	69	LEU
59	o5	79	ASP
59	o5	81	ARG
59	o5	85	THR
59	o5	89	ARG
59	o5	90	ARG
59	o5	94	LYS
59	o5	98	SER
59	o5	107	LYS
59	o5	116	TYR
59	O5	4	VAL
59	O5	13	SER
59	O5	15	GLU
59	O5	20	GLN
59	O5	21	LEU
59	O5	27	GLU
59	O5	31	LEU
59	O5	44	ILE
59	O5	46	THR
59	O5	47	VAL
59	O5	49	LYS
59	O5	71	LYS
59	O5	74	LYS
59	O5	85	THR
59	O5	89	ARG
59	O5	96	GLU
59	O5	100	VAL
59	O5	101	THR
59	O5	104	GLN
59	O5	107	LYS
59	O5	119	LYS
60	o6	9	ILE
60	o6	11	LEU
60	o6	17	VAL
60	o6	21	THR
60	o6	26	ILE
60	o6	29	LYS
60	o6	36	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
60	o6	43	LEU
60	o6	45	ARG
60	o6	57	LEU
60	o6	58	ILE
60	o6	60	LEU
60	o6	61	ILE
60	o6	68	ARG
60	o6	75	LYS
60	o6	76	ARG
60	o6	81	THR
60	o6	87	VAL
60	o6	88	GLU
60	o6	90	MET
60	o6	94	ILE
60	o6	98	ARG
60	O6	11	LEU
60	O6	13	LYS
60	O6	17	VAL
60	O6	20	MET
60	O6	21	THR
60	O6	26	ILE
60	O6	29	LYS
60	O6	36	ARG
60	O6	45	ARG
60	O6	57	LEU
60	O6	58	ILE
60	O6	60	LEU
60	O6	62	ARG
60	O6	63	ASN
60	O6	68	ARG
60	O6	76	ARG
60	O6	79	SER
60	O6	81	THR
60	O6	99	ARG
61	o7	17	THR
61	o7	34	CYS
61	o7	36	SER
61	o7	55	ARG
61	o7	59	THR
61	o7	67	LEU
61	o7	68	LYS
61	o7	71	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
61	o7	80	THR
61	O7	5	THR
61	O7	12	HIS
61	O7	16	HIS
61	O7	17	THR
61	O7	19	CYS
61	O7	24	ARG
61	O7	25	ARG
61	O7	33	THR
61	O7	34	CYS
61	O7	36	SER
61	O7	43	LYS
61	O7	58	THR
61	O7	59	THR
61	O7	67	LEU
61	O7	75	LYS
61	O7	87	SER
62	o8	5	ILE
62	o8	6	THR
62	o8	24	THR
62	o8	41	THR
62	o8	50	SER
62	o8	53	THR
62	o8	61	LYS
62	o8	63	LYS
62	o8	64	LYS
62	o8	65	LEU
62	O8	5	ILE
62	O8	6	THR
62	O8	8	ILE
62	O8	24	THR
62	O8	31	LEU
62	O8	41	THR
62	O8	45	VAL
62	O8	48	SER
62	O8	51	LEU
62	O8	52	TYR
62	O8	53	THR
62	O8	58	ASP
62	O8	64	LYS
62	O8	65	LEU
62	O8	67	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
62	O8	77	ARG
63	o9	15	LYS
63	o9	21	ARG
63	o9	23	LEU
63	o9	29	LEU
63	o9	45	ARG
63	O9	4	GLN
63	O9	5	LYS
63	O9	21	ARG
63	O9	23	LEU
63	O9	36	ARG
63	O9	45	ARG
63	O9	49	MET
63	O9	51	ILE
64	q0	78	ILE
64	q0	79	GLU
64	q0	85	LEU
64	q0	112	LYS
64	q0	113	ARG
64	q0	114	LYS
64	q0	127	LEU
64	Q0	85	LEU
64	Q0	92	ASP
64	Q0	94	SER
64	Q0	97	ARG
64	Q0	106	ARG
64	Q0	113	ARG
64	Q0	127	LEU
65	q1	6	ARG
65	q1	9	ARG
65	q1	13	LEU
65	q1	23	ARG
65	Q1	2	ARG
65	Q1	11	ARG
65	Q1	19	LYS
65	Q1	21	ARG
66	q2	7	THR
66	q2	8	ARG
66	q2	34	SER
66	q2	45	ARG
66	q2	61	LYS
66	q2	71	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
66	q2	78	LYS
66	q2	83	LEU
66	q2	84	THR
66	q2	85	LEU
66	q2	89	LYS
66	q2	93	LEU
66	q2	104	LEU
66	Q2	8	ARG
66	Q2	9	LYS
66	Q2	20	HIS
66	Q2	29	LYS
66	Q2	34	SER
66	Q2	60	LYS
66	Q2	61	LYS
66	Q2	71	ARG
66	Q2	72	LEU
66	Q2	76	LYS
66	Q2	78	LYS
66	Q2	79	THR
66	Q2	80	ARG
66	Q2	83	LEU
66	Q2	84	THR
66	Q2	85	LEU
66	Q2	93	LEU
66	Q2	104	LEU
66	Q2	105	GLN
67	q3	3	LYS
67	q3	24	ARG
67	q3	36	ARG
67	q3	42	CYS
67	q3	45	LYS
67	q3	46	THR
67	q3	48	LYS
67	q3	54	ILE
67	q3	56	THR
67	q3	57	CYS
67	q3	59	CYS
67	q3	60	CYS
67	q3	80	ARG
67	Q3	7	LYS
67	Q3	11	THR
67	Q3	24	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
67	Q3	25	GLN
67	Q3	45	LYS
67	Q3	46	THR
67	Q3	49	ARG
67	Q3	60	CYS
67	Q3	78	THR
67	Q3	91	GLU
68	S0	7	PHE
68	S0	10	THR
68	S0	27	ARG
68	S0	45	VAL
68	S0	50	VAL
68	S0	57	LEU
68	S0	62	ARG
68	S0	76	ILE
68	S0	84	ARG
68	S0	87	LEU
68	S0	88	LYS
68	S0	101	ARG
68	S0	103	THR
68	S0	111	ILE
68	S0	112	THR
68	S0	117	GLU
68	S0	119	ARG
68	S0	123	VAL
68	S0	131	GLN
68	S0	135	GLU
68	S0	139	VAL
68	S0	154	GLU
68	S0	157	ASP
68	S0	165	ARG
68	S0	170	ILE
68	S0	172	LEU
68	S0	177	LEU
68	S0	184	LEU
68	S0	185	ARG
68	S0	200	ASP
68	s0	6	THR
68	s0	8	ASP
68	s0	9	LEU
68	s0	30	GLN
68	s0	45	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
68	s0	57	LEU
68	s0	59	LEU
68	s0	62	ARG
68	s0	87	LEU
68	s0	88	LYS
68	s0	93	THR
68	s0	101	ARG
68	s0	103	THR
68	s0	111	ILE
68	s0	119	ARG
68	s0	131	GLN
68	s0	139	VAL
68	s0	157	ASP
68	s0	162	CYS
68	s0	164	ASN
68	s0	167	LYS
68	s0	172	LEU
68	s0	180	GLU
68	s0	185	ARG
68	s0	196	SER
68	s0	202	TYR
68	s0	203	PHE
69	S1	21	VAL
69	S1	22	ASP
69	S1	24	PHE
69	S1	25	THR
69	S1	28	GLU
69	S1	29	TRP
69	S1	30	PHE
69	S1	38	PHE
69	S1	46	THR
69	S1	47	LEU
69	S1	55	LYS
69	S1	58	SER
69	S1	61	LEU
69	S1	64	ARG
69	S1	66	VAL
69	S1	70	LEU
69	S1	74	GLN
69	S1	77	GLU
69	S1	78	ASP
69	S1	81	PHE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
69	S1	85	LYS
69	S1	96	LEU
69	S1	97	LEU
69	S1	105	PHE
69	S1	108	ASP
69	S1	111	ARG
69	S1	117	TRP
69	S1	131	ASP
69	S1	135	LEU
69	S1	146	GLN
69	S1	148	ASN
69	S1	149	GLN
69	S1	150	VAL
69	S1	154	SER
69	S1	177	GLN
69	S1	180	THR
69	S1	181	LEU
69	S1	183	GLN
69	S1	184	LEU
69	S1	193	ILE
69	S1	202	LYS
69	S1	214	LYS
69	S1	218	LEU
69	S1	220	GLN
69	S1	222	LYS
69	S1	223	PHE
69	S1	232	HIS
69	s1	21	VAL
69	s1	37	THR
69	s1	40	ASN
69	s1	47	LEU
69	s1	61	LEU
69	s1	62	LYS
69	s1	70	LEU
69	s1	81	PHE
69	s1	82	ARG
69	s1	83	LYS
69	s1	85	LYS
69	s1	88	VAL
69	s1	89	ASP
69	s1	90	GLU
69	s1	91	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
69	s1	96	LEU
69	s1	105	PHE
69	s1	108	ASP
69	s1	110	LEU
69	s1	125	VAL
69	s1	150	VAL
69	s1	153	HIS
69	s1	159	SER
69	s1	177	GLN
69	s1	179	SER
69	s1	180	THR
69	s1	181	LEU
69	s1	184	LEU
69	s1	193	ILE
69	s1	203	ASP
69	s1	207	LEU
69	s1	210	ILE
69	s1	212	VAL
69	s1	215	VAL
69	s1	219	LYS
69	s1	222	LYS
70	S2	41	LEU
70	S2	53	ILE
70	S2	58	LEU
70	S2	64	LYS
70	S2	69	ILE
70	S2	72	LEU
70	S2	73	LEU
70	S2	76	LEU
70	S2	77	GLN
70	S2	87	GLN
70	S2	89	GLN
70	S2	95	ARG
70	S2	96	THR
70	S2	97	ARG
70	S2	108	ASN
70	S2	111	VAL
70	S2	117	THR
70	S2	119	LYS
70	S2	134	LEU
70	S2	137	ILE
70	S2	139	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
70	S2	140	ARG
70	S2	141	ARG
70	S2	146	THR
70	S2	148	LEU
70	S2	159	THR
70	S2	187	LEU
70	S2	201	ASN
70	S2	206	THR
70	S2	208	GLU
70	S2	218	ILE
70	S2	221	THR
70	S2	224	PHE
70	S2	225	LEU
70	S2	226	THR
70	S2	237	VAL
70	S2	240	LEU
70	S2	246	GLU
70	S2	250	GLN
70	s2	53	ILE
70	s2	55	GLU
70	s2	69	ILE
70	s2	72	LEU
70	s2	76	LEU
70	s2	77	GLN
70	s2	80	VAL
70	s2	81	MET
70	s2	83	ILE
70	s2	87	GLN
70	s2	89	GLN
70	s2	90	THR
70	s2	97	ARG
70	s2	106	ASP
70	s2	111	VAL
70	s2	117	THR
70	s2	139	ILE
70	s2	140	ARG
70	s2	141	ARG
70	s2	148	LEU
70	s2	150	GLN
70	s2	170	ILE
70	s2	185	LYS
70	s2	194	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
70	s2	195	ASP
70	s2	206	THR
70	s2	207	LEU
70	s2	218	ILE
70	s2	225	LEU
70	s2	229	LEU
70	s2	233	GLN
70	s2	237	VAL
70	s2	250	GLN
71	S3	4	LEU
71	S3	7	LYS
71	S3	9	ARG
71	S3	10	LYS
71	S3	23	GLU
71	S3	57	ASP
71	S3	65	ARG
71	S3	66	ILE
71	S3	84	ILE
71	S3	92	GLN
71	S3	93	ASP
71	S3	94	ARG
71	S3	103	GLU
71	S3	105	MET
71	S3	111	ASN
71	S3	117	ARG
71	S3	127	MET
71	S3	134	CYS
71	S3	141	LYS
71	S3	142	LEU
71	S3	151	LYS
71	S3	158	ILE
71	S3	170	THR
71	S3	172	THR
71	S3	175	VAL
71	S3	176	LEU
71	S3	187	LYS
71	S3	190	ARG
71	S3	195	SER
71	S3	196	ARG
71	S3	197	THR
71	S3	215	GLU
71	S3	218	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
71	s3	4	LEU
71	s3	10	LYS
71	s3	21	LEU
71	s3	26	THR
71	s3	37	VAL
71	s3	40	ARG
71	s3	44	THR
71	s3	55	THR
71	s3	65	ARG
71	s3	69	LEU
71	s3	76	ARG
71	s3	84	ILE
71	s3	89	GLU
71	s3	91	VAL
71	s3	92	GLN
71	s3	94	ARG
71	s3	111	ASN
71	s3	115	ILE
71	s3	117	ARG
71	s3	127	MET
71	s3	148	LYS
71	s3	150	MET
71	s3	158	ILE
71	s3	162	GLN
71	s3	168	ILE
71	s3	178	ARG
71	s3	194	LYS
71	s3	197	THR
71	s3	202	LEU
71	s3	212	LYS
71	s3	213	GLU
71	s3	215	GLU
71	s3	223	LYS
71	s3	225	TYR
72	S4	6	LYS
72	S4	7	LYS
72	S4	9	LEU
72	S4	23	LEU
72	S4	38	LEU
72	S4	39	ARG
72	S4	40	GLU
72	S4	67	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
72	S4	77	ARG
72	S4	78	THR
72	S4	92	LEU
72	S4	116	ASP
72	S4	126	VAL
72	S4	129	VAL
72	S4	133	LYS
72	S4	139	VAL
72	S4	146	THR
72	S4	160	VAL
72	S4	164	LEU
72	S4	176	ASP
72	S4	180	LEU
72	S4	181	VAL
72	S4	182	TYR
72	S4	187	ARG
72	S4	192	ILE
72	S4	197	HIS
72	S4	198	LYS
72	S4	211	LYS
72	S4	215	ASP
72	S4	222	LEU
72	S4	226	PHE
72	S4	227	VAL
72	S4	236	ILE
72	S4	240	LYS
72	S4	242	LYS
72	S4	246	LEU
72	S4	256	ARG
72	S4	258	GLN
72	s4	7	LYS
72	s4	9	LEU
72	s4	23	LEU
72	s4	32	SER
72	s4	38	LEU
72	s4	39	ARG
72	s4	42	LEU
72	s4	49	ARG
72	s4	51	ARG
72	s4	67	GLN
72	s4	78	THR
72	s4	95	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
72	s4	104	ASP
72	s4	111	VAL
72	s4	116	ASP
72	s4	126	VAL
72	s4	131	LEU
72	s4	140	VAL
72	s4	147	ILE
72	s4	148	ARG
72	s4	151	ASP
72	s4	160	VAL
72	s4	180	LEU
72	s4	181	VAL
72	s4	182	TYR
72	s4	195	ILE
72	s4	221	ARG
72	s4	223	ASN
72	s4	227	VAL
72	s4	244	ILE
72	s4	246	LEU
73	S5	23	VAL
73	S5	24	VAL
73	S5	25	LEU
73	S5	32	GLU
73	S5	43	PHE
73	S5	53	VAL
73	S5	65	ARG
73	S5	76	ARG
73	S5	79	ASN
73	S5	89	ILE
73	S5	93	LEU
73	S5	94	THR
73	S5	99	MET
73	S5	100	ASN
73	S5	112	ARG
73	S5	146	THR
73	S5	147	THR
73	S5	156	ARG
73	S5	162	VAL
73	S5	186	ASN
73	S5	194	LEU
73	S5	203	LYS
73	S5	216	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
73	S5	219	ARG
73	S5	225	ARG
73	s5	25	LEU
73	s5	27	THR
73	s5	31	GLU
73	s5	32	GLU
73	s5	39	GLU
73	s5	43	PHE
73	s5	51	VAL
73	s5	59	VAL
73	s5	63	GLN
73	s5	64	VAL
73	s5	68	ILE
73	s5	76	ARG
73	s5	84	LYS
73	s5	89	ILE
73	s5	93	LEU
73	s5	94	THR
73	s5	112	ARG
73	s5	125	THR
73	s5	128	ASN
73	s5	130	ILE
73	s5	132	VAL
73	s5	133	VAL
73	s5	148	ARG
73	s5	156	ARG
73	s5	157	ARG
73	s5	161	ASP
73	s5	162	VAL
73	s5	170	GLN
73	s5	187	ILE
73	s5	188	LYS
73	s5	194	LEU
73	s5	203	LYS
73	s5	208	SER
73	s5	225	ARG
74	S6	7	TYR
74	S6	13	GLN
74	S6	21	GLU
74	S6	25	ARG
74	S6	45	PHE
74	S6	58	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
74	S6	76	LEU
74	S6	78	THR
74	S6	79	LYS
74	S6	82	SER
74	S6	98	ARG
74	S6	105	ASP
74	S6	109	LEU
74	S6	115	LYS
74	S6	120	GLU
74	S6	124	LEU
74	S6	126	ASP
74	S6	127	THR
74	S6	129	VAL
74	S6	132	ARG
74	S6	133	LEU
74	S6	137	ARG
74	S6	143	LYS
74	S6	151	ASP
74	S6	154	ARG
74	S6	155	ASP
74	S6	163	THR
74	S6	164	LYS
74	S6	177	ARG
74	S6	211	LEU
74	S6	212	LEU
74	S6	216	LEU
74	s6	12	SER
74	s6	15	THR
74	s6	30	LYS
74	s6	31	ARG
74	s6	69	LEU
74	s6	71	THR
74	s6	78	THR
74	s6	93	LYS
74	s6	97	VAL
74	s6	109	LEU
74	s6	111	LEU
74	s6	120	GLU
74	s6	121	LEU
74	s6	122	GLU
74	s6	124	LEU
74	s6	127	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
74	s6	128	THR
74	s6	129	VAL
74	s6	143	LYS
74	s6	150	GLU
74	s6	151	ASP
74	s6	154	ARG
74	s6	155	ASP
74	s6	169	TYR
74	s6	170	THR
74	s6	177	ARG
74	s6	179	VAL
74	s6	193	LEU
74	s6	215	ARG
74	s6	216	LEU
75	s7	11	GLN
75	s7	30	SER
75	s7	35	LYS
75	s7	41	LEU
75	s7	42	GLN
75	s7	49	ILE
75	s7	50	ASP
75	s7	67	LEU
75	s7	77	LEU
75	s7	86	GLN
75	s7	88	ARG
75	s7	97	ARG
75	s7	105	THR
75	s7	108	GLN
75	s7	109	VAL
75	s7	112	ARG
75	s7	114	ARG
75	s7	116	ARG
75	s7	117	THR
75	s7	126	LEU
75	s7	134	GLU
75	s7	143	LEU
75	s7	144	VAL
75	s7	159	VAL
75	s7	162	ILE
75	s7	185	ILE
75	S7	9	LEU
75	S7	14	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
75	S7	28	GLU
75	S7	29	ASN
75	S7	37	GLU
75	S7	38	LEU
75	S7	42	GLN
75	S7	46	ILE
75	S7	50	ASP
75	S7	60	ILE
75	S7	64	VAL
75	S7	70	PHE
75	S7	71	HIS
75	S7	75	THR
75	S7	77	LEU
75	S7	85	PHE
75	S7	87	ASP
75	S7	97	ARG
75	S7	114	ARG
75	S7	116	ARG
75	S7	117	THR
75	S7	126	LEU
75	S7	131	PHE
75	S7	136	VAL
75	S7	139	ARG
75	S7	144	VAL
75	S7	163	ASP
75	S7	168	SER
75	S7	181	ILE
75	S7	185	ILE
76	s8	7	SER
76	s8	8	ARG
76	s8	25	ARG
76	s8	28	GLU
76	s8	29	LEU
76	s8	36	THR
76	s8	47	ARG
76	s8	58	LEU
76	s8	60	ILE
76	s8	61	GLU
76	s8	66	SER
76	s8	74	LYS
76	s8	76	THR
76	s8	82	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
76	s8	110	ARG
76	s8	111	GLN
76	s8	138	ASN
76	s8	151	LYS
76	s8	152	ILE
76	s8	155	SER
76	s8	168	CYS
76	s8	176	SER
76	s8	183	ILE
76	s8	184	LEU
76	S8	29	LEU
76	S8	36	THR
76	S8	47	ARG
76	S8	49	ARG
76	S8	56	ARG
76	S8	58	LEU
76	S8	66	SER
76	S8	104	ILE
76	S8	123	LYS
76	S8	135	LYS
76	S8	137	LYS
76	S8	138	ASN
76	S8	151	LYS
76	S8	152	ILE
76	S8	164	ARG
76	S8	171	SER
76	S8	184	LEU
76	S8	187	GLU
76	S8	193	LEU
76	S8	196	LEU
77	S9	3	ARG
77	S9	6	ARG
77	S9	7	THR
77	S9	14	THR
77	S9	28	LEU
77	S9	39	LYS
77	S9	49	LEU
77	S9	60	LEU
77	S9	78	ARG
77	S9	79	ARG
77	S9	89	ASP
77	S9	92	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
77	S9	93	LEU
77	S9	96	VAL
77	S9	97	LEU
77	S9	99	LEU
77	S9	105	LEU
77	S9	109	LEU
77	S9	110	GLN
77	S9	118	LEU
77	S9	126	ARG
77	S9	130	THR
77	S9	134	ILE
77	S9	138	LYS
77	S9	141	VAL
77	S9	149	ARG
77	S9	161	THR
77	S9	171	ARG
77	S9	180	LYS
77	s9	3	ARG
77	s9	7	THR
77	s9	16	LYS
77	s9	28	LEU
77	s9	39	LYS
77	s9	49	LEU
77	s9	63	ASP
77	s9	78	ARG
77	s9	82	ARG
77	s9	90	LYS
77	s9	101	VAL
77	s9	109	LEU
77	s9	120	LYS
77	s9	130	THR
77	s9	133	HIS
77	s9	134	ILE
77	s9	151	ASP
77	s9	152	SER
77	s9	157	ASP
77	s9	161	THR
77	s9	180	LYS
77	s9	184	SER
77	s9	186	GLU
78	sM	30	THR
78	sM	37	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
78	sM	45	SER
78	sM	46	LYS
78	sM	48	ARG
78	sM	50	ASN
78	sM	51	ARG
78	sM	61	ILE
78	sM	68	ARG
78	sM	74	LYS
78	sM	77	THR
78	sM	78	ASP
78	sM	79	SER
78	sM	82	THR
78	sM	84	LYS
78	sM	88	ARG
78	sM	89	ARG
78	sM	91	THR
78	sM	96	ARG
78	sM	97	THR
78	sM	100	THR
78	sM	102	THR
78	sM	105	LYS
78	sM	112	ASP
78	sM	118	SER
78	sM	139	GLU
78	SM	23	LYS
78	SM	27	LYS
78	SM	30	THR
78	SM	34	LYS
78	SM	46	LYS
78	SM	51	ARG
78	SM	61	ILE
78	SM	63	ASP
78	SM	68	ARG
78	SM	70	ASN
78	SM	74	LYS
78	SM	75	ASP
78	SM	76	VAL
78	SM	77	THR
78	SM	84	LYS
78	SM	88	ARG
78	SM	89	ARG
78	SM	91	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
78	SM	97	THR
78	SM	100	THR
78	SM	102	THR
78	SM	105	LYS
78	SM	116	GLU
78	SM	139	GLU
79	sR	22	SER
79	sR	25	THR
79	sR	29	GLN
79	sR	42	LEU
79	sR	48	THR
79	sR	53	LYS
79	sR	58	VAL
79	sR	59	ARG
79	sR	64	HIS
79	sR	65	SER
79	sR	76	ASP
79	sR	96	THR
79	sR	106	HIS
79	sR	145	LEU
79	sR	163	ASP
79	sR	164	ASP
79	sR	167	VAL
79	sR	176	LYS
79	sR	184	ASN
79	sR	188	ILE
79	sR	202	LEU
79	sR	207	ASP
79	sR	232	TYR
79	sR	265	LEU
79	sR	274	LEU
79	sR	275	ARG
79	sR	297	ASP
79	sR	308	ASN
79	sR	309	VAL
79	sR	319	ASN
79	SR	4	ASN
79	SR	6	VAL
79	SR	14	GLU
79	SR	29	GLN
79	SR	44	SER
79	SR	46	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
79	SR	51	ASP
79	SR	52	GLN
79	SR	58	VAL
79	SR	59	ARG
79	SR	66	HIS
79	SR	76	ASP
79	SR	106	HIS
79	SR	117	LYS
79	SR	118	LYS
79	SR	123	ILE
79	SR	136	ILE
79	SR	137	LYS
79	SR	141	LEU
79	SR	153	GLN
79	SR	159	ASN
79	SR	165	ASP
79	SR	184	ASN
79	SR	195	HIS
79	SR	202	LEU
79	SR	207	ASP
79	SR	238	ASP
79	SR	250	TYR
79	SR	266	ASP
79	SR	268	GLN
79	SR	292	LEU
79	SR	308	ASN
79	SR	317	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (56) such sidechains are listed below:

Mol	Chain	Res	Type
5	c0	32	HIS
6	c1	21	ASN
14	c9	25	GLN
14	c9	64	HIS
14	c9	138	GLN
17	d2	24	GLN
17	d2	56	HIS
17	D2	64	GLN
19	d4	22	GLN
24	D9	48	ASN
24	D9	53	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
25	e0	17	GLN
27	l2	83	HIS
27	l2	86	GLN
27	l2	194	ASN
30	l5	40	HIS
31	L6	97	ASN
33	L8	145	ASN
33	L8	240	ASN
34	L9	5	GLN
35	M0	14	ASN
36	m1	109	HIS
37	m3	114	GLN
39	m5	138	GLN
39	M5	87	GLN
39	M5	138	GLN
42	m8	58	ASN
45	n1	146	ASN
47	N3	98	ASN
51	n7	57	HIS
52	n8	14	HIS
52	n8	28	HIS
52	n8	64	GLN
52	N8	41	HIS
53	n9	43	HIS
53	N9	45	HIS
56	O2	35	GLN
59	O5	16	GLN
61	o7	12	HIS
63	o9	4	GLN
66	Q2	47	GLN
69	S1	124	ASN
69	S1	157	GLN
69	s1	146	GLN
69	s1	149	GLN
70	s2	89	GLN
70	s2	94	GLN
71	s3	74	GLN
73	s5	37	GLN
74	s6	80	ASN
79	sR	106	HIS
79	sR	182	ASN
79	sR	184	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
79	sR	198	ASN
79	SR	195	HIS
79	SR	288	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	3084/3396 (90%)	644 (20%)	99 (3%)
1	5	3071/3396 (90%)	615 (20%)	70 (2%)
2	2	1767/1800 (98%)	481 (27%)	62 (3%)
2	6	1731/1800 (96%)	411 (23%)	55 (3%)
3	3	120/121 (99%)	17 (14%)	1 (0%)
3	7	120/121 (99%)	15 (12%)	1 (0%)
4	4	157/158 (99%)	32 (20%)	4 (2%)
4	8	157/158 (99%)	33 (21%)	4 (2%)
All	All	10207/10950 (93%)	2248 (22%)	296 (2%)

All (2248) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	14	U
1	1	16	A
1	1	26	A
1	1	40	A
1	1	43	A
1	1	49	A
1	1	59	G
1	1	60	A
1	1	65	A
1	1	66	A
1	1	74	G
1	1	76	G
1	1	92	G
1	1	93	C
1	1	99	A
1	1	109	A
1	1	110	G
1	1	121	A
1	1	122	A
1	1	132	C
1	1	133	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	136	G
1	1	156	G
1	1	157	A
1	1	166	C
1	1	169	U
1	1	173	G
1	1	184	U
1	1	187	A
1	1	190	U
1	1	191	U
1	1	192	C
1	1	193	C
1	1	199	A
1	1	200	C
1	1	210	U
1	1	213	A
1	1	214	G
1	1	218	G
1	1	219	A
1	1	220	G
1	1	231	G
1	1	232	G
1	1	235	A
1	1	236	G
1	1	237	G
1	1	238	A
1	1	239	G
1	1	240	U
1	1	241	G
1	1	245	U
1	1	249	U
1	1	250	U
1	1	251	G
1	1	252	U
1	1	253	A
1	1	269	G
1	1	270	U
1	1	283	G
1	1	286	U
1	1	295	A
1	1	296	A
1	1	298	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	311	C
1	1	315	C
1	1	322	U
1	1	323	A
1	1	329	U
1	1	339	C
1	1	349	A
1	1	350	C
1	1	370	U
1	1	375	A
1	1	376	G
1	1	398	A
1	1	401	U
1	1	402	A
1	1	403	C
1	1	421	G
1	1	422	A
1	1	439	C
1	1	440	A
1	1	495	G
1	1	516	A
1	1	518	G
1	1	520	U
1	1	521	A
1	1	535	G
1	1	543	C
1	1	544	C
1	1	545	U
1	1	546	C
1	1	547	G
1	1	548	G
1	1	551	A
1	1	552	G
1	1	555	U
1	1	556	U
1	1	557	A
1	1	558	U
1	1	559	A
1	1	569	A
1	1	578	A
1	1	579	G
1	1	592	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	604	G
1	1	609	G
1	1	611	A
1	1	620	U
1	1	621	A
1	1	622	A
1	1	637	C
1	1	638	C
1	1	646	A
1	1	649	A
1	1	654	C
1	1	658	G
1	1	677	A
1	1	681	U
1	1	683	U
1	1	705	A
1	1	712	G
1	1	715	A
1	1	716	A
1	1	727	G
1	1	758	C
1	1	762	U
1	1	764	U
1	1	765	C
1	1	766	U
1	1	767	U
1	1	776	U
1	1	777	U
1	1	781	G
1	1	785	G
1	1	786	A
1	1	801	A
1	1	806	A
1	1	807	A
1	1	808	A
1	1	817	A
1	1	830	A
1	1	849	C
1	1	861	C
1	1	869	G
1	1	874	U
1	1	879	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	896	A
1	1	907	G
1	1	908	G
1	1	913	A
1	1	914	A
1	1	916	G
1	1	917	A
1	1	921	A
1	1	923	C
1	1	924	G
1	1	937	G
1	1	943	U
1	1	944	C
1	1	953	G
1	1	959	C
1	1	960	U
1	1	974	G
1	1	978	G
1	1	979	U
1	1	980	A
1	1	981	U
1	1	982	C
1	1	993	G
1	1	994	G
1	1	1001	G
1	1	1002	A
1	1	1006	A
1	1	1010	G
1	1	1015	U
1	1	1016	C
1	1	1017	C
1	1	1018	G
1	1	1020	G
1	1	1021	G
1	1	1023	C
1	1	1024	G
1	1	1025	A
1	1	1027	A
1	1	1028	U
1	1	1029	G
1	1	1030	A
1	1	1033	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1036	A
1	1	1037	C
1	1	1041	U
1	1	1047	A
1	1	1049	C
1	1	1052	U
1	1	1057	A
1	1	1064	A
1	1	1065	A
1	1	1071	U
1	1	1072	G
1	1	1081	U
1	1	1082	U
1	1	1087	G
1	1	1093	A
1	1	1094	U
1	1	1095	U
1	1	1096	U
1	1	1097	G
1	1	1098	A
1	1	1103	A
1	1	1104	G
1	1	1117	G
1	1	1128	U
1	1	1129	A
1	1	1131	G
1	1	1144	U
1	1	1153	A
1	1	1159	A
1	1	1160	C
1	1	1177	G
1	1	1180	A
1	1	1181	U
1	1	1182	A
1	1	1191	U
1	1	1192	C
1	1	1193	A
1	1	1201	C
1	1	1202	A
1	1	1206	G
1	1	1209	G
1	1	1218	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1219	C
1	1	1221	A
1	1	1222	G
1	1	1225	A
1	1	1285	G
1	1	1292	C
1	1	1305	U
1	1	1307	G
1	1	1308	A
1	1	1309	U
1	1	1312	C
1	1	1313	G
1	1	1318	A
1	1	1325	U
1	1	1330	A
1	1	1348	U
1	1	1356	U
1	1	1357	G
1	1	1386	A
1	1	1392	G
1	1	1399	A
1	1	1400	G
1	1	1408	G
1	1	1416	C
1	1	1417	G
1	1	1419	A
1	1	1434	G
1	1	1437	C
1	1	1446	A
1	1	1450	G
1	1	1467	A
1	1	1481	A
1	1	1482	A
1	1	1485	G
1	1	1488	G
1	1	1503	A
1	1	1508	C
1	1	1533	U
1	1	1536	G
1	1	1539	A
1	1	1541	G
1	1	1547	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1555	U
1	1	1556	C
1	1	1557	A
1	1	1560	G
1	1	1562	C
1	1	1563	C
1	1	1564	U
1	1	1565	G
1	1	1567	U
1	1	1568	U
1	1	1569	U
1	1	1570	U
1	1	1571	A
1	1	1572	U
1	1	1573	G
1	1	1574	C
1	1	1575	A
1	1	1576	G
1	1	1578	C
1	1	1580	A
1	1	1581	C
1	1	1582	C
1	1	1583	A
1	1	1587	A
1	1	1589	A
1	1	1593	A
1	1	1605	A
1	1	1607	U
1	1	1608	C
1	1	1620	U
1	1	1629	U
1	1	1632	A
1	1	1633	C
1	1	1639	C
1	1	1641	U
1	1	1643	A
1	1	1645	U
1	1	1657	C
1	1	1683	A
1	1	1687	U
1	1	1716	U
1	1	1717	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1724	U
1	1	1725	C
1	1	1729	A
1	1	1736	G
1	1	1741	A
1	1	1750	A
1	1	1751	G
1	1	1759	C
1	1	1760	A
1	1	1761	C
1	1	1762	C
1	1	1763	U
1	1	1764	U
1	1	1765	U
1	1	1766	G
1	1	1767	C
1	1	1768	U
1	1	1770	G
1	1	1775	G
1	1	1780	G
1	1	1795	U
1	1	1797	A
1	1	1808	G
1	1	1810	A
1	1	1814	A
1	1	1816	A
1	1	1817	G
1	1	1819	U
1	1	1820	U
1	1	1821	U
1	1	1835	A
1	1	1839	A
1	1	1841	A
1	1	1842	A
1	1	1845	G
1	1	1847	A
1	1	1849	C
1	1	1858	A
1	1	1867	A
1	1	1878	G
1	1	1879	A
1	1	1880	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1886	A
1	1	1906	G
1	1	1915	A
1	1	1951	C
1	1	1952	G
1	1	2094	C
1	1	2101	C
1	1	2102	U
1	1	2107	A
1	1	2112	U
1	1	2113	A
1	1	2114	C
1	1	2121	G
1	1	2122	G
1	1	2125	A
1	1	2130	G
1	1	2131	A
1	1	2140	U
1	1	2158	A
1	1	2169	G
1	1	2170	U
1	1	2171	G
1	1	2201	G
1	1	2205	U
1	1	2206	G
1	1	2207	A
1	1	2208	A
1	1	2209	U
1	1	2210	G
1	1	2225	U
1	1	2228	A
1	1	2244	A
1	1	2249	G
1	1	2250	G
1	1	2252	A
1	1	2255	A
1	1	2256	A
1	1	2257	C
1	1	2272	G
1	1	2273	G
1	1	2280	A
1	1	2281	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2282	U
1	1	2284	C
1	1	2288	G
1	1	2307	G
1	1	2310	U
1	1	2313	A
1	1	2314	U
1	1	2315	G
1	1	2334	U
1	1	2336	U
1	1	2361	A
1	1	2372	A
1	1	2373	A
1	1	2374	C
1	1	2375	G
1	1	2385	G
1	1	2393	G
1	1	2397	A
1	1	2401	A
1	1	2402	A
1	1	2403	G
1	1	2404	A
1	1	2411	U
1	1	2418	G
1	1	2419	A
1	1	2435	G
1	1	2437	G
1	1	2444	C
1	1	2505	U
1	1	2514	U
1	1	2515	A
1	1	2522	G
1	1	2523	A
1	1	2525	G
1	1	2526	C
1	1	2531	C
1	1	2532	U
1	1	2533	G
1	1	2537	U
1	1	2538	U
1	1	2539	C
1	1	2540	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2541	U
1	1	2542	U
1	1	2543	U
1	1	2547	A
1	1	2548	C
1	1	2549	G
1	1	2552	C
1	1	2553	U
1	1	2554	A
1	1	2555	G
1	1	2561	A
1	1	2567	C
1	1	2568	C
1	1	2569	A
1	1	2570	U
1	1	2571	U
1	1	2572	C
1	1	2573	G
1	1	2574	G
1	1	2577	C
1	1	2581	U
1	1	2585	G
1	1	2593	A
1	1	2594	C
1	1	2595	A
1	1	2606	G
1	1	2607	G
1	1	2614	G
1	1	2618	G
1	1	2619	G
1	1	2626	A
1	1	2634	U
1	1	2638	C
1	1	2652	U
1	1	2656	A
1	1	2657	A
1	1	2674	A
1	1	2676	A
1	1	2677	G
1	1	2681	U
1	1	2689	A
1	1	2690	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2691	A
1	1	2694	A
1	1	2696	A
1	1	2705	A
1	1	2714	G
1	1	2719	U
1	1	2728	G
1	1	2729	U
1	1	2752	U
1	1	2753	G
1	1	2760	C
1	1	2762	A
1	1	2772	C
1	1	2777	G
1	1	2778	G
1	1	2779	A
1	1	2796	G
1	1	2799	A
1	1	2800	G
1	1	2801	A
1	1	2802	A
1	1	2810	C
1	1	2817	A
1	1	2818	U
1	1	2838	A
1	1	2842	U
1	1	2843	U
1	1	2845	A
1	1	2846	U
1	1	2853	A
1	1	2856	G
1	1	2860	U
1	1	2867	C
1	1	2871	G
1	1	2872	A
1	1	2873	U
1	1	2875	U
1	1	2887	A
1	1	2889	C
1	1	2896	A
1	1	2898	G
1	1	2899	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2922	G
1	1	2923	U
1	1	2927	C
1	1	2935	U
1	1	2936	A
1	1	2938	G
1	1	2942	C
1	1	2945	G
1	1	2947	G
1	1	2951	G
1	1	2952	G
1	1	2957	G
1	1	2971	A
1	1	2974	U
1	1	2983	C
1	1	2990	G
1	1	2992	U
1	1	2997	G
1	1	3000	A
1	1	3012	A
1	1	3056	U
1	1	3059	G
1	1	3078	U
1	1	3079	U
1	1	3080	G
1	1	3086	A
1	1	3092	C
1	1	3116	G
1	1	3122	A
1	1	3123	A
1	1	3130	A
1	1	3131	U
1	1	3139	A
1	1	3142	A
1	1	3143	C
1	1	3151	U
1	1	3153	U
1	1	3154	C
1	1	3155	U
1	1	3156	U
1	1	3157	U
1	1	3158	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	3164	C
1	1	3165	A
1	1	3168	A
1	1	3169	U
1	1	3170	A
1	1	3171	U
1	1	3173	G
1	1	3174	A
1	1	3175	U
1	1	3176	G
1	1	3179	U
1	1	3180	A
1	1	3181	C
1	1	3187	A
1	1	3194	C
1	1	3199	G
1	1	3207	U
1	1	3210	A
1	1	3213	A
1	1	3217	C
1	1	3218	A
1	1	3219	G
1	1	3223	A
1	1	3224	G
1	1	3228	C
1	1	3229	G
1	1	3235	C
1	1	3239	G
1	1	3242	G
1	1	3245	A
1	1	3246	G
1	1	3247	G
1	1	3253	G
1	1	3259	U
1	1	3265	C
1	1	3270	U
1	1	3273	A
1	1	3276	G
1	1	3279	A
1	1	3281	U
1	1	3286	G
1	1	3287	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	3289	G
1	1	3294	A
1	1	3295	A
1	1	3303	G
1	1	3304	U
1	1	3307	A
1	1	3313	U
1	1	3316	A
1	1	3317	U
1	1	3318	G
1	1	3319	U
1	1	3320	A
1	1	3335	A
1	1	3342	A
1	1	3345	G
1	1	3347	A
1	1	3349	C
1	1	3350	C
1	1	3351	U
1	1	3352	U
1	1	3353	G
1	1	3354	U
1	1	3355	U
1	1	3356	G
1	1	3359	A
1	1	3360	C
1	1	3363	U
1	1	3369	G
1	1	3375	A
1	1	3376	A
1	1	3378	C
1	1	3381	U
1	1	3382	U
1	1	3383	G
1	1	3390	G
2	2	2	A
2	2	4	C
2	2	17	C
2	2	25	C
2	2	26	A
2	2	27	U
2	2	34	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	39	A
2	2	45	U
2	2	47	A
2	2	50	C
2	2	57	G
2	2	60	U
2	2	67	A
2	2	68	A
2	2	69	G
2	2	72	A
2	2	73	U
2	2	74	U
2	2	75	U
2	2	76	A
2	2	77	U
2	2	99	C
2	2	101	U
2	2	104	A
2	2	114	C
2	2	130	C
2	2	131	C
2	2	132	U
2	2	136	C
2	2	137	U
2	2	140	A
2	2	141	U
2	2	144	U
2	2	145	A
2	2	146	U
2	2	153	G
2	2	158	U
2	2	159	U
2	2	161	U
2	2	178	U
2	2	179	A
2	2	185	U
2	2	186	C
2	2	188	A
2	2	190	C
2	2	191	C
2	2	192	U
2	2	193	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	194	U
2	2	195	G
2	2	196	G
2	2	197	A
2	2	198	A
2	2	200	A
2	2	217	A
2	2	218	A
2	2	220	A
2	2	228	G
2	2	229	U
2	2	231	U
2	2	233	C
2	2	234	G
2	2	235	G
2	2	236	A
2	2	238	U
2	2	239	C
2	2	240	U
2	2	241	U
2	2	242	U
2	2	249	U
2	2	250	C
2	2	260	U
2	2	261	U
2	2	265	A
2	2	271	A
2	2	272	U
2	2	274	G
2	2	275	C
2	2	276	C
2	2	277	U
2	2	278	U
2	2	279	G
2	2	280	U
2	2	281	G
2	2	288	A
2	2	290	G
2	2	299	A
2	2	309	C
2	2	312	A
2	2	314	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	316	A
2	2	319	U
2	2	320	U
2	2	321	C
2	2	322	G
2	2	333	A
2	2	337	G
2	2	338	C
2	2	341	A
2	2	352	A
2	2	359	A
2	2	360	A
2	2	361	C
2	2	378	A
2	2	380	U
2	2	400	A
2	2	401	A
2	2	402	C
2	2	404	G
2	2	416	A
2	2	418	G
2	2	423	G
2	2	424	C
2	2	425	A
2	2	426	G
2	2	428	A
2	2	434	G
2	2	437	A
2	2	439	U
2	2	444	C
2	2	448	C
2	2	468	A
2	2	475	A
2	2	477	A
2	2	484	C
2	2	485	A
2	2	488	G
2	2	493	U
2	2	494	U
2	2	495	C
2	2	496	G
2	2	497	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	498	G
2	2	499	U
2	2	500	C
2	2	501	U
2	2	502	U
2	2	503	G
2	2	504	U
2	2	505	A
2	2	506	A
2	2	507	U
2	2	508	U
2	2	510	G
2	2	511	A
2	2	512	A
2	2	513	U
2	2	514	G
2	2	515	A
2	2	516	G
2	2	519	C
2	2	527	A
2	2	532	U
2	2	535	A
2	2	538	A
2	2	539	G
2	2	541	A
2	2	542	A
2	2	543	C
2	2	544	A
2	2	548	G
2	2	549	G
2	2	555	A
2	2	556	A
2	2	557	G
2	2	558	U
2	2	559	C
2	2	565	C
2	2	570	A
2	2	571	G
2	2	579	A
2	2	580	A
2	2	582	U
2	2	594	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	595	G
2	2	606	A
2	2	610	G
2	2	611	U
2	2	619	A
2	2	620	A
2	2	622	A
2	2	623	A
2	2	630	A
2	2	635	A
2	2	638	U
2	2	639	U
2	2	640	U
2	2	649	U
2	2	650	U
2	2	653	C
2	2	655	G
2	2	656	G
2	2	657	U
2	2	658	C
2	2	677	G
2	2	679	U
2	2	680	U
2	2	682	C
2	2	684	A
2	2	685	A
2	2	686	C
2	2	690	G
2	2	692	C
2	2	694	U
2	2	696	C
2	2	697	C
2	2	700	C
2	2	701	U
2	2	702	G
2	2	703	G
2	2	704	C
2	2	705	U
2	2	706	A
2	2	707	A
2	2	709	C
2	2	710	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	712	G
2	2	713	A
2	2	714	G
2	2	717	C
2	2	718	U
2	2	719	U
2	2	720	G
2	2	721	U
2	2	722	G
2	2	723	G
2	2	725	U
2	2	727	U
2	2	728	U
2	2	730	G
2	2	731	C
2	2	732	G
2	2	733	A
2	2	734	A
2	2	735	C
2	2	736	C
2	2	737	A
2	2	738	G
2	2	741	C
2	2	742	U
2	2	743	U
2	2	745	U
2	2	754	A
2	2	755	A
2	2	756	A
2	2	758	U
2	2	765	G
2	2	766	U
2	2	774	A
2	2	775	G
2	2	778	G
2	2	780	A
2	2	781	U
2	2	782	U
2	2	783	G
2	2	784	C
2	2	789	A
2	2	794	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	795	U
2	2	806	A
2	2	811	A
2	2	812	A
2	2	819	G
2	2	820	U
2	2	821	U
2	2	831	U
2	2	833	U
2	2	856	A
2	2	860	U
2	2	862	A
2	2	863	A
2	2	864	U
2	2	886	U
2	2	896	U
2	2	898	A
2	2	911	U
2	2	912	U
2	2	913	G
2	2	914	G
2	2	921	U
2	2	933	A
2	2	935	U
2	2	942	G
2	2	944	A
2	2	951	A
2	2	960	U
2	2	966	A
2	2	973	A
2	2	985	G
2	2	992	A
2	2	993	A
2	2	997	G
2	2	999	U
2	2	1004	U
2	2	1005	A
2	2	1020	A
2	2	1026	A
2	2	1028	C
2	2	1029	U
2	2	1032	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	1039	A
2	2	1040	G
2	2	1052	U
2	2	1053	G
2	2	1056	U
2	2	1057	U
2	2	1058	U
2	2	1059	U
2	2	1060	U
2	2	1061	A
2	2	1062	A
2	2	1064	G
2	2	1074	G
2	2	1076	A
2	2	1079	U
2	2	1082	C
2	2	1083	G
2	2	1091	A
2	2	1092	A
2	2	1096	C
2	2	1097	U
2	2	1098	U
2	2	1100	G
2	2	1109	G
2	2	1113	A
2	2	1138	A
2	2	1139	A
2	2	1146	G
2	2	1149	G
2	2	1150	G
2	2	1151	A
2	2	1155	G
2	2	1157	A
2	2	1158	C
2	2	1160	A
2	2	1162	C
2	2	1163	A
2	2	1167	G
2	2	1175	U
2	2	1185	U
2	2	1188	G
2	2	1194	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	1196	A
2	2	1197	C
2	2	1199	G
2	2	1200	G
2	2	1202	A
2	2	1207	C
2	2	1208	A
2	2	1217	A
2	2	1218	G
2	2	1227	A
2	2	1228	G
2	2	1229	G
2	2	1243	G
2	2	1244	A
2	2	1245	G
2	2	1250	U
2	2	1251	U
2	2	1257	U
2	2	1258	U
2	2	1284	C
2	2	1285	U
2	2	1286	U
2	2	1287	A
2	2	1301	U
2	2	1312	A
2	2	1314	U
2	2	1315	U
2	2	1321	A
2	2	1338	C
2	2	1339	C
2	2	1340	U
2	2	1341	A
2	2	1343	U
2	2	1344	A
2	2	1345	A
2	2	1349	G
2	2	1354	G
2	2	1360	A
2	2	1361	U
2	2	1363	U
2	2	1364	G
2	2	1370	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	1371	A
2	2	1372	U
2	2	1383	G
2	2	1388	A
2	2	1390	U
2	2	1398	U
2	2	1399	C
2	2	1410	A
2	2	1411	A
2	2	1412	G
2	2	1413	U
2	2	1414	U
2	2	1415	U
2	2	1427	A
2	2	1428	G
2	2	1432	U
2	2	1445	G
2	2	1446	A
2	2	1448	G
2	2	1457	C
2	2	1459	C
2	2	1460	A
2	2	1461	C
2	2	1471	A
2	2	1473	U
2	2	1474	G
2	2	1475	A
2	2	1481	C
2	2	1482	C
2	2	1486	G
2	2	1489	U
2	2	1490	C
2	2	1491	U
2	2	1492	A
2	2	1493	A
2	2	1499	G
2	2	1500	C
2	2	1506	G
2	2	1514	U
2	2	1515	A
2	2	1516	A
2	2	1517	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	1521	G
2	2	1523	G
2	2	1524	A
2	2	1530	C
2	2	1533	C
2	2	1535	U
2	2	1536	G
2	2	1537	C
2	2	1538	U
2	2	1539	G
2	2	1540	G
2	2	1542	G
2	2	1557	U
2	2	1559	A
2	2	1560	U
2	2	1569	A
2	2	1573	A
2	2	1574	G
2	2	1584	G
2	2	1590	G
2	2	1601	G
2	2	1614	A
2	2	1616	G
2	2	1618	C
2	2	1625	C
2	2	1626	U
2	2	1631	A
2	2	1639	C
2	2	1651	A
2	2	1657	U
2	2	1658	G
2	2	1680	G
2	2	1695	G
2	2	1731	A
2	2	1747	G
2	2	1750	A
2	2	1756	A
2	2	1757	G
2	2	1760	G
2	2	1762	A
2	2	1766	A
2	2	1769	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	1770	U
2	2	1780	G
2	2	1782	A
2	2	1783	C
2	2	1790	A
2	2	1791	A
2	2	1792	G
2	2	1793	G
2	2	1794	A
2	2	1795	U
2	2	1796	C
2	2	1798	U
3	3	7	G
3	3	13	A
3	3	17	A
3	3	22	A
3	3	41	G
3	3	51	A
3	3	53	U
3	3	54	U
3	3	65	G
3	3	74	C
3	3	76	A
3	3	91	G
3	3	93	C
3	3	95	A
3	3	102	A
3	3	112	G
3	3	121	U
4	4	21	C
4	4	34	U
4	4	35	C
4	4	51	G
4	4	59	A
4	4	62	C
4	4	63	G
4	4	71	A
4	4	79	A
4	4	80	A
4	4	81	U
4	4	82	U
4	4	83	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	4	84	C
4	4	86	U
4	4	87	G
4	4	90	U
4	4	95	G
4	4	104	A
4	4	106	C
4	4	111	A
4	4	112	U
4	4	113	U
4	4	125	U
4	4	126	A
4	4	128	U
4	4	138	A
4	4	151	C
4	4	152	G
4	4	155	A
4	4	157	U
4	4	158	U
1	5	6	A
1	5	15	C
1	5	26	A
1	5	40	A
1	5	43	A
1	5	49	A
1	5	60	A
1	5	65	A
1	5	66	A
1	5	68	C
1	5	76	G
1	5	85	A
1	5	89	A
1	5	92	G
1	5	93	C
1	5	96	G
1	5	99	A
1	5	109	A
1	5	110	G
1	5	111	C
1	5	112	U
1	5	113	C
1	5	116	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	121	A
1	5	122	A
1	5	133	U
1	5	134	U
1	5	135	C
1	5	136	G
1	5	147	U
1	5	150	A
1	5	152	U
1	5	156	G
1	5	157	A
1	5	166	C
1	5	170	G
1	5	175	C
1	5	182	U
1	5	187	A
1	5	190	U
1	5	191	U
1	5	200	C
1	5	212	G
1	5	219	A
1	5	220	G
1	5	240	U
1	5	242	C
1	5	244	G
1	5	248	U
1	5	249	U
1	5	250	U
1	5	251	G
1	5	252	U
1	5	254	A
1	5	269	G
1	5	282	G
1	5	283	G
1	5	284	A
1	5	286	U
1	5	295	A
1	5	305	U
1	5	315	C
1	5	323	A
1	5	329	U
1	5	334	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	339	C
1	5	349	A
1	5	350	C
1	5	370	U
1	5	376	G
1	5	390	G
1	5	398	A
1	5	399	A
1	5	401	U
1	5	402	A
1	5	403	C
1	5	404	G
1	5	421	G
1	5	422	A
1	5	425	G
1	5	439	C
1	5	440	A
1	5	520	U
1	5	521	A
1	5	542	G
1	5	546	C
1	5	547	G
1	5	548	G
1	5	555	U
1	5	556	U
1	5	557	A
1	5	559	A
1	5	561	C
1	5	569	A
1	5	578	A
1	5	579	G
1	5	581	U
1	5	588	G
1	5	592	A
1	5	594	U
1	5	604	G
1	5	609	G
1	5	611	A
1	5	620	U
1	5	621	A
1	5	622	A
1	5	636	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	649	A
1	5	654	C
1	5	660	A
1	5	675	C
1	5	677	A
1	5	681	U
1	5	705	A
1	5	712	G
1	5	715	A
1	5	716	A
1	5	719	U
1	5	720	A
1	5	726	G
1	5	727	G
1	5	735	A
1	5	736	A
1	5	758	C
1	5	766	U
1	5	767	U
1	5	776	U
1	5	777	U
1	5	780	A
1	5	781	G
1	5	785	G
1	5	786	A
1	5	806	A
1	5	816	A
1	5	817	A
1	5	824	C
1	5	829	U
1	5	830	A
1	5	846	A
1	5	851	C
1	5	852	U
1	5	856	G
1	5	857	G
1	5	861	C
1	5	869	G
1	5	874	U
1	5	879	U
1	5	883	A
1	5	890	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	896	A
1	5	907	G
1	5	908	G
1	5	914	A
1	5	916	G
1	5	917	A
1	5	921	A
1	5	923	C
1	5	924	G
1	5	937	G
1	5	943	U
1	5	944	C
1	5	959	C
1	5	960	U
1	5	961	C
1	5	979	U
1	5	980	A
1	5	981	U
1	5	982	C
1	5	994	G
1	5	1000	C
1	5	1001	G
1	5	1002	A
1	5	1003	A
1	5	1006	A
1	5	1010	G
1	5	1014	U
1	5	1015	U
1	5	1017	C
1	5	1021	G
1	5	1022	U
1	5	1023	C
1	5	1026	A
1	5	1027	A
1	5	1028	U
1	5	1029	G
1	5	1030	A
1	5	1047	A
1	5	1049	C
1	5	1064	A
1	5	1065	A
1	5	1071	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	1072	G
1	5	1079	A
1	5	1080	A
1	5	1081	U
1	5	1082	U
1	5	1085	A
1	5	1087	G
1	5	1093	A
1	5	1094	U
1	5	1095	U
1	5	1096	U
1	5	1097	G
1	5	1098	A
1	5	1102	A
1	5	1103	A
1	5	1104	G
1	5	1117	G
1	5	1129	A
1	5	1131	G
1	5	1152	G
1	5	1153	A
1	5	1159	A
1	5	1160	C
1	5	1177	G
1	5	1178	G
1	5	1180	A
1	5	1181	U
1	5	1182	A
1	5	1191	U
1	5	1192	C
1	5	1196	C
1	5	1200	A
1	5	1201	C
1	5	1202	A
1	5	1209	G
1	5	1212	A
1	5	1220	U
1	5	1221	A
1	5	1222	G
1	5	1225	A
1	5	1281	G
1	5	1284	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	1285	G
1	5	1286	A
1	5	1305	U
1	5	1307	G
1	5	1308	A
1	5	1309	U
1	5	1313	G
1	5	1329	U
1	5	1330	A
1	5	1347	U
1	5	1348	U
1	5	1355	A
1	5	1356	U
1	5	1357	G
1	5	1385	C
1	5	1386	A
1	5	1399	A
1	5	1400	G
1	5	1408	G
1	5	1416	C
1	5	1419	A
1	5	1431	G
1	5	1434	G
1	5	1437	C
1	5	1446	A
1	5	1450	G
1	5	1479	U
1	5	1481	A
1	5	1482	A
1	5	1484	U
1	5	1495	U
1	5	1503	A
1	5	1508	C
1	5	1533	U
1	5	1536	G
1	5	1549	U
1	5	1554	U
1	5	1555	U
1	5	1556	C
1	5	1557	A
1	5	1560	G
1	5	1562	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	1563	C
1	5	1564	U
1	5	1565	G
1	5	1571	A
1	5	1572	U
1	5	1574	C
1	5	1575	A
1	5	1578	C
1	5	1580	A
1	5	1581	C
1	5	1582	C
1	5	1583	A
1	5	1587	A
1	5	1589	A
1	5	1593	A
1	5	1607	U
1	5	1608	C
1	5	1620	U
1	5	1629	U
1	5	1639	C
1	5	1643	A
1	5	1644	C
1	5	1645	U
1	5	1655	G
1	5	1657	C
1	5	1658	G
1	5	1662	G
1	5	1683	A
1	5	1716	U
1	5	1717	U
1	5	1724	U
1	5	1725	C
1	5	1736	G
1	5	1750	A
1	5	1751	G
1	5	1756	C
1	5	1759	C
1	5	1760	A
1	5	1761	C
1	5	1769	G
1	5	1770	G
1	5	1780	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	1797	A
1	5	1813	A
1	5	1814	A
1	5	1816	A
1	5	1817	G
1	5	1818	U
1	5	1820	U
1	5	1821	U
1	5	1839	A
1	5	1841	A
1	5	1842	A
1	5	1846	C
1	5	1849	C
1	5	1850	A
1	5	1864	A
1	5	1879	A
1	5	1880	U
1	5	1885	U
1	5	1886	A
1	5	1894	U
1	5	1896	A
1	5	1906	G
1	5	1926	C
1	5	1952	G
1	5	1953	G
1	5	2100	A
1	5	2101	C
1	5	2102	U
1	5	2112	U
1	5	2113	A
1	5	2121	G
1	5	2122	G
1	5	2131	A
1	5	2140	U
1	5	2158	A
1	5	2159	U
1	5	2169	G
1	5	2176	U
1	5	2178	A
1	5	2179	C
1	5	2201	G
1	5	2204	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2205	U
1	5	2206	G
1	5	2207	A
1	5	2208	A
1	5	2209	U
1	5	2210	G
1	5	2212	C
1	5	2223	A
1	5	2225	U
1	5	2228	A
1	5	2229	A
1	5	2244	A
1	5	2248	C
1	5	2249	G
1	5	2250	G
1	5	2252	A
1	5	2253	G
1	5	2255	A
1	5	2256	A
1	5	2257	C
1	5	2258	U
1	5	2260	U
1	5	2268	U
1	5	2269	U
1	5	2272	G
1	5	2273	G
1	5	2281	A
1	5	2282	U
1	5	2288	G
1	5	2306	C
1	5	2307	G
1	5	2308	C
1	5	2310	U
1	5	2313	A
1	5	2315	G
1	5	2318	U
1	5	2334	U
1	5	2336	U
1	5	2372	A
1	5	2373	A
1	5	2374	C
1	5	2375	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2385	G
1	5	2393	G
1	5	2397	A
1	5	2398	A
1	5	2401	A
1	5	2402	A
1	5	2403	G
1	5	2404	A
1	5	2411	U
1	5	2414	G
1	5	2418	G
1	5	2419	A
1	5	2434	U
1	5	2435	G
1	5	2437	G
1	5	2439	A
1	5	2440	G
1	5	2441	A
1	5	2505	U
1	5	2508	U
1	5	2510	U
1	5	2511	A
1	5	2512	C
1	5	2513	U
1	5	2514	U
1	5	2515	A
1	5	2522	G
1	5	2523	A
1	5	2524	A
1	5	2526	C
1	5	2538	U
1	5	2539	C
1	5	2540	A
1	5	2541	U
1	5	2542	U
1	5	2543	U
1	5	2544	U
1	5	2545	C
1	5	2547	A
1	5	2549	G
1	5	2550	U
1	5	2552	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2555	G
1	5	2566	C
1	5	2567	C
1	5	2568	C
1	5	2569	A
1	5	2570	U
1	5	2571	U
1	5	2572	C
1	5	2573	G
1	5	2574	G
1	5	2575	G
1	5	2584	G
1	5	2585	G
1	5	2589	G
1	5	2593	A
1	5	2594	C
1	5	2598	G
1	5	2600	C
1	5	2606	G
1	5	2607	G
1	5	2614	G
1	5	2640	A
1	5	2652	U
1	5	2656	A
1	5	2657	A
1	5	2662	G
1	5	2663	G
1	5	2667	A
1	5	2668	U
1	5	2674	A
1	5	2677	G
1	5	2683	U
1	5	2689	A
1	5	2690	G
1	5	2691	A
1	5	2694	A
1	5	2695	A
1	5	2696	A
1	5	2714	G
1	5	2728	G
1	5	2729	U
1	5	2737	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2752	U
1	5	2753	G
1	5	2762	A
1	5	2771	U
1	5	2772	C
1	5	2773	C
1	5	2778	G
1	5	2779	A
1	5	2796	G
1	5	2799	A
1	5	2800	G
1	5	2801	A
1	5	2810	C
1	5	2814	G
1	5	2817	A
1	5	2818	U
1	5	2821	C
1	5	2845	A
1	5	2853	A
1	5	2856	G
1	5	2867	C
1	5	2871	G
1	5	2872	A
1	5	2873	U
1	5	2887	A
1	5	2889	C
1	5	2896	A
1	5	2899	C
1	5	2910	A
1	5	2923	U
1	5	2929	C
1	5	2935	U
1	5	2936	A
1	5	2942	C
1	5	2945	G
1	5	2947	G
1	5	2954	U
1	5	2957	G
1	5	2971	A
1	5	2979	U
1	5	2983	C
1	5	2990	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2995	A
1	5	2996	U
1	5	2997	G
1	5	3049	A
1	5	3056	U
1	5	3059	G
1	5	3078	U
1	5	3079	U
1	5	3080	G
1	5	3086	A
1	5	3087	A
1	5	3092	C
1	5	3093	C
1	5	3122	A
1	5	3127	A
1	5	3129	A
1	5	3131	U
1	5	3142	A
1	5	3143	C
1	5	3150	A
1	5	3151	U
1	5	3153	U
1	5	3154	C
1	5	3155	U
1	5	3156	U
1	5	3157	U
1	5	3158	G
1	5	3170	A
1	5	3171	U
1	5	3172	A
1	5	3173	G
1	5	3174	A
1	5	3176	G
1	5	3179	U
1	5	3181	C
1	5	3187	A
1	5	3196	U
1	5	3198	U
1	5	3206	C
1	5	3207	U
1	5	3217	C
1	5	3218	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	3219	G
1	5	3224	G
1	5	3229	G
1	5	3235	C
1	5	3239	G
1	5	3244	A
1	5	3245	A
1	5	3246	G
1	5	3247	G
1	5	3249	C
1	5	3253	G
1	5	3259	U
1	5	3268	A
1	5	3269	U
1	5	3270	U
1	5	3271	G
1	5	3273	A
1	5	3276	G
1	5	3277	U
1	5	3279	A
1	5	3281	U
1	5	3285	C
1	5	3294	A
1	5	3304	U
1	5	3316	A
1	5	3317	U
1	5	3318	G
1	5	3319	U
1	5	3335	A
1	5	3341	U
1	5	3342	A
1	5	3345	G
1	5	3351	U
1	5	3352	U
1	5	3354	U
1	5	3355	U
1	5	3356	G
1	5	3363	U
1	5	3368	U
1	5	3369	G
1	5	3378	C
1	5	3383	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	3386	G
1	5	3389	U
1	5	3395	G
1	5	3396	U
2	6	2	A
2	6	4	C
2	6	17	C
2	6	25	C
2	6	26	A
2	6	27	U
2	6	34	G
2	6	45	U
2	6	46	A
2	6	47	A
2	6	57	G
2	6	60	U
2	6	67	A
2	6	68	A
2	6	69	G
2	6	73	U
2	6	74	U
2	6	75	U
2	6	76	A
2	6	77	U
2	6	78	A
2	6	79	C
2	6	104	A
2	6	114	C
2	6	115	G
2	6	126	A
2	6	129	U
2	6	130	C
2	6	131	C
2	6	132	U
2	6	137	U
2	6	138	A
2	6	140	A
2	6	141	U
2	6	144	U
2	6	145	A
2	6	158	U
2	6	159	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	166	C
2	6	177	U
2	6	178	U
2	6	179	A
2	6	185	U
2	6	188	A
2	6	189	C
2	6	190	C
2	6	192	U
2	6	193	U
2	6	194	U
2	6	195	G
2	6	197	A
2	6	198	A
2	6	199	G
2	6	200	A
2	6	215	A
2	6	216	U
2	6	217	A
2	6	218	A
2	6	219	A
2	6	223	U
2	6	230	C
2	6	231	U
2	6	232	U
2	6	233	C
2	6	234	G
2	6	235	G
2	6	237	C
2	6	238	U
2	6	239	C
2	6	240	U
2	6	241	U
2	6	242	U
2	6	250	C
2	6	257	A
2	6	260	U
2	6	261	U
2	6	265	A
2	6	271	A
2	6	272	U
2	6	273	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	276	C
2	6	277	U
2	6	278	U
2	6	280	U
2	6	281	G
2	6	299	A
2	6	314	C
2	6	316	A
2	6	320	U
2	6	321	C
2	6	331	A
2	6	333	A
2	6	337	G
2	6	338	C
2	6	341	A
2	6	352	A
2	6	359	A
2	6	360	A
2	6	361	C
2	6	400	A
2	6	401	A
2	6	402	C
2	6	404	G
2	6	416	A
2	6	417	A
2	6	418	G
2	6	423	G
2	6	424	C
2	6	425	A
2	6	426	G
2	6	434	G
2	6	437	A
2	6	439	U
2	6	444	C
2	6	448	C
2	6	468	A
2	6	475	A
2	6	485	A
2	6	486	G
2	6	487	G
2	6	488	G
2	6	489	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	490	C
2	6	491	C
2	6	492	A
2	6	493	U
2	6	494	U
2	6	495	C
2	6	496	G
2	6	497	G
2	6	498	G
2	6	500	C
2	6	501	U
2	6	502	U
2	6	504	U
2	6	505	A
2	6	506	A
2	6	507	U
2	6	508	U
2	6	510	G
2	6	511	A
2	6	512	A
2	6	513	U
2	6	514	G
2	6	515	A
2	6	519	C
2	6	527	A
2	6	535	A
2	6	539	G
2	6	540	G
2	6	541	A
2	6	542	A
2	6	543	C
2	6	544	A
2	6	548	G
2	6	549	G
2	6	555	A
2	6	556	A
2	6	557	G
2	6	558	U
2	6	559	C
2	6	565	C
2	6	568	G
2	6	570	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	574	G
2	6	578	U
2	6	579	A
2	6	580	A
2	6	582	U
2	6	594	A
2	6	595	G
2	6	609	U
2	6	610	G
2	6	611	U
2	6	619	A
2	6	620	A
2	6	621	A
2	6	622	A
2	6	623	A
2	6	624	G
2	6	639	U
2	6	640	U
2	6	652	G
2	6	653	C
2	6	679	U
2	6	680	U
2	6	681	U
2	6	682	C
2	6	684	A
2	6	685	A
2	6	691	C
2	6	694	U
2	6	695	U
2	6	696	C
2	6	733	A
2	6	741	C
2	6	742	U
2	6	754	A
2	6	755	A
2	6	756	A
2	6	765	G
2	6	774	A
2	6	775	G
2	6	779	U
2	6	780	A
2	6	781	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	782	U
2	6	783	G
2	6	789	A
2	6	793	A
2	6	794	U
2	6	795	U
2	6	806	A
2	6	811	A
2	6	812	A
2	6	819	G
2	6	828	U
2	6	829	A
2	6	833	U
2	6	856	A
2	6	861	U
2	6	862	A
2	6	863	A
2	6	873	U
2	6	876	G
2	6	898	A
2	6	912	U
2	6	913	G
2	6	914	G
2	6	926	A
2	6	933	A
2	6	935	U
2	6	942	G
2	6	951	A
2	6	959	U
2	6	960	U
2	6	966	A
2	6	969	C
2	6	970	A
2	6	971	A
2	6	992	A
2	6	993	A
2	6	995	A
2	6	997	G
2	6	1003	A
2	6	1004	U
2	6	1005	A
2	6	1021	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	1026	A
2	6	1028	C
2	6	1029	U
2	6	1039	A
2	6	1040	G
2	6	1052	U
2	6	1053	G
2	6	1054	U
2	6	1055	U
2	6	1056	U
2	6	1057	U
2	6	1058	U
2	6	1059	U
2	6	1060	U
2	6	1061	A
2	6	1062	A
2	6	1063	U
2	6	1064	G
2	6	1072	C
2	6	1074	G
2	6	1082	C
2	6	1092	A
2	6	1096	C
2	6	1097	U
2	6	1098	U
2	6	1100	G
2	6	1101	G
2	6	1109	G
2	6	1111	G
2	6	1138	A
2	6	1139	A
2	6	1150	G
2	6	1151	A
2	6	1155	G
2	6	1158	C
2	6	1159	C
2	6	1160	A
2	6	1162	C
2	6	1164	G
2	6	1167	G
2	6	1185	U
2	6	1191	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	1194	A
2	6	1196	A
2	6	1197	C
2	6	1199	G
2	6	1200	G
2	6	1202	A
2	6	1208	A
2	6	1217	A
2	6	1218	G
2	6	1219	A
2	6	1220	C
2	6	1228	G
2	6	1241	G
2	6	1243	G
2	6	1245	G
2	6	1262	U
2	6	1263	G
2	6	1276	U
2	6	1284	C
2	6	1285	U
2	6	1286	U
2	6	1288	G
2	6	1291	G
2	6	1314	U
2	6	1315	U
2	6	1316	G
2	6	1321	A
2	6	1337	A
2	6	1343	U
2	6	1344	A
2	6	1345	A
2	6	1346	A
2	6	1347	U
2	6	1354	G
2	6	1361	U
2	6	1362	U
2	6	1363	U
2	6	1364	G
2	6	1370	U
2	6	1371	A
2	6	1378	U
2	6	1383	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	1390	U
2	6	1396	U
2	6	1398	U
2	6	1399	C
2	6	1400	A
2	6	1402	G
2	6	1413	U
2	6	1414	U
2	6	1415	U
2	6	1424	A
2	6	1427	A
2	6	1428	G
2	6	1445	G
2	6	1446	A
2	6	1448	G
2	6	1459	C
2	6	1461	C
2	6	1471	A
2	6	1481	C
2	6	1482	C
2	6	1486	G
2	6	1489	U
2	6	1490	C
2	6	1491	U
2	6	1492	A
2	6	1493	A
2	6	1494	C
2	6	1506	G
2	6	1514	U
2	6	1515	A
2	6	1516	A
2	6	1521	G
2	6	1523	G
2	6	1524	A
2	6	1531	G
2	6	1535	U
2	6	1536	G
2	6	1537	C
2	6	1538	U
2	6	1540	G
2	6	1554	U
2	6	1557	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	1559	A
2	6	1569	A
2	6	1572	G
2	6	1573	A
2	6	1574	G
2	6	1575	G
2	6	1582	U
2	6	1584	G
2	6	1590	G
2	6	1601	G
2	6	1616	G
2	6	1621	U
2	6	1637	C
2	6	1638	G
2	6	1657	U
2	6	1658	G
2	6	1665	U
2	6	1681	A
2	6	1736	G
2	6	1756	A
2	6	1757	G
2	6	1760	G
2	6	1762	A
2	6	1766	A
2	6	1767	G
2	6	1769	U
2	6	1770	U
2	6	1780	G
2	6	1782	A
2	6	1783	C
2	6	1792	G
2	6	1793	G
2	6	1794	A
2	6	1795	U
2	6	1796	C
2	6	1799	U
2	6	1800	A
3	7	7	G
3	7	22	A
3	7	33	U
3	7	38	U
3	7	54	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	7	55	A
3	7	65	G
3	7	73	C
3	7	74	C
3	7	76	A
3	7	93	C
3	7	101	G
3	7	102	A
3	7	103	A
3	7	112	G
4	8	21	C
4	8	22	U
4	8	34	U
4	8	35	C
4	8	48	A
4	8	51	G
4	8	52	A
4	8	59	A
4	8	62	C
4	8	63	G
4	8	79	A
4	8	80	A
4	8	81	U
4	8	82	U
4	8	83	C
4	8	84	C
4	8	86	U
4	8	87	G
4	8	90	U
4	8	95	G
4	8	104	A
4	8	106	C
4	8	111	A
4	8	113	U
4	8	116	G
4	8	125	U
4	8	126	A
4	8	127	U
4	8	138	A
4	8	152	G
4	8	156	U
4	8	157	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	8	158	U

All (296) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	40	A
1	1	43	A
1	1	65	A
1	1	232	G
1	1	239	G
1	1	240	U
1	1	252	U
1	1	282	G
1	1	518	G
1	1	545	U
1	1	546	C
1	1	558	U
1	1	594	U
1	1	636	C
1	1	637	C
1	1	715	A
1	1	763	G
1	1	764	U
1	1	816	A
1	1	873	C
1	1	916	G
1	1	979	U
1	1	981	U
1	1	993	G
1	1	1000	C
1	1	1014	U
1	1	1015	U
1	1	1017	C
1	1	1024	G
1	1	1028	U
1	1	1029	G
1	1	1064	A
1	1	1081	U
1	1	1094	U
1	1	1097	G
1	1	1103	A
1	1	1201	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1284	C
1	1	1307	G
1	1	1329	U
1	1	1355	A
1	1	1484	U
1	1	1514	G
1	1	1554	U
1	1	1556	C
1	1	1562	C
1	1	1568	U
1	1	1571	A
1	1	1572	U
1	1	1581	C
1	1	1582	C
1	1	1607	U
1	1	1716	U
1	1	1762	C
1	1	1815	U
1	1	1816	A
1	1	1820	U
1	1	2101	C
1	1	2112	U
1	1	2208	A
1	1	2209	U
1	1	2227	C
1	1	2249	G
1	1	2255	A
1	1	2256	A
1	1	2372	A
1	1	2400	G
1	1	2418	G
1	1	2513	U
1	1	2522	G
1	1	2525	G
1	1	2537	U
1	1	2538	U
1	1	2541	U
1	1	2554	A
1	1	2566	C
1	1	2570	U
1	1	2571	U
1	1	2585	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2593	A
1	1	2689	A
1	1	2801	A
1	1	2818	U
1	1	3078	U
1	1	3121	U
1	1	3157	U
1	1	3169	U
1	1	3218	A
1	1	3228	C
1	1	3238	G
1	1	3259	U
1	1	3269	U
1	1	3316	A
1	1	3317	U
1	1	3350	C
1	1	3351	U
1	1	3353	G
1	1	3375	A
1	1	3389	U
2	2	1	U
2	2	25	C
2	2	68	A
2	2	72	A
2	2	73	U
2	2	74	U
2	2	76	A
2	2	103	A
2	2	114	C
2	2	139	C
2	2	144	U
2	2	158	U
2	2	187	G
2	2	232	U
2	2	240	U
2	2	278	U
2	2	280	U
2	2	319	U
2	2	321	C
2	2	417	A
2	2	484	C
2	2	497	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	499	U
2	2	501	U
2	2	503	G
2	2	512	A
2	2	555	A
2	2	558	U
2	2	622	A
2	2	685	A
2	2	704	C
2	2	720	G
2	2	721	U
2	2	734	A
2	2	755	A
2	2	781	U
2	2	782	U
2	2	794	U
2	2	913	G
2	2	1051	G
2	2	1081	A
2	2	1150	G
2	2	1157	A
2	2	1196	A
2	2	1207	C
2	2	1226	A
2	2	1244	A
2	2	1250	U
2	2	1285	U
2	2	1286	U
2	2	1339	C
2	2	1344	A
2	2	1370	U
2	2	1410	A
2	2	1481	C
2	2	1489	U
2	2	1490	C
2	2	1491	U
2	2	1568	C
2	2	1573	A
2	2	1615	C
2	2	1761	U
3	3	52	G
4	4	83	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	4	85	G
4	4	111	A
4	4	125	U
1	5	65	A
1	5	151	A
1	5	282	G
1	5	636	C
1	5	715	A
1	5	726	G
1	5	735	A
1	5	765	C
1	5	816	A
1	5	873	C
1	5	916	G
1	5	979	U
1	5	993	G
1	5	1064	A
1	5	1081	U
1	5	1152	G
1	5	1154	A
1	5	1284	C
1	5	1285	G
1	5	1307	G
1	5	1329	U
1	5	1355	A
1	5	1481	A
1	5	1581	C
1	5	1582	C
1	5	1607	U
1	5	1630	U
1	5	1716	U
1	5	1724	U
1	5	1816	A
1	5	1819	U
1	5	2101	C
1	5	2112	U
1	5	2204	C
1	5	2205	U
1	5	2206	G
1	5	2209	U
1	5	2249	G
1	5	2255	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	5	2257	C
1	5	2268	U
1	5	2272	G
1	5	2281	A
1	5	2373	A
1	5	2512	C
1	5	2513	U
1	5	2522	G
1	5	2537	U
1	5	2568	C
1	5	2569	A
1	5	2593	A
1	5	2662	G
1	5	2682	C
1	5	2772	C
1	5	2801	A
1	5	2817	A
1	5	2818	U
1	5	2872	A
1	5	3078	U
1	5	3121	U
1	5	3195	U
1	5	3218	A
1	5	3228	C
1	5	3269	U
1	5	3275	U
1	5	3317	U
1	5	3340	G
1	5	3341	U
1	5	3353	G
1	5	3395	G
2	6	66	U
2	6	75	U
2	6	76	A
2	6	77	U
2	6	78	A
2	6	103	A
2	6	114	C
2	6	130	C
2	6	137	U
2	6	139	C
2	6	158	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	187	G
2	6	192	U
2	6	217	A
2	6	238	U
2	6	240	U
2	6	272	U
2	6	277	U
2	6	319	U
2	6	417	A
2	6	488	G
2	6	490	C
2	6	512	A
2	6	542	A
2	6	555	A
2	6	557	G
2	6	558	U
2	6	652	G
2	6	694	U
2	6	695	U
2	6	741	C
2	6	755	A
2	6	781	U
2	6	827	C
2	6	856	A
2	6	1051	G
2	6	1058	U
2	6	1097	U
2	6	1196	A
2	6	1207	C
2	6	1227	A
2	6	1284	C
2	6	1344	A
2	6	1346	A
2	6	1413	U
2	6	1481	C
2	6	1489	U
2	6	1493	A
2	6	1535	U
2	6	1568	C
2	6	1573	A
2	6	1615	C
2	6	1620	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	6	1637	C
2	6	1657	U
3	7	86	U
4	8	80	A
4	8	81	U
4	8	82	U
4	8	126	A

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 1407 ligands modelled in this entry, 1382 are monoatomic - leaving 25 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
81	8UZ	2	2029	-	35,35,35	0.36	0	49,52,52	1.36	6 (12%)
81	8UZ	1	3892	-	35,35,35	0.44	0	49,52,52	1.35	4 (8%)
81	8UZ	5	3855	-	35,35,35	0.35	0	49,52,52	1.28	8 (16%)
81	8UZ	2	2030	-	35,35,35	0.26	0	49,52,52	1.21	4 (8%)
81	8UZ	6	2061	-	35,35,35	0.36	0	49,52,52	1.51	7 (14%)
81	8UZ	5	3856	-	35,35,35	0.28	0	49,52,52	1.45	7 (14%)
81	8UZ	5	3851	-	35,35,35	0.25	0	49,52,52	1.12	5 (10%)
81	8UZ	2	2031	-	35,35,35	0.37	0	49,52,52	1.02	3 (6%)
81	8UZ	5	3850	-	35,35,35	0.31	0	49,52,52	1.08	3 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
81	8UZ	1	3895	-	35,35,35	0.34	0	49,52,52	1.27	7 (14%)
81	8UZ	1	3886	-	35,35,35	0.37	0	49,52,52	1.28	5 (10%)
81	8UZ	1	3891	-	35,35,35	0.36	0	49,52,52	1.37	7 (14%)
81	8UZ	1	3893	-	35,35,35	0.54	0	49,52,52	0.96	3 (6%)
81	8UZ	1	3887	-	35,35,35	0.42	0	49,52,52	1.30	3 (6%)
81	8UZ	7	209	-	35,35,35	0.43	0	49,52,52	1.21	6 (12%)
81	8UZ	5	3853	-	35,35,35	0.31	0	49,52,52	1.23	6 (12%)
81	8UZ	1	3894	-	35,35,35	0.34	0	49,52,52	1.41	5 (10%)
81	8UZ	5	3854	-	35,35,35	0.34	0	49,52,52	1.79	6 (12%)
81	8UZ	5	3857	-	35,35,35	0.36	0	49,52,52	0.96	3 (6%)
81	8UZ	1	3888	-	35,35,35	0.33	0	49,52,52	1.05	3 (6%)
81	8UZ	5	3852	-	35,35,35	0.36	0	49,52,52	1.23	3 (6%)
81	8UZ	1	3890	-	35,35,35	0.35	0	49,52,52	1.32	4 (8%)
81	8UZ	4	220	-	35,35,35	0.54	0	49,52,52	1.56	8 (16%)
81	8UZ	1	3889	-	35,35,35	0.19	0	49,52,52	0.80	2 (4%)
81	8UZ	3	214	-	35,35,35	0.44	0	49,52,52	1.58	7 (14%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
81	8UZ	2	2029	-	-	10/12/72/72	0/3/3/3
81	8UZ	1	3892	-	-	4/12/72/72	0/3/3/3
81	8UZ	5	3855	-	-	6/12/72/72	0/3/3/3
81	8UZ	2	2030	-	-	5/12/72/72	0/3/3/3
81	8UZ	6	2061	-	-	5/12/72/72	0/3/3/3
81	8UZ	5	3856	-	-	5/12/72/72	0/3/3/3
81	8UZ	5	3851	-	-	4/12/72/72	0/3/3/3
81	8UZ	2	2031	-	-	3/12/72/72	0/3/3/3
81	8UZ	5	3850	-	-	3/12/72/72	0/3/3/3
81	8UZ	1	3895	-	-	7/12/72/72	0/3/3/3
81	8UZ	1	3886	-	-	4/12/72/72	0/3/3/3
81	8UZ	1	3891	-	-	8/12/72/72	0/3/3/3
81	8UZ	1	3893	-	-	4/12/72/72	0/3/3/3

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
81	8UZ	1	3887	-	-	9/12/72/72	0/3/3/3
81	8UZ	7	209	-	-	7/12/72/72	0/3/3/3
81	8UZ	5	3853	-	-	6/12/72/72	0/3/3/3
81	8UZ	1	3894	-	-	3/12/72/72	0/3/3/3
81	8UZ	5	3854	-	-	5/12/72/72	0/3/3/3
81	8UZ	5	3857	-	-	7/12/72/72	0/3/3/3
81	8UZ	1	3888	-	-	7/12/72/72	0/3/3/3
81	8UZ	5	3852	-	-	3/12/72/72	0/3/3/3
81	8UZ	1	3890	-	-	6/12/72/72	0/3/3/3
81	8UZ	4	220	-	-	6/12/72/72	0/3/3/3
81	8UZ	1	3889	-	-	1/12/72/72	0/3/3/3
81	8UZ	3	214	-	-	4/12/72/72	0/3/3/3

There are no bond length outliers.

All (125) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
81	5	3854	8UZ	C2-C15-N4	7.37	123.48	110.20
81	5	3854	8UZ	C14-C13-C12	-6.83	96.24	111.06
81	6	2061	8UZ	C2-C15-N4	6.73	122.33	110.20
81	1	3894	8UZ	C2-C15-N4	5.79	120.64	110.20
81	3	214	8UZ	O1-C2-C15	5.52	117.72	108.22
81	1	3887	8UZ	C14-C13-C12	-5.44	99.26	111.06
81	1	3892	8UZ	C2-C15-N4	5.34	119.82	110.20
81	5	3852	8UZ	O1-C2-C15	-5.17	99.31	108.22
81	3	214	8UZ	C14-C13-C12	-5.10	99.98	111.06
81	2	2030	8UZ	C2-C15-N4	5.03	119.26	110.20
81	5	3856	8UZ	C2-C15-N4	4.90	119.03	110.20
81	1	3887	8UZ	C2-C15-N4	4.79	118.84	110.20
81	5	3850	8UZ	O1-C2-C15	4.76	116.41	108.22
81	4	220	8UZ	C2-C15-N4	4.65	118.58	110.20
81	1	3891	8UZ	O1-C3-C4	4.60	120.15	109.18
81	1	3890	8UZ	C2-C15-N4	4.49	118.29	110.20
81	1	3886	8UZ	C2-C15-N4	4.48	118.27	110.20
81	1	3891	8UZ	C2-C15-N4	4.37	118.07	110.20
81	2	2029	8UZ	C2-C15-N4	4.11	117.62	110.20
81	4	220	8UZ	C9-C14-C13	-4.00	105.03	110.40
81	1	3890	8UZ	O1-C2-C15	3.97	115.05	108.22
81	5	3856	8UZ	C6-C5-C4	-3.89	103.20	111.18

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
81	1	3895	8UZ	C2-C15-N4	3.88	117.19	110.20
81	4	220	8UZ	C8-C3-C4	3.84	118.33	111.16
81	2	2029	8UZ	C9-C14-C13	3.78	115.47	110.40
81	5	3850	8UZ	C2-C15-N4	3.77	116.99	110.20
81	5	3851	8UZ	O1-C2-C15	3.74	114.65	108.22
81	7	209	8UZ	C2-C15-N4	3.72	116.91	110.20
81	5	3853	8UZ	C2-C15-N4	3.68	116.83	110.20
81	5	3856	8UZ	C14-C13-C12	-3.59	103.26	111.06
81	1	3894	8UZ	O1-C3-C4	3.55	117.64	109.18
81	1	3886	8UZ	C14-C13-C12	-3.48	103.51	111.06
81	1	3892	8UZ	O1-C3-C4	3.46	117.42	109.18
81	5	3854	8UZ	O1-C2-C15	3.41	114.09	108.22
81	1	3893	8UZ	C2-C15-N4	3.40	116.33	110.20
81	5	3852	8UZ	C2-C15-N4	3.35	116.23	110.20
81	1	3888	8UZ	C2-C15-N4	3.34	116.22	110.20
81	1	3890	8UZ	C14-C13-C12	-3.32	103.86	111.06
81	6	2061	8UZ	C9-C14-C13	3.32	114.85	110.40
81	2	2029	8UZ	C14-C13-C12	3.31	118.24	111.06
81	1	3892	8UZ	O1-C2-C15	3.30	113.90	108.22
81	2	2031	8UZ	C8-C3-C4	3.26	117.24	111.16
81	1	3891	8UZ	O3-C8-C7	3.23	115.87	107.28
81	1	3892	8UZ	C14-C13-C12	-3.19	104.13	111.06
81	3	214	8UZ	O-C2-C15	3.19	117.24	110.06
81	7	209	8UZ	O-C2-C15	3.19	117.22	110.06
81	5	3853	8UZ	C9-C14-C13	-3.12	106.20	110.40
81	6	2061	8UZ	O1-C3-C4	3.11	116.60	109.18
81	5	3855	8UZ	C2-C15-N4	3.10	115.79	110.20
81	2	2029	8UZ	O3-C8-C7	3.10	115.53	107.28
81	3	214	8UZ	C2-C15-N4	3.08	115.75	110.20
81	5	3851	8UZ	C2-C15-N4	3.07	115.74	110.20
81	5	3856	8UZ	C8-C7-C6	3.06	117.10	109.63
81	5	3855	8UZ	C14-C13-C12	-3.01	104.52	111.06
81	5	3853	8UZ	O3-C9-C14	2.99	115.85	108.10
81	3	214	8UZ	O1-C3-C4	2.97	116.25	109.18
81	5	3854	8UZ	C9-O4-C10	2.94	119.45	113.69
81	1	3894	8UZ	O1-C2-C15	2.88	113.17	108.22
81	4	220	8UZ	O3-C8-C7	2.87	114.92	107.28
81	5	3855	8UZ	C8-C7-C6	-2.85	102.68	109.63
81	1	3895	8UZ	C9-O3-C8	2.76	124.80	117.96
81	6	2061	8UZ	O1-C2-C15	2.74	112.94	108.22
81	5	3856	8UZ	C7-C8-C3	2.74	117.92	111.66
81	1	3891	8UZ	O1-C2-C15	2.73	112.91	108.22

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
81	4	220	8UZ	O3-C9-O4	2.67	118.14	110.67
81	5	3855	8UZ	C5-C6-C7	-2.67	106.01	110.04
81	5	3853	8UZ	C6-C5-C4	-2.64	105.77	111.18
81	6	2061	8UZ	C9-O4-C10	2.63	118.85	113.69
81	5	3855	8UZ	O1-C2-C15	2.63	112.75	108.22
81	2	2031	8UZ	C2-C15-N4	2.63	114.94	110.20
81	1	3895	8UZ	O3-C9-C14	2.62	114.88	108.10
81	5	3855	8UZ	C6-C5-C4	-2.61	105.82	111.18
81	1	3895	8UZ	O1-C2-C15	2.60	112.69	108.22
81	1	3894	8UZ	C9-C14-C13	2.59	113.87	110.40
81	5	3851	8UZ	O1-C3-C4	2.56	115.27	109.18
81	7	209	8UZ	C16-C17-C1	-2.55	105.69	110.24
81	4	220	8UZ	O1-C2-C15	2.54	112.59	108.22
81	5	3857	8UZ	O1-C3-C4	2.53	115.22	109.18
81	2	2029	8UZ	C8-C7-C6	-2.53	103.46	109.63
81	5	3855	8UZ	O2-C7-C8	2.49	116.53	109.94
81	6	2061	8UZ	C17-C16-C15	-2.47	106.83	111.07
81	1	3893	8UZ	C14-C13-C12	2.46	116.39	111.06
81	1	3886	8UZ	C9-O3-C8	2.42	123.96	117.96
81	5	3856	8UZ	C8-C3-C4	2.41	115.67	111.16
81	5	3853	8UZ	C14-C13-C12	-2.40	105.84	111.06
81	3	214	8UZ	C9-O4-C10	2.38	118.37	113.69
81	1	3894	8UZ	C16-C17-C1	2.37	114.47	110.24
81	5	3857	8UZ	C6-C5-C4	2.36	116.02	111.18
81	1	3889	8UZ	C14-C13-C12	-2.34	105.97	111.06
81	5	3856	8UZ	C17-C16-C15	-2.31	107.09	111.07
81	7	209	8UZ	C17-C16-C15	-2.30	107.12	111.07
81	4	220	8UZ	O1-C3-C8	-2.28	101.69	107.48
81	5	3851	8UZ	O-C2-C15	2.27	115.17	110.06
81	2	2030	8UZ	O1-C3-C8	2.26	113.23	107.48
81	5	3855	8UZ	O3-C8-C3	2.25	113.20	107.48
81	2	2030	8UZ	O3-C8-C7	-2.24	101.31	107.28
81	1	3893	8UZ	C6-C5-C4	2.24	115.79	111.18
81	6	2061	8UZ	O4-C9-C14	2.24	115.09	110.35
81	5	3851	8UZ	C14-C13-C12	-2.22	106.23	111.06
81	1	3895	8UZ	C6-C5-C4	-2.21	106.64	111.18
81	5	3853	8UZ	C9-O3-C8	2.19	123.39	117.96
81	5	3850	8UZ	C14-C13-C12	-2.18	106.32	111.06
81	1	3888	8UZ	C8-C7-C6	2.17	114.92	109.63
81	7	209	8UZ	O1-C2-C15	2.17	111.95	108.22
81	5	3852	8UZ	O-C1-C17	2.17	113.63	109.69
81	1	3891	8UZ	C9-C14-C13	-2.17	107.49	110.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
81	3	214	8UZ	C2-O-C1	2.16	117.93	113.69
81	1	3886	8UZ	O3-C8-C3	2.16	112.96	107.48
81	2	2029	8UZ	O2-C7-C8	2.16	115.66	109.94
81	1	3887	8UZ	O1-C3-C4	2.12	114.23	109.18
81	1	3890	8UZ	O1-C3-C4	2.11	114.21	109.18
81	2	2030	8UZ	O3-C8-C3	2.08	112.75	107.48
81	1	3889	8UZ	O1-C2-C15	-2.07	104.64	108.22
81	1	3891	8UZ	C7-C8-C3	-2.07	106.94	111.66
81	5	3854	8UZ	C8-C3-C4	2.06	115.01	111.16
81	5	3857	8UZ	O-C2-C15	2.06	114.69	110.06
81	5	3854	8UZ	C9-C14-C13	-2.06	107.63	110.40
81	2	2031	8UZ	O3-C8-C3	2.05	112.70	107.48
81	1	3888	8UZ	O1-C3-C4	-2.05	104.28	109.18
81	7	209	8UZ	O9-C17-C1	2.05	114.39	109.30
81	1	3895	8UZ	O3-C8-C7	-2.04	101.84	107.28
81	1	3895	8UZ	C8-C7-C6	2.04	114.62	109.63
81	4	220	8UZ	C14-C13-C12	-2.04	106.62	111.06
81	1	3886	8UZ	O1-C2-C15	2.02	111.70	108.22
81	1	3891	8UZ	O3-C9-C14	2.01	113.32	108.10

There are no chirality outliers.

All (132) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
81	1	3886	8UZ	C14-C9-O3-C8
81	1	3887	8UZ	N-C-C1-C17
81	1	3887	8UZ	N-C-C1-O
81	1	3887	8UZ	C15-C2-O1-C3
81	1	3888	8UZ	N-C-C1-O
81	1	3890	8UZ	C15-C2-O1-C3
81	1	3891	8UZ	C14-C9-O3-C8
81	1	3891	8UZ	N-C-C1-C17
81	1	3891	8UZ	N-C-C1-O
81	1	3891	8UZ	C15-C2-O1-C3
81	1	3892	8UZ	C15-C2-O1-C3
81	1	3893	8UZ	N-C-C1-C17
81	1	3893	8UZ	N-C-C1-O
81	1	3895	8UZ	C14-C9-O3-C8
81	1	3895	8UZ	N-C-C1-C17
81	1	3895	8UZ	N-C-C1-O
81	2	2029	8UZ	N-C-C1-C17
81	2	2029	8UZ	N-C-C1-O

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
81	2	2029	8UZ	C15-C2-O1-C3
81	2	2030	8UZ	C14-C9-O3-C8
81	3	214	8UZ	N-C-C1-O
81	3	214	8UZ	C15-C2-O1-C3
81	4	220	8UZ	N-C-C1-C17
81	4	220	8UZ	N-C-C1-O
81	4	220	8UZ	C15-C2-O1-C3
81	5	3852	8UZ	N-C-C1-C17
81	5	3853	8UZ	C14-C9-O3-C8
81	5	3853	8UZ	N-C-C1-O
81	5	3854	8UZ	N-C-C1-O
81	5	3854	8UZ	C15-C2-O1-C3
81	5	3855	8UZ	N-C-C1-C17
81	5	3855	8UZ	N-C-C1-O
81	5	3856	8UZ	N-C-C1-C17
81	5	3856	8UZ	N-C-C1-O
81	5	3856	8UZ	C15-C2-O1-C3
81	5	3857	8UZ	N-C-C1-C17
81	5	3857	8UZ	N-C-C1-O
81	5	3857	8UZ	C4-C3-O1-C2
81	6	2061	8UZ	C15-C2-O1-C3
81	7	209	8UZ	N-C-C1-O
81	7	209	8UZ	C15-C2-O1-C3
81	2	2029	8UZ	O4-C9-O3-C8
81	2	2031	8UZ	O4-C9-O3-C8
81	5	3854	8UZ	O-C2-O1-C3
81	6	2061	8UZ	O-C2-O1-C3
81	1	3886	8UZ	O4-C9-O3-C8
81	2	2030	8UZ	O4-C9-O3-C8
81	2	2029	8UZ	C14-C9-O3-C8
81	5	3857	8UZ	O4-C9-O3-C8
81	5	3857	8UZ	C14-C9-O3-C8
81	5	3850	8UZ	C12-C10-C11-O5
81	6	2061	8UZ	C14-C9-O3-C8
81	1	3887	8UZ	C12-C10-C11-O5
81	5	3850	8UZ	O4-C10-C11-O5
81	1	3887	8UZ	O4-C9-O3-C8
81	1	3887	8UZ	O-C2-O1-C3
81	1	3894	8UZ	O4-C9-O3-C8
81	1	3888	8UZ	O4-C9-O3-C8
81	6	2061	8UZ	O4-C9-O3-C8
81	1	3894	8UZ	C14-C9-O3-C8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
81	7	209	8UZ	C12-C10-C11-O5
81	1	3888	8UZ	C14-C9-O3-C8
81	5	3853	8UZ	O4-C10-C11-O5
81	5	3855	8UZ	O4-C10-C11-O5
81	1	3888	8UZ	O-C2-O1-C3
81	1	3890	8UZ	O4-C10-C11-O5
81	7	209	8UZ	O4-C10-C11-O5
81	1	3887	8UZ	O4-C10-C11-O5
81	4	220	8UZ	O4-C10-C11-O5
81	5	3854	8UZ	O4-C10-C11-O5
81	1	3887	8UZ	C14-C9-O3-C8
81	2	2030	8UZ	O4-C10-C11-O5
81	5	3853	8UZ	C12-C10-C11-O5
81	1	3892	8UZ	C14-C9-O3-C8
81	2	2030	8UZ	C12-C10-C11-O5
81	4	220	8UZ	C12-C10-C11-O5
81	1	3890	8UZ	C12-C10-C11-O5
81	5	3854	8UZ	C12-C10-C11-O5
81	1	3892	8UZ	O4-C9-O3-C8
81	1	3891	8UZ	O4-C10-C11-O5
81	2	2031	8UZ	C3-C8-O3-C9
81	5	3853	8UZ	O-C2-O1-C3
81	5	3855	8UZ	C12-C10-C11-O5
81	1	3895	8UZ	O4-C10-C11-O5
81	5	3856	8UZ	O-C2-O1-C3
81	1	3891	8UZ	C8-C3-O1-C2
81	1	3888	8UZ	O4-C10-C11-O5
81	1	3893	8UZ	O4-C10-C11-O5
81	5	3851	8UZ	C12-C10-C11-O5
81	2	2029	8UZ	C8-C3-O1-C2
81	1	3891	8UZ	C12-C10-C11-O5
81	2	2029	8UZ	O4-C10-C11-O5
81	1	3889	8UZ	O4-C10-C11-O5
81	5	3852	8UZ	O4-C10-C11-O5
81	5	3851	8UZ	O4-C10-C11-O5
81	5	3853	8UZ	C8-C3-O1-C2
81	1	3894	8UZ	O4-C10-C11-O5
81	5	3850	8UZ	O-C2-O1-C3
81	2	2031	8UZ	C7-C8-O3-C9
81	7	209	8UZ	N-C-C1-C17
81	2	2029	8UZ	C3-C8-O3-C9
81	5	3857	8UZ	C8-C3-O1-C2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
81	3	214	8UZ	C3-C8-O3-C9
81	1	3887	8UZ	C8-C3-O1-C2
81	3	214	8UZ	C7-C8-O3-C9
81	5	3857	8UZ	C12-C10-C11-O5
81	2	2029	8UZ	C7-C8-O3-C9
81	1	3895	8UZ	O4-C9-O3-C8
81	4	220	8UZ	C8-C3-O1-C2
81	5	3852	8UZ	C8-C3-O1-C2
81	1	3892	8UZ	N-C-C1-O
81	1	3886	8UZ	C12-C10-C11-O5
81	2	2030	8UZ	N-C-C1-C17
81	1	3895	8UZ	C15-C2-O1-C3
81	1	3888	8UZ	C7-C8-O3-C9
81	7	209	8UZ	C3-C8-O3-C9
81	5	3856	8UZ	C7-C8-O3-C9
81	5	3851	8UZ	O-C2-O1-C3
81	1	3888	8UZ	C3-C8-O3-C9
81	1	3890	8UZ	C14-C9-O3-C8
81	5	3855	8UZ	C7-C8-O3-C9
81	5	3855	8UZ	C3-C8-O3-C9
81	1	3890	8UZ	O-C2-O1-C3
81	6	2061	8UZ	C8-C3-O1-C2
81	7	209	8UZ	C7-C8-O3-C9
81	1	3891	8UZ	C4-C3-O1-C2
81	2	2029	8UZ	C4-C3-O1-C2
81	5	3851	8UZ	C3-C8-O3-C9
81	1	3886	8UZ	N-C-C1-C17
81	1	3890	8UZ	O4-C9-O3-C8
81	1	3893	8UZ	C15-C2-O1-C3
81	1	3895	8UZ	C12-C10-C11-O5

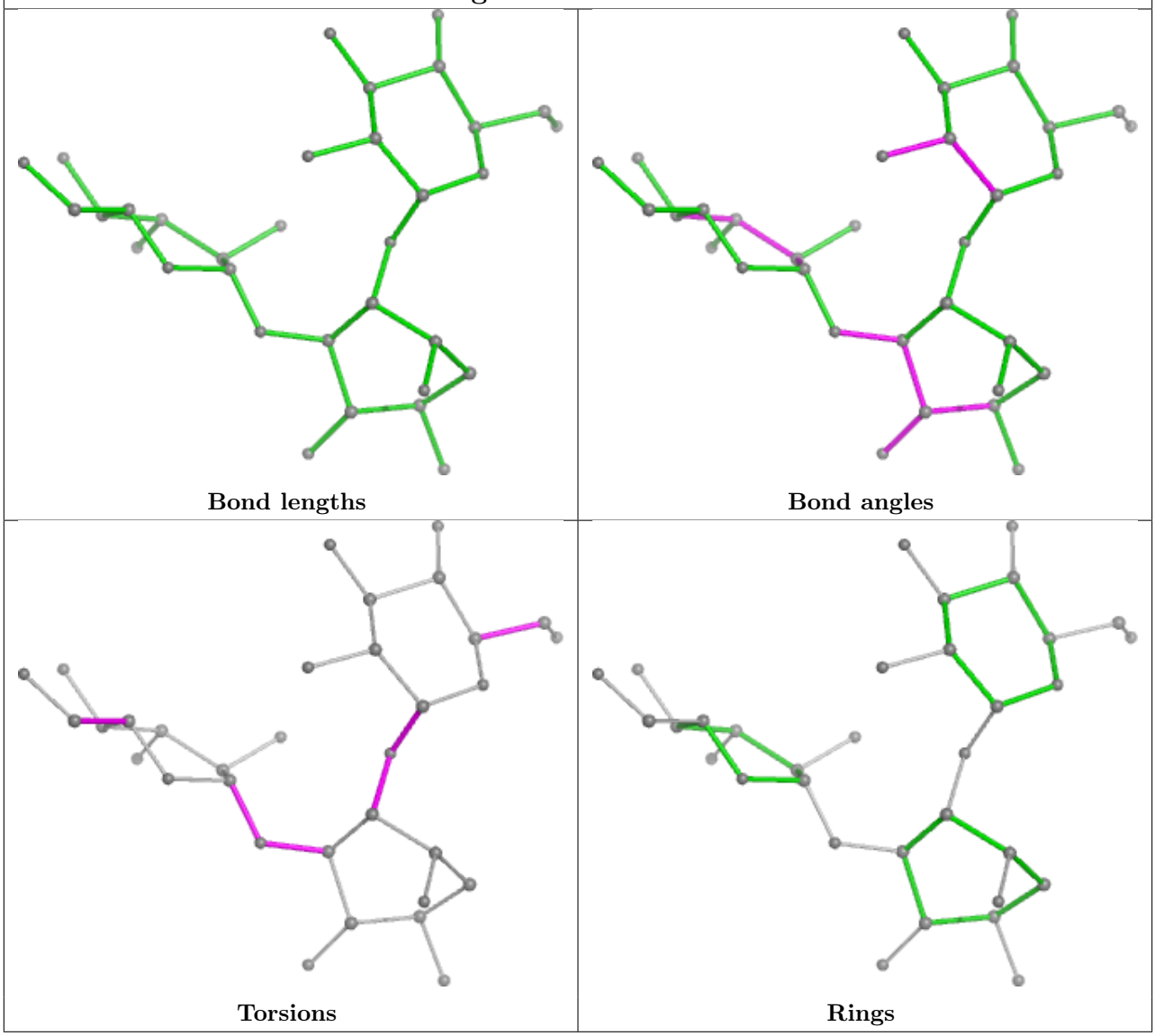
There are no ring outliers.

No monomer is involved in short contacts.

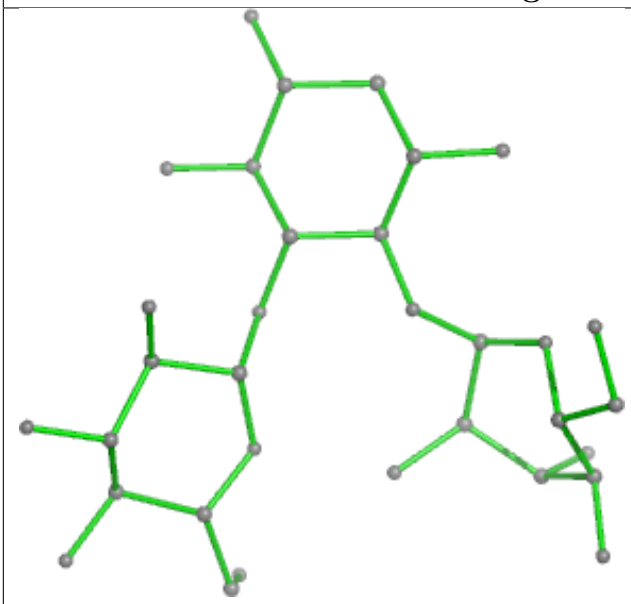
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and

any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

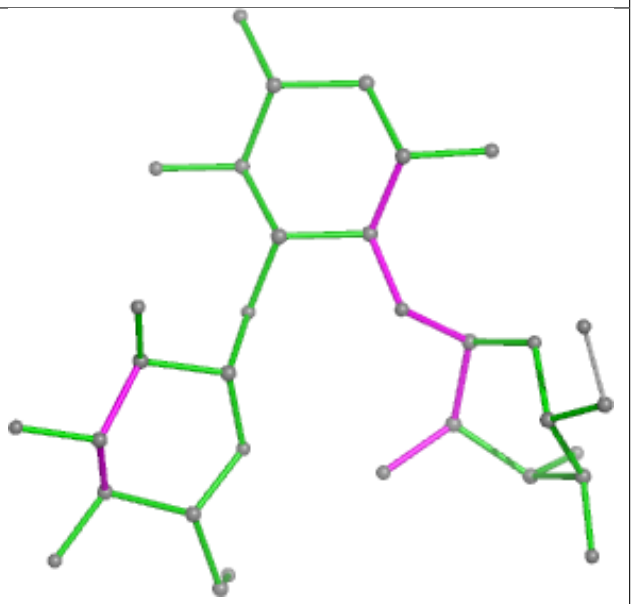
Ligand 8UZ 2 2029



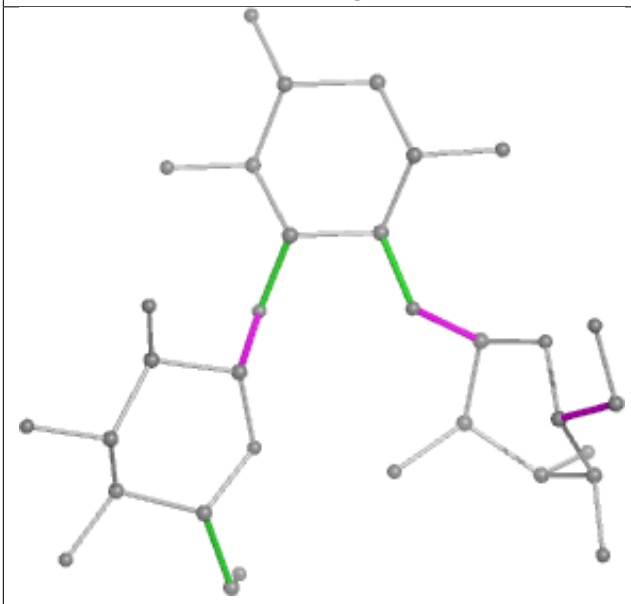
Ligand 8UZ 1 3892



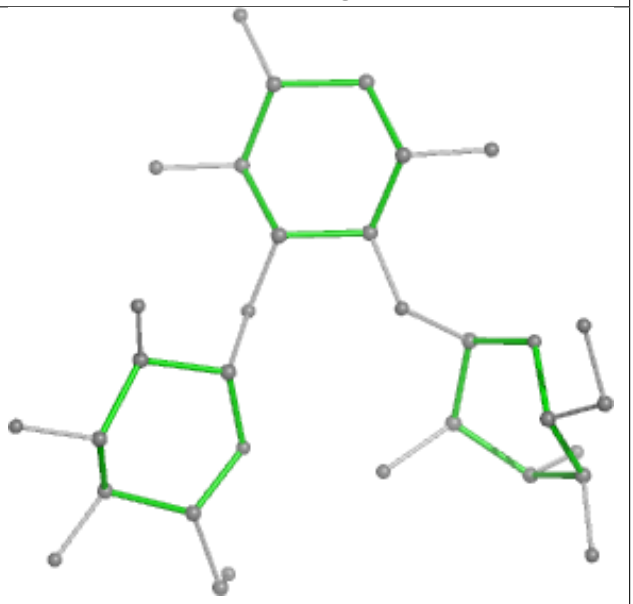
Bond lengths



Bond angles

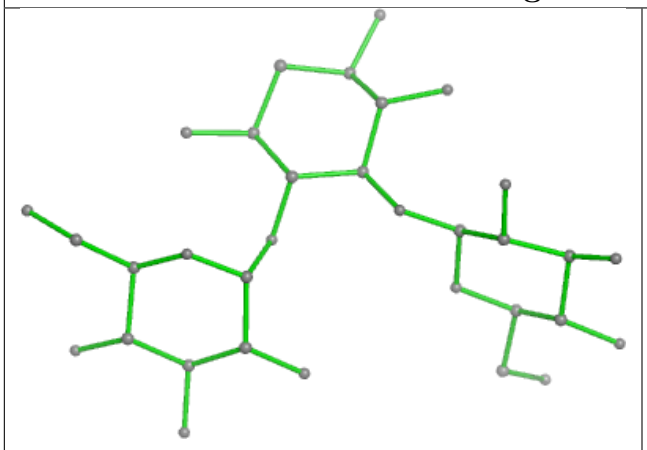


Torsions

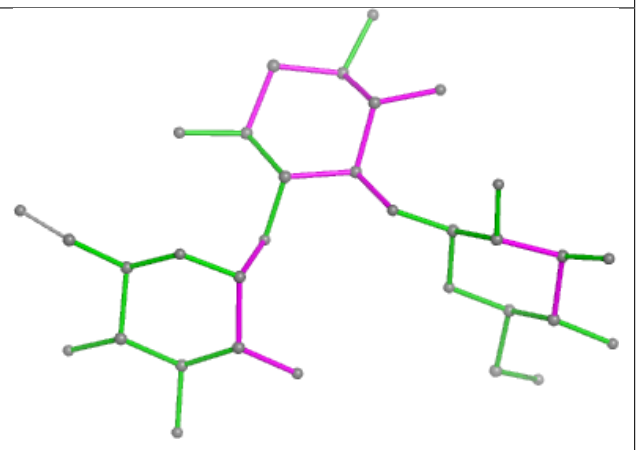


Rings

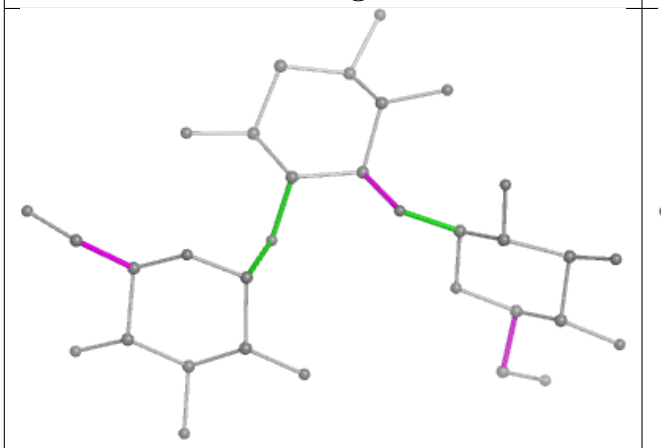
Ligand 8UZ 5 3855



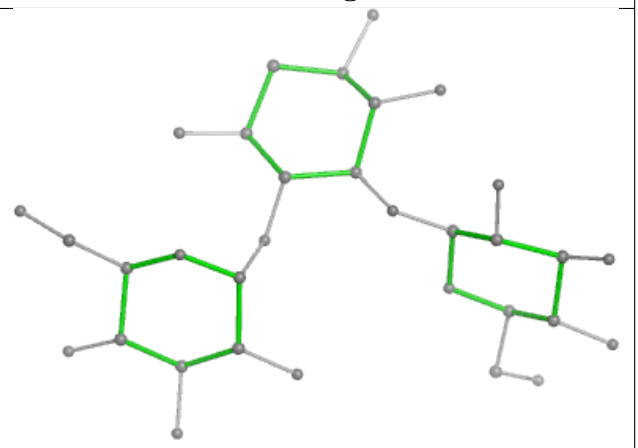
Bond lengths



Bond angles

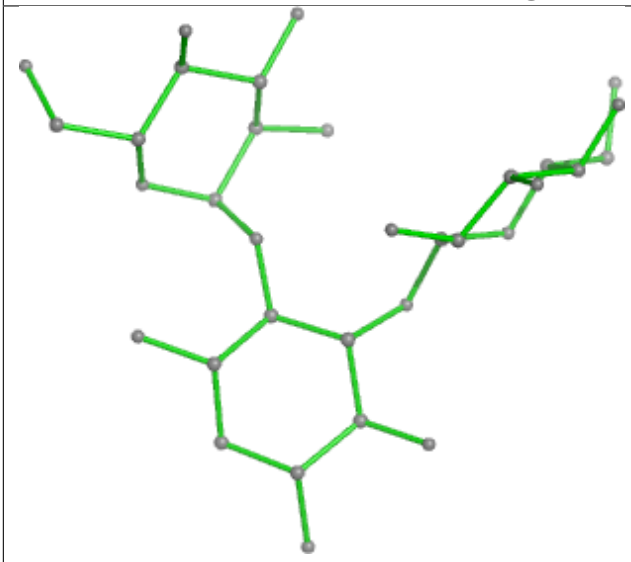


Torsions

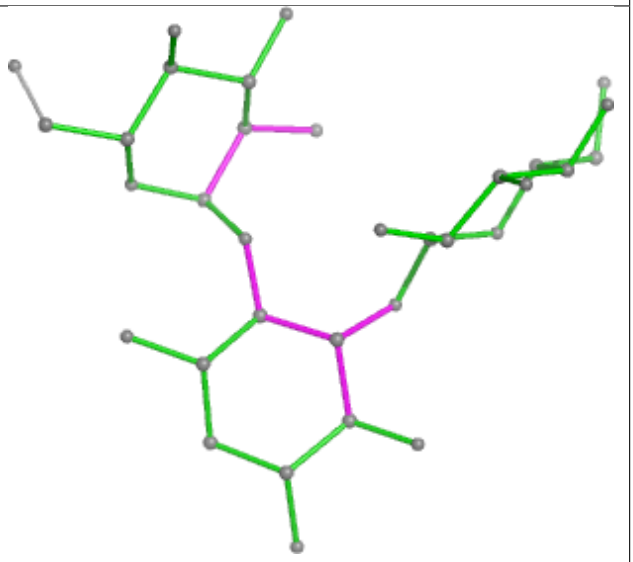


Rings

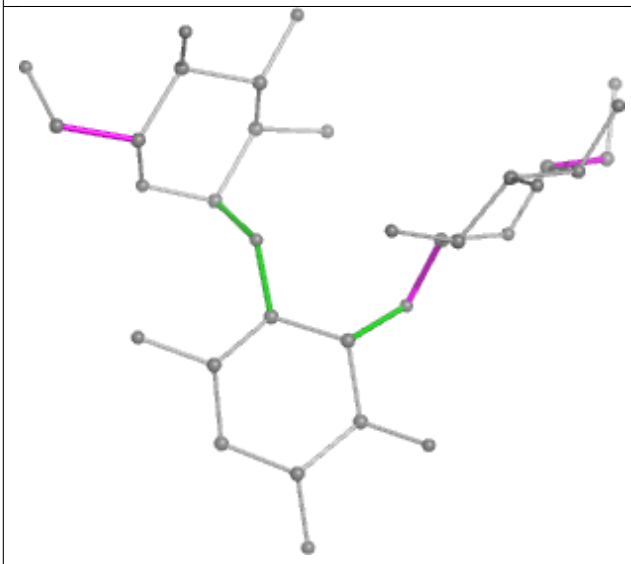
Ligand 8UZ 2 2030



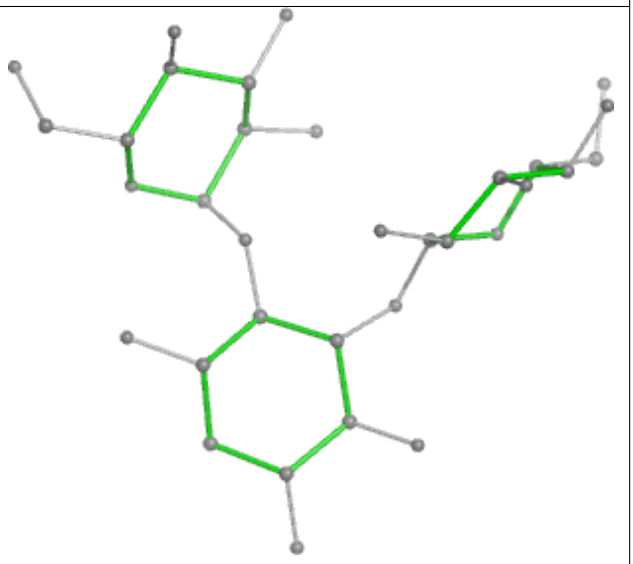
Bond lengths



Bond angles

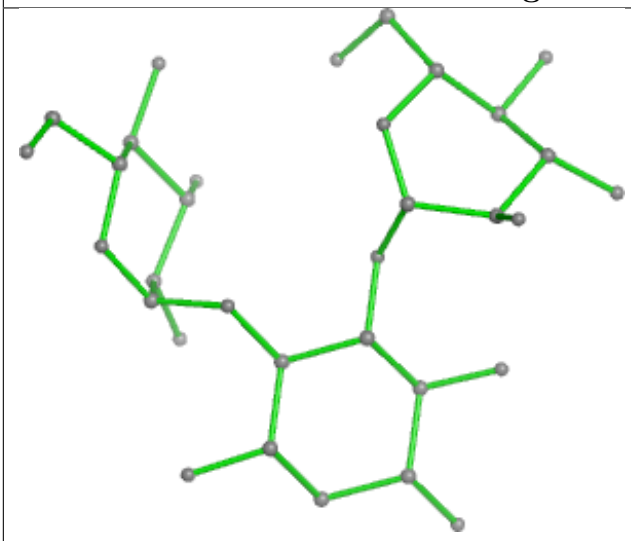


Torsions

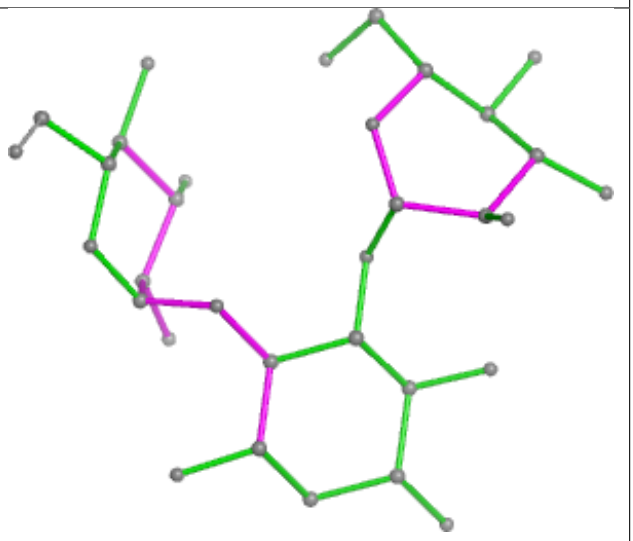


Rings

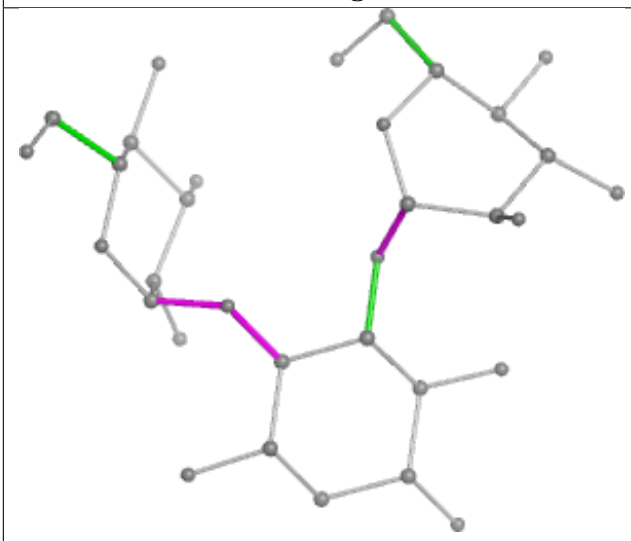
Ligand 8UZ 6 2061



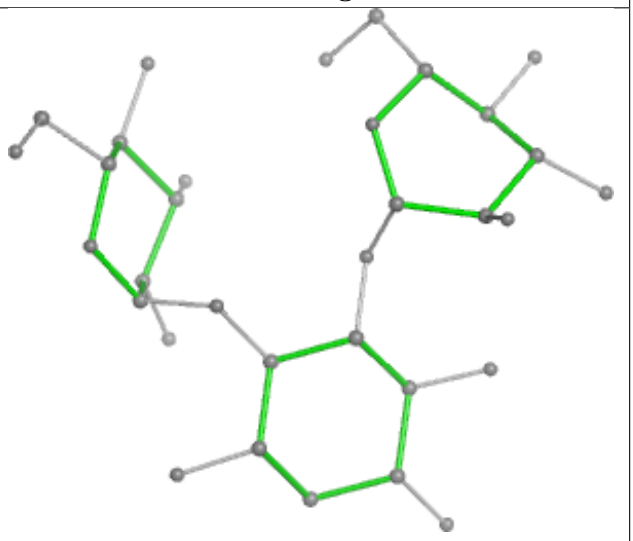
Bond lengths



Bond angles

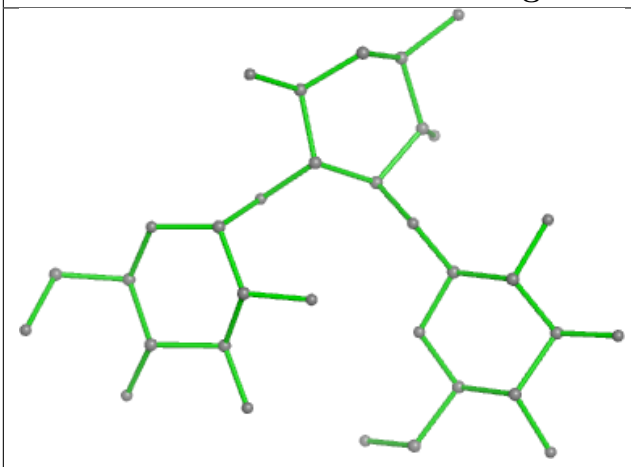


Torsions

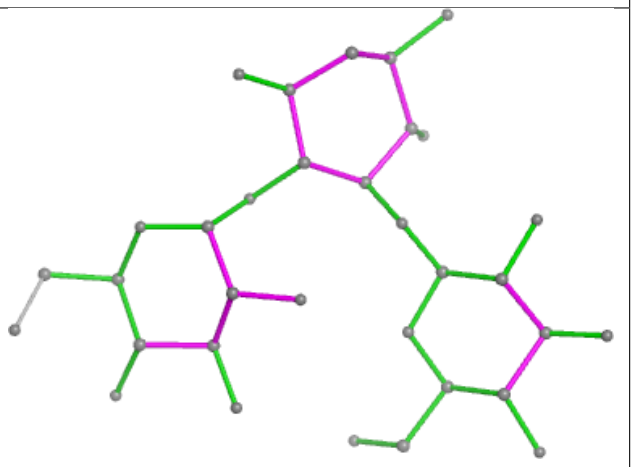


Rings

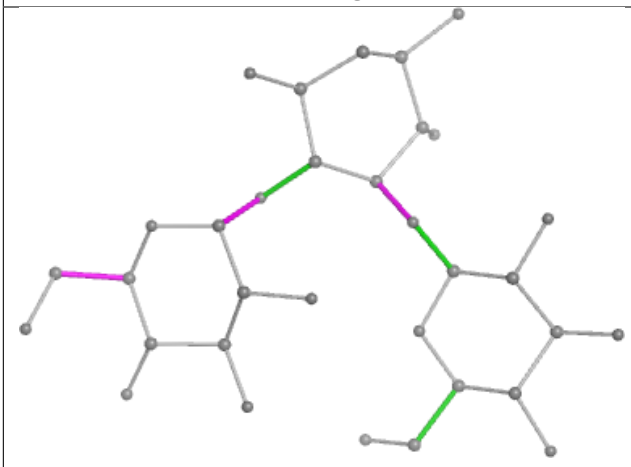
Ligand 8UZ 5 3856



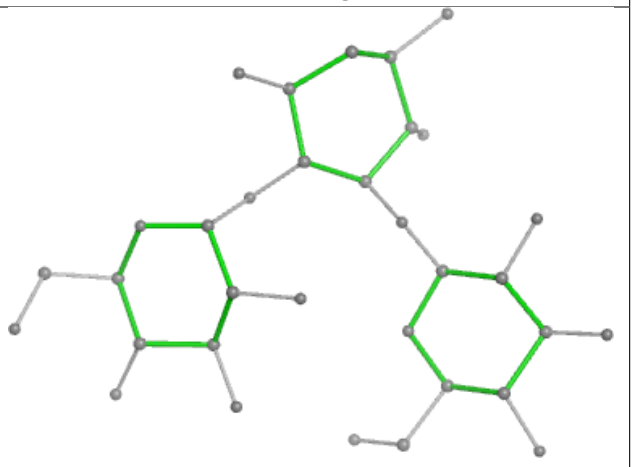
Bond lengths



Bond angles

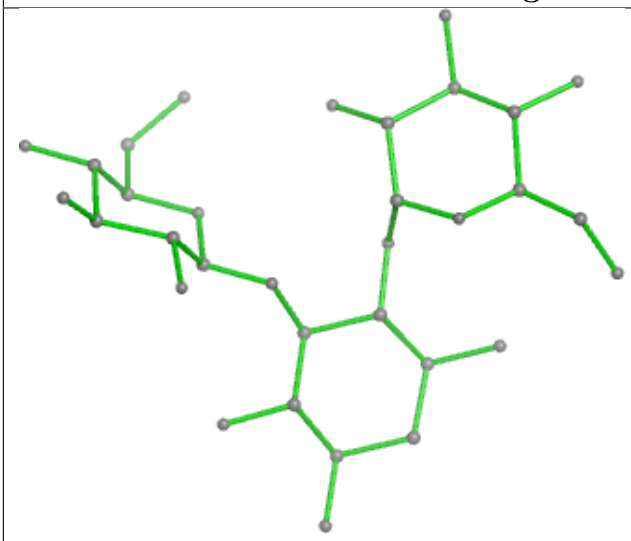


Torsions

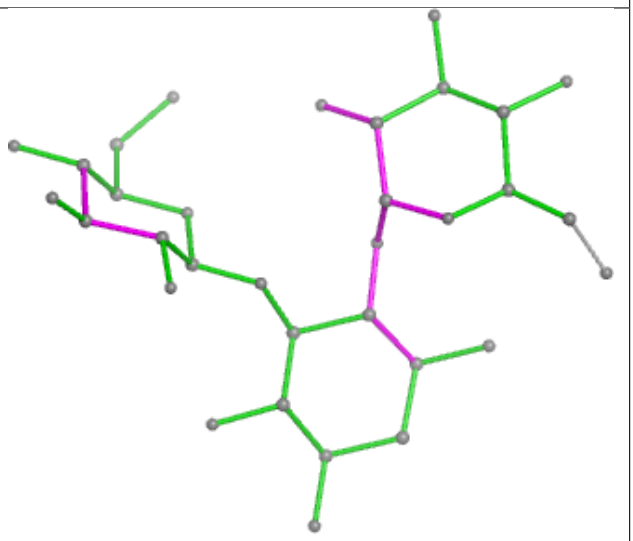


Rings

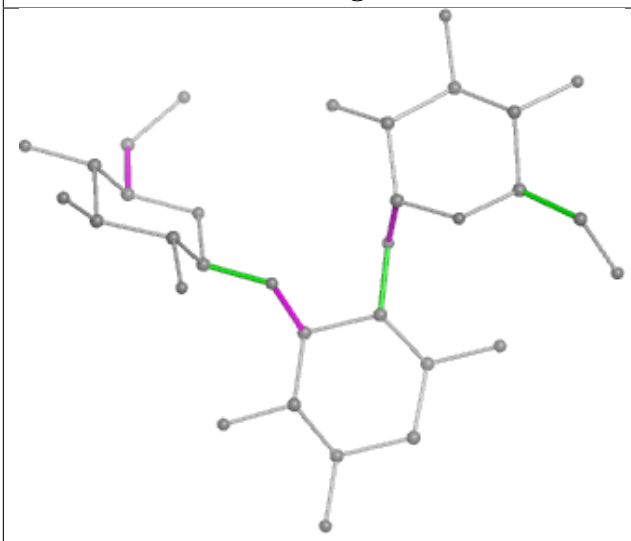
Ligand 8UZ 5 3851



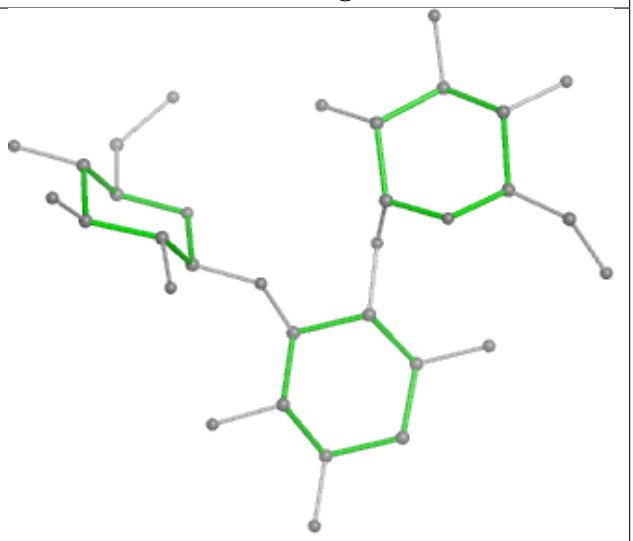
Bond lengths



Bond angles

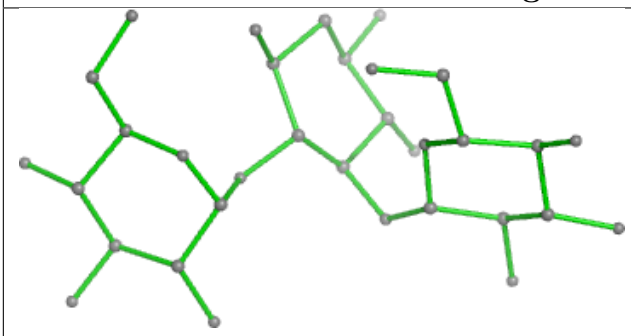


Torsions

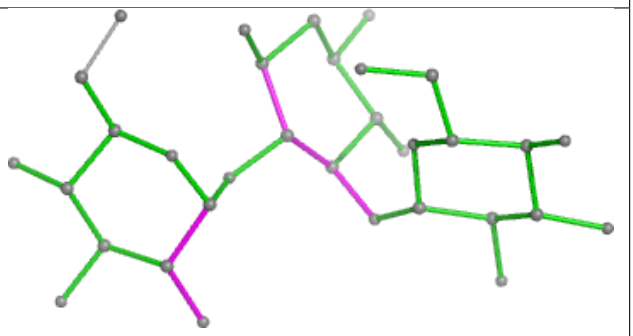


Rings

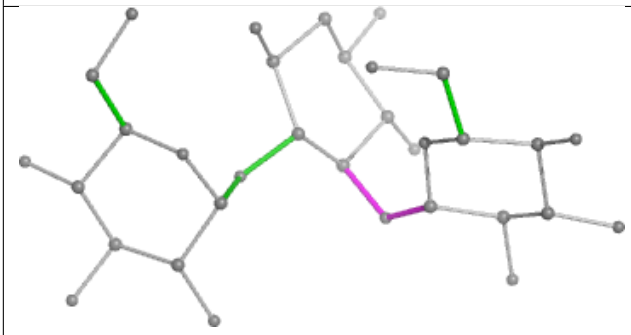
Ligand 8UZ 2 2031



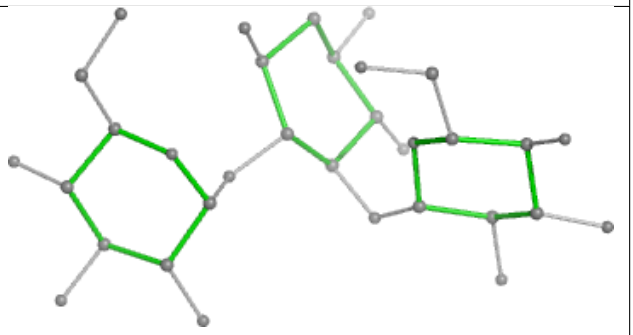
Bond lengths



Bond angles

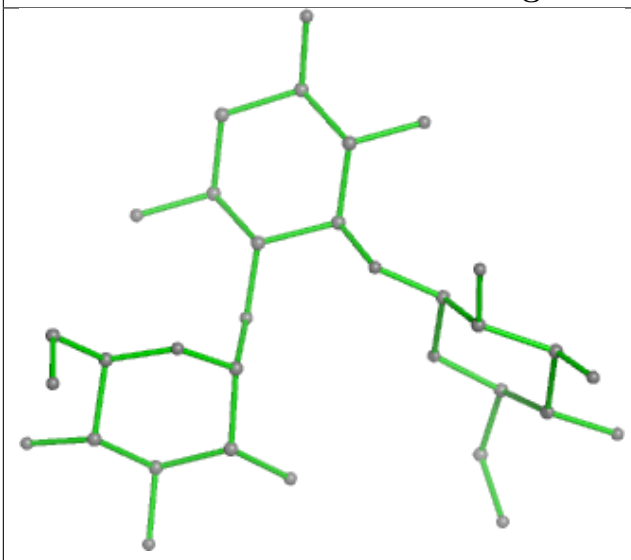


Torsions

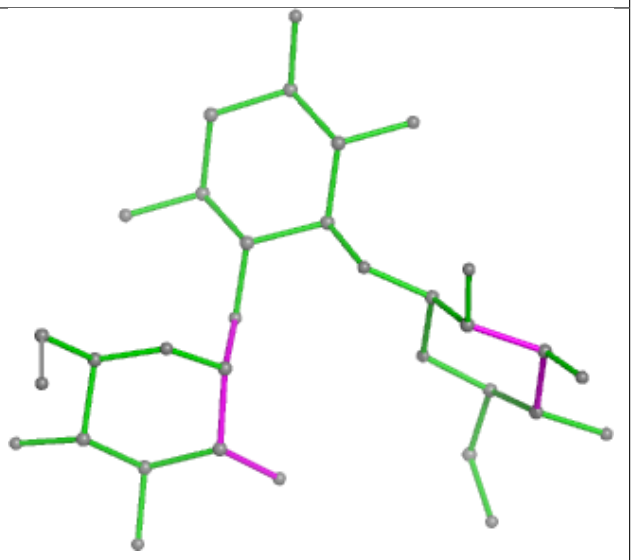


Rings

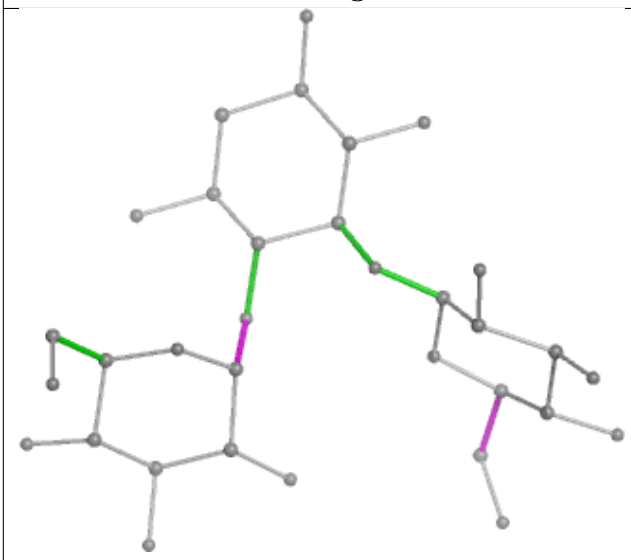
Ligand 8UZ 5 3850



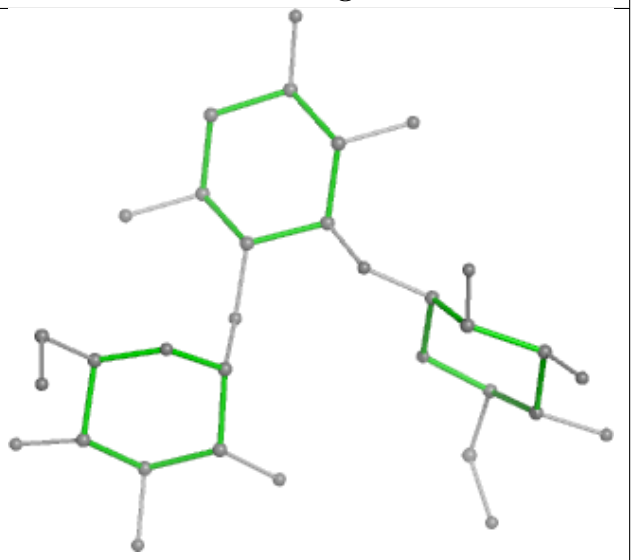
Bond lengths



Bond angles

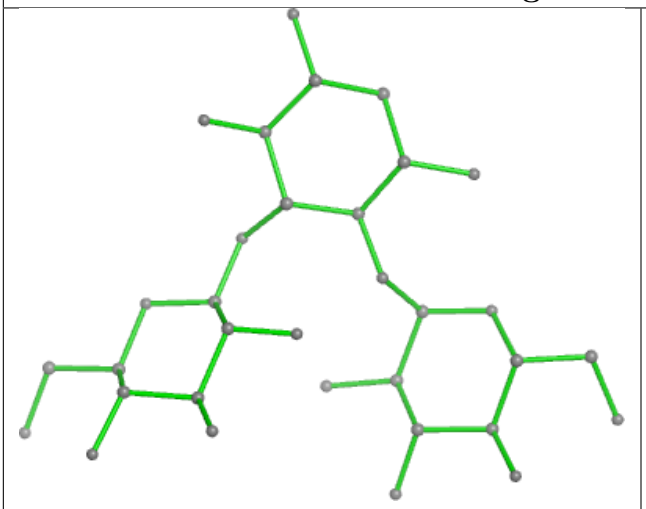


Torsions

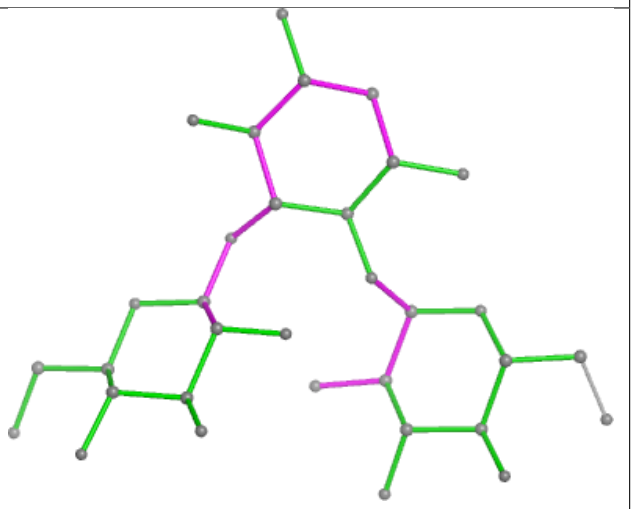


Rings

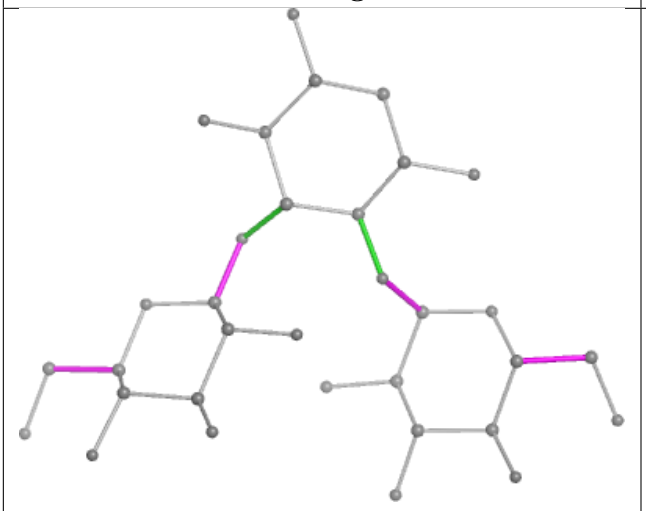
Ligand 8UZ 1 3895



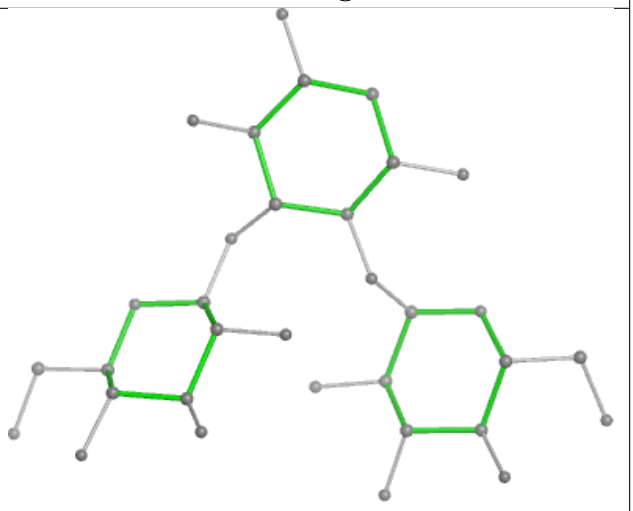
Bond lengths



Bond angles

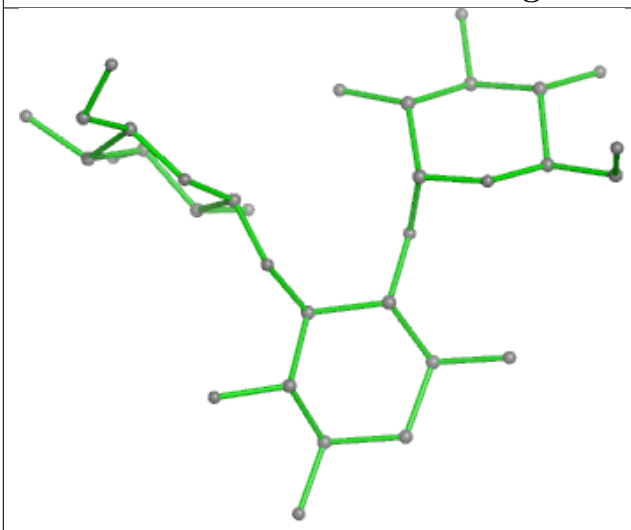


Torsions

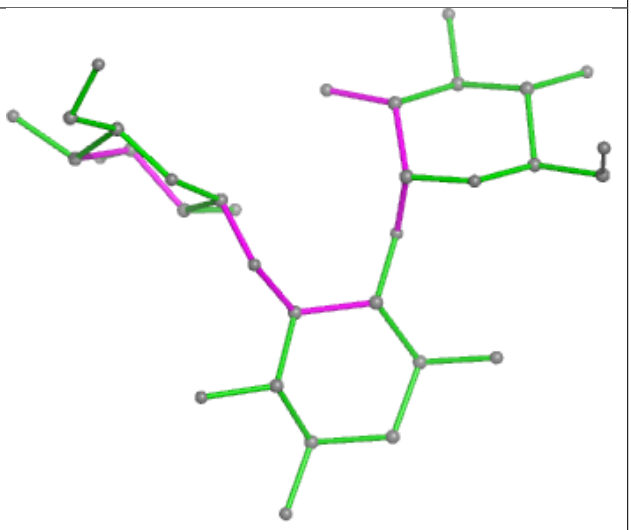


Rings

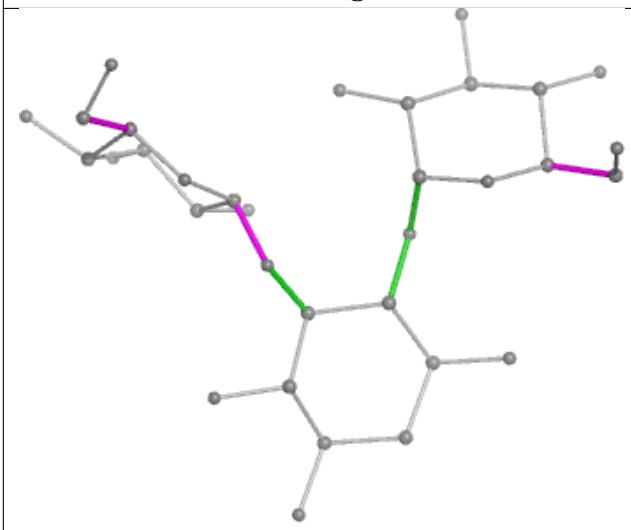
Ligand 8UZ 1 3886



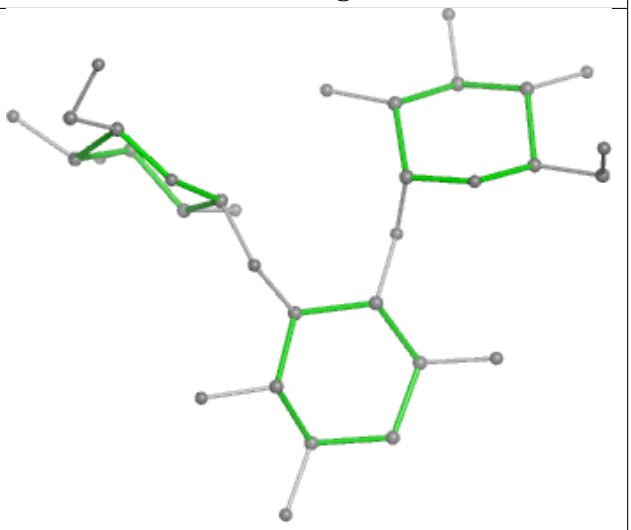
Bond lengths



Bond angles

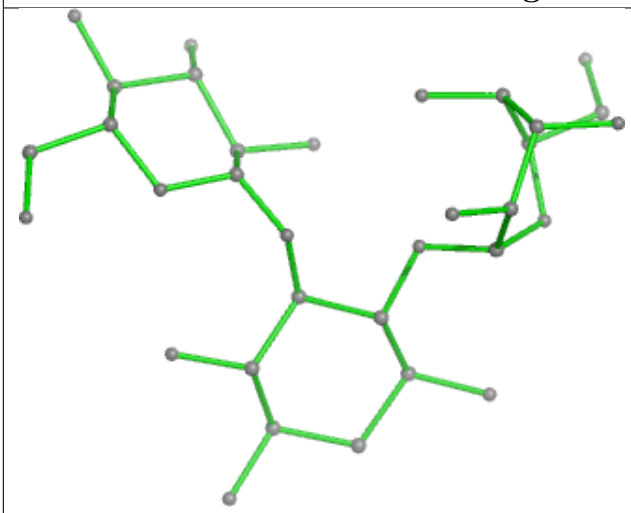


Torsions

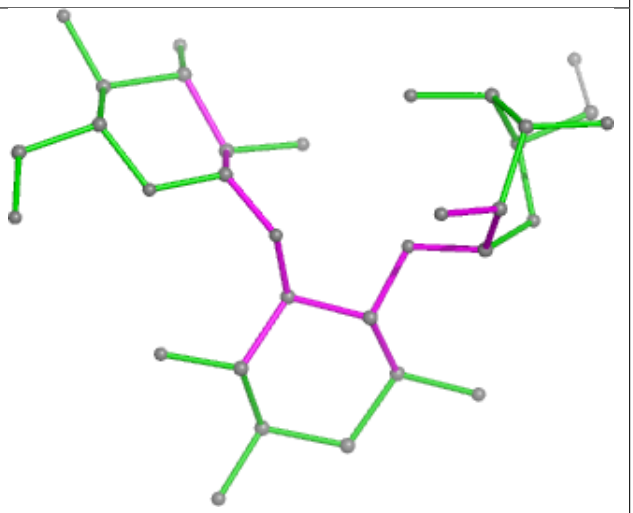


Rings

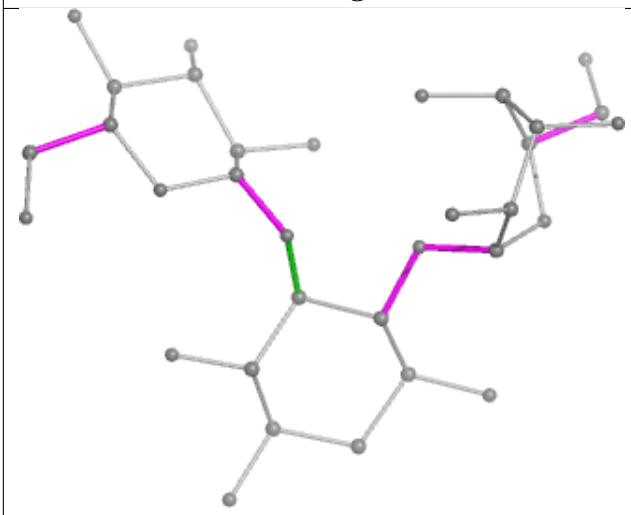
Ligand 8UZ 1 3891



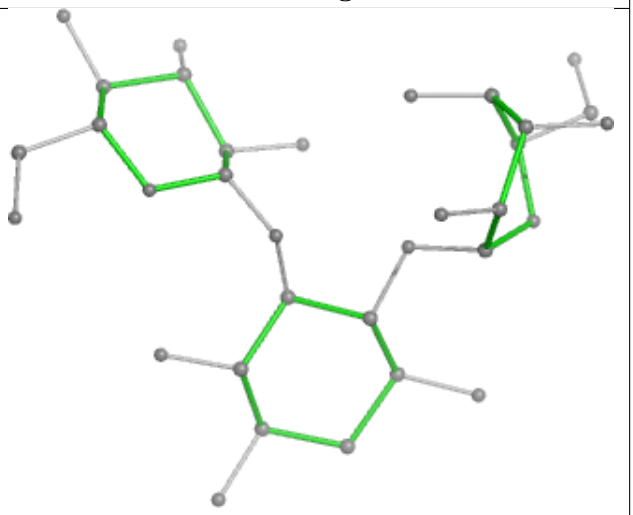
Bond lengths



Bond angles

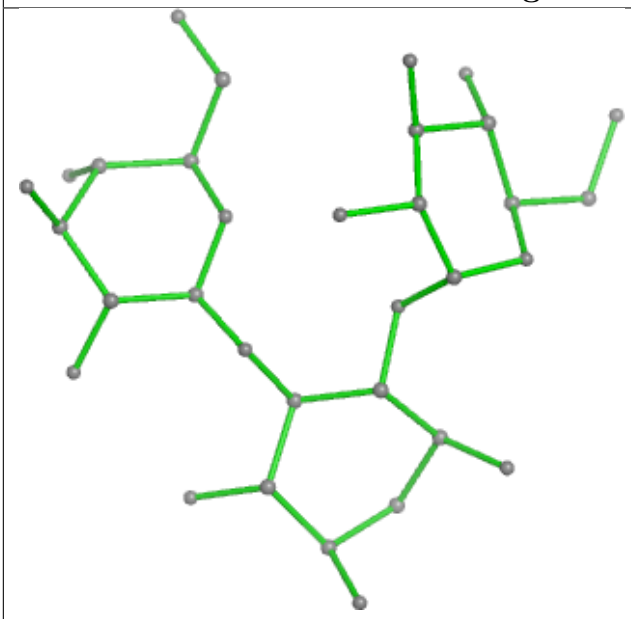


Torsions

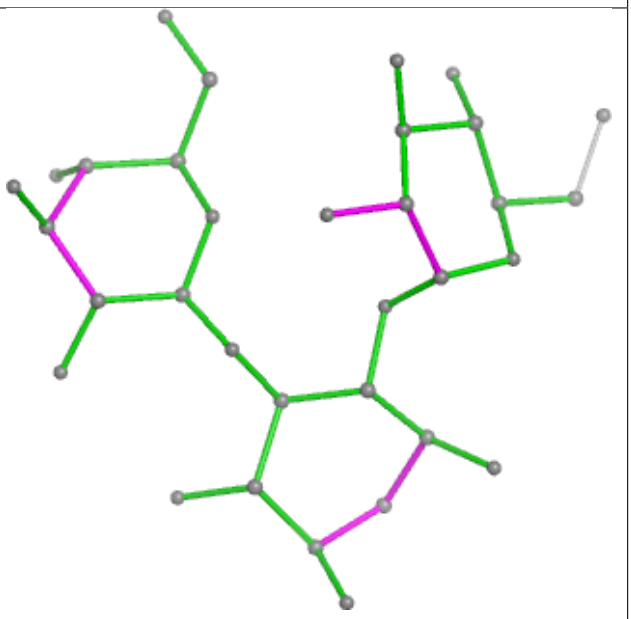


Rings

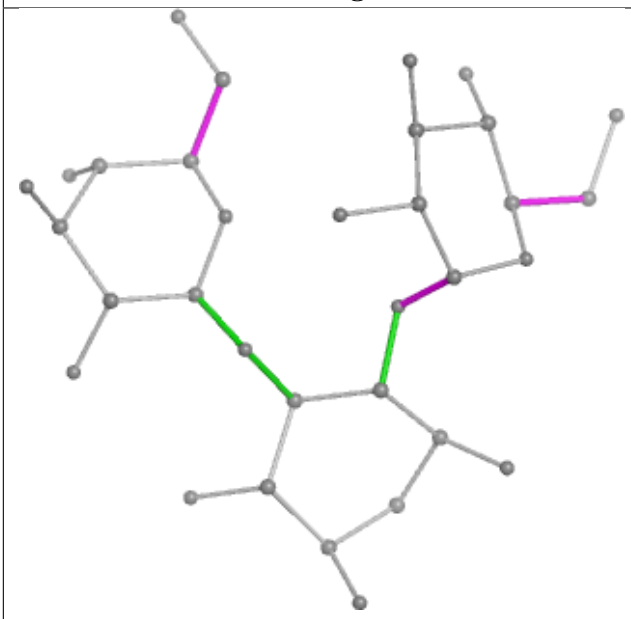
Ligand 8UZ 1 3893



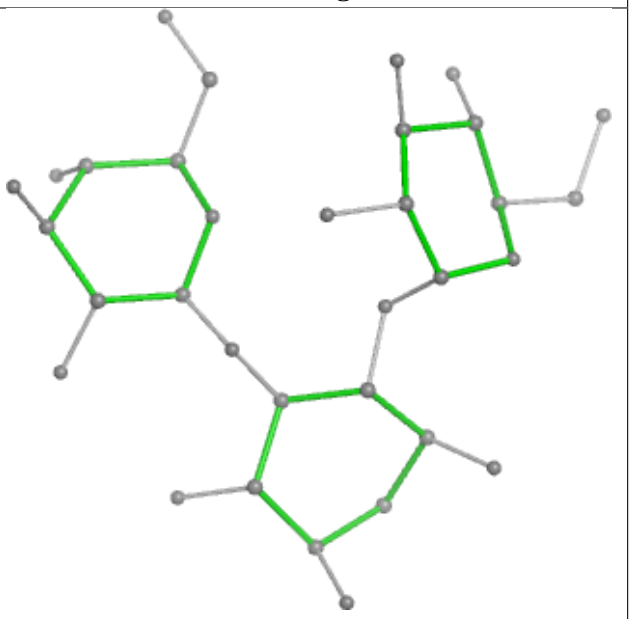
Bond lengths



Bond angles

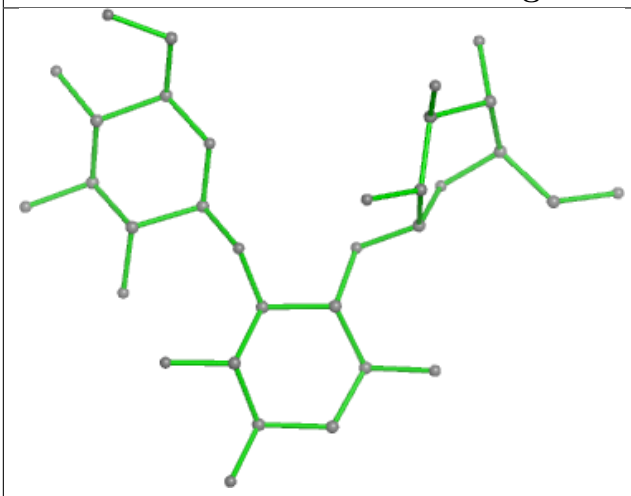


Torsions

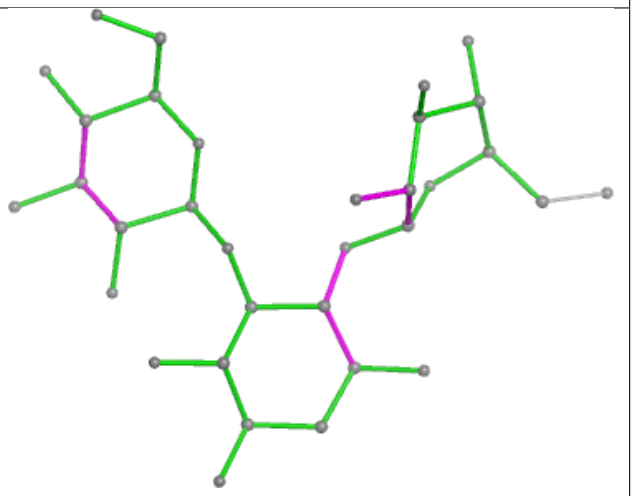


Rings

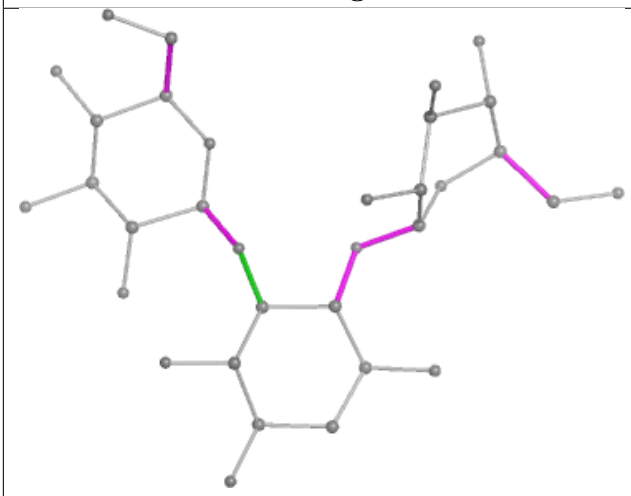
Ligand 8UZ 1 3887



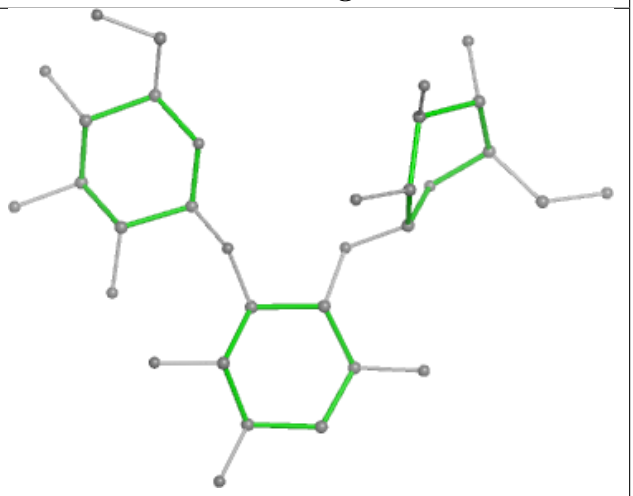
Bond lengths



Bond angles

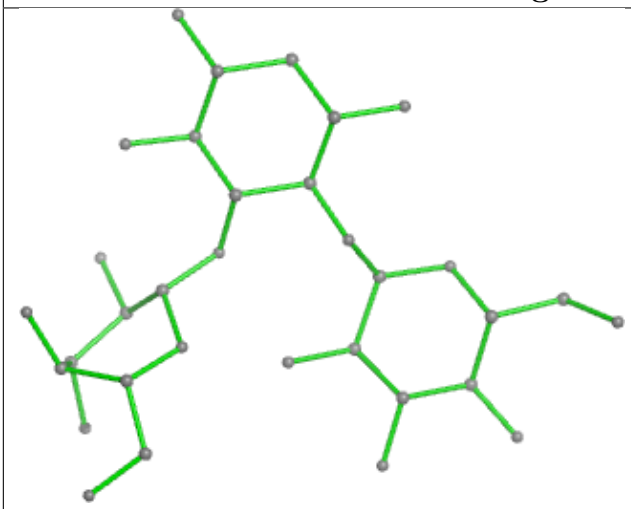


Torsions

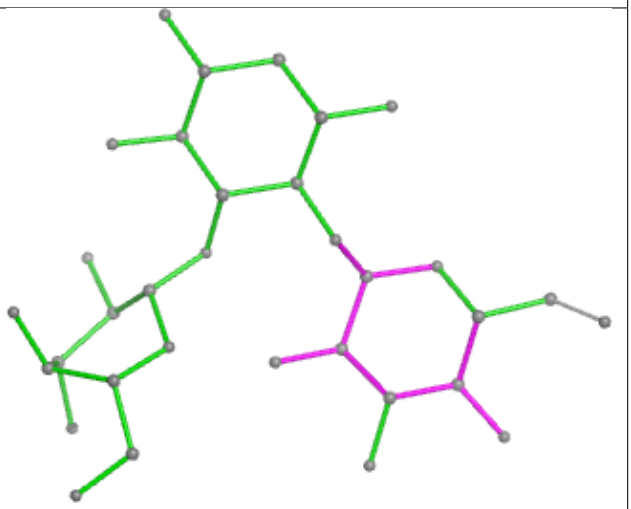


Rings

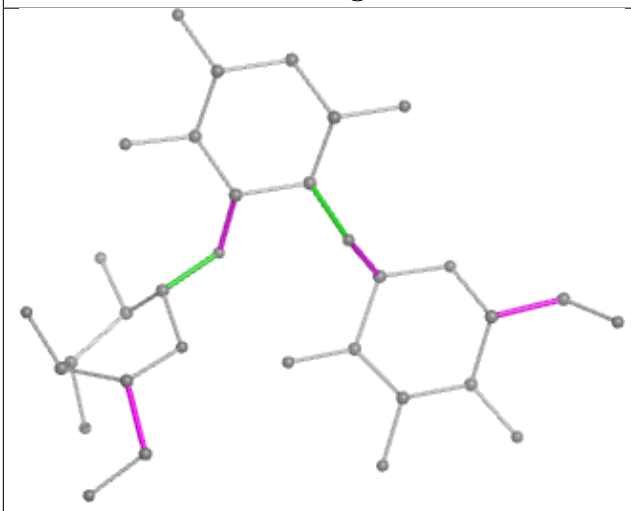
Ligand 8UZ 7 209



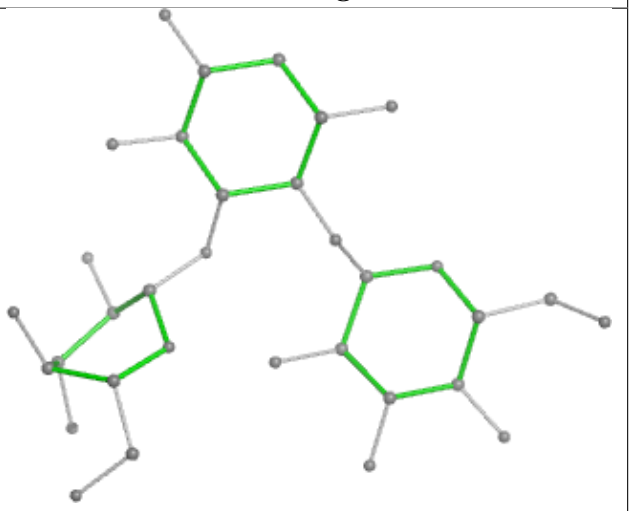
Bond lengths



Bond angles

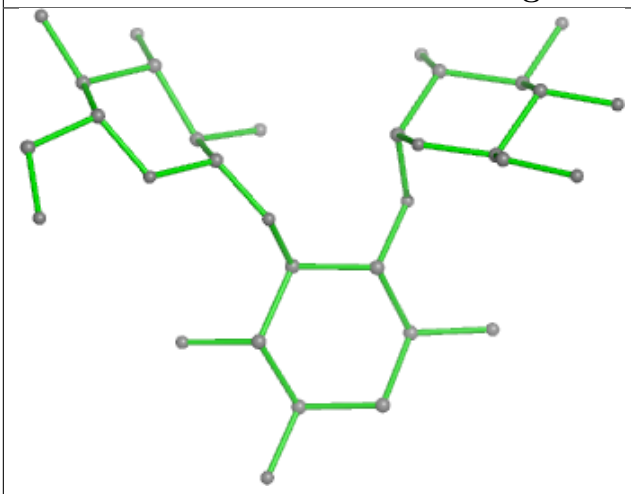


Torsions

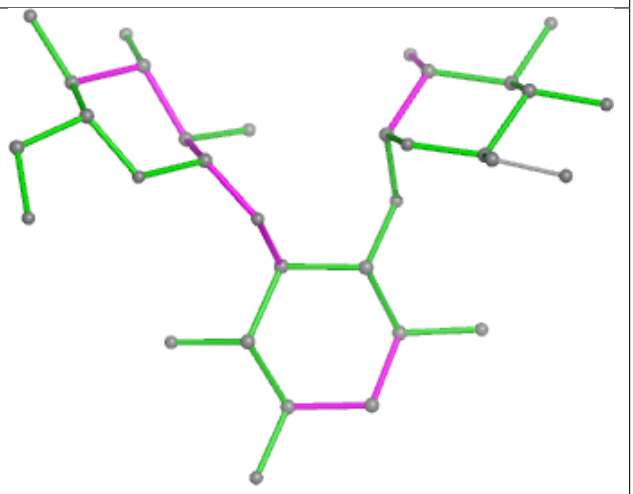


Rings

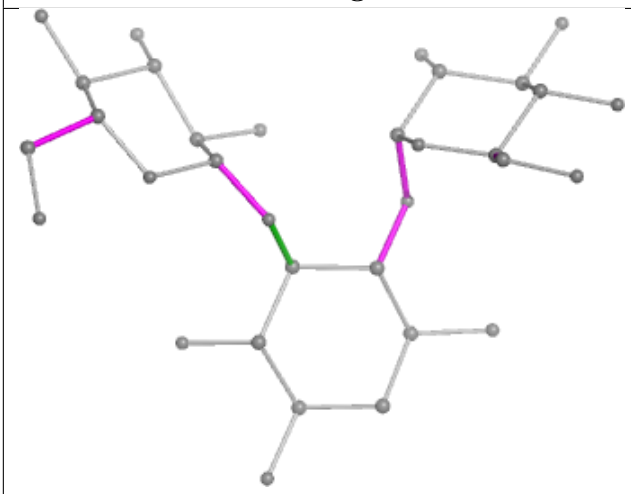
Ligand 8UZ 5 3853



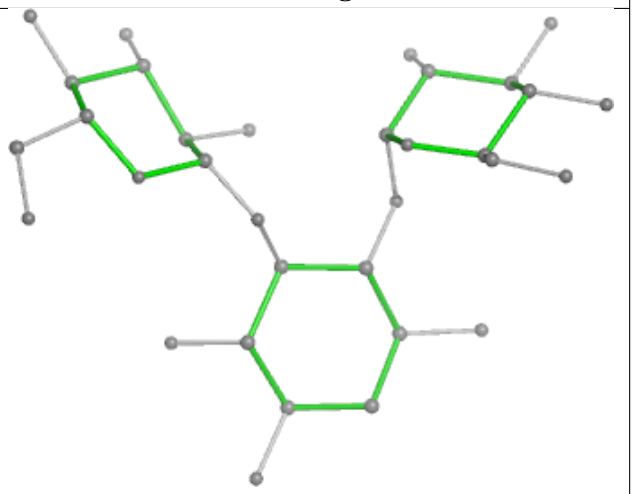
Bond lengths



Bond angles

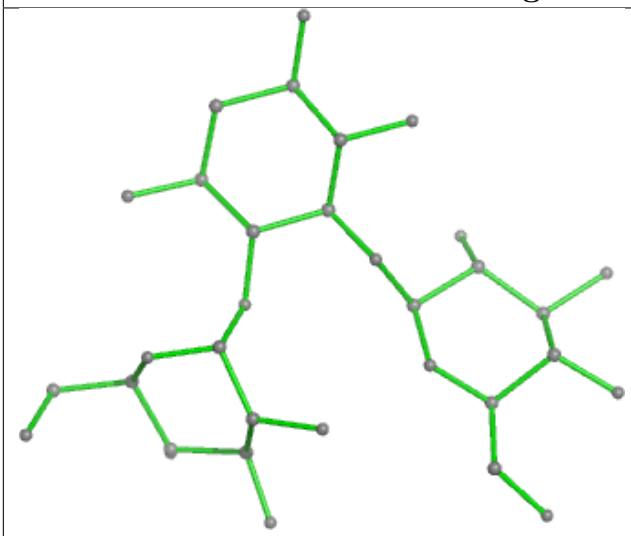


Torsions

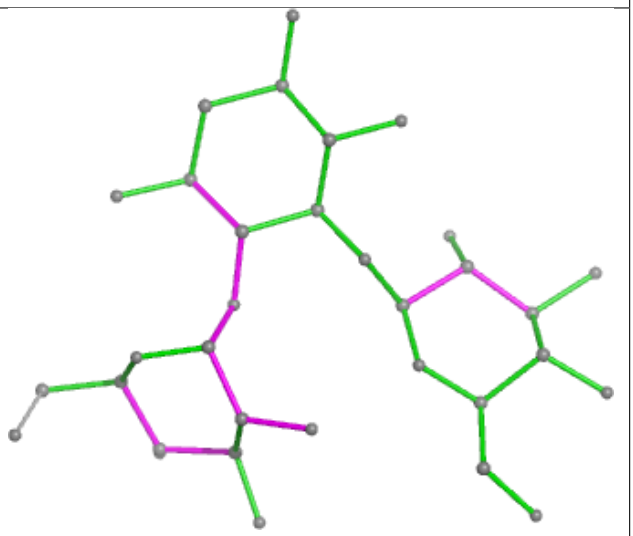


Rings

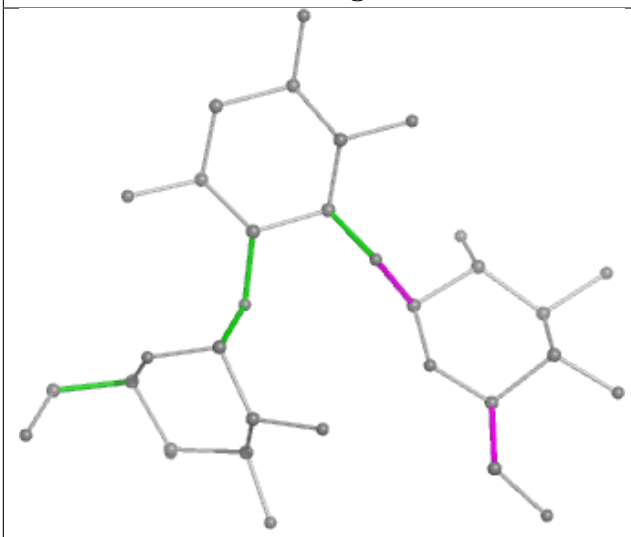
Ligand 8UZ 1 3894



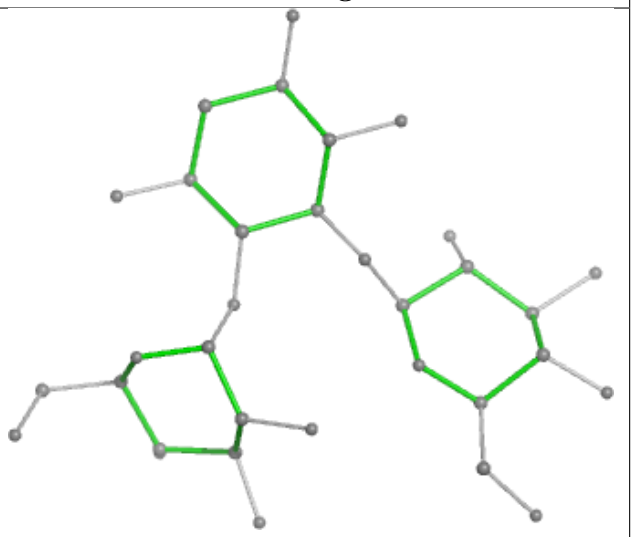
Bond lengths



Bond angles

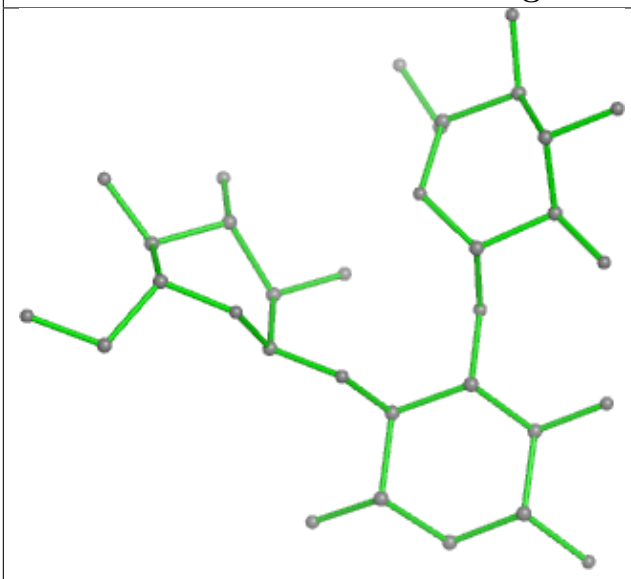


Torsions

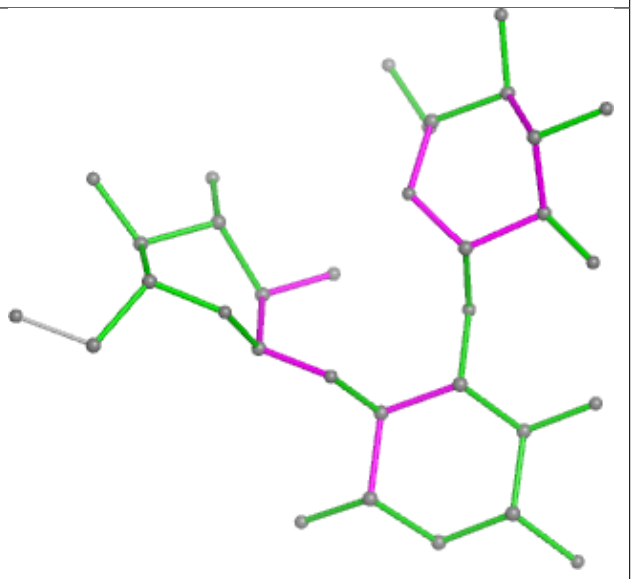


Rings

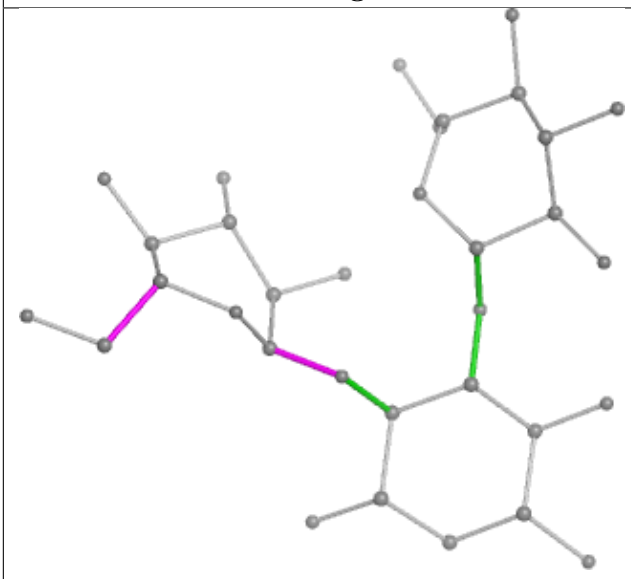
Ligand 8UZ 5 3854



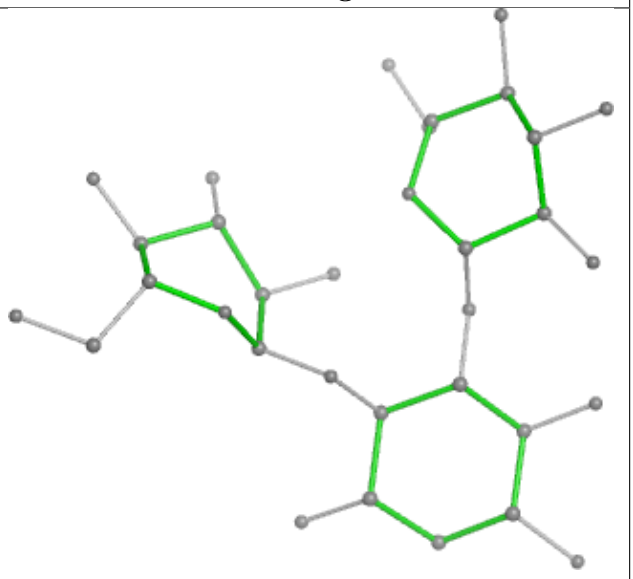
Bond lengths



Bond angles

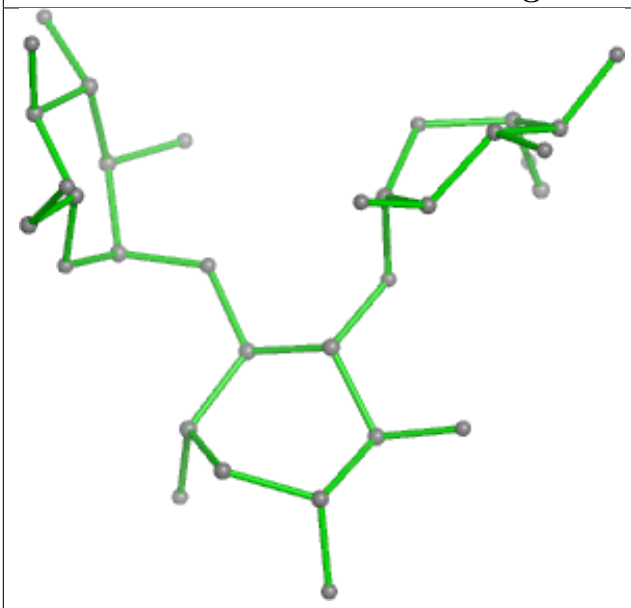


Torsions

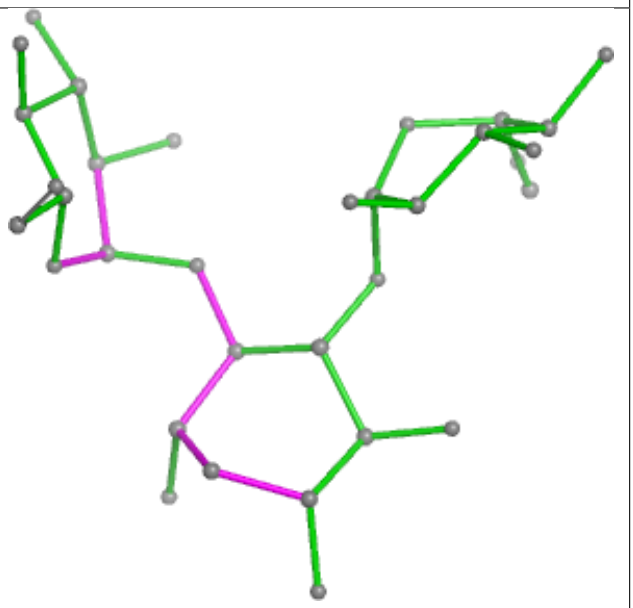


Rings

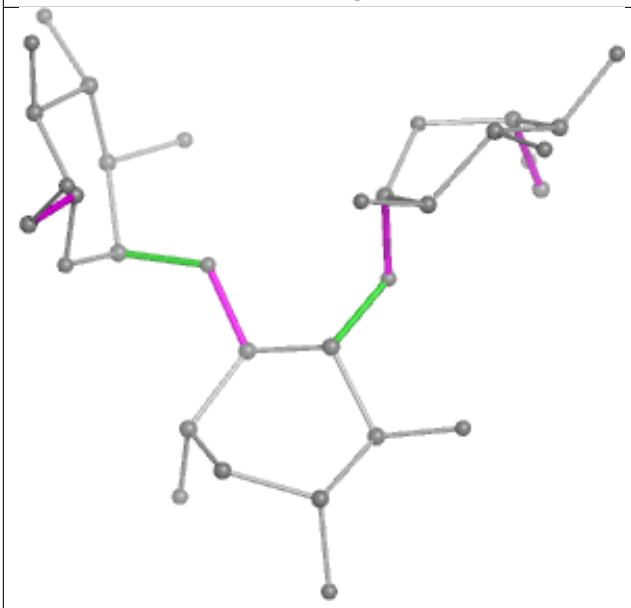
Ligand 8UZ 5 3857



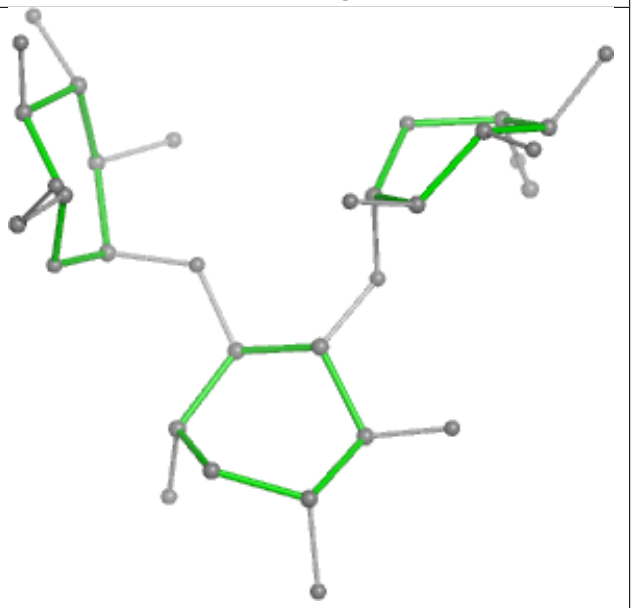
Bond lengths



Bond angles

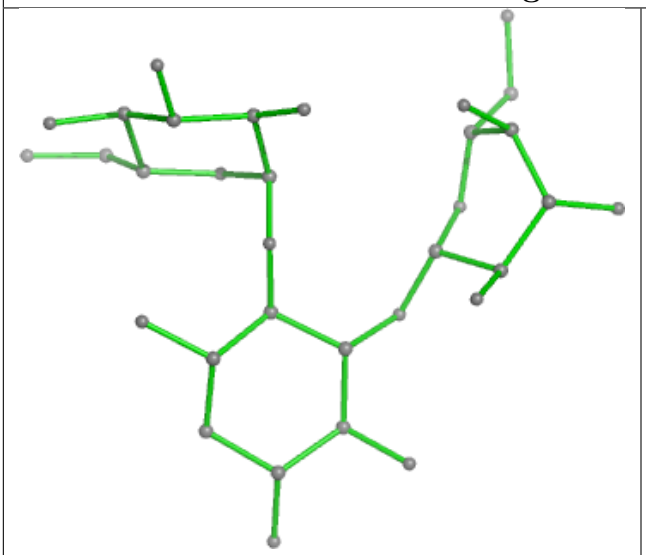


Torsions

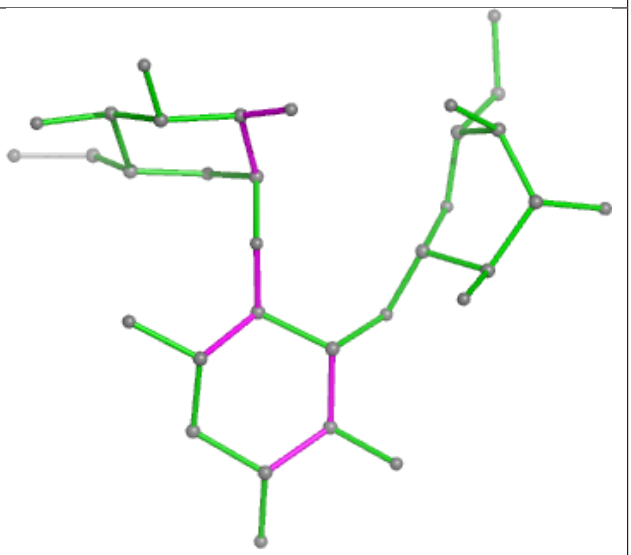


Rings

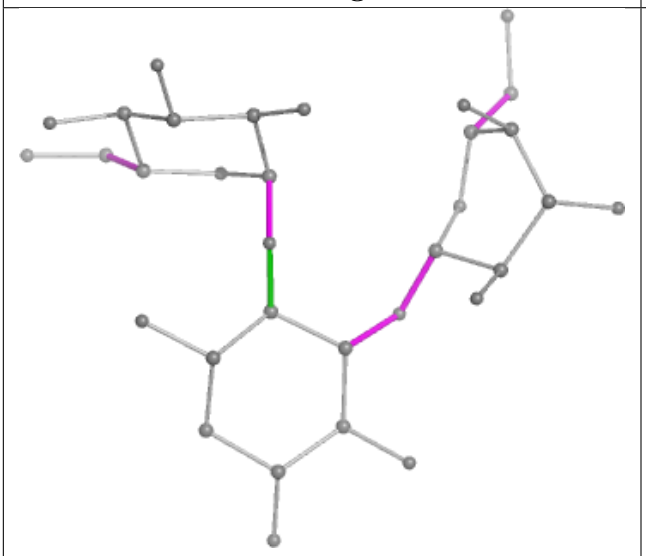
Ligand 8UZ 1 3888



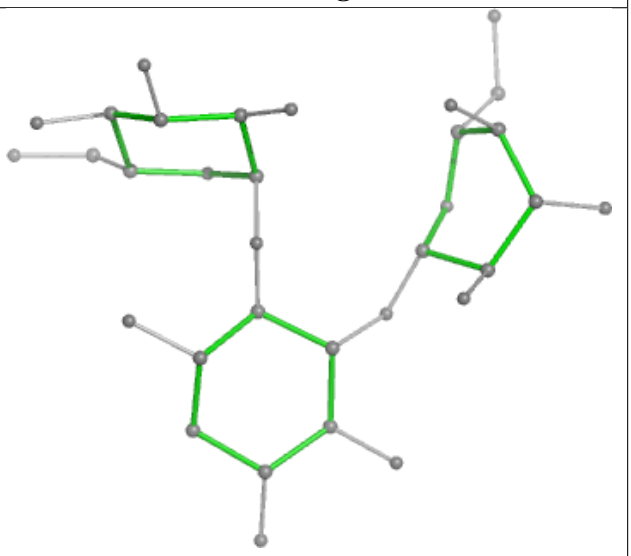
Bond lengths



Bond angles

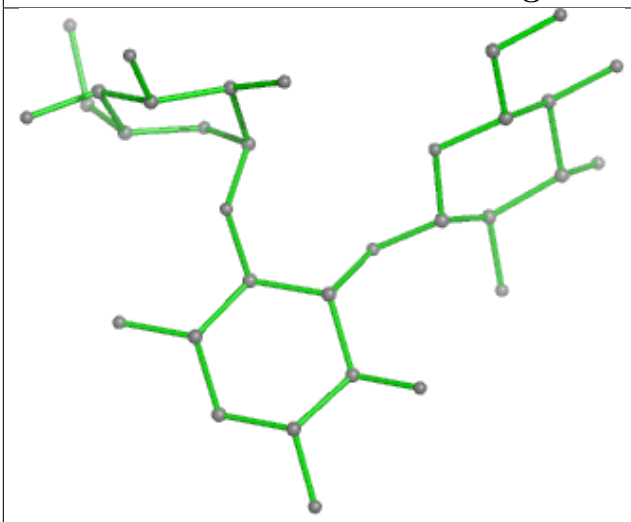


Torsions

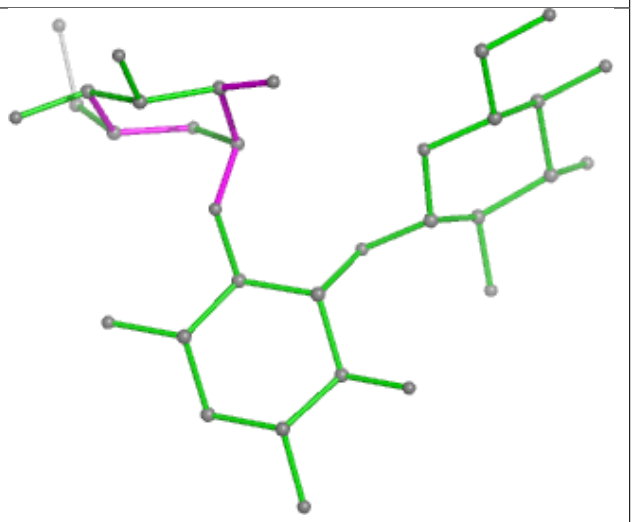


Rings

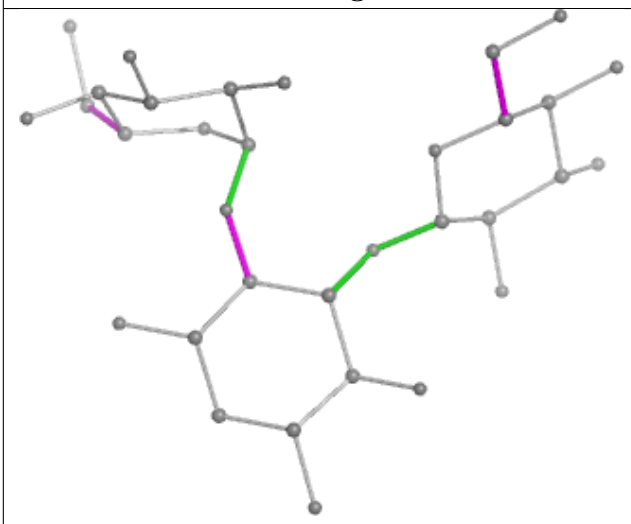
Ligand 8UZ 5 3852



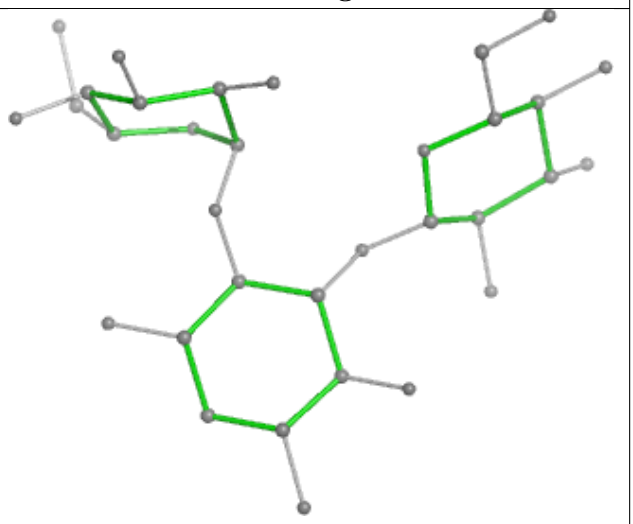
Bond lengths



Bond angles

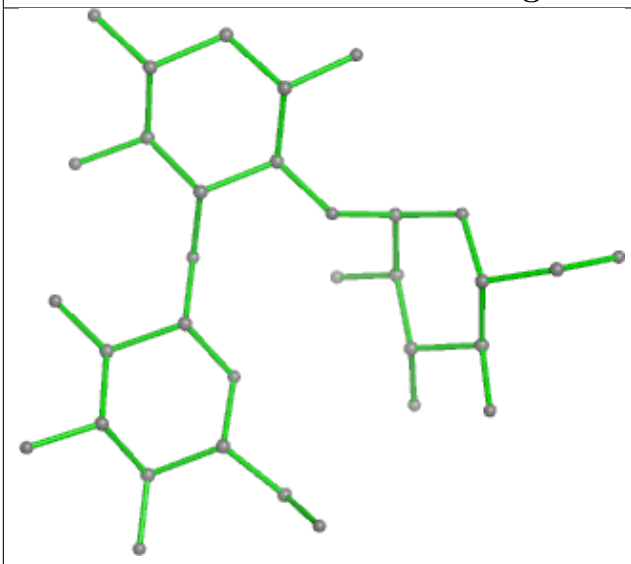


Torsions

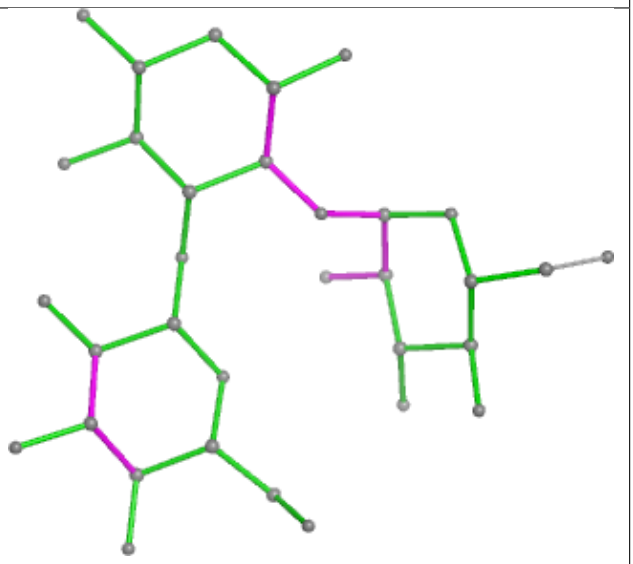


Rings

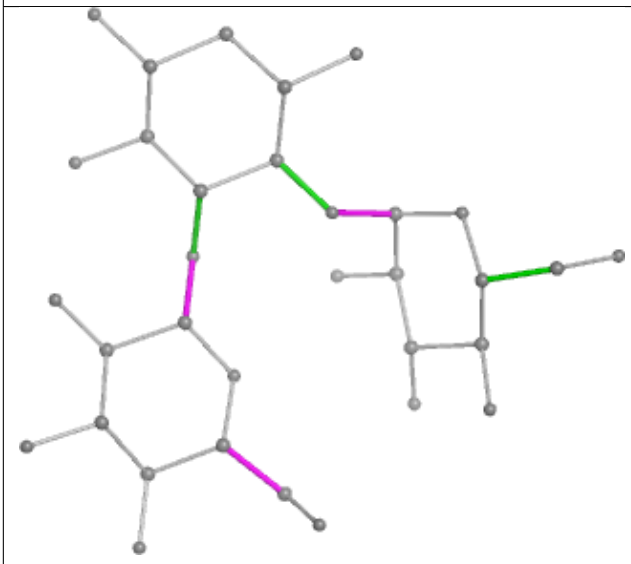
Ligand 8UZ 1 3890



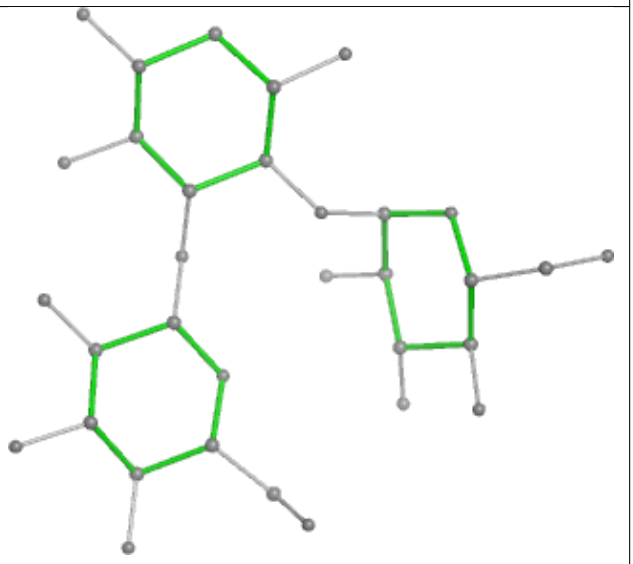
Bond lengths



Bond angles

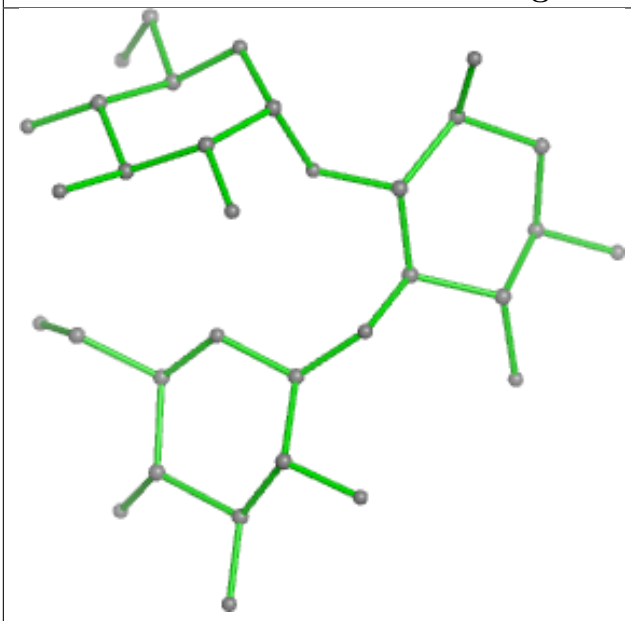


Torsions

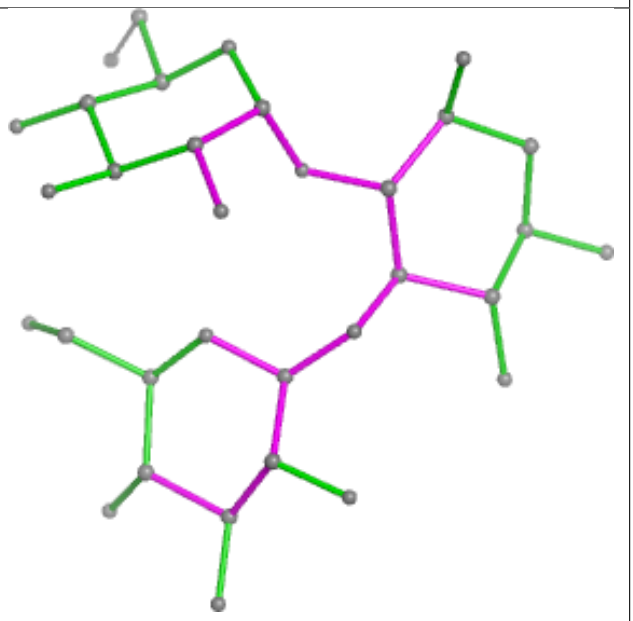


Rings

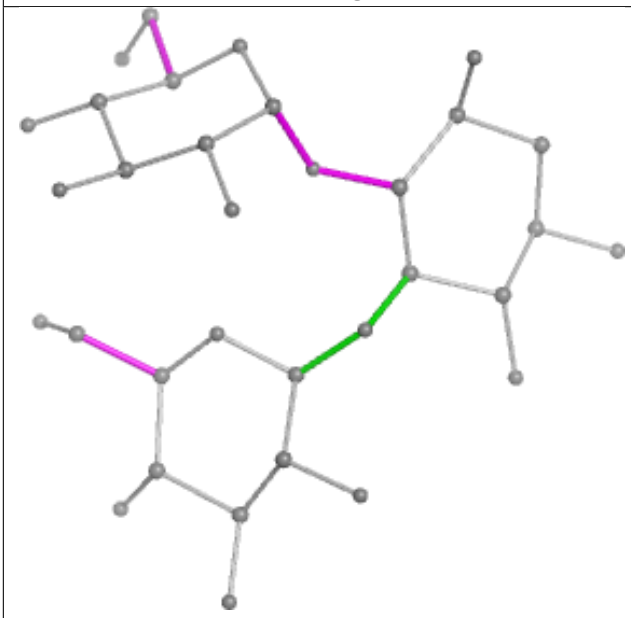
Ligand 8UZ 4 220



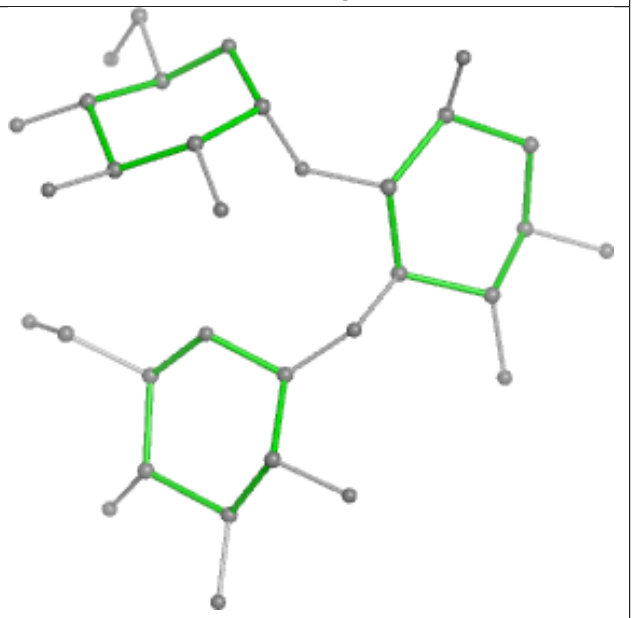
Bond lengths



Bond angles

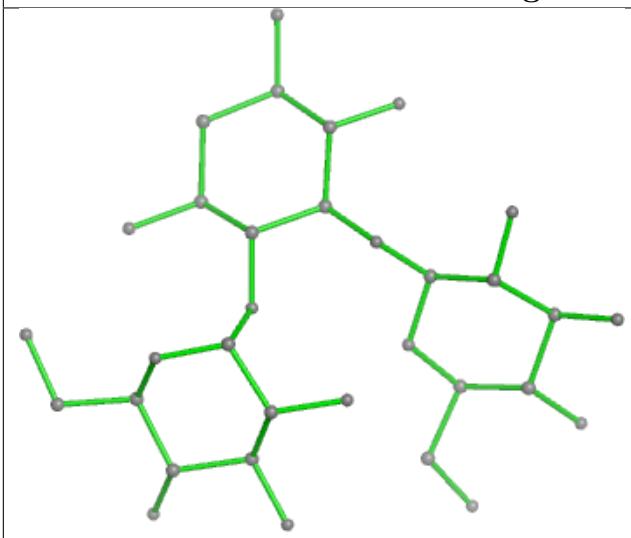


Torsions

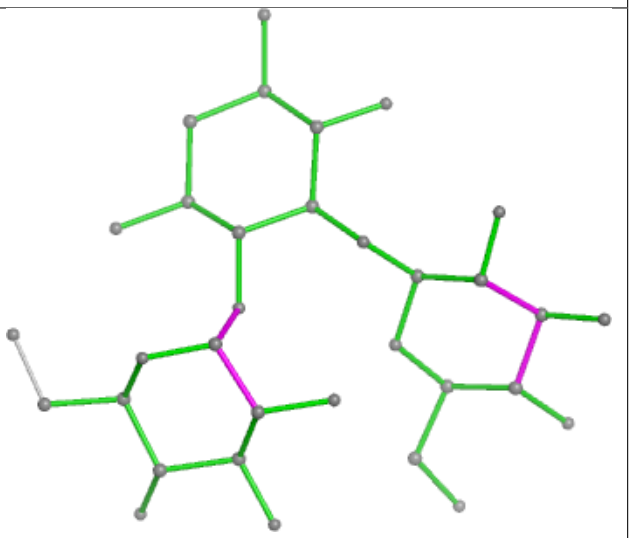


Rings

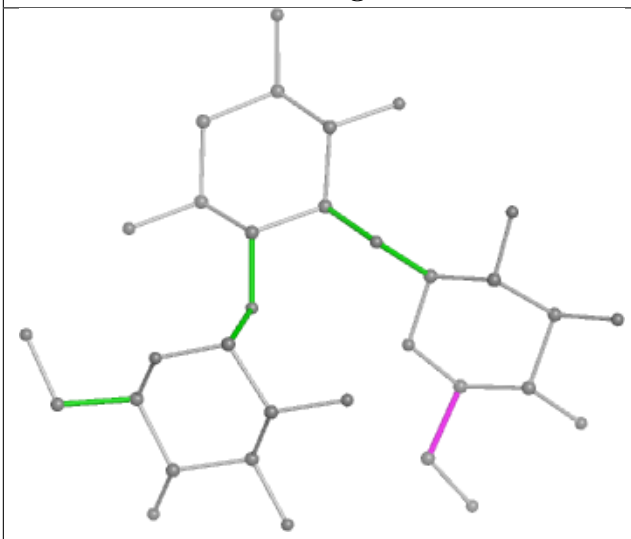
Ligand 8UZ 1 3889



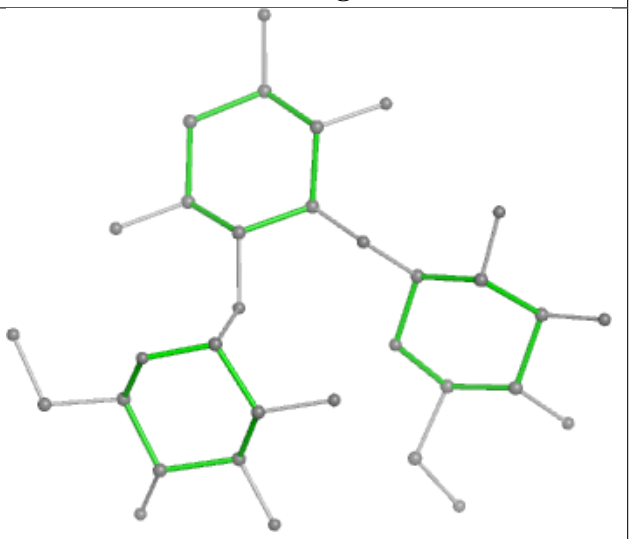
Bond lengths



Bond angles

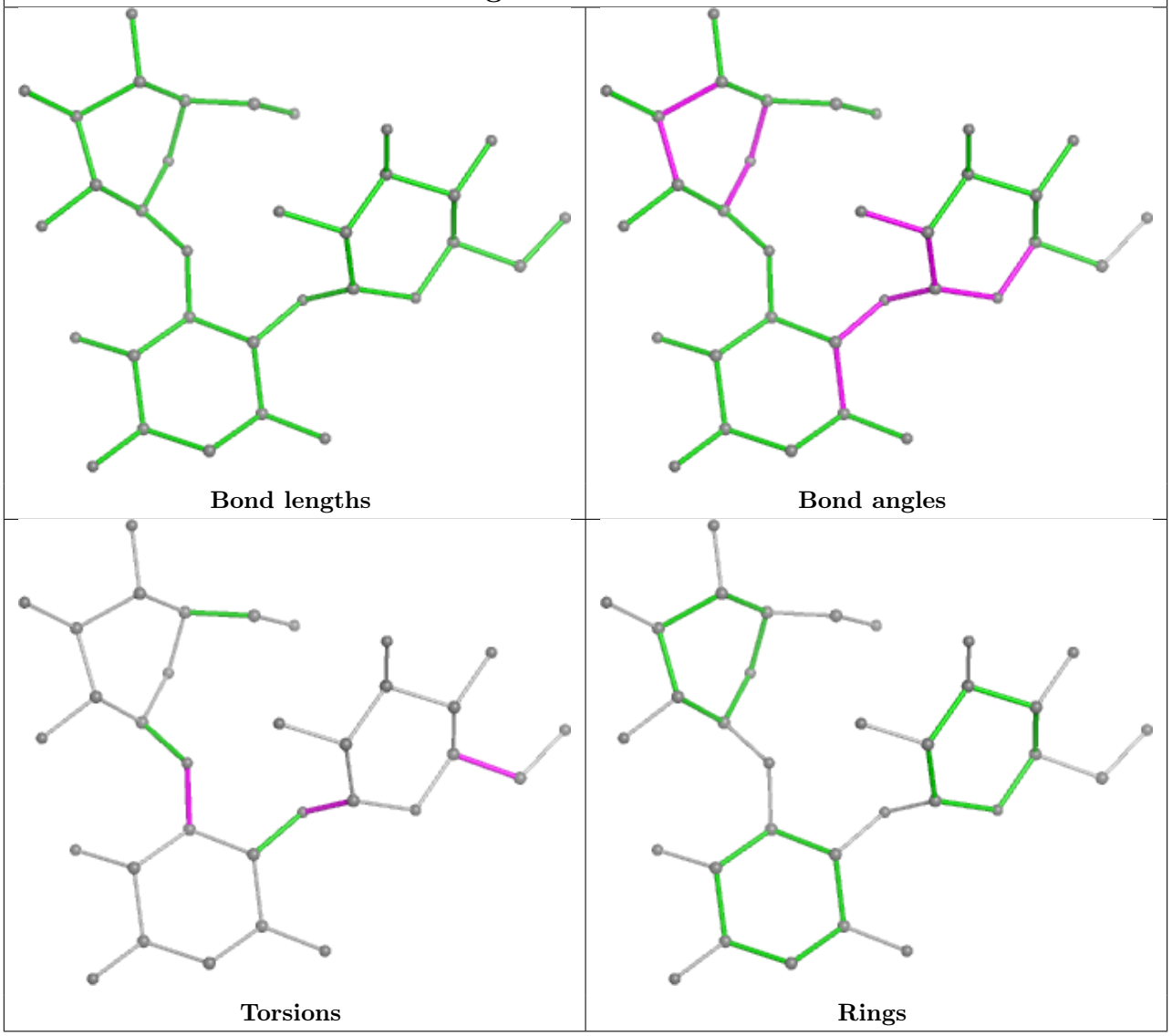


Torsions



Rings

Ligand 8UZ 3 214



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	5	1
78	sM	1
51	n7	1
37	M3	1

Continued on next page...

Continued from previous page...

Mol	Chain	Number of breaks
50	n6	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	5	1017:C	O3'	1018:G	P	6.05
1	sM	50:ASN	C	51:ARG	N	3.56
1	n7	36:HIS	C	37:PRO	N	1.73
1	M3	125:VAL	C	126:PHE	N	1.18
1	n6	99:LEU	C	100:HIS	N	1.17

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	1	3090/3396 (90%)	-0.01	15 (0%) 91 85	73, 114, 221, 384	0
1	5	3080/3396 (90%)	-0.04	16 (0%) 91 85	75, 122, 223, 357	0
2	2	1770/1800 (98%)	-0.13	46 (2%) 56 43	91, 158, 320, 453	0
2	6	1736/1800 (96%)	-0.26	13 (0%) 87 81	95, 154, 275, 374	0
3	3	121/121 (100%)	-0.51	0 100 100	88, 150, 179, 215	0
3	7	121/121 (100%)	-0.54	0 100 100	90, 171, 210, 226	0
4	4	158/158 (100%)	-0.11	1 (0%) 89 83	82, 126, 196, 327	0
4	8	158/158 (100%)	-0.06	3 (1%) 66 55	88, 138, 203, 271	0
5	C0	96/105 (91%)	1.54	34 (35%) 0 0	138, 198, 247, 261	0
5	c0	93/105 (88%)	0.80	20 (21%) 0 0	161, 209, 265, 317	0
6	C1	154/156 (98%)	1.47	47 (30%) 0 0	114, 150, 268, 325	0
6	c1	146/156 (93%)	0.91	20 (13%) 3 3	103, 137, 199, 244	0
7	C2	119/143 (83%)	2.08	56 (47%) 0 0	207, 274, 323, 343	0
7	c2	124/143 (86%)	1.98	55 (44%) 0 0	215, 274, 321, 343	0
8	C3	150/150 (100%)	0.39	7 (4%) 31 23	120, 171, 208, 232	0
8	c3	150/150 (100%)	0.74	13 (8%) 10 7	117, 157, 195, 229	0
9	C4	127/128 (99%)	0.12	6 (4%) 31 23	111, 171, 218, 250	0
9	c4	128/128 (100%)	1.01	27 (21%) 1 0	126, 185, 232, 278	0
10	C5	124/141 (87%)	0.76	14 (11%) 5 4	139, 185, 244, 296	0
10	c5	125/141 (88%)	0.55	19 (15%) 2 2	132, 180, 239, 260	0
11	C6	141/141 (100%)	1.39	46 (32%) 0 0	113, 175, 232, 275	0
11	c6	141/141 (100%)	1.20	43 (30%) 0 0	124, 171, 219, 243	0
12	C7	120/136 (88%)	0.74	21 (17%) 1 1	127, 192, 251, 284	0
12	c7	121/136 (88%)	0.24	7 (5%) 23 16	135, 186, 246, 340	0

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	C8	145/145 (100%)	0.65	16 (11%) 5 4	127, 194, 255, 283	0
13	c8	145/145 (100%)	0.48	15 (10%) 6 5	133, 175, 221, 248	0
14	C9	143/143 (100%)	0.51	14 (9%) 7 6	128, 175, 216, 241	0
14	c9	143/143 (100%)	0.53	12 (8%) 11 8	137, 175, 210, 252	0
15	D0	105/107 (98%)	1.46	40 (38%) 0 0	117, 174, 261, 277	0
15	d0	104/107 (97%)	0.51	10 (9%) 8 6	133, 188, 257, 300	0
16	D1	87/87 (100%)	0.66	9 (10%) 6 5	137, 174, 221, 251	0
16	d1	87/87 (100%)	0.67	9 (10%) 6 5	132, 168, 212, 238	0
17	D2	129/129 (100%)	1.09	20 (15%) 2 1	114, 154, 185, 229	0
17	d2	129/129 (100%)	0.77	17 (13%) 3 3	112, 145, 171, 199	0
18	D3	144/144 (100%)	0.49	10 (6%) 16 11	101, 132, 166, 191	0
18	d3	144/144 (100%)	0.50	5 (3%) 44 33	96, 127, 154, 192	0
19	D4	134/134 (100%)	0.50	15 (11%) 5 4	144, 199, 233, 275	0
19	d4	134/134 (100%)	0.25	8 (5%) 21 15	122, 174, 224, 254	0
20	D5	70/70 (100%)	1.36	22 (31%) 0 0	146, 212, 265, 290	0
20	d5	69/70 (98%)	0.68	12 (17%) 1 1	159, 205, 240, 250	0
21	D6	97/97 (100%)	0.77	12 (12%) 4 4	108, 149, 225, 242	0
21	d6	97/97 (100%)	1.32	30 (30%) 0 0	108, 151, 241, 257	0
22	D7	81/81 (100%)	0.32	5 (6%) 20 14	119, 192, 254, 273	0
22	d7	81/81 (100%)	1.01	17 (20%) 1 0	130, 170, 251, 277	0
23	D8	63/63 (100%)	0.99	14 (22%) 0 0	137, 199, 263, 293	0
23	d8	63/63 (100%)	0.55	5 (7%) 12 9	144, 195, 229, 255	0
24	D9	52/53 (98%)	1.32	17 (32%) 0 0	121, 148, 181, 242	0
24	d9	53/53 (100%)	0.67	8 (15%) 2 2	131, 155, 201, 270	0
25	E0	60/61 (98%)	0.80	10 (16%) 1 1	127, 175, 237, 256	0
25	e0	61/61 (100%)	0.57	8 (13%) 3 3	118, 172, 231, 265	0
26	E1	71/73 (97%)	1.71	24 (33%) 0 0	184, 254, 297, 331	0
26	e1	73/73 (100%)	1.50	21 (28%) 0 0	194, 252, 323, 356	0
27	L2	252/252 (100%)	0.29	4 (1%) 72 61	70, 117, 155, 210	0
27	l2	252/252 (100%)	0.29	8 (3%) 47 35	85, 129, 167, 268	0
28	L3	386/386 (100%)	0.47	28 (7%) 15 11	71, 106, 143, 204	0

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
28	l3	386/386 (100%)	0.14	4 (1%) 82 73	71, 103, 141, 238	0
29	L4	361/361 (100%)	0.18	3 (0%) 86 78	77, 120, 160, 215	0
29	l4	361/361 (100%)	0.10	4 (1%) 80 71	83, 129, 171, 207	0
30	L5	296/296 (100%)	0.73	42 (14%) 2 2	101, 165, 219, 253	0
30	l5	294/296 (99%)	0.99	62 (21%) 1 0	130, 193, 248, 273	0
31	L6	157/176 (89%)	-0.09	1 (0%) 89 83	87, 119, 160, 180	0
31	l6	157/176 (89%)	0.04	2 (1%) 77 67	82, 112, 171, 222	0
32	L7	222/223 (99%)	0.47	19 (8%) 10 8	83, 113, 169, 245	0
32	l7	223/223 (100%)	0.22	4 (1%) 68 57	77, 113, 161, 269	0
33	L8	233/233 (100%)	0.54	18 (7%) 13 10	124, 171, 236, 295	0
33	l8	231/233 (99%)	0.51	23 (9%) 7 5	134, 182, 244, 323	0
34	L9	191/191 (100%)	0.46	17 (8%) 9 7	85, 123, 158, 208	0
34	l9	191/191 (100%)	0.53	8 (4%) 36 27	82, 116, 147, 226	0
35	M0	211/221 (95%)	0.05	3 (1%) 75 64	82, 111, 181, 250	0
35	m0	209/221 (94%)	0.27	7 (3%) 46 35	89, 118, 180, 278	0
36	M1	169/169 (100%)	0.36	10 (5%) 22 15	123, 155, 188, 203	0
36	m1	169/169 (100%)	0.61	14 (8%) 11 9	136, 183, 219, 250	0
37	M3	193/194 (99%)	-0.04	4 (2%) 63 52	79, 144, 187, 263	0
37	m3	194/194 (100%)	0.28	10 (5%) 27 20	106, 162, 211, 286	0
38	M4	136/137 (99%)	0.24	4 (2%) 51 39	96, 123, 157, 191	0
38	m4	137/137 (100%)	0.05	1 (0%) 87 81	87, 111, 137, 182	0
39	M5	203/203 (100%)	1.06	28 (13%) 2 3	88, 124, 150, 166	0
39	m5	203/203 (100%)	1.11	36 (17%) 1 1	96, 140, 170, 183	0
40	M6	197/197 (100%)	0.17	2 (1%) 82 73	67, 97, 140, 196	0
40	m6	197/197 (100%)	0.09	0 100 100	67, 94, 138, 166	0
41	M7	183/184 (99%)	0.13	4 (2%) 62 50	75, 99, 184, 250	0
41	m7	183/184 (99%)	0.45	4 (2%) 62 50	76, 105, 176, 253	0
42	M8	185/185 (100%)	0.75	24 (12%) 3 3	89, 121, 149, 183	0
42	m8	185/185 (100%)	0.67	27 (14%) 2 2	93, 138, 166, 194	0
43	M9	188/188 (100%)	0.16	10 (5%) 26 20	92, 134, 244, 336	0
43	m9	184/188 (97%)	0.32	12 (6%) 18 12	101, 137, 218, 301	0

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
44	N0	172/172 (100%)	0.88	19 (11%) 5 4	88, 115, 150, 188	0
44	n0	171/172 (99%)	0.43	7 (4%) 37 27	80, 108, 139, 189	0
45	N1	159/159 (100%)	1.13	32 (20%) 1 0	94, 126, 187, 212	0
45	n1	159/159 (100%)	1.18	47 (29%) 0 0	100, 136, 187, 244	0
46	N2	100/100 (100%)	0.60	12 (12%) 4 4	126, 172, 211, 237	0
46	n2	98/100 (98%)	0.38	13 (13%) 3 3	139, 180, 223, 247	0
47	N3	136/136 (100%)	0.52	6 (4%) 34 25	69, 105, 149, 254	0
47	n3	135/136 (99%)	0.37	3 (2%) 62 50	72, 100, 135, 178	0
48	N4	130/155 (83%)	1.18	25 (19%) 1 1	88, 171, 291, 313	0
48	n4	130/155 (83%)	0.70	19 (14%) 2 2	93, 180, 259, 294	0
49	N5	121/121 (100%)	0.50	8 (6%) 18 12	105, 138, 175, 245	0
49	n5	120/121 (99%)	1.37	35 (29%) 0 0	113, 150, 191, 229	0
50	N6	126/126 (100%)	0.55	4 (3%) 47 35	96, 127, 164, 209	0
50	n6	122/126 (96%)	0.68	10 (8%) 11 9	104, 144, 177, 183	0
51	N7	135/135 (100%)	0.96	26 (19%) 1 1	143, 184, 224, 242	0
51	n7	135/135 (100%)	0.77	15 (11%) 5 4	137, 187, 227, 253	0
52	N8	148/148 (100%)	0.77	10 (6%) 17 12	79, 123, 170, 199	0
52	n8	148/148 (100%)	0.65	18 (12%) 4 4	90, 144, 188, 213	0
53	N9	58/58 (100%)	1.33	14 (24%) 0 0	82, 135, 196, 215	0
53	n9	56/58 (96%)	1.65	21 (37%) 0 0	91, 158, 203, 245	0
54	O0	97/100 (97%)	0.52	8 (8%) 11 9	138, 162, 212, 221	0
54	o0	100/100 (100%)	0.37	7 (7%) 16 11	128, 165, 222, 241	0
55	O1	109/109 (100%)	0.61	8 (7%) 15 11	81, 119, 186, 224	0
55	o1	109/109 (100%)	0.59	8 (7%) 15 11	89, 124, 204, 257	0
56	O2	127/127 (100%)	0.17	0 100 100	77, 100, 133, 192	0
56	o2	127/127 (100%)	0.35	2 (1%) 72 61	75, 108, 139, 200	0
57	O3	106/106 (100%)	0.16	1 (0%) 84 76	74, 97, 130, 145	0
57	o3	106/106 (100%)	0.30	0 100 100	76, 95, 123, 162	0
58	O4	112/112 (100%)	1.21	25 (22%) 0 0	102, 143, 228, 286	0
58	o4	112/112 (100%)	0.50	11 (9%) 7 6	109, 150, 203, 243	0
59	O5	119/119 (100%)	0.30	3 (2%) 57 45	109, 146, 190, 230	0

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
59	o5	119/119 (100%)	0.73	12 (10%) 7 5	126, 157, 193, 207	0
60	O6	99/99 (100%)	0.38	5 (5%) 28 21	126, 151, 195, 302	0
60	o6	99/99 (100%)	0.35	8 (8%) 12 9	128, 169, 209, 289	0
61	O7	87/87 (100%)	0.06	0 100 100	80, 104, 186, 209	0
61	o7	83/87 (95%)	0.23	3 (3%) 42 32	91, 119, 150, 202	0
62	O8	77/77 (100%)	0.83	13 (16%) 1 1	132, 168, 205, 227	0
62	o8	77/77 (100%)	1.24	16 (20%) 1 0	150, 180, 220, 227	0
63	O9	50/50 (100%)	0.61	2 (4%) 38 28	94, 117, 133, 144	0
63	o9	50/50 (100%)	1.44	10 (20%) 1 0	108, 125, 145, 152	0
64	Q0	52/52 (100%)	0.07	1 (1%) 66 55	92, 110, 155, 190	0
64	q0	52/52 (100%)	0.30	2 (3%) 40 30	83, 106, 135, 148	0
65	Q1	25/25 (100%)	0.45	0 100 100	96, 115, 136, 144	0
65	q1	25/25 (100%)	0.30	1 (4%) 38 28	102, 117, 148, 156	0
66	Q2	105/105 (100%)	0.88	18 (17%) 1 1	86, 132, 166, 258	0
66	q2	104/105 (99%)	1.14	28 (26%) 0 0	111, 156, 199, 215	0
67	Q3	91/91 (100%)	0.01	0 100 100	88, 127, 175, 217	0
67	q3	91/91 (100%)	0.18	1 (1%) 80 71	79, 131, 176, 210	0
68	S0	206/206 (100%)	0.56	20 (9%) 7 6	128, 178, 224, 271	0
68	s0	206/206 (100%)	0.39	22 (10%) 6 5	133, 174, 214, 262	0
69	S1	214/216 (99%)	0.75	33 (15%) 2 1	138, 201, 253, 279	0
69	s1	216/216 (100%)	1.30	69 (31%) 0 0	139, 202, 254, 312	0
70	S2	217/217 (100%)	0.79	29 (13%) 3 3	120, 161, 202, 244	0
70	s2	217/217 (100%)	0.57	22 (10%) 7 5	114, 155, 195, 226	0
71	S3	223/223 (100%)	1.13	47 (21%) 1 0	113, 166, 236, 306	0
71	s3	223/223 (100%)	0.53	24 (10%) 5 4	137, 174, 236, 267	0
72	S4	260/260 (100%)	1.02	55 (21%) 0 0	131, 181, 213, 254	0
72	s4	260/260 (100%)	0.45	15 (5%) 23 16	109, 159, 203, 253	0
73	S5	206/206 (100%)	1.16	42 (20%) 1 0	125, 189, 236, 278	0
73	s5	206/206 (100%)	0.98	35 (16%) 1 1	145, 185, 230, 264	0
74	S6	226/236 (95%)	0.84	45 (19%) 1 0	125, 186, 246, 272	0
74	s6	218/236 (92%)	0.63	32 (14%) 2 2	111, 162, 216, 258	0

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
75	S7	184/184 (100%)	0.83	33 (17%)	1	1	154, 208, 268, 305	0
75	s7	184/184 (100%)	0.46	19 (10%)	6	5	133, 195, 250, 297	0
76	S8	188/200 (94%)	1.01	35 (18%)	1	1	113, 154, 219, 291	0
76	s8	185/200 (92%)	0.87	29 (15%)	2	1	101, 142, 204, 250	0
77	S9	185/185 (100%)	0.98	36 (19%)	1	1	129, 186, 240, 279	0
77	s9	185/185 (100%)	0.87	29 (15%)	2	1	119, 169, 223, 263	0
78	SM	159/272 (58%)	0.51	22 (13%)	2	3	117, 185, 279, 371	0
78	sM	131/272 (48%)	0.38	15 (11%)	4	4	129, 182, 270, 311	0
79	SR	318/318 (100%)	1.13	77 (24%)	0	0	164, 221, 281, 318	0
79	sR	316/318 (99%)	0.58	40 (12%)	3	4	143, 199, 251, 293	0
All	All	32778/34100 (96%)	0.41	2743 (8%)	11	8	67, 147, 242, 453	0

All (2743) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
78	SM	19	VAL	12.3
34	l9	191	LEU	12.0
1	5	1565	G	11.1
54	o0	6	SER	10.7
78	SM	18	VAL	9.3
26	e1	106	TYR	9.3
7	c2	62	LEU	8.2
7	c2	97	LEU	8.1
79	SR	212	ALA	8.0
79	SR	213	SER	7.8
78	sM	53	ARG	7.7
44	N0	1	MET	7.5
7	C2	62	LEU	7.4
48	N4	65	GLU	7.3
6	C1	36	LYS	7.0
2	2	709	C	7.0
69	s1	100	PHE	6.9
79	SR	156	VAL	6.9
73	S5	152	GLY	6.8
79	SR	211	ILE	6.7
73	s5	152	GLY	6.7
7	c2	111	ASN	6.7
26	E1	152	ALA	6.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
7	c2	63	VAL	6.6
33	l8	198	ALA	6.6
7	C2	119	SER	6.6
5	C0	22	VAL	6.6
79	SR	32	LEU	6.6
39	M5	2	GLY	6.6
45	N1	34	TYR	6.5
26	E1	145	HIS	6.4
7	c2	104	GLY	6.3
75	S7	93	LEU	6.3
5	C0	23	ALA	6.3
17	D2	122	SER	6.2
75	s7	92	PHE	6.2
13	C8	2	SER	6.2
39	M5	3	ALA	6.1
7	C2	25	GLU	6.0
5	C0	21	VAL	6.0
7	C2	61	VAL	6.0
44	N0	2	ALA	5.9
7	c2	121	VAL	5.9
26	E1	93	HIS	5.8
74	S6	96	SER	5.8
39	m5	3	ALA	5.8
75	s7	93	LEU	5.8
79	SR	178	VAL	5.8
2	2	135	A	5.8
45	n1	66	ASN	5.8
73	s5	153	GLY	5.7
7	c2	90	LYS	5.7
69	s1	212	VAL	5.7
5	c0	23	ALA	5.7
48	N4	99	GLU	5.6
79	SR	204	ALA	5.6
78	SM	170	VAL	5.6
79	SR	25	THR	5.6
48	N4	86	SER	5.6
5	C0	25	LYS	5.6
73	s5	129	PRO	5.6
74	s6	89	ASP	5.6
7	C2	71	ILE	5.6
33	L8	198	ALA	5.5
48	n4	67	VAL	5.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
75	s7	134	GLU	5.5
79	SR	263	PHE	5.5
45	n1	34	TYR	5.5
7	C2	69	ALA	5.5
70	S2	90	THR	5.5
79	SR	210	LEU	5.4
6	c1	4	GLU	5.4
7	c2	102	GLY	5.4
33	l8	199	ALA	5.4
6	C1	150	ASN	5.4
62	o8	5	ILE	5.4
69	s1	89	ASP	5.4
11	C6	132	LYS	5.4
39	m5	58	GLY	5.4
51	N7	11	ALA	5.3
1	1	2539	C	5.3
48	N4	97	LYS	5.3
30	l5	69	ILE	5.3
79	sR	211	ILE	5.3
25	E0	45	VAL	5.3
73	S5	154	ALA	5.3
75	S7	94	ALA	5.2
15	D0	107	THR	5.2
7	c2	28	LEU	5.2
6	C1	152	GLN	5.2
30	l5	127	GLY	5.2
79	SR	252	LEU	5.2
26	e1	107	LYS	5.1
75	S7	47	ARG	5.1
45	n1	77	ASN	5.1
69	S1	156	ALA	5.1
45	n1	65	TYR	5.1
9	c4	135	ARG	5.1
79	SR	192	PHE	5.1
69	s1	140	ILE	5.1
7	c2	119	SER	5.1
24	D9	56	ARG	5.1
7	c2	70	ASN	5.1
7	C2	63	VAL	5.1
9	c4	98	GLY	5.1
74	s6	153	VAL	5.1
79	sR	121	MET	5.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
69	s1	101	HIS	5.0
26	e1	100	LEU	5.0
11	c6	114	ARG	5.0
62	o8	43	PHE	5.0
22	d7	51	GLN	5.0
43	m9	185	LEU	5.0
2	2	721	U	5.0
7	C2	28	LEU	5.0
72	S4	149	TYR	5.0
26	e1	116	LYS	5.0
69	s1	122	GLU	5.0
45	n1	67	VAL	4.9
2	2	729	G	4.9
60	o6	66	GLU	4.9
9	C4	14	PHE	4.9
21	d6	45	VAL	4.9
48	n4	68	ALA	4.9
15	D0	65	ILE	4.8
15	D0	84	MET	4.8
66	q2	72	LEU	4.8
74	s6	88	ARG	4.8
7	C2	29	LYS	4.8
7	C2	33	ARG	4.8
79	SR	115	ILE	4.8
2	2	1709	C	4.8
30	l5	55	PHE	4.8
6	C1	146	ALA	4.8
78	SM	21	PRO	4.8
70	S2	91	ARG	4.8
33	l8	150	LEU	4.8
1	5	2539	C	4.8
48	N4	66	GLU	4.8
58	O4	33	GLN	4.8
69	s1	99	ASN	4.8
7	c2	103	LEU	4.8
23	D8	67	ARG	4.8
48	N4	95	SER	4.8
6	C1	3	THR	4.8
16	d1	55	LEU	4.8
79	sR	33	LEU	4.8
75	S7	48	GLU	4.8
45	n1	78	LYS	4.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
74	S6	156	PHE	4.8
53	n9	43	HIS	4.7
7	c2	115	VAL	4.7
30	L5	62	CYS	4.7
73	s5	37	GLN	4.7
73	S5	71	ALA	4.7
66	q2	81	ALA	4.7
60	O6	100	HIS	4.7
54	o0	105	ALA	4.7
74	S6	88	ARG	4.7
70	S2	97	ARG	4.7
71	s3	148	LYS	4.7
79	SR	203	THR	4.7
72	S4	45	ILE	4.7
73	S5	151	GLY	4.7
35	M0	220	GLN	4.7
46	N2	95	PHE	4.6
23	D8	66	LEU	4.6
39	m5	143	ARG	4.6
48	N4	108	LYS	4.6
5	C0	64	TYR	4.6
15	d0	64	LYS	4.6
24	D9	5	ASN	4.6
7	c2	122	VAL	4.6
39	m5	148	TYR	4.6
77	s9	134	ILE	4.6
26	E1	87	THR	4.6
62	O8	43	PHE	4.6
66	Q2	106	PHE	4.6
13	C8	48	LYS	4.6
11	C6	55	VAL	4.6
73	s5	71	ALA	4.6
77	S9	141	VAL	4.6
11	c6	47	LYS	4.6
17	D2	121	VAL	4.6
15	D0	82	TYR	4.6
45	N1	72	VAL	4.6
7	C2	32	LEU	4.6
54	o0	7	GLN	4.5
15	D0	111	GLY	4.5
7	c2	91	VAL	4.5
7	c2	93	ASP	4.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
77	s9	86	LEU	4.5
7	c2	100	TRP	4.5
79	SR	181	TRP	4.5
26	E1	90	LYS	4.5
30	l5	163	LEU	4.5
53	n9	47	LEU	4.5
79	SR	171	SER	4.5
26	E1	89	LYS	4.5
33	l8	197	VAL	4.5
73	S5	158	GLN	4.5
71	S3	206	VAL	4.5
20	D5	36	ALA	4.5
25	e0	60	PRO	4.5
43	M9	184	LEU	4.4
72	S4	12	LEU	4.4
69	s1	213	ARG	4.4
45	n1	32	LYS	4.4
69	s1	235	GLY	4.4
25	e0	53	LYS	4.4
50	n6	109	LEU	4.4
69	s1	97	LEU	4.4
7	C2	60	VAL	4.4
30	L5	4	GLN	4.4
22	d7	46	VAL	4.4
78	sM	54	PRO	4.4
7	c2	110	GLY	4.4
77	s9	118	LEU	4.4
75	S7	5	GLN	4.4
77	S9	6	ARG	4.4
79	SR	231	MET	4.4
11	c6	44	LEU	4.4
30	L5	38	THR	4.4
7	c2	49	THR	4.4
17	D2	46	TYR	4.4
51	N7	14	VAL	4.3
59	O5	75	TYR	4.3
14	C9	27	LYS	4.3
6	C1	137	PHE	4.3
7	C2	70	ASN	4.3
39	M5	6	TYR	4.3
60	O6	2	THR	4.3
7	C2	89	ILE	4.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
77	S9	2	PRO	4.3
7	c2	92	ALA	4.3
73	s5	80	LYS	4.3
78	SM	176	LYS	4.3
15	d0	65	ILE	4.3
21	d6	73	TYR	4.3
6	C1	151	LYS	4.3
7	c2	109	GLU	4.3
48	n4	66	GLU	4.3
68	S0	107	PHE	4.3
79	sR	79	TYR	4.3
48	n4	90	ILE	4.3
62	o8	40	GLN	4.3
30	l5	61	ILE	4.3
79	SR	193	ILE	4.3
11	C6	54	LEU	4.3
79	SR	7	LEU	4.3
39	M5	123	GLN	4.3
5	C0	41	TYR	4.3
9	c4	102	LEU	4.3
45	N1	67	VAL	4.2
70	S2	96	THR	4.2
74	S6	157	VAL	4.2
66	q2	79	THR	4.2
26	E1	119	ARG	4.2
2	2	493	U	4.2
11	C6	51	PRO	4.2
2	6	239	C	4.2
63	o9	38	ASN	4.2
33	L8	199	ALA	4.2
69	S1	140	ILE	4.2
11	C6	21	HIS	4.2
11	c6	51	PRO	4.2
78	SM	171	PRO	4.2
17	D2	61	ILE	4.2
79	sR	204	ALA	4.2
69	s1	141	ALA	4.2
77	s9	2	PRO	4.2
78	SM	22	PRO	4.2
7	C2	64	SER	4.2
26	e1	108	VAL	4.2
74	S6	179	VAL	4.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	2	719	U	4.2
16	D1	33	GLN	4.2
26	e1	99	LYS	4.2
50	n6	108	LYS	4.2
19	D4	119	PHE	4.2
26	e1	134	ASN	4.2
45	N1	92	ARG	4.2
32	L7	135	ALA	4.1
46	n2	95	PHE	4.1
53	n9	39	PHE	4.1
26	E1	109	ASP	4.1
51	n7	41	ALA	4.1
7	C2	36	LEU	4.1
79	SR	33	LEU	4.1
79	SR	190	ALA	4.1
30	l5	49	TYR	4.1
5	C0	45	ALA	4.1
6	C1	149	ALA	4.1
52	N8	149	ALA	4.1
27	l2	252	THR	4.1
20	D5	50	ILE	4.1
43	M9	183	ALA	4.1
58	O4	79	SER	4.1
66	q2	8	ARG	4.1
77	S9	134	ILE	4.1
5	C0	20	VAL	4.1
51	N7	15	ARG	4.1
53	N9	43	HIS	4.1
18	D3	4	GLY	4.1
26	e1	132	LEU	4.1
23	d8	65	ARG	4.1
74	s6	80	ASN	4.1
48	n4	87	LEU	4.1
2	2	697	C	4.1
7	c2	98	GLY	4.1
22	d7	32	PHE	4.1
5	C0	68	LEU	4.1
26	E1	104	SER	4.1
21	d6	83	ILE	4.1
24	D9	27	HIS	4.1
33	l8	132	VAL	4.1
58	o4	3	GLN	4.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
79	sR	32	LEU	4.1
26	e1	118	ARG	4.1
70	s2	90	THR	4.1
39	M5	58	GLY	4.0
71	S3	134	CYS	4.0
72	S4	157	ASN	4.0
7	C2	100	TRP	4.0
79	SR	169	ILE	4.0
22	D7	24	LEU	4.0
34	L9	191	LEU	4.0
45	n1	64	VAL	4.0
76	S8	8	ARG	4.0
58	O4	78	GLY	4.0
58	O4	77	GLY	4.0
60	o6	69	ALA	4.0
48	N4	1	MET	4.0
10	C5	101	ALA	4.0
11	c6	48	VAL	4.0
42	M8	140	LEU	4.0
69	S1	122	GLU	4.0
9	C4	114	ARG	4.0
25	E0	55	ARG	4.0
48	N4	96	LEU	4.0
23	D8	33	LEU	4.0
25	e0	62	VAL	4.0
55	O1	71	LEU	4.0
76	S8	148	ALA	4.0
48	n4	130	SER	4.0
70	s2	224	PHE	4.0
66	q2	25	VAL	4.0
7	c2	42	ALA	4.0
11	c6	138	PHE	4.0
21	d6	44	ILE	4.0
46	N2	69	ALA	4.0
63	o9	2	ALA	4.0
73	s5	44	ASN	4.0
2	2	718	U	4.0
11	c6	57	LEU	4.0
10	C5	125	PRO	4.0
42	m8	169	GLY	4.0
6	c1	147	GLY	4.0
36	m1	91	LEU	4.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
33	l8	131	ALA	4.0
68	S0	120	LEU	3.9
79	SR	222	LEU	3.9
79	SR	234	LEU	3.9
21	d6	38	ARG	3.9
77	S9	13	SER	3.9
71	S3	137	VAL	3.9
2	2	724	C	3.9
70	S2	92	ALA	3.9
69	S1	45	LYS	3.9
2	2	711	U	3.9
70	s2	91	ARG	3.9
7	C2	41	LEU	3.9
73	s5	43	PHE	3.9
79	SR	232	TYR	3.9
14	c9	28	LEU	3.9
39	m5	135	VAL	3.9
58	o4	2	ALA	3.9
72	S4	44	LEU	3.9
78	SM	175	VAL	3.9
53	N9	33	LYS	3.9
69	S1	138	PHE	3.9
42	m8	167	SER	3.9
7	C2	95	LYS	3.9
46	N2	71	PHE	3.9
8	c3	69	ASN	3.9
69	s1	218	LEU	3.9
45	n1	39	ILE	3.9
24	D9	55	PHE	3.9
69	s1	84	ILE	3.9
5	c0	21	VAL	3.9
30	l5	146	LEU	3.9
46	n2	56	VAL	3.9
20	D5	102	THR	3.9
21	d6	17	HIS	3.9
45	n1	90	ASN	3.9
75	S7	91	ILE	3.9
26	E1	132	LEU	3.9
72	S4	154	ILE	3.9
71	s3	150	MET	3.9
69	s1	90	GLU	3.8
79	sR	313	TRP	3.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
11	C6	121	SER	3.8
69	S1	84	ILE	3.8
74	S6	95	LYS	3.8
30	l5	75	LEU	3.8
39	m5	134	LEU	3.8
45	n1	98	HIS	3.8
7	c2	45	LEU	3.8
31	l6	109	GLU	3.8
7	c2	59	LEU	3.8
26	e1	104	SER	3.8
26	E1	86	THR	3.8
73	S5	198	LEU	3.8
5	C0	16	PHE	3.8
46	N2	70	LYS	3.8
69	s1	216	LYS	3.8
77	S9	118	LEU	3.8
79	SR	73	LEU	3.8
13	c8	61	LEU	3.8
15	D0	64	LYS	3.8
20	D5	91	PRO	3.8
63	o9	51	ILE	3.8
76	S8	167	ALA	3.8
7	c2	101	ALA	3.8
52	N8	144	VAL	3.8
21	d6	68	TYR	3.8
50	n6	45	ILE	3.8
79	SR	265	LEU	3.8
11	c6	82	ARG	3.8
73	S5	153	GLY	3.8
7	c2	71	ILE	3.8
16	d1	33	GLN	3.8
72	S4	175	PHE	3.8
78	sM	55	SER	3.8
78	sM	66	ALA	3.8
21	D6	62	TYR	3.8
1	1	2540	A	3.8
7	c2	61	VAL	3.8
51	n7	75	VAL	3.8
39	m5	185	ALA	3.8
51	N7	2	ALA	3.8
79	SR	191	ASP	3.7
51	n7	82	PRO	3.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
59	o5	78	LYS	3.7
11	C6	92	TYR	3.7
10	c5	89	MET	3.7
20	d5	42	LEU	3.7
49	n5	121	LYS	3.7
70	S2	95	ARG	3.7
53	n9	40	ARG	3.7
69	s1	211	HIS	3.7
35	M0	221	ALA	3.7
67	q3	92	ALA	3.7
74	s6	161	GLU	3.7
30	L5	127	GLY	3.7
7	C2	143	GLN	3.7
30	l5	41	LYS	3.7
70	S2	113	LEU	3.7
30	L5	78	ALA	3.7
60	O6	8	ALA	3.7
6	C1	155	LYS	3.7
44	N0	30	PHE	3.7
15	D0	110	PRO	3.7
71	s3	134	CYS	3.7
16	d1	87	ARG	3.7
30	l5	216	GLU	3.7
12	C7	71	PHE	3.7
15	d0	66	SER	3.7
62	O8	40	GLN	3.7
77	s9	156	ILE	3.7
7	C2	128	ALA	3.7
7	C2	68	GLU	3.7
79	sR	7	LEU	3.7
55	O1	14	ILE	3.7
69	s1	121	ILE	3.7
79	sR	314	GLN	3.7
45	N1	91	LEU	3.7
75	s7	129	LEU	3.7
79	SR	241	PHE	3.7
25	e0	2	ALA	3.7
30	l5	137	ASP	3.7
73	S5	155	ALA	3.7
71	s3	152	PHE	3.7
77	s9	105	LEU	3.7
2	2	696	C	3.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
75	S7	98	ILE	3.7
27	L2	71	LEU	3.7
79	SR	254	ALA	3.7
77	s9	37	LYS	3.6
71	S3	16	VAL	3.6
24	D9	50	ILE	3.6
52	N8	109	TYR	3.6
71	S3	184	ILE	3.6
75	s7	91	ILE	3.6
72	S4	48	LEU	3.6
30	l5	38	THR	3.6
73	s5	151	GLY	3.6
1	5	1815	U	3.6
5	c0	25	LYS	3.6
59	O5	2	ALA	3.6
74	s6	133	LEU	3.6
79	sR	263	PHE	3.6
5	c0	64	TYR	3.6
7	C2	90	LYS	3.6
16	d1	54	ALA	3.6
30	L5	31	TYR	3.6
48	n4	82	ILE	3.6
2	6	731	C	3.6
6	C1	43	LYS	3.6
30	l5	181	PRO	3.6
5	C0	28	ASN	3.6
5	C0	54	TYR	3.6
48	n4	65	GLU	3.6
79	SR	208	GLY	3.6
50	n6	73	VAL	3.6
48	n4	85	ALA	3.6
10	C5	109	PRO	3.6
16	D1	22	ARG	3.6
71	S3	50	ILE	3.6
19	D4	17	LEU	3.6
24	D9	36	LEU	3.6
30	l5	48	LYS	3.6
47	N3	100	GLY	3.6
49	n5	62	VAL	3.6
12	C7	125	SER	3.6
26	E1	131	PHE	3.6
12	C7	74	GLN	3.6

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
49	n5	60	TYR	3.6
14	c9	31	PRO	3.6
72	S4	47	PHE	3.6
42	m8	176	ARG	3.6
77	S9	3	ARG	3.6
53	n9	29	TYR	3.6
77	s9	97	LEU	3.6
11	C6	59	LYS	3.6
39	m5	6	TYR	3.6
73	S5	133	VAL	3.6
30	l5	67	SER	3.6
41	m7	160	ALA	3.6
30	l5	37	VAL	3.6
69	s1	215	VAL	3.6
74	S6	158	ILE	3.6
75	S7	49	ILE	3.6
69	s1	120	LEU	3.6
71	S3	8	LYS	3.5
5	C0	66	TYR	3.5
7	C2	121	VAL	3.5
34	l9	25	VAL	3.5
53	n9	51	ALA	3.5
58	o4	32	ALA	3.5
15	D0	90	TYR	3.5
45	N1	31	LEU	3.5
39	m5	144	ARG	3.5
10	c5	103	ASN	3.5
7	C2	72	ILE	3.5
58	O4	7	PHE	3.5
24	D9	13	ARG	3.5
48	N4	110	LYS	3.5
7	C2	59	LEU	3.5
33	l8	94	PHE	3.5
79	sR	34	LEU	3.5
20	D5	101	TYR	3.5
42	m8	174	ARG	3.5
72	s4	25	GLY	3.5
25	E0	48	THR	3.5
19	d4	119	PHE	3.5
69	s1	139	ALA	3.5
78	SM	20	LEU	3.5
72	S4	138	TYR	3.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
11	C6	39	VAL	3.5
1	1	1581	C	3.5
30	l5	223	PHE	3.5
2	2	277	U	3.5
71	S3	39	VAL	3.5
7	c2	117	GLY	3.5
72	S4	139	VAL	3.5
75	s7	90	VAL	3.5
22	d7	73	LEU	3.5
32	L7	88	ARG	3.5
51	n7	11	ALA	3.5
12	c7	2	GLY	3.5
35	m0	56	GLU	3.5
71	S3	138	VAL	3.5
74	S6	97	VAL	3.5
7	c2	32	LEU	3.5
62	O8	29	LYS	3.5
69	s1	136	ARG	3.5
30	l5	70	THR	3.5
74	S6	166	GLU	3.5
30	L5	34	LYS	3.5
52	N8	79	TRP	3.5
68	s0	174	TRP	3.5
76	s8	38	ILE	3.5
22	d7	49	HIS	3.5
2	2	234	G	3.5
20	D5	54	VAL	3.5
51	N7	65	ARG	3.5
5	c0	66	TYR	3.5
17	D2	69	LEU	3.5
77	S9	86	LEU	3.5
72	s4	69	HIS	3.5
30	L5	60	ILE	3.5
76	S8	67	TRP	3.5
30	l5	42	ALA	3.5
15	D0	66	SER	3.5
30	L5	69	ILE	3.5
66	q2	70	LEU	3.5
74	s6	156	PHE	3.5
7	C2	111	ASN	3.4
51	n7	42	LEU	3.4
2	2	1370	U	3.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
9	c4	14	PHE	3.4
32	L7	134	VAL	3.4
71	s3	136	VAL	3.4
76	S8	156	VAL	3.4
28	L3	47	LEU	3.4
46	N2	105	LEU	3.4
30	l5	34	LYS	3.4
42	m8	186	VAL	3.4
44	N0	136	LYS	3.4
77	S9	85	VAL	3.4
79	SR	233	THR	3.4
15	D0	63	LEU	3.4
16	d1	34	ILE	3.4
34	L9	91	ARG	3.4
46	n2	15	PHE	3.4
53	N9	34	GLY	3.4
73	S5	197	GLU	3.4
12	C7	62	GLN	3.4
16	D1	34	ILE	3.4
73	S5	194	LEU	3.4
74	S6	93	LYS	3.4
77	S9	92	LYS	3.4
24	D9	52	PHE	3.4
45	n1	30	TYR	3.4
30	l5	68	THR	3.4
45	N1	151	LEU	3.4
54	O0	89	VAL	3.4
70	s2	196	VAL	3.4
11	c6	92	TYR	3.4
12	c7	74	GLN	3.4
69	S1	151	LYS	3.4
73	S5	76	ARG	3.4
79	SR	236	ALA	3.4
79	SR	302	PHE	3.4
2	2	1707	A	3.4
73	S5	178	GLY	3.4
77	s9	36	LEU	3.4
79	SR	179	LYS	3.4
16	D1	39	VAL	3.4
32	L7	244	ASN	3.4
54	O0	59	TYR	3.4
17	D2	37	PHE	3.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
45	n1	33	VAL	3.4
72	S4	77	ARG	3.4
45	N1	44	ALA	3.4
71	s3	149	ALA	3.4
73	s5	198	LEU	3.4
74	S6	75	LEU	3.4
77	s9	99	LEU	3.4
66	Q2	24	LYS	3.4
5	c0	62	GLN	3.4
33	l8	34	PHE	3.4
53	n9	32	LEU	3.4
58	O4	30	LEU	3.4
21	d6	67	THR	3.4
76	S8	192	TYR	3.4
69	s1	91	VAL	3.4
77	S9	104	PHE	3.4
10	C5	112	LEU	3.4
44	n0	57	GLU	3.4
69	s1	217	LEU	3.4
6	C1	35	TYR	3.4
73	s5	41	LYS	3.4
9	c4	26	THR	3.4
15	D0	27	THR	3.4
27	L2	72	ARG	3.4
35	m0	55	ASN	3.4
60	o6	68	ARG	3.4
62	o8	2	ALA	3.4
68	s0	75	ALA	3.4
75	S7	105	THR	3.4
26	E1	82	LYS	3.4
30	l5	222	LEU	3.4
37	m3	190	LYS	3.4
53	n9	24	PRO	3.4
79	sR	73	LEU	3.4
1	1	1221	A	3.4
49	n5	123	TYR	3.4
52	N8	124	ILE	3.4
79	SR	253	ALA	3.4
69	s1	138	PHE	3.3
74	s6	162	VAL	3.3
46	N2	93	ILE	3.3
69	s1	113	MET	3.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
46	N2	15	PHE	3.3
72	S4	99	PHE	3.3
66	q2	83	LEU	3.3
9	C4	112	ILE	3.3
30	l5	62	CYS	3.3
20	d5	91	PRO	3.3
15	D0	93	LEU	3.3
63	o9	23	LEU	3.3
2	2	716	C	3.3
11	C6	16	ALA	3.3
25	e0	54	ARG	3.3
53	n9	31	SER	3.3
64	Q0	128	LYS	3.3
77	S9	96	VAL	3.3
14	c9	22	LEU	3.3
45	n1	89	LEU	3.3
7	c2	27	ALA	3.3
17	d2	61	ILE	3.3
7	C2	110	GLY	3.3
11	C6	106	LYS	3.3
15	D0	112	VAL	3.3
45	n1	31	LEU	3.3
12	C7	69	ILE	3.3
9	c4	23	PHE	3.3
74	S6	86	PRO	3.3
74	S6	178	LEU	3.3
7	c2	64	SER	3.3
16	D1	23	ILE	3.3
69	S1	137	ILE	3.3
69	S1	141	ALA	3.3
71	S3	52	ALA	3.3
30	L5	163	LEU	3.3
6	C1	136	ARG	3.3
7	C2	120	VAL	3.3
39	M5	148	TYR	3.3
21	D6	82	ARG	3.3
69	S1	143	THR	3.3
59	o5	120	ALA	3.3
9	c4	92	LYS	3.3
45	n1	35	LYS	3.3
49	n5	66	PRO	3.3
20	D5	71	ILE	3.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
42	m8	96	PHE	3.3
71	s3	188	ILE	3.3
39	M5	141	ALA	3.3
6	C1	73	GLY	3.3
69	s1	70	LEU	3.3
23	d8	67	ARG	3.3
73	S5	157	ARG	3.3
36	M1	122	ILE	3.3
72	S4	137	PRO	3.3
16	d1	1	MET	3.3
70	S2	119	LYS	3.3
73	s5	83	ARG	3.3
53	n9	37	PRO	3.3
69	S1	104	ASP	3.3
11	c6	112	TYR	3.3
74	S6	83	CYS	3.3
28	L3	369	ARG	3.3
48	N4	64	THR	3.3
17	d2	27	ILE	3.3
72	S4	173	ILE	3.3
17	d2	3	ARG	3.3
73	S5	193	THR	3.3
44	N0	135	VAL	3.3
46	N2	28	PHE	3.3
68	S0	122	ILE	3.3
71	s3	25	PHE	3.3
7	c2	52	LEU	3.3
11	c6	20	ALA	3.3
26	e1	105	TYR	3.3
47	n3	81	GLN	3.3
79	sR	252	LEU	3.3
1	1	1565	G	3.3
69	s1	152	ARG	3.3
11	c6	22	VAL	3.3
39	m5	61	ILE	3.3
42	M8	101	VAL	3.3
76	S8	102	VAL	3.3
79	sR	203	THR	3.3
2	6	493	U	3.2
48	N4	71	ARG	3.2
58	o4	33	GLN	3.2
66	q2	82	GLN	3.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
23	D8	45	LYS	3.2
7	c2	22	VAL	3.2
53	n9	35	VAL	3.2
1	1	494	G	3.2
9	c4	60	ALA	3.2
13	c8	3	LEU	3.2
70	S2	86	VAL	3.2
70	S2	98	PHE	3.2
1	1	1569	U	3.2
11	C6	44	LEU	3.2
68	S0	146	LEU	3.2
26	E1	106	TYR	3.2
51	N7	75	VAL	3.2
71	S3	213	GLU	3.2
74	S6	91	GLU	3.2
12	C7	25	THR	3.2
2	6	75	U	3.2
11	C6	48	VAL	3.2
69	s1	231	LEU	3.2
75	S7	138	LYS	3.2
11	c6	55	VAL	3.2
72	S4	70	VAL	3.2
75	S7	108	GLN	3.2
2	2	710	U	3.2
12	C7	70	SER	3.2
72	S4	13	ALA	3.2
16	d1	82	VAL	3.2
30	l5	297	GLN	3.2
73	S5	37	GLN	3.2
23	d8	66	LEU	3.2
76	S8	165	LEU	3.2
11	C6	60	PHE	3.2
45	n1	44	ALA	3.2
11	C6	133	GLY	3.2
8	c3	16	ILE	3.2
20	D5	51	LEU	3.2
22	d7	22	LYS	3.2
25	E0	53	LYS	3.2
28	L3	50	LYS	3.2
2	2	730	G	3.2
7	C2	93	ASP	3.2
30	L5	41	LYS	3.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
76	s8	56	ARG	3.2
58	O4	72	VAL	3.2
76	s8	192	TYR	3.2
45	N1	43	LYS	3.2
7	c2	96	GLN	3.2
9	c4	91	THR	3.2
6	C1	144	ALA	3.2
76	S8	15	GLY	3.2
10	c5	112	LEU	3.2
20	d5	51	LEU	3.2
30	l5	150	LEU	3.2
45	n1	96	ILE	3.2
66	q2	22	GLN	3.2
12	C7	9	VAL	3.2
7	c2	21	GLU	3.2
2	6	492	A	3.2
78	SM	113	ASP	3.2
13	C8	72	ILE	3.2
21	d6	65	PRO	3.2
48	N4	70	LYS	3.2
49	n5	47	ALA	3.2
70	S2	115	ILE	3.2
11	c6	12	LYS	3.2
24	d9	46	LYS	3.2
71	S3	152	PHE	3.2
45	n1	42	ILE	3.2
69	s1	103	MET	3.2
79	SR	225	LEU	3.2
69	S1	153	HIS	3.2
71	S3	170	THR	3.2
32	L7	87	VAL	3.2
53	n9	33	LYS	3.2
53	N9	44	LYS	3.2
79	SR	290	VAL	3.2
22	d7	5	GLN	3.1
63	o9	24	PRO	3.1
6	C1	138	ASN	3.1
72	S4	26	CYS	3.1
18	D3	3	LYS	3.1
54	O0	90	VAL	3.1
58	O4	80	ARG	3.1
6	C1	147	GLY	3.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	2	1708	U	3.1
77	S9	93	LEU	3.1
79	SR	226	ALA	3.1
51	N7	131	PHE	3.1
66	q2	91	PHE	3.1
74	s6	131	LYS	3.1
5	c0	22	VAL	3.1
17	d2	68	ARG	3.1
43	m9	49	THR	3.1
5	C0	3	MET	3.1
15	D0	52	LYS	3.1
2	2	723	G	3.1
28	L3	321	PHE	3.1
25	e0	61	SER	3.1
7	C2	107	ASP	3.1
13	C8	146	ALA	3.1
16	D1	54	ALA	3.1
20	d5	41	ILE	3.1
30	l5	60	ILE	3.1
71	S3	171	ALA	3.1
73	S5	121	ILE	3.1
76	s8	44	HIS	3.1
76	S8	200	LYS	3.1
69	S1	100	PHE	3.1
79	SR	251	TRP	3.1
7	C2	52	LEU	3.1
76	S8	166	TYR	3.1
79	SR	34	LEU	3.1
2	2	722	G	3.1
7	c2	66	VAL	3.1
71	S3	25	PHE	3.1
79	sR	251	TRP	3.1
17	D2	85	ASP	3.1
74	s6	93	LYS	3.1
17	D2	128	PHE	3.1
8	c3	151	ASN	3.1
11	C6	123	ARG	3.1
45	N1	24	ALA	3.1
73	s5	130	ILE	3.1
33	L8	165	PHE	3.1
45	n1	74	VAL	3.1
73	S5	148	ARG	3.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
9	c4	126	THR	3.1
11	C6	77	GLN	3.1
59	o5	83	LYS	3.1
7	C2	65	SER	3.1
79	sR	315	VAL	3.1
66	q2	24	LYS	3.1
9	c4	132	ARG	3.1
76	s8	195	ARG	3.1
75	s7	48	GLU	3.1
22	d7	7	LEU	3.1
24	D9	46	LYS	3.1
76	S8	199	LYS	3.1
1	5	1570	U	3.1
10	c5	85	ILE	3.1
7	c2	67	THR	3.1
19	D4	27	VAL	3.1
51	N7	53	VAL	3.1
58	O4	32	ALA	3.1
69	S1	139	ALA	3.1
72	S4	208	VAL	3.1
9	c4	47	LYS	3.1
6	C1	126	GLY	3.1
7	C2	31	VAL	3.1
7	c2	94	ALA	3.1
55	O1	12	TYR	3.1
55	O1	73	LEU	3.1
20	D5	88	ILE	3.1
45	n1	84	TYR	3.1
70	S2	215	PHE	3.1
38	M4	138	ALA	3.1
73	S5	62	VAL	3.1
73	S5	77	TYR	3.1
69	s1	137	ILE	3.1
32	L7	86	VAL	3.0
5	C0	52	LYS	3.0
39	m5	2	GLY	3.0
22	d7	33	LEU	3.0
71	S3	150	MET	3.0
77	S9	20	GLU	3.0
48	N4	12	LYS	3.0
71	s3	135	GLU	3.0
79	sR	202	LEU	3.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
69	s1	46	THR	3.0
71	S3	221	SER	3.0
33	l8	130	TYR	3.0
52	N8	55	LYS	3.0
5	C0	40	LEU	3.0
30	L5	55	PHE	3.0
45	n1	72	VAL	3.0
70	S2	178	ILE	3.0
6	C1	148	LYS	3.0
39	M5	128	LYS	3.0
62	O8	44	LYS	3.0
15	D0	18	GLN	3.0
30	l5	142	PHE	3.0
79	sR	158	PRO	3.0
5	C0	24	LYS	3.0
7	c2	120	VAL	3.0
74	S6	71	THR	3.0
76	S8	117	TYR	3.0
78	SM	85	SER	3.0
11	C6	68	ARG	3.0
77	S9	164	PHE	3.0
11	C6	17	THR	3.0
49	n5	126	LEU	3.0
69	s1	135	LEU	3.0
45	n1	82	ASN	3.0
39	m5	131	GLU	3.0
19	D4	117	LYS	3.0
43	M9	188	ASP	3.0
79	SR	266	ASP	3.0
30	l5	92	LEU	3.0
51	N7	134	LEU	3.0
10	c5	127	ARG	3.0
30	l5	109	THR	3.0
76	s8	97	THR	3.0
15	D0	22	ILE	3.0
77	S9	101	VAL	3.0
11	c6	89	LEU	3.0
68	S0	23	HIS	3.0
68	s0	110	TYR	3.0
76	s8	96	LEU	3.0
11	C6	70	THR	3.0
12	c7	71	PHE	3.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
73	s5	156	ARG	3.0
14	C9	71	VAL	3.0
70	s2	184	VAL	3.0
72	s4	45	ILE	3.0
19	d4	122	GLY	3.0
49	n5	32	PHE	3.0
66	Q2	15	LYS	3.0
69	S1	103	MET	3.0
12	C7	26	LEU	3.0
45	N1	30	TYR	3.0
18	D3	2	GLY	3.0
50	n6	77	LYS	3.0
5	c0	20	VAL	3.0
17	D2	129	VAL	3.0
44	N0	93	GLU	3.0
74	s6	18	ILE	3.0
74	S6	82	SER	3.0
30	l5	171	LEU	3.0
32	L7	112	ASN	3.0
52	N8	110	GLY	3.0
66	q2	51	GLY	3.0
76	S8	22	ARG	3.0
10	C5	85	ILE	3.0
11	c6	21	HIS	3.0
34	l9	99	ILE	3.0
45	n1	80	VAL	3.0
7	c2	88	LEU	3.0
30	l5	143	LYS	3.0
39	m5	62	TYR	3.0
53	N9	41	ARG	3.0
7	C2	123	VAL	3.0
51	N7	23	VAL	3.0
39	m5	57	GLN	3.0
39	m5	63	ARG	3.0
49	n5	141	TYR	3.0
68	S0	174	TRP	3.0
69	S1	213	ARG	3.0
46	N2	27	VAL	3.0
79	SR	136	ILE	3.0
13	c8	12	GLN	3.0
51	N7	22	LYS	3.0
51	N7	4	PHE	3.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
52	n8	53	PHE	3.0
33	L8	99	PRO	3.0
42	M8	99	THR	3.0
69	s1	114	VAL	3.0
11	c6	85	ILE	3.0
7	C2	88	LEU	3.0
11	c6	117	LEU	3.0
36	m1	60	ARG	3.0
43	M9	173	ARG	3.0
71	S3	151	LYS	3.0
71	S3	149	ALA	2.9
71	S3	220	PRO	2.9
79	SR	177	MET	2.9
72	s4	26	CYS	2.9
28	L3	46	PHE	2.9
11	C6	134	ALA	2.9
21	d6	72	HIS	2.9
30	L5	77	ALA	2.9
42	M8	84	VAL	2.9
17	d2	125	ILE	2.9
15	D0	109	GLU	2.9
48	N4	98	PRO	2.9
74	S6	78	THR	2.9
69	s1	43	VAL	2.9
73	s5	68	ILE	2.9
76	S8	152	ILE	2.9
2	2	676	G	2.9
6	c1	5	LEU	2.9
30	l5	128	GLU	2.9
38	M4	37	GLU	2.9
45	n1	91	LEU	2.9
49	N5	40	LEU	2.9
74	S6	76	LEU	2.9
74	s6	149	LYS	2.9
73	S5	69	PHE	2.9
11	C6	36	ILE	2.9
45	N1	95	HIS	2.9
66	Q2	27	GLN	2.9
69	s1	124	ASN	2.9
21	d6	19	LYS	2.9
60	O6	50	LEU	2.9
77	S9	5	PRO	2.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
79	sR	210	LEU	2.9
30	L5	53	VAL	2.9
79	sR	6	VAL	2.9
21	d6	36	ILE	2.9
76	S8	183	ILE	2.9
33	L8	150	LEU	2.9
30	L5	180	PHE	2.9
33	l8	42	PRO	2.9
39	M5	145	ASP	2.9
70	s2	95	ARG	2.9
72	s4	56	LEU	2.9
77	S9	97	LEU	2.9
48	N4	75	THR	2.9
62	o8	6	THR	2.9
71	S3	186	VAL	2.9
73	s5	133	VAL	2.9
79	SR	262	VAL	2.9
11	C6	143	ARG	2.9
17	D2	51	GLU	2.9
69	S1	228	LEU	2.9
5	c0	26	ASP	2.9
79	sR	302	PHE	2.9
11	C6	41	PRO	2.9
6	C1	38	ALA	2.9
71	S3	88	ALA	2.9
51	N7	5	LEU	2.9
59	o5	86	ARG	2.9
74	s6	91	GLU	2.9
21	D6	73	TYR	2.9
45	N1	42	ILE	2.9
14	c9	54	PHE	2.9
2	6	742	U	2.9
11	c6	79	TYR	2.9
46	N2	106	ALA	2.9
68	s0	98	ILE	2.9
69	S1	96	LEU	2.9
79	SR	194	GLY	2.9
15	D0	104	THR	2.9
21	d6	39	MET	2.9
76	s8	95	THR	2.9
30	l5	144	VAL	2.9
16	d1	53	TYR	2.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
66	q2	9	LYS	2.9
22	d7	24	LEU	2.9
26	e1	139	LEU	2.9
41	m7	81	ALA	2.9
69	s1	82	ARG	2.9
39	m5	132	VAL	2.9
45	N1	126	VAL	2.9
77	s9	96	VAL	2.9
30	l5	226	TYR	2.9
37	M3	21	ARG	2.9
49	n5	142	ILE	2.9
78	sM	62	ARG	2.9
11	c6	116	LEU	2.9
33	L8	197	VAL	2.9
46	n2	70	LYS	2.9
48	n4	100	VAL	2.9
74	s6	79	LYS	2.9
1	1	2538	U	2.9
13	c8	125	ILE	2.9
19	d4	7	ILE	2.9
26	E1	91	ILE	2.9
42	M8	76	ALA	2.9
42	M8	124	LEU	2.9
19	d4	123	LYS	2.9
46	n2	13	LYS	2.9
53	N9	42	ASN	2.9
79	sR	294	TRP	2.9
5	C0	65	TYR	2.9
42	m8	170	ARG	2.9
53	N9	47	LEU	2.9
77	S9	119	ALA	2.9
79	SR	220	ILE	2.9
24	D9	33	LYS	2.9
58	O4	5	VAL	2.9
5	C0	35	ILE	2.9
11	C6	81	ILE	2.9
74	s6	109	LEU	2.9
45	N1	32	LYS	2.9
52	n8	56	VAL	2.9
2	2	720	G	2.9
14	C9	28	LEU	2.9
16	d1	8	LEU	2.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
44	N0	29	ILE	2.9
78	SM	16	ASP	2.9
11	c6	7	VAL	2.8
39	m5	43	THR	2.8
69	S1	233	GLY	2.8
72	S4	14	ALA	2.9
72	S4	22	LYS	2.8
41	M7	161	ALA	2.8
78	SM	15	ALA	2.8
48	n4	81	PRO	2.8
69	S1	82	ARG	2.8
2	2	136	C	2.8
2	2	1695	G	2.8
15	D0	86	ILE	2.8
69	S1	207	LEU	2.8
42	m8	87	VAL	2.8
73	s5	134	VAL	2.8
18	d3	141	GLU	2.8
45	n1	83	ARG	2.8
12	c7	53	TYR	2.8
30	l5	51	LEU	2.8
53	n9	23	LYS	2.8
77	S9	10	LYS	2.8
20	D5	60	VAL	2.8
50	N6	79	ALA	2.8
52	n8	64	GLN	2.8
70	S2	112	GLY	2.8
1	1	1563	C	2.8
2	2	731	C	2.8
42	M8	92	ARG	2.8
20	d5	50	ILE	2.8
68	s0	122	ILE	2.8
76	S8	143	TRP	2.8
30	L5	49	TYR	2.8
31	l6	2	SER	2.8
42	M8	85	GLY	2.8
42	M8	102	ALA	2.8
71	S3	9	ARG	2.8
34	L9	189	GLU	2.8
28	L3	359	ILE	2.8
73	s5	42	LEU	2.8
75	S7	154	LEU	2.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
76	s8	83	TYR	2.8
7	c2	116	VAL	2.8
15	D0	116	VAL	2.8
37	m3	2	ALA	2.8
68	S0	73	VAL	2.8
71	S3	51	ARG	2.8
5	c0	24	LYS	2.8
72	S4	101	LEU	2.8
75	S7	153	LEU	2.8
7	c2	23	THR	2.8
47	N3	137	VAL	2.8
52	n8	48	TYR	2.8
66	Q2	25	VAL	2.8
13	C8	123	ARG	2.8
10	c5	56	PHE	2.8
17	D2	27	ILE	2.8
28	l3	140	ASP	2.8
30	l5	64	ILE	2.8
30	L5	61	ILE	2.8
42	m8	153	PHE	2.8
42	M8	96	PHE	2.8
51	n7	134	LEU	2.8
75	S7	60	ILE	2.8
5	c0	37	THR	2.8
5	C0	12	HIS	2.8
30	L5	131	LEU	2.8
36	m1	64	LYS	2.8
7	C2	136	ILE	2.8
43	M9	187	GLU	2.8
48	N4	106	GLU	2.8
53	n9	36	ASP	2.8
62	o8	3	ARG	2.8
69	S1	123	ALA	2.8
70	S2	93	GLY	2.8
49	n5	49	LYS	2.8
53	n9	25	LYS	2.8
62	O8	26	LYS	2.8
69	s1	98	THR	2.8
6	C1	42	PHE	2.8
31	L6	109	GLU	2.8
39	M5	142	ILE	2.8
77	S9	99	LEU	2.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
45	N1	149	GLN	2.8
45	n1	28	SER	2.8
76	S8	83	TYR	2.8
78	SM	17	VAL	2.8
19	d4	128	LYS	2.8
66	Q2	36	PHE	2.8
71	s3	21	LEU	2.8
13	c8	21	ASN	2.8
72	S4	219	VAL	2.8
11	c6	56	GLY	2.8
33	L8	196	ALA	2.8
41	m7	161	ALA	2.8
78	sM	83	LYS	2.8
50	n6	48	LEU	2.8
55	o1	71	LEU	2.8
20	D5	100	ILE	2.8
30	l5	126	GLU	2.8
74	S6	162	VAL	2.8
78	SM	69	ARG	2.8
70	S2	186	LYS	2.8
43	M9	169	ALA	2.8
69	s1	102	GLY	2.8
72	s4	207	LEU	2.8
44	N0	96	ASP	2.8
71	S3	136	VAL	2.8
71	s3	186	VAL	2.8
8	c3	61	THR	2.8
7	C2	104	GLY	2.8
33	L8	169	LEU	2.8
45	N1	125	ALA	2.8
24	d9	56	ARG	2.8
44	N0	121	ILE	2.8
55	O1	75	ILE	2.8
77	S9	148	VAL	2.8
8	C3	141	TYR	2.8
17	d2	37	PHE	2.8
20	D5	62	VAL	2.7
39	M5	135	VAL	2.7
45	N1	25	VAL	2.7
6	C1	127	GLN	2.7
39	M5	57	GLN	2.7
79	SR	79	TYR	2.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
69	S1	46	THR	2.7
75	S7	59	ALA	2.7
75	S7	126	LEU	2.7
23	d8	45	LYS	2.7
43	M9	181	ARG	2.7
77	s9	141	VAL	2.7
76	s8	188	GLU	2.7
11	C6	79	TYR	2.7
7	c2	78	LEU	2.7
9	c4	99	GLN	2.7
12	C7	16	LEU	2.7
42	M8	2	GLY	2.7
49	n5	50	ALA	2.7
73	S5	93	LEU	2.7
13	c8	126	ARG	2.7
14	c9	92	LYS	2.7
15	D0	61	LYS	2.7
48	n4	69	LYS	2.7
68	S0	119	ARG	2.7
53	N9	31	SER	2.7
69	s1	210	ILE	2.7
11	c6	49	TYR	2.7
77	S9	12	TYR	2.7
30	l5	113	LEU	2.7
76	s8	67	TRP	2.7
77	s9	93	LEU	2.7
2	2	717	C	2.7
19	D4	118	ILE	2.7
30	l5	65	ILE	2.7
45	N1	93	VAL	2.7
73	S5	162	VAL	2.7
13	C8	25	ASN	2.7
33	L8	202	GLU	2.7
6	C1	60	PHE	2.7
5	C0	19	GLY	2.7
50	n6	79	ALA	2.7
15	D0	83	GLU	2.7
42	m8	168	THR	2.7
68	s0	97	PRO	2.7
69	s1	228	LEU	2.7
28	L3	48	GLY	2.7
34	L9	134	ILE	2.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
68	s0	54	TRP	2.7
8	c3	141	TYR	2.7
27	l2	76	PHE	2.7
71	s3	24	PHE	2.7
76	S8	182	TYR	2.7
48	N4	109	LEU	2.7
6	C1	33	ARG	2.7
6	c1	2	SER	2.7
8	C3	42	ARG	2.7
19	d4	127	LYS	2.7
49	n5	28	THR	2.7
53	N9	40	ARG	2.7
61	o7	65	ARG	2.7
9	c4	28	VAL	2.7
22	d7	2	VAL	2.7
30	l5	175	HIS	2.7
38	m4	44	VAL	2.7
39	m5	133	ILE	2.7
69	s1	123	ALA	2.7
15	D0	15	GLN	2.7
63	o9	36	ARG	2.7
7	c2	60	VAL	2.7
34	l9	93	VAL	2.7
51	n7	96	VAL	2.7
68	s0	144	ILE	2.7
11	C6	13	LYS	2.7
71	S3	17	PHE	2.7
77	S9	34	PHE	2.7
18	D3	42	PRO	2.7
73	S5	130	ILE	2.7
11	c6	60	PHE	2.7
19	d4	85	PHE	2.7
20	D5	58	ARG	2.7
30	L5	146	LEU	2.7
45	N1	35	LYS	2.7
45	N1	50	LYS	2.7
58	O4	37	LYS	2.7
58	O4	58	ARG	2.7
69	S1	83	LYS	2.7
69	s1	151	LYS	2.7
76	S8	109	PHE	2.7
79	SR	145	LEU	2.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
74	s6	81	VAL	2.7
10	c5	84	ILE	2.7
44	N0	76	GLY	2.7
1	5	3155	U	2.7
6	C1	26	LYS	2.7
10	C5	110	GLU	2.7
62	o8	11	PHE	2.7
70	s2	225	LEU	2.7
72	s4	47	PHE	2.7
58	O4	16	ARG	2.7
58	O4	74	ARG	2.7
12	C7	24	LEU	2.7
16	D1	55	LEU	2.7
17	d2	26	LEU	2.7
27	l2	111	THR	2.7
59	o5	84	LYS	2.7
66	q2	80	ARG	2.7
71	S3	69	LEU	2.7
61	o7	66	TYR	2.7
72	S4	27	TYR	2.7
32	l7	231	ASN	2.7
10	c5	133	ALA	2.7
71	s3	171	ALA	2.7
30	l5	115	LEU	2.7
59	O5	78	LYS	2.7
77	S9	76	LEU	2.7
15	d0	88	LYS	2.7
17	D2	99	PHE	2.7
62	O8	30	LYS	2.7
78	SM	84	LYS	2.7
37	m3	186	ARG	2.7
30	l5	53	VAL	2.7
61	o7	84	SER	2.7
12	C7	8	THR	2.7
23	D8	19	THR	2.7
71	s3	120	TYR	2.7
54	o0	100	ILE	2.7
2	2	714	G	2.7
6	C1	69	LYS	2.7
11	C6	57	LEU	2.6
13	C8	128	PHE	2.7
51	N7	21	LYS	2.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
68	s0	146	LEU	2.6
30	l5	52	VAL	2.6
66	Q2	73	GLU	2.6
2	6	232	U	2.6
8	C3	45	LEU	2.6
17	d2	128	PHE	2.6
25	E0	44	PHE	2.6
35	M0	219	ALA	2.6
41	M7	160	ALA	2.6
46	n2	14	THR	2.6
51	n7	131	PHE	2.6
76	S8	63	GLY	2.6
24	d9	4	GLU	2.6
68	s0	181	VAL	2.6
73	S5	142	PRO	2.6
5	c0	44	LYS	2.6
6	c1	38	ALA	2.6
11	c6	11	GLY	2.6
69	S1	121	ILE	2.6
71	S3	187	LYS	2.6
49	n5	82	LEU	2.6
72	S4	220	THR	2.6
45	N1	94	GLU	2.6
53	N9	24	PRO	2.6
75	S7	95	GLU	2.6
20	d5	46	LYS	2.6
77	S9	156	ILE	2.6
15	D0	23	ARG	2.6
25	E0	54	ARG	2.6
44	N0	4	PHE	2.6
76	s8	113	PHE	2.6
79	sR	246	SER	2.6
36	M1	109	HIS	2.6
69	s1	119	THR	2.6
74	s6	76	LEU	2.6
6	C1	37	ASN	2.6
27	l2	75	ILE	2.6
28	L3	49	TYR	2.6
60	o6	9	ILE	2.6
74	S6	84	TYR	2.6
12	C7	2	GLY	2.6
21	d6	29	SER	2.6

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
24	d9	12	ARG	2.6
48	n4	95	SER	2.6
42	M8	100	THR	2.6
59	o5	85	THR	2.6
1	5	1582	C	2.6
10	c5	111	MET	2.6
8	C3	78	ASN	2.6
9	c4	27	PHE	2.6
21	d6	85	ARG	2.6
60	O6	78	GLY	2.6
62	O8	28	ASN	2.6
72	S4	200	ARG	2.6
70	s2	154	LEU	2.6
5	C0	56	LYS	2.6
6	C1	105	LYS	2.6
7	C2	126	TRP	2.6
34	L9	86	TYR	2.6
53	n9	27	TYR	2.6
45	n1	88	ARG	2.6
68	s0	76	ILE	2.6
24	D9	23	VAL	2.6
36	m1	62	ASN	2.6
58	O4	18	ASN	2.6
58	O4	39	ALA	2.6
66	q2	27	GLN	2.6
45	n1	97	LYS	2.6
46	n2	67	SER	2.6
79	SR	157	VAL	2.6
79	SR	261	LYS	2.6
30	L5	126	GLU	2.6
6	c1	11	ARG	2.6
69	S1	47	LEU	2.6
21	d6	37	LYS	2.6
53	n9	22	LYS	2.6
62	O8	45	VAL	2.6
1	5	1573	G	2.6
1	5	1953	G	2.6
32	L7	89	ILE	2.6
59	o5	89	ARG	2.6
73	S5	209	TYR	2.6
42	M8	138	LEU	2.6
76	s8	165	LEU	2.6

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
6	c1	29	LYS	2.6
12	C7	63	LYS	2.6
14	C9	92	LYS	2.6
43	m9	177	VAL	2.6
62	o8	30	LYS	2.6
79	sR	156	VAL	2.6
43	m9	7	GLN	2.6
15	d0	91	ILE	2.6
45	N1	96	ILE	2.6
51	n7	92	PHE	2.6
7	C2	58	LEU	2.6
22	D7	33	LEU	2.6
36	M1	172	LEU	2.6
52	N8	78	LEU	2.6
45	n1	93	VAL	2.6
53	n9	34	GLY	2.6
69	s1	160	HIS	2.6
11	C6	47	LYS	2.6
42	M8	81	VAL	2.6
66	q2	13	LYS	2.6
79	SR	130	THR	2.6
2	6	655	G	2.6
11	C6	52	LEU	2.6
25	E0	46	ASN	2.6
63	o9	7	PHE	2.6
9	C4	15	GLY	2.6
69	S1	212	VAL	2.6
74	s6	90	GLY	2.6
18	D3	117	ILE	2.6
17	D2	41	MET	2.6
33	l8	52	TRP	2.6
75	s7	154	LEU	2.6
30	l5	125	VAL	2.6
45	n1	36	VAL	2.6
71	S3	185	LYS	2.6
77	S9	4	ALA	2.6
11	C6	46	PHE	2.6
14	C9	113	ILE	2.6
15	D0	20	ILE	2.6
30	l5	105	ILE	2.6
36	m1	125	MET	2.6
42	M8	71	LEU	2.6

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
45	n1	76	ILE	2.6
68	s0	120	LEU	2.6
73	s5	58	LEU	2.6
72	S4	33	ALA	2.6
14	C9	134	ARG	2.6
13	c8	73	MET	2.6
24	d9	34	TYR	2.6
33	l8	152	LEU	2.6
33	l8	162	LEU	2.6
70	S2	87	GLN	2.6
79	SR	170	ILE	2.6
34	L9	90	MET	2.6
51	N7	13	VAL	2.6
11	C6	20	ALA	2.6
13	c8	44	ASN	2.6
2	2	192	U	2.6
13	c8	131	LEU	2.6
21	D6	17	HIS	2.6
75	S7	61	PHE	2.6
12	C7	42	GLN	2.6
42	m8	171	LYS	2.6
49	n5	95	ILE	2.6
63	o9	40	LYS	2.6
13	C8	133	VAL	2.6
68	S0	32	HIS	2.5
73	S5	190	ILE	2.5
2	6	494	U	2.5
13	c8	58	ALA	2.5
36	M1	102	PHE	2.5
22	D7	8	LEU	2.5
23	D8	9	LEU	2.5
49	n5	120	LYS	2.5
75	S7	149	ILE	2.5
5	C0	58	GLN	2.5
26	e1	109	ASP	2.5
72	S4	225	VAL	2.5
72	S4	100	ARG	2.5
62	o8	29	LYS	2.5
20	D5	40	VAL	2.5
6	C1	88	ARG	2.5
52	n8	79	TRP	2.5
28	L3	337	THR	2.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
69	s1	156	ALA	2.5
20	d5	92	ILE	2.5
32	L7	228	SER	2.5
71	S3	12	VAL	2.5
6	C1	34	TRP	2.5
66	Q2	18	ARG	2.5
6	C1	145	ALA	2.5
9	c4	106	ALA	2.5
17	d2	60	LYS	2.5
43	m9	174	ALA	2.5
49	n5	45	LYS	2.5
69	s1	105	PHE	2.5
71	S3	204	ASP	2.5
6	c1	30	ARG	2.5
25	E0	2	ALA	2.5
26	e1	128	ALA	2.5
72	S4	109	PHE	2.5
70	S2	211	LEU	2.5
33	l8	202	GLU	2.5
77	S9	147	MET	2.5
6	c1	141	LYS	2.5
71	S3	200	LYS	2.5
74	S6	64	LYS	2.5
79	SR	223	TRP	2.5
6	c1	140	VAL	2.5
7	c2	89	ILE	2.5
49	N5	24	LEU	2.5
79	sR	193	ILE	2.5
66	q2	11	TYR	2.5
66	q2	21	THR	2.5
68	s0	180	GLU	2.5
71	S3	40	ARG	2.5
6	c1	34	TRP	2.5
7	C2	94	ALA	2.5
10	c5	101	ALA	2.5
29	l4	187	LEU	2.5
34	l9	95	ALA	2.5
51	N7	50	PRO	2.5
2	2	249	U	2.5
46	n2	93	ILE	2.5
62	o8	54	LEU	2.5
6	c1	33	ARG	2.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
13	C8	127	HIS	2.5
49	n5	26	VAL	2.5
51	N7	12	VAL	2.5
26	e1	80	ARG	2.5
26	e1	85	TYR	2.5
45	n1	45	ASN	2.5
62	o8	52	TYR	2.5
73	S5	181	GLU	2.5
5	C0	37	THR	2.5
5	C0	57	THR	2.5
15	d0	67	THR	2.5
19	D4	128	LYS	2.5
24	d9	33	LYS	2.5
1	5	1571	A	2.5
73	s5	69	PHE	2.5
48	N4	125	ALA	2.5
51	n7	81	LEU	2.5
70	s2	92	ALA	2.5
79	SR	180	ALA	2.5
12	C7	41	ILE	2.5
45	n1	63	VAL	2.5
62	o8	25	VAL	2.5
75	s7	62	VAL	2.5
30	L5	198	TYR	2.5
42	m8	164	ARG	2.5
44	N0	122	HIS	2.5
28	L3	365	PHE	2.5
39	M5	181	ASN	2.5
66	Q2	32	LYS	2.5
75	s7	133	THR	2.5
8	c3	57	ALA	2.5
12	C7	13	SER	2.5
18	d3	120	VAL	2.5
43	m9	32	ILE	2.5
70	S2	104	VAL	2.5
5	C0	13	GLN	2.5
1	1	1566	A	2.5
33	L8	177	TYR	2.5
43	m9	53	LYS	2.5
48	n4	91	LYS	2.5
51	N7	31	GLU	2.5
55	o1	110	GLU	2.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
69	s1	153	HIS	2.5
45	n1	46	GLY	2.5
64	q0	92	ASP	2.5
45	N1	29	THR	2.5
75	S7	137	GLY	2.5
11	c6	81	ILE	2.5
11	c6	90	VAL	2.5
17	D2	102	VAL	2.5
71	s3	208	ILE	2.5
76	s8	100	ALA	2.5
55	o1	74	ARG	2.5
71	s3	116	ARG	2.5
45	n1	57	TYR	2.5
50	N6	3	LYS	2.5
52	n8	38	GLN	2.5
74	S6	135	PRO	2.5
33	l8	230	LYS	2.5
6	C1	156	PHE	2.5
69	s1	38	PHE	2.5
45	N1	98	HIS	2.5
9	c4	33	LEU	2.5
34	l9	144	ILE	2.5
39	m5	114	ARG	2.5
49	N5	25	LYS	2.5
74	s6	177	ARG	2.5
79	sR	35	SER	2.5
46	n2	71	PHE	2.5
69	s1	142	PHE	2.5
73	S5	75	GLY	2.5
73	s5	70	VAL	2.5
75	s7	52	ALA	2.5
77	S9	113	VAL	2.5
77	s9	135	ALA	2.5
26	E1	83	LYS	2.5
53	N9	58	LYS	2.5
71	s3	151	LYS	2.5
78	SM	53	ARG	2.5
79	sR	74	THR	2.5
5	C0	62	GLN	2.5
6	c1	97	TYR	2.5
20	d5	101	TYR	2.5
39	m5	59	PHE	2.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
70	s2	215	PHE	2.5
6	C1	66	ILE	2.5
38	M4	15	VAL	2.5
45	N1	88	ARG	2.5
70	s2	115	ILE	2.5
73	s5	62	VAL	2.5
49	N5	121	LYS	2.5
5	C0	75	TYR	2.5
11	c6	10	PHE	2.5
15	D0	92	ASP	2.5
68	s0	107	PHE	2.5
15	d0	24	ILE	2.5
24	d9	54	LYS	2.5
58	O4	9	ARG	2.5
11	C6	120	ASP	2.4
77	s9	34	PHE	2.5
20	D5	47	TYR	2.4
32	l7	149	TYR	2.4
36	m1	167	TYR	2.4
8	c3	14	SER	2.4
25	e0	56	MET	2.4
32	L7	108	LEU	2.4
68	S0	18	LEU	2.4
72	S4	52	LEU	2.4
13	C8	5	VAL	2.4
15	D0	85	ARG	2.4
34	L9	144	ILE	2.4
51	N7	74	VAL	2.4
76	S8	101	ILE	2.4
10	C5	102	PHE	2.4
13	c8	129	TRP	2.4
32	l7	214	TRP	2.4
47	N3	85	TRP	2.4
49	N5	84	PHE	2.4
51	N7	129	TRP	2.4
76	s8	191	PHE	2.4
20	D5	67	ASP	2.4
77	S9	36	LEU	2.4
6	C1	140	VAL	2.4
26	E1	92	LYS	2.4
68	S0	76	ILE	2.4
70	s2	97	ARG	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
73	s5	102	ARG	2.4
74	S6	92	ARG	2.4
76	s8	22	ARG	2.4
28	L3	51	ALA	2.4
35	m0	221	ALA	2.4
42	m8	102	ALA	2.4
76	s8	86	SER	2.4
36	m1	163	PHE	2.4
30	L5	30	TYR	2.4
48	N4	107	GLU	2.4
68	S0	36	TYR	2.4
20	D5	98	GLN	2.4
26	E1	94	LYS	2.4
30	L5	143	LYS	2.4
68	s0	74	VAL	2.4
69	S1	152	ARG	2.4
76	S8	123	LYS	2.4
9	c4	15	GLY	2.4
14	c9	62	ALA	2.4
21	d6	43	ASN	2.4
37	m3	3	ILE	2.4
39	m5	183	THR	2.4
45	n1	62	GLY	2.4
49	n5	48	SER	2.4
76	S8	30	GLY	2.4
33	l8	91	PHE	2.4
17	d2	46	TYR	2.4
26	e1	103	LEU	2.4
77	s9	30	LEU	2.4
79	sR	81	LEU	2.4
68	S0	86	VAL	2.4
9	C4	12	GLN	2.4
21	d6	33	ASP	2.4
23	D8	40	ILE	2.4
2	2	733	A	2.4
2	2	1710	U	2.4
4	8	38	U	2.4
28	L3	44	THR	2.4
39	M5	185	ALA	2.4
78	sM	42	ALA	2.4
62	O8	57	ASN	2.4
9	c4	127	ARG	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
23	D8	56	LEU	2.4
24	D9	16	LYS	2.4
51	n7	87	LEU	2.4
30	L5	52	VAL	2.4
63	o9	37	TYR	2.4
66	q2	73	GLU	2.4
71	S3	132	LYS	2.4
30	L5	174	PRO	2.4
36	m1	59	ILE	2.4
52	n8	34	MET	2.4
6	C1	118	GLN	2.4
77	s9	158	PHE	2.4
25	e0	22	GLU	2.4
30	l5	44	TYR	2.4
30	L5	173	VAL	2.4
68	s0	119	ARG	2.4
74	S6	109	LEU	2.4
2	2	754	A	2.4
6	c1	66	ILE	2.4
68	s0	170	ILE	2.4
79	SR	221	MET	2.4
76	s8	103	GLN	2.4
5	c0	40	LEU	2.4
11	C6	15	SER	2.4
12	C7	113	LEU	2.4
46	N2	94	ARG	2.4
52	n8	63	LYS	2.4
68	S0	123	VAL	2.4
70	S2	225	LEU	2.4
29	L4	18	ASN	2.4
69	s1	193	ILE	2.4
12	c7	24	LEU	2.4
79	sR	62	LYS	2.4
2	2	726	C	2.4
7	C2	26	ASP	2.4
48	n4	99	GLU	2.4
58	O4	6	THR	2.4
66	Q2	28	TYR	2.4
72	s4	220	THR	2.4
79	SR	209	THR	2.4
10	C5	56	PHE	2.4
13	C8	73	MET	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
58	O4	11	ASN	2.4
66	q2	101	GLY	2.4
56	o2	77	ALA	2.4
69	S1	142	PHE	2.4
71	S3	205	ALA	2.4
9	c4	42	VAL	2.4
30	l5	50	ARG	2.4
55	o1	93	VAL	2.4
56	o2	76	VAL	2.4
58	O4	23	VAL	2.4
66	q2	69	VAL	2.4
77	s9	136	VAL	2.4
77	s9	148	VAL	2.4
79	sR	225	LEU	2.4
35	m0	134	ILE	2.4
42	M8	86	THR	2.4
74	S6	180	THR	2.4
40	M6	182	ASN	2.4
52	N8	116	GLY	2.4
77	S9	91	LYS	2.4
35	m0	51	HIS	2.4
39	m5	116	LEU	2.4
7	c2	99	GLU	2.4
39	m5	119	TYR	2.4
15	D0	91	ILE	2.4
58	o4	29	ILE	2.4
78	sM	61	ILE	2.4
2	2	712	G	2.4
21	d6	8	ASN	2.4
30	L5	233	ALA	2.4
39	M5	5	LYS	2.4
39	M5	176	LYS	2.4
76	s8	54	LYS	2.4
76	S8	135	LYS	2.4
2	2	725	U	2.4
7	C2	75	VAL	2.4
11	c6	52	LEU	2.4
53	n9	11	ASN	2.4
66	q2	18	ARG	2.4
13	C8	4	VAL	2.4
17	d2	121	VAL	2.4
43	m9	51	VAL	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
6	C1	4	GLU	2.4
30	l5	129	TYR	2.4
76	s8	32	GLN	2.4
11	c6	36	ILE	2.4
68	S0	38	PHE	2.4
75	S7	181	ILE	2.4
76	S8	78	ILE	2.4
2	2	541	A	2.4
28	L3	45	SER	2.4
32	l7	90	LYS	2.4
33	l8	120	LYS	2.4
71	s3	187	LYS	2.4
11	c6	86	ALA	2.4
62	O8	39	ARG	2.4
9	C4	13	VAL	2.4
17	d2	25	VAL	2.4
21	d6	69	ASN	2.4
14	C9	55	TYR	2.4
45	n1	87	LYS	2.4
58	o4	24	LYS	2.4
15	D0	102	ARG	2.4
21	D6	63	ALA	2.4
24	D9	12	ARG	2.4
34	l9	91	ARG	2.4
26	E1	108	VAL	2.4
37	m3	54	LEU	2.4
48	n4	64	THR	2.4
14	C9	18	TYR	2.4
15	D0	24	ILE	2.4
15	D0	87	HIS	2.4
18	D3	107	PHE	2.4
18	D3	118	PRO	2.4
32	L7	90	LYS	2.4
43	m9	52	LYS	2.4
44	N0	129	ILE	2.4
73	s5	72	HIS	2.4
74	s6	16	PHE	2.4
76	s8	43	ILE	2.4
76	s8	65	PHE	2.4
11	c6	133	GLY	2.4
24	D9	22	ARG	2.4
39	m5	186	GLY	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
70	S2	163	GLY	2.4
11	C6	105	LEU	2.4
19	D4	25	VAL	2.4
42	m8	175	ALA	2.4
49	n5	57	LEU	2.4
70	S2	103	VAL	2.4
74	S6	77	LEU	2.4
79	SR	230	ALA	2.4
1	5	250	U	2.4
66	q2	7	THR	2.4
28	L3	314	TYR	2.4
21	d6	16	GLY	2.4
39	m5	162	ARG	2.4
39	M5	37	HIS	2.4
72	s4	57	ASN	2.4
6	C1	154	ALA	2.4
60	o6	8	ALA	2.4
73	S5	70	VAL	2.4
15	d0	27	THR	2.4
30	l5	43	LYS	2.4
34	L9	99	ILE	2.3
47	N3	95	PHE	2.4
52	n8	55	LYS	2.4
11	c6	124	PRO	2.3
10	C5	83	MET	2.3
30	l5	182	GLY	2.3
33	L8	152	LEU	2.3
45	N1	77	ASN	2.3
75	S7	53	GLY	2.3
18	D3	122	PHE	2.3
76	S8	86	SER	2.3
11	C6	40	GLU	2.3
28	l3	106	TRP	2.3
77	s9	6	ARG	2.3
26	e1	98	VAL	2.3
35	m0	52	LEU	2.3
5	C0	30	ALA	2.3
39	m5	64	VAL	2.3
53	n9	57	ALA	2.3
39	m5	152	CYS	2.3
1	5	2571	U	2.3
5	C0	27	PHE	2.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
18	d3	11	SER	2.3
54	o0	35	ARG	2.3
7	C2	49	THR	2.3
10	c5	83	MET	2.3
15	D0	50	LEU	2.3
33	L8	162	LEU	2.3
42	m8	166	LEU	2.3
69	s1	37	THR	2.3
74	S6	102	VAL	2.3
77	s9	5	PRO	2.3
12	C7	14	LYS	2.3
9	c4	115	ILE	2.3
12	c7	17	ILE	2.3
2	6	930	A	2.3
17	d2	30	SER	2.3
26	e1	119	ARG	2.3
30	l5	133	GLU	2.3
39	m5	201	ARG	2.3
57	O3	51	TYR	2.3
73	s5	90	ILE	2.3
44	n0	93	GLU	2.3
69	s1	154	SER	2.3
1	5	2306	C	2.3
7	c2	26	ASP	2.3
7	c2	126	TRP	2.3
34	L9	34	LEU	2.3
11	C6	128	LYS	2.3
39	M5	102	ALA	2.3
58	O4	12	PRO	2.3
74	S6	79	LYS	2.3
78	sM	34	LYS	2.3
17	d2	53	ILE	2.3
37	m3	89	TYR	2.3
39	m5	142	ILE	2.3
39	M5	143	ARG	2.3
46	n2	108	TYR	2.3
53	n9	41	ARG	2.3
72	S4	39	ARG	2.3
74	S6	94	ARG	2.3
74	S6	208	TYR	2.3
19	D4	74	LEU	2.3
30	L5	37	VAL	2.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
42	m8	124	LEU	2.3
43	m9	127	SER	2.3
72	S4	207	LEU	2.3
76	S8	70	GLU	2.3
47	N3	16	GLY	2.3
78	sM	110	TRP	2.3
7	C2	73	LYS	2.3
77	s9	94	ASP	2.3
30	L5	223	PHE	2.3
6	C1	30	ARG	2.3
30	L5	244	HIS	2.3
33	L8	130	TYR	2.3
48	N4	47	ARG	2.3
54	o0	44	ILE	2.3
64	q0	77	ILE	2.3
1	1	1762	C	2.3
13	C8	124	GLY	2.3
18	d3	24	TRP	2.3
21	d6	34	LYS	2.3
21	d6	66	LYS	2.3
44	N0	27	MET	2.3
74	S6	54	GLY	2.3
8	c3	26	PHE	2.3
75	S7	150	GLN	2.3
78	sM	52	PRO	2.3
79	sR	253	ALA	2.3
5	C0	79	TYR	2.3
7	c2	24	ILE	2.3
10	c5	121	ILE	2.3
11	C6	82	ARG	2.3
11	c6	68	ARG	2.3
27	L2	70	ARG	2.3
28	L3	80	ASP	2.3
14	c9	66	TYR	2.3
21	D6	18	VAL	2.3
50	n6	111	LEU	2.3
66	Q2	70	LEU	2.3
71	S3	135	GLU	2.3
54	O0	11	ASN	2.3
78	sM	84	LYS	2.3
21	d6	35	ALA	2.3
44	n0	4	PHE	2.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
45	n1	49	GLN	2.3
69	s1	60	ALA	2.3
49	n5	67	ILE	2.3
68	s0	141	ILE	2.3
78	SM	54	PRO	2.3
6	c1	31	THR	2.3
10	c5	9	LYS	2.3
33	L8	211	LEU	2.3
42	M8	83	VAL	2.3
49	n5	124	VAL	2.3
59	o5	80	LEU	2.3
59	o5	96	GLU	2.3
69	s1	207	LEU	2.3
18	D3	71	CYS	2.3
16	D1	87	ARG	2.3
21	d6	15	ARG	2.3
47	N3	81	GLN	2.3
48	N4	90	ILE	2.3
69	s1	165	ARG	2.3
70	s2	183	ALA	2.3
74	S6	85	ARG	2.3
6	c1	139	VAL	2.3
10	C5	124	THR	2.3
10	c5	76	VAL	2.3
15	d0	63	LEU	2.3
51	n7	12	VAL	2.3
71	S3	48	VAL	2.3
65	q1	5	TRP	2.3
79	sR	61	PHE	2.3
79	SR	195	HIS	2.3
14	c9	94	ILE	2.3
76	s8	72	ILE	2.3
24	D9	34	TYR	2.3
53	N9	35	VAL	2.3
71	s3	138	VAL	2.3
72	S4	76	VAL	2.3
75	S7	67	LEU	2.3
76	S8	82	VAL	2.3
76	S8	184	LEU	2.3
79	SR	270	LEU	2.3
6	C1	121	ASP	2.3
32	L7	109	THR	2.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
33	l8	196	ALA	2.3
1	1	1800	A	2.3
38	M4	32	LEU	2.3
39	M5	62	TYR	2.3
43	M9	185	LEU	2.3
51	n7	74	VAL	2.3
74	s6	135	PRO	2.3
77	s9	144	PRO	2.3
77	s9	145	SER	2.3
30	l5	180	PHE	2.3
27	l2	77	ILE	2.3
30	l5	8	LYS	2.3
46	n2	105	LEU	2.3
53	N9	32	LEU	2.3
66	Q2	78	LYS	2.3
70	s2	211	LEU	2.3
71	s3	142	LEU	2.3
68	S0	109	ASN	2.3
77	S9	145	SER	2.3
21	D6	89	ARG	2.3
34	L9	190	ASP	2.3
42	m8	178	ARG	2.3
45	n1	79	MET	2.3
58	O4	10	ARG	2.3
74	s6	145	PHE	2.3
79	sR	72	THR	2.3
27	l2	251	LYS	2.3
49	n5	113	LEU	2.3
73	S5	72	HIS	2.3
30	L5	63	GLN	2.3
7	C2	99	GLU	2.3
2	6	234	G	2.3
23	D8	42	ARG	2.3
30	l5	36	LEU	2.3
34	L9	112	ILE	2.3
39	m5	176	LYS	2.3
44	N0	31	ALA	2.3
51	N7	68	ILE	2.3
62	O8	2	ALA	2.3
71	S3	7	LYS	2.3
73	S5	125	THR	2.3
49	n5	107	VAL	2.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
5	c0	29	GLN	2.3
60	o6	80	PHE	2.3
66	Q2	8	ARG	2.3
73	s5	76	ARG	2.3
74	S6	72	ARG	2.3
74	S6	145	PHE	2.3
11	c6	106	LYS	2.3
46	n2	69	ALA	2.3
51	n7	126	LYS	2.3
75	S7	46	ILE	2.3
20	d5	43	ASP	2.3
36	M1	171	VAL	2.3
50	N6	73	VAL	2.3
14	c9	18	TYR	2.3
66	Q2	54	THR	2.3
33	L8	228	GLU	2.2
44	N0	95	ARG	2.2
66	Q2	80	ARG	2.2
28	L3	309	GLY	2.2
78	SM	52	PRO	2.2
55	O1	93	VAL	2.2
59	o5	88	LEU	2.2
73	s5	97	LEU	2.2
79	sR	301	LEU	2.2
79	SR	244	ALA	2.2
68	S0	121	VAL	2.2
17	D2	101	TYR	2.2
68	s0	157	ASP	2.2
70	s2	140	ARG	2.2
11	C6	124	PRO	2.2
39	m5	184	LYS	2.2
45	n1	103	GLN	2.2
73	S5	204	GLY	2.2
79	SR	206	PRO	2.2
10	c5	86	VAL	2.2
19	D4	7	ILE	2.2
48	N4	20	LEU	2.2
62	O8	27	ILE	2.2
71	s3	206	VAL	2.2
72	S4	147	ILE	2.2
79	sR	223	TRP	2.2
30	L5	44	TYR	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
74	S6	98	ARG	2.2
1	5	781	G	2.2
10	C5	71	GLU	2.2
6	C1	59	PRO	2.2
10	c5	132	GLY	2.2
14	C9	65	ILE	2.2
50	n6	70	ILE	2.2
55	o1	75	ILE	2.2
72	S4	31	PRO	2.2
72	S4	56	LEU	2.2
74	s6	83	CYS	2.2
79	sR	157	VAL	2.2
6	C1	11	ARG	2.2
11	C6	66	ARG	2.2
49	n5	46	TYR	2.2
74	s6	92	ARG	2.2
76	s8	21	PHE	2.2
2	2	708	C	2.2
9	c4	128	LYS	2.2
22	d7	70	LYS	2.2
41	m7	80	LYS	2.2
78	SM	174	LYS	2.2
2	2	820	U	2.2
6	C1	63	LEU	2.2
7	c2	75	VAL	2.2
14	C9	124	ILE	2.2
22	d7	26	GLN	2.2
71	s3	140	GLY	2.2
15	D0	118	VAL	2.2
30	l5	134	ALA	2.2
30	L5	150	LEU	2.2
35	m0	152	LEU	2.2
79	sR	180	ALA	2.2
49	n5	56	ARG	2.2
58	o4	10	ARG	2.2
20	D5	85	LYS	2.2
30	L5	27	LYS	2.2
40	M6	42	ASN	2.2
32	L7	114	GLY	2.2
52	n8	37	GLY	2.2
15	D0	56	VAL	2.2
16	D1	47	PRO	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
26	e1	102	VAL	2.2
52	n8	78	LEU	2.2
54	O0	42	ILE	2.2
74	s6	75	LEU	2.2
74	s6	97	VAL	2.2
75	s7	126	LEU	2.2
44	n0	88	HIS	2.2
75	s7	63	PRO	2.2
20	D5	97	LYS	2.2
48	N4	102	LYS	2.2
37	m3	95	ILE	2.2
75	S7	99	LEU	2.2
73	S5	117	THR	2.2
79	SR	168	THR	2.2
79	SR	227	ALA	2.2
11	c6	135	ARG	2.2
13	c8	128	PHE	2.2
63	o9	30	ARG	2.2
34	L9	87	LYS	2.2
74	S6	164	LYS	2.2
74	S6	171	LYS	2.2
76	S8	65	PHE	2.2
2	2	657	U	2.2
7	C2	122	VAL	2.2
15	D0	58	LEU	2.2
42	m8	140	LEU	2.2
75	S7	62	VAL	2.2
20	d5	39	ALA	2.2
9	c4	94	PRO	2.2
21	D6	70	LYS	2.2
36	m1	159	THR	2.2
43	m9	182	ASP	2.2
45	N1	69	LYS	2.2
60	o6	2	THR	2.2
70	s2	64	LYS	2.2
76	S8	95	THR	2.2
7	C2	66	VAL	2.2
24	D9	17	GLY	2.2
26	E1	84	VAL	2.2
43	M9	17	VAL	2.2
68	S0	144	ILE	2.2
69	s1	53	GLY	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
70	S2	139	ILE	2.2
44	N0	8	GLN	2.2
45	N1	55	LYS	2.2
49	n5	65	GLN	2.2
73	s5	154	ALA	2.2
75	s7	42	GLN	2.2
77	S9	100	LYS	2.2
47	n3	85	TRP	2.2
13	c8	15	LEU	2.2
20	D5	65	LEU	2.2
28	L3	74	GLU	2.2
36	M1	19	LEU	2.2
54	O0	43	ILE	2.2
71	S3	208	ILE	2.2
73	S5	96	SER	2.2
5	c0	38	LYS	2.2
13	c8	48	LYS	2.2
28	L3	308	MET	2.2
23	d8	54	LEU	2.2
28	L3	77	THR	2.2
74	S6	80	ASN	2.2
52	n8	41	HIS	2.2
69	s1	188	LEU	2.2
76	S8	97	THR	2.2
9	c4	22	SER	2.2
24	D9	31	ILE	2.2
30	l5	173	VAL	2.2
30	L5	65	ILE	2.2
39	M5	60	VAL	2.2
42	M8	82	VAL	2.2
72	S4	49	ARG	2.2
7	C2	112	ALA	2.2
17	D2	108	ALA	2.2
14	c9	55	TYR	2.2
74	S6	65	GLN	2.2
30	L5	95	TRP	2.2
7	c2	31	VAL	2.2
19	D4	98	GLU	2.2
30	L5	236	LEU	2.2
42	M8	97	PRO	2.2
37	m3	189	GLU	2.2
49	n5	119	THR	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
69	s1	96	LEU	2.2
5	c0	27	PHE	2.2
21	d6	32	LYS	2.2
27	l2	110	GLY	2.2
44	N0	149	LYS	2.2
69	s1	111	ARG	2.2
72	s4	80	THR	2.2
32	L7	219	LYS	2.2
70	s2	116	LYS	2.2
71	S3	156	PHE	2.2
79	SR	235	SER	2.2
8	c3	62	GLN	2.2
36	M1	108	GLU	2.2
43	m9	123	LEU	2.2
70	S2	184	VAL	2.2
70	S2	196	VAL	2.2
71	S3	21	LEU	2.2
7	C2	105	LYS	2.2
42	m8	151	ARG	2.2
62	o8	66	ILE	2.2
36	m1	109	HIS	2.2
42	m8	152	HIS	2.2
71	S3	53	THR	2.2
79	SR	245	PHE	2.2
8	c3	60	VAL	2.2
23	D8	54	LEU	2.2
45	n1	43	LYS	2.2
45	n1	85	LEU	2.2
49	n5	24	LEU	2.2
62	o8	14	LEU	2.2
21	D6	83	ILE	2.2
42	m8	173	GLU	2.2
47	n3	3	GLY	2.2
48	N4	63	ILE	2.2
66	q2	6	LYS	2.2
74	S6	73	ILE	2.2
29	L4	89	ALA	2.2
30	l5	78	ALA	2.2
73	S5	94	THR	2.2
15	d0	82	TYR	2.2
34	L9	146	LEU	2.2
42	M8	62	VAL	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
51	N7	51	LEU	2.2
72	S4	130	GLN	2.2
13	C8	69	ILE	2.2
28	L3	209	PHE	2.2
34	l9	41	ILE	2.2
71	s3	184	ILE	2.2
73	s5	79	ASN	2.2
6	c1	88	ARG	2.2
46	n2	65	VAL	2.2
54	O0	25	LEU	2.2
58	o4	23	VAL	2.2
45	N1	58	GLN	2.2
58	O4	31	ARG	2.2
7	C2	102	GLY	2.1
51	N7	118	PHE	2.2
60	o6	65	GLY	2.1
77	s9	104	PHE	2.2
72	s4	31	PRO	2.1
21	D6	35	ALA	2.1
11	C6	127	LYS	2.1
15	D0	26	LEU	2.1
23	D8	11	LYS	2.1
25	E0	49	LEU	2.1
28	L3	336	VAL	2.1
36	m1	49	LYS	2.1
49	N5	38	LEU	2.1
52	N8	63	LYS	2.1
62	O8	25	VAL	2.1
68	s0	158	VAL	2.1
69	s1	64	ARG	2.1
69	s1	143	THR	2.1
76	s8	90	LEU	2.1
19	D4	22	GLN	2.1
69	s1	67	GLU	2.1
72	S4	90	ILE	2.1
2	2	913	G	2.1
11	C6	80	ALA	2.1
72	S4	84	ALA	2.1
74	S6	62	PRO	2.1
76	s8	85	PRO	2.1
5	c0	75	TYR	2.1
11	c6	13	LYS	2.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
20	D5	57	TYR	2.1
27	l2	156	LYS	2.1
48	n4	93	ARG	2.1
70	S2	61	LEU	2.1
28	L3	358	TRP	2.1
29	L4	114	ASN	2.1
37	m3	12	ASN	2.1
69	S1	124	ASN	2.1
77	S9	52	ILE	2.1
10	C5	113	GLY	2.1
4	8	52	A	2.1
33	l8	129	PRO	2.1
6	C1	139	VAL	2.1
22	d7	82	LYS	2.1
49	n5	122	ALA	2.1
70	S2	190	LEU	2.1
72	s4	128	LYS	2.1
73	S5	159	ALA	2.1
23	D8	49	ARG	2.1
26	E1	130	VAL	2.1
30	l5	218	ARG	2.1
55	o1	92	TYR	2.1
66	Q2	72	LEU	2.1
8	C3	16	ILE	2.1
30	l5	56	THR	2.1
34	L9	45	PHE	2.1
69	s1	24	PHE	2.1
2	6	1228	G	2.1
7	c2	25	GLU	2.1
8	C3	62	GLN	2.1
34	L9	59	ASN	2.1
45	N1	70	SER	2.1
52	n8	46	ASP	2.1
77	s9	133	HIS	2.1
52	n8	54	GLY	2.1
5	c0	45	ALA	2.1
12	c7	9	VAL	2.1
17	d2	124	LYS	2.1
41	M7	158	ALA	2.1
42	M8	91	ALA	2.1
20	d5	40	VAL	2.1
22	D7	22	LYS	2.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
13	C8	116	LEU	2.1
26	E1	85	TYR	2.1
39	M5	66	VAL	2.1
51	N7	37	PRO	2.1
70	s2	193	VAL	2.1
28	l3	311	PHE	2.1
33	L8	94	PHE	2.1
55	O1	39	PHE	2.1
73	s5	137	ILE	2.1
8	c3	67	THR	2.1
39	m5	139	HIS	2.1
41	M7	162	GLU	2.1
58	o4	34	HIS	2.1
5	c0	1	MET	2.1
76	s8	41	LYS	2.1
10	c5	125	PRO	2.1
37	M3	22	VAL	2.1
42	m8	52	LEU	2.1
44	N0	80	ARG	2.1
68	S0	97	PRO	2.1
72	S4	140	VAL	2.1
75	S7	140	VAL	2.1
21	d6	79	ILE	2.1
75	s7	60	ILE	2.1
79	SR	186	PHE	2.1
48	n4	92	GLU	2.1
6	C1	24	LYS	2.1
11	C6	91	ALA	2.1
12	C7	35	CYS	2.1
33	L8	163	VAL	2.1
50	n6	35	LEU	2.1
74	s6	77	LEU	2.1
77	S9	128	LEU	2.1
2	6	1151	A	2.1
4	4	80	A	2.1
72	S4	54	TYR	2.1
73	S5	61	TYR	2.1
5	C0	76	LEU	2.1
5	c0	67	THR	2.1
42	m8	179	ARG	2.1
43	M9	189	ALA	2.1
44	n0	31	ALA	2.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
74	S6	177	ARG	2.1
78	SM	51	ARG	2.1
32	L7	205	PHE	2.1
71	S3	79	TYR	2.1
75	S7	142	TYR	2.1
2	2	1523	G	2.1
39	M5	52	GLY	2.1
42	m8	79	LYS	2.1
51	N7	20	GLY	2.1
62	o8	74	LYS	2.1
6	C1	153	PHE	2.1
12	C7	58	MET	2.1
21	d6	18	VAL	2.1
36	m1	54	VAL	2.1
42	m8	101	VAL	2.1
73	S5	156	ARG	2.1
14	C9	14	PHE	2.1
30	L5	109	THR	2.1
39	M5	139	HIS	2.1
66	q2	23	HIS	2.1
75	S7	58	LEU	2.1
76	s8	58	LEU	2.1
79	SR	243	LEU	2.1
66	q2	26	THR	2.1
9	c4	112	ILE	2.1
32	L7	209	ASN	2.1
36	M1	118	PRO	2.1
58	o4	89	ILE	2.1
14	c9	27	LYS	2.1
33	l8	133	LYS	2.1
72	S4	128	LYS	2.1
75	S7	179	LYS	2.1
78	SM	83	LYS	2.1
23	D8	55	VAL	2.1
30	l5	170	GLY	2.1
10	C5	36	LEU	2.1
36	M1	148	VAL	2.1
42	M8	104	LEU	2.1
68	s0	73	VAL	2.1
69	s1	73	LEU	2.1
71	S3	41	VAL	2.1
74	s6	157	VAL	2.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
79	SR	172	ALA	2.1
11	c6	87	LYS	2.1
13	c8	53	ASP	2.1
15	D0	108	ILE	2.1
28	L3	322	ILE	2.1
69	s1	79	HIS	2.1
79	SR	205	SER	2.1
72	S4	71	LYS	2.1
36	m1	132	ASN	2.1
62	o8	28	ASN	2.1
6	C1	135	VAL	2.1
10	c5	116	LEU	2.1
11	C6	19	VAL	2.1
28	l3	87	VAL	2.1
44	n0	135	VAL	2.1
72	s4	139	VAL	2.1
78	sM	88	ARG	2.1
32	L7	243	MET	2.1
54	o0	70	PHE	2.1
63	O9	2	ALA	2.1
76	s8	109	PHE	2.1
28	L3	367	LYS	2.1
72	S4	69	HIS	2.1
5	C0	26	ASP	2.1
49	n5	112	THR	2.1
9	c4	137	LEU	2.1
34	L9	27	VAL	2.1
45	n1	40	VAL	2.1
45	n1	94	GLU	2.1
49	N5	107	VAL	2.1
72	S4	92	LEU	2.1
77	s9	85	VAL	2.1
77	s9	128	LEU	2.1
79	SR	138	GLY	2.1
18	d3	12	ALA	2.1
20	D5	59	TYR	2.1
49	N5	63	ILE	2.1
1	5	3156	U	2.1
9	c4	44	GLY	2.1
11	c6	126	PRO	2.1
28	L3	382	THR	2.1
29	l4	188	ARG	2.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
58	O4	40	THR	2.1
75	s7	96	ARG	2.1
15	D0	62	VAL	2.1
21	d6	84	VAL	2.1
23	D8	28	VAL	2.1
30	L5	201	GLY	2.1
42	m8	62	VAL	2.1
72	S4	123	LEU	2.1
73	S5	161	ASP	2.1
14	C9	54	PHE	2.1
22	d7	50	ALA	2.1
39	m5	130	PHE	2.1
73	S5	48	PHE	2.1
73	s5	155	ALA	2.1
75	s7	70	PHE	2.1
79	SR	257	ALA	2.1
69	s1	219	LYS	2.1
22	D7	51	GLN	2.1
42	M8	174	ARG	2.1
17	d2	129	VAL	2.1
17	D2	120	HIS	2.1
45	N1	33	VAL	2.1
73	S5	132	VAL	2.1
18	D3	116	ASP	2.1
26	e1	86	THR	2.1
1	1	1764	U	2.1
2	2	1414	U	2.1
4	8	36	G	2.1
39	m5	204	LYS	2.1
70	s2	118	ALA	2.1
63	O9	51	ILE	2.1
76	S8	35	ASN	2.1
77	S9	142	ASN	2.1
11	C6	8	GLN	2.1
19	D4	61	ARG	2.1
11	c6	88	GLY	2.1
53	N9	54	LEU	2.1
70	S2	208	GLU	2.1
79	SR	154	VAL	2.1
39	M5	21	PHE	2.1
58	O4	93	PHE	2.1
70	S2	85	PRO	2.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
72	s4	86	PHE	2.1
79	SR	295	SER	2.1
11	C6	110	THR	2.1
45	n1	75	ILE	2.1
49	n5	88	MET	2.1
69	s1	45	LYS	2.1
74	s6	74	LYS	2.1
78	sM	87	THR	2.1
29	l4	280	ILE	2.1
70	s2	178	ILE	2.1
73	s5	77	TYR	2.1
14	C9	70	GLN	2.1
51	n7	14	VAL	2.1
59	o5	104	GLN	2.1
75	S7	180	GLN	2.1
19	D4	85	PHE	2.1
28	L3	12	GLY	2.1
8	c3	23	PRO	2.0
14	C9	64	HIS	2.0
30	l5	164	LYS	2.0
75	s7	43	PHE	2.1
79	sR	192	PHE	2.1
8	C3	124	ARG	2.0
20	d5	100	ILE	2.0
21	D6	36	ILE	2.0
49	n5	90	ALA	2.0
39	M5	203	ARG	2.0
74	S6	155	ASP	2.0
77	s9	17	ARG	2.0
7	C2	103	LEU	2.0
37	m3	97	VAL	2.0
49	n5	111	ASN	2.0
69	s1	88	VAL	2.0
79	SR	301	LEU	2.0
6	c1	13	PHE	2.0
7	C2	117	GLY	2.0
7	c2	29	LYS	2.0
66	Q2	31	GLY	2.0
76	S8	113	PHE	2.0
7	C2	82	PRO	2.0
69	S1	211	HIS	2.0
72	S4	15	PRO	2.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
79	sR	190	ALA	2.0
6	C1	27	THR	2.0
10	c5	123	TYR	2.0
58	o4	8	ARG	2.0
70	s2	198	THR	2.0
36	M1	80	LEU	2.0
39	m5	60	VAL	2.0
52	n8	123	VAL	2.0
74	s6	147	LEU	2.0
22	d7	72	LYS	2.0
33	l8	43	LYS	2.0
69	s1	145	LYS	2.0
73	s5	128	ASN	2.0
78	sM	57	ASN	2.0
1	5	1838	G	2.0
7	c2	20	ALA	2.0
1	5	1017	C	2.0
54	O0	44	ILE	2.0
17	d2	52	TYR	2.0
52	n8	109	TYR	2.0
25	E0	50	VAL	2.0
46	N2	65	VAL	2.0
1	1	1570	U	2.0
26	E1	107	LYS	2.0
27	L2	63	PHE	2.0
39	M5	93	LYS	2.0
66	Q2	13	LYS	2.0
79	SR	42	LEU	2.0
32	L7	91	GLY	2.0
44	n0	63	GLN	2.0
11	c6	137	ARG	2.0
30	l5	139	PRO	2.0
37	M3	18	TRP	2.0
71	S3	116	ARG	2.0
13	C8	45	LEU	2.0
55	o1	108	VAL	2.0
73	s5	132	VAL	2.0
74	s6	111	LEU	2.0
2	2	279	G	2.0
14	c9	25	GLN	2.0
34	L9	85	GLY	2.0
72	S4	25	GLY	2.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
17	D2	68	ARG	2.0
52	n8	26	ARG	2.0
51	N7	77	TYR	2.0
68	s0	195	TRP	2.0
75	S7	135	ILE	2.0
79	sR	172	ALA	2.0
6	c1	20	PHE	2.0
8	c3	53	LEU	2.0
21	D6	72	HIS	2.0
24	d9	16	LYS	2.0
28	L3	79	VAL	2.0
29	l4	219	LEU	2.0
37	M3	14	PHE	2.0
39	m5	140	LYS	2.0
39	M5	125	SER	2.0
52	n8	47	LYS	2.0
68	S0	102	PHE	2.0
73	s5	84	LYS	2.0
2	2	793	A	2.0
30	L5	59	ASP	2.0
45	n1	38	ASP	2.0
72	S4	199	GLU	2.0
11	c6	91	ALA	2.0
42	M8	93	ILE	2.0
49	n5	27	ARG	2.0
55	o1	14	ILE	2.0
59	o5	114	ARG	2.0
69	S1	193	ILE	2.0
72	S4	148	ARG	2.0
75	s7	47	ARG	2.0
79	SR	114	ASP	2.0
6	C1	125	VAL	2.0
10	C5	98	ASN	2.0
15	D0	55	PRO	2.0
5	C0	60	SER	2.0
6	c1	42	PHE	2.0
33	l8	200	LEU	2.0
36	m1	174	LYS	2.0
71	S3	141	LYS	2.0
74	s6	136	LYS	2.0
1	1	1552	G	2.0
22	d7	19	HIS	2.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
50	N6	72	SER	2.0
7	C2	96	GLN	2.0
11	c6	9	THR	2.0
19	D4	121	THR	2.0
21	d6	10	ARG	2.0
17	D2	83	ILE	2.0
30	L5	64	ILE	2.0
30	L5	297	GLN	2.0
66	q2	10	THR	2.0
66	q2	30	ALA	2.0
71	s3	50	ILE	2.0
72	S4	80	THR	2.0
7	C2	37	VAL	2.0
15	D0	97	VAL	2.0
17	D2	119	LYS	2.0
19	D4	96	LEU	2.0
28	L3	338	LEU	2.0
32	L7	117	VAL	2.0
33	l8	163	VAL	2.0
33	L8	151	VAL	2.0
42	m8	155	MET	2.0
70	s2	197	TYR	2.0
72	S4	126	VAL	2.0
72	S4	134	LYS	2.0
72	s4	208	VAL	2.0
74	S6	136	LYS	2.0
69	S1	81	PHE	2.0
19	d4	120	GLY	2.0
26	E1	118	ARG	2.0
48	n4	80	ARG	2.0
55	O1	11	GLU	2.0
71	S3	214	GLU	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands

LIGAND-RSR INFOmissingINFO

6.5 Other polymers

There are no such residues in this entry.