Full wwPDB EM Validation Report ⓘ

Apr 30, 2024 – 06:22 pm BST

PDB ID	:	4V8T
EMDB ID	:	EMD-2169
Title	:	Cryo-EM Structure of the 60S Ribosomal Subunit in Complex with Arx1 and Rei1
Authors	:	Greber, B.J.; Boehringer, D.; Montellese, C.; Ban, N.
Deposited on	:	2012-08-07
Resolution	:	8.10 Å(reported)
Based on initial models	:	3U5I, 3U5H

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

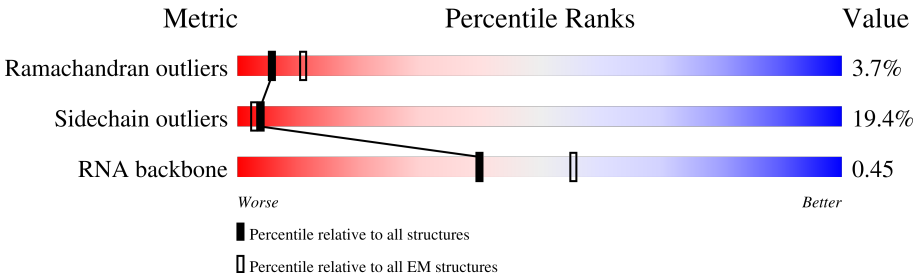
EMDB validation analysis	:	0.0.1.dev92
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance

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

The reported resolution of this entry is 8.10 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	254	37% 81% 17%
2	B	387	17% 79% 18%
3	C	362	17% 75% 21%
4	D	297	8% 80% 18%
5	E	176	5% 73% 15% 11%
6	F	244	10% 76% 14% 9%
7	G	256	5% 68% 21% 10%
8	H	191	7% 78% 20%

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Mol	Chain	Length	Quality of chain
9	I	221	23% 72% 22%
10	J	174	6% 72% 21%
11	K	155	85% 97%
12	L	199	10% 76% 19%
13	M	138	80% 17%
14	N	204	32% 80% 17%
15	O	219	5% 71% 20% 9%
16	P	184	17% 70% 12% 16%
17	Q	186	16% 78% 19%
18	R	189	28% 79% 21%
19	S	172	7% 79% 19%
20	T	160	18% 80% 19%
21	U	121	7% 60% 21% 19%
22	V	137	26% 90% 8%
23	W	155	50% 73% 13% 13%
24	X	142	11% 65% 18% 15%
25	Y	127	8% 76% 21%
26	Z	136	10% 74% 21% 5%
27	a	149	19% 75% 22%
28	b	59	24% 71% 24%
29	c	105	5% 79% 15% 5%
30	d	113	13% 73% 21%
31	e	130	28% 75% 20%
32	f	107	8% 85% 12%
33	g	121	26% 70% 21% 7%

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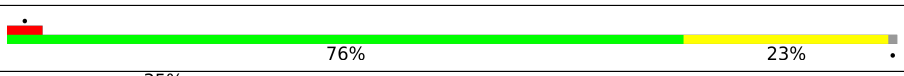
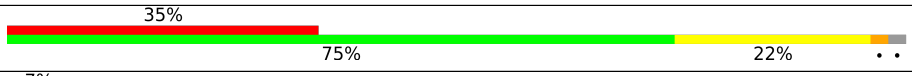
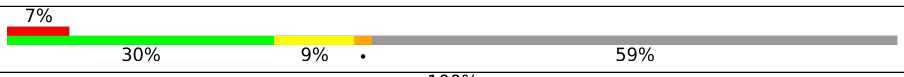
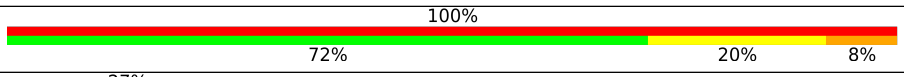
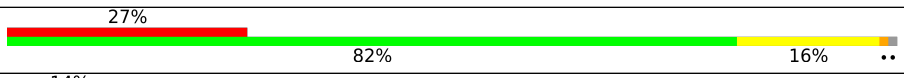
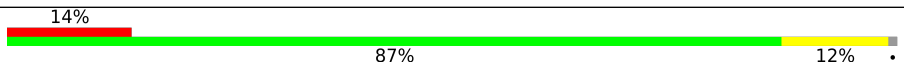
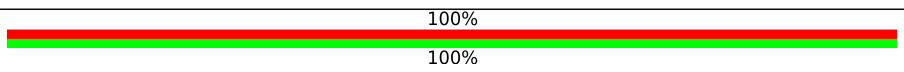
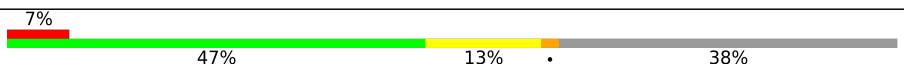
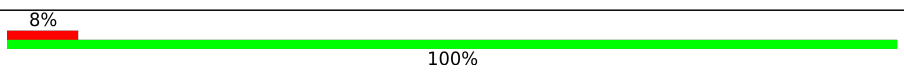
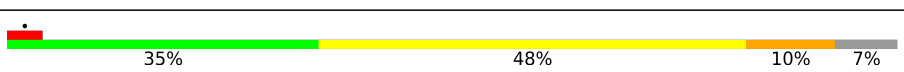
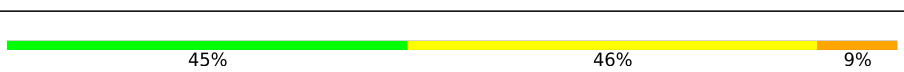
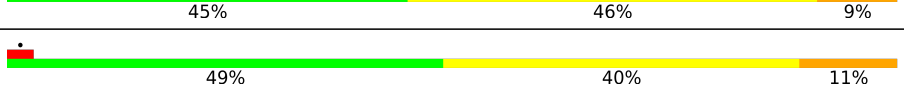
Mol	Chain	Length	Quality of chain
34	h	120	
35	i	100	
36	j	88	
37	k	78	
38	l	51	
39	m	128	
40	n	25	
41	o	106	
42	p	92	
43	q	312	
44	r	153	
45	s	46	
46	t	614	
47	1	114	
48	5	3396	
49	7	121	
50	8	158	

2 Entry composition

There are 51 unique types of molecules in this entry. The entry contains 130050 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	252	1912	1190	388	333	1	0	0

- Molecule 2 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	386	3075	1950	584	533	8	0	0

- Molecule 3 is a protein called 60S ribosomal protein L4-A.

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

- Molecule 4 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	294	2359	1489	412	456	2	0	0

- Molecule 5 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	157	1248	806	224	217	1	0	0

- Molecule 6 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	223	1791	1155	325	310	1	0	0

- Molecule 7 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	231	Total	C	N	O	S	0	0
			1763	1130	316	314	3		

- Molecule 8 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 9 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	213	Total	C	N	O	S	0	0
			1722	1094	325	297	6		

- Molecule 10 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 11 is a protein called 60S RIBOSOMAL PROTEIN L12.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	K	150	Total	C	N	O	0	0
			750	450	150	150		

- Molecule 12 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	L	194	Total	C	N	O	0	0
			1548	965	316	267		

- Molecule 13 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	137	Total	C	N	O	S	0	0
			1059	678	200	179	2		

- Molecule 14 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 15 is a protein called Large ribosomal subunit protein uL13A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	197	Total	C	N	O	S	197	0
			3119	2008	581	528	2		

- Molecule 16 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	P	155	Total	C	N	O	0	0
			1227	764	238	225		

- Molecule 17 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 18 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	R	188	Total	C	N	O	0	0
			1521	935	326	260		

- Molecule 19 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		

- Molecule 20 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 21 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	U	98	Total 778	C 505	N 127	O 146	0	0

- Molecule 22 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	136	Total 1003	C 628	N 189	O 179	S 7	0	0

- Molecule 23 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	135	Total 1038	C 651	N 206	O 180	S 1	0	0

- Molecule 24 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	120	Total 959	C 617	N 168	O 172	S 2	0	0

- Molecule 25 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	Y	126	Total 993	C 625	N 192	O 176	0	0

- Molecule 26 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
26	Z	135	Total 1092	C 710	N 202	O 180	0	0

- Molecule 27 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	a	148	Total 1173	C 749	N 231	O 190	S 3	0	0

- Molecule 28 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	b	58	Total 462	C 289	N 100	O 73	0	0

- Molecule 29 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	c	100	Total 767	C 492	N 128	O 146	S 1	0	0

- Molecule 30 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	d	109	Total 883	C 559	N 167	O 156	S 1	0	0

- Molecule 31 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	e	127	Total 1020	C 647	N 205	O 167	S 1	0	0

- Molecule 32 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	f	106	Total 850	C 540	N 165	O 144	S 1	0	0

- Molecule 33 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	g	112	Total 880	C 545	N 179	O 152	S 4	0	0

- Molecule 34 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	h	119	Total 965	C 612	N 185	O 167	S 1	0	0

- Molecule 35 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	i	99	Total	C	N	O	S	0	0
			770	481	156	131	2		

- Molecule 36 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	j	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 37 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	k	77	Total	C	N	O	0	0
			608	388	114	106		

- Molecule 38 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	l	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 39 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	m	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 40 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	n	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 41 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	o	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

- Molecule 42 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	p	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 43 is a protein called Large ribosomal subunit protein uL10.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	q	143	Total	C	N	O	S	0	0
			1077	687	192	195	3		

- Molecule 44 is a protein called RIBOSOMAL PROTEIN P1 ALPHA,Large ribosomal subunit protein P1A.

Mol	Chain	Residues	Atoms				AltConf	Trace
44	r	47	Total	C	N	O	0	0
			235	141	47	47		

- Molecule 45 is a protein called RIBOSOMAL PROTEIN P2 BETA.

Mol	Chain	Residues	Atoms				AltConf	Trace
45	s	46	Total	C	N	O	0	0
			230	138	46	46		

- Molecule 46 is a protein called Probable metalloprotease ARX1.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	t	380	Total	C	N	O	S	0	0
			2938	1853	511	563	11		

There are 21 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
t	-20	HIS	-	expression tag	UNP Q03862
t	-19	HIS	-	expression tag	UNP Q03862
t	-18	HIS	-	expression tag	UNP Q03862
t	-17	HIS	-	expression tag	UNP Q03862
t	-16	HIS	-	expression tag	UNP Q03862
t	-15	HIS	-	expression tag	UNP Q03862
t	-14	ASP	-	expression tag	UNP Q03862
t	-13	TYR	-	expression tag	UNP Q03862
t	-12	ASP	-	expression tag	UNP Q03862
t	-11	ILE	-	expression tag	UNP Q03862
t	-10	PRO	-	expression tag	UNP Q03862

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Chain	Residue	Modelled	Actual	Comment	Reference
t	-9	THR	-	expression tag	UNP Q03862
t	-8	THR	-	expression tag	UNP Q03862
t	-7	GLU	-	expression tag	UNP Q03862
t	-6	ASN	-	expression tag	UNP Q03862
t	-5	LEU	-	expression tag	UNP Q03862
t	-4	TYR	-	expression tag	UNP Q03862
t	-3	PHE	-	expression tag	UNP Q03862
t	-2	GLN	-	expression tag	UNP Q03862
t	-1	GLY	-	expression tag	UNP Q03862
t	0	ALA	-	expression tag	UNP Q03862

- Molecule 47 is a RNA chain called ES27 OF THE 25S RRNA.

Mol	Chain	Residues	Atoms		AltConf	Trace
			Total	P		
47	1	114	114	114	0	114

- Molecule 48 is a RNA chain called 25S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
48	5	3150	67376	30095	12145	21987	3149	0	0

- Molecule 49 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
49	7	121	2579	1152	461	845	121	0	0

- Molecule 50 is a RNA chain called 5.8S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
50	8	158	3353	1500	586	1109	158	0	0

- Molecule 51 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
51	j	1	1	1	0
			Total	Zn	
51	m	1	1	1	0

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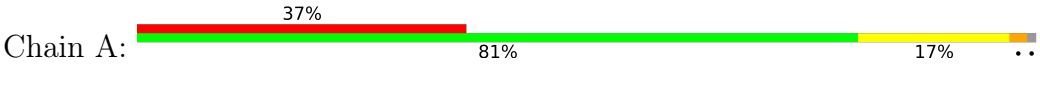
Mol	Chain	Residues	Atoms	AltConf
51	o	1	Total Zn 1 1	0
51	p	1	Total Zn 1 1	0

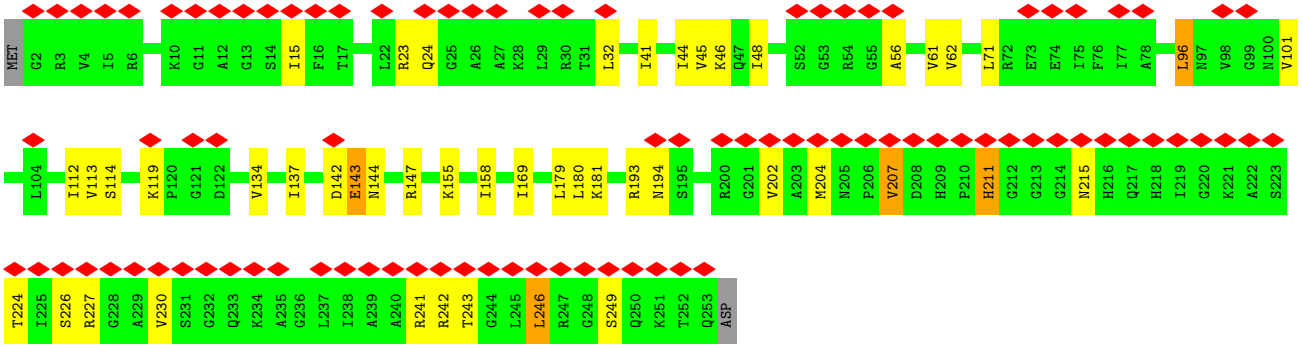
3 Residue-property plots (i)

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

• Molecule 1: 60S ribosomal protein L2-A

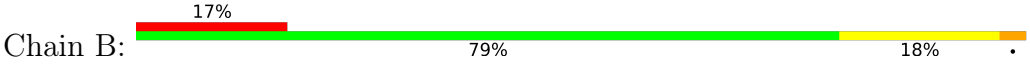
Chain A:

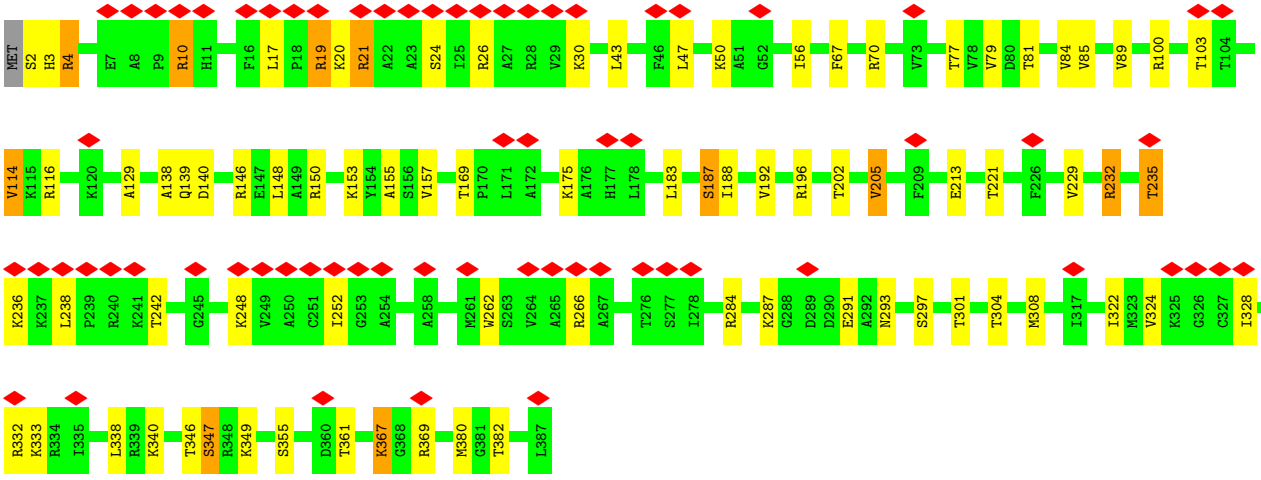




• Molecule 2: 60S ribosomal protein L3

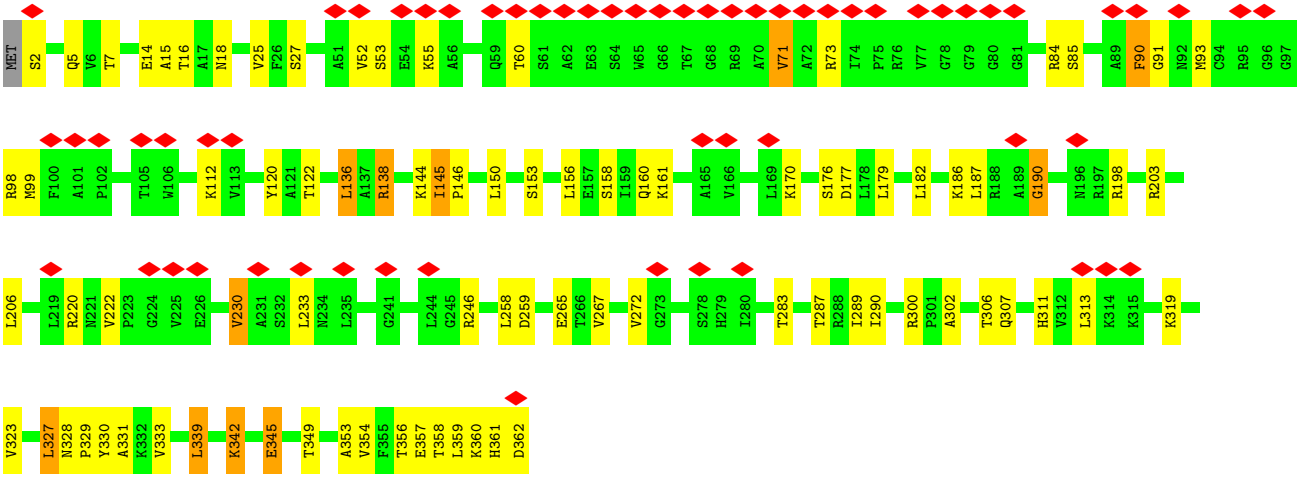
Chain B:



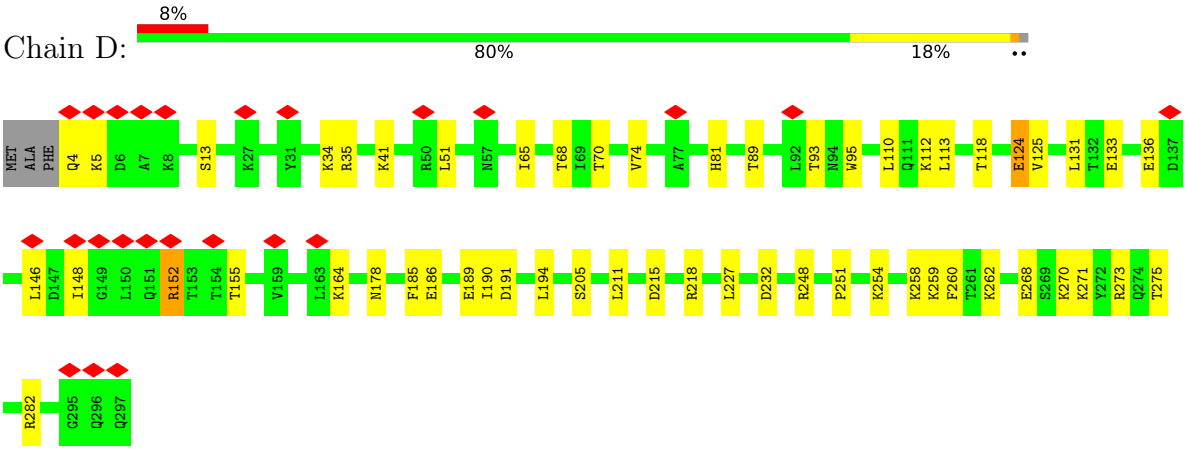


• Molecule 3: 60S ribosomal protein L4-A

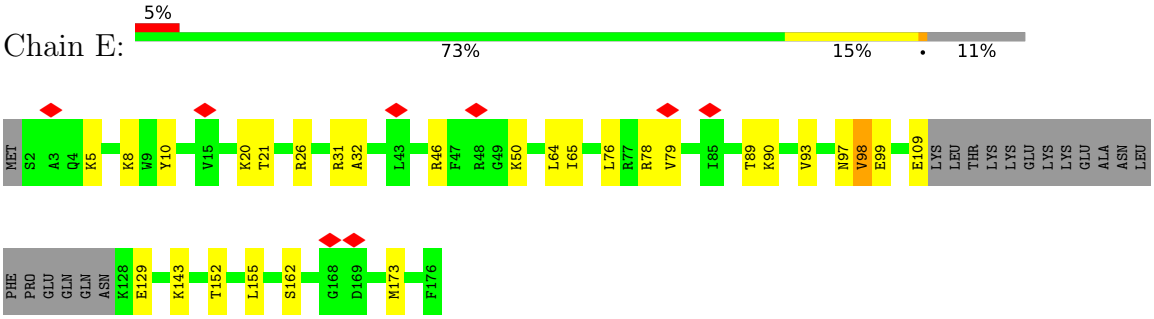
Chain C:



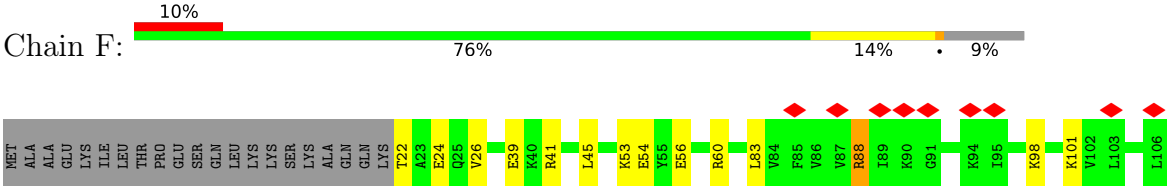
• Molecule 4: 60S ribosomal protein L5

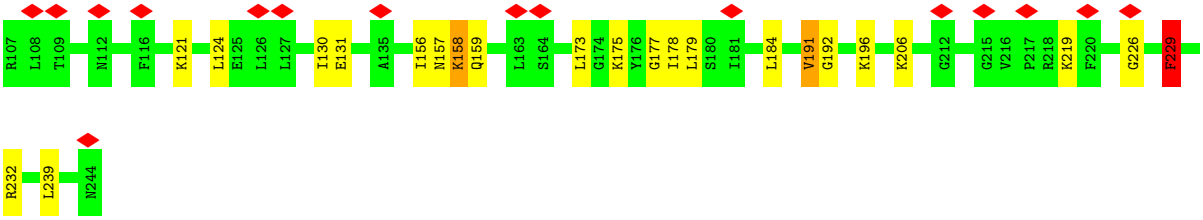


• Molecule 5: 60S ribosomal protein L6-A

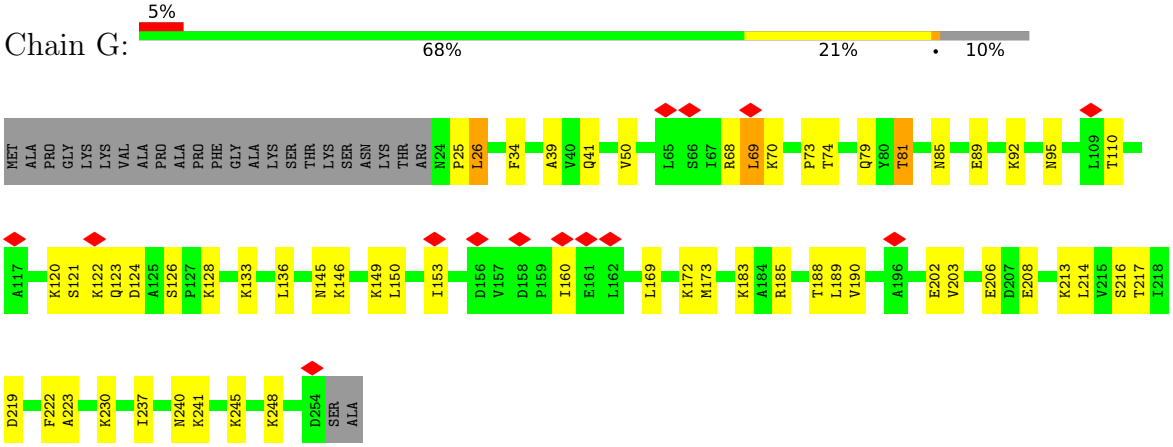


• Molecule 6: 60S ribosomal protein L7-A

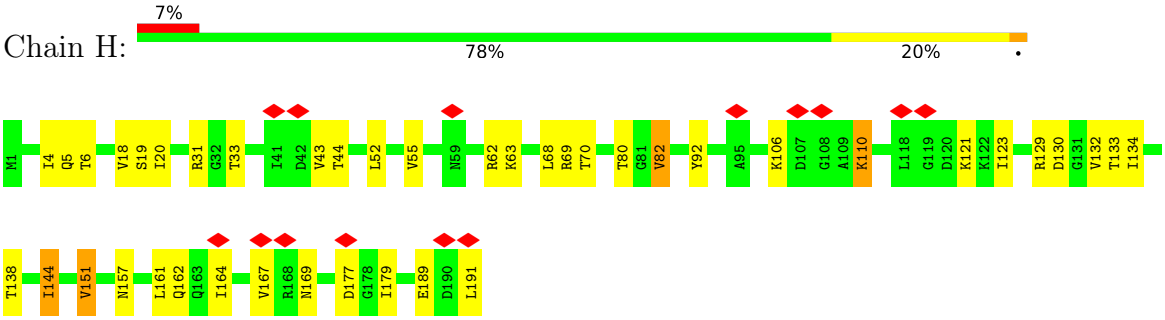




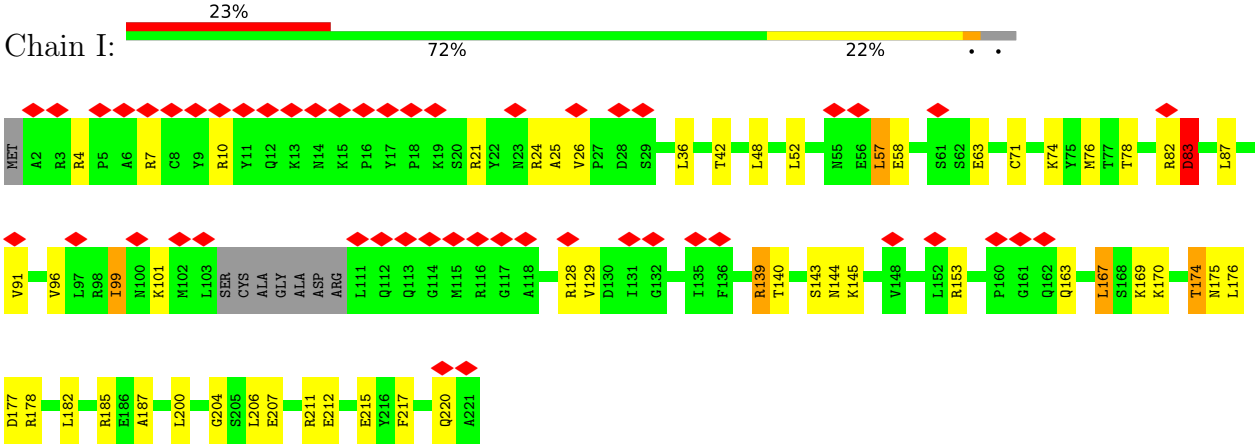
• Molecule 7: 60S ribosomal protein L8-A



• Molecule 8: 60S ribosomal protein L9-A

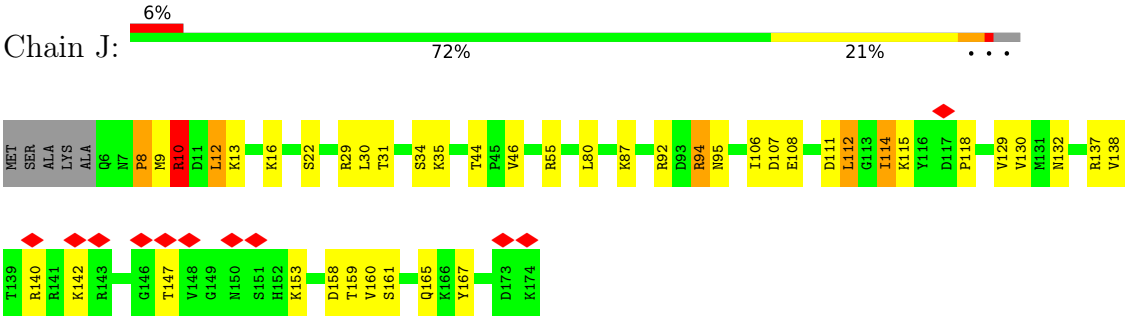


• Molecule 9: 60S ribosomal protein L10



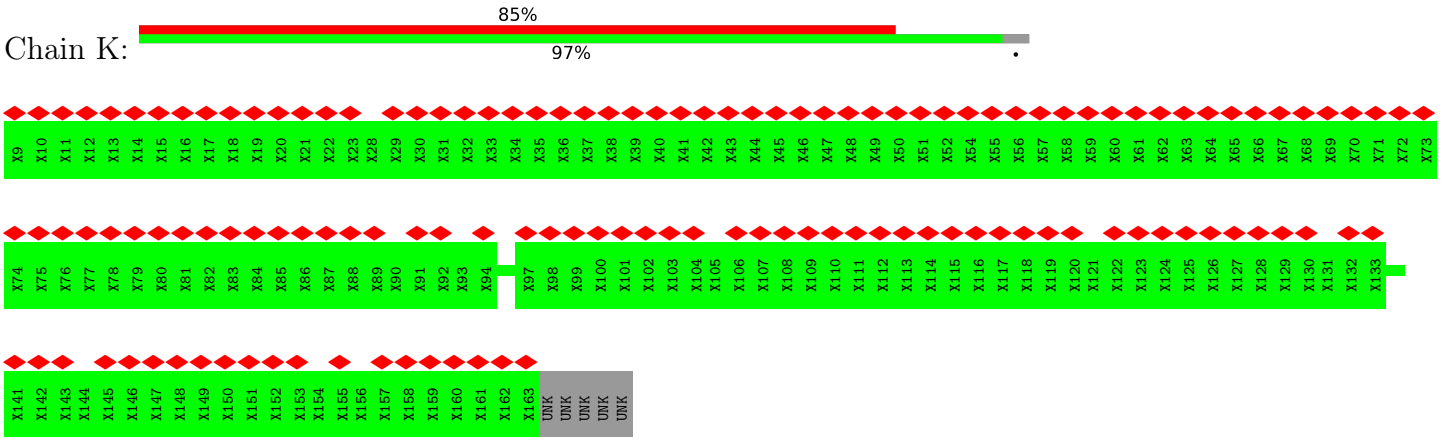
• Molecule 10: 60S ribosomal protein L11-A

Chain J:



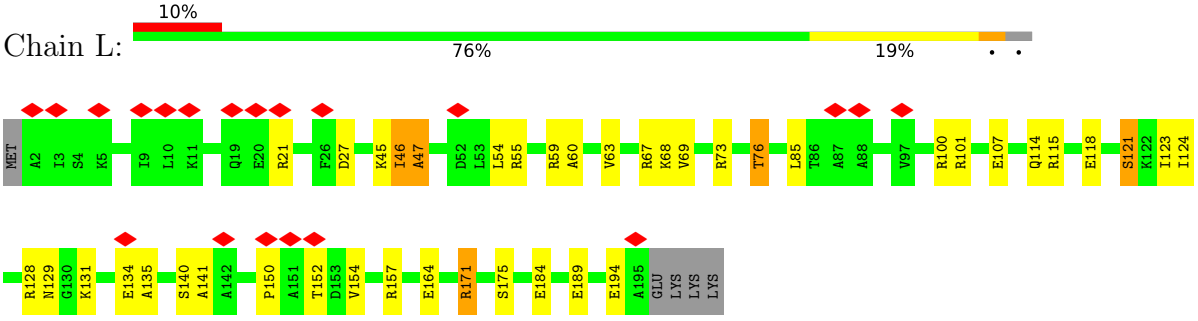
• Molecule 11: 60S RIBOSOMAL PROTEIN L12

Chain K:



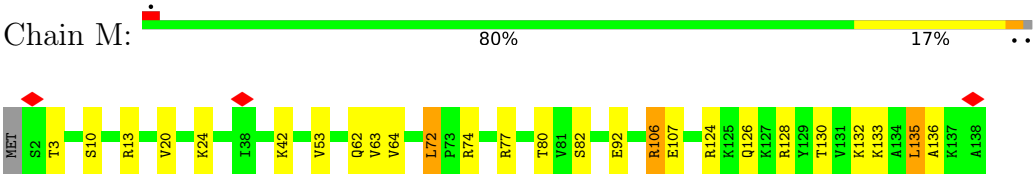
• Molecule 12: 60S ribosomal protein L13-A

Chain L:



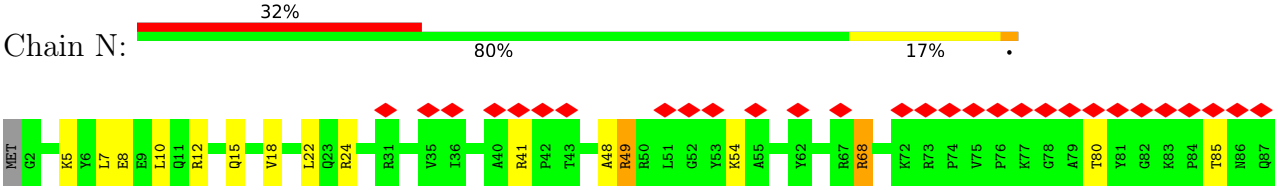
• Molecule 13: 60S ribosomal protein L14-A

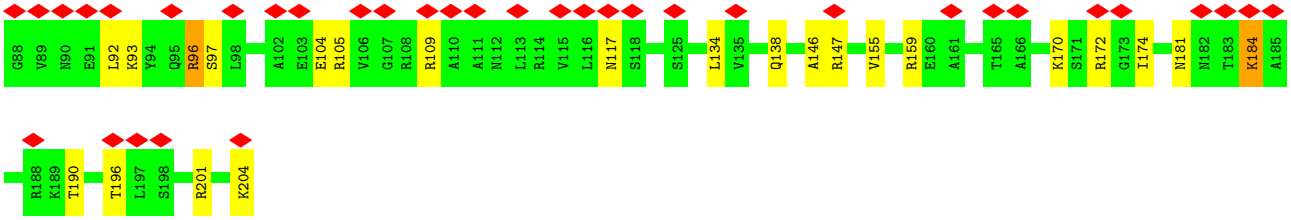
Chain M:



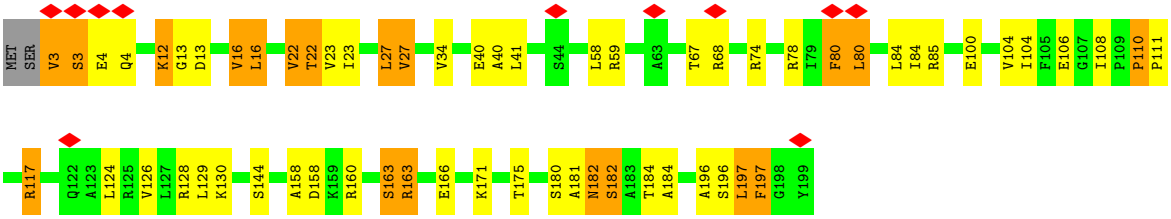
• Molecule 14: 60S ribosomal protein L15-A

Chain N:

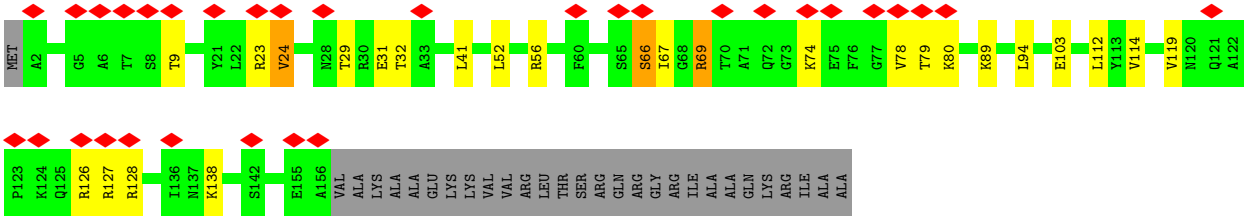




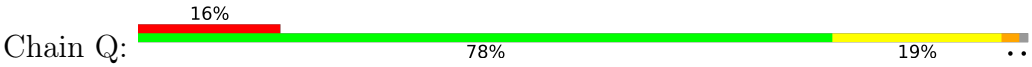
• Molecule 15: Large ribosomal subunit protein uL13A

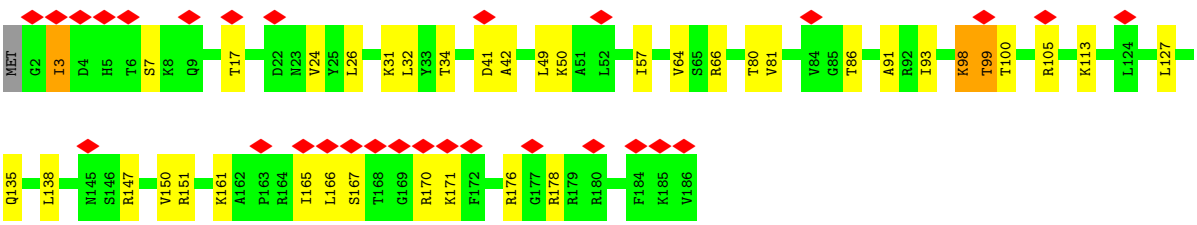


• Molecule 16: 60S ribosomal protein L17-A

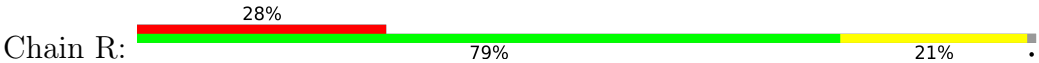


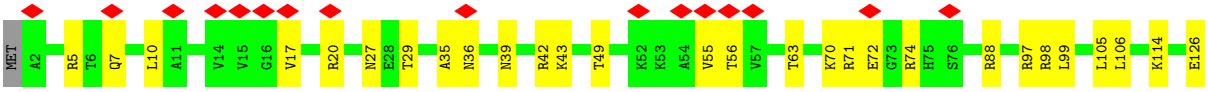
• Molecule 17: 60S ribosomal protein L18-A

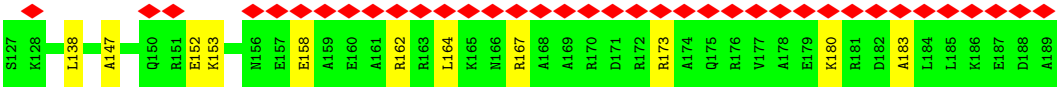




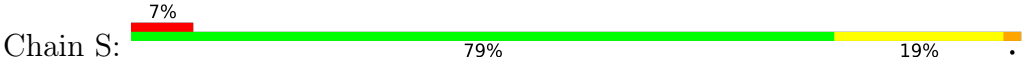
• Molecule 18: 60S ribosomal protein L19-A

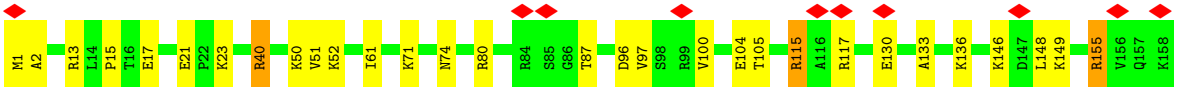


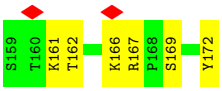




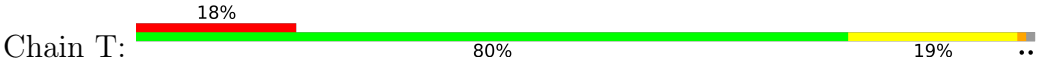
• Molecule 19: 60S ribosomal protein L20-A

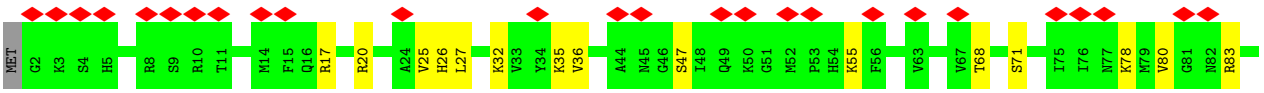


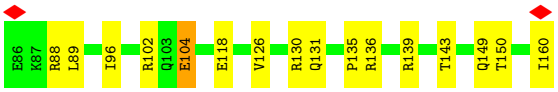




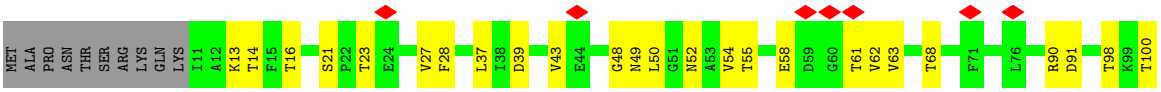
• Molecule 20: 60S ribosomal protein L21-A

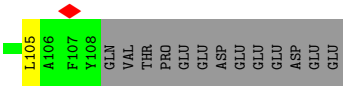




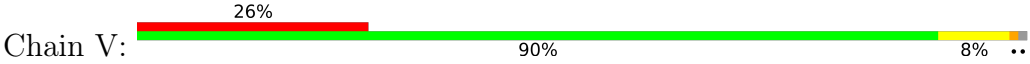


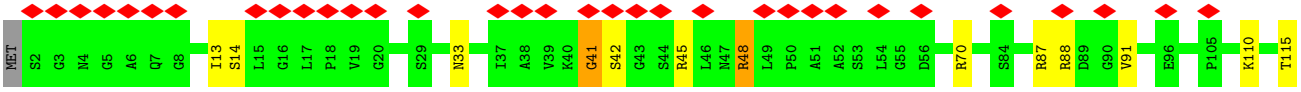
• Molecule 21: 60S ribosomal protein L22-A

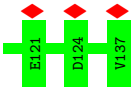




• Molecule 22: 60S ribosomal protein L23-A

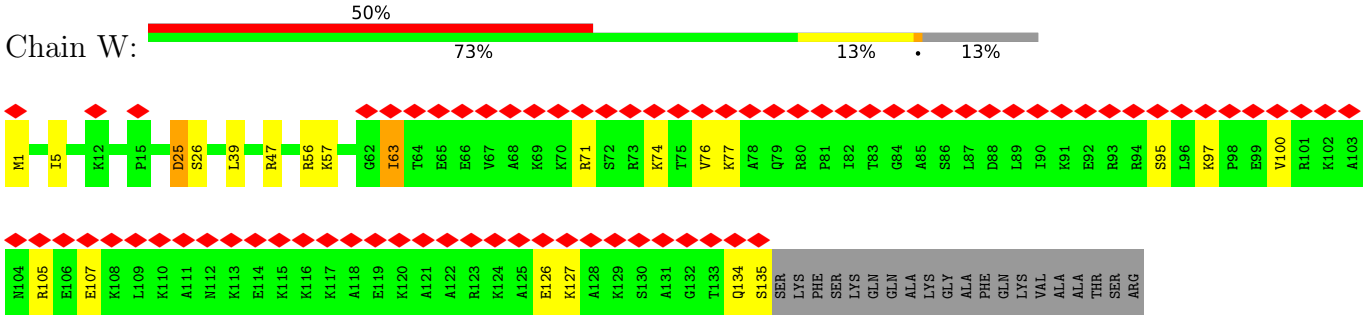






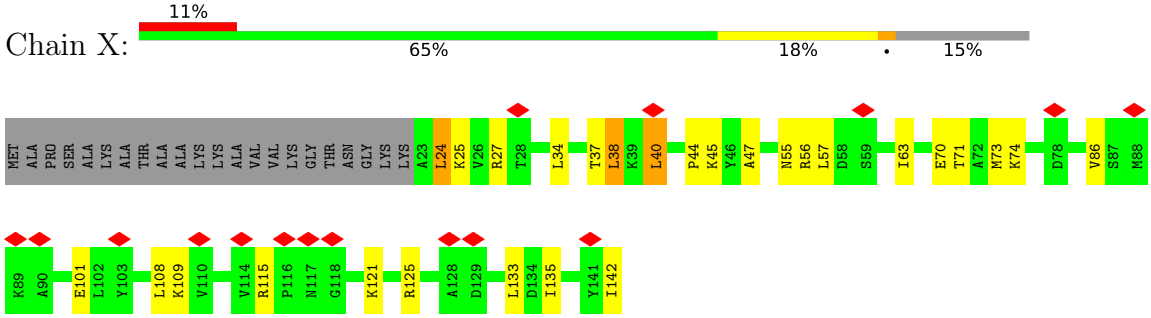
• Molecule 23: 60S ribosomal protein L24-A

Chain W:



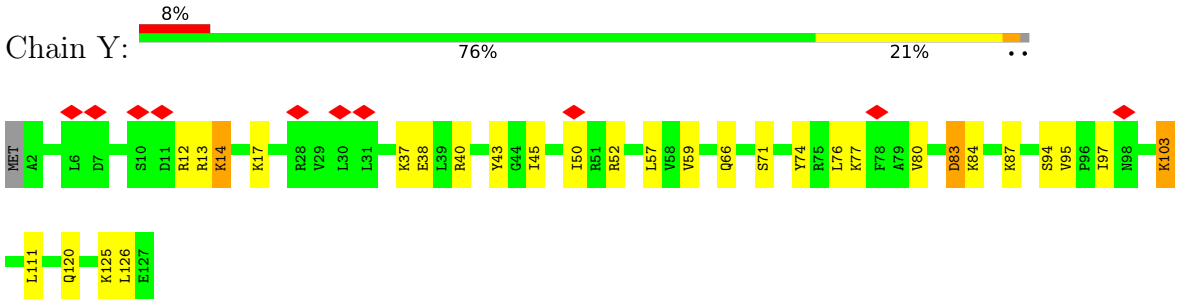
• Molecule 24: 60S ribosomal protein L25

Chain X:



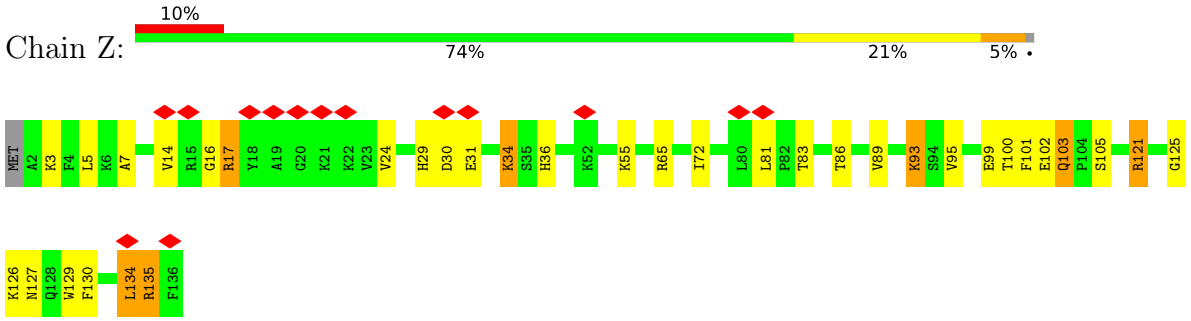
• Molecule 25: 60S ribosomal protein L26-A

Chain Y:



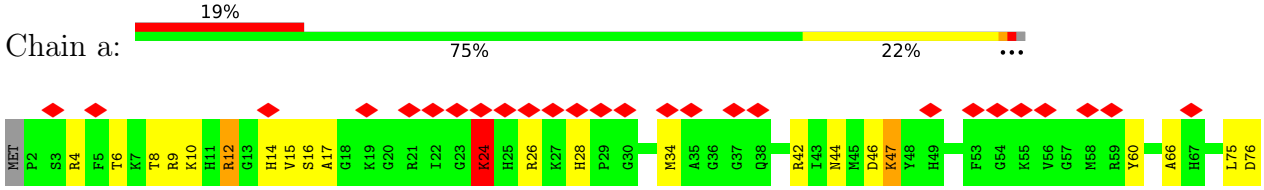
• Molecule 26: 60S ribosomal protein L27-A

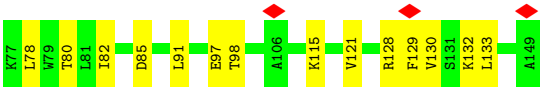
Chain Z:



• Molecule 27: 60S ribosomal protein L28

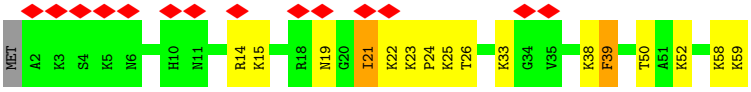
Chain a:





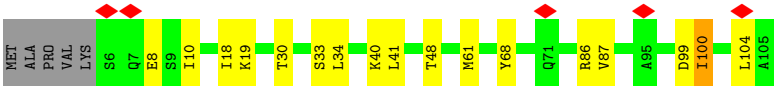
• Molecule 28: 60S ribosomal protein L29

Chain b:



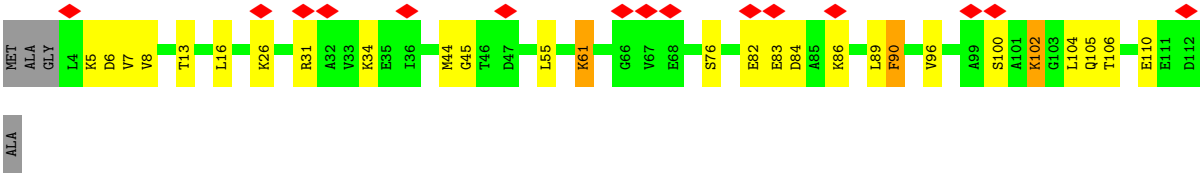
• Molecule 29: 60S ribosomal protein L30

Chain c:



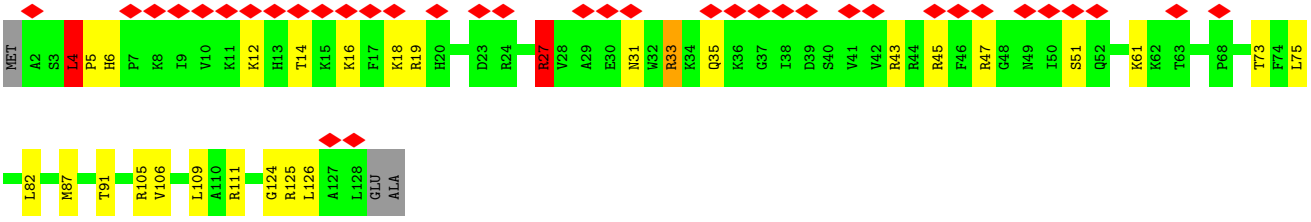
• Molecule 30: 60S ribosomal protein L31-A

Chain d:



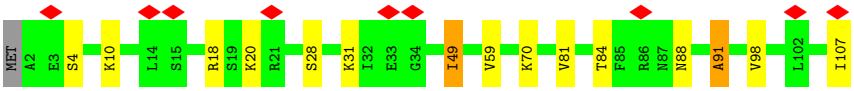
• Molecule 31: 60S ribosomal protein L32

Chain e:



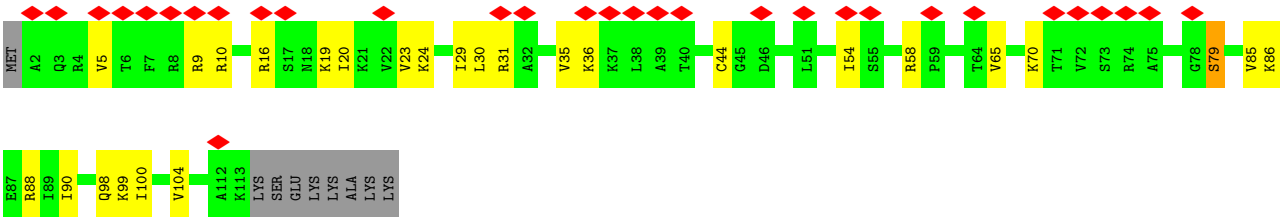
• Molecule 32: 60S ribosomal protein L33-A

Chain f:



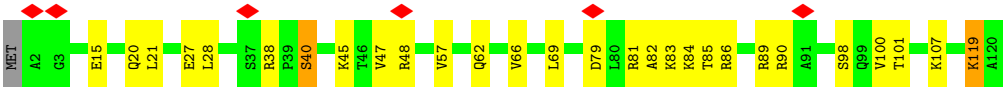
• Molecule 33: 60S ribosomal protein L34-A

Chain g:



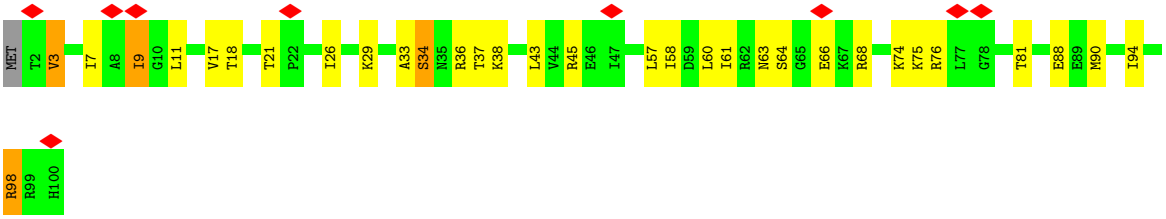
• Molecule 34: 60S ribosomal protein L35-A

Chain h:



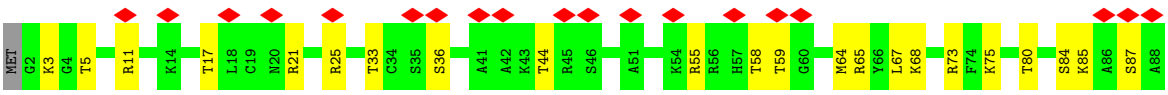
• Molecule 35: 60S ribosomal protein L36-A

Chain i:



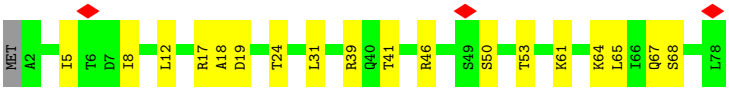
• Molecule 36: 60S ribosomal protein L37-A

Chain j:



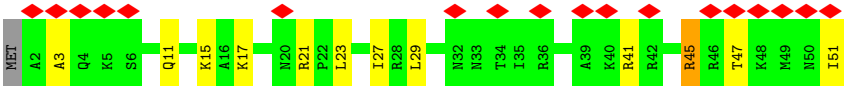
• Molecule 37: 60S ribosomal protein L38

Chain k:



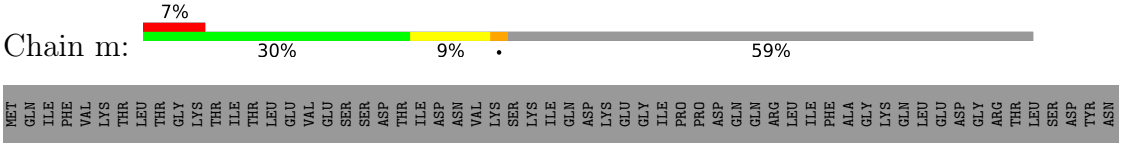
• Molecule 38: 60S ribosomal protein L39

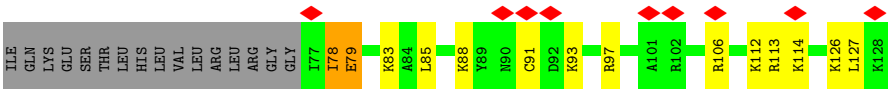
Chain l:



• Molecule 39: Ubiquitin-60S ribosomal protein L40

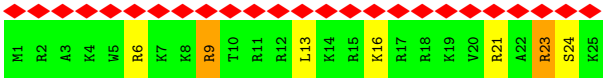
Chain m:





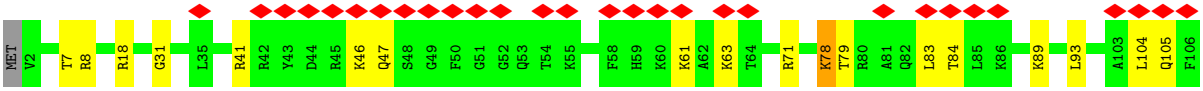
• Molecule 40: 60S ribosomal protein L41-A

Chain n:



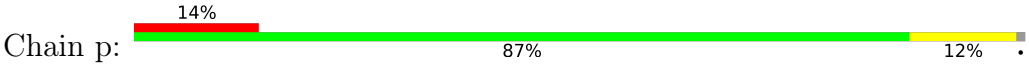
• Molecule 41: 60S ribosomal protein L42-A

Chain o:



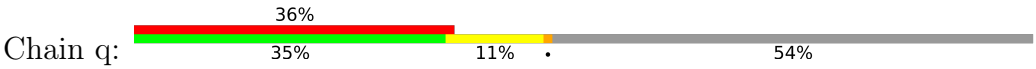
• Molecule 42: 60S ribosomal protein L43-A

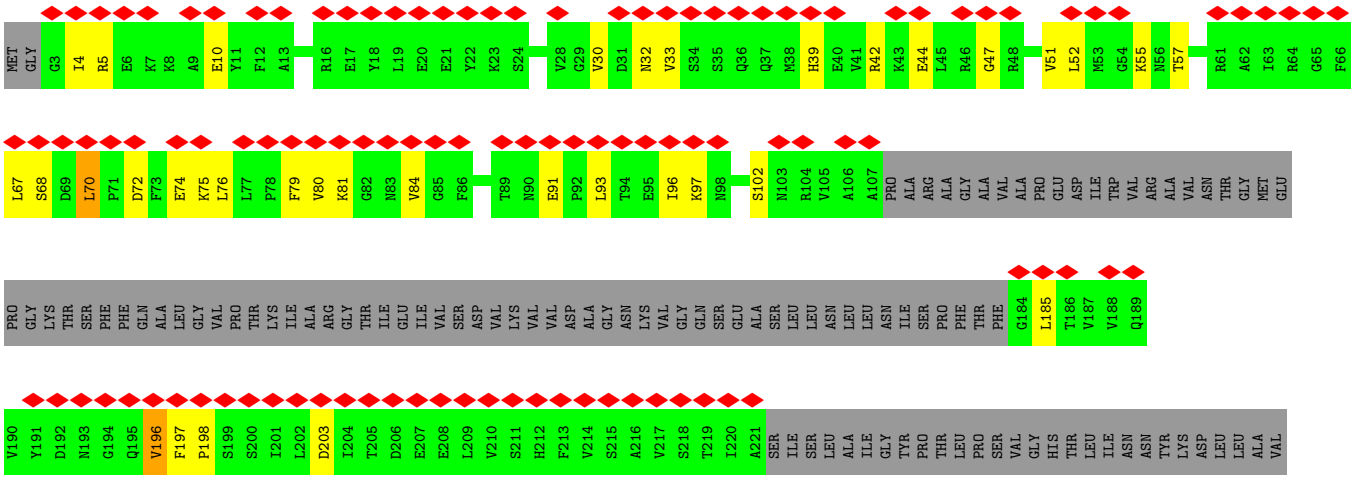
Chain p:

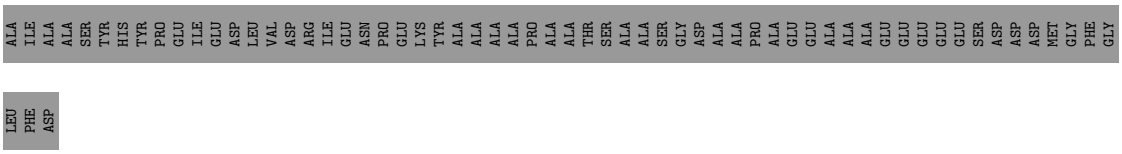


• Molecule 43: Large ribosomal subunit protein uL10

Chain q:

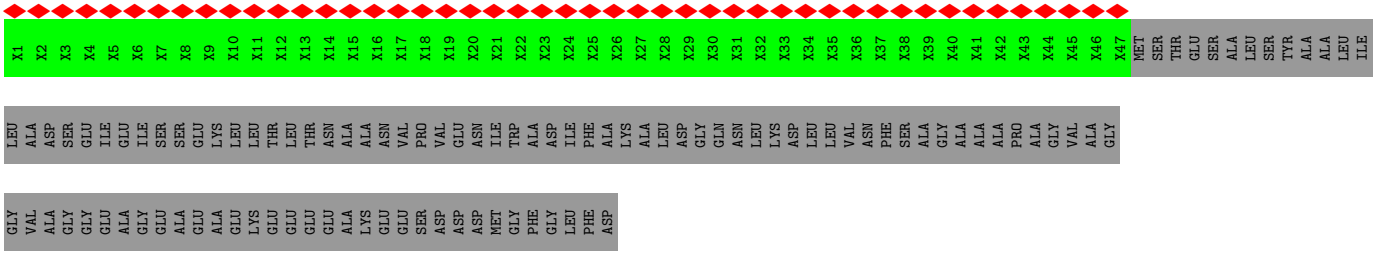






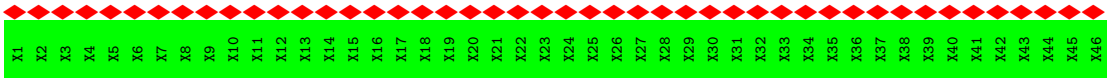
• Molecule 44: RIBOSOMAL PROTEIN P1 ALPHA,Large ribosomal subunit protein P1A

Chain r:



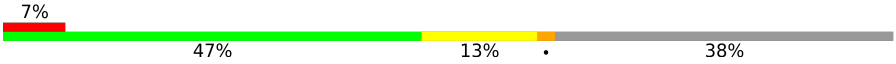
• Molecule 45: RIBOSOMAL PROTEIN P2 BETA

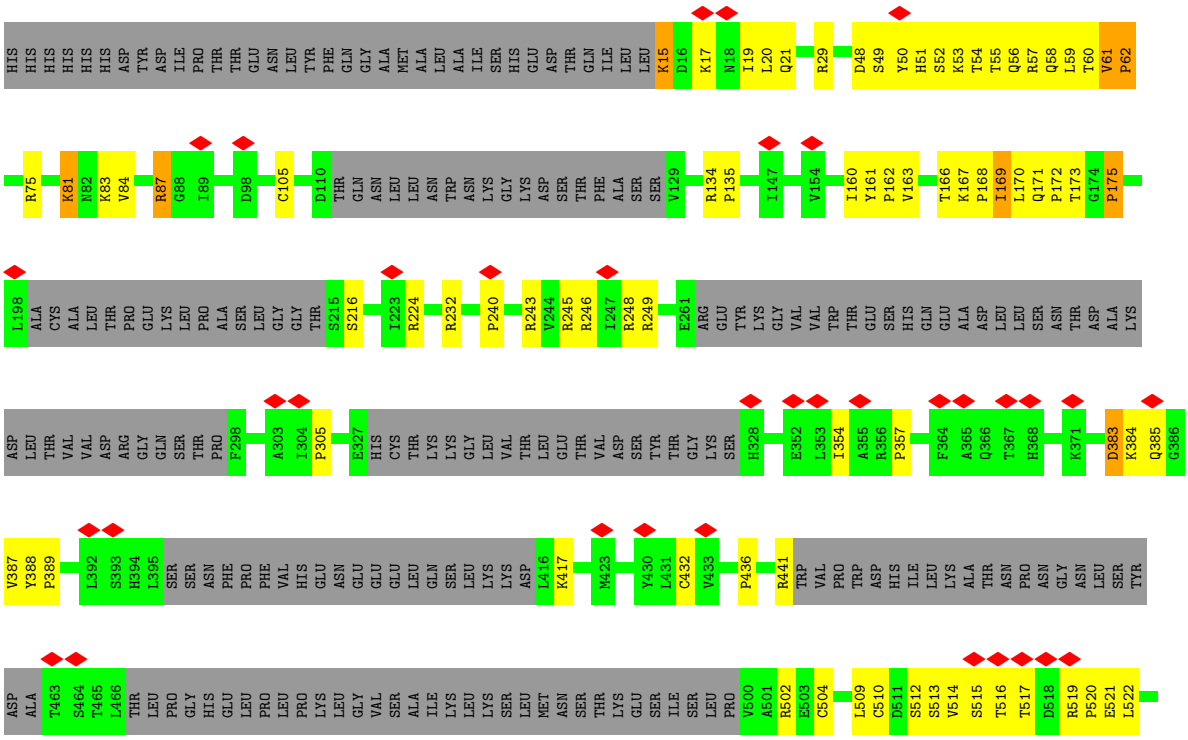
Chain s:

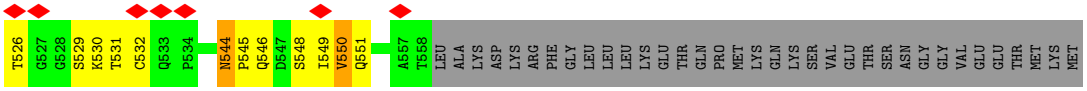


• Molecule 46: Probable metalloprotease ARX1

Chain t:

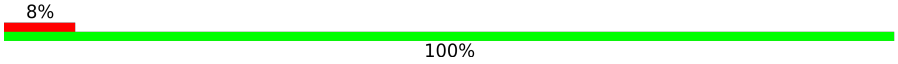


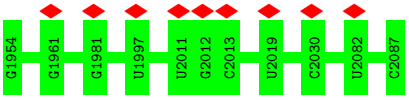




• Molecule 47: ES27 OF THE 25S RRNA

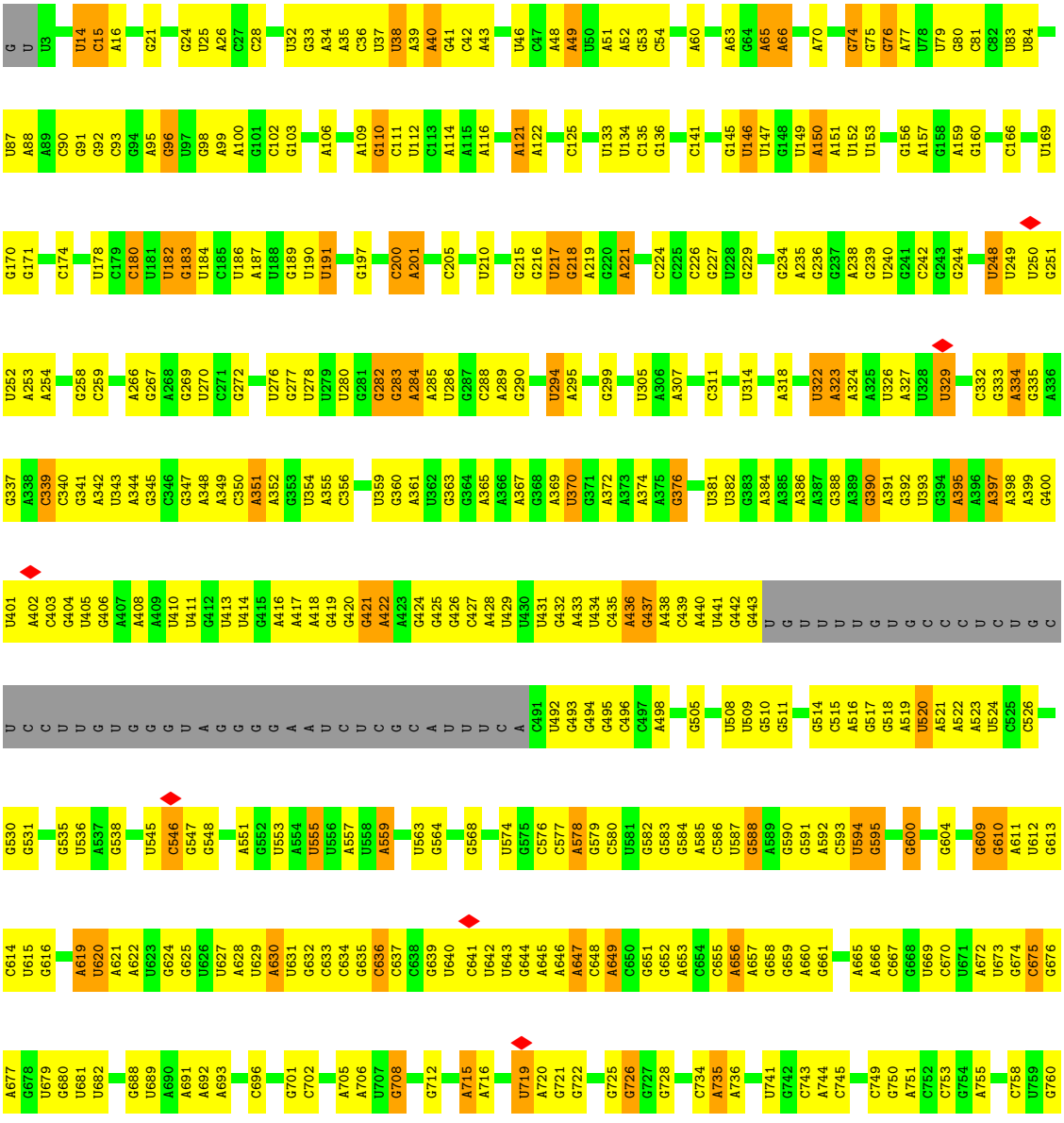
Chain 1:

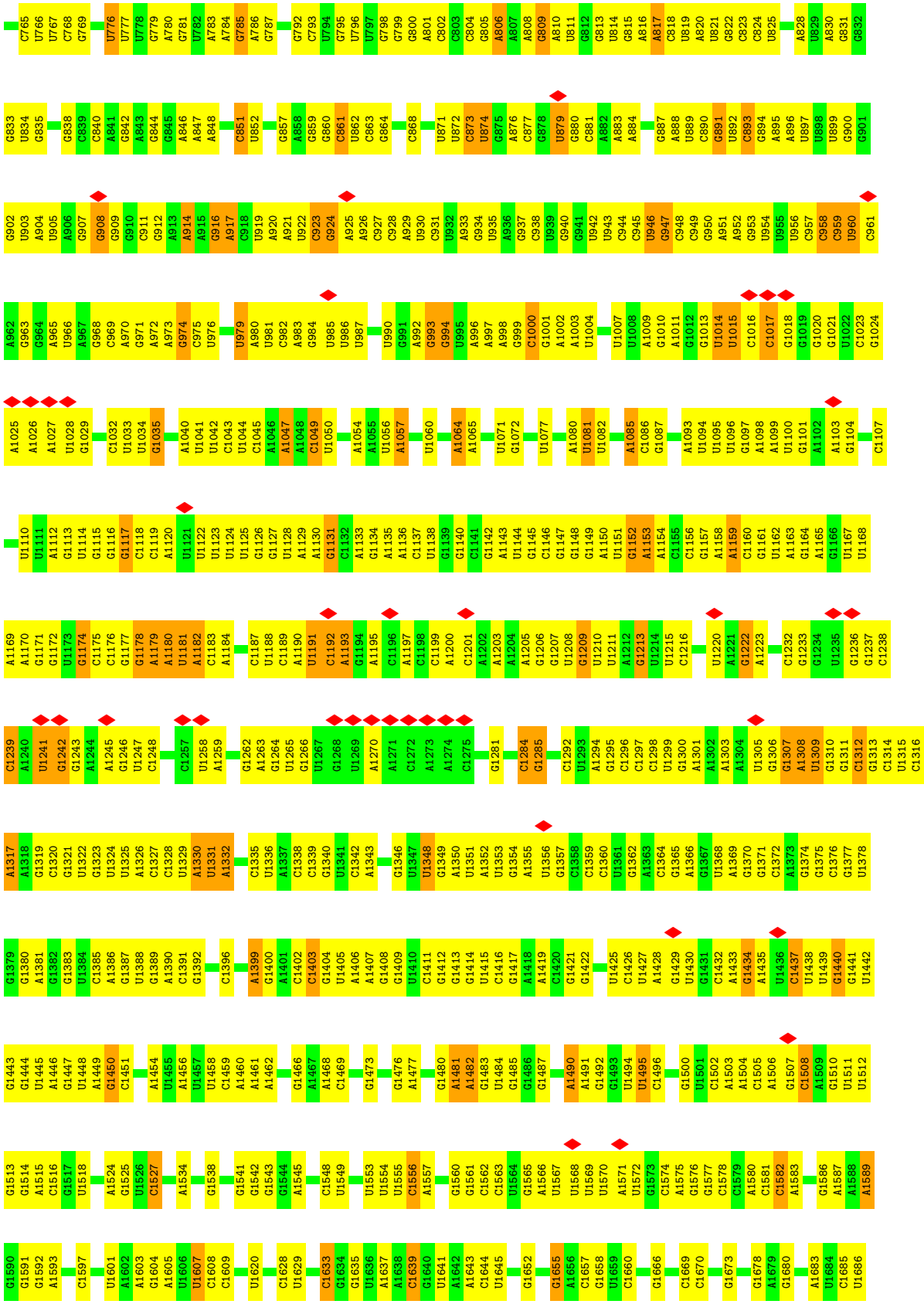


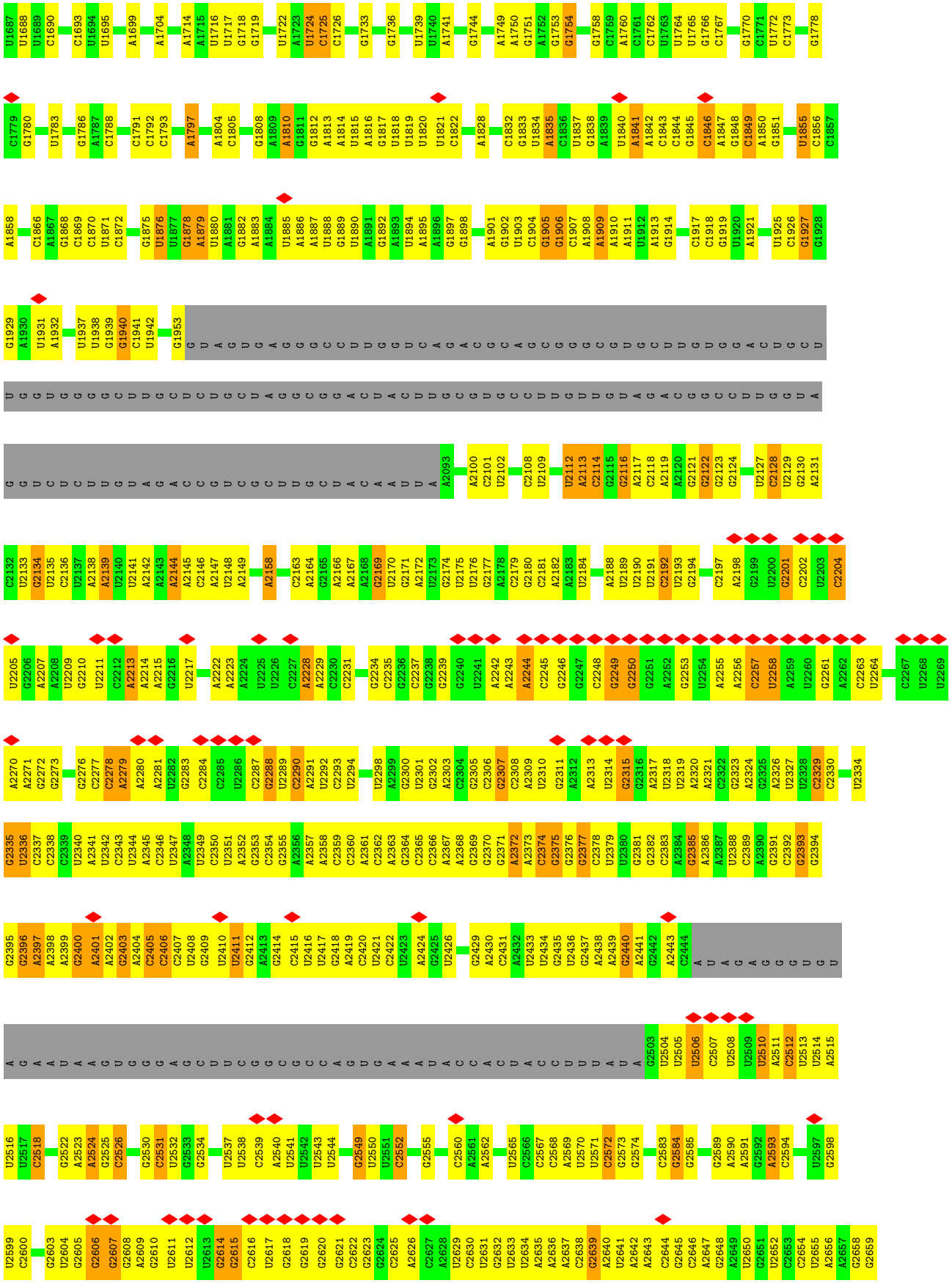


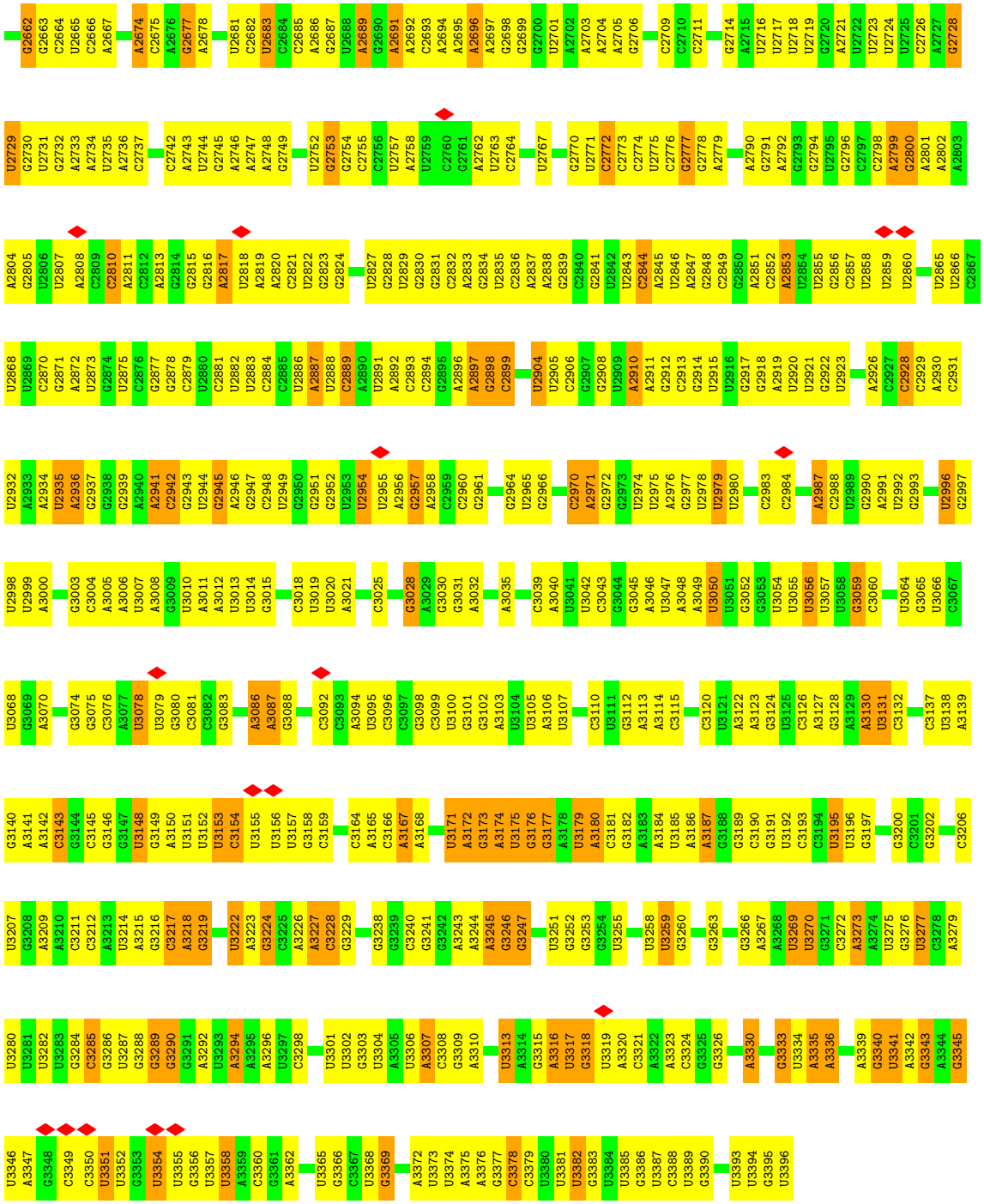
• Molecule 48: 25S RIBOSOMAL RNA

Chain 5:



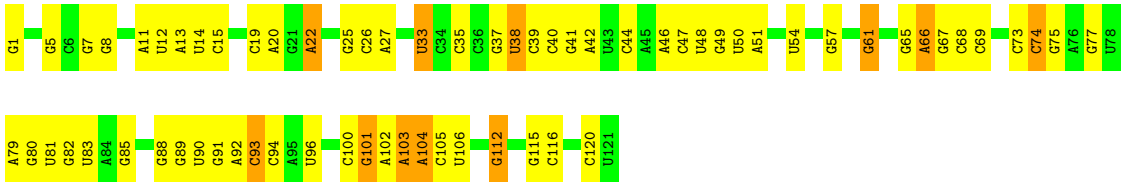

C765 U766 U767 C768 G769 U776 U777 U778 G779 A780 G781 U782 A783 A784 G785 A786 G787 G792 C793 U794 G795 U796 U797 G798 G799 G800 A801 C802 C803 C804 G805 A806 A807 A808 G809 A810 U811 G812 G813 U814 G815 A816 A817 C818 U819 A820 U821 G822 C823 C824 U825 A828 U829 A830 G831 G832
G833 U834 G835 G838 C839 C840 A841 G842 A843 G844 G845 A846 A847 A848 C851 U852 G857 A858 G859 G860 C861 U862 C863 G864 C868 U871 U872 C873 U874 G875 A876 C877 G878 U879 G880 C881 A882 A883 A884 G887 A888 U889 C890 G891 U892 C893 G894 A895 A896 U897 U898 U899 G900 G901
G902 U903 A904 U905 A906 G907 G908 G909 G910 C911 G912 A913 A914 A915 G916 A917 C918 U919 A920 A921 U922 C923 G924 A925 A926 C927 C928 A929 U930 C931 U932 A933 G934 U935 A936 G937 C938 U939 G940 C941 U942 U943 C944 C945 U946 G947 C948 C949 G950 A951 A952 G953 U954 U955 U956 C957 C958 C959 U960 C961
A962 G963 G964 A965 U966 A967 G968 C969 A970 G971 A972 A973 G974 C975 U976 U979 A980 U981 C982 A983 G984 U985 U986 U987 U990 G991 A992 G993 G994 U995 A996 A997 A998 G999 C1000 G1001 A1002 A1003 U1004 U1007 U1008 A1009 G1010 A1011 G1012 G1013 U1014 U1015 C1016 C1017 G1018 G1019 G1020 G1021 U1022 C1023 G1024
A1025 A1026 A1027 U1028 G1029 C1032 U1033 U1034 G1035 A1040 U1041 U1042 C1043 U1044 C1045 A1046 A1047 A1048 C1049 U1050 A1054 A1055 U1056 A1057 U1060 A1064 A1065 U1071 G1072 U1077 A1080 U1081 U1082 A1085 C1086 G1087 A1093 U1094 U1095 U1096 G1097 A1098 A1099 U1100 G1101 A1102 A1103 G1104 C1107
U1110 U1111 A1112 G1113 U1114 G1115 G1116 G1117 C1118 C1119 A1120 U1121 U1122 U1123 U1124 U1125 G1126 G1127 U1128 A1129 A1130 G1131 C1132 A1133 G1134 A1135 A1136 C1137 U1138 G1139 G1140 C1141 G1142 A1143 U1144 G1145 C1146 G1147 G1148 G1149 A1150 U1151 G1152 A1153 A1154 C1155 C1156 G1157 A1158 A1159 C1160 G1161 U1162 A1163 G1164 A1165 G1166 U1167 U1168
A1169 A1170 G1171 G1172 U1173 G1174 C1175 C1176 G1177 G1178 A1179 A1180 U1181 A1182 C1183 A1184 C1187 U1188 C1189 A1190 U1191 C1192 A1193 G1194 A1195 C1196 A1197 C1198 C1199 A1200 C1201 A1202 A1203 A1204 A1205 G1206 G1207 U1208 G1209 U1210 U1211 A1212 G1213 U1214 U1215 C1216 U1220 A1221 G1222 A1223 C1232 G1233 G1234 U1235 G1236 G1237 C1238
C1239 A1240 U1241 G1242 G1243 A1244 A1245 G1246 U1247 C1248 C1257 U1258 A1259 G1262 A1263 G1264 U1265 G1266 U1267 G1268 U1269 A1270 A1271 C1272 A1273 A1274 C1275 G1281 C1284 G1285 C1292 U1293 A1294 G1295 C1296 C1297 C1298 U1299 G1300 A1301 A1302 A1303 A1304 U1305 G1306 G1307 A1308 U1309 G1310 G1311 C1312 G1313 C1314 U1315 C1316
A1317 A1318 G1319 C1320 G1321 U1322 G1323 U1324 U1325 A1326 C1327 C1328 U1329 A1330 U1331 A1332 C1335 U1336 A1337 C1338 C1339 G1340 U1341 C1342 A1343 G1346 U1347 U1348 G1349 A1350 U1351 A1352 U1353 G1354 A1355 U1356 G1357 C1358 C1359 C1360 U1361 G1362 A1363 C1364 G1365 A1366 G1367 U1368 G1369 G1370 G1371 C1372 A1373 G1374 G1375 C1376 G1377 U1378
G1379 G1380 A1381 G1382 G1383 U1384 C1385 A1386 G1387 U1388 G1389 A1390 C1391 G1392 C1396 A1399 G1400 A1401 C1402 C1403 G1404 U1405 A1406 A1407 G1408 G1409 U1410 C1411 G1412 G1413 G1414 U1415 C1416 G1417 A1418 A1419 C1420 G1421 G1422 U1425 C1426 U1427 A1428 G1429 U1430 G1431 C1432 A1433 G1434 A1435 U1436 C1437 U1438 U1439 G1440 G1441 U1442
G1443 G1444 U1445 A1446 G1447 U1448 A1449 G1450 C1451 A1454 U1455 A1456 U1457 U1458 C1459 A1460 A1461 A1462 G1466 A1467 A1468 C1469 G1473 G1476 A1477 G1480 A1481 A1482 G1483 U1484 G1485 G1486 G1487 A1490 A1491 G1492 G1493 U1494 U1495 C1496 G1500 U1501 C1502 A1503 A1504 C1505 A1506 G1507 C1508 A1509 G1510 U1511 U1512
G1513 G1514 A1515 C1516 G1517 U1518 A1524 G1525 U1526 C1527 A1534 G1538 G1541 G1542 G1543 G1544 A1545 C1548 U1549 U1553 U1554 U1555 C1556 A1557 G1560 G1561 C1562 C1563 U1564 G1565 A1566 U1567 U1568 U1569 U1570 A1571 U1572 G1573 C1574 A1575 G1576 G1577 C1578 C1579 A1580 C1581 C1582 A1583 G1586 A1587 A1588 A1589
G1590 G1591 G1592 A1593 C1597 U1601 A1602 A1603 G1604 A1605 U1606 U1607 C1608 C1609 U1620 C1628 U1629 C1633 G1634 G1635 U1636 A1637 A1638 C1639 G1640 U1641 A1642 A1643 C1644 U1645 G1652 G1655 A1656 C1657 G1658 U1659 C1660 G1666 C1669 C1670 G1673 G1678 A1679 G1680 A1683 U1684 C1685 U1686





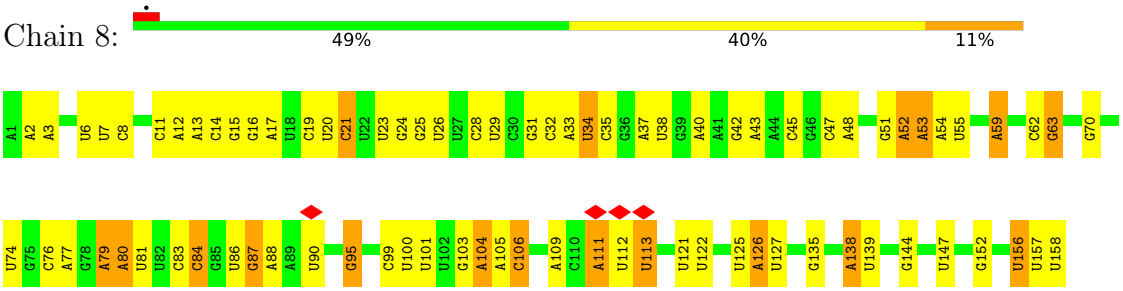
• Molecule 49: 5S RIBOSOMAL RNA

Chain 7:



• Molecule 50: 5.8S RIBOSOMAL RNA

Chain 8:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	84113	Depositor
Resolution determination method	Not provided	
CTF correction method	PER FRAME	Depositor
Microscope	FEI TECNAI 20	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	20	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	4500	Depositor
Magnification	83000	Depositor
Image detector	GATAN ULTRASCAN 4000 (4k x 4k)	Depositor
Maximum map value	425.313	Depositor
Minimum map value	-221.732	Depositor
Average map value	-13.190	Depositor
Map value standard deviation	29.801	Depositor
Recommended contour level	35.0	Depositor
Map size (Å)	405.44, 405.44, 405.44	wwPDB
Map dimensions	224, 224, 224	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.81, 1.81, 1.81	Depositor

5 Model quality

5.1 Standard geometry

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

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	A	0.87	1/1946 (0.1%)	1.05	4/2614 (0.2%)
2	B	1.02	4/3146 (0.1%)	1.11	14/4228 (0.3%)
3	C	0.87	0/2800	1.07	11/3790 (0.3%)
4	D	0.89	1/2408 (0.0%)	0.96	3/3248 (0.1%)
5	E	0.90	1/1269 (0.1%)	1.00	3/1705 (0.2%)
6	F	0.99	1/1828 (0.1%)	1.04	6/2461 (0.2%)
7	G	0.64	0/1795	0.81	1/2429 (0.0%)
8	H	0.97	2/1539 (0.1%)	1.01	1/2073 (0.0%)
9	I	0.92	1/1758 (0.1%)	1.08	11/2358 (0.5%)
10	J	0.81	1/1374 (0.1%)	0.99	3/1842 (0.2%)
12	L	0.82	0/1573	1.04	6/2113 (0.3%)
13	M	0.95	0/1074	1.01	4/1446 (0.3%)
14	N	0.83	0/1757	1.00	6/2354 (0.3%)
15	O	0.98	11/3159 (0.3%)	1.02	25/4205 (0.6%)
16	P	1.05	1/1250 (0.1%)	1.09	5/1683 (0.3%)
17	Q	0.89	1/1465 (0.1%)	1.12	8/1965 (0.4%)
18	R	0.78	1/1538 (0.1%)	0.87	3/2050 (0.1%)
19	S	1.02	0/1481	1.09	7/1990 (0.4%)
20	T	1.01	2/1300 (0.2%)	1.01	1/1743 (0.1%)
21	U	0.56	0/794	0.77	0/1076
22	V	0.98	0/1018	1.09	4/1369 (0.3%)
23	W	0.80	0/1052	0.90	1/1398 (0.1%)
24	X	0.72	0/974	0.86	0/1314
25	Y	0.79	1/1004 (0.1%)	0.98	2/1341 (0.1%)
26	Z	0.55	0/1118	0.83	2/1497 (0.1%)
27	a	0.95	2/1204 (0.2%)	1.14	9/1612 (0.6%)
28	b	0.91	0/473	1.14	1/629 (0.2%)
29	c	0.61	0/775	0.77	0/1040
30	d	0.94	2/897 (0.2%)	0.95	1/1205 (0.1%)
31	e	1.04	0/1041	1.27	12/1394 (0.9%)
32	f	1.12	1/868 (0.1%)	1.09	3/1168 (0.3%)
33	g	0.72	0/890	0.92	0/1189

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
34	h	0.67	0/974	0.79	0/1297
35	i	0.67	0/777	0.85	0/1033
36	j	0.87	0/696	1.04	3/923 (0.3%)
37	k	0.50	0/614	0.70	0/822
38	l	0.90	0/443	1.02	1/588 (0.2%)
39	m	1.08	2/423 (0.5%)	1.13	1/562 (0.2%)
40	n	0.90	0/234	1.15	1/300 (0.3%)
41	o	0.83	0/860	0.88	1/1136 (0.1%)
42	p	0.86	0/701	0.98	1/934 (0.1%)
43	q	0.53	0/1092	0.73	1/1474 (0.1%)
46	t	5.64	18/2985 (0.6%)	4.15	194/4053 (4.8%)
48	5	1.46	609/75414 (0.8%)	1.88	3517/117575 (3.0%)
49	7	1.38	13/2883 (0.5%)	1.80	118/4491 (2.6%)
50	8	1.16	5/3746 (0.1%)	1.70	132/5832 (2.3%)
All	All	1.49	681/138410 (0.5%)	1.70	4127/203549 (2.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2
3	C	0	1
4	D	0	1
5	E	0	1
6	F	0	2
15	O	0	2
19	S	0	1
22	V	0	1
25	Y	0	1
26	Z	0	1
27	a	0	3
28	b	0	1
46	t	0	6
48	5	0	1
All	All	0	24

All (681) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	t	168	PRO	N-CD	120.75	3.16	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	t	545	PRO	N-CD	120.48	3.16	1.47
46	t	162	PRO	N-CD	120.12	3.16	1.47
46	t	172	PRO	N-CD	118.10	3.13	1.47
46	t	520	PRO	N-CD	117.23	3.12	1.47
46	t	175	PRO	N-CD	55.85	2.26	1.47
46	t	62	PRO	N-CD	53.93	2.23	1.47
46	t	135	PRO	N-CD	53.62	2.23	1.47
46	t	240	PRO	N-CD	52.94	2.21	1.47
46	t	357	PRO	N-CD	52.62	2.21	1.47
46	t	436	PRO	N-CD	51.34	2.19	1.47
46	t	305	PRO	N-CD	47.56	2.14	1.47
46	t	510	CYS	CB-SG	-23.49	1.42	1.82
46	t	105	CYS	CB-SG	-23.43	1.42	1.82
46	t	504	CYS	CB-SG	-23.43	1.42	1.82
46	t	432	CYS	CB-SG	-23.42	1.42	1.82
46	t	532	CYS	CB-SG	-23.40	1.42	1.82
15	O	197[B]	PHE	C-N	-22.01	0.93	1.33
15	O	182[B]	SER	C-N	18.04	1.75	1.34
48	5	1152	G	N9-C8	15.03	1.48	1.37
48	5	1152	G	N9-C4	-14.78	1.26	1.38
48	5	1152	G	C2-N3	-13.34	1.22	1.32
15	O	23[B]	ILE	C-N	-11.01	1.08	1.34
15	O	3[B]	SER	C-N	9.60	1.56	1.34
48	5	3216	G	N7-C5	-9.48	1.33	1.39
48	5	2941	A	N9-C4	-9.21	1.32	1.37
48	5	1434	G	N7-C5	-9.14	1.33	1.39
48	5	2914	G	P-OP2	-9.08	1.33	1.49
48	5	1449	A	N9-C4	-8.94	1.32	1.37
48	5	652	G	N1-C2	-8.88	1.30	1.37
48	5	1450	G	C8-N7	-8.82	1.25	1.30
48	5	953	G	C5-C4	-8.68	1.32	1.38
48	5	367	A	N9-C4	-8.64	1.32	1.37
15	O	80[B]	LEU	C-N	8.56	1.53	1.34
48	5	3088	G	C6-O6	-8.49	1.16	1.24
48	5	2899	C	N3-C4	-8.28	1.28	1.33
48	5	2278	C	C2-O2	-8.27	1.17	1.24
48	5	1887	A	N9-C4	-8.20	1.32	1.37
48	5	1178	G	P-OP2	-8.17	1.35	1.49
48	5	2393	G	C8-N7	-8.15	1.26	1.30
48	5	2191	U	C4-C5	-8.11	1.36	1.43
48	5	1849	C	N3-C4	-8.02	1.28	1.33
48	5	1152	G	C5-C6	-8.01	1.34	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	3245	A	N9-C4	-8.01	1.33	1.37
48	5	2830	G	C6-N1	-8.01	1.33	1.39
48	5	2817	A	P-OP1	-8.00	1.35	1.49
48	5	2726	C	N3-C4	-7.99	1.28	1.33
48	5	1311	G	C5-C4	-7.97	1.32	1.38
48	5	2314	U	N3-C4	7.97	1.45	1.38
48	5	1152	G	N3-C4	-7.96	1.29	1.35
1	A	211	HIS	C-O	7.95	1.38	1.23
48	5	2280	A	N9-C4	-7.94	1.33	1.37
48	5	3216	G	N9-C8	-7.92	1.32	1.37
48	5	3114	A	N9-C4	-7.83	1.33	1.37
48	5	953	G	N7-C5	-7.80	1.34	1.39
48	5	2703	A	N7-C5	-7.75	1.34	1.39
48	5	917	A	N7-C5	-7.74	1.34	1.39
48	5	519	A	N7-C5	-7.74	1.34	1.39
48	5	2945	G	P-O5'	-7.73	1.52	1.59
48	5	2804	A	N9-C4	-7.70	1.33	1.37
48	5	345	G	N1-C2	-7.69	1.31	1.37
48	5	41	G	P-OP1	-7.68	1.35	1.49
48	5	1902	G	C5-C4	-7.68	1.32	1.38
48	5	1434	G	N9-C8	-7.67	1.32	1.37
48	5	1301	A	N7-C5	-7.67	1.34	1.39
20	T	104	GLU	CB-CG	7.64	1.66	1.52
48	5	970	A	N9-C4	-7.63	1.33	1.37
48	5	631	U	C2-N3	-7.60	1.32	1.37
48	5	2272	G	C5-C4	-7.58	1.33	1.38
48	5	3006	A	N3-C4	-7.57	1.30	1.34
15	O	84[B]	ILE	C-N	7.55	1.51	1.34
48	5	2314	U	C2-N3	7.52	1.43	1.37
48	5	960	U	N1-C2	7.52	1.45	1.38
17	Q	171	LYS	CE-NZ	7.50	1.67	1.49
48	5	2335	G	N3-C4	-7.47	1.30	1.35
48	5	1307	G	P-O5'	-7.45	1.52	1.59
48	5	2191	U	C4-O4	-7.44	1.17	1.23
48	5	934	G	P-OP1	-7.41	1.36	1.49
48	5	2134	G	N1-C2	-7.40	1.31	1.37
48	5	1303	A	C5-C4	-7.38	1.33	1.38
48	5	2948	C	N3-C4	-7.37	1.28	1.33
48	5	953	G	N9-C8	-7.35	1.32	1.37
48	5	1902	G	P-OP1	-7.34	1.36	1.49
48	5	345	G	C6-N1	-7.34	1.34	1.39
48	5	3122	A	N3-C4	-7.31	1.30	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1374	G	N1-C2	-7.30	1.31	1.37
48	5	3245	A	C5-C6	-7.30	1.34	1.41
48	5	1515	A	C5-C6	-7.26	1.34	1.41
48	5	2385	G	N9-C4	-7.25	1.32	1.38
48	5	1443	G	C2-N3	-7.24	1.26	1.32
48	5	2919	A	C6-N1	-7.23	1.30	1.35
48	5	2689	A	N3-C4	-7.18	1.30	1.34
48	5	2141	U	P-OP2	-7.17	1.36	1.49
48	5	2949	U	P-OP1	-7.17	1.36	1.49
48	5	1849	C	C2-N3	-7.14	1.30	1.35
48	5	2837	A	C5-C4	-7.13	1.33	1.38
48	5	420	G	N7-C5	-7.13	1.34	1.39
48	5	644	G	N7-C5	-7.13	1.34	1.39
48	5	2364	G	C6-N1	-7.13	1.34	1.39
50	8	20	U	C4-O4	-7.12	1.18	1.23
48	5	1430	U	P-OP1	-7.11	1.36	1.49
48	5	1112	A	N7-C5	-7.11	1.34	1.39
49	7	85	G	N1-C2	-7.10	1.32	1.37
48	5	2943	G	N7-C5	-7.07	1.35	1.39
49	7	96	U	C2-O2	-7.06	1.16	1.22
48	5	1887	A	N7-C5	-7.05	1.35	1.39
48	5	1200	A	N3-C4	-7.01	1.30	1.34
48	5	2361	A	N9-C4	7.00	1.42	1.37
48	5	2364	G	N3-C4	-7.00	1.30	1.35
48	5	2434	U	N3-C4	-7.00	1.32	1.38
48	5	1159	A	N9-C4	-6.98	1.33	1.37
48	5	2335	G	C6-N1	-6.97	1.34	1.39
48	5	1110	U	C4-O4	-6.97	1.18	1.23
48	5	2887	A	P-OP2	-6.96	1.37	1.49
48	5	3180	A	N3-C4	-6.94	1.30	1.34
48	5	2399	A	N9-C4	-6.93	1.33	1.37
48	5	2138	A	N7-C5	-6.92	1.35	1.39
48	5	971	G	C5-C4	-6.89	1.33	1.38
48	5	726	G	C5-C6	-6.89	1.35	1.42
48	5	340	C	P-OP1	-6.88	1.37	1.49
48	5	1042	U	C2-N3	-6.88	1.32	1.37
48	5	2836	C	C4-C5	6.86	1.48	1.43
48	5	334	A	C5-C4	-6.84	1.33	1.38
48	5	1592	G	N1-C2	-6.84	1.32	1.37
48	5	1184	A	N9-C4	-6.84	1.33	1.37
48	5	429	U	C2-N3	-6.83	1.32	1.37
48	5	1178	G	C2-N3	-6.83	1.27	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2336	U	C2-N3	-6.82	1.32	1.37
48	5	986	U	C4-C5	-6.81	1.37	1.43
48	5	1901	A	N7-C5	-6.80	1.35	1.39
49	7	81	U	C4-O4	-6.79	1.18	1.23
48	5	930	U	C4-O4	-6.76	1.18	1.23
48	5	3137	C	N1-C6	6.74	1.41	1.37
48	5	1449	A	P-OP2	-6.74	1.37	1.49
48	5	2911	A	N7-C5	-6.73	1.35	1.39
48	5	2395	G	C5-C4	-6.72	1.33	1.38
48	5	3316	A	N9-C4	-6.70	1.33	1.37
48	5	2636	A	C6-N1	-6.68	1.30	1.35
48	5	1592	G	C6-N1	-6.66	1.34	1.39
48	5	2693	C	C2-N3	-6.65	1.30	1.35
49	7	85	G	C6-N1	-6.65	1.34	1.39
48	5	1319	G	N7-C5	-6.64	1.35	1.39
48	5	1371	G	C6-N1	-6.63	1.34	1.39
48	5	859	G	N1-C2	-6.62	1.32	1.37
48	5	267	G	C8-N7	-6.62	1.26	1.30
48	5	2912	G	N7-C5	-6.62	1.35	1.39
48	5	3006	A	N9-C4	-6.62	1.33	1.37
48	5	3106	A	N7-C5	-6.61	1.35	1.39
48	5	1301	A	C5-C6	-6.61	1.35	1.41
48	5	3362	A	N3-C4	-6.60	1.30	1.34
48	5	3209	A	C5-C4	6.59	1.43	1.38
48	5	2853	A	N9-C4	-6.58	1.33	1.37
15	O	158[B]	ASP	C-N	6.58	1.49	1.34
48	5	847	A	N9-C4	-6.57	1.33	1.37
48	5	1142	G	N7-C5	-6.57	1.35	1.39
15	O	22[B]	THR	C-N	6.56	1.49	1.34
48	5	642	U	N3-C4	-6.56	1.32	1.38
48	5	1849	C	N1-C6	-6.55	1.33	1.37
48	5	1429	G	C6-N1	-6.55	1.34	1.39
48	5	2918	G	N7-C5	-6.52	1.35	1.39
48	5	1833	G	N1-C2	-6.51	1.32	1.37
48	5	91	G	N3-C4	-6.50	1.30	1.35
48	5	1490	A	N7-C5	-6.50	1.35	1.39
48	5	942	U	P-OP1	-6.49	1.38	1.49
48	5	1307	G	C3'-O3'	6.47	1.51	1.42
48	5	1117	G	C5-C4	-6.47	1.33	1.38
48	5	637	C	C2-O2	-6.46	1.18	1.24
48	5	1841	A	N7-C5	-6.45	1.35	1.39
48	5	2323	G	C6-N1	-6.44	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	813	G	N7-C5	-6.43	1.35	1.39
48	5	2987	A	N7-C5	-6.43	1.35	1.39
48	5	342	A	N9-C4	-6.42	1.33	1.37
48	5	1143	A	N9-C4	-6.42	1.33	1.37
48	5	1515	A	C6-N1	-6.42	1.31	1.35
48	5	1487	G	N1-C2	-6.41	1.32	1.37
48	5	2128	C	N1-C6	-6.40	1.33	1.37
48	5	1370	G	N1-C2	-6.39	1.32	1.37
48	5	2123	G	C5-C4	-6.39	1.33	1.38
48	5	420	G	C5-C4	-6.38	1.33	1.38
48	5	802	C	N1-C6	-6.37	1.33	1.37
48	5	2816	G	C5-C4	-6.33	1.33	1.38
48	5	2147	A	C5-C6	-6.32	1.35	1.41
48	5	1406	A	N3-C4	-6.29	1.31	1.34
48	5	1913	A	C5-C6	-6.28	1.35	1.41
48	5	953	G	N9-C4	-6.28	1.32	1.38
20	T	32	LYS	CD-CE	6.28	1.67	1.51
48	5	2291	A	N3-C4	-6.26	1.31	1.34
48	5	1902	G	N9-C8	-6.26	1.33	1.37
48	5	3006	A	N7-C5	-6.25	1.35	1.39
48	5	2937	G	N9-C8	-6.25	1.33	1.37
48	5	3102	G	C6-N1	-6.25	1.35	1.39
48	5	3172	A	C8-N7	-6.23	1.27	1.31
16	P	66	SER	C-O	6.23	1.35	1.23
48	5	2856	G	N9-C8	-6.23	1.33	1.37
48	5	2754	G	P-OP1	-6.23	1.38	1.49
48	5	2905	U	C2-N3	-6.22	1.33	1.37
48	5	421	G	C6-N1	-6.22	1.35	1.39
48	5	2314	U	C4-O4	6.22	1.28	1.23
48	5	2858	U	N3-C4	-6.22	1.32	1.38
48	5	1487	G	C6-N1	-6.21	1.35	1.39
49	7	96	U	C4-O4	-6.21	1.18	1.23
48	5	876	A	N3-C4	-6.21	1.31	1.34
48	5	1851	G	N9-C8	-6.21	1.33	1.37
48	5	3182	G	C6-N1	-6.20	1.35	1.39
48	5	1797	A	N7-C5	-6.20	1.35	1.39
48	5	1449	A	C5-C6	-6.20	1.35	1.41
48	5	2737	C	N1-C6	-6.20	1.33	1.37
49	7	91	G	N9-C8	-6.19	1.33	1.37
48	5	2848	G	N7-C5	-6.19	1.35	1.39
48	5	434	U	C2-N3	-6.18	1.33	1.37
48	5	659	G	N7-C5	-6.18	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2823	G	N7-C5	-6.18	1.35	1.39
2	B	367	LYS	CE-NZ	6.18	1.64	1.49
48	5	2194	G	C5-C4	-6.18	1.34	1.38
48	5	1835	A	P-OP1	-6.17	1.38	1.49
48	5	1369	A	P-OP2	-6.16	1.38	1.49
48	5	2733	A	N9-C4	-6.15	1.34	1.37
48	5	1847	A	N9-C4	-6.14	1.34	1.37
5	E	90	LYS	CD-CE	6.13	1.66	1.51
48	5	795	G	C5-C4	-6.12	1.34	1.38
48	5	872	U	C4-O4	-6.12	1.18	1.23
48	5	649	A	C5-C6	-6.12	1.35	1.41
48	5	2881	C	C2-O2	-6.12	1.19	1.24
48	5	1169	A	N9-C4	-6.12	1.34	1.37
27	a	24	LYS	CE-NZ	6.11	1.64	1.49
48	5	2830	G	N3-C4	-6.11	1.31	1.35
48	5	218	G	P-O5'	-6.09	1.53	1.59
48	5	363	G	C5-C4	-6.08	1.34	1.38
48	5	3008	A	N9-C4	-6.08	1.34	1.37
48	5	1490	A	C5-C6	-6.07	1.35	1.41
48	5	3005	A	C6-N1	-6.06	1.31	1.35
48	5	1152	G	C8-N7	6.05	1.34	1.30
48	5	2857	C	C4-N4	-6.05	1.28	1.33
48	5	2975	U	C4-O4	-6.04	1.18	1.23
48	5	2980	U	C2-O2	-6.04	1.17	1.22
48	5	2706	G	C5-C4	-6.04	1.34	1.38
48	5	2704	A	N7-C5	-6.04	1.35	1.39
48	5	2948	C	C4-N4	-6.04	1.28	1.33
2	B	262	TRP	CB-CG	-6.03	1.39	1.50
48	5	3102	G	N1-C2	-6.03	1.32	1.37
48	5	2372	A	N3-C4	-6.03	1.31	1.34
48	5	884	A	C8-N7	6.03	1.35	1.31
48	5	2341	A	N3-C4	6.03	1.38	1.34
48	5	1454	A	C6-N6	-6.02	1.29	1.33
48	5	859	G	C6-N1	-6.01	1.35	1.39
48	5	2915	U	C2-O2	-6.00	1.17	1.22
48	5	2214	A	P-OP2	-6.00	1.38	1.49
48	5	2946	A	C6-N1	-6.00	1.31	1.35
48	5	2377	G	N9-C8	-5.98	1.33	1.37
48	5	2188	A	N3-C4	-5.98	1.31	1.34
48	5	1332	A	C5-C4	-5.97	1.34	1.38
48	5	1174	G	C5-C4	-5.97	1.34	1.38
48	5	348	A	P-OP1	-5.97	1.38	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1504	A	C6-N1	-5.96	1.31	1.35
48	5	3308	C	N3-C4	-5.96	1.29	1.33
48	5	3010	U	C2-N3	-5.96	1.33	1.37
48	5	647	A	N3-C4	-5.96	1.31	1.34
48	5	744	A	N9-C4	-5.95	1.34	1.37
48	5	1149	G	C5-C4	-5.95	1.34	1.38
48	5	3335	A	N9-C4	-5.95	1.34	1.37
48	5	931	C	C4-N4	-5.94	1.28	1.33
48	5	1152	G	N1-C2	5.94	1.42	1.37
48	5	1837	U	P-OP2	-5.94	1.38	1.49
48	5	1429	G	N9-C8	-5.93	1.33	1.37
48	5	2730	G	N9-C4	-5.93	1.33	1.38
49	7	89	G	C5-C4	-5.92	1.34	1.38
48	5	3227	A	N3-C4	-5.91	1.31	1.34
48	5	345	G	C5-C4	-5.91	1.34	1.38
48	5	857	G	C6-O6	-5.91	1.18	1.24
48	5	922	U	P-OP2	-5.90	1.39	1.49
48	5	3047	U	C2-N3	-5.90	1.33	1.37
48	5	2524	A	C5-C4	5.89	1.42	1.38
48	5	2278	C	N1-C6	5.88	1.40	1.37
48	5	784	A	C5-C6	-5.88	1.35	1.41
48	5	3005	A	N7-C5	-5.87	1.35	1.39
48	5	2858	U	C2-N3	-5.85	1.33	1.37
50	8	111	A	N9-C4	-5.85	1.34	1.37
48	5	2335	G	C5-C4	-5.85	1.34	1.38
48	5	2977	G	C6-N1	-5.84	1.35	1.39
48	5	1156	C	C4-N4	-5.84	1.28	1.33
48	5	3000	A	N9-C4	-5.84	1.34	1.37
48	5	416	A	N7-C5	-5.84	1.35	1.39
48	5	2412	G	N1-C2	-5.84	1.33	1.37
48	5	1172	G	N1-C2	-5.83	1.33	1.37
48	5	3245	A	N7-C5	-5.83	1.35	1.39
48	5	577	C	N1-C6	-5.83	1.33	1.37
48	5	1203	A	C5-C6	-5.83	1.35	1.41
48	5	2884	C	C2-O2	-5.82	1.19	1.24
48	5	1138	U	C4-O4	-5.82	1.19	1.23
48	5	1213	G	N1-C2	-5.81	1.33	1.37
48	5	518	G	C5-C4	-5.81	1.34	1.38
48	5	1903	U	C4-O4	5.80	1.28	1.23
48	5	369	A	C6-N6	-5.80	1.29	1.33
48	5	2971	A	N9-C4	5.80	1.41	1.37
48	5	868	C	N1-C6	-5.80	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2732	G	C6-N1	-5.79	1.35	1.39
48	5	2367	A	N9-C4	5.79	1.41	1.37
48	5	2401	A	N9-C4	5.79	1.41	1.37
48	5	2612	U	C2-N3	-5.79	1.33	1.37
48	5	1149	G	N9-C8	-5.79	1.33	1.37
48	5	3095	U	C4-O4	-5.79	1.19	1.23
48	5	2915	U	C2-N3	-5.79	1.33	1.37
48	5	1332	A	C6-N1	-5.78	1.31	1.35
48	5	339	C	N3-C4	-5.78	1.29	1.33
48	5	1449	A	N7-C5	-5.78	1.35	1.39
48	5	1305	U	N1-C6	-5.78	1.32	1.38
48	5	2860	U	C4-O4	5.77	1.28	1.23
48	5	1365	G	C6-N1	-5.76	1.35	1.39
48	5	805	G	N7-C5	5.76	1.42	1.39
48	5	2375	G	C6-N1	-5.76	1.35	1.39
48	5	1308	A	N9-C8	-5.75	1.33	1.37
48	5	1849	C	C4-C5	-5.75	1.38	1.43
48	5	1477	A	N3-C4	-5.74	1.31	1.34
48	5	1127	G	C5-C4	-5.74	1.34	1.38
48	5	100	A	N9-C4	-5.74	1.34	1.37
48	5	2921	U	C4-O4	-5.73	1.19	1.23
48	5	1208	U	N3-C4	-5.73	1.33	1.38
48	5	1145	G	N3-C4	-5.73	1.31	1.35
15	O	40[B]	ALA	C-N	-5.73	1.20	1.34
48	5	200	C	N3-C4	-5.72	1.29	1.33
48	5	953	G	N3-C4	-5.72	1.31	1.35
48	5	1112	A	C6-N1	-5.72	1.31	1.35
48	5	2957	G	C8-N7	-5.72	1.27	1.30
48	5	2960	C	C4-N4	-5.72	1.28	1.33
48	5	2888	U	C2-N3	-5.71	1.33	1.37
48	5	2892	A	C6-N1	-5.71	1.31	1.35
48	5	1898	G	C5-C4	-5.71	1.34	1.38
48	5	2350	C	N1-C6	-5.70	1.33	1.37
48	5	2382	G	N7-C5	-5.70	1.35	1.39
48	5	876	A	N1-C2	-5.70	1.29	1.34
48	5	652	G	C5-C4	-5.70	1.34	1.38
48	5	883	A	P-OP1	5.69	1.58	1.49
48	5	1370	G	N9-C8	-5.69	1.33	1.37
48	5	326	U	C4-O4	-5.69	1.19	1.23
48	5	657	A	N3-C4	-5.69	1.31	1.34
48	5	428	A	N7-C5	-5.69	1.35	1.39
48	5	984	G	N7-C5	-5.69	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1910	A	C5-C4	-5.69	1.34	1.38
48	5	559	A	N7-C5	-5.68	1.35	1.39
48	5	1450	G	C5-C4	-5.67	1.34	1.38
48	5	657	A	N9-C4	-5.66	1.34	1.37
49	7	39	C	N3-C4	-5.66	1.29	1.33
48	5	1189	C	N1-C6	-5.66	1.33	1.37
48	5	1414	G	C6-N1	-5.64	1.35	1.39
48	5	2134	G	C6-N1	-5.64	1.35	1.39
48	5	2147	A	N7-C5	-5.64	1.35	1.39
25	Y	38	GLU	CG-CD	5.64	1.60	1.51
48	5	2888	U	C4-C5	-5.64	1.38	1.43
50	8	54	A	N9-C4	-5.64	1.34	1.37
48	5	39	A	N3-C4	-5.63	1.31	1.34
48	5	1462	A	N9-C4	-5.63	1.34	1.37
48	5	3184	A	N9-C4	-5.63	1.34	1.37
48	5	3218	A	N9-C4	-5.62	1.34	1.37
48	5	2340	U	C4-O4	-5.62	1.19	1.23
48	5	1043	C	N3-C4	-5.62	1.30	1.33
48	5	1320	C	C4-C5	-5.62	1.38	1.43
48	5	2323	G	N1-C2	-5.61	1.33	1.37
48	5	2646	C	N1-C6	-5.61	1.33	1.37
15	O	4[B]	GLN	C-N	-5.61	1.23	1.34
48	5	640	U	C2-N3	-5.61	1.33	1.37
48	5	924	G	C2-N3	-5.61	1.28	1.32
48	5	1434	G	C5-C4	-5.60	1.34	1.38
48	5	2647	A	N3-C4	-5.60	1.31	1.34
48	5	1370	G	C6-N1	-5.60	1.35	1.39
48	5	2810	C	N1-C6	-5.59	1.33	1.37
48	5	1330	A	N3-C4	-5.59	1.31	1.34
48	5	3088	G	N7-C5	-5.59	1.35	1.39
48	5	817	A	C4'-C3'	-5.58	1.47	1.52
48	5	3039	C	N1-C6	-5.58	1.33	1.37
48	5	2148	U	C4-O4	-5.58	1.19	1.23
48	5	1099	A	C6-N1	-5.58	1.31	1.35
48	5	2302	G	N1-C2	-5.57	1.33	1.37
48	5	344	A	N9-C8	-5.57	1.33	1.37
48	5	949	C	N3-C4	-5.57	1.30	1.33
48	5	360	G	N9-C8	-5.56	1.33	1.37
48	5	900	G	C6-N1	-5.56	1.35	1.39
48	5	1432	C	N1-C6	-5.56	1.33	1.37
48	5	3088	G	C5-C6	-5.55	1.36	1.42
48	5	2609	A	C5-C4	-5.55	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	899	U	C4-O4	-5.55	1.19	1.23
48	5	1413	G	C6-N1	-5.55	1.35	1.39
48	5	2626	A	N9-C8	-5.55	1.33	1.37
48	5	1174	G	C8-N7	-5.54	1.27	1.30
48	5	1338	C	N1-C6	-5.54	1.33	1.37
48	5	1443	G	N3-C4	-5.54	1.31	1.35
48	5	1309	U	N1-C2	-5.54	1.33	1.38
48	5	2419	A	C6-N1	-5.54	1.31	1.35
48	5	2860	U	P-OP2	-5.54	1.39	1.49
48	5	2301	U	C2-O2	-5.54	1.17	1.22
48	5	1319	G	N9-C8	-5.53	1.33	1.37
48	5	2824	G	N7-C5	-5.53	1.35	1.39
48	5	2361	A	N7-C5	-5.53	1.35	1.39
48	5	421	G	N1-C2	-5.53	1.33	1.37
48	5	3374	U	C4-O4	-5.52	1.19	1.23
48	5	891	G	N9-C4	-5.52	1.33	1.38
48	5	987	U	C2-O2	-5.51	1.17	1.22
48	5	2717	U	C2-N3	-5.51	1.33	1.37
48	5	2941	A	N9-C8	-5.51	1.33	1.37
48	5	2391	G	C6-O6	-5.51	1.19	1.24
48	5	1130	A	N1-C2	-5.50	1.29	1.34
48	5	889	U	C4-O4	-5.50	1.19	1.23
48	5	2336	U	C2-O2	-5.50	1.17	1.22
2	B	349	LYS	CD-CE	5.50	1.65	1.51
48	5	2920	U	P-OP1	-5.50	1.39	1.49
48	5	1875	G	C6-N1	-5.50	1.35	1.39
48	5	354	U	C2-N3	-5.50	1.33	1.37
48	5	1433	A	N7-C5	-5.49	1.35	1.39
48	5	2397	A	C5-C6	5.49	1.46	1.41
48	5	2908	G	C2-N3	-5.49	1.28	1.32
48	5	1901	A	N9-C8	-5.49	1.33	1.37
48	5	2823	G	C5-C4	-5.49	1.34	1.38
48	5	706	A	C5-C4	-5.49	1.34	1.38
48	5	1301	A	N9-C8	-5.49	1.33	1.37
48	5	1086	C	C4-C5	-5.48	1.38	1.43
48	5	2164	A	N7-C5	-5.48	1.35	1.39
48	5	1911	A	C5-C6	-5.48	1.36	1.41
48	5	2611	U	P-OP1	-5.48	1.39	1.49
48	5	1195	A	N1-C2	-5.47	1.29	1.34
48	5	1320	C	C4-N4	-5.47	1.29	1.33
48	5	2775	U	C2-N3	-5.47	1.33	1.37
48	5	508	U	C5-C6	-5.47	1.29	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	3013	U	C2-N3	-5.47	1.33	1.37
48	5	2932	U	C2-N3	-5.47	1.33	1.37
48	5	824	C	N3-C4	-5.46	1.30	1.33
48	5	2419	A	P-O5'	5.46	1.65	1.59
48	5	2834	G	C2-N3	-5.46	1.28	1.32
48	5	3096	C	N1-C6	-5.46	1.33	1.37
48	5	420	G	N9-C8	-5.46	1.34	1.37
48	5	3107	U	C2-N3	-5.46	1.33	1.37
48	5	2417	U	C4-O4	5.45	1.28	1.23
48	5	784	A	N7-C5	-5.45	1.35	1.39
48	5	2122	G	C5-C4	-5.44	1.34	1.38
48	5	2987	A	C6-N1	-5.44	1.31	1.35
48	5	834	U	C4-O4	-5.44	1.19	1.23
48	5	631	U	N3-C4	-5.44	1.33	1.38
48	5	1492	G	C2-N3	5.43	1.37	1.32
48	5	36	C	N1-C2	-5.43	1.34	1.40
48	5	1845	G	C5-C4	-5.43	1.34	1.38
48	5	2904	U	C2-N3	-5.43	1.33	1.37
48	5	1147	G	N9-C8	-5.43	1.34	1.37
48	5	522	A	P-O5'	-5.43	1.54	1.59
48	5	365	A	N7-C5	-5.42	1.35	1.39
48	5	635	G	P-OP2	-5.42	1.39	1.49
48	5	2128	C	C4-N4	-5.42	1.29	1.33
48	5	49	A	C5-C4	-5.42	1.34	1.38
49	7	5	G	N9-C8	-5.42	1.34	1.37
48	5	2204	C	N3-C4	-5.41	1.30	1.33
48	5	831	G	N7-C5	-5.41	1.36	1.39
48	5	1324	U	C2-N3	-5.41	1.33	1.37
48	5	3052	G	N1-C2	-5.41	1.33	1.37
48	5	895	A	N3-C4	-5.41	1.31	1.34
48	5	417	A	N7-C5	-5.41	1.36	1.39
48	5	1177	G	N7-C5	-5.41	1.36	1.39
48	5	2198	A	N9-C4	-5.41	1.34	1.37
48	5	3273	A	N9-C4	-5.41	1.34	1.37
48	5	2693	C	N1-C6	-5.40	1.33	1.37
48	5	2974	U	C2-N3	-5.40	1.33	1.37
49	7	88	G	N1-C2	-5.40	1.33	1.37
48	5	2336	U	N3-C4	-5.39	1.33	1.38
49	7	66	A	P-OP2	-5.39	1.39	1.49
48	5	39	A	C5-C4	-5.39	1.34	1.38
48	5	2937	G	C5-C4	-5.38	1.34	1.38
48	5	363	G	N3-C4	-5.38	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1327	C	N3-C4	-5.38	1.30	1.33
48	5	1908	A	C6-N1	-5.38	1.31	1.35
48	5	1338	C	C4-C5	-5.38	1.38	1.43
48	5	2342	U	C2-N3	-5.37	1.33	1.37
48	5	864	G	C5-C4	-5.37	1.34	1.38
48	5	990	U	C2-N3	-5.37	1.33	1.37
48	5	505	G	N3-C4	-5.37	1.31	1.35
48	5	2744	U	C2-N3	-5.37	1.33	1.37
50	8	25	G	N1-C2	-5.37	1.33	1.37
48	5	755	A	C6-N1	-5.36	1.31	1.35
48	5	1895	A	N3-C4	-5.36	1.31	1.34
48	5	806	A	P-OP2	-5.36	1.39	1.49
48	5	2643	A	C6-N1	5.35	1.39	1.35
48	5	1833	G	C6-N1	-5.35	1.35	1.39
48	5	2191	U	N3-C4	-5.35	1.33	1.38
48	5	1851	G	C8-N7	-5.35	1.27	1.30
48	5	3114	A	N3-C4	-5.35	1.31	1.34
48	5	1135	A	N9-C8	-5.35	1.33	1.37
48	5	1443	G	N1-C2	-5.35	1.33	1.37
48	5	956	U	N3-C4	-5.35	1.33	1.38
48	5	2730	G	N7-C5	-5.34	1.36	1.39
48	5	2395	G	C6-N1	-5.34	1.35	1.39
48	5	3115	C	N3-C4	-5.34	1.30	1.33
48	5	666	A	N3-C4	-5.33	1.31	1.34
48	5	1415	U	C2-O2	-5.33	1.17	1.22
48	5	1468	A	N7-C5	-5.33	1.36	1.39
48	5	2341	A	N9-C8	-5.33	1.33	1.37
48	5	41	G	N9-C4	-5.33	1.33	1.38
48	5	1477	A	C6-N1	-5.33	1.31	1.35
48	5	2912	G	N9-C8	-5.33	1.34	1.37
48	5	3039	C	C4-C5	-5.33	1.38	1.43
48	5	290	G	C6-N1	-5.32	1.35	1.39
2	B	287	LYS	CD-CE	5.32	1.64	1.51
48	5	95	A	C5-C4	-5.32	1.35	1.38
48	5	2365	C	N3-C4	-5.32	1.30	1.33
48	5	3307	A	C2-N3	-5.32	1.28	1.33
48	5	1888	U	N1-C6	-5.32	1.33	1.38
48	5	2734	A	N9-C4	-5.31	1.34	1.37
48	5	1404	G	N9-C8	-5.31	1.34	1.37
48	5	2619	G	C6-O6	-5.31	1.19	1.24
9	I	96	VAL	CB-CG2	-5.30	1.41	1.52
48	5	2922	G	C6-O6	-5.30	1.19	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1190	A	C6-N1	-5.30	1.31	1.35
48	5	2697	A	N9-C4	5.30	1.41	1.37
48	5	903	U	C2-N3	-5.30	1.34	1.37
48	5	1209	G	C2-N3	-5.29	1.28	1.32
48	5	1296	C	N3-C4	-5.29	1.30	1.33
48	5	3372	A	N9-C4	5.29	1.41	1.37
48	5	693	A	N9-C4	-5.29	1.34	1.37
48	5	818	C	P-OP1	-5.29	1.40	1.49
48	5	1117	G	N7-C5	-5.29	1.36	1.39
48	5	3179	U	C4-O4	-5.29	1.19	1.23
27	a	15	VAL	C-O	5.28	1.33	1.23
48	5	1362	G	C6-N1	-5.28	1.35	1.39
48	5	2434	U	C2-N3	-5.28	1.34	1.37
48	5	2272	G	C6-N1	-5.27	1.35	1.39
48	5	2734	A	N3-C4	-5.27	1.31	1.34
48	5	436	A	C5-C4	5.27	1.42	1.38
48	5	609	G	N3-C4	-5.27	1.31	1.35
48	5	2372	A	C6-N1	-5.27	1.31	1.35
48	5	2376	G	C6-O6	-5.27	1.19	1.24
48	5	2632	G	C8-N7	5.27	1.34	1.30
48	5	1838	G	C5-C4	-5.27	1.34	1.38
48	5	1171	G	N7-C5	-5.26	1.36	1.39
15	O	196[B]	SER	C-N	-5.26	1.22	1.34
48	5	2620	G	N1-C2	-5.26	1.33	1.37
48	5	912	G	N3-C4	5.26	1.39	1.35
48	5	1840	U	C2-N3	-5.25	1.34	1.37
48	5	2414	G	C5-C4	-5.25	1.34	1.38
48	5	658	G	N3-C4	-5.25	1.31	1.35
48	5	1116	G	N9-C8	-5.25	1.34	1.37
48	5	1902	G	C6-N1	-5.25	1.35	1.39
48	5	1515	A	N7-C5	-5.24	1.36	1.39
48	5	3216	G	C5-C4	-5.24	1.34	1.38
48	5	1131	G	N7-C5	-5.24	1.36	1.39
48	5	2318	U	N3-C4	-5.24	1.33	1.38
6	F	131	GLU	CD-OE2	5.24	1.31	1.25
48	5	1114	U	C2-N3	-5.24	1.34	1.37
48	5	3112	G	C5-C4	-5.23	1.34	1.38
48	5	649	A	N7-C5	-5.23	1.36	1.39
48	5	2934	A	C6-N1	-5.23	1.31	1.35
48	5	1151	U	C4-O4	-5.23	1.19	1.23
48	5	3065	G	C6-N1	-5.22	1.35	1.39
39	m	79	GLU	CD-OE1	5.22	1.31	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1832	C	N1-C6	-5.22	1.34	1.37
48	5	2617	U	C4-O4	-5.22	1.19	1.23
48	5	994	G	C5-C4	-5.21	1.34	1.38
48	5	1902	G	C8-N7	-5.21	1.27	1.30
48	5	70	A	N7-C5	-5.21	1.36	1.39
48	5	1115	G	N7-C5	-5.21	1.36	1.39
48	5	645	A	C8-N7	-5.21	1.27	1.31
48	5	52	A	N7-C5	-5.20	1.36	1.39
48	5	1056	U	C2-N3	5.20	1.41	1.37
48	5	1117	G	C8-N7	-5.20	1.27	1.30
48	5	1409	G	C6-N1	-5.20	1.35	1.39
46	t	388	TYR	C-N	5.20	1.44	1.34
48	5	1797	A	C5-C4	-5.20	1.35	1.38
48	5	1151	U	C2-N3	-5.20	1.34	1.37
48	5	2214	A	N9-C4	-5.20	1.34	1.37
48	5	917	A	N3-C4	-5.20	1.31	1.34
48	5	1425	U	C2-N3	-5.20	1.34	1.37
48	5	1157	G	N9-C8	-5.20	1.34	1.37
48	5	433	A	N9-C4	-5.19	1.34	1.37
48	5	1117	G	C6-O6	-5.19	1.19	1.24
48	5	2327	U	N3-C4	-5.18	1.33	1.38
48	5	925	A	N7-C5	-5.18	1.36	1.39
48	5	835	G	C5-C4	-5.18	1.34	1.38
48	5	3000	A	C5-C4	-5.18	1.35	1.38
48	5	3032	A	N7-C5	-5.18	1.36	1.39
48	5	627	U	C2-N3	-5.18	1.34	1.37
48	5	1326	A	C5-C4	-5.17	1.35	1.38
48	5	798	G	C6-O6	-5.17	1.19	1.24
10	J	8	PRO	CB-CG	5.17	1.75	1.50
48	5	658	G	N9-C4	-5.17	1.33	1.38
48	5	2375	G	P-OP2	-5.17	1.40	1.49
48	5	859	G	C2-N3	-5.17	1.28	1.32
48	5	884	A	C5-C6	-5.17	1.36	1.41
48	5	1607	U	C3'-O3'	5.16	1.49	1.42
48	5	2936	A	C4'-C3'	-5.16	1.47	1.52
48	5	2993	G	N7-C5	-5.16	1.36	1.39
48	5	2693	C	N3-C4	-5.16	1.30	1.33
48	5	345	G	C6-O6	-5.16	1.19	1.24
48	5	1170	A	C8-N7	-5.16	1.27	1.31
48	5	1184	A	N3-C4	-5.16	1.31	1.34
48	5	49	A	N3-C4	-5.15	1.31	1.34
48	5	282	G	C2-N3	-5.15	1.28	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	H	82	VAL	CB-CG2	-5.15	1.42	1.52
48	5	284	A	N9-C4	5.15	1.41	1.37
48	5	656	A	O3'-P	-5.15	1.54	1.61
48	5	3316	A	N3-C4	-5.15	1.31	1.34
48	5	1154	A	C5-C4	-5.14	1.35	1.38
48	5	1311	G	N7-C5	-5.14	1.36	1.39
48	5	984	G	N9-C8	-5.14	1.34	1.37
48	5	2706	G	C8-N7	-5.14	1.27	1.30
4	D	95	TRP	CG-CD1	5.14	1.44	1.36
48	5	2659	G	N1-C2	-5.14	1.33	1.37
48	5	652	G	N7-C5	-5.13	1.36	1.39
48	5	2692	A	N7-C5	-5.13	1.36	1.39
48	5	2859	U	C2-N3	-5.13	1.34	1.37
48	5	2912	G	C5-C4	-5.13	1.34	1.38
48	5	2163	C	N3-C4	-5.13	1.30	1.33
48	5	3070	A	C6-N1	-5.13	1.31	1.35
48	5	1188	U	C2-N3	-5.13	1.34	1.37
30	d	61	LYS	CD-CE	5.12	1.64	1.51
48	5	2858	U	C2-O2	-5.12	1.17	1.22
48	5	404	G	N9-C8	-5.12	1.34	1.37
48	5	1179	A	P-OP2	-5.12	1.40	1.49
48	5	934	G	C5-C4	-5.12	1.34	1.38
48	5	1208	U	C2-N3	-5.12	1.34	1.37
48	5	2865	U	N1-C2	5.11	1.43	1.38
48	5	2172	A	N9-C4	-5.11	1.34	1.37
48	5	2882	U	C2-O2	-5.11	1.17	1.22
48	5	891	G	N3-C4	-5.11	1.31	1.35
48	5	1123	U	N3-C4	-5.11	1.33	1.38
48	5	1898	G	N9-C8	-5.10	1.34	1.37
48	5	2912	G	C8-N7	-5.10	1.27	1.30
48	5	984	G	C6-N1	-5.09	1.35	1.39
48	5	2837	A	N3-C4	-5.09	1.31	1.34
48	5	1143	A	N3-C4	-5.09	1.31	1.34
48	5	34	A	N3-C4	-5.09	1.31	1.34
48	5	2190	U	C2-O2	-5.09	1.17	1.22
48	5	1851	G	C5-C4	-5.09	1.34	1.38
48	5	1886	A	N3-C4	-5.09	1.31	1.34
48	5	2634	U	N3-C4	5.08	1.43	1.38
48	5	397	A	N3-C4	-5.08	1.31	1.34
48	5	1188	U	C5-C6	-5.08	1.29	1.34
48	5	2859	U	N3-C4	-5.08	1.33	1.38
48	5	999	G	C5-C4	-5.08	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2141	U	P-OP1	-5.08	1.40	1.49
50	8	21	C	N1-C6	-5.08	1.34	1.37
48	5	1049	C	C4-N4	-5.07	1.29	1.33
48	5	2302	G	C6-N1	-5.07	1.35	1.39
48	5	103	G	C8-N7	5.07	1.33	1.30
48	5	2958	A	N9-C4	-5.07	1.34	1.37
48	5	1145	G	C2-N3	-5.07	1.28	1.32
48	5	1388	U	C2-O2	-5.06	1.17	1.22
48	5	877	C	C4-N4	-5.06	1.29	1.33
48	5	1338	C	C4-N4	-5.06	1.29	1.33
48	5	3122	A	N7-C5	-5.06	1.36	1.39
48	5	2303	A	N3-C4	-5.06	1.31	1.34
48	5	2632	G	N7-C5	5.06	1.42	1.39
48	5	2666	C	N1-C6	-5.06	1.34	1.37
48	5	2147	A	C5-C4	-5.05	1.35	1.38
48	5	2930	A	N3-C4	5.05	1.37	1.34
39	m	79	GLU	CD-OE2	5.05	1.31	1.25
48	5	585	A	N3-C4	-5.05	1.31	1.34
48	5	1433	A	N9-C8	-5.05	1.33	1.37
48	5	38	U	O3'-P	-5.05	1.55	1.61
48	5	1791	C	N1-C6	-5.04	1.34	1.37
48	5	1919	G	C6-N1	-5.04	1.36	1.39
48	5	3245	A	N1-C2	5.04	1.38	1.34
48	5	333	G	C6-N1	-5.04	1.36	1.39
48	5	1307	G	N7-C5	-5.04	1.36	1.39
49	7	88	G	C6-N1	-5.04	1.36	1.39
48	5	2977	G	N1-C2	-5.04	1.33	1.37
48	5	3172	A	N9-C8	-5.04	1.33	1.37
8	H	110	LYS	CD-CE	5.04	1.63	1.51
48	5	2717	U	C2-O2	-5.04	1.17	1.22
48	5	2928	C	C4'-C3'	-5.03	1.47	1.52
48	5	2640	A	N9-C4	-5.03	1.34	1.37
48	5	2323	G	N3-C4	-5.03	1.31	1.35
48	5	2372	A	C3'-O3'	5.03	1.49	1.42
32	f	91	ALA	N-CA	5.03	1.56	1.46
48	5	2243	A	N3-C4	-5.03	1.31	1.34
48	5	2291	A	N9-C4	-5.03	1.34	1.37
48	5	2366	C	C2-N3	5.03	1.39	1.35
48	5	2620	G	C5-C4	-5.03	1.34	1.38
49	7	94	C	C4-C5	-5.02	1.39	1.43
48	5	1435	A	C6-N6	-5.02	1.29	1.33
48	5	726	G	N7-C5	-5.02	1.36	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2993	G	N1-C2	-5.01	1.33	1.37
48	5	1910	A	C6-N6	-5.01	1.29	1.33
48	5	1299	U	C4-O4	-5.01	1.19	1.23
48	5	987	U	C4-C5	5.01	1.48	1.43
18	R	72	GLU	CG-CD	5.01	1.59	1.51
30	d	102	LYS	CD-CE	5.00	1.63	1.51
48	5	2189	U	C2-O2	-5.00	1.17	1.22
48	5	2922	G	C5-C6	-5.00	1.37	1.42

All (4127) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	t	81	LYS	O-C-N	-73.85	4.54	122.70
46	t	15	LYS	O-C-N	-50.53	41.85	122.70
46	t	544	ASN	O-C-N	-46.67	32.42	121.10
46	t	162	PRO	N-CA-CB	37.84	148.71	103.30
46	t	168	PRO	N-CA-CB	37.79	148.65	103.30
46	t	172	PRO	N-CA-CB	37.77	148.62	103.30
46	t	545	PRO	N-CA-CB	37.68	148.52	103.30
46	t	520	PRO	N-CA-CB	37.65	148.48	103.30
48	5	1152	G	N3-C4-C5	33.58	145.39	128.60
46	t	162	PRO	CA-N-CD	-32.70	65.72	111.50
46	t	168	PRO	CA-N-CD	-32.65	65.78	111.50
46	t	545	PRO	CA-N-CD	-32.63	65.81	111.50
46	t	172	PRO	CA-N-CD	-32.32	66.26	111.50
46	t	520	PRO	CA-N-CD	-32.26	66.34	111.50
48	5	1152	G	N3-C4-N9	-31.56	107.06	126.00
48	5	1152	G	N3-C2-N2	-27.01	101.00	119.90
46	t	246	ARG	NE-CZ-NH1	-25.23	107.68	120.30
46	t	519	ARG	NE-CZ-NH2	-25.23	107.68	120.30
46	t	134	ARG	NE-CZ-NH2	-25.23	107.69	120.30
46	t	29	ARG	NE-CZ-NH2	-25.22	107.69	120.30
46	t	441	ARG	NE-CZ-NH1	-25.22	107.69	120.30
46	t	245	ARG	NE-CZ-NH2	-25.20	107.70	120.30
46	t	57	ARG	NE-CZ-NH2	-25.20	107.70	120.30
46	t	75	ARG	NE-CZ-NH1	-25.20	107.70	120.30
46	t	246	ARG	NE-CZ-NH2	-25.18	107.71	120.30
46	t	243	ARG	NE-CZ-NH1	-25.16	107.72	120.30
46	t	29	ARG	NE-CZ-NH1	-25.14	107.73	120.30
46	t	75	ARG	NE-CZ-NH2	-25.13	107.74	120.30
46	t	502	ARG	NE-CZ-NH1	-25.13	107.74	120.30
46	t	502	ARG	NE-CZ-NH2	-25.12	107.74	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	t	249	ARG	NE-CZ-NH2	-25.12	107.74	120.30
46	t	248	ARG	NE-CZ-NH1	-25.11	107.74	120.30
46	t	243	ARG	NE-CZ-NH2	-25.10	107.75	120.30
46	t	57	ARG	NE-CZ-NH1	-25.10	107.75	120.30
46	t	232	ARG	NE-CZ-NH2	-25.05	107.77	120.30
46	t	87	ARG	NE-CZ-NH2	-25.05	107.78	120.30
46	t	441	ARG	NE-CZ-NH2	-25.04	107.78	120.30
46	t	224	ARG	NE-CZ-NH1	-25.03	107.78	120.30
46	t	224	ARG	NE-CZ-NH2	-25.03	107.79	120.30
46	t	519	ARG	NE-CZ-NH1	-25.03	107.79	120.30
46	t	87	ARG	NE-CZ-NH1	-25.02	107.79	120.30
46	t	134	ARG	NE-CZ-NH1	-25.00	107.80	120.30
46	t	249	ARG	NE-CZ-NH1	-24.99	107.81	120.30
46	t	248	ARG	NE-CZ-NH2	-24.97	107.81	120.30
46	t	245	ARG	NE-CZ-NH1	-24.95	107.82	120.30
46	t	232	ARG	NE-CZ-NH1	-24.95	107.83	120.30
46	t	60	THR	N-CA-CB	24.21	156.29	110.30
46	t	54	THR	N-CA-CB	24.07	156.03	110.30
46	t	526	THR	N-CA-CB	24.04	155.98	110.30
48	5	1152	G	C2-N3-C4	-24.00	99.90	111.90
46	t	166	THR	N-CA-CB	23.87	155.66	110.30
46	t	531	THR	N-CA-CB	23.72	155.38	110.30
46	t	55	THR	N-CA-CB	23.70	155.33	110.30
46	t	517	THR	N-CA-CB	23.66	155.25	110.30
46	t	516	THR	N-CA-CB	23.23	154.44	110.30
46	t	246	ARG	NH1-CZ-NH2	22.91	144.60	119.40
46	t	29	ARG	NH1-CZ-NH2	22.89	144.58	119.40
46	t	75	ARG	NH1-CZ-NH2	22.88	144.56	119.40
46	t	57	ARG	NH1-CZ-NH2	22.86	144.55	119.40
46	t	243	ARG	NH1-CZ-NH2	22.85	144.53	119.40
46	t	519	ARG	NH1-CZ-NH2	22.84	144.53	119.40
46	t	441	ARG	NH1-CZ-NH2	22.84	144.53	119.40
46	t	502	ARG	NH1-CZ-NH2	22.84	144.53	119.40
46	t	134	ARG	NH1-CZ-NH2	22.83	144.51	119.40
46	t	245	ARG	NH1-CZ-NH2	22.80	144.47	119.40
46	t	249	ARG	NH1-CZ-NH2	22.78	144.46	119.40
46	t	248	ARG	NH1-CZ-NH2	22.77	144.44	119.40
46	t	87	ARG	NH1-CZ-NH2	22.76	144.44	119.40
46	t	224	ARG	NH1-CZ-NH2	22.75	144.43	119.40
46	t	232	ARG	NH1-CZ-NH2	22.73	144.40	119.40
48	5	922	U	C5-C6-N1	-22.12	111.64	122.70
48	5	922	U	C2-N3-C4	-21.63	114.02	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	t	544	ASN	C-N-CD	20.99	172.48	128.40
48	5	1152	G	C5-N7-C8	-19.98	94.31	104.30
48	5	922	U	N1-C2-N3	19.53	126.62	114.90
46	t	171	GLN	C-N-CD	19.25	168.81	128.40
48	5	1152	G	C8-N9-C1'	18.99	151.68	127.00
48	5	3245	A	C2-N3-C4	-18.79	101.20	110.60
48	5	3245	A	C5-N7-C8	-18.71	94.55	103.90
46	t	519	ARG	C-N-CD	17.49	165.13	128.40
48	5	1152	G	N1-C6-O6	17.25	130.25	119.90
46	t	167	LYS	C-N-CD	16.86	163.81	128.40
48	5	1152	G	C4-N9-C1'	-16.86	104.59	126.50
48	5	1152	G	C4-C5-N7	16.67	117.47	110.80
48	5	1152	G	N1-C2-N2	16.30	130.87	116.20
48	5	922	U	N1-C2-O2	-16.13	111.51	122.80
48	5	3245	A	N7-C8-N9	15.86	121.73	113.80
48	5	776	U	C5-C6-N1	-15.62	114.89	122.70
48	5	2726	C	C6-N1-C2	-15.44	114.13	120.30
48	5	1450	G	C5-N7-C8	15.25	111.93	104.30
46	t	387	VAL	CB-CA-C	-15.09	82.74	111.40
48	5	3245	A	C4-C5-N7	15.05	118.23	110.70
46	t	520	PRO	CB-CA-C	-14.88	74.79	112.00
46	t	545	PRO	CB-CA-C	-14.88	74.81	112.00
48	5	3245	A	N1-C6-N6	14.77	127.46	118.60
46	t	550	VAL	CB-CA-C	-14.67	83.53	111.40
46	t	168	PRO	CB-CA-C	-14.62	75.45	112.00
48	5	3245	A	C6-C5-N7	-14.57	122.10	132.30
46	t	172	PRO	CB-CA-C	-14.50	75.75	112.00
48	5	1152	G	C5-C6-O6	-14.41	119.95	128.60
46	t	162	PRO	CB-CA-C	-14.30	76.24	112.00
46	t	514	VAL	N-CA-CB	14.19	142.71	111.50
46	t	84	VAL	N-CA-CB	14.18	142.69	111.50
46	t	516	THR	CB-CA-C	-14.16	73.36	111.60
48	5	2353	G	C5-C6-O6	-14.15	120.11	128.60
46	t	61	VAL	N-CA-CB	14.11	142.54	111.50
48	5	2726	C	C5-C4-N4	14.09	130.06	120.20
46	t	163	VAL	N-CA-CB	14.03	142.37	111.50
48	5	2634	U	C5-C4-O4	-14.03	117.48	125.90
48	5	2634	U	C2-N3-C4	-14.00	118.60	127.00
46	t	163	VAL	CB-CA-C	-13.97	84.86	111.40
48	5	776	U	N1-C2-N3	13.97	123.28	114.90
48	5	1592	G	N1-C6-O6	-13.96	111.53	119.90
46	t	61	VAL	CB-CA-C	-13.92	84.95	111.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	t	550	VAL	N-CA-CB	13.78	141.82	111.50
46	t	161	TYR	C-N-CD	13.76	157.30	128.40
46	t	514	VAL	CB-CA-C	-13.65	85.47	111.40
46	t	387	VAL	N-CA-CB	13.61	141.45	111.50
46	t	84	VAL	CB-CA-C	-13.60	85.57	111.40
48	5	776	U	C4-C5-C6	13.48	127.79	119.70
46	t	517	THR	CB-CA-C	-13.43	75.34	111.60
48	5	2372	A	C8-N9-C4	-13.41	100.44	105.80
48	5	2245	C	C6-N1-C2	-13.40	114.94	120.30
46	t	55	THR	CB-CA-C	-13.34	75.57	111.60
48	5	922	U	C4-C5-C6	13.27	127.66	119.70
48	5	1450	G	N7-C8-N9	-13.23	106.48	113.10
48	5	631	U	N3-C2-O2	-13.16	112.99	122.20
46	t	531	THR	CB-CA-C	-13.14	76.13	111.60
48	5	2278	C	N1-C2-O2	-13.02	111.09	118.90
46	t	166	THR	CB-CA-C	-13.02	76.45	111.60
48	5	2361	A	C2-N3-C4	13.00	117.10	110.60
48	5	2303	A	C2-N3-C4	12.94	117.07	110.60
48	5	3214	U	C5-C4-O4	12.92	133.65	125.90
48	5	2726	C	N1-C2-N3	12.86	128.20	119.20
48	5	2308	C	N1-C2-O2	-12.77	111.24	118.90
48	5	1208	U	N3-C4-O4	-12.76	110.47	119.40
48	5	1208	U	C5-C4-O4	12.73	133.54	125.90
48	5	2327	U	C5-C6-N1	-12.66	116.37	122.70
48	5	3214	U	N3-C2-O2	-12.62	113.37	122.20
48	5	1152	G	C4-C5-C6	-12.61	111.24	118.80
48	5	2758	A	C2-N3-C4	12.60	116.90	110.60
31	e	43	ARG	NE-CZ-NH1	12.57	126.59	120.30
46	t	54	THR	CB-CA-C	-12.49	77.86	111.60
46	t	526	THR	CB-CA-C	-12.44	78.01	111.60
48	5	776	U	N3-C2-O2	-12.43	113.50	122.20
48	5	1371	G	N1-C6-O6	-12.42	112.45	119.90
48	5	1434	G	C5-N7-C8	12.36	110.48	104.30
48	5	1450	G	C4-C5-N7	-12.34	105.87	110.80
48	5	1846	C	C5-C6-N1	-12.33	114.84	121.00
48	5	591	G	C5-C6-O6	-12.23	121.26	128.60
49	7	120	C	C6-N1-C2	12.21	125.18	120.30
46	t	60	THR	CB-CA-C	-12.19	78.69	111.60
48	5	2340	U	N3-C4-O4	-12.07	110.95	119.40
48	5	1308	A	N7-C8-N9	12.01	119.80	113.80
48	5	3245	A	N1-C2-N3	11.97	135.29	129.30
48	5	2726	C	C4-C5-C6	11.92	123.36	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1056	U	C4-C5-C6	11.86	126.81	119.70
46	t	513	SER	N-CA-CB	11.83	128.24	110.50
48	5	290	G	N1-C6-O6	-11.76	112.84	119.90
48	5	667	C	C6-N1-C2	11.75	125.00	120.30
48	5	2808	A	N9-C4-C5	-11.73	101.11	105.80
48	5	2278	C	N1-C2-N3	11.73	127.41	119.20
48	5	966	U	N3-C2-O2	-11.71	114.00	122.20
48	5	2726	C	N3-C4-C5	-11.68	117.23	121.90
46	t	549	ILE	CB-CA-C	-11.68	88.25	111.60
48	5	1389	G	C4-C5-N7	11.62	115.45	110.80
46	t	512	SER	N-CA-CB	11.47	127.70	110.50
48	5	1592	G	N3-C2-N2	11.43	127.90	119.90
48	5	1797	A	C5-N7-C8	11.40	109.60	103.90
48	5	1130	A	C2-N3-C4	11.39	116.30	110.60
46	t	52	SER	N-CA-CB	11.38	127.58	110.50
48	5	2899	C	N3-C2-O2	-11.37	113.94	121.90
48	5	2142	A	C5-C6-N1	11.28	123.34	117.70
48	5	414	U	C4-C5-C6	11.26	126.45	119.70
48	5	15	C	C6-N1-C2	-11.21	115.82	120.30
48	5	3377	G	C5-C6-O6	-11.21	121.88	128.60
48	5	2744	U	N3-C2-O2	-11.20	114.36	122.20
46	t	548	SER	N-CA-CB	11.19	127.29	110.50
48	5	1004	U	N1-C2-O2	11.16	130.61	122.80
46	t	49	SER	N-CA-CB	11.15	127.22	110.50
46	t	515	SER	N-CA-CB	11.04	127.05	110.50
48	5	2278	C	N3-C4-N4	-11.03	110.28	118.00
48	5	3060	C	N1-C2-O2	-11.03	112.28	118.90
48	5	2836	C	C2-N3-C4	-11.03	114.39	119.90
48	5	776	U	C5-C4-O4	10.95	132.47	125.90
48	5	41	G	N1-C6-O6	10.94	126.47	119.90
48	5	3138	U	N1-C2-O2	-10.93	115.15	122.80
48	5	2341	A	C8-N9-C4	10.90	110.16	105.80
48	5	931	C	C2-N3-C4	-10.89	114.45	119.90
48	5	2343	C	N3-C4-C5	10.89	126.26	121.90
48	5	1403	C	C6-N1-C2	10.88	124.65	120.30
48	5	41	G	C5-C6-O6	-10.88	122.07	128.60
48	5	947	G	N3-C4-C5	-10.87	123.17	128.60
48	5	2634	U	C5-C6-N1	-10.86	117.27	122.70
48	5	1119	C	N3-C4-C5	10.86	126.24	121.90
48	5	2726	C	N3-C2-O2	-10.84	114.32	121.90
48	5	420	G	C6-N1-C2	-10.82	118.61	125.10
48	5	2632	G	N1-C6-O6	-10.80	113.42	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	922	U	C2-N1-C1'	-10.75	104.80	117.70
48	5	2353	G	N1-C6-O6	10.69	126.31	119.90
48	5	1434	G	N7-C8-N9	-10.67	107.76	113.10
48	5	2234	G	C5-C6-O6	-10.64	122.22	128.60
48	5	2899	C	N1-C2-N3	10.63	126.64	119.20
46	t	169	ILE	CB-CA-C	-10.61	90.38	111.60
48	5	2512	C	C6-N1-C2	-10.61	116.06	120.30
48	5	2288	G	C5-C6-N1	10.59	116.79	111.50
48	5	2290	C	C5-C6-N1	-10.59	115.71	121.00
48	5	2905	U	C5-C6-N1	-10.59	117.41	122.70
48	5	1147	G	C4-C5-N7	-10.58	106.57	110.80
48	5	2631	U	C2-N3-C4	-10.55	120.67	127.00
46	t	529	SER	N-CA-CB	10.54	126.32	110.50
48	5	1592	G	N1-C2-N2	-10.54	106.71	116.20
48	5	2211	U	C4-C5-C6	10.53	126.02	119.70
48	5	3122	A	C8-N9-C4	-10.52	101.59	105.80
48	5	1907	C	C6-N1-C2	-10.51	116.10	120.30
48	5	957	C	N3-C4-C5	10.51	126.10	121.90
48	5	2314	U	C5-C4-O4	-10.50	119.60	125.90
48	5	546	C	C2-N1-C1'	10.49	130.34	118.80
48	5	1911	A	C8-N9-C4	10.47	109.99	105.80
48	5	1848	G	C5-C6-O6	-10.44	122.34	128.60
48	5	2314	U	N3-C4-O4	10.44	126.71	119.40
48	5	1301	A	N1-C6-N6	10.43	124.86	118.60
48	5	3172	A	C8-N9-C4	10.40	109.96	105.80
31	e	27	ARG	NE-CZ-NH2	-10.39	115.11	120.30
48	5	965	A	C2-N3-C4	10.35	115.78	110.60
48	5	2211	U	C5-C4-O4	10.35	132.11	125.90
48	5	2364	G	N1-C6-O6	-10.33	113.70	119.90
48	5	2836	C	C5-C6-N1	-10.32	115.84	121.00
48	5	930	U	N3-C4-C5	10.32	120.79	114.60
48	5	1797	A	N7-C8-N9	-10.32	108.64	113.80
48	5	819	U	C5-C6-N1	-10.31	117.55	122.70
48	5	1513	G	C8-N9-C4	-10.27	102.29	106.40
48	5	1303	A	N1-C2-N3	-10.26	124.17	129.30
48	5	1391	C	N1-C2-O2	-10.26	112.75	118.90
48	5	1903	U	N3-C4-O4	10.25	126.58	119.40
48	5	1429	G	N3-C2-N2	10.24	127.07	119.90
48	5	847	A	C8-N9-C4	10.23	109.89	105.80
48	5	2148	U	N1-C2-O2	-10.22	115.65	122.80
48	5	1004	U	N3-C4-O4	-10.20	112.26	119.40
48	5	1056	U	C6-N1-C2	-10.20	114.88	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3096	C	C4-C5-C6	10.20	122.50	117.40
50	8	8	C	C6-N1-C2	-10.20	116.22	120.30
48	5	414	U	C5-C6-N1	-10.18	117.61	122.70
48	5	2257	C	C6-N1-C2	-10.17	116.23	120.30
48	5	1297	C	C2-N3-C4	-10.16	114.82	119.90
48	5	1481	A	C8-N9-C4	-10.15	101.74	105.80
48	5	1440	G	N1-C6-O6	-10.13	113.83	119.90
48	5	2343	C	C2-N3-C4	-10.11	114.84	119.90
48	5	2632	G	C5-C6-O6	10.11	134.66	128.60
48	5	652	G	N1-C2-N2	-10.10	107.11	116.20
48	5	1308	A	C8-N9-C4	-10.06	101.78	105.80
48	5	3006	A	C2-N3-C4	-10.04	105.58	110.60
48	5	1208	U	N3-C2-O2	-10.04	115.17	122.20
48	5	1124	U	C4-C5-C6	-10.02	113.69	119.70
48	5	1389	G	N9-C4-C5	-10.01	101.39	105.40
48	5	877	C	N3-C4-C5	9.98	125.89	121.90
48	5	2366	C	C5-C6-N1	9.98	125.99	121.00
48	5	3362	A	C2-N3-C4	-9.97	105.62	110.60
48	5	339	C	N3-C4-N4	-9.96	111.03	118.00
50	8	25	G	N1-C6-O6	-9.95	113.93	119.90
50	8	32	C	N1-C2-O2	-9.92	112.95	118.90
48	5	2824	G	N3-C2-N2	-9.91	112.96	119.90
48	5	420	G	C5-C6-O6	-9.90	122.66	128.60
48	5	2905	U	C2-N3-C4	-9.90	121.06	127.00
48	5	2952	G	C5-C6-O6	-9.90	122.66	128.60
48	5	340	C	C2-N3-C4	-9.89	114.95	119.90
48	5	1152	G	N7-C8-N9	9.86	118.03	113.10
48	5	1484	U	C5-C6-N1	-9.85	117.77	122.70
48	5	1392	G	C8-N9-C4	9.84	110.34	106.40
48	5	2808	A	C8-N9-C4	9.84	109.73	105.80
48	5	947	G	C5-C6-N1	9.83	116.42	111.50
46	t	19	ILE	CB-CA-C	-9.82	91.96	111.60
15	O	182[B]	SER	O-C-N	-9.82	106.99	122.70
48	5	1655	G	C8-N9-C4	-9.81	102.48	106.40
48	5	2118	C	N3-C2-O2	-9.81	115.03	121.90
48	5	2246	G	N9-C4-C5	9.80	109.32	105.40
48	5	1064	A	N1-C6-N6	9.79	124.47	118.60
48	5	1655	G	N7-C8-N9	9.77	117.98	113.10
2	B	10	ARG	NE-CZ-NH2	-9.76	115.42	120.30
48	5	1057	A	N1-C6-N6	9.76	124.45	118.60
48	5	2361	A	N3-C4-C5	-9.76	119.97	126.80
46	t	168	PRO	N-CD-CG	-9.74	88.59	103.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2211	U	N1-C2-N3	9.74	120.75	114.90
48	5	3096	C	C2-N3-C4	-9.74	115.03	119.90
48	5	815	G	N1-C6-O6	-9.73	114.06	119.90
48	5	835	G	C5-C6-O6	-9.73	122.76	128.60
48	5	1448	U	C5-C6-N1	-9.73	117.84	122.70
48	5	2948	C	N3-C4-N4	-9.72	111.19	118.00
48	5	591	G	N1-C6-O6	9.72	125.73	119.90
48	5	2134	G	N1-C6-O6	-9.72	114.07	119.90
48	5	645	A	C6-N1-C2	-9.71	112.77	118.60
48	5	2917	G	C5-C6-O6	-9.71	122.77	128.60
48	5	2278	C	C6-N1-C2	-9.70	116.42	120.30
48	5	1147	G	C5-N7-C8	9.70	109.15	104.30
48	5	1888	U	C5-C6-N1	-9.67	117.86	122.70
46	t	545	PRO	N-CD-CG	-9.66	88.70	103.20
48	5	1127	G	C5-C6-O6	-9.65	122.81	128.60
48	5	1042	U	N3-C4-O4	-9.65	112.64	119.40
48	5	518	G	C5-C6-O6	-9.65	122.81	128.60
48	5	1327	C	N3-C4-N4	-9.65	111.25	118.00
48	5	1152	G	C8-N9-C4	-9.64	102.54	106.40
48	5	340	C	C5-C6-N1	-9.64	116.18	121.00
48	5	2424	A	N1-C6-N6	9.64	124.38	118.60
48	5	776	U	C2-N3-C4	-9.61	121.23	127.00
49	7	49	G	N1-C6-O6	9.60	125.66	119.90
48	5	2757	U	N1-C2-N3	9.59	120.65	114.90
48	5	2391	G	C8-N9-C4	-9.58	102.57	106.40
48	5	1403	C	C5-C4-N4	-9.56	113.51	120.20
48	5	3060	C	N3-C4-N4	9.56	124.69	118.00
48	5	1056	U	N1-C2-N3	9.53	120.62	114.90
48	5	905	U	C5-C4-O4	-9.53	120.18	125.90
48	5	2572	C	N1-C2-O2	9.53	124.62	118.90
48	5	1848	G	N1-C6-O6	9.49	125.60	119.90
48	5	2899	C	C5-C4-N4	9.49	126.85	120.20
48	5	1888	U	C4-C5-C6	9.48	125.39	119.70
48	5	2202	C	C5-C4-N4	-9.48	113.57	120.20
48	5	1210	U	C5-C4-O4	9.46	131.58	125.90
48	5	2705	A	C5-C6-N1	9.46	122.43	117.70
48	5	546	C	N1-C2-O2	9.46	124.57	118.90
48	5	708	G	C4-C5-N7	9.46	114.58	110.80
48	5	644	G	C2-N3-C4	9.45	116.63	111.90
50	8	113	U	C5-C6-N1	9.45	127.43	122.70
48	5	3362	A	N7-C8-N9	9.43	118.52	113.80
48	5	1449	A	C2-N3-C4	-9.43	105.89	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	386	A	N1-C6-N6	9.43	124.25	118.60
48	5	3376	A	C8-N9-C4	-9.42	102.03	105.80
48	5	1858	A	C8-N9-C4	-9.42	102.03	105.80
48	5	1902	G	C5-C6-O6	-9.40	122.96	128.60
48	5	2340	U	N3-C4-C5	9.40	120.24	114.60
48	5	40	A	N1-C2-N3	9.40	134.00	129.30
48	5	1239	C	C5-C6-N1	9.39	125.70	121.00
48	5	2899	C	C6-N1-C2	-9.39	116.54	120.30
48	5	1064	A	N9-C4-C5	-9.38	102.05	105.80
48	5	3218	A	C5-N7-C8	-9.37	99.22	103.90
48	5	2364	G	N9-C4-C5	9.37	109.15	105.40
48	5	21	G	C2-N3-C4	-9.37	107.22	111.90
48	5	2978	U	N3-C2-O2	-9.36	115.65	122.20
48	5	947	G	C2-N3-C4	9.35	116.58	111.90
48	5	282	G	C8-N9-C4	-9.34	102.66	106.40
48	5	966	U	N1-C2-O2	9.34	129.34	122.80
48	5	811	U	C5-C6-N1	-9.34	118.03	122.70
48	5	2246	G	C4-C5-N7	-9.33	107.07	110.80
48	5	721	G	N1-C6-O6	-9.32	114.31	119.90
48	5	1447	G	C8-N9-C4	-9.29	102.68	106.40
46	t	162	PRO	N-CD-CG	-9.29	89.26	103.20
48	5	3186	A	C8-N9-C4	-9.29	102.08	105.80
48	5	3050	U	N3-C2-O2	-9.28	115.70	122.20
48	5	1371	G	C5-C6-N1	9.28	116.14	111.50
48	5	3214	U	N3-C4-O4	-9.27	112.91	119.40
48	5	1151	U	N3-C4-O4	-9.26	112.92	119.40
48	5	1449	A	N1-C6-N6	9.26	124.16	118.60
48	5	1437	C	C6-N1-C2	-9.25	116.60	120.30
48	5	994	G	C5-C6-N1	9.25	116.12	111.50
48	5	1879	A	N1-C6-N6	9.25	124.15	118.60
48	5	2830	G	N9-C4-C5	9.25	109.10	105.40
48	5	3266	G	C5-C6-O6	9.25	134.15	128.60
48	5	3309	G	N3-C4-C5	-9.25	123.98	128.60
48	5	968	G	N3-C2-N2	9.23	126.36	119.90
48	5	3060	C	C5-C4-N4	-9.23	113.74	120.20
48	5	3245	A	C8-N9-C4	-9.23	102.11	105.80
48	5	1849	C	N1-C2-O2	9.22	124.43	118.90
50	8	80	A	C8-N9-C4	-9.21	102.12	105.80
48	5	1101	G	N3-C2-N2	9.21	126.34	119.90
48	5	2550	U	C5-C4-O4	9.20	131.42	125.90
48	5	1843	C	C6-N1-C2	-9.19	116.62	120.30
48	5	2354	C	N1-C2-O2	-9.19	113.39	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	t	532	CYS	N-CA-CB	9.17	127.10	110.60
2	B	2	SER	N-CA-C	-9.16	86.25	111.00
48	5	834	U	N3-C4-C5	9.16	120.09	114.60
48	5	3308	C	C4-C5-C6	9.16	121.98	117.40
48	5	1050	U	N3-C2-O2	-9.15	115.80	122.20
48	5	1156	C	N3-C4-C5	9.13	125.55	121.90
48	5	2365	C	N3-C4-N4	-9.13	111.61	118.00
48	5	2693	C	N3-C2-O2	-9.13	115.51	121.90
48	5	2744	U	N1-C2-O2	9.12	129.18	122.80
48	5	2142	A	C6-N1-C2	-9.11	113.14	118.60
2	B	4	ARG	NE-CZ-NH1	9.11	124.85	120.30
48	5	3362	A	C5-N7-C8	-9.10	99.35	103.90
48	5	1133	A	C2-N3-C4	9.09	115.14	110.60
48	5	2176	U	N3-C2-O2	-9.09	115.84	122.20
48	5	1911	A	N9-C4-C5	-9.07	102.17	105.80
48	5	2942	C	N3-C4-N4	9.06	124.34	118.00
48	5	2830	G	N1-C2-N3	9.06	129.34	123.90
48	5	369	A	C8-N9-C4	-9.06	102.18	105.80
48	5	3377	G	C4-C5-N7	9.06	114.42	110.80
48	5	1317	A	C5-C6-N6	-9.05	116.46	123.70
46	t	172	PRO	N-CD-CG	-9.04	89.64	103.20
48	5	2327	U	N3-C4-O4	-9.03	113.08	119.40
48	5	1487	G	N1-C6-O6	-9.02	114.49	119.90
48	5	3212	C	C2-N3-C4	-9.02	115.39	119.90
48	5	2808	A	C2-N3-C4	-9.01	106.09	110.60
48	5	802	C	C5-C6-N1	-9.00	116.50	121.00
48	5	2372	A	N7-C8-N9	9.00	118.30	113.80
48	5	1911	A	N1-C6-N6	9.00	124.00	118.60
17	Q	66	ARG	NE-CZ-NH2	-8.99	115.81	120.30
48	5	1181	U	C5-C6-N1	-8.98	118.21	122.70
48	5	2327	U	C2-N3-C4	-8.97	121.62	127.00
48	5	2320	A	C5-C6-N6	8.97	130.88	123.70
48	5	726	G	C4-C5-N7	8.97	114.39	110.80
48	5	802	C	C4-C5-C6	8.97	121.89	117.40
48	5	1450	G	C6-C5-N7	8.96	135.78	130.40
48	5	3040	A	C8-N9-C4	8.96	109.39	105.80
48	5	1450	G	C8-N9-C4	8.95	109.98	106.40
49	7	101	G	N1-C6-O6	8.95	125.27	119.90
48	5	881	C	N1-C2-O2	8.95	124.27	118.90
48	5	2836	C	C4-C5-C6	8.95	121.87	117.40
48	5	1116	G	C4-C5-N7	-8.94	107.22	110.80
48	5	631	U	N1-C2-N3	8.94	120.26	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2202	C	N1-C2-O2	-8.94	113.54	118.90
48	5	947	G	C6-N1-C2	-8.93	119.74	125.10
48	5	3049	A	C5-C6-N1	-8.93	113.23	117.70
48	5	631	U	N3-C4-O4	-8.93	113.15	119.40
48	5	887	G	C5-C6-N1	-8.92	107.04	111.50
48	5	2833	A	N1-C6-N6	-8.92	113.25	118.60
50	8	113	U	C2-N1-C1'	8.92	128.40	117.70
48	5	2728	G	N9-C4-C5	8.92	108.97	105.40
48	5	3382	U	C2-N1-C1'	8.92	128.40	117.70
48	5	2824	G	C6-N1-C2	-8.91	119.76	125.10
48	5	2719	U	C2-N1-C1'	-8.90	107.02	117.70
48	5	1158	A	N1-C6-N6	8.89	123.94	118.60
48	5	2857	C	N3-C4-C5	8.89	125.46	121.90
48	5	2905	U	N3-C4-O4	-8.88	113.19	119.40
48	5	433	A	C2-N3-C4	-8.87	106.16	110.60
48	5	1314	C	C2-N3-C4	-8.87	115.47	119.90
22	V	48	ARG	NE-CZ-NH1	8.87	124.73	120.30
46	t	19	ILE	N-CA-CB	8.87	131.20	110.80
48	5	2647	A	N9-C4-C5	8.86	109.34	105.80
48	5	2382	G	C5-C6-O6	8.85	133.91	128.60
48	5	3047	U	C5-C6-N1	-8.85	118.27	122.70
48	5	1044	U	N3-C4-O4	-8.85	113.21	119.40
48	5	1113	G	C2-N3-C4	-8.84	107.48	111.90
48	5	819	U	C4-C5-C6	8.84	125.00	119.70
48	5	2881	C	C2-N3-C4	-8.84	115.48	119.90
48	5	1429	G	N1-C2-N2	-8.83	108.25	116.20
48	5	2393	G	C8-N9-C4	8.82	109.93	106.40
48	5	1907	C	N3-C4-C5	-8.80	118.38	121.90
48	5	420	G	C5-C6-N1	8.79	115.89	111.50
48	5	1931	U	C2-N1-C1'	-8.79	107.15	117.70
48	5	1149	G	C2-N3-C4	8.79	116.29	111.90
48	5	2757	U	C4-C5-C6	8.78	124.97	119.70
48	5	3040	A	N7-C8-N9	-8.77	109.42	113.80
49	7	48	U	C2-N3-C4	-8.75	121.75	127.00
48	5	1840	U	N3-C2-O2	-8.74	116.08	122.20
48	5	2434	U	C5-C6-N1	-8.74	118.33	122.70
48	5	3127	A	N1-C6-N6	-8.74	113.36	118.60
17	Q	151	ARG	NE-CZ-NH1	-8.73	115.93	120.30
48	5	834	U	C4-C5-C6	-8.73	114.46	119.70
48	5	1311	G	C2-N3-C4	8.73	116.26	111.90
48	5	1846	C	C2-N3-C4	-8.73	115.54	119.90
48	5	1903	U	C4-C5-C6	8.73	124.94	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1119	C	C2-N3-C4	-8.72	115.54	119.90
50	8	17	A	N1-C6-N6	8.71	123.83	118.60
48	5	1412	G	C8-N9-C4	-8.71	102.92	106.40
48	5	2832	C	C5-C6-N1	-8.71	116.65	121.00
48	5	726	G	C6-C5-N7	-8.71	125.18	130.40
48	5	1134	G	C5-C6-O6	-8.70	123.38	128.60
48	5	1161	G	C5-C6-N1	8.70	115.85	111.50
48	5	3123	A	C8-N9-C4	8.70	109.28	105.80
48	5	2292	U	N3-C2-O2	-8.69	116.11	122.20
48	5	2190	U	C5-C4-O4	8.69	131.12	125.90
48	5	2409	G	C8-N9-C4	-8.69	102.92	106.40
48	5	2858	U	N3-C2-O2	-8.69	116.12	122.20
48	5	2730	G	N1-C6-O6	8.68	125.11	119.90
48	5	2758	A	N1-C2-N3	-8.68	124.96	129.30
48	5	2416	U	C6-N1-C2	-8.68	115.79	121.00
48	5	2699	G	C5-C6-O6	-8.68	123.39	128.60
48	5	644	G	C5-C6-N1	8.66	115.83	111.50
48	5	796	U	N3-C2-O2	-8.66	116.14	122.20
48	5	2961	G	C8-N9-C4	-8.66	102.94	106.40
48	5	1327	C	N1-C2-O2	8.66	124.10	118.90
48	5	339	C	C5-C4-N4	8.66	126.26	120.20
48	5	2385	G	N3-C4-C5	8.66	132.93	128.60
48	5	2865	U	C5-C6-N1	8.66	127.03	122.70
48	5	2271	A	N7-C8-N9	-8.66	109.47	113.80
48	5	2434	U	N3-C4-O4	-8.64	113.35	119.40
48	5	3143	C	N1-C2-O2	-8.64	113.72	118.90
46	t	175	PRO	CA-N-CD	-8.63	99.42	111.50
48	5	326	U	C5-C4-O4	-8.63	120.72	125.90
48	5	2290	C	C2-N3-C4	-8.62	115.59	119.90
46	t	520	PRO	N-CD-CG	-8.61	90.28	103.20
49	7	92	A	N1-C6-N6	8.61	123.77	118.60
48	5	821	U	C5-C6-N1	-8.60	118.40	122.70
48	5	3374	U	N3-C4-C5	8.60	119.76	114.60
48	5	938	C	C2-N3-C4	-8.60	115.60	119.90
48	5	437	G	C8-N9-C4	-8.60	102.96	106.40
48	5	2988	C	N3-C2-O2	-8.59	115.89	121.90
48	5	3010	U	N3-C2-O2	-8.59	116.19	122.20
48	5	2392	C	C2-N3-C4	-8.59	115.61	119.90
48	5	726	G	C5-C6-O6	-8.59	123.45	128.60
48	5	2391	G	N1-C6-O6	-8.58	114.75	119.90
48	5	66	A	C8-N9-C4	8.58	109.23	105.80
48	5	2728	G	N3-C2-N2	-8.58	113.89	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	345	G	C5-C6-N1	8.57	115.79	111.50
48	5	2638	C	N1-C2-O2	-8.57	113.76	118.90
48	5	2687	G	N1-C6-O6	-8.55	114.77	119.90
48	5	2952	G	N3-C2-N2	-8.55	113.92	119.90
48	5	2524	A	C5-N7-C8	-8.54	99.63	103.90
48	5	946	U	N3-C2-O2	-8.54	116.22	122.20
48	5	2988	C	C4-C5-C6	8.54	121.67	117.40
48	5	1143	A	C5-C6-N1	-8.53	113.43	117.70
48	5	1409	G	N1-C6-O6	-8.51	114.79	119.90
48	5	2634	U	N1-C2-O2	-8.51	116.84	122.80
48	5	887	G	C5-C6-O6	8.51	133.70	128.60
48	5	1942	U	N1-C2-O2	-8.51	116.84	122.80
48	5	3137	C	N3-C4-C5	8.50	125.30	121.90
48	5	1050	U	N1-C2-O2	8.50	128.75	122.80
48	5	341	G	C5-C6-O6	-8.50	123.50	128.60
48	5	224	C	N1-C2-O2	8.49	123.99	118.90
48	5	580	C	C6-N1-C2	-8.48	116.91	120.30
48	5	2301	U	C2-N3-C4	-8.47	121.92	127.00
48	5	2913	C	C4-C5-C6	8.47	121.64	117.40
46	t	169	ILE	N-CA-CB	8.46	130.25	110.80
48	5	343	U	N3-C2-O2	-8.45	116.28	122.20
48	5	945	C	N3-C4-C5	8.45	125.28	121.90
48	5	2732	G	N1-C6-O6	-8.45	114.83	119.90
48	5	2978	U	C5-C6-N1	-8.45	118.47	122.70
48	5	3321	C	C5-C6-N1	-8.45	116.78	121.00
48	5	999	G	N1-C6-O6	-8.45	114.83	119.90
48	5	2345	A	N1-C6-N6	8.45	123.67	118.60
48	5	2928	C	C4-C5-C6	8.45	121.62	117.40
48	5	1342	C	C5-C6-N1	-8.44	116.78	121.00
48	5	1469	C	N3-C4-C5	-8.44	118.53	121.90
48	5	1085	A	N7-C8-N9	8.44	118.02	113.80
48	5	1047	A	C2-N3-C4	8.43	114.82	110.60
48	5	2683	U	N1-C2-O2	8.43	128.70	122.80
48	5	817	A	C8-N9-C4	-8.43	102.43	105.80
48	5	811	U	C2-N3-C4	-8.42	121.95	127.00
48	5	2913	C	C2-N3-C4	-8.42	115.69	119.90
48	5	652	G	N3-C4-C5	-8.42	124.39	128.60
46	t	510	CYS	N-CA-CB	8.41	125.74	110.60
48	5	1064	A	C5-C6-N6	-8.41	116.97	123.70
48	5	2234	G	N9-C4-C5	-8.40	102.04	105.40
48	5	2980	U	N1-C2-N3	8.40	119.94	114.90
50	8	14	C	C5-C6-N1	-8.40	116.80	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2307	G	N3-C4-C5	-8.39	124.41	128.60
48	5	3102	G	N3-C2-N2	8.39	125.77	119.90
48	5	1487	G	C5-C6-O6	8.38	133.63	128.60
48	5	916	G	C5-C6-O6	8.38	133.63	128.60
48	5	1156	C	C2-N3-C4	-8.38	115.71	119.90
48	5	1402	C	N3-C2-O2	-8.38	116.03	121.90
48	5	3377	G	C5-C6-N1	8.38	115.69	111.50
48	5	986	U	C5-C4-O4	-8.38	120.87	125.90
50	8	55	U	N1-C2-N3	8.37	119.92	114.90
49	7	48	U	C5-C4-O4	-8.35	120.89	125.90
46	t	529	SER	CB-CA-C	-8.35	94.23	110.10
48	5	715	A	C2-N3-C4	8.34	114.77	110.60
48	5	2820	A	C8-N9-C4	-8.34	102.47	105.80
49	7	69	C	C6-N1-C2	8.34	123.64	120.30
49	7	96	U	C2-N3-C4	-8.34	122.00	127.00
48	5	435	C	N3-C4-C5	8.33	125.23	121.90
48	5	2870	C	C6-N1-C2	-8.33	116.97	120.30
48	5	3050	U	C5-C4-O4	8.33	130.90	125.90
48	5	2621	G	N1-C6-O6	8.32	124.89	119.90
48	5	1898	G	C2-N3-C4	8.32	116.06	111.90
50	8	80	A	N7-C8-N9	8.31	117.96	113.80
48	5	2683	U	N3-C2-O2	-8.31	116.38	122.20
48	5	616	G	C5-C6-N1	8.31	115.66	111.50
48	5	511	G	N1-C6-O6	-8.31	114.92	119.90
48	5	3173	G	C5-C6-O6	-8.31	123.61	128.60
46	t	50	TYR	N-CA-CB	8.30	125.54	110.60
49	7	93	C	C5-C6-N1	-8.30	116.85	121.00
15	O	197[B]	PHE	C-N-CA	-8.29	104.89	122.30
48	5	2360	C	C4-C5-C6	8.29	121.54	117.40
48	5	926	A	C5-C6-N1	8.28	121.84	117.70
48	5	2320	A	C2-N3-C4	-8.28	106.46	110.60
48	5	968	G	N9-C4-C5	-8.28	102.09	105.40
48	5	715	A	N1-C6-N6	-8.27	113.64	118.60
48	5	2371	G	N3-C2-N2	8.27	125.69	119.90
48	5	2695	A	C8-N9-C4	-8.27	102.49	105.80
49	7	93	C	C2-N3-C4	-8.27	115.76	119.90
49	7	96	U	N1-C2-N3	8.27	119.86	114.90
48	5	1604	G	C8-N9-C1'	-8.27	116.25	127.00
48	5	2412	G	C8-N9-C4	-8.27	103.09	106.40
48	5	2735	U	C5-C6-N1	8.27	126.83	122.70
48	5	1392	G	N7-C8-N9	-8.26	108.97	113.10
48	5	818	C	N1-C2-O2	-8.26	113.95	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2211	U	N3-C2-O2	-8.25	116.42	122.20
48	5	726	G	N1-C6-O6	8.25	124.85	119.90
48	5	1110	U	N3-C4-C5	8.25	119.55	114.60
48	5	1480	G	N7-C8-N9	-8.24	108.98	113.10
46	t	388	TYR	N-CA-CB	8.24	125.44	110.60
48	5	2859	U	N3-C4-O4	-8.24	113.64	119.40
48	5	435	C	C5-C4-N4	-8.23	114.44	120.20
48	5	591	G	N9-C4-C5	-8.22	102.11	105.40
48	5	805	G	C8-N9-C4	8.22	109.69	106.40
48	5	1015	U	C5-C6-N1	8.22	126.81	122.70
48	5	922	U	C6-N1-C1'	8.22	132.71	121.20
48	5	514	G	C5-C6-O6	-8.21	123.68	128.60
48	5	2190	U	N3-C4-O4	-8.21	113.66	119.40
48	5	2202	C	N3-C2-O2	8.21	127.64	121.90
9	I	128	ARG	NE-CZ-NH2	-8.20	116.20	120.30
46	t	161	TYR	N-CA-CB	8.20	125.36	110.60
48	5	1054	A	C8-N9-C4	8.20	109.08	105.80
48	5	1178	G	C8-N9-C4	-8.20	103.12	106.40
48	5	2634	U	N3-C4-C5	8.20	119.52	114.60
48	5	1494	U	C6-N1-C2	8.20	125.92	121.00
48	5	280	U	C2-N3-C4	-8.20	122.08	127.00
50	8	55	U	C6-N1-C2	-8.20	116.08	121.00
46	t	62	PRO	CA-N-CD	-8.19	100.04	111.50
48	5	15	C	C5-C6-N1	8.19	125.09	121.00
48	5	3317	U	C5-C4-O4	8.19	130.81	125.90
48	5	769	G	C8-N9-C4	8.18	109.67	106.40
48	5	2302	G	C5-C6-O6	8.18	133.51	128.60
48	5	1586	G	C5-C6-O6	-8.18	123.69	128.60
48	5	3215	A	N1-C6-N6	8.18	123.51	118.60
48	5	1516	C	C2-N3-C4	-8.17	115.82	119.90
48	5	1404	G	C8-N9-C4	8.17	109.67	106.40
6	F	88	ARG	NE-CZ-NH2	-8.16	116.22	120.30
48	5	2182	A	N1-C6-N6	-8.16	113.70	118.60
48	5	949	C	C4-C5-C6	8.16	121.48	117.40
48	5	1176	C	C5-C6-N1	-8.16	116.92	121.00
48	5	2859	U	C5-C4-O4	8.16	130.80	125.90
48	5	343	U	N1-C2-O2	8.15	128.51	122.80
48	5	1390	A	N9-C4-C5	8.15	109.06	105.80
48	5	926	A	C5-C6-N6	-8.15	117.18	123.70
48	5	916	G	N1-C6-O6	-8.14	115.02	119.90
48	5	2970	C	C4-C5-C6	8.14	121.47	117.40
48	5	842	G	C5-C6-O6	-8.14	123.72	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	987	U	N1-C2-N3	8.14	119.78	114.90
48	5	2609	A	C5-N7-C8	8.14	107.97	103.90
48	5	41	G	C5-N7-C8	-8.14	100.23	104.30
50	8	113	U	N3-C4-O4	8.13	125.09	119.40
19	S	115	ARG	NE-CZ-NH1	8.12	124.36	120.30
48	5	3122	A	N9-C4-C5	8.12	109.05	105.80
48	5	2838	A	C5-C6-N6	-8.12	117.21	123.70
48	5	2913	C	N1-C2-N3	8.11	124.88	119.20
48	5	2175	U	C5-C6-N1	-8.11	118.65	122.70
48	5	290	G	C5-C6-O6	8.11	133.46	128.60
48	5	1445	U	C5-C4-O4	-8.10	121.04	125.90
48	5	3343	G	N9-C4-C5	-8.10	102.16	105.40
48	5	2440	G	C8-N9-C4	-8.10	103.16	106.40
48	5	817	A	C2-N3-C4	8.09	114.65	110.60
48	5	945	C	C2-N3-C4	-8.09	115.86	119.90
48	5	1449	A	C5-N7-C8	-8.09	99.86	103.90
48	5	1858	A	N3-C4-C5	-8.08	121.14	126.80
50	8	2	A	C8-N9-C4	-8.08	102.57	105.80
48	5	631	U	C2-N3-C4	-8.08	122.15	127.00
48	5	708	G	C5-N7-C8	-8.08	100.26	104.30
48	5	637	C	N1-C2-O2	-8.08	114.05	118.90
48	5	2665	U	N1-C2-N3	-8.08	110.05	114.90
48	5	413	U	C2-N3-C4	-8.07	122.16	127.00
50	8	74	U	C5-C4-O4	-8.07	121.06	125.90
48	5	2278	C	C5-C4-N4	8.07	125.85	120.20
50	8	38	U	C5-C6-N1	-8.07	118.67	122.70
48	5	1512	U	N1-C2-N3	8.06	119.74	114.90
48	5	2290	C	C4-C5-C6	8.06	121.43	117.40
48	5	2512	C	C5-C6-N1	8.06	125.03	121.00
48	5	3362	A	N1-C2-N3	8.05	133.33	129.30
48	5	1085	A	C5-N7-C8	-8.05	99.87	103.90
48	5	2281	A	C8-N9-C4	8.05	109.02	105.80
48	5	2572	C	C2-N1-C1'	8.05	127.66	118.80
48	5	824	C	C6-N1-C2	-8.05	117.08	120.30
48	5	3362	A	C8-N9-C4	-8.05	102.58	105.80
48	5	359	U	C2-N3-C4	-8.04	122.17	127.00
48	5	1879	A	C6-C5-N7	-8.04	126.67	132.30
49	7	81	U	N3-C4-C5	8.04	119.43	114.60
48	5	1879	A	C8-N9-C4	-8.04	102.58	105.80
48	5	3309	G	N3-C4-N9	8.04	130.82	126.00
48	5	2630	C	N3-C4-C5	8.04	125.11	121.90
15	O	3[B]	SER	O-C-N	8.03	135.56	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	t	135	PRO	N-CD-CG	-8.04	91.15	103.20
48	5	2246	G	N1-C6-O6	-8.03	115.08	119.90
48	5	3215	A	C2-N3-C4	-8.03	106.58	110.60
49	7	112	G	N1-C6-O6	-8.03	115.08	119.90
48	5	1193	A	N1-C2-N3	8.03	133.31	129.30
48	5	2189	U	N1-C2-N3	8.02	119.71	114.90
48	5	1113	G	C8-N9-C4	8.02	109.61	106.40
48	5	3110	C	C4-C5-C6	8.02	121.41	117.40
48	5	945	C	C6-N1-C2	8.02	123.51	120.30
28	b	39	PHE	N-CA-CB	8.01	125.02	110.60
48	5	278	U	C5-C6-N1	8.01	126.70	122.70
48	5	857	G	C5-C6-N1	8.01	115.50	111.50
48	5	851	C	C6-N1-C2	-8.00	117.10	120.30
48	5	355	A	C2-N3-C4	-7.99	106.60	110.60
48	5	2777	G	C5-C6-O6	7.99	133.39	128.60
48	5	2278	C	C2-N3-C4	-7.99	115.91	119.90
48	5	329	U	C5-C6-N1	-7.98	118.71	122.70
48	5	1484	U	C6-N1-C2	7.98	125.79	121.00
48	5	2350	C	C5-C6-N1	-7.98	117.01	121.00
48	5	3343	G	N3-C4-N9	7.97	130.78	126.00
49	7	85	G	N1-C6-O6	-7.97	115.12	119.90
48	5	1441	G	N1-C6-O6	-7.97	115.12	119.90
48	5	1481	A	N7-C8-N9	7.97	117.78	113.80
48	5	1148	G	C2-N3-C4	7.96	115.88	111.90
48	5	277	G	N1-C6-O6	-7.96	115.12	119.90
48	5	784	A	N1-C6-N6	7.96	123.38	118.60
48	5	1592	G	C5-C6-N1	7.96	115.48	111.50
48	5	2317	A	C8-N9-C4	-7.96	102.62	105.80
48	5	2870	C	C6-N1-C1'	7.96	130.35	120.80
48	5	1140	G	N1-C6-O6	-7.95	115.13	119.90
48	5	2757	U	N3-C4-O4	7.95	124.97	119.40
48	5	813	G	C8-N9-C4	-7.95	103.22	106.40
48	5	2836	C	N1-C2-N3	7.95	124.76	119.20
46	t	510	CYS	CB-CA-C	-7.95	94.51	110.40
48	5	3102	G	N1-C6-O6	-7.94	115.14	119.90
48	5	2288	G	C2-N3-C4	7.94	115.87	111.90
48	5	2366	C	N3-C4-N4	7.93	123.55	118.00
48	5	2531	C	C2-N1-C1'	7.93	127.53	118.80
48	5	1939	G	C5-C6-O6	7.93	133.36	128.60
48	5	1392	G	N3-C4-N9	7.93	130.76	126.00
15	O	27[B]	VAL	O-C-N	-7.93	110.02	122.70
48	5	2865	U	C5-C4-O4	-7.92	121.14	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
31	e	43	ARG	NE-CZ-NH2	-7.92	116.34	120.30
48	5	3377	G	N9-C4-C5	-7.92	102.23	105.40
48	5	345	G	N1-C6-O6	-7.92	115.15	119.90
48	5	1317	A	N1-C6-N6	7.91	123.34	118.60
49	7	26	C	C4-C5-C6	7.90	121.35	117.40
48	5	1793	C	N3-C4-C5	-7.90	118.74	121.90
6	F	88	ARG	NE-CZ-NH1	7.90	124.25	120.30
46	t	549	ILE	N-CA-CB	7.90	128.96	110.80
48	5	2913	C	C5-C6-N1	-7.90	117.05	121.00
48	5	2400	G	C2-N3-C4	-7.89	107.95	111.90
48	5	1390	A	C8-N9-C4	-7.88	102.65	105.80
48	5	276	U	C5-C6-N1	-7.88	118.76	122.70
48	5	2993	G	C5-C6-O6	-7.88	123.87	128.60
48	5	1297	C	C5-C6-N1	-7.88	117.06	121.00
48	5	2550	U	N1-C2-N3	7.88	119.63	114.90
48	5	3151	U	C6-N1-C2	7.88	125.72	121.00
48	5	2618	G	C5-C6-O6	-7.87	123.88	128.60
48	5	2366	C	C2-N1-C1'	7.87	127.45	118.80
48	5	2130	G	N3-C2-N2	7.86	125.40	119.90
48	5	1480	G	C5-N7-C8	7.86	108.23	104.30
48	5	708	G	C5-C6-O6	-7.85	123.89	128.60
48	5	343	U	N3-C4-O4	-7.85	113.90	119.40
48	5	2381	G	C8-N9-C4	-7.85	103.26	106.40
3	C	339	LEU	CA-CB-CG	7.85	133.36	115.30
48	5	960	U	C5-C6-N1	-7.85	118.78	122.70
48	5	1940	G	N3-C2-N2	7.85	125.39	119.90
48	5	3050	U	N1-C2-O2	7.85	128.29	122.80
48	5	629	U	N3-C4-C5	7.84	119.30	114.60
48	5	2395	G	C5-N7-C8	7.83	108.22	104.30
48	5	1845	G	C5-C6-N1	7.83	115.42	111.50
48	5	1440	G	C5-C6-O6	7.83	133.30	128.60
48	5	934	G	C5-C6-O6	-7.83	123.90	128.60
48	5	226	C	C6-N1-C2	7.82	123.43	120.30
48	5	530	G	N1-C6-O6	-7.82	115.21	119.90
48	5	1834	U	C2-N1-C1'	-7.82	108.31	117.70
48	5	3146	G	C5-C6-O6	7.82	133.29	128.60
48	5	859	G	C8-N9-C4	-7.81	103.28	106.40
48	5	1150	A	C2-N3-C4	-7.81	106.70	110.60
48	5	1364	C	N1-C2-O2	-7.81	114.21	118.90
48	5	2919	A	N1-C6-N6	-7.81	113.91	118.60
48	5	3096	C	N1-C2-N3	7.81	124.67	119.20
48	5	3206	C	N3-C2-O2	-7.81	116.43	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	641	C	N1-C2-O2	-7.81	114.22	118.90
48	5	904	A	N1-C6-N6	-7.81	113.92	118.60
48	5	2899	C	N3-C4-N4	-7.79	112.54	118.00
48	5	3308	C	N1-C2-N3	7.79	124.66	119.20
46	t	240	PRO	N-CD-CG	-7.79	91.51	103.20
48	5	630	A	N1-C2-N3	7.79	133.20	129.30
48	5	1792	C	N1-C2-O2	-7.79	114.22	118.90
48	5	3130	A	N1-C2-N3	7.79	133.20	129.30
48	5	2705	A	C5-C6-N6	-7.79	117.47	123.70
48	5	2807	U	C5-C4-O4	-7.79	121.23	125.90
48	5	2303	A	N9-C4-C5	7.79	108.92	105.80
48	5	2960	C	N3-C4-C5	7.79	125.02	121.90
48	5	2288	G	C6-N1-C2	-7.79	120.43	125.10
48	5	2550	U	N3-C4-O4	-7.79	113.95	119.40
48	5	3377	G	N3-C4-N9	7.79	130.67	126.00
48	5	974	G	N3-C4-C5	-7.78	124.71	128.60
48	5	3187	A	C5-N7-C8	7.78	107.79	103.90
46	t	515	SER	CB-CA-C	-7.78	95.33	110.10
48	5	2134	G	C5-C6-N1	7.78	115.39	111.50
48	5	2202	C	N3-C4-N4	7.78	123.44	118.00
48	5	2905	U	N3-C4-C5	7.77	119.26	114.60
48	5	2882	U	N1-C2-N3	7.77	119.56	114.90
48	5	990	U	N1-C2-O2	7.76	128.23	122.80
48	5	2315	G	C8-N9-C4	7.76	109.50	106.40
48	5	1295	G	N1-C6-O6	-7.75	115.25	119.90
48	5	3065	G	N1-C6-O6	-7.74	115.25	119.90
48	5	2634	U	C6-N1-C2	7.74	125.64	121.00
48	5	216	G	N1-C6-O6	7.74	124.54	119.90
48	5	2584	G	C4-N9-C1'	7.73	136.55	126.50
48	5	3266	G	N9-C4-C5	7.73	108.49	105.40
9	I	167	LEU	CA-CB-CG	7.73	133.08	115.30
48	5	1833	G	N1-C6-O6	-7.73	115.26	119.90
48	5	2346	C	C2-N3-C4	-7.73	116.04	119.90
48	5	594	U	C6-N1-C2	-7.72	116.37	121.00
48	5	1311	G	C5-C6-N1	7.72	115.36	111.50
48	5	3187	A	N1-C6-N6	-7.72	113.97	118.60
48	5	2891	U	C2-N3-C4	-7.72	122.37	127.00
48	5	2246	G	C5-C6-O6	7.72	133.23	128.60
48	5	2975	U	N3-C4-C5	7.72	119.23	114.60
49	7	39	C	C6-N1-C2	-7.71	117.21	120.30
48	5	2278	C	C6-N1-C1'	7.71	130.06	120.80
48	5	546	C	C6-N1-C1'	-7.71	111.55	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2757	U	C2-N3-C4	-7.71	122.37	127.00
48	5	1480	G	C8-N9-C4	7.71	109.48	106.40
48	5	3185	U	C2-N3-C4	-7.70	122.38	127.00
48	5	1604	G	C4-N9-C1'	7.70	136.51	126.50
46	t	436	PRO	N-CD-CG	-7.70	91.65	103.20
48	5	1391	C	N3-C2-O2	7.70	127.29	121.90
48	5	519	A	N1-C6-N6	7.69	123.22	118.60
48	5	2303	A	C8-N9-C4	-7.69	102.72	105.80
48	5	324	A	C8-N9-C4	-7.69	102.73	105.80
48	5	1889	G	N1-C6-O6	-7.68	115.29	119.90
48	5	877	C	C4-C5-C6	-7.68	113.56	117.40
48	5	1402	C	C5-C6-N1	-7.67	117.17	121.00
48	5	1370	G	N1-C6-O6	-7.67	115.30	119.90
48	5	2887	A	C5-C6-N1	-7.66	113.87	117.70
12	L	21	ARG	NE-CZ-NH1	-7.66	116.47	120.30
48	5	753	C	C2-N3-C4	-7.66	116.07	119.90
48	5	971	G	C5-N7-C8	7.66	108.13	104.30
49	7	11	A	C8-N9-C4	7.65	108.86	105.80
48	5	2698	G	C8-N9-C4	7.65	109.46	106.40
50	8	11	C	N3-C2-O2	-7.65	116.55	121.90
48	5	376	G	C5-C6-N1	7.65	115.32	111.50
48	5	2393	G	N1-C6-O6	7.65	124.49	119.90
48	5	3330	A	C5-C6-N1	7.64	121.52	117.70
48	5	81	C	N3-C4-C5	7.64	124.96	121.90
48	5	2703	A	C8-N9-C4	-7.64	102.74	105.80
48	5	3096	C	C5-C6-N1	-7.64	117.18	121.00
31	e	45	ARG	NE-CZ-NH2	-7.64	116.48	120.30
48	5	1124	U	N1-C2-N3	-7.63	110.32	114.90
48	5	2234	G	C4-C5-N7	7.63	113.85	110.80
49	7	67	G	N3-C2-N2	-7.63	114.56	119.90
46	t	49	SER	CB-CA-C	-7.63	95.60	110.10
48	5	665	A	N1-C6-N6	7.63	123.18	118.60
48	5	1381	A	C8-N9-C4	7.62	108.85	105.80
48	5	3245	A	C5-C6-N1	-7.62	113.89	117.70
48	5	1163	A	N1-C6-N6	-7.62	114.03	118.60
46	t	357	PRO	CA-N-CD	-7.62	100.84	111.50
48	5	121	A	C8-N9-C4	7.62	108.85	105.80
48	5	2643	A	C2-N3-C4	7.62	114.41	110.60
50	8	144	G	N1-C6-O6	7.61	124.46	119.90
48	5	419	G	C5-C6-O6	-7.60	124.04	128.60
48	5	2611	U	C5-C6-N1	-7.60	118.90	122.70
48	5	2372	A	N9-C4-C5	7.60	108.84	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	971	G	N7-C8-N9	-7.60	109.30	113.10
48	5	2138	A	C8-N9-C4	-7.60	102.76	105.80
48	5	2524	A	N7-C8-N9	7.59	117.60	113.80
48	5	851	C	C5-C6-N1	7.59	124.79	121.00
48	5	1130	A	C5-C6-N1	7.59	121.50	117.70
48	5	1163	A	C5-N7-C8	7.59	107.69	103.90
48	5	3006	A	C5-C6-N1	-7.59	113.91	117.70
50	8	6	U	C2-N3-C4	-7.59	122.45	127.00
48	5	2237	C	N3-C4-N4	-7.59	112.69	118.00
48	5	3140	G	C4-C5-N7	7.58	113.83	110.80
48	5	1014	U	C2-N1-C1'	7.58	126.80	117.70
48	5	1396	C	N3-C4-C5	7.58	124.93	121.90
48	5	2433	U	C6-N1-C2	7.58	125.55	121.00
48	5	971	G	C2-N3-C4	7.58	115.69	111.90
48	5	2234	G	C8-N9-C4	7.58	109.43	106.40
48	5	289	A	C6-N1-C2	-7.58	114.06	118.60
48	5	3055	U	N3-C2-O2	-7.58	116.90	122.20
48	5	1390	A	N1-C6-N6	-7.57	114.06	118.60
48	5	630	A	C2-N3-C4	-7.57	106.81	110.60
48	5	2342	U	N3-C4-O4	-7.57	114.10	119.40
48	5	1176	C	C2-N3-C4	-7.57	116.12	119.90
48	5	641	C	N3-C4-N4	-7.57	112.70	118.00
48	5	3088	G	C4-C5-N7	7.57	113.83	110.80
48	5	1216	C	N1-C2-O2	-7.56	114.36	118.90
48	5	1848	G	C4-C5-N7	7.56	113.83	110.80
48	5	3154	C	N1-C2-O2	7.56	123.44	118.90
22	V	45	ARG	NE-CZ-NH1	-7.56	116.52	120.30
48	5	2395	G	N7-C8-N9	-7.56	109.32	113.10
48	5	929	A	C8-N9-C4	7.56	108.82	105.80
48	5	2726	C	N3-C4-N4	-7.56	112.71	118.00
48	5	1057	A	C5-C6-N6	-7.55	117.66	123.70
48	5	928	C	C4-C5-C6	7.55	121.17	117.40
48	5	1342	C	C2-N3-C4	-7.55	116.12	119.90
48	5	1515	A	C2-N3-C4	-7.55	106.83	110.60
48	5	1370	G	C5-C6-N1	7.54	115.27	111.50
48	5	2289	U	N1-C2-O2	7.54	128.08	122.80
48	5	2849	C	N3-C4-C5	-7.54	118.88	121.90
48	5	42	C	C4-C5-C6	-7.54	113.63	117.40
48	5	2791	G	C5-C6-O6	-7.54	124.08	128.60
48	5	2838	A	N1-C6-N6	7.54	123.12	118.60
48	5	633	C	N1-C2-O2	-7.54	114.38	118.90
48	5	1516	C	N1-C2-O2	-7.54	114.38	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	74	G	N1-C6-O6	-7.53	115.38	119.90
49	7	49	G	C5-C6-O6	-7.53	124.08	128.60
50	8	12	A	C5-N7-C8	-7.53	100.14	103.90
48	5	3081	C	N3-C4-C5	7.53	124.91	121.90
48	5	1910	A	C8-N9-C4	7.52	108.81	105.80
50	8	2	A	N9-C4-C5	7.52	108.81	105.80
48	5	3378	C	N3-C4-C5	7.51	124.91	121.90
48	5	1305	U	C5-C4-O4	-7.51	121.39	125.90
48	5	1879	A	N7-C8-N9	7.51	117.56	113.80
48	5	1389	G	N3-C2-N2	7.51	125.16	119.90
48	5	3172	A	N7-C8-N9	-7.50	110.05	113.80
48	5	2381	G	N9-C4-C5	7.50	108.40	105.40
48	5	3381	U	N3-C4-O4	-7.50	114.15	119.40
48	5	2625	C	C2-N3-C4	-7.50	116.15	119.90
48	5	2308	C	N3-C2-O2	7.50	127.15	121.90
50	8	144	G	N3-C2-N2	-7.50	114.65	119.90
48	5	622	A	N1-C6-N6	7.50	123.10	118.60
46	t	548	SER	CB-CA-C	-7.49	95.86	110.10
48	5	2179	C	C6-N1-C2	7.49	123.30	120.30
48	5	3308	C	N1-C2-O2	-7.49	114.41	118.90
48	5	2743	A	C8-N9-C4	7.49	108.80	105.80
48	5	150	A	N1-C6-N6	7.49	123.09	118.60
48	5	2693	C	N3-C4-C5	7.49	124.90	121.90
48	5	924	G	N1-C2-N2	7.49	122.94	116.20
48	5	1586	G	N3-C4-N9	7.49	130.49	126.00
48	5	2271	A	C8-N9-C4	7.49	108.79	105.80
48	5	2366	C	C5-C4-N4	-7.48	114.96	120.20
48	5	2991	A	N1-C6-N6	-7.48	114.11	118.60
48	5	400	G	C5-C6-O6	-7.47	124.12	128.60
48	5	2718	U	N1-C2-N3	7.47	119.38	114.90
48	5	2630	C	C2-N3-C4	-7.47	116.17	119.90
48	5	2341	A	N7-C8-N9	-7.47	110.06	113.80
48	5	3167	A	C8-N9-C4	-7.47	102.81	105.80
49	7	41	G	C8-N9-C4	7.47	109.39	106.40
48	5	426	G	C8-N9-C4	7.47	109.39	106.40
48	5	1144	U	N1-C2-N3	7.47	119.38	114.90
48	5	3138	U	C2-N3-C4	-7.47	122.52	127.00
48	5	1459	C	N3-C4-C5	7.46	124.89	121.90
48	5	1890	U	C4-C5-C6	7.46	124.18	119.70
48	5	3025	C	N3-C4-N4	-7.46	112.78	118.00
50	8	99	C	C6-N1-C2	7.46	123.29	120.30
50	8	14	C	C4-C5-C6	7.46	121.13	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1855	U	C2-N3-C4	-7.46	122.53	127.00
48	5	2572	C	N3-C2-O2	-7.46	116.68	121.90
48	5	1317	A	C2-N3-C4	7.45	114.33	110.60
48	5	3192	U	C5-C6-N1	-7.44	118.98	122.70
48	5	307	A	N1-C6-N6	-7.44	114.14	118.60
48	5	2908	G	C8-N9-C4	-7.43	103.43	106.40
48	5	2996	U	N1-C2-O2	7.43	128.00	122.80
48	5	3007	U	C2-N3-C4	-7.43	122.54	127.00
19	S	40	ARG	NE-CZ-NH1	7.43	124.01	120.30
48	5	2142	A	C2-N3-C4	7.43	114.31	110.60
48	5	645	A	C5-C6-N6	-7.42	117.76	123.70
48	5	2370	G	C6-N1-C2	-7.42	120.64	125.10
48	5	98	G	C5-C6-N1	7.42	115.21	111.50
48	5	971	G	C4-C5-N7	-7.42	107.83	110.80
48	5	2350	C	C4-C5-C6	7.42	121.11	117.40
48	5	1372	C	N1-C2-O2	-7.42	114.45	118.90
48	5	2245	C	C5-C6-N1	7.41	124.71	121.00
48	5	3151	U	N1-C2-N3	-7.41	110.45	114.90
48	5	1407	A	C6-N1-C2	7.41	123.05	118.60
48	5	931	C	N3-C4-C5	7.40	124.86	121.90
48	5	1205	A	C8-N9-C4	-7.40	102.84	105.80
48	5	1124	U	C5-C6-N1	7.40	126.40	122.70
48	5	2802	A	C2-N3-C4	7.40	114.30	110.60
50	8	144	G	C5-C6-O6	-7.40	124.16	128.60
48	5	1340	G	C8-N9-C4	7.40	109.36	106.40
48	5	2943	G	N3-C2-N2	7.40	125.08	119.90
48	5	1484	U	C2-N3-C4	-7.40	122.56	127.00
48	5	2621	G	N3-C2-N2	-7.40	114.72	119.90
48	5	3102	G	N1-C2-N2	-7.40	109.54	116.20
48	5	1014	U	C5-C4-O4	-7.40	121.46	125.90
48	5	2311	G	C8-N9-C4	7.39	109.36	106.40
48	5	280	U	C5-C6-N1	-7.39	119.00	122.70
48	5	2531	C	N1-C2-O2	7.39	123.33	118.90
48	5	2307	G	N3-C4-N9	7.39	130.43	126.00
49	7	41	G	N9-C4-C5	-7.39	102.44	105.40
48	5	2410	U	C4-C5-C6	-7.39	115.27	119.70
48	5	800	G	C8-N9-C4	7.38	109.35	106.40
48	5	3218	A	C4-C5-N7	7.38	114.39	110.70
48	5	2851	A	N1-C2-N3	7.38	132.99	129.30
48	5	2385	G	C4-N9-C1'	-7.38	116.90	126.50
48	5	2288	G	N3-C4-N9	7.38	130.43	126.00
49	7	96	U	N3-C2-O2	-7.38	117.04	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1449	A	C4-C5-N7	7.37	114.39	110.70
48	5	2541	U	C2-N1-C1'	7.37	126.55	117.70
48	5	2717	U	C5-C6-N1	-7.37	119.02	122.70
48	5	2743	A	N7-C8-N9	-7.37	110.11	113.80
50	8	2	A	N1-C6-N6	-7.37	114.18	118.60
48	5	2245	C	N3-C2-O2	-7.36	116.75	121.90
48	5	436	A	N1-C6-N6	7.36	123.02	118.60
48	5	2621	G	C5-C6-N1	-7.36	107.82	111.50
48	5	1117	G	C5-C6-N1	7.36	115.18	111.50
48	5	3289	G	C8-N9-C4	-7.35	103.46	106.40
20	T	130	ARG	NE-CZ-NH2	-7.35	116.62	120.30
46	t	551	GLN	N-CA-CB	7.35	123.83	110.60
48	5	1887	A	N1-C6-N6	7.35	123.01	118.60
46	t	58	GLN	N-CA-CB	7.35	123.83	110.60
48	5	795	G	N7-C8-N9	-7.35	109.43	113.10
48	5	1604	G	N3-C4-N9	7.35	130.41	126.00
48	5	2320	A	C5-C6-N1	-7.34	114.03	117.70
48	5	65	A	C8-N9-C4	-7.34	102.86	105.80
48	5	2954	U	C6-N1-C1'	-7.34	110.92	121.20
46	t	52	SER	CB-CA-C	-7.34	96.16	110.10
48	5	2810	C	N3-C2-O2	-7.34	116.76	121.90
48	5	1192	C	C4-C5-C6	7.33	121.07	117.40
48	5	957	C	C2-N3-C4	-7.33	116.23	119.90
48	5	1327	C	N3-C4-C5	7.33	124.83	121.90
46	t	17	LYS	N-CA-CB	7.33	123.79	110.60
48	5	2815	G	C8-N9-C4	7.33	109.33	106.40
48	5	1014	U	C6-N1-C1'	-7.33	110.94	121.20
48	5	2639	G	C5-C6-O6	-7.33	124.20	128.60
50	8	2	A	C5-C6-N6	7.32	129.56	123.70
48	5	834	U	C6-N1-C2	7.32	125.39	121.00
48	5	1660	C	C6-N1-C2	-7.32	117.37	120.30
48	5	1506	A	C8-N9-C4	-7.32	102.87	105.80
48	5	2942	C	C4-C5-C6	7.32	121.06	117.40
48	5	3290	G	C8-N9-C4	-7.32	103.47	106.40
48	5	652	G	N3-C2-N2	7.32	125.02	119.90
48	5	2701	U	C5-C4-O4	-7.31	121.51	125.90
48	5	2736	A	N1-C6-N6	-7.31	114.21	118.60
46	t	383	ASP	O-C-N	-7.31	111.00	122.70
48	5	2620	G	C5-C6-N1	7.31	115.16	111.50
48	5	1921	A	N1-C6-N6	7.31	122.98	118.60
48	5	2892	A	C5-C6-N6	7.31	129.55	123.70
50	8	54	A	C2-N3-C4	-7.31	106.95	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3369	G	C5-C6-O6	-7.31	124.22	128.60
48	5	2884	C	C2-N3-C4	-7.30	116.25	119.90
48	5	1506	A	N7-C8-N9	7.30	117.45	113.80
48	5	2699	G	C2-N3-C4	7.30	115.55	111.90
48	5	3131	U	N3-C4-C5	7.29	118.97	114.60
48	5	931	C	C5-C6-N1	-7.29	117.36	121.00
48	5	578	A	N1-C6-N6	7.29	122.97	118.60
48	5	1724	U	C6-N1-C2	-7.29	116.63	121.00
48	5	514	G	C4-C5-N7	7.28	113.71	110.80
48	5	3382	U	N1-C2-O2	7.28	127.90	122.80
48	5	1144	U	C5-C6-N1	-7.28	119.06	122.70
48	5	1430	U	C5-C6-N1	-7.28	119.06	122.70
48	5	1085	A	C2-N3-C4	-7.28	106.96	110.60
48	5	2370	G	C5-C6-O6	-7.28	124.23	128.60
48	5	2758	A	N9-C4-C5	7.28	108.71	105.80
48	5	3122	A	N7-C8-N9	7.28	117.44	113.80
48	5	3255	U	C5-C4-O4	-7.28	121.53	125.90
48	5	1049	C	N3-C4-C5	7.28	124.81	121.90
48	5	1833	G	N3-C2-N2	7.27	124.99	119.90
48	5	1336	U	C5-C4-O4	-7.27	121.54	125.90
48	5	1437	C	C5-C6-N1	7.27	124.64	121.00
48	5	1538	G	C8-N9-C4	7.27	109.31	106.40
32	f	18	ARG	NE-CZ-NH1	-7.27	116.67	120.30
48	5	1887	A	C2-N3-C4	-7.26	106.97	110.60
48	5	804	C	C4-C5-C6	7.26	121.03	117.40
48	5	3040	A	C5-N7-C8	7.26	107.53	103.90
48	5	924	G	N1-C6-O6	7.26	124.25	119.90
48	5	2234	G	N1-C6-O6	7.26	124.25	119.90
46	t	175	PRO	N-CD-CG	-7.25	92.32	103.20
48	5	1133	A	C5-C6-N1	7.25	121.33	117.70
48	5	2836	C	N3-C4-N4	-7.25	112.92	118.00
48	5	2848	G	N3-C2-N2	-7.25	114.82	119.90
48	5	2758	A	C8-N9-C4	-7.25	102.90	105.80
48	5	2611	U	N3-C2-O2	-7.25	117.13	122.20
48	5	3379	C	C5-C6-N1	-7.25	117.38	121.00
2	B	266	ARG	NE-CZ-NH2	-7.25	116.68	120.30
46	t	512	SER	CB-CA-C	-7.25	96.33	110.10
48	5	969	C	C2-N3-C4	-7.25	116.28	119.90
48	5	39	A	N1-C6-N6	7.24	122.95	118.60
48	5	2305	G	N9-C4-C5	-7.24	102.50	105.40
48	5	2383	C	N1-C2-O2	-7.24	114.56	118.90
48	5	3060	C	N3-C2-O2	7.24	126.97	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	283	G	C6-C5-N7	-7.24	126.06	130.40
48	5	1846	C	C4-C5-C6	7.23	121.02	117.40
49	7	104	A	N1-C6-N6	7.23	122.94	118.60
48	5	1858	A	C2-N3-C4	7.23	114.22	110.60
48	5	2148	U	C2-N3-C4	-7.23	122.66	127.00
48	5	2372	A	P-O3'-C3'	7.23	128.38	119.70
48	5	643	U	C2-N3-C4	-7.23	122.66	127.00
48	5	1189	C	N1-C2-O2	-7.23	114.56	118.90
48	5	669	U	N1-C2-N3	7.23	119.24	114.90
49	7	49	G	N3-C2-N2	-7.22	114.84	119.90
48	5	267	G	C8-N9-C4	7.22	109.29	106.40
48	5	518	G	N9-C4-C5	-7.22	102.51	105.40
48	5	594	U	N3-C2-O2	-7.22	117.15	122.20
48	5	1172	G	N1-C6-O6	-7.22	115.57	119.90
48	5	1426	C	N3-C4-C5	7.21	124.79	121.90
48	5	810	A	N1-C6-N6	-7.21	114.27	118.60
15	O	16[B]	LEU	C-N-CA	7.21	137.44	122.30
48	5	643	U	N3-C4-C5	7.21	118.93	114.60
48	5	2754	G	N1-C2-N2	-7.21	109.71	116.20
48	5	1364	C	C2-N3-C4	-7.21	116.30	119.90
48	5	1434	G	C4-C5-C6	7.21	123.13	118.80
48	5	37	U	C2-N3-C4	-7.20	122.68	127.00
48	5	2964	G	C8-N9-C4	7.20	109.28	106.40
48	5	46	U	N1-C2-O2	7.20	127.84	122.80
48	5	272	G	C8-N9-C4	7.20	109.28	106.40
48	5	1169	A	C5-C6-N1	-7.20	114.10	117.70
48	5	39	A	C4-C5-C6	7.20	120.60	117.00
48	5	1902	G	C8-N9-C4	7.20	109.28	106.40
48	5	2320	A	C4-C5-N7	-7.20	107.10	110.70
48	5	2993	G	C4-C5-N7	7.20	113.68	110.80
48	5	838	G	N1-C6-O6	-7.19	115.59	119.90
49	7	11	A	N7-C8-N9	-7.19	110.20	113.80
48	5	1518	U	N3-C4-O4	-7.19	114.37	119.40
48	5	2911	A	C2-N3-C4	7.19	114.19	110.60
48	5	1140	G	N3-C2-N2	7.19	124.93	119.90
48	5	2662	G	C8-N9-C4	-7.19	103.53	106.40
46	t	305	PRO	N-CD-CG	-7.18	92.42	103.20
48	5	419	G	N9-C4-C5	-7.18	102.53	105.40
48	5	922	U	N3-C4-O4	-7.18	114.37	119.40
46	t	240	PRO	CA-N-CD	-7.18	101.44	111.50
49	7	44	C	N1-C2-O2	-7.18	114.59	118.90
48	5	2908	G	N9-C4-C5	7.18	108.27	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1406	A	C6-N1-C2	-7.18	114.29	118.60
48	5	1167	U	C5-C4-O4	-7.17	121.59	125.90
48	5	639	G	N1-C6-O6	7.17	124.20	119.90
48	5	24	G	N1-C6-O6	7.17	124.20	119.90
48	5	2824	G	N9-C4-C5	7.17	108.27	105.40
48	5	2870	C	N3-C4-N4	-7.17	112.98	118.00
48	5	2344	U	C5-C6-N1	-7.17	119.12	122.70
48	5	3052	G	N1-C6-O6	-7.17	115.60	119.90
48	5	2244	A	N1-C6-N6	-7.17	114.30	118.60
19	S	115	ARG	NE-CZ-NH2	-7.16	116.72	120.30
48	5	2732	G	C5-C6-O6	7.16	132.90	128.60
48	5	2979	U	C6-N1-C2	7.16	125.30	121.00
48	5	563	U	N1-C2-O2	7.16	127.81	122.80
50	8	139	U	N3-C4-O4	-7.16	114.39	119.40
48	5	1407	A	C5-C6-N1	-7.15	114.12	117.70
48	5	1591	G	N1-C6-O6	-7.15	115.61	119.90
48	5	2305	G	N3-C2-N2	7.15	124.91	119.90
48	5	928	C	N1-C2-N3	7.15	124.20	119.20
48	5	960	U	N1-C2-O2	7.15	127.81	122.80
48	5	2965	U	C4-C5-C6	7.15	123.99	119.70
48	5	1209	G	N3-C2-N2	-7.15	114.90	119.90
48	5	2584	G	C6-C5-N7	-7.15	126.11	130.40
48	5	974	G	C4-N9-C1'	7.14	135.79	126.50
48	5	1004	U	N3-C4-C5	7.14	118.89	114.60
48	5	2917	G	C6-C5-N7	-7.14	126.11	130.40
48	5	580	C	C4-C5-C6	7.14	120.97	117.40
48	5	1158	A	C5-C6-N6	-7.14	117.99	123.70
48	5	2242	A	N1-C6-N6	-7.13	114.32	118.60
48	5	2149	A	C8-N9-C4	-7.13	102.95	105.80
48	5	2881	C	C5-C6-N1	-7.13	117.43	121.00
48	5	1592	G	C5-C6-O6	7.13	132.88	128.60
48	5	2616	C	C6-N1-C2	7.13	123.15	120.30
27	a	12	ARG	NE-CZ-NH2	-7.13	116.73	120.30
48	5	872	U	N3-C4-C5	7.13	118.88	114.60
48	5	3006	A	N1-C2-N3	7.13	132.87	129.30
49	7	101	G	C5-C6-O6	-7.13	124.32	128.60
16	P	69	ARG	NE-CZ-NH2	-7.13	116.74	120.30
48	5	1403	C	C5-C6-N1	-7.12	117.44	121.00
48	5	1939	G	N3-C2-N2	7.12	124.89	119.90
48	5	2280	A	C2-N3-C4	-7.12	107.04	110.60
48	5	2832	C	C2-N3-C4	-7.12	116.34	119.90
48	5	929	A	N7-C8-N9	-7.12	110.24	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2337	C	C6-N1-C2	7.12	123.15	120.30
48	5	327	A	N7-C8-N9	-7.11	110.24	113.80
48	5	1370	G	N3-C2-N2	7.11	124.88	119.90
10	J	112	LEU	CA-CB-CG	7.11	131.65	115.30
48	5	1434	G	C4-C5-N7	-7.11	107.96	110.80
48	5	577	C	C2-N3-C4	-7.10	116.35	119.90
48	5	1292	C	C6-N1-C2	7.10	123.14	120.30
48	5	3086	A	N7-C8-N9	-7.10	110.25	113.80
48	5	622	A	N9-C4-C5	-7.10	102.96	105.80
48	5	3245	A	N3-C4-C5	7.10	131.77	126.80
48	5	46	U	C5-C4-O4	7.10	130.16	125.90
48	5	2327	U	C6-N1-C2	7.10	125.26	121.00
48	5	1458	U	C2-N3-C4	-7.10	122.74	127.00
48	5	1110	U	C4-C5-C6	-7.09	115.44	119.70
48	5	3110	C	N1-C2-N3	7.09	124.17	119.20
48	5	2300	G	N3-C2-N2	7.09	124.86	119.90
48	5	2988	C	C5-C6-N1	-7.09	117.45	121.00
48	5	1548	C	C2-N3-C4	-7.09	116.35	119.90
48	5	2618	G	C6-N1-C2	-7.09	120.84	125.10
48	5	2127	U	N1-C2-N3	7.09	119.15	114.90
48	5	3076	C	N3-C4-C5	7.08	124.73	121.90
48	5	1206	G	N9-C4-C5	7.08	108.23	105.40
48	5	546	C	C5-C6-N1	7.08	124.54	121.00
48	5	2363	A	C8-N9-C4	-7.08	102.97	105.80
48	5	641	C	C6-N1-C1'	7.08	129.29	120.80
48	5	511	G	C5-C6-O6	7.07	132.84	128.60
50	8	42	G	C8-N9-C4	7.07	109.23	106.40
48	5	801	A	C5-C6-N1	-7.07	114.16	117.70
48	5	1879	A	C5-N7-C8	-7.07	100.36	103.90
48	5	384	A	C8-N9-C4	7.07	108.63	105.80
48	5	1340	G	N1-C2-N2	-7.07	109.84	116.20
48	5	859	G	N1-C6-O6	-7.06	115.67	119.90
48	5	2169	G	C5-C6-N1	7.05	115.03	111.50
48	5	3052	G	C5-C6-O6	7.05	132.83	128.60
48	5	3154	C	N3-C2-O2	-7.05	116.96	121.90
46	t	135	PRO	CA-N-CD	-7.05	101.62	111.50
48	5	418	A	N1-C6-N6	7.05	122.83	118.60
48	5	1118	C	N3-C4-C5	7.05	124.72	121.90
15	O	4[B]	GLN	O-C-N	7.05	134.49	121.10
48	5	706	A	C8-N9-C4	7.05	108.62	105.80
48	5	1328	C	C4-C5-C6	7.05	120.92	117.40
48	5	2631	U	N3-C4-C5	7.05	118.83	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2932	U	N1-C2-O2	7.05	127.73	122.80
48	5	2584	G	N3-C4-N9	7.04	130.23	126.00
48	5	2943	G	N1-C6-O6	-7.04	115.67	119.90
48	5	3005	A	N9-C4-C5	7.04	108.62	105.80
48	5	3192	U	N3-C4-O4	-7.04	114.47	119.40
48	5	2189	U	C2-N3-C4	-7.04	122.78	127.00
48	5	436	A	C6-C5-N7	-7.04	127.38	132.30
48	5	629	U	C2-N3-C4	-7.04	122.78	127.00
46	t	62	PRO	N-CD-CG	-7.03	92.65	103.20
48	5	3099	C	C5-C6-N1	-7.03	117.48	121.00
48	5	2917	G	C6-N1-C2	-7.03	120.88	125.10
48	5	1925	U	C2-N3-C4	-7.03	122.78	127.00
48	5	1389	G	C5-C6-O6	-7.03	124.38	128.60
48	5	1917	C	N1-C2-O2	-7.03	114.69	118.90
48	5	1589	A	C2-N3-C4	7.02	114.11	110.60
48	5	2396	G	N9-C4-C5	7.02	108.21	105.40
48	5	3086	A	C5-N7-C8	7.02	107.41	103.90
48	5	2942	C	N3-C4-C5	-7.02	119.09	121.90
48	5	2644	C	N1-C2-O2	-7.02	114.69	118.90
48	5	2426	U	N1-C2-O2	7.01	127.71	122.80
48	5	591	G	C4-C5-N7	7.01	113.61	110.80
48	5	708	G	N7-C8-N9	7.01	116.61	113.10
50	8	126	A	C8-N9-C4	-7.01	103.00	105.80
48	5	81	C	N3-C4-N4	-7.01	113.09	118.00
48	5	434	U	N3-C4-C5	7.01	118.80	114.60
48	5	857	G	C8-N9-C4	7.01	109.20	106.40
48	5	369	A	N7-C8-N9	7.00	117.30	113.80
48	5	3107	U	N3-C2-O2	-7.00	117.30	122.20
48	5	930	U	N3-C4-O4	-7.00	114.50	119.40
48	5	1149	G	N9-C4-C5	7.00	108.20	105.40
48	5	3333	G	C5-C6-O6	-7.00	124.40	128.60
48	5	933	A	N1-C2-N3	7.00	132.80	129.30
48	5	2293	C	N3-C4-C5	7.00	124.70	121.90
48	5	2207	A	N1-C6-N6	6.99	122.80	118.60
48	5	3182	G	N1-C6-O6	-6.99	115.71	119.90
48	5	1314	C	C2-N1-C1'	6.99	126.49	118.80
48	5	3098	G	C5-C6-O6	6.99	132.79	128.60
48	5	2350	C	C2-N3-C4	-6.98	116.41	119.90
50	8	70	G	C8-N9-C4	6.98	109.19	106.40
15	O	104[B]	ILE	O-C-N	6.98	133.86	122.70
48	5	1834	U	N3-C4-O4	-6.98	114.52	119.40
48	5	221	A	C8-N9-C4	6.97	108.59	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	945	C	C5-C6-N1	-6.97	117.51	121.00
48	5	1152	G	N1-C2-N3	6.97	128.09	123.90
48	5	2190	U	N1-C2-N3	6.97	119.08	114.90
48	5	2290	C	C6-N1-C2	6.97	123.09	120.30
48	5	1417	G	N1-C6-O6	-6.97	115.72	119.90
50	8	101	U	C6-N1-C2	-6.97	116.82	121.00
48	5	834	U	N3-C4-O4	-6.97	114.52	119.40
48	5	3214	U	N1-C2-N3	6.97	119.08	114.90
48	5	2882	U	C2-N3-C4	-6.97	122.82	127.00
48	5	1085	A	C8-N9-C4	-6.96	103.01	105.80
48	5	2618	G	N3-C4-N9	6.96	130.18	126.00
48	5	2705	A	C2-N3-C4	6.96	114.08	110.60
48	5	3317	U	C6-N1-C2	-6.96	116.82	121.00
48	5	32	U	N3-C4-C5	-6.96	110.42	114.60
48	5	784	A	C5-C6-N6	-6.96	118.13	123.70
48	5	804	C	N3-C4-C5	-6.96	119.12	121.90
48	5	1833	G	C8-N9-C4	6.96	109.18	106.40
48	5	2302	G	N1-C6-O6	-6.96	115.73	119.90
48	5	2626	A	C5-C6-N6	6.95	129.26	123.70
48	5	3218	A	C2-N3-C4	-6.95	107.12	110.60
48	5	3105	U	N3-C2-O2	6.95	127.06	122.20
48	5	1673	G	N1-C6-O6	-6.95	115.73	119.90
48	5	2249	G	C3'-C2'-C1'	-6.95	95.94	101.50
48	5	857	G	N9-C4-C5	-6.95	102.62	105.40
48	5	437	G	N7-C8-N9	6.94	116.57	113.10
31	e	33	ARG	NE-CZ-NH1	6.94	123.77	120.30
48	5	1441	G	N7-C8-N9	-6.94	109.63	113.10
48	5	3172	A	C5-N7-C8	6.94	107.37	103.90
48	5	2167	A	C6-N1-C2	-6.93	114.44	118.60
48	5	751	A	C2-N3-C4	-6.93	107.14	110.60
48	5	2184	U	C2-N3-C4	-6.93	122.84	127.00
48	5	2169	G	C6-C5-N7	6.93	134.56	130.40
48	5	802	C	C2-N3-C4	-6.92	116.44	119.90
48	5	2732	G	N3-C2-N2	6.92	124.74	119.90
50	8	112	U	C2-N1-C1'	-6.92	109.39	117.70
48	5	1210	U	N3-C2-O2	-6.92	117.36	122.20
48	5	2693	C	C2-N3-C4	-6.92	116.44	119.90
46	t	21	GLN	N-CA-CB	6.91	123.04	110.60
46	t	171	GLN	N-CA-CB	6.91	123.04	110.60
48	5	3070	A	C2-N3-C4	-6.91	107.14	110.60
48	5	1370	G	N1-C2-N2	-6.91	109.98	116.20
48	5	2917	G	N3-C4-N9	6.91	130.15	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3019	U	C2-N3-C4	-6.91	122.85	127.00
48	5	1609	C	N3-C4-N4	6.91	122.84	118.00
48	5	1285	G	C8-N9-C4	6.90	109.16	106.40
15	O	3[B]	SER	CA-C-N	-6.90	102.02	117.20
48	5	327	A	C8-N9-C4	6.90	108.56	105.80
48	5	2246	G	C8-N9-C4	-6.90	103.64	106.40
48	5	2314	U	C5-C6-N1	6.90	126.15	122.70
36	j	73	ARG	NE-CZ-NH2	-6.89	116.85	120.30
48	5	881	C	C2-N3-C4	6.89	123.35	119.90
48	5	835	G	C5-C6-N1	6.89	114.95	111.50
48	5	2631	U	C5-C6-N1	-6.89	119.25	122.70
10	J	9	MET	N-CA-C	-6.89	92.40	111.00
48	5	1513	G	N7-C8-N9	6.89	116.55	113.10
48	5	2729	U	C5-C6-N1	6.89	126.14	122.70
48	5	3362	A	C6-C5-N7	-6.89	127.48	132.30
48	5	942	U	C5-C4-O4	-6.89	121.77	125.90
48	5	1406	A	N1-C2-N3	6.89	132.74	129.30
48	5	2362	C	N3-C4-C5	6.89	124.66	121.90
48	5	3081	C	C4-C5-C6	-6.88	113.96	117.40
48	5	343	U	C5-C4-O4	6.88	130.03	125.90
48	5	833	G	C6-N1-C2	-6.88	120.97	125.10
48	5	1199	C	C4-C5-C6	6.88	120.84	117.40
48	5	2385	G	C2-N3-C4	-6.88	108.46	111.90
48	5	1868	G	C8-N9-C4	6.88	109.15	106.40
48	5	2695	A	N7-C8-N9	6.88	117.24	113.80
48	5	1652	G	N7-C8-N9	-6.87	109.66	113.10
50	8	139	U	C5-C6-N1	-6.87	119.26	122.70
46	t	532	CYS	CB-CA-C	-6.87	96.66	110.40
46	t	161	TYR	CB-CA-C	-6.87	96.67	110.40
48	5	1138	U	N3-C4-C5	6.87	118.72	114.60
48	5	3308	C	C6-N1-C2	-6.87	117.55	120.30
48	5	3362	A	C5-C6-N1	-6.87	114.27	117.70
48	5	3376	A	N7-C8-N9	6.87	117.23	113.80
48	5	2689	A	C6-N1-C2	-6.86	114.48	118.60
48	5	3101	G	C5-C6-O6	6.86	132.72	128.60
49	7	74	C	N1-C2-O2	-6.86	114.78	118.90
48	5	2389	C	C2-N3-C4	-6.86	116.47	119.90
48	5	419	G	N3-C4-N9	6.86	130.11	126.00
48	5	838	G	C5-C6-O6	6.86	132.71	128.60
48	5	2810	C	C4-C5-C6	6.86	120.83	117.40
48	5	96	G	C5-C6-O6	6.85	132.71	128.60
48	5	1417	G	C5-C6-N1	6.85	114.93	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2692	A	N1-C6-N6	-6.85	114.49	118.60
50	8	38	U	C4-C5-C6	6.85	123.81	119.70
48	5	3336	A	N1-C2-N3	6.85	132.72	129.30
48	5	41	G	C4-C5-N7	6.85	113.54	110.80
48	5	864	G	C6-N1-C2	-6.85	120.99	125.10
48	5	3176	G	N1-C2-N3	6.84	128.01	123.90
48	5	3149	G	C2-N3-C4	-6.84	108.48	111.90
48	5	1903	U	N3-C4-C5	-6.84	110.50	114.60
48	5	1940	G	N1-C6-O6	-6.84	115.80	119.90
48	5	2647	A	N1-C6-N6	-6.84	114.50	118.60
48	5	1449	A	C6-C5-N7	-6.84	127.51	132.30
48	5	1883	A	N1-C6-N6	-6.84	114.50	118.60
46	t	175	PRO	N-CA-CB	6.83	111.50	103.30
48	5	749	C	C6-N1-C2	-6.83	117.57	120.30
48	5	3313	U	C5-C4-O4	6.83	130.00	125.90
48	5	1057	A	N9-C4-C5	-6.83	103.07	105.80
48	5	1297	C	N1-C2-O2	-6.83	114.80	118.90
48	5	693	A	N1-C6-N6	-6.83	114.50	118.60
48	5	2341	A	N9-C4-C5	-6.83	103.07	105.80
48	5	2987	A	C5-N7-C8	6.83	107.32	103.90
48	5	2401	A	C2-N3-C4	6.83	114.01	110.60
48	5	1307	G	C2-N3-C4	6.83	115.31	111.90
48	5	2619	G	C5-C6-O6	-6.83	124.50	128.60
48	5	3056	U	N1-C2-N3	6.83	119.00	114.90
48	5	1902	G	C6-N1-C2	-6.82	121.01	125.10
48	5	2884	C	N1-C2-O2	-6.82	114.81	118.90
48	5	1941	C	N3-C4-C5	6.82	124.63	121.90
48	5	1603	A	C8-N9-C4	-6.82	103.07	105.80
3	C	90	PHE	C-N-CA	-6.82	107.98	122.30
48	5	1448	U	C2-N3-C4	-6.82	122.91	127.00
49	7	22	A	N1-C6-N6	6.82	122.69	118.60
48	5	578	A	C5-C6-N6	-6.82	118.25	123.70
48	5	2400	G	N3-C4-C5	6.82	132.01	128.60
48	5	2412	G	N3-C4-C5	-6.82	125.19	128.60
48	5	2908	G	C5-C6-O6	6.82	132.69	128.60
48	5	644	G	C8-N9-C4	-6.81	103.67	106.40
48	5	2821	C	C6-N1-C2	-6.81	117.57	120.30
48	5	1875	G	N1-C6-O6	-6.81	115.81	119.90
48	5	2524	A	C3'-C2'-C1'	-6.81	96.05	101.50
50	8	23	U	N1-C2-N3	6.81	118.98	114.90
48	5	2824	G	C4-C5-N7	-6.81	108.08	110.80
48	5	3076	C	C2-N3-C4	-6.81	116.50	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
42	p	17	ARG	NE-CZ-NH1	-6.80	116.90	120.30
48	5	1941	C	C2-N3-C4	-6.80	116.50	119.90
48	5	1421	G	C2-N3-C4	-6.80	108.50	111.90
48	5	2279	A	N1-C2-N3	6.80	132.70	129.30
48	5	189	G	N1-C6-O6	-6.80	115.82	119.90
48	5	518	G	C4-C5-N7	6.80	113.52	110.80
49	7	112	G	C5-C6-O6	6.80	132.68	128.60
46	t	357	PRO	N-CD-CG	-6.80	93.00	103.20
48	5	564	G	C4-C5-N7	-6.80	108.08	110.80
48	5	644	G	N3-C4-C5	-6.80	125.20	128.60
48	5	3020	U	N1-C2-O2	-6.80	118.04	122.80
48	5	1327	C	N3-C2-O2	-6.79	117.14	121.90
48	5	1481	A	P-O3'-C3'	6.79	127.85	119.70
48	5	2932	U	N3-C2-O2	-6.79	117.44	122.20
48	5	3374	U	N3-C4-O4	-6.79	114.64	119.40
48	5	2382	G	N1-C6-O6	-6.79	115.83	119.90
48	5	2524	A	C4-C5-N7	6.79	114.09	110.70
48	5	146	U	C5-C4-O4	6.79	129.97	125.90
48	5	1113	G	N3-C4-C5	6.79	132.00	128.60
48	5	1205	A	N7-C8-N9	6.79	117.19	113.80
9	I	48	LEU	CA-CB-CG	6.79	130.91	115.30
48	5	887	G	C2-N3-C4	-6.79	108.51	111.90
48	5	1375	G	C2-N3-C4	6.79	115.29	111.90
48	5	2237	C	N1-C2-O2	6.79	122.97	118.90
48	5	3185	U	C5-C6-N1	-6.78	119.31	122.70
48	5	413	U	C4-C5-C6	6.78	123.77	119.70
48	5	3088	G	N3-C2-N2	6.78	124.65	119.90
48	5	1044	U	C5-C6-N1	-6.78	119.31	122.70
48	5	2317	A	N7-C8-N9	6.78	117.19	113.80
48	5	2730	G	C2-N3-C4	-6.78	108.51	111.90
49	7	50	U	C5-C6-N1	6.78	126.09	122.70
48	5	622	A	C5-C6-N6	-6.78	118.28	123.70
48	5	815	G	C4-C5-N7	-6.78	108.09	110.80
48	5	3324	C	C6-N1-C2	6.78	123.01	120.30
48	5	63	A	N1-C6-N6	6.77	122.66	118.60
48	5	652	G	C6-N1-C2	-6.77	121.04	125.10
48	5	888	A	C5-C6-N1	-6.77	114.31	117.70
48	5	48	A	C8-N9-C4	-6.77	103.09	105.80
48	5	615	U	C5-C4-O4	-6.77	121.84	125.90
48	5	2929	C	N1-C2-O2	-6.77	114.84	118.90
46	t	62	PRO	N-CA-CB	6.77	111.42	103.30
48	5	3321	C	C4-C5-C6	6.77	120.78	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1910	A	N7-C8-N9	-6.76	110.42	113.80
48	5	2978	U	N3-C4-O4	-6.76	114.66	119.40
49	7	49	G	C8-N9-C4	6.76	109.11	106.40
48	5	669	U	C2-N3-C4	-6.76	122.94	127.00
48	5	1042	U	C5-C4-O4	6.76	129.96	125.90
48	5	1124	U	N1-C2-O2	6.76	127.53	122.80
48	5	1369	A	C8-N9-C4	6.76	108.50	105.80
48	5	2359	C	C6-N1-C2	6.76	123.00	120.30
48	5	934	G	C2-N3-C4	6.76	115.28	111.90
48	5	1843	C	N3-C2-O2	-6.76	117.17	121.90
48	5	215	G	C8-N9-C4	-6.75	103.70	106.40
48	5	1389	G	C6-C5-N7	-6.75	126.35	130.40
48	5	376	G	C2-N3-C4	6.75	115.28	111.90
48	5	908	G	C4-N9-C1'	6.75	135.28	126.50
46	t	388	TYR	CB-CA-C	-6.75	96.90	110.40
48	5	2584	G	C8-N9-C1'	-6.75	118.22	127.00
48	5	95	A	C5-C6-N6	-6.75	118.30	123.70
48	5	1206	G	C8-N9-C4	-6.75	103.70	106.40
48	5	2892	A	N9-C4-C5	6.75	108.50	105.80
48	5	1882	G	C4-C5-N7	-6.75	108.10	110.80
48	5	2868	U	N3-C4-C5	6.75	118.65	114.60
48	5	205	C	N3-C2-O2	-6.75	117.18	121.90
19	S	40	ARG	CG-CD-NE	6.74	125.96	111.80
48	5	776	U	N3-C4-O4	-6.74	114.68	119.40
48	5	2693	C	N1-C2-O2	6.74	122.95	118.90
48	5	2145	A	N1-C6-N6	-6.74	114.56	118.60
48	5	2664	C	N3-C4-C5	6.74	124.60	121.90
48	5	3375	A	C2-N3-C4	6.74	113.97	110.60
48	5	345	G	N1-C2-N2	-6.74	110.13	116.20
48	5	1556	C	C6-N1-C2	-6.74	117.60	120.30
48	5	1116	G	N9-C4-C5	6.74	108.09	105.40
48	5	587	U	N3-C4-C5	6.74	118.64	114.60
49	7	11	A	C5-N7-C8	6.74	107.27	103.90
48	5	614	C	C6-N1-C2	6.73	122.99	120.30
48	5	3309	G	C5-C6-O6	-6.73	124.56	128.60
48	5	1685	C	N3-C2-O2	-6.73	117.19	121.90
48	5	1130	A	N1-C2-N3	-6.73	125.94	129.30
48	5	3140	G	C5-C6-O6	-6.73	124.56	128.60
48	5	1197	A	N1-C2-N3	6.72	132.66	129.30
48	5	2961	G	C5-C6-O6	6.72	132.63	128.60
48	5	2135	U	C6-N1-C2	6.72	125.03	121.00
46	t	546	GLN	N-CA-CB	6.72	122.69	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3050	U	N3-C4-O4	-6.72	114.70	119.40
48	5	620	U	C5-C6-N1	6.71	126.06	122.70
48	5	2820	A	C6-N1-C2	-6.71	114.57	118.60
48	5	3266	G	N1-C6-O6	-6.71	115.87	119.90
48	5	3140	G	N1-C6-O6	6.71	123.93	119.90
48	5	890	C	N3-C4-C5	6.71	124.58	121.90
48	5	3128	G	C5-C6-O6	-6.71	124.57	128.60
48	5	1392	G	N9-C4-C5	-6.71	102.72	105.40
48	5	3214	U	N1-C2-O2	6.71	127.50	122.80
48	5	1469	C	C6-N1-C2	-6.71	117.62	120.30
48	5	1652	G	C5-N7-C8	6.71	107.65	104.30
48	5	2391	G	N7-C8-N9	6.71	116.45	113.10
48	5	2434	U	C5-C4-O4	6.71	129.93	125.90
48	5	2411	U	N3-C4-O4	-6.71	114.71	119.40
48	5	436	A	N7-C8-N9	6.70	117.15	113.80
48	5	960	U	N3-C2-O2	-6.70	117.51	122.20
48	5	1056	U	N3-C4-O4	6.70	124.09	119.40
48	5	2899	C	C4-C5-C6	6.70	120.75	117.40
48	5	413	U	C5-C6-N1	-6.70	119.35	122.70
48	5	649	A	C8-N9-C4	-6.70	103.12	105.80
48	5	1208	U	C5-C6-N1	-6.70	119.35	122.70
48	5	1409	G	C5-C6-O6	6.70	132.62	128.60
50	8	25	G	C5-C6-O6	6.70	132.62	128.60
48	5	1686	U	C5-C4-O4	-6.70	121.88	125.90
48	5	2403	G	C5-N7-C8	6.70	107.65	104.30
1	A	246	LEU	CA-CB-CG	6.69	130.70	115.30
48	5	2407	C	C5-C4-N4	-6.69	115.51	120.20
48	5	3049	A	C6-N1-C2	6.69	122.61	118.60
48	5	2392	C	N1-C2-O2	-6.69	114.89	118.90
48	5	930	U	C4-C5-C6	-6.69	115.69	119.70
48	5	1134	G	C5-C6-N1	6.69	114.84	111.50
48	5	2767	U	C5-C4-O4	6.69	129.91	125.90
48	5	1392	G	C5-N7-C8	6.69	107.64	104.30
48	5	3333	G	N1-C6-O6	6.69	123.91	119.90
13	M	72	LEU	CA-CB-CG	6.68	130.67	115.30
48	5	1496	C	C2-N1-C1'	6.68	126.15	118.80
48	5	2201	G	N1-C6-O6	-6.68	115.89	119.90
48	5	2231	C	C4-C5-C6	6.68	120.74	117.40
48	5	332	C	C4-C5-C6	6.68	120.74	117.40
48	5	3138	U	N1-C2-N3	6.68	118.91	114.90
48	5	1844	C	N1-C2-O2	-6.68	114.89	118.90
48	5	2717	U	N1-C2-N3	6.67	118.91	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2830	G	C4-C5-N7	-6.67	108.13	110.80
48	5	3039	C	C6-N1-C2	-6.67	117.63	120.30
48	5	1042	U	N1-C2-O2	6.67	127.47	122.80
48	5	1004	U	N3-C2-O2	-6.66	117.54	122.20
48	5	400	G	C4-C5-N7	6.66	113.47	110.80
48	5	355	A	N1-C2-N3	6.66	132.63	129.30
48	5	669	U	C4-C5-C6	6.66	123.70	119.70
12	L	171	ARG	NE-CZ-NH2	-6.66	116.97	120.30
48	5	1911	A	C5-C6-N6	-6.66	118.37	123.70
48	5	1159	A	N1-C2-N3	-6.66	125.97	129.30
48	5	2336	U	N3-C4-O4	-6.66	114.74	119.40
48	5	792	G	N1-C2-N3	6.66	127.89	123.90
48	5	835	G	C6-N1-C2	-6.66	121.11	125.10
48	5	925	A	C4-C5-C6	6.66	120.33	117.00
50	8	42	G	C4-N9-C1'	-6.66	117.85	126.50
48	5	1518	U	N3-C4-C5	6.65	118.59	114.60
46	t	357	PRO	N-CA-CB	6.65	111.28	103.30
48	5	625	G	N9-C4-C5	6.65	108.06	105.40
48	5	986	U	N3-C4-O4	6.65	124.06	119.40
48	5	2699	G	N1-C6-O6	6.65	123.89	119.90
48	5	3335	A	C2-N3-C4	-6.65	107.28	110.60
48	5	1146	C	N3-C2-O2	-6.65	117.25	121.90
49	7	92	A	C5-N7-C8	-6.65	100.58	103.90
46	t	56	GLN	CB-CA-C	-6.64	97.11	110.40
48	5	640	U	N3-C2-O2	-6.64	117.55	122.20
48	5	1848	G	C6-C5-N7	-6.64	126.42	130.40
48	5	1359	C	C5-C4-N4	-6.64	115.55	120.20
48	5	2207	A	C6-C5-N7	-6.64	127.65	132.30
48	5	2920	U	C2-N3-C4	-6.64	123.02	127.00
50	8	11	C	C4-C5-C6	6.64	120.72	117.40
48	5	916	G	C8-N9-C4	-6.63	103.75	106.40
48	5	1159	A	C4-C5-N7	6.63	114.02	110.70
48	5	2422	C	N1-C2-O2	6.63	122.88	118.90
48	5	226	C	N3-C4-C5	6.63	124.55	121.90
48	5	322	U	C5-C4-O4	-6.63	121.92	125.90
48	5	1312	C	C6-N1-C2	-6.63	117.65	120.30
48	5	1931	U	N3-C4-O4	-6.63	114.76	119.40
48	5	3376	A	N9-C4-C5	6.63	108.45	105.80
48	5	3244	A	C2-N3-C4	-6.62	107.29	110.60
48	5	3310	A	N1-C6-N6	-6.62	114.63	118.60
48	5	2292	U	C2-N1-C1'	6.62	125.64	117.70
48	5	518	G	N1-C6-O6	6.62	123.87	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1788	C	N3-C4-C5	-6.62	119.25	121.90
48	5	3216	G	C6-C5-N7	-6.62	126.43	130.40
46	t	50	TYR	CB-CA-C	-6.61	97.17	110.40
48	5	1754	G	N1-C6-O6	-6.61	115.93	119.90
48	5	2851	A	C8-N9-C4	6.61	108.45	105.80
48	5	2743	A	C5-N7-C8	6.61	107.21	103.90
48	5	2549	G	C6-C5-N7	-6.61	126.43	130.40
48	5	3122	A	C4-C5-C6	6.61	120.31	117.00
48	5	652	G	N1-C2-N3	6.61	127.87	123.90
9	I	10	ARG	NE-CZ-NH1	-6.61	117.00	120.30
48	5	2147	A	N1-C6-N6	6.61	122.56	118.60
48	5	2647	A	C8-N9-C4	-6.61	103.16	105.80
48	5	3025	C	C5-C4-N4	6.60	124.82	120.20
46	t	513	SER	CB-CA-C	-6.60	97.56	110.10
48	5	2169	G	C2-N3-C4	6.60	115.20	111.90
48	5	1049	C	C4-C5-C6	-6.60	114.10	117.40
48	5	1151	U	C4-C5-C6	-6.60	115.74	119.70
48	5	2719	U	C6-N1-C1'	6.60	130.44	121.20
48	5	2114	C	C6-N1-C2	-6.60	117.66	120.30
48	5	3105	U	N1-C2-O2	-6.60	118.18	122.80
48	5	2675	C	N1-C2-O2	-6.60	114.94	118.90
48	5	2685	C	C2-N3-C4	-6.60	116.60	119.90
48	5	3153	U	N1-C2-O2	6.60	127.42	122.80
48	5	692	A	N1-C2-N3	-6.59	126.00	129.30
48	5	1007	U	C5-C6-N1	-6.59	119.40	122.70
49	7	25	G	N1-C6-O6	6.59	123.86	119.90
3	C	138	ARG	NE-CZ-NH2	-6.59	117.00	120.30
48	5	2954	U	C2-N1-C1'	6.59	125.61	117.70
48	5	1876	U	C5-C6-N1	6.59	126.00	122.70
48	5	3289	G	N7-C8-N9	6.59	116.39	113.10
48	5	3303	G	N3-C2-N2	6.59	124.51	119.90
48	5	648	C	C6-N1-C2	-6.59	117.67	120.30
48	5	828	A	N3-C4-C5	-6.59	122.19	126.80
48	5	2357	A	N1-C6-N6	6.59	122.55	118.60
48	5	3007	U	N3-C4-C5	6.59	118.55	114.60
48	5	1365	G	C8-N9-C1'	-6.58	118.44	127.00
48	5	2617	U	N3-C4-O4	-6.58	114.79	119.40
48	5	3270	U	N3-C4-O4	-6.58	114.79	119.40
48	5	2440	G	N7-C8-N9	6.58	116.39	113.10
48	5	990	U	N3-C2-O2	-6.58	117.59	122.20
48	5	1151	U	N3-C4-C5	6.58	118.55	114.60
48	5	1408	G	N3-C4-N9	-6.58	122.05	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2811	A	C6-N1-C2	-6.58	114.65	118.60
50	8	54	A	C5-N7-C8	-6.58	100.61	103.90
48	5	2889	C	N3-C2-O2	-6.58	117.30	121.90
50	8	24	G	N1-C6-O6	-6.58	115.95	119.90
48	5	267	G	N9-C4-C5	-6.57	102.77	105.40
48	5	966	U	C2-N3-C4	-6.57	123.06	127.00
48	5	1439	U	C2-N3-C4	-6.57	123.06	127.00
48	5	2984	C	C2-N3-C4	-6.57	116.62	119.90
49	7	57	G	C4-C5-N7	-6.56	108.17	110.80
48	5	2347	U	N3-C4-O4	-6.56	114.81	119.40
49	7	68	C	C2-N3-C4	-6.56	116.62	119.90
48	5	2800	G	N9-C4-C5	6.56	108.02	105.40
48	5	1894	U	C2-N3-C4	-6.55	123.07	127.00
50	8	6	U	C5-C6-N1	-6.55	119.42	122.70
48	5	424	G	N3-C2-N2	6.55	124.49	119.90
48	5	2866	U	N1-C2-O2	-6.55	118.22	122.80
48	5	1906	G	N1-C2-N3	6.55	127.83	123.90
49	7	93	C	C4-C5-C6	6.55	120.67	117.40
48	5	641	C	C2-N1-C1'	-6.55	111.60	118.80
48	5	1399	A	C8-N9-C4	6.55	108.42	105.80
48	5	361	A	N1-C6-N6	-6.55	114.67	118.60
48	5	1448	U	N1-C2-O2	-6.54	118.22	122.80
48	5	1890	U	C5-C6-N1	-6.54	119.43	122.70
48	5	429	U	N3-C4-C5	6.54	118.53	114.60
48	5	600	G	N7-C8-N9	6.54	116.37	113.10
48	5	859	G	N9-C4-C5	6.54	108.02	105.40
48	5	1161	G	N7-C8-N9	-6.54	109.83	113.10
48	5	1215	U	N3-C4-O4	6.54	123.98	119.40
48	5	1342	C	C4-C5-C6	6.54	120.67	117.40
48	5	3186	A	N9-C4-C5	6.54	108.42	105.80
48	5	947	G	N1-C6-O6	-6.54	115.98	119.90
48	5	2211	U	C5-C6-N1	-6.54	119.43	122.70
48	5	2314	U	C2-N1-C1'	6.54	125.55	117.70
48	5	2377	G	C2-N3-C4	6.54	115.17	111.90
48	5	3115	C	N1-C2-O2	-6.54	114.97	118.90
48	5	783	A	N1-C6-N6	6.54	122.52	118.60
48	5	145	G	N3-C4-N9	-6.54	122.08	126.00
9	I	182	LEU	CA-CB-CG	-6.54	100.27	115.30
48	5	815	G	C5-C6-O6	6.54	132.52	128.60
48	5	1722	U	N3-C2-O2	6.54	126.78	122.20
48	5	2301	U	C5-C6-N1	-6.54	119.43	122.70
48	5	1298	C	N1-C2-O2	-6.53	114.98	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	420	G	N3-C4-C5	-6.53	125.33	128.60
46	t	385	GLN	N-CA-CB	6.53	122.36	110.60
48	5	2303	A	N3-C4-C5	-6.53	122.23	126.80
48	5	2626	A	C5-C6-N1	-6.53	114.44	117.70
48	5	2833	A	C8-N9-C4	6.53	108.41	105.80
48	5	3330	A	N1-C6-N6	-6.53	114.68	118.60
48	5	2257	C	N3-C2-O2	-6.53	117.33	121.90
48	5	3263	G	N3-C2-N2	6.53	124.47	119.90
48	5	2930	A	N1-C6-N6	-6.52	114.69	118.60
48	5	3190	C	C6-N1-C2	-6.52	117.69	120.30
48	5	1901	A	C4-C5-C6	6.52	120.26	117.00
48	5	1211	U	N3-C4-C5	6.52	118.51	114.60
49	7	20	A	C5-C6-N6	-6.52	118.48	123.70
48	5	1131	G	C2-N3-C4	-6.52	108.64	111.90
48	5	2309	A	N1-C2-N3	-6.52	126.04	129.30
46	t	57	ARG	N-CA-CB	6.51	122.33	110.60
48	5	1064	A	C4-C5-N7	6.51	113.96	110.70
48	5	2884	C	N1-C2-N3	6.51	123.76	119.20
48	5	721	G	C5-C6-N1	6.51	114.76	111.50
48	5	1215	U	N1-C2-O2	-6.51	118.24	122.80
48	5	2626	A	C4-C5-N7	-6.51	107.44	110.70
48	5	880	G	C5-C6-O6	-6.51	124.69	128.60
48	5	2993	G	N9-C4-C5	-6.51	102.80	105.40
48	5	675	C	N3-C4-N4	6.51	122.56	118.00
48	5	1607	U	N1-C2-N3	6.51	118.81	114.90
48	5	360	G	C8-N9-C4	6.51	109.00	106.40
32	f	49	ILE	CB-CA-C	-6.51	98.59	111.60
48	5	784	A	C6-C5-N7	-6.50	127.75	132.30
48	5	1200	A	C4-C5-C6	6.50	120.25	117.00
48	5	2957	G	C8-N9-C4	6.50	109.00	106.40
48	5	3341	U	C6-N1-C2	-6.50	117.10	121.00
48	5	345	G	N3-C2-N2	6.50	124.45	119.90
48	5	1879	A	C4-C5-N7	6.50	113.95	110.70
48	5	3174	A	C4-C5-N7	6.50	113.95	110.70
48	5	1138	U	C2-N3-C4	-6.50	123.10	127.00
48	5	2385	G	C8-N9-C4	6.50	109.00	106.40
48	5	3306	U	C6-N1-C2	6.50	124.90	121.00
48	5	2433	U	N3-C4-C5	6.50	118.50	114.60
48	5	3004	C	C5-C4-N4	-6.49	115.65	120.20
48	5	435	C	C2-N3-C4	-6.49	116.65	119.90
48	5	2258	U	N3-C2-O2	-6.49	117.66	122.20
48	5	2719	U	C5-C6-N1	-6.49	119.46	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2246	G	N3-C4-C5	-6.49	125.36	128.60
48	5	2351	U	N3-C4-O4	-6.49	114.86	119.40
48	5	3306	U	C5-C6-N1	-6.49	119.46	122.70
48	5	2904	U	C5-C6-N1	-6.48	119.46	122.70
50	8	59	A	C2-N3-C4	6.48	113.84	110.60
48	5	3126	C	N3-C4-C5	6.48	124.49	121.90
48	5	1496	C	C6-N1-C2	-6.48	117.71	120.30
48	5	3148	U	C5-C4-O4	-6.48	122.01	125.90
48	5	3175	U	N3-C4-C5	-6.48	110.71	114.60
48	5	2320	A	C5-N7-C8	6.48	107.14	103.90
48	5	519	A	C5-C6-N6	-6.48	118.52	123.70
48	5	369	A	N9-C4-C5	6.47	108.39	105.80
48	5	779	G	C8-N9-C4	-6.47	103.81	106.40
50	8	19	C	C4-C5-C6	6.47	120.64	117.40
48	5	828	A	C2-N3-C4	6.47	113.84	110.60
15	O	27[B]	VAL	C-N-CA	6.47	137.87	121.70
48	5	1840	U	C5-C6-N1	-6.47	119.47	122.70
48	5	2631	U	N1-C2-N3	6.47	118.78	114.90
48	5	1843	C	C2-N1-C1'	6.47	125.91	118.80
48	5	370	U	N3-C2-O2	-6.46	117.67	122.20
48	5	386	A	C6-C5-N7	-6.46	127.78	132.30
48	5	894	G	C5-C6-O6	-6.46	124.72	128.60
2	B	21	ARG	NE-CZ-NH1	6.46	123.53	120.30
48	5	971	G	N1-C2-N2	6.46	122.01	116.20
48	5	1897	G	C5-C6-O6	-6.46	124.72	128.60
48	5	1147	G	N7-C8-N9	-6.46	109.87	113.10
48	5	1392	G	C8-N9-C1'	-6.46	118.61	127.00
48	5	1408	G	N3-C4-C5	6.46	131.83	128.60
30	d	90	PHE	CB-CA-C	-6.46	97.49	110.40
48	5	1215	U	C5-C4-O4	-6.46	122.03	125.90
48	5	370	U	C6-N1-C2	-6.46	117.13	121.00
48	5	884	A	N3-C4-N9	-6.46	122.24	127.40
48	5	1042	U	C5-C6-N1	-6.46	119.47	122.70
48	5	2345	A	C5-C6-N6	-6.46	118.54	123.70
48	5	284	A	C2-N3-C4	6.45	113.83	110.60
48	5	1284	C	C6-N1-C2	-6.45	117.72	120.30
48	5	1434	G	C8-N9-C4	6.45	108.98	106.40
48	5	1516	C	C5-C6-N1	-6.45	117.77	121.00
48	5	1844	C	C2-N3-C4	-6.45	116.67	119.90
48	5	2817	A	C6-N1-C2	-6.45	114.73	118.60
48	5	2754	G	N3-C2-N2	6.45	124.42	119.90
48	5	2849	C	C5-C6-N1	6.45	124.22	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1851	G	C4-C5-C6	6.45	122.67	118.80
48	5	2662	G	C3'-C2'-C1'	-6.45	96.34	101.50
49	7	92	A	C4-C5-N7	6.45	113.92	110.70
50	8	28	C	N3-C4-C5	6.45	124.48	121.90
48	5	3043	C	N3-C4-C5	6.45	124.48	121.90
48	5	1190	A	C5-C6-N6	6.45	128.86	123.70
48	5	2365	C	C5-C4-N4	6.45	124.71	120.20
49	7	38	U	C6-N1-C1'	-6.44	112.18	121.20
50	8	17	A	C4-C5-N7	6.44	113.92	110.70
48	5	299	G	C2-N3-C4	6.44	115.12	111.90
48	5	2518	C	C5-C6-N1	-6.44	117.78	121.00
48	5	3306	U	N3-C4-C5	6.44	118.46	114.60
48	5	2891	U	C5-C6-N1	-6.44	119.48	122.70
48	5	950	G	N3-C2-N2	6.44	124.41	119.90
48	5	2288	G	N3-C4-C5	-6.44	125.38	128.60
48	5	2305	G	C4-C5-N7	6.44	113.38	110.80
48	5	2363	A	C2-N3-C4	6.44	113.82	110.60
31	e	45	ARG	NE-CZ-NH1	6.44	123.52	120.30
48	5	2124	G	C8-N9-C4	6.44	108.97	106.40
48	5	2396	G	N3-C4-C5	-6.44	125.38	128.60
48	5	2746	A	C8-N9-C4	6.44	108.37	105.80
48	5	2288	G	C5-C6-O6	-6.43	124.74	128.60
48	5	2320	A	N1-C2-N3	6.43	132.52	129.30
48	5	3167	A	N7-C8-N9	6.43	117.02	113.80
49	7	15	C	N3-C4-C5	6.43	124.47	121.90
48	5	1793	C	C2-N3-C4	6.43	123.12	119.90
48	5	2817	A	N3-C4-C5	-6.43	122.30	126.80
48	5	290	G	N3-C2-N2	6.43	124.40	119.90
48	5	824	C	C4-C5-C6	6.43	120.61	117.40
48	5	1929	G	C8-N9-C4	6.43	108.97	106.40
48	5	2677	G	N3-C2-N2	-6.43	115.40	119.90
48	5	3006	A	N3-C4-N9	-6.43	122.26	127.40
48	5	2302	G	N1-C2-N2	-6.43	110.42	116.20
14	N	68	ARG	NE-CZ-NH1	6.42	123.51	120.30
40	n	9	ARG	NE-CZ-NH2	-6.42	117.09	120.30
48	5	2340	U	C2-N3-C4	-6.42	123.14	127.00
48	5	1413	G	N1-C6-O6	-6.42	116.05	119.90
48	5	3354	U	N3-C2-O2	-6.42	117.71	122.20
48	5	217	U	C5-C6-N1	-6.42	119.49	122.70
48	5	343	U	C5-C6-N1	-6.42	119.49	122.70
48	5	963	G	C5-C6-O6	-6.42	124.75	128.60
48	5	1403	C	N3-C4-N4	6.42	122.49	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2375	G	C5-C6-N1	6.42	114.71	111.50
48	5	1149	G	N1-C2-N3	-6.41	120.05	123.90
48	5	3011	A	N1-C2-N3	-6.41	126.09	129.30
48	5	651	G	C8-N9-C4	-6.41	103.84	106.40
48	5	1402	C	C4-C5-C6	6.41	120.61	117.40
48	5	1907	C	N1-C2-O2	-6.41	115.06	118.90
48	5	393	U	N3-C2-O2	-6.41	117.72	122.20
48	5	1390	A	C5-C6-N6	6.41	128.83	123.70
48	5	3174	A	C5-N7-C8	-6.41	100.70	103.90
4	D	152	ARG	NE-CZ-NH1	6.41	123.50	120.30
48	5	943	U	C5-C6-N1	-6.41	119.50	122.70
48	5	2361	A	C8-N9-C4	-6.41	103.24	105.80
48	5	2389	C	N3-C4-C5	6.41	124.46	121.90
46	t	519	ARG	N-CA-CB	6.40	122.12	110.60
48	5	1115	G	C4-N9-C1'	6.40	134.82	126.50
48	5	2611	U	C4-C5-C6	6.40	123.54	119.70
48	5	2837	A	C2-N3-C4	6.40	113.80	110.60
49	7	1	G	C4-N9-C1'	6.40	134.82	126.50
49	7	40	C	N1-C2-O2	-6.40	115.06	118.90
15	O	23[B]	ILE	O-C-N	6.40	132.94	122.70
48	5	1749	A	C8-N9-C4	6.40	108.36	105.80
48	5	2879	C	N1-C2-O2	6.40	122.74	118.90
48	5	436	A	C4-N9-C1'	6.39	137.81	126.30
48	5	1172	G	N3-C2-N2	6.39	124.38	119.90
48	5	2408	U	N1-C2-N3	6.39	118.74	114.90
48	5	938	C	C6-N1-C2	6.39	122.86	120.30
48	5	1407	A	C8-N9-C4	6.39	108.36	105.80
48	5	1449	A	C5-C6-N1	-6.39	114.50	117.70
50	8	29	U	C2-N3-C4	-6.39	123.17	127.00
18	R	88	ARG	NE-CZ-NH1	-6.39	117.11	120.30
49	7	12	U	N3-C4-C5	6.39	118.43	114.60
48	5	2753	G	N3-C2-N2	-6.38	115.43	119.90
48	5	3303	G	N1-C2-N2	-6.38	110.45	116.20
48	5	42	C	C5-C6-N1	6.38	124.19	121.00
50	8	111	A	C2-N3-C4	-6.38	107.41	110.60
48	5	909	G	C4-C5-N7	-6.38	108.25	110.80
48	5	1902	G	N3-C4-N9	6.38	129.82	126.00
27	a	28	HIS	N-CA-C	6.37	128.21	111.00
48	5	624	G	C8-N9-C4	6.37	108.95	106.40
48	5	1340	G	N3-C2-N2	6.37	124.36	119.90
48	5	2431	C	N3-C4-C5	-6.37	119.35	121.90
48	5	2117	A	N1-C6-N6	-6.37	114.78	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2857	C	C6-N1-C2	6.37	122.85	120.30
50	8	29	U	N1-C2-N3	6.37	118.72	114.90
48	5	1518	U	N1-C2-O2	6.37	127.26	122.80
48	5	2821	C	C5-C6-N1	6.37	124.18	121.00
46	t	436	PRO	CA-N-CD	-6.37	102.59	111.50
48	5	2134	G	N3-C4-C5	-6.37	125.42	128.60
48	5	3309	G	C6-N1-C2	-6.37	121.28	125.10
48	5	631	U	N3-C4-C5	6.36	118.42	114.60
48	5	891	G	C5-C6-O6	6.36	132.42	128.60
48	5	584	G	C5-C6-O6	6.36	132.42	128.60
48	5	1496	C	C5-C6-N1	6.36	124.18	121.00
48	5	1416	C	N3-C2-O2	-6.36	117.45	121.90
48	5	833	G	N1-C2-N3	6.35	127.71	123.90
48	5	652	G	N3-C4-N9	6.35	129.81	126.00
48	5	2139	A	C5-N7-C8	6.35	107.08	103.90
49	7	48	U	N3-C4-C5	6.35	118.41	114.60
4	D	248	ARG	NE-CZ-NH2	-6.35	117.12	120.30
17	Q	176	ARG	NE-CZ-NH2	-6.35	117.13	120.30
48	5	1733	G	N1-C6-O6	6.35	123.71	119.90
48	5	676	G	C8-N9-C4	-6.35	103.86	106.40
48	5	1321	G	C5-C6-N1	-6.35	108.33	111.50
48	5	1832	C	C2-N3-C4	-6.35	116.73	119.90
48	5	1833	G	N7-C8-N9	-6.35	109.93	113.10
48	5	674	G	C8-N9-C4	-6.35	103.86	106.40
48	5	2894	C	N3-C4-C5	6.34	124.44	121.90
48	5	1403	C	C6-N1-C1'	-6.34	113.19	120.80
48	5	1408	G	C2-N3-C4	-6.34	108.73	111.90
48	5	2802	A	N1-C2-N3	-6.34	126.13	129.30
48	5	600	G	C8-N9-C4	-6.34	103.86	106.40
48	5	645	A	C5-C6-N1	6.34	120.87	117.70
48	5	722	G	N9-C4-C5	6.34	107.94	105.40
48	5	2364	G	C5-C6-O6	6.34	132.40	128.60
48	5	667	C	N3-C4-C5	6.34	124.44	121.90
48	5	1211	U	C4-C5-C6	-6.34	115.90	119.70
48	5	2146	C	C6-N1-C2	-6.34	117.77	120.30
48	5	3309	G	C4-N9-C1'	6.34	134.74	126.50
31	e	47	ARG	NE-CZ-NH2	-6.33	117.13	120.30
48	5	1300	G	C5-C6-O6	-6.33	124.80	128.60
49	7	48	U	N1-C2-O2	-6.33	118.36	122.80
3	C	327	LEU	CA-CB-CG	6.33	129.87	115.30
48	5	903	U	N3-C2-O2	-6.33	117.77	122.20
48	5	2625	C	N3-C2-O2	-6.33	117.47	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2416	U	C5-C6-N1	6.33	125.87	122.70
48	5	3189	G	N1-C2-N3	6.33	127.70	123.90
48	5	3360	C	C6-N1-C2	-6.33	117.77	120.30
48	5	1511	U	C5-C6-N1	-6.33	119.53	122.70
48	5	2964	G	N7-C8-N9	-6.33	109.94	113.10
48	5	248	U	N1-C2-O2	6.33	127.23	122.80
48	5	2948	C	C5-C4-N4	6.33	124.63	120.20
48	5	2998	U	C5-C6-N1	-6.33	119.54	122.70
49	7	92	A	C6-C5-N7	-6.33	127.87	132.30
48	5	1690	C	N1-C2-O2	-6.33	115.11	118.90
48	5	2393	G	N9-C4-C5	-6.33	102.87	105.40
48	5	3245	A	C5-C6-N6	-6.33	118.64	123.70
12	L	27	ASP	CB-CG-OD1	6.32	123.99	118.30
48	5	1451	C	C5-C6-N1	-6.32	117.84	121.00
48	5	1858	A	N7-C8-N9	6.32	116.96	113.80
48	5	665	A	C2-N3-C4	-6.32	107.44	110.60
48	5	1506	A	C5-N7-C8	-6.32	100.74	103.90
48	5	2231	C	N3-C4-C5	-6.32	119.37	121.90
48	5	2351	U	N3-C2-O2	-6.32	117.78	122.20
48	5	2614	G	C8-N9-C1'	-6.32	118.78	127.00
48	5	65	A	N7-C8-N9	6.32	116.96	113.80
48	5	2735	U	C6-N1-C2	-6.32	117.21	121.00
48	5	1200	A	N1-C2-N3	6.32	132.46	129.30
46	t	385	GLN	CB-CA-C	-6.31	97.78	110.40
48	5	276	U	C2-N3-C4	-6.31	123.21	127.00
48	5	892	U	N3-C4-C5	6.31	118.39	114.60
48	5	2349	U	N3-C4-C5	6.31	118.39	114.60
48	5	787	G	C2-N3-C4	-6.31	108.74	111.90
48	5	75	G	C5-C6-O6	-6.31	124.81	128.60
48	5	679	U	C5-C6-N1	-6.31	119.55	122.70
48	5	1500	G	C8-N9-C4	6.31	108.92	106.40
48	5	2303	A	N1-C6-N6	-6.31	114.81	118.60
48	5	950	G	C8-N9-C4	6.31	108.92	106.40
48	5	2289	U	N3-C4-O4	-6.31	114.98	119.40
48	5	2808	A	N1-C2-N3	6.31	132.45	129.30
1	A	204	MET	CG-SD-CE	-6.30	90.11	100.20
48	5	2352	A	N1-C2-N3	6.30	132.45	129.30
48	5	1389	G	C5-N7-C8	-6.30	101.15	104.30
48	5	2633	U	C5-C6-N1	-6.30	119.55	122.70
48	5	891	G	C8-N9-C4	6.30	108.92	106.40
48	5	2996	U	C2-N1-C1'	6.30	125.26	117.70
48	5	793	C	N1-C2-O2	-6.30	115.12	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	994	G	N3-C2-N2	6.30	124.31	119.90
48	5	1188	U	C5-C4-O4	-6.30	122.12	125.90
48	5	2123	G	C2-N3-C4	6.30	115.05	111.90
48	5	2130	G	N1-C6-O6	-6.30	116.12	119.90
48	5	3330	A	C2-N3-C4	6.30	113.75	110.60
48	5	2211	U	N3-C4-C5	-6.30	110.82	114.60
48	5	2389	C	C5-C6-N1	-6.30	117.85	121.00
50	8	84	C	C6-N1-C2	-6.30	117.78	120.30
48	5	1041	U	C6-N1-C2	6.29	124.78	121.00
48	5	3218	A	N3-C4-C5	6.29	131.21	126.80
48	5	326	U	N3-C4-C5	6.29	118.38	114.60
48	5	1115	G	C8-N9-C4	-6.29	103.88	106.40
48	5	2164	A	C8-N9-C4	-6.29	103.28	105.80
48	5	3003	G	C5-C6-N1	6.29	114.64	111.50
48	5	1314	C	C6-N1-C1'	-6.29	113.25	120.80
48	5	582	G	C5-C6-O6	6.29	132.37	128.60
48	5	2833	A	N7-C8-N9	-6.29	110.66	113.80
48	5	3065	G	C5-C6-O6	6.29	132.37	128.60
48	5	510	G	C5-C6-N1	6.28	114.64	111.50
48	5	637	C	C2-N1-C1'	-6.28	111.89	118.80
48	5	3258	U	C6-N1-C2	6.28	124.77	121.00
48	5	1411	C	N1-C2-O2	-6.28	115.13	118.90
48	5	2277	C	C6-N1-C2	6.28	122.81	120.30
48	5	1130	A	N3-C4-C5	-6.28	122.40	126.80
48	5	1940	G	N1-C2-N2	-6.28	110.55	116.20
48	5	2261	G	C8-N9-C4	6.28	108.91	106.40
48	5	2952	G	N1-C6-O6	6.28	123.67	119.90
46	t	530	LYS	CB-CA-C	-6.28	97.85	110.40
48	5	625	G	C5-C6-O6	6.28	132.37	128.60
48	5	726	G	C5-N7-C8	-6.28	101.16	104.30
48	5	940	G	C8-N9-C4	-6.28	103.89	106.40
48	5	1168	U	N3-C4-C5	6.27	118.36	114.60
48	5	2572	C	C6-N1-C2	-6.27	117.79	120.30
2	B	10	ARG	NE-CZ-NH1	6.27	123.44	120.30
48	5	1449	A	N3-C4-C5	6.27	131.19	126.80
48	5	3308	C	C5-C6-N1	-6.27	117.87	121.00
48	5	1115	G	N3-C4-C5	-6.27	125.47	128.60
48	5	1211	U	N3-C4-O4	-6.27	115.01	119.40
48	5	3317	U	N3-C4-O4	-6.27	115.01	119.40
16	P	127	ARG	NE-CZ-NH1	6.26	123.43	120.30
48	5	314	U	C5-C4-O4	6.26	129.66	125.90
48	5	2616	C	C5-C4-N4	-6.26	115.81	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2420	C	C5-C4-N4	-6.26	115.82	120.20
48	5	2716	U	C6-N1-C2	-6.26	117.24	121.00
48	5	3175	U	C6-N1-C2	-6.26	117.24	121.00
48	5	1306	G	C6-N1-C2	-6.26	121.34	125.10
48	5	2754	G	N1-C6-O6	-6.26	116.14	119.90
48	5	2777	G	C4-C5-N7	-6.26	108.30	110.80
48	5	1872	C	C4-C5-C6	6.26	120.53	117.40
48	5	146	U	N3-C4-O4	-6.25	115.02	119.40
48	5	3270	U	C5-C6-N1	-6.25	119.57	122.70
48	5	656	A	C8-N9-C4	6.25	108.30	105.80
48	5	974	G	N3-C4-N9	6.25	129.75	126.00
48	5	2429	G	C8-N9-C4	-6.25	103.90	106.40
48	5	3216	G	C6-N1-C2	-6.25	121.35	125.10
50	8	38	U	C5-C4-O4	6.25	129.65	125.90
48	5	425	G	N7-C8-N9	-6.25	109.97	113.10
49	7	44	C	N3-C4-C5	-6.25	119.40	121.90
48	5	2128	C	N3-C2-O2	-6.25	117.53	121.90
48	5	436	A	C5-N7-C8	-6.24	100.78	103.90
48	5	1064	A	C8-N9-C4	6.24	108.30	105.80
48	5	1346	G	N3-C4-C5	6.24	131.72	128.60
48	5	2930	A	N9-C4-C5	6.24	108.30	105.80
48	5	691	A	C2-N3-C4	-6.24	107.48	110.60
48	5	1056	U	N3-C4-C5	-6.24	110.86	114.60
48	5	1688	U	N1-C2-O2	6.24	127.17	122.80
48	5	1888	U	C2-N3-C4	-6.24	123.26	127.00
48	5	734	C	N1-C2-O2	6.24	122.64	118.90
48	5	3052	G	N7-C8-N9	-6.24	109.98	113.10
48	5	1425	U	N3-C4-O4	-6.23	115.04	119.40
48	5	408	A	N1-C2-N3	6.23	132.42	129.30
48	5	670	C	N3-C4-C5	6.23	124.39	121.90
48	5	947	G	N3-C4-N9	6.23	129.74	126.00
48	5	3334	U	N3-C2-O2	-6.23	117.84	122.20
48	5	1123	U	C5-C6-N1	-6.23	119.58	122.70
48	5	1383	G	N1-C6-O6	-6.23	116.16	119.90
48	5	3317	U	C5-C6-N1	6.23	125.81	122.70
48	5	933	A	C2-N3-C4	-6.23	107.49	110.60
48	5	351	A	C5-C6-N6	-6.22	118.72	123.70
48	5	437	G	N3-C2-N2	-6.22	115.54	119.90
48	5	3014	U	C5-C4-O4	-6.22	122.17	125.90
48	5	1468	A	C8-N9-C4	-6.22	103.31	105.80
48	5	3266	G	C8-N9-C4	-6.22	103.91	106.40
46	t	56	GLN	N-CA-CB	6.22	121.80	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2930	A	C8-N9-C4	-6.22	103.31	105.80
48	5	3330	A	C6-N1-C2	-6.22	114.87	118.60
50	8	52	A	C8-N9-C4	-6.22	103.31	105.80
48	5	294	U	C5-C4-O4	-6.21	122.17	125.90
48	5	911	C	N1-C2-O2	-6.21	115.17	118.90
48	5	2516	U	C2-N3-C4	-6.21	123.27	127.00
48	5	359	U	C5-C4-O4	-6.21	122.17	125.90
48	5	644	G	N1-C6-O6	-6.21	116.17	119.90
48	5	1810	A	C8-N9-C4	6.21	108.28	105.80
48	5	2381	G	N1-C6-O6	-6.21	116.17	119.90
48	5	1297	C	C4-C5-C6	6.21	120.50	117.40
48	5	2524	A	C6-N1-C2	6.21	122.33	118.60
48	5	2728	G	C8-N9-C4	-6.21	103.92	106.40
48	5	83	U	C5-C4-O4	-6.21	122.17	125.90
48	5	2301	U	N3-C4-C5	6.21	118.32	114.60
48	5	2645	G	C6-N1-C2	-6.21	121.38	125.10
48	5	32	U	N1-C2-O2	-6.20	118.46	122.80
48	5	150	A	C5-C6-N6	-6.20	118.74	123.70
48	5	3187	A	C4-C5-N7	-6.20	107.60	110.70
48	5	112	U	C5-C4-O4	-6.20	122.18	125.90
48	5	3365	U	N1-C2-N3	6.20	118.62	114.90
48	5	514	G	N1-C6-O6	6.20	123.62	119.90
48	5	819	U	C6-N1-C2	6.20	124.72	121.00
48	5	2775	U	C5-C4-O4	6.20	129.62	125.90
48	5	1883	A	N9-C4-C5	6.20	108.28	105.80
48	5	2169	G	N1-C6-O6	-6.20	116.18	119.90
48	5	2886	U	N3-C2-O2	-6.20	117.86	122.20
48	5	1035	G	N3-C4-N9	6.20	129.72	126.00
48	5	1148	G	C5-C6-O6	-6.20	124.88	128.60
48	5	2117	A	C6-N1-C2	-6.20	114.88	118.60
48	5	2353	G	N3-C4-N9	6.20	129.72	126.00
48	5	2552	C	N3-C2-O2	-6.20	117.56	121.90
49	7	25	G	N3-C2-N2	-6.19	115.56	119.90
48	5	904	A	C8-N9-C4	-6.19	103.32	105.80
48	5	1525	G	C4-N9-C1'	6.19	134.55	126.50
48	5	2133	U	N3-C4-C5	6.19	118.32	114.60
48	5	2198	A	C2-N3-C4	-6.19	107.50	110.60
48	5	2615	G	C5-C6-O6	-6.19	124.88	128.60
50	8	53	A	C2-N3-C4	6.19	113.70	110.60
48	5	586	C	N3-C4-C5	6.19	124.38	121.90
48	5	1666	G	C5-C6-O6	6.19	132.31	128.60
48	5	3345	G	N3-C2-N2	-6.19	115.57	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	753	C	C5-C4-N4	-6.19	115.87	120.20
48	5	1652	G	C8-N9-C4	6.19	108.88	106.40
15	O	3[B]	SER	C-N-CA	-6.19	106.23	121.70
48	5	590	G	C5-C6-N1	6.19	114.59	111.50
48	5	1300	G	C4-C5-N7	6.19	113.28	110.80
31	e	4	LEU	C-N-CD	6.19	141.39	128.40
48	5	2133	U	N3-C4-O4	-6.19	115.07	119.40
50	8	15	G	C5-C6-N1	6.19	114.59	111.50
48	5	1301	A	C5-C6-N6	-6.18	118.75	123.70
48	5	3298	C	N1-C2-O2	-6.18	115.19	118.90
49	7	40	C	C4-C5-C6	6.18	120.49	117.40
48	5	1143	A	C6-N1-C2	6.18	122.31	118.60
48	5	1161	G	C8-N9-C4	6.18	108.87	106.40
48	5	2242	A	C5-C6-N6	6.18	128.64	123.70
48	5	1134	G	C6-N1-C2	-6.18	121.39	125.10
48	5	511	G	N3-C2-N2	6.18	124.22	119.90
48	5	1753	G	N3-C4-C5	-6.18	125.51	128.60
48	5	2207	A	C5-N7-C8	-6.18	100.81	103.90
48	5	2777	G	N9-C4-C5	6.18	107.87	105.40
48	5	2858	U	N1-C2-N3	6.18	118.61	114.90
48	5	42	C	C2-N3-C4	6.17	122.99	119.90
48	5	87	U	N3-C4-O4	-6.17	115.08	119.40
48	5	436	A	C8-N9-C1'	-6.17	116.59	127.70
48	5	1430	U	C6-N1-C2	6.17	124.70	121.00
48	5	311	C	N3-C4-C5	6.17	124.37	121.90
48	5	1911	A	N7-C8-N9	-6.17	110.72	113.80
48	5	3138	U	C5-C4-O4	-6.17	122.20	125.90
48	5	949	C	C5-C6-N1	-6.17	117.92	121.00
48	5	1323	G	C8-N9-C4	-6.17	103.93	106.40
48	5	2865	U	N1-C2-N3	-6.17	111.20	114.90
48	5	924	G	N3-C2-N2	-6.16	115.59	119.90
48	5	1772	U	N3-C2-O2	-6.16	117.89	122.20
48	5	2824	G	N3-C4-C5	-6.16	125.52	128.60
48	5	32	U	C6-N1-C2	-6.16	117.30	121.00
46	t	305	PRO	CA-N-CD	-6.16	102.87	111.50
48	5	367	A	N3-C4-N9	-6.16	122.47	127.40
48	5	823	C	N3-C4-C5	6.16	124.36	121.90
48	5	2757	U	N1-C2-O2	-6.16	118.49	122.80
48	5	2830	G	C6-N1-C2	-6.16	121.41	125.10
48	5	935	U	C5-C4-O4	-6.15	122.21	125.90
48	5	2632	G	N9-C4-C5	6.15	107.86	105.40
48	5	2846	U	N1-C2-O2	-6.15	118.49	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1007	U	C2-N3-C4	-6.15	123.31	127.00
50	8	79	A	N9-C4-C5	-6.15	103.34	105.80
48	5	494	G	N3-C4-C5	-6.15	125.53	128.60
48	5	909	G	C5-N7-C8	6.15	107.37	104.30
48	5	1591	G	C5-C6-N1	6.15	114.57	111.50
48	5	785	G	C2-N3-C4	6.14	114.97	111.90
48	5	917	A	C8-N9-C4	-6.14	103.34	105.80
48	5	1162	U	C2-N3-C4	-6.14	123.31	127.00
15	O	117[A]	ARG	NE-CZ-NH2	-6.14	117.23	120.30
15	O	117[B]	ARG	NE-CZ-NH2	-6.14	117.23	120.30
48	5	1389	G	N3-C4-N9	6.14	129.68	126.00
48	5	2415	C	N3-C4-C5	6.14	124.36	121.90
48	5	749	C	N3-C4-C5	-6.14	119.44	121.90
48	5	2228	A	C8-N9-C4	-6.14	103.34	105.80
46	t	167	LYS	N-CA-CB	6.14	121.64	110.60
48	5	2730	G	N3-C4-N9	-6.14	122.32	126.00
48	5	600	G	C6-C5-N7	-6.13	126.72	130.40
48	5	1931	U	C5-C6-N1	-6.13	119.63	122.70
48	5	3000	A	C8-N9-C4	6.13	108.25	105.80
48	5	822	G	N3-C4-N9	-6.13	122.32	126.00
48	5	2128	C	C2-N3-C4	-6.13	116.83	119.90
48	5	2728	G	C6-N1-C2	-6.13	121.42	125.10
50	8	47	C	N1-C2-O2	6.13	122.58	118.90
48	5	216	G	C6-C5-N7	-6.13	126.72	130.40
48	5	1009	A	C8-N9-C4	-6.13	103.35	105.80
48	5	1119	C	C5-C4-N4	-6.13	115.91	120.20
48	5	3098	G	N1-C6-O6	-6.13	116.22	119.90
48	5	1148	G	C5-C6-N1	6.13	114.56	111.50
48	5	3101	G	N1-C6-O6	-6.13	116.22	119.90
48	5	2764	C	N3-C4-C5	6.13	124.35	121.90
48	5	2976	A	N7-C8-N9	-6.13	110.74	113.80
48	5	3086	A	C8-N9-C4	6.12	108.25	105.80
48	5	912	G	N3-C4-N9	6.12	129.67	126.00
48	5	2176	U	N1-C2-N3	6.12	118.57	114.90
48	5	2808	A	N1-C6-N6	6.12	122.27	118.60
48	5	3228	C	N3-C2-O2	-6.12	117.61	121.90
48	5	2650	U	N3-C4-O4	-6.12	115.11	119.40
48	5	2993	G	N3-C4-N9	6.12	129.67	126.00
48	5	1114	U	N3-C4-C5	6.12	118.27	114.60
48	5	1161	G	C2-N3-C4	6.12	114.96	111.90
48	5	3309	G	C5-C6-N1	6.12	114.56	111.50
48	5	1044	U	N3-C4-C5	6.12	118.27	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1307	G	C8-N9-C4	-6.12	103.95	106.40
48	5	2939	G	N7-C8-N9	-6.12	110.04	113.10
48	5	818	C	N3-C4-C5	-6.11	119.45	121.90
48	5	1119	C	N1-C2-O2	-6.11	115.23	118.90
48	5	2386	A	C5-C6-N6	-6.11	118.81	123.70
48	5	2620	G	N1-C6-O6	-6.11	116.23	119.90
48	5	3020	U	C5-C4-O4	-6.11	122.23	125.90
48	5	392	G	C5-C6-O6	-6.11	124.93	128.60
48	5	999	G	C2-N3-C4	6.11	114.96	111.90
48	5	2347	U	N3-C4-C5	6.11	118.27	114.60
48	5	880	G	C5-C6-N1	6.11	114.56	111.50
48	5	1368	U	C6-N1-C2	6.11	124.67	121.00
48	5	1719	G	N1-C6-O6	6.11	123.56	119.90
46	t	384	LYS	N-CA-CB	6.10	121.59	110.60
48	5	80	G	N1-C6-O6	-6.10	116.24	119.90
48	5	822	G	N3-C2-N2	-6.10	115.63	119.90
48	5	2865	U	C2-N1-C1'	6.10	125.02	117.70
48	5	3068	U	N1-C2-N3	6.10	118.56	114.90
48	5	1381	A	C2-N3-C4	-6.10	107.55	110.60
48	5	2930	A	C8-N9-C1'	6.10	138.68	127.70
48	5	3358	U	N3-C2-O2	-6.10	117.93	122.20
48	5	904	A	N9-C4-C5	6.10	108.24	105.80
48	5	3150	A	C2-N3-C4	-6.09	107.55	110.60
48	5	3211	C	C4-C5-C6	6.09	120.45	117.40
39	m	97	ARG	NE-CZ-NH2	-6.09	117.25	120.30
48	5	282	G	N9-C4-C5	6.09	107.84	105.40
48	5	1909	A	N1-C2-N3	-6.09	126.25	129.30
48	5	2368	A	N1-C6-N6	-6.09	114.94	118.60
48	5	2833	A	C5-C6-N1	6.09	120.75	117.70
48	5	2954	U	C5-C4-O4	-6.09	122.25	125.90
48	5	102	C	N3-C4-N4	6.09	122.26	118.00
48	5	3095	U	N3-C4-C5	6.09	118.25	114.60
48	5	2791	G	N1-C6-O6	6.09	123.55	119.90
48	5	1902	G	N7-C8-N9	-6.09	110.06	113.10
48	5	33	G	C6-N1-C2	-6.08	121.45	125.10
48	5	2978	U	C2-N3-C4	-6.08	123.35	127.00
48	5	3266	G	C4-C5-N7	-6.08	108.37	110.80
48	5	1303	A	C2-N3-C4	6.08	113.64	110.60
48	5	66	A	N9-C4-C5	-6.08	103.37	105.80
48	5	386	A	N9-C4-C5	-6.08	103.37	105.80
48	5	1808	G	N1-C6-O6	6.08	123.55	119.90
48	5	2134	G	C2-N3-C4	6.08	114.94	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2980	U	C6-N1-C2	-6.08	117.35	121.00
48	5	386	A	C4-C5-N7	6.08	113.74	110.70
48	5	884	A	C4-C5-C6	-6.08	113.96	117.00
2	B	205	VAL	CB-CA-C	-6.07	99.86	111.40
48	5	1438	U	C2-N1-C1'	6.07	124.99	117.70
48	5	2167	A	N9-C4-C5	6.07	108.23	105.80
14	N	96	ARG	NE-CZ-NH1	6.07	123.33	120.30
48	5	903	U	C5-C6-N1	-6.07	119.67	122.70
48	5	2381	G	C5-C6-O6	6.07	132.24	128.60
48	5	3382	U	C6-N1-C1'	-6.07	112.70	121.20
2	B	232	ARG	NE-CZ-NH2	-6.07	117.27	120.30
15	O	117[A]	ARG	CG-CD-NE	-6.07	99.06	111.80
15	O	117[B]	ARG	CG-CD-NE	-6.07	99.06	111.80
48	5	555	U	N3-C4-O4	6.07	123.65	119.40
48	5	811	U	C4-C5-C6	6.07	123.34	119.70
48	5	927	C	N3-C4-C5	6.07	124.33	121.90
48	5	1518	U	N3-C2-O2	-6.07	117.95	122.20
48	5	3272	C	C6-N1-C2	6.06	122.72	120.30
48	5	1124	U	N3-C4-C5	6.06	118.24	114.60
48	5	2646	C	N1-C2-O2	-6.06	115.26	118.90
48	5	341	G	N1-C2-N2	6.06	121.65	116.20
48	5	1910	A	C5-C6-N1	6.06	120.73	117.70
48	5	1582	C	C6-N1-C2	-6.06	117.88	120.30
48	5	1222	G	P-O3'-C3'	6.05	126.97	119.70
49	7	46	A	C8-N9-C4	-6.05	103.38	105.80
48	5	283	G	C4-C5-N7	6.05	113.22	110.80
48	5	370	U	N1-C2-N3	6.05	118.53	114.90
48	5	341	G	N1-C6-O6	6.05	123.53	119.90
48	5	595	G	N1-C6-O6	-6.05	116.27	119.90
48	5	1192	C	C2-N3-C4	-6.05	116.87	119.90
48	5	1301	A	N9-C4-C5	-6.05	103.38	105.80
48	5	2908	G	C5-C6-N1	-6.05	108.47	111.50
48	5	933	A	C6-N1-C2	-6.05	114.97	118.60
48	5	1110	U	N3-C4-O4	-6.05	115.17	119.40
48	5	2928	C	C6-N1-C2	-6.05	117.88	120.30
48	5	2724	U	C5-C4-O4	6.05	129.53	125.90
48	5	516	A	N1-C6-N6	6.04	122.23	118.60
48	5	920	A	N7-C8-N9	-6.04	110.78	113.80
48	5	1858	A	C4-C5-C6	6.04	120.02	117.00
48	5	125	C	N3-C4-N4	-6.04	113.77	118.00
48	5	424	G	N1-C6-O6	-6.04	116.27	119.90
48	5	795	G	C2-N3-C4	6.04	114.92	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2371	G	C8-N9-C4	6.04	108.82	106.40
48	5	2396	G	C8-N9-C4	-6.04	103.98	106.40
48	5	2370	G	C5-C6-N1	6.04	114.52	111.50
48	5	2399	A	C8-N9-C4	6.04	108.22	105.80
48	5	2749	G	N1-C2-N3	-6.04	120.28	123.90
48	5	2911	A	N1-C2-N3	-6.04	126.28	129.30
48	5	1136	A	N1-C2-N3	-6.04	126.28	129.30
48	5	1929	G	N9-C4-C5	-6.04	102.98	105.40
48	5	2603	G	C5-N7-C8	-6.04	101.28	104.30
48	5	3110	C	C2-N3-C4	-6.04	116.88	119.90
48	5	3245	A	N9-C4-C5	-6.04	103.38	105.80
48	5	35	A	C2-N3-C4	-6.04	107.58	110.60
48	5	1000	C	C6-N1-C2	-6.04	117.88	120.30
48	5	2730	G	C5-N7-C8	-6.04	101.28	104.30
48	5	1184	A	C2-N3-C4	-6.04	107.58	110.60
48	5	2395	G	C4-C5-N7	-6.04	108.39	110.80
48	5	1378	U	C6-N1-C2	6.04	124.62	121.00
48	5	2353	G	C6-C5-N7	-6.03	126.78	130.40
48	5	1438	U	N3-C2-O2	-6.03	117.98	122.20
48	5	2392	C	N3-C4-C5	6.03	124.31	121.90
48	5	1340	G	N7-C8-N9	-6.03	110.08	113.10
48	5	1678	G	C5-C6-N1	6.03	114.52	111.50
48	5	3382	U	N3-C2-O2	-6.03	117.98	122.20
48	5	594	U	C5-C6-N1	6.03	125.71	122.70
48	5	3182	G	C5-C6-O6	6.03	132.22	128.60
48	5	3343	G	N1-C2-N2	-6.03	110.78	116.20
48	5	1869	C	C2-N3-C4	-6.03	116.89	119.90
48	5	971	G	N1-C2-N3	-6.02	120.29	123.90
48	5	1897	G	C5-C6-N1	6.02	114.51	111.50
48	5	708	G	C8-N9-C4	-6.02	103.99	106.40
48	5	2830	G	N3-C2-N2	-6.02	115.69	119.90
48	5	673	U	C2-N3-C4	-6.02	123.39	127.00
48	5	813	G	N9-C4-C5	6.02	107.81	105.40
48	5	1371	G	C6-N1-C2	-6.02	121.49	125.10
48	5	1469	C	C4-C5-C6	6.02	120.41	117.40
50	8	14	C	C2-N3-C4	-6.02	116.89	119.90
48	5	226	C	C5-C4-N4	-6.02	115.99	120.20
48	5	641	C	C5-C4-N4	6.02	124.41	120.20
48	5	679	U	C5-C4-O4	6.02	129.51	125.90
48	5	1147	G	C6-C5-N7	6.02	134.01	130.40
48	5	2359	C	C5-C6-N1	-6.02	117.99	121.00
48	5	2361	A	C5-N7-C8	6.02	106.91	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3140	G	C5-N7-C8	-6.02	101.29	104.30
50	8	42	G	N7-C8-N9	-6.02	110.09	113.10
48	5	1206	G	N3-C4-C5	-6.02	125.59	128.60
48	5	2910	A	N1-C6-N6	-6.02	114.99	118.60
48	5	883	A	N7-C8-N9	-6.01	110.79	113.80
48	5	1165	A	C8-N9-C4	6.01	108.21	105.80
48	5	2837	A	N7-C8-N9	-6.01	110.79	113.80
13	M	106	ARG	NE-CZ-NH2	-6.01	117.29	120.30
48	5	1128	U	C5-C6-N1	-6.01	119.69	122.70
48	5	976	U	N3-C2-O2	-6.01	117.99	122.20
48	5	1175	C	N3-C4-C5	6.01	124.30	121.90
48	5	1548	C	N1-C2-O2	-6.01	115.29	118.90
48	5	619	A	N1-C6-N6	-6.01	114.99	118.60
48	5	2799	A	C2-N3-C4	-6.01	107.60	110.60
48	5	1808	G	C8-N9-C4	6.01	108.80	106.40
48	5	2108	C	N3-C4-N4	-6.01	113.80	118.00
50	8	63	G	N1-C6-O6	-6.00	116.30	119.90
48	5	987	U	N3-C2-O2	-6.00	118.00	122.20
48	5	1725	C	C5-C4-N4	6.00	124.40	120.20
48	5	351	A	N1-C6-N6	6.00	122.20	118.60
48	5	416	A	N9-C4-C5	6.00	108.20	105.80
48	5	2887	A	C6-N1-C2	6.00	122.20	118.60
48	5	520	U	N1-C2-N3	6.00	118.50	114.90
9	I	83	ASP	CB-CG-OD1	-6.00	112.90	118.30
48	5	847	A	N7-C8-N9	-6.00	110.80	113.80
48	5	2851	A	N7-C8-N9	-6.00	110.80	113.80
48	5	3112	G	N1-C6-O6	6.00	123.50	119.90
48	5	2318	U	N3-C4-O4	-6.00	115.20	119.40
48	5	2358	A	C8-N9-C4	6.00	108.20	105.80
48	5	2365	C	C5-C6-N1	-6.00	118.00	121.00
13	M	135	LEU	CA-CB-CG	6.00	129.09	115.30
48	5	3369	G	C6-N1-C2	-6.00	121.50	125.10
48	5	1242	G	C4-N9-C1'	5.99	134.29	126.50
4	D	248	ARG	NE-CZ-NH1	5.99	123.30	120.30
48	5	517	G	N1-C2-N3	5.99	127.49	123.90
48	5	3003	G	C4-C5-C6	-5.99	115.20	118.80
48	5	3028	G	N3-C4-N9	5.99	129.59	126.00
48	5	3318	G	N1-C6-O6	-5.99	116.31	119.90
50	8	33	A	C8-N9-C4	5.99	108.20	105.80
48	5	2424	A	C5-C6-N6	-5.99	118.91	123.70
48	5	2687	G	C5-C6-N1	5.99	114.49	111.50
48	5	2844	C	N1-C2-O2	5.99	122.49	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	892	U	C2-N3-C4	-5.99	123.41	127.00
48	5	1168	U	N3-C4-O4	-5.99	115.21	119.40
48	5	1739	U	C5-C4-O4	5.99	129.49	125.90
48	5	3013	U	N3-C2-O2	-5.99	118.01	122.20
48	5	337	G	N1-C6-O6	-5.98	116.31	119.90
15	O	13[B]	ASP	C-N-CA	5.98	136.66	121.70
48	5	1181	U	C6-N1-C2	5.98	124.59	121.00
48	5	2116	G	C6-C5-N7	-5.98	126.81	130.40
48	5	2364	G	N3-C4-C5	-5.98	125.61	128.60
48	5	2416	U	N3-C2-O2	-5.98	118.01	122.20
48	5	2518	C	C2-N3-C4	-5.98	116.91	119.90
46	t	83	LYS	N-CA-CB	5.98	121.36	110.60
50	8	100	U	C5-C4-O4	-5.98	122.31	125.90
48	5	701	G	C4-C5-N7	-5.97	108.41	110.80
48	5	1042	U	N3-C2-O2	-5.97	118.02	122.20
48	5	2329	C	N3-C4-N4	-5.97	113.82	118.00
48	5	2526	C	N1-C2-O2	5.97	122.48	118.90
48	5	2692	A	C5-C6-N6	5.97	128.48	123.70
48	5	3075	G	C4-C5-N7	-5.97	108.41	110.80
9	I	57	LEU	CA-CB-CG	5.97	129.04	115.30
48	5	655	C	C6-N1-C2	-5.97	117.91	120.30
48	5	2250	G	N1-C6-O6	-5.97	116.32	119.90
48	5	1047	A	C5-C6-N1	5.97	120.69	117.70
48	5	993	G	C8-N9-C4	-5.97	104.01	106.40
48	5	2166	A	N1-C6-N6	5.97	122.18	118.60
48	5	2952	G	C6-N1-C2	-5.97	121.52	125.10
48	5	3343	G	N3-C2-N2	5.97	124.08	119.90
48	5	1171	G	N7-C8-N9	5.97	116.08	113.10
48	5	2405	C	N3-C2-O2	-5.97	117.72	121.90
48	5	3187	A	N7-C8-N9	-5.97	110.82	113.80
48	5	994	G	C8-N9-C4	5.97	108.79	106.40
46	t	546	GLN	CB-CA-C	-5.96	98.47	110.40
48	5	2346	C	N1-C2-O2	-5.96	115.32	118.90
48	5	2411	U	N3-C4-C5	5.96	118.18	114.60
48	5	2792	A	C8-N9-C4	-5.96	103.42	105.80
48	5	2639	G	C6-C5-N7	-5.96	126.82	130.40
48	5	1866	C	N3-C2-O2	5.96	126.07	121.90
48	5	2552	C	C5-C4-N4	5.96	124.37	120.20
50	8	12	A	N7-C8-N9	5.96	116.78	113.80
17	Q	99	THR	N-CA-C	5.96	127.08	111.00
48	5	2145	A	C5-C6-N1	5.96	120.68	117.70
48	5	2410	U	N3-C4-C5	5.96	118.17	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	386	A	C5-C6-N6	-5.95	118.94	123.70
48	5	861	C	N1-C2-O2	-5.95	115.33	118.90
48	5	1772	U	C5-C4-O4	5.95	129.47	125.90
49	7	92	A	N9-C4-C5	-5.95	103.42	105.80
48	5	1481	A	N3-C4-C5	-5.95	122.63	126.80
48	5	1882	G	N9-C4-C5	5.95	107.78	105.40
48	5	2939	G	C5-N7-C8	5.95	107.28	104.30
46	t	509	LEU	N-CA-CB	5.95	122.30	110.40
48	5	1035	G	C4-N9-C1'	5.95	134.24	126.50
48	5	2911	A	C8-N9-C4	-5.95	103.42	105.80
48	5	591	G	N3-C4-N9	5.95	129.57	126.00
48	5	1305	U	N3-C4-O4	5.95	123.56	119.40
48	5	2730	G	N3-C4-C5	5.95	131.57	128.60
6	F	191	VAL	C-N-CA	-5.95	109.81	122.30
48	5	426	G	N7-C8-N9	-5.95	110.13	113.10
48	5	1117	G	C5-C6-O6	-5.95	125.03	128.60
48	5	1456	A	C8-N9-C4	5.95	108.18	105.80
48	5	2988	C	N1-C2-N3	5.95	123.36	119.20
48	5	2976	A	C8-N9-C4	5.94	108.18	105.80
49	7	96	U	C2-N1-C1'	5.94	124.83	117.70
48	5	416	A	C8-N9-C4	-5.94	103.42	105.80
48	5	873	C	P-O3'-C3'	5.94	126.83	119.70
48	5	2753	G	N7-C8-N9	5.94	116.07	113.10
48	5	3192	U	C2-N3-C4	-5.94	123.43	127.00
48	5	2758	A	N3-C4-C5	-5.94	122.64	126.80
48	5	2920	U	N1-C2-N3	5.94	118.47	114.90
48	5	965	A	N3-C4-C5	-5.94	122.64	126.80
48	5	1323	G	N9-C4-C5	5.94	107.78	105.40
48	5	2426	U	N3-C4-O4	-5.94	115.24	119.40
48	5	874	U	N3-C4-O4	-5.94	115.24	119.40
48	5	1838	G	N7-C8-N9	-5.94	110.13	113.10
48	5	2917	G	N1-C6-O6	5.94	123.46	119.90
48	5	2931	C	C2-N3-C4	-5.94	116.93	119.90
48	5	3148	U	N3-C4-C5	5.94	118.16	114.60
3	C	84	ARG	NE-CZ-NH2	-5.94	117.33	120.30
48	5	1369	A	N1-C6-N6	5.94	122.16	118.60
48	5	2617	U	N3-C4-C5	5.93	118.16	114.60
48	5	2744	U	C5-C6-N1	-5.93	119.73	122.70
48	5	2792	A	C2-N3-C4	5.93	113.57	110.60
48	5	3240	C	N3-C4-N4	-5.93	113.85	118.00
48	5	2114	C	N1-C2-N3	5.93	123.35	119.20
48	5	2409	G	N7-C8-N9	5.93	116.06	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3222	U	N3-C2-O2	-5.93	118.05	122.20
46	t	305	PRO	N-CA-CB	5.93	110.42	103.30
48	5	283	G	N1-C6-O6	5.93	123.46	119.90
48	5	894	G	N3-C4-N9	5.93	129.56	126.00
48	5	1307	G	P-O3'-C3'	5.93	126.82	119.70
48	5	3112	G	C5-C6-O6	-5.93	125.04	128.60
48	5	83	U	C2-N1-C1'	5.93	124.81	117.70
48	5	3064	U	N3-C2-O2	-5.93	118.05	122.20
48	5	3341	U	C5-C6-N1	5.93	125.66	122.70
48	5	587	U	C5-C6-N1	-5.93	119.74	122.70
48	5	1311	G	N1-C2-N3	-5.93	120.34	123.90
48	5	2915	U	N3-C2-O2	-5.93	118.05	122.20
48	5	432	G	C2-N3-C4	-5.92	108.94	111.90
48	5	1086	C	N1-C2-O2	5.92	122.45	118.90
48	5	3326	G	N1-C6-O6	-5.92	116.35	119.90
48	5	1699	A	N1-C6-N6	5.92	122.15	118.60
48	5	2709	C	N3-C4-C5	5.92	124.27	121.90
48	5	3075	G	C5-C6-N1	-5.92	108.54	111.50
48	5	1122	U	N3-C2-O2	-5.92	118.06	122.20
48	5	3277	U	C6-N1-C2	-5.92	117.45	121.00
48	5	3351	U	N3-C2-O2	-5.92	118.06	122.20
48	5	2943	G	N1-C2-N2	-5.92	110.87	116.20
48	5	2130	G	N1-C2-N2	-5.92	110.88	116.20
48	5	3333	G	N9-C4-C5	-5.92	103.03	105.40
48	5	2184	U	N3-C2-O2	-5.92	118.06	122.20
48	5	3095	U	C2-N3-C4	-5.92	123.45	127.00
48	5	974	G	C8-N9-C1'	-5.91	119.31	127.00
48	5	1907	C	C5-C6-N1	5.91	123.96	121.00
48	5	2965	U	N1-C2-O2	-5.91	118.66	122.80
48	5	3373	U	C5-C6-N1	-5.91	119.74	122.70
48	5	3216	G	C4-C5-C6	5.91	122.35	118.80
2	B	114	VAL	CB-CA-C	-5.91	100.17	111.40
36	j	21	ARG	NE-CZ-NH2	-5.91	117.34	120.30
48	5	359	U	C6-N1-C2	5.91	124.55	121.00
48	5	2421	U	N1-C2-N3	5.91	118.45	114.90
48	5	2641	U	N1-C2-O2	-5.91	118.66	122.80
48	5	3075	G	C4-C5-C6	5.91	122.35	118.80
48	5	2961	G	N7-C8-N9	5.91	116.05	113.10
48	5	667	C	C2-N1-C1'	-5.91	112.30	118.80
48	5	201	A	C2-N3-C4	-5.91	107.65	110.60
48	5	419	G	C8-N9-C4	5.91	108.76	106.40
48	5	3055	U	N1-C2-O2	5.91	126.93	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3226	A	N1-C2-N3	-5.91	126.35	129.30
48	5	3269	U	N3-C2-O2	-5.91	118.07	122.20
48	5	968	G	C8-N9-C4	5.90	108.76	106.40
48	5	2113	A	C8-N9-C4	5.90	108.16	105.80
48	5	2607	G	N1-C6-O6	-5.90	116.36	119.90
49	7	12	U	C5-C4-O4	-5.90	122.36	125.90
48	5	2366	C	C6-N1-C1'	-5.90	113.72	120.80
48	5	1317	A	N3-C4-N9	5.90	132.12	127.40
48	5	1512	U	C5-C6-N1	-5.90	119.75	122.70
48	5	2323	G	N1-C6-O6	-5.90	116.36	119.90
48	5	2370	G	N1-C2-N3	5.90	127.44	123.90
48	5	795	G	C5-N7-C8	5.90	107.25	104.30
48	5	1889	G	N3-C4-C5	-5.89	125.65	128.60
50	8	99	C	N3-C4-C5	5.89	124.26	121.90
48	5	432	G	C4-C5-N7	5.89	113.16	110.80
48	5	546	C	N3-C2-O2	-5.89	117.78	121.90
48	5	3298	C	C4-C5-C6	5.89	120.35	117.40
48	5	2167	A	N1-C6-N6	-5.89	115.07	118.60
48	5	2271	A	N1-C6-N6	-5.89	115.07	118.60
48	5	593	C	C2-N1-C1'	5.89	125.28	118.80
48	5	2188	A	N7-C8-N9	-5.89	110.86	113.80
49	7	25	G	C5-C6-O6	-5.89	125.07	128.60
48	5	2421	U	N1-C2-O2	-5.88	118.68	122.80
48	5	590	G	C5-C6-O6	-5.88	125.07	128.60
48	5	1178	G	C5-N7-C8	-5.88	101.36	104.30
48	5	1190	A	N1-C6-N6	-5.88	115.07	118.60
48	5	2314	U	C6-N1-C1'	-5.88	112.97	121.20
22	V	33	ASN	CB-CA-C	-5.88	98.64	110.40
48	5	968	G	C4-C5-N7	5.88	113.15	110.80
48	5	39	A	N3-C4-N9	5.88	132.10	127.40
48	5	1437	C	C2-N1-C1'	5.88	125.27	118.80
48	5	2118	C	N1-C2-O2	5.88	122.43	118.90
48	5	182	U	C5-C6-N1	5.88	125.64	122.70
48	5	3216	G	N1-C2-N3	5.88	127.42	123.90
48	5	1127	G	C5-C6-N1	5.87	114.44	111.50
48	5	1189	C	C6-N1-C2	5.87	122.65	120.30
48	5	1429	G	C2-N3-C4	-5.87	108.96	111.90
48	5	1495	U	C2-N1-C1'	5.87	124.75	117.70
48	5	2349	U	C4-C5-C6	-5.87	116.18	119.70
48	5	2747	A	N9-C4-C5	5.87	108.15	105.80
48	5	2917	G	N3-C4-C5	-5.87	125.66	128.60
48	5	3100	U	N1-C2-O2	5.87	126.91	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3241	G	C4-C5-N7	5.87	113.15	110.80
48	5	2531	C	C6-N1-C1'	-5.87	113.75	120.80
48	5	404	G	N3-C2-N2	-5.87	115.79	119.90
48	5	2347	U	C2-N3-C4	-5.87	123.48	127.00
48	5	25	U	N1-C2-O2	-5.87	118.69	122.80
48	5	2849	C	C6-N1-C2	-5.87	117.95	120.30
50	8	24	G	N3-C2-N2	5.87	124.01	119.90
48	5	216	G	C5-C6-O6	-5.87	125.08	128.60
48	5	1415	U	C5-C6-N1	-5.87	119.77	122.70
48	5	524	U	N1-C2-O2	-5.87	118.69	122.80
48	5	1490	A	C2-N3-C4	-5.87	107.67	110.60
48	5	2320	A	N1-C6-N6	-5.87	115.08	118.60
48	5	3099	C	C4-C5-C6	5.87	120.33	117.40
12	L	46	ILE	CG1-CB-CG2	-5.86	98.50	111.40
48	5	1495	U	N3-C4-C5	-5.86	111.08	114.60
48	5	2516	U	C5-C4-O4	-5.86	122.38	125.90
48	5	2711	C	C4-C5-C6	5.86	120.33	117.40
48	5	3102	G	C5-C6-O6	5.86	132.12	128.60
48	5	3141	A	C4-C5-C6	5.86	119.93	117.00
48	5	3267	A	N1-C2-N3	5.86	132.23	129.30
48	5	874	U	C5-C6-N1	-5.86	119.77	122.70
48	5	2141	U	N3-C2-O2	-5.86	118.10	122.20
48	5	2549	G	C4-N9-C1'	5.86	134.12	126.50
46	t	53	LYS	N-CA-CB	5.86	121.15	110.60
48	5	1045	C	N1-C2-N3	5.86	123.30	119.20
48	5	345	G	C6-N1-C2	-5.86	121.59	125.10
48	5	1247	U	C5-C6-N1	5.86	125.63	122.70
48	5	2410	U	N3-C4-O4	-5.86	115.30	119.40
48	5	2617	U	C6-N1-C2	5.86	124.52	121.00
48	5	2846	U	C5-C6-N1	-5.86	119.77	122.70
14	N	172	ARG	NE-CZ-NH2	5.86	123.23	120.30
48	5	509	U	N1-C2-N3	5.86	118.41	114.90
48	5	1206	G	C4-C5-N7	-5.85	108.46	110.80
48	5	2426	U	N3-C2-O2	-5.85	118.10	122.20
48	5	3088	G	C5-N7-C8	-5.85	101.37	104.30
48	5	908	G	C8-N9-C1'	-5.85	119.39	127.00
48	5	1753	G	C2-N3-C4	5.85	114.83	111.90
48	5	2292	U	C2-N3-C4	-5.85	123.49	127.00
48	5	2992	U	N3-C2-O2	-5.85	118.10	122.20
48	5	3120	C	N3-C4-C5	-5.85	119.56	121.90
9	I	7	ARG	NE-CZ-NH1	-5.85	117.38	120.30
48	5	2381	G	C2-N3-C4	5.85	114.83	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	19	ARG	NE-CZ-NH2	-5.85	117.38	120.30
48	5	365	A	C5-C6-N6	-5.85	119.02	123.70
48	5	966	U	C2-N1-C1'	5.85	124.72	117.70
48	5	2361	A	N3-C4-N9	5.85	132.08	127.40
48	5	2843	U	C2-N1-C1'	5.85	124.72	117.70
48	5	3296	A	C8-N9-C4	5.85	108.14	105.80
48	5	1181	U	C2-N3-C4	-5.85	123.49	127.00
48	5	1586	G	N3-C4-C5	-5.85	125.68	128.60
48	5	3340	G	N1-C6-O6	-5.85	116.39	119.90
48	5	3395	G	N3-C4-C5	5.85	131.52	128.60
48	5	1892	G	N3-C2-N2	-5.85	115.81	119.90
48	5	3224	G	N1-C6-O6	-5.85	116.39	119.90
48	5	1043	C	C5-C6-N1	-5.84	118.08	121.00
48	5	2335	G	N1-C6-O6	-5.84	116.39	119.90
48	5	1494	U	N3-C2-O2	5.84	126.29	122.20
48	5	2148	U	N3-C2-O2	5.84	126.29	122.20
48	5	3019	U	N3-C4-C5	5.84	118.11	114.60
50	8	55	U	N3-C4-C5	-5.84	111.09	114.60
48	5	798	G	C5-C6-N1	5.84	114.42	111.50
48	5	1210	U	N3-C4-O4	-5.84	115.31	119.40
48	5	1485	G	N3-C4-C5	-5.84	125.68	128.60
48	5	2327	U	N3-C4-C5	5.84	118.10	114.60
48	5	2906	C	N3-C4-C5	-5.84	119.56	121.90
48	5	590	G	C5-N7-C8	-5.84	101.38	104.30
48	5	2346	C	C5-C4-N4	-5.84	116.11	120.20
48	5	272	G	C2-N3-C4	-5.83	108.98	111.90
48	5	741	U	C2-N3-C4	5.83	130.50	127.00
48	5	1917	C	C2-N3-C4	-5.83	116.98	119.90
48	5	2147	A	C5-C6-N6	-5.83	119.03	123.70
48	5	2412	G	N9-C4-C5	5.83	107.73	105.40
50	8	28	C	C4-C5-C6	-5.83	114.48	117.40
46	t	240	PRO	N-CA-CB	5.83	110.30	103.30
48	5	1133	A	N1-C2-N3	-5.83	126.39	129.30
48	5	96	G	N1-C2-N3	5.83	127.40	123.90
48	5	911	C	C2-N3-C4	-5.83	116.99	119.90
48	5	2770	G	C2-N3-C4	5.83	114.81	111.90
48	5	2305	G	N1-C2-N2	-5.83	110.96	116.20
48	5	689	U	N3-C4-O4	-5.82	115.32	119.40
48	5	795	G	N1-C2-N3	-5.82	120.41	123.90
48	5	1193	A	C2-N3-C4	-5.82	107.69	110.60
48	5	2148	U	C5-C4-O4	-5.82	122.41	125.90
48	5	706	A	N1-C2-N3	-5.82	126.39	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	216	G	C4-C5-N7	5.82	113.13	110.80
48	5	1297	C	C5-C4-N4	-5.82	116.13	120.20
48	5	1136	A	C2-N3-C4	5.82	113.51	110.60
48	5	613	G	N1-C6-O6	-5.82	116.41	119.90
48	5	1939	G	N1-C2-N2	-5.82	110.97	116.20
48	5	2584	G	C4-C5-N7	5.82	113.13	110.80
48	5	2804	A	C8-N9-C4	5.82	108.13	105.80
48	5	3215	A	C8-N9-C4	5.82	108.13	105.80
48	5	1512	U	C4-C5-C6	5.82	123.19	119.70
9	I	21	ARG	NE-CZ-NH1	5.81	123.21	120.30
48	5	815	G	N9-C4-C5	5.81	107.73	105.40
48	5	979	U	N1-C2-O2	5.81	126.87	122.80
48	5	2510	U	C2-N1-C1'	-5.81	110.73	117.70
48	5	3212	C	C5-C6-N1	-5.81	118.09	121.00
48	5	2248	C	C5-C6-N1	-5.81	118.09	121.00
49	7	47	C	C2-N3-C4	-5.81	117.00	119.90
48	5	2338	C	N3-C4-C5	-5.81	119.58	121.90
48	5	2817	A	C2-N3-C4	5.81	113.50	110.60
48	5	3131	U	C5-C4-O4	-5.81	122.42	125.90
48	5	1438	U	C6-N1-C2	-5.81	117.52	121.00
48	5	3152	U	C6-N1-C2	5.81	124.48	121.00
48	5	665	A	N9-C4-C5	-5.80	103.48	105.80
48	5	916	G	N3-C4-N9	-5.80	122.52	126.00
46	t	170	LEU	CB-CA-C	-5.80	99.18	110.20
48	5	376	G	N1-C6-O6	-5.80	116.42	119.90
48	5	427	C	C2-N3-C4	-5.80	117.00	119.90
48	5	2207	A	N7-C8-N9	5.80	116.70	113.80
48	5	2838	A	C6-N1-C2	-5.80	115.12	118.60
48	5	2893	C	C4-C5-C6	5.80	120.30	117.40
49	7	5	G	C8-N9-C4	5.80	108.72	106.40
50	8	17	A	C5-C6-N6	-5.80	119.06	123.70
48	5	1607	U	C2-N3-C4	-5.80	123.52	127.00
48	5	1834	U	C6-N1-C2	5.80	124.48	121.00
48	5	3298	C	C2-N3-C4	-5.80	117.00	119.90
12	L	76	THR	N-CA-CB	5.79	121.31	110.30
48	5	2335	G	N9-C4-C5	5.79	107.72	105.40
48	5	3130	A	C6-N1-C2	-5.79	115.12	118.60
50	8	104	A	N1-C6-N6	5.79	122.08	118.60
48	5	332	C	C5-C6-N1	-5.79	118.10	121.00
48	5	289	A	C5-C6-N1	5.79	120.60	117.70
48	5	2549	G	N1-C6-O6	5.79	123.38	119.90
48	5	3197	G	N3-C4-N9	-5.79	122.53	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	153	U	C5-C4-O4	5.79	129.37	125.90
48	5	3388	C	N3-C2-O2	-5.79	117.85	121.90
48	5	1116	G	C5-C6-O6	5.79	132.07	128.60
48	5	3218	A	N7-C8-N9	5.79	116.69	113.80
50	8	7	U	C5-C6-N1	-5.79	119.81	122.70
50	8	23	U	C4-C5-C6	5.79	123.17	119.70
48	5	1116	G	N3-C4-C5	-5.79	125.71	128.60
48	5	1669	C	C6-N1-C2	5.79	122.61	120.30
48	5	3000	A	C5-C6-N6	-5.79	119.07	123.70
48	5	798	G	C5-C6-O6	-5.79	125.13	128.60
48	5	3301	U	C6-N1-C2	5.79	124.47	121.00
48	5	159	A	C8-N9-C4	5.78	108.11	105.80
48	5	363	G	N9-C4-C5	5.78	107.71	105.40
48	5	1159	A	N3-C4-C5	5.78	130.85	126.80
48	5	1322	U	N3-C4-C5	5.78	118.07	114.60
48	5	1607	U	P-O3'-C3'	5.78	126.64	119.70
48	5	1902	G	C5-C6-N1	5.78	114.39	111.50
48	5	2643	A	N1-C2-N3	-5.78	126.41	129.30
48	5	2692	A	C5-N7-C8	5.78	106.79	103.90
48	5	2745	G	C5-C6-O6	-5.78	125.13	128.60
48	5	3285	C	C2-N1-C1'	5.78	125.16	118.80
48	5	1524	A	N1-C2-N3	5.78	132.19	129.30
48	5	2866	U	C2-N3-C4	-5.78	123.53	127.00
19	S	155	ARG	CG-CD-NE	5.78	123.93	111.80
48	5	994	G	C6-N1-C2	-5.78	121.63	125.10
48	5	1129	A	C2-N3-C4	5.78	113.49	110.60
48	5	1911	A	C2-N3-C4	-5.78	107.71	110.60
48	5	2129	U	N3-C4-C5	5.78	118.07	114.60
49	7	80	G	N3-C4-N9	5.78	129.47	126.00
50	8	16	G	N1-C2-N3	5.78	127.37	123.90
2	B	266	ARG	NE-CZ-NH1	5.78	123.19	120.30
48	5	1477	A	N1-C2-N3	5.78	132.19	129.30
48	5	2337	C	C2-N3-C4	-5.78	117.01	119.90
48	5	2846	U	C2-N3-C4	-5.78	123.53	127.00
48	5	666	A	C2-N3-C4	-5.77	107.71	110.60
48	5	2305	G	C6-C5-N7	-5.77	126.94	130.40
48	5	3259	U	C5-C6-N1	5.77	125.59	122.70
48	5	523	A	C5-C6-N6	5.77	128.32	123.70
48	5	1126	G	C2-N3-C4	-5.77	109.01	111.90
48	5	1128	U	N1-C2-N3	5.77	118.36	114.90
48	5	24	G	C5-C6-O6	-5.77	125.14	128.60
48	5	1369	A	N9-C4-C5	-5.77	103.49	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
49	7	106	U	C5-C6-N1	-5.77	119.81	122.70
38	l	45	ARG	NE-CZ-NH2	-5.77	117.42	120.30
48	5	680	G	N3-C2-N2	5.77	123.94	119.90
48	5	3076	C	N3-C2-O2	-5.77	117.86	121.90
48	5	2108	C	N3-C4-C5	5.77	124.21	121.90
48	5	3316	A	N1-C6-N6	5.77	122.06	118.60
48	5	1445	U	C2-N3-C4	-5.76	123.54	127.00
50	8	20	U	C5-C6-N1	-5.76	119.82	122.70
48	5	1206	G	C2-N3-C4	5.76	114.78	111.90
48	5	1443	G	C5-C6-N1	-5.76	108.62	111.50
15	O	197[B]	PHE	O-C-N	5.76	133.00	123.20
48	5	591	G	C8-N9-C4	5.76	108.70	106.40
48	5	3113	A	C5-C6-N1	5.76	120.58	117.70
48	5	365	A	N1-C6-N6	5.76	122.06	118.60
48	5	1158	A	C4-C5-N7	5.76	113.58	110.70
48	5	1364	C	C5-C6-N1	-5.76	118.12	121.00
48	5	1832	C	C6-N1-C2	5.76	122.60	120.30
48	5	39	A	C5-N7-C8	5.76	106.78	103.90
48	5	2920	U	C4-C5-C6	5.76	123.16	119.70
48	5	880	G	C2-N3-C4	5.76	114.78	111.90
48	5	2835	U	N1-C2-N3	5.76	118.35	114.90
48	5	2971	A	C2-N3-C4	5.76	113.48	110.60
48	5	3375	A	N1-C2-N3	-5.75	126.42	129.30
48	5	2306	C	C2-N1-C1'	5.75	125.13	118.80
48	5	2920	U	N1-C2-O2	-5.75	118.77	122.80
48	5	326	U	C4-C5-C6	-5.75	116.25	119.70
48	5	1242	G	N3-C4-N9	5.75	129.45	126.00
48	5	1931	U	C6-N1-C1'	5.75	129.25	121.20
48	5	1045	C	N1-C2-O2	-5.75	115.45	118.90
48	5	2899	C	C5-C6-N1	-5.75	118.13	121.00
48	5	3212	C	N1-C2-O2	-5.75	115.45	118.90
48	5	666	A	C8-N9-C4	5.75	108.10	105.80
48	5	706	A	C5-C6-N6	-5.75	119.10	123.70
46	t	171	GLN	CB-CA-C	-5.75	98.91	110.40
48	5	2142	A	N3-C4-N9	5.75	132.00	127.40
48	5	88	A	C5-C6-N1	-5.74	114.83	117.70
48	5	1116	G	C4-C5-C6	5.74	122.25	118.80
48	5	2658	G	N7-C8-N9	-5.74	110.23	113.10
48	5	3241	G	C5-C6-O6	-5.74	125.15	128.60
48	5	1060	U	C2-N3-C4	-5.74	123.56	127.00
48	5	1314	C	N3-C4-C5	5.74	124.20	121.90
48	5	1724	U	C2-N1-C1'	5.74	124.59	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2706	G	C2-N3-C4	5.74	114.77	111.90
48	5	801	A	C6-N1-C2	5.74	122.04	118.60
2	B	21	ARG	NE-CZ-NH2	-5.74	117.43	120.30
48	5	920	A	C8-N9-C4	5.74	108.09	105.80
48	5	3047	U	C2-N3-C4	-5.74	123.56	127.00
48	5	1371	G	N7-C8-N9	-5.73	110.23	113.10
48	5	35	A	C8-N9-C4	5.73	108.09	105.80
48	5	1466	G	N3-C4-N9	-5.73	122.56	126.00
48	5	1904	C	N1-C2-O2	5.73	122.34	118.90
48	5	1163	A	C5-C6-N1	5.73	120.57	117.70
48	5	1371	G	C5-N7-C8	5.73	107.17	104.30
48	5	2742	C	N3-C4-C5	5.73	124.19	121.90
48	5	1113	G	N7-C8-N9	-5.73	110.23	113.10
48	5	1159	A	N9-C4-C5	-5.73	103.51	105.80
48	5	2827	U	N3-C2-O2	-5.73	118.19	122.20
48	5	819	U	N3-C4-O4	5.72	123.41	119.40
48	5	998	A	N1-C2-N3	5.72	132.16	129.30
48	5	2329	C	C5-C4-N4	5.72	124.21	120.20
9	I	139	ARG	NE-CZ-NH1	5.72	123.16	120.30
17	Q	50	LYS	CD-CE-NZ	5.72	124.86	111.70
48	5	518	G	C8-N9-C4	5.72	108.69	106.40
48	5	2342	U	N3-C2-O2	-5.72	118.19	122.20
48	5	2584	G	C5-C6-O6	-5.72	125.17	128.60
50	8	95	G	C4-N9-C1'	-5.72	119.06	126.50
15	O	163[B]	ARG	NE-CZ-NH2	-5.72	117.44	120.30
48	5	1888	U	N1-C2-N3	5.72	118.33	114.90
48	5	760	G	C5-C6-O6	-5.72	125.17	128.60
48	5	769	G	N7-C8-N9	-5.72	110.24	113.10
48	5	1208	U	N1-C2-N3	5.72	118.33	114.90
48	5	1840	U	N1-C2-O2	5.72	126.80	122.80
48	5	2293	C	N1-C2-O2	5.72	122.33	118.90
48	5	2320	A	N3-C4-N9	-5.72	122.82	127.40
48	5	224	C	N3-C2-O2	-5.72	117.90	121.90
48	5	276	U	C4-C5-C6	5.72	123.13	119.70
48	5	670	C	C2-N3-C4	-5.72	117.04	119.90
48	5	1846	C	N3-C2-O2	-5.72	117.90	121.90
48	5	2748	A	C5-C6-N6	-5.72	119.13	123.70
48	5	1159	A	C6-N1-C2	5.72	122.03	118.60
48	5	1832	C	C5-C4-N4	-5.72	116.20	120.20
48	5	1035	G	C8-N9-C1'	-5.71	119.57	127.00
48	5	971	G	N9-C4-C5	5.71	107.68	105.40
48	5	3339	A	C5-C6-N6	-5.71	119.13	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2552	C	N3-C4-N4	-5.71	114.00	118.00
48	5	2619	G	C5-C6-N1	5.71	114.35	111.50
48	5	1429	G	C6-C5-N7	-5.71	126.98	130.40
48	5	1553	U	N3-C2-O2	5.71	126.19	122.20
48	5	2730	G	N3-C2-N2	-5.71	115.91	119.90
48	5	2736	A	C5-C6-N6	5.71	128.26	123.70
48	5	1856	C	C6-N1-C2	-5.71	118.02	120.30
50	8	26	U	C2-N1-C1'	5.71	124.55	117.70
16	P	24	VAL	CB-CA-C	-5.70	100.56	111.40
48	5	526	C	C5-C4-N4	-5.70	116.21	120.20
48	5	1849	C	N3-C2-O2	-5.70	117.91	121.90
48	5	2400	G	N1-C6-O6	5.70	123.32	119.90
48	5	382	U	N1-C2-N3	5.70	118.32	114.90
15	O	23[B]	ILE	C-N-CA	-5.70	107.45	121.70
48	5	2400	G	C4-C5-N7	5.70	113.08	110.80
48	5	2836	C	C5-C4-N4	5.70	124.19	120.20
48	5	413	U	N1-C2-N3	5.70	118.32	114.90
48	5	563	U	N3-C2-O2	-5.70	118.21	122.20
48	5	873	C	C4-C5-C6	5.70	120.25	117.40
46	t	59	LEU	N-CA-CB	5.70	121.79	110.40
48	5	672	A	N1-C6-N6	5.70	122.02	118.60
48	5	1512	U	C2-N3-C4	-5.70	123.58	127.00
48	5	2904	U	C2-N3-C4	-5.70	123.58	127.00
48	5	53	G	N3-C2-N2	5.69	123.89	119.90
48	5	270	U	N3-C2-O2	-5.69	118.21	122.20
48	5	1639	C	C6-N1-C2	-5.69	118.02	120.30
48	5	2192	C	C4-C5-C6	5.69	120.25	117.40
48	5	2422	C	N3-C2-O2	-5.69	117.92	121.90
48	5	2848	G	C4-C5-C6	5.69	122.22	118.80
17	Q	127	LEU	CA-CB-CG	5.69	128.39	115.30
48	5	334	A	C2-N3-C4	5.69	113.45	110.60
48	5	2188	A	N1-C2-N3	5.69	132.15	129.30
48	5	2665	U	C2-N3-C4	5.69	130.42	127.00
50	8	109	A	C8-N9-C4	-5.69	103.52	105.80
48	5	1589	A	C5-C6-N1	5.69	120.55	117.70
49	7	38	U	C2-N1-C1'	5.69	124.53	117.70
48	5	248	U	C2-N1-C1'	5.69	124.53	117.70
48	5	582	G	N1-C6-O6	-5.69	116.49	119.90
48	5	916	G	N9-C4-C5	5.69	107.68	105.40
48	5	2978	U	N1-C2-N3	5.69	118.31	114.90
8	H	151	VAL	CB-CA-C	-5.69	100.59	111.40
48	5	411	U	N1-C2-N3	5.69	118.31	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2123	G	C5-C6-N1	5.69	114.34	111.50
48	5	2320	A	N9-C4-C5	5.69	108.08	105.80
48	5	2832	C	C6-N1-C2	5.69	122.58	120.30
48	5	2979	U	N3-C2-O2	5.69	126.18	122.20
48	5	884	A	N1-C6-N6	-5.69	115.19	118.60
48	5	1285	G	N7-C8-N9	-5.69	110.26	113.10
48	5	3365	U	C6-N1-C2	-5.69	117.59	121.00
48	5	1914	G	N1-C6-O6	-5.68	116.49	119.90
50	8	95	G	C8-N9-C1'	5.68	134.39	127.00
48	5	65	A	P-O3'-C3'	5.68	126.52	119.70
48	5	2197	C	C2-N1-C1'	-5.68	112.55	118.80
48	5	3313	U	N3-C4-O4	-5.68	115.42	119.40
48	5	369	A	N1-C6-N6	-5.68	115.19	118.60
48	5	3088	G	N7-C8-N9	5.68	115.94	113.10
48	5	1044	U	C2-N3-C4	-5.68	123.59	127.00
48	5	1143	A	C5-N7-C8	-5.68	101.06	103.90
48	5	1210	U	N1-C2-O2	5.68	126.78	122.80
48	5	1525	G	C8-N9-C1'	-5.68	119.62	127.00
48	5	1844	C	N1-C2-N3	5.68	123.18	119.20
48	5	2774	C	N1-C2-O2	-5.68	115.49	118.90
48	5	79	U	C5-C4-O4	-5.68	122.49	125.90
48	5	925	A	N1-C6-N6	5.68	122.01	118.60
48	5	2330	C	C4-C5-C6	5.68	120.24	117.40
46	t	21	GLN	CB-CA-C	-5.67	99.05	110.40
48	5	666	A	N7-C8-N9	-5.67	110.96	113.80
48	5	953	G	N3-C4-N9	-5.67	122.60	126.00
3	C	136	LEU	CA-CB-CG	5.67	128.35	115.30
48	5	280	U	N3-C4-C5	5.67	118.00	114.60
48	5	355	A	N1-C6-N6	5.67	122.00	118.60
48	5	1159	A	C5-N7-C8	-5.67	101.06	103.90
48	5	1451	C	C2-N3-C4	-5.67	117.06	119.90
48	5	1485	G	C4-C5-N7	-5.67	108.53	110.80
48	5	1726	C	C5-C6-N1	-5.67	118.17	121.00
48	5	842	G	N1-C6-O6	5.67	123.30	119.90
48	5	905	U	N3-C4-O4	5.67	123.37	119.40
48	5	2892	A	N1-C6-N6	-5.67	115.20	118.60
48	5	3200	G	N3-C2-N2	-5.67	115.93	119.90
48	5	3290	G	N7-C8-N9	5.67	115.93	113.10
48	5	1744	G	C5-C6-N1	5.67	114.33	111.50
48	5	2988	C	N3-C4-C5	-5.67	119.63	121.90
48	5	3200	G	C5-C6-O6	-5.67	125.20	128.60
48	5	948	C	N3-C4-N4	5.66	121.96	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	958	C	N3-C4-C5	5.66	124.17	121.90
48	5	1370	G	N3-C4-N9	5.66	129.40	126.00
48	5	1405	U	C2-N3-C4	-5.66	123.60	127.00
48	5	2293	C	C2-N1-C1'	5.66	125.03	118.80
48	5	1300	G	C6-C5-N7	-5.66	127.00	130.40
48	5	1331	U	C5-C4-O4	-5.66	122.50	125.90
48	5	824	C	N3-C4-C5	-5.66	119.64	121.90
49	7	8	G	C8-N9-C4	-5.66	104.14	106.40
50	8	34	U	C5-C6-N1	-5.66	119.87	122.70
48	5	1652	G	C4-C5-N7	-5.65	108.54	110.80
48	5	1192	C	C5-C6-N1	-5.65	118.17	121.00
48	5	2865	U	N1-C2-O2	5.65	126.76	122.80
50	8	113	U	C6-N1-C1'	-5.65	113.29	121.20
46	t	51	HIS	N-CA-CB	5.65	120.77	110.60
48	5	2434	U	C2-N3-C4	-5.65	123.61	127.00
48	5	2816	G	C4-N9-C1'	-5.65	119.15	126.50
48	5	359	U	C5-C6-N1	-5.65	119.88	122.70
48	5	114	A	N1-C6-N6	5.65	121.99	118.60
48	5	2277	C	N1-C2-O2	5.65	122.29	118.90
50	8	37	A	N1-C6-N6	-5.65	115.21	118.60
46	t	20	LEU	N-CA-CB	5.64	121.69	110.40
48	5	201	A	C5-C6-N1	-5.64	114.88	117.70
48	5	2239	G	N3-C2-N2	5.64	123.85	119.90
48	5	3006	A	N9-C4-C5	5.64	108.06	105.80
48	5	3123	A	N9-C4-C5	-5.64	103.54	105.80
48	5	2744	U	C5-C4-O4	5.64	129.29	125.90
50	8	100	U	C2-N1-C1'	5.64	124.47	117.70
48	5	1403	C	C2-N3-C4	-5.64	117.08	119.90
48	5	1909	A	C4-C5-C6	-5.64	114.18	117.00
48	5	217	U	C2-N3-C4	-5.64	123.62	127.00
48	5	796	U	N1-C2-O2	5.64	126.75	122.80
48	5	2341	A	C5-N7-C8	5.64	106.72	103.90
48	5	3285	C	N1-C2-O2	5.64	122.28	118.90
48	5	2249	G	C8-N9-C4	-5.64	104.14	106.40
48	5	2343	C	C5-C4-N4	-5.64	116.25	120.20
48	5	2979	U	C5-C6-N1	-5.64	119.88	122.70
48	5	574	U	C5-C4-O4	-5.64	122.52	125.90
48	5	1206	G	C5-C6-O6	5.64	131.98	128.60
49	7	103	A	C5-C6-N6	-5.64	119.19	123.70
48	5	234	G	N1-C6-O6	5.63	123.28	119.90
48	5	2180	G	N3-C2-N2	5.63	123.84	119.90
48	5	946	U	N1-C2-O2	5.63	126.74	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1183	C	N3-C4-C5	5.63	124.15	121.90
48	5	1284	C	C5-C6-N1	5.63	123.82	121.00
48	5	1458	U	N3-C4-C5	5.63	117.98	114.60
50	8	106	C	N3-C4-C5	5.63	124.15	121.90
48	5	98	G	C8-N9-C4	5.63	108.65	106.40
48	5	2237	C	N3-C2-O2	-5.63	117.96	121.90
6	F	229	PHE	CB-CG-CD1	5.63	124.74	120.80
27	a	46	ASP	N-CA-C	-5.63	95.81	111.00
48	5	634	C	C2-N3-C4	-5.63	117.09	119.90
48	5	2974	U	C5-C4-O4	5.63	129.28	125.90
48	5	935	U	C2-N3-C4	-5.62	123.62	127.00
48	5	1127	G	N9-C4-C5	-5.62	103.15	105.40
48	5	1603	A	N9-C4-C5	5.62	108.05	105.80
48	5	1883	A	C8-N9-C4	-5.62	103.55	105.80
48	5	2326	A	C2-N3-C4	5.62	113.41	110.60
48	5	2361	A	C5-C6-N1	5.62	120.51	117.70
48	5	2363	A	N7-C8-N9	5.62	116.61	113.80
48	5	367	A	N3-C4-C5	5.62	130.74	126.80
48	5	1448	U	C4-C5-C6	5.62	123.07	119.70
48	5	1773	C	C5-C6-N1	-5.62	118.19	121.00
48	5	282	G	C2'-C3'-O3'	5.62	122.69	113.70
48	5	363	G	C4-C5-N7	-5.62	108.55	110.80
48	5	367	A	C5-C6-N6	5.62	128.20	123.70
48	5	728	G	N7-C8-N9	-5.62	110.29	113.10
48	5	950	G	N9-C4-C5	-5.62	103.15	105.40
48	5	1444	G	C8-N9-C4	5.62	108.65	106.40
48	5	2630	C	N1-C2-O2	-5.62	115.53	118.90
48	5	2999	U	C5-C6-N1	-5.62	119.89	122.70
48	5	3197	G	N3-C2-N2	-5.62	115.97	119.90
49	7	25	G	N1-C2-N2	5.62	121.26	116.20
48	5	39	A	N7-C8-N9	-5.62	110.99	113.80
48	5	2717	U	C2-N3-C4	-5.62	123.63	127.00
48	5	3173	G	C5-C6-N1	5.62	114.31	111.50
50	8	31	G	N7-C8-N9	-5.62	110.29	113.10
48	5	934	G	N1-C2-N2	5.62	121.25	116.20
48	5	1942	U	N3-C4-O4	5.62	123.33	119.40
48	5	2392	C	C5-C6-N1	-5.62	118.19	121.00
48	5	39	A	C2-N3-C4	5.61	113.41	110.60
48	5	1144	U	C2-N3-C4	-5.61	123.63	127.00
48	5	1207	G	N1-C6-O6	-5.61	116.53	119.90
48	5	3020	U	N3-C2-O2	5.61	126.13	122.20
48	5	3054	U	N3-C4-C5	-5.61	111.23	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3059	G	C8-N9-C4	5.61	108.65	106.40
48	5	1365	G	N1-C2-N3	5.61	127.27	123.90
48	5	2683	U	C2-N1-C1'	5.61	124.44	117.70
48	5	3006	A	C8-N9-C4	-5.61	103.56	105.80
26	Z	135	ARG	NE-CZ-NH1	5.61	123.11	120.30
31	e	105	ARG	NE-CZ-NH2	-5.61	117.50	120.30
48	5	1434	G	C1'-O4'-C4'	-5.61	105.41	109.90
48	5	1792	C	C4-C5-C6	5.61	120.20	117.40
48	5	180	C	C6-N1-C2	-5.61	118.06	120.30
48	5	1146	C	C2-N3-C4	-5.61	117.10	119.90
48	5	2606	G	C4-C5-C6	5.61	122.17	118.80
48	5	2955	U	N1-C2-N3	5.61	118.27	114.90
49	7	69	C	N3-C4-C5	5.61	124.14	121.90
48	5	636	C	C2-N3-C4	-5.61	117.10	119.90
48	5	2217	U	N3-C2-O2	-5.61	118.28	122.20
48	5	1163	A	C4-C5-N7	-5.60	107.90	110.70
48	5	1171	G	C8-N9-C4	-5.60	104.16	106.40
48	5	2951	G	C5-C6-N1	5.60	114.30	111.50
50	8	19	C	N3-C4-C5	-5.60	119.66	121.90
48	5	631	U	N1-C2-O2	5.60	126.72	122.80
48	5	2631	U	N1-C2-O2	-5.60	118.88	122.80
48	5	2733	A	C2-N3-C4	-5.60	107.80	110.60
48	5	909	G	N1-C6-O6	-5.60	116.54	119.90
48	5	1215	U	N3-C2-O2	5.60	126.12	122.20
48	5	2293	C	C5-C4-N4	-5.60	116.28	120.20
48	5	2389	C	C5-C4-N4	-5.60	116.28	120.20
48	5	106	A	C8-N9-C4	5.60	108.04	105.80
48	5	1926	C	N1-C2-O2	-5.60	115.54	118.90
48	5	1942	U	N1-C2-N3	5.60	118.26	114.90
48	5	2307	G	N3-C2-N2	5.60	123.82	119.90
48	5	2729	U	C4-C5-C6	-5.60	116.34	119.70
48	5	2914	G	N1-C6-O6	-5.60	116.54	119.90
48	5	625	G	C8-N9-C4	-5.60	104.16	106.40
48	5	1360	C	C2-N3-C4	-5.60	117.10	119.90
48	5	2257	C	N1-C2-O2	5.60	122.26	118.90
48	5	431	U	C2-N3-C4	-5.59	123.64	127.00
48	5	590	G	C8-N9-C4	-5.59	104.16	106.40
48	5	1307	G	N1-C6-O6	-5.59	116.54	119.90
48	5	1909	A	N1-C6-N6	-5.59	115.24	118.60
48	5	3140	G	C6-C5-N7	-5.59	127.04	130.40
48	5	1901	A	C6-C5-N7	-5.59	128.38	132.30
48	5	2926	A	C2-N3-C4	5.59	113.40	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	390	G	N9-C4-C5	-5.59	103.16	105.40
48	5	1321	G	N1-C6-O6	5.59	123.25	119.90
48	5	1869	C	C6-N1-C2	5.59	122.54	120.30
48	5	1872	C	N3-C2-O2	-5.59	117.99	121.90
48	5	1601	U	N1-C2-N3	-5.59	111.55	114.90
48	5	1724	U	N3-C2-O2	-5.59	118.29	122.20
48	5	2828	G	N1-C6-O6	-5.59	116.55	119.90
48	5	743	C	C6-N1-C2	-5.59	118.06	120.30
31	e	4	LEU	C-N-CA	-5.59	98.54	122.00
46	t	522	LEU	N-CA-CB	5.59	121.57	110.40
48	5	1845	G	N7-C8-N9	-5.59	110.31	113.10
48	5	2346	C	N3-C4-C5	5.58	124.13	121.90
48	5	2616	C	N3-C4-C5	5.58	124.13	121.90
48	5	3336	A	C4-C5-C6	5.58	119.79	117.00
48	5	2289	U	C5-C4-O4	5.58	129.25	125.90
48	5	2327	U	C2-N1-C1'	-5.58	111.00	117.70
48	5	3318	G	C4-C5-N7	-5.58	108.57	110.80
48	5	33	G	C5-C6-N1	5.58	114.29	111.50
48	5	2191	U	C5-C6-N1	-5.58	119.91	122.70
48	5	2870	C	C5-C4-N4	5.58	124.11	120.20
5	E	31	ARG	NE-CZ-NH2	-5.58	117.51	120.30
48	5	2522	G	N9-C4-C5	-5.58	103.17	105.40
48	5	3010	U	N3-C4-O4	-5.58	115.50	119.40
48	5	2139	A	C5-C6-N6	5.58	128.16	123.70
48	5	42	C	N1-C2-O2	5.58	122.25	118.90
48	5	1510	G	N1-C2-N3	5.58	127.25	123.90
48	5	1841	A	C8-N9-C4	-5.58	103.57	105.80
48	5	2549	G	N7-C8-N9	5.58	115.89	113.10
48	5	3064	U	N1-C2-N3	5.58	118.25	114.90
48	5	3350	C	C5-C6-N1	5.58	123.79	121.00
48	5	658	G	N1-C6-O6	5.57	123.24	119.90
48	5	814	U	N1-C2-N3	-5.57	111.56	114.90
48	5	969	C	C5-C6-N1	-5.57	118.21	121.00
48	5	1049	C	C5-C6-N1	5.57	123.79	121.00
48	5	1670	C	C6-N1-C2	5.57	122.53	120.30
48	5	2719	U	N1-C2-O2	-5.57	118.90	122.80
48	5	2975	U	N3-C4-O4	-5.57	115.50	119.40
48	5	1670	C	C5-C4-N4	-5.57	116.30	120.20
48	5	635	G	N1-C2-N2	5.57	121.21	116.20
48	5	1315	U	C6-N1-C1'	-5.57	113.40	121.20
48	5	2177	G	C8-N9-C4	-5.57	104.17	106.40
48	5	2870	C	C2-N1-C1'	-5.57	112.67	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3008	A	C8-N9-C4	5.57	108.03	105.80
49	7	46	A	N9-C4-C5	5.57	108.03	105.80
48	5	825	U	N3-C4-O4	-5.57	115.50	119.40
48	5	648	C	C2-N1-C1'	5.57	124.92	118.80
48	5	1178	G	C6-N1-C2	-5.57	121.76	125.10
48	5	3007	U	C5-C4-O4	-5.57	122.56	125.90
48	5	3350	C	C6-N1-C2	-5.57	118.07	120.30
7	G	69	LEU	CA-CB-CG	5.57	128.10	115.30
48	5	266	A	N1-C2-N3	5.57	132.08	129.30
48	5	395	A	N7-C8-N9	5.57	116.58	113.80
48	5	1658	G	N1-C6-O6	-5.57	116.56	119.90
48	5	903	U	N1-C2-O2	5.56	126.69	122.80
48	5	3252	G	C8-N9-C4	5.56	108.62	106.40
15	O	23[B]	ILE	CA-C-N	-5.56	104.97	117.20
48	5	957	C	C5-C6-N1	-5.56	118.22	121.00
48	5	1381	A	N9-C4-C5	-5.56	103.58	105.80
48	5	2605	G	C2-N3-C4	5.56	114.68	111.90
49	7	79	A	N7-C8-N9	5.56	116.58	113.80
48	5	1183	C	C5-C6-N1	-5.56	118.22	121.00
48	5	1586	G	C6-N1-C2	-5.56	121.77	125.10
48	5	2369	G	C8-N9-C4	5.56	108.62	106.40
48	5	2699	G	N3-C4-N9	5.56	129.33	126.00
49	7	5	G	C5-C6-N1	-5.56	108.72	111.50
48	5	1365	G	C4-N9-C1'	5.56	133.72	126.50
48	5	2889	C	N3-C4-N4	-5.56	114.11	118.00
48	5	828	A	N1-C6-N6	-5.55	115.27	118.60
48	5	966	U	N3-C4-C5	5.55	117.93	114.60
48	5	2158	A	C6-N1-C2	-5.55	115.27	118.60
48	5	2287	C	C6-N1-C2	-5.55	118.08	120.30
48	5	3219	G	N3-C2-N2	5.55	123.79	119.90
48	5	405	U	C5-C4-O4	-5.55	122.57	125.90
48	5	1140	G	C5-C6-N1	5.55	114.28	111.50
48	5	1869	C	N3-C4-C5	5.55	124.12	121.90
49	7	101	G	N9-C4-C5	-5.55	103.18	105.40
48	5	546	C	C6-N1-C2	-5.55	118.08	120.30
48	5	580	C	N3-C4-C5	-5.55	119.68	121.90
48	5	954	U	C6-N1-C2	-5.55	117.67	121.00
48	5	2975	U	C4-C5-C6	-5.55	116.37	119.70
48	5	3287	U	N3-C2-O2	-5.55	118.31	122.20
50	8	15	G	C5-C6-O6	-5.55	125.27	128.60
48	5	285	A	C8-N9-C4	-5.55	103.58	105.80
48	5	961	C	C4-C5-C6	5.55	120.17	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1305	U	C6-N1-C1'	-5.55	113.43	121.20
48	5	422	A	C8-N9-C4	5.55	108.02	105.80
48	5	1380	G	C8-N9-C4	5.55	108.62	106.40
48	5	1843	C	C5-C6-N1	5.55	123.77	121.00
48	5	1940	G	C8-N9-C4	5.55	108.62	106.40
48	5	2415	C	C6-N1-C2	5.55	122.52	120.30
49	7	1	G	N3-C4-N9	5.54	129.33	126.00
50	8	87	G	C5-C6-O6	-5.54	125.27	128.60
48	5	98	G	N9-C4-C5	-5.54	103.18	105.40
48	5	3103	A	C5-C6-N1	5.54	120.47	117.70
49	7	1	G	C6-C5-N7	-5.54	127.07	130.40
49	7	37	G	N9-C4-C5	-5.54	103.18	105.40
50	8	12	A	C4-C5-C6	-5.54	114.23	117.00
50	8	112	U	C6-N1-C1'	5.54	128.96	121.20
48	5	2116	G	C4-C5-C6	5.54	122.12	118.80
49	7	82	G	N9-C4-C5	5.54	107.62	105.40
48	5	2996	U	C6-N1-C1'	-5.54	113.44	121.20
48	5	2658	G	N3-C2-N2	-5.54	116.02	119.90
48	5	3003	G	C5-N7-C8	-5.54	101.53	104.30
48	5	3052	G	C4-N9-C1'	-5.54	119.30	126.50
48	5	3395	G	N1-C6-O6	5.54	123.22	119.90
48	5	848	A	N1-C2-N3	5.54	132.07	129.30
48	5	2642	A	C8-N9-C4	5.54	108.02	105.80
48	5	3394	U	N3-C4-O4	-5.54	115.52	119.40
50	8	147	U	N3-C4-C5	5.54	117.92	114.60
27	a	17	ALA	C-N-CA	-5.54	110.67	122.30
48	5	911	C	C4-C5-C6	5.54	120.17	117.40
48	5	2172	A	N1-C6-N6	5.54	121.92	118.60
48	5	914	A	N1-C2-N3	5.53	132.07	129.30
48	5	3055	U	C2-N1-C1'	5.53	124.34	117.70
50	8	13	A	C5-N7-C8	-5.53	101.13	103.90
48	5	666	A	N1-C2-N3	5.53	132.07	129.30
48	5	911	C	C5-C6-N1	-5.53	118.23	121.00
48	5	1343	A	C8-N9-C4	-5.53	103.59	105.80
48	5	1441	G	C5-C6-N1	5.53	114.27	111.50
48	5	1797	A	C4-C5-N7	-5.53	107.94	110.70
48	5	3302	U	N3-C4-C5	5.53	117.92	114.60
13	M	77	ARG	NE-CZ-NH1	-5.53	117.53	120.30
48	5	1754	G	N1-C2-N2	-5.53	111.22	116.20
48	5	852	U	N1-C2-N3	5.53	118.22	114.90
48	5	960	U	C4-C5-C6	5.53	123.02	119.70
48	5	1165	A	N7-C8-N9	-5.53	111.04	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1847	A	C2-N3-C4	-5.53	107.84	110.60
48	5	2948	C	N3-C4-C5	5.53	124.11	121.90
49	7	38	U	N3-C4-C5	5.53	117.92	114.60
48	5	637	C	C5-C6-N1	-5.53	118.24	121.00
48	5	1495	U	C6-N1-C2	-5.53	117.69	121.00
48	5	1878	G	C4-N9-C1'	5.53	133.68	126.50
48	5	2717	U	N3-C2-O2	-5.52	118.33	122.20
48	5	3179	U	N3-C4-C5	5.52	117.91	114.60
48	5	340	C	N1-C2-N3	5.52	123.06	119.20
48	5	1007	U	C6-N1-C2	5.52	124.31	121.00
48	5	1905	G	N1-C6-O6	-5.52	116.59	119.90
48	5	2396	G	N1-C6-O6	-5.52	116.59	119.90
48	5	2654	C	C2-N3-C4	-5.52	117.14	119.90
48	5	1427	U	N3-C4-O4	-5.52	115.54	119.40
48	5	3215	A	C5-C6-N1	-5.52	114.94	117.70
48	5	3152	U	C5-C6-N1	-5.52	119.94	122.70
48	5	517	G	C4-C5-C6	5.51	122.11	118.80
48	5	1508	C	N1-C2-O2	5.51	122.21	118.90
48	5	2706	G	N3-C4-C5	-5.51	125.84	128.60
48	5	1125	U	N3-C4-O4	-5.51	115.54	119.40
48	5	25	U	N1-C2-N3	5.51	118.20	114.90
48	5	923	C	C5-C6-N1	-5.51	118.25	121.00
48	5	1338	C	C4-C5-C6	5.51	120.15	117.40
48	5	3042	U	N1-C2-N3	5.51	118.20	114.90
48	5	1295	G	C5-C6-O6	5.51	131.91	128.60
48	5	2335	G	C6-N1-C2	-5.51	121.80	125.10
50	8	17	A	C5-N7-C8	-5.51	101.15	103.90
48	5	1491	A	C4-C5-C6	5.50	119.75	117.00
48	5	347	G	C8-N9-C4	5.50	108.60	106.40
48	5	675	C	N1-C2-O2	-5.50	115.60	118.90
48	5	2181	C	C6-N1-C2	-5.50	118.10	120.30
49	7	90	U	C6-N1-C2	5.50	124.30	121.00
49	7	100	C	N3-C4-C5	5.50	124.10	121.90
48	5	2134	G	N3-C4-N9	5.50	129.30	126.00
48	5	2182	A	C4-C5-C6	-5.50	114.25	117.00
48	5	1938	U	C5-C6-N1	-5.50	119.95	122.70
48	5	2830	G	N1-C6-O6	-5.50	116.60	119.90
48	5	2843	U	N3-C2-O2	-5.50	118.35	122.20
48	5	844	G	N7-C8-N9	-5.50	110.35	113.10
48	5	1409	G	N9-C4-C5	5.50	107.60	105.40
48	5	1887	A	N9-C4-C5	-5.50	103.60	105.80
48	5	2386	A	C5-N7-C8	-5.50	101.15	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2800	G	C4-C5-N7	-5.50	108.60	110.80
50	8	104	A	N1-C2-N3	-5.50	126.55	129.30
48	5	46	U	C2-N3-C4	5.50	130.30	127.00
48	5	335	G	N1-C6-O6	-5.50	116.60	119.90
48	5	3015	G	N1-C6-O6	-5.50	116.60	119.90
48	5	2321	A	C5-C6-N1	5.50	120.45	117.70
48	5	2665	U	C4-C5-C6	-5.50	116.40	119.70
48	5	145	G	N9-C4-C5	5.49	107.60	105.40
48	5	419	G	C4-C5-N7	5.49	113.00	110.80
48	5	811	U	N1-C2-N3	5.49	118.20	114.90
48	5	2109	U	N3-C4-O4	-5.49	115.56	119.40
48	5	359	U	N3-C4-C5	5.49	117.89	114.60
48	5	2344	U	C2-N3-C4	-5.49	123.70	127.00
27	a	9	ARG	NE-CZ-NH1	-5.49	117.55	120.30
49	7	19	C	N3-C4-C5	5.49	124.10	121.90
48	5	21	G	N3-C4-C5	5.49	131.34	128.60
48	5	414	U	N3-C4-O4	5.49	123.24	119.40
48	5	620	U	C2-N1-C1'	5.49	124.29	117.70
48	5	1305	U	C6-N1-C2	5.49	124.29	121.00
48	5	2757	U	C5-C4-O4	-5.49	122.61	125.90
50	8	103	G	C5-C6-N1	5.49	114.25	111.50
48	5	591	G	C6-C5-N7	-5.49	127.11	130.40
48	5	809	G	C5-N7-C8	5.49	107.04	104.30
48	5	41	G	C6-C5-N7	-5.48	127.11	130.40
48	5	229	G	N1-C6-O6	5.48	123.19	119.90
48	5	953	G	N3-C4-C5	5.48	131.34	128.60
48	5	1170	A	C8-N9-C4	5.48	107.99	105.80
48	5	1189	C	N3-C2-O2	5.48	125.74	121.90
48	5	1359	C	N3-C4-N4	5.48	121.84	118.00
12	L	47	ALA	C-N-CD	5.48	139.91	128.40
19	S	167	ARG	NE-CZ-NH2	-5.48	117.56	120.30
48	5	54	C	N3-C4-N4	-5.48	114.16	118.00
48	5	715	A	C5-C6-N1	5.48	120.44	117.70
48	5	3010	U	C5-C4-O4	5.48	129.19	125.90
48	5	3049	A	C8-N9-C4	5.48	107.99	105.80
48	5	1724	U	N1-C2-N3	5.48	118.19	114.90
48	5	1906	G	C2-N3-C4	-5.48	109.16	111.90
48	5	648	C	C4-C5-C6	5.48	120.14	117.40
48	5	996	A	C5-C6-N1	5.48	120.44	117.70
48	5	1115	G	C6-N1-C2	-5.48	121.81	125.10
48	5	1365	G	N1-C2-N2	-5.48	111.27	116.20
48	5	1538	G	N9-C4-C5	-5.48	103.21	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1931	U	C5-C4-O4	5.48	129.19	125.90
48	5	2433	U	C5-C6-N1	-5.48	119.96	122.70
48	5	997	A	N7-C8-N9	5.48	116.54	113.80
48	5	2434	U	N3-C2-O2	-5.48	118.37	122.20
48	5	3021	A	N1-C6-N6	-5.48	115.31	118.60
48	5	3043	C	N3-C4-N4	-5.47	114.17	118.00
48	5	277	G	C5-C6-O6	5.47	131.88	128.60
48	5	341	G	C5-N7-C8	-5.47	101.56	104.30
48	5	2112	U	C6-N1-C2	-5.47	117.72	121.00
48	5	3336	A	C5-C6-N1	-5.47	114.96	117.70
48	5	810	A	C5-C6-N6	5.47	128.08	123.70
48	5	1176	C	C4-C5-C6	5.47	120.14	117.40
48	5	2810	C	C6-N1-C2	-5.47	118.11	120.30
48	5	419	G	C5-C6-N1	5.47	114.23	111.50
48	5	616	G	C2-N3-C4	5.47	114.64	111.90
48	5	1190	A	C5-N7-C8	5.47	106.63	103.90
50	8	11	C	N1-C2-O2	5.47	122.18	118.90
48	5	1159	A	C4-C5-C6	-5.47	114.27	117.00
48	5	1178	G	N7-C8-N9	5.47	115.83	113.10
48	5	1312	C	C5-C4-N4	5.47	124.03	120.20
48	5	3326	G	C5-C6-O6	5.47	131.88	128.60
48	5	3028	G	N3-C2-N2	5.47	123.73	119.90
41	o	41	ARG	NE-CZ-NH2	-5.46	117.57	120.30
48	5	1937	U	C5-C6-N1	-5.46	119.97	122.70
48	5	2119	A	C6-N1-C2	-5.46	115.32	118.60
48	5	1086	C	C5-C6-N1	5.46	123.73	121.00
48	5	1144	U	C4-C5-C6	5.46	122.98	119.70
48	5	2655	U	N3-C4-C5	5.46	117.88	114.60
48	5	2808	A	C6-C5-N7	-5.46	128.48	132.30
48	5	266	A	C4-C5-C6	5.46	119.73	117.00
48	5	347	G	N7-C8-N9	-5.46	110.37	113.10
48	5	519	A	C6-C5-N7	-5.46	128.48	132.30
48	5	1844	C	C6-N1-C2	-5.46	118.12	120.30
48	5	436	A	C4-C5-N7	5.46	113.43	110.70
48	5	745	C	N1-C2-O2	-5.46	115.62	118.90
48	5	1187	C	N3-C4-N4	-5.46	114.18	118.00
48	5	1441	G	C5-N7-C8	5.46	107.03	104.30
48	5	2385	G	C8-N9-C1'	5.46	134.10	127.00
48	5	3347	A	C8-N9-C4	5.46	107.98	105.80
49	7	33	U	N1-C2-O2	5.46	126.62	122.80
49	7	105	C	C2-N3-C4	5.46	122.63	119.90
32	f	91	ALA	N-CA-CB	5.46	117.74	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	t	522	LEU	CB-CA-C	-5.46	99.83	110.20
48	5	411	U	C2-N3-C4	-5.46	123.73	127.00
48	5	1773	C	C4-C5-C6	5.46	120.13	117.40
48	5	2524	A	N3-C4-C5	5.46	130.62	126.80
48	5	2549	G	C5-C6-N1	-5.46	108.77	111.50
48	5	1380	G	C2-N3-C4	-5.46	109.17	111.90
48	5	1660	C	N1-C2-O2	-5.45	115.63	118.90
48	5	2607	G	C8-N9-C4	-5.45	104.22	106.40
48	5	2634	U	N3-C2-O2	5.45	126.02	122.20
48	5	2728	G	N1-C2-N2	5.45	121.11	116.20
48	5	2966	G	C5-C6-N1	5.45	114.23	111.50
48	5	2174	G	N1-C2-N3	5.45	127.17	123.90
48	5	1127	G	N3-C4-N9	5.45	129.27	126.00
48	5	1447	G	N9-C4-C5	5.45	107.58	105.40
48	5	1797	A	C8-N9-C4	5.45	107.98	105.80
48	5	2958	A	N1-C6-N6	-5.45	115.33	118.60
48	5	844	G	C8-N9-C4	5.45	108.58	106.40
48	5	1191	U	C4-C5-C6	5.45	122.97	119.70
48	5	2904	U	N1-C2-N3	5.45	118.17	114.90
48	5	388	G	N3-C2-N2	-5.45	116.09	119.90
48	5	1045	C	C2-N3-C4	-5.45	117.18	119.90
48	5	1889	G	C4-C5-N7	-5.45	108.62	110.80
48	5	3052	G	C6-C5-N7	5.45	133.67	130.40
48	5	3064	U	C2-N3-C4	-5.45	123.73	127.00
49	7	105	C	N3-C4-C5	-5.45	119.72	121.90
3	C	73	ARG	CB-CG-CD	-5.45	97.44	111.60
46	t	53	LYS	CB-CA-C	-5.45	99.51	110.40
48	5	1242	G	N3-C4-C5	-5.45	125.88	128.60
48	5	2608	G	N1-C6-O6	-5.45	116.63	119.90
48	5	3362	A	C4-C5-N7	5.45	113.42	110.70
27	a	4	ARG	NE-CZ-NH1	-5.44	117.58	120.30
48	5	2145	A	C6-N1-C2	-5.44	115.33	118.60
46	t	519	ARG	CB-CA-C	-5.44	99.52	110.40
48	5	600	G	C4-N9-C1'	5.44	133.58	126.50
48	5	810	A	C4-C5-N7	-5.44	107.98	110.70
48	5	1007	U	C5-C4-O4	-5.44	122.64	125.90
48	5	1041	U	C5-C6-N1	-5.44	119.98	122.70
48	5	2429	G	N9-C4-C5	5.44	107.58	105.40
15	O	197[B]	PHE	CA-C-N	-5.44	105.32	116.20
48	5	1176	C	C6-N1-C2	5.44	122.48	120.30
48	5	1335	C	C6-N1-C2	-5.44	118.12	120.30
2	B	4	ARG	NE-CZ-NH2	-5.44	117.58	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	516	A	C5-C6-N6	-5.44	119.35	123.70
48	5	879	U	C6-N1-C1'	-5.44	113.59	121.20
48	5	1306	G	C5-C6-N1	5.44	114.22	111.50
49	7	8	G	N3-C2-N2	5.44	123.71	119.90
48	5	2777	G	C8-N9-C4	-5.44	104.22	106.40
48	5	2894	C	C2-N3-C4	-5.44	117.18	119.90
48	5	1838	G	C6-N1-C2	-5.43	121.84	125.10
48	5	1300	G	N1-C6-O6	5.43	123.16	119.90
48	5	2320	A	N7-C8-N9	-5.43	111.08	113.80
48	5	2374	C	N3-C4-N4	-5.43	114.20	118.00
48	5	2635	A	N1-C6-N6	-5.43	115.34	118.60
49	7	61	G	C8-N9-C4	5.43	108.57	106.40
48	5	339	C	C6-N1-C2	-5.43	118.13	120.30
48	5	1374	G	N1-C2-N2	-5.43	111.31	116.20
48	5	1885	U	N1-C2-O2	-5.43	119.00	122.80
48	5	3112	G	C8-N9-C4	5.43	108.57	106.40
49	7	8	G	N1-C2-N2	-5.43	111.31	116.20
48	5	2197	C	C6-N1-C1'	5.43	127.31	120.80
48	5	2309	A	C8-N9-C4	5.43	107.97	105.80
48	5	2632	G	N1-C2-N3	-5.43	120.64	123.90
48	5	706	A	N9-C4-C5	-5.43	103.63	105.80
48	5	2665	U	N1-C2-O2	5.43	126.60	122.80
48	5	1191	U	C5-C6-N1	-5.42	119.99	122.70
48	5	2744	U	N3-C4-O4	-5.42	115.60	119.40
48	5	2837	A	C8-N9-C4	5.42	107.97	105.80
48	5	3341	U	N3-C2-O2	-5.42	118.40	122.20
49	7	115	G	C8-N9-C4	-5.42	104.23	106.40
46	t	57	ARG	CB-CA-C	-5.42	99.55	110.40
48	5	3173	G	C4-C5-N7	5.42	112.97	110.80
27	a	28	HIS	CB-CA-C	-5.42	99.56	110.40
46	t	436	PRO	N-CA-CB	5.42	109.81	103.30
48	5	1858	A	C4-N9-C1'	5.42	136.06	126.30
48	5	2148	U	N3-C4-C5	5.42	117.85	114.60
50	8	156	U	C5-C6-N1	5.42	125.41	122.70
48	5	2904	U	N3-C2-O2	-5.42	118.41	122.20
48	5	3323	A	N1-C2-N3	5.42	132.01	129.30
48	5	987	U	C5-C4-O4	5.42	129.15	125.90
48	5	1307	G	N3-C2-N2	5.42	123.69	119.90
48	5	1447	G	N7-C8-N9	5.42	115.81	113.10
48	5	2379	U	N1-C2-N3	5.42	118.15	114.90
48	5	1209	G	N1-C2-N2	5.42	121.08	116.20
48	5	1925	U	N1-C2-N3	5.42	118.15	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3143	C	N3-C2-O2	5.42	125.69	121.90
25	Y	14	LYS	CD-CE-NZ	5.42	124.16	111.70
48	5	514	G	N9-C4-C5	-5.42	103.23	105.40
48	5	1505	C	C4-C5-C6	5.42	120.11	117.40
48	5	51	A	N1-C6-N6	5.41	121.85	118.60
48	5	1907	C	C6-N1-C1'	5.41	127.30	120.80
48	5	2323	G	C8-N9-C4	-5.41	104.23	106.40
48	5	2375	G	C4-C5-N7	5.41	112.97	110.80
48	5	3035	A	C8-N9-C4	5.41	107.97	105.80
48	5	1396	C	C6-N1-C2	5.41	122.46	120.30
48	5	2377	G	N3-C4-C5	-5.41	125.89	128.60
48	5	2257	C	C5-C6-N1	5.41	123.70	121.00
48	5	2393	G	C8-N9-C1'	-5.41	119.97	127.00
48	5	3045	G	N3-C4-C5	-5.41	125.89	128.60
48	5	3387	U	N1-C2-O2	5.41	126.58	122.80
48	5	800	G	N9-C4-C5	-5.41	103.24	105.40
48	5	339	C	C6-N1-C1'	5.41	127.29	120.80
48	5	972	A	C4-C5-C6	5.41	119.70	117.00
48	5	1192	C	N1-C2-N3	5.41	122.98	119.20
48	5	1319	G	N1-C2-N2	-5.41	111.33	116.20
48	5	1321	G	C8-N9-C4	5.41	108.56	106.40
48	5	3083	G	N1-C2-N3	5.41	127.14	123.90
48	5	2355	G	C5-C6-O6	-5.40	125.36	128.60
46	t	20	LEU	CB-CA-C	-5.40	99.93	110.20
48	5	1110	U	N1-C2-N3	-5.40	111.66	114.90
48	5	1389	G	C8-N9-C4	5.40	108.56	106.40
48	5	2134	G	N3-C2-N2	5.40	123.68	119.90
48	5	2231	C	C2-N1-C1'	5.40	124.74	118.80
48	5	2279	A	C2-N3-C4	-5.40	107.90	110.60
48	5	2300	G	C5-C6-N1	5.40	114.20	111.50
48	5	2755	C	N1-C2-O2	-5.40	115.66	118.90
50	8	43	A	C8-N9-C4	-5.40	103.64	105.80
1	A	207	VAL	CB-CA-C	-5.40	101.14	111.40
48	5	283	G	C5-C6-O6	-5.40	125.36	128.60
48	5	1534	A	C6-N1-C2	-5.40	115.36	118.60
49	7	1	G	C8-N9-C1'	-5.40	119.98	127.00
48	5	2399	A	C5-C6-N6	-5.40	119.38	123.70
49	7	48	U	C5-C6-N1	-5.40	120.00	122.70
16	P	127	ARG	NE-CZ-NH2	-5.40	117.60	120.30
48	5	356	C	C5-C6-N1	-5.40	118.30	121.00
48	5	930	U	N1-C2-O2	5.40	126.58	122.80
48	5	3028	G	C8-N9-C1'	-5.40	119.98	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	998	A	C5-N7-C8	5.39	106.60	103.90
46	t	135	PRO	N-CA-CB	5.39	109.77	103.30
48	5	1445	U	N1-C2-O2	-5.39	119.03	122.80
48	5	2614	G	C4-N9-C1'	5.39	133.51	126.50
48	5	799	G	C6-N1-C2	-5.39	121.86	125.10
48	5	2123	G	N3-C4-C5	-5.39	125.91	128.60
48	5	96	G	C4-C5-N7	-5.39	108.64	110.80
48	5	555	U	N1-C2-O2	-5.39	119.03	122.80
48	5	1399	A	N9-C4-C5	-5.39	103.64	105.80
48	5	1808	G	C5-C6-O6	-5.39	125.37	128.60
48	5	3078	U	C2-N1-C1'	5.39	124.17	117.70
48	5	3336	A	C2-N3-C4	-5.39	107.91	110.60
48	5	2524	A	C5-C6-N1	-5.39	115.01	117.70
48	5	63	A	N9-C4-C5	-5.39	103.65	105.80
48	5	76	G	N1-C6-O6	5.39	123.13	119.90
48	5	3113	A	C6-N1-C2	-5.39	115.37	118.60
48	5	1126	G	C5-C6-N1	-5.38	108.81	111.50
48	5	2184	U	N3-C4-C5	5.38	117.83	114.60
48	5	2430	A	N1-C2-N3	5.38	131.99	129.30
48	5	3377	G	C6-N1-C2	-5.38	121.87	125.10
48	5	661	G	C5-C6-O6	5.38	131.83	128.60
48	5	1170	A	N9-C4-C5	-5.38	103.65	105.80
48	5	1433	A	C6-N1-C2	5.38	121.83	118.60
48	5	3227	A	C2-N3-C4	-5.38	107.91	110.60
48	5	706	A	N1-C6-N6	5.38	121.83	118.60
48	5	1128	U	C2-N3-C4	-5.38	123.77	127.00
48	5	3045	G	C4-C5-N7	-5.38	108.65	110.80
48	5	14	U	N3-C4-C5	5.38	117.83	114.60
48	5	2149	A	N9-C4-C5	5.38	107.95	105.80
48	5	3031	G	C5-C6-O6	-5.38	125.37	128.60
48	5	3115	C	N1-C2-N3	5.38	122.96	119.20
48	5	3374	U	C6-N1-C2	5.38	124.23	121.00
46	t	170	LEU	N-CA-CB	5.38	121.15	110.40
48	5	1869	C	C5-C6-N1	-5.38	118.31	121.00
48	5	2242	A	N9-C4-C5	5.38	107.95	105.80
48	5	2754	G	N3-C4-N9	5.38	129.22	126.00
5	E	173	MET	CB-CG-SD	-5.37	96.28	112.40
48	5	282	G	N7-C8-N9	5.37	115.79	113.10
48	5	408	A	C2-N3-C4	-5.37	107.91	110.60
48	5	2976	A	C5-C6-N1	5.37	120.39	117.70
48	5	3246	G	N1-C6-O6	5.37	123.12	119.90
48	5	90	C	C6-N1-C2	-5.37	118.15	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	141	C	C6-N1-C2	-5.37	118.15	120.30
48	5	590	G	C2-N3-C4	5.37	114.58	111.90
48	5	688	G	N3-C4-N9	-5.37	122.78	126.00
48	5	1804	A	C8-N9-C4	5.37	107.95	105.80
48	5	2361	A	N9-C4-C5	5.37	107.95	105.80
48	5	354	U	C5-C6-N1	-5.37	120.02	122.70
48	5	887	G	C4-C5-C6	5.37	122.02	118.80
48	5	1131	G	N1-C2-N3	5.37	127.12	123.90
48	5	1143	A	C2-N3-C4	-5.37	107.92	110.60
48	5	536	U	N3-C4-O4	-5.37	115.64	119.40
48	5	632	G	C5-C6-N1	5.37	114.18	111.50
48	5	2930	A	C5-C6-N1	5.37	120.38	117.70
48	5	3350	C	N1-C2-O2	5.37	122.12	118.90
48	5	498	A	N1-C6-N6	-5.36	115.38	118.60
48	5	969	C	C6-N1-C2	5.36	122.45	120.30
48	5	1152	G	N9-C4-C5	5.36	107.55	105.40
48	5	2609	A	N7-C8-N9	-5.36	111.12	113.80
48	5	2794	G	C5-C6-O6	-5.36	125.38	128.60
48	5	3047	U	N3-C2-O2	-5.36	118.44	122.20
48	5	1011	A	C2-N3-C4	-5.36	107.92	110.60
48	5	3368	U	C2-N1-C1'	-5.36	111.27	117.70
48	5	965	A	N1-C2-N3	-5.36	126.62	129.30
48	5	1369	A	N1-C2-N3	-5.36	126.62	129.30
48	5	2549	G	C5-N7-C8	-5.36	101.62	104.30
48	5	2639	G	C6-N1-C2	-5.36	121.88	125.10
48	5	3055	U	C6-N1-C1'	-5.36	113.69	121.20
48	5	91	G	N9-C4-C5	5.36	107.54	105.40
48	5	1870	C	N1-C2-O2	-5.36	115.69	118.90
48	5	2158	A	C5-C6-N1	5.36	120.38	117.70
48	5	909	G	N7-C8-N9	-5.36	110.42	113.10
48	5	3141	A	N1-C2-N3	5.36	131.98	129.30
48	5	3263	G	N1-C6-O6	-5.36	116.69	119.90
48	5	372	A	N1-C6-N6	5.36	121.81	118.60
48	5	799	G	C5-C6-N1	5.36	114.18	111.50
48	5	1905	G	N9-C4-C5	5.36	107.54	105.40
48	5	2376	G	C8-N9-C1'	-5.36	120.04	127.00
48	5	496	C	N3-C2-O2	-5.35	118.15	121.90
48	5	1788	C	C4-C5-C6	5.35	120.08	117.40
48	5	1917	C	C4-C5-C6	5.35	120.08	117.40
48	5	1833	G	N1-C2-N2	-5.35	111.38	116.20
48	5	859	G	N3-C4-C5	-5.35	125.92	128.60
48	5	1927	G	C8-N9-C4	-5.35	104.26	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2658	G	C8-N9-C4	5.35	108.54	106.40
48	5	3019	U	C6-N1-C2	5.35	124.21	121.00
48	5	3245	A	C4-C5-C6	5.35	119.67	117.00
48	5	646	A	N1-C2-N3	5.34	131.97	129.30
48	5	1597	C	N3-C4-C5	-5.34	119.76	121.90
48	5	2980	U	N3-C2-O2	-5.34	118.46	122.20
48	5	3179	U	N1-C2-O2	5.34	126.54	122.80
48	5	1180	A	C2-N3-C4	-5.34	107.93	110.60
48	5	2144	A	N1-C6-N6	5.34	121.81	118.60
48	5	3003	G	N3-C4-N9	-5.34	122.79	126.00
48	5	98	G	C4-C5-N7	5.34	112.94	110.80
48	5	363	G	C5-N7-C8	5.34	106.97	104.30
48	5	696	C	C2-N1-C1'	5.34	124.67	118.80
48	5	2767	U	N3-C4-O4	-5.34	115.66	119.40
48	5	3025	C	N3-C2-O2	-5.34	118.16	121.90
48	5	3369	G	C5-C6-N1	5.34	114.17	111.50
48	5	2342	U	N3-C4-C5	5.34	117.80	114.60
48	5	2369	G	N3-C2-N2	5.34	123.64	119.90
48	5	3112	G	N7-C8-N9	-5.34	110.43	113.10
48	5	3366	G	N1-C6-O6	-5.34	116.70	119.90
50	8	3	A	C5-C6-N1	5.34	120.37	117.70
48	5	587	U	N3-C4-O4	-5.34	115.67	119.40
48	5	961	C	C5-C6-N1	-5.34	118.33	121.00
48	5	1161	G	C6-C5-N7	5.34	133.60	130.40
48	5	2836	C	N1-C2-O2	-5.34	115.70	118.90
14	N	201	ARG	NE-CZ-NH1	5.33	122.97	120.30
48	5	1490	A	C6-C5-N7	-5.33	128.56	132.30
48	5	1586	G	C6-C5-N7	-5.33	127.20	130.40
48	5	1628	C	C6-N1-C2	-5.33	118.17	120.30
48	5	2621	G	N1-C2-N2	5.33	121.00	116.20
48	5	735	A	N7-C8-N9	5.33	116.47	113.80
48	5	3189	G	C6-N1-C2	-5.33	121.90	125.10
50	8	135	G	C4-C5-N7	-5.33	108.67	110.80
48	5	1107	C	N3-C4-C5	5.33	124.03	121.90
48	5	227	G	C5-C6-O6	-5.33	125.40	128.60
48	5	1220	U	C5-C6-N1	-5.33	120.03	122.70
48	5	1939	G	C8-N9-C1'	-5.33	120.07	127.00
48	5	2664	C	C4-C5-C6	-5.33	114.73	117.40
48	5	1129	A	C5-C6-N1	5.33	120.36	117.70
48	5	1376	C	C6-N1-C2	5.33	122.43	120.30
48	5	1838	G	C4-C5-N7	-5.33	108.67	110.80
48	5	2763	U	C5-C4-O4	-5.33	122.70	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2965	U	N3-C4-O4	5.33	123.13	119.40
48	5	656	A	C5-N7-C8	5.33	106.56	103.90
48	5	948	C	C4-C5-C6	5.33	120.06	117.40
48	5	2625	C	N3-C4-C5	5.33	124.03	121.90
48	5	2636	A	N1-C6-N6	-5.33	115.40	118.60
48	5	3259	U	C6-N1-C2	-5.33	117.80	121.00
48	5	299	G	C5-C6-N1	5.33	114.16	111.50
48	5	322	U	C2-N3-C4	-5.33	123.81	127.00
48	5	637	C	C6-N1-C1'	5.33	127.19	120.80
48	5	1007	U	N3-C4-C5	5.33	117.80	114.60
48	5	1080	A	N1-C2-N3	5.33	131.96	129.30
48	5	1239	C	C6-N1-C2	-5.33	118.17	120.30
48	5	2261	G	N7-C8-N9	-5.33	110.44	113.10
48	5	564	G	C5-N7-C8	5.32	106.96	104.30
48	5	2998	U	C2-N3-C4	-5.32	123.81	127.00
48	5	905	U	C2-N3-C4	-5.32	123.81	127.00
49	7	14	U	N1-C2-N3	5.32	118.09	114.90
48	5	327	A	N1-C2-N3	-5.32	126.64	129.30
48	5	381	U	C5-C6-N1	-5.32	120.04	122.70
48	5	637	C	C2-N3-C4	-5.32	117.24	119.90
48	5	2632	G	N3-C2-N2	5.32	123.62	119.90
48	5	524	U	C2-N1-C1'	-5.32	111.32	117.70
48	5	2572	C	C6-N1-C1'	-5.32	114.42	120.80
48	5	2721	A	N3-C4-C5	-5.32	123.08	126.80
48	5	979	U	C2-N1-C1'	5.32	124.08	117.70
48	5	1158	A	N9-C4-C5	-5.32	103.67	105.80
48	5	2639	G	N1-C6-O6	5.32	123.09	119.90
48	5	3043	C	N1-C2-O2	5.32	122.09	118.90
48	5	641	C	C6-N1-C2	-5.32	118.17	120.30
48	5	1081	U	C5-C6-N1	5.32	125.36	122.70
48	5	1786	G	N3-C4-C5	-5.32	125.94	128.60
48	5	2928	C	N3-C4-C5	-5.32	119.77	121.90
48	5	2955	U	C6-N1-C2	-5.32	117.81	121.00
48	5	3346	U	C5-C6-N1	-5.32	120.04	122.70
48	5	2790	A	C5-C6-N1	5.31	120.36	117.70
48	5	1017	C	C2-N1-C1'	5.31	124.64	118.80
48	5	1925	U	N3-C4-C5	5.31	117.79	114.60
48	5	2175	U	C2-N1-C1'	-5.31	111.32	117.70
48	5	3138	U	N3-C2-O2	5.31	125.92	122.20
50	8	6	U	C5-C4-O4	-5.31	122.71	125.90
5	E	26	ARG	NE-CZ-NH2	-5.31	117.64	120.30
48	5	588	G	C5-C6-N1	5.31	114.16	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1906	G	C6-N1-C2	-5.31	121.91	125.10
48	5	2364	G	C8-N9-C4	-5.31	104.28	106.40
48	5	2897	A	C5-N7-C8	5.31	106.56	103.90
48	5	3101	G	N1-C2-N2	-5.31	111.42	116.20
48	5	3247	G	C4-C5-N7	-5.31	108.68	110.80
48	5	1518	U	C4-C5-C6	-5.31	116.52	119.70
49	7	83	U	N3-C4-O4	-5.31	115.69	119.40
48	5	1327	C	C5-C4-N4	5.31	123.91	120.20
48	5	2891	U	N1-C2-N3	5.31	118.08	114.90
48	5	3307	A	C6-N1-C2	5.31	121.78	118.60
48	5	831	G	C5-C6-O6	-5.30	125.42	128.60
48	5	929	A	C5-N7-C8	5.30	106.55	103.90
48	5	2374	C	C5-C4-N4	5.30	123.91	120.20
50	8	29	U	C5-C6-N1	-5.30	120.05	122.70
50	8	45	C	C4-C5-C6	5.30	120.05	117.40
48	5	3110	C	C5-C6-N1	-5.30	118.35	121.00
26	Z	121	ARG	NE-CZ-NH1	5.30	122.95	120.30
48	5	288	C	C6-N1-C2	5.30	122.42	120.30
48	5	928	C	C6-N1-C2	-5.30	118.18	120.30
48	5	992	A	C8-N9-C4	5.30	107.92	105.80
48	5	1846	C	N1-C2-N3	5.30	122.91	119.20
48	5	2606	G	C6-C5-N7	-5.30	127.22	130.40
48	5	3243	A	C4-C5-C6	5.30	119.65	117.00
14	N	174	ILE	CG1-CB-CG2	-5.30	99.74	111.40
48	5	406	G	O4'-C1'-N9	5.30	112.44	108.20
48	5	2841	G	N3-C2-N2	5.30	123.61	119.90
48	5	2893	C	N3-C2-O2	5.30	125.61	121.90
49	7	93	C	N3-C4-C5	5.30	124.02	121.90
48	5	1178	G	C5-C6-O6	-5.30	125.42	128.60
48	5	2321	A	C8-N9-C4	5.30	107.92	105.80
48	5	595	G	C5-C6-O6	5.30	131.78	128.60
48	5	975	C	N1-C2-N3	5.30	122.91	119.20
48	5	1203	A	N1-C6-N6	5.30	121.78	118.60
48	5	1239	C	C2-N1-C1'	5.30	124.63	118.80
48	5	1741	A	N1-C2-N3	5.30	131.95	129.30
48	5	2379	U	C5-C6-N1	-5.30	120.05	122.70
48	5	3193	C	C4-C5-C6	5.30	120.05	117.40
48	5	1164	G	C2-N3-C4	-5.29	109.25	111.90
48	5	2915	U	N3-C4-O4	-5.29	115.69	119.40
46	t	59	LEU	CB-CA-C	-5.29	100.14	110.20
48	5	365	A	C4-C5-N7	5.29	113.35	110.70
48	5	999	G	C5-C6-N1	5.29	114.15	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1432	C	C2-N1-C1'	5.29	124.62	118.80
48	5	1476	G	N7-C8-N9	-5.29	110.45	113.10
48	5	1483	G	N1-C6-O6	-5.29	116.72	119.90
48	5	2942	C	N1-C2-O2	-5.29	115.72	118.90
49	7	41	G	C4-C5-N7	5.29	112.92	110.80
48	5	1137	C	N3-C4-C5	-5.29	119.78	121.90
48	5	1506	A	N9-C4-C5	5.29	107.92	105.80
48	5	1846	C	C6-N1-C2	5.29	122.42	120.30
48	5	1929	G	C2-N3-C4	-5.29	109.25	111.90
48	5	1939	G	C4-N9-C1'	5.29	133.38	126.50
48	5	3385	U	C5-C6-N1	-5.29	120.05	122.70
17	Q	178	ARG	NE-CZ-NH2	-5.29	117.66	120.30
48	5	1792	C	C5-C6-N1	-5.29	118.36	121.00
48	5	2211	U	C6-N1-C2	-5.29	117.83	121.00
25	Y	103	LYS	CD-CE-NZ	-5.29	99.54	111.70
48	5	1317	A	N9-C4-C5	-5.29	103.69	105.80
48	5	1346	G	C8-N9-C4	5.29	108.52	106.40
48	5	2524	A	C2-N3-C4	-5.29	107.96	110.60
48	5	3315	G	C4-C5-N7	-5.29	108.68	110.80
48	5	702	C	N3-C4-C5	5.29	124.01	121.90
48	5	1510	G	C2-N3-C4	-5.29	109.26	111.90
48	5	2319	U	C5-C6-N1	-5.29	120.06	122.70
50	8	87	G	C4-C5-N7	5.29	112.91	110.80
48	5	610	G	C5-C6-N1	5.28	114.14	111.50
48	5	2882	U	N3-C4-O4	-5.28	115.70	119.40
48	5	3247	G	C5-C6-O6	5.28	131.77	128.60
48	5	903	U	N3-C4-C5	5.28	117.77	114.60
48	5	960	U	C6-N1-C1'	-5.28	113.81	121.20
48	5	1153	A	C5-C6-N6	-5.28	119.48	123.70
48	5	1190	A	C4-N9-C1'	5.28	135.81	126.30
48	5	2798	C	N3-C4-C5	-5.28	119.79	121.90
48	5	3048	A	C6-N1-C2	-5.28	115.43	118.60
48	5	3309	G	C2-N3-C4	5.28	114.54	111.90
48	5	1167	U	N3-C2-O2	5.28	125.89	122.20
48	5	1442	U	C2-N3-C4	-5.28	123.83	127.00
48	5	2648	G	N9-C4-C5	-5.28	103.29	105.40
50	8	79	A	C4-C5-N7	5.28	113.34	110.70
48	5	1527	C	N1-C2-O2	5.28	122.06	118.90
50	8	113	U	C5-C4-O4	-5.28	122.73	125.90
48	5	2665	U	C5-C6-N1	5.27	125.34	122.70
48	5	2724	U	N3-C4-O4	-5.27	115.71	119.40
48	5	2755	C	C4-C5-C6	5.27	120.04	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	8	99	C	C5-C6-N1	-5.27	118.36	121.00
46	t	83	LYS	CB-CA-C	-5.27	99.85	110.40
48	5	852	U	N3-C2-O2	-5.27	118.51	122.20
48	5	1208	U	N1-C2-O2	5.27	126.49	122.80
48	5	1828	A	C8-N9-C4	-5.27	103.69	105.80
48	5	2139	A	N1-C6-N6	-5.27	115.44	118.60
48	5	2391	G	C5-C6-O6	5.27	131.76	128.60
48	5	3294	A	N1-C2-N3	5.27	131.94	129.30
18	R	42	ARG	NE-CZ-NH2	-5.27	117.67	120.30
48	5	28	C	C6-N1-C2	5.27	122.41	120.30
48	5	2899	C	C2-N3-C4	-5.27	117.27	119.90
48	5	3171	U	C6-N1-C2	5.27	124.16	121.00
48	5	496	C	N1-C2-O2	5.27	122.06	118.90
48	5	689	U	N3-C4-C5	5.27	117.76	114.60
48	5	806	A	C8-N9-C4	5.27	107.91	105.80
48	5	1140	G	N3-C4-N9	5.27	129.16	126.00
48	5	1375	G	C8-N9-C4	-5.27	104.29	106.40
48	5	2148	U	N1-C2-N3	5.27	118.06	114.90
48	5	2987	A	N7-C8-N9	-5.27	111.17	113.80
48	5	868	C	C6-N1-C2	5.27	122.41	120.30
48	5	1724	U	P-O3'-C3'	5.27	126.02	119.70
49	7	35	C	N1-C2-O2	-5.27	115.74	118.90
48	5	2164	A	C4-C5-C6	5.26	119.63	117.00
48	5	2921	U	N1-C2-N3	5.26	118.06	114.90
48	5	2979	U	N1-C2-N3	-5.26	111.74	114.90
50	8	121	U	N3-C2-O2	-5.26	118.51	122.20
48	5	1421	G	N3-C4-C5	5.26	131.23	128.60
48	5	186	U	N1-C2-O2	5.26	126.48	122.80
48	5	1500	G	N7-C8-N9	-5.26	110.47	113.10
48	5	2406	C	C4-C5-C6	5.26	120.03	117.40
48	5	3373	U	C2-N3-C4	-5.26	123.84	127.00
48	5	147	U	C5-C4-O4	5.26	129.06	125.90
48	5	2207	A	C4-C5-N7	5.26	113.33	110.70
48	5	682	U	C2-N3-C4	-5.26	123.84	127.00
48	5	2271	A	C6-C5-N7	5.26	135.98	132.30
3	C	190	GLY	N-CA-C	5.26	126.24	113.10
48	5	924	G	C5-C6-O6	-5.26	125.45	128.60
48	5	2359	C	N3-C4-N4	-5.26	114.32	118.00
48	5	404	G	C4-C5-N7	-5.25	108.70	110.80
15	O	182[B]	SER	CA-C-N	5.25	128.76	117.20
48	5	197	G	C4-N9-C1'	5.25	133.33	126.50
48	5	424	G	C5-C6-N1	5.25	114.13	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	494	G	N1-C6-O6	-5.25	116.75	119.90
48	5	997	A	C8-N9-C4	-5.25	103.70	105.80
48	5	1901	A	C8-N9-C1'	-5.25	118.24	127.70
48	5	1150	A	C5-N7-C8	-5.25	101.27	103.90
48	5	2279	A	N1-C6-N6	5.25	121.75	118.60
48	5	340	C	C4-C5-C6	5.25	120.03	117.40
48	5	1054	A	N9-C4-C5	-5.25	103.70	105.80
48	5	1856	C	N3-C2-O2	-5.25	118.22	121.90
9	I	99	ILE	CB-CA-C	-5.25	101.10	111.60
48	5	413	U	C5-C4-O4	-5.25	122.75	125.90
48	5	1050	U	C5-C4-O4	5.25	129.05	125.90
48	5	1085	A	C4-C5-N7	5.25	113.32	110.70
48	5	2213	A	N7-C8-N9	-5.25	111.18	113.80
48	5	2506	U	C5-C6-N1	5.25	125.32	122.70
48	5	102	C	C4-C5-C6	5.25	120.02	117.40
48	5	2279	A	C5-N7-C8	-5.25	101.28	103.90
48	5	2820	A	N9-C4-C5	5.25	107.90	105.80
48	5	2928	C	C2-N1-C1'	5.25	124.57	118.80
48	5	307	A	N9-C4-C5	5.25	107.90	105.80
48	5	2956	A	C5-C6-N1	-5.25	115.08	117.70
48	5	227	G	N1-C6-O6	5.24	123.05	119.90
48	5	509	U	N3-C4-C5	5.24	117.75	114.60
48	5	515	C	C5-C4-N4	-5.24	116.53	120.20
48	5	2118	C	C5-C4-N4	5.24	123.87	120.20
48	5	2213	A	C5-N7-C8	5.24	106.52	103.90
48	5	2525	G	C8-N9-C4	5.24	108.50	106.40
46	t	521	GLU	N-CA-CB	5.24	120.03	110.60
48	5	1832	C	C5-C6-N1	-5.24	118.38	121.00
48	5	2716	U	N1-C2-N3	5.24	118.05	114.90
48	5	2855	U	N3-C4-C5	5.24	117.75	114.60
48	5	2884	C	C5-C4-N4	-5.24	116.53	120.20
48	5	1183	C	N3-C4-N4	-5.24	114.33	118.00
48	5	2403	G	N3-C4-N9	5.24	129.14	126.00
48	5	3052	G	C5-N7-C8	5.24	106.92	104.30
48	5	420	G	C6-C5-N7	-5.24	127.26	130.40
48	5	1378	U	N3-C4-C5	5.24	117.74	114.60
48	5	2934	A	N1-C6-N6	-5.24	115.46	118.60
48	5	3177	G	C2-N3-C4	-5.24	109.28	111.90
48	5	1722	U	N1-C2-O2	-5.24	119.13	122.80
48	5	2416	U	N1-C2-N3	5.24	118.04	114.90
49	7	11	A	C5-C6-N1	-5.24	115.08	117.70
48	5	693	A	C5-C6-N6	5.23	127.89	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	813	G	N3-C4-C5	-5.23	125.98	128.60
48	5	1693	C	N1-C2-O2	-5.23	115.76	118.90
49	7	50	U	C6-N1-C2	-5.23	117.86	121.00
48	5	1205	A	C2-N3-C4	5.23	113.22	110.60
27	a	15	VAL	N-CA-C	-5.23	96.88	111.00
48	5	2191	U	C4-C5-C6	5.23	122.84	119.70
48	5	2692	A	C4-C5-N7	-5.23	108.08	110.70
48	5	3098	G	N3-C2-N2	5.23	123.56	119.90
48	5	216	G	N9-C4-C5	-5.23	103.31	105.40
48	5	2344	U	N1-C2-N3	5.23	118.04	114.90
48	5	2604	U	N3-C4-C5	-5.23	111.46	114.60
48	5	857	G	N1-C2-N2	-5.23	111.50	116.20
48	5	1315	U	C6-N1-C2	5.23	124.14	121.00
48	5	3381	U	C5-C6-N1	-5.23	120.09	122.70
49	7	100	C	C2-N3-C4	-5.23	117.29	119.90
48	5	806	A	C6-N1-C2	5.23	121.74	118.60
48	5	943	U	C5-C4-O4	-5.23	122.76	125.90
48	5	1120	A	N1-C6-N6	-5.23	115.47	118.60
48	5	83	U	C6-N1-C1'	-5.22	113.89	121.20
48	5	234	G	C5-C6-O6	-5.22	125.47	128.60
48	5	410	U	C5-C6-N1	-5.22	120.09	122.70
48	5	1658	G	C5-C6-O6	5.22	131.74	128.60
48	5	3103	A	C6-N1-C2	-5.22	115.47	118.60
48	5	282	G	C5-C6-N1	-5.22	108.89	111.50
48	5	559	A	C8-N9-C4	-5.22	103.71	105.80
48	5	1149	G	C4-C5-N7	-5.22	108.71	110.80
48	5	1902	G	N9-C4-C5	-5.22	103.31	105.40
48	5	3174	A	N1-C6-N6	5.22	121.73	118.60
50	8	109	A	C5-N7-C8	-5.22	101.29	103.90
48	5	1404	G	N1-C2-N2	-5.22	111.50	116.20
48	5	2349	U	N1-C2-O2	5.22	126.45	122.80
48	5	46	U	N1-C2-N3	-5.22	111.77	114.90
48	5	146	U	C5-C6-N1	-5.22	120.09	122.70
48	5	341	G	C4-C5-N7	5.22	112.89	110.80
48	5	568	G	N1-C6-O6	-5.22	116.77	119.90
48	5	2370	G	N3-C4-N9	5.22	129.13	126.00
48	5	1466	G	N1-C6-O6	-5.22	116.77	119.90
48	5	2732	G	C5-N7-C8	5.22	106.91	104.30
48	5	3046	A	N1-C6-N6	-5.22	115.47	118.60
48	5	2228	A	N7-C8-N9	5.21	116.41	113.80
49	7	48	U	N3-C2-O2	5.21	125.85	122.20
48	5	804	C	C2-N1-C1'	-5.21	113.06	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2852	C	N1-C2-O2	-5.21	115.77	118.90
48	5	267	G	N7-C8-N9	-5.21	110.49	113.10
48	5	635	G	N3-C4-C5	5.21	131.21	128.60
48	5	719	U	N3-C2-O2	-5.21	118.55	122.20
48	5	1087	G	N1-C6-O6	5.21	123.03	119.90
48	5	1402	C	N1-C2-O2	5.21	122.03	118.90
48	5	2695	A	C5-N7-C8	-5.21	101.29	103.90
48	5	3005	A	C8-N9-C4	-5.21	103.72	105.80
50	8	34	U	C2-N3-C4	-5.21	123.87	127.00
48	5	2942	C	C5-C4-N4	-5.21	116.55	120.20
48	5	80	G	C5-C6-O6	5.21	131.73	128.60
48	5	576	C	C2-N3-C4	-5.21	117.30	119.90
48	5	625	G	N3-C4-N9	-5.21	122.88	126.00
48	5	2629	U	C2-N3-C4	-5.21	123.88	127.00
48	5	2639	G	C4-C5-C6	5.21	121.92	118.80
48	5	3154	C	C6-N1-C2	-5.21	118.22	120.30
48	5	996	A	N7-C8-N9	-5.21	111.20	113.80
48	5	1013	G	C4-N9-C1'	5.21	133.27	126.50
48	5	1403	C	N3-C4-C5	5.21	123.98	121.90
48	5	1655	G	C5-N7-C8	-5.21	101.70	104.30
48	5	1695	U	N3-C2-O2	-5.21	118.56	122.20
48	5	1828	A	N7-C8-N9	5.21	116.40	113.80
48	5	2167	A	C5-C6-N1	5.21	120.30	117.70
48	5	2686	A	N1-C6-N6	5.21	121.72	118.60
48	5	2724	U	N3-C2-O2	-5.21	118.56	122.20
49	7	37	G	C8-N9-C4	5.21	108.48	106.40
50	8	126	A	N7-C8-N9	5.21	116.40	113.80
15	O	27[B]	VAL	CA-C-N	5.21	128.65	117.20
48	5	1545	A	C8-N9-C4	5.21	107.88	105.80
48	5	3321	C	C6-N1-C2	5.21	122.38	120.30
49	7	51	A	C2-N3-C4	5.21	113.20	110.60
48	5	218	G	N1-C6-O6	-5.20	116.78	119.90
48	5	726	G	N7-C8-N9	5.20	115.70	113.10
48	5	808	A	C6-N1-C2	5.20	121.72	118.60
48	5	894	G	C4-C5-N7	5.20	112.88	110.80
48	5	1100	U	N3-C4-C5	5.20	117.72	114.60
48	5	3124	G	C4-C5-N7	-5.20	108.72	110.80
50	8	109	A	C5-C6-N1	5.20	120.30	117.70
48	5	2772	C	P-O3'-C3'	5.20	125.94	119.70
46	t	58	GLN	CB-CA-C	-5.20	100.00	110.40
48	5	437	G	C5-C6-O6	-5.20	125.48	128.60
48	5	972	A	C5-N7-C8	5.20	106.50	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1116	G	C5-C6-N1	-5.20	108.90	111.50
48	5	1872	C	N1-C2-N3	5.20	122.84	119.20
48	5	2163	C	N3-C4-C5	5.20	123.98	121.90
48	5	2375	G	C5-N7-C8	-5.20	101.70	104.30
48	5	2584	G	N7-C8-N9	5.20	115.70	113.10
48	5	3302	U	C5-C6-N1	-5.20	120.10	122.70
50	8	147	U	C2-N3-C4	-5.20	123.88	127.00
48	5	376	G	N3-C4-C5	-5.20	126.00	128.60
48	5	861	C	N3-C4-N4	5.20	121.64	118.00
48	5	1310	G	C5-C6-N1	5.20	114.10	111.50
48	5	1704	A	C8-N9-C4	5.20	107.88	105.80
48	5	1942	U	C4-C5-C6	5.20	122.82	119.70
48	5	2364	G	C4-C5-N7	-5.20	108.72	110.80
48	5	3094	A	C5-N7-C8	5.20	106.50	103.90
48	5	3335	A	C5-N7-C8	-5.20	101.30	103.90
48	5	928	C	C2-N3-C4	-5.20	117.30	119.90
48	5	968	G	C6-N1-C2	5.20	128.22	125.10
48	5	2246	G	C6-C5-N7	5.20	133.52	130.40
48	5	2721	A	C5-C6-N1	5.20	120.30	117.70
48	5	333	G	C2-N3-C4	-5.19	109.30	111.90
48	5	3075	G	C5-N7-C8	5.19	106.90	104.30
48	5	3339	A	N1-C6-N6	5.19	121.72	118.60
50	8	95	G	N3-C4-N9	-5.19	122.88	126.00
15	O	16[B]	LEU	O-C-N	-5.19	114.37	123.20
31	e	33	ARG	NE-CZ-NH2	-5.19	117.70	120.30
3	C	98	ARG	NE-CZ-NH2	-5.19	117.70	120.30
48	5	1833	G	C5-C6-O6	5.19	131.72	128.60
48	5	75	G	C5-C6-N1	5.19	114.09	111.50
48	5	418	A	C4-C5-C6	5.19	119.59	117.00
48	5	580	C	N1-C2-N3	5.19	122.83	119.20
48	5	809	G	C8-N9-C4	5.19	108.47	106.40
48	5	2930	A	N1-C2-N3	-5.19	126.71	129.30
48	5	3106	A	C8-N9-C4	-5.19	103.72	105.80
49	7	1	G	C4-C5-N7	5.19	112.88	110.80
49	7	89	G	C5-C6-N1	5.19	114.09	111.50
50	8	12	A	C8-N9-C4	-5.19	103.72	105.80
50	8	77	A	C2-N3-C4	-5.19	108.01	110.60
48	5	802	C	N3-C2-O2	-5.18	118.27	121.90
48	5	1205	A	C5-N7-C8	-5.18	101.31	103.90
48	5	2142	A	C5-C6-N6	-5.18	119.55	123.70
48	5	2851	A	C2-N3-C4	-5.18	108.01	110.60
48	5	3387	U	N3-C2-O2	-5.18	118.57	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3028	G	N1-C2-N2	-5.18	111.54	116.20
48	5	3107	U	N3-C4-O4	-5.18	115.77	119.40
49	7	13	A	C8-N9-C4	-5.18	103.73	105.80
49	7	40	C	C2-N3-C4	-5.18	117.31	119.90
50	8	14	C	N1-C2-O2	-5.18	115.79	118.90
48	5	817	A	N9-C4-C5	5.18	107.87	105.80
48	5	2737	C	N1-C2-O2	-5.18	115.79	118.90
48	5	1324	U	N3-C2-O2	-5.18	118.58	122.20
48	5	2135	U	N3-C4-C5	5.18	117.71	114.60
48	5	2272	G	O4'-C1'-N9	5.18	112.34	108.20
49	7	88	G	N9-C4-C5	5.18	107.47	105.40
3	C	230	VAL	CB-CA-C	-5.18	101.56	111.40
27	a	14	HIS	N-CA-C	-5.18	97.02	111.00
48	5	284	A	N1-C6-N6	-5.18	115.49	118.60
48	5	329	U	C6-N1-C2	5.18	124.11	121.00
48	5	1242	G	C8-N9-C1'	-5.18	120.27	127.00
48	5	1851	G	C4-N9-C1'	5.18	133.23	126.50
48	5	2560	C	N1-C2-O2	5.18	122.01	118.90
48	5	2858	U	C2-N1-C1'	5.18	123.91	117.70
48	5	3186	A	N7-C8-N9	5.18	116.39	113.80
15	O	104[B]	ILE	CA-C-N	-5.17	105.82	117.20
48	5	1485	G	N9-C4-C5	5.17	107.47	105.40
48	5	2352	A	C5-N7-C8	5.17	106.49	103.90
48	5	2960	C	C2-N3-C4	-5.17	117.31	119.90
50	8	51	G	N3-C2-N2	-5.17	116.28	119.90
48	5	114	A	C5-C6-N1	-5.17	115.11	117.70
48	5	1805	C	C6-N1-C2	5.17	122.37	120.30
48	5	2245	C	N1-C2-N3	5.17	122.82	119.20
48	5	3019	U	C5-C6-N1	-5.17	120.11	122.70
50	8	23	U	N3-C2-O2	-5.17	118.58	122.20
43	q	70	LEU	CA-CB-CG	5.17	127.19	115.30
48	5	2526	C	C6-N1-C1'	-5.17	114.59	120.80
48	5	318	A	N1-C2-N3	-5.17	126.72	129.30
48	5	934	G	C8-N9-C1'	-5.17	120.28	127.00
48	5	1714	A	C2-N3-C4	-5.17	108.02	110.60
48	5	432	G	N3-C2-N2	5.17	123.52	119.90
48	5	943	U	C2-N3-C4	-5.17	123.90	127.00
48	5	973	A	C6-N1-C2	-5.17	115.50	118.60
48	5	1305	U	C5-C6-N1	-5.17	120.12	122.70
49	7	57	G	C5-C6-O6	5.17	131.70	128.60
48	5	872	U	N3-C4-O4	-5.17	115.78	119.40
48	5	1241	U	C5-C6-N1	5.17	125.28	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1325	U	N1-C2-N3	5.17	118.00	114.90
48	5	1604	G	N3-C4-C5	-5.17	126.02	128.60
19	S	167	ARG	NE-CZ-NH1	5.16	122.88	120.30
48	5	1100	U	C6-N1-C2	5.16	124.10	121.00
48	5	1312	C	C6-N1-C1'	5.16	127.00	120.80
48	5	1445	U	N3-C2-O2	5.16	125.81	122.20
48	5	2378	C	C2-N3-C4	5.16	122.48	119.90
48	5	1834	U	C5-C6-N1	-5.16	120.12	122.70
48	5	340	C	N3-C2-O2	-5.16	118.29	121.90
48	5	523	A	N1-C6-N6	-5.16	115.50	118.60
48	5	911	C	C5-C4-N4	-5.16	116.59	120.20
48	5	1412	G	N3-C2-N2	-5.16	116.29	119.90
48	5	1603	A	C4-C5-C6	5.16	119.58	117.00
48	5	1938	U	N3-C4-C5	5.16	117.70	114.60
48	5	2351	U	N1-C2-O2	5.16	126.41	122.80
48	5	2877	G	C5-C6-O6	5.16	131.70	128.60
48	5	2941	A	C8-N9-C4	5.16	107.86	105.80
49	7	75	G	N3-C2-N2	-5.16	116.29	119.90
50	8	32	C	N3-C2-O2	5.16	125.51	121.90
48	5	341	G	N3-C2-N2	-5.16	116.29	119.90
48	5	919	U	C5-C4-O4	-5.16	122.81	125.90
48	5	1114	U	C2-N3-C4	-5.16	123.91	127.00
48	5	1876	U	C6-N1-C2	-5.16	117.91	121.00
48	5	2635	A	C8-N9-C4	-5.16	103.74	105.80
48	5	1513	G	N1-C6-O6	-5.16	116.81	119.90
48	5	1516	C	C4-C5-C6	5.16	119.98	117.40
48	5	1901	A	N1-C6-N6	5.16	121.69	118.60
48	5	2884	C	N3-C4-N4	5.16	121.61	118.00
49	7	90	U	C2-N3-C4	-5.16	123.91	127.00
46	t	51	HIS	CB-CA-C	-5.16	100.09	110.40
48	5	39	A	N3-C4-C5	-5.16	123.19	126.80
48	5	374	A	N9-C4-C5	5.16	107.86	105.80
48	5	1603	A	C5-C6-N1	-5.16	115.12	117.70
48	5	2632	G	C6-N1-C2	5.15	128.19	125.10
48	5	3173	G	C6-N1-C2	-5.15	122.01	125.10
46	t	551	GLN	CB-CA-C	-5.15	100.09	110.40
48	5	784	A	C4-C5-N7	5.15	113.28	110.70
48	5	1114	U	C5-C4-O4	-5.15	122.81	125.90
48	5	2112	U	N1-C2-N3	5.15	117.99	114.90
48	5	2207	A	C5-C6-N1	-5.15	115.12	117.70
48	5	3132	C	C6-N1-C2	5.15	122.36	120.30
50	8	95	G	N3-C4-C5	5.15	131.18	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
16	P	23	ARG	NE-CZ-NH1	5.15	122.88	120.30
48	5	958	C	C6-N1-C2	5.15	122.36	120.30
48	5	2305	G	N3-C4-N9	5.15	129.09	126.00
49	7	35	C	N3-C4-C5	5.15	123.96	121.90
48	5	2833	A	C6-C5-N7	5.15	135.90	132.30
48	5	84	U	N3-C4-O4	5.15	123.00	119.40
48	5	863	C	C5-C4-N4	5.15	123.80	120.20
48	5	1733	G	C6-C5-N7	-5.15	127.31	130.40
48	5	35	A	N1-C2-N3	5.14	131.87	129.30
48	5	1147	G	C5-C6-O6	5.14	131.69	128.60
48	5	2128	C	C6-N1-C2	-5.14	118.24	120.30
48	5	3074	G	N1-C2-N2	-5.14	111.57	116.20
48	5	1468	A	N7-C8-N9	5.14	116.37	113.80
48	5	1543	G	N1-C6-O6	-5.14	116.81	119.90
48	5	2422	C	N3-C4-C5	5.14	123.96	121.90
48	5	3309	G	C8-N9-C4	-5.14	104.34	106.40
48	5	367	A	C6-N1-C2	5.14	121.68	118.60
48	5	815	G	N3-C4-C5	-5.14	126.03	128.60
48	5	884	A	C8-N9-C1'	5.14	136.95	127.70
48	5	985	U	C6-N1-C2	5.14	124.08	121.00
48	5	3101	G	N3-C2-N2	5.14	123.50	119.90
48	5	367	A	C2-N3-C4	-5.14	108.03	110.60
48	5	2193	U	N1-C2-N3	5.14	117.98	114.90
48	5	2215	A	N1-C6-N6	5.14	121.68	118.60
48	5	2881	C	N1-C2-N3	5.14	122.80	119.20
48	5	3197	G	N3-C4-C5	5.14	131.17	128.60
50	8	8	C	N1-C2-N3	5.14	122.80	119.20
48	5	3202	G	C5-C6-O6	5.14	131.68	128.60
49	7	35	C	C6-N1-C2	5.14	122.36	120.30
48	5	926	A	C4-C5-C6	-5.14	114.43	117.00
48	5	1138	U	N3-C4-O4	-5.14	115.80	119.40
48	5	2293	C	N3-C2-O2	-5.14	118.30	121.90
48	5	2303	A	C5-C6-N1	5.14	120.27	117.70
48	5	2804	A	C2-N3-C4	-5.14	108.03	110.60
48	5	2945	G	C5-C6-O6	-5.14	125.52	128.60
49	7	1	G	N7-C8-N9	5.14	115.67	113.10
6	F	232	ARG	NE-CZ-NH1	-5.13	117.73	120.30
48	5	622	A	C4-C5-N7	5.13	113.27	110.70
48	5	2122	G	N7-C8-N9	-5.13	110.53	113.10
48	5	2634	U	N3-C4-O4	5.13	122.99	119.40
49	7	88	G	N1-C6-O6	-5.13	116.82	119.90
48	5	66	A	N7-C8-N9	-5.13	111.23	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	949	C	N1-C2-N3	5.13	122.79	119.20
48	5	1938	U	C6-N1-C2	5.13	124.08	121.00
48	5	95	A	C5-C6-N1	5.13	120.27	117.70
48	5	391	A	C8-N9-C4	5.13	107.85	105.80
48	5	881	C	C5-C6-N1	5.13	123.57	121.00
48	5	902	G	N7-C8-N9	-5.13	110.53	113.10
48	5	2280	A	C5-N7-C8	-5.13	101.33	103.90
48	5	2831	G	C2-N3-C4	5.13	114.47	111.90
48	5	2848	G	C4-N9-C1'	5.13	133.17	126.50
48	5	3333	G	C4-C5-N7	5.13	112.85	110.80
48	5	3100	U	N3-C2-O2	-5.13	118.61	122.20
10	J	10	ARG	NE-CZ-NH2	-5.13	117.74	120.30
48	5	1788	C	C6-N1-C2	-5.13	118.25	120.30
48	5	2386	A	C4-C5-N7	5.13	113.26	110.70
48	5	2549	G	C8-N9-C1'	-5.13	120.33	127.00
48	5	2565	U	C6-N1-C2	-5.13	117.92	121.00
46	t	384	LYS	CB-CA-C	-5.13	100.14	110.40
48	5	284	A	C8-N9-C4	-5.13	103.75	105.80
48	5	582	G	C4-C5-N7	-5.13	108.75	110.80
48	5	840	C	C4-C5-C6	5.12	119.96	117.40
48	5	2550	U	N3-C2-O2	-5.12	118.61	122.20
46	t	530	LYS	N-CA-CB	5.12	119.82	110.60
48	5	1303	A	N7-C8-N9	-5.12	111.24	113.80
48	5	2364	G	C6-N1-C2	-5.12	122.03	125.10
48	5	2366	C	C2-N3-C4	5.12	122.46	119.90
48	5	2396	G	C4-C5-N7	-5.12	108.75	110.80
49	7	77	G	C6-C5-N7	-5.12	127.33	130.40
50	8	100	U	C6-N1-C1'	-5.12	114.03	121.20
48	5	1137	C	N3-C4-N4	5.12	121.59	118.00
48	5	2145	A	N3-C4-C5	-5.12	123.22	126.80
48	5	2913	C	N3-C2-O2	-5.12	118.32	121.90
48	5	887	G	N1-C2-N2	-5.12	111.59	116.20
48	5	893	C	N3-C2-O2	5.12	125.48	121.90
48	5	2820	A	N3-C4-C5	-5.12	123.22	126.80
48	5	2988	C	C5-C4-N4	5.12	123.78	120.20
48	5	3180	A	C6-N1-C2	-5.12	115.53	118.60
50	8	47	C	N3-C2-O2	-5.12	118.32	121.90
48	5	2897	A	N7-C8-N9	-5.12	111.24	113.80
48	5	102	C	N1-C2-O2	-5.12	115.83	118.90
48	5	1303	A	C8-N9-C4	5.12	107.85	105.80
48	5	2866	U	N1-C2-N3	5.12	117.97	114.90
48	5	3137	C	N3-C4-N4	-5.12	114.42	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	3173	G	N3-C4-N9	5.12	129.07	126.00
48	5	3018	C	C6-N1-C2	-5.11	118.25	120.30
48	5	3048	A	C5-C6-N1	5.11	120.26	117.70
48	5	3255	U	N3-C4-C5	5.11	117.67	114.60
23	W	39	LEU	CA-CB-CG	5.11	127.06	115.30
48	5	1828	A	C2-N3-C4	-5.11	108.04	110.60
48	5	2716	U	C5-C4-O4	5.11	128.97	125.90
48	5	3030	G	C5-C6-N1	-5.11	108.94	111.50
1	A	242	ARG	NE-CZ-NH2	-5.11	117.75	120.30
3	C	60	THR	CB-CA-C	-5.11	97.80	111.60
14	N	172	ARG	NE-CZ-NH1	-5.11	117.74	120.30
48	5	149	U	N3-C2-O2	-5.11	118.62	122.20
48	5	860	G	N3-C4-C5	-5.11	126.05	128.60
48	5	2371	G	N1-C2-N2	-5.11	111.60	116.20
48	5	3386	G	N1-C2-N3	5.11	126.97	123.90
48	5	98	G	C5-C6-O6	-5.11	125.53	128.60
48	5	1845	G	C8-N9-C4	5.11	108.44	106.40
48	5	1932	A	N1-C2-N3	5.11	131.85	129.30
48	5	2198	A	C8-N9-C4	5.11	107.84	105.80
48	5	2278	C	P-O3'-C3'	5.11	125.83	119.70
48	5	583	G	C8-N9-C4	5.11	108.44	106.40
48	5	943	U	C6-N1-C2	5.11	124.06	121.00
48	5	1906	G	C5-C6-O6	-5.11	125.53	128.60
48	5	1938	U	C2-N3-C4	-5.11	123.94	127.00
48	5	3010	U	N1-C2-O2	5.11	126.38	122.80
48	5	1637	A	N1-C6-N6	-5.11	115.54	118.60
48	5	2623	G	N3-C4-N9	5.11	129.06	126.00
48	5	3378	C	N3-C4-N4	-5.11	114.43	118.00
49	7	116	C	C6-N1-C2	5.11	122.34	120.30
48	5	1077	U	N1-C2-O2	-5.10	119.23	122.80
48	5	2691	A	N1-C2-N3	5.10	131.85	129.30
48	5	672	A	C5-C6-N6	-5.10	119.62	123.70
48	5	1633	C	N3-C4-C5	-5.10	119.86	121.90
48	5	2235	C	C6-N1-C2	5.10	122.34	120.30
48	5	2633	U	C2-N3-C4	-5.10	123.94	127.00
48	5	880	G	C6-N1-C2	-5.10	122.04	125.10
48	5	1313	G	C8-N9-C4	-5.10	104.36	106.40
48	5	2309	A	N1-C6-N6	5.10	121.66	118.60
49	7	120	C	C5-C6-N1	-5.10	118.45	121.00
48	5	912	G	N9-C4-C5	-5.10	103.36	105.40
48	5	2271	A	C5-C6-N6	5.10	127.78	123.70
48	5	2344	U	N1-C2-O2	-5.10	119.23	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2614	G	C2-N3-C4	-5.10	109.35	111.90
48	5	2706	G	N1-C6-O6	-5.10	116.84	119.90
49	7	79	A	C8-N9-C4	-5.10	103.76	105.80
48	5	2600	C	C2-N1-C1'	5.10	124.41	118.80
48	5	2745	G	C5-C6-N1	5.10	114.05	111.50
48	5	1316	C	C5-C6-N1	5.09	123.55	121.00
48	5	1607	U	N3-C4-O4	-5.09	115.83	119.40
48	5	2317	A	C5-N7-C8	-5.09	101.35	103.90
48	5	3127	A	C5-C6-N6	5.09	127.78	123.70
48	5	1192	C	N3-C2-O2	-5.09	118.33	121.90
48	5	1822	C	C6-N1-C2	5.09	122.34	120.30
48	5	3215	A	N9-C4-C5	-5.09	103.76	105.80
48	5	436	A	N1-C2-N3	5.09	131.85	129.30
48	5	2167	A	N3-C4-C5	-5.09	123.24	126.80
48	5	2340	U	N3-C2-O2	-5.09	118.64	122.20
50	8	24	G	C5-C6-O6	5.09	131.66	128.60
48	5	959	C	N3-C4-C5	5.09	123.94	121.90
48	5	1451	C	C6-N1-C2	5.09	122.34	120.30
48	5	2857	C	C2-N3-C4	-5.09	117.36	119.90
49	7	83	U	C6-N1-C1'	5.09	128.32	121.20
48	5	1851	G	C8-N9-C1'	-5.09	120.39	127.00
48	5	982	C	C4-C5-C6	-5.09	114.86	117.40
48	5	1456	A	C2-N3-C4	-5.09	108.06	110.60
48	5	3191	G	N7-C8-N9	-5.09	110.56	113.10
48	5	3212	C	N1-C2-N3	5.09	122.76	119.20
49	7	41	G	C5-C6-N1	5.09	114.04	111.50
48	5	421	G	C5-C6-N1	5.08	114.04	111.50
48	5	2263	C	N3-C2-O2	-5.08	118.34	121.90
48	5	3107	U	N1-C2-O2	5.08	126.36	122.80
48	5	965	A	C5-C6-N1	5.08	120.24	117.70
48	5	2674	A	N7-C8-N9	-5.08	111.26	113.80
48	5	3066	U	N1-C2-O2	5.08	126.36	122.80
48	5	3318	G	C5-C6-O6	5.08	131.65	128.60
48	5	2883	U	N1-C2-N3	5.08	117.95	114.90
48	5	3056	U	N1-C2-O2	-5.08	119.24	122.80
48	5	3195	U	N1-C2-O2	5.08	126.36	122.80
48	5	3211	C	C6-N1-C2	5.08	122.33	120.30
48	5	1004	U	N1-C2-N3	-5.08	111.85	114.90
48	5	813	G	C4-N9-C1'	5.08	133.10	126.50
48	5	1144	U	N3-C2-O2	-5.08	118.64	122.20
48	5	1301	A	C6-C5-N7	-5.08	128.75	132.30
48	5	1445	U	C6-N1-C2	5.08	124.05	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1481	A	C4-C5-C6	5.08	119.54	117.00
48	5	2122	G	N1-C6-O6	-5.08	116.85	119.90
48	5	2731	U	N1-C2-N3	5.08	117.95	114.90
48	5	2202	C	C6-N1-C2	5.08	122.33	120.30
48	5	3241	G	N1-C6-O6	5.08	122.95	119.90
46	t	216	SER	N-CA-CB	-5.08	102.89	110.50
48	5	880	G	C8-N9-C4	5.08	108.43	106.40
48	5	940	G	C5-C6-N1	5.08	114.04	111.50
48	5	2136	C	C2-N3-C4	-5.08	117.36	119.90
48	5	2531	C	N3-C2-O2	-5.08	118.35	121.90
48	5	2593	A	P-O3'-C3'	5.08	125.79	119.70
48	5	3130	A	C4-C5-C6	5.08	119.54	117.00
48	5	3273	A	C5-N7-C8	-5.08	101.36	103.90
48	5	874	U	C2-N1-C1'	-5.07	111.61	117.70
48	5	1049	C	C6-N1-C2	-5.07	118.27	120.30
48	5	2857	C	C5-C6-N1	-5.07	118.46	121.00
48	5	3218	A	N3-C4-N9	-5.07	123.34	127.40
6	F	177	GLY	N-CA-C	-5.07	100.42	113.10
48	5	2974	U	C5-C6-N1	-5.07	120.16	122.70
48	5	1458	U	C5-C4-O4	-5.07	122.86	125.90
48	5	2280	A	N3-C4-C5	5.07	130.35	126.80
48	5	2371	G	N7-C8-N9	-5.07	110.56	113.10
48	5	1813	A	C8-N9-C4	-5.07	103.77	105.80
48	5	2392	C	C2-N1-C1'	-5.07	113.23	118.80
48	5	2407	C	N3-C2-O2	5.07	125.45	121.90
48	5	183	G	C3'-C2'-C1'	-5.07	97.45	101.50
48	5	1660	C	N1-C2-N3	5.07	122.75	119.20
48	5	2386	A	N1-C6-N6	5.07	121.64	118.60
48	5	2541	U	N1-C2-O2	5.07	126.35	122.80
48	5	2693	C	N3-C4-N4	-5.07	114.45	118.00
48	5	2696	A	C5-C6-N6	5.07	127.75	123.70
48	5	2847	A	C5-C6-N6	5.07	127.75	123.70
48	5	3246	G	C5-C6-O6	-5.07	125.56	128.60
48	5	2284	C	C2-N1-C1'	5.06	124.37	118.80
48	5	1473	G	C8-N9-C4	5.06	108.42	106.40
48	5	2731	U	C5-C6-N1	-5.06	120.17	122.70
49	7	20	A	N1-C6-N6	5.06	121.64	118.60
48	5	434	U	N1-C2-O2	5.06	126.34	122.80
48	5	2848	G	C8-N9-C4	-5.06	104.38	106.40
48	5	323	A	N1-C2-N3	5.06	131.83	129.30
48	5	356	C	C6-N1-C2	5.06	122.32	120.30
48	5	951	A	N1-C2-N3	-5.06	126.77	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	1377	G	C8-N9-C4	-5.06	104.38	106.40
48	5	2758	A	N1-C6-N6	-5.06	115.56	118.60
48	5	3259	U	N1-C2-N3	5.06	117.94	114.90
48	5	3266	G	N3-C4-N9	-5.06	122.97	126.00
48	5	1040	A	C2-N3-C4	-5.06	108.07	110.60
48	5	2647	A	N1-C2-N3	5.06	131.83	129.30
49	7	26	C	N1-C2-N3	5.06	122.74	119.20
50	8	17	A	C6-C5-N7	-5.06	128.76	132.30
48	5	1193	A	C8-N9-C4	-5.06	103.78	105.80
48	5	2620	G	C4-C5-C6	-5.06	115.77	118.80
48	5	524	U	C2-N3-C4	-5.05	123.97	127.00
48	5	802	C	N1-C2-N3	5.05	122.74	119.20
48	5	1872	C	C2-N3-C4	-5.05	117.37	119.90
48	5	2290	C	N1-C2-O2	-5.05	115.87	118.90
48	5	2353	G	N3-C4-C5	-5.05	126.07	128.60
48	5	2369	G	N3-C4-N9	5.05	129.03	126.00
48	5	2393	G	N7-C8-N9	-5.05	110.57	113.10
48	5	2754	G	N3-C4-C5	-5.05	126.07	128.60
48	5	3217	C	C2-N1-C1'	-5.05	113.24	118.80
48	5	110	G	C5-C6-N1	5.05	114.03	111.50
48	5	2283	G	C8-N9-C4	5.05	108.42	106.40
48	5	2748	A	C5-C6-N1	5.05	120.22	117.70
48	5	3049	A	N1-C6-N6	5.05	121.63	118.60
50	8	138	A	C4-C5-C6	5.05	119.53	117.00
48	5	1314	C	C4-C5-C6	5.05	119.92	117.40
48	5	2169	G	N9-C4-C5	5.05	107.42	105.40
48	5	2343	C	N1-C2-O2	-5.05	115.87	118.90
48	5	2830	G	C8-N9-C4	-5.05	104.38	106.40
48	5	2958	A	C4-N9-C1'	-5.05	117.21	126.30
48	5	2805	G	C5-C6-N1	5.05	114.02	111.50
48	5	2430	A	C4-C5-C6	5.05	119.52	117.00
48	5	2742	C	C2-N3-C4	-5.05	117.38	119.90
48	5	2810	C	C2-N3-C4	-5.05	117.38	119.90
48	5	2931	C	N1-C2-O2	-5.05	115.87	118.90
48	5	1182	A	C5-C6-N1	5.04	120.22	117.70
48	5	3294	A	C5-C6-N6	5.04	127.74	123.70
48	5	917	A	C4-C5-C6	5.04	119.52	117.00
48	5	2280	A	C8-N9-C4	5.04	107.82	105.80
48	5	3039	C	C5-C6-N1	5.04	123.52	121.00
48	5	3377	G	C6-C5-N7	-5.04	127.37	130.40
48	5	979	U	C5-C6-N1	5.04	125.22	122.70
48	5	1338	C	N1-C2-O2	-5.04	115.88	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	2906	C	C6-N1-C2	-5.04	118.28	120.30
17	Q	3	ILE	CB-CA-C	-5.04	101.52	111.60
48	5	141	C	C5-C6-N1	5.04	123.52	121.00
48	5	392	G	N1-C6-O6	5.04	122.92	119.90
48	5	1013	G	N3-C4-C5	-5.04	126.08	128.60
48	5	2832	C	N3-C4-C5	5.04	123.92	121.90
48	5	3189	G	C8-N9-C4	5.04	108.42	106.40
48	5	3310	A	C5-N7-C8	5.04	106.42	103.90
48	5	667	C	C5-C6-N1	-5.04	118.48	121.00
48	5	587	U	C6-N1-C2	5.04	124.02	121.00
48	5	2124	G	N7-C8-N9	-5.04	110.58	113.10
48	5	2326	A	C5-C6-N1	5.04	120.22	117.70
48	5	2919	A	C5-C6-N6	5.04	127.73	123.70
48	5	282	G	P-O3'-C3'	5.03	125.74	119.70
48	5	956	U	C5-C6-N1	-5.03	120.18	122.70
48	5	2774	C	N3-C4-N4	5.03	121.52	118.00
48	5	2808	A	C4-C5-N7	5.03	113.22	110.70
50	8	99	C	C2-N3-C4	-5.03	117.38	119.90
48	5	41	G	N1-C2-N2	5.03	120.73	116.20
48	5	1178	G	N3-C2-N2	-5.03	116.38	119.90
48	5	2179	C	N3-C2-O2	5.03	125.42	121.90
48	5	2407	C	N3-C4-N4	5.03	121.52	118.00
48	5	2813	A	C5-C6-N6	5.03	127.72	123.70
50	8	76	C	C2-N1-C1'	-5.03	113.27	118.80
48	5	356	C	C2-N3-C4	-5.03	117.39	119.90
48	5	627	U	N3-C2-O2	-5.03	118.68	122.20
48	5	940	G	C2-N3-C4	5.03	114.42	111.90
48	5	979	U	N1-C2-N3	-5.03	111.88	114.90
48	5	1804	A	N1-C6-N6	5.03	121.62	118.60
48	5	1887	A	C6-C5-N7	-5.03	128.78	132.30
48	5	2639	G	N3-C4-N9	5.03	129.02	126.00
48	5	3048	A	C5-C6-N6	-5.03	119.68	123.70
48	5	3209	A	O4'-C1'-N9	5.03	112.22	108.20
48	5	3313	U	N1-C2-N3	5.03	117.92	114.90
50	8	40	A	N7-C8-N9	5.03	116.31	113.80
48	5	390	G	C8-N9-C4	5.03	108.41	106.40
48	5	1482	A	C8-N9-C4	-5.03	103.79	105.80
48	5	2235	C	N1-C2-N3	-5.03	115.68	119.20
48	5	112	U	N3-C4-O4	5.03	122.92	119.40
48	5	536	U	C5-C6-N1	-5.03	120.19	122.70
48	5	2701	U	N3-C4-O4	5.03	122.92	119.40
50	8	79	A	N1-C6-N6	5.03	121.62	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	5	613	G	C4-C5-N7	-5.03	108.79	110.80
48	5	2944	U	N1-C2-O2	5.02	126.32	122.80
22	V	87	ARG	NE-CZ-NH2	-5.02	117.79	120.30
31	e	111	ARG	NE-CZ-NH2	-5.02	117.79	120.30
36	j	5	THR	C-N-CD	5.02	138.94	128.40
48	5	530	G	N9-C4-C5	5.02	107.41	105.40
48	5	1365	G	N3-C4-N9	5.02	129.01	126.00
48	5	2361	A	C4-C5-N7	-5.02	108.19	110.70
18	R	97	ARG	NE-CZ-NH1	-5.02	117.79	120.30
48	5	1348	U	C5-C6-N1	5.02	125.21	122.70
48	5	1432	C	N3-C2-O2	-5.02	118.39	121.90
48	5	1461	A	C8-N9-C4	5.02	107.81	105.80
48	5	1524	A	C4-C5-C6	5.02	119.51	117.00
48	5	2697	A	N1-C6-N6	-5.02	115.59	118.60
48	5	270	U	N1-C2-O2	5.02	126.31	122.80
48	5	1100	U	C5-C4-O4	-5.02	122.89	125.90
48	5	1314	C	C5-C6-N1	-5.02	118.49	121.00
48	5	1838	G	C5-N7-C8	5.02	106.81	104.30
48	5	2177	G	C5-C6-N1	5.02	114.01	111.50
48	5	2271	A	C5-N7-C8	5.02	106.41	103.90
48	5	2392	C	N1-C2-N3	5.02	122.71	119.20
48	5	2753	G	C8-N9-C4	-5.02	104.39	106.40
48	5	3028	G	N9-C4-C5	-5.02	103.39	105.40
48	5	3087	A	C8-N9-C4	-5.02	103.79	105.80
48	5	2518	C	C4-C5-C6	5.02	119.91	117.40
48	5	952	A	C4-C5-N7	5.01	113.21	110.70
48	5	1870	C	C6-N1-C2	-5.01	118.29	120.30
48	5	2808	A	C8-N9-C1'	-5.01	118.67	127.70
48	5	2965	U	C5-C6-N1	-5.01	120.19	122.70
48	5	3241	G	C6-C5-N7	-5.01	127.39	130.40
50	8	25	G	N3-C2-N2	5.01	123.41	119.90
48	5	1704	A	C2-N3-C4	-5.01	108.09	110.60
49	7	41	G	C5-C6-O6	-5.01	125.59	128.60
48	5	1339	C	C2-N3-C4	-5.01	117.39	119.90
48	5	1412	G	N9-C4-C5	5.01	107.41	105.40
48	5	2353	G	C4-C5-N7	5.01	112.81	110.80
48	5	2434	U	N1-C2-N3	5.01	117.91	114.90
48	5	2935	U	N1-C2-O2	5.01	126.31	122.80
48	5	125	C	N3-C2-O2	-5.01	118.39	121.90
48	5	656	A	N7-C8-N9	-5.01	111.30	113.80
48	5	2655	U	C2-N3-C4	-5.01	124.00	127.00
48	5	3145	C	C5-C4-N4	-5.01	116.69	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	8	26	U	C4-C5-C6	5.01	122.71	119.70
50	8	31	G	C5-N7-C8	5.01	106.80	104.30
48	5	820	A	N1-C2-N3	5.01	131.80	129.30
48	5	883	A	C8-N9-C4	5.01	107.80	105.80
48	5	3191	G	C5-N7-C8	5.01	106.80	104.30
48	5	609	G	C8-N9-C4	-5.01	104.40	106.40
48	5	1484	U	N3-C4-C5	5.01	117.60	114.60
48	5	1660	C	C2-N3-C4	-5.01	117.40	119.90
48	5	2352	A	C4-C5-C6	5.01	119.50	117.00
48	5	2960	C	N3-C4-N4	-5.01	114.50	118.00
50	8	88	A	N1-C6-N6	5.01	121.60	118.60
48	5	628	A	C5-C6-N1	5.00	120.20	117.70
48	5	2386	A	N7-C8-N9	5.00	116.30	113.80
48	5	433	A	C8-N9-C4	5.00	107.80	105.80
48	5	524	U	C5-C6-N1	-5.00	120.20	122.70
48	5	927	C	C4-C5-C6	-5.00	114.90	117.40
2	B	26	ARG	NE-CZ-NH2	5.00	122.80	120.30
48	5	191	U	C2-N1-C1'	-5.00	111.70	117.70
48	5	1142	G	N3-C2-N2	5.00	123.40	119.90
48	5	2399	A	N1-C6-N6	5.00	121.60	118.60
48	5	2606	G	N1-C2-N2	-5.00	111.70	116.20
48	5	2878	G	C5-C6-N1	5.00	114.00	111.50
48	5	3351	U	N1-C2-O2	5.00	126.30	122.80

There are no chirality outliers.

All (24) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
48	5	2898	G	Sidechain
1	A	143	GLU	Peptide
1	A	211	HIS	Peptide
3	C	91	GLY	Peptide
4	D	271	LYS	Peptide
5	E	129	GLU	Peptide
6	F	192	GLY	Peptide
6	F	226	GLY	Peptide
15	O	110[A]	PRO	Peptide
15	O	68[B]	ARG	Peptide
19	S	133	ALA	Peptide
22	V	41	GLY	Peptide
25	Y	111	LEU	Peptide
26	Z	101	PHE	Peptide

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Mol	Chain	Res	Type	Group
27	a	26	ARG	Peptide
27	a	66	ALA	Peptide
27	a	75	LEU	Peptide
28	b	19	ASN	Peptide
46	t	15	LYS	Mainchain
46	t	160	ILE	Mainchain
46	t	383	ASP	Mainchain
46	t	48	ASP	Mainchain
46	t	544	ASN	Mainchain
46	t	81	LYS	Mainchain

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	250/254 (98%)	213 (85%)	30 (12%)	7 (3%)	5	30
2	B	384/387 (99%)	341 (89%)	34 (9%)	9 (2%)	6	34
3	C	359/362 (99%)	306 (85%)	32 (9%)	21 (6%)	1	18
4	D	292/297 (98%)	267 (91%)	19 (6%)	6 (2%)	7	36
5	E	153/176 (87%)	134 (88%)	15 (10%)	4 (3%)	5	31
6	F	221/244 (91%)	201 (91%)	15 (7%)	5 (2%)	6	34
7	G	229/256 (90%)	181 (79%)	27 (12%)	21 (9%)	1	11
8	H	189/191 (99%)	172 (91%)	13 (7%)	4 (2%)	7	36
9	I	209/221 (95%)	175 (84%)	22 (10%)	12 (6%)	1	18
10	J	167/174 (96%)	135 (81%)	19 (11%)	13 (8%)	1	13
12	L	192/199 (96%)	161 (84%)	20 (10%)	11 (6%)	1	18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	M	135/138 (98%)	124 (92%)	10 (7%)	1 (1%)	22	63
14	N	201/204 (98%)	182 (90%)	13 (6%)	6 (3%)	4	28
15	O	352/219 (161%)	324 (92%)	18 (5%)	10 (3%)	5	30
16	P	153/184 (83%)	142 (93%)	9 (6%)	2 (1%)	12	48
17	Q	183/186 (98%)	168 (92%)	9 (5%)	6 (3%)	4	26
18	R	186/189 (98%)	167 (90%)	16 (9%)	3 (2%)	9	44
19	S	170/172 (99%)	163 (96%)	6 (4%)	1 (1%)	25	66
20	T	157/160 (98%)	146 (93%)	9 (6%)	2 (1%)	12	48
21	U	96/121 (79%)	80 (83%)	13 (14%)	3 (3%)	4	27
22	V	134/137 (98%)	124 (92%)	8 (6%)	2 (2%)	10	46
23	W	133/155 (86%)	106 (80%)	19 (14%)	8 (6%)	1	17
24	X	118/142 (83%)	103 (87%)	7 (6%)	8 (7%)	1	15
25	Y	124/127 (98%)	107 (86%)	12 (10%)	5 (4%)	3	23
26	Z	133/136 (98%)	107 (80%)	13 (10%)	13 (10%)	0	10
27	a	146/149 (98%)	123 (84%)	18 (12%)	5 (3%)	3	26
28	b	56/59 (95%)	44 (79%)	7 (12%)	5 (9%)	1	11
29	c	98/105 (93%)	87 (89%)	8 (8%)	3 (3%)	4	27
30	d	107/113 (95%)	88 (82%)	13 (12%)	6 (6%)	2	19
31	e	125/130 (96%)	109 (87%)	10 (8%)	6 (5%)	2	21
32	f	104/107 (97%)	96 (92%)	5 (5%)	3 (3%)	4	29
33	g	110/121 (91%)	93 (84%)	13 (12%)	4 (4%)	3	25
34	h	117/120 (98%)	99 (85%)	14 (12%)	4 (3%)	3	26
35	i	97/100 (97%)	77 (79%)	13 (13%)	7 (7%)	1	14
36	j	85/88 (97%)	75 (88%)	8 (9%)	2 (2%)	6	33
37	k	75/78 (96%)	61 (81%)	10 (13%)	4 (5%)	2	19
38	l	48/51 (94%)	41 (85%)	6 (12%)	1 (2%)	7	36
39	m	50/128 (39%)	48 (96%)	1 (2%)	1 (2%)	7	38
40	n	23/25 (92%)	22 (96%)	0	1 (4%)	2	22
41	o	103/106 (97%)	90 (87%)	11 (11%)	2 (2%)	8	38
42	p	89/92 (97%)	81 (91%)	8 (9%)	0	100	100
43	q	139/312 (45%)	111 (80%)	21 (15%)	7 (5%)	2	20

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
46	t	376/614 (61%)	354 (94%)	14 (4%)	8 (2%)	7 36
All	All	6868/7529 (91%)	6028 (88%)	588 (9%)	252 (4%)	6 24

All (252) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	96	LEU
2	B	129	ALA
2	B	140	ASP
2	B	347	SER
3	C	14	GLU
3	C	15	ALA
3	C	90	PHE
3	C	145	ILE
3	C	302	ALA
3	C	311	HIS
3	C	329	PRO
3	C	330	TYR
3	C	361	HIS
4	D	215	ASP
4	D	260	PHE
5	E	97	ASN
5	E	98	VAL
6	F	158	LYS
7	G	25	PRO
7	G	26	LEU
7	G	34	PHE
7	G	122	LYS
9	I	25	ALA
9	I	82	ARG
9	I	170	LYS
9	I	175	ASN
9	I	187	ALA
10	J	8	PRO
10	J	10	ARG
10	J	12	LEU
10	J	94	ARG
10	J	95	ASN
10	J	108	GLU
10	J	115	LYS
10	J	167	TYR
12	L	47	ALA

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Mol	Chain	Res	Type
12	L	129	ASN
12	L	134	GLU
12	L	150	PRO
13	M	136	ALA
14	N	49	ARG
14	N	146	ALA
14	N	147	ARG
15	O	110[A]	PRO
15	O	110[B]	PRO
15	O	111[A]	PRO
15	O	111[B]	PRO
15	O	180[A]	SER
15	O	180[B]	SER
15	O	181[A]	ALA
15	O	181[B]	ALA
17	Q	41	ASP
17	Q	99	THR
18	R	35	ALA
19	S	2	ALA
20	T	136	ARG
22	V	42	SER
23	W	26	SER
23	W	71	ARG
23	W	76	VAL
24	X	24	LEU
24	X	25	LYS
24	X	40	LEU
24	X	44	PRO
24	X	45	LYS
25	Y	77	LYS
25	Y	83	ASP
25	Y	84	LYS
25	Y	125	LYS
25	Y	126	LEU
26	Z	5	LEU
26	Z	125	GLY
26	Z	129	TRP
27	a	76	ASP
28	b	21	ILE
28	b	23	LYS
28	b	25	LYS
28	b	39	PHE

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Mol	Chain	Res	Type
29	c	100	ILE
29	c	104	LEU
30	d	7	VAL
30	d	45	GLY
30	d	84	ASP
31	e	4	LEU
31	e	5	PRO
31	e	27	ARG
32	f	88	ASN
33	g	10	ARG
33	g	100	ILE
34	h	40	SER
34	h	82	ALA
35	i	33	ALA
35	i	63	ASN
35	i	64	SER
35	i	98	ARG
36	j	87	SER
37	k	17	ARG
37	k	18	ALA
38	l	3	ALA
41	o	78	LYS
46	t	62	PRO
46	t	169	ILE
1	A	24	GLN
1	A	194	ASN
2	B	235	THR
2	B	293	ASN
3	C	71	VAL
3	C	190	GLY
3	C	272	VAL
3	C	345	GLU
3	C	353	ALA
4	D	125	VAL
4	D	178	ASN
7	G	81	THR
7	G	121	SER
7	G	188	THR
7	G	203	VAL
7	G	223	ALA
7	G	240	ASN
8	H	144	ILE

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Mol	Chain	Res	Type
8	H	189	GLU
9	I	220	GLN
10	J	55	ARG
12	L	135	ALA
12	L	141	ALA
14	N	184	LYS
16	P	66	SER
16	P	67	ILE
17	Q	91	ALA
17	Q	167	SER
21	U	49	ASN
21	U	91	ASP
22	V	41	GLY
23	W	63	ILE
23	W	77	LYS
26	Z	17	ARG
26	Z	93	LYS
26	Z	130	PHE
26	Z	134	LEU
27	a	24	LYS
29	c	10	ILE
30	d	83	GLU
31	e	6	HIS
31	e	12	LYS
31	e	124	GLY
32	f	91	ALA
34	h	119	LYS
40	n	23	ARG
43	q	47	GLY
43	q	198	PRO
46	t	61	VAL
46	t	354	ILE
1	A	56	ALA
1	A	144	ASN
1	A	249	SER
2	B	138	ALA
2	B	155	ALA
3	C	146	PRO
4	D	270	LYS
5	E	10	TYR
5	E	32	ALA
7	G	39	ALA

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Mol	Chain	Res	Type
7	G	123	GLN
7	G	133	LYS
7	G	237	ILE
9	I	83	ASP
9	I	101	LYS
9	I	174	THR
9	I	176	LEU
12	L	101	ARG
12	L	140	SER
14	N	181	ASN
15	O	12[A]	LYS
15	O	12[B]	LYS
21	U	48	GLY
23	W	74	LYS
23	W	134	GLN
24	X	38	LEU
24	X	47	ALA
24	X	55	ASN
26	Z	16	GLY
27	a	47	LYS
30	d	5	LYS
30	d	86	LYS
33	g	79	SER
35	i	34	SER
43	q	33	VAL
43	q	203	ASP
46	t	173	THR
46	t	175	PRO
1	A	143	GLU
2	B	333	LYS
3	C	233	LEU
3	C	306	THR
3	C	331	ALA
3	C	342	LYS
4	D	124	GLU
6	F	191	VAL
7	G	206	GLU
8	H	167	VAL
9	I	207	GLU
12	L	60	ALA
12	L	76	THR
14	N	48	ALA

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Mol	Chain	Res	Type
18	R	147	ALA
23	W	25	ASP
26	Z	34	LYS
26	Z	36	HIS
27	a	121	VAL
33	g	99	LYS
36	j	85	LYS
37	k	8	ILE
37	k	19	ASP
43	q	102	SER
3	C	5	GLN
6	F	229	PHE
7	G	69	LEU
7	G	120	LYS
7	G	124	ASP
8	H	110	LYS
10	J	111	ASP
10	J	153	LYS
12	L	121	SER
17	Q	98	LYS
18	R	183	ALA
20	T	20	ARG
26	Z	7	ALA
27	a	129	PHE
28	b	24	PRO
35	i	9	ILE
39	m	78	ILE
43	q	197	PHE
2	B	187	SER
3	C	328	ASN
6	F	157	ASN
7	G	202	GLU
9	I	204	GLY
10	J	114	ILE
26	Z	29	HIS
34	h	83	LYS
6	F	178	ILE
7	G	190	VAL
43	q	196	VAL
46	t	389	PRO
26	Z	103	GLN
35	i	3	VAL

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Mol	Chain	Res	Type
41	o	31	GLY
46	t	550	VAL
7	G	73	PRO
10	J	118	PRO
17	Q	42	ALA
32	f	59	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	192/196 (98%)	154 (80%)	38 (20%)	1 8
2	B	321/323 (99%)	251 (78%)	70 (22%)	1 6
3	C	288/289 (100%)	222 (77%)	66 (23%)	1 4
4	D	243/245 (99%)	196 (81%)	47 (19%)	1 8
5	E	135/153 (88%)	115 (85%)	20 (15%)	3 15
6	F	187/205 (91%)	158 (84%)	29 (16%)	2 14
7	G	177/208 (85%)	138 (78%)	39 (22%)	1 5
8	H	171/171 (100%)	132 (77%)	39 (23%)	1 5
9	I	179/187 (96%)	142 (79%)	37 (21%)	1 6
10	J	147/150 (98%)	114 (78%)	33 (22%)	1 5
12	L	154/159 (97%)	124 (80%)	30 (20%)	1 8
13	M	108/109 (99%)	84 (78%)	24 (22%)	1 6
14	N	175/176 (99%)	143 (82%)	32 (18%)	1 10
15	O	323/179 (180%)	267 (83%)	56 (17%)	2 11
16	P	125/146 (86%)	103 (82%)	22 (18%)	2 11
17	Q	150/151 (99%)	123 (82%)	27 (18%)	1 10
18	R	153/154 (99%)	121 (79%)	32 (21%)	1 6
19	S	156/156 (100%)	123 (79%)	33 (21%)	1 6
20	T	136/137 (99%)	109 (80%)	27 (20%)	1 7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
21	U	85/107 (79%)	62 (73%)	23 (27%)	0 3
22	V	104/105 (99%)	96 (92%)	8 (8%)	13 37
23	W	100/129 (78%)	85 (85%)	15 (15%)	3 15
24	X	104/118 (88%)	81 (78%)	23 (22%)	1 5
25	Y	109/110 (99%)	85 (78%)	24 (22%)	1 5
26	Z	115/116 (99%)	89 (77%)	26 (23%)	1 5
27	a	118/119 (99%)	95 (80%)	23 (20%)	1 8
28	b	46/47 (98%)	35 (76%)	11 (24%)	0 4
29	c	84/88 (96%)	69 (82%)	15 (18%)	2 10
30	d	94/97 (97%)	73 (78%)	21 (22%)	1 5
31	e	109/111 (98%)	89 (82%)	20 (18%)	1 10
32	f	90/91 (99%)	79 (88%)	11 (12%)	5 20
33	g	95/103 (92%)	71 (75%)	24 (25%)	0 3
34	h	103/105 (98%)	77 (75%)	26 (25%)	0 3
35	i	80/82 (98%)	51 (64%)	29 (36%)	0 1
36	j	70/71 (99%)	53 (76%)	17 (24%)	0 4
37	k	67/69 (97%)	53 (79%)	14 (21%)	1 6
38	l	45/46 (98%)	34 (76%)	11 (24%)	0 4
39	m	47/116 (40%)	34 (72%)	13 (28%)	0 3
40	n	23/23 (100%)	16 (70%)	7 (30%)	0 2
41	o	90/91 (99%)	74 (82%)	16 (18%)	2 10
42	p	71/72 (99%)	61 (86%)	10 (14%)	3 16
43	q	105/254 (41%)	76 (72%)	29 (28%)	0 3
46	t	332/539 (62%)	330 (99%)	2 (1%)	86 92
All	All	5806/6303 (92%)	4687 (81%)	1119 (19%)	4 8

All (1119) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	15	ILE
1	A	23	ARG
1	A	32	LEU
1	A	41	ILE
1	A	44	ILE

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Mol	Chain	Res	Type
1	A	45	VAL
1	A	46	LYS
1	A	48	ILE
1	A	61	VAL
1	A	62	VAL
1	A	71	LEU
1	A	96	LEU
1	A	101	VAL
1	A	112	ILE
1	A	113	VAL
1	A	114	SER
1	A	119	LYS
1	A	134	VAL
1	A	137	ILE
1	A	142	ASP
1	A	147	ARG
1	A	155	LYS
1	A	158	ILE
1	A	169	ILE
1	A	179	LEU
1	A	180	LEU
1	A	181	LYS
1	A	193	ARG
1	A	202	VAL
1	A	207	VAL
1	A	215	ASN
1	A	224	THR
1	A	226	SER
1	A	227	ARG
1	A	230	VAL
1	A	241	ARG
1	A	243	THR
1	A	246	LEU
2	B	3	HIS
2	B	4	ARG
2	B	10	ARG
2	B	17	LEU
2	B	19	ARG
2	B	20	LYS
2	B	21	ARG
2	B	24	SER
2	B	30	LYS

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Mol	Chain	Res	Type
2	B	43	LEU
2	B	47	LEU
2	B	50	LYS
2	B	56	ILE
2	B	67	PHE
2	B	70	ARG
2	B	77	THR
2	B	79	VAL
2	B	81	THR
2	B	84	VAL
2	B	85	VAL
2	B	89	VAL
2	B	100	ARG
2	B	103	THR
2	B	114	VAL
2	B	116	ARG
2	B	139	GLN
2	B	146	ARG
2	B	148	LEU
2	B	150	ARG
2	B	153	LYS
2	B	157	VAL
2	B	169	THR
2	B	175	LYS
2	B	183	LEU
2	B	187	SER
2	B	188	ILE
2	B	192	VAL
2	B	196	ARG
2	B	202	THR
2	B	205	VAL
2	B	213	GLU
2	B	221	THR
2	B	229	VAL
2	B	232	ARG
2	B	235	THR
2	B	236	LYS
2	B	238	LEU
2	B	242	THR
2	B	248	LYS
2	B	252	ILE
2	B	284	ARG

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Mol	Chain	Res	Type
2	B	291	GLU
2	B	297	SER
2	B	301	THR
2	B	304	THR
2	B	308	MET
2	B	322	ILE
2	B	324	VAL
2	B	328	ILE
2	B	332	ARG
2	B	338	LEU
2	B	340	LYS
2	B	346	THR
2	B	347	SER
2	B	355	SER
2	B	361	THR
2	B	367	LYS
2	B	369	ARG
2	B	380	MET
2	B	382	THR
3	C	2	SER
3	C	7	THR
3	C	16	THR
3	C	18	ASN
3	C	25	VAL
3	C	27	SER
3	C	52	VAL
3	C	53	SER
3	C	55	LYS
3	C	71	VAL
3	C	85	SER
3	C	93	MET
3	C	99	MET
3	C	112	LYS
3	C	120	TYR
3	C	122	THR
3	C	136	LEU
3	C	138	ARG
3	C	144	LYS
3	C	145	ILE
3	C	150	LEU
3	C	153	SER
3	C	156	LEU

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Mol	Chain	Res	Type
3	C	158	SER
3	C	160	GLN
3	C	161	LYS
3	C	170	LYS
3	C	176	SER
3	C	177	ASP
3	C	179	LEU
3	C	182	LEU
3	C	186	LYS
3	C	187	LEU
3	C	198	ARG
3	C	203	ARG
3	C	206	LEU
3	C	220	ARG
3	C	222	VAL
3	C	230	VAL
3	C	246	ARG
3	C	258	LEU
3	C	259	ASP
3	C	265	GLU
3	C	267	VAL
3	C	283	THR
3	C	287	THR
3	C	289	ILE
3	C	290	ILE
3	C	300	ARG
3	C	307	GLN
3	C	313	LEU
3	C	319	LYS
3	C	323	VAL
3	C	327	LEU
3	C	333	VAL
3	C	339	LEU
3	C	342	LYS
3	C	345	GLU
3	C	349	THR
3	C	354	VAL
3	C	356	THR
3	C	357	GLU
3	C	358	THR
3	C	359	LEU
3	C	360	LYS

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Mol	Chain	Res	Type
3	C	362	ASP
4	D	4	GLN
4	D	5	LYS
4	D	13	SER
4	D	34	LYS
4	D	35	ARG
4	D	41	LYS
4	D	51	LEU
4	D	65	ILE
4	D	68	THR
4	D	70	THR
4	D	74	VAL
4	D	81	HIS
4	D	89	THR
4	D	93	THR
4	D	110	LEU
4	D	112	LYS
4	D	113	LEU
4	D	118	THR
4	D	124	GLU
4	D	131	LEU
4	D	133	GLU
4	D	136	GLU
4	D	146	LEU
4	D	148	ILE
4	D	152	ARG
4	D	155	THR
4	D	164	LYS
4	D	185	PHE
4	D	186	GLU
4	D	189	GLU
4	D	190	ILE
4	D	191	ASP
4	D	194	LEU
4	D	205	SER
4	D	211	LEU
4	D	218	ARG
4	D	227	LEU
4	D	232	ASP
4	D	251	PRO
4	D	254	LYS
4	D	258	LYS

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Mol	Chain	Res	Type
4	D	259	LYS
4	D	262	LYS
4	D	268	GLU
4	D	273	ARG
4	D	275	THR
4	D	282	ARG
5	E	5	LYS
5	E	8	LYS
5	E	20	LYS
5	E	21	THR
5	E	46	ARG
5	E	50	LYS
5	E	64	LEU
5	E	65	ILE
5	E	76	LEU
5	E	78	ARG
5	E	79	VAL
5	E	89	THR
5	E	93	VAL
5	E	98	VAL
5	E	99	GLU
5	E	109	GLU
5	E	143	LYS
5	E	152	THR
5	E	155	LEU
5	E	162	SER
6	F	22	THR
6	F	24	GLU
6	F	26	VAL
6	F	39	GLU
6	F	41	ARG
6	F	45	LEU
6	F	53	LYS
6	F	54	GLU
6	F	56	GLU
6	F	60	ARG
6	F	83	LEU
6	F	88	ARG
6	F	98	LYS
6	F	101	LYS
6	F	121	LYS
6	F	124	LEU

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Mol	Chain	Res	Type
6	F	130	ILE
6	F	156	ILE
6	F	158	LYS
6	F	159	GLN
6	F	173	LEU
6	F	175	LYS
6	F	179	LEU
6	F	184	LEU
6	F	196	LYS
6	F	206	LYS
6	F	219	LYS
6	F	229	PHE
6	F	239	LEU
7	G	26	LEU
7	G	41	GLN
7	G	50	VAL
7	G	68	ARG
7	G	70	LYS
7	G	74	THR
7	G	79	GLN
7	G	81	THR
7	G	85	ASN
7	G	89	GLU
7	G	92	LYS
7	G	95	ASN
7	G	110	THR
7	G	126	SER
7	G	128	LYS
7	G	136	LEU
7	G	145	ASN
7	G	146	LYS
7	G	149	LYS
7	G	150	LEU
7	G	153	ILE
7	G	160	ILE
7	G	169	LEU
7	G	172	LYS
7	G	173	MET
7	G	183	LYS
7	G	185	ARG
7	G	189	LEU
7	G	208	GLU

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Mol	Chain	Res	Type
7	G	213	LYS
7	G	214	LEU
7	G	216	SER
7	G	217	THR
7	G	219	ASP
7	G	222	PHE
7	G	230	LYS
7	G	241	LYS
7	G	245	LYS
7	G	248	LYS
8	H	4	ILE
8	H	5	GLN
8	H	6	THR
8	H	18	VAL
8	H	19	SER
8	H	20	ILE
8	H	31	ARG
8	H	33	THR
8	H	43	VAL
8	H	44	THR
8	H	52	LEU
8	H	55	VAL
8	H	62	ARG
8	H	63	LYS
8	H	68	LEU
8	H	69	ARG
8	H	70	THR
8	H	80	THR
8	H	82	VAL
8	H	92	TYR
8	H	106	LYS
8	H	121	LYS
8	H	123	ILE
8	H	129	ARG
8	H	130	ASP
8	H	132	VAL
8	H	133	THR
8	H	134	ILE
8	H	138	THR
8	H	144	ILE
8	H	151	VAL
8	H	157	ASN

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Mol	Chain	Res	Type
8	H	161	LEU
8	H	162	GLN
8	H	164	ILE
8	H	169	ASN
8	H	177	ASP
8	H	179	ILE
8	H	191	LEU
9	I	4	ARG
9	I	24	ARG
9	I	26	VAL
9	I	36	LEU
9	I	42	THR
9	I	52	LEU
9	I	57	LEU
9	I	58	GLU
9	I	63	GLU
9	I	71	CYS
9	I	74	LYS
9	I	76	MET
9	I	78	THR
9	I	83	ASP
9	I	87	LEU
9	I	91	VAL
9	I	99	ILE
9	I	129	VAL
9	I	139	ARG
9	I	140	THR
9	I	143	SER
9	I	144	ASN
9	I	145	LYS
9	I	153	ARG
9	I	163	GLN
9	I	167	LEU
9	I	169	LYS
9	I	174	THR
9	I	177	ASP
9	I	178	ARG
9	I	185	ARG
9	I	200	LEU
9	I	206	LEU
9	I	211	ARG
9	I	212	GLU

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Mol	Chain	Res	Type
9	I	215	GLU
9	I	217	PHE
10	J	10	ARG
10	J	12	LEU
10	J	13	LYS
10	J	16	LYS
10	J	22	SER
10	J	29	ARG
10	J	30	LEU
10	J	31	THR
10	J	34	SER
10	J	35	LYS
10	J	44	THR
10	J	46	VAL
10	J	80	LEU
10	J	87	LYS
10	J	92	ARG
10	J	94	ARG
10	J	106	ILE
10	J	107	ASP
10	J	112	LEU
10	J	114	ILE
10	J	129	VAL
10	J	130	VAL
10	J	132	ASN
10	J	137	ARG
10	J	138	VAL
10	J	140	ARG
10	J	142	LYS
10	J	147	THR
10	J	158	ASP
10	J	159	THR
10	J	160	VAL
10	J	161	SER
10	J	165	GLN
12	L	45	LYS
12	L	46	ILE
12	L	54	LEU
12	L	55	ARG
12	L	59	ARG
12	L	63	VAL
12	L	67	ARG

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Mol	Chain	Res	Type
12	L	68	LYS
12	L	69	VAL
12	L	73	ARG
12	L	85	LEU
12	L	100	ARG
12	L	107	GLU
12	L	114	GLN
12	L	115	ARG
12	L	118	GLU
12	L	121	SER
12	L	123	ILE
12	L	124	ILE
12	L	128	ARG
12	L	131	LYS
12	L	152	THR
12	L	154	VAL
12	L	157	ARG
12	L	164	GLU
12	L	171	ARG
12	L	175	SER
12	L	184	GLU
12	L	189	GLU
12	L	194	GLU
13	M	3	THR
13	M	10	SER
13	M	13	ARG
13	M	20	VAL
13	M	24	LYS
13	M	42	LYS
13	M	53	VAL
13	M	62	GLN
13	M	63	VAL
13	M	64	VAL
13	M	72	LEU
13	M	74	ARG
13	M	80	THR
13	M	82	SER
13	M	92	GLU
13	M	106	ARG
13	M	107	GLU
13	M	124	ARG
13	M	126	GLN

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Mol	Chain	Res	Type
13	M	128	ARG
13	M	130	THR
13	M	132	LYS
13	M	133	LYS
13	M	135	LEU
14	N	5	LYS
14	N	7	LEU
14	N	8	GLU
14	N	10	LEU
14	N	12	ARG
14	N	15	GLN
14	N	18	VAL
14	N	22	LEU
14	N	24	ARG
14	N	41	ARG
14	N	49	ARG
14	N	54	LYS
14	N	68	ARG
14	N	80	THR
14	N	85	THR
14	N	92	LEU
14	N	93	LYS
14	N	96	ARG
14	N	97	SER
14	N	104	GLU
14	N	105	ARG
14	N	109	ARG
14	N	117	ASN
14	N	134	LEU
14	N	138	GLN
14	N	155	VAL
14	N	159	ARG
14	N	170	LYS
14	N	184	LYS
14	N	190	THR
14	N	196	THR
14	N	204	LYS
15	O	3[A]	VAL
15	O	3[B]	SER
15	O	12[A]	LYS
15	O	12[B]	LYS
15	O	16[B]	LEU

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Mol	Chain	Res	Type
15	O	22[B]	THR
15	O	27[B]	VAL
15	O	34[A]	VAL
15	O	34[B]	VAL
15	O	41[A]	LEU
15	O	41[B]	LEU
15	O	58[A]	LEU
15	O	58[B]	LEU
15	O	59[A]	ARG
15	O	59[B]	ARG
15	O	67[A]	THR
15	O	67[B]	THR
15	O	74[A]	ARG
15	O	74[B]	ARG
15	O	78[A]	ARG
15	O	78[B]	ARG
15	O	80[B]	LEU
15	O	85[A]	ARG
15	O	85[B]	ARG
15	O	100[A]	GLU
15	O	100[B]	GLU
15	O	106[A]	GLU
15	O	106[B]	GLU
15	O	108[A]	ILE
15	O	108[B]	ILE
15	O	117[A]	ARG
15	O	117[B]	ARG
15	O	124[A]	LEU
15	O	124[B]	LEU
15	O	126[A]	VAL
15	O	126[B]	VAL
15	O	128[A]	ARG
15	O	128[B]	ARG
15	O	129[A]	LEU
15	O	129[B]	LEU
15	O	130[A]	LYS
15	O	130[B]	LYS
15	O	144[A]	SER
15	O	144[B]	SER
15	O	160[A]	ARG
15	O	160[B]	ARG
15	O	163[B]	ARG

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Mol	Chain	Res	Type
15	O	166[A]	GLU
15	O	166[B]	GLU
15	O	171[A]	LYS
15	O	171[B]	LYS
15	O	175[A]	THR
15	O	175[B]	THR
15	O	182[A]	ASN
15	O	184[A]	THR
15	O	197[A]	LEU
16	P	9	THR
16	P	24	VAL
16	P	29	THR
16	P	31	GLU
16	P	32	THR
16	P	41	LEU
16	P	52	LEU
16	P	56	ARG
16	P	69	ARG
16	P	74	LYS
16	P	78	VAL
16	P	79	THR
16	P	80	LYS
16	P	89	LYS
16	P	94	LEU
16	P	103	GLU
16	P	112	LEU
16	P	114	VAL
16	P	119	VAL
16	P	126	ARG
16	P	128	ARG
16	P	138	LYS
17	Q	3	ILE
17	Q	7	SER
17	Q	17	THR
17	Q	24	VAL
17	Q	26	LEU
17	Q	31	LYS
17	Q	32	LEU
17	Q	34	THR
17	Q	49	LEU
17	Q	57	ILE
17	Q	64	VAL

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Mol	Chain	Res	Type
17	Q	80	THR
17	Q	81	VAL
17	Q	86	THR
17	Q	93	ILE
17	Q	98	LYS
17	Q	100	THR
17	Q	105	ARG
17	Q	113	LYS
17	Q	135	GLN
17	Q	138	LEU
17	Q	147	ARG
17	Q	150	VAL
17	Q	161	LYS
17	Q	165	ILE
17	Q	166	LEU
17	Q	170	ARG
18	R	5	ARG
18	R	7	GLN
18	R	10	LEU
18	R	17	VAL
18	R	20	ARG
18	R	27	ASN
18	R	29	THR
18	R	36	ASN
18	R	39	ASN
18	R	43	LYS
18	R	49	THR
18	R	55	VAL
18	R	56	THR
18	R	63	THR
18	R	70	LYS
18	R	71	ARG
18	R	74	ARG
18	R	98	ARG
18	R	99	LEU
18	R	105	LEU
18	R	106	LEU
18	R	114	LYS
18	R	126	GLU
18	R	138	LEU
18	R	152	GLU
18	R	153	LYS

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Mol	Chain	Res	Type
18	R	158	GLU
18	R	162	ARG
18	R	164	LEU
18	R	167	ARG
18	R	173	ARG
18	R	180	LYS
19	S	1	MET
19	S	13	ARG
19	S	15	PRO
19	S	17	GLU
19	S	21	GLU
19	S	23	LYS
19	S	40	ARG
19	S	50	LYS
19	S	51	VAL
19	S	52	LYS
19	S	61	ILE
19	S	71	LYS
19	S	74	ASN
19	S	80	ARG
19	S	87	THR
19	S	96	ASP
19	S	97	VAL
19	S	100	VAL
19	S	104	GLU
19	S	105	THR
19	S	115	ARG
19	S	117	ARG
19	S	130	GLU
19	S	136	LYS
19	S	146	LYS
19	S	148	LEU
19	S	149	LYS
19	S	155	ARG
19	S	161	LYS
19	S	162	THR
19	S	166	LYS
19	S	169	SER
19	S	172	TYR
20	T	17	ARG
20	T	25	VAL
20	T	26	HIS

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Mol	Chain	Res	Type
20	T	27	LEU
20	T	35	LYS
20	T	36	VAL
20	T	47	SER
20	T	55	LYS
20	T	68	THR
20	T	71	SER
20	T	78	LYS
20	T	80	VAL
20	T	83	ARG
20	T	88	ARG
20	T	89	LEU
20	T	96	ILE
20	T	102	ARG
20	T	104	GLU
20	T	118	GLU
20	T	126	VAL
20	T	131	GLN
20	T	135	PRO
20	T	139	ARG
20	T	143	THR
20	T	149	GLN
20	T	150	THR
20	T	160	ILE
21	U	13	LYS
21	U	14	THR
21	U	16	THR
21	U	21	SER
21	U	23	THR
21	U	27	VAL
21	U	28	PHE
21	U	37	LEU
21	U	39	ASP
21	U	43	VAL
21	U	50	LEU
21	U	52	ASN
21	U	54	VAL
21	U	55	THR
21	U	58	GLU
21	U	61	THR
21	U	62	VAL
21	U	63	VAL

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Mol	Chain	Res	Type
21	U	68	THR
21	U	90	ARG
21	U	98	THR
21	U	100	THR
21	U	105	LEU
22	V	13	ILE
22	V	14	SER
22	V	48	ARG
22	V	70	ARG
22	V	88	ARG
22	V	91	VAL
22	V	110	LYS
22	V	115	THR
23	W	1	MET
23	W	5	ILE
23	W	25	ASP
23	W	47	ARG
23	W	56	ARG
23	W	57	LYS
23	W	63	ILE
23	W	95	SER
23	W	97	LYS
23	W	100	VAL
23	W	105	ARG
23	W	107	GLU
23	W	126	GLU
23	W	127	LYS
23	W	135	SER
24	X	24	LEU
24	X	27	ARG
24	X	34	LEU
24	X	37	THR
24	X	38	LEU
24	X	40	LEU
24	X	56	ARG
24	X	57	LEU
24	X	63	ILE
24	X	70	GLU
24	X	71	THR
24	X	73	MET
24	X	74	LYS
24	X	86	VAL

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Mol	Chain	Res	Type
24	X	101	GLU
24	X	108	LEU
24	X	109	LYS
24	X	115	ARG
24	X	121	LYS
24	X	125	ARG
24	X	133	LEU
24	X	135	ILE
24	X	142	ILE
25	Y	12	ARG
25	Y	13	ARG
25	Y	14	LYS
25	Y	17	LYS
25	Y	37	LYS
25	Y	40	ARG
25	Y	43	TYR
25	Y	45	ILE
25	Y	50	ILE
25	Y	52	ARG
25	Y	57	LEU
25	Y	59	VAL
25	Y	66	GLN
25	Y	71	SER
25	Y	74	TYR
25	Y	76	LEU
25	Y	80	VAL
25	Y	83	ASP
25	Y	87	LYS
25	Y	94	SER
25	Y	95	VAL
25	Y	97	ILE
25	Y	103	LYS
25	Y	120	GLN
26	Z	3	LYS
26	Z	14	VAL
26	Z	17	ARG
26	Z	24	VAL
26	Z	30	ASP
26	Z	31	GLU
26	Z	34	LYS
26	Z	55	LYS
26	Z	65	ARG

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Mol	Chain	Res	Type
26	Z	72	ILE
26	Z	81	LEU
26	Z	83	THR
26	Z	86	THR
26	Z	89	VAL
26	Z	93	LYS
26	Z	95	VAL
26	Z	99	GLU
26	Z	100	THR
26	Z	102	GLU
26	Z	103	GLN
26	Z	105	SER
26	Z	121	ARG
26	Z	126	LYS
26	Z	127	ASN
26	Z	134	LEU
26	Z	135	ARG
27	a	6	THR
27	a	8	THR
27	a	10	LYS
27	a	12	ARG
27	a	16	SER
27	a	24	LYS
27	a	34	MET
27	a	42	ARG
27	a	44	ASN
27	a	47	LYS
27	a	60	TYR
27	a	78	LEU
27	a	80	THR
27	a	82	ILE
27	a	85	ASP
27	a	91	LEU
27	a	97	GLU
27	a	98	THR
27	a	115	LYS
27	a	128	ARG
27	a	130	VAL
27	a	132	LYS
27	a	133	LEU
28	b	14	ARG
28	b	15	LYS

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Mol	Chain	Res	Type
28	b	21	ILE
28	b	22	LYS
28	b	26	THR
28	b	33	LYS
28	b	38	LYS
28	b	50	THR
28	b	52	LYS
28	b	58	LYS
28	b	59	LYS
29	c	8	GLU
29	c	18	ILE
29	c	19	LYS
29	c	30	THR
29	c	33	SER
29	c	34	LEU
29	c	40	LYS
29	c	41	LEU
29	c	48	THR
29	c	61	MET
29	c	68	TYR
29	c	86	ARG
29	c	87	VAL
29	c	99	ASP
29	c	100	ILE
30	d	6	ASP
30	d	8	VAL
30	d	13	THR
30	d	16	LEU
30	d	26	LYS
30	d	31	ARG
30	d	34	LYS
30	d	44	MET
30	d	55	LEU
30	d	61	LYS
30	d	76	SER
30	d	82	GLU
30	d	89	LEU
30	d	90	PHE
30	d	96	VAL
30	d	100	SER
30	d	102	LYS
30	d	104	LEU

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Mol	Chain	Res	Type
30	d	105	GLN
30	d	106	THR
30	d	110	GLU
31	e	4	LEU
31	e	14	THR
31	e	16	LYS
31	e	18	LYS
31	e	19	ARG
31	e	27	ARG
31	e	31	ASN
31	e	33	ARG
31	e	35	GLN
31	e	51	SER
31	e	61	LYS
31	e	73	THR
31	e	75	LEU
31	e	82	LEU
31	e	87	MET
31	e	91	THR
31	e	106	VAL
31	e	109	LEU
31	e	125	ARG
31	e	126	LEU
32	f	4	SER
32	f	10	LYS
32	f	20	LYS
32	f	28	SER
32	f	31	LYS
32	f	49	ILE
32	f	70	LYS
32	f	81	VAL
32	f	84	THR
32	f	98	VAL
32	f	107	ILE
33	g	5	VAL
33	g	9	ARG
33	g	16	ARG
33	g	19	LYS
33	g	20	ILE
33	g	23	VAL
33	g	24	LYS
33	g	29	ILE

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Mol	Chain	Res	Type
33	g	30	LEU
33	g	31	ARG
33	g	35	VAL
33	g	36	LYS
33	g	44	CYS
33	g	54	ILE
33	g	58	ARG
33	g	65	VAL
33	g	70	LYS
33	g	79	SER
33	g	85	VAL
33	g	86	LYS
33	g	88	ARG
33	g	90	ILE
33	g	98	GLN
33	g	104	VAL
34	h	15	GLU
34	h	20	GLN
34	h	21	LEU
34	h	27	GLU
34	h	28	LEU
34	h	38	ARG
34	h	40	SER
34	h	45	LYS
34	h	47	VAL
34	h	48	ARG
34	h	57	VAL
34	h	62	GLN
34	h	66	VAL
34	h	69	LEU
34	h	79	ASP
34	h	81	ARG
34	h	84	LYS
34	h	85	THR
34	h	86	ARG
34	h	89	ARG
34	h	90	ARG
34	h	98	SER
34	h	100	VAL
34	h	101	THR
34	h	107	LYS
34	h	119	LYS

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Mol	Chain	Res	Type
35	i	3	VAL
35	i	7	ILE
35	i	9	ILE
35	i	11	LEU
35	i	17	VAL
35	i	18	THR
35	i	21	THR
35	i	26	ILE
35	i	29	LYS
35	i	34	SER
35	i	36	ARG
35	i	37	THR
35	i	38	LYS
35	i	43	LEU
35	i	45	ARG
35	i	57	LEU
35	i	58	ILE
35	i	60	LEU
35	i	61	ILE
35	i	66	GLU
35	i	68	ARG
35	i	74	LYS
35	i	75	LYS
35	i	76	ARG
35	i	81	THR
35	i	88	GLU
35	i	90	MET
35	i	94	ILE
35	i	98	ARG
36	j	3	LYS
36	j	11	ARG
36	j	17	THR
36	j	25	ARG
36	j	33	THR
36	j	36	SER
36	j	44	THR
36	j	55	ARG
36	j	58	THR
36	j	59	THR
36	j	64	MET
36	j	65	ARG
36	j	67	LEU

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Mol	Chain	Res	Type
36	j	68	LYS
36	j	75	LYS
36	j	80	THR
36	j	84	SER
37	k	5	ILE
37	k	12	LEU
37	k	24	THR
37	k	31	LEU
37	k	39	ARG
37	k	41	THR
37	k	46	ARG
37	k	50	SER
37	k	53	THR
37	k	61	LYS
37	k	64	LYS
37	k	65	LEU
37	k	67	GLN
37	k	68	SER
38	l	11	GLN
38	l	15	LYS
38	l	17	LYS
38	l	21	ARG
38	l	23	LEU
38	l	27	ILE
38	l	29	LEU
38	l	41	ARG
38	l	45	ARG
38	l	47	THR
38	l	51	ILE
39	m	78	ILE
39	m	79	GLU
39	m	83	LYS
39	m	85	LEU
39	m	88	LYS
39	m	91	CYS
39	m	93	LYS
39	m	106	ARG
39	m	112	LYS
39	m	113	ARG
39	m	114	LYS
39	m	126	LYS
39	m	127	LEU

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Mol	Chain	Res	Type
40	n	6	ARG
40	n	9	ARG
40	n	13	LEU
40	n	16	LYS
40	n	21	ARG
40	n	23	ARG
40	n	24	SER
41	o	7	THR
41	o	8	ARG
41	o	18	ARG
41	o	46	LYS
41	o	47	GLN
41	o	61	LYS
41	o	63	LYS
41	o	71	ARG
41	o	78	LYS
41	o	79	THR
41	o	83	LEU
41	o	84	THR
41	o	89	LYS
41	o	93	LEU
41	o	104	LEU
41	o	105	GLN
42	p	3	LYS
42	p	24	ARG
42	p	42	CYS
42	p	48	LYS
42	p	49	ARG
42	p	54	ILE
42	p	56	THR
42	p	79	VAL
42	p	89	MET
42	p	90	VAL
43	q	4	ILE
43	q	5	ARG
43	q	10	GLU
43	q	30	VAL
43	q	32	ASN
43	q	39	HIS
43	q	42	ARG
43	q	44	GLU
43	q	51	VAL

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Mol	Chain	Res	Type
43	q	52	LEU
43	q	55	LYS
43	q	57	THR
43	q	67	LEU
43	q	68	SER
43	q	70	LEU
43	q	72	ASP
43	q	74	GLU
43	q	75	LYS
43	q	76	LEU
43	q	79	PHE
43	q	80	VAL
43	q	81	LYS
43	q	84	VAL
43	q	91	GLU
43	q	93	LEU
43	q	96	ILE
43	q	97	LYS
43	q	185	LEU
43	q	196	VAL
46	t	87	ARG
46	t	417	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	209	HIS
1	A	215	ASN
3	C	48	GLN
3	C	114	ASN
3	C	221	ASN
3	C	291	ASN
4	D	40	HIS
4	D	63	GLN
4	D	81	HIS
5	E	167	ASN
10	J	109	HIS
10	J	132	ASN
12	L	19	GLN
13	M	126	GLN
16	P	55	GLN
17	Q	9	GLN

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Mol	Chain	Res	Type
18	R	34	GLN
20	T	49	GLN
21	U	40	HIS
22	V	33	ASN
26	Z	57	HIS
27	a	44	ASN
32	f	77	ASN
33	g	52	GLN
34	h	20	GLN
43	q	36	GLN
46	t	33	GLN
46	t	82	ASN
46	t	156	HIS
46	t	394	HIS
46	t	533	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
47	1	0/114	-	-
48	5	3145/3396 (92%)	731 (23%)	129 (4%)
49	7	120/121 (99%)	18 (15%)	0
50	8	157/158 (99%)	32 (20%)	3 (1%)
All	All	3422/3789 (90%)	781 (22%)	132 (3%)

All (781) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
48	5	14	U
48	5	15	C
48	5	16	A
48	5	26	A
48	5	38	U
48	5	40	A
48	5	43	A
48	5	49	A
48	5	60	A
48	5	65	A
48	5	66	A
48	5	74	G
48	5	76	G

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Mol	Chain	Res	Type
48	5	77	A
48	5	92	G
48	5	93	C
48	5	96	G
48	5	99	A
48	5	109	A
48	5	110	G
48	5	111	C
48	5	116	A
48	5	121	A
48	5	122	A
48	5	133	U
48	5	134	U
48	5	135	C
48	5	136	G
48	5	146	U
48	5	150	A
48	5	152	U
48	5	156	G
48	5	157	A
48	5	160	G
48	5	166	C
48	5	170	G
48	5	171	G
48	5	174	C
48	5	178	U
48	5	180	C
48	5	182	U
48	5	183	G
48	5	184	U
48	5	187	A
48	5	190	U
48	5	191	U
48	5	200	C
48	5	201	A
48	5	210	U
48	5	218	G
48	5	219	A
48	5	221	A
48	5	235	A
48	5	236	G
48	5	238	A

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Mol	Chain	Res	Type
48	5	239	G
48	5	240	U
48	5	242	C
48	5	244	G
48	5	248	U
48	5	249	U
48	5	250	U
48	5	251	G
48	5	252	U
48	5	253	A
48	5	254	A
48	5	258	G
48	5	259	C
48	5	269	G
48	5	283	G
48	5	284	A
48	5	286	U
48	5	294	U
48	5	295	A
48	5	305	U
48	5	322	U
48	5	323	A
48	5	329	U
48	5	334	A
48	5	339	C
48	5	349	A
48	5	350	C
48	5	351	A
48	5	352	A
48	5	370	U
48	5	376	G
48	5	390	G
48	5	395	A
48	5	398	A
48	5	399	A
48	5	401	U
48	5	402	A
48	5	403	C
48	5	421	G
48	5	422	A
48	5	436	A
48	5	437	G

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Mol	Chain	Res	Type
48	5	438	A
48	5	439	C
48	5	440	A
48	5	441	U
48	5	442	G
48	5	443	G
48	5	492	U
48	5	493	G
48	5	495	G
48	5	520	U
48	5	521	A
48	5	531	G
48	5	535	G
48	5	538	G
48	5	546	C
48	5	547	G
48	5	548	G
48	5	551	A
48	5	553	U
48	5	555	U
48	5	557	A
48	5	559	A
48	5	578	A
48	5	579	G
48	5	592	A
48	5	594	U
48	5	595	G
48	5	600	G
48	5	604	G
48	5	609	G
48	5	610	G
48	5	611	A
48	5	612	U
48	5	619	A
48	5	620	U
48	5	621	A
48	5	630	A
48	5	636	C
48	5	649	A
48	5	653	A
48	5	656	A
48	5	660	A

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Mol	Chain	Res	Type
48	5	675	C
48	5	677	A
48	5	681	U
48	5	705	A
48	5	708	G
48	5	712	G
48	5	715	A
48	5	716	A
48	5	719	U
48	5	720	A
48	5	725	G
48	5	726	G
48	5	735	A
48	5	736	A
48	5	750	G
48	5	758	C
48	5	766	U
48	5	767	U
48	5	768	C
48	5	776	U
48	5	777	U
48	5	780	A
48	5	781	G
48	5	785	G
48	5	786	A
48	5	806	A
48	5	809	G
48	5	817	A
48	5	830	A
48	5	846	A
48	5	851	C
48	5	861	C
48	5	862	U
48	5	871	U
48	5	874	U
48	5	879	U
48	5	891	G
48	5	893	C
48	5	896	A
48	5	897	U
48	5	907	G
48	5	908	G

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Mol	Chain	Res	Type
48	5	914	A
48	5	916	G
48	5	917	A
48	5	921	A
48	5	923	C
48	5	924	G
48	5	937	G
48	5	944	C
48	5	946	U
48	5	947	G
48	5	958	C
48	5	959	C
48	5	960	U
48	5	974	G
48	5	979	U
48	5	980	A
48	5	981	U
48	5	983	A
48	5	994	G
48	5	1000	C
48	5	1001	G
48	5	1002	A
48	5	1003	A
48	5	1010	G
48	5	1014	U
48	5	1015	U
48	5	1016	C
48	5	1017	C
48	5	1018	G
48	5	1020	G
48	5	1021	G
48	5	1023	C
48	5	1024	G
48	5	1025	A
48	5	1026	A
48	5	1027	A
48	5	1028	U
48	5	1029	G
48	5	1032	C
48	5	1034	U
48	5	1035	G
48	5	1047	A

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Mol	Chain	Res	Type
48	5	1049	C
48	5	1057	A
48	5	1064	A
48	5	1065	A
48	5	1071	U
48	5	1072	G
48	5	1081	U
48	5	1082	U
48	5	1085	A
48	5	1093	A
48	5	1094	U
48	5	1095	U
48	5	1096	U
48	5	1097	G
48	5	1098	A
48	5	1103	A
48	5	1104	G
48	5	1117	G
48	5	1131	G
48	5	1153	A
48	5	1159	A
48	5	1160	C
48	5	1174	G
48	5	1178	G
48	5	1179	A
48	5	1180	A
48	5	1181	U
48	5	1182	A
48	5	1191	U
48	5	1192	C
48	5	1193	A
48	5	1201	C
48	5	1209	G
48	5	1213	G
48	5	1222	G
48	5	1223	A
48	5	1232	C
48	5	1233	G
48	5	1236	G
48	5	1237	G
48	5	1239	C
48	5	1241	U

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Mol	Chain	Res	Type
48	5	1242	G
48	5	1243	G
48	5	1245	A
48	5	1246	G
48	5	1248	C
48	5	1258	U
48	5	1259	A
48	5	1262	G
48	5	1263	A
48	5	1264	G
48	5	1265	U
48	5	1266	G
48	5	1270	A
48	5	1281	G
48	5	1285	G
48	5	1294	A
48	5	1307	G
48	5	1308	A
48	5	1309	U
48	5	1312	C
48	5	1330	A
48	5	1332	A
48	5	1348	U
48	5	1349	G
48	5	1350	A
48	5	1351	U
48	5	1352	A
48	5	1353	U
48	5	1354	G
48	5	1355	A
48	5	1356	U
48	5	1357	G
48	5	1366	A
48	5	1385	C
48	5	1386	A
48	5	1387	G
48	5	1399	A
48	5	1400	G
48	5	1403	C
48	5	1419	A
48	5	1422	G
48	5	1428	A

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Mol	Chain	Res	Type
48	5	1434	G
48	5	1437	C
48	5	1440	G
48	5	1446	A
48	5	1450	G
48	5	1460	A
48	5	1481	A
48	5	1482	A
48	5	1490	A
48	5	1495	U
48	5	1502	C
48	5	1503	A
48	5	1508	C
48	5	1527	C
48	5	1541	G
48	5	1542	G
48	5	1549	U
48	5	1554	U
48	5	1555	U
48	5	1556	C
48	5	1557	A
48	5	1560	G
48	5	1561	G
48	5	1562	C
48	5	1563	C
48	5	1565	G
48	5	1566	A
48	5	1567	U
48	5	1568	U
48	5	1569	U
48	5	1570	U
48	5	1571	A
48	5	1572	U
48	5	1574	C
48	5	1575	A
48	5	1576	G
48	5	1577	G
48	5	1578	C
48	5	1580	A
48	5	1581	C
48	5	1582	C
48	5	1583	A

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Mol	Chain	Res	Type
48	5	1587	A
48	5	1589	A
48	5	1593	A
48	5	1605	A
48	5	1607	U
48	5	1608	C
48	5	1620	U
48	5	1629	U
48	5	1633	C
48	5	1635	G
48	5	1639	C
48	5	1641	U
48	5	1643	A
48	5	1644	C
48	5	1645	U
48	5	1655	G
48	5	1657	C
48	5	1680	G
48	5	1683	A
48	5	1716	U
48	5	1717	U
48	5	1718	G
48	5	1724	U
48	5	1725	C
48	5	1736	G
48	5	1750	A
48	5	1751	G
48	5	1754	G
48	5	1758	G
48	5	1760	A
48	5	1762	C
48	5	1764	U
48	5	1765	U
48	5	1766	G
48	5	1767	C
48	5	1770	G
48	5	1778	G
48	5	1780	G
48	5	1783	U
48	5	1797	A
48	5	1810	A
48	5	1812	G

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Mol	Chain	Res	Type
48	5	1814	A
48	5	1815	U
48	5	1816	A
48	5	1817	G
48	5	1818	U
48	5	1820	U
48	5	1821	U
48	5	1835	A
48	5	1841	A
48	5	1842	A
48	5	1846	C
48	5	1849	C
48	5	1850	A
48	5	1855	U
48	5	1871	U
48	5	1876	U
48	5	1878	G
48	5	1879	A
48	5	1880	U
48	5	1905	G
48	5	1906	G
48	5	1909	A
48	5	1918	C
48	5	1927	G
48	5	1940	G
48	5	1953	G
48	5	2100	A
48	5	2101	C
48	5	2102	U
48	5	2112	U
48	5	2113	A
48	5	2114	C
48	5	2121	G
48	5	2122	G
48	5	2128	C
48	5	2131	A
48	5	2134	G
48	5	2139	A
48	5	2144	A
48	5	2158	A
48	5	2169	G
48	5	2170	U

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Mol	Chain	Res	Type
48	5	2171	G
48	5	2192	C
48	5	2201	G
48	5	2205	U
48	5	2210	G
48	5	2213	A
48	5	2222	A
48	5	2223	A
48	5	2228	A
48	5	2229	A
48	5	2244	A
48	5	2250	G
48	5	2253	G
48	5	2255	A
48	5	2256	A
48	5	2257	C
48	5	2258	U
48	5	2264	U
48	5	2270	A
48	5	2273	G
48	5	2276	G
48	5	2278	C
48	5	2279	A
48	5	2288	G
48	5	2290	C
48	5	2294	U
48	5	2298	U
48	5	2307	G
48	5	2310	U
48	5	2313	A
48	5	2315	G
48	5	2324	A
48	5	2329	C
48	5	2334	U
48	5	2335	G
48	5	2336	U
48	5	2373	A
48	5	2374	C
48	5	2375	G
48	5	2377	G
48	5	2385	G
48	5	2388	U

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Mol	Chain	Res	Type
48	5	2393	G
48	5	2394	G
48	5	2396	G
48	5	2397	A
48	5	2398	A
48	5	2400	G
48	5	2401	A
48	5	2402	A
48	5	2403	G
48	5	2404	A
48	5	2405	C
48	5	2406	C
48	5	2411	U
48	5	2418	G
48	5	2435	G
48	5	2436	U
48	5	2437	G
48	5	2438	A
48	5	2439	A
48	5	2440	G
48	5	2441	A
48	5	2443	A
48	5	2504	U
48	5	2505	U
48	5	2506	U
48	5	2507	C
48	5	2508	U
48	5	2510	U
48	5	2511	A
48	5	2512	C
48	5	2513	U
48	5	2514	U
48	5	2515	A
48	5	2518	C
48	5	2523	A
48	5	2524	A
48	5	2526	C
48	5	2530	G
48	5	2531	C
48	5	2532	U
48	5	2534	G
48	5	2538	U

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Mol	Chain	Res	Type
48	5	2539	C
48	5	2540	A
48	5	2543	U
48	5	2544	U
48	5	2549	G
48	5	2552	C
48	5	2555	G
48	5	2562	A
48	5	2567	C
48	5	2568	C
48	5	2569	A
48	5	2570	U
48	5	2571	U
48	5	2572	C
48	5	2573	G
48	5	2574	G
48	5	2584	G
48	5	2585	G
48	5	2589	G
48	5	2590	A
48	5	2591	A
48	5	2593	A
48	5	2594	C
48	5	2598	G
48	5	2599	U
48	5	2606	G
48	5	2607	G
48	5	2610	G
48	5	2614	G
48	5	2615	G
48	5	2622	C
48	5	2637	A
48	5	2639	G
48	5	2652	U
48	5	2656	A
48	5	2662	G
48	5	2663	G
48	5	2667	A
48	5	2674	A
48	5	2677	G
48	5	2678	A
48	5	2681	U

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Mol	Chain	Res	Type
48	5	2683	U
48	5	2689	A
48	5	2691	A
48	5	2694	A
48	5	2696	A
48	5	2714	G
48	5	2723	U
48	5	2728	G
48	5	2729	U
48	5	2752	U
48	5	2753	G
48	5	2762	A
48	5	2771	U
48	5	2772	C
48	5	2773	C
48	5	2776	C
48	5	2777	G
48	5	2778	G
48	5	2779	A
48	5	2796	G
48	5	2799	A
48	5	2800	G
48	5	2801	A
48	5	2810	C
48	5	2817	A
48	5	2818	U
48	5	2819	A
48	5	2822	U
48	5	2829	U
48	5	2839	G
48	5	2844	C
48	5	2845	A
48	5	2853	A
48	5	2871	G
48	5	2872	A
48	5	2873	U
48	5	2875	U
48	5	2887	A
48	5	2889	C
48	5	2896	A
48	5	2897	A
48	5	2898	G

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Mol	Chain	Res	Type
48	5	2899	C
48	5	2904	U
48	5	2910	A
48	5	2923	U
48	5	2928	C
48	5	2935	U
48	5	2936	A
48	5	2941	A
48	5	2942	C
48	5	2945	G
48	5	2947	G
48	5	2954	U
48	5	2957	G
48	5	2970	C
48	5	2971	A
48	5	2972	G
48	5	2979	U
48	5	2983	C
48	5	2987	A
48	5	2990	G
48	5	2996	U
48	5	2997	G
48	5	3012	A
48	5	3028	G
48	5	3050	U
48	5	3056	U
48	5	3057	U
48	5	3059	G
48	5	3078	U
48	5	3079	U
48	5	3080	G
48	5	3086	A
48	5	3087	A
48	5	3092	C
48	5	3130	A
48	5	3131	U
48	5	3139	A
48	5	3142	A
48	5	3143	C
48	5	3148	U
48	5	3153	U
48	5	3154	C

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Mol	Chain	Res	Type
48	5	3155	U
48	5	3156	U
48	5	3157	U
48	5	3158	G
48	5	3159	C
48	5	3164	C
48	5	3165	A
48	5	3166	C
48	5	3168	A
48	5	3171	U
48	5	3172	A
48	5	3173	G
48	5	3174	A
48	5	3175	U
48	5	3176	G
48	5	3177	G
48	5	3179	U
48	5	3180	A
48	5	3181	C
48	5	3187	A
48	5	3195	U
48	5	3196	U
48	5	3207	U
48	5	3217	C
48	5	3218	A
48	5	3219	G
48	5	3222	U
48	5	3223	A
48	5	3224	G
48	5	3227	A
48	5	3229	G
48	5	3238	G
48	5	3245	A
48	5	3246	G
48	5	3247	G
48	5	3251	U
48	5	3253	G
48	5	3259	U
48	5	3260	G
48	5	3269	U
48	5	3270	U
48	5	3273	A

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Mol	Chain	Res	Type
48	5	3275	U
48	5	3276	G
48	5	3277	U
48	5	3279	A
48	5	3280	U
48	5	3282	U
48	5	3284	G
48	5	3285	C
48	5	3286	G
48	5	3288	G
48	5	3289	G
48	5	3290	G
48	5	3292	A
48	5	3294	A
48	5	3304	U
48	5	3307	A
48	5	3313	U
48	5	3316	A
48	5	3317	U
48	5	3318	G
48	5	3319	U
48	5	3320	A
48	5	3330	A
48	5	3333	G
48	5	3335	A
48	5	3336	A
48	5	3341	U
48	5	3342	A
48	5	3343	G
48	5	3345	G
48	5	3349	C
48	5	3351	U
48	5	3352	U
48	5	3354	U
48	5	3355	U
48	5	3356	G
48	5	3357	U
48	5	3358	U
48	5	3369	G
48	5	3378	C
48	5	3382	U
48	5	3383	G

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Mol	Chain	Res	Type
48	5	3389	U
48	5	3390	G
48	5	3393	U
48	5	3396	U
49	7	7	G
49	7	22	A
49	7	27	A
49	7	33	U
49	7	38	U
49	7	42	A
49	7	54	U
49	7	61	G
49	7	65	G
49	7	66	A
49	7	73	C
49	7	74	C
49	7	93	C
49	7	101	G
49	7	102	A
49	7	103	A
49	7	104	A
49	7	112	G
50	8	21	C
50	8	34	U
50	8	35	C
50	8	48	A
50	8	52	A
50	8	53	A
50	8	59	A
50	8	62	C
50	8	63	G
50	8	79	A
50	8	80	A
50	8	81	U
50	8	83	C
50	8	84	C
50	8	86	U
50	8	87	G
50	8	90	U
50	8	95	G
50	8	104	A
50	8	105	A

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Mol	Chain	Res	Type
50	8	106	C
50	8	111	A
50	8	113	U
50	8	122	U
50	8	125	U
50	8	126	A
50	8	127	U
50	8	138	A
50	8	152	G
50	8	156	U
50	8	157	U
50	8	158	U

All (132) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
48	5	43	A
48	5	65	A
48	5	93	C
48	5	151	A
48	5	169	U
48	5	183	G
48	5	217	U
48	5	238	A
48	5	282	G
48	5	397	A
48	5	436	A
48	5	438	A
48	5	439	C
48	5	545	U
48	5	546	C
48	5	588	G
48	5	611	A
48	5	619	A
48	5	647	A
48	5	705	A
48	5	715	A
48	5	719	U
48	5	726	G
48	5	735	A
48	5	765	C
48	5	786	A

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Mol	Chain	Res	Type
48	5	816	A
48	5	873	C
48	5	896	A
48	5	908	G
48	5	916	G
48	5	937	G
48	5	979	U
48	5	993	G
48	5	1027	A
48	5	1033	U
48	5	1064	A
48	5	1081	U
48	5	1085	A
48	5	1094	U
48	5	1152	G
48	5	1181	U
48	5	1192	C
48	5	1222	G
48	5	1236	G
48	5	1238	C
48	5	1239	C
48	5	1241	U
48	5	1284	C
48	5	1307	G
48	5	1317	A
48	5	1329	U
48	5	1331	U
48	5	1352	A
48	5	1355	A
48	5	1434	G
48	5	1481	A
48	5	1507	G
48	5	1514	G
48	5	1554	U
48	5	1560	G
48	5	1568	U
48	5	1574	C
48	5	1580	A
48	5	1589	A
48	5	1607	U
48	5	1716	U
48	5	1724	U

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Mol	Chain	Res	Type
48	5	1815	U
48	5	1816	A
48	5	1817	G
48	5	1819	U
48	5	1841	A
48	5	1842	A
48	5	1849	C
48	5	1878	G
48	5	1879	A
48	5	2101	C
48	5	2112	U
48	5	2116	G
48	5	2204	C
48	5	2209	U
48	5	2249	G
48	5	2255	A
48	5	2257	C
48	5	2372	A
48	5	2374	C
48	5	2440	G
48	5	2507	C
48	5	2513	U
48	5	2531	C
48	5	2537	U
48	5	2539	C
48	5	2583	C
48	5	2585	G
48	5	2593	A
48	5	2662	G
48	5	2682	C
48	5	2689	A
48	5	2714	G
48	5	2728	G
48	5	2752	U
48	5	2772	C
48	5	2777	G
48	5	2801	A
48	5	2817	A
48	5	2818	U
48	5	2887	A
48	5	2896	A
48	5	2970	C

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Mol	Chain	Res	Type
48	5	2971	A
48	5	2996	U
48	5	3056	U
48	5	3078	U
48	5	3154	C
48	5	3155	U
48	5	3167	A
48	5	3195	U
48	5	3218	A
48	5	3228	C
48	5	3259	U
48	5	3269	U
48	5	3275	U
48	5	3289	G
48	5	3317	U
48	5	3330	A
48	5	3340	G
48	5	3341	U
48	5	3357	U
50	8	111	A
50	8	126	A
50	8	156	U

5.4 Non-standard residues in protein, DNA, RNA chains

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
11	K	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	K	52:UNK	C	54:UNK	N	3.86
1	K	23:UNK	C	28:UNK	N	3.48

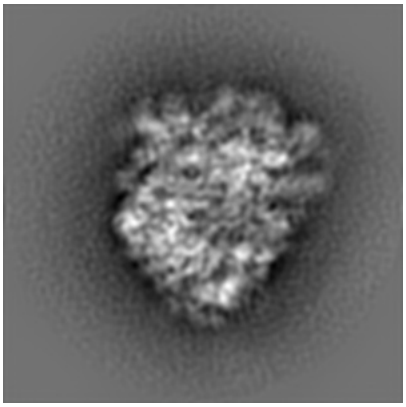
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-2169. These allow visual inspection of the internal detail of the map and identification of artifacts.

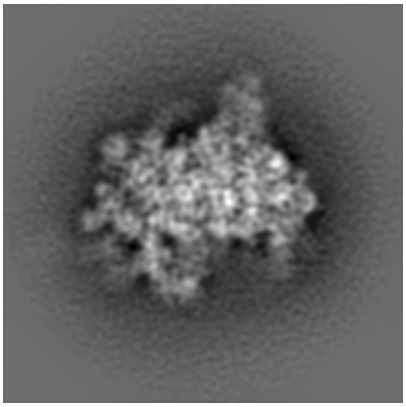
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

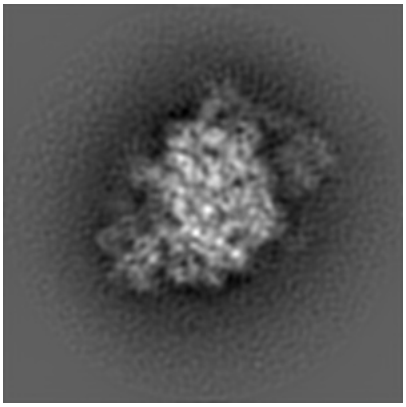
6.1.1 Primary map



X



Y

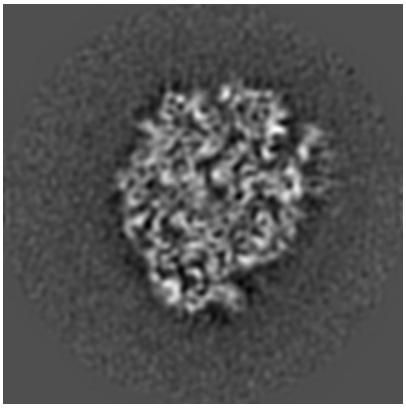


Z

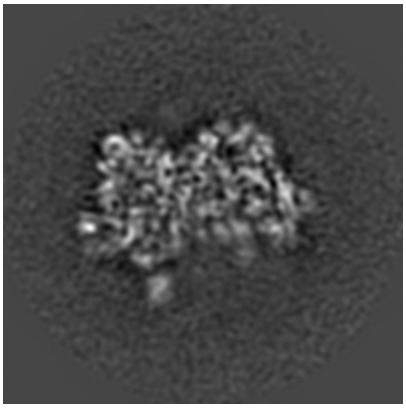
The images above show the map projected in three orthogonal directions.

6.2 Central slices

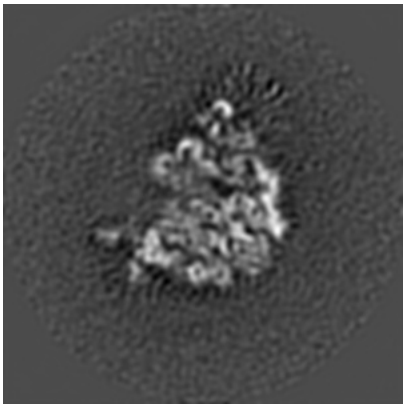
6.2.1 Primary map



X Index: 112



Y Index: 112

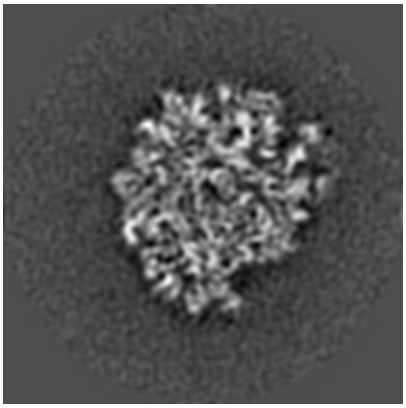


Z Index: 112

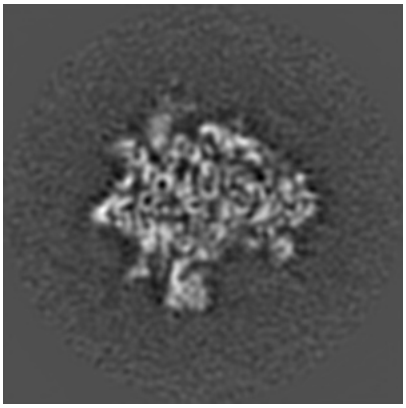
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

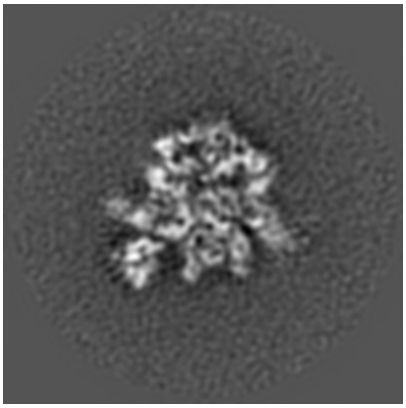
6.3.1 Primary map



X Index: 115



Y Index: 95

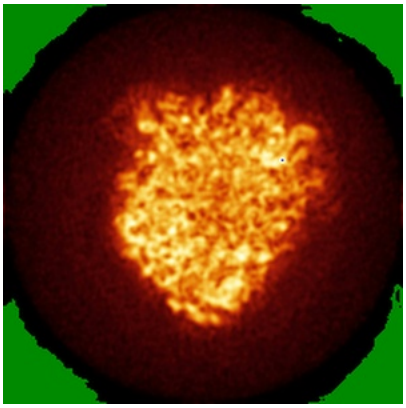


Z Index: 84

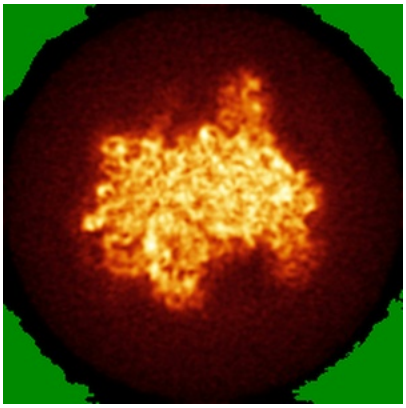
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

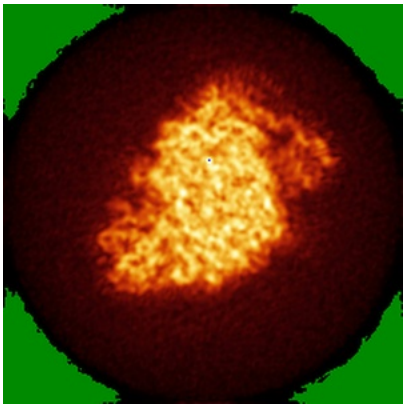
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 35.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

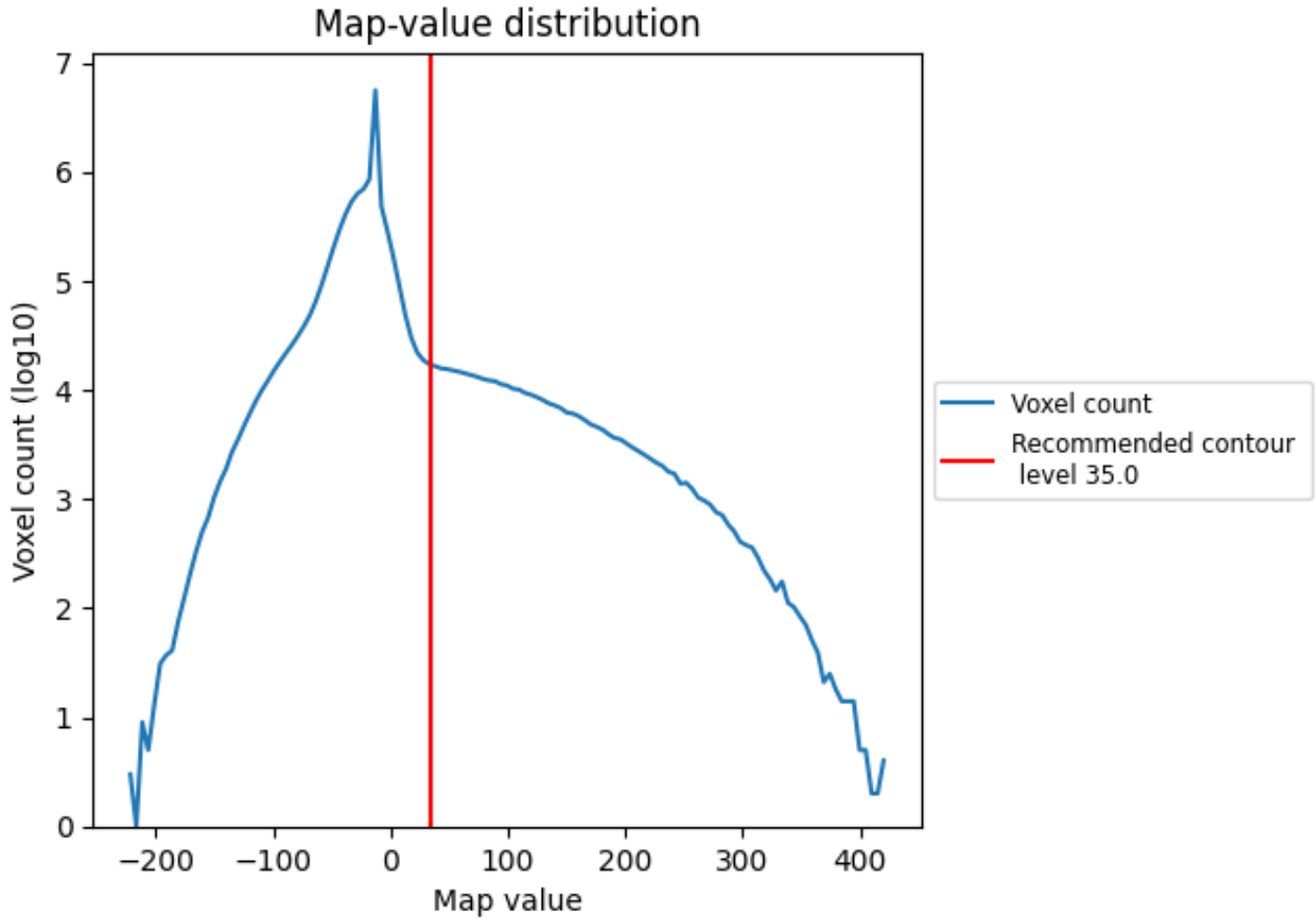
6.6 Mask visualisation (i)

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

7 Map analysis

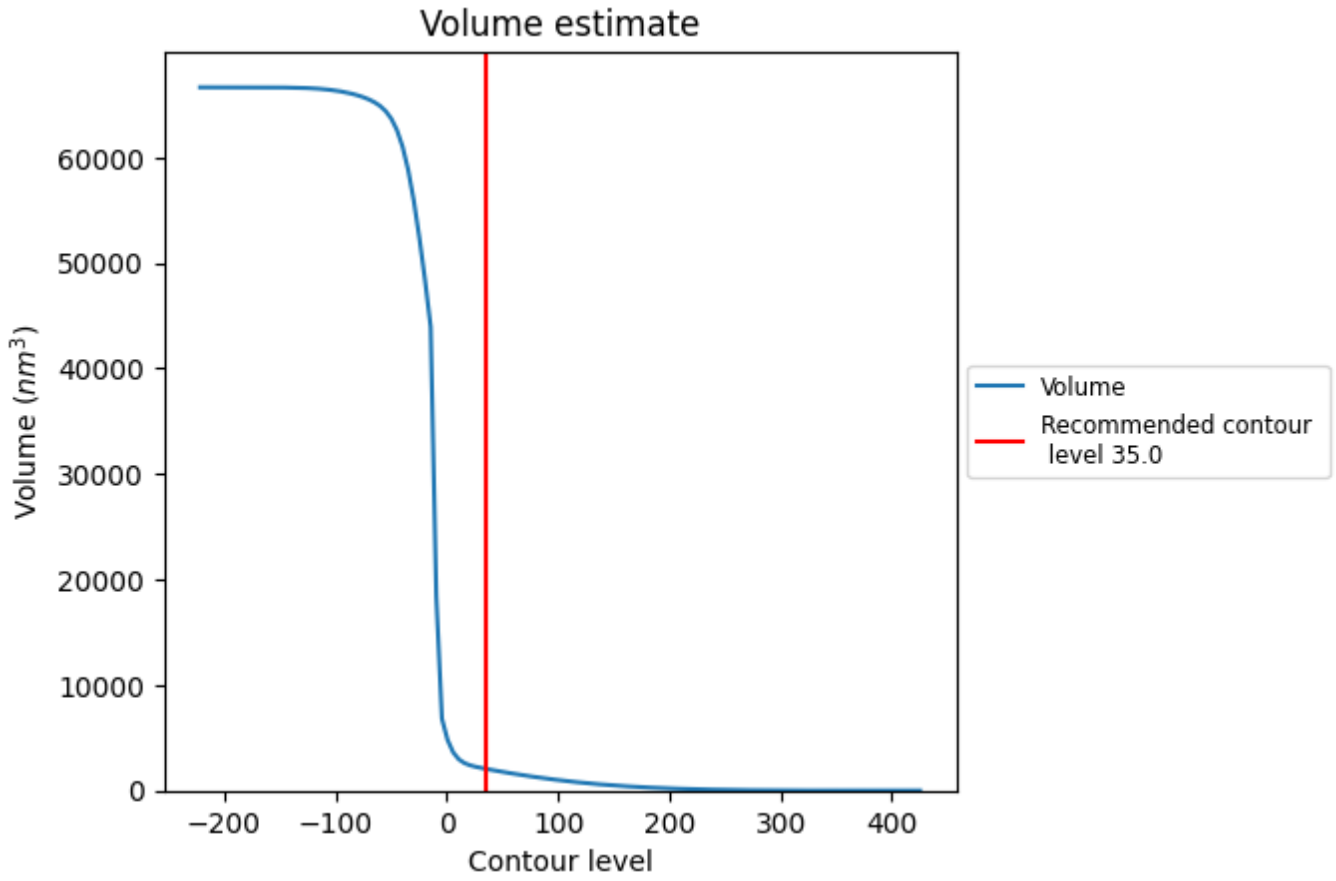
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

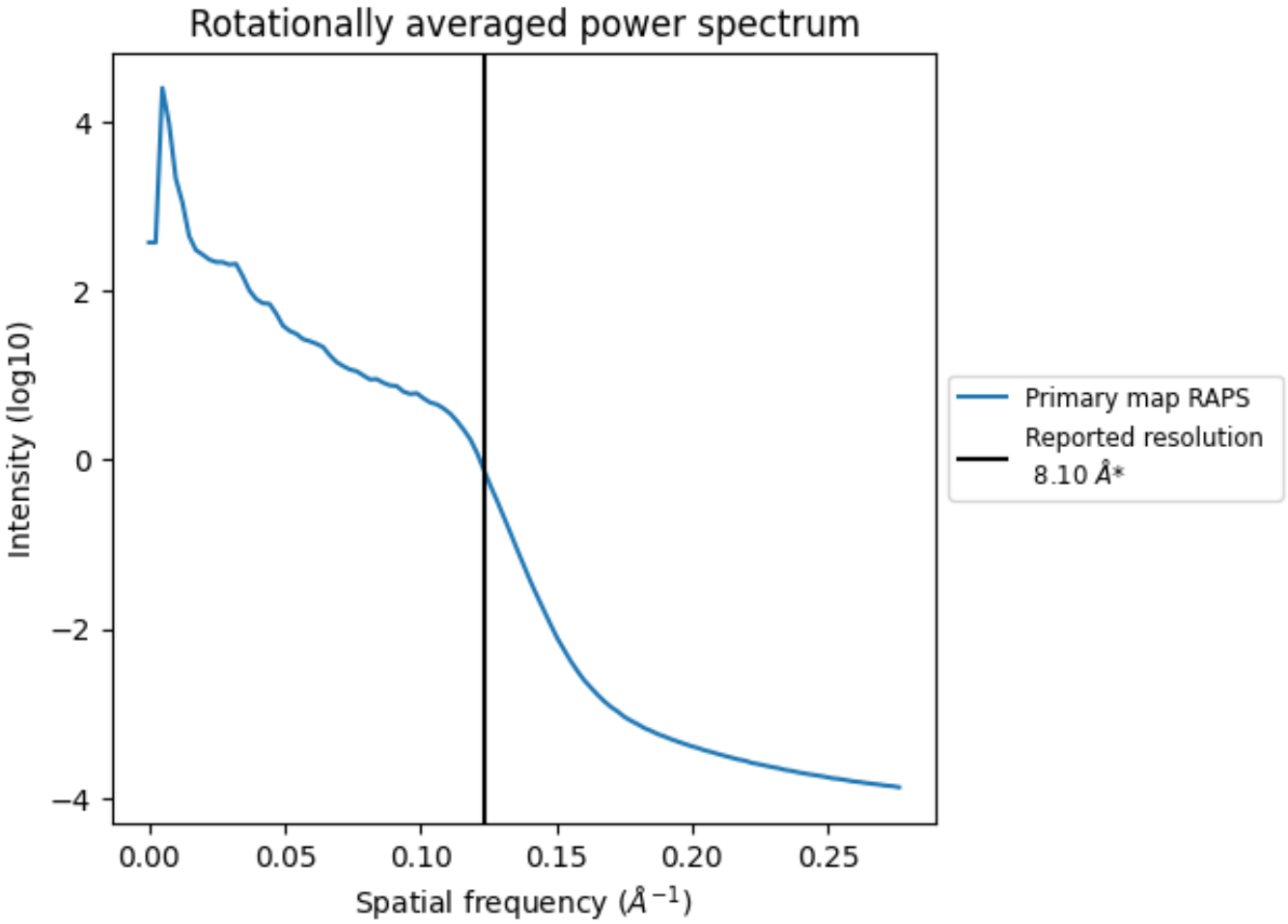
7.2 Volume estimate



The volume at the recommended contour level is 2057 nm^3; this corresponds to an approximate mass of 1858 kDa.

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

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.123 Å^{-1}

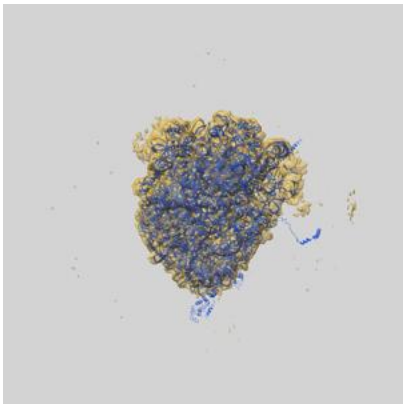
8 Fourier-Shell correlation

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

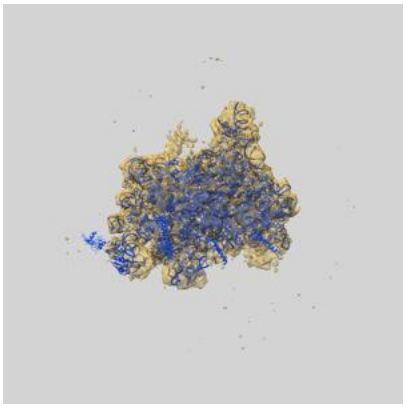
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-2169 and PDB model 4V8T. Per-residue inclusion information can be found in section 3 on page 14.

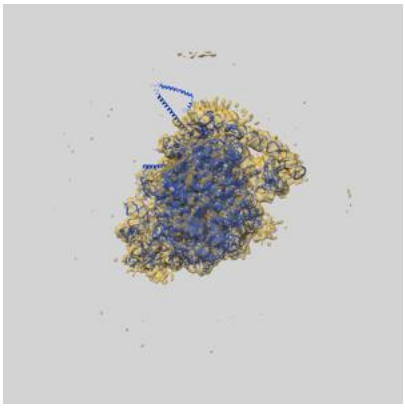
9.1 Map-model overlay



X



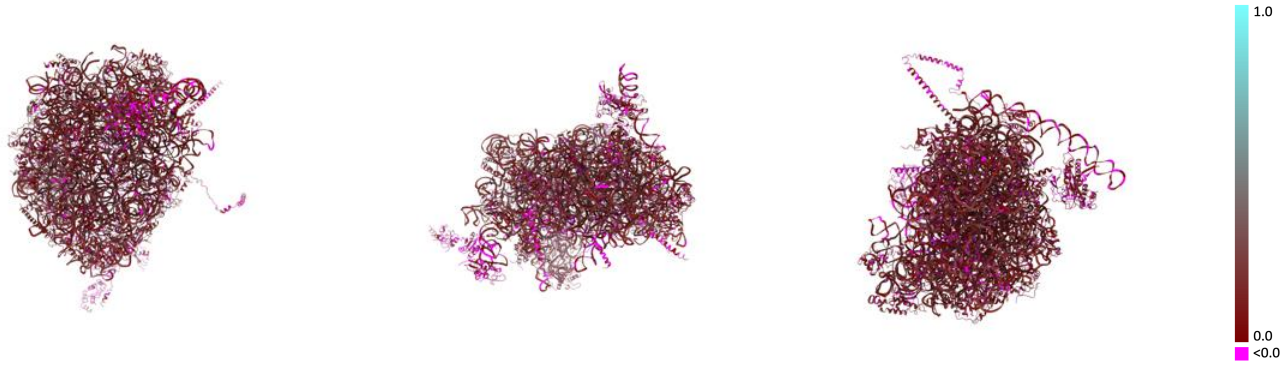
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 35.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

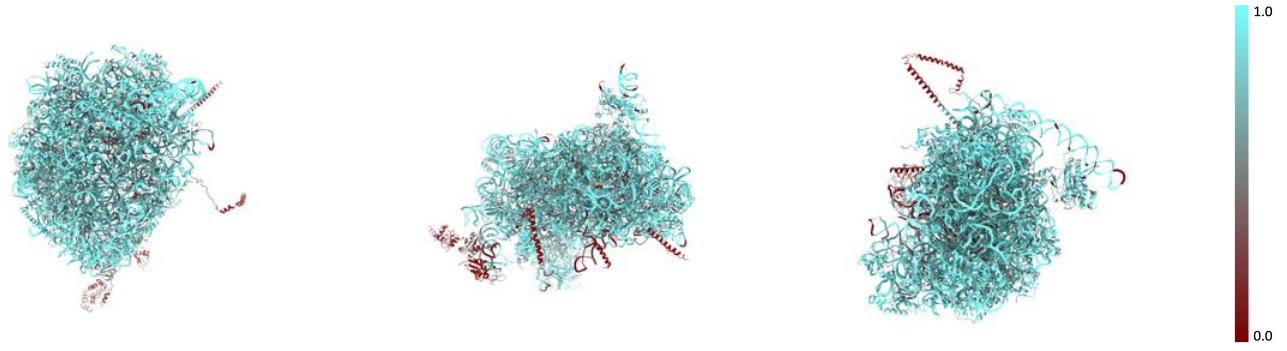
9.2 Q-score mapped to coordinate model



X Y Z

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

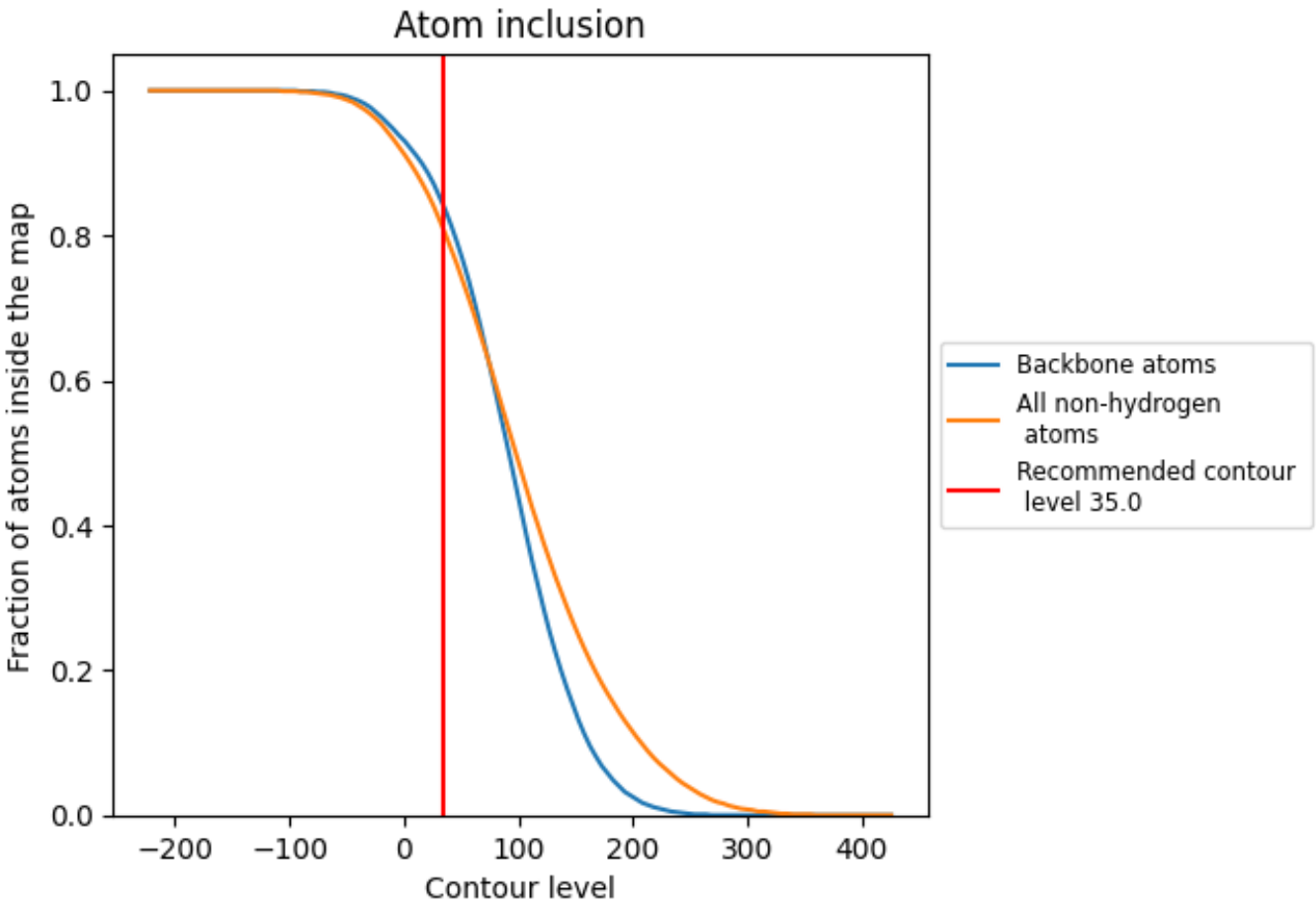
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (35.0).

9.4 Atom inclusion (i)



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

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (35.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8060	0.1350
1	0.9210	0.0730
5	0.8850	0.1540
7	0.9700	0.1670
8	0.9200	0.1690
A	0.5420	0.0710
B	0.7000	0.1060
C	0.7170	0.1120
D	0.8100	0.1160
E	0.8080	0.1310
F	0.7420	0.1380
G	0.8230	0.1300
H	0.8120	0.1290
I	0.6820	0.0940
J	0.8520	0.1170
K	0.1310	0.0320
L	0.7830	0.1380
M	0.8550	0.1500
N	0.5560	0.0810
O	0.7690	0.1420
P	0.6700	0.1020
Q	0.6930	0.1130
R	0.5720	0.1050
S	0.7620	0.1180
T	0.7100	0.1150
U	0.7660	0.1080
V	0.6610	0.1040
W	0.3990	0.0710
X	0.7100	0.1280
Y	0.7650	0.1130
Z	0.7740	0.1330
a	0.6720	0.1030
b	0.6130	0.1190
c	0.7960	0.1400
d	0.7210	0.1200

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Chain	Atom inclusion	Q-score
e	0.6100	0.1120
f	0.7350	0.1050
g	0.5900	0.0950
h	0.7940	0.1410
i	0.7570	0.1360
j	0.6720	0.0960
k	0.8340	0.1360
l	0.5300	0.1020
m	0.7150	0.1130
n	0.0000	-0.0490
o	0.6250	0.0810
p	0.7700	0.1110
q	0.2200	0.0110
r	0.0000	0.0090
s	0.0000	0.0190
t	0.8060	0.0840