



wwPDB EM Map/Model Validation Report ⓘ

Apr 10, 2016 – 02:53 PM BST

PDB ID : 3JBP
EMDB ID: : EMD-6454
Title : Cryo-electron microscopy reconstruction of the Plasmodium falciparum 80S ribosome bound to E-tRNA
Authors : Sun, M.; Li, W.; Blomqvist, K.; Das, S.; Hashem, Y.; Dvorin, J.D.; Frank, J.
Deposited on : 2015-09-16
Resolution : 6.70 Å(reported)
Based on PDB ID : 3J79, 3J7A

This is a wwPDB EM Map/Model Validation Report for a publicly released PDB/EMDB entry.
For rigid body fitted models, validation errors reported here could stem from errors in the original structure(s) used in the fitting.

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

A user guide is available at

<http://wwpdb.org/validation/2016/EMValidationReportHelp>

MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : trunk27241

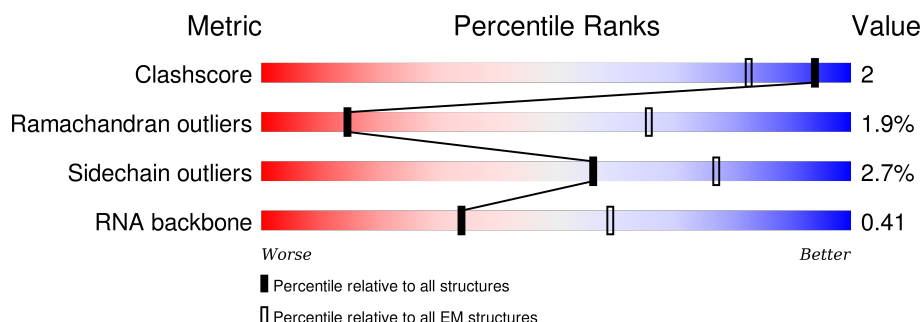
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 6.70 Å.

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













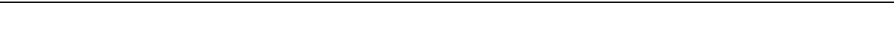

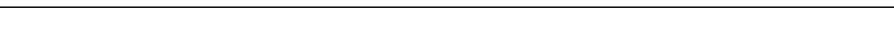
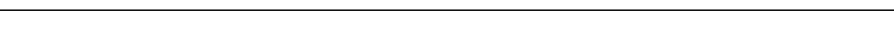











Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	114402	924
Ramachandran outliers	111179	726
Sidechain outliers	111093	686
RNA backbone	3027	244

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	1608	29% 44% 22% 5%
2	7	74	9% 41% 38% 12%
3	D	209	70% . . 25%
4	E	185	88% 11% .
5	G	224	93% 7%
6	I	189	87% 5% . 5%
7	K	129	90% 5% . .
8	M	138	94% 6%

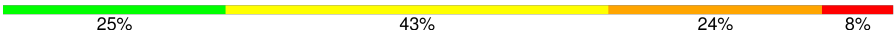
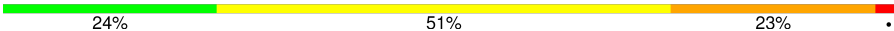
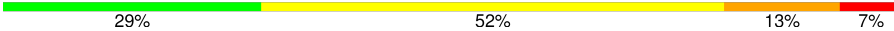








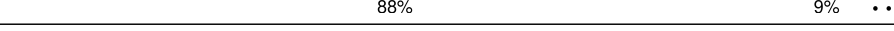




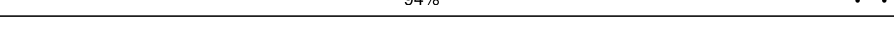

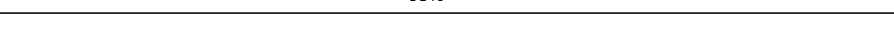
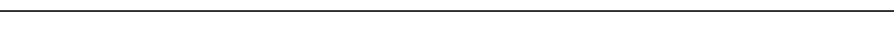

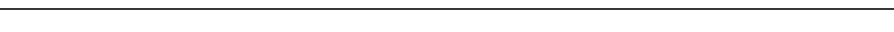
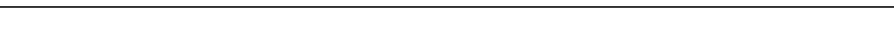


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Mol	Chain	Length	Quality of chain
9	W	108	
10	R	114	
11	O	79	
12	Y	154	
13	Z	72	
14	1	120	
15	2	68	
16	3	95	
17	4	76	
18	5	65	
19	6	43	
20	B	210	
21	F	257	
22	H	214	
23	J	188	
24	L	214	
25	N	98	
26	P	127	
27	Q	144	
28	S	128	
29	T	48	
30	U	149	
31	V	156	
32	X	103	
33	C	195	













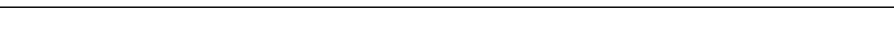



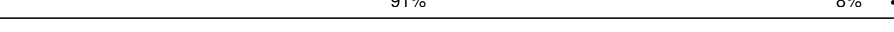


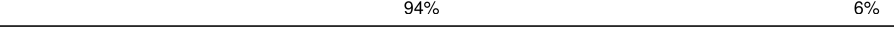
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Mol	Chain	Length	Quality of chain
34	AA	3193	
35	AC	151	
36	AB	118	
37	AL	211	
38	A1	145	
39	A2	118	
40	A4	66	
41	A6	98	
42	A7	102	
43	AN	146	
44	A8	125	
45	A9	103	
46	Aa	106	
47	Ab	105	
48	Ad	76	
49	Ae	50	
50	Af	51	
51	AP	204	
52	Ah	85	
53	Ai	95	
54	AI	213	
55	AJ	244	
56	Ac	89	
57	AK	201	
58	AM	132	

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Mol	Chain	Length	Quality of chain
59	AS	186	 86% 12% .
60	AO	147	 89% 10% .
61	AQ	205	 80% 11% . 8%
62	AR	289	 77% 9% . 13%
63	AW	170	 88% 9% .
64	AY	101	 94% 5% .
65	AT	181	 91% 8% ..
66	AZ	121	 93% 5% .
67	A3	119	 92% 8% .
68	A5	223	 86% 11% .
69	AD	247	 89% 9% ..
70	AE	380	 89% 10% .
71	AF	390	 92% 7% .
72	AG	159	 70% 6% . 22%
73	AU	180	 88% 7% . .
74	AH	185	 91% 8% .
75	AV	155	 89% 10% .
76	Ag	37	 76% 16% 8%
77	AX	97	 94% 6%
78	A0	62	 92% 6% .

2 Entry composition

There are 78 unique types of molecules in this entry. The entry contains 193012 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 RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1608	Total	C	N	O	P	0	0
			34207	15346	6106	11169	1586		

- Molecule 2 is a RNA chain called E-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	7	74	Total	C	N	O	P	0	0
			1571	702	275	521	73		

- Molecule 3 is a protein called 40S ribosomal protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	157	Total	C	N	O	S	0	0
			1229	782	225	215	7		

- Molecule 4 is a protein called 40S ribosomal protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	185	Total	C	N	O	S	0	0
			1515	962	290	261	2		

- Molecule 5 is a protein called 40S ribosomal protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	G	224	Total	C	N	O	S	0	0
			1758	1132	307	310	9		

- Molecule 6 is a protein called 40S ribosomal protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	I	180	Total	C	N	O	S	0	0
			1424	893	263	258	10		

- Molecule 7 is a protein called 40S ribosomal protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	K	129	Total	C	N	O	S	0	0
			1037	665	189	178	5		

- Molecule 8 is a protein called 40S ribosomal protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	M	138	Total	C	N	O	S	0	0
			1099	704	200	194	1		

- Molecule 9 is a protein called 40S ribosomal protein eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	W	95	Total	C	N	O	S	0	0
			786	498	149	136	3		

- Molecule 10 is a protein called 40S ribosomal protein eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	R	98	Total	C	N	O	S	0	0
			747	474	123	146	4		

- Molecule 11 is a protein called 40S ribosomal protein eS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	O	79	Total	C	N	O	S	0	0
			687	450	116	119	2		

- Molecule 12 is a protein called 40S ribosomal protein eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	Y	154	Total	C	N	O	S	0	0
			1267	811	239	215	2		

- Molecule 13 is a protein called 40S ribosomal protein eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	Z	72	Total	C	N	O	S	0	0
			557	346	102	105	4		

- Molecule 14 is a protein called 40S ribosomal protein eS24.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	1	120	Total	C	N	O	S	0	0
			986	632	189	163	2		

- Molecule 15 is a protein called 40S ribosomal protein eS25.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	2	41	Total	C	N	O	0	0
			321	208	56	57		

- Molecule 16 is a protein called 40S ribosomal protein eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	3	95	Total	C	N	O	S	0	0
			782	478	169	129	6		

- Molecule 17 is a protein called 40S ribosomal protein eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	4	76	Total	C	N	O	S	0	0
			586	368	102	107	9		

- Molecule 18 is a protein called 40S ribosomal protein eS28.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	5	58	Total	C	N	O	0	0
			458	285	93	80		

- Molecule 19 is a protein called 40S ribosomal protein eS30.

Mol	Chain	Residues	Atoms				AltConf	Trace
19	6	43	Total	C	N	O	0	0
			346	213	75	58		

- Molecule 20 is a protein called 40S ribosomal protein eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	B	210	Total	C	N	O	S	0	0
			1714	1097	301	304	12		

- Molecule 21 is a protein called 40S ribosomal protein eS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	F	257	Total	C	N	O	S	0	0
			2062	1320	377	357	8		

- Molecule 22 is a protein called 40S ribosomal protein eS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	H	204	Total	C	N	O	S	0	0
			1648	1045	313	284	6		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	158	ILE	-	INSERTION	UNP Q8IDR9
H	195	ASP	GLU	CONFLICT	UNP Q8IDR9

- Molecule 23 is a protein called 40S ribosomal protein eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	J	188	Total	C	N	O	S	0	0
			1529	982	264	279	4		

- Molecule 24 is a protein called 40S ribosomal protein eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	L	171	Total	C	N	O	S	0	0
			1383	872	264	243	4		

- Molecule 25 is a protein called 40S ribosomal protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	N	98	Total	C	N	O	S	0	0
			772	484	135	148	5		

- Molecule 26 is a protein called 40S ribosomal protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	P	127	Total	C	N	O	S	0	0
			954	591	184	176	3		

- Molecule 27 is a protein called 40S ribosomal protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Q	144	Total	C	N	O	S	0	0
			1129	712	222	193	2		

- Molecule 28 is a protein called 40S ribosomal protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	S	128	Total	C	N	O	S	0	0
			1047	657	205	181	4		

- Molecule 29 is a protein called 40S ribosomal protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	T	48	Total	C	N	O	S	0	0
			405	252	85	64	4		

- Molecule 30 is a protein called 40S ribosomal protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	U	149	Total	C	N	O	S	0	0
			1202	769	220	210	3		

- Molecule 31 is a protein called 40S ribosomal protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	V	146	Total	C	N	O	S	0	0
			1206	772	227	200	7		

- Molecule 32 is a protein called 40S ribosomal protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	X	96	Total	C	N	O	S	0	0
			777	497	137	139	4		

- Molecule 33 is a protein called 40S ribosomal protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	C	195	Total	C	N	O	S	0	0
			1539	990	266	274	9		

- Molecule 34 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	AA	3193	Total	C	N	O	P	0	0
			67884	30446	12054	22223	3161		

- Molecule 35 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	AC	151	Total	C	N	O	P	0	0
			3215	1444	589	1034	148		

- Molecule 36 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	AB	118	Total	C	N	O	P	0	0
			2522	1128	461	816	117		

- Molecule 37 is a protein called 60S ribosomal protein eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	AL	211	Total	C	N	O	S	0	0
			1757	1116	346	291	4		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AL	19	HIS	ARG	CONFLICT	UNP Q8IAX6
AL	20	ARG	HIS	CONFLICT	UNP Q8IAX6
AL	201	CYS	ARG	CONFLICT	UNP Q8IAX6

- Molecule 38 is a protein called 60S ribosomal protein eL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	A1	140	Total	C	N	O	S	0	0
			1134	736	204	191	3		

- Molecule 39 is a protein called 60S ribosomal protein eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	A2	104	Total	C	N	O	S	0	0
			831	529	151	148	3		

- Molecule 40 is a protein called 60S ribosomal protein eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	A4	66	Total	C	N	O	S	0	0
			555	347	116	90	2		

- Molecule 41 is a protein called 60S ribosomal protein eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	A6	98	Total	C	N	O	S	0	0
			741	462	132	140	7		

- Molecule 42 is a protein called 60S ribosomal protein eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	A7	96	Total	C	N	O	S	0	0
			794	508	151	130	5		

- Molecule 43 is a protein called 60S ribosomal protein eL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	AN	146	Total	C	N	O	S	0	0
			1202	781	210	205	6		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AN	?	-	LYS	DELETION	UNP Q8ILE8

- Molecule 44 is a protein called 60S ribosomal protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	A8	125	Total	C	N	O	S	0	0
			1037	660	206	164	7		

- Molecule 45 is a protein called 60S ribosomal protein eL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	A9	103	Total	C	N	O	S	0	0
			845	543	163	136	3		

- Molecule 46 is a protein called 60S ribosomal protein eL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Aa	106	Total	C	N	O	S	0	0
			859	530	184	139	6		

- Molecule 47 is a protein called 60S ribosomal protein eL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Ab	95	Total	C	N	O	S	0	0
			757	477	150	130			

- Molecule 48 is a protein called 60S ribosomal protein eL38.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Ad	72	Total	C	N	O	S	0	0
			604	395	107	100	2		

- Molecule 49 is a protein called 60S ribosomal protein eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	Ae	43	Total	C	N	O	S	0	0
			388	243	92	52	1		

- Molecule 50 is a protein called 60S ribosomal protein eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	Af	51	Total	C	N	O	S	0	0
			414	255	87	67	5		

- Molecule 51 is a protein called 60S ribosomal protein eL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	AP	204	Total	C	N	O	S	0	0
			1697	1075	351	267	4		

- Molecule 52 is a protein called 60S ribosomal protein eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	Ah	85	Total	C	N	O	S	0	0
			659	417	127	108	7		

- Molecule 53 is a protein called 60S ribosomal protein eL44.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	Ai	95	Total	C	N	O	S	0	0
			779	490	152	128	9		

- Molecule 54 is a protein called 60S ribosomal protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	AI	207	Total	C	N	O	S	0	0
			1685	1096	298	286	5		

- Molecule 55 is a protein called 60S ribosomal protein eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	AJ	222	Total	C	N	O	S	0	0
			1813	1174	323	309	7		

- Molecule 56 is a protein called 60S ribosomal protein eL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	Ac	89	Total	C	N	O	S	0	0
			710	441	150	114	5		

- Molecule 57 is a protein called 60S ribosomal protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	AK	201	Total	C	N	O	S	0	0
			1660	1064	311	277	8		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AK	109	ALA	TYR	CONFLICT	UNP Q8IJZ7

- Molecule 58 is a protein called 60S ribosomal protein uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	AM	132	Total	C	N	O	S	0	0
			996	631	179	178	8		

- Molecule 59 is a protein called 60S ribosomal protein eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	AS	186	Total	C	N	O	S	0	0
			1503	958	299	241	5		

- Molecule 60 is a protein called 60S ribosomal protein uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	AO	147	Total	C	N	O	S	0	0
			1172	747	232	189	4		

- Molecule 61 is a protein called 60S ribosomal protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	AQ	189	Total	C	N	O	S	0	0
			1545	984	291	262	8		

- Molecule 62 is a protein called 60S ribosomal protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	AR	252	Total	C	N	O	S	0	0
			2050	1300	385	359	6		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AR	?	-	LYS	DELETION	UNP Q8ILL3

- Molecule 63 is a protein called 60S ribosomal protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	AW	170	Total	C	N	O	S	0	0
			1319	824	266	222	7		

- Molecule 64 is a protein called 60S ribosomal protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	AY	101	Total	C	N	O	S	0	0
			797	502	144	145	6		

- Molecule 65 is a protein called 60S ribosomal protein eL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	AT	181	Total	C	N	O	S	0	0
			1509	952	309	244	4		

- Molecule 66 is a protein called 60S ribosomal protein uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	AZ	121	Total	C	N	O	S	0	0
			1001	626	206	166	3		

- Molecule 67 is a protein called 60S ribosomal protein uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	A3	119	Total	C	N	O	S	0	0
			995	635	194	164	2		

- Molecule 68 is a protein called 60S ribosomal protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	A5	223	Total	C	N	O	S	0	0
			1879	1211	357	306	5		

- Molecule 69 is a protein called 60S ribosomal protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	AD	247	Total	C	N	O	S	0	0
			1867	1166	374	318	9		

- Molecule 70 is a protein called 60S ribosomal protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	AE	380	Total	C	N	O	S	0	0
			3062	1948	575	522	17		

- Molecule 71 is a protein called 60S ribosomal protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	AF	390	Total	C	N	O	S	0	0
			3095	1962	594	528	11		

- Molecule 72 is a protein called 60S ribosomal protein uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	AG	124	Total	C	N	O	S	0	0
			1011	636	197	172	6		

- Molecule 73 is a protein called 60S ribosomal protein eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	AU	180	Total	C	N	O	S	0	0
			1497	946	289	255	7		

- Molecule 74 is a protein called 60S ribosomal protein uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	AH	185	Total	C	N	O	S	0	0
			1476	950	264	256	6		

- Molecule 75 is a protein called 60S ribosomal protein eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	AV	155	Total	C	N	O	S	0	0
			1276	814	241	215	6		

- Molecule 76 is a protein called 60S ribosomal protein eL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Ag	37	Total	C	N	O	S	0	0
			343	210	86	45	2		

- Molecule 77 is a protein called 60S ribosomal protein eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	AX	97	Total	C	N	O	S	0	0
			825	548	135	140	2		

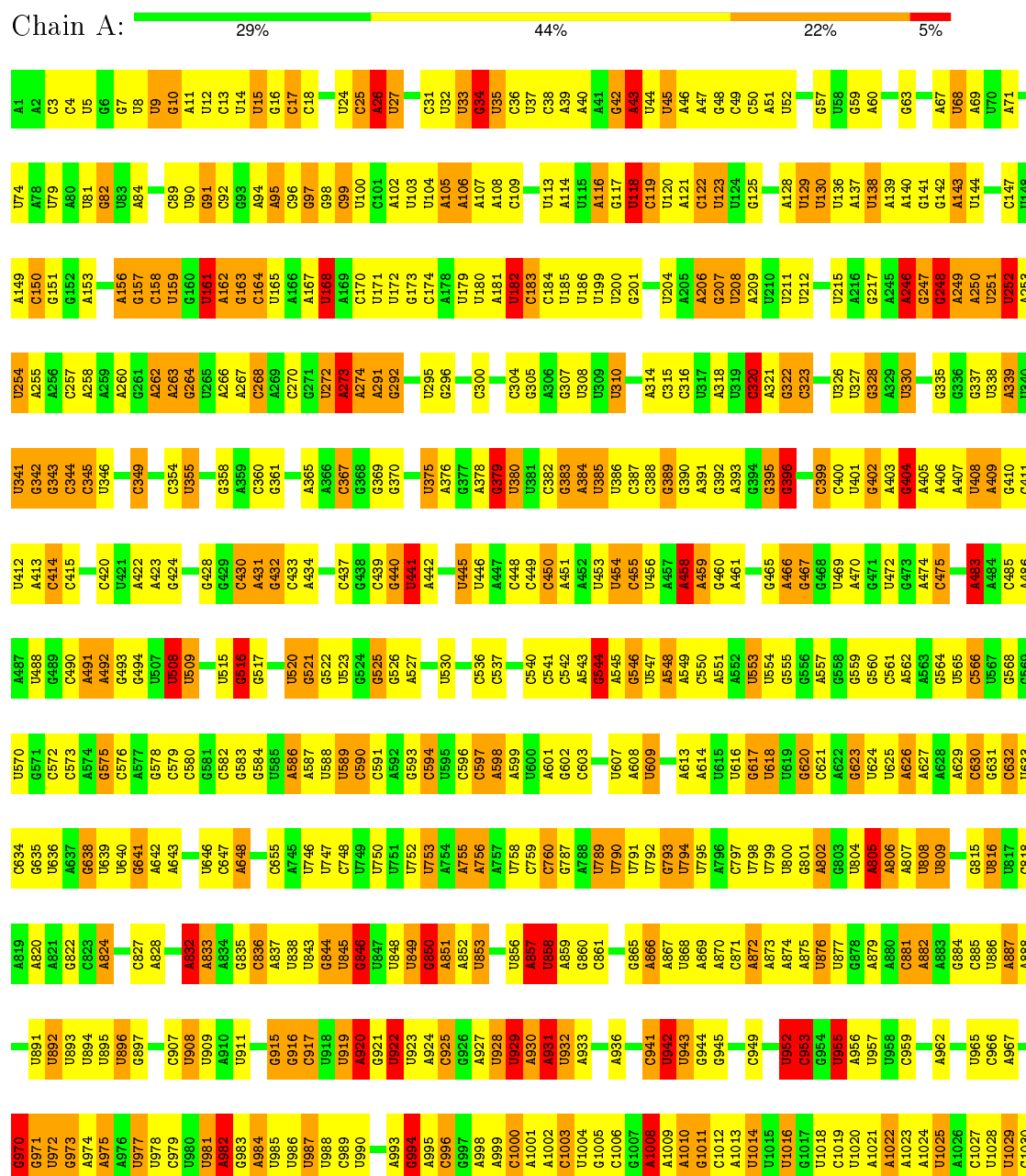
- Molecule 78 is a protein called 60S ribosomal protein eL24.

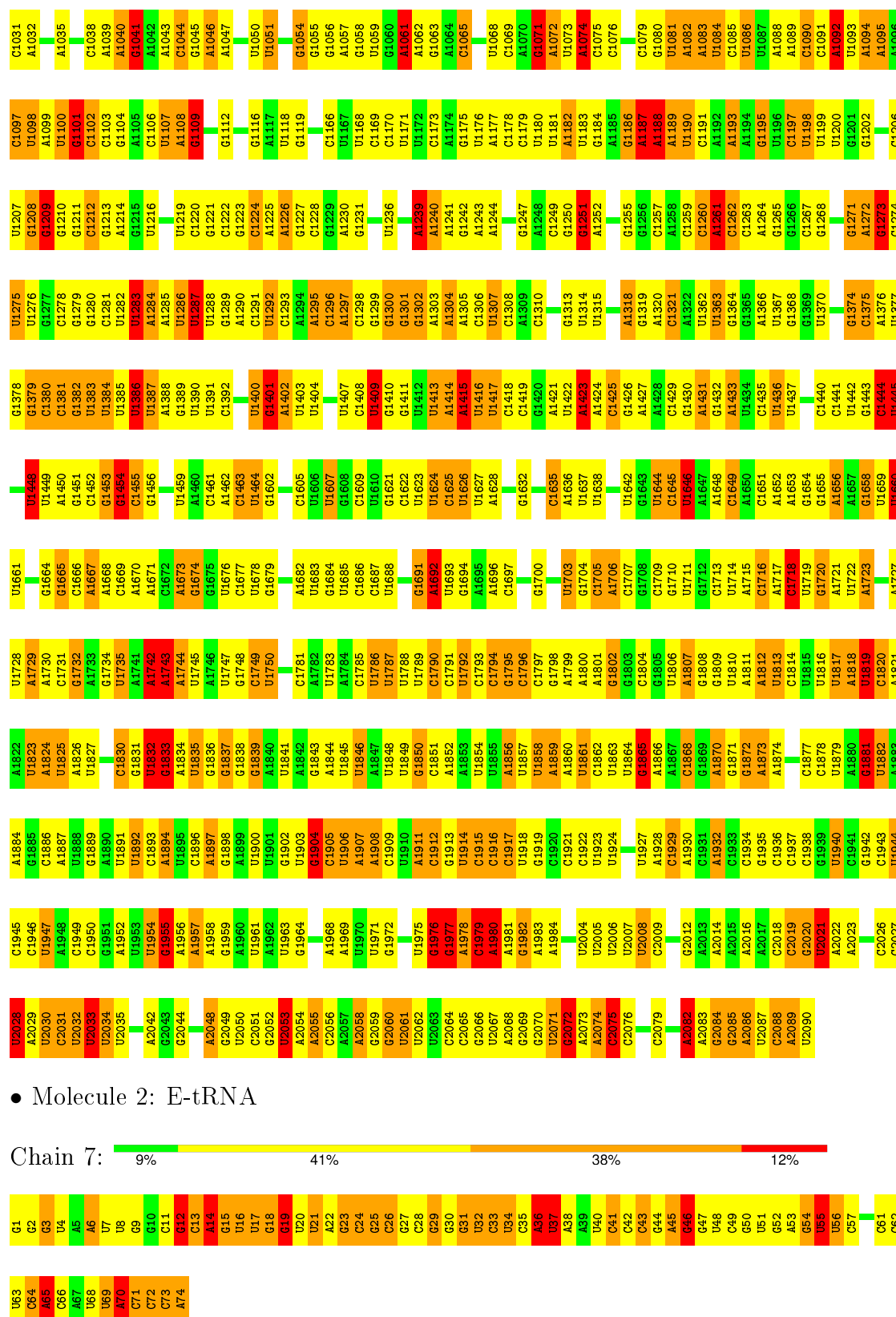
Mol	Chain	Residues	Atoms					AltConf	Trace
78	A0	62	Total	C	N	O	S	0	0
			522	336	97	88	1		

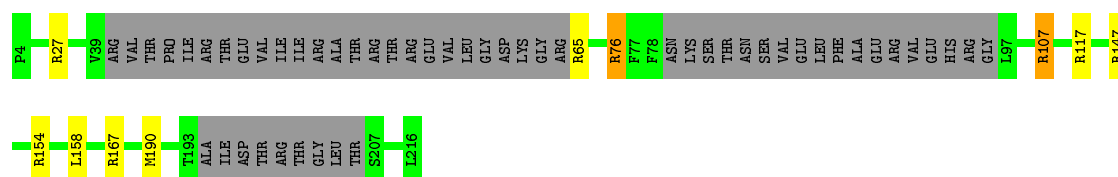
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. 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. 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: 18S ribosomal RNA







- Molecule 4: 40S ribosomal protein uS4

Chain E: 88% 11%



- Molecule 5: 40S ribosomal protein uS5

Chain G: 93% 7%



- Molecule 6: 40S ribosomal protein uS7

Chain I: 87% 5% 5%



- Molecule 7: 40S ribosomal protein uS8

Chain K: 90% 5% 5%



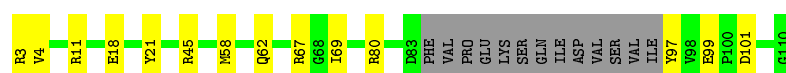
- Molecule 8: 40S ribosomal protein uS9

Chain M: 94% 6%



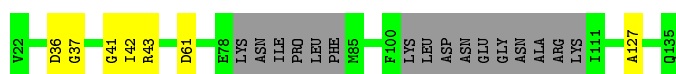
- Molecule 9: 40S ribosomal protein eS17

Chain W: 75% 13% 12%

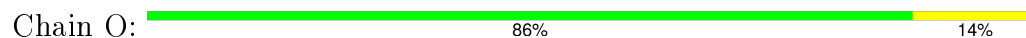


- Molecule 10: 40S ribosomal protein eS12

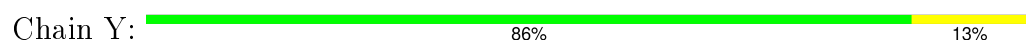
Chain R: 80% 6% 14%



- Molecule 11: 40S ribosomal protein eS10



- Molecule 12: 40S ribosomal protein eS19



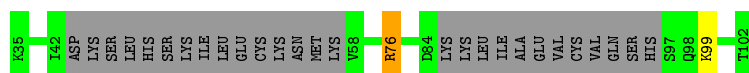
- Molecule 13: 40S ribosomal protein eS21



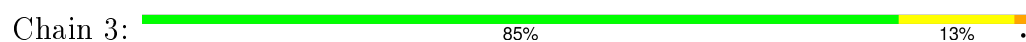
- Molecule 14: 40S ribosomal protein eS24



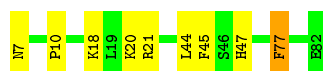
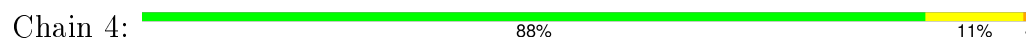
- Molecule 15: 40S ribosomal protein eS25



- Molecule 16: 40S ribosomal protein eS26

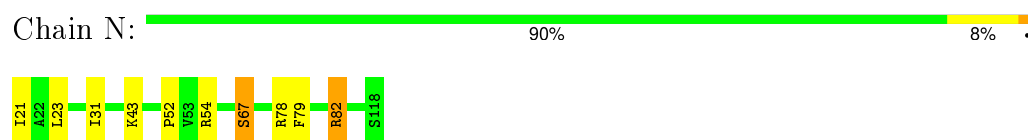


- Molecule 17: 40S ribosomal protein eS27

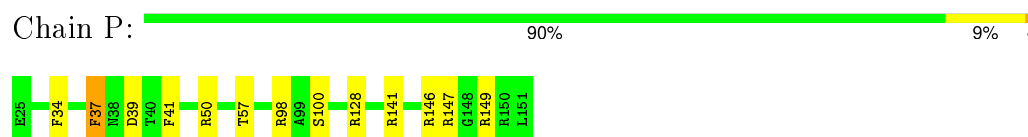


- | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|-----|-----|------|------|------|
| ASP | GLU | THR | THR | LYS | THR | TYR | GLY | VAL | ILE | LYS | LYS | I162 | I168 | D169 | F176 | R188 | E201 | G202 | R210 | D213 | LYS | LYS | K216 | K217 | N218 |
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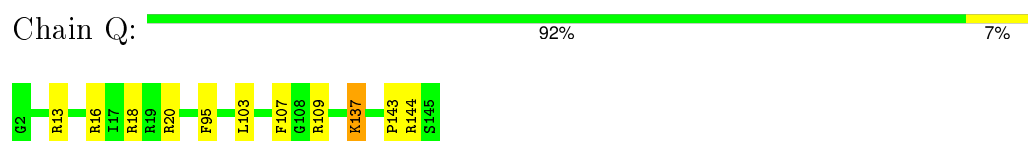
- Molecule 25: 40S ribosomal protein uS10



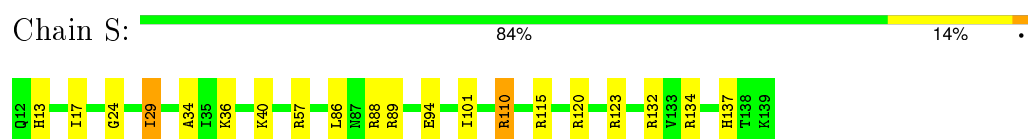
- Molecule 26: 40S ribosomal protein uS11



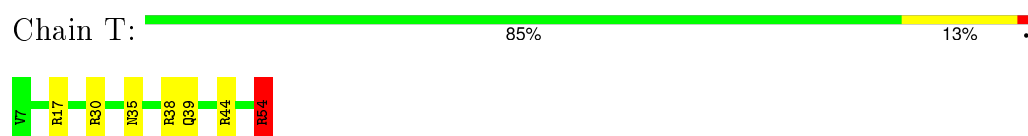
- Molecule 27: 40S ribosomal protein uS12



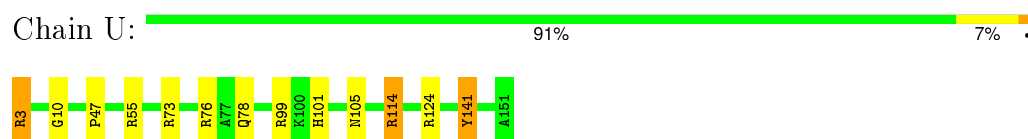
- Molecule 28: 40S ribosomal protein uS13



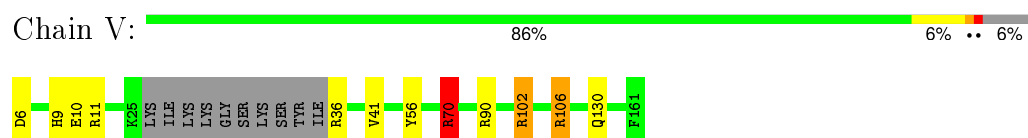
- Molecule 29: 40S ribosomal protein uS14




- Molecule 30: 40S ribosomal protein uS15

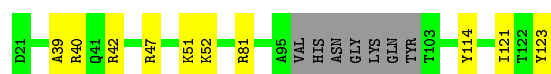


- Molecule 31: 40S ribosomal protein uS17




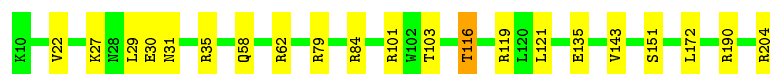
- Molecule 32: 40S ribosomal protein uS19

Chain X:  83% 10% 7%



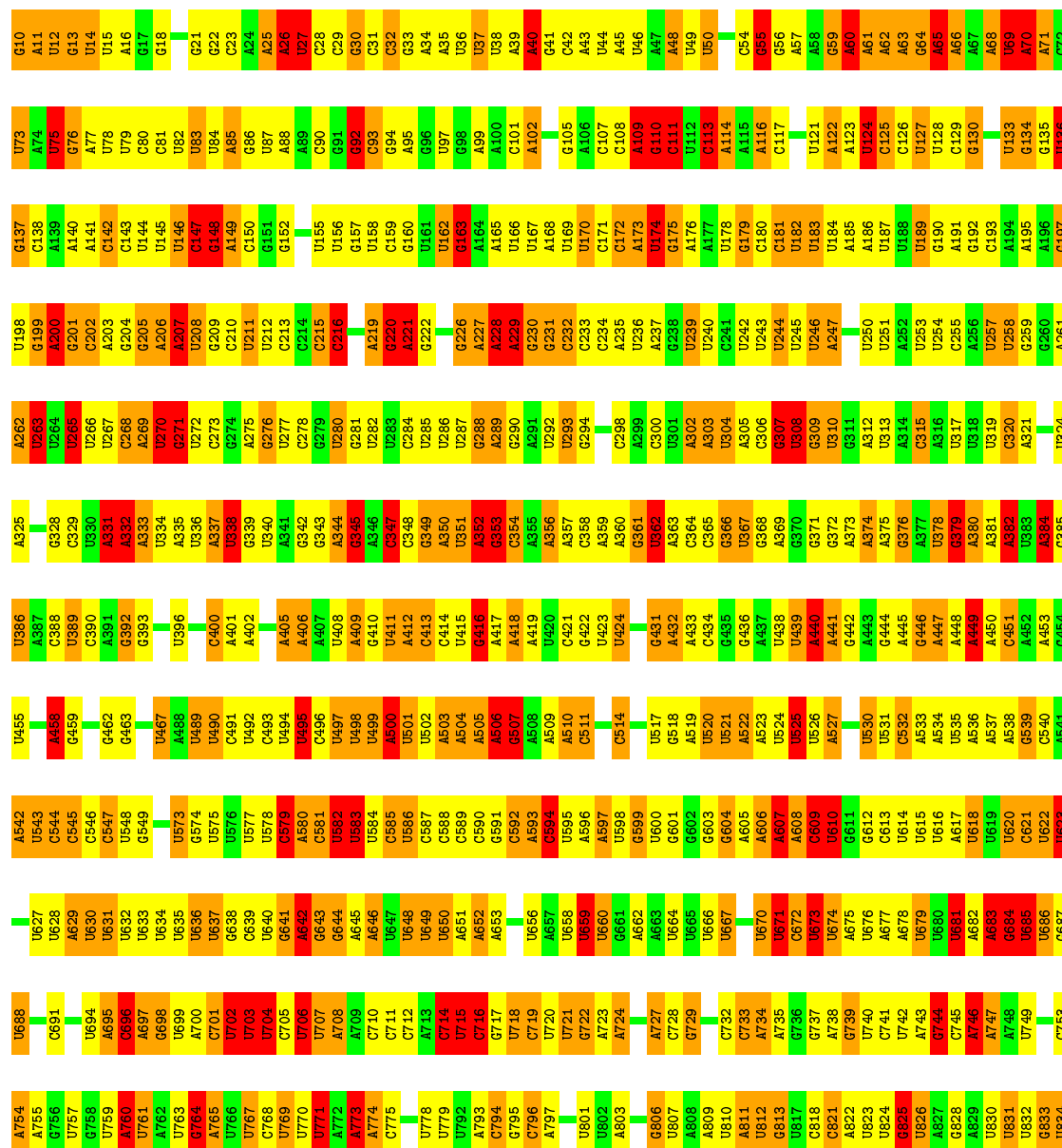
- Molecule 33: 40S ribosomal protein uS2

Chain C:  89% 10% 1%



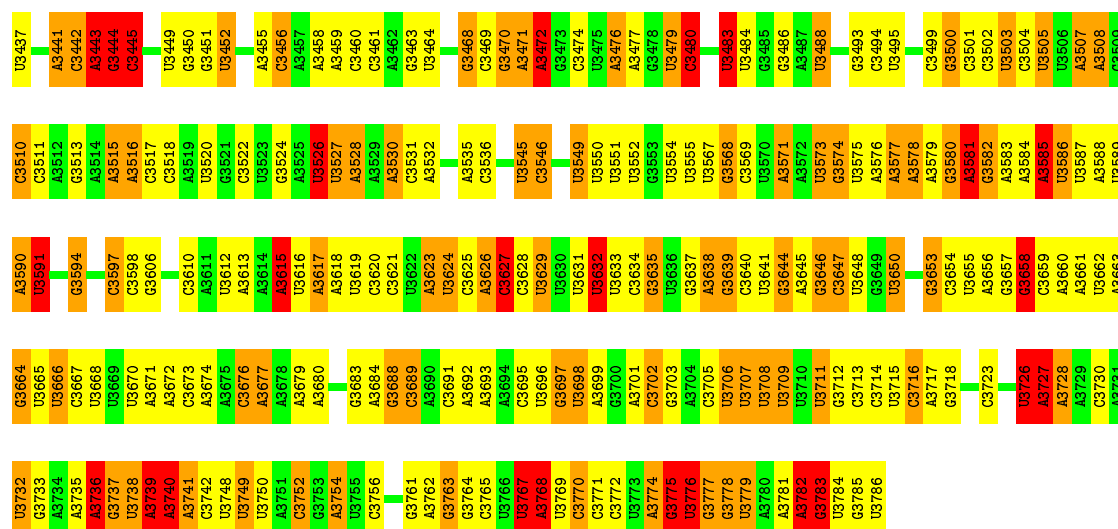
- Molecule 34: 28S ribosomal RNA

Chain AA:  25% 43% 24% 8%

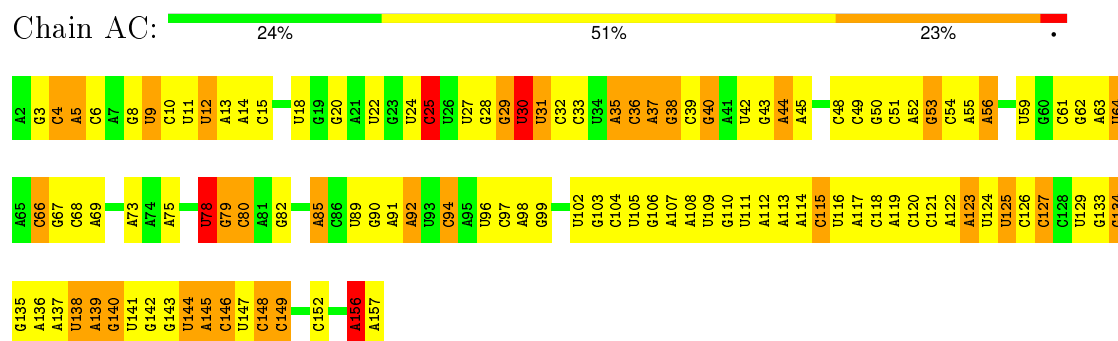


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A1975	U1868	A1663	G1734	A1664	A1595	U1524	G1449	G1320	G1254	G1193	A1114	C1050	G986	C923	C887
A1976	C1804	A1664	G1735	A1665	A1596	C1525	G1450	A1321	G1255	G1194	G1115	U987	U987	G924	C888
U1977	A1871	A1665	A1736	A1666	U1597	G1526	A1451	U1324	A1256	A1196	U1116	U1053	G988	A925	C889
U1978	A1872	A1666	A1737	A1667	A1598	G1529	U1452	C1325	A1257	A1197	U1117	U1054	A989	A926	A860
U1979	C1807	A1667	A1738	A1668	G1599	G1530	U1453	C1326	A1258	U1198	A1118	A1055	U990	A927	C861
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U1981	U1809	A1669	A1740	A1670	A1601	U1534	A1456	A1328	G1260	A1120	G1120	U1057	G992	G929	
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U1983	A1813	G1673	U1743	G1674	G1603	G1535	A1458	A1330	A1264	C1202	U1123	G1060	G994	U932	G866
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U1986	G1816	G1677	U1746	G1678	U1607	U1538	C1461	A1333		U1205	U1126	A1063	G998	A935	
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C2014	C1834	A1695	U1765	A1631	A1631	C1561	A1486	A1418	C1288	U1223	A1159	A1081	U1017	G954	U892
C2015	U1835	A1696	U1766	G1632	G1632	C1561	U1487	A1419	G1289	U1224	C1160	G1082	A1018	A955	U893
U2016	U1836	A1697	U1767	G1633	G1633	G1564	U1488	C1420	C1290	A1225	C1161	G1083	A1019	A956	U894
U2017	U1837	A1698	G1770	G1634	G1634	G1564	U1494	U1422	U1291	A1226		A1084	C1020	G957	U896
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C2074	A1868		C1728	U1656	U1656	G1589	G1516	U1445	C1313	A1248	A1186	U1108	U1042	A980	A917
U2075	U1970		A1729	U1657	U1657	G1590	U1517	A1444	G1314	U1249	A1187	U1109	G1043	U981	G918
U2076	U1971		U1730	U1658	U1658	U1591	A1518	A1445	C1315	U1250	A1188	U1110	C982	G982	G919
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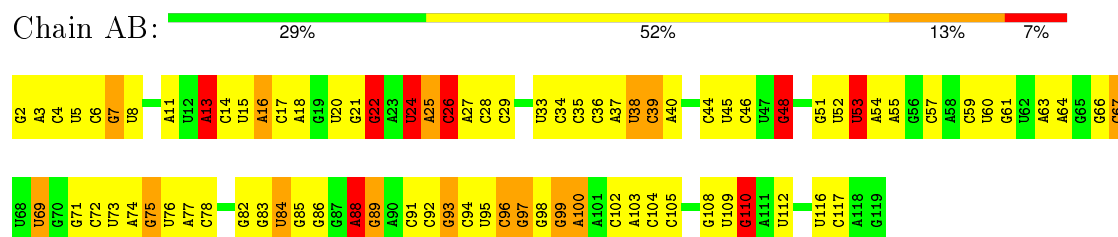
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A3377	G3306	C3244	A3176	U3113	U3050	A2981	A2838	U2709	U2644	U2576	U2510	U2446	A2154	U2084
A3378	C3307	U3245	G3114	G3115	U3051	A2982	U2883	U2710	U2644	U2577	G2514	U2449	A2155	C2089
A3379	U3308	A3246	C3180	C3115	U3052	G2983	G2884	U2711	G2647	U2578	A2515	G2450	A2156	U2090
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A3381	C3248	A3249	G3182	A3118	A3054	C2985	A2886	C2713	A2649	C2580	U2517	U2221	U2158	U2092
A3382	U3312	U3312	G3183	A3118	U3055	U2986	U2887	U2714	C2652	U2581	U2518	A2386	A2159	G2093
A3383	U3313	A3118	G3184	A3119	U3056	G2987	U2888	C2715	C2653	U2582	U2519	A2387	U2160	U2094
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G3389	C3319	A3258	G3190	U3125	U3063	A2994	A2920	C2724	C2658	C2589	C2524	C2459	C2099	C2099
U3390	G3320	G3259	G3191	A3126	U3064	U2995	U2925	U2725	C2659	U2590	A2525	U2395	G2167	A2102
G3391	U3321	G3260	A3127	A3127	C3065	A2996	A2926	U2727	A2660	U2591	A2526	A2461	A2168	C2103
A3392	C3322	A3261	G3193	A3128	A3066	G2997	U2927	G2728	A2661	A2592	C2527	C2463	G2170	C2104
C3393	G3323	C3262	C3194	U3129	G3067	A2998	U2928	U2730	G2662	U2593	C2528	G2464	U2171	A2105
A3394	U3324	G3263	C3195	U3130	A3068	C2999	U2929	G2731	G2663	U2594	G2529	G2465	C2172	A2106
G3395	G3325	A3264	A3131	A3069	A3070	A3001	A2932	G2732	G2664	G2595	U2595	U2466	G2173	C2107
A3396	C3326	C3265	G3198	C3070	C3071	G3002	A2933	U2734	A2665	A2596	U2534	A2404	G2174	A2108
U3397	U3327	U3266	C3199	A3072	A3073	G3003	A2934	G2735	A2666	C2597	A2535	A2405	C2175	A2109
A3398	G3328	C3267	G3200	A3134	A3074	C3004	C2938	A2736	C2667	C2598	A2536	U2469	G2177	C2110
C3400	C3329	A3268	C3201	A3135	G3075	U3005	C2939	U2738	G2668	C2599	C2537	C2472	A2178	C2111
A3401	A3330	A3269	U3202	C3136	U3074	C3006	C2939	U2738	G2669	C2600	C2538	C2473	A2179	C2112
A3402	G3331	G3270	C3203	A3137	A3075	C3007	C2940	G2744	G2670	C2601	G2539	C2474	C2180	C2113
A3403	C3332	A3271	G3204	A3138	C3076	A3008	G2942	G2745	U2672	U2603	C2541	U2412	A2181	U2115
A3404	U3333	G3272	U3205	C3139	A3077	A3009	A2943	G2746	U2673	G2604	G2542	A2413	G2182	C2116
U3405	U3334	U3273	C3206	U3140	A3079	A3010	G2944	U2747	U2674	A2605	G2543	G2414	A2183	A2117
U3406	A3335	G3274	G3207	G3141	A3080	C3014	G2945	G2747	G2675	C2606	G2544	G2415	U2184	G2118
G3407	G3336	C3275	C3209	U3142	C3081	A3015	G2946	U2748	C2676	A2607	U2545	G2416	C2185	C2121
G3408	U3337	G3276	A3210	G3143	G3082	A3016	G2947	U2802	C2677	U2608	C2546	U2482	G2186	U2122
U3409	U3338	A3277	G3211	C3144	G3083	A3017	A2948	G2749	U2678	G2609	C2547	U2483	G2187	C2123
U3405	U3339	G3278	G3212	A3145	A3084	A3018	G2949	A2804	U2679	U2611	A2548	U2484	A2188	C2124
C3411	U3340	U3279	U3213	U3146	A3085	A3019	U2950	U2805	U2680	U2612	C2550	U2485	A2189	A2125
G3412	G3412	U3280	C3216	A3147	A3086	U3020	U2951	U2806	U2681	A2613	U2551	C2486	A2190	A2126
A3413	C3343	G3281	C3216	U3148	A3087	C3021	G2952	U2807	C2682	A2614	U2552	U2487	C2191	G2127
A3414	C3344	U3282	U3219	A3149	G3088	U3022	G2953	U2808	A2683	C2615	U2553	U2488	U2192	G2128
A3415	U3345	G3283	G3219	G3153	G3089	C3023	A2954	A2809	A2684	C2616	G2554	C2489	A2424	C2131
G3416	C3347	A3284	U3221	U3154	U3091	U3024	C2955	A2810	G2685	C2617	A2555	U2490	A2198	C2132
G3417	U3348	G3285	G3222	G3155	G3092	U3025	U2956	A2811	C2686	G2618	A2556	U2491	A2199	A2134
U3419	A3350	C3286	C3222	C3156	G3093	G3026	G2957	G2812	U2689	U2621	C2557	U2492	A2200	C2135
U3420	U3351	C3287	C3225	U3157	C3094	U3027	G2958	U2813	G2689	C2622	C2558	G2493	A2201	C2136
A3421	G3352	G3288	C3226	U3158	C3095	A3028	U2959	U2814	A2690	C2623	C2559	U2494	G2202	U2137
G3422	A3353	C3290	C3226	G3159	U3096	G3029	G2960	G2815	C2693	C2624	C2560	G2495	U2203	U2138
U3427	U3356	U3291	C3229	A3160	U3098	C3031	C2961	U2816	A2694	A2695	U2562	A2431	A2204	C2139
U3428	A3292	A3292	G3230	A3161	C3099	U3032	A2967	U2817	A2695	C2626	U2563	U2496	A2500	G2141
U3429	C3293	A3293	A3231	G3162	G3100	A3033	U2968	C2821	G2696	U2627	U2564	U2497	G2207	A2145
C3429	U3358	U3294	U3232	U3165	A3101	A3034	C2969	U2822	A2697	C2628	A2565	U2498	C2208	A2146
G3430	A3359	G3233	G3233	G3166	U3102	A3035	U2970	U2823	A2698	U2629	U2566	U2499	U2210	A2147
A3431	U3360	U3234	U3234	A3167	C3103	A3036	G2971	U2824	C2699	C2630	U2567	A2501	U2006	
A3432	U3361	G3297	C3235	C3168	C3104	G3037	U2972	U2825	C2700	C2631	A2568	U2502	G2207	
C3433	A3362	G3298	G3236	C3169	U3105	G3038	U2973	C2826	U2701	C2636	A2569	U2503	C2208	
A3434	U3363	G3237	U3237	U3107	U3106	A3044	A2974	A2832	G2702	C2636	C2570	U2504	C2209	
U3435	A3364	A3300	C3238	A3170	U3107	A3044	A2975	U2833	U2704	G2636	C2571	C2505	U2210	
U3436	C3301	C3301	U2939	C3171	A3108	G3045	A2976							



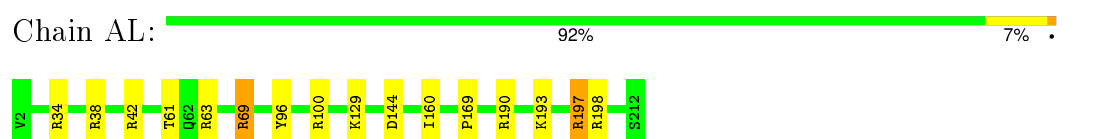
- Molecule 35: 5.8S ribosomal RNA



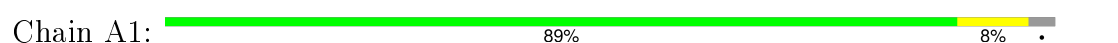
- Molecule 36: 5S ribosomal RNA



- Molecule 37: 60S ribosomal protein eL13



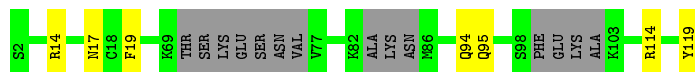
- Molecule 38: 60S ribosomal protein eL27





- Molecule 39: 60S ribosomal protein eL28

Chain A2: 82% 6% 12%



- Molecule 40: 60S ribosomal protein eL29

Chain A4: 86% 8% 5%



- Molecule 41: 60S ribosomal protein eL30

Chain A6: 90% 8% ..



- Molecule 42: 60S ribosomal protein eL31

Chain A7: 86% 8% 6%



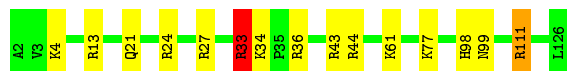
- Molecule 43: 60S ribosomal protein eL14

Chain AN: 90% 8% ..



- Molecule 44: 60S ribosomal protein eL32

Chain A8: 88% 10% ..

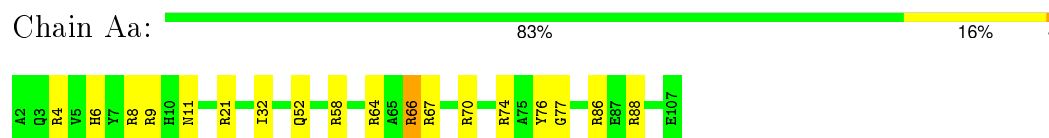


- Molecule 45: 60S ribosomal protein eL33

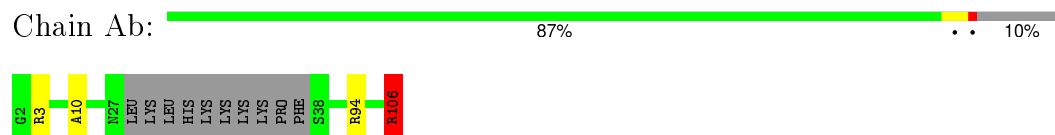
Chain A9: 88% 9% ..



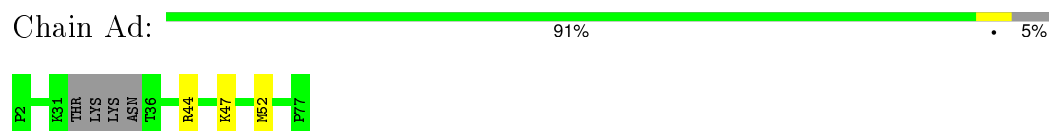
- Molecule 46: 60S ribosomal protein eL34



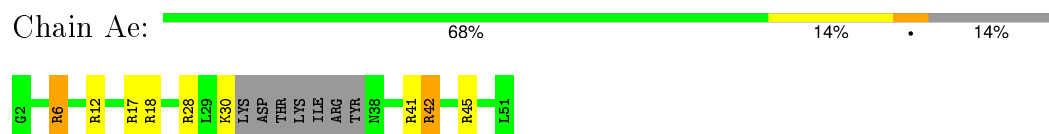
- Molecule 47: 60S ribosomal protein eL36



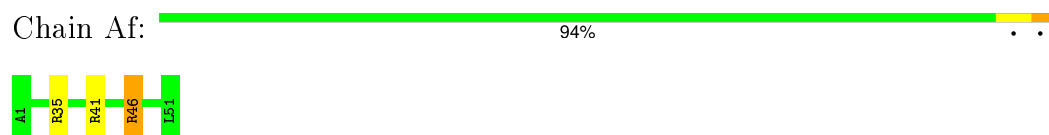
- Molecule 48: 60S ribosomal protein eL38



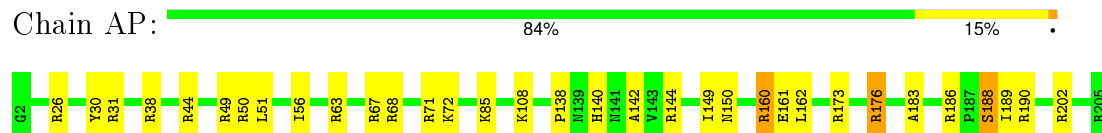
- Molecule 49: 60S ribosomal protein eL39



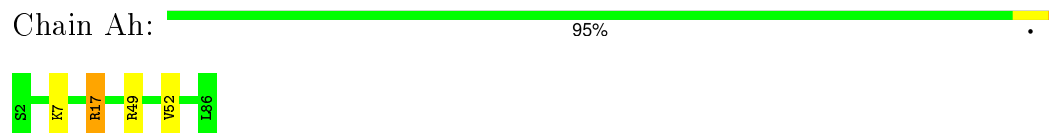
- Molecule 50: 60S ribosomal protein eL40



- Molecule 51: 60S ribosomal protein eL15

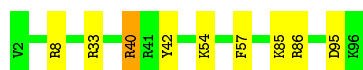


- Molecule 52: 60S ribosomal protein eL43



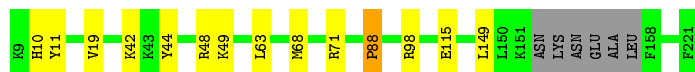
- Molecule 53: 60S ribosomal protein eL44

Chain Ai:  91% 8%



- Molecule 54: 60S ribosomal protein eL6

Chain AI:  91% 6% .




- Molecule 55: 60S ribosomal protein eL8

Chain AJ: 87% 9%



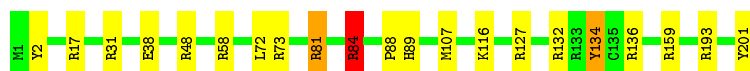
- Molecule 56: 60S ribosomal protein eL37

Chain Ac: 



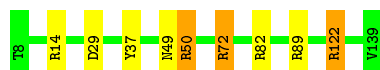
- Molecule 57: 60S ribosomal protein uL13

Chain AK: 90% 9%

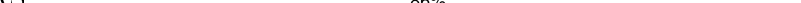


- Molecule 58: 60S ribosomal protein uL14

Chain AM:  93% 5%



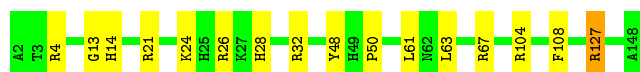
- Molecule 59: 60S ribosomal protein eL18

Chain AS:  86% 12%



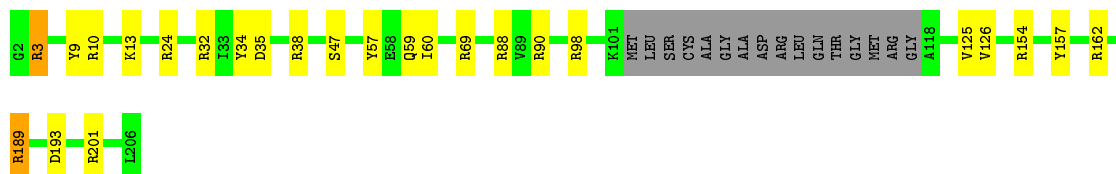
- Molecule 60: 60S ribosomal protein uL15

Chain AO:  89% 10%



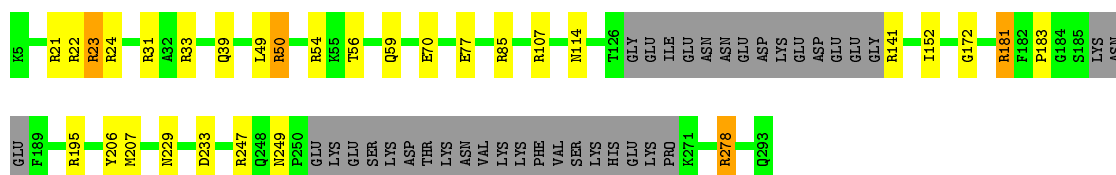
- Molecule 61: 60S ribosomal protein uL16

Chain AQ: 80% 11% 8%



- Molecule 62: 60S ribosomal protein uL18

Chain AR: 77% 9% 13%



- Molecule 63: 60S ribosomal protein uL22

Chain AW: 88% 9% 3%



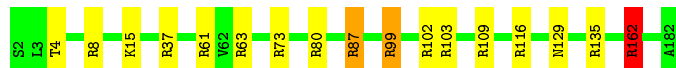
- Molecule 64: 60S ribosomal protein uL23

Chain AY: 94% 5% 1%



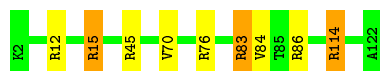
- Molecule 65: 60S ribosomal protein eL19

Chain AT: 91% 8% 1%



- Molecule 66: 60S ribosomal protein uL24

Chain AZ: 93% 5% 2%




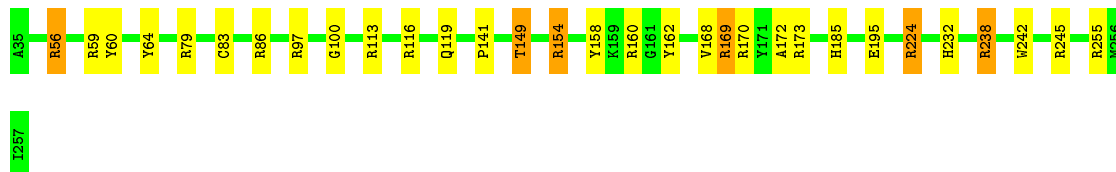
- Molecule 67: 60S ribosomal protein uL29

Chain A3:  92% 8% .



- Molecule 68: 60S ribosomal protein uL30

Chain A5:  86% 11% .



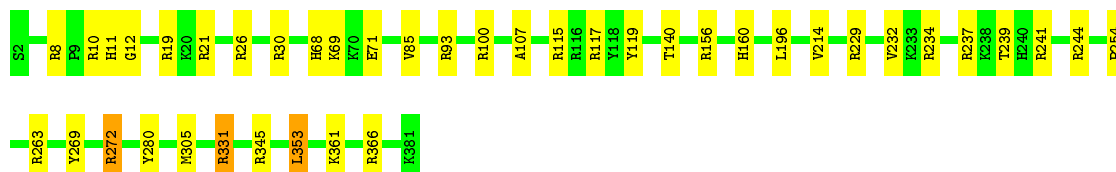
- Molecule 69: 60S ribosomal protein uL2

Chain AD:  89% 9% ..



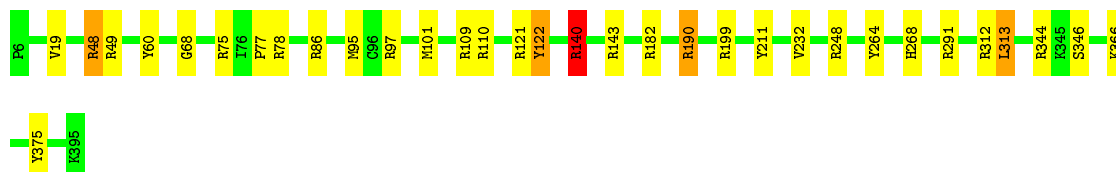
- Molecule 70: 60S ribosomal protein uL3

Chain AE:  89% 10% .



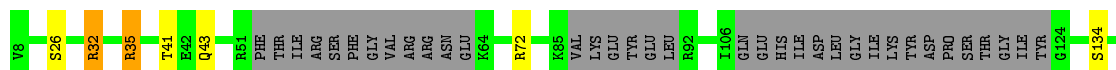
- Molecule 71: 60S ribosomal protein uL4

Chain AF:  92% 7% .



- Molecule 72: 60S ribosomal protein uL5

Chain AG:  70% 6% 22%





- Molecule 73: 60S ribosomal protein eL20

Chain AU: 88% 7% . .



- Molecule 74: 60S ribosomal protein uL6

Chain AH: 91% 8% .



- Molecule 75: 60S ribosomal protein eL21

Chain AV: 89% 10% .



- Molecule 76: 60S ribosomal protein eL41

Chain Ag: 76% 16% 8%



- Molecule 77: 60S ribosomal protein eL22

Chain AX: 94% 6%



- Molecule 78: 60S ribosomal protein eL24

Chain A0: 92% 6% .



4 Experimental information

Property	Value	Source
Reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	Depositor
Number of images	96732	Depositor
Resolution determination method	FSC 0.143	Depositor
CTF correction method	Each micrograph	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	25	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	23000	Depositor
Image detector	GATAN K2 (4k x 4k)	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	$\# Z > 2$	RMSZ	$\# Z > 2$
1	A	1.23	26/38275 (0.1%)	1.58	870/59596 (1.5%)
10	R	0.74	0/755	1.06	0/1013
11	O	0.72	0/706	1.03	3/950 (0.3%)
12	Y	0.70	0/1295	1.18	9/1742 (0.5%)
13	Z	0.70	0/565	1.08	2/758 (0.3%)
14	1	0.70	0/999	1.17	11/1321 (0.8%)
15	2	0.75	0/324	0.98	1/435 (0.2%)
16	3	0.71	0/794	1.24	10/1055 (0.9%)
17	4	0.68	0/597	1.09	0/801
18	5	0.75	0/459	1.33	9/606 (1.5%)
19	6	0.73	0/349	1.24	3/458 (0.7%)
2	7	1.23	4/1754 (0.2%)	1.79	69/2732 (2.5%)
20	B	0.65	0/1738	1.11	9/2321 (0.4%)
21	F	0.67	0/2098	1.14	11/2819 (0.4%)
22	H	0.67	0/1665	1.10	5/2210 (0.2%)
23	J	0.68	0/1545	1.07	7/2064 (0.3%)
24	L	0.71	0/1407	1.23	16/1879 (0.9%)
25	N	0.70	0/780	1.24	7/1053 (0.7%)
26	P	0.70	0/966	1.23	8/1295 (0.6%)
27	Q	0.69	0/1149	1.25	11/1532 (0.7%)
28	S	0.65	0/1063	1.27	11/1425 (0.8%)
29	T	0.73	0/412	1.25	6/544 (1.1%)
3	D	0.75	0/1241	1.13	10/1652 (0.6%)
30	U	0.67	0/1223	1.14	9/1634 (0.6%)
31	V	0.71	0/1233	1.10	4/1645 (0.2%)
32	X	0.71	0/788	1.18	7/1050 (0.7%)
33	C	0.67	0/1570	1.08	4/2129 (0.2%)
34	AA	1.30	70/75947 (0.1%)	1.59	1892/118255 (1.6%)
35	AC	1.30	7/3599 (0.2%)	1.55	88/5603 (1.6%)
36	AB	1.27	2/2823 (0.1%)	1.52	57/4400 (1.3%)
37	AL	0.67	0/1789	1.14	9/2381 (0.4%)
38	A1	0.68	0/1151	1.02	1/1531 (0.1%)
39	A2	0.72	0/840	1.01	3/1114 (0.3%)
4	E	0.70	0/1539	1.16	13/2055 (0.6%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >2	RMSZ	# Z >2
40	A4	0.66	0/564	1.01	3/737 (0.4%)
41	A6	0.69	0/749	0.99	2/1001 (0.2%)
42	A7	0.70	0/806	1.14	3/1073 (0.3%)
43	AN	0.69	0/1218	1.12	6/1621 (0.4%)
44	A8	0.70	0/1054	1.24	10/1399 (0.7%)
45	A9	0.72	0/865	1.20	7/1160 (0.6%)
46	Aa	0.68	0/872	1.26	11/1161 (0.9%)
47	Ab	0.71	0/763	1.13	5/1008 (0.5%)
48	Ad	0.72	0/612	1.09	2/812 (0.2%)
49	Ae	0.75	0/396	1.41	6/521 (1.2%)
5	G	0.70	0/1800	1.01	5/2429 (0.2%)
50	Af	0.67	0/419	1.16	3/556 (0.5%)
51	AP	0.69	0/1735	1.31	21/2320 (0.9%)
52	Ah	0.68	0/668	1.13	2/887 (0.2%)
53	Ai	0.67	0/789	1.16	6/1032 (0.6%)
54	AI	0.66	0/1708	1.04	6/2274 (0.3%)
55	AJ	0.67	0/1840	1.03	3/2456 (0.1%)
56	Ac	0.72	0/723	1.29	8/951 (0.8%)
57	AK	0.67	0/1690	1.15	13/2260 (0.6%)
58	AM	0.68	0/1012	1.15	5/1363 (0.4%)
59	AS	0.69	0/1531	1.24	17/2040 (0.8%)
6	I	0.69	0/1443	1.22	15/1936 (0.8%)
60	AO	0.66	0/1199	1.18	10/1597 (0.6%)
61	AQ	0.73	0/1580	1.21	16/2113 (0.8%)
62	AR	0.68	0/2079	1.16	20/2777 (0.7%)
63	AW	0.68	0/1244	1.22	12/1663 (0.7%)
64	AY	0.67	0/806	1.15	5/1074 (0.5%)
65	AT	0.66	0/1525	1.17	15/2016 (0.7%)
66	AZ	0.68	0/1013	1.17	9/1339 (0.7%)
67	A3	0.65	0/1005	1.09	8/1329 (0.6%)
68	A5	0.70	0/1917	1.25	22/2562 (0.9%)
69	AD	0.68	0/1902	1.19	17/2544 (0.7%)
7	K	0.70	0/1054	1.15	10/1411 (0.7%)
70	AE	0.68	0/3130	1.16	25/4195 (0.6%)
71	AF	0.68	0/3145	1.16	23/4205 (0.5%)
72	AG	0.73	0/1021	1.19	9/1349 (0.7%)
73	AU	0.70	0/1527	1.18	15/2043 (0.7%)
74	AH	0.69	0/1501	1.17	10/2025 (0.5%)
75	AV	0.68	0/1301	1.20	11/1732 (0.6%)
76	Ag	0.74	0/348	1.57	8/448 (1.8%)
77	AX	0.72	0/842	1.06	3/1125 (0.3%)
78	A0	0.73	0/534	1.12	4/711 (0.6%)
8	M	0.71	0/1114	1.12	4/1487 (0.3%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 2$	RMSZ	$\# Z > 2$
9	W	0.71	0/793	1.18	4/1053 (0.4%)
All	All	1.07	109/207275 (0.1%)	1.44	3594/303853 (1.2%)

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	231
11	O	0	1
12	Y	0	6
14	1	0	2
15	2	0	1
16	3	0	2
17	4	0	3
19	6	0	2
2	7	0	18
20	B	0	4
21	F	0	5
22	H	0	3
23	J	0	5
24	L	0	3
25	N	0	1
26	P	0	3
27	Q	0	2
29	T	0	1
3	D	0	1
30	U	0	2
31	V	0	6
32	X	0	1
33	C	0	6
34	AA	1	546
35	AC	0	19
36	AB	0	14
37	AL	0	5
38	A1	0	1
39	A2	0	1
4	E	0	6
40	A4	0	2
41	A6	0	4
42	A7	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
43	AN	0	3
44	A8	0	2
45	A9	0	2
46	Aa	0	4
47	Ab	0	1
49	Ae	0	5
5	G	0	4
50	Af	0	2
51	AP	0	6
52	Ah	0	2
53	Ai	0	3
54	AI	0	2
55	AJ	0	2
56	Ac	0	3
57	AK	0	5
58	AM	0	5
59	AS	0	8
6	I	0	4
60	AO	0	3
61	AQ	0	4
62	AR	0	4
63	AW	0	6
64	AY	0	1
65	AT	0	6
66	AZ	0	4
67	A3	0	1
68	A5	0	7
69	AD	0	6
7	K	0	2
70	AE	0	4
71	AF	0	6
72	AG	0	3
73	AU	0	7
74	AH	0	3
75	AV	0	5
76	Ag	0	2
77	AX	0	1
78	A0	0	2
8	M	0	1
9	W	0	3
All	All	1	1052

All (109) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	AA	2552	A	N9-C4	-8.94	1.32	1.37
2	7	74	A	C4'-C3'	8.62	1.62	1.53
34	AA	275	A	O3'-P	-7.93	1.51	1.61
34	AA	3122	A	N9-C4	-7.49	1.33	1.37
1	A	2055	A	N9-C4	-7.09	1.33	1.37
34	AA	2451	A	N9-C4	-7.05	1.33	1.37
34	AA	440	A	N9-C4	-6.91	1.33	1.37
34	AA	3160	A	N9-C4	-6.66	1.33	1.37
34	AA	629	A	N9-C4	-6.61	1.33	1.37
34	AA	1871	A	N9-C4	-6.52	1.33	1.37
1	A	2066	G	P-O5'	-6.41	1.53	1.59
1	A	2082	A	O3'-P	-6.24	1.53	1.61
34	AA	236	U	O3'-P	-6.24	1.53	1.61
34	AA	2481	A	N9-C4	-6.24	1.34	1.37
34	AA	1184	A	N9-C4	-6.21	1.34	1.37
2	7	74	A	C5'-C4'	6.19	1.58	1.51
34	AA	3735	A	N9-C4	-6.16	1.34	1.37
34	AA	1500	U	O3'-P	-6.11	1.53	1.61
34	AA	73	U	O3'-P	-6.06	1.53	1.61
34	AA	3441	A	N9-C4	-6.02	1.34	1.37
34	AA	2516	A	O3'-P	-6.01	1.53	1.61
34	AA	1540	G	O3'-P	-5.97	1.53	1.61
34	AA	1574	C	C2'-C1'	-5.96	1.46	1.53
2	7	38	A	N9-C4	-5.90	1.34	1.37
34	AA	1445	A	N9-C4	-5.89	1.34	1.37
34	AA	1575	C	O3'-P	-5.88	1.54	1.61
1	A	1827	U	P-O5'	-5.85	1.53	1.59
1	A	1957	A	N9-C4	-5.83	1.34	1.37
1	A	1819	U	C5'-C4'	5.78	1.58	1.51
34	AA	1594	A	N9-C4	-5.76	1.34	1.37
35	AC	127	C	O3'-P	-5.71	1.54	1.61
34	AA	1576	U	O3'-P	-5.70	1.54	1.61
34	AA	2166	G	N9-C4	-5.66	1.33	1.38
34	AA	1231	A	O3'-P	-5.64	1.54	1.61
34	AA	2424	A	N9-C4	-5.62	1.34	1.37
34	AA	2998	A	N9-C4	-5.62	1.34	1.37
34	AA	2109	A	N9-C4	-5.58	1.34	1.37
34	AA	1015	A	N9-C4	-5.58	1.34	1.37
34	AA	1185	A	N9-C4	-5.54	1.34	1.37
34	AA	3632	U	C5'-C4'	5.53	1.57	1.51
34	AA	1071	A	O3'-P	-5.53	1.54	1.61
35	AC	123	A	N9-C4	-5.52	1.34	1.37
34	AA	3067	G	O3'-P	-5.51	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	321	A	N9-C4	-5.49	1.34	1.37
34	AA	183	U	C5'-C4'	5.45	1.57	1.51
34	AA	765	A	N9-C4	-5.45	1.34	1.37
34	AA	3337	U	C5'-C4'	5.44	1.57	1.51
1	A	320	C	C5'-C4'	5.42	1.57	1.51
1	A	981	U	O3'-P	-5.41	1.54	1.61
1	A	339	A	P-O5'	-5.41	1.54	1.59
34	AA	3584	A	O3'-P	-5.41	1.54	1.61
35	AC	145	A	O3'-P	-5.41	1.54	1.61
34	AA	1480	G	O3'-P	-5.41	1.54	1.61
1	A	802	A	O3'-P	-5.39	1.54	1.61
35	AC	113	A	O3'-P	-5.39	1.54	1.61
1	A	337	G	O3'-P	-5.38	1.54	1.61
34	AA	2156	A	N9-C4	-5.38	1.34	1.37
34	AA	61	A	O3'-P	-5.38	1.54	1.61
34	AA	406	A	N9-C4	-5.37	1.34	1.37
34	AA	2431	A	N9-C4	-5.37	1.34	1.37
34	AA	2152	A	O3'-P	-5.37	1.54	1.61
35	AC	49	C	O3'-P	-5.34	1.54	1.61
34	AA	1595	A	N9-C4	-5.34	1.34	1.37
34	AA	2706	A	N9-C4	-5.33	1.34	1.37
34	AA	48	A	N9-C4	-5.32	1.34	1.37
34	AA	2974	A	N9-C4	-5.32	1.34	1.37
35	AC	92	A	N9-C4	-5.31	1.34	1.37
34	AA	1508	U	O3'-P	-5.30	1.54	1.61
1	A	314	A	N9-C4	-5.30	1.34	1.37
34	AA	3062	U	O3'-P	-5.29	1.54	1.61
1	A	338	U	O3'-P	-5.29	1.54	1.61
34	AA	3063	U	P-O5'	-5.29	1.54	1.59
34	AA	3255	A	N9-C4	-5.28	1.34	1.37
34	AA	1642	G	O3'-P	-5.27	1.54	1.61
1	A	617	G	O3'-P	-5.26	1.54	1.61
34	AA	674	U	O3'-P	-5.25	1.54	1.61
34	AA	3632	U	P-O5'	-5.25	1.54	1.59
34	AA	3587	U	P-O5'	-5.25	1.54	1.59
34	AA	2605	A	N9-C4	-5.24	1.34	1.37
34	AA	369	A	N9-C4	-5.24	1.34	1.37
34	AA	1526	G	N9-C4	-5.23	1.33	1.38
1	A	618	U	P-O5'	-5.23	1.54	1.59
34	AA	1297	A	N3-C4	-5.23	1.31	1.34
1	A	824	A	N9-C4	-5.21	1.34	1.37
34	AA	925	A	C2'-C1'	-5.20	1.47	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	AA	345	G	N9-C4	-5.20	1.33	1.38
34	AA	1072	A	N9-C4	-5.17	1.34	1.37
1	A	920	A	C5'-C4'	5.14	1.57	1.51
34	AA	1340	G	O3'-P	-5.14	1.54	1.61
34	AA	1746	A	N9-C4	-5.13	1.34	1.37
34	AA	1743	U	O3'-P	-5.13	1.54	1.61
2	7	65	A	N9-C4	-5.12	1.34	1.37
1	A	982	A	N9-C4	-5.12	1.34	1.37
1	A	1800	A	O3'-P	-5.11	1.55	1.61
1	A	391	A	N9-C4	-5.11	1.34	1.37
34	AA	2674	G	O3'-P	-5.10	1.55	1.61
1	A	2050	U	O3'-P	-5.09	1.55	1.61
1	A	915	G	C5'-C4'	5.09	1.57	1.51
34	AA	2885	A	O3'-P	-5.09	1.55	1.61
36	AB	103	A	N9-C4	-5.08	1.34	1.37
35	AC	140	G	C5'-C4'	5.08	1.57	1.51
34	AA	898	G	O3'-P	-5.07	1.55	1.61
1	A	1039	A	N7-C5	-5.07	1.36	1.39
34	AA	3708	U	O3'-P	-5.07	1.55	1.61
34	AA	206	A	O3'-P	-5.05	1.55	1.61
1	A	404	G	O3'-P	-5.05	1.55	1.61
34	AA	1069	G	O3'-P	-5.04	1.55	1.61
36	AB	6	C	O3'-P	-5.01	1.55	1.61
1	A	1071	G	O3'-P	-5.01	1.55	1.61

All (3594) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3632	U	P-O5'-C5'	19.68	152.39	120.90
34	AA	257	U	P-O3'-C3'	18.75	142.20	119.70
34	AA	181	C	P-O3'-C3'	15.57	138.38	119.70
34	AA	3018	A	P-O3'-C3'	15.30	138.06	119.70
2	7	74	A	C5'-C4'-O4'	-14.85	91.28	109.10
1	A	981	U	P-O3'-C3'	14.75	137.41	119.70
6	I	195	ARG	NE-CZ-NH1	14.75	127.67	120.30
34	AA	859	C	P-O3'-C3'	14.02	136.52	119.70
1	A	1912	C	P-O3'-C3'	13.96	136.46	119.70
34	AA	1574	C	O4'-C1'-N1	13.26	118.81	108.20
34	AA	621	C	P-O3'-C3'	13.08	135.40	119.70
34	AA	162	U	P-O3'-C3'	12.59	134.81	119.70
34	AA	101	C	O4'-C1'-N1	12.50	118.20	108.20
35	AC	37	A	P-O3'-C3'	12.21	134.36	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1205	U	P-O3'-C3'	12.16	134.29	119.70
1	A	1413	U	P-O3'-C3'	12.00	134.10	119.70
64	AY	173	ARG	NE-CZ-NH2	-11.98	114.31	120.30
1	A	1448	U	P-O3'-C3'	11.96	134.05	119.70
1	A	250	A	P-O3'-C3'	11.94	134.03	119.70
1	A	1897	A	P-O3'-C3'	11.86	133.94	119.70
34	AA	1574	C	P-O3'-C3'	11.81	133.87	119.70
34	AA	289	A	P-O3'-C3'	11.81	133.87	119.70
34	AA	674	U	P-O3'-C3'	11.80	133.87	119.70
34	AA	270	U	P-O3'-C3'	11.73	133.78	119.70
34	AA	1230	A	O4'-C1'-N9	11.63	117.51	108.20
34	AA	2696	G	P-O3'-C3'	11.58	133.59	119.70
34	AA	1989	A	P-O3'-C3'	11.53	133.54	119.70
1	A	291	A	P-O3'-C3'	11.50	133.50	119.70
2	7	74	A	C5'-C4'-C3'	11.46	134.34	116.00
34	AA	769	U	O4'-C1'-N1	11.45	117.36	108.20
34	AA	803	A	O4'-C1'-N9	11.25	117.20	108.20
71	AF	182	ARG	NE-CZ-NH2	-11.21	114.69	120.30
34	AA	2180	U	P-O3'-C3'	11.15	133.08	119.70
34	AA	697	A	P-O3'-C3'	11.12	133.04	119.70
59	AS	145	ARG	NE-CZ-NH2	11.06	125.83	120.30
21	F	145	ARG	NE-CZ-NH1	11.03	125.81	120.30
34	AA	2883	U	P-O3'-C3'	10.99	132.88	119.70
27	Q	144	ARG	NE-CZ-NH1	10.98	125.79	120.30
34	AA	1435	G	P-O3'-C3'	10.96	132.86	119.70
34	AA	2822	U	P-O3'-C3'	10.95	132.84	119.70
2	7	74	A	O4'-C4'-C3'	-10.90	93.10	104.00
34	AA	179	G	P-O3'-C3'	10.89	132.77	119.70
34	AA	411	U	P-O3'-C3'	10.82	132.68	119.70
4	E	126	ARG	NE-CZ-NH1	10.75	125.68	120.30
34	AA	580	A	P-O3'-C3'	10.75	132.60	119.70
34	AA	702	U	O4'-C1'-N1	10.75	116.80	108.20
1	A	1865	G	P-O3'-C3'	10.75	132.60	119.70
51	AP	176	ARG	NE-CZ-NH1	10.71	125.66	120.30
1	A	156	A	P-O3'-C3'	10.68	132.51	119.70
1	A	1673	A	P-O3'-C3'	10.68	132.51	119.70
57	AK	136	ARG	NE-CZ-NH1	10.67	125.64	120.30
68	A5	158	TYR	CB-CG-CD2	-10.52	114.69	121.00
1	A	1832	U	P-O3'-C3'	10.49	132.29	119.70
70	AE	30	ARG	NE-CZ-NH2	-10.47	115.06	120.30
42	A7	73	ARG	NE-CZ-NH1	10.46	125.53	120.30
34	AA	860	A	P-O5'-C5'	10.46	137.63	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1381	C	P-O3'-C3'	10.45	132.24	119.70
1	A	1645	C	P-O3'-C3'	10.41	132.19	119.70
1	A	1448	U	O4'-C1'-N1	10.38	116.51	108.20
29	T	54	ARG	NE-CZ-NH1	-10.38	115.11	120.30
37	AL	69	ARG	NE-CZ-NH1	10.37	125.49	120.30
34	AA	2919	A	P-O3'-C3'	10.31	132.07	119.70
31	V	102	ARG	NE-CZ-NH2	-10.30	115.15	120.30
75	AV	84	ARG	NE-CZ-NH1	-10.29	115.16	120.30
1	A	1071	G	P-O3'-C3'	10.27	132.02	119.70
71	AF	182	ARG	NE-CZ-NH1	10.26	125.43	120.30
1	A	1069	C	O4'-C1'-N1	10.20	116.36	108.20
34	AA	673	U	O4'-C1'-N1	10.19	116.35	108.20
34	AA	2695	A	P-O5'-C5'	10.14	137.12	120.90
1	A	544	G	P-O3'-C3'	10.13	131.86	119.70
1	A	1621	G	C5-C6-O6	-10.11	122.53	128.60
58	AM	14	ARG	NE-CZ-NH1	10.07	125.33	120.30
34	AA	2004	U	O4'-C1'-N1	10.06	116.25	108.20
58	AM	89	ARG	NE-CZ-NH1	10.06	125.33	120.30
34	AA	949	A	O4'-C1'-N9	10.01	116.21	108.20
73	AU	171	ARG	NE-CZ-NH1	9.99	125.30	120.30
62	AR	54	ARG	NE-CZ-NH1	9.96	125.28	120.30
73	AU	122	ARG	NE-CZ-NH1	-9.93	115.33	120.30
1	A	1414	A	P-O3'-C3'	9.91	131.60	119.70
28	S	88	ARG	NE-CZ-NH2	9.89	125.25	120.30
34	AA	858	C	O4'-C1'-N1	9.89	116.11	108.20
1	A	248	G	P-O3'-C3'	9.86	131.53	119.70
60	AO	26	ARG	NE-CZ-NH1	9.86	125.23	120.30
30	U	55	ARG	NE-CZ-NH1	-9.84	115.38	120.30
34	AA	500	A	P-O3'-C3'	9.80	131.46	119.70
1	A	647	C	C2-N1-C1'	9.79	129.57	118.80
24	L	217	ARG	NE-CZ-NH1	-9.77	115.42	120.30
34	AA	579	C	P-O3'-C3'	9.76	131.41	119.70
1	A	1857	U	O4'-C1'-N1	9.76	116.00	108.20
1	A	1788	U	O4'-C1'-N1	9.75	116.00	108.20
34	AA	3230	G	P-O3'-C3'	9.75	131.40	119.70
59	AS	145	ARG	NE-CZ-NH1	-9.72	115.44	120.30
34	AA	432	A	P-O3'-C3'	9.72	131.37	119.70
34	AA	594	C	C2-N1-C1'	9.72	129.49	118.80
6	I	62	ARG	NE-CZ-NH2	9.70	125.15	120.30
73	AU	122	ARG	NE-CZ-NH2	9.70	125.15	120.30
68	A5	224	ARG	NE-CZ-NH1	9.68	125.14	120.30
34	AA	1881	C	O4'-C1'-N1	9.68	115.94	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3507	A	O4'-C1'-N9	9.64	115.92	108.20
1	A	161	U	O4'-C1'-N1	9.60	115.88	108.20
1	A	1069	C	C2-N1-C1'	9.60	129.36	118.80
34	AA	1207	U	O4'-C1'-N1	9.58	115.87	108.20
34	AA	607	A	P-O3'-C3'	9.58	131.20	119.70
1	A	1283	U	P-O3'-C3'	9.53	131.13	119.70
34	AA	581	C	P-O3'-C3'	9.52	131.13	119.70
34	AA	2394	C	P-O3'-C3'	9.52	131.12	119.70
34	AA	3205	U	O4'-C1'-N1	9.49	115.80	108.20
1	A	1799	A	O4'-C1'-N9	9.49	115.79	108.20
34	AA	702	U	C2-N1-C1'	9.47	129.07	117.70
1	A	789	U	P-O3'-C3'	9.47	131.06	119.70
1	A	1455	C	P-O3'-C3'	9.46	131.05	119.70
34	AA	501	U	O4'-C1'-N1	9.46	115.77	108.20
34	AA	934	G	C5-C6-O6	-9.46	122.92	128.60
62	AR	33	ARG	NE-CZ-NH1	9.43	125.01	120.30
35	AC	35	A	P-O3'-C3'	9.41	131.00	119.70
1	A	460	G	O4'-C1'-N9	9.41	115.72	108.20
34	AA	3167	A	O4'-C1'-N9	9.40	115.72	108.20
1	A	1182	A	P-O3'-C3'	9.40	130.98	119.70
59	AS	57	ARG	NE-CZ-NH1	-9.39	115.60	120.30
30	U	76	ARG	NE-CZ-NH1	9.38	124.99	120.30
34	AA	122	A	O4'-C1'-N9	9.38	115.70	108.20
34	AA	3754	A	O4'-C1'-N9	9.35	115.68	108.20
34	AA	926	G	O4'-C1'-N9	9.34	115.67	108.20
1	A	253	A	O4'-C1'-N9	9.33	115.67	108.20
34	AA	1805	U	P-O3'-C3'	9.33	130.90	119.70
68	A5	158	TYR	CB-CG-CD1	9.30	126.58	121.00
49	Ae	42	ARG	NE-CZ-NH1	9.29	124.95	120.30
34	AA	504	A	P-O3'-C3'	9.27	130.83	119.70
44	A8	27	ARG	NE-CZ-NH1	9.25	124.93	120.30
34	AA	698	G	P-O3'-C3'	9.22	130.77	119.70
1	A	546	G	O4'-C1'-N9	9.21	115.57	108.20
34	AA	3658	G	P-O3'-C3'	9.21	130.75	119.70
69	AD	30	ARG	NE-CZ-NH1	9.20	124.90	120.30
34	AA	888	A	P-O3'-C3'	9.19	130.73	119.70
59	AS	180	ARG	NE-CZ-NH1	9.19	124.89	120.30
26	P	98	ARG	NE-CZ-NH1	9.18	124.89	120.30
12	Y	124	ARG	NE-CZ-NH2	9.18	124.89	120.30
68	A5	56	ARG	NE-CZ-NH2	-9.17	115.71	120.30
34	AA	1502	G	O4'-C1'-N9	9.17	115.53	108.20
1	A	1732	G	O4'-C1'-N9	9.16	115.53	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	2885	A	P-O3'-C3'	9.15	130.68	119.70
25	N	78	ARG	NE-CZ-NH1	-9.12	115.74	120.30
1	A	483	A	O4'-C1'-N9	9.11	115.49	108.20
34	AA	101	C	C2-N1-C1'	9.09	128.80	118.80
51	AP	50	ARG	NE-CZ-NH1	9.08	124.84	120.30
68	A5	245	ARG	NE-CZ-NH2	9.06	124.83	120.30
1	A	1209	G	C5-C6-O6	-9.05	123.17	128.60
75	AV	6	ARG	NE-CZ-NH1	9.03	124.82	120.30
34	AA	228	A	O4'-C1'-N9	9.03	115.42	108.20
34	AA	3476	A	P-O3'-C3'	9.02	130.53	119.70
34	AA	1990	A	P-O3'-C3'	9.02	130.52	119.70
2	7	42	C	O4'-C1'-N1	9.01	115.41	108.20
34	AA	3528	A	O4'-C1'-N9	9.00	115.40	108.20
34	AA	1269	C	O4'-C1'-N1	8.99	115.39	108.20
34	AA	1474	A	O4'-C1'-N9	8.99	115.39	108.20
34	AA	2393	A	O4'-C1'-N9	8.98	115.39	108.20
34	AA	2925	U	O4'-C1'-N1	8.98	115.39	108.20
1	A	1786	U	P-O3'-C3'	8.98	130.47	119.70
34	AA	2816	U	P-O3'-C3'	8.98	130.47	119.70
34	AA	2801	C	O4'-C1'-N1	8.97	115.38	108.20
28	S	134	ARG	NE-CZ-NH1	8.95	124.77	120.30
1	A	251	U	P-O3'-C3'	8.91	130.39	119.70
1	A	1231	G	C5-C6-O6	-8.91	123.26	128.60
1	A	833	A	O4'-C1'-N9	8.90	115.32	108.20
34	AA	2033	C	P-O3'-C3'	8.90	130.38	119.70
34	AA	2682	C	O4'-C1'-N1	8.90	115.32	108.20
34	AA	1630	A	P-O3'-C3'	-8.89	109.03	119.70
34	AA	3590	A	P-O3'-C3'	8.89	130.36	119.70
34	AA	2727	U	O4'-C1'-N1	8.86	115.28	108.20
34	AA	1100	A	O4'-C1'-N9	8.85	115.28	108.20
34	AA	1504	A	O4'-C1'-N9	8.85	115.28	108.20
34	AA	3502	C	O4'-C1'-N1	8.85	115.28	108.20
1	A	1224	C	O4'-C1'-N1	8.84	115.27	108.20
51	AP	31	ARG	NE-CZ-NH1	8.81	124.70	120.30
34	AA	2572	A	O4'-C1'-N9	8.80	115.24	108.20
1	A	1976	G	P-O3'-C3'	8.79	130.25	119.70
34	AA	2577	C	O4'-C1'-N1	8.79	115.23	108.20
34	AA	3342	C	O4'-C1'-N1	8.77	115.22	108.20
51	AP	38	ARG	NE-CZ-NH2	8.76	124.68	120.30
34	AA	1758	C	O4'-C1'-N1	8.75	115.20	108.20
34	AA	2437	A	O4'-C1'-N9	8.74	115.19	108.20
34	AA	1481	A	P-O3'-C3'	8.74	130.19	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	M	83	ARG	NE-CZ-NH1	8.73	124.67	120.30
34	AA	745	C	O4'-C1'-N1	8.73	115.18	108.20
51	AP	202	ARG	NE-CZ-NH2	-8.72	115.94	120.30
1	A	1621	G	N1-C6-O6	8.72	125.13	119.90
27	Q	20	ARG	NE-CZ-NH1	8.72	124.66	120.30
34	AA	1739	C	O4'-C1'-N1	8.71	115.17	108.20
34	AA	1281	C	O4'-C1'-N1	8.71	115.17	108.20
34	AA	1480	G	O4'-C1'-N9	8.70	115.16	108.20
34	AA	2591	U	O4'-C1'-N1	8.70	115.16	108.20
34	AA	2499	G	C4-N9-C1'	8.69	137.80	126.50
34	AA	1681	C	O4'-C1'-N1	8.69	115.15	108.20
34	AA	1794	U	C1'-O4'-C4'	-8.69	102.95	109.90
34	AA	116	A	O4'-C1'-N9	8.69	115.15	108.20
34	AA	1035	G	P-O3'-C3'	8.68	130.11	119.70
1	A	206	A	P-O3'-C3'	8.66	130.10	119.70
34	AA	643	G	O4'-C1'-N9	8.66	115.13	108.20
34	AA	3526	U	O4'-C1'-N1	8.66	115.12	108.20
62	AR	278	ARG	NE-CZ-NH2	-8.65	115.97	120.30
34	AA	2501	A	O4'-C1'-N9	8.64	115.11	108.20
75	AV	101	ARG	NE-CZ-NH2	-8.62	115.99	120.30
34	AA	1224	A	P-O3'-C3'	8.62	130.04	119.70
1	A	647	C	O4'-C1'-N1	8.60	115.08	108.20
14	1	91	ARG	NE-CZ-NH1	-8.59	116.00	120.30
68	A5	56	ARG	NE-CZ-NH1	8.59	124.60	120.30
1	A	383	G	P-O3'-C3'	8.59	130.01	119.70
1	A	25	C	O4'-C1'-N1	8.58	115.06	108.20
34	AA	2608	G	O4'-C1'-N9	8.58	115.06	108.20
35	AC	115	C	O4'-C1'-N1	8.58	115.06	108.20
34	AA	3711	U	O4'-C1'-N1	8.57	115.06	108.20
34	AA	239	U	O4'-C1'-N1	8.57	115.05	108.20
1	A	2071	U	P-O3'-C3'	8.56	129.97	119.70
34	AA	61	A	P-O3'-C3'	8.56	129.97	119.70
34	AA	544	C	O4'-C1'-N1	8.54	115.03	108.20
34	AA	2015	C	O4'-C1'-N1	8.52	115.02	108.20
34	AA	532	C	O4'-C1'-N1	8.52	115.02	108.20
1	A	1231	G	N1-C6-O6	8.51	125.00	119.90
25	N	78	ARG	NE-CZ-NH2	8.51	124.55	120.30
34	AA	1705	A	P-O3'-C3'	8.50	129.90	119.70
47	Ab	106	ARG	NE-CZ-NH2	-8.50	116.05	120.30
36	AB	39	C	P-O3'-C3'	8.49	129.89	119.70
24	L	217	ARG	NE-CZ-NH2	8.49	124.55	120.30
26	P	128	ARG	NE-CZ-NH2	8.48	124.54	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	AB	102	C	O4'-C1'-N1	8.48	114.98	108.20
2	7	28	C	O4'-C1'-N1	8.47	114.98	108.20
1	A	970	G	O4'-C1'-N9	8.46	114.97	108.20
76	Ag	37	ARG	NE-CZ-NH1	8.46	124.53	120.30
1	A	485	C	O4'-C1'-N1	8.46	114.97	108.20
34	AA	101	C	C6-N1-C1'	-8.46	110.64	120.80
34	AA	1913	A	P-O3'-C3'	8.46	129.85	119.70
71	AF	122	TYR	CB-CG-CD2	-8.46	115.92	121.00
65	AT	162	ARG	NE-CZ-NH1	8.46	124.53	120.30
34	AA	3067	G	C1'-O4'-C4'	-8.45	103.14	109.90
66	AZ	15	ARG	NE-CZ-NH2	-8.45	116.08	120.30
34	AA	347	C	O4'-C1'-N1	8.43	114.95	108.20
65	AT	87	ARG	NE-CZ-NH2	-8.43	116.08	120.30
1	A	1660	U	O4'-C1'-N1	8.43	114.94	108.20
19	6	33	ARG	NE-CZ-NH2	8.43	124.52	120.30
30	U	124	ARG	NE-CZ-NH1	-8.43	116.08	120.30
34	AA	621	C	O4'-C1'-N1	8.42	114.94	108.20
74	AH	144	TYR	CB-CG-CD2	-8.42	115.95	121.00
16	3	6	ARG	NE-CZ-NH2	8.42	124.51	120.30
37	AL	190	ARG	NE-CZ-NH2	-8.41	116.09	120.30
34	AA	10	G	P-O3'-C3'	8.40	129.78	119.70
24	L	92	ARG	NE-CZ-NH2	-8.40	116.10	120.30
1	A	1386	U	P-O3'-C3'	8.39	129.76	119.70
51	AP	173	ARG	NE-CZ-NH1	8.39	124.49	120.30
34	AA	2439	C	O4'-C1'-N1	8.38	114.91	108.20
68	A5	169	ARG	NE-CZ-NH1	8.38	124.49	120.30
61	AQ	98	ARG	NE-CZ-NH1	-8.36	116.12	120.30
12	Y	39	ARG	NE-CZ-NH1	8.36	124.48	120.30
34	AA	737	G	C5-C6-O6	-8.36	123.58	128.60
34	AA	1841	U	P-O3'-C3'	8.34	129.71	119.70
34	AA	62	A	P-O3'-C3'	8.34	129.70	119.70
34	AA	3627	C	O4'-C1'-N1	8.34	114.87	108.20
34	AA	620	U	P-O3'-C3'	8.33	129.70	119.70
34	AA	1553	U	O4'-C1'-N1	8.33	114.86	108.20
34	AA	306	C	C2-N1-C1'	8.30	127.94	118.80
1	A	994	G	C5-C6-O6	-8.30	123.62	128.60
34	AA	889	U	P-O3'-C3'	8.30	129.66	119.70
34	AA	2658	C	O4'-C1'-N1	8.30	114.84	108.20
1	A	2084	G	P-O3'-C3'	8.28	129.64	119.70
6	I	155	ARG	NE-CZ-NH2	8.28	124.44	120.30
34	AA	1235	C	O4'-C1'-N1	8.28	114.82	108.20
34	AA	1073	G	O4'-C1'-N9	8.28	114.82	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
63	AW	123	ARG	NE-CZ-NH2	-8.28	116.16	120.30
34	AA	3443	A	O4'-C1'-N9	8.27	114.82	108.20
46	Aa	21	ARG	NE-CZ-NH1	8.27	124.44	120.30
34	AA	1704	U	O4'-C1'-N1	8.27	114.81	108.20
1	A	1856	A	O4'-C1'-N9	8.26	114.81	108.20
34	AA	80	C	O4'-C1'-N1	8.26	114.81	108.20
12	Y	39	ARG	NE-CZ-NH2	-8.25	116.17	120.30
34	AA	2421	C	O4'-C1'-N1	8.25	114.80	108.20
34	AA	2957	G	O4'-C1'-N9	8.25	114.80	108.20
34	AA	858	C	P-O3'-C3'	8.24	129.59	119.70
64	AY	108	TYR	CB-CG-CD2	-8.24	116.06	121.00
60	AO	67	ARG	NE-CZ-NH1	8.23	124.42	120.30
36	AB	39	C	O4'-C1'-N1	8.23	114.79	108.20
34	AA	1101	A	P-O3'-C3'	8.23	129.58	119.70
1	A	1731	C	O4'-C1'-N1	8.23	114.78	108.20
34	AA	345	G	C5-C6-O6	-8.22	123.67	128.60
34	AA	3241	U	O4'-C1'-N1	8.22	114.78	108.20
69	AD	9	ARG	NE-CZ-NH1	8.22	124.41	120.30
18	5	42	ARG	NE-CZ-NH2	-8.22	116.19	120.30
34	AA	372	G	C5-C6-O6	-8.21	123.67	128.60
34	AA	69	U	O4'-C1'-N1	8.21	114.77	108.20
34	AA	930	C	O4'-C1'-N1	8.21	114.76	108.20
1	A	1109	G	P-O5'-C5'	8.20	134.02	120.90
34	AA	1996	C	P-O3'-C3'	8.20	129.54	119.70
34	AA	1503	A	P-O3'-C3'	8.20	129.53	119.70
34	AA	2107	C	P-O3'-C3'	8.20	129.53	119.70
34	AA	2655	C	O4'-C1'-N1	8.19	114.75	108.20
3	D	167	ARG	NE-CZ-NH2	-8.19	116.21	120.30
34	AA	136	U	C2-N1-C1'	8.19	127.53	117.70
34	AA	288	G	O4'-C1'-N9	8.19	114.75	108.20
34	AA	1798	A	O4'-C1'-N9	8.19	114.75	108.20
1	A	857	A	O4'-C1'-N9	8.18	114.75	108.20
2	7	49	C	O4'-C1'-N1	8.18	114.74	108.20
34	AA	2933	C	O4'-C1'-N1	8.17	114.73	108.20
63	AW	82	ARG	NE-CZ-NH1	8.17	124.38	120.30
60	AO	67	ARG	NE-CZ-NH2	-8.15	116.22	120.30
61	AQ	162	ARG	NE-CZ-NH1	8.15	124.38	120.30
34	AA	2154	A	O4'-C1'-N9	8.15	114.72	108.20
2	7	57	C	O4'-C1'-N1	8.13	114.70	108.20
43	AN	128	ARG	NE-CZ-NH1	8.13	124.36	120.30
34	AA	866	C	O4'-C1'-N1	8.13	114.70	108.20
34	AA	2959	G	P-O3'-C3'	8.13	129.45	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	A5	224	ARG	NE-CZ-NH2	-8.13	116.24	120.30
34	AA	449	A	O4'-C1'-N9	8.12	114.70	108.20
1	A	1845	U	O4'-C1'-N1	8.12	114.70	108.20
34	AA	3199	C	O4'-C1'-N1	8.12	114.70	108.20
69	AD	163	ARG	NE-CZ-NH1	-8.12	116.24	120.30
34	AA	963	C	O4'-C1'-N1	8.09	114.67	108.20
34	AA	3621	C	O4'-C1'-N1	8.08	114.67	108.20
34	AA	1572	U	O4'-C1'-N1	8.07	114.66	108.20
34	AA	966	A	N1-C6-N6	8.07	123.44	118.60
63	AW	56	ARG	NE-CZ-NH2	-8.06	116.27	120.30
34	AA	3111	U	O4'-C1'-N1	8.06	114.65	108.20
53	Ai	40	ARG	NE-CZ-NH2	-8.06	116.27	120.30
1	A	844	G	P-O3'-C3'	8.05	129.36	119.70
34	AA	2604	G	C5-C6-O6	-8.05	123.77	128.60
76	Ag	39	ARG	NE-CZ-NH2	8.05	124.32	120.30
75	AV	13	ARG	NE-CZ-NH2	8.04	124.32	120.30
1	A	161	U	C5'-C4'-O4'	8.04	118.75	109.10
1	A	759	C	O4'-C1'-N1	8.04	114.63	108.20
20	B	213	ARG	NE-CZ-NH2	-8.04	116.28	120.30
34	AA	3248	C	O4'-C1'-N1	8.04	114.63	108.20
30	U	55	ARG	NE-CZ-NH2	8.03	124.31	120.30
34	AA	137	G	O4'-C1'-N9	8.02	114.62	108.20
1	A	1832	U	O4'-C1'-N1	8.02	114.62	108.20
34	AA	1980	G	O4'-C1'-N9	8.02	114.61	108.20
34	AA	3585	A	O4'-C1'-N9	8.02	114.61	108.20
34	AA	2004	U	C2-N1-C1'	8.01	127.32	117.70
34	AA	830	U	O4'-C1'-N1	8.01	114.61	108.20
51	AP	71	ARG	NE-CZ-NH1	8.01	124.30	120.30
1	A	2072	G	O4'-C1'-N9	8.00	114.60	108.20
4	E	79	ARG	NE-CZ-NH2	8.00	124.30	120.30
34	AA	1078	C	O4'-C1'-N1	7.99	114.59	108.20
71	AF	122	TYR	CB-CG-CD1	7.98	125.79	121.00
34	AA	2932	A	P-O3'-C3'	7.98	129.27	119.70
34	AA	1999	A	P-O3'-C3'	7.97	129.27	119.70
34	AA	2734	C	O4'-C1'-N1	7.97	114.58	108.20
76	Ag	32	ARG	NE-CZ-NH1	7.97	124.28	120.30
36	AB	78	C	O4'-C1'-N1	7.96	114.57	108.20
66	AZ	76	ARG	NE-CZ-NH1	7.94	124.27	120.30
34	AA	812	U	O4'-C1'-N1	7.94	114.55	108.20
1	A	876	U	P-O3'-C3'	7.92	129.21	119.70
1	A	2051	C	O4'-C1'-N1	7.92	114.54	108.20
34	AA	3289	G	O4'-C1'-N9	7.92	114.54	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
69	AD	200	ARG	NE-CZ-NH2	7.92	124.26	120.30
34	AA	3765	C	O4'-C1'-N1	7.90	114.52	108.20
51	AP	190	ARG	NE-CZ-NH1	7.90	124.25	120.30
75	AV	84	ARG	NE-CZ-NH2	7.90	124.25	120.30
34	AA	1325	C	O4'-C1'-N1	7.89	114.51	108.20
35	AC	78	U	O4'-C1'-N1	7.89	114.51	108.20
65	AT	135	ARG	NE-CZ-NH2	-7.89	116.36	120.30
51	AP	67	ARG	NE-CZ-NH2	7.88	124.24	120.30
34	AA	711	C	O4'-C1'-N1	7.88	114.51	108.20
34	AA	715	U	P-O3'-C3'	7.88	129.15	119.70
44	A8	44	ARG	NE-CZ-NH2	-7.88	116.36	120.30
34	AA	2969	C	O4'-C1'-N1	7.87	114.50	108.20
1	A	2026	C	O4'-C1'-N1	7.87	114.50	108.20
21	F	49	ARG	NE-CZ-NH1	7.87	124.23	120.30
1	A	1079	C	O4'-C1'-N1	7.86	114.49	108.20
34	AA	540	C	O4'-C1'-N1	7.86	114.49	108.20
34	AA	1026	G	P-O3'-C3'	7.86	129.13	119.70
34	AA	830	U	C2-N1-C1'	7.85	127.12	117.70
1	A	760	C	O4'-C1'-N1	7.85	114.48	108.20
1	A	2048	A	O4'-C1'-N9	7.85	114.48	108.20
1	A	647	C	C6-N1-C1'	-7.85	111.38	120.80
7	K	97	ARG	NE-CZ-NH2	-7.85	116.38	120.30
34	AA	329	C	O4'-C1'-N1	7.85	114.48	108.20
34	AA	2623	C	O4'-C1'-N1	7.84	114.47	108.20
34	AA	2034	G	P-O5'-C5'	7.84	133.44	120.90
34	AA	1540	G	O4'-C1'-N9	7.83	114.47	108.20
34	AA	2089	C	P-O3'-C3'	7.83	129.10	119.70
34	AA	883	C	O4'-C1'-N1	7.83	114.46	108.20
68	A5	173	ARG	NE-CZ-NH1	-7.83	116.39	120.30
61	AQ	3	ARG	NE-CZ-NH1	-7.83	116.39	120.30
1	A	1800	A	P-O3'-C3'	7.82	129.09	119.70
34	AA	706	U	O4'-C1'-N1	7.82	114.46	108.20
34	AA	3763	G	C5-C6-O6	-7.82	123.91	128.60
65	AT	162	ARG	NE-CZ-NH2	-7.82	116.39	120.30
1	A	1030	C	O4'-C1'-N1	7.82	114.46	108.20
69	AD	174	ARG	NE-CZ-NH1	7.82	124.21	120.30
34	AA	1003	A	P-O3'-C3'	7.82	129.08	119.70
69	AD	12	ARG	NE-CZ-NH1	7.82	124.21	120.30
2	7	17	U	P-O3'-C3'	7.81	129.07	119.70
34	AA	921	C	O4'-C1'-N1	7.80	114.44	108.20
57	AK	193	ARG	NE-CZ-NH2	7.80	124.20	120.30
34	AA	2219	A	C2'-C3'-O3'	7.79	126.64	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1222	U	P-O3'-C3'	7.79	129.05	119.70
34	AA	1525	C	O4'-C1'-N1	7.79	114.43	108.20
34	AA	3140	U	P-O3'-C3'	7.79	129.05	119.70
44	A8	24	ARG	NE-CZ-NH1	7.78	124.19	120.30
69	AD	163	ARG	NE-CZ-NH2	7.77	124.19	120.30
35	AC	145	A	P-O3'-C3'	7.76	129.01	119.70
68	A5	160	ARG	NE-CZ-NH2	7.76	124.18	120.30
1	A	2033	U	O4'-C1'-N1	7.76	114.41	108.20
34	AA	3302	G	P-O5'-C5'	7.76	133.31	120.90
1	A	1945	C	O4'-C1'-N1	7.75	114.40	108.20
57	AK	201	TYR	CB-CG-CD2	-7.75	116.35	121.00
34	AA	959	C	O4'-C1'-N1	7.75	114.40	108.20
34	AA	1168	C	O4'-C1'-N1	7.74	114.39	108.20
34	AA	2727	U	C2-N1-C1'	7.74	126.99	117.70
37	AL	69	ARG	NE-CZ-NH2	-7.73	116.43	120.30
34	AA	3549	U	O4'-C1'-N1	7.73	114.38	108.20
69	AD	241	ARG	NE-CZ-NH1	7.72	124.16	120.30
70	AE	234	ARG	NE-CZ-NH2	7.72	124.16	120.30
34	AA	2662	G	O4'-C1'-N9	7.72	114.38	108.20
21	F	100	ARG	NE-CZ-NH2	-7.72	116.44	120.30
34	AA	345	G	N1-C6-O6	7.72	124.53	119.90
34	AA	2107	C	O4'-C1'-N1	7.72	114.37	108.20
1	A	1452	C	O4'-C1'-N1	7.71	114.37	108.20
34	AA	3442	C	O4'-C1'-N1	7.71	114.37	108.20
54	AI	71	ARG	NE-CZ-NH2	-7.71	116.45	120.30
1	A	161	U	C2-N1-C1'	7.71	126.95	117.70
1	A	1281	C	O4'-C1'-N1	7.71	114.37	108.20
1	A	1431	A	P-O3'-C3'	7.70	128.94	119.70
34	AA	136	U	O4'-C1'-N1	7.70	114.36	108.20
34	AA	107	C	O4'-C1'-N1	7.70	114.36	108.20
34	AA	3191	C	O4'-C1'-N1	7.70	114.36	108.20
36	AB	72	C	O4'-C1'-N1	7.69	114.35	108.20
57	AK	73	ARG	NE-CZ-NH1	7.69	124.14	120.30
34	AA	1866	C	O4'-C1'-N1	7.69	114.35	108.20
34	AA	2104	C	O4'-C1'-N1	7.69	114.35	108.20
34	AA	2074	C	O4'-C1'-N1	7.69	114.35	108.20
14	1	106	ARG	NE-CZ-NH2	7.68	124.14	120.30
34	AA	1537	G	P-O3'-C3'	-7.68	110.48	119.70
18	5	26	ARG	NE-CZ-NH2	-7.67	116.47	120.30
34	AA	372	G	N1-C6-O6	7.67	124.50	119.90
34	AA	2804	C	O4'-C1'-N1	7.66	114.33	108.20
34	AA	2437	A	C1'-O4'-C4'	-7.66	103.77	109.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3494	C	O4'-C1'-N1	7.65	114.32	108.20
1	A	630	C	C2-N1-C1'	7.65	127.22	118.80
34	AA	1260	C	O4'-C1'-N1	7.65	114.32	108.20
34	AA	2175	C	O4'-C1'-N1	7.65	114.32	108.20
62	AR	23	ARG	NE-CZ-NH2	-7.65	116.47	120.30
35	AC	134	G	P-O3'-C3'	7.65	128.88	119.70
61	AQ	90	ARG	NE-CZ-NH2	-7.64	116.48	120.30
34	AA	542	A	N1-C6-N6	7.64	123.19	118.60
1	A	941	C	O4'-C1'-N1	7.64	114.31	108.20
59	AS	179	ARG	NE-CZ-NH1	7.64	124.12	120.30
34	AA	934	G	N1-C6-O6	7.64	124.48	119.90
34	AA	3723	C	O4'-C1'-N1	7.63	114.31	108.20
34	AA	1493	U	O4'-C1'-N1	7.63	114.31	108.20
49	Ae	6	ARG	NE-CZ-NH2	-7.63	116.49	120.30
52	Ah	17	ARG	NE-CZ-NH1	7.63	124.11	120.30
34	AA	2191	C	O4'-C1'-N1	7.62	114.29	108.20
1	A	1872	G	O4'-C1'-N9	7.62	114.29	108.20
45	A9	130	ARG	NE-CZ-NH2	-7.61	116.49	120.30
1	A	525	G	P-O3'-C3'	7.61	128.83	119.70
24	L	56	ARG	NE-CZ-NH1	7.61	124.10	120.30
2	7	71	C	O4'-C1'-N1	7.60	114.28	108.20
34	AA	501	U	P-O3'-C3'	7.60	128.82	119.70
34	AA	1853	C	O4'-C1'-N1	7.60	114.28	108.20
34	AA	278	C	O4'-C1'-N1	7.59	114.27	108.20
34	AA	1654	C	O4'-C1'-N1	7.59	114.27	108.20
1	A	246	A	P-O3'-C3'	7.59	128.81	119.70
36	AB	17	C	O4'-C1'-N1	7.59	114.27	108.20
1	A	315	C	O4'-C1'-N1	7.58	114.27	108.20
1	A	375	U	O4'-C1'-N1	7.58	114.27	108.20
1	A	1069	C	C6-N1-C1'	-7.58	111.70	120.80
34	AA	257	U	O4'-C1'-N1	7.58	114.27	108.20
34	AA	255	C	O4'-C1'-N1	7.58	114.26	108.20
76	Ag	7	ARG	NE-CZ-NH1	7.58	124.09	120.30
34	AA	453	A	N1-C6-N6	-7.57	114.06	118.60
55	AJ	73	ARG	NE-CZ-NH2	-7.57	116.51	120.30
1	A	843	U	O4'-C1'-N1	7.57	114.25	108.20
71	AF	78	ARG	NE-CZ-NH1	7.56	124.08	120.30
71	AF	190	ARG	NE-CZ-NH2	7.56	124.08	120.30
34	AA	650	U	O4'-C1'-N1	7.56	114.25	108.20
34	AA	200	A	N1-C6-N6	7.56	123.14	118.60
34	AA	594	C	C6-N1-C1'	-7.55	111.73	120.80
34	AA	1780	G	P-O5'-C5'	7.55	132.99	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1905	C	O4'-C1'-N1	7.55	114.24	108.20
34	AA	2821	C	O4'-C1'-N1	7.55	114.24	108.20
65	AT	73	ARG	NE-CZ-NH1	7.55	124.08	120.30
34	AA	739	G	O4'-C1'-N9	7.55	114.24	108.20
59	AS	10	ARG	NE-CZ-NH1	7.55	124.07	120.30
34	AA	2499	G	C8-N9-C1'	-7.55	117.19	127.00
34	AA	215	C	P-O3'-C3'	7.54	128.75	119.70
34	AA	2697	A	O4'-C1'-N9	7.53	114.23	108.20
36	AB	35	C	O4'-C1'-N1	7.53	114.23	108.20
1	A	1819	U	O4'-C1'-N1	7.53	114.22	108.20
34	AA	284	C	O4'-C1'-N1	7.53	114.22	108.20
34	AA	3664	G	P-O3'-C3'	7.53	128.73	119.70
75	AV	101	ARG	NE-CZ-NH1	7.53	124.06	120.30
14	1	20	ARG	NE-CZ-NH2	7.52	124.06	120.30
34	AA	400	C	O4'-C1'-N1	7.52	114.22	108.20
45	A9	130	ARG	NE-CZ-NH1	7.52	124.06	120.30
2	7	73	C	O4'-C1'-N1	7.52	114.22	108.20
1	A	1785	C	O4'-C1'-N1	7.51	114.21	108.20
1	A	1908	A	O4'-C1'-N9	7.51	114.21	108.20
8	M	43	TYR	CB-CG-CD2	-7.51	116.49	121.00
34	AA	93	C	O4'-C1'-N1	7.51	114.21	108.20
34	AA	90	C	O4'-C1'-N1	7.51	114.20	108.20
34	AA	309	G	O4'-C1'-N9	7.50	114.20	108.20
34	AA	236	U	P-O3'-C3'	7.50	128.70	119.70
1	A	885	C	O4'-C1'-N1	7.50	114.20	108.20
1	A	1286	U	O4'-C1'-N1	7.50	114.20	108.20
34	AA	2401	C	O4'-C1'-N1	7.49	114.19	108.20
34	AA	3181	U	O4'-C1'-N1	7.49	114.19	108.20
34	AA	773	A	O4'-C1'-N9	7.49	114.19	108.20
2	7	21	U	O4'-C1'-N1	7.48	114.19	108.20
34	AA	715	U	O4'-C1'-N1	7.48	114.19	108.20
1	A	630	C	O4'-C1'-N1	7.48	114.19	108.20
1	A	1716	C	O4'-C1'-N1	7.48	114.19	108.20
34	AA	833	G	P-O3'-C3'	7.47	128.67	119.70
34	AA	1680	C	O4'-C1'-N1	7.47	114.18	108.20
1	A	871	C	O4'-C1'-N1	7.47	114.18	108.20
34	AA	3065	C	O4'-C1'-N1	7.47	114.18	108.20
64	AY	173	ARG	NE-CZ-NH1	7.47	124.03	120.30
1	A	1014	U	O4'-C1'-N1	7.47	114.17	108.20
34	AA	1326	C	O4'-C1'-N1	7.46	114.17	108.20
6	I	195	ARG	NE-CZ-NH2	-7.46	116.57	120.30
34	AA	672	C	O4'-C1'-N1	7.46	114.17	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3483	U	O4'-C1'-N1	7.45	114.16	108.20
67	A3	91	ARG	NE-CZ-NH1	7.45	124.03	120.30
36	AB	29	C	O4'-C1'-N1	7.45	114.16	108.20
34	AA	3613	A	O4'-C1'-N9	7.44	114.15	108.20
34	AA	1960	U	O4'-C1'-N1	7.43	114.15	108.20
65	AT	102	ARG	NE-CZ-NH1	7.43	124.02	120.30
34	AA	1166	C	O4'-C1'-N1	7.43	114.14	108.20
62	AR	206	TYR	CB-CG-CD2	-7.43	116.54	121.00
34	AA	320	C	O4'-C1'-N1	7.43	114.14	108.20
34	AA	2095	U	P-O3'-C3'	7.43	128.61	119.70
1	A	367	C	O4'-C1'-N1	7.42	114.14	108.20
34	AA	1431	A	O4'-C1'-N9	7.42	114.14	108.20
71	AF	97	ARG	NE-CZ-NH1	-7.42	116.59	120.30
2	7	73	C	C2-N1-C1'	7.42	126.96	118.80
4	E	107	ARG	NE-CZ-NH1	7.42	124.01	120.30
3	D	147	ARG	NE-CZ-NH2	-7.42	116.59	120.30
34	AA	737	G	N1-C6-O6	7.41	124.35	119.90
28	S	110	ARG	NE-CZ-NH1	7.41	124.00	120.30
34	AA	10	G	N1-C6-O6	7.41	124.34	119.90
34	AA	2958	G	P-O3'-C3'	7.40	128.59	119.70
34	AA	3628	C	O4'-C1'-N1	7.40	114.12	108.20
34	AA	150	C	O4'-C1'-N1	7.40	114.12	108.20
35	AC	25	C	C6-N1-C2	-7.40	117.34	120.30
1	A	1707	C	O4'-C1'-N1	7.39	114.11	108.20
34	AA	1873	U	P-O3'-C3'	7.39	128.57	119.70
1	A	1790	C	O4'-C1'-N1	7.39	114.11	108.20
34	AA	1321	A	O4'-C1'-N9	7.39	114.11	108.20
1	A	1419	C	O4'-C1'-N1	7.39	114.11	108.20
61	AQ	88	ARG	NE-CZ-NH1	7.38	123.99	120.30
34	AA	125	C	O4'-C1'-N1	7.38	114.11	108.20
34	AA	3632	U	O4'-C1'-N1	7.38	114.11	108.20
24	L	31	ARG	NE-CZ-NH2	-7.38	116.61	120.30
34	AA	1752	C	O4'-C1'-N1	7.38	114.10	108.20
34	AA	2713	C	O4'-C1'-N1	7.38	114.10	108.20
34	AA	3691	C	O4'-C1'-N1	7.38	114.10	108.20
66	AZ	114	ARG	NE-CZ-NH1	7.38	123.99	120.30
34	AA	3195	C	C2-N1-C1'	7.37	126.91	118.80
1	A	1917	C	O4'-C1'-N1	7.37	114.09	108.20
1	A	1856	A	C1'-O4'-C4'	-7.37	104.01	109.90
34	AA	702	U	C6-N1-C1'	-7.37	110.89	121.20
21	F	113	ARG	NE-CZ-NH1	7.36	123.98	120.30
34	AA	1217	U	P-O3'-C3'	7.36	128.53	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	L	188	ARG	NE-CZ-NH2	-7.36	116.62	120.30
34	AA	607	A	N1-C6-N6	7.36	123.02	118.60
34	AA	3235	C	O4'-C1'-N1	7.36	114.09	108.20
1	A	832	A	O4'-C1'-N9	7.36	114.08	108.20
31	V	102	ARG	NE-CZ-NH1	7.35	123.97	120.30
34	AA	438	U	O4'-C1'-N1	7.35	114.08	108.20
1	A	1441	C	O4'-C1'-N1	7.35	114.08	108.20
71	AF	97	ARG	NE-CZ-NH2	7.35	123.97	120.30
34	AA	315	C	O4'-C1'-N1	7.34	114.08	108.20
34	AA	1971	U	O4'-C1'-N1	7.34	114.08	108.20
34	AA	1874	C	O4'-C1'-N1	7.34	114.07	108.20
34	AA	732	C	O4'-C1'-N1	7.34	114.07	108.20
1	A	1820	C	O4'-C1'-N1	7.34	114.07	108.20
34	AA	172	C	O4'-C1'-N1	7.34	114.07	108.20
34	AA	3031	C	O4'-C1'-N1	7.33	114.07	108.20
34	AA	3400	C	O4'-C1'-N1	7.33	114.06	108.20
34	AA	771	U	O4'-C1'-N1	7.33	114.06	108.20
34	AA	2172	C	O4'-C1'-N1	7.33	114.06	108.20
34	AA	2103	C	O4'-C1'-N1	7.33	114.06	108.20
34	AA	1313	C	O4'-C1'-N1	7.33	114.06	108.20
66	AZ	12	ARG	NE-CZ-NH2	-7.32	116.64	120.30
71	AF	75	ARG	NE-CZ-NH1	7.32	123.96	120.30
1	A	1813	U	O4'-C1'-N1	7.32	114.05	108.20
34	AA	3282	U	P-O5'-C5'	-7.32	109.20	120.90
1	A	49	C	O4'-C1'-N1	7.31	114.05	108.20
34	AA	431	G	O4'-C1'-N9	7.31	114.05	108.20
1	A	1297	A	O4'-C1'-N9	7.30	114.04	108.20
34	AA	197	G	O4'-C1'-N9	7.30	114.04	108.20
47	Ab	94	ARG	NE-CZ-NH1	-7.30	116.65	120.30
28	S	132	ARG	NE-CZ-NH1	7.30	123.95	120.30
34	AA	2456	C	O4'-C1'-N1	7.30	114.04	108.20
34	AA	3344	C	O4'-C1'-N1	7.30	114.04	108.20
34	AA	147	C	O4'-C1'-N1	7.30	114.04	108.20
1	A	955	U	O4'-C1'-N1	7.29	114.03	108.20
34	AA	3258	C	C2-N1-C1'	7.29	126.82	118.80
25	N	54	ARG	NE-CZ-NH1	7.29	123.94	120.30
35	AC	40	G	C5-C6-O6	-7.29	124.23	128.60
34	AA	1112	C	O4'-C1'-N1	7.29	114.03	108.20
34	AA	3307	C	O4'-C1'-N1	7.29	114.03	108.20
34	AA	3567	U	O4'-C1'-N1	7.28	114.03	108.20
1	A	320	C	O4'-C1'-N1	7.28	114.03	108.20
64	AY	108	TYR	CB-CG-CD1	7.28	125.37	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1624	U	P-O3'-C3'	7.28	128.44	119.70
34	AA	2652	C	O4'-C1'-N1	7.28	114.02	108.20
43	AN	60	PHE	CB-CG-CD2	7.28	125.90	120.80
34	AA	349	G	C5-C6-O6	-7.28	124.23	128.60
34	AA	2626	C	O4'-C1'-N1	7.28	114.02	108.20
34	AA	2604	G	N1-C6-O6	7.28	124.27	119.90
15	2	76	ARG	NE-CZ-NH1	7.27	123.94	120.30
34	AA	1290	C	O4'-C1'-N1	7.27	114.02	108.20
34	AA	1231	A	P-O5'-C5'	7.26	132.52	120.90
56	Ac	48	ARG	NE-CZ-NH2	-7.26	116.67	120.30
34	AA	3620	C	O4'-C1'-N1	7.26	114.01	108.20
69	AD	6	ARG	NE-CZ-NH1	7.26	123.93	120.30
62	AR	181	ARG	NE-CZ-NH2	-7.25	116.67	120.30
1	A	32	U	O4'-C1'-N1	7.25	114.00	108.20
1	A	1896	C	O4'-C1'-N1	7.25	114.00	108.20
34	AA	577	U	P-O5'-C5'	7.25	132.50	120.90
34	AA	2647	C	O4'-C1'-N1	7.25	114.00	108.20
34	AA	251	U	O4'-C1'-N1	7.25	114.00	108.20
34	AA	3460	C	O4'-C1'-N1	7.25	114.00	108.20
1	A	590	C	O4'-C1'-N1	7.24	114.00	108.20
34	AA	2615	C	O4'-C1'-N1	7.24	114.00	108.20
1	A	1907	A	C4'-C3'-C2'	-7.24	95.36	102.60
34	AA	353	G	P-O3'-C3'	7.24	128.39	119.70
34	AA	922	C	O4'-C1'-N1	7.24	113.99	108.20
34	AA	870	C	O4'-C1'-N1	7.24	113.99	108.20
34	AA	1796	U	O4'-C1'-N1	7.24	113.99	108.20
34	AA	2590	U	C2-N1-C1'	7.24	126.39	117.70
34	AA	1573	C	O4'-C1'-N1	7.24	113.99	108.20
34	AA	1991	U	O4'-C1'-N1	7.23	113.99	108.20
1	A	1444	C	O4'-C1'-N1	7.23	113.98	108.20
34	AA	1852	C	O4'-C1'-N1	7.23	113.98	108.20
1	A	158	C	O4'-C1'-N1	7.23	113.98	108.20
1	A	1409	U	O4'-C1'-N1	7.23	113.98	108.20
32	X	114	TYR	CB-CG-CD2	-7.23	116.66	121.00
34	AA	216	C	O4'-C1'-N1	7.23	113.98	108.20
1	A	793	G	O4'-C1'-N9	7.23	113.98	108.20
34	AA	3634	C	O4'-C1'-N1	7.23	113.98	108.20
1	A	548	A	P-O3'-C3'	-7.22	111.03	119.70
70	AE	280	TYR	CB-CG-CD2	-7.22	116.67	121.00
37	AL	190	ARG	NE-CZ-NH1	7.22	123.91	120.30
34	AA	1726	C	O4'-C1'-N1	7.22	113.97	108.20
1	A	1943	C	O4'-C1'-N1	7.21	113.97	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	705	C	O4'-C1'-N1	7.21	113.96	108.20
34	AA	293	U	O4'-C1'-N1	7.20	113.96	108.20
78	A0	31	ARG	NE-CZ-NH2	-7.20	116.70	120.30
1	A	494	G	O4'-C1'-N9	7.20	113.96	108.20
34	AA	3029	G	O4'-C1'-N9	7.20	113.96	108.20
70	AE	156	ARG	NE-CZ-NH1	7.20	123.90	120.30
34	AA	2425	C	O4'-C1'-N1	7.20	113.96	108.20
46	Aa	67	ARG	NE-CZ-NH2	-7.20	116.70	120.30
1	A	1750	U	O4'-C1'-N1	7.20	113.96	108.20
34	AA	1266	U	O4'-C1'-N1	7.19	113.95	108.20
34	AA	2146	A	C1'-O4'-C4'	-7.19	104.15	109.90
34	AA	1575	C	C6-N1-C2	-7.19	117.42	120.30
34	AA	1818	C	O4'-C1'-N1	7.19	113.95	108.20
1	A	1408	C	O4'-C1'-N1	7.19	113.95	108.20
4	E	132	ARG	NE-CZ-NH1	-7.19	116.71	120.30
11	O	23	TYR	CB-CG-CD2	-7.18	116.69	121.00
76	Ag	16	ARG	NE-CZ-NH1	7.18	123.89	120.30
1	A	167	A	P-O3'-C3'	7.18	128.32	119.70
1	A	1375	C	O4'-C1'-N1	7.18	113.95	108.20
34	AA	200	A	C5-C6-N6	-7.18	117.95	123.70
35	AC	49	C	O4'-C1'-N1	7.18	113.95	108.20
34	AA	944	U	O4'-C1'-N1	7.18	113.94	108.20
34	AA	3319	C	O4'-C1'-N1	7.17	113.94	108.20
70	AE	10	ARG	NE-CZ-NH1	7.17	123.88	120.30
12	Y	108	ARG	NE-CZ-NH1	7.17	123.88	120.30
34	AA	1845	C	O4'-C1'-N1	7.17	113.93	108.20
35	AC	146	C	O4'-C1'-N1	7.17	113.93	108.20
18	5	42	ARG	NE-CZ-NH1	7.16	123.88	120.30
34	AA	1058	U	O4'-C1'-N1	7.16	113.93	108.20
2	7	33	C	P-O3'-C3'	-7.16	111.11	119.70
34	AA	597	A	P-O3'-C3'	7.16	128.29	119.70
59	AS	39	ARG	NE-CZ-NH1	7.16	123.88	120.30
62	AR	107	ARG	NE-CZ-NH1	7.16	123.88	120.30
34	AA	1722	C	O4'-C1'-N1	7.16	113.93	108.20
34	AA	1806	C	O4'-C1'-N1	7.16	113.93	108.20
58	AM	50	ARG	NE-CZ-NH2	7.16	123.88	120.30
1	A	566	C	O4'-C1'-N1	7.15	113.92	108.20
34	AA	1175	C	O4'-C1'-N1	7.15	113.92	108.20
34	AA	3433	C	O4'-C1'-N1	7.15	113.92	108.20
36	AB	93	G	O4'-C1'-N9	7.15	113.92	108.20
34	AA	451	C	O4'-C1'-N1	7.15	113.92	108.20
34	AA	992	C	O4'-C1'-N1	7.15	113.92	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3157	C	O4'-C1'-N1	7.15	113.92	108.20
34	AA	2985	C	O4'-C1'-N1	7.15	113.92	108.20
2	7	66	C	O4'-C1'-N1	7.15	113.92	108.20
34	AA	3240	C	O4'-C1'-N1	7.14	113.92	108.20
34	AA	2570	C	O4'-C1'-N1	7.14	113.91	108.20
1	A	1979	C	O4'-C1'-N1	7.14	113.91	108.20
34	AA	683	A	P-O3'-C3'	7.14	128.27	119.70
29	T	54	ARG	NE-CZ-NH2	7.13	123.87	120.30
34	AA	591	G	O4'-C1'-N9	7.13	113.91	108.20
34	AA	875	C	O4'-C1'-N1	7.13	113.91	108.20
34	AA	1431	A	C1'-O4'-C4'	-7.13	104.19	109.90
34	AA	2479	U	O4'-C1'-N1	7.13	113.90	108.20
34	AA	233	C	O4'-C1'-N1	7.13	113.90	108.20
34	AA	1076	C	O4'-C1'-N1	7.13	113.90	108.20
34	AA	1644	U	C2-N3-C4	-7.13	122.72	127.00
34	AA	2034	G	O4'-C1'-N9	7.13	113.90	108.20
70	AE	19	ARG	NE-CZ-NH1	7.13	123.86	120.30
1	A	1877	C	O4'-C1'-N1	7.12	113.90	108.20
2	7	24	C	O4'-C1'-N1	7.12	113.90	108.20
1	A	874	A	P-O3'-C3'	7.12	128.24	119.70
34	AA	32	C	O4'-C1'-N1	7.12	113.89	108.20
72	AG	137	ARG	NE-CZ-NH2	7.12	123.86	120.30
21	F	108	ARG	NE-CZ-NH1	7.12	123.86	120.30
34	AA	733	C	O4'-C1'-N1	7.11	113.89	108.20
34	AA	3205	U	C2-N1-C1'	7.11	126.24	117.70
34	AA	2116	C	O4'-C1'-N1	7.11	113.89	108.20
1	A	95	A	O4'-C1'-N9	7.11	113.89	108.20
34	AA	2916	C	O4'-C1'-N1	7.11	113.88	108.20
34	AA	28	C	O4'-C1'-N1	7.10	113.88	108.20
34	AA	2961	C	O4'-C1'-N1	7.10	113.88	108.20
34	AA	3220	U	O4'-C1'-N1	7.10	113.88	108.20
34	AA	2037	U	O4'-C1'-N1	7.10	113.88	108.20
34	AA	1788	C	O4'-C1'-N1	7.10	113.88	108.20
70	AE	244	ARG	NE-CZ-NH1	7.10	123.85	120.30
34	AA	3216	C	O4'-C1'-N1	7.09	113.88	108.20
2	7	41	C	O4'-C1'-N1	7.09	113.87	108.20
34	AA	542	A	C5-C6-N6	-7.09	118.03	123.70
34	AA	3013	A	P-O5'-C5'	7.09	132.24	120.90
2	7	14	A	O4'-C1'-N9	7.08	113.87	108.20
34	AA	728	C	O4'-C1'-N1	7.08	113.87	108.20
34	AA	1656	G	O4'-C1'-N9	7.08	113.87	108.20
34	AA	489	U	P-O3'-C3'	7.08	128.19	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	31	C	O4'-C1'-N1	7.08	113.86	108.20
34	AA	2455	G	C5-C6-O6	-7.08	124.35	128.60
63	AW	69	ARG	NE-CZ-NH1	7.07	123.84	120.30
34	AA	990	U	O4'-C1'-N1	7.07	113.86	108.20
34	AA	2010	C	O4'-C1'-N1	7.07	113.86	108.20
34	AA	414	C	O4'-C1'-N1	7.07	113.86	108.20
1	A	1980	A	O4'-C1'-N9	7.07	113.85	108.20
34	AA	1769	U	O4'-C1'-N1	7.06	113.85	108.20
1	A	437	C	O4'-C1'-N1	7.06	113.85	108.20
1	A	1404	U	O4'-C1'-N1	7.06	113.85	108.20
1	A	1416	U	O4'-C1'-N1	7.06	113.85	108.20
51	AP	31	ARG	NE-CZ-NH2	-7.06	116.77	120.30
1	A	1909	C	C6-N1-C2	-7.06	117.48	120.30
34	AA	1155	C	O4'-C1'-N1	7.06	113.85	108.20
77	AX	121	ARG	NE-CZ-NH2	7.05	123.83	120.30
1	A	638	G	C5-C6-O6	-7.05	124.37	128.60
65	AT	61	ARG	NE-CZ-NH1	7.05	123.83	120.30
1	A	1440	C	O4'-C1'-N1	7.05	113.84	108.20
34	AA	1020	C	O4'-C1'-N1	7.05	113.84	108.20
27	Q	20	ARG	NE-CZ-NH2	-7.04	116.78	120.30
34	AA	83	U	O4'-C1'-N1	7.04	113.84	108.20
34	AA	3511	C	O4'-C1'-N1	7.04	113.83	108.20
68	A5	173	ARG	NE-CZ-NH2	7.04	123.82	120.30
61	AQ	98	ARG	NE-CZ-NH2	7.04	123.82	120.30
1	A	1729	A	O4'-C1'-N9	7.04	113.83	108.20
34	AA	3168	C	O4'-C1'-N1	7.04	113.83	108.20
1	A	1209	G	N1-C6-O6	7.04	124.12	119.90
27	Q	18	ARG	NE-CZ-NH1	7.04	123.82	120.30
35	AC	152	C	O4'-C1'-N1	7.03	113.83	108.20
34	AA	719	C	O4'-C1'-N1	7.03	113.83	108.20
28	S	89	ARG	NE-CZ-NH2	7.03	123.81	120.30
28	S	115	ARG	NE-CZ-NH1	-7.03	116.79	120.30
1	A	17	C	O4'-C1'-N1	7.03	113.82	108.20
1	A	586	A	C1'-O4'-C4'	-7.03	104.28	109.90
1	A	150	C	O4'-C1'-N1	7.02	113.82	108.20
1	A	2079	C	O4'-C1'-N1	7.02	113.82	108.20
34	AA	10	G	C5-C6-O6	-7.02	124.39	128.60
57	AK	81	ARG	NE-CZ-NH2	7.02	123.81	120.30
67	A3	64	ARG	NE-CZ-NH1	7.02	123.81	120.30
1	A	1936	C	O4'-C1'-N1	7.02	113.81	108.20
34	AA	3171	C	O4'-C1'-N1	7.02	113.81	108.20
34	AA	674	U	O4'-C1'-N1	7.01	113.81	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	AB	67	C	O4'-C1'-N1	7.01	113.81	108.20
65	AT	99	ARG	NE-CZ-NH2	-7.00	116.80	120.30
2	7	74	A	O4'-C1'-N9	7.00	113.80	108.20
34	AA	1440	C	O4'-C1'-N1	7.00	113.80	108.20
34	AA	3695	C	O4'-C1'-N1	7.00	113.80	108.20
1	A	1812	A	O4'-C1'-N9	7.00	113.80	108.20
2	7	74	A	C4'-C3'-C2'	-7.00	95.60	102.60
6	I	189	ARG	NE-CZ-NH1	7.00	123.80	120.30
34	AA	82	U	O4'-C1'-N1	7.00	113.80	108.20
34	AA	1827	C	O4'-C1'-N1	7.00	113.80	108.20
36	AB	93	G	C5-C6-O6	-7.00	124.40	128.60
59	AS	103	ARG	NE-CZ-NH1	7.00	123.80	120.30
34	AA	1720	C	O4'-C1'-N1	7.00	113.80	108.20
1	A	414	C	O4'-C1'-N1	6.99	113.79	108.20
34	AA	234	C	O4'-C1'-N1	6.99	113.80	108.20
1	A	586	A	O4'-C1'-N9	6.99	113.79	108.20
1	A	2062	U	O4'-C1'-N1	6.99	113.79	108.20
1	A	1267	C	O4'-C1'-N1	6.99	113.79	108.20
34	AA	1430	A	O4'-C1'-N9	6.99	113.79	108.20
34	AA	2955	C	O4'-C1'-N1	6.99	113.79	108.20
34	AA	3131	A	O4'-C1'-N9	6.99	113.79	108.20
34	AA	124	U	O4'-C1'-N1	6.98	113.78	108.20
34	AA	2004	U	C2-N3-C4	-6.98	122.81	127.00
34	AA	2099	C	O4'-C1'-N1	6.98	113.79	108.20
34	AA	2444	C	O4'-C1'-N1	6.98	113.79	108.20
34	AA	3070	C	O4'-C1'-N1	6.98	113.79	108.20
34	AA	1452	U	O4'-C1'-N1	6.98	113.78	108.20
34	AA	3782	A	P-O3'-C3'	6.98	128.07	119.70
34	AA	1026	G	C5-C6-O6	-6.97	124.42	128.60
34	AA	1265	C	O4'-C1'-N1	6.97	113.78	108.20
63	AW	56	ARG	NE-CZ-NH1	6.97	123.79	120.30
1	A	1886	C	O4'-C1'-N1	6.97	113.77	108.20
34	AA	1797	A	N1-C6-N6	6.97	122.78	118.60
34	AA	138	C	O4'-C1'-N1	6.97	113.77	108.20
61	AQ	3	ARG	NE-CZ-NH2	6.96	123.78	120.30
34	AA	3461	C	O4'-C1'-N1	6.95	113.76	108.20
34	AA	1442	C	O4'-C1'-N1	6.95	113.76	108.20
34	AA	3633	U	O4'-C1'-N1	6.95	113.76	108.20
7	K	121	THR	N-CA-CB	6.95	123.51	110.30
1	A	439	C	O4'-C1'-N1	6.95	113.76	108.20
34	AA	3702	C	O4'-C1'-N1	6.94	113.75	108.20
32	X	47	ARG	NE-CZ-NH2	6.94	123.77	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3323	G	C5-C6-O6	-6.94	124.43	128.60
34	AA	3714	C	O4'-C1'-N1	6.94	113.75	108.20
34	AA	1249	U	O4'-C1'-N1	6.94	113.75	108.20
1	A	932	U	O4'-C1'-N1	6.94	113.75	108.20
1	A	1839	G	O4'-C1'-N9	6.94	113.75	108.20
45	A9	106	ARG	NE-CZ-NH1	6.94	123.77	120.30
34	AA	1825	C	O4'-C1'-N1	6.93	113.75	108.20
1	A	1298	C	O4'-C1'-N1	6.93	113.75	108.20
34	AA	213	C	O4'-C1'-N1	6.93	113.75	108.20
6	I	51	ARG	NE-CZ-NH1	6.93	123.77	120.30
34	AA	937	C	O4'-C1'-N1	6.93	113.74	108.20
1	A	170	C	O4'-C1'-N1	6.92	113.74	108.20
28	S	134	ARG	NE-CZ-NH2	-6.92	116.84	120.30
34	AA	210	C	O4'-C1'-N1	6.92	113.74	108.20
34	AA	741	C	O4'-C1'-N1	6.92	113.74	108.20
34	AA	1665	C	O4'-C1'-N1	6.92	113.74	108.20
1	A	1865	G	O4'-C1'-N9	6.92	113.74	108.20
34	AA	2553	U	O4'-C1'-N1	6.92	113.74	108.20
70	AE	30	ARG	NE-CZ-NH1	6.92	123.76	120.30
1	A	300	C	O4'-C1'-N1	6.92	113.73	108.20
34	AA	2624	C	O4'-C1'-N1	6.92	113.73	108.20
34	AA	3005	C	O4'-C1'-N1	6.92	113.73	108.20
70	AE	366	ARG	NE-CZ-NH1	6.92	123.76	120.30
2	7	16	U	O4'-C1'-N1	6.92	113.73	108.20
21	F	100	ARG	NE-CZ-NH1	6.91	123.76	120.30
34	AA	589	C	O4'-C1'-N1	6.91	113.73	108.20
34	AA	202	C	O4'-C1'-N1	6.91	113.73	108.20
34	AA	2622	C	O4'-C1'-N1	6.91	113.73	108.20
1	A	1198	U	O4'-C1'-N1	6.91	113.73	108.20
34	AA	1035	G	C5-C6-O6	-6.91	124.45	128.60
34	AA	1088	C	O4'-C1'-N1	6.91	113.73	108.20
34	AA	1979	C	O4'-C1'-N1	6.91	113.73	108.20
34	AA	306	C	O4'-C1'-N1	6.91	113.73	108.20
34	AA	3324	U	O4'-C1'-N1	6.91	113.73	108.20
36	AB	44	C	O4'-C1'-N1	6.90	113.72	108.20
1	A	408	U	O4'-C1'-N1	6.90	113.72	108.20
34	AA	175	G	O4'-C1'-N9	6.90	113.72	108.20
34	AA	2558	C	O4'-C1'-N1	6.90	113.72	108.20
34	AA	2591	U	C2-N1-C1'	6.90	125.98	117.70
34	AA	3732	U	O4'-C1'-N1	6.90	113.72	108.20
34	AA	3204	C	O4'-C1'-N1	6.90	113.72	108.20
1	A	845	U	P-O3'-C3'	6.89	127.97	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	895	U	O4'-C1'-N1	6.89	113.72	108.20
34	AA	3469	C	O4'-C1'-N1	6.89	113.72	108.20
34	AA	3081	C	O4'-C1'-N1	6.89	113.71	108.20
68	A5	86	ARG	NE-CZ-NH2	-6.89	116.85	120.30
34	AA	1026	G	N1-C6-O6	6.89	124.03	119.90
34	AA	1823	C	O4'-C1'-N1	6.89	113.71	108.20
34	AA	2689	G	O4'-C1'-N9	6.89	113.71	108.20
34	AA	3381	A	P-O3'-C3'	6.89	127.96	119.70
1	A	1463	C	O4'-C1'-N1	6.88	113.71	108.20
24	L	49	ARG	NE-CZ-NH2	-6.88	116.86	120.30
34	AA	701	C	O4'-C1'-N1	6.88	113.70	108.20
34	AA	1200	C	O4'-C1'-N1	6.88	113.70	108.20
51	AP	26	ARG	NE-CZ-NH1	6.88	123.74	120.30
1	A	1817	U	P-O3'-C3'	6.88	127.95	119.70
34	AA	3770	C	O4'-C1'-N1	6.88	113.70	108.20
34	AA	710	C	O4'-C1'-N1	6.87	113.70	108.20
73	AU	21	ARG	NE-CZ-NH1	-6.87	116.86	120.30
74	AH	144	TYR	CB-CG-CD1	6.87	125.12	121.00
1	A	818	C	O4'-C1'-N1	6.87	113.70	108.20
1	A	1296	C	O4'-C1'-N1	6.87	113.70	108.20
35	AC	104	C	O4'-C1'-N1	6.87	113.70	108.20
34	AA	2036	C	O4'-C1'-N1	6.87	113.69	108.20
34	AA	1794	U	O4'-C1'-N1	6.87	113.69	108.20
34	AA	3517	C	O4'-C1'-N1	6.87	113.69	108.20
1	A	2064	C	O4'-C1'-N1	6.86	113.69	108.20
34	AA	1457	G	C5-C6-O6	-6.86	124.48	128.60
34	AA	1646	C	O4'-C1'-N1	6.86	113.69	108.20
34	AA	3065	C	C2-N1-C1'	6.86	126.35	118.80
1	A	379	G	C5-C6-O6	-6.86	124.49	128.60
1	A	2053	U	P-O3'-C3'	6.86	127.93	119.70
57	AK	201	TYR	CB-CG-CD1	6.85	125.11	121.00
34	AA	718	U	O4'-C1'-N1	6.85	113.68	108.20
1	A	979	C	O4'-C1'-N1	6.85	113.68	108.20
1	A	907	C	O4'-C1'-N1	6.85	113.68	108.20
34	AA	3139	C	C2-N1-C1'	6.85	126.33	118.80
34	AA	1725	U	O4'-C1'-N1	6.84	113.67	108.20
34	AA	525	U	O4'-C1'-N1	6.84	113.67	108.20
34	AA	1679	U	O4'-C1'-N1	6.84	113.67	108.20
1	A	2023	A	N1-C6-N6	6.84	122.70	118.60
20	B	220	ARG	NE-CZ-NH2	6.83	123.72	120.30
1	A	415	C	O4'-C1'-N1	6.83	113.67	108.20
3	D	167	ARG	NE-CZ-NH1	6.83	123.72	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	V	70	ARG	NE-CZ-NH1	6.83	123.72	120.30
34	AA	1031	G	N3-C2-N2	6.83	124.68	119.90
34	AA	3739	A	O4'-C1'-N9	6.83	113.66	108.20
34	AA	1575	C	C5'-C4'-O4'	6.83	117.29	109.10
34	AA	1757	C	O4'-C1'-N1	6.82	113.66	108.20
34	AA	3258	C	O4'-C1'-N1	6.82	113.66	108.20
34	AA	3352	G	C5-C6-O6	-6.82	124.50	128.60
34	AA	3053	G	O4'-C1'-N9	6.82	113.66	108.20
1	A	1635	C	C2-N1-C1'	6.82	126.30	118.80
34	AA	1506	C	O4'-C1'-N1	6.82	113.66	108.20
1	A	1956	A	N1-C6-N6	6.82	122.69	118.60
34	AA	2934	A	O4'-C1'-N9	6.82	113.65	108.20
1	A	953	C	O4'-C1'-N1	6.82	113.65	108.20
34	AA	1301	U	O4'-C1'-N1	6.82	113.65	108.20
34	AA	3209	G	C5-C6-O6	-6.82	124.51	128.60
1	A	621	C	O4'-C1'-N1	6.81	113.65	108.20
3	D	76	ARG	NE-CZ-NH1	6.81	123.71	120.30
34	AA	1502	G	C5'-C4'-O4'	6.81	117.28	109.10
34	AA	1539	U	O4'-C1'-N1	6.81	113.65	108.20
1	A	1377	U	O4'-C1'-N1	6.81	113.65	108.20
25	N	79	PHE	CB-CG-CD1	6.81	125.56	120.80
26	P	128	ARG	NE-CZ-NH1	-6.81	116.90	120.30
70	AE	272	ARG	NE-CZ-NH1	-6.81	116.90	120.30
34	AA	577	U	O4'-C1'-N1	6.80	113.64	108.20
34	AA	3783	G	C5'-C4'-O4'	6.80	117.26	109.10
34	AA	3020	U	O4'-C1'-N1	6.80	113.64	108.20
35	AC	148	C	O4'-C1'-N1	6.80	113.64	108.20
34	AA	982	C	O4'-C1'-N1	6.80	113.64	108.20
1	A	323	C	O4'-C1'-N1	6.79	113.63	108.20
35	AC	61	C	O4'-C1'-N1	6.79	113.63	108.20
46	Aa	58	ARG	NE-CZ-NH1	-6.79	116.90	120.30
34	AA	92	G	C5-C6-O6	-6.79	124.53	128.60
34	AA	146	U	O4'-C1'-N1	6.79	113.63	108.20
34	AA	3414	G	P-O3'-C3'	6.79	127.85	119.70
34	AA	127	U	O4'-C1'-N1	6.79	113.63	108.20
34	AA	349	G	N1-C6-O6	6.79	123.97	119.90
34	AA	2810	A	P-O3'-C3'	6.79	127.84	119.70
2	7	73	C	C6-N1-C1'	-6.78	112.66	120.80
34	AA	3160	A	O4'-C1'-N9	6.78	113.63	108.20
56	Ac	48	ARG	NE-CZ-NH1	6.78	123.69	120.30
34	AA	2635	C	O4'-C1'-N1	6.78	113.62	108.20
34	AA	1086	C	O4'-C1'-N1	6.78	113.62	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1631	A	C5'-C4'-O4'	6.78	117.24	109.10
34	AA	873	U	P-O3'-C3'	6.78	127.83	119.70
32	X	42	ARG	NE-CZ-NH1	6.78	123.69	120.30
34	AA	231	G	O4'-C1'-N9	6.78	113.62	108.20
34	AA	3738	U	O4'-C1'-N1	6.78	113.62	108.20
2	7	32	U	P-O3'-C3'	6.77	127.83	119.70
34	AA	3257	G	C5-C6-O6	-6.77	124.54	128.60
34	AA	467	U	O4'-C1'-N1	6.77	113.62	108.20
34	AA	623	U	O4'-C1'-N1	6.77	113.62	108.20
34	AA	1849	U	O4'-C1'-N1	6.77	113.62	108.20
34	AA	3301	C	P-O3'-C3'	-6.77	111.58	119.70
1	A	1835	U	O4'-C1'-N1	6.77	113.61	108.20
49	Ae	42	ARG	NE-CZ-NH2	-6.77	116.92	120.30
1	A	360	C	O4'-C1'-N1	6.77	113.61	108.20
34	AA	1336	U	P-O3'-C3'	-6.77	111.58	119.70
1	A	1687	C	O4'-C1'-N1	6.76	113.61	108.20
63	AW	23	ARG	NE-CZ-NH1	6.76	123.68	120.30
16	3	93	ARG	NE-CZ-NH2	6.76	123.68	120.30
34	AA	857	C	O4'-C1'-N1	6.76	113.61	108.20
1	A	868	U	P-O3'-C3'	6.76	127.81	119.70
53	Ai	40	ARG	NE-CZ-NH1	6.76	123.68	120.30
1	A	1061	A	O4'-C1'-N9	6.76	113.61	108.20
1	A	1916	C	O4'-C1'-N1	6.76	113.61	108.20
7	K	97	ARG	NE-CZ-NH1	6.76	123.68	120.30
34	AA	306	C	C6-N1-C1'	-6.76	112.69	120.80
46	Aa	67	ARG	NE-CZ-NH1	6.76	123.68	120.30
1	A	344	C	O4'-C1'-N1	6.76	113.61	108.20
34	AA	3456	C	O4'-C1'-N1	6.76	113.61	108.20
34	AA	3545	U	O4'-C1'-N1	6.76	113.61	108.20
35	AC	15	C	O4'-C1'-N1	6.76	113.61	108.20
34	AA	3265	C	O4'-C1'-N1	6.75	113.60	108.20
22	H	186	ARG	NE-CZ-NH1	6.75	123.68	120.30
34	AA	1840	C	O4'-C1'-N1	6.75	113.60	108.20
34	AA	2993	C	O4'-C1'-N1	6.75	113.60	108.20
2	7	26	C	O4'-C1'-N1	6.75	113.60	108.20
35	AC	68	C	O4'-C1'-N1	6.75	113.60	108.20
1	A	1310	C	O4'-C1'-N1	6.75	113.60	108.20
43	AN	60	PHE	CB-CG-CD1	-6.75	116.08	120.80
1	A	270	C	O4'-C1'-N1	6.75	113.60	108.20
49	Ae	41	ARG	NE-CZ-NH1	6.75	123.67	120.30
1	A	909	U	O4'-C1'-N1	6.75	113.60	108.20
34	AA	1117	U	O4'-C1'-N1	6.74	113.59	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	2700	C	O4'-C1'-N1	6.74	113.60	108.20
2	7	45	A	P-O3'-C3'	6.74	127.79	119.70
34	AA	1572	U	C2-N1-C1'	6.74	125.79	117.70
1	A	1012	C	O4'-C1'-N1	6.74	113.59	108.20
34	AA	2498	U	O4'-C1'-N1	6.74	113.59	108.20
34	AA	348	C	O4'-C1'-N1	6.74	113.59	108.20
7	K	57	ARG	NE-CZ-NH1	6.73	123.67	120.30
36	AB	57	C	O4'-C1'-N1	6.73	113.59	108.20
1	A	553	U	O4'-C1'-N1	6.73	113.58	108.20
35	AC	121	C	O4'-C1'-N1	6.73	113.59	108.20
1	A	1922	C	O4'-C1'-N1	6.73	113.58	108.20
35	AC	103	G	C5-C6-O6	-6.73	124.56	128.60
34	AA	1167	U	O4'-C1'-N1	6.73	113.58	108.20
34	AA	1692	C	O4'-C1'-N1	6.73	113.58	108.20
1	A	1686	C	O4'-C1'-N1	6.72	113.58	108.20
34	AA	1000	C	O4'-C1'-N1	6.72	113.58	108.20
34	AA	3275	C	O4'-C1'-N1	6.72	113.58	108.20
34	AA	182	U	O4'-C1'-N1	6.72	113.58	108.20
36	AB	46	C	O4'-C1'-N1	6.72	113.58	108.20
1	A	2005	U	O4'-C1'-N1	6.72	113.58	108.20
34	AA	39	A	O4'-C1'-N9	6.72	113.58	108.20
71	AF	248	ARG	NE-CZ-NH1	6.72	123.66	120.30
34	AA	667	U	C2-N1-C1'	6.72	125.76	117.70
34	AA	1139	C	O4'-C1'-N1	6.72	113.57	108.20
1	A	458	A	O4'-C1'-N9	6.71	113.57	108.20
1	A	1362	U	O4'-C1'-N1	6.71	113.57	108.20
34	AA	109	A	P-O3'-C3'	6.71	127.76	119.70
34	AA	999	G	O4'-C1'-N9	6.71	113.57	108.20
34	AA	2396	C	C6-N1-C2	-6.71	117.61	120.30
1	A	540	C	O4'-C1'-N1	6.71	113.56	108.20
34	AA	966	A	C5-C6-N6	-6.71	118.34	123.70
34	AA	3021	C	O4'-C1'-N1	6.71	113.56	108.20
1	A	396	G	O4'-C1'-N9	6.70	113.56	108.20
34	AA	1657	U	O4'-C1'-N1	6.70	113.56	108.20
34	AA	3419	U	O4'-C1'-N1	6.70	113.56	108.20
1	A	475	C	O4'-C1'-N1	6.70	113.56	108.20
1	A	1169	C	O4'-C1'-N1	6.70	113.56	108.20
34	AA	1661	U	O4'-C1'-N1	6.70	113.56	108.20
34	AA	3023	C	O4'-C1'-N1	6.70	113.56	108.20
1	A	433	C	O4'-C1'-N1	6.70	113.56	108.20
1	A	1845	U	C5'-C4'-C3'	-6.70	105.29	116.00
35	AC	141	U	O4'-C1'-N1	6.70	113.56	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3619	U	O4'-C1'-N1	6.69	113.55	108.20
1	A	15	U	O4'-C1'-N1	6.69	113.55	108.20
1	A	1644	U	O4'-C1'-N1	6.69	113.55	108.20
1	A	1749	C	O4'-C1'-N1	6.69	113.55	108.20
34	AA	3046	C	O4'-C1'-N1	6.69	113.55	108.20
1	A	200	U	O4'-C1'-N1	6.69	113.55	108.20
34	AA	2171	U	O4'-C1'-N1	6.69	113.55	108.20
1	A	2085	G	P-O3'-C3'	-6.69	111.68	119.70
34	AA	1480	G	C5-C6-O6	-6.69	124.59	128.60
34	AA	2542	G	O4'-C1'-N9	6.69	113.55	108.20
1	A	536	C	O4'-C1'-N1	6.68	113.54	108.20
69	AD	242	ARG	NE-CZ-NH2	6.68	123.64	120.30
13	Z	72	MET	CG-SD-CE	-6.67	89.52	100.20
45	A9	127	PHE	CB-CG-CD1	6.67	125.47	120.80
1	A	572	C	O4'-C1'-N1	6.67	113.54	108.20
34	AA	2409	G	O4'-C1'-N9	6.67	113.54	108.20
34	AA	3139	C	C5'-C4'-O4'	6.67	117.11	109.10
51	AP	144	ARG	NE-CZ-NH1	6.67	123.64	120.30
34	AA	3407	G	N1-C6-O6	6.67	123.90	119.90
1	A	1781	C	O4'-C1'-N1	6.67	113.53	108.20
34	AA	796	C	O4'-C1'-N1	6.67	113.53	108.20
70	AE	280	TYR	CB-CG-CD1	6.67	125.00	121.00
1	A	597	C	O4'-C1'-N1	6.66	113.53	108.20
1	A	2085	G	C5-C6-O6	-6.66	124.60	128.60
34	AA	1618	C	P-O3'-C3'	-6.66	111.70	119.70
1	A	1300	G	O4'-C1'-N9	6.66	113.53	108.20
34	AA	1041	U	C2-N1-C1'	6.66	125.69	117.70
34	AA	2402	U	O4'-C1'-N1	6.66	113.53	108.20
34	AA	2495	C	O4'-C1'-N1	6.66	113.53	108.20
69	AD	242	ARG	NE-CZ-NH1	-6.65	116.97	120.30
34	AA	1751	C	C6-N1-C2	-6.65	117.64	120.30
34	AA	3673	C	O4'-C1'-N1	6.65	113.52	108.20
28	S	115	ARG	NE-CZ-NH2	6.65	123.63	120.30
1	A	2084	G	O4'-C1'-N9	6.65	113.52	108.20
34	AA	2883	U	O4'-C1'-N1	6.65	113.52	108.20
34	AA	2972	U	O4'-C1'-N1	6.65	113.52	108.20
34	AA	3640	C	O4'-C1'-N1	6.65	113.52	108.20
1	A	1425	C	O4'-C1'-N1	6.65	113.52	108.20
34	AA	957	G	C5-C6-O6	-6.65	124.61	128.60
34	AA	3437	U	O4'-C1'-N1	6.64	113.52	108.20
1	A	836	C	O4'-C1'-N1	6.64	113.51	108.20
76	Ag	35	ARG	NE-CZ-NH1	6.64	123.62	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3226	C	O4'-C1'-N1	6.64	113.51	108.20
35	AC	113	A	P-O3'-C3'	6.64	127.66	119.70
34	AA	1537	G	C5'-C4'-C3'	-6.63	105.38	116.00
71	AF	291	ARG	NE-CZ-NH2	-6.63	116.98	120.30
34	AA	1480	G	C4-N9-C1'	6.63	135.12	126.50
34	AA	3407	G	C5-C6-O6	-6.63	124.62	128.60
34	AA	821	C	O4'-C1'-N1	6.63	113.50	108.20
56	Ac	24	ARG	NE-CZ-NH2	6.63	123.61	120.30
63	AW	82	ARG	NE-CZ-NH2	-6.63	116.98	120.30
1	A	179	U	O4'-C1'-N1	6.63	113.50	108.20
1	A	1019	C	O4'-C1'-N1	6.63	113.50	108.20
11	O	23	TYR	CB-CG-CD1	6.63	124.98	121.00
36	AB	24	U	O4'-C1'-N1	6.63	113.50	108.20
1	A	25	C	P-O3'-C3'	6.63	127.65	119.70
34	AA	1995	C	O4'-C1'-N1	6.62	113.50	108.20
1	A	1906	U	O4'-C1'-N1	6.62	113.50	108.20
34	AA	660	U	O4'-C1'-N1	6.62	113.50	108.20
2	7	7	U	P-O3'-C3'	6.62	127.65	119.70
75	AV	37	TYR	CB-CG-CD2	-6.62	117.03	121.00
1	A	570	U	O4'-C1'-N1	6.62	113.49	108.20
1	A	2027	C	O4'-C1'-N1	6.62	113.49	108.20
2	7	40	U	O4'-C1'-N1	6.62	113.49	108.20
1	A	551	A	P-O3'-C3'	6.61	127.64	119.70
34	AA	29	C	O4'-C1'-N1	6.61	113.49	108.20
36	AB	36	C	O4'-C1'-N1	6.61	113.49	108.20
34	AA	3095	C	O4'-C1'-N1	6.61	113.49	108.20
34	AA	3115	C	O4'-C1'-N1	6.61	113.49	108.20
34	AA	3632	U	C2-N3-C4	-6.61	123.03	127.00
1	A	1893	C	O4'-C1'-N1	6.61	113.48	108.20
36	AB	92	C	O4'-C1'-N1	6.60	113.48	108.20
34	AA	3288	C	O4'-C1'-N1	6.60	113.48	108.20
35	AC	78	U	C2-N1-C1'	6.60	125.62	117.70
1	A	420	C	O4'-C1'-N1	6.60	113.48	108.20
34	AA	3186	U	O4'-C1'-N1	6.60	113.48	108.20
34	AA	1002	A	P-O3'-C3'	-6.59	111.79	119.70
34	AA	2991	U	O4'-C1'-N1	6.59	113.47	108.20
27	Q	13	ARG	NE-CZ-NH1	-6.59	117.00	120.30
34	AA	3159	G	C5-C6-O6	-6.59	124.64	128.60
1	A	522	G	C5-C6-O6	-6.59	124.65	128.60
35	AC	32	C	O4'-C1'-N1	6.59	113.47	108.20
34	AA	1302	G	O4'-C1'-N9	6.58	113.47	108.20
1	A	1796	C	C5'-C4'-C3'	-6.58	105.47	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	E	40	ARG	NE-CZ-NH1	6.58	123.59	120.30
34	AA	941	G	O4'-C1'-N9	6.58	113.47	108.20
34	AA	1430	A	P-O3'-C3'	-6.58	111.80	119.70
34	AA	3404	C	O4'-C1'-N1	6.58	113.46	108.20
34	AA	298	C	O4'-C1'-N1	6.58	113.46	108.20
1	A	1313	G	O4'-C1'-N9	6.58	113.46	108.20
34	AA	860	A	O4'-C1'-N9	6.58	113.46	108.20
34	AA	2216	G	C5-C6-O6	-6.58	124.65	128.60
1	A	1461	C	O4'-C1'-N1	6.57	113.46	108.20
34	AA	573	U	O4'-C1'-N1	6.57	113.46	108.20
34	AA	3774	A	O4'-C1'-N9	6.57	113.46	108.20
61	AQ	69	ARG	NE-CZ-NH1	6.57	123.59	120.30
1	A	1851	C	O4'-C1'-N1	6.57	113.46	108.20
8	M	43	TYR	CB-CG-CD1	6.57	124.94	121.00
34	AA	3401	C	O4'-C1'-N1	6.57	113.45	108.20
72	AG	143	ARG	NE-CZ-NH1	6.57	123.58	120.30
35	AC	138	U	P-O3'-C3'	6.57	127.58	119.70
50	Af	35	ARG	NE-CZ-NH1	6.57	123.58	120.30
27	Q	16	ARG	NE-CZ-NH2	6.57	123.58	120.30
34	AA	434	C	O4'-C1'-N1	6.57	113.45	108.20
34	AA	1013	U	O4'-C1'-N1	6.57	113.45	108.20
30	U	3	ARG	NE-CZ-NH1	6.56	123.58	120.30
32	X	114	TYR	CB-CG-CD1	6.56	124.94	121.00
34	AA	3144	C	O4'-C1'-N1	6.56	113.45	108.20
34	AA	2727	U	C6-N1-C1'	-6.56	112.01	121.20
53	Ai	33	ARG	NE-CZ-NH2	-6.56	117.02	120.30
34	AA	1241	G	C5-C6-O6	-6.56	124.67	128.60
1	A	1900	U	O4'-C1'-N1	6.55	113.44	108.20
34	AA	2703	U	O4'-C1'-N1	6.55	113.44	108.20
34	AA	1689	U	O4'-C1'-N1	6.55	113.44	108.20
34	AA	2528	C	O4'-C1'-N1	6.55	113.44	108.20
34	AA	1049	C	O4'-C1'-N1	6.55	113.44	108.20
35	AC	51	C	O4'-C1'-N1	6.55	113.44	108.20
65	AT	135	ARG	NE-CZ-NH1	6.55	123.57	120.30
1	A	908	U	O4'-C1'-N1	6.55	113.44	108.20
34	AA	126	C	O4'-C1'-N1	6.55	113.44	108.20
2	7	62	C	O4'-C1'-N1	6.55	113.44	108.20
33	C	35	ARG	NE-CZ-NH2	6.55	123.57	120.30
34	AA	136	U	C6-N1-C1'	-6.54	112.04	121.20
34	AA	686	U	O4'-C1'-N1	6.54	113.43	108.20
45	A9	127	PHE	CB-CG-CD2	-6.54	116.22	120.80
67	A3	69	ARG	NE-CZ-NH1	6.54	123.57	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1706	A	O4'-C1'-N9	6.54	113.43	108.20
4	E	132	ARG	NE-CZ-NH2	6.54	123.57	120.30
14	1	8	ARG	NE-CZ-NH1	6.54	123.57	120.30
1	A	379	G	O4'-C1'-N9	6.54	113.43	108.20
37	AL	38	ARG	NE-CZ-NH1	6.53	123.57	120.30
34	AA	3105	U	O4'-C1'-N1	6.53	113.42	108.20
36	AB	105	C	O4'-C1'-N1	6.53	113.42	108.20
1	A	449	C	O4'-C1'-N1	6.53	113.42	108.20
1	A	1791	C	O4'-C1'-N1	6.53	113.42	108.20
34	AA	2209	C	O4'-C1'-N1	6.53	113.42	108.20
34	AA	3399	U	O4'-C1'-N1	6.53	113.42	108.20
65	AT	63	ARG	NE-CZ-NH1	6.53	123.56	120.30
63	AW	69	ARG	NE-CZ-NH2	-6.52	117.04	120.30
18	5	26	ARG	NE-CZ-NH1	6.52	123.56	120.30
34	AA	1961	U	O4'-C1'-N1	6.52	113.42	108.20
1	A	1044	C	O4'-C1'-N1	6.52	113.42	108.20
34	AA	11	A	O4'-C1'-N9	6.52	113.42	108.20
34	AA	31	C	C6-N1-C2	-6.52	117.69	120.30
34	AA	600	U	O4'-C1'-N1	6.52	113.42	108.20
34	AA	3653	G	O4'-C1'-N9	6.52	113.42	108.20
34	AA	590	C	O4'-C1'-N1	6.52	113.42	108.20
34	AA	2480	G	C5'-C4'-O4'	6.52	116.92	109.10
34	AA	833	G	P-O5'-C5'	6.51	131.32	120.90
34	AA	2685	C	O4'-C1'-N1	6.51	113.41	108.20
34	AA	3429	C	O4'-C1'-N1	6.51	113.41	108.20
70	AE	26	ARG	NE-CZ-NH1	6.51	123.56	120.30
1	A	36	C	O4'-C1'-N1	6.51	113.41	108.20
34	AA	312	A	O4'-C1'-N9	6.51	113.41	108.20
34	AA	616	U	O4'-C1'-N1	6.51	113.41	108.20
71	AF	109	ARG	NE-CZ-NH2	6.51	123.56	120.30
71	AF	121	ARG	NE-CZ-NH2	-6.51	117.05	120.30
34	AA	493	C	O4'-C1'-N1	6.51	113.41	108.20
35	AC	120	C	O4'-C1'-N1	6.51	113.41	108.20
1	A	268	C	O4'-C1'-N1	6.50	113.40	108.20
1	A	12	U	O4'-C1'-N1	6.50	113.40	108.20
66	AZ	45	ARG	NE-CZ-NH1	6.50	123.55	120.30
71	AF	110	ARG	NE-CZ-NH1	6.50	123.55	120.30
1	A	994	G	N1-C6-O6	6.50	123.80	119.90
34	AA	2092	G	C5-C6-O6	-6.50	124.70	128.60
37	AL	100	ARG	NE-CZ-NH2	6.50	123.55	120.30
1	A	118	U	O4'-C1'-N1	6.50	113.40	108.20
1	A	1018	U	O4'-C1'-N1	6.50	113.40	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1911	A	O4'-C1'-N9	6.50	113.40	108.20
34	AA	1615	G	C5-C6-O6	-6.50	124.70	128.60
70	AE	117	ARG	NE-CZ-NH2	6.50	123.55	120.30
35	AC	40	G	N1-C6-O6	6.50	123.80	119.90
2	7	11	C	O4'-C1'-N1	6.49	113.39	108.20
34	AA	3343	C	O4'-C1'-N1	6.49	113.39	108.20
34	AA	3417	G	C5-C6-O6	-6.49	124.70	128.60
36	AB	96	C	O4'-C1'-N1	6.49	113.39	108.20
1	A	1645	C	C2-N1-C1'	6.49	125.94	118.80
34	AA	2603	U	O4'-C1'-N1	6.49	113.39	108.20
34	AA	3623	A	O4'-C1'-N9	6.49	113.39	108.20
1	A	588	U	O4'-C1'-N1	6.49	113.39	108.20
34	AA	1497	U	P-O3'-C3'	6.48	127.48	119.70
34	AA	2970	U	O4'-C1'-N1	6.48	113.39	108.20
34	AA	3536	C	O4'-C1'-N1	6.48	113.39	108.20
1	A	576	C	O4'-C1'-N1	6.48	113.38	108.20
34	AA	1161	C	C6-N1-C2	-6.48	117.71	120.30
36	AB	28	C	O4'-C1'-N1	6.48	113.38	108.20
34	AA	3587	U	C5'-C4'-C3'	6.48	126.36	116.00
44	A8	36	ARG	NE-CZ-NH1	6.48	123.54	120.30
34	AA	695	A	N1-C6-N6	-6.48	114.71	118.60
34	AA	1461	C	O4'-C1'-N1	6.48	113.38	108.20
34	AA	2154	A	C1'-O4'-C4'	-6.48	104.72	109.90
34	AA	3527	U	O4'-C1'-N1	6.47	113.38	108.20
1	A	1318	A	O4'-C1'-N9	6.47	113.38	108.20
13	Z	59	ARG	NE-CZ-NH1	6.47	123.54	120.30
60	AO	108	PHE	CB-CG-CD1	6.47	125.33	120.80
1	A	1709	C	O4'-C1'-N1	6.47	113.38	108.20
34	AA	390	C	O4'-C1'-N1	6.47	113.38	108.20
34	AA	3358	U	O4'-C1'-N1	6.47	113.38	108.20
35	AC	126	C	O4'-C1'-N1	6.47	113.38	108.20
1	A	1166	C	O4'-C1'-N1	6.47	113.37	108.20
34	AA	2525	A	O4'-C1'-N9	6.47	113.37	108.20
34	AA	3696	U	O4'-C1'-N1	6.47	113.37	108.20
34	AA	113	C	O4'-C1'-N1	6.46	113.37	108.20
34	AA	2124	C	O4'-C1'-N1	6.46	113.37	108.20
18	5	15	ARG	NE-CZ-NH1	-6.46	117.07	120.30
34	AA	1009	C	O4'-C1'-N1	6.46	113.37	108.20
34	AA	3232	U	O4'-C1'-N1	6.46	113.37	108.20
34	AA	3768	A	P-O3'-C3'	-6.46	111.95	119.70
34	AA	2104	C	C6-N1-C2	-6.46	117.72	120.30
1	A	122	C	O4'-C1'-N1	6.45	113.36	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	609	C	O4'-C1'-N1	6.45	113.36	108.20
34	AA	1618	C	O4'-C1'-N1	6.45	113.36	108.20
39	A2	14	ARG	NE-CZ-NH2	-6.45	117.08	120.30
46	Aa	9	ARG	NE-CZ-NH1	6.45	123.53	120.30
34	AA	599	G	O4'-C1'-N9	6.45	113.36	108.20
34	AA	859	C	O4'-C1'-N1	6.45	113.36	108.20
70	AE	331	ARG	NE-CZ-NH2	-6.45	117.08	120.30
34	AA	587	C	O4'-C1'-N1	6.45	113.36	108.20
34	AA	3148	U	O4'-C1'-N1	6.45	113.36	108.20
34	AA	3474	C	C6-N1-C2	-6.45	117.72	120.30
20	B	64	ARG	NE-CZ-NH1	6.44	123.52	120.30
24	L	8	ARG	NE-CZ-NH1	6.44	123.52	120.30
34	AA	588	C	O4'-C1'-N1	6.44	113.35	108.20
34	AA	3055	U	O4'-C1'-N1	6.44	113.35	108.20
1	A	573	C	O4'-C1'-N1	6.44	113.35	108.20
1	A	1797	C	O4'-C1'-N1	6.44	113.35	108.20
1	A	1863	U	C5'-C4'-O4'	6.44	116.83	109.10
33	C	101	ARG	NE-CZ-NH2	6.44	123.52	120.30
34	AA	3067	G	O4'-C1'-N9	6.44	113.35	108.20
34	AA	1996	C	O4'-C1'-N1	6.44	113.35	108.20
34	AA	2411	C	O4'-C1'-N1	6.44	113.35	108.20
34	AA	2556	C	C5'-C4'-O4'	6.44	116.83	109.10
1	A	1415	A	O4'-C1'-N9	6.44	113.35	108.20
34	AA	3657	G	O4'-C1'-N9	6.43	113.35	108.20
1	A	257	C	O4'-C1'-N1	6.43	113.35	108.20
1	A	1713	C	O4'-C1'-N1	6.43	113.35	108.20
2	7	23	G	O4'-C1'-N9	6.43	113.35	108.20
34	AA	1466	C	O4'-C1'-N1	6.43	113.35	108.20
25	N	79	PHE	CB-CG-CD2	-6.43	116.30	120.80
34	AA	3631	U	O4'-C1'-N1	6.43	113.34	108.20
34	AA	271	G	O4'-C1'-N9	6.43	113.34	108.20
34	AA	1154	C	C2-N1-C1'	6.43	125.87	118.80
34	AA	1257	A	O4'-C1'-N9	6.43	113.34	108.20
34	AA	2080	C	O4'-C1'-N1	6.43	113.34	108.20
34	AA	2168	A	N1-C6-N6	-6.43	114.74	118.60
34	AA	2668	G	O4'-C1'-N9	6.43	113.34	108.20
1	A	925	C	O4'-C1'-N1	6.42	113.34	108.20
1	A	1090	C	O4'-C1'-N1	6.42	113.34	108.20
34	AA	635	U	O4'-C1'-N1	6.42	113.34	108.20
34	AA	3405	U	O4'-C1'-N1	6.42	113.34	108.20
28	S	57	ARG	NE-CZ-NH1	6.42	123.51	120.30
34	AA	159	C	O4'-C1'-N1	6.42	113.34	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	2162	U	O4'-C1'-N1	6.42	113.34	108.20
1	A	1263	C	O4'-C1'-N1	6.42	113.33	108.20
4	E	108	ARG	NE-CZ-NH1	6.42	123.51	120.30
34	AA	865	G	O4'-C1'-N9	6.42	113.33	108.20
1	A	1423	A	C1'-O4'-C4'	-6.42	104.77	109.90
35	AC	6	C	O4'-C1'-N1	6.42	113.33	108.20
1	A	183	C	O4'-C1'-N1	6.41	113.33	108.20
30	U	114	ARG	NE-CZ-NH1	6.41	123.50	120.30
34	AA	1428	G	C5-C6-O6	-6.41	124.75	128.60
34	AA	2422	C	O4'-C1'-N1	6.41	113.33	108.20
34	AA	3550	U	O4'-C1'-N1	6.41	113.33	108.20
34	AA	3679	A	P-O3'-C3'	6.41	127.39	119.70
34	AA	3192	U	O4'-C1'-N1	6.41	113.33	108.20
1	A	915	G	C5-C6-O6	-6.41	124.76	128.60
34	AA	2945	G	O4'-C1'-N9	6.41	113.33	108.20
34	AA	3382	U	O4'-C1'-N1	6.41	113.33	108.20
34	AA	769	U	C2-N1-C1'	6.41	125.39	117.70
1	A	185	U	O4'-C1'-N1	6.40	113.32	108.20
1	A	758	U	O4'-C1'-N1	6.40	113.32	108.20
34	AA	1467	C	O4'-C1'-N1	6.40	113.32	108.20
74	AH	172	ARG	NE-CZ-NH1	6.40	123.50	120.30
1	A	1946	C	O4'-C1'-N1	6.40	113.32	108.20
34	AA	901	U	O4'-C1'-N1	6.40	113.32	108.20
1	A	2018	C	O4'-C1'-N1	6.40	113.32	108.20
34	AA	1160	C	O4'-C1'-N1	6.40	113.32	108.20
73	AU	35	ARG	NE-CZ-NH2	6.40	123.50	120.30
1	A	448	C	O4'-C1'-N1	6.39	113.31	108.20
34	AA	1285	U	O4'-C1'-N1	6.39	113.31	108.20
34	AA	3244	C	O4'-C1'-N1	6.39	113.32	108.20
34	AA	2485	C	O4'-C1'-N1	6.39	113.31	108.20
42	A7	45	ARG	NE-CZ-NH1	6.39	123.50	120.30
60	AO	21	ARG	NE-CZ-NH2	6.39	123.50	120.30
34	AA	2033	C	O4'-C1'-N1	6.39	113.31	108.20
1	A	996	C	O4'-C1'-N1	6.39	113.31	108.20
34	AA	806	G	O4'-C1'-N9	6.39	113.31	108.20
1	A	917	C	O4'-C1'-N1	6.38	113.31	108.20
7	K	20	ARG	NE-CZ-NH1	6.38	123.49	120.30
34	AA	775	C	O4'-C1'-N1	6.38	113.31	108.20
34	AA	3284	C	O4'-C1'-N1	6.38	113.31	108.20
1	A	130	U	O4'-C1'-N1	6.38	113.31	108.20
1	A	981	U	O4'-C1'-N1	6.38	113.31	108.20
34	AA	3333	U	O4'-C1'-N1	6.38	113.31	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	AQ	32	ARG	NE-CZ-NH2	6.38	123.49	120.30
1	A	630	C	C6-N1-C1'	-6.38	113.14	120.80
34	AA	1172	C	O4'-C1'-N1	6.38	113.31	108.20
34	AA	1861	C	O4'-C1'-N1	6.38	113.31	108.20
34	AA	3211	C	O4'-C1'-N1	6.38	113.31	108.20
57	AK	48	ARG	NE-CZ-NH1	6.38	123.49	120.30
61	AQ	189	ARG	NE-CZ-NH1	6.38	123.49	120.30
1	A	1710	G	C5-C6-O6	-6.38	124.77	128.60
34	AA	673	U	C1'-O4'-C4'	-6.38	104.80	109.90
35	AC	38	G	C4'-C3'-C2'	-6.38	96.22	102.60
1	A	972	U	P-O5'-C5'	-6.38	110.69	120.90
1	A	1949	C	O4'-C1'-N1	6.38	113.30	108.20
34	AA	3647	C	O4'-C1'-N1	6.38	113.30	108.20
69	AD	200	ARG	NE-CZ-NH1	-6.38	117.11	120.30
3	D	154	ARG	NE-CZ-NH2	6.37	123.49	120.30
34	AA	1627	C	O4'-C1'-N1	6.37	113.30	108.20
34	AA	1873	U	C2'-C3'-O3'	6.37	123.89	113.70
1	A	1794	C	O4'-C1'-N1	6.37	113.30	108.20
71	AF	143	ARG	NE-CZ-NH1	6.37	123.48	120.30
78	A0	31	ARG	NE-CZ-NH1	6.37	123.48	120.30
34	AA	1561	C	O4'-C1'-N1	6.37	113.29	108.20
34	AA	1662	G	O4'-C1'-N9	6.37	113.29	108.20
34	AA	3706	U	O4'-C1'-N1	6.37	113.29	108.20
68	A5	79	ARG	NE-CZ-NH1	6.36	123.48	120.30
1	A	1814	C	O4'-C1'-N1	6.36	113.29	108.20
35	AC	59	U	O4'-C1'-N1	6.36	113.29	108.20
23	J	123	TYR	CB-CG-CD2	-6.36	117.19	121.00
18	5	38	ARG	NE-CZ-NH1	-6.36	117.12	120.30
34	AA	2428	U	O4'-C1'-N1	6.36	113.29	108.20
71	AF	140	ARG	NE-CZ-NH2	-6.36	117.12	120.30
34	AA	696	C	O4'-C1'-N1	6.35	113.28	108.20
34	AA	1031	G	N1-C2-N2	-6.35	110.48	116.20
1	A	1178	C	O4'-C1'-N1	6.35	113.28	108.20
1	A	1187	A	P-O3'-C3'	6.35	127.32	119.70
34	AA	1706	A	O4'-C1'-N9	6.35	113.28	108.20
36	AB	26	C	O4'-C1'-N1	6.35	113.28	108.20
34	AA	3531	C	O4'-C1'-N1	6.34	113.28	108.20
36	AB	117	C	O4'-C1'-N1	6.34	113.28	108.20
1	A	582	C	O4'-C1'-N1	6.34	113.27	108.20
1	A	1031	C	O4'-C1'-N1	6.34	113.27	108.20
1	A	1098	U	P-O3'-C3'	6.34	127.31	119.70
34	AA	2013	U	O4'-C1'-N1	6.34	113.27	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	2185	C	O4'-C1'-N1	6.34	113.27	108.20
1	A	996	C	C6-N1-C2	-6.34	117.76	120.30
34	AA	1724	G	O4'-C1'-N9	6.34	113.27	108.20
57	AK	132	ARG	NE-CZ-NH1	6.34	123.47	120.30
34	AA	1720	C	C6-N1-C2	-6.34	117.77	120.30
46	Aa	64	ARG	NE-CZ-NH1	6.34	123.47	120.30
1	A	1059	U	O4'-C1'-N1	6.33	113.27	108.20
12	Y	85	ARG	NE-CZ-NH1	6.33	123.47	120.30
35	AC	147	U	O4'-C1'-N1	6.33	113.27	108.20
1	A	1278	C	O4'-C1'-N1	6.33	113.27	108.20
34	AA	3615	A	P-O3'-C3'	-6.33	112.10	119.70
34	AA	2202	G	O4'-C1'-N9	6.33	113.26	108.20
34	AA	1529	G	O4'-C1'-N9	6.33	113.26	108.20
34	AA	3705	C	O4'-C1'-N1	6.33	113.26	108.20
35	AC	133	G	O4'-C1'-N9	6.33	113.26	108.20
71	AF	375	TYR	CB-CG-CD2	-6.33	117.20	121.00
1	A	1841	U	O4'-C1'-N1	6.32	113.26	108.20
2	7	30	G	O4'-C1'-N9	6.32	113.26	108.20
34	AA	2188	U	O4'-C1'-N1	6.32	113.26	108.20
34	AA	2601	C	O4'-C1'-N1	6.32	113.26	108.20
34	AA	3030	A	O4'-C1'-N9	6.32	113.26	108.20
35	AC	48	C	O4'-C1'-N1	6.32	113.26	108.20
34	AA	1247	C	O4'-C1'-N1	6.32	113.26	108.20
34	AA	2502	U	O4'-C1'-N1	6.32	113.26	108.20
1	A	1222	C	O4'-C1'-N1	6.32	113.26	108.20
1	A	1823	U	O4'-C1'-N1	6.32	113.26	108.20
16	3	51	ARG	NE-CZ-NH2	6.32	123.46	120.30
34	AA	721	U	O4'-C1'-N1	6.32	113.25	108.20
4	E	23	ARG	NE-CZ-NH1	6.31	123.46	120.30
1	A	920	A	O4'-C1'-N9	6.31	113.25	108.20
34	AA	768	C	C2-N1-C1'	6.31	125.74	118.80
34	AA	2538	C	O4'-C1'-N1	6.31	113.25	108.20
22	H	94	ARG	NE-CZ-NH1	6.31	123.45	120.30
34	AA	382	A	N1-C6-N6	-6.31	114.81	118.60
34	AA	328	G	C5-C6-O6	-6.31	124.81	128.60
48	Ad	44	ARG	NE-CZ-NH2	6.31	123.45	120.30
61	AQ	90	ARG	NE-CZ-NH1	6.31	123.45	120.30
1	A	43	A	N1-C6-N6	6.30	122.38	118.60
34	AA	859	C	P-O5'-C5'	6.30	130.99	120.90
34	AA	1136	A	N1-C6-N6	6.30	122.38	118.60
36	AB	34	C	O4'-C1'-N1	6.30	113.24	108.20
1	A	157	G	O4'-C1'-N9	6.30	113.24	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
60	AO	21	ARG	NE-CZ-NH1	-6.30	117.15	120.30
1	A	2072	G	C5-C6-O6	-6.30	124.82	128.60
34	AA	1030	C	O4'-C1'-N1	6.30	113.24	108.20
34	AA	1678	C	O4'-C1'-N1	6.29	113.23	108.20
34	AA	3329	C	O4'-C1'-N1	6.29	113.23	108.20
1	A	1228	C	O4'-C1'-N1	6.29	113.23	108.20
34	AA	83	U	C5'-C4'-O4'	6.29	116.65	109.10
34	AA	2090	U	O4'-C1'-N1	6.29	113.23	108.20
1	A	18	C	O4'-C1'-N1	6.29	113.23	108.20
1	A	915	G	N1-C6-O6	6.29	123.67	119.90
35	AC	124	U	O4'-C1'-N1	6.29	113.23	108.20
34	AA	3431	G	O4'-C1'-N9	6.29	113.23	108.20
1	A	982	A	O4'-C1'-N9	6.28	113.23	108.20
34	AA	764	G	O4'-C1'-N9	6.28	113.23	108.20
34	AA	3390	U	O4'-C1'-N1	6.28	113.23	108.20
1	A	409	A	N1-C6-N6	6.28	122.37	118.60
1	A	1870	A	P-O3'-C3'	6.28	127.24	119.70
34	AA	3180	C	O4'-C1'-N1	6.28	113.23	108.20
34	AA	1179	U	O4'-C1'-N1	6.28	113.22	108.20
34	AA	3125	U	O4'-C1'-N1	6.28	113.22	108.20
34	AA	2618	G	C5'-C4'-O4'	6.28	116.63	109.10
35	AC	30	U	O4'-C1'-N1	6.28	113.22	108.20
1	A	1212	C	O4'-C1'-N1	6.27	113.22	108.20
28	S	89	ARG	NE-CZ-NH1	-6.27	117.16	120.30
34	AA	1480	G	C8-N9-C1'	-6.27	118.85	127.00
34	AA	2002	G	O4'-C1'-N9	6.27	113.22	108.20
34	AA	3580	G	O4'-C1'-N9	6.27	113.22	108.20
71	AF	48	ARG	NE-CZ-NH2	6.27	123.44	120.30
34	AA	3024	U	O4'-C1'-N1	6.27	113.22	108.20
1	A	273	A	O4'-C1'-N9	6.27	113.22	108.20
1	A	1649	C	O4'-C1'-N1	6.27	113.21	108.20
34	AA	1997	G	O4'-C1'-N9	6.27	113.21	108.20
34	AA	2689	G	C5-C6-O6	-6.26	124.84	128.60
34	AA	1216	C	O4'-C1'-N1	6.26	113.21	108.20
1	A	1381	C	C2'-C3'-O3'	6.26	123.72	113.70
34	AA	2690	A	O4'-C1'-N9	6.26	113.21	108.20
1	A	1818	A	O4'-C1'-N9	6.26	113.21	108.20
34	AA	613	C	O4'-C1'-N1	6.26	113.21	108.20
34	AA	764	G	P-O3'-C3'	6.26	127.21	119.70
34	AA	3598	C	O4'-C1'-N1	6.26	113.21	108.20
34	AA	3610	C	O4'-C1'-N1	6.26	113.20	108.20
36	AB	104	C	O4'-C1'-N1	6.26	113.20	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	580	C	O4'-C1'-N1	6.25	113.20	108.20
34	AA	2698	C	O4'-C1'-N1	6.25	113.20	108.20
7	K	118	ARG	NE-CZ-NH1	6.25	123.42	120.30
34	AA	143	C	O4'-C1'-N1	6.25	113.20	108.20
34	AA	716	C	C6-N1-C2	-6.25	117.80	120.30
34	AA	1212	U	O4'-C1'-N1	6.25	113.20	108.20
66	AZ	15	ARG	NE-CZ-NH1	6.25	123.43	120.30
34	AA	2951	U	O4'-C1'-N1	6.25	113.20	108.20
34	AA	1728	C	O4'-C1'-N1	6.25	113.20	108.20
35	AC	118	C	O4'-C1'-N1	6.25	113.20	108.20
1	A	1818	A	C1'-O4'-C4'	-6.25	104.90	109.90
34	AA	670	U	O4'-C1'-N1	6.25	113.20	108.20
34	AA	1126	U	O4'-C1'-N1	6.25	113.20	108.20
1	A	147	C	O4'-C1'-N1	6.24	113.19	108.20
1	A	411	C	O4'-C1'-N1	6.24	113.19	108.20
34	AA	3713	C	O4'-C1'-N1	6.24	113.19	108.20
1	A	1284	A	P-O3'-C3'	6.24	127.19	119.70
4	E	17	ARG	NE-CZ-NH2	6.24	123.42	120.30
34	AA	1750	U	P-O3'-C3'	6.24	127.19	119.70
59	AS	163	ARG	NE-CZ-NH2	-6.24	117.18	120.30
16	3	92	ARG	NE-CZ-NH2	6.24	123.42	120.30
18	5	15	ARG	NE-CZ-NH2	6.24	123.42	120.30
34	AA	1057	C	O4'-C1'-N1	6.24	113.19	108.20
1	A	516	G	O4'-C1'-N9	6.24	113.19	108.20
34	AA	2524	C	C2-N1-C1'	6.23	125.66	118.80
34	AA	931	U	O4'-C1'-N1	6.23	113.19	108.20
1	A	1029	U	O4'-C1'-N1	6.23	113.18	108.20
1	A	1669	C	O4'-C1'-N1	6.23	113.18	108.20
34	AA	912	U	O4'-C1'-N1	6.23	113.18	108.20
34	AA	2580	C	O4'-C1'-N1	6.23	113.19	108.20
34	AA	2887	U	O4'-C1'-N1	6.23	113.18	108.20
1	A	919	U	O4'-C1'-N1	6.23	113.18	108.20
1	A	1705	C	C5'-C4'-O4'	6.23	116.57	109.10
34	AA	1804	C	O4'-C1'-N1	6.23	113.18	108.20
34	AA	1973	G	C5-C6-O6	-6.23	124.86	128.60
34	AA	1516	G	C5-C6-O6	-6.23	124.86	128.60
1	A	1956	A	C5-C6-N6	-6.23	118.72	123.70
1	A	876	U	O4'-C1'-N1	6.22	113.18	108.20
1	A	1934	C	O4'-C1'-N1	6.22	113.18	108.20
34	AA	312	A	P-O3'-C3'	-6.22	112.23	119.70
34	AA	334	U	O4'-C1'-N1	6.22	113.18	108.20
34	AA	884	A	O4'-C1'-N9	6.22	113.18	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
72	AG	35	ARG	NE-CZ-NH1	-6.22	117.19	120.30
1	A	1455	C	O4'-C1'-N1	6.22	113.18	108.20
34	AA	583	U	O4'-C1'-N1	6.22	113.18	108.20
34	AA	1793	A	O4'-C1'-N9	6.22	113.18	108.20
34	AA	1896	C	O4'-C1'-N1	6.22	113.18	108.20
34	AA	2630	C	O4'-C1'-N1	6.22	113.18	108.20
34	AA	200	A	O4'-C1'-N9	6.22	113.17	108.20
34	AA	1572	U	C6-N1-C1'	-6.22	112.50	121.20
34	AA	3480	C	O4'-C1'-N1	6.22	113.17	108.20
1	A	401	U	O4'-C1'-N1	6.22	113.17	108.20
34	AA	2041	U	O4'-C1'-N1	6.21	113.17	108.20
51	AP	63	ARG	NE-CZ-NH1	6.21	123.41	120.30
34	AA	354	C	O4'-C1'-N1	6.21	113.17	108.20
1	A	1418	C	O4'-C1'-N1	6.21	113.17	108.20
34	AA	2590	U	C6-N1-C1'	-6.21	112.51	121.20
34	AA	3730	C	O4'-C1'-N1	6.21	113.17	108.20
34	AA	2541	C	O4'-C1'-N1	6.21	113.17	108.20
34	AA	3230	G	O4'-C1'-N9	6.21	113.17	108.20
36	AB	59	C	O4'-C1'-N1	6.21	113.17	108.20
1	A	455	C	O4'-C1'-N1	6.21	113.16	108.20
1	A	2076	C	O4'-C1'-N1	6.21	113.17	108.20
1	A	341	U	O4'-C1'-N1	6.20	113.16	108.20
1	A	578	G	O4'-C1'-N9	6.20	113.16	108.20
24	L	25	ARG	NE-CZ-NH1	6.20	123.40	120.30
34	AA	942	C	O4'-C1'-N1	6.20	113.16	108.20
1	A	466	A	N1-C6-N6	-6.20	114.88	118.60
1	A	1293	C	O4'-C1'-N1	6.20	113.16	108.20
1	A	2029	A	C5'-C4'-C3'	6.20	125.92	116.00
34	AA	367	U	O4'-C1'-N1	6.20	113.16	108.20
34	AA	2174	G	C5-C6-O6	-6.20	124.88	128.60
34	AA	3130	U	P-O3'-C3'	6.20	127.14	119.70
34	AA	3221	U	O4'-C1'-N1	6.20	113.16	108.20
1	A	1180	U	O4'-C1'-N1	6.20	113.16	108.20
1	A	1714	U	O4'-C1'-N1	6.20	113.16	108.20
34	AA	199	G	C5-C6-O6	-6.20	124.88	128.60
34	AA	3258	C	C6-N1-C1'	-6.20	113.36	120.80
44	A8	33	ARG	NE-CZ-NH2	-6.20	117.20	120.30
1	A	949	C	O4'-C1'-N1	6.19	113.16	108.20
34	AA	2557	U	O4'-C1'-N1	6.19	113.15	108.20
34	AA	3756	C	O4'-C1'-N1	6.19	113.15	108.20
34	AA	1035	G	N1-C6-O6	6.19	123.61	119.90
34	AA	953	U	O4'-C1'-N1	6.19	113.15	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	59	G	C5-C6-O6	-6.19	124.89	128.60
34	AA	1969	A	O4'-C1'-N9	6.19	113.15	108.20
34	AA	2459	C	O4'-C1'-N1	6.19	113.15	108.20
34	AA	3501	C	O4'-C1'-N1	6.19	113.15	108.20
21	F	214	ARG	NE-CZ-NH1	6.19	123.39	120.30
1	A	881	C	C5'-C4'-O4'	6.18	116.52	109.10
34	AA	447	A	N1-C6-N6	6.18	122.31	118.60
34	AA	1454	A	O4'-C1'-N9	6.18	113.15	108.20
34	AA	1704	U	P-O3'-C3'	-6.18	112.28	119.70
34	AA	3003	C	O4'-C1'-N1	6.18	113.15	108.20
34	AA	3242	U	O4'-C1'-N1	6.18	113.15	108.20
1	A	787	G	O4'-C1'-N9	6.18	113.15	108.20
34	AA	388	C	O4'-C1'-N1	6.18	113.14	108.20
34	AA	3409	U	O4'-C1'-N1	6.18	113.15	108.20
1	A	1830	C	O4'-C1'-N1	6.18	113.14	108.20
1	A	2044	G	O3'-P-O5'	-6.18	92.26	104.00
34	AA	3058	C	O4'-C1'-N1	6.18	113.14	108.20
34	AA	361	G	C5-C6-O6	-6.18	124.89	128.60
34	AA	3518	C	O4'-C1'-N1	6.18	113.14	108.20
1	A	1671	A	C5'-C4'-C3'	-6.18	106.12	116.00
34	AA	1216	C	C6-N1-C2	-6.18	117.83	120.30
34	AA	3290	C	O4'-C1'-N1	6.18	113.14	108.20
34	AA	3458	A	P-O3'-C3'	6.18	127.11	119.70
54	AI	71	ARG	NE-CZ-NH1	6.18	123.39	120.30
1	A	45	U	O4'-C1'-N1	6.17	113.14	108.20
1	A	1275	U	O4'-C1'-N1	6.17	113.14	108.20
34	AA	891	C	O4'-C1'-N1	6.17	113.14	108.20
34	AA	2508	C	O4'-C1'-N1	6.17	113.14	108.20
34	AA	2631	C	O4'-C1'-N1	6.17	113.14	108.20
36	AB	91	C	O4'-C1'-N1	6.17	113.14	108.20
1	A	1651	C	O4'-C1'-N1	6.17	113.14	108.20
34	AA	861	C	O4'-C1'-N1	6.17	113.14	108.20
1	A	1074	A	O4'-C1'-N9	6.17	113.14	108.20
3	D	76	ARG	NE-CZ-NH2	-6.17	117.22	120.30
1	A	1321	C	C5'-C4'-C3'	-6.17	106.13	116.00
34	AA	2949	G	O4'-C1'-N9	6.17	113.14	108.20
36	AB	45	U	O4'-C1'-N1	6.17	113.14	108.20
34	AA	603	G	O4'-C1'-N9	6.17	113.13	108.20
34	AA	1763	G	N1-C6-O6	6.17	123.60	119.90
34	AA	1799	A	O4'-C1'-N9	6.17	113.13	108.20
34	AA	2478	G	O4'-C1'-N9	6.17	113.13	108.20
34	AA	3323	G	N1-C6-O6	6.17	123.60	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B	213	ARG	NE-CZ-NH1	6.16	123.38	120.30
34	AA	147	C	C6-N1-C2	-6.16	117.83	120.30
34	AA	753	C	O4'-C1'-N1	6.16	113.13	108.20
34	AA	65	A	P-O3'-C3'	6.16	127.09	119.70
34	AA	2197	G	C5-C6-O6	-6.16	124.90	128.60
1	A	1793	C	O4'-C1'-N1	6.16	113.13	108.20
34	AA	2394	C	O4'-C1'-N1	6.16	113.13	108.20
61	AQ	157	TYR	CB-CG-CD2	-6.16	117.30	121.00
67	A3	80	TYR	CB-CG-CD1	-6.16	117.30	121.00
1	A	9	U	O4'-C1'-N1	6.16	113.13	108.20
34	AA	1438	G	O4'-C1'-N9	6.16	113.13	108.20
63	AW	30	TYR	CB-CG-CD2	-6.16	117.31	121.00
2	7	51	U	C5'-C4'-C3'	6.16	125.85	116.00
62	AR	206	TYR	CB-CG-CD1	6.16	124.69	121.00
34	AA	2671	C	O4'-C1'-N1	6.15	113.12	108.20
28	S	123	ARG	NE-CZ-NH2	6.15	123.38	120.30
34	AA	1544	C	O4'-C1'-N1	6.15	113.12	108.20
34	AA	1730	A	P-O3'-C3'	-6.15	112.32	119.70
1	A	1429	C	O4'-C1'-N1	6.15	113.12	108.20
34	AA	3631	U	O3'-P-O5'	-6.15	92.31	104.00
34	AA	3771	C	O4'-C1'-N1	6.15	113.12	108.20
1	A	1220	C	O4'-C1'-N1	6.15	113.12	108.20
1	A	105	A	P-O3'-C3'	6.15	127.08	119.70
1	A	493	G	O4'-C1'-N9	6.15	113.12	108.20
34	AA	129	C	O4'-C1'-N1	6.15	113.12	108.20
34	AA	952	U	O4'-C1'-N1	6.15	113.12	108.20
54	AI	44	TYR	CB-CG-CD1	-6.15	117.31	121.00
69	AD	3	ARG	NE-CZ-NH1	6.15	123.37	120.30
1	A	1609	C	O4'-C1'-N1	6.15	113.12	108.20
1	A	989	C	O4'-C1'-N1	6.14	113.12	108.20
1	A	1625	C	O4'-C1'-N1	6.14	113.12	108.20
65	AT	80	ARG	NE-CZ-NH1	6.14	123.37	120.30
1	A	1249	C	O4'-C1'-N1	6.14	113.11	108.20
34	AA	691	C	O4'-C1'-N1	6.14	113.11	108.20
34	AA	911	U	O4'-C1'-N1	6.14	113.11	108.20
34	AA	923	C	O4'-C1'-N1	6.14	113.11	108.20
70	AE	229	ARG	NE-CZ-NH1	6.14	123.37	120.30
34	AA	2550	C	O4'-C1'-N1	6.14	113.11	108.20
1	A	328	G	C5-C6-O6	-6.14	124.92	128.60
1	A	891	U	O4'-C1'-N1	6.14	113.11	108.20
1	A	929	U	O4'-C1'-N1	6.14	113.11	108.20
1	A	1670	A	O4'-C1'-N9	6.14	113.11	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	K	117	ARG	NE-CZ-NH1	6.14	123.37	120.30
34	AA	1826	U	O4'-C1'-N1	6.14	113.11	108.20
1	A	184	C	O4'-C1'-N1	6.13	113.11	108.20
34	AA	2578	C	O4'-C1'-N1	6.13	113.11	108.20
34	AA	3053	G	C5'-C4'-O4'	6.13	116.46	109.10
51	AP	30	TYR	CB-CG-CD2	-6.13	117.32	121.00
34	AA	81	C	O4'-C1'-N1	6.13	113.11	108.20
34	AA	412	A	O4'-C1'-N9	6.13	113.11	108.20
34	AA	1834	C	O4'-C1'-N1	6.13	113.11	108.20
1	A	856	U	O4'-C1'-N1	6.13	113.10	108.20
1	A	2031	C	O4'-C1'-N1	6.13	113.10	108.20
1	A	525	G	O4'-C1'-N9	6.13	113.10	108.20
34	AA	547	C	O4'-C1'-N1	6.13	113.10	108.20
34	AA	1251	U	O4'-C1'-N1	6.13	113.10	108.20
23	J	7	ARG	NE-CZ-NH1	6.12	123.36	120.30
34	AA	1452	U	P-O3'-C3'	6.12	127.05	119.70
34	AA	3581	A	O4'-C1'-N9	6.12	113.10	108.20
1	A	382	C	O4'-C1'-N1	6.12	113.10	108.20
34	AA	1865	C	O4'-C1'-N1	6.12	113.10	108.20
34	AA	3201	C	O4'-C1'-N1	6.12	113.10	108.20
35	AC	62	G	C5-C6-O6	-6.12	124.93	128.60
34	AA	3134	U	O4'-C1'-N1	6.12	113.09	108.20
1	A	1697	C	O4'-C1'-N1	6.12	113.09	108.20
61	AQ	38	ARG	NE-CZ-NH1	6.12	123.36	120.30
34	AA	1703	U	O4'-C1'-N1	6.12	113.09	108.20
34	AA	3500	G	O4'-C1'-N9	6.12	113.09	108.20
34	AA	3737	G	C5-C6-O6	-6.12	124.93	128.60
35	AC	10	C	O4'-C1'-N1	6.12	113.09	108.20
34	AA	1797	A	C5-C6-N6	-6.11	118.81	123.70
34	AA	1113	C	O4'-C1'-N1	6.11	113.09	108.20
44	A8	33	ARG	NE-CZ-NH1	6.11	123.36	120.30
21	F	255	ARG	NE-CZ-NH1	6.11	123.36	120.30
34	AA	1556	G	C5-C6-O6	-6.11	124.93	128.60
34	AA	1606	U	O4'-C1'-N1	6.11	113.09	108.20
34	AA	2737	C	O4'-C1'-N1	6.11	113.09	108.20
34	AA	3606	G	O4'-C1'-N9	6.11	113.09	108.20
34	AA	142	C	O4'-C1'-N1	6.11	113.09	108.20
34	AA	3387	U	O4'-C1'-N1	6.11	113.09	108.20
24	L	56	ARG	NE-CZ-NH2	-6.11	117.25	120.30
1	A	617	G	C8-N9-C1'	-6.11	119.06	127.00
1	A	1403	U	O4'-C1'-N1	6.11	113.08	108.20
24	L	92	ARG	NE-CZ-NH1	6.11	123.35	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	881	C	O4'-C1'-N1	6.10	113.08	108.20
34	AA	312	A	C5'-C4'-C3'	-6.10	106.23	116.00
34	AA	876	C	O4'-C1'-N1	6.10	113.08	108.20
1	A	89	C	O4'-C1'-N1	6.10	113.08	108.20
1	A	2056	C	O4'-C1'-N1	6.10	113.08	108.20
34	AA	2429	U	O4'-C1'-N1	6.10	113.08	108.20
35	AC	33	C	O4'-C1'-N1	6.09	113.08	108.20
34	AA	3417	G	N1-C6-O6	6.09	123.56	119.90
71	AF	312	ARG	NE-CZ-NH1	6.09	123.35	120.30
46	Aa	66	ARG	NE-CZ-NH2	6.09	123.35	120.30
1	A	2053	U	O4'-C1'-N1	6.09	113.07	108.20
23	J	117	ARG	NE-CZ-NH1	6.09	123.34	120.30
34	AA	3650	U	P-O5'-C5'	6.09	130.64	120.90
35	AC	54	C	O4'-C1'-N1	6.09	113.07	108.20
34	AA	411	U	O4'-C1'-N1	6.09	113.07	108.20
34	AA	630	U	O4'-C1'-N1	6.09	113.07	108.20
74	AH	39	ARG	NE-CZ-NH2	6.09	123.34	120.30
71	AF	121	ARG	NE-CZ-NH1	6.09	123.34	120.30
34	AA	3632	U	N1-C2-N3	6.08	118.55	114.90
56	Ac	66	ARG	NE-CZ-NH1	6.08	123.34	120.30
1	A	400	C	O4'-C1'-N1	6.08	113.07	108.20
1	A	1786	U	O4'-C1'-N1	6.08	113.07	108.20
1	A	1868	C	O4'-C1'-N1	6.08	113.07	108.20
14	1	115	ARG	NE-CZ-NH1	6.08	123.34	120.30
34	AA	2221	U	O4'-C1'-N1	6.08	113.07	108.20
35	AC	22	U	O4'-C1'-N1	6.08	113.07	108.20
34	AA	1612	U	O4'-C1'-N1	6.08	113.06	108.20
34	AA	2917	C	O4'-C1'-N1	6.08	113.06	108.20
1	A	827	C	O4'-C1'-N1	6.08	113.06	108.20
14	1	61	PHE	CB-CG-CD2	-6.08	116.54	120.80
34	AA	574	G	O4'-C1'-N9	6.08	113.06	108.20
34	AA	54	C	O4'-C1'-N1	6.08	113.06	108.20
34	AA	2973	U	O4'-C1'-N1	6.08	113.06	108.20
1	A	1627	U	O4'-C1'-N1	6.08	113.06	108.20
34	AA	1615	G	N1-C6-O6	6.08	123.55	119.90
76	Ag	39	ARG	NE-CZ-NH1	-6.08	117.26	120.30
1	A	1658	G	P-O3'-C3'	-6.07	112.41	119.70
1	A	894	U	O4'-C1'-N1	6.07	113.06	108.20
34	AA	744	G	C5-C6-O6	-6.07	124.96	128.60
34	AA	3468	G	C5-C6-O6	-6.07	124.96	128.60
34	AA	1283	C	O4'-C1'-N1	6.07	113.06	108.20
34	AA	3709	U	P-O3'-C3'	6.07	126.98	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	537	C	O4'-C1'-N1	6.07	113.05	108.20
34	AA	1809	U	O4'-C1'-N1	6.07	113.05	108.20
1	A	1423	A	O4'-C1'-N9	6.07	113.05	108.20
1	A	1674	G	O4'-C1'-N9	6.07	113.05	108.20
34	AA	2529	G	O4'-C1'-N9	6.07	113.05	108.20
1	A	2075	C	O4'-C1'-N1	6.06	113.05	108.20
34	AA	1065	U	O4'-C1'-N1	6.06	113.05	108.20
76	Ag	25	ARG	NE-CZ-NH1	6.06	123.33	120.30
1	A	977	U	O4'-C1'-N1	6.06	113.05	108.20
36	AB	20	U	O4'-C1'-N1	6.06	113.05	108.20
1	A	1824	A	O4'-C1'-N9	6.06	113.05	108.20
34	AA	3026	G	N1-C6-O6	6.06	123.54	119.90
34	AA	1237	C	O4'-C1'-N1	6.06	113.05	108.20
1	A	1862	C	O4'-C1'-N1	6.06	113.05	108.20
16	3	10	ARG	NE-CZ-NH1	6.06	123.33	120.30
34	AA	3776	U	O4'-C1'-N1	6.06	113.05	108.20
34	AA	212	U	O4'-C1'-N1	6.05	113.04	108.20
34	AA	1747	U	C2-N1-C1'	6.05	124.96	117.70
1	A	1301	G	O4'-C1'-N9	6.05	113.04	108.20
34	AA	1658	G	C5-C6-O6	-6.05	124.97	128.60
34	AA	1962	U	O4'-C1'-N1	6.05	113.04	108.20
34	AA	1784	G	N3-C2-N2	6.05	124.14	119.90
34	AA	3309	G	O4'-C1'-N9	6.05	113.04	108.20
51	AP	202	ARG	NE-CZ-NH1	6.05	123.32	120.30
34	AA	294	G	O4'-C1'-N9	6.05	113.04	108.20
34	AA	947	U	O4'-C1'-N1	6.05	113.04	108.20
1	A	181	A	O4'-C1'-N9	6.04	113.03	108.20
1	A	292	G	O4'-C1'-N9	6.04	113.03	108.20
34	AA	1455	C	O4'-C1'-N1	6.04	113.03	108.20
1	A	1191	C	O4'-C1'-N1	6.04	113.03	108.20
34	AA	2918	C	O4'-C1'-N1	6.04	113.03	108.20
34	AA	496	C	O4'-C1'-N1	6.04	113.03	108.20
34	AA	92	G	N1-C6-O6	6.04	123.52	119.90
34	AA	1123	U	O4'-C1'-N1	6.04	113.03	108.20
34	AA	1694	G	C5-C6-O6	-6.04	124.98	128.60
36	AB	16	A	O4'-C1'-N9	6.04	113.03	108.20
72	AG	140	ARG	NE-CZ-NH1	6.04	123.32	120.30
1	A	522	G	N1-C6-O6	6.04	123.52	119.90
3	D	27	ARG	NE-CZ-NH1	6.04	123.32	120.30
34	AA	78	U	O4'-C1'-N1	6.04	113.03	108.20
34	AA	3113	U	O4'-C1'-N1	6.04	113.03	108.20
34	AA	3306	G	O4'-C1'-N9	6.04	113.03	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1025	U	O4'-C1'-N1	6.03	113.03	108.20
29	T	44	ARG	NE-CZ-NH1	6.03	123.32	120.30
34	AA	36	U	O4'-C1'-N1	6.03	113.03	108.20
34	AA	1053	U	O4'-C1'-N1	6.03	113.03	108.20
34	AA	3185	U	O4'-C1'-N1	6.03	113.03	108.20
34	AA	2445	A	O4'-C1'-N9	6.03	113.02	108.20
1	A	985	U	O4'-C1'-N1	6.03	113.02	108.20
1	A	1321	C	O4'-C1'-N1	6.03	113.02	108.20
34	AA	698	G	O4'-C1'-N9	6.03	113.02	108.20
34	AA	3749	U	O4'-C1'-N1	6.03	113.02	108.20
1	A	316	C	O4'-C1'-N1	6.02	113.02	108.20
1	A	1720	G	C5-C6-O6	-6.02	124.99	128.60
21	F	145	ARG	NE-CZ-NH2	-6.02	117.29	120.30
34	AA	158	U	O4'-C1'-N1	6.02	113.02	108.20
34	AA	3393	C	O4'-C1'-N1	6.02	113.02	108.20
34	AA	3154	U	P-O3'-C3'	-6.02	112.48	119.70
1	A	971	G	C5-C6-O6	-6.01	124.99	128.60
1	A	1804	C	O4'-C1'-N1	6.01	113.01	108.20
34	AA	3195	C	C6-N1-C1'	-6.01	113.58	120.80
36	AB	38	U	O4'-C1'-N1	6.01	113.01	108.20
66	AZ	12	ARG	NE-CZ-NH1	6.01	123.31	120.30
5	G	103	ARG	NE-CZ-NH2	-6.01	117.30	120.30
34	AA	1246	C	O4'-C1'-N1	6.01	113.01	108.20
9	W	80	ARG	NE-CZ-NH1	6.01	123.30	120.30
29	T	38	ARG	NE-CZ-NH2	6.01	123.30	120.30
34	AA	3065	C	C6-N1-C1'	-6.01	113.59	120.80
36	AB	15	U	O4'-C1'-N1	6.01	113.00	108.20
1	A	1622	C	O4'-C1'-N1	6.00	113.00	108.20
34	AA	2974	A	N1-C6-N6	6.00	122.20	118.60
34	AA	130	G	N1-C6-O6	6.00	123.50	119.90
34	AA	2457	C	P-O3'-C3'	-6.00	112.50	119.70
34	AA	3203	C	O4'-C1'-N1	6.00	113.00	108.20
3	D	147	ARG	NE-CZ-NH1	6.00	123.30	120.30
34	AA	1329	U	O4'-C1'-N1	6.00	113.00	108.20
34	AA	2590	U	C2-N3-C4	-6.00	123.40	127.00
1	A	632	C	O4'-C1'-N1	6.00	113.00	108.20
1	A	1959	G	O4'-C1'-N9	6.00	113.00	108.20
1	A	186	U	O4'-C1'-N1	5.99	112.99	108.20
1	A	1179	C	O4'-C1'-N1	5.99	113.00	108.20
19	6	33	ARG	NE-CZ-NH1	-5.99	117.30	120.30
1	A	1833	G	O4'-C1'-N9	5.99	112.99	108.20
70	AE	263	ARG	NE-CZ-NH1	5.99	123.30	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	759	U	P-O3'-C3'	-5.99	112.51	119.70
34	AA	2822	U	O4'-C1'-N1	5.99	112.99	108.20
1	A	349	C	O4'-C1'-N1	5.99	112.99	108.20
12	Y	86	ARG	NE-CZ-NH1	5.99	123.30	120.30
34	AA	1064	U	O4'-C1'-N1	5.99	112.99	108.20
34	AA	1573	C	C2-N1-C1'	5.99	125.39	118.80
34	AA	2390	U	O4'-C1'-N1	5.99	112.99	108.20
34	AA	1311	U	O4'-C1'-N1	5.99	112.99	108.20
34	AA	1974	U	O4'-C1'-N1	5.99	112.99	108.20
34	AA	2161	G	C5-C6-O6	-5.99	125.01	128.60
34	AA	3286	C	O4'-C1'-N1	5.99	112.99	108.20
34	AA	2992	C	O4'-C1'-N1	5.98	112.99	108.20
34	AA	996	C	O4'-C1'-N1	5.98	112.98	108.20
34	AA	2621	U	O4'-C1'-N1	5.98	112.98	108.20
1	A	204	U	O4'-C1'-N1	5.98	112.98	108.20
1	A	1282	U	O4'-C1'-N1	5.98	112.98	108.20
34	AA	3154	U	C4'-C3'-C2'	5.98	108.58	102.60
1	A	2032	U	O4'-C1'-N1	5.97	112.98	108.20
34	AA	410	G	C5-C6-O6	-5.97	125.02	128.60
34	AA	2524	C	O4'-C1'-N1	5.97	112.98	108.20
73	AU	155	ARG	NE-CZ-NH1	5.97	123.29	120.30
16	3	39	PHE	CB-CG-CD1	5.97	124.98	120.80
32	X	42	ARG	NE-CZ-NH2	-5.97	117.31	120.30
34	AA	171	C	O4'-C1'-N1	5.97	112.98	108.20
34	AA	1805	U	C2'-C3'-O3'	5.97	123.26	113.70
1	A	2019	C	O4'-C1'-N1	5.97	112.98	108.20
34	AA	2957	G	P-O5'-C5'	5.97	130.45	120.90
34	AA	3348	U	O4'-C1'-N1	5.97	112.97	108.20
34	AA	3205	U	C6-N1-C1'	-5.97	112.84	121.20
1	A	17	C	C6-N1-C2	-5.97	117.91	120.30
34	AA	416	G	O4'-C1'-N9	5.97	112.97	108.20
34	AA	2523	U	P-O3'-C3'	5.97	126.86	119.70
68	A5	60	TYR	CB-CG-CD2	-5.97	117.42	121.00
1	A	789	U	O4'-C1'-N1	5.96	112.97	108.20
34	AA	1801	G	O4'-C1'-N9	5.96	112.97	108.20
34	AA	3089	C	O4'-C1'-N1	5.96	112.97	108.20
35	AC	156	A	O4'-C1'-N9	5.96	112.97	108.20
1	A	942	U	C2-N3-C4	-5.96	123.42	127.00
34	AA	64	G	C5-C6-O6	-5.96	125.02	128.60
34	AA	1109	U	O4'-C1'-N1	5.96	112.97	108.20
34	AA	720	U	O4'-C1'-N1	5.96	112.97	108.20
34	AA	975	G	C5-C6-O6	-5.96	125.02	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1095	U	O4'-C1'-N1	5.96	112.97	108.20
34	AA	1415	A	O4'-C1'-N9	5.96	112.97	108.20
34	AA	546	C	O4'-C1'-N1	5.96	112.97	108.20
34	AA	1176	C	O4'-C1'-N1	5.96	112.97	108.20
34	AA	1691	G	C5-C6-O6	-5.96	125.02	128.60
34	AA	2938	C	O4'-C1'-N1	5.96	112.97	108.20
1	A	1750	U	P-O5'-C5'	5.96	130.43	120.90
34	AA	676	U	O4'-C1'-N1	5.96	112.96	108.20
34	AA	1101	A	O4'-C1'-N9	5.96	112.96	108.20
74	AH	36	ARG	NE-CZ-NH1	5.96	123.28	120.30
34	AA	232	C	O4'-C1'-N1	5.95	112.96	108.20
34	AA	797	A	O4'-C1'-N9	5.95	112.96	108.20
34	AA	1007	U	O4'-C1'-N1	5.95	112.96	108.20
34	AA	1157	U	O4'-C1'-N1	5.95	112.96	108.20
1	A	1787	U	C2-N1-C1'	5.95	124.84	117.70
1	A	1092	A	P-O3'-C3'	5.95	126.84	119.70
72	AG	32	ARG	NE-CZ-NH2	-5.95	117.33	120.30
1	A	1802	G	O4'-C1'-N9	5.95	112.96	108.20
35	AC	105	U	O4'-C1'-N1	5.95	112.96	108.20
1	A	748	C	O4'-C1'-N1	5.94	112.95	108.20
34	AA	3271	G	C5-C6-O6	-5.94	125.03	128.60
67	A3	105	ARG	NE-CZ-NH2	5.94	123.27	120.30
34	AA	3772	C	O4'-C1'-N1	5.94	112.95	108.20
20	B	136	ARG	NE-CZ-NH1	-5.94	117.33	120.30
34	AA	1522	A	O4'-C1'-N9	5.94	112.95	108.20
34	AA	3364	A	O4'-C1'-N9	5.94	112.95	108.20
34	AA	3273	G	O4'-C1'-N9	5.94	112.95	108.20
1	A	399	C	O4'-C1'-N1	5.94	112.95	108.20
1	A	1291	C	O4'-C1'-N1	5.94	112.95	108.20
1	A	1796	C	O4'-C1'-N1	5.94	112.95	108.20
34	AA	999	G	C1'-O4'-C4'	-5.94	105.15	109.90
34	AA	1670	G	C5-C6-O6	-5.94	125.04	128.60
34	AA	1068	C	O4'-C1'-N1	5.94	112.95	108.20
34	AA	2186	C	O4'-C1'-N1	5.94	112.95	108.20
34	AA	1516	G	N1-C6-O6	5.93	123.46	119.90
56	Ac	59	ARG	NE-CZ-NH1	5.93	123.27	120.30
61	AQ	9	TYR	CB-CG-CD2	-5.93	117.44	121.00
34	AA	1540	G	C3'-C2'-C1'	-5.93	96.75	101.50
34	AA	3112	U	O4'-C1'-N1	5.93	112.94	108.20
34	AA	1817	G	O4'-C1'-N9	5.93	112.94	108.20
34	AA	2701	U	O4'-C1'-N1	5.93	112.94	108.20
1	A	1102	C	O4'-C1'-N1	5.93	112.94	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1666	C	O4'-C1'-N1	5.93	112.94	108.20
30	U	73	ARG	NE-CZ-NH2	5.93	123.26	120.30
34	AA	1202	C	O4'-C1'-N1	5.92	112.94	108.20
39	A2	14	ARG	NE-CZ-NH1	5.92	123.26	120.30
1	A	1952	A	N1-C6-N6	5.92	122.15	118.60
34	AA	1763	G	C5-C6-O6	-5.92	125.05	128.60
34	AA	2949	G	C5-C6-O6	-5.92	125.05	128.60
34	AA	3524	G	O4'-C1'-N9	5.92	112.94	108.20
34	AA	2816	U	O4'-C1'-N1	5.92	112.94	108.20
1	A	623	G	O4'-C1'-N9	5.92	112.94	108.20
34	AA	1847	C	O4'-C1'-N1	5.92	112.94	108.20
34	AA	3298	G	O4'-C1'-N9	5.92	112.94	108.20
1	A	1076	C	O4'-C1'-N1	5.92	112.93	108.20
34	AA	2173	G	O4'-C1'-N9	5.92	112.93	108.20
34	AA	3260	G	C5-C6-O6	-5.92	125.05	128.60
34	AA	3486	G	O4'-C1'-N9	5.92	112.93	108.20
34	AA	2699	C	O4'-C1'-N1	5.92	112.93	108.20
1	A	99	C	O4'-C1'-N1	5.91	112.93	108.20
34	AA	1909	U	O4'-C1'-N1	5.91	112.93	108.20
34	AA	3301	C	O4'-C1'-N1	5.91	112.93	108.20
34	AA	491	C	O4'-C1'-N1	5.91	112.93	108.20
34	AA	376	G	C5-C6-O6	-5.91	125.05	128.60
34	AA	505	A	P-O3'-C3'	5.91	126.79	119.70
35	AC	35	A	O4'-C1'-N9	5.91	112.93	108.20
1	A	805	A	O4'-C1'-N9	5.91	112.93	108.20
36	AB	60	U	O4'-C1'-N1	5.91	112.93	108.20
34	AA	3365	U	O4'-C1'-N1	5.91	112.93	108.20
1	A	2050	U	O4'-C1'-N1	5.91	112.92	108.20
34	AA	950	G	O4'-C1'-N9	5.91	112.92	108.20
22	H	177	ARG	NE-CZ-NH1	5.90	123.25	120.30
34	AA	548	U	O4'-C1'-N1	5.90	112.92	108.20
34	AA	580	A	C5'-C4'-C3'	5.90	125.44	116.00
34	AA	3676	C	O4'-C1'-N1	5.90	112.92	108.20
44	A8	13	ARG	NE-CZ-NH1	5.90	123.25	120.30
59	AS	167	ARG	NE-CZ-NH2	-5.90	117.35	120.30
1	A	1893	C	C2-N1-C1'	5.90	125.29	118.80
34	AA	307	G	C5-C6-O6	-5.90	125.06	128.60
1	A	1168	U	O4'-C1'-N1	5.89	112.92	108.20
34	AA	1197	U	O4'-C1'-N1	5.89	112.92	108.20
34	AA	3552	U	O4'-C1'-N1	5.89	112.92	108.20
65	AT	103	ARG	NE-CZ-NH1	5.89	123.25	120.30
4	E	44	ARG	NE-CZ-NH1	5.89	123.25	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	2693	G	N1-C6-O6	5.89	123.44	119.90
34	AA	3411	C	O4'-C1'-N1	5.89	112.91	108.20
26	P	141	ARG	NE-CZ-NH2	5.89	123.25	120.30
34	AA	1910	C	O4'-C1'-N1	5.89	112.91	108.20
34	AA	749	U	O4'-C1'-N1	5.89	112.91	108.20
34	AA	1425	C	O4'-C1'-N1	5.89	112.91	108.20
34	AA	2643	C	O4'-C1'-N1	5.89	112.91	108.20
34	AA	3086	A	O4'-C1'-N9	5.89	112.91	108.20
34	AA	268	C	O4'-C1'-N1	5.89	112.91	108.20
34	AA	2520	C	O4'-C1'-N1	5.89	112.91	108.20
34	AA	3654	C	O4'-C1'-N1	5.89	112.91	108.20
1	A	1685	U	O4'-C1'-N1	5.89	112.91	108.20
34	AA	2021	A	O4'-C1'-N9	5.89	112.91	108.20
36	AB	110	G	O4'-C1'-N9	5.89	112.91	108.20
1	A	1006	C	O4'-C1'-N1	5.88	112.91	108.20
34	AA	1568	C	O4'-C1'-N1	5.88	112.91	108.20
35	AC	103	G	N1-C6-O6	5.88	123.43	119.90
36	AB	99	G	C5-C6-O6	-5.88	125.07	128.60
1	A	345	C	O4'-C1'-N1	5.88	112.91	108.20
34	AA	1192	C	O4'-C1'-N1	5.88	112.91	108.20
34	AA	1224	A	P-O5'-C5'	5.88	130.31	120.90
68	A5	255	ARG	NE-CZ-NH2	-5.88	117.36	120.30
19	6	29	ARG	NE-CZ-NH1	5.88	123.24	120.30
1	A	1299	G	O4'-C1'-N9	5.88	112.90	108.20
1	A	1795	G	O4'-C1'-N9	5.88	112.90	108.20
2	7	51	U	O4'-C1'-N1	5.88	112.90	108.20
34	AA	3646	G	C5-C6-O6	-5.88	125.07	128.60
65	AT	63	ARG	NE-CZ-NH2	-5.88	117.36	120.30
1	A	942	U	O4'-C1'-N1	5.88	112.90	108.20
34	AA	1183	U	O4'-C1'-N1	5.88	112.90	108.20
34	AA	1667	A	O4'-C1'-N9	5.88	112.90	108.20
34	AA	2648	G	C5-C6-O6	-5.88	125.07	128.60
1	A	509	U	O4'-C1'-N1	5.88	112.90	108.20
34	AA	1586	C	O4'-C1'-N1	5.88	112.90	108.20
34	AA	2835	G	O4'-C1'-N9	5.88	112.90	108.20
1	A	1207	U	O4'-C1'-N1	5.87	112.90	108.20
1	A	1386	U	C2'-C3'-O3'	5.87	123.10	113.70
1	A	1947	U	O4'-C1'-N1	5.87	112.90	108.20
61	AQ	10	ARG	NE-CZ-NH1	5.87	123.24	120.30
1	A	1978	A	O4'-C1'-N9	5.87	112.90	108.20
34	AA	801	U	O4'-C1'-N1	5.87	112.90	108.20
34	AA	1647	U	O4'-C1'-N1	5.87	112.90	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1667	A	P-O3'-C3'	5.87	126.74	119.70
34	AA	1256	U	O4'-C1'-N1	5.87	112.90	108.20
2	7	54	G	C5'-C4'-O4'	5.87	116.14	109.10
34	AA	966	A	O4'-C1'-N9	5.87	112.89	108.20
34	AA	2571	C	O4'-C1'-N1	5.87	112.89	108.20
34	AA	3100	G	C5-C6-O6	-5.87	125.08	128.60
23	J	123	TYR	CB-CG-CD1	5.86	124.52	121.00
34	AA	1416	U	O4'-C1'-N1	5.86	112.89	108.20
34	AA	3198	G	C5-C6-O6	-5.86	125.08	128.60
34	AA	3302	G	O4'-C1'-N9	5.86	112.89	108.20
43	AN	133	PHE	CB-CG-CD1	5.86	124.91	120.80
57	AK	127	ARG	NE-CZ-NH1	5.86	123.23	120.30
34	AA	1303	C	O4'-C1'-N1	5.86	112.89	108.20
34	AA	3092	G	O4'-C1'-N9	5.86	112.89	108.20
1	A	897	G	O4'-C1'-N9	5.86	112.89	108.20
1	A	1298	C	P-O3'-C3'	-5.86	112.67	119.70
1	A	380	U	O4'-C1'-N1	5.86	112.89	108.20
2	7	3	G	O4'-C1'-N9	5.86	112.89	108.20
1	A	1181	U	O4'-C1'-N1	5.86	112.89	108.20
5	G	222	PHE	CB-CG-CD2	-5.86	116.70	120.80
34	AA	37	U	O4'-C1'-N1	5.86	112.89	108.20
34	AA	1753	U	O4'-C1'-N1	5.86	112.89	108.20
34	AA	2205	U	O4'-C1'-N1	5.86	112.89	108.20
34	AA	2724	C	O4'-C1'-N1	5.86	112.89	108.20
1	A	96	C	O4'-C1'-N1	5.86	112.89	108.20
1	A	746	U	O4'-C1'-N1	5.86	112.89	108.20
1	A	1980	A	C4'-C3'-C2'	-5.86	96.74	102.60
3	D	65	ARG	NE-CZ-NH1	5.86	123.23	120.30
34	AA	627	U	O4'-C1'-N1	5.86	112.88	108.20
34	AA	1603	C	O4'-C1'-N1	5.86	112.88	108.20
34	AA	1013	U	C1'-O4'-C4'	-5.85	105.22	109.90
1	A	430	C	O4'-C1'-N1	5.85	112.88	108.20
34	AA	239	U	C2-N1-C1'	5.85	124.72	117.70
34	AA	1280	G	O4'-C1'-N9	5.85	112.88	108.20
34	AA	2510	U	O4'-C1'-N1	5.85	112.88	108.20
34	AA	3656	A	O4'-C1'-N9	5.85	112.88	108.20
1	A	1954	U	O4'-C1'-N1	5.85	112.88	108.20
34	AA	1282	U	O4'-C1'-N1	5.85	112.88	108.20
34	AA	2123	C	O4'-C1'-N1	5.85	112.88	108.20
73	AU	183	ARG	NE-CZ-NH1	5.85	123.22	120.30
1	A	1170	C	O4'-C1'-N1	5.85	112.88	108.20
4	E	171	ARG	NE-CZ-NH2	5.85	123.22	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1234	A	N1-C6-N6	5.85	122.11	118.60
34	AA	3522	C	O4'-C1'-N1	5.85	112.88	108.20
1	A	492	A	P-O5'-C5'	5.85	130.25	120.90
34	AA	2486	U	P-O3'-C3'	5.85	126.72	119.70
34	AA	2943	U	O4'-C1'-N1	5.85	112.88	108.20
34	AA	2140	U	O4'-C1'-N1	5.84	112.88	108.20
34	AA	3427	U	O4'-C1'-N1	5.84	112.88	108.20
34	AA	1750	U	O4'-C1'-N1	5.84	112.87	108.20
34	AA	3736	A	C1'-O4'-C4'	-5.84	105.22	109.90
24	L	31	ARG	NE-CZ-NH1	5.84	123.22	120.30
34	AA	811	A	O4'-C1'-N9	5.84	112.87	108.20
1	A	402	G	O4'-C1'-N9	5.84	112.87	108.20
1	A	824	A	O4'-C1'-N9	5.84	112.87	108.20
1	A	747	U	O4'-C1'-N1	5.84	112.87	108.20
34	AA	581	C	O4'-C1'-N1	5.84	112.87	108.20
34	AA	2607	U	O4'-C1'-N1	5.84	112.87	108.20
34	AA	3142	U	O4'-C1'-N1	5.84	112.87	108.20
34	AA	2216	G	N1-C6-O6	5.83	123.40	119.90
34	AA	3703	G	O4'-C1'-N9	5.83	112.87	108.20
34	AA	108	C	O4'-C1'-N1	5.83	112.86	108.20
34	AA	2714	U	O4'-C1'-N1	5.83	112.86	108.20
34	AA	1157	U	P-O3'-C3'	5.83	126.70	119.70
34	AA	1206	U	P-O3'-C3'	5.83	126.70	119.70
56	Ac	75	ARG	NE-CZ-NH1	5.83	123.22	120.30
34	AA	1676	C	O4'-C1'-N1	5.83	112.86	108.20
34	AA	2802	U	O4'-C1'-N1	5.83	112.86	108.20
1	A	34	G	O4'-C1'-N9	5.83	112.86	108.20
6	I	51	ARG	NE-CZ-NH2	-5.83	117.39	120.30
34	AA	594	C	O4'-C1'-N1	5.83	112.86	108.20
1	A	1287	U	O4'-C1'-N1	5.82	112.86	108.20
34	AA	3257	G	N1-C6-O6	5.82	123.39	119.90
35	AC	28	G	O4'-C1'-N9	5.82	112.86	108.20
62	AR	195	ARG	NE-CZ-NH1	-5.82	117.39	120.30
1	A	42	G	O4'-C1'-N9	5.82	112.86	108.20
34	AA	2956	U	O4'-C1'-N1	5.82	112.86	108.20
34	AA	3617	A	O4'-C1'-N9	5.82	112.86	108.20
59	AS	27	ARG	NE-CZ-NH1	5.82	123.21	120.30
1	A	1918	U	O4'-C1'-N1	5.82	112.86	108.20
1	A	544	G	C4'-C3'-C2'	-5.82	96.78	102.60
34	AA	861	C	C6-N1-C2	-5.82	117.97	120.30
34	AA	907	C	O4'-C1'-N1	5.82	112.85	108.20
34	AA	3022	U	O4'-C1'-N1	5.82	112.85	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1448	C	O4'-C1'-N1	5.82	112.85	108.20
34	AA	2071	U	O4'-C1'-N1	5.82	112.85	108.20
34	AA	3775	G	O4'-C1'-N9	5.82	112.85	108.20
35	AC	80	C	O4'-C1'-N1	5.82	112.85	108.20
35	AC	94	C	O4'-C1'-N1	5.82	112.85	108.20
1	A	550	C	O4'-C1'-N1	5.81	112.85	108.20
34	AA	3625	C	O4'-C1'-N1	5.81	112.85	108.20
42	A7	33	TYR	CB-CG-CD2	-5.81	117.51	121.00
2	7	13	C	O4'-C1'-N1	5.81	112.85	108.20
14	1	91	ARG	NE-CZ-NH2	5.81	123.20	120.30
34	AA	1233	A	P-O5'-C5'	5.81	130.19	120.90
34	AA	1536	U	P-O3'-C3'	5.81	126.67	119.70
34	AA	2693	G	C5-C6-O6	-5.81	125.11	128.60
34	AA	3637	G	C5-C6-O6	-5.81	125.11	128.60
34	AA	3781	A	P-O3'-C3'	5.81	126.67	119.70
1	A	1108	A	P-O3'-C3'	5.81	126.67	119.70
34	AA	2953	G	O4'-C1'-N9	5.81	112.85	108.20
1	A	1808	G	O4'-C1'-N9	5.81	112.84	108.20
34	AA	240	U	O4'-C1'-N1	5.81	112.84	108.20
26	P	147	ARG	NE-CZ-NH2	5.80	123.20	120.30
1	A	579	C	O4'-C1'-N1	5.80	112.84	108.20
34	AA	1290	C	P-O3'-C3'	5.80	126.66	119.70
34	AA	1721	C	O4'-C1'-N1	5.80	112.84	108.20
71	AF	48	ARG	NE-CZ-NH1	-5.80	117.40	120.30
34	AA	1457	G	N1-C6-O6	5.80	123.38	119.90
34	AA	2426	U	O4'-C1'-N1	5.80	112.84	108.20
36	AB	85	G	O4'-C1'-N9	5.80	112.84	108.20
1	A	1718	C	P-O3'-C3'	-5.80	112.74	119.70
1	A	454	U	O4'-C1'-N1	5.80	112.84	108.20
27	Q	95	PHE	CB-CG-CD1	-5.80	116.74	120.80
34	AA	769	U	C6-N1-C1'	-5.80	113.09	121.20
35	AC	145	A	C2'-C3'-O3'	5.80	122.97	113.70
34	AA	122	A	C5'-C4'-O4'	5.79	116.05	109.10
34	AA	1343	U	O4'-C1'-N1	5.79	112.84	108.20
1	A	1392	C	O4'-C1'-N1	5.79	112.83	108.20
34	AA	3664	G	C5-C6-O6	-5.79	125.12	128.60
34	AA	2643	C	P-O3'-C3'	-5.79	112.75	119.70
35	AC	149	C	O4'-C1'-N1	5.79	112.83	108.20
1	A	1905	C	O4'-C1'-N1	5.79	112.83	108.20
34	AA	3716	C	O4'-C1'-N1	5.79	112.83	108.20
1	A	753	U	P-O3'-C3'	5.79	126.64	119.70
1	A	1626	U	O4'-C1'-N1	5.79	112.83	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1628	A	O4'-C1'-N9	5.79	112.83	108.20
34	AA	3711	U	C1'-O4'-C4'	-5.79	105.27	109.90
1	A	167	A	O4'-C1'-N9	5.78	112.83	108.20
1	A	596	C	O4'-C1'-N1	5.78	112.83	108.20
1	A	971	G	N1-C6-O6	5.78	123.37	119.90
34	AA	607	A	C5-C6-N6	-5.78	119.07	123.70
34	AA	716	C	O4'-C1'-N1	5.78	112.83	108.20
34	AA	2098	G	C5-C6-O6	-5.78	125.13	128.60
34	AA	3013	A	O4'-C1'-N9	5.78	112.83	108.20
34	AA	3573	U	O4'-C1'-N1	5.78	112.83	108.20
34	AA	1736	A	P-O3'-C3'	5.78	126.64	119.70
34	AA	2888	U	O4'-C1'-N1	5.78	112.83	108.20
34	AA	3689	C	O4'-C1'-N1	5.78	112.83	108.20
1	A	617	G	C4-N9-C1'	5.78	134.01	126.50
34	AA	421	C	O4'-C1'-N1	5.78	112.82	108.20
34	AA	1797	A	P-O5'-C5'	5.78	130.15	120.90
1	A	1085	C	O4'-C1'-N1	5.78	112.82	108.20
1	A	1433	A	C5'-C4'-O4'	5.78	116.03	109.10
34	AA	1604	U	O4'-C1'-N1	5.78	112.82	108.20
1	A	975	A	C5'-C4'-O4'	5.78	116.03	109.10
1	A	1942	G	C5'-C4'-C3'	-5.78	106.76	116.00
34	AA	3639	G	C5-C6-O6	-5.78	125.13	128.60
1	A	1635	C	O4'-C1'-N1	5.77	112.82	108.20
20	B	94	ARG	NE-CZ-NH1	5.77	123.19	120.30
34	AA	652	A	P-O3'-C3'	5.77	126.63	119.70
34	AA	2463	U	O4'-C1'-N1	5.77	112.82	108.20
34	AA	1494	U	O4'-C1'-N1	5.77	112.82	108.20
34	AA	2640	U	O4'-C1'-N1	5.77	112.82	108.20
1	A	594	C	O4'-C1'-N1	5.77	112.82	108.20
34	AA	543	U	O4'-C1'-N1	5.77	112.81	108.20
34	AA	1135	G	P-O3'-C3'	5.77	126.62	119.70
2	7	31	G	O4'-C1'-N9	5.76	112.81	108.20
34	AA	265	U	O4'-C1'-N1	5.76	112.81	108.20
36	AB	84	U	P-O3'-C3'	-5.76	112.78	119.70
22	H	98	ARG	NE-CZ-NH1	5.76	123.18	120.30
35	AC	24	U	O4'-C1'-N1	5.76	112.81	108.20
26	P	146	ARG	NE-CZ-NH2	5.76	123.18	120.30
1	A	38	C	O4'-C1'-N1	5.76	112.81	108.20
1	A	207	G	C5-C6-O6	-5.76	125.14	128.60
1	A	388	C	O4'-C1'-N1	5.76	112.81	108.20
34	AA	300	C	O4'-C1'-N1	5.76	112.81	108.20
1	A	102	A	N1-C6-N6	-5.76	115.14	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	5	38	ARG	NE-CZ-NH2	5.76	123.18	120.30
34	AA	3052	U	P-O3'-C3'	-5.76	112.79	119.70
34	AA	652	A	C2'-C3'-O3'	5.76	122.91	113.70
34	AA	1210	A	O4'-C1'-N9	5.76	112.80	108.20
34	AA	3445	C	O4'-C1'-N1	5.76	112.81	108.20
1	A	1660	U	P-O3'-C3'	-5.75	112.80	119.70
34	AA	1583	G	C5-C6-O6	-5.75	125.15	128.60
36	AB	93	G	N1-C6-O6	5.75	123.35	119.90
34	AA	975	G	O4'-C1'-N9	5.75	112.80	108.20
34	AA	2141	G	O4'-C1'-N9	5.75	112.80	108.20
34	AA	2526	A	O4'-C1'-N9	5.75	112.80	108.20
46	Aa	58	ARG	NE-CZ-NH2	5.75	123.18	120.30
77	AX	102	TYR	CB-CG-CD2	-5.75	117.55	121.00
34	AA	3742	C	O4'-C1'-N1	5.75	112.80	108.20
34	AA	2092	G	N1-C6-O6	5.75	123.35	119.90
34	AA	2396	C	O4'-C1'-N1	5.75	112.80	108.20
34	AA	2560	C	O4'-C1'-N1	5.75	112.80	108.20
34	AA	2566	G	N1-C6-O6	5.75	123.35	119.90
1	A	295	U	O4'-C1'-N1	5.74	112.80	108.20
1	A	1171	U	O4'-C1'-N1	5.74	112.80	108.20
1	A	1929	C	O4'-C1'-N1	5.74	112.80	108.20
34	AA	2121	C	O4'-C1'-N1	5.74	112.79	108.20
34	AA	2659	C	O4'-C1'-N1	5.74	112.80	108.20
34	AA	3096	U	O4'-C1'-N1	5.74	112.80	108.20
34	AA	3674	A	O4'-C1'-N9	5.74	112.79	108.20
1	A	307	G	P-O3'-C3'	5.74	126.59	119.70
34	AA	892	U	P-O3'-C3'	-5.74	112.81	119.70
34	AA	2015	C	C1'-O4'-C4'	-5.74	105.31	109.90
34	AA	3256	C	O4'-C1'-N1	5.74	112.79	108.20
36	AB	2	G	C5-C6-O6	-5.74	125.16	128.60
55	AJ	73	ARG	NE-CZ-NH1	5.74	123.17	120.30
1	A	988	U	O4'-C1'-N1	5.74	112.79	108.20
34	AA	3551	U	O4'-C1'-N1	5.74	112.79	108.20
71	AF	375	TYR	CB-CG-CD1	5.74	124.44	121.00
34	AA	1705	A	P-O5'-C5'	5.74	130.08	120.90
44	A8	27	ARG	NH1-CZ-NH2	-5.74	113.09	119.40
56	Ac	14	ARG	NE-CZ-NH2	5.74	123.17	120.30
1	A	201	G	C5-C6-O6	-5.74	125.16	128.60
1	A	1251	G	O4'-C1'-N9	5.74	112.79	108.20
1	A	1368	G	O4'-C1'-N9	5.74	112.79	108.20
34	AA	1629	G	O4'-C1'-N9	5.74	112.79	108.20
35	AC	110	G	C5-C6-O6	-5.73	125.16	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1881	C	C2'-C3'-O3'	5.73	122.87	113.70
36	AB	7	G	O4'-C1'-N9	5.73	112.79	108.20
62	AR	247	ARG	NE-CZ-NH1	5.73	123.17	120.30
1	A	26	A	P-O3'-C3'	5.73	126.58	119.70
34	AA	2696	G	O4'-C1'-N9	5.73	112.78	108.20
34	AA	2089	C	O4'-C1'-N1	5.73	112.78	108.20
34	AA	3645	A	N1-C6-N6	-5.73	115.16	118.60
34	AA	1587	U	O4'-C1'-N1	5.73	112.78	108.20
34	AA	2566	G	C5-C6-O6	-5.73	125.16	128.60
34	AA	2806	U	O4'-C1'-N1	5.73	112.78	108.20
1	A	1786	U	P-O5'-C5'	5.72	130.06	120.90
34	AA	659	U	C5'-C4'-O4'	5.72	115.97	109.10
34	AA	2597	C	O4'-C1'-N1	5.72	112.78	108.20
34	AA	3014	C	O4'-C1'-N1	5.72	112.78	108.20
1	A	655	C	O4'-C1'-N1	5.72	112.78	108.20
1	A	1321	C	C6-N1-C2	-5.72	118.01	120.30
62	AR	141	ARG	NE-CZ-NH1	-5.72	117.44	120.30
34	AA	3026	G	C5-C6-O6	-5.72	125.17	128.60
1	A	648	A	P-O5'-C5'	5.72	130.05	120.90
1	A	1106	C	O4'-C1'-N1	5.72	112.77	108.20
1	A	1262	C	O4'-C1'-N1	5.72	112.77	108.20
1	A	2006	U	O4'-C1'-N1	5.72	112.77	108.20
34	AA	253	U	O4'-C1'-N1	5.72	112.77	108.20
34	AA	276	G	O4'-C1'-N9	5.72	112.77	108.20
34	AA	1130	U	O4'-C1'-N1	5.72	112.77	108.20
1	A	163	G	O4'-C1'-N9	5.71	112.77	108.20
1	A	1197	C	O4'-C1'-N1	5.71	112.77	108.20
34	AA	1535	G	P-O5'-C5'	5.71	130.04	120.90
1	A	1001	A	O4'-C1'-N9	5.71	112.77	108.20
1	A	1825	U	O4'-C1'-N1	5.71	112.77	108.20
34	AA	1829	G	O4'-C1'-N9	5.71	112.77	108.20
2	7	43	C	O4'-C1'-N1	5.71	112.77	108.20
32	X	81	ARG	NE-CZ-NH2	-5.71	117.44	120.30
1	A	48	G	O4'-C1'-N9	5.71	112.77	108.20
34	AA	1804	C	P-O3'-C3'	5.71	126.55	119.70
34	AA	3121	G	O4'-C1'-N9	5.71	112.77	108.20
35	AC	140	G	P-O5'-C5'	5.71	130.03	120.90
51	AP	188	SER	N-CA-CB	5.71	119.06	110.50
1	A	199	U	O4'-C1'-N1	5.71	112.77	108.20
34	AA	621	C	C4'-C3'-C2'	-5.71	96.89	102.60
60	AO	127	ARG	NE-CZ-NH1	5.71	123.15	120.30
67	A3	80	TYR	CB-CG-CD2	5.71	124.42	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3209	G	N1-C6-O6	5.70	123.32	119.90
1	A	109	C	O4'-C1'-N1	5.70	112.76	108.20
34	AA	642	A	P-O3'-C3'	5.70	126.54	119.70
34	AA	1958	U	O4'-C1'-N1	5.70	112.76	108.20
34	AA	2197	G	N1-C6-O6	5.70	123.32	119.90
1	A	520	U	O4'-C1'-N1	5.70	112.76	108.20
34	AA	1634	G	O4'-C1'-N9	5.70	112.76	108.20
1	A	1637	U	O4'-C1'-N1	5.70	112.76	108.20
34	AA	1881	C	P-O3'-C3'	5.70	126.54	119.70
1	A	607	U	O4'-C1'-N1	5.70	112.76	108.20
34	AA	3263	G	O4'-C1'-N9	5.69	112.75	108.20
34	AA	3677	A	O4'-C1'-N9	5.69	112.75	108.20
47	Ab	106	ARG	NE-CZ-NH1	5.69	123.15	120.30
2	7	34	U	O4'-C1'-N1	5.69	112.75	108.20
34	AA	648	U	O4'-C1'-N1	5.69	112.75	108.20
34	AA	2136	C	O4'-C1'-N1	5.69	112.75	108.20
34	AA	972	G	O4'-C1'-N9	5.69	112.75	108.20
34	AA	2639	C	O4'-C1'-N1	5.69	112.75	108.20
34	AA	3136	C	O4'-C1'-N1	5.69	112.75	108.20
34	AA	1712	G	O4'-C1'-N9	5.69	112.75	108.20
34	AA	111	C	O4'-C1'-N1	5.69	112.75	108.20
34	AA	409	A	O4'-C1'-N9	5.69	112.75	108.20
34	AA	3361	U	P-O3'-C3'	5.69	126.53	119.70
61	AQ	201	ARG	NE-CZ-NH1	5.69	123.14	120.30
34	AA	3137	U	P-O3'-C3'	5.69	126.52	119.70
62	AR	85	ARG	NE-CZ-NH2	5.69	123.14	120.30
21	F	132	ARG	NE-CZ-NH2	5.68	123.14	120.30
34	AA	684	G	P-O3'-C3'	5.68	126.52	119.70
34	AA	2669	G	O4'-C1'-N9	5.68	112.75	108.20
34	AA	364	C	O4'-C1'-N1	5.68	112.74	108.20
34	AA	511	C	O4'-C1'-N1	5.68	112.74	108.20
34	AA	1548	A	O4'-C1'-N9	5.68	112.74	108.20
34	AA	3503	U	O4'-C1'-N1	5.68	112.74	108.20
1	A	1306	C	O4'-C1'-N1	5.68	112.74	108.20
34	AA	1841	U	O4'-C1'-N1	5.68	112.74	108.20
34	AA	3287	C	O4'-C1'-N1	5.68	112.74	108.20
2	7	4	U	O4'-C1'-N1	5.68	112.74	108.20
1	A	523	U	O4'-C1'-N1	5.67	112.74	108.20
1	A	1288	U	O4'-C1'-N1	5.67	112.74	108.20
34	AA	1230	A	C1'-O4'-C4'	-5.67	105.36	109.90
34	AA	1763	G	O4'-C1'-N9	5.67	112.74	108.20
34	AA	2813	U	O4'-C1'-N1	5.67	112.74	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	882	G	O4'-C1'-N9	5.67	112.74	108.20
2	7	37	U	P-O3'-C3'	5.67	126.50	119.70
34	AA	1887	G	O4'-C1'-N9	5.67	112.74	108.20
34	AA	3752	C	O4'-C1'-N1	5.67	112.74	108.20
2	7	54	G	O4'-C1'-N9	5.67	112.74	108.20
34	AA	3574	G	O4'-C1'-N9	5.67	112.74	108.20
1	A	1881	G	C5-C6-O6	-5.67	125.20	128.60
34	AA	1655	U	O4'-C1'-N1	5.67	112.73	108.20
34	AA	2388	U	O4'-C1'-N1	5.67	112.73	108.20
34	AA	2484	U	O4'-C1'-N1	5.67	112.73	108.20
34	AA	3767	U	O4'-C1'-N1	5.67	112.73	108.20
36	AB	13	A	C4'-C3'-C2'	-5.67	96.93	102.60
62	AR	31	ARG	NE-CZ-NH1	5.67	123.13	120.30
1	A	1955	G	C5-C6-O6	-5.67	125.20	128.60
2	7	55	U	O4'-C1'-N1	5.67	112.73	108.20
35	AC	37	A	C2'-C3'-O3'	5.67	122.77	113.70
1	A	370	G	O4'-C1'-N9	5.67	112.73	108.20
1	A	1206	C	O4'-C1'-N1	5.66	112.73	108.20
34	AA	189	U	O4'-C1'-N1	5.66	112.73	108.20
34	AA	2019	A	O4'-C1'-N9	5.66	112.73	108.20
34	AA	3314	U	O4'-C1'-N1	5.66	112.73	108.20
34	AA	130	G	C5-C6-O6	-5.66	125.20	128.60
34	AA	328	G	N1-C6-O6	5.66	123.30	119.90
34	AA	622	U	O4'-C1'-N1	5.66	112.73	108.20
34	AA	1511	U	O4'-C1'-N1	5.66	112.73	108.20
34	AA	3267	C	O4'-C1'-N1	5.66	112.73	108.20
68	A5	255	ARG	NE-CZ-NH1	5.66	123.13	120.30
34	AA	133	U	O4'-C1'-N1	5.66	112.73	108.20
34	AA	1690	A	N1-C6-N6	-5.66	115.20	118.60
34	AA	1738	A	O4'-C1'-N9	5.66	112.73	108.20
34	AA	3629	U	O4'-C1'-N1	5.66	112.73	108.20
52	Ah	49	ARG	NE-CZ-NH2	5.66	123.13	120.30
34	AA	893	U	O4'-C1'-N1	5.66	112.72	108.20
1	A	1909	C	O4'-C1'-N1	5.66	112.72	108.20
34	AA	794	C	O4'-C1'-N1	5.66	112.72	108.20
34	AA	1104	U	O4'-C1'-N1	5.66	112.72	108.20
34	AA	2817	U	O4'-C1'-N1	5.66	112.72	108.20
35	AC	97	C	O4'-C1'-N1	5.66	112.72	108.20
34	AA	1608	C	O4'-C1'-N1	5.65	112.72	108.20
34	AA	2519	U	O4'-C1'-N1	5.65	112.72	108.20
1	A	171	U	O4'-C1'-N1	5.65	112.72	108.20
1	A	793	G	C4'-C3'-C2'	5.65	108.25	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	352	A	O4'-C1'-N9	5.65	112.72	108.20
59	AS	139	ARG	NE-CZ-NH1	5.65	123.12	120.30
58	AM	72	ARG	NE-CZ-NH1	5.65	123.12	120.30
1	A	1091	C	O4'-C1'-N1	5.65	112.72	108.20
1	A	1260	C	O4'-C1'-N1	5.65	112.72	108.20
34	AA	704	U	O4'-C1'-N1	5.65	112.72	108.20
34	AA	3650	U	O4'-C1'-N1	5.65	112.72	108.20
36	AB	112	U	O4'-C1'-N1	5.65	112.72	108.20
62	AR	278	ARG	NE-CZ-NH1	5.65	123.12	120.30
1	A	1435	C	O4'-C1'-N1	5.64	112.72	108.20
34	AA	521	U	C4'-C3'-C2'	-5.64	96.96	102.60
34	AA	1158	G	C5-C6-O6	-5.64	125.21	128.60
34	AA	3727	A	O4'-C1'-N9	5.64	112.72	108.20
34	AA	3777	G	O4'-C1'-N9	5.64	112.71	108.20
1	A	1798	G	C5-C6-O6	-5.64	125.22	128.60
34	AA	1037	C	O4'-C1'-N1	5.64	112.71	108.20
1	A	1065	C	C6-N1-C2	-5.64	118.05	120.30
22	H	72	ARG	NE-CZ-NH1	5.64	123.12	120.30
27	Q	107	PHE	CB-CG-CD2	-5.64	116.85	120.80
34	AA	1428	G	N1-C6-O6	5.64	123.28	119.90
34	AA	2096	G	O4'-C1'-N9	5.64	112.71	108.20
1	A	893	U	O4'-C1'-N1	5.64	112.71	108.20
1	A	2089	A	O4'-C1'-N9	5.64	112.71	108.20
1	A	1314	U	O4'-C1'-N1	5.64	112.71	108.20
34	AA	592	C	O4'-C1'-N1	5.64	112.71	108.20
34	AA	987	U	O4'-C1'-N1	5.64	112.71	108.20
36	AB	4	C	O4'-C1'-N1	5.64	112.71	108.20
34	AA	215	C	C2'-C3'-O3'	5.63	122.72	113.70
34	AA	3233	G	O4'-C1'-N9	5.63	112.71	108.20
35	AC	102	U	O4'-C1'-N1	5.63	112.71	108.20
14	1	120	ARG	NE-CZ-NH2	-5.63	117.48	120.30
34	AA	122	A	C1'-O4'-C4'	-5.63	105.39	109.90
34	AA	243	U	O4'-C1'-N1	5.63	112.70	108.20
34	AA	1727	U	O4'-C1'-N1	5.63	112.70	108.20
1	A	1963	U	O4'-C1'-N1	5.63	112.70	108.20
1	A	1937	C	O4'-C1'-N1	5.63	112.70	108.20
34	AA	350	A	O4'-C1'-N9	5.63	112.70	108.20
34	AA	1994	U	O4'-C1'-N1	5.63	112.70	108.20
34	AA	2112	G	O4'-C1'-N9	5.63	112.70	108.20
34	AA	2554	G	C5-C6-O6	-5.63	125.22	128.60
1	A	162	A	O4'-C1'-N9	5.63	112.70	108.20
1	A	1050	U	O4'-C1'-N1	5.63	112.70	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1658	G	N1-C6-O6	5.63	123.28	119.90
73	AU	35	ARG	NE-CZ-NH1	-5.62	117.49	120.30
30	U	99	ARG	NE-CZ-NH1	5.62	123.11	120.30
34	AA	1879	U	O4'-C1'-N1	5.62	112.70	108.20
34	AA	3750	U	O4'-C1'-N1	5.62	112.70	108.20
35	AC	127	C	O4'-C1'-N1	5.62	112.70	108.20
35	AC	12	U	O4'-C1'-N1	5.62	112.70	108.20
34	AA	1779	A	P-O3'-C3'	5.62	126.44	119.70
34	AA	140	A	O4'-C1'-N9	5.62	112.69	108.20
34	AA	3072	A	O4'-C1'-N9	5.62	112.69	108.20
2	7	36	A	P-O5'-C5'	5.62	129.89	120.90
34	AA	1241	G	O4'-C1'-N9	5.62	112.69	108.20
34	AA	3104	C	O4'-C1'-N1	5.62	112.69	108.20
5	G	178	ARG	NE-CZ-NH2	5.62	123.11	120.30
20	B	136	ARG	NE-CZ-NH2	5.62	123.11	120.30
34	AA	2110	C	O4'-C1'-N1	5.62	112.69	108.20
34	AA	1315	C	O4'-C1'-N1	5.61	112.69	108.20
34	AA	3103	C	O4'-C1'-N1	5.61	112.69	108.20
35	AC	66	C	O4'-C1'-N1	5.61	112.69	108.20
1	A	1914	U	O4'-C1'-N1	5.61	112.69	108.20
34	AA	1650	U	O4'-C1'-N1	5.61	112.69	108.20
1	A	1720	G	O4'-C1'-N9	5.61	112.69	108.20
1	A	1924	U	O4'-C1'-N1	5.61	112.69	108.20
35	AC	54	C	P-O3'-C3'	5.61	126.43	119.70
1	A	121	A	N1-C6-N6	-5.61	115.24	118.60
1	A	2022	A	O4'-C1'-N9	5.61	112.69	108.20
9	W	58	MET	CG-SD-CE	-5.61	91.23	100.20
34	AA	134	G	C5-C6-O6	-5.61	125.24	128.60
34	AA	1048	G	O4'-C1'-N9	5.61	112.69	108.20
36	AB	22	G	O4'-C1'-N9	5.61	112.69	108.20
34	AA	2153	A	O4'-C1'-N9	5.60	112.68	108.20
1	A	123	U	O4'-C1'-N1	5.60	112.68	108.20
2	7	18	G	O4'-C1'-N9	5.60	112.68	108.20
34	AA	834	U	O4'-C1'-N1	5.60	112.68	108.20
34	AA	1903	C	C2-N1-C1'	5.60	124.96	118.80
24	L	51	ARG	NE-CZ-NH2	5.60	123.10	120.30
34	AA	2146	A	O4'-C1'-N9	5.60	112.68	108.20
34	AA	890	G	O4'-C1'-N9	5.60	112.68	108.20
34	AA	1284	C	O4'-C1'-N1	5.60	112.68	108.20
34	AA	2977	U	O4'-C1'-N1	5.60	112.68	108.20
70	AE	305	MET	CG-SD-CE	-5.60	91.24	100.20
35	AC	5	A	O4'-C1'-N9	5.60	112.68	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	Aa	70	ARG	NE-CZ-NH1	5.60	123.10	120.30
1	A	172	U	O4'-C1'-N1	5.60	112.68	108.20
34	AA	1309	U	P-O3'-C3'	5.60	126.42	119.70
62	AR	23	ARG	NE-CZ-NH1	5.60	123.10	120.30
1	A	1980	A	C3'-C2'-C1'	-5.59	97.02	101.50
25	N	82	ARG	NE-CZ-NH2	5.59	123.10	120.30
34	AA	1629	G	P-O3'-C3'	-5.59	112.99	119.70
35	AC	139	A	P-O3'-C3'	5.59	126.41	119.70
34	AA	2499	G	C5'-C4'-O4'	5.59	115.81	109.10
1	A	16	G	C5-C6-O6	-5.59	125.25	128.60
1	A	1889	G	O4'-C1'-N9	5.59	112.67	108.20
2	7	19	G	C5-C6-O6	-5.59	125.25	128.60
34	AA	646	A	O4'-C1'-N9	5.59	112.67	108.20
34	AA	3048	U	O4'-C1'-N1	5.59	112.67	108.20
34	AA	3074	U	O4'-C1'-N1	5.59	112.67	108.20
34	AA	1201	U	O4'-C1'-N1	5.59	112.67	108.20
34	AA	1575	C	O4'-C1'-N1	5.59	112.67	108.20
34	AA	2455	G	O4'-C1'-N9	5.59	112.67	108.20
34	AA	2670	G	C5-C6-O6	-5.59	125.25	128.60
34	AA	3149	A	O4'-C1'-N9	5.59	112.67	108.20
34	AA	3376	U	P-O3'-C3'	5.59	126.41	119.70
34	AA	174	U	P-O3'-C3'	5.59	126.41	119.70
34	AA	3139	C	C6-N1-C1'	-5.59	114.09	120.80
1	A	389	G	O4'-C1'-N9	5.59	112.67	108.20
34	AA	366	G	O4'-C1'-N9	5.59	112.67	108.20
34	AA	451	C	C4'-C3'-C2'	5.59	108.19	102.60
34	AA	1304	C	O4'-C1'-N1	5.59	112.67	108.20
34	AA	1551	C	O4'-C1'-N1	5.59	112.67	108.20
1	A	354	C	O4'-C1'-N1	5.58	112.67	108.20
34	AA	2950	U	O4'-C1'-N1	5.58	112.67	108.20
43	AN	133	PHE	CB-CG-CD2	-5.58	116.89	120.80
1	A	168	U	O4'-C1'-N1	5.58	112.67	108.20
1	A	1975	U	O4'-C1'-N1	5.58	112.66	108.20
32	X	123	TYR	CB-CG-CD1	-5.58	117.65	121.00
34	AA	2005	A	O4'-C1'-N9	5.58	112.67	108.20
34	AA	3122	A	N1-C6-N6	5.58	121.95	118.60
34	AA	3361	U	O4'-C1'-N1	5.58	112.67	108.20
47	Ab	94	ARG	NE-CZ-NH2	5.58	123.09	120.30
1	A	1257	C	O4'-C1'-N1	5.58	112.66	108.20
73	AU	134	ARG	NE-CZ-NH2	5.58	123.09	120.30
1	A	548	A	O4'-C1'-N9	5.58	112.66	108.20
1	A	1605	C	O4'-C1'-N1	5.58	112.66	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1705	C	O4'-C1'-N1	5.58	112.66	108.20
1	A	1861	U	O4'-C1'-N1	5.58	112.66	108.20
34	AA	2482	U	O4'-C1'-N1	5.58	112.66	108.20
1	A	24	U	O4'-C1'-N1	5.58	112.66	108.20
1	A	399	C	C6-N1-C2	-5.58	118.07	120.30
1	A	923	U	C5'-C4'-O4'	5.58	115.79	109.10
1	A	1380	C	O4'-C1'-N1	5.58	112.66	108.20
34	AA	1214	C	O4'-C1'-N1	5.57	112.66	108.20
34	AA	3664	G	O4'-C1'-N9	5.57	112.66	108.20
34	AA	2457	C	O4'-C1'-N1	5.57	112.66	108.20
34	AA	859	C	C6-N1-C2	-5.57	118.07	120.30
34	AA	1154	C	O4'-C1'-N1	5.57	112.66	108.20
35	AC	110	G	N1-C6-O6	5.57	123.24	119.90
68	A5	64	TYR	CB-CG-CD2	-5.57	117.66	121.00
1	A	1041	G	O4'-C1'-N9	5.57	112.66	108.20
1	A	2023	A	C5-C6-N6	-5.57	119.25	123.70
34	AA	215	C	O4'-C1'-N1	5.57	112.65	108.20
34	AA	2653	C	O4'-C1'-N1	5.57	112.65	108.20
73	AU	124	ARG	NE-CZ-NH2	5.57	123.08	120.30
1	A	957	U	O4'-C1'-N1	5.57	112.65	108.20
1	A	1642	U	O4'-C1'-N1	5.57	112.65	108.20
34	AA	2207	G	O4'-C1'-N9	5.57	112.65	108.20
34	AA	2462	C	O4'-C1'-N1	5.57	112.65	108.20
1	A	866	A	O4'-C1'-N9	5.56	112.65	108.20
1	A	508	U	O4'-C1'-N1	5.56	112.65	108.20
30	U	124	ARG	NE-CZ-NH2	5.56	123.08	120.30
1	A	1940	U	O4'-C1'-N1	5.56	112.65	108.20
1	A	272	U	P-O5'-C5'	5.56	129.80	120.90
34	AA	1277	G	O4'-C1'-N9	5.56	112.65	108.20
34	AA	3238	C	O4'-C1'-N1	5.56	112.65	108.20
1	A	1417	U	O4'-C1'-N1	5.56	112.65	108.20
1	A	2030	U	O4'-C1'-N1	5.56	112.65	108.20
34	AA	1643	U	O4'-C1'-C2'	-5.56	100.24	105.80
34	AA	1053	U	C2-N3-C4	-5.56	123.67	127.00
34	AA	3099	C	O4'-C1'-N1	5.56	112.64	108.20
34	AA	1254	G	C5-C6-O6	-5.55	125.27	128.60
2	7	37	U	P-O5'-C5'	5.55	129.78	120.90
1	A	1381	C	O4'-C1'-N1	5.55	112.64	108.20
1	A	2051	C	P-O3'-C3'	5.55	126.36	119.70
6	I	86	TYR	CB-CG-CD2	5.55	124.33	121.00
34	AA	1085	U	O4'-C1'-N1	5.55	112.64	108.20
34	AA	2069	C	O4'-C1'-N1	5.55	112.64	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	AB	14	C	O4'-C1'-N1	5.55	112.64	108.20
34	AA	1218	C	O4'-C1'-N1	5.55	112.64	108.20
34	AA	2004	U	C6-N1-C1'	-5.55	113.43	121.20
34	AA	31	C	O4'-C1'-N1	5.55	112.64	108.20
34	AA	184	U	P-O3'-C3'	5.55	126.36	119.70
1	A	2053	U	C2'-C3'-O3'	5.55	122.58	113.70
34	AA	338	U	O4'-C1'-N1	5.55	112.64	108.20
34	AA	2111	C	O4'-C1'-N1	5.55	112.64	108.20
2	7	63	U	O4'-C1'-N1	5.54	112.64	108.20
57	AK	84	ARG	NE-CZ-NH2	5.54	123.07	120.30
1	A	1878	C	O4'-C1'-N1	5.54	112.64	108.20
34	AA	2215	G	P-O3'-C3'	5.54	126.35	119.70
1	A	82	G	C5'-C4'-C3'	5.54	124.86	116.00
1	A	2088	C	P-O3'-C3'	5.54	126.35	119.70
29	T	30	ARG	NE-CZ-NH1	5.54	123.07	120.30
34	AA	170	U	O4'-C1'-N1	5.54	112.63	108.20
34	AA	1872	A	O4'-C1'-N9	5.54	112.63	108.20
35	AC	96	U	O4'-C1'-N1	5.54	112.63	108.20
68	A5	86	ARG	NE-CZ-NH1	5.54	123.07	120.30
34	AA	2514	G	C5-C6-O6	-5.54	125.28	128.60
49	Ae	6	ARG	NE-CZ-NH1	5.54	123.07	120.30
59	AS	151	PHE	CB-CG-CD2	-5.54	116.92	120.80
1	A	2008	U	O4'-C1'-N1	5.54	112.63	108.20
34	AA	1034	A	N1-C6-N6	-5.54	115.28	118.60
34	AA	1666	A	O4'-C1'-N9	5.54	112.63	108.20
34	AA	3546	C	O4'-C1'-N1	5.54	112.63	108.20
60	AO	108	PHE	CB-CG-CD2	-5.54	116.92	120.80
1	A	428	G	O4'-C1'-N9	5.53	112.63	108.20
24	L	188	ARG	NE-CZ-NH1	5.53	123.07	120.30
34	AA	1019	A	O4'-C1'-N9	5.53	112.63	108.20
34	AA	1276	G	C5'-C4'-O4'	5.53	115.74	109.10
1	A	530	U	O4'-C1'-N1	5.53	112.62	108.20
2	7	29	G	O4'-C1'-N9	5.53	112.62	108.20
9	W	67	ARG	NE-CZ-NH2	5.53	123.06	120.30
34	AA	2030	G	O4'-C1'-N9	5.53	112.62	108.20
1	A	1411	G	O4'-C1'-N9	5.53	112.62	108.20
34	AA	187	U	O4'-C1'-N1	5.53	112.62	108.20
34	AA	684	G	C5-C6-O6	-5.53	125.28	128.60
34	AA	1280	G	P-O3'-C3'	5.53	126.33	119.70
34	AA	2518	U	O4'-C1'-N1	5.53	112.62	108.20
34	AA	3347	C	O4'-C1'-N1	5.53	112.62	108.20
73	AU	116	TYR	CB-CG-CD2	-5.53	117.69	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	A8	111	ARG	NE-CZ-NH2	5.52	123.06	120.30
34	AA	1005	C	O4'-C1'-N1	5.52	112.62	108.20
34	AA	1959	G	O4'-C1'-N9	5.52	112.62	108.20
34	AA	2103	C	P-O3'-C3'	-5.52	113.07	119.70
34	AA	3688	G	P-O3'-C3'	5.52	126.33	119.70
75	AV	131	ARG	NE-CZ-NH2	-5.52	117.54	120.30
1	A	1226	A	O4'-C1'-N9	5.52	112.62	108.20
34	AA	285	U	O4'-C1'-N1	5.52	112.62	108.20
34	AA	2976	A	P-O3'-C3'	-5.52	113.07	119.70
1	A	973	G	C5-C6-O6	-5.52	125.29	128.60
1	A	1295	A	O4'-C1'-N9	5.52	112.62	108.20
1	A	1638	U	O4'-C1'-N1	5.52	112.61	108.20
34	AA	245	U	C5'-C4'-O4'	5.52	115.72	109.10
34	AA	1898	U	O4'-C1'-N1	5.52	112.62	108.20
1	A	17	C	C2-N1-C1'	5.52	124.87	118.80
1	A	858	U	O4'-C1'-N1	5.52	112.61	108.20
34	AA	618	U	O4'-C1'-N1	5.52	112.61	108.20
34	AA	3450	G	C5-C6-O6	-5.52	125.29	128.60
57	AK	134	TYR	CB-CG-CD1	-5.52	117.69	121.00
78	A0	57	ARG	NE-CZ-NH1	5.52	123.06	120.30
1	A	1243	A	O4'-C1'-N9	5.52	112.61	108.20
1	A	10	G	O4'-C1'-N9	5.51	112.61	108.20
34	AA	230	G	O4'-C1'-N9	5.51	112.61	108.20
34	AA	2182	G	O4'-C1'-N9	5.51	112.61	108.20
1	A	591	C	O4'-C1'-N1	5.51	112.61	108.20
1	A	809	U	O4'-C1'-N1	5.51	112.61	108.20
1	A	1188	A	O4'-C1'-N9	5.51	112.61	108.20
34	AA	969	U	O4'-C1'-N1	5.51	112.61	108.20
34	AA	1119	G	O4'-C1'-N9	5.51	112.61	108.20
34	AA	1424	C	O4'-C1'-N1	5.51	112.61	108.20
34	AA	3748	U	O4'-C1'-N1	5.51	112.61	108.20
1	A	103	U	O4'-C1'-N1	5.51	112.61	108.20
34	AA	76	G	C5-C6-O6	-5.51	125.30	128.60
34	AA	964	G	O4'-C1'-N9	5.51	112.61	108.20
34	AA	3110	A	P-O3'-C3'	5.51	126.31	119.70
12	Y	107	ARG	NE-CZ-NH1	5.51	123.05	120.30
34	AA	41	G	O4'-C1'-N9	5.51	112.61	108.20
34	AA	386	U	O4'-C1'-N1	5.51	112.61	108.20
34	AA	1082	G	O4'-C1'-N9	5.51	112.61	108.20
34	AA	1243	G	N1-C6-O6	5.51	123.20	119.90
50	Af	46	ARG	NE-CZ-NH1	-5.51	117.55	120.30
1	A	896	U	O4'-C1'-N1	5.50	112.60	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1068	U	O4'-C1'-N1	5.50	112.60	108.20
34	AA	2815	G	C5-C6-O6	-5.50	125.30	128.60
34	AA	1658	G	O4'-C1'-N9	5.50	112.60	108.20
34	AA	3025	U	O4'-C1'-N1	5.50	112.60	108.20
75	AV	37	TYR	CB-CG-CD1	5.50	124.30	121.00
34	AA	337	A	P-O3'-C3'	5.50	126.30	119.70
34	AA	1705	A	C2'-C3'-O3'	5.50	122.50	113.70
34	AA	3508	A	O4'-C1'-N9	5.50	112.60	108.20
2	7	40	U	C5'-C4'-C3'	5.50	124.80	116.00
34	AA	1530	G	O4'-C1'-N9	5.50	112.60	108.20
1	A	161	U	C6-N1-C1'	-5.50	113.50	121.20
34	AA	282	U	O4'-C1'-N1	5.50	112.60	108.20
34	AA	586	U	O4'-C1'-N1	5.50	112.60	108.20
34	AA	270	U	O4'-C1'-N1	5.50	112.60	108.20
34	AA	575	U	O4'-C1'-N1	5.50	112.60	108.20
34	AA	1600	C	O4'-C1'-N1	5.50	112.60	108.20
1	A	304	C	O4'-C1'-N1	5.50	112.60	108.20
34	AA	717	G	O4'-C1'-N9	5.50	112.60	108.20
34	AA	1854	U	O4'-C1'-N1	5.50	112.60	108.20
2	7	69	U	O4'-C1'-N1	5.49	112.59	108.20
23	J	140	ARG	NE-CZ-NH2	5.49	123.05	120.30
34	AA	3339	U	O4'-C1'-N1	5.49	112.59	108.20
34	AA	3586	U	O4'-C1'-N1	5.49	112.59	108.20
73	AU	93	ARG	NE-CZ-NH1	5.49	123.05	120.30
34	AA	458	A	O4'-C1'-N9	5.49	112.59	108.20
34	AA	3018	A	O4'-C1'-N9	5.49	112.59	108.20
34	AA	2729	U	O4'-C1'-N1	5.49	112.59	108.20
34	AA	3147	A	P-O3'-C3'	5.49	126.29	119.70
69	AD	65	ARG	NE-CZ-NH1	5.49	123.05	120.30
34	AA	2942	G	O4'-C1'-N9	5.49	112.59	108.20
37	AL	197	ARG	NE-CZ-NH2	5.49	123.04	120.30
34	AA	1784	G	N1-C2-N2	-5.49	111.26	116.20
71	AF	291	ARG	NE-CZ-NH1	5.49	123.04	120.30
34	AA	671	U	O4'-C1'-N1	5.48	112.59	108.20
34	AA	1426	C	O4'-C1'-N1	5.48	112.59	108.20
1	A	1654	G	O4'-C1'-N9	5.48	112.58	108.20
34	AA	3582	G	O4'-C1'-N9	5.48	112.58	108.20
1	A	1242	G	O4'-C1'-N9	5.48	112.58	108.20
6	I	82	ARG	NE-CZ-NH1	5.48	123.04	120.30
34	AA	3169	C	O4'-C1'-N1	5.48	112.58	108.20
34	AA	3243	C	O4'-C1'-N1	5.48	112.58	108.20
34	AA	1593	G	C5-C6-O6	-5.47	125.32	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1718	C	O4'-C1'-N1	5.47	112.58	108.20
34	AA	134	G	N1-C6-O6	5.47	123.18	119.90
34	AA	650	U	C5'-C4'-O4'	5.47	115.67	109.10
6	I	62	ARG	NE-CZ-NH1	-5.47	117.56	120.30
34	AA	193	C	O4'-C1'-N1	5.47	112.58	108.20
34	AA	659	U	C5'-C4'-C3'	-5.47	107.25	116.00
34	AA	1026	G	O4'-C1'-C2'	-5.47	100.33	105.80
34	AA	178	U	O4'-C1'-N1	5.47	112.58	108.20
1	A	1409	U	C2-N1-C1'	5.47	124.26	117.70
1	A	1977	G	O4'-C1'-N9	5.47	112.57	108.20
34	AA	545	C	O4'-C1'-N1	5.47	112.57	108.20
34	AA	813	G	C5-C6-O6	-5.47	125.32	128.60
34	AA	826	U	O4'-C1'-N1	5.47	112.57	108.20
34	AA	1008	U	O4'-C1'-N1	5.47	112.57	108.20
34	AA	3568	G	O4'-C1'-N9	5.47	112.57	108.20
34	AA	3785	G	O4'-C1'-N9	5.47	112.57	108.20
50	Af	46	ARG	NE-CZ-NH2	5.47	123.03	120.30
1	A	1384	U	O4'-C1'-N1	5.46	112.57	108.20
34	AA	580	A	O4'-C1'-N9	5.46	112.57	108.20
34	AA	703	U	O4'-C1'-N1	5.46	112.57	108.20
51	AP	67	ARG	NE-CZ-NH1	-5.46	117.57	120.30
34	AA	1211	U	O4'-C1'-N1	5.46	112.57	108.20
34	AA	3184	C	O4'-C1'-N1	5.46	112.57	108.20
74	AH	80	PHE	CB-CG-CD2	-5.46	116.98	120.80
1	A	1173	C	C6-N1-C2	-5.46	118.11	120.30
34	AA	50	U	O4'-C1'-N1	5.46	112.57	108.20
34	AA	117	C	O4'-C1'-N1	5.46	112.57	108.20
34	AA	1021	G	O4'-C1'-N9	5.46	112.57	108.20
34	AA	1332	A	O4'-C1'-N9	5.46	112.57	108.20
41	A6	89	ARG	NE-CZ-NH1	5.46	123.03	120.30
34	AA	3033	A	O4'-C1'-N9	5.46	112.57	108.20
34	AA	61	A	C2'-C3'-O3'	5.46	122.43	113.70
34	AA	991	A	O4'-C1'-N9	5.46	112.56	108.20
34	AA	1197	U	P-O3'-C3'	5.46	126.25	119.70
34	AA	1238	C	O4'-C1'-N1	5.46	112.57	108.20
34	AA	1790	U	O4'-C1'-N1	5.46	112.56	108.20
34	AA	2455	G	N1-C6-O6	5.46	123.17	119.90
1	A	624	U	O4'-C1'-N1	5.45	112.56	108.20
34	AA	27	U	O4'-C1'-N1	5.45	112.56	108.20
34	AA	244	U	O4'-C1'-N1	5.45	112.56	108.20
63	AW	123	ARG	NE-CZ-NH1	5.45	123.03	120.30
34	AA	1695	A	O4'-C1'-N9	5.45	112.56	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	2415	G	O4'-C1'-N9	5.45	112.56	108.20
34	AA	220	G	O4'-C1'-N9	5.45	112.56	108.20
1	A	1859	A	O4'-C1'-N9	5.45	112.56	108.20
1	A	2085	G	N1-C6-O6	5.45	123.17	119.90
34	AA	834	U	P-O3'-C3'	5.45	126.24	119.70
34	AA	1630	A	C5'-C4'-C3'	-5.45	107.28	116.00
34	AA	2999	C	O4'-C1'-N1	5.45	112.56	108.20
34	AA	3159	G	N1-C6-O6	5.45	123.17	119.90
1	A	355	U	O4'-C1'-N1	5.45	112.56	108.20
1	A	1950	C	O4'-C1'-N1	5.45	112.56	108.20
34	AA	2472	C	O4'-C1'-N1	5.45	112.56	108.20
35	AC	18	U	O4'-C1'-N1	5.45	112.56	108.20
1	A	609	U	O4'-C1'-N1	5.45	112.56	108.20
1	A	1051	U	O4'-C1'-N1	5.45	112.56	108.20
34	AA	353	G	C2'-C3'-O3'	5.45	122.41	113.70
34	AA	1730	A	N1-C6-N6	-5.45	115.33	118.60
1	A	588	U	P-O3'-C3'	5.44	126.23	119.70
7	K	58	SER	N-CA-CB	5.44	118.67	110.50
1	A	90	U	O4'-C1'-N1	5.44	112.55	108.20
1	A	575	G	C5-C6-O6	-5.44	125.33	128.60
34	AA	761	U	O4'-C1'-N1	5.44	112.55	108.20
1	A	1046	A	O4'-C1'-N9	5.44	112.55	108.20
34	AA	2095	U	O4'-C1'-N1	5.44	112.55	108.20
66	AZ	83	ARG	NE-CZ-NH2	-5.44	117.58	120.30
1	A	1219	U	O4'-C1'-N1	5.44	112.55	108.20
34	AA	974	U	O4'-C1'-N1	5.44	112.55	108.20
1	A	212	U	O4'-C1'-N1	5.44	112.55	108.20
1	A	472	U	O4'-C1'-N1	5.44	112.55	108.20
1	A	1919	G	O4'-C1'-N9	5.44	112.55	108.20
2	7	61	C	O4'-C1'-N1	5.44	112.55	108.20
34	AA	1837	U	O4'-C1'-N1	5.44	112.55	108.20
34	AA	3183	G	O4'-C1'-N9	5.44	112.55	108.20
1	A	2004	U	O4'-C1'-N1	5.44	112.55	108.20
34	AA	3260	G	N1-C6-O6	5.44	123.16	119.90
34	AA	12	U	O4'-C1'-N1	5.43	112.55	108.20
62	AR	85	ARG	NE-CZ-NH1	-5.43	117.58	120.30
1	A	1923	U	O4'-C1'-N1	5.43	112.55	108.20
18	5	61	ARG	NE-CZ-NH2	5.43	123.02	120.30
34	AA	97	U	O4'-C1'-N1	5.43	112.55	108.20
34	AA	507	G	O4'-C1'-N9	5.43	112.55	108.20
34	AA	879	U	O4'-C1'-N1	5.43	112.55	108.20
34	AA	3188	U	O4'-C1'-N1	5.43	112.55	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1685	G	P-O5'-C5'	5.43	129.59	120.90
1	A	180	U	O4'-C1'-N1	5.43	112.54	108.20
34	AA	23	C	O4'-C1'-N1	5.43	112.54	108.20
40	A4	8	THR	N-CA-CB	5.43	120.61	110.30
66	AZ	45	ARG	NE-CZ-NH2	-5.43	117.58	120.30
12	Y	99	ARG	NE-CZ-NH2	5.43	123.01	120.30
34	AA	1419	A	P-O3'-C3'	5.43	126.21	119.70
34	AA	3115	C	P-O3'-C3'	5.43	126.21	119.70
34	AA	1674	G	O4'-C1'-N9	5.43	112.54	108.20
34	AA	2071	U	P-O3'-C3'	-5.43	113.19	119.70
1	A	130	U	C2-N1-C1'	5.42	124.21	117.70
1	A	1635	C	C6-N1-C1'	-5.42	114.29	120.80
34	AA	807	U	C5'-C4'-C3'	5.42	124.68	116.00
1	A	1236	U	O4'-C1'-N1	5.42	112.54	108.20
2	7	12	G	O4'-C1'-N9	5.42	112.54	108.20
34	AA	3119	A	O4'-C1'-N9	5.42	112.54	108.20
34	AA	3318	C	O4'-C1'-N1	5.42	112.54	108.20
1	A	1302	G	O4'-C1'-N9	5.42	112.53	108.20
34	AA	831	U	O4'-C1'-N1	5.42	112.53	108.20
1	A	1431	A	C4'-C3'-C2'	-5.42	97.18	102.60
1	A	1843	G	O4'-C1'-N9	5.42	112.53	108.20
6	I	118	ARG	NE-CZ-NH1	5.42	123.01	120.30
34	AA	46	U	O4'-C1'-N1	5.42	112.53	108.20
34	AA	1294	G	O4'-C1'-N9	5.42	112.53	108.20
34	AA	1619	U	O4'-C1'-N1	5.42	112.53	108.20
34	AA	2974	A	C5-C6-N6	-5.42	119.37	123.70
34	AA	499	U	O4'-C1'-N1	5.42	112.53	108.20
34	AA	981	U	O4'-C1'-N1	5.42	112.53	108.20
34	AA	1433	U	O4'-C1'-N1	5.42	112.53	108.20
1	A	1387	U	C4'-C3'-C2'	-5.41	97.19	102.60
72	AG	145	ARG	NE-CZ-NH2	5.41	123.01	120.30
34	AA	3155	G	O4'-C1'-N9	5.41	112.53	108.20
34	AA	3213	U	O4'-C1'-N1	5.41	112.53	108.20
36	AB	53	U	C6-N1-C1'	-5.41	113.63	121.20
36	AB	94	C	O4'-C1'-N1	5.41	112.53	108.20
46	Aa	86	ARG	NE-CZ-NH1	5.41	123.00	120.30
34	AA	1693	U	O4'-C1'-N1	5.41	112.53	108.20
34	AA	2416	G	O4'-C1'-N9	5.41	112.53	108.20
34	AA	3276	G	O4'-C1'-N9	5.41	112.53	108.20
34	AA	3655	U	O4'-C1'-N1	5.41	112.53	108.20
36	AB	8	U	O4'-C1'-N1	5.41	112.53	108.20
1	A	7	G	C5-C6-O6	-5.41	125.36	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1309	U	O4'-C1'-N1	5.41	112.53	108.20
34	AA	3362	A	O4'-C1'-N9	5.41	112.53	108.20
74	AH	167	ARG	NE-CZ-NH2	5.41	123.00	120.30
1	A	432	G	P-O5'-C5'	-5.41	112.25	120.90
1	A	849	U	O4'-C1'-N1	5.41	112.52	108.20
1	A	2070	G	C5-C6-O6	-5.41	125.36	128.60
14	1	61	PHE	CB-CG-CD1	5.41	124.58	120.80
34	AA	823	U	O4'-C1'-N1	5.41	112.52	108.20
34	AA	2814	U	C2-N3-C4	-5.41	123.76	127.00
27	Q	107	PHE	CB-CG-CD1	5.40	124.58	120.80
1	A	13	C	O4'-C1'-N1	5.40	112.52	108.20
1	A	1448	U	C2-N1-C1'	5.40	124.18	117.70
2	7	56	U	O4'-C1'-N1	5.40	112.52	108.20
34	AA	247	A	N1-C6-N6	5.40	121.84	118.60
34	AA	331	A	O4'-C1'-N9	5.40	112.52	108.20
34	AA	453	A	C5'-C4'-C3'	5.40	124.64	116.00
34	AA	2216	G	O4'-C1'-N9	5.40	112.52	108.20
34	AA	2954	A	O4'-C1'-N9	5.40	112.52	108.20
70	AE	21	ARG	NE-CZ-NH1	5.40	123.00	120.30
1	A	137	A	C5'-C4'-O4'	5.40	115.58	109.10
1	A	1935	G	O4'-C1'-N9	5.40	112.52	108.20
34	AA	1583	G	N1-C6-O6	5.40	123.14	119.90
51	AP	160	ARG	NE-CZ-NH1	5.40	123.00	120.30
2	7	70	A	C5'-C4'-O4'	5.40	115.58	109.10
34	AA	3763	G	O4'-C1'-N9	5.40	112.52	108.20
1	A	1426	G	O4'-C1'-N9	5.39	112.52	108.20
1	A	1646	U	O4'-C1'-N1	5.39	112.52	108.20
23	J	117	ARG	NE-CZ-NH2	-5.39	117.60	120.30
34	AA	903	C	O4'-C1'-N1	5.39	112.52	108.20
35	AC	36	C	C6-N1-C2	-5.39	118.14	120.30
51	AP	71	ARG	NE-CZ-NH2	-5.39	117.60	120.30
1	A	816	U	O4'-C1'-N1	5.39	112.51	108.20
1	A	868	U	O4'-C1'-N1	5.39	112.51	108.20
34	AA	1245	G	O4'-C1'-N9	5.39	112.51	108.20
34	AA	3293	A	O4'-C1'-N9	5.39	112.51	108.20
60	AO	104	ARG	NE-CZ-NH1	5.39	123.00	120.30
65	AT	80	ARG	NE-CZ-NH2	-5.39	117.60	120.30
68	A5	154	ARG	NE-CZ-NH1	5.39	123.00	120.30
1	A	1211	G	O4'-C1'-N9	5.39	112.51	108.20
34	AA	3479	U	O4'-C1'-N1	5.39	112.51	108.20
34	AA	3666	U	O4'-C1'-N1	5.39	112.51	108.20
34	AA	2551	U	O4'-C1'-N1	5.39	112.51	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	310	U	O4'-C1'-N1	5.39	112.51	108.20
1	A	2071	U	O4'-C1'-N1	5.39	112.51	108.20
2	7	56	U	C5'-C4'-O4'	5.39	115.56	109.10
34	AA	685	U	O4'-C1'-N1	5.39	112.51	108.20
34	AA	914	G	O4'-C1'-N9	5.39	112.51	108.20
34	AA	1161	C	O4'-C1'-N1	5.39	112.51	108.20
34	AA	2591	U	C6-N1-C1'	-5.39	113.66	121.20
34	AA	3386	A	O4'-C1'-N9	5.39	112.51	108.20
34	AA	266	U	O4'-C1'-N1	5.38	112.51	108.20
34	AA	356	A	O4'-C1'-N9	5.38	112.51	108.20
34	AA	2446	U	O4'-C1'-N1	5.38	112.51	108.20
49	Ae	12	ARG	NE-CZ-NH2	-5.38	117.61	120.30
34	AA	3380	U	O4'-C1'-N1	5.38	112.51	108.20
34	AA	664	U	O4'-C1'-N1	5.38	112.50	108.20
34	AA	1273	G	C5-C6-O6	-5.38	125.37	128.60
34	AA	1773	U	O4'-C1'-N1	5.38	112.50	108.20
34	AA	75	U	O4'-C1'-N1	5.38	112.50	108.20
34	AA	2386	A	O4'-C1'-N9	5.38	112.50	108.20
34	AA	3139	C	O4'-C1'-N1	5.38	112.50	108.20
34	AA	3236	G	O4'-C1'-N9	5.38	112.50	108.20
34	AA	3504	C	O4'-C1'-N1	5.38	112.50	108.20
77	AX	102	TYR	CB-CG-CD1	5.38	124.23	121.00
1	A	117	G	C5-C6-O6	-5.38	125.37	128.60
34	AA	667	U	C6-N1-C1'	-5.38	113.67	121.20
34	AA	1427	U	O4'-C1'-N1	5.38	112.50	108.20
34	AA	2408	G	C5-C6-O6	-5.38	125.37	128.60
70	AE	8	ARG	NE-CZ-NH2	5.38	122.99	120.30
1	A	1932	A	P-O3'-C3'	-5.38	113.25	119.70
1	A	2028	U	O4'-C1'-N1	5.38	112.50	108.20
34	AA	221	A	O4'-C1'-N9	5.38	112.50	108.20
34	AA	413	C	O4'-C1'-N1	5.38	112.50	108.20
53	Ai	8	ARG	NE-CZ-NH1	5.38	122.99	120.30
1	A	1807	A	O4'-C1'-N9	5.38	112.50	108.20
1	A	618	U	O4'-C1'-N1	5.37	112.50	108.20
34	AA	1990	A	O4'-C1'-N9	5.37	112.50	108.20
34	AA	2689	G	N3-C2-N2	5.37	123.66	119.90
34	AA	3474	C	O4'-C1'-N1	5.37	112.50	108.20
59	AS	151	PHE	CB-CG-CD1	5.37	124.56	120.80
62	AR	50	ARG	NE-CZ-NH1	5.37	122.99	120.30
1	A	1407	U	O4'-C1'-N1	5.37	112.50	108.20
34	AA	899	A	O4'-C1'-N9	5.37	112.50	108.20
34	AA	2939	C	O4'-C1'-N1	5.37	112.50	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
74	AH	92	ARG	NE-CZ-NH1	-5.37	117.61	120.30
60	AO	4	ARG	NE-CZ-NH1	5.37	122.98	120.30
1	A	2020	G	O4'-C1'-N9	5.37	112.50	108.20
2	7	12	G	N1-C6-O6	5.37	123.12	119.90
34	AA	1807	C	O4'-C1'-N1	5.37	112.50	108.20
34	AA	2148	U	O4'-C1'-N1	5.37	112.49	108.20
34	AA	2555	A	O4'-C1'-N9	5.37	112.50	108.20
34	AA	2697	A	C1'-O4'-C4'	-5.37	105.61	109.90
34	AA	2720	C	O4'-C1'-N1	5.37	112.50	108.20
34	AA	3330	A	O4'-C1'-N9	5.37	112.50	108.20
1	A	1747	U	O4'-C1'-N1	5.37	112.49	108.20
5	G	222	PHE	CB-CG-CD1	5.37	124.56	120.80
34	AA	2012	A	O4'-C1'-N9	5.37	112.49	108.20
1	A	207	G	N1-C6-O6	5.36	123.12	119.90
1	A	1272	A	O4'-C1'-N9	5.36	112.49	108.20
2	7	48	U	O4'-C1'-N1	5.36	112.49	108.20
2	7	61	C	C5'-C4'-O4'	5.36	115.54	109.10
34	AA	1964	G	C5-C6-O6	-5.36	125.38	128.60
34	AA	2180	U	O4'-C1'-N1	5.36	112.49	108.20
69	AD	193	ARG	NE-CZ-NH1	5.36	122.98	120.30
1	A	638	G	N1-C6-O6	5.36	123.12	119.90
1	A	1302	G	C5'-C4'-O4'	5.36	115.53	109.10
1	A	2007	U	O4'-C1'-N1	5.36	112.49	108.20
34	AA	524	U	O4'-C1'-N1	5.36	112.49	108.20
34	AA	1456	C	O4'-C1'-N1	5.36	112.49	108.20
34	AA	1723	C	C6-N1-C2	-5.36	118.16	120.30
34	AA	1975	A	N1-C6-N6	-5.36	115.38	118.60
34	AA	1670	G	N1-C6-O6	5.36	123.11	119.90
34	AA	3167	A	C1'-O4'-C4'	-5.36	105.61	109.90
1	A	1383	U	O4'-C1'-N1	5.36	112.48	108.20
34	AA	1445	A	O4'-C1'-N9	5.35	112.48	108.20
34	AA	1504	A	C1'-O4'-C4'	-5.35	105.62	109.90
34	AA	1744	U	O4'-C1'-N1	5.35	112.48	108.20
34	AA	2009	A	O4'-C1'-N9	5.35	112.48	108.20
34	AA	169	U	O4'-C1'-N1	5.35	112.48	108.20
34	AA	915	G	C5-C6-O6	-5.35	125.39	128.60
34	AA	1640	G	C5-C6-O6	-5.35	125.39	128.60
1	A	63	G	C5-C6-O6	-5.35	125.39	128.60
34	AA	148	G	P-O3'-C3'	5.35	126.12	119.70
34	AA	3352	G	N1-C6-O6	5.35	123.11	119.90
1	A	1000	C	O4'-C1'-N1	5.35	112.48	108.20
1	A	3	C	O4'-C1'-N1	5.34	112.48	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	767	U	O4'-C1'-N1	5.34	112.48	108.20
34	AA	1816	G	O4'-C1'-N9	5.34	112.47	108.20
36	AB	37	A	O4'-C1'-N9	5.34	112.48	108.20
34	AA	1202	C	P-O5'-C5'	5.34	129.45	120.90
1	A	2021	U	O4'-C1'-N1	5.34	112.47	108.20
34	AA	2581	G	C5-C6-O6	-5.34	125.39	128.60
68	A5	113	ARG	NE-CZ-NH2	5.34	122.97	120.30
1	A	1676	U	O4'-C1'-N1	5.34	112.47	108.20
8	M	123	ARG	NE-CZ-NH2	-5.34	117.63	120.30
34	AA	906	G	O4'-C1'-N9	5.34	112.47	108.20
34	AA	2093	U	C5'-C4'-C3'	-5.34	107.46	116.00
34	AA	2505	C	O4'-C1'-N1	5.34	112.47	108.20
34	AA	3763	G	N1-C6-O6	5.34	123.10	119.90
43	AN	120	ARG	NE-CZ-NH1	5.34	122.97	120.30
70	AE	93	ARG	NE-CZ-NH1	5.34	122.97	120.30
1	A	383	G	O4'-C1'-N9	5.34	112.47	108.20
34	AA	2577	C	C6-N1-C2	-5.34	118.17	120.30
35	AC	36	C	O4'-C1'-N1	5.33	112.47	108.20
62	AR	195	ARG	NE-CZ-NH2	5.33	122.97	120.30
1	A	328	G	N1-C6-O6	5.33	123.10	119.90
34	AA	22	G	C5-C6-O6	-5.33	125.40	128.60
34	AA	176	A	O4'-C1'-N9	5.33	112.47	108.20
34	AA	1337	G	O4'-C1'-N9	5.33	112.47	108.20
34	AA	3194	C	O4'-C1'-N1	5.33	112.47	108.20
41	A6	89	ARG	NE-CZ-NH2	-5.33	117.63	120.30
1	A	344	C	C6-N1-C2	-5.33	118.17	120.30
1	A	1188	A	N1-C6-N6	5.33	121.80	118.60
1	A	1364	G	C5-C6-O6	-5.33	125.40	128.60
34	AA	1538	U	C5'-C4'-O4'	5.33	115.50	109.10
34	AA	3408	G	O4'-C1'-N9	5.33	112.47	108.20
34	AA	935	A	O4'-C1'-N9	5.33	112.46	108.20
34	AA	1028	G	P-O3'-C3'	-5.33	113.30	119.70
34	AA	270	U	C2'-C3'-O3'	5.33	122.23	113.70
54	AI	44	TYR	CB-CG-CD2	5.33	124.20	121.00
34	AA	812	U	C5'-C4'-C3'	-5.33	107.48	116.00
34	AA	1188	A	O4'-C1'-N9	5.33	112.46	108.20
34	AA	3520	U	O4'-C1'-N1	5.33	112.46	108.20
1	A	981	U	C5'-C4'-C3'	-5.33	107.48	116.00
2	7	64	C	O4'-C1'-N1	5.33	112.46	108.20
34	AA	15	U	O4'-C1'-N1	5.33	112.46	108.20
34	AA	1213	U	O4'-C1'-N1	5.33	112.46	108.20
34	AA	3133	U	O4'-C1'-N1	5.33	112.46	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	13	G	O4'-C1'-N9	5.32	112.46	108.20
34	AA	1480	G	N1-C6-O6	5.32	123.09	119.90
34	AA	2826	C	O4'-C1'-N1	5.32	112.46	108.20
70	AE	100	ARG	NE-CZ-NH1	5.32	122.96	120.30
34	AA	824	U	O4'-C1'-N1	5.32	112.46	108.20
34	AA	40	A	O4'-C1'-N9	5.32	112.45	108.20
34	AA	1420	C	C6-N1-C2	-5.32	118.17	120.30
34	AA	2611	U	O4'-C1'-N1	5.32	112.45	108.20
1	A	1453	G	O4'-C1'-N9	5.32	112.45	108.20
34	AA	1189	G	O4'-C1'-N9	5.32	112.45	108.20
34	AA	1331	A	O4'-C1'-N9	5.32	112.45	108.20
34	AA	2137	C	O4'-C1'-N1	5.32	112.45	108.20
34	AA	2735	G	C5-C6-O6	-5.32	125.41	128.60
34	AA	231	G	C5'-C4'-O4'	5.32	115.48	109.10
34	AA	1050	C	O4'-C1'-N1	5.32	112.45	108.20
34	AA	1593	G	N1-C6-O6	5.32	123.09	119.90
34	AA	1814	U	O4'-C1'-N1	5.32	112.45	108.20
34	AA	2997	G	C5-C6-O6	-5.32	125.41	128.60
34	AA	3327	G	O4'-C1'-N9	5.32	112.45	108.20
1	A	173	G	C5-C6-O6	-5.31	125.41	128.60
1	A	252	U	O4'-C1'-N1	5.31	112.45	108.20
1	A	1095	A	P-O3'-C3'	-5.31	113.32	119.70
34	AA	110	G	O4'-C1'-N9	5.31	112.45	108.20
34	AA	259	G	C5'-C4'-C3'	5.31	124.50	116.00
34	AA	746	A	O4'-C1'-N9	5.31	112.45	108.20
34	AA	1496	U	C5'-C4'-C3'	5.31	124.50	116.00
1	A	1445	U	P-O3'-C3'	5.31	126.07	119.70
1	A	1197	C	P-O5'-C5'	5.31	129.39	120.90
1	A	1971	U	O4'-C1'-N1	5.31	112.45	108.20
11	O	88	ARG	NE-CZ-NH1	5.31	122.95	120.30
24	L	49	ARG	NE-CZ-NH1	5.31	122.95	120.30
34	AA	1694	G	N1-C6-O6	5.31	123.09	119.90
59	AS	57	ARG	NE-CZ-NH2	5.31	122.95	120.30
34	AA	246	U	O4'-C1'-N1	5.31	112.45	108.20
34	AA	1537	G	C5-C6-O6	-5.31	125.42	128.60
1	A	2009	C	O4'-C1'-N1	5.31	112.44	108.20
1	A	119	C	O4'-C1'-N1	5.30	112.44	108.20
1	A	849	U	P-O5'-C5'	5.30	129.39	120.90
1	A	1816	U	C5'-C4'-O4'	5.30	115.47	109.10
34	AA	2592	A	O4'-C1'-N9	5.30	112.44	108.20
59	AS	163	ARG	NE-CZ-NH1	5.30	122.95	120.30
2	7	35	C	O4'-C1'-N1	5.30	112.44	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	2128	G	O4'-C1'-N9	5.30	112.44	108.20
34	AA	2559	U	O4'-C1'-N1	5.30	112.44	108.20
68	A5	149	THR	N-CA-CB	5.30	120.38	110.30
2	7	68	U	P-O3'-C3'	-5.30	113.34	119.70
31	V	106	ARG	NE-CZ-NH1	5.30	122.95	120.30
2	7	49	C	C5'-C4'-O4'	5.30	115.46	109.10
34	AA	204	G	C5-C6-O6	-5.30	125.42	128.60
34	AA	1617	A	O4'-C1'-N9	5.30	112.44	108.20
34	AA	530	U	O4'-C1'-N1	5.30	112.44	108.20
34	AA	1299	G	O4'-C1'-N9	5.30	112.44	108.20
1	A	461	A	O4'-C1'-N9	5.30	112.44	108.20
34	AA	35	A	O4'-C1'-N9	5.30	112.44	108.20
69	AD	69	TYR	CB-CG-CD2	-5.29	117.82	121.00
1	A	2061	U	O4'-C1'-N1	5.29	112.44	108.20
34	AA	371	G	O4'-C1'-N9	5.29	112.43	108.20
34	AA	1564	G	C5-C6-O6	-5.29	125.42	128.60
34	AA	581	C	C2'-C3'-O3'	5.29	122.17	113.70
34	AA	2436	A	O4'-C1'-N9	5.29	112.43	108.20
34	AA	2805	U	O4'-C1'-N1	5.29	112.43	108.20
34	AA	3312	U	O4'-C1'-N1	5.29	112.43	108.20
54	AI	98	ARG	NE-CZ-NH1	5.29	122.95	120.30
1	A	1735	U	C2-N1-C1'	5.29	124.05	117.70
34	AA	503	A	P-O3'-C3'	5.29	126.05	119.70
34	AA	1723	C	O4'-C1'-N1	5.29	112.43	108.20
1	A	750	U	O4'-C1'-N1	5.29	112.43	108.20
1	A	1454	G	P-O5'-C5'	5.29	129.36	120.90
1	A	1812	A	N1-C6-N6	5.29	121.77	118.60
6	I	16	TYR	CB-CG-CD1	-5.29	117.83	121.00
16	3	87	ARG	NE-CZ-NH1	5.29	122.94	120.30
34	AA	76	G	N1-C6-O6	5.29	123.07	119.90
34	AA	1071	A	P-O3'-C3'	5.29	126.05	119.70
34	AA	1628	U	O4'-C1'-N1	5.29	112.43	108.20
34	AA	3402	A	O4'-C1'-N9	5.29	112.43	108.20
35	AC	157	A	O4'-C1'-N9	5.29	112.43	108.20
1	A	933	A	O4'-C1'-N9	5.29	112.43	108.20
1	A	2052	G	C1'-O4'-C4'	5.29	114.13	109.90
1	A	1858	U	O4'-C1'-N1	5.29	112.43	108.20
2	7	2	G	O4'-C1'-N9	5.29	112.43	108.20
7	K	57	ARG	NE-CZ-NH2	-5.29	117.66	120.30
34	AA	73	U	O4'-C1'-N1	5.29	112.43	108.20
34	AA	1556	G	N1-C6-O6	5.29	123.07	119.90
34	AA	1659	A	P-O3'-C3'	-5.29	113.36	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	AB	86	G	O4'-C1'-N9	5.29	112.43	108.20
33	C	116	THR	N-CA-CB	5.28	120.34	110.30
34	AA	263	U	O4'-C1'-N1	5.28	112.43	108.20
34	AA	1507	U	O4'-C1'-N1	5.28	112.43	108.20
34	AA	128	U	O4'-C1'-N1	5.28	112.43	108.20
1	A	342	G	C5-C6-O6	-5.28	125.43	128.60
1	A	450	C	O4'-C1'-N1	5.28	112.42	108.20
25	N	67	SER	N-CA-CB	5.28	118.42	110.50
34	AA	1338	U	O4'-C1'-N1	5.28	112.42	108.20
34	AA	3249	A	O4'-C1'-N9	5.28	112.42	108.20
34	AA	3338	U	O4'-C1'-N1	5.28	112.42	108.20
34	AA	3422	G	O4'-C1'-N9	5.28	112.42	108.20
1	A	1364	G	O4'-C1'-N9	5.28	112.42	108.20
34	AA	497	U	O4'-C1'-N1	5.28	112.42	108.20
34	AA	1283	C	C6-N1-C2	-5.28	118.19	120.30
34	AA	3740	A	O4'-C1'-N9	5.28	112.42	108.20
35	AC	94	C	C6-N1-C2	-5.28	118.19	120.30
35	AC	125	U	O4'-C1'-N1	5.28	112.42	108.20
1	A	758	U	P-O5'-C5'	5.28	129.34	120.90
34	AA	42	C	O4'-C1'-N1	5.28	112.42	108.20
34	AA	2469	U	O4'-C1'-N1	5.28	112.42	108.20
34	AA	2554	G	N1-C6-O6	5.28	123.06	119.90
1	A	1944	U	C5'-C4'-O4'	5.27	115.43	109.10
34	AA	2746	U	O4'-C1'-N1	5.27	112.42	108.20
53	Ai	57	PHE	CB-CG-CD2	5.27	124.49	120.80
1	A	4	C	O4'-C1'-N1	5.27	112.42	108.20
1	A	1723	A	O4'-C1'-N9	5.27	112.42	108.20
34	AA	1648	U	O4'-C1'-N1	5.27	112.42	108.20
1	A	560	G	C5-C6-O6	-5.27	125.44	128.60
1	A	634	C	O4'-C1'-N1	5.27	112.42	108.20
16	3	39	PHE	CB-CG-CD2	-5.27	117.11	120.80
34	AA	56	G	O4'-C1'-N9	5.27	112.42	108.20
34	AA	900	G	O4'-C1'-N9	5.27	112.42	108.20
34	AA	2034	G	C5'-C4'-O4'	-5.27	102.78	109.10
34	AA	2093	U	C5'-C4'-O4'	5.27	115.42	109.10
34	AA	2527	G	O4'-C1'-N9	5.27	112.41	108.20
34	AA	2594	U	O4'-C1'-N1	5.27	112.41	108.20
1	A	168	U	P-O3'-C3'	-5.27	113.38	119.70
1	A	379	G	C5'-C4'-C3'	-5.26	107.58	116.00
1	A	1375	C	C2-N1-C1'	5.26	124.59	118.80
34	AA	1573	C	C6-N1-C1'	-5.26	114.48	120.80
34	AA	2489	C	O4'-C1'-N1	5.26	112.41	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3124	G	O4'-C1'-N9	5.26	112.41	108.20
1	A	99	C	C6-N1-C2	-5.26	118.19	120.30
1	A	490	C	O4'-C1'-N1	5.26	112.41	108.20
1	A	1652	A	O4'-C1'-N9	5.26	112.41	108.20
34	AA	975	G	N1-C6-O6	5.26	123.06	119.90
34	AA	3086	A	C5'-C4'-O4'	5.26	115.41	109.10
59	AS	167	ARG	NE-CZ-NH1	5.26	122.93	120.30
75	AV	98	ARG	NE-CZ-NH1	-5.26	117.67	120.30
1	A	795	U	O4'-C1'-N1	5.26	112.41	108.20
1	A	1184	G	C5-C6-O6	-5.26	125.44	128.60
72	AG	35	ARG	NE-CZ-NH2	5.26	122.93	120.30
1	A	1844	A	P-O3'-C3'	-5.26	113.39	119.70
1	A	1964	G	O4'-C1'-N9	5.26	112.41	108.20
4	E	126	ARG	NE-CZ-NH2	-5.26	117.67	120.30
34	AA	26	A	O4'-C1'-N9	5.26	112.41	108.20
35	AC	4	C	O4'-C1'-N1	5.26	112.41	108.20
36	AB	48	G	O4'-C1'-N9	5.26	112.41	108.20
1	A	844	G	C5'-C4'-C3'	5.25	124.41	116.00
34	AA	1843	U	O4'-C1'-N1	5.25	112.40	108.20
36	AB	108	G	O4'-C1'-N9	5.25	112.40	108.20
1	A	379	G	N1-C6-O6	5.25	123.05	119.90
1	A	1645	C	C6-N1-C1'	-5.25	114.50	120.80
34	AA	1956	U	O4'-C1'-N1	5.25	112.40	108.20
34	AA	2485	C	C5'-C4'-C3'	-5.25	107.60	116.00
1	A	68	U	C5'-C4'-O4'	5.25	115.40	109.10
34	AA	636	U	P-O3'-C3'	5.25	126.00	119.70
1	A	931	A	O4'-C1'-N9	5.25	112.40	108.20
34	AA	971	U	O4'-C1'-N1	5.25	112.40	108.20
34	AA	2449	U	O4'-C1'-N1	5.25	112.40	108.20
34	AA	3032	U	O4'-C1'-N1	5.25	112.40	108.20
1	A	174	C	O4'-C1'-N1	5.25	112.40	108.20
1	A	640	U	O4'-C1'-N1	5.25	112.40	108.20
34	AA	229	A	O4'-C1'-N9	5.25	112.40	108.20
34	AA	272	U	O4'-C1'-N1	5.25	112.40	108.20
34	AA	721	U	P-O3'-C3'	5.25	126.00	119.70
34	AA	1240	A	O4'-C1'-N9	5.25	112.40	108.20
34	AA	2582	U	O4'-C1'-N1	5.25	112.40	108.20
63	AW	38	ARG	NE-CZ-NH1	5.25	122.92	120.30
34	AA	2524	C	C6-N1-C1'	-5.25	114.51	120.80
35	AC	37	A	O4'-C1'-N9	5.25	112.40	108.20
1	A	1103	C	O4'-C1'-N1	5.24	112.39	108.20
34	AA	280	U	O4'-C1'-N1	5.24	112.39	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	501	U	C4'-C3'-C2'	-5.24	97.36	102.60
34	AA	985	G	C5-C6-O6	-5.24	125.45	128.60
34	AA	1059	G	O4'-C1'-N9	5.24	112.39	108.20
1	A	1436	U	O4'-C1'-N1	5.24	112.39	108.20
34	AA	714	C	C4'-C3'-C2'	-5.24	97.36	102.60
34	AA	2663	G	C5-C6-O6	-5.24	125.45	128.60
1	A	554	U	O4'-C1'-N1	5.24	112.39	108.20
1	A	1076	C	P-O3'-C3'	-5.24	113.41	119.70
1	A	1403	U	C5'-C4'-C3'	-5.24	107.62	116.00
34	AA	1252	U	O4'-C1'-N1	5.24	112.39	108.20
34	AA	768	C	C6-N1-C1'	-5.24	114.51	120.80
37	AL	198	ARG	NE-CZ-NH2	5.24	122.92	120.30
1	A	1005	G	O4'-C1'-N9	5.24	112.39	108.20
2	7	47	G	O4'-C1'-N9	5.24	112.39	108.20
34	AA	415	U	O4'-C1'-N1	5.24	112.39	108.20
57	AK	107	MET	CG-SD-CE	-5.24	91.82	100.20
1	A	307	G	C5-C6-O6	-5.24	125.46	128.60
34	AA	584	U	O4'-C1'-N1	5.24	112.39	108.20
34	AA	3334	U	O4'-C1'-N1	5.24	112.39	108.20
26	P	37	PHE	N-CA-CB	5.23	120.02	110.60
34	AA	227	A	O4'-C1'-N9	5.23	112.39	108.20
1	A	530	U	P-O3'-C3'	-5.23	113.42	119.70
34	AA	517	U	O4'-C1'-N1	5.23	112.39	108.20
34	AA	2715	C	C6-N1-C2	-5.23	118.21	120.30
1	A	1273	G	O4'-C1'-N9	5.23	112.38	108.20
6	I	86	TYR	CB-CG-CD1	-5.23	117.86	121.00
1	A	560	G	N1-C6-O6	5.23	123.04	119.90
1	A	1040	A	O4'-C1'-N9	5.23	112.38	108.20
1	A	1321	C	C5'-C4'-O4'	5.23	115.37	109.10
34	AA	1140	A	O4'-C1'-N9	5.23	112.38	108.20
34	AA	2509	U	O4'-C1'-N1	5.23	112.38	108.20
34	AA	3275	C	P-O3'-C3'	-5.23	113.43	119.70
1	A	33	U	O4'-C1'-N1	5.23	112.38	108.20
27	Q	144	ARG	NE-CZ-NH2	-5.23	117.69	120.30
34	AA	1067	U	O4'-C1'-N1	5.23	112.38	108.20
34	AA	1484	A	O4'-C1'-N9	5.23	112.38	108.20
34	AA	3786	U	O4'-C1'-N1	5.23	112.38	108.20
74	AH	172	ARG	NH1-CZ-NH2	-5.23	113.65	119.40
1	A	2085	G	O4'-C1'-N9	5.22	112.38	108.20
34	AA	2807	U	O4'-C1'-N1	5.22	112.38	108.20
1	A	846	G	O4'-C1'-N9	5.22	112.38	108.20
12	Y	66	ARG	NE-CZ-NH1	-5.22	117.69	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3569	C	O4'-C1'-N1	5.22	112.38	108.20
34	AA	130	G	P-O3'-C3'	-5.22	113.43	119.70
1	A	861	C	O4'-C1'-N1	5.22	112.38	108.20
7	K	120	HIS	N-CA-CB	5.22	120.00	110.60
20	B	165	ARG	NE-CZ-NH1	5.22	122.91	120.30
34	AA	11	A	N1-C6-N6	5.22	121.73	118.60
34	AA	1457	G	P-O3'-C3'	5.22	125.96	119.70
34	AA	1897	G	O4'-C1'-N9	5.22	112.38	108.20
34	AA	3736	A	O4'-C1'-N9	5.22	112.38	108.20
34	AA	199	G	N1-C6-O6	5.22	123.03	119.90
34	AA	3239	U	O4'-C1'-N1	5.22	112.37	108.20
1	A	1921	C	O4'-C1'-N1	5.22	112.37	108.20
34	AA	3047	U	O4'-C1'-N1	5.22	112.37	108.20
1	A	102	A	O4'-C1'-N9	5.21	112.37	108.20
34	AA	340	U	O4'-C1'-N1	5.21	112.37	108.20
34	AA	643	G	C5-C6-O6	-5.21	125.47	128.60
34	AA	2504	U	O4'-C1'-N1	5.21	112.37	108.20
35	AC	69	A	O4'-C1'-N9	5.21	112.37	108.20
46	Aa	8	ARG	NE-CZ-NH1	5.21	122.91	120.30
78	A0	63	ARG	NE-CZ-NH1	5.21	122.91	120.30
1	A	1382	G	P-O5'-C5'	5.21	129.24	120.90
1	A	1957	A	O4'-C1'-N9	5.21	112.37	108.20
34	AA	2090	U	C5'-C4'-C3'	-5.21	107.66	116.00
1	A	557	A	O4'-C1'-N9	5.21	112.37	108.20
1	A	2065	C	O4'-C1'-N1	5.21	112.37	108.20
20	B	107	ARG	NE-CZ-NH1	5.21	122.91	120.30
34	AA	384	A	O4'-C1'-N9	5.21	112.37	108.20
34	AA	747	A	N1-C6-N6	5.21	121.73	118.60
34	AA	833	G	C5-C6-O6	-5.21	125.47	128.60
1	A	799	U	O4'-C1'-N1	5.21	112.37	108.20
34	AA	3008	A	O4'-C1'-N9	5.21	112.37	108.20
1	A	1027	C	O4'-C1'-N1	5.21	112.37	108.20
34	AA	490	U	O4'-C1'-N1	5.21	112.37	108.20
34	AA	684	G	O4'-C1'-N9	5.21	112.37	108.20
34	AA	1538	U	C5'-C4'-C3'	-5.21	107.67	116.00
34	AA	1564	G	N1-C6-O6	5.21	123.03	119.90
34	AA	2814	U	O4'-C1'-N1	5.21	112.37	108.20
34	AA	3120	U	C5'-C4'-O4'	5.21	115.35	109.10
1	A	1173	C	O4'-C1'-N1	5.21	112.37	108.20
1	A	1239	A	N1-C6-N6	-5.21	115.48	118.60
1	A	1821	A	O4'-C1'-N9	5.21	112.36	108.20
34	AA	455	U	O4'-C1'-N1	5.21	112.36	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	2081	U	O4'-C1'-N1	5.21	112.36	108.20
34	AA	2583	C	O4'-C1'-N1	5.21	112.36	108.20
34	AA	3231	A	O4'-C1'-N9	5.21	112.36	108.20
34	AA	3443	A	N9-C1'-C2'	-5.21	106.27	112.00
1	A	91	G	O4'-C1'-N9	5.20	112.36	108.20
1	A	542	C	C6-N1-C2	-5.20	118.22	120.30
1	A	986	U	O4'-C1'-N1	5.20	112.36	108.20
1	A	1010	A	O4'-C1'-N9	5.20	112.36	108.20
1	A	1108	A	C4'-C3'-C2'	-5.20	97.40	102.60
34	AA	1598	A	O4'-C1'-N9	5.20	112.36	108.20
34	AA	2534	U	O4'-C1'-N1	5.20	112.36	108.20
34	AA	2728	G	N1-C6-O6	5.20	123.02	119.90
1	A	884	G	C5-C6-O6	-5.20	125.48	128.60
34	AA	2994	A	P-O5'-C5'	-5.20	112.58	120.90
34	AA	449	A	P-O3'-C3'	5.20	125.94	119.70
34	AA	582	U	O4'-C1'-N1	5.20	112.36	108.20
34	AA	818	C	O4'-C1'-N1	5.20	112.36	108.20
34	AA	3272	U	O4'-C1'-N1	5.20	112.36	108.20
1	A	208	U	O4'-C1'-N1	5.20	112.36	108.20
1	A	541	C	O4'-C1'-N1	5.20	112.36	108.20
1	A	1097	C	O4'-C1'-N1	5.20	112.36	108.20
1	A	1893	C	C6-N1-C1'	-5.20	114.56	120.80
1	A	1943	C	C5'-C4'-O4'	5.20	115.34	109.10
34	AA	166	U	O4'-C1'-N1	5.20	112.36	108.20
34	AA	856	C	O4'-C1'-N1	5.20	112.36	108.20
34	AA	1751	C	O4'-C1'-N1	5.20	112.36	108.20
35	AC	38	G	C1'-O4'-C4'	-5.20	105.74	109.90
2	7	25	G	O4'-C1'-N9	5.20	112.36	108.20
34	AA	287	U	O4'-C1'-N1	5.20	112.36	108.20
34	AA	1968	C	O4'-C1'-N1	5.20	112.36	108.20
34	AA	2075	U	O4'-C1'-N1	5.20	112.36	108.20
1	A	578	G	P-O3'-C3'	5.19	125.93	119.70
1	A	911	U	O4'-C1'-N1	5.19	112.35	108.20
1	A	928	U	O4'-C1'-N1	5.19	112.35	108.20
34	AA	332	A	P-O3'-C3'	5.19	125.93	119.70
34	AA	1061	U	O4'-C1'-N1	5.19	112.35	108.20
34	AA	2117	A	O4'-C1'-N9	5.19	112.35	108.20
35	AC	11	U	O4'-C1'-N1	5.19	112.35	108.20
35	AC	79	G	C5-C6-O6	-5.19	125.48	128.60
34	AA	2218	C	O4'-C1'-N1	5.19	112.35	108.20
34	AA	3580	G	C5'-C4'-O4'	5.19	115.33	109.10
34	AA	511	C	C6-N1-C2	-5.19	118.22	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	531	U	O4'-C1'-N1	5.19	112.35	108.20
34	AA	2451	A	O4'-C1'-N9	5.19	112.35	108.20
34	AA	2008	G	O4'-C1'-N9	5.19	112.35	108.20
34	AA	2473	A	O4'-C1'-N9	5.19	112.35	108.20
1	A	1118	U	O4'-C1'-N1	5.19	112.35	108.20
34	AA	1066	U	O4'-C1'-N1	5.19	112.35	108.20
34	AA	2189	A	O4'-C1'-N9	5.19	112.35	108.20
34	AA	1222	U	O4'-C1'-N1	5.18	112.35	108.20
34	AA	1254	G	O4'-C1'-N9	5.18	112.35	108.20
1	A	105	A	C2'-C3'-O3'	5.18	121.99	113.70
1	A	1863	U	C5'-C4'-C3'	-5.18	107.71	116.00
34	AA	1170	A	O4'-C1'-N9	5.18	112.35	108.20
34	AA	1342	U	O4'-C1'-N1	5.18	112.35	108.20
34	AA	3016	G	C5'-C4'-O4'	5.18	115.32	109.10
34	AA	3167	A	C5'-C4'-O4'	5.18	115.32	109.10
34	AA	3132	C	O4'-C1'-N1	5.18	112.34	108.20
34	AA	544	C	C2-N1-C1'	5.18	124.50	118.80
34	AA	612	G	O4'-C1'-N9	5.18	112.34	108.20
34	AA	2981	A	O4'-C1'-N9	5.18	112.34	108.20
1	A	310	U	O4'-C1'-N1	5.18	112.34	108.20
1	A	919	U	P-O5'-C5'	5.18	129.18	120.90
34	AA	1560	U	O4'-C1'-N1	5.18	112.34	108.20
1	A	1848	U	O4'-C1'-N1	5.18	112.34	108.20
34	AA	1277	G	C5-C6-O6	-5.18	125.50	128.60
35	AC	9	U	O4'-C1'-N1	5.18	112.34	108.20
35	AC	56	A	O4'-C1'-N9	5.18	112.34	108.20
70	AE	345	ARG	NE-CZ-NH1	5.18	122.89	120.30
1	A	211	U	O4'-C1'-N1	5.17	112.34	108.20
34	AA	673	U	C6-N1-C1'	-5.17	113.95	121.20
34	AA	3613	A	N1-C6-N6	5.17	121.70	118.60
34	AA	3395	G	O4'-C1'-N9	5.17	112.34	108.20
1	A	44	U	P-O3'-C3'	-5.17	113.50	119.70
34	AA	948	G	O4'-C1'-N9	5.17	112.34	108.20
54	AI	68	MET	CG-SD-CE	-5.17	91.93	100.20
70	AE	237	ARG	NE-CZ-NH1	5.17	122.89	120.30
1	A	215	U	O4'-C1'-N1	5.17	112.33	108.20
1	A	892	U	O4'-C1'-N1	5.17	112.33	108.20
1	A	1798	G	C5'-C4'-O4'	5.17	115.30	109.10
1	A	1912	C	O4'-C1'-N1	5.17	112.33	108.20
16	3	95	ARG	NE-CZ-NH1	5.17	122.89	120.30
34	AA	389	U	O4'-C1'-N1	5.17	112.33	108.20
34	AA	2514	G	N1-C6-O6	5.17	123.00	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	698	G	C5-C6-O6	-5.17	125.50	128.60
34	AA	1297	A	O4'-C1'-N9	5.17	112.33	108.20
34	AA	2744	G	O4'-C1'-N9	5.17	112.33	108.20
1	A	641	G	O4'-C1'-N9	5.17	112.33	108.20
34	AA	155	U	O4'-C1'-N1	5.17	112.33	108.20
34	AA	1250	U	O4'-C1'-N1	5.17	112.33	108.20
34	AA	535	U	O4'-C1'-N1	5.16	112.33	108.20
34	AA	3638	A	N1-C6-N6	-5.16	115.50	118.60
1	A	330	U	O4'-C1'-N1	5.16	112.33	108.20
34	AA	610	U	O4'-C1'-N1	5.16	112.33	108.20
1	A	376	A	O4'-C1'-N9	5.16	112.33	108.20
1	A	1086	U	O4'-C1'-N1	5.16	112.33	108.20
34	AA	1018	C	O4'-C1'-N1	5.16	112.33	108.20
34	AA	2556	C	O4'-C1'-N1	5.16	112.33	108.20
34	AA	951	A	C5'-C4'-O4'	5.16	115.29	109.10
34	AA	3190	G	O4'-C1'-N9	5.16	112.33	108.20
1	A	1016	U	O4'-C1'-N1	5.16	112.33	108.20
1	A	1075	C	O4'-C1'-N1	5.16	112.32	108.20
34	AA	1747	U	C6-N1-C1'	-5.16	113.98	121.20
34	AA	3050	U	O4'-C1'-N1	5.16	112.33	108.20
1	A	955	U	C5'-C4'-O4'	5.15	115.28	109.10
34	AA	1699	G	O4'-C1'-N9	5.15	112.32	108.20
75	AV	9	ARG	NE-CZ-NH1	5.15	122.88	120.30
1	A	561	C	O4'-C1'-N1	5.15	112.32	108.20
1	A	1464	U	O4'-C1'-N1	5.15	112.32	108.20
14	1	106	ARG	NE-CZ-NH1	-5.15	117.72	120.30
34	AA	976	G	O4'-C1'-N9	5.15	112.32	108.20
34	AA	3470	G	C5-C6-O6	-5.15	125.51	128.60
39	A2	19	PHE	CB-CG-CD2	-5.15	117.19	120.80
1	A	1832	U	C1'-O4'-C4'	-5.15	105.78	109.90
34	AA	1083	G	O4'-C1'-N9	5.15	112.32	108.20
3	D	107	ARG	NE-CZ-NH1	5.15	122.88	120.30
34	AA	1643	U	C3'-C2'-C1'	-5.15	97.38	101.50
34	AA	2187	G	N3-C2-N2	5.15	123.50	119.90
34	AA	1272	U	C5'-C4'-O4'	5.15	115.28	109.10
34	AA	3554	U	C4'-C3'-C2'	5.15	107.75	102.60
34	AA	3767	U	P-O3'-C3'	5.15	125.88	119.70
47	Ab	3	ARG	NE-CZ-NH2	5.15	122.87	120.30
34	AA	3088	G	C5-C6-O6	-5.15	125.51	128.60
70	AE	272	ARG	NE-CZ-NH2	5.15	122.87	120.30
1	A	636	U	O4'-C1'-N1	5.14	112.32	108.20
34	AA	975	G	P-O3'-C3'	5.14	125.87	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	808	U	O4'-C1'-N1	5.14	112.31	108.20
1	A	952	U	P-O5'-C5'	5.14	129.13	120.90
34	AA	226	G	C5'-C4'-O4'	5.14	115.27	109.10
34	AA	638	G	C5-C6-O6	-5.14	125.52	128.60
34	AA	2138	U	O4'-C1'-N1	5.14	112.31	108.20
34	AA	2176	A	O4'-C1'-N9	5.14	112.31	108.20
34	AA	3661	A	O4'-C1'-N9	5.14	112.31	108.20
1	A	1722	U	O4'-C1'-N1	5.14	112.31	108.20
21	F	253	ARG	NE-CZ-NH1	5.14	122.87	120.30
34	AA	25	A	O4'-C1'-N9	5.14	112.31	108.20
35	AC	92	A	N1-C6-N6	5.14	121.68	118.60
1	A	43	A	C5-C6-N6	-5.14	119.59	123.70
1	A	201	G	N1-C6-O6	5.14	122.98	119.90
1	A	1894	A	O4'-C1'-N9	5.14	112.31	108.20
34	AA	892	U	O4'-C1'-N1	5.14	112.31	108.20
34	AA	1517	U	O4'-C1'-N1	5.14	112.31	108.20
34	AA	286	U	O4'-C1'-N1	5.14	112.31	108.20
1	A	322	G	O4'-C1'-N9	5.14	112.31	108.20
1	A	1220	C	C6-N1-C2	-5.14	118.25	120.30
2	7	36	A	C5'-C4'-C3'	5.14	124.22	116.00
6	I	46	ARG	NE-CZ-NH2	5.14	122.87	120.30
34	AA	440	A	N1-C6-N6	5.14	121.68	118.60
34	AA	579	C	O4'-C1'-N1	5.14	112.31	108.20
34	AA	1550	A	C5'-C4'-C3'	-5.14	107.78	116.00
34	AA	3583	A	C5'-C4'-O4'	5.14	115.26	109.10
34	AA	3726	U	O4'-C1'-N1	5.14	112.31	108.20
67	A3	50	ARG	NE-CZ-NH1	5.14	122.87	120.30
34	AA	1550	A	O4'-C1'-N9	5.13	112.31	108.20
34	AA	2562	U	O4'-C1'-N1	5.13	112.31	108.20
53	Ai	86	ARG	NE-CZ-NH1	5.13	122.87	120.30
44	A8	24	ARG	NH1-CZ-NH2	-5.13	113.75	119.40
34	AA	81	C	C6-N1-C2	-5.13	118.25	120.30
34	AA	2410	A	P-O3'-C3'	5.13	125.86	119.70
34	AA	3109	U	O4'-C1'-N1	5.13	112.31	108.20
58	AM	122	ARG	NE-CZ-NH1	5.13	122.87	120.30
69	AD	23	ARG	NE-CZ-NH1	5.13	122.86	120.30
34	AA	3679	A	O3'-P-O5'	-5.13	94.25	104.00
1	A	367	C	C6-N1-C2	-5.13	118.25	120.30
1	A	853	U	C5'-C4'-O4'	5.13	115.25	109.10
68	A5	97	ARG	NE-CZ-NH1	5.13	122.86	120.30
1	A	1783	U	O4'-C1'-N1	5.13	112.30	108.20
1	A	2070	G	N1-C6-O6	5.13	122.98	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	70	A	O4'-C1'-N9	5.13	112.30	108.20
34	AA	1499	U	O4'-C1'-N1	5.13	112.30	108.20
34	AA	2210	U	O4'-C1'-N1	5.13	112.30	108.20
34	AA	3122	A	C8-N9-C4	5.13	107.85	105.80
34	AA	3202	U	O4'-C1'-N1	5.13	112.30	108.20
1	A	157	G	C1'-O4'-C4'	-5.12	105.80	109.90
27	Q	95	PHE	CB-CG-CD2	5.12	124.39	120.80
1	A	1008	A	O4'-C1'-N9	5.12	112.30	108.20
1	A	1410	G	O4'-C1'-N9	5.12	112.30	108.20
34	AA	1107	U	O4'-C1'-N1	5.12	112.30	108.20
34	AA	2984	G	O4'-C1'-N9	5.12	112.30	108.20
1	A	1864	U	O4'-C1'-N1	5.12	112.30	108.20
34	AA	2125	A	O4'-C1'-N9	5.12	112.30	108.20
34	AA	2466	U	O4'-C1'-N1	5.12	112.30	108.20
34	AA	3106	U	O4'-C1'-N1	5.12	112.30	108.20
1	A	1849	U	O4'-C1'-N1	5.12	112.30	108.20
34	AA	382	A	C5-C6-N6	5.12	127.80	123.70
34	AA	2554	G	O4'-C1'-N9	5.12	112.30	108.20
34	AA	3243	C	C6-N1-C2	-5.12	118.25	120.30
1	A	1788	U	C2-N1-C1'	5.12	123.84	117.70
34	AA	2488	C	O4'-C1'-N1	5.12	112.30	108.20
34	AA	3129	U	C5'-C4'-O4'	5.12	115.24	109.10
55	AJ	87	ARG	NE-CZ-NH1	5.12	122.86	120.30
1	A	1653	A	O4'-C1'-N9	5.12	112.29	108.20
1	A	2065	C	C6-N1-C2	-5.12	118.25	120.30
34	AA	365	C	O4'-C1'-N1	5.12	112.29	108.20
34	AA	3693	A	O4'-C1'-N9	5.12	112.29	108.20
36	AB	103	A	N1-C6-N6	5.12	121.67	118.60
45	A9	81	ARG	NE-CZ-NH1	5.12	122.86	120.30
65	AT	8	ARG	NE-CZ-NH1	5.12	122.86	120.30
34	AA	1762	A	O4'-C1'-N9	5.11	112.29	108.20
34	AA	1800	U	O4'-C1'-N1	5.11	112.29	108.20
34	AA	3068	A	O4'-C1'-N9	5.11	112.29	108.20
34	AA	3111	U	C5'-C4'-O4'	5.11	115.24	109.10
2	7	44	G	O4'-C1'-N9	5.11	112.29	108.20
34	AA	102	A	C5'-C4'-O4'	5.11	115.23	109.10
34	AA	3591	U	O4'-C1'-N1	5.11	112.29	108.20
35	AC	79	G	O4'-C1'-N9	5.11	112.29	108.20
62	AR	22	ARG	NE-CZ-NH1	5.11	122.86	120.30
34	AA	3056	U	O4'-C1'-N1	5.11	112.29	108.20
5	G	180	ARG	NE-CZ-NH2	5.11	122.85	120.30
40	A4	38	ASN	N-CA-CB	5.11	119.80	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	1	120	ARG	NE-CZ-NH1	5.11	122.85	120.30
1	A	848	U	O4'-C1'-N1	5.11	112.28	108.20
34	AA	1641	G	O4'-C1'-N9	5.11	112.28	108.20
35	AC	89	U	O4'-C1'-N1	5.11	112.28	108.20
1	A	1190	U	O4'-C1'-N1	5.10	112.28	108.20
34	AA	1344	C	O4'-C1'-N1	5.10	112.28	108.20
34	AA	1705	A	C5'-C4'-C3'	5.10	124.17	116.00
34	AA	2147	A	O4'-C1'-N9	5.10	112.28	108.20
34	AA	3510	C	O4'-C1'-N1	5.10	112.28	108.20
1	A	469	U	O4'-C1'-N1	5.10	112.28	108.20
1	A	1186	G	C5-C6-O6	-5.10	125.54	128.60
1	A	1261	A	O4'-C1'-N9	5.10	112.28	108.20
34	AA	34	A	O4'-C1'-N9	5.10	112.28	108.20
34	AA	631	U	O4'-C1'-N1	5.10	112.28	108.20
34	AA	938	U	O4'-C1'-N1	5.10	112.28	108.20
34	AA	2501	A	N1-C6-N6	5.10	121.66	118.60
34	AA	492	U	O4'-C1'-N1	5.10	112.28	108.20
34	AA	3784	U	O4'-C1'-N1	5.10	112.28	108.20
1	A	138	U	P-O3'-C3'	5.10	125.82	119.70
34	AA	379	G	C5-C6-O6	-5.10	125.54	128.60
34	AA	539	G	P-O3'-C3'	5.10	125.82	119.70
34	AA	873	U	O4'-C1'-N1	5.10	112.28	108.20
34	AA	2118	G	C5-C6-O6	-5.10	125.54	128.60
34	AA	3332	G	C5-C6-O6	-5.10	125.54	128.60
37	AL	42	ARG	NE-CZ-NH1	5.10	122.85	120.30
62	AR	207	MET	CG-SD-CE	-5.10	92.04	100.20
1	A	1720	G	N1-C6-O6	5.10	122.96	119.90
34	AA	1868	U	O4'-C1'-N1	5.10	112.28	108.20
34	AA	2676	C	O4'-C1'-N1	5.10	112.28	108.20
34	AA	3287	C	C6-N1-C2	-5.10	118.26	120.30
34	AA	417	A	N1-C6-N6	5.10	121.66	118.60
36	AB	5	U	O4'-C1'-N1	5.10	112.28	108.20
1	A	987	U	O4'-C1'-N1	5.09	112.28	108.20
34	AA	206	A	P-O3'-C3'	5.09	125.81	119.70
34	AA	684	G	N1-C6-O6	5.09	122.96	119.90
1	A	1624	U	O4'-C1'-N1	5.09	112.27	108.20
1	A	1952	A	C5-C6-N6	-5.09	119.62	123.70
34	AA	1060	G	O4'-C1'-N9	5.09	112.28	108.20
1	A	1696	A	O4'-C1'-N9	5.09	112.27	108.20
24	L	210	ARG	NE-CZ-NH2	5.09	122.84	120.30
34	AA	1641	G	C5-C6-O6	-5.09	125.55	128.60
34	AA	3388	U	O4'-C1'-N1	5.09	112.27	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1390	U	O4'-C1'-N1	5.09	112.27	108.20
1	A	1688	U	O4'-C1'-N1	5.09	112.27	108.20
34	AA	273	C	O4'-C1'-N1	5.09	112.27	108.20
34	AA	1516	G	N3-C2-N2	5.09	123.46	119.90
34	AA	2832	A	P-O3'-C3'	5.09	125.81	119.70
34	AA	3644	G	O4'-C1'-N9	5.09	112.27	108.20
1	A	755	A	O4'-C1'-N9	5.09	112.27	108.20
34	AA	1243	G	C5-C6-O6	-5.09	125.55	128.60
34	AA	1462	C	O4'-C1'-N1	5.09	112.27	108.20
34	AA	1664	A	N1-C6-N6	-5.09	115.55	118.60
1	A	1370	U	O4'-C1'-N1	5.09	112.27	108.20
1	A	1903	U	O4'-C1'-N1	5.09	112.27	108.20
34	AA	1496	U	O4'-C1'-N1	5.09	112.27	108.20
34	AA	2474	C	O4'-C1'-N1	5.09	112.27	108.20
34	AA	2644	U	O4'-C1'-N1	5.09	112.27	108.20
36	AB	88	A	P-O3'-C3'	5.09	125.81	119.70
1	A	164	C	O4'-C1'-N1	5.08	112.27	108.20
1	A	296	G	O4'-C1'-N9	5.08	112.27	108.20
1	A	385	U	O4'-C1'-N1	5.08	112.27	108.20
1	A	1176	U	O4'-C1'-N1	5.08	112.27	108.20
34	AA	537	A	C5'-C4'-C3'	-5.08	107.87	116.00
34	AA	712	C	O4'-C1'-N1	5.08	112.27	108.20
34	AA	1591	U	O4'-C1'-N1	5.08	112.27	108.20
34	AA	3064	U	O4'-C1'-N1	5.08	112.27	108.20
34	AA	3705	C	C6-N1-C2	-5.08	118.27	120.30
1	A	1809	G	C5-C6-O6	-5.08	125.55	128.60
34	AA	1690	A	O4'-C1'-N9	5.08	112.27	108.20
34	AA	2408	G	N1-C6-O6	5.08	122.95	119.90
34	AA	2736	A	O4'-C1'-N9	5.08	112.27	108.20
56	Ac	68	ARG	NE-CZ-NH1	5.08	122.84	120.30
1	A	970	G	C5-C6-O6	-5.08	125.55	128.60
1	A	1881	G	N1-C6-O6	5.08	122.95	119.90
34	AA	254	U	O4'-C1'-N1	5.08	112.26	108.20
34	AA	3384	G	O4'-C1'-N9	5.08	112.26	108.20
1	A	794	U	O4'-C1'-N1	5.08	112.26	108.20
1	A	1789	U	P-O3'-C3'	5.08	125.79	119.70
34	AA	1434	G	C5-C6-O6	-5.08	125.55	128.60
34	AA	1684	A	N1-C6-N6	5.08	121.65	118.60
34	AA	522	A	P-O5'-C5'	5.08	129.02	120.90
34	AA	3282	U	C5'-C4'-O4'	5.08	115.19	109.10
1	A	390	G	C5-C6-O6	-5.08	125.55	128.60
1	A	453	U	O4'-C1'-N1	5.08	112.26	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1831	G	C5-C6-O6	-5.08	125.56	128.60
34	AA	957	G	N1-C6-O6	5.08	122.94	119.90
34	AA	2711	U	O4'-C1'-N1	5.08	112.26	108.20
34	AA	3137	U	C2'-C3'-O3'	5.08	121.82	113.70
1	A	832	A	N1-C6-N6	-5.07	115.56	118.60
1	A	1817	U	O4'-C1'-N1	5.07	112.26	108.20
34	AA	1576	U	O4'-C1'-N1	5.07	112.26	108.20
34	AA	1908	U	O4'-C1'-N1	5.07	112.26	108.20
23	J	162	ARG	NE-CZ-NH1	5.07	122.84	120.30
36	AB	116	U	O4'-C1'-N1	5.07	112.26	108.20
1	A	922	U	O4'-C1'-N1	5.07	112.26	108.20
1	A	1742	A	C2'-C3'-O3'	5.07	121.81	113.70
1	A	2053	U	C5'-C4'-O4'	5.07	115.19	109.10
34	AA	629	A	O4'-C1'-N9	5.07	112.26	108.20
34	AA	832	U	O4'-C1'-N1	5.07	112.26	108.20
34	AA	1099	U	O4'-C1'-N1	5.07	112.26	108.20
34	AA	3443	A	C4'-C3'-C2'	-5.07	97.53	102.60
34	AA	1080	C	O4'-C1'-N1	5.07	112.25	108.20
34	AA	1136	A	C5-C6-N6	-5.07	119.64	123.70
34	AA	1839	U	O4'-C1'-N1	5.07	112.26	108.20
34	AA	2170	G	O4'-C1'-N9	5.07	112.25	108.20
35	AC	52	A	O4'-C1'-N9	5.07	112.25	108.20
70	AE	115	ARG	NE-CZ-NH1	5.07	122.83	120.30
1	A	69	A	O4'-C1'-N9	5.07	112.25	108.20
1	A	1024	A	O4'-C1'-N9	5.07	112.25	108.20
1	A	1665	G	C5-C6-O6	-5.07	125.56	128.60
34	AA	2405	A	O4'-C1'-N9	5.07	112.25	108.20
72	AG	72	ARG	NE-CZ-NH1	5.07	122.83	120.30
1	A	182	U	O4'-C1'-N1	5.07	112.25	108.20
1	A	395	G	C5-C6-O6	-5.07	125.56	128.60
1	A	431	A	P-O5'-C5'	5.07	129.00	120.90
34	AA	1681	C	P-O3'-C3'	5.07	125.78	119.70
64	AY	95	ARG	NE-CZ-NH1	5.07	122.83	120.30
74	AH	172	ARG	NE-CZ-NH2	5.07	122.83	120.30
1	A	387	C	C6-N1-C2	-5.06	118.27	120.30
1	A	959	C	O4'-C1'-N1	5.06	112.25	108.20
34	AA	506	A	O4'-C1'-N9	5.06	112.25	108.20
34	AA	825	G	N1-C6-O6	5.06	122.94	119.90
35	AC	62	G	N3-C2-N2	5.06	123.44	119.90
16	3	15	ARG	NE-CZ-NH1	5.06	122.83	120.30
34	AA	518	G	C5-C6-O6	-5.06	125.56	128.60
34	AA	1664	A	O4'-C1'-N9	5.06	112.25	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3639	G	C5'-C4'-C3'	-5.06	107.90	116.00
35	AC	145	A	C5'-C4'-O4'	5.06	115.17	109.10
1	A	1374	G	N1-C6-O6	5.06	122.94	119.90
1	A	1711	U	O4'-C1'-N1	5.06	112.25	108.20
34	AA	361	G	N1-C6-O6	5.06	122.94	119.90
34	AA	1822	A	O4'-C1'-N9	5.06	112.25	108.20
34	AA	2180	U	C2'-C3'-O3'	5.06	121.80	113.70
34	AA	3052	U	C5'-C4'-O4'	5.06	115.17	109.10
34	AA	3530	A	C5'-C4'-O4'	5.06	115.17	109.10
34	AA	3741	A	O4'-C1'-N9	5.06	112.25	108.20
36	AB	21	G	O4'-C1'-N9	5.06	112.25	108.20
1	A	204	U	P-O3'-C3'	5.06	125.77	119.70
1	A	1413	U	C2'-C3'-O3'	5.06	121.79	113.70
33	C	190	ARG	NE-CZ-NH2	5.06	122.83	120.30
34	AA	889	U	C2'-C3'-O3'	5.06	121.79	113.70
34	AA	2092	G	C5'-C4'-O4'	5.06	115.17	109.10
35	AC	29	G	O4'-C1'-N9	5.06	112.25	108.20
1	A	467	G	O4'-C1'-N9	5.06	112.25	108.20
1	A	1374	G	C5-C6-O6	-5.05	125.57	128.60
29	T	17	ARG	NE-CZ-NH1	5.05	122.83	120.30
34	AA	604	G	P-O3'-C3'	5.05	125.77	119.70
34	AA	639	C	O4'-C1'-N1	5.05	112.24	108.20
34	AA	740	U	O4'-C1'-N1	5.05	112.24	108.20
34	AA	1108	U	O4'-C1'-N1	5.05	112.24	108.20
51	AP	63	ARG	NE-CZ-NH2	-5.05	117.77	120.30
1	A	1003	C	C2-N1-C1'	5.05	124.36	118.80
34	AA	3102	U	O4'-C1'-N1	5.05	112.24	108.20
1	A	143	A	O4'-C1'-N9	5.05	112.24	108.20
1	A	797	C	O4'-C1'-N1	5.05	112.24	108.20
1	A	1088	A	O4'-C1'-N9	5.05	112.24	108.20
34	AA	308	U	O4'-C1'-N1	5.05	112.24	108.20
34	AA	2664	G	C5-C6-O6	-5.05	125.57	128.60
73	AU	126	ARG	NE-CZ-NH2	5.05	122.83	120.30
34	AA	362	U	O4'-C1'-N1	5.05	112.24	108.20
34	AA	2600	G	C5-C6-O6	-5.05	125.57	128.60
34	AA	3090	G	C5-C6-O6	-5.05	125.57	128.60
35	AC	48	C	C6-N1-C2	-5.05	118.28	120.30
36	AB	52	U	O4'-C1'-N1	5.05	112.24	108.20
1	A	63	G	N1-C6-O6	5.05	122.93	119.90
34	AA	277	U	O4'-C1'-N1	5.05	112.24	108.20
34	AA	366	G	C5-C6-O6	-5.05	125.57	128.60
34	AA	533	A	O4'-C1'-N9	5.05	112.24	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	3271	G	N1-C6-O6	5.05	122.93	119.90
1	A	603	C	O4'-C1'-N1	5.04	112.24	108.20
6	I	42	HIS	N-CA-CB	5.04	119.68	110.60
38	A1	65	ARG	NE-CZ-NH1	5.04	122.82	120.30
1	A	1202	G	C5-C6-O6	-5.04	125.57	128.60
34	AA	1977	U	O4'-C1'-N1	5.04	112.24	108.20
34	AA	3577	A	P-O3'-C3'	5.04	125.75	119.70
35	AC	78	U	C6-N1-C1'	-5.04	114.14	121.20
1	A	1389	G	O4'-C1'-N9	5.04	112.23	108.20
34	AA	724	A	O4'-C1'-N9	5.04	112.23	108.20
34	AA	1113	C	C6-N1-C2	-5.04	118.28	120.30
34	AA	1508	U	O4'-C1'-N1	5.04	112.23	108.20
1	A	1743	A	N1-C6-N6	5.04	121.62	118.60
34	AA	928	G	O4'-C1'-N9	5.04	112.23	108.20
34	AA	943	G	C5-C6-O6	-5.04	125.58	128.60
40	A4	14	ARG	NE-CZ-NH1	5.04	122.82	120.30
1	A	838	U	O4'-C1'-N1	5.04	112.23	108.20
1	A	1101	G	C5'-C4'-O4'	5.04	115.14	109.10
34	AA	514	C	O4'-C1'-N1	5.04	112.23	108.20
34	AA	681	U	O4'-C1'-N1	5.04	112.23	108.20
1	A	51	A	O4'-C1'-N9	5.04	112.23	108.20
1	A	790	U	O4'-C1'-N1	5.04	112.23	108.20
34	AA	933	U	O4'-C1'-N1	5.04	112.23	108.20
34	AA	1838	U	O4'-C1'-N1	5.04	112.23	108.20
51	AP	30	TYR	CB-CG-CD1	5.04	124.02	121.00
34	AA	79	U	O4'-C1'-N1	5.03	112.23	108.20
34	AA	1060	G	C5-C6-O6	-5.03	125.58	128.60
34	AA	3322	C	O4'-C1'-N1	5.03	112.23	108.20
34	AA	3377	A	O4'-C1'-N9	5.03	112.23	108.20
34	AA	3715	U	O4'-C1'-N1	5.03	112.23	108.20
34	AA	1900	G	C5-C6-O6	-5.03	125.58	128.60
34	AA	2091	U	O4'-C1'-N1	5.03	112.22	108.20
1	A	456	U	P-O3'-C3'	-5.03	113.66	119.70
4	E	6	ARG	NE-CZ-NH1	5.03	122.81	120.30
26	P	141	ARG	NH1-CZ-NH2	-5.03	113.87	119.40
34	AA	1748	A	C1'-O4'-C4'	-5.03	105.88	109.90
34	AA	3087	A	O4'-C1'-N9	5.03	112.22	108.20
1	A	37	U	O4'-C1'-N1	5.03	112.22	108.20
1	A	274	A	O4'-C1'-N9	5.03	112.22	108.20
1	A	1863	U	P-O3'-C3'	-5.03	113.67	119.70
1	A	1915	C	O4'-C1'-N1	5.03	112.22	108.20
34	AA	757	U	O4'-C1'-N1	5.03	112.22	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	AA	1469	U	O4'-C1'-N1	5.03	112.22	108.20
57	AK	159	ARG	NE-CZ-NH1	5.03	122.81	120.30
34	AA	3597	C	C6-N1-C2	-5.02	118.29	120.30
1	A	1072	A	O4'-C1'-N9	5.02	112.22	108.20
1	A	1280	G	O4'-C1'-N9	5.02	112.22	108.20
34	AA	632	U	O4'-C1'-N1	5.02	112.22	108.20
34	AA	267	U	O4'-C1'-N1	5.02	112.22	108.20
34	AA	3234	U	O4'-C1'-N1	5.02	112.22	108.20
34	AA	3351	U	O4'-C1'-N1	5.02	112.22	108.20
1	A	1292	U	O4'-C1'-N1	5.02	112.22	108.20
1	A	1976	G	C5'-C4'-C3'	-5.02	107.97	116.00
34	AA	113	C	C6-N1-C2	-5.02	118.29	120.30
34	AA	585	C	O4'-C1'-N1	5.02	112.22	108.20
34	AA	1068	C	C6-N1-C2	-5.02	118.29	120.30
34	AA	1324	U	P-O3'-C3'	-5.02	113.68	119.70
34	AA	3577	A	O4'-C1'-N9	5.02	112.22	108.20
67	A3	10	ARG	NE-CZ-NH1	5.02	122.81	120.30
34	AA	163	G	O4'-C1'-N9	5.02	112.21	108.20
34	AA	542	A	C5'-C4'-O4'	5.02	115.12	109.10
34	AA	1513	U	O4'-C1'-N1	5.02	112.21	108.20
34	AA	3276	G	C5-C6-O6	-5.02	125.59	128.60
35	AC	144	U	O4'-C1'-N1	5.02	112.21	108.20
63	AW	60	PHE	CB-CG-CD2	-5.02	117.29	120.80
73	AU	84	TYR	CB-CG-CD1	-5.02	117.99	121.00
1	A	251	U	C2'-C3'-O3'	5.02	121.72	113.70
1	A	1276	U	O4'-C1'-N1	5.02	112.21	108.20
45	A9	39	ARG	NE-CZ-NH1	5.02	122.81	120.30
34	AA	33	G	C5-C6-O6	-5.01	125.59	128.60
1	A	850	G	C5-C6-O6	-5.01	125.59	128.60
1	A	1391	U	O4'-C1'-N1	5.01	112.21	108.20
2	7	19	G	N1-C6-O6	5.01	122.91	119.90
34	AA	803	A	C1'-O4'-C4'	-5.01	105.89	109.90
34	AA	2401	C	C6-N1-C2	-5.01	118.30	120.30
34	AA	2567	U	O4'-C1'-N1	5.01	112.21	108.20
34	AA	3646	G	N1-C6-O6	5.01	122.91	119.90
34	AA	894	U	O4'-C1'-N1	5.01	112.21	108.20
34	AA	2432	A	O4'-C1'-N9	5.01	112.21	108.20
34	AA	760	A	O4'-C1'-N9	5.01	112.21	108.20
1	A	984	A	P-O5'-C5'	5.01	128.91	120.90
34	AA	436	G	C5-C6-O6	-5.01	125.60	128.60
34	AA	1644	U	O4'-C1'-N1	5.01	112.20	108.20
34	AA	3264	U	O4'-C1'-N1	5.01	112.21	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	Ad	52	MET	CG-SD-CE	-5.01	92.19	100.20
1	A	635	G	P-O5'-C5'	5.00	128.91	120.90
1	A	1011	G	O4'-C1'-N9	5.00	112.20	108.20
2	7	72	C	O4'-C1'-N1	5.00	112.20	108.20
9	W	97	TYR	CB-CG-CD2	-5.00	118.00	121.00
72	AG	72	ARG	NE-CZ-NH2	-5.00	117.80	120.30
1	A	1441	C	P-O5'-C5'	5.00	128.90	120.90
1	A	1704	G	O4'-C1'-N9	5.00	112.20	108.20
34	AA	495	U	O4'-C1'-N1	5.00	112.20	108.20
73	AU	145	ARG	NE-CZ-NH1	5.00	122.80	120.30

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
34	AA	3018	A	C3'

All (1052) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
14	1	12	TYR	Sidechain
14	1	91	ARG	Sidechain
15	2	76	ARG	Sidechain
16	3	28	ARG	Sidechain
16	3	85	ARG	Sidechain
17	4	21	ARG	Sidechain
17	4	7	ASN	Peptide
17	4	77	PHE	Sidechain
19	6	10	ARG	Sidechain
19	6	43	ARG	Sidechain
2	7	1	G	Sidechain
2	7	12	G	Sidechain
2	7	14	A	Sidechain
2	7	15	G	Sidechain
2	7	27	G	Sidechain
2	7	29	G	Sidechain
2	7	3	G	Sidechain
2	7	31	G	Sidechain
2	7	36	A	Sidechain
2	7	37	U	Sidechain
2	7	46	G	Sidechain
2	7	52	G	Sidechain
2	7	55	U	Sidechain

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Mol	Chain	Res	Type	Group
2	7	6	A	Sidechain
2	7	64	C	Sidechain
2	7	65	A	Sidechain
2	7	70	A	Sidechain
2	7	9	G	Sidechain
1	A	100	U	Sidechain
1	A	1000	C	Sidechain
1	A	1008	A	Sidechain
1	A	1014	U	Sidechain
1	A	1016	U	Sidechain
1	A	1020	U	Sidechain
1	A	1022	A	Sidechain
1	A	1025	U	Sidechain
1	A	104	U	Sidechain
1	A	1041	G	Sidechain
1	A	1056	G	Sidechain
1	A	1058	G	Sidechain
1	A	106	A	Sidechain
1	A	1061	A	Sidechain
1	A	1063	G	Sidechain
1	A	1071	G	Sidechain
1	A	1074	A	Sidechain
1	A	1080	G	Sidechain
1	A	1081	U	Sidechain
1	A	1083	A	Sidechain
1	A	1084	U	Sidechain
1	A	1086	U	Sidechain
1	A	1094	A	Sidechain
1	A	1100	U	Sidechain
1	A	1104	G	Sidechain
1	A	1107	U	Sidechain
1	A	114	A	Sidechain
1	A	118	U	Sidechain
1	A	1186	G	Sidechain
1	A	1187	A	Sidechain
1	A	1188	A	Sidechain
1	A	1189	A	Sidechain
1	A	120	U	Sidechain
1	A	1200	U	Sidechain
1	A	1208	G	Sidechain
1	A	1213	G	Sidechain
1	A	1214	A	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1216	U	Sidechain
1	A	1221	G	Sidechain
1	A	1223	G	Sidechain
1	A	1224	C	Sidechain
1	A	1240	A	Sidechain
1	A	1241	A	Sidechain
1	A	1244	A	Sidechain
1	A	1250	G	Sidechain
1	A	1251	G	Sidechain
1	A	1264	A	Sidechain
1	A	1273	G	Sidechain
1	A	1275	U	Sidechain
1	A	1283	U	Sidechain
1	A	1287	U	Sidechain
1	A	1289	G	Sidechain
1	A	129	U	Sidechain
1	A	1290	A	Sidechain
1	A	1300	G	Sidechain
1	A	1307	U	Sidechain
1	A	1320	A	Sidechain
1	A	136	U	Sidechain
1	A	1363	U	Sidechain
1	A	1379	G	Sidechain
1	A	14	U	Sidechain
1	A	1401	G	Sidechain
1	A	1402	A	Sidechain
1	A	1409	U	Sidechain
1	A	141	G	Sidechain
1	A	1415	A	Sidechain
1	A	1423	A	Sidechain
1	A	1436	U	Sidechain
1	A	1442	U	Sidechain
1	A	1448	U	Sidechain
1	A	1454	G	Sidechain
1	A	15	U	Sidechain
1	A	153	A	Sidechain
1	A	159	U	Sidechain
1	A	1602	G	Sidechain
1	A	1607	U	Sidechain
1	A	161	U	Sidechain
1	A	1632	G	Sidechain
1	A	1646	U	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1655	G	Sidechain
1	A	1656	A	Sidechain
1	A	1658	G	Sidechain
1	A	1660	U	Sidechain
1	A	1665	G	Sidechain
1	A	168	U	Sidechain
1	A	1683	U	Sidechain
1	A	1691	G	Sidechain
1	A	1692	A	Sidechain
1	A	1700	G	Sidechain
1	A	1718	C	Sidechain
1	A	1742	A	Sidechain
1	A	1743	A	Sidechain
1	A	1744	A	Sidechain
1	A	1745	U	Sidechain
1	A	1748	G	Sidechain
1	A	1792	U	Sidechain
1	A	1794	C	Sidechain
1	A	1807	A	Sidechain
1	A	1819	U	Sidechain
1	A	182	U	Sidechain
1	A	1823	U	Sidechain
1	A	1826	A	Sidechain
1	A	1832	U	Sidechain
1	A	1836	G	Sidechain
1	A	1839	G	Sidechain
1	A	1850	G	Sidechain
1	A	1858	U	Sidechain
1	A	1865	G	Sidechain
1	A	1872	G	Sidechain
1	A	1873	A	Sidechain
1	A	1879	U	Sidechain
1	A	1881	G	Sidechain
1	A	1882	U	Sidechain
1	A	1884	A	Sidechain
1	A	1891	U	Sidechain
1	A	1892	U	Sidechain
1	A	1904	G	Sidechain
1	A	1906	U	Sidechain
1	A	1914	U	Sidechain
1	A	1917	C	Sidechain
1	A	1940	U	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1947	U	Sidechain
1	A	1955	G	Sidechain
1	A	1972	G	Sidechain
1	A	1977	G	Sidechain
1	A	1979	C	Sidechain
1	A	1980	A	Sidechain
1	A	1984	A	Sidechain
1	A	2014	A	Sidechain
1	A	2021	U	Sidechain
1	A	2028	U	Sidechain
1	A	2030	U	Sidechain
1	A	2031	C	Sidechain
1	A	2032	U	Sidechain
1	A	2033	U	Sidechain
1	A	2053	U	Sidechain
1	A	2055	A	Sidechain
1	A	2059	G	Sidechain
1	A	2060	G	Sidechain
1	A	2067	U	Sidechain
1	A	2072	G	Sidechain
1	A	2074	A	Sidechain
1	A	2075	C	Sidechain
1	A	2082	A	Sidechain
1	A	248	G	Sidechain
1	A	252	U	Sidechain
1	A	254	U	Sidechain
1	A	263	A	Sidechain
1	A	264	G	Sidechain
1	A	273	A	Sidechain
1	A	310	U	Sidechain
1	A	327	U	Sidechain
1	A	328	G	Sidechain
1	A	33	U	Sidechain
1	A	34	G	Sidechain
1	A	341	U	Sidechain
1	A	343	G	Sidechain
1	A	346	U	Sidechain
1	A	355	U	Sidechain
1	A	369	G	Sidechain
1	A	389	G	Sidechain
1	A	395	G	Sidechain
1	A	396	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	402	G	Sidechain
1	A	404	G	Sidechain
1	A	412	U	Sidechain
1	A	440	G	Sidechain
1	A	441	U	Sidechain
1	A	445	U	Sidechain
1	A	455	C	Sidechain
1	A	46	A	Sidechain
1	A	465	G	Sidechain
1	A	483	A	Sidechain
1	A	486	A	Sidechain
1	A	491	A	Sidechain
1	A	5	U	Sidechain
1	A	508	U	Sidechain
1	A	516	G	Sidechain
1	A	517	G	Sidechain
1	A	544	G	Sidechain
1	A	553	U	Sidechain
1	A	555	G	Sidechain
1	A	559	G	Sidechain
1	A	583	G	Sidechain
1	A	589	U	Sidechain
1	A	598	A	Sidechain
1	A	620	G	Sidechain
1	A	623	G	Sidechain
1	A	625	U	Sidechain
1	A	626	A	Sidechain
1	A	74	U	Sidechain
1	A	798	U	Sidechain
1	A	8	U	Sidechain
1	A	802	A	Sidechain
1	A	805	A	Sidechain
1	A	820	A	Sidechain
1	A	822	G	Sidechain
1	A	832	A	Sidechain
1	A	835	G	Sidechain
1	A	836	C	Sidechain
1	A	846	G	Sidechain
1	A	850	G	Sidechain
1	A	857	A	Sidechain
1	A	858	U	Sidechain
1	A	859	A	Sidechain

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Mol	Chain	Res	Type	Group
1	A	860	G	Sidechain
1	A	872	A	Sidechain
1	A	882	A	Sidechain
1	A	892	U	Sidechain
1	A	9	U	Sidechain
1	A	916	G	Sidechain
1	A	920	A	Sidechain
1	A	922	U	Sidechain
1	A	931	A	Sidechain
1	A	932	U	Sidechain
1	A	936	A	Sidechain
1	A	94	A	Sidechain
1	A	942	U	Sidechain
1	A	943	U	Sidechain
1	A	952	U	Sidechain
1	A	953	C	Sidechain
1	A	955	U	Sidechain
1	A	97	G	Sidechain
1	A	970	G	Sidechain
1	A	972	U	Sidechain
1	A	977	U	Sidechain
1	A	978	U	Sidechain
1	A	982	A	Sidechain
1	A	987	U	Sidechain
1	A	994	G	Sidechain
1	A	998	A	Sidechain
78	A0	57	ARG	Sidechain
78	A0	64	ARG	Sidechain
38	A1	17	ARG	Sidechain
39	A2	114	ARG	Sidechain
67	A3	105	ARG	Sidechain
40	A4	14	ARG	Sidechain
40	A4	36	ASP	Peptide
68	A5	119	GLN	Peptide
68	A5	154	ARG	Sidechain
68	A5	162	TYR	Sidechain
68	A5	224	ARG	Sidechain
68	A5	238	ARG	Sidechain,Peptide
68	A5	56	ARG	Sidechain
41	A6	30	ARG	Sidechain
41	A6	56	ARG	Sidechain
41	A6	62	TYR	Sidechain

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Mol	Chain	Res	Type	Group
41	A6	89	ARG	Sidechain
42	A7	87	ARG	Sidechain
44	A8	33	ARG	Sidechain
44	A8	43	ARG	Sidechain
45	A9	115	ARG	Sidechain
45	A9	130	ARG	Sidechain
34	AA	1013	U	Sidechain
34	AA	1019	A	Sidechain
34	AA	102	A	Sidechain
34	AA	1023	U	Sidechain
34	AA	1033	A	Sidechain
34	AA	1047	A	Sidechain
34	AA	1050	C	Sidechain
34	AA	1053	U	Sidechain
34	AA	1055	A	Sidechain
34	AA	1056	G	Sidechain
34	AA	1058	U	Sidechain
34	AA	1064	U	Sidechain
34	AA	1065	U	Sidechain
34	AA	1067	U	Sidechain
34	AA	1073	G	Sidechain
34	AA	1075	U	Sidechain
34	AA	1079	U	Sidechain
34	AA	109	A	Sidechain
34	AA	1091	G	Sidechain
34	AA	1094	U	Sidechain
34	AA	1101	A	Sidechain
34	AA	1109	U	Sidechain
34	AA	1110	U	Sidechain
34	AA	1115	G	Sidechain
34	AA	1135	G	Sidechain
34	AA	114	A	Sidechain
34	AA	1142	G	Sidechain
34	AA	116	A	Sidechain
34	AA	1167	U	Sidechain
34	AA	1169	A	Sidechain
34	AA	1171	A	Sidechain
34	AA	1203	A	Sidechain
34	AA	1206	U	Sidechain
34	AA	1209	U	Sidechain
34	AA	1211	U	Sidechain
34	AA	1213	U	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	1217	U	Sidechain
34	AA	1220	U	Sidechain
34	AA	1222	U	Sidechain
34	AA	1223	U	Sidechain
34	AA	1224	A	Sidechain
34	AA	1231	A	Sidechain
34	AA	1232	U	Sidechain
34	AA	1239	A	Sidechain
34	AA	124	U	Sidechain
34	AA	1244	G	Sidechain
34	AA	1247	C	Sidechain
34	AA	1248	A	Sidechain
34	AA	1249	U	Sidechain
34	AA	1250	U	Sidechain
34	AA	1251	U	Sidechain
34	AA	1256	U	Sidechain
34	AA	1264	A	Sidechain
34	AA	1266	U	Sidechain
34	AA	127	U	Sidechain
34	AA	1273	G	Sidechain
34	AA	1276	G	Sidechain
34	AA	1280	G	Sidechain
34	AA	1297	A	Sidechain
34	AA	1318	A	Sidechain
34	AA	1321	A	Sidechain
34	AA	1327	C	Sidechain
34	AA	1329	U	Sidechain
34	AA	1330	A	Sidechain
34	AA	1331	A	Sidechain
34	AA	136	U	Sidechain
34	AA	14	U	Sidechain
34	AA	1416	U	Sidechain
34	AA	1417	G	Sidechain
34	AA	1423	G	Sidechain
34	AA	1429	A	Sidechain
34	AA	1434	G	Sidechain
34	AA	1445	A	Sidechain
34	AA	1447	G	Sidechain
34	AA	1453	U	Sidechain
34	AA	1457	G	Sidechain
34	AA	1459	U	Sidechain
34	AA	146	U	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	147	C	Sidechain
34	AA	1473	A	Sidechain
34	AA	1476	A	Sidechain
34	AA	148	G	Sidechain
34	AA	149	A	Sidechain
34	AA	1493	U	Sidechain
34	AA	1497	U	Sidechain
34	AA	1499	U	Sidechain
34	AA	1503	A	Sidechain
34	AA	1507	U	Sidechain
34	AA	1510	U	Sidechain
34	AA	1511	U	Sidechain
34	AA	1513	U	Sidechain
34	AA	1516	G	Sidechain
34	AA	1518	A	Sidechain
34	AA	1524	U	Sidechain
34	AA	1534	U	Sidechain
34	AA	1549	U	Sidechain
34	AA	1552	G	Sidechain
34	AA	1553	U	Sidechain
34	AA	1554	G	Sidechain
34	AA	156	U	Sidechain
34	AA	1572	U	Sidechain
34	AA	1574	C	Sidechain
34	AA	1583	G	Sidechain
34	AA	1585	U	Sidechain
34	AA	1588	U	Sidechain
34	AA	1595	A	Sidechain
34	AA	1597	U	Sidechain
34	AA	1598	A	Sidechain
34	AA	160	G	Sidechain
34	AA	1602	A	Sidechain
34	AA	1606	U	Sidechain
34	AA	1613	G	Sidechain
34	AA	1617	A	Sidechain
34	AA	1619	U	Sidechain
34	AA	1625	G	Sidechain
34	AA	1628	U	Sidechain
34	AA	1629	G	Sidechain
34	AA	1635	G	Sidechain
34	AA	1643	U	Sidechain
34	AA	1644	U	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	1645	U	Sidechain
34	AA	1647	U	Sidechain
34	AA	1650	U	Sidechain
34	AA	1655	U	Sidechain
34	AA	1658	G	Sidechain
34	AA	1671	U	Sidechain
34	AA	1695	A	Sidechain
34	AA	170	U	Sidechain
34	AA	1700	U	Sidechain
34	AA	1701	G	Sidechain
34	AA	1726	C	Sidechain
34	AA	1731	A	Sidechain
34	AA	1735	G	Sidechain
34	AA	1737	A	Sidechain
34	AA	174	U	Sidechain
34	AA	1740	A	Sidechain
34	AA	1745	G	Sidechain
34	AA	1747	U	Sidechain
34	AA	1755	U	Sidechain
34	AA	1763	G	Sidechain
34	AA	1784	G	Sidechain
34	AA	1785	U	Sidechain
34	AA	1786	A	Sidechain
34	AA	1787	A	Sidechain
34	AA	1797	A	Sidechain
34	AA	1798	A	Sidechain
34	AA	1805	U	Sidechain
34	AA	1815	A	Sidechain
34	AA	1820	U	Sidechain
34	AA	1821	U	Sidechain
34	AA	1829	G	Sidechain
34	AA	1830	G	Sidechain
34	AA	1832	U	Sidechain
34	AA	1835	G	Sidechain
34	AA	1836	U	Sidechain
34	AA	1841	U	Sidechain
34	AA	1842	U	Sidechain
34	AA	1844	G	Sidechain
34	AA	1846	A	Sidechain
34	AA	1848	U	Sidechain
34	AA	1851	A	Sidechain
34	AA	1872	A	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	1878	U	Sidechain
34	AA	1882	U	Sidechain
34	AA	1886	A	Sidechain
34	AA	1889	A	Sidechain
34	AA	1894	U	Sidechain
34	AA	1899	U	Sidechain
34	AA	1902	A	Sidechain
34	AA	1906	A	Sidechain
34	AA	1958	U	Sidechain
34	AA	1960	U	Sidechain
34	AA	1969	A	Sidechain
34	AA	1981	U	Sidechain
34	AA	1997	G	Sidechain
34	AA	200	A	Sidechain
34	AA	2000	G	Sidechain
34	AA	2001	U	Sidechain
34	AA	2004	U	Sidechain
34	AA	2018	G	Sidechain
34	AA	2019	A	Sidechain
34	AA	2030	G	Sidechain
34	AA	205	G	Sidechain
34	AA	207	A	Sidechain
34	AA	2072	U	Sidechain
34	AA	208	U	Sidechain
34	AA	2080	C	Sidechain
34	AA	2081	U	Sidechain
34	AA	2102	A	Sidechain
34	AA	2103	C	Sidechain
34	AA	2104	C	Sidechain
34	AA	2108	A	Sidechain
34	AA	2109	A	Sidechain
34	AA	211	U	Sidechain
34	AA	2112	G	Sidechain
34	AA	2117	A	Sidechain
34	AA	2127	G	Sidechain
34	AA	2137	C	Sidechain
34	AA	2138	U	Sidechain
34	AA	2141	G	Sidechain
34	AA	2148	U	Sidechain
34	AA	216	C	Sidechain
34	AA	2161	G	Sidechain
34	AA	2165	G	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	2173	G	Sidechain
34	AA	2176	A	Sidechain
34	AA	2178	A	Sidechain
34	AA	2180	U	Sidechain
34	AA	2184	U	Sidechain
34	AA	2194	C	Sidechain
34	AA	2198	A	Sidechain
34	AA	2214	A	Sidechain
34	AA	2393	A	Sidechain
34	AA	2396	C	Sidechain
34	AA	2409	G	Sidechain
34	AA	2411	C	Sidechain
34	AA	2412	A	Sidechain
34	AA	2423	G	Sidechain
34	AA	2424	A	Sidechain
34	AA	2429	U	Sidechain
34	AA	2432	A	Sidechain
34	AA	2433	U	Sidechain
34	AA	2434	U	Sidechain
34	AA	244	U	Sidechain
34	AA	2441	U	Sidechain
34	AA	2443	G	Sidechain
34	AA	2457	C	Sidechain
34	AA	2460	A	Sidechain
34	AA	2463	U	Sidechain
34	AA	2473	A	Sidechain
34	AA	2481	A	Sidechain
34	AA	2482	U	Sidechain
34	AA	2484	U	Sidechain
34	AA	2486	U	Sidechain
34	AA	2497	U	Sidechain
34	AA	2499	G	Sidechain
34	AA	2503	G	Sidechain
34	AA	2506	A	Sidechain
34	AA	2510	U	Sidechain
34	AA	2514	G	Sidechain
34	AA	2518	U	Sidechain
34	AA	2534	U	Sidechain
34	AA	2552	A	Sidechain
34	AA	2554	G	Sidechain
34	AA	2563	A	Sidechain
34	AA	2565	G	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	2566	G	Sidechain
34	AA	2567	U	Sidechain
34	AA	2573	A	Sidechain
34	AA	2575	U	Sidechain
34	AA	2577	C	Sidechain
34	AA	2579	U	Sidechain
34	AA	258	U	Sidechain
34	AA	2587	U	Sidechain
34	AA	2589	A	Sidechain
34	AA	2590	U	Sidechain
34	AA	2600	G	Sidechain
34	AA	2603	U	Sidechain
34	AA	262	A	Sidechain
34	AA	2629	U	Sidechain
34	AA	2636	U	Sidechain
34	AA	2644	U	Sidechain
34	AA	2649	A	Sidechain
34	AA	265	U	Sidechain
34	AA	2654	A	Sidechain
34	AA	2660	A	Sidechain
34	AA	2662	G	Sidechain
34	AA	2669	G	Sidechain
34	AA	2670	G	Sidechain
34	AA	2672	U	Sidechain
34	AA	2681	U	Sidechain
34	AA	2690	A	Sidechain
34	AA	2693	G	Sidechain
34	AA	27	U	Sidechain
34	AA	270	U	Sidechain
34	AA	2707	G	Sidechain
34	AA	2709	U	Sidechain
34	AA	271	G	Sidechain
34	AA	2711	U	Sidechain
34	AA	2716	U	Sidechain
34	AA	2727	U	Sidechain
34	AA	2809	A	Sidechain
34	AA	2811	A	Sidechain
34	AA	2814	U	Sidechain
34	AA	2822	U	Sidechain
34	AA	288	G	Sidechain
34	AA	2915	U	Sidechain
34	AA	2920	A	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	2925	U	Sidechain
34	AA	2951	U	Sidechain
34	AA	2957	G	Sidechain
34	AA	2968	U	Sidechain
34	AA	2971	G	Sidechain
34	AA	2975	A	Sidechain
34	AA	2977	U	Sidechain
34	AA	2979	U	Sidechain
34	AA	2981	A	Sidechain
34	AA	2987	G	Sidechain
34	AA	2994	A	Sidechain
34	AA	3016	G	Sidechain
34	AA	3020	U	Sidechain
34	AA	3033	A	Sidechain
34	AA	3035	A	Sidechain
34	AA	3038	G	Sidechain
34	AA	304	U	Sidechain
34	AA	3044	A	Sidechain
34	AA	3049	G	Sidechain
34	AA	3052	U	Sidechain
34	AA	3062	U	Sidechain
34	AA	3063	U	Sidechain
34	AA	3064	U	Sidechain
34	AA	3065	C	Sidechain
34	AA	3068	A	Sidechain
34	AA	308	U	Sidechain
34	AA	3080	A	Sidechain
34	AA	3084	G	Sidechain
34	AA	3088	G	Sidechain
34	AA	3092	G	Sidechain
34	AA	3097	A	Sidechain
34	AA	3109	U	Sidechain
34	AA	3111	U	Sidechain
34	AA	3114	G	Sidechain
34	AA	3122	A	Sidechain
34	AA	3137	U	Sidechain
34	AA	3141	G	Sidechain
34	AA	3142	U	Sidechain
34	AA	3182	G	Sidechain
34	AA	3183	G	Sidechain
34	AA	3186	U	Sidechain
34	AA	3192	U	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	3203	C	Sidechain
34	AA	3205	U	Sidechain
34	AA	3212	G	Sidechain
34	AA	3219	U	Sidechain
34	AA	3220	U	Sidechain
34	AA	3241	U	Sidechain
34	AA	3247	U	Sidechain
34	AA	3255	A	Sidechain
34	AA	3257	G	Sidechain
34	AA	3264	U	Sidechain
34	AA	3277	G	Sidechain
34	AA	3278	A	Sidechain
34	AA	3279	U	Sidechain
34	AA	3280	U	Sidechain
34	AA	3281	G	Sidechain
34	AA	3300	A	Sidechain
34	AA	3309	G	Sidechain
34	AA	331	A	Sidechain
34	AA	332	A	Sidechain
34	AA	3323	G	Sidechain
34	AA	3325	G	Sidechain
34	AA	3328	A	Sidechain
34	AA	3335	A	Sidechain
34	AA	3359	A	Sidechain
34	AA	3362	A	Sidechain
34	AA	3365	U	Sidechain
34	AA	3374	U	Sidechain
34	AA	3387	U	Sidechain
34	AA	339	G	Sidechain
34	AA	3391	G	Sidechain
34	AA	3402	A	Sidechain
34	AA	3413	A	Sidechain
34	AA	3418	A	Sidechain
34	AA	3427	U	Sidechain
34	AA	3441	A	Sidechain
34	AA	3444	G	Sidechain
34	AA	3449	U	Sidechain
34	AA	3452	U	Sidechain
34	AA	3470	G	Sidechain
34	AA	3472	A	Sidechain
34	AA	3480	C	Sidechain
34	AA	3483	U	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	3484	U	Sidechain
34	AA	3488	U	Sidechain
34	AA	349	G	Sidechain
34	AA	3495	U	Sidechain
34	AA	3499	C	Sidechain
34	AA	3503	U	Sidechain
34	AA	3505	U	Sidechain
34	AA	3508	A	Sidechain
34	AA	351	U	Sidechain
34	AA	3515	A	Sidechain
34	AA	3516	A	Sidechain
34	AA	352	A	Sidechain
34	AA	3526	U	Sidechain
34	AA	3532	A	Sidechain
34	AA	3535	A	Sidechain
34	AA	3545	U	Sidechain
34	AA	3546	C	Sidechain
34	AA	3549	U	Sidechain
34	AA	356	A	Sidechain
34	AA	357	A	Sidechain
34	AA	3571	A	Sidechain
34	AA	3574	G	Sidechain
34	AA	3581	A	Sidechain
34	AA	3585	A	Sidechain
34	AA	3591	U	Sidechain
34	AA	3594	G	Sidechain
34	AA	361	G	Sidechain
34	AA	362	U	Sidechain
34	AA	3624	U	Sidechain
34	AA	3629	U	Sidechain
34	AA	3632	U	Sidechain
34	AA	3639	G	Sidechain
34	AA	3646	G	Sidechain
34	AA	3648	U	Sidechain
34	AA	3658	G	Sidechain
34	AA	366	G	Sidechain
34	AA	3660	A	Sidechain
34	AA	3666	U	Sidechain
34	AA	367	U	Sidechain
34	AA	3672	A	Sidechain
34	AA	368	G	Sidechain
34	AA	3688	G	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	3692	A	Sidechain
34	AA	3698	U	Sidechain
34	AA	37	U	Sidechain
34	AA	3706	U	Sidechain
34	AA	3707	U	Sidechain
34	AA	3708	U	Sidechain
34	AA	3709	U	Sidechain
34	AA	3726	U	Sidechain
34	AA	3736	A	Sidechain
34	AA	3738	U	Sidechain
34	AA	3739	A	Sidechain
34	AA	374	A	Sidechain
34	AA	3740	A	Sidechain
34	AA	3749	U	Sidechain
34	AA	3754	A	Sidechain
34	AA	3767	U	Sidechain
34	AA	3775	G	Sidechain
34	AA	3776	U	Sidechain
34	AA	3782	A	Sidechain
34	AA	3783	G	Sidechain
34	AA	379	G	Sidechain
34	AA	38	U	Sidechain
34	AA	380	A	Sidechain
34	AA	389	U	Sidechain
34	AA	392	G	Sidechain
34	AA	393	G	Sidechain
34	AA	406	A	Sidechain
34	AA	416	G	Sidechain
34	AA	418	A	Sidechain
34	AA	422	G	Sidechain
34	AA	424	U	Sidechain
34	AA	439	U	Sidechain
34	AA	440	A	Sidechain
34	AA	441	A	Sidechain
34	AA	446	G	Sidechain
34	AA	449	A	Sidechain
34	AA	458	A	Sidechain
34	AA	490	U	Sidechain
34	AA	495	U	Sidechain
34	AA	498	U	Sidechain
34	AA	500	A	Sidechain
34	AA	507	G	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	520	U	Sidechain
34	AA	525	U	Sidechain
34	AA	527	A	Sidechain
34	AA	544	C	Sidechain
34	AA	55	G	Sidechain
34	AA	578	U	Sidechain
34	AA	579	C	Sidechain
34	AA	582	U	Sidechain
34	AA	583	U	Sidechain
34	AA	596	A	Sidechain
34	AA	60	A	Sidechain
34	AA	606	A	Sidechain
34	AA	607	A	Sidechain
34	AA	609	C	Sidechain
34	AA	614	U	Sidechain
34	AA	623	U	Sidechain
34	AA	629	A	Sidechain
34	AA	630	U	Sidechain
34	AA	633	U	Sidechain
34	AA	634	U	Sidechain
34	AA	637	U	Sidechain
34	AA	640	U	Sidechain
34	AA	641	G	Sidechain
34	AA	644	G	Sidechain
34	AA	649	U	Sidechain
34	AA	65	A	Sidechain
34	AA	656	U	Sidechain
34	AA	670	U	Sidechain
34	AA	671	U	Sidechain
34	AA	673	U	Sidechain
34	AA	679	U	Sidechain
34	AA	68	A	Sidechain
34	AA	683	A	Sidechain
34	AA	684	G	Sidechain
34	AA	688	U	Sidechain
34	AA	69	U	Sidechain
34	AA	696	C	Sidechain
34	AA	70	A	Sidechain
34	AA	702	U	Sidechain
34	AA	703	U	Sidechain
34	AA	704	U	Sidechain
34	AA	706	U	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	708	A	Sidechain
34	AA	71	A	Sidechain
34	AA	714	C	Sidechain
34	AA	716	C	Sidechain
34	AA	722	G	Sidechain
34	AA	729	G	Sidechain
34	AA	734	A	Sidechain
34	AA	739	G	Sidechain
34	AA	744	G	Sidechain
34	AA	746	A	Sidechain
34	AA	75	U	Sidechain
34	AA	754	A	Sidechain
34	AA	760	A	Sidechain
34	AA	764	G	Sidechain
34	AA	77	A	Sidechain
34	AA	770	U	Sidechain
34	AA	771	U	Sidechain
34	AA	773	A	Sidechain
34	AA	774	A	Sidechain
34	AA	825	G	Sidechain
34	AA	826	U	Sidechain
34	AA	828	G	Sidechain
34	AA	831	U	Sidechain
34	AA	835	G	Sidechain
34	AA	86	G	Sidechain
34	AA	869	A	Sidechain
34	AA	888	A	Sidechain
34	AA	911	U	Sidechain
34	AA	912	U	Sidechain
34	AA	913	U	Sidechain
34	AA	92	G	Sidechain
34	AA	920	A	Sidechain
34	AA	925	A	Sidechain
34	AA	926	G	Sidechain
34	AA	93	C	Sidechain
34	AA	931	U	Sidechain
34	AA	933	U	Sidechain
34	AA	937	C	Sidechain
34	AA	938	U	Sidechain
34	AA	94	G	Sidechain
34	AA	943	G	Sidechain
34	AA	95	A	Sidechain

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Mol	Chain	Res	Type	Group
34	AA	950	G	Sidechain
34	AA	954	G	Sidechain
34	AA	965	A	Sidechain
34	AA	966	A	Sidechain
34	AA	977	A	Sidechain
34	AA	981	U	Sidechain
36	AB	109	U	Sidechain
36	AB	11	A	Sidechain
36	AB	22	G	Sidechain
36	AB	24	U	Sidechain
36	AB	26	C	Sidechain
36	AB	48	G	Sidechain
36	AB	53	U	Sidechain
36	AB	55	A	Sidechain
36	AB	61	G	Sidechain
36	AB	69	U	Sidechain
36	AB	73	U	Sidechain
36	AB	75	G	Sidechain
36	AB	97	G	Sidechain
36	AB	98	G	Sidechain
35	AC	106	G	Sidechain
35	AC	12	U	Sidechain
35	AC	125	U	Sidechain
35	AC	127	C	Sidechain
35	AC	129	U	Sidechain
35	AC	156	A	Sidechain
35	AC	20	G	Sidechain
35	AC	25	C	Sidechain
35	AC	27	U	Sidechain
35	AC	3	G	Sidechain
35	AC	30	U	Sidechain
35	AC	31	U	Sidechain
35	AC	4	C	Sidechain
35	AC	40	G	Sidechain
35	AC	42	U	Sidechain
35	AC	53	G	Sidechain
35	AC	64	U	Sidechain
35	AC	78	U	Sidechain
35	AC	85	A	Sidechain
69	AD	11	GLY	Peptide
69	AD	163	ARG	Sidechain
69	AD	20	ASN	Peptide

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Mol	Chain	Res	Type	Group
69	AD	23	ARG	Sidechain
69	AD	242	ARG	Sidechain
69	AD	54	ARG	Sidechain
70	AE	119	TYR	Sidechain
70	AE	241	ARG	Sidechain
70	AE	272	ARG	Sidechain
70	AE	331	ARG	Sidechain
71	AF	140	ARG	Sidechain
71	AF	199	ARG	Sidechain
71	AF	264	TYR	Peptide
71	AF	48	ARG	Sidechain
71	AF	49	ARG	Sidechain
71	AF	60	TYR	Sidechain
72	AG	141	ARG	Peptide
72	AG	32	ARG	Sidechain
72	AG	41	THR	Peptide
74	AH	144	TYR	Sidechain
74	AH	179	TYR	Sidechain
74	AH	39	ARG	Sidechain
54	AI	11	TYR	Sidechain
54	AI	48	ARG	Sidechain
55	AJ	116	TYR	Sidechain
55	AJ	172	ASN	Peptide
57	AK	17	ARG	Sidechain
57	AK	31	ARG	Sidechain
57	AK	58	ARG	Sidechain
57	AK	81	ARG	Sidechain
57	AK	84	ARG	Sidechain
37	AL	197	ARG	Sidechain
37	AL	34	ARG	Sidechain
37	AL	63	ARG	Sidechain
37	AL	69	ARG	Sidechain
37	AL	96	TYR	Peptide
58	AM	122	ARG	Sidechain
58	AM	37	TYR	Sidechain
58	AM	50	ARG	Sidechain
58	AM	72	ARG	Sidechain
58	AM	82	ARG	Sidechain
43	AN	35	TYR	Sidechain
43	AN	66	ARG	Sidechain
43	AN	93	ARG	Sidechain
60	AO	127	ARG	Sidechain

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Mol	Chain	Res	Type	Group
60	AO	28	HIS	Peptide
60	AO	48	TYR	Sidechain
51	AP	160	ARG	Sidechain
51	AP	176	ARG	Sidechain
51	AP	186	ARG	Sidechain
51	AP	44	ARG	Sidechain
51	AP	49	ARG	Sidechain
51	AP	68	ARG	Sidechain
61	AQ	154	ARG	Sidechain
61	AQ	189	ARG	Sidechain
61	AQ	3	ARG	Sidechain
61	AQ	34	TYR	Sidechain
62	AR	181	ARG	Sidechain
62	AR	24	ARG	Sidechain
62	AR	278	ARG	Sidechain
62	AR	50	ARG	Sidechain
59	AS	111	ARG	Sidechain
59	AS	139	ARG	Sidechain
59	AS	157	LYS	Peptide
59	AS	165	TYR	Sidechain
59	AS	177	ARG	Sidechain
59	AS	183	ARG	Sidechain
59	AS	39	ARG	Sidechain
59	AS	57	ARG	Sidechain
65	AT	109	ARG	Sidechain
65	AT	116	ARG	Sidechain
65	AT	162	ARG	Sidechain
65	AT	37	ARG	Sidechain
65	AT	87	ARG	Sidechain
65	AT	99	ARG	Sidechain
73	AU	122	ARG	Sidechain
73	AU	134	ARG	Sidechain
73	AU	157	ARG	Sidechain
73	AU	170	TYR	Sidechain
73	AU	21	ARG	Sidechain
73	AU	35	ARG	Sidechain
73	AU	76	ARG	Sidechain
75	AV	109	ARG	Sidechain
75	AV	13	ARG	Sidechain
75	AV	21	ARG	Sidechain
75	AV	71	ARG	Sidechain
75	AV	80	ARG	Sidechain

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Mol	Chain	Res	Type	Group
63	AW	131	LYS	Peptide
63	AW	30	TYR	Sidechain
63	AW	37	ARG	Sidechain
63	AW	47	TYR	Sidechain
63	AW	56	ARG	Sidechain
63	AW	63	TYR	Peptide
77	AX	101	ARG	Sidechain
64	AY	173	ARG	Sidechain
66	AZ	114	ARG	Sidechain
66	AZ	15	ARG	Sidechain
66	AZ	83	ARG	Sidechain
66	AZ	86	ARG	Sidechain
46	Aa	4	ARG	Sidechain
46	Aa	74	ARG	Sidechain
46	Aa	76	TYR	Sidechain
46	Aa	88	ARG	Sidechain
47	Ab	106	ARG	Sidechain
56	Ac	14	ARG	Sidechain
56	Ac	48	ARG	Sidechain
56	Ac	69	TYR	Sidechain
49	Ae	18	ARG	Sidechain
49	Ae	28	ARG	Sidechain
49	Ae	42	ARG	Sidechain
49	Ae	45	ARG	Sidechain
49	Ae	6	ARG	Sidechain
50	Af	41	ARG	Sidechain
50	Af	46	ARG	Sidechain
76	Ag	16	ARG	Sidechain
76	Ag	37	ARG	Sidechain
52	Ah	17	ARG	Sidechain
52	Ah	7	LYS	Peptide
53	Ai	40	ARG	Sidechain
53	Ai	42	TYR	Sidechain
53	Ai	54	LYS	Peptide
20	B	146	ARG	Peptide
20	B	190	PRO	Peptide
20	B	213	ARG	Sidechain
20	B	64	ARG	Sidechain
33	C	103	THR	Peptide
33	C	119	ARG	Sidechain
33	C	151	SER	Peptide
33	C	62	ARG	Sidechain

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Mol	Chain	Res	Type	Group
33	C	79	ARG	Sidechain
33	C	84	ARG	Sidechain
3	D	117	ARG	Sidechain
4	E	108	ARG	Sidechain
4	E	14	ASN	Peptide
4	E	168	ARG	Peptide
4	E	171	ARG	Sidechain
4	E	69	ARG	Sidechain
4	E	78	ARG	Sidechain
21	F	100	ARG	Sidechain
21	F	103	TYR	Sidechain
21	F	108	ARG	Sidechain
21	F	11	ARG	Sidechain
21	F	191	ARG	Sidechain
5	G	107	ARG	Sidechain
5	G	236	TYR	Sidechain
5	G	63	TYR	Sidechain
5	G	80	GLN	Peptide
22	H	137	ARG	Sidechain
22	H	154	ARG	Sidechain
22	H	82	LYS	Peptide
6	I	136	ARG	Sidechain
6	I	150	ARG	Sidechain
6	I	195	ARG	Sidechain
6	I	62	ARG	Sidechain
23	J	115	ARG	Sidechain
23	J	12	ASN	Peptide
23	J	123	TYR	Sidechain
23	J	69	TYR	Sidechain
23	J	98	ARG	Sidechain
7	K	118	ARG	Sidechain
7	K	46	TYR	Sidechain
24	L	217	ARG	Sidechain
24	L	25	ARG	Sidechain
24	L	53	TYR	Sidechain
8	M	115	ARG	Sidechain
25	N	82	ARG	Sidechain
11	O	63	ARG	Sidechain
26	P	149	ARG	Sidechain
26	P	37	PHE	Peptide
26	P	50	ARG	Sidechain
27	Q	109	ARG	Sidechain

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Mol	Chain	Res	Type	Group
27	Q	137	LYS	Peptide
29	T	54	ARG	Sidechain
30	U	114	ARG	Sidechain
30	U	141	TYR	Sidechain
31	V	102	ARG	Sidechain
31	V	106	ARG	Sidechain
31	V	11	ARG	Sidechain
31	V	36	ARG	Sidechain
31	V	70	ARG	Sidechain
31	V	90	ARG	Sidechain
9	W	11	ARG	Sidechain
9	W	21	TYR	Sidechain
9	W	3	ARG	Sidechain
32	X	40	ARG	Sidechain
12	Y	108	ARG	Sidechain
12	Y	141	LYS	Peptide
12	Y	148	THR	Peptide
12	Y	161	TYR	Sidechain
12	Y	39	ARG	Sidechain
12	Y	53	TYR	Peptide

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	34207	0	17266	123	0
2	7	1571	0	797	12	0
3	D	1229	0	1311	0	0
4	E	1515	0	1605	2	0
5	G	1758	0	1811	1	0
6	I	1424	0	1471	0	0
7	K	1037	0	1099	2	0
8	M	1099	0	1183	1	0
9	W	786	0	858	1	0
10	R	747	0	754	0	0
11	O	687	0	695	0	0
12	Y	1267	0	1316	1	0
13	Z	557	0	558	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	1	986	0	1076	0	0
15	2	321	0	338	0	0
16	3	782	0	820	0	0
17	4	586	0	604	1	0
18	5	458	0	496	0	0
19	6	346	0	381	0	0
20	B	1714	0	1838	0	0
21	F	2062	0	2200	3	0
22	H	1648	0	1803	0	0
23	J	1529	0	1680	0	0
24	L	1383	0	1434	3	0
25	N	772	0	813	1	0
26	P	954	0	997	0	0
27	Q	1129	0	1196	0	0
28	S	1047	0	1101	2	0
29	T	405	0	419	0	0
30	U	1202	0	1299	1	0
31	V	1206	0	1239	1	0
32	X	777	0	832	1	0
33	C	1539	0	1600	1	0
34	AA	67884	0	34244	322	0
35	AC	3215	0	1633	8	0
36	AB	2522	0	1275	9	0
37	AL	1757	0	1888	0	0
38	A1	1134	0	1245	2	0
39	A2	831	0	887	1	0
40	A4	555	0	599	4	0
41	A6	741	0	763	1	0
42	A7	794	0	869	2	0
43	AN	1202	0	1316	2	0
44	A8	1037	0	1139	2	0
45	A9	845	0	886	3	0
46	Aa	859	0	912	0	0
47	Ab	757	0	842	0	0
48	Ad	604	0	686	0	0
49	Ae	388	0	421	0	0
50	Af	414	0	452	0	0
51	AP	1697	0	1802	2	0
52	Ah	659	0	727	0	0
53	Ai	779	0	861	0	0
54	AI	1685	0	1849	0	0
55	AJ	1813	0	1985	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	Ac	710	0	761	0	0
57	AK	1660	0	1785	2	0
58	AM	996	0	1044	0	0
59	AS	1503	0	1636	1	0
60	AO	1172	0	1230	3	0
61	AQ	1545	0	1582	0	0
62	AR	2050	0	2140	1	0
63	AW	1319	0	1304	1	0
64	AY	797	0	850	0	0
65	AT	1509	0	1682	0	0
66	AZ	1001	0	1099	0	0
67	A3	995	0	1121	0	0
68	A5	1879	0	2005	3	0
69	AD	1867	0	1964	4	0
70	AE	3062	0	3205	5	0
71	AF	3095	0	3333	1	0
72	AG	1011	0	1073	1	0
73	AU	1497	0	1556	2	0
74	AH	1476	0	1574	2	0
75	AV	1276	0	1355	0	0
76	Ag	343	0	388	0	0
77	AX	825	0	882	0	0
78	A0	522	0	539	0	0
All	All	193012	0	144279	522	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.

All (522) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AE:353:LEU:H	70:AE:353:LEU:HD23	1.55	0.71
34:AA:3632:U:H3	34:AA:3653:G:H1	1.42	0.65
34:AA:123:A:H3'	34:AA:124:U:H5''	1.81	0.62
34:AA:744:G:H1	34:AA:915:G:H1	1.47	0.62
34:AA:642:A:C6	34:AA:684:G:C8	2.89	0.61
28:S:29:ILE:H	28:S:29:ILE:HD13	1.65	0.61
34:AA:440:A:H2'	34:AA:441:A:C8	2.36	0.61
1:A:1982:G:H1	1:A:2008:U:H3	1.48	0.60
34:AA:2735:G:H1	34:AA:2814:U:H3	1.50	0.59
34:AA:3626:A:H3'	34:AA:3627:C:H5''	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:746:A:H2'	34:AA:747:A:C8	2.39	0.58
1:A:955:U:H2'	1:A:956:A:C8	2.39	0.57
1:A:1022:A:H2'	1:A:1023:A:C8	2.39	0.57
2:7:6:A:H61	2:7:65:A:H61	1.51	0.57
40:A4:7:HIS:CG	40:A4:8:THR:N	2.72	0.57
34:AA:1072:A:H4'	34:AA:1073:G:H21	1.70	0.57
34:AA:1259:G:C4	34:AA:2666:A:C2	2.93	0.57
34:AA:1822:A:N1	34:AA:2004:U:C4	2.73	0.56
34:AA:681:U:C6	34:AA:681:U:H5''	2.40	0.56
1:A:1187:A:H2'	1:A:1188:A:C8	2.40	0.56
74:AH:46:ARG:HB3	74:AH:46:ARG:HH11	1.70	0.56
34:AA:1644:U:C4	34:AA:2102:A:N1	2.74	0.55
21:F:36:HIS:CD2	21:F:86:LEU:H	2.24	0.55
34:AA:445:A:C2	34:AA:446:G:C4	2.95	0.55
70:AE:85:VAL:HB	70:AE:160:HIS:CE1	2.41	0.54
12:Y:44:HIS:CE1	12:Y:48:HIS:CE1	2.94	0.54
1:A:149:A:C2	1:A:161:U:C4	2.95	0.54
62:AR:49:LEU:HD12	62:AR:49:LEU:H	1.71	0.54
35:AC:30:U:H2'	35:AC:31:U:C6	2.43	0.54
34:AA:136:U:C4	34:AA:141:A:C2	2.96	0.54
34:AA:124:U:H5'	34:AA:124:U:C6	2.43	0.53
34:AA:343:G:H2'	34:AA:344:A:H5''	1.90	0.53
63:AW:20:VAL:O	63:AW:145:HIS:CD2	2.62	0.53
73:AU:107:THR:HG23	73:AU:110:GLY:H	1.73	0.53
34:AA:320:C:H2'	34:AA:321:A:C8	2.44	0.53
34:AA:2506:A:H2'	34:AA:2507:A:C8	2.43	0.53
34:AA:965:A:C6	34:AA:966:A:C2	2.97	0.53
34:AA:506:A:H2'	34:AA:507:G:C8	2.43	0.53
34:AA:173:A:H3'	34:AA:174:U:H5''	1.91	0.53
41:A6:54:ILE:H	41:A6:54:ILE:HD12	1.74	0.52
1:A:520:U:H2'	1:A:521:G:C8	2.44	0.52
1:A:1734:G:H3'	1:A:1811:A:H61	1.74	0.52
30:U:101:HIS:CE1	30:U:105:ASN:HD22	2.28	0.52
34:AA:1531:G:H1	34:AA:1573:C:H5	1.55	0.52
34:AA:445:A:N1	34:AA:702:U:C4	2.77	0.52
34:AA:912:U:H2'	34:AA:913:U:C6	2.45	0.52
34:AA:3164:G:C5	34:AA:3165:U:C5	2.97	0.52
9:W:99:GLU:CD	9:W:99:GLU:H	2.12	0.52
34:AA:3768:A:C5	42:A7:29:HIS:CE1	2.98	0.52
24:L:168:ILE:HG12	24:L:169:ASP:H	1.75	0.51
34:AA:1675:C:H4'	34:AA:1737:A:C5	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2525:A:H2'	34:AA:2526:A:C8	2.45	0.51
1:A:1040:A:H61	34:AA:965:A:H61	1.58	0.51
39:A2:119:TYR:C	44:A8:111:ARG:HH22	2.13	0.51
34:AA:445:A:C2	34:AA:702:U:C4	2.98	0.51
1:A:2072:G:H2'	1:A:2073:A:C8	2.45	0.51
34:AA:914:G:H2'	34:AA:915:G:C8	2.45	0.51
34:AA:3555:U:C4	45:A9:91:HIS:CE1	2.99	0.51
34:AA:1588:U:H2'	34:AA:1589:G:C8	2.46	0.51
34:AA:3054:A:C2	34:AA:3092:G:C6	2.99	0.51
34:AA:2709:U:H2'	34:AA:2710:U:C6	2.45	0.51
1:A:1976:G:H3'	1:A:1977:G:C8	2.46	0.51
40:A4:7:HIS:CG	40:A4:8:THR:H	2.29	0.50
34:AA:1786:A:C5	34:AA:1787:A:C6	2.99	0.50
1:A:1859:A:H2'	1:A:1860:A:C8	2.46	0.50
34:AA:1770:G:H1'	34:AA:1797:A:H61	1.76	0.50
2:7:6:A:N1	2:7:65:A:N1	2.59	0.50
1:A:808:U:C5	1:A:809:U:C5	2.99	0.50
34:AA:1219:A:C5	34:AA:1220:U:C5	2.99	0.50
34:AA:136:U:O4	34:AA:141:A:C2	2.65	0.50
1:A:1041:G:H1'	34:AA:966:A:H61	1.76	0.50
34:AA:2657:G:H22	34:AA:2689:G:H1'	1.75	0.50
1:A:1261:A:H2'	1:A:1262:C:C6	2.47	0.50
1:A:107:A:C5	1:A:108:A:C5	3.00	0.50
34:AA:1064:U:H2'	34:AA:1065:U:C6	2.46	0.50
1:A:597:C:H2'	1:A:598:A:C8	2.46	0.50
35:AC:13:A:H2'	35:AC:14:A:C8	2.47	0.50
34:AA:66:A:C2	34:AA:68:A:H1'	2.46	0.50
34:AA:1511:U:H2'	34:AA:1512:A:C8	2.47	0.50
34:AA:1433:U:C2	70:AE:254:PRO:HB3	2.47	0.49
34:AA:75:U:C4	34:AA:76:G:C6	3.00	0.49
36:AB:24:U:C5	36:AB:25:A:C8	3.01	0.49
34:AA:606:A:H2'	34:AA:607:A:C8	2.47	0.49
2:7:15:G:H21	2:7:19:G:H1	1.61	0.49
34:AA:1738:A:C4	34:AA:1739:C:C5	3.01	0.49
34:AA:2158:U:H2'	34:AA:2159:A:C8	2.48	0.49
69:AD:50:HIS:CG	69:AD:51:ASP:H	2.30	0.49
34:AA:642:A:C5	34:AA:684:G:C8	3.01	0.49
34:AA:715:U:H2'	34:AA:716:C:C5	2.48	0.49
34:AA:2950:U:H2'	34:AA:2951:U:C6	2.48	0.49
34:AA:2401:C:H1'	34:AA:3736:A:C8	2.48	0.49
4:E:141:VAL:HG22	4:E:143:ILE:H	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3402:A:H2'	34:AA:3403:A:C8	2.48	0.49
34:AA:3241:U:H2'	34:AA:3242:U:C6	2.48	0.49
1:A:952:U:H2'	1:A:953:C:C6	2.48	0.49
34:AA:983:G:C5	34:AA:1012:U:C4	3.01	0.49
1:A:755:A:C2	1:A:756:A:C4	3.01	0.49
34:AA:1416:U:H2'	34:AA:1417:G:C8	2.47	0.49
1:A:886:U:H2'	1:A:887:A:C8	2.48	0.48
34:AA:220:G:C6	34:AA:230:G:C5	3.01	0.48
34:AA:1541:A:C2	34:AA:1542:A:C4	3.02	0.48
34:AA:1093:G:H2'	34:AA:1094:U:C6	2.48	0.48
34:AA:2430:U:C6	34:AA:2434:U:C4	3.01	0.48
21:F:249:ILE:HD12	21:F:249:ILE:H	1.78	0.48
34:AA:3320:G:H2'	34:AA:3321:U:C6	2.48	0.48
7:K:115:GLU:CD	7:K:118:ARG:HH22	2.16	0.48
1:A:1061:A:C2	1:A:1082:A:C4	3.02	0.48
34:AA:2132:A:C5	34:AA:2134:A:C5	3.01	0.48
57:AK:84:ARG:HE	57:AK:89:HIS:CD2	2.32	0.48
34:AA:909:U:H2'	34:AA:910:A:C8	2.49	0.48
51:AP:189:ILE:H	51:AP:189:ILE:HD12	1.79	0.48
1:A:246:A:H2'	1:A:247:G:C8	2.49	0.48
51:AP:140:HIS:CD2	51:AP:142:ALA:H	2.32	0.48
34:AA:687:G:H2'	34:AA:688:U:C6	2.49	0.48
1:A:993:A:H2'	1:A:994:G:C8	2.48	0.48
34:AA:1536:U:H3'	34:AA:1537:G:H5''	1.95	0.48
34:AA:1031:G:H1	69:AD:208:GLU:CD	2.17	0.48
72:AG:43:GLN:H	72:AG:43:GLN:CD	2.17	0.48
34:AA:352:A:C5	34:AA:353:G:C5	3.01	0.48
34:AA:3726:U:H4'	34:AA:3727:A:H5''	1.94	0.48
34:AA:2679:A:C4	34:AA:3353:A:C2	3.01	0.47
34:AA:2926:A:H2'	34:AA:2927:U:C6	2.48	0.47
34:AA:2183:A:H2'	34:AA:2184:U:C6	2.49	0.47
34:AA:1106:A:C5	40:A4:17:HIS:CG	3.02	0.47
2:7:45:A:H3'	2:7:46:G:H5'	1.96	0.47
34:AA:2569:G:C5	34:AA:2570:C:C5	3.02	0.47
34:AA:1506:C:H2'	34:AA:1507:U:C6	2.49	0.47
34:AA:525:U:H2'	34:AA:526:U:C6	2.49	0.47
34:AA:2134:A:C6	34:AA:2135:G:C5	3.02	0.47
1:A:262:A:C5	1:A:263:A:H1'	2.50	0.47
34:AA:1302:G:C6	34:AA:1446:A:C2	3.03	0.47
34:AA:3451:G:C6	34:AA:3452:U:C4	3.02	0.47
34:AA:1109:U:H2'	34:AA:1110:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:149:A:N1	1:A:161:U:C4	2.83	0.47
1:A:930:A:C2	1:A:1032:A:C4	3.02	0.47
34:AA:593:A:H4'	34:AA:594:C:H5'	1.96	0.47
60:AO:61:LEU:HD22	60:AO:61:LEU:H	1.79	0.47
34:AA:2473:A:H2'	34:AA:2474:C:C6	2.50	0.47
44:A8:98:HIS:CD2	44:A8:99:ASN:H	2.33	0.47
34:AA:1034:A:C5	34:AA:1036:A:H1'	2.49	0.47
34:AA:1905:C:H2'	34:AA:1906:A:C8	2.50	0.47
34:AA:2663:G:C6	34:AA:2664:G:C6	3.03	0.47
34:AA:2441:U:H2'	34:AA:2442:A:C5	2.50	0.47
34:AA:1100:A:C5	68:A5:185:HIS:CE1	3.03	0.47
1:A:1424:A:H2'	1:A:1425:C:C6	2.50	0.47
34:AA:1210:A:H2'	34:AA:1211:U:C6	2.50	0.47
8:M:44:ILE:H	8:M:44:ILE:HD12	1.80	0.47
34:AA:1103:A:C5	34:AA:1231:A:C2	3.03	0.46
34:AA:1203:A:C6	34:AA:1204:A:C6	3.03	0.46
34:AA:1683:A:H2'	34:AA:1684:A:C8	2.50	0.46
2:7:23:G:C5	2:7:24:C:C5	3.04	0.46
1:A:491:A:H2'	1:A:492:A:C8	2.50	0.46
34:AA:1628:U:C5	34:AA:1629:G:C5	3.03	0.46
34:AA:3263:G:H2'	34:AA:3264:U:C6	2.50	0.46
34:AA:1083:G:H2'	34:AA:1084:A:C8	2.50	0.46
34:AA:2020:A:H2'	34:AA:2021:A:C8	2.51	0.46
34:AA:2433:U:C2	34:AA:3337:U:C5	3.03	0.46
1:A:149:A:C2	1:A:150:C:C2	3.04	0.46
34:AA:3325:G:C5	34:AA:3326:A:C6	3.04	0.46
69:AD:235:VAL:HG13	69:AD:236:GLY:H	1.81	0.46
36:AB:75:G:C4	36:AB:99:G:C6	3.04	0.46
34:AA:40:A:C5	34:AA:1056:G:C6	3.03	0.46
34:AA:1644:U:C5	34:AA:2102:A:C2	3.04	0.46
1:A:995:A:H2'	1:A:996:C:C6	2.51	0.46
1:A:1444:C:H3'	1:A:1445:U:H5'	1.98	0.46
34:AA:3242:U:H2'	34:AA:3243:C:C6	2.51	0.46
34:AA:1106:A:C4	40:A4:17:HIS:CD2	3.03	0.46
1:A:458:A:H3'	1:A:459:A:C5'	2.45	0.46
1:A:1743:A:H2'	1:A:1744:A:C8	2.51	0.46
34:AA:967:A:C5	34:AA:968:G:H1'	2.51	0.46
1:A:122:C:C5	1:A:123:U:C5	3.04	0.46
34:AA:1043:G:C4	34:AA:3168:C:C2	3.03	0.46
24:L:13:LEU:H	24:L:13:LEU:HD22	1.81	0.46
34:AA:1786:A:H4'	38:A1:79:HIS:CE1	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2176:A:C5	34:AA:2177:A:C5	3.04	0.46
34:AA:1118:A:C2	34:AA:1177:A:C4	3.03	0.46
34:AA:1980:G:C8	34:AA:1981:U:C4	3.04	0.45
34:AA:918:G:C6	34:AA:920:A:C4	3.04	0.45
1:A:441:U:C4	1:A:442:A:C6	3.04	0.45
36:AB:95:U:H2'	36:AB:96:C:C6	2.51	0.45
1:A:1251:G:C6	1:A:2060:G:C5	3.04	0.45
45:A9:66:LYS:HA	57:AK:2:TYR:CZ	2.51	0.45
34:AA:3386:A:H2'	34:AA:3387:U:C6	2.51	0.45
1:A:118:U:H2'	1:A:119:C:C6	2.51	0.45
2:7:14:A:C6	2:7:15:G:C2	3.04	0.45
34:AA:1216:C:H2'	34:AA:1217:U:H5'	1.98	0.45
24:L:213:ASP:C	24:L:217:ARG:HE	2.19	0.45
1:A:1208:G:C5	1:A:1209:G:C6	3.05	0.45
1:A:1873:A:C5	1:A:1874:A:H1'	2.52	0.45
34:AA:1259:G:C2	34:AA:2666:A:C4	3.05	0.45
34:AA:3140:U:H4'	34:AA:3141:G:OP1	2.16	0.45
34:AA:2106:A:C4	34:AA:2110:C:C5	3.05	0.45
34:AA:1831:G:C5	34:AA:1832:U:C5	3.04	0.45
1:A:1272:A:H2'	1:A:1273:G:C8	2.51	0.45
34:AA:1793:A:C6	34:AA:1797:A:C8	3.05	0.45
34:AA:1036:A:C5	34:AA:1037:C:C5	3.04	0.45
34:AA:1662:G:C6	34:AA:1664:A:C5	3.05	0.45
34:AA:1214:C:H3'	34:AA:1215:A:H5''	1.99	0.45
34:AA:307:G:C5	34:AA:308:U:C4	3.05	0.45
1:A:1957:A:C2	1:A:2033:U:C2	3.05	0.45
1:A:392:G:H2'	1:A:393:A:C8	2.52	0.45
34:AA:2590:U:O2	34:AA:2590:U:H2'	2.15	0.45
34:AA:262:A:H2'	34:AA:263:U:C6	2.52	0.45
34:AA:3164:G:C6	34:AA:3165:U:C4	3.05	0.45
34:AA:70:A:C6	34:AA:71:A:C6	3.05	0.45
1:A:1008:A:C6	1:A:1009:A:C6	3.05	0.45
34:AA:510:A:H2'	34:AA:511:C:C6	2.52	0.45
43:AN:79:GLU:CD	43:AN:79:GLU:H	2.20	0.45
45:A9:134:LEU:H	45:A9:134:LEU:HD22	1.82	0.45
1:A:1239:A:C4	1:A:1240:A:N7	2.85	0.45
34:AA:1244:G:C4	34:AA:3176:A:C2	3.05	0.45
34:AA:378:U:C4	34:AA:379:G:C5	3.05	0.45
34:AA:63:A:H2'	34:AA:64:G:C8	2.52	0.45
34:AA:965:A:N6	34:AA:966:A:C2	2.85	0.44
1:A:413:A:H2'	1:A:414:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:734:A:H2'	34:AA:735:A:C8	2.52	0.44
34:AA:1646:C:H2'	34:AA:1647:U:C6	2.52	0.44
1:A:805:A:C2	1:A:806:A:C4	3.04	0.44
70:AE:68:HIS:CG	70:AE:69:LYS:N	2.86	0.44
1:A:1225:A:H2'	1:A:1226:A:C8	2.52	0.44
25:N:21:ILE:HD13	25:N:23:LEU:HD21	1.99	0.44
1:A:1378:G:C4	1:A:1682:A:C2	3.05	0.44
34:AA:3022:U:H2'	34:AA:3023:C:C6	2.52	0.44
34:AA:2723:G:H2'	34:AA:2724:C:C6	2.52	0.44
34:AA:609:C:H3'	34:AA:610:U:H5'	2.00	0.44
34:AA:2189:A:C6	34:AA:2200:A:C2	3.05	0.44
34:AA:2181:A:C5	34:AA:2413:A:C2	3.05	0.44
34:AA:88:A:C2	34:AA:99:A:C4	3.05	0.44
34:AA:1186:A:C5	34:AA:1224:A:C6	3.05	0.44
1:A:850:G:H2'	1:A:851:A:C8	2.52	0.44
1:A:1400:U:H5	1:A:1401:G:C5	2.36	0.44
1:A:1692:A:C4	1:A:1694:G:C8	3.05	0.44
1:A:91:G:C6	1:A:92:C:C4	3.06	0.44
1:A:1188:A:H2'	1:A:1189:A:C8	2.52	0.44
34:AA:3768:A:C6	42:A7:29:HIS:CE1	3.06	0.44
34:AA:2946:G:C6	34:AA:2947:G:C5	3.05	0.44
34:AA:1681:C:H2'	34:AA:1682:U:C6	2.53	0.44
34:AA:2737:C:H2'	34:AA:2738:U:C6	2.51	0.44
1:A:872:A:C6	1:A:873:A:C2	3.06	0.44
34:AA:350:A:C5	34:AA:376:G:C5	3.06	0.44
34:AA:1572:U:C5	34:AA:1573:C:C5	3.06	0.44
1:A:598:A:H2'	1:A:599:A:C8	2.53	0.44
34:AA:916:U:H2'	34:AA:917:A:C8	2.52	0.44
1:A:1109:G:H4'	33:C:31:ASN:HD22	1.83	0.44
34:AA:3347:C:H2'	34:AA:3348:U:C6	2.53	0.44
34:AA:1121:G:C2	34:AA:1122:A:C2	3.06	0.44
34:AA:685:U:C5	34:AA:686:U:C4	3.06	0.44
34:AA:2439:C:H2'	34:AA:2440:A:C8	2.53	0.44
21:F:36:HIS:CG	21:F:85:GLY:HA2	2.52	0.44
34:AA:3727:A:C2	34:AA:3728:A:C4	3.05	0.44
34:AA:3615:A:C8	34:AA:3615:A:H3'	2.51	0.44
1:A:161:U:O4	1:A:162:A:C6	2.70	0.44
1:A:970:G:C6	1:A:971:G:C5	3.06	0.44
34:AA:3171:C:H2'	34:AA:3172:A:C8	2.52	0.44
34:AA:3086:A:H2'	34:AA:3087:A:C8	2.53	0.44
1:A:43:A:C2	1:A:384:A:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:95:A:C6	1:A:404:G:C6	3.06	0.44
35:AC:29:G:C5	35:AC:30:U:C5	3.05	0.44
34:AA:1793:A:C6	34:AA:1795:A:C4	3.06	0.44
34:AA:228:A:C5	34:AA:1537:G:C6	3.06	0.44
68:A5:141:PRO:HA	68:A5:242:TRP:CD2	2.52	0.44
34:AA:202:C:H2'	34:AA:203:A:C8	2.53	0.44
55:AJ:44:LEU:HD23	55:AJ:44:LEU:H	1.82	0.44
34:AA:2577:C:C5	34:AA:2578:C:C2	3.06	0.43
34:AA:1184:A:H2'	34:AA:1185:A:C8	2.53	0.43
1:A:943:U:H2'	1:A:944:G:C8	2.52	0.43
34:AA:1113:C:H2'	34:AA:1114:A:C8	2.53	0.43
34:AA:1875:A:H2'	34:AA:1876:A:C8	2.53	0.43
34:AA:3035:A:H3'	34:AA:3036:A:C8	2.54	0.43
1:A:162:A:C6	1:A:163:G:C5	3.07	0.43
1:A:1061:A:C2	1:A:1081:U:O4	2.70	0.43
34:AA:3387:U:H2'	34:AA:3388:U:C6	2.54	0.43
1:A:26:A:C4	1:A:27:U:C5	3.05	0.43
34:AA:1844:G:C5	34:AA:1845:C:C5	3.06	0.43
2:7:12:G:N2	2:7:22:A:C2	2.86	0.43
34:AA:3066:A:C6	34:AA:3068:A:C5	3.06	0.43
1:A:1904:G:H2'	1:A:1905:C:C6	2.53	0.43
34:AA:1973:G:C6	34:AA:1974:U:C4	3.05	0.43
34:AA:1974:U:H2'	34:AA:1975:A:C8	2.53	0.43
2:7:54:G:C6	2:7:55:U:C2	3.07	0.43
1:A:1040:A:H61	34:AA:965:A:N6	2.15	0.43
69:AD:50:HIS:CG	69:AD:51:ASP:N	2.86	0.43
1:A:2033:U:H2'	1:A:2034:U:C6	2.52	0.43
34:AA:1237:C:H2'	34:AA:1238:C:C6	2.54	0.43
34:AA:141:A:C2	34:AA:142:C:C4	3.06	0.43
1:A:1061:A:C2	1:A:1082:A:C5	3.06	0.43
36:AB:13:A:C5	36:AB:110:G:C6	3.06	0.43
34:AA:723:A:C8	34:AA:727:A:C6	3.07	0.43
34:AA:205:G:C6	34:AA:405:A:C5	3.07	0.43
36:AB:77:A:C2	36:AB:100:A:C4	3.07	0.43
34:AA:3268:A:H3'	34:AA:3269:A:H5''	2.00	0.43
34:AA:2516:A:H2'	34:AA:2517:A:C8	2.54	0.43
36:AB:66:G:C6	36:AB:67:C:C4	3.06	0.43
34:AA:2079:A:H2'	34:AA:2080:C:C6	2.54	0.43
34:AA:344:A:C2	34:AA:345:G:C5	3.07	0.43
1:A:403:A:H2'	1:A:404:G:C8	2.53	0.43
34:AA:3055:U:H2'	34:AA:3056:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2700:C:H5'	34:AA:2958:G:H21	1.83	0.43
34:AA:30:G:C6	34:AA:55:G:C6	3.07	0.43
1:A:1968:A:C4	1:A:1969:A:C8	3.07	0.43
34:AA:888:A:C8	34:AA:890:G:H1'	2.53	0.43
35:AC:44:A:H2'	35:AC:45:A:C8	2.54	0.43
34:AA:1696:A:H2'	34:AA:1697:A:C8	2.54	0.43
34:AA:1699:G:C5	34:AA:1700:U:C5	3.07	0.43
34:AA:999:G:C4	34:AA:1001:A:C6	3.07	0.43
1:A:107:A:C4	1:A:108:A:C8	3.07	0.43
34:AA:983:G:C6	34:AA:1012:U:C5	3.07	0.43
34:AA:423:U:H2'	34:AA:424:U:C6	2.54	0.43
34:AA:583:U:H5''	34:AA:583:U:H6	1.84	0.43
34:AA:3165:U:H2'	34:AA:3166:U:C6	2.53	0.42
34:AA:48:A:C4	34:AA:50:U:C4	3.07	0.42
34:AA:1212:U:H2'	34:AA:1213:U:C6	2.54	0.42
1:A:1386:U:C4	1:A:1667:A:C5	3.07	0.42
34:AA:3443:A:H2'	34:AA:3444:G:H5'	2.01	0.42
34:AA:977:A:C6	34:AA:978:G:C6	3.06	0.42
34:AA:2400:A:C5	34:AA:2401:C:C5	3.08	0.42
34:AA:2021:A:C2	34:AA:2022:A:C4	3.07	0.42
34:AA:714:C:C2	34:AA:724:A:H1'	2.53	0.42
34:AA:1331:A:H2'	34:AA:1332:A:C8	2.54	0.42
1:A:887:A:C2	1:A:916:G:C2	3.06	0.42
34:AA:3262:A:C2	34:AA:3263:G:H1'	2.55	0.42
34:AA:332:A:H2'	34:AA:333:A:C8	2.54	0.42
70:AE:11:HIS:CD2	70:AE:232:VAL:HA	2.54	0.42
1:A:1304:A:C6	1:A:1852:A:C6	3.07	0.42
43:AN:76:LEU:H	43:AN:76:LEU:HD12	1.85	0.42
34:AA:1431:A:C4	34:AA:1432:A:C2	3.08	0.42
74:AH:40:HIS:CE1	74:AH:41:LEU:HB2	2.54	0.42
34:AA:1103:A:C6	34:AA:1231:A:C2	3.07	0.42
1:A:1271:G:C2	1:A:1272:A:C8	3.07	0.42
1:A:1401:G:H2'	1:A:1402:A:C8	2.54	0.42
34:AA:1120:A:C2	34:AA:1121:G:C4	3.07	0.42
34:AA:2932:A:H4'	34:AA:2933:C:O5'	2.19	0.42
1:A:632:C:H2'	1:A:633:U:C6	2.54	0.42
34:AA:302:A:H2'	34:AA:303:A:C8	2.54	0.42
34:AA:1598:A:C2	34:AA:2649:A:C4	3.07	0.42
34:AA:3578:A:C2	34:AA:3579:A:C4	3.08	0.42
34:AA:1683:A:C2	34:AA:1684:A:C4	3.08	0.42
34:AA:2573:A:C6	34:AA:2575:U:C4	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:382:A:C2	34:AA:384:A:C4	3.08	0.42
34:AA:3717:A:H2'	34:AA:3718:G:C8	2.54	0.42
34:AA:2801:C:H2'	34:AA:2802:U:C6	2.55	0.42
1:A:318:A:C4	1:A:320:C:C5	3.08	0.42
2:7:6:A:N6	2:7:65:A:H61	2.17	0.42
34:AA:2021:A:H2'	34:AA:2022:A:C8	2.55	0.42
34:AA:3333:U:H2'	34:AA:3334:U:C6	2.54	0.42
34:AA:695:A:C5	34:AA:696:C:C4	3.08	0.42
34:AA:229:A:C5	34:AA:232:C:C4	3.07	0.42
34:AA:3776:U:H2'	34:AA:3777:G:C8	2.54	0.42
34:AA:2004:U:O4	34:AA:2005:A:C6	2.72	0.42
34:AA:685:U:HO2'	34:AA:686:U:H6	1.63	0.42
34:AA:26:A:H2'	34:AA:27:U:C6	2.55	0.42
34:AA:742:U:H2'	34:AA:743:A:C8	2.55	0.42
34:AA:2571:C:C5	34:AA:2598:G:C6	3.08	0.42
1:A:1379:G:C5	1:A:1380:C:C4	3.08	0.42
1:A:643:A:C2	1:A:929:U:C2	3.08	0.42
34:AA:706:U:H2'	34:AA:707:U:C6	2.55	0.42
34:AA:718:U:H2'	34:AA:719:C:C6	2.54	0.42
34:AA:607:A:H2'	34:AA:608:A:C8	2.55	0.42
1:A:970:G:C6	1:A:971:G:C6	3.08	0.42
34:AA:302:A:C2	34:AA:303:A:C4	3.08	0.42
34:AA:1781:A:C6	34:AA:1782:U:C5	3.08	0.42
34:AA:3635:G:H1	34:AA:3650:U:H3	1.68	0.42
1:A:116:A:C6	1:A:249:A:C6	3.08	0.42
4:E:90:GLU:CD	4:E:90:GLU:H	2.23	0.42
34:AA:1423:G:H5'	73:AU:93:ARG:NH2	2.34	0.42
1:A:1046:A:C2	1:A:1047:A:H1'	2.55	0.42
1:A:1189:A:C5	1:A:1190:U:H1'	2.54	0.42
1:A:806:A:C6	1:A:807:A:C5	3.08	0.42
34:AA:658:U:C4	34:AA:659:U:C4	3.08	0.42
34:AA:949:A:C2	34:AA:984:A:C5	3.07	0.42
1:A:379:G:C6	1:A:380:U:C4	3.07	0.42
34:AA:84:U:C4	34:AA:85:A:C5	3.08	0.42
34:AA:1219:A:C6	34:AA:1220:U:C4	3.08	0.42
34:AA:69:U:H2'	34:AA:70:A:O4'	2.20	0.42
34:AA:659:U:H2'	34:AA:660:U:C6	2.54	0.42
1:A:1846:U:C5	32:X:39:ALA:HB3	2.54	0.42
34:AA:280:U:H2'	34:AA:281:G:C8	2.54	0.42
34:AA:207:A:C2	34:AA:209:G:C5	3.07	0.42
34:AA:3200:G:C5	34:AA:3203:C:C4	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1301:U:H2'	34:AA:1308:A:C8	2.55	0.42
1:A:2058:A:C4	1:A:2086:A:C2	3.08	0.42
34:AA:1053:U:H2'	34:AA:1053:U:O2	2.20	0.42
34:AA:995:A:C5	34:AA:996:C:C5	3.08	0.42
1:A:2072:G:C6	1:A:2073:A:C6	3.07	0.41
34:AA:733:C:H2'	34:AA:734:A:C8	2.55	0.41
1:A:2082:A:H2'	1:A:2083:A:C8	2.55	0.41
34:AA:1813:A:C4	34:AA:2018:G:C5	3.08	0.41
17:4:44:LEU:HD12	17:4:45:PHE:H	1.85	0.41
1:A:34:G:H3'	1:A:35:U:H5"	2.01	0.41
34:AA:219:A:C5	34:AA:237:A:C2	3.08	0.41
34:AA:2613:A:C6	34:AA:2614:A:C4	3.08	0.41
34:AA:2621:U:H2'	34:AA:2622:C:C6	2.55	0.41
1:A:1703:U:H1'	28:S:137:HIS:CE1	2.55	0.41
34:AA:703:U:H2'	34:AA:704:U:C6	2.54	0.41
34:AA:1203:A:C5	34:AA:1204:A:C5	3.07	0.41
1:A:2034:U:C4	1:A:2035:U:C4	3.08	0.41
34:AA:374:A:C5	34:AA:375:A:C5	3.08	0.41
34:AA:1285:U:C4	34:AA:1286:A:C5	3.08	0.41
1:A:638:G:C5	1:A:639:U:C5	3.08	0.41
34:AA:3638:A:H61	34:AA:3647:C:H42	1.66	0.41
34:AA:2712:A:H2'	34:AA:2713:C:C6	2.55	0.41
34:AA:418:A:C2	34:AA:419:A:C4	3.08	0.41
34:AA:1683:A:C2	34:AA:1684:A:C5	3.08	0.41
2:7:70:A:C2	2:7:71:C:C6	3.08	0.41
34:AA:934:G:C5	34:AA:1025:A:C6	3.09	0.41
34:AA:2601:C:C4	34:AA:2602:A:C5	3.08	0.41
1:A:1193:A:C5	1:A:1195:G:C8	3.08	0.41
34:AA:3248:C:C5	34:AA:3295:A:C4	3.07	0.41
34:AA:1170:A:N7	34:AA:1171:A:C5	2.88	0.41
1:A:1083:A:C5	1:A:1084:U:C5	3.09	0.41
34:AA:1302:G:C6	34:AA:1303:C:C4	3.08	0.41
34:AA:3316:G:C5	34:AA:3317:A:C8	3.08	0.41
1:A:1054:G:C6	1:A:1055:G:C4	3.07	0.41
34:AA:60:A:C8	34:AA:335:A:C6	3.08	0.41
34:AA:2593:G:C5	34:AA:2594:U:C5	3.08	0.41
34:AA:1540:G:C8	34:AA:1565:G:C2	3.09	0.41
34:AA:795:G:C5	34:AA:796:C:C4	3.08	0.41
1:A:1188:A:C2	1:A:1189:A:C4	3.09	0.41
34:AA:702:U:O4	34:AA:703:U:C2	2.74	0.41
35:AC:44:A:C2	35:AC:45:A:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2014:C:C2	34:AA:2017:U:C5	3.08	0.41
38:A1:13:ILE:HG22	38:A1:15:ASN:H	1.85	0.41
34:AA:2083:U:H2'	34:AA:2084:U:C6	2.56	0.41
34:AA:700:A:C5	34:AA:701:C:C5	3.08	0.41
34:AA:2491:A:C8	34:AA:2563:A:H1'	2.56	0.41
34:AA:2131:A:N7	34:AA:2132:A:C5	2.89	0.41
34:AA:63:A:C6	34:AA:64:G:C6	3.08	0.41
34:AA:350:A:C6	34:AA:376:G:C4	3.09	0.41
34:AA:3471:A:C4	34:AA:3472:A:C8	3.09	0.41
34:AA:3399:U:H2'	34:AA:3400:C:C6	2.56	0.41
1:A:608:A:C5	1:A:609:U:C5	3.09	0.41
34:AA:643:G:N7	34:AA:644:G:C6	2.89	0.41
1:A:10:G:C2	1:A:11:A:C4	3.08	0.41
34:AA:110:G:C2	34:AA:111:C:H1'	2.56	0.41
34:AA:113:C:C2	34:AA:114:A:C8	3.08	0.41
34:AA:221:A:C6	34:AA:222:G:C4	3.09	0.41
36:AB:82:G:H2'	36:AB:83:G:C8	2.55	0.41
34:AA:141:A:C2	34:AA:142:C:N3	2.89	0.41
1:A:1082:A:C4	1:A:1083:A:C8	3.09	0.41
1:A:1225:A:C6	1:A:1226:A:C6	3.08	0.41
34:AA:1060:G:C5	34:AA:1061:U:C5	3.09	0.41
34:AA:1015:A:C2	34:AA:1032:A:C2	3.09	0.41
1:A:1376:A:C2	1:A:1684:G:H1'	2.54	0.41
1:A:1101:G:C6	1:A:1102:C:C4	3.08	0.41
34:AA:3001:A:H2'	34:AA:3002:G:C8	2.56	0.41
34:AA:3763:G:C6	34:AA:3764:G:C5	3.09	0.41
1:A:857:A:H2'	1:A:858:U:C6	2.56	0.41
1:A:97:G:C6	1:A:98:G:C4	3.08	0.41
34:AA:2695:A:C2	34:AA:3230:G:C5	3.09	0.41
34:AA:1730:A:C5	34:AA:1733:G:C5	3.09	0.41
34:AA:2492:G:C6	34:AA:2493:U:C4	3.08	0.41
71:AF:211:TYR:O	71:AF:232:VAL:HG23	2.20	0.41
34:AA:3198:G:C6	34:AA:3199:C:C5	3.09	0.41
1:A:1957:A:H2'	1:A:1958:A:C8	2.56	0.41
34:AA:2516:A:C2	34:AA:2517:A:C4	3.09	0.41
34:AA:997:G:H1'	34:AA:999:G:H21	1.86	0.41
34:AA:3443:A:C5	34:AA:3471:A:C5	3.09	0.41
34:AA:331:A:C6	34:AA:332:A:C6	3.09	0.41
34:AA:26:A:C5	34:AA:338:U:C2	3.09	0.41
34:AA:1781:A:C5	34:AA:1782:U:C5	3.09	0.41
68:A5:232:HIS:CE1	68:A5:238:ARG:NH2	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1305:A:N6	1:A:1894:A:H62	2.18	0.41
34:AA:2460:A:H2'	34:AA:2461:A:C8	2.56	0.41
34:AA:1435:G:C5	34:AA:1436:A:C6	3.09	0.41
34:AA:1070:A:C4	34:AA:1518:A:C2	3.09	0.41
35:AC:148:C:H2'	35:AC:149:C:C6	2.56	0.41
34:AA:1740:A:H2'	34:AA:1741:G:C8	2.56	0.41
34:AA:1067:U:H2'	34:AA:1068:C:C6	2.56	0.41
1:A:1832:U:H1'	1:A:1833:G:C2	2.56	0.41
1:A:1837:G:C6	1:A:1838:G:C4	3.09	0.41
2:7:25:G:C6	2:7:26:C:C4	3.09	0.41
59:AS:156:GLY:HA3	60:AO:50:PRO:HG3	2.03	0.41
34:AA:2004:U:O4	34:AA:2005:A:C5	2.73	0.41
34:AA:345:G:C6	34:AA:347:C:C4	3.08	0.41
34:AA:1736:A:N7	34:AA:1737:A:C5	2.88	0.41
1:A:2072:G:C5	1:A:2073:A:C6	3.09	0.41
34:AA:2710:U:C4	34:AA:2945:G:C6	3.09	0.41
34:AA:352:A:C6	34:AA:353:G:C5	3.09	0.41
34:AA:2613:A:C6	34:AA:2614:A:C5	3.09	0.41
34:AA:3153:G:C5	34:AA:3154:U:C4	3.09	0.41
34:AA:200:A:C6	34:AA:201:G:C5	3.09	0.41
35:AC:8:G:C6	35:AC:9:U:C4	3.09	0.41
36:AB:88:A:C6	36:AB:89:G:C4	3.08	0.41
34:AA:163:G:C5	34:AA:269:A:C2	3.09	0.41
34:AA:2401:C:H1'	34:AA:3736:A:H8	1.86	0.40
34:AA:307:G:C6	34:AA:308:U:C4	3.09	0.40
34:AA:2563:A:C6	34:AA:2564:A:C6	3.09	0.40
34:AA:1535:G:C6	34:AA:1569:A:C6	3.09	0.40
34:AA:380:A:C6	34:AA:381:A:C5	3.10	0.40
35:AC:143:G:C5	35:AC:144:U:C5	3.09	0.40
1:A:1444:C:C5	1:A:1445:U:C5	3.10	0.40
1:A:1009:A:C6	1:A:1010:A:C5	3.10	0.40
34:AA:3444:G:C5	34:AA:3445:C:C5	3.09	0.40
31:V:10:GLU:H	31:V:10:GLU:CD	2.23	0.40
2:7:36:A:H2'	2:7:37:U:H5'	2.02	0.40
1:A:161:U:O4	1:A:162:A:C5	2.75	0.40
34:AA:261:A:H2'	34:AA:262:A:C8	2.57	0.40
34:AA:3316:G:C5	34:AA:3335:A:C2	3.09	0.40
34:AA:363:A:C2	34:AA:373:A:C4	3.09	0.40
34:AA:3701:A:C5	34:AA:3702:C:C5	3.10	0.40
1:A:1729:A:C2	1:A:1730:A:C4	3.09	0.40
1:A:865:G:H21	7:K:107:PRO:HG3	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:593:G:C6	1:A:594:C:C4	3.10	0.40
1:A:1043:A:C5	1:A:1044:C:C5	3.09	0.40
1:A:2073:A:C2	1:A:2074:A:C4	3.09	0.40
1:A:1008:A:H2'	1:A:1009:A:C8	2.55	0.40
1:A:1239:A:C6	1:A:1240:A:C5	3.10	0.40
34:AA:3697:G:C4	34:AA:3699:A:C5	3.10	0.40
60:AO:13:GLY:O	60:AO:14:HIS:CD2	2.74	0.40
34:AA:3778:G:C5	34:AA:3779:U:C4	3.10	0.40
36:AB:13:A:C8	36:AB:110:G:C5	3.10	0.40
34:AA:3762:A:C2	34:AA:3763:G:C4	3.10	0.40
1:A:98:G:C6	1:A:99:C:C4	3.09	0.40
34:AA:519:A:C2	34:AA:520:U:H1'	2.56	0.40
34:AA:906:G:H2'	34:AA:907:C:C6	2.57	0.40
1:A:1045:G:C6	1:A:1092:A:C4	3.09	0.40
34:AA:3455:A:C5	34:AA:3456:C:C5	3.09	0.40
34:AA:2981:A:H2'	34:AA:2982:A:C8	2.56	0.40
34:AA:3641:U:H3	34:AA:3644:G:H1	1.70	0.40
1:A:2068:A:H2'	1:A:2069:G:C8	2.57	0.40
34:AA:3479:U:H2'	34:AA:3480:C:C6	2.57	0.40
5:G:75:ILE:HD12	5:G:75:ILE:H	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	
3	D	149/209 (71%)	142 (95%)	7 (5%)	0	100	100
4	E	183/185 (99%)	171 (93%)	11 (6%)	1 (0%)	34	77
5	G	222/224 (99%)	204 (92%)	16 (7%)	2 (1%)	21	67
6	I	176/189 (93%)	165 (94%)	9 (5%)	2 (1%)	17	63

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	K	127/129 (98%)	113 (89%)	9 (7%)	5 (4%)	4	36
8	M	136/138 (99%)	125 (92%)	9 (7%)	2 (2%)	13	57
9	W	91/108 (84%)	82 (90%)	6 (7%)	3 (3%)	5	40
10	R	92/114 (81%)	80 (87%)	7 (8%)	5 (5%)	2	29
11	O	77/79 (98%)	69 (90%)	5 (6%)	3 (4%)	4	36
12	Y	152/154 (99%)	145 (95%)	4 (3%)	3 (2%)	9	51
13	Z	70/72 (97%)	64 (91%)	5 (7%)	1 (1%)	14	58
14	1	118/120 (98%)	112 (95%)	5 (4%)	1 (1%)	24	69
15	2	35/68 (52%)	33 (94%)	2 (6%)	0	100	100
16	3	93/95 (98%)	82 (88%)	10 (11%)	1 (1%)	17	63
17	4	74/76 (97%)	62 (84%)	8 (11%)	4 (5%)	2	29
18	5	54/65 (83%)	53 (98%)	1 (2%)	0	100	100
19	6	41/43 (95%)	33 (80%)	7 (17%)	1 (2%)	7	47
20	B	208/210 (99%)	189 (91%)	11 (5%)	8 (4%)	4	37
21	F	255/257 (99%)	232 (91%)	18 (7%)	5 (2%)	9	51
22	H	200/214 (94%)	187 (94%)	10 (5%)	3 (2%)	13	57
23	J	186/188 (99%)	169 (91%)	9 (5%)	8 (4%)	3	34
24	L	165/214 (77%)	146 (88%)	14 (8%)	5 (3%)	5	42
25	N	96/98 (98%)	90 (94%)	4 (4%)	2 (2%)	9	50
26	P	125/127 (98%)	109 (87%)	13 (10%)	3 (2%)	7	47
27	Q	142/144 (99%)	127 (89%)	13 (9%)	2 (1%)	14	58
28	S	126/128 (98%)	107 (85%)	12 (10%)	7 (6%)	2	28
29	T	46/48 (96%)	45 (98%)	1 (2%)	0	100	100
30	U	147/149 (99%)	141 (96%)	4 (3%)	2 (1%)	14	58
31	V	142/156 (91%)	128 (90%)	11 (8%)	3 (2%)	9	50
32	X	92/103 (89%)	78 (85%)	11 (12%)	3 (3%)	5	40
33	C	193/195 (99%)	171 (89%)	17 (9%)	5 (3%)	7	45
37	AL	209/211 (99%)	191 (91%)	14 (7%)	4 (2%)	10	52
38	A1	136/145 (94%)	125 (92%)	8 (6%)	3 (2%)	8	49
39	A2	96/118 (81%)	90 (94%)	4 (4%)	2 (2%)	9	50
40	A4	64/66 (97%)	60 (94%)	1 (2%)	3 (5%)	3	32

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
41	A6	96/98 (98%)	93 (97%)	3 (3%)	0	100	100
42	A7	92/102 (90%)	87 (95%)	5 (5%)	0	100	100
43	AN	144/146 (99%)	137 (95%)	5 (4%)	2 (1%)	14	58
44	A8	123/125 (98%)	102 (83%)	21 (17%)	0	100	100
45	A9	101/103 (98%)	92 (91%)	7 (7%)	2 (2%)	9	51
46	Aa	104/106 (98%)	96 (92%)	6 (6%)	2 (2%)	10	52
47	Ab	91/105 (87%)	85 (93%)	5 (6%)	1 (1%)	17	63
48	Ad	68/76 (90%)	65 (96%)	3 (4%)	0	100	100
49	Ae	39/50 (78%)	36 (92%)	3 (8%)	0	100	100
50	Af	49/51 (96%)	43 (88%)	6 (12%)	0	100	100
51	AP	202/204 (99%)	187 (93%)	7 (4%)	8 (4%)	4	35
52	Ah	83/85 (98%)	78 (94%)	4 (5%)	1 (1%)	16	61
53	Ai	93/95 (98%)	87 (94%)	4 (4%)	2 (2%)	8	49
54	AI	203/213 (95%)	183 (90%)	17 (8%)	3 (2%)	13	57
55	AJ	216/244 (88%)	202 (94%)	12 (6%)	2 (1%)	21	67
56	Ac	87/89 (98%)	76 (87%)	7 (8%)	4 (5%)	3	32
57	AK	199/201 (99%)	192 (96%)	5 (2%)	2 (1%)	19	65
58	AM	130/132 (98%)	123 (95%)	7 (5%)	0	100	100
59	AS	184/186 (99%)	168 (91%)	14 (8%)	2 (1%)	17	63
60	AO	145/147 (99%)	132 (91%)	12 (8%)	1 (1%)	26	71
61	AQ	185/205 (90%)	161 (87%)	19 (10%)	5 (3%)	6	45
62	AR	244/289 (84%)	224 (92%)	13 (5%)	7 (3%)	6	43
63	AW	149/170 (88%)	133 (89%)	10 (7%)	6 (4%)	4	35
64	AY	99/101 (98%)	95 (96%)	3 (3%)	1 (1%)	19	65
65	AT	179/181 (99%)	171 (96%)	5 (3%)	3 (2%)	11	55
66	AZ	119/121 (98%)	110 (92%)	7 (6%)	2 (2%)	11	55
67	A3	117/119 (98%)	107 (92%)	9 (8%)	1 (1%)	21	67
68	A5	221/223 (99%)	195 (88%)	21 (10%)	5 (2%)	8	48
69	AD	245/247 (99%)	223 (91%)	20 (8%)	2 (1%)	24	69
70	AE	378/380 (100%)	353 (93%)	21 (6%)	4 (1%)	17	63
71	AF	388/390 (100%)	356 (92%)	26 (7%)	6 (2%)	13	57

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
72	AG	116/159 (73%)	104 (90%)	11 (10%)	1 (1%)	21	67
73	AU	178/180 (99%)	169 (95%)	6 (3%)	3 (2%)	11	55
74	AH	183/185 (99%)	166 (91%)	14 (8%)	3 (2%)	12	56
75	AV	153/155 (99%)	141 (92%)	9 (6%)	3 (2%)	9	51
76	Ag	35/37 (95%)	30 (86%)	3 (9%)	2 (6%)	2	27
77	AX	95/97 (98%)	88 (93%)	5 (5%)	2 (2%)	9	50
78	A0	60/62 (97%)	59 (98%)	1 (2%)	0	100	100
All	All	10111/10698 (94%)	9269 (92%)	652 (6%)	190 (2%)	14	52

All (190) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	I	42	HIS
6	I	70	HIS
8	M	41	GLU
9	W	4	VAL
10	R	42	ILE
17	4	10	PRO
17	4	20	LYS
20	B	93	ASN
20	B	146	ARG
22	H	25	LEU
23	J	13	PRO
23	J	112	ILE
23	J	156	ASP
26	P	100	SER
27	Q	137	LYS
32	X	52	LYS
37	AL	169	PRO
45	A9	66	LYS
51	AP	51	LEU
51	AP	149	ILE
55	AJ	57	VAL
55	AJ	65	LEU
56	Ac	42	TYR
61	AQ	57	TYR
65	AT	129	ASN
68	A5	116	ARG
70	AE	196	LEU
73	AU	183	ARG

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Mol	Chain	Res	Type
76	Ag	7	ARG
4	E	167	ALA
5	G	41	TRP
7	K	57	ARG
7	K	120	HIS
7	K	121	THR
8	M	99	ASP
10	R	41	GLY
17	4	18	LYS
19	6	28	LYS
20	B	50	LYS
22	H	178	LEU
23	J	157	SER
23	J	165	ILE
24	L	119	THR
24	L	168	ILE
28	S	17	ILE
28	S	101	ILE
30	U	10	GLY
31	V	41	VAL
32	X	51	LYS
33	C	116	THR
37	AL	144	ASP
39	A2	95	GLN
40	A4	38	ASN
46	Aa	77	GLY
51	AP	72	LYS
51	AP	138	PRO
51	AP	150	ASN
51	AP	188	SER
53	Ai	85	LYS
54	AI	88	PRO
56	Ac	5	GLY
62	AR	114	ASN
62	AR	152	ILE
62	AR	229	ASN
63	AW	106	ASN
65	AT	15	LYS
71	AF	19	VAL
71	AF	95	MET
71	AF	313	LEU
72	AG	26	SER

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Mol	Chain	Res	Type
74	AH	43	ILE
74	AH	110	ARG
74	AH	166	CYS
75	AV	134	GLU
7	K	29	PRO
9	W	62	GLN
11	O	70	TYR
13	Z	76	LYS
17	4	47	HIS
20	B	49	THR
21	F	104	ASP
21	F	177	VAL
23	J	132	SER
26	P	39	ASP
28	S	13	HIS
28	S	24	GLY
28	S	34	ALA
28	S	120	ARG
30	U	141	TYR
32	X	121	ILE
33	C	27	LYS
37	AL	61	THR
38	A1	42	LEU
40	A4	8	THR
43	AN	87	CYS
47	Ab	10	ALA
51	AP	108	LYS
54	AI	19	VAL
56	Ac	48	ARG
60	AO	24	LYS
61	AQ	24	ARG
62	AR	59	GLN
62	AR	172	GLY
62	AR	233	ASP
63	AW	132	ALA
65	AT	4	THR
67	A3	37	LEU
68	A5	83	CYS
68	A5	172	ALA
71	AF	68	GLY
71	AF	346	SER
5	G	121	GLY

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Mol	Chain	Res	Type
9	W	69	ILE
12	Y	142	LYS
14	1	11	LYS
21	F	176	GLN
23	J	106	LYS
24	L	29	LEU
24	L	86	SER
25	N	52	PRO
26	P	57	THR
28	S	40	LYS
31	V	56	TYR
33	C	29	LEU
33	C	30	GLU
37	AL	129	LYS
38	A1	30	GLU
39	A2	17	ASN
40	A4	36	ASP
46	Aa	52	GLN
51	AP	183	ALA
53	Ai	95	ASP
61	AQ	13	LYS
61	AQ	47	SER
62	AR	183	PRO
63	AW	37	ARG
63	AW	61	ARG
66	AZ	84	VAL
70	AE	12	GLY
70	AE	239	THR
71	AF	268	HIS
73	AU	167	GLN
75	AV	13	ARG
77	AX	78	LYS
7	K	58	SER
10	R	36	ASP
10	R	37	GLY
11	O	35	GLU
20	B	98	THR
20	B	150	THR
21	F	195	ILE
22	H	105	ASP
23	J	58	LYS
25	N	67	SER

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Mol	Chain	Res	Type
27	Q	143	PRO
33	C	143	VAL
45	A9	47	LEU
54	AI	49	LYS
57	AK	72	LEU
61	AQ	60	ILE
63	AW	9	ARG
63	AW	20	VAL
68	A5	168	VAL
69	AD	199	VAL
75	AV	56	ASN
10	R	127	ALA
12	Y	21	PRO
12	Y	49	ASN
16	3	46	ASP
20	B	209	ASN
31	V	9	HIS
38	A1	37	PRO
56	Ac	40	CYS
57	AK	88	PRO
59	AS	130	PRO
64	AY	89	ARG
66	AZ	70	VAL
70	AE	107	ALA
73	AU	134	ARG
76	Ag	9	LYS
59	AS	82	VAL
69	AD	127	VAL
77	AX	68	ILE
11	O	41	PRO
20	B	190	PRO
21	F	189	VAL
43	AN	46	VAL
24	L	202	GLY
52	Ah	52	VAL
68	A5	100	GLY

5.3.2 Protein sidechains ⓘ

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	
3	D	132/177 (75%)	128 (97%)	4 (3%)	48	77
4	E	161/164 (98%)	156 (97%)	5 (3%)	47	77
5	G	191/191 (100%)	185 (97%)	6 (3%)	47	77
6	I	154/160 (96%)	151 (98%)	3 (2%)	65	86
7	K	115/115 (100%)	113 (98%)	2 (2%)	68	87
8	M	116/116 (100%)	115 (99%)	1 (1%)	84	93
9	W	86/99 (87%)	83 (96%)	3 (4%)	43	74
10	R	83/97 (86%)	81 (98%)	2 (2%)	57	82
11	O	76/76 (100%)	71 (93%)	5 (7%)	21	57
12	Y	137/137 (100%)	132 (96%)	5 (4%)	42	74
13	Z	60/60 (100%)	59 (98%)	1 (2%)	68	87
14	1	104/104 (100%)	100 (96%)	4 (4%)	40	73
15	2	35/61 (57%)	34 (97%)	1 (3%)	50	78
16	3	87/87 (100%)	83 (95%)	4 (5%)	33	68
17	4	70/70 (100%)	69 (99%)	1 (1%)	74	89
18	5	47/52 (90%)	46 (98%)	1 (2%)	61	84
19	6	36/36 (100%)	35 (97%)	1 (3%)	51	78
20	B	195/195 (100%)	191 (98%)	4 (2%)	61	84
21	F	233/233 (100%)	223 (96%)	10 (4%)	35	70
22	H	182/190 (96%)	173 (95%)	9 (5%)	31	66
23	J	177/177 (100%)	171 (97%)	6 (3%)	44	75
24	L	151/190 (80%)	144 (95%)	7 (5%)	33	68
25	N	91/91 (100%)	89 (98%)	2 (2%)	60	83
26	P	99/99 (100%)	97 (98%)	2 (2%)	63	85
27	Q	120/120 (100%)	119 (99%)	1 (1%)	86	94
28	S	114/114 (100%)	109 (96%)	5 (4%)	35	69
29	T	43/43 (100%)	40 (93%)	3 (7%)	19	56
30	U	132/132 (100%)	129 (98%)	3 (2%)	58	82
31	V	131/140 (94%)	128 (98%)	3 (2%)	58	82
32	X	88/94 (94%)	88 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
33	C	167/167 (100%)	161 (96%)	6 (4%)	42	74
37	AL	190/190 (100%)	188 (99%)	2 (1%)	80	91
38	A1	127/131 (97%)	124 (98%)	3 (2%)	57	82
39	A2	97/109 (89%)	96 (99%)	1 (1%)	82	92
40	A4	60/60 (100%)	57 (95%)	3 (5%)	30	66
41	A6	83/83 (100%)	76 (92%)	7 (8%)	14	48
42	A7	90/96 (94%)	87 (97%)	3 (3%)	45	76
43	AN	135/135 (100%)	130 (96%)	5 (4%)	41	73
44	A8	114/114 (100%)	108 (95%)	6 (5%)	28	64
45	A9	90/90 (100%)	86 (96%)	4 (4%)	35	69
46	Aa	89/89 (100%)	85 (96%)	4 (4%)	34	69
47	Ab	82/92 (89%)	81 (99%)	1 (1%)	78	90
48	Ad	69/73 (94%)	68 (99%)	1 (1%)	74	89
49	Ae	40/47 (85%)	38 (95%)	2 (5%)	30	66
50	Af	45/45 (100%)	45 (100%)	0	100	100
51	AP	179/179 (100%)	175 (98%)	4 (2%)	60	83
52	Ah	70/70 (100%)	70 (100%)	0	100	100
53	Ai	87/87 (100%)	87 (100%)	0	100	100
54	AI	189/195 (97%)	183 (97%)	6 (3%)	46	76
55	AJ	204/224 (91%)	200 (98%)	4 (2%)	63	85
56	Ac	74/74 (100%)	68 (92%)	6 (8%)	15	49
57	AK	181/181 (100%)	178 (98%)	3 (2%)	68	87
58	AM	106/106 (100%)	104 (98%)	2 (2%)	65	86
59	AS	158/158 (100%)	151 (96%)	7 (4%)	35	69
60	AO	121/121 (100%)	119 (98%)	2 (2%)	68	87
61	AQ	165/176 (94%)	160 (97%)	5 (3%)	48	77
62	AR	215/250 (86%)	208 (97%)	7 (3%)	45	76
63	AW	128/128 (100%)	126 (98%)	2 (2%)	70	88
64	AY	90/90 (100%)	88 (98%)	2 (2%)	60	83
65	AT	162/162 (100%)	161 (99%)	1 (1%)	90	95
66	AZ	111/111 (100%)	111 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
67	A3	110/110 (100%)	108 (98%)	2 (2%)	66	87
68	A5	201/201 (100%)	196 (98%)	5 (2%)	55	81
69	AD	191/191 (100%)	185 (97%)	6 (3%)	47	77
70	AE	335/335 (100%)	329 (98%)	6 (2%)	66	87
71	AF	336/336 (100%)	327 (97%)	9 (3%)	52	79
72	AG	110/142 (78%)	106 (96%)	4 (4%)	42	74
73	AU	162/162 (100%)	158 (98%)	4 (2%)	55	81
74	AH	168/168 (100%)	164 (98%)	4 (2%)	57	82
75	AV	140/140 (100%)	137 (98%)	3 (2%)	61	84
76	Ag	34/34 (100%)	33 (97%)	1 (3%)	50	78
77	AX	92/92 (100%)	91 (99%)	1 (1%)	80	91
78	A0	53/53 (100%)	52 (98%)	1 (2%)	65	86
All	All	9096/9417 (97%)	8847 (97%)	249 (3%)	56	79

All (249) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	76	ARG
3	D	107	ARG
3	D	158	LEU
3	D	190	MET
4	E	36	LEU
4	E	53	ARG
4	E	69	ARG
4	E	121	SER
4	E	181	LYS
5	G	41	TRP
5	G	168	MET
5	G	179	ILE
5	G	182	VAL
5	G	234	TYR
5	G	242	TRP
6	I	16	TYR
6	I	89	GLU
6	I	118	ARG
7	K	46	TYR
7	K	112	ASP
8	M	116	SER

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Mol	Chain	Res	Type
9	W	18	GLU
9	W	45	ARG
9	W	101	ASP
10	R	43	ARG
10	R	61	ASP
11	O	17	GLN
11	O	18	ASN
11	O	26	LEU
11	O	42	ARG
11	O	68	GLU
12	Y	27	ASN
12	Y	64	LYS
12	Y	72	ASN
12	Y	105	LYS
12	Y	160	ARG
13	Z	81	GLN
14	1	20	ARG
14	1	94	ARG
14	1	113	LYS
14	1	118	LYS
15	2	99	LYS
16	3	2	PRO
16	3	38	ARG
16	3	39	PHE
16	3	85	ARG
17	4	77	PHE
18	5	29	PHE
19	6	17	GLN
20	B	31	ASP
20	B	49	THR
20	B	124	HIS
20	B	209	ASN
21	F	5	ILE
21	F	18	TRP
21	F	42	ILE
21	F	88	ASP
21	F	93	THR
21	F	108	ARG
21	F	132	ARG
21	F	142	HIS
21	F	174	LYS
21	F	224	ASN

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Mol	Chain	Res	Type
22	H	14	LYS
22	H	25	LEU
22	H	51	ARG
22	H	68	LEU
22	H	136	LYS
22	H	140	LYS
22	H	147	LEU
22	H	158	ILE
22	H	159	ILE
23	J	44	LEU
23	J	51	GLU
23	J	111	LYS
23	J	142	SER
23	J	166	GLU
23	J	183	ASP
24	L	26	LYS
24	L	37	LYS
24	L	41	ARG
24	L	92	ARG
24	L	119	THR
24	L	176	PHE
24	L	201	GLU
25	N	31	ILE
25	N	43	LYS
26	P	34	PHE
26	P	41	PHE
27	Q	103	LEU
28	S	29	ILE
28	S	36	LYS
28	S	86	LEU
28	S	94	GLU
28	S	110	ARG
29	T	35	ASN
29	T	39	GLN
29	T	54	ARG
30	U	3	ARG
30	U	47	PRO
30	U	78	GLN
31	V	6	ASP
31	V	70	ARG
31	V	130	GLN
33	C	22	VAL

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Mol	Chain	Res	Type
33	C	58	GLN
33	C	121	LEU
33	C	135	GLU
33	C	172	LEU
33	C	204	ARG
37	AL	160	ILE
37	AL	193	LYS
38	A1	86	GLN
38	A1	105	LYS
38	A1	121	LYS
39	A2	94	GLN
40	A4	5	LYS
40	A4	25	LYS
40	A4	30	MET
41	A6	14	ASN
41	A6	19	LEU
41	A6	28	PHE
41	A6	44	LEU
41	A6	62	TYR
41	A6	65	LEU
41	A6	89	ARG
42	A7	52	MET
42	A7	74	ASN
42	A7	95	GLU
43	AN	56	VAL
43	AN	79	GLU
43	AN	80	ARG
43	AN	82	LYS
43	AN	133	PHE
44	A8	4	LYS
44	A8	21	GLN
44	A8	33	ARG
44	A8	34	LYS
44	A8	61	LYS
44	A8	77	LYS
45	A9	54	ARG
45	A9	130	ARG
45	A9	134	LEU
45	A9	136	TYR
46	Aa	6	HIS
46	Aa	11	ASN
46	Aa	32	ILE

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Mol	Chain	Res	Type
46	Aa	66	ARG
47	Ab	106	ARG
48	Ad	47	LYS
49	Ae	17	ARG
49	Ae	30	LYS
51	AP	56	ILE
51	AP	85	LYS
51	AP	161	GLU
51	AP	162	LEU
54	AI	10	HIS
54	AI	42	LYS
54	AI	63	LEU
54	AI	88	PRO
54	AI	115	GLU
54	AI	149	LEU
55	AJ	55	ILE
55	AJ	60	ARG
55	AJ	120	SER
55	AJ	172	ASN
56	Ac	20	PHE
56	Ac	48	ARG
56	Ac	49	ARG
56	Ac	55	LYS
56	Ac	76	LYS
56	Ac	90	LYS
57	AK	38	GLU
57	AK	116	LYS
57	AK	134	TYR
58	AM	29	ASP
58	AM	49	ASN
59	AS	26	LEU
59	AS	58	TYR
59	AS	74	HIS
59	AS	96	GLN
59	AS	133	LYS
59	AS	177	ARG
59	AS	187	LYS
60	AO	32	ARG
60	AO	63	LEU
61	AQ	35	ASP
61	AQ	59	GLN
61	AQ	125	VAL

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Mol	Chain	Res	Type
61	AQ	126	VAL
61	AQ	193	ASP
62	AR	21	ARG
62	AR	23	ARG
62	AR	39	GLN
62	AR	56	THR
62	AR	70	GLU
62	AR	77	GLU
62	AR	249	ASN
63	AW	94	ILE
63	AW	97	ASN
64	AY	96	ILE
64	AY	133	MET
65	AT	162	ARG
67	A3	78	LYS
67	A3	111	GLN
68	A5	59	ARG
68	A5	149	THR
68	A5	169	ARG
68	A5	170	ARG
68	A5	195	GLU
69	AD	12	ARG
69	AD	118	HIS
69	AD	163	ARG
69	AD	207	VAL
69	AD	221	HIS
69	AD	242	ARG
70	AE	71	GLU
70	AE	140	THR
70	AE	214	VAL
70	AE	269	TYR
70	AE	353	LEU
70	AE	361	LYS
71	AF	77	PRO
71	AF	86	ARG
71	AF	101	MET
71	AF	122	TYR
71	AF	140	ARG
71	AF	190	ARG
71	AF	313	LEU
71	AF	344	ARG
71	AF	366	LYS

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Mol	Chain	Res	Type
72	AG	35	ARG
72	AG	134	SER
72	AG	141	ARG
72	AG	166	LYS
73	AU	90	TYR
73	AU	107	THR
73	AU	157	ARG
73	AU	166	LEU
74	AH	46	ARG
74	AH	57	VAL
74	AH	140	LYS
74	AH	159	LEU
75	AV	83	HIS
75	AV	97	VAL
75	AV	104	GLU
76	Ag	19	TRP
77	AX	44	LEU
78	A0	37	PHE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (39) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	102	GLN
4	E	133	HIS
4	E	155	HIS
7	K	56	HIS
7	K	113	HIS
10	R	52	GLN
12	Y	44	HIS
17	4	58	ASN
20	B	124	HIS
21	F	112	HIS
26	P	32	HIS
30	U	105	ASN
33	C	23	HIS
37	AL	4	HIS
38	A1	79	HIS
39	A2	53	ASN
40	A4	27	HIS
42	A7	29	HIS
43	AN	130	GLN
44	A8	98	HIS

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Mol	Chain	Res	Type
45	A9	53	GLN
52	Ah	34	HIS
53	Ai	26	GLN
60	AO	19	HIS
60	AO	40	HIS
60	AO	60	HIS
60	AO	62	ASN
60	AO	118	HIS
60	AO	119	ASN
63	AW	25	HIS
63	AW	145	HIS
68	A5	51	ASN
68	A5	232	HIS
69	AD	118	HIS
69	AD	216	HIS
71	AF	286	ASN
73	AU	97	HIS
73	AU	162	HIS
77	AX	114	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1588/1608 (98%)	476 (29%)	86 (5%)
2	7	73/74 (98%)	23 (31%)	3 (4%)
34	AA	3167/3193 (99%)	966 (30%)	190 (5%)
35	AC	148/151 (98%)	51 (34%)	6 (4%)
36	AB	117/118 (99%)	28 (23%)	4 (3%)
All	All	5093/5144 (99%)	1544 (30%)	289 (5%)

All (1544) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	17	C
1	A	25	C
1	A	26	A
1	A	27	U
1	A	34	G
1	A	35	U
1	A	40	A
1	A	42	G

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Mol	Chain	Res	Type
1	A	43	A
1	A	47	A
1	A	50	C
1	A	52	U
1	A	57	G
1	A	59	G
1	A	60	A
1	A	67	A
1	A	68	U
1	A	71	A
1	A	79	U
1	A	81	U
1	A	82	G
1	A	84	A
1	A	106	A
1	A	113	U
1	A	116	A
1	A	125	G
1	A	128	A
1	A	129	U
1	A	130	U
1	A	138	U
1	A	139	A
1	A	140	A
1	A	142	G
1	A	143	A
1	A	144	U
1	A	151	G
1	A	157	G
1	A	158	C
1	A	159	U
1	A	161	U
1	A	164	C
1	A	165	U
1	A	168	U
1	A	182	U
1	A	183	C
1	A	206	A
1	A	207	G
1	A	208	U
1	A	209	A
1	A	217	G

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Mol	Chain	Res	Type
1	A	247	G
1	A	249	A
1	A	251	U
1	A	252	U
1	A	254	U
1	A	255	A
1	A	258	A
1	A	260	A
1	A	262	A
1	A	264	G
1	A	266	A
1	A	267	A
1	A	268	C
1	A	272	U
1	A	273	A
1	A	274	A
1	A	292	G
1	A	305	G
1	A	308	U
1	A	320	C
1	A	322	G
1	A	323	C
1	A	326	U
1	A	330	U
1	A	335	G
1	A	339	A
1	A	342	G
1	A	343	G
1	A	344	C
1	A	345	C
1	A	349	C
1	A	358	G
1	A	361	G
1	A	365	A
1	A	367	C
1	A	375	U
1	A	378	A
1	A	379	G
1	A	384	A
1	A	385	U
1	A	396	G
1	A	399	C

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Mol	Chain	Res	Type
1	A	405	A
1	A	406	A
1	A	407	A
1	A	408	U
1	A	409	A
1	A	410	G
1	A	422	A
1	A	423	A
1	A	424	G
1	A	430	C
1	A	431	A
1	A	432	G
1	A	434	A
1	A	440	G
1	A	441	U
1	A	445	U
1	A	446	U
1	A	450	C
1	A	451	A
1	A	454	U
1	A	458	A
1	A	459	A
1	A	466	A
1	A	467	G
1	A	470	A
1	A	475	C
1	A	483	A
1	A	488	U
1	A	508	U
1	A	509	U
1	A	515	U
1	A	516	G
1	A	521	G
1	A	526	G
1	A	527	A
1	A	543	A
1	A	545	A
1	A	546	G
1	A	547	U
1	A	548	A
1	A	549	A
1	A	562	A

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Mol	Chain	Res	Type
1	A	564	G
1	A	565	U
1	A	566	C
1	A	568	G
1	A	575	G
1	A	584	G
1	A	587	A
1	A	590	C
1	A	601	A
1	A	602	G
1	A	613	A
1	A	614	A
1	A	616	U
1	A	617	G
1	A	618	U
1	A	620	G
1	A	626	A
1	A	627	A
1	A	629	A
1	A	630	C
1	A	631	G
1	A	641	G
1	A	642	A
1	A	646	U
1	A	648	A
1	A	752	U
1	A	753	U
1	A	756	A
1	A	760	C
1	A	790	U
1	A	791	U
1	A	792	U
1	A	793	G
1	A	794	U
1	A	800	U
1	A	801	G
1	A	804	U
1	A	805	A
1	A	806	A
1	A	815	G
1	A	816	U
1	A	824	A

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Mol	Chain	Res	Type
1	A	828	A
1	A	832	A
1	A	833	A
1	A	837	A
1	A	844	G
1	A	845	U
1	A	846	G
1	A	849	U
1	A	851	A
1	A	852	A
1	A	853	U
1	A	857	A
1	A	858	U
1	A	866	A
1	A	867	A
1	A	869	A
1	A	870	A
1	A	875	A
1	A	876	U
1	A	877	U
1	A	879	A
1	A	881	C
1	A	882	A
1	A	887	A
1	A	888	A
1	A	896	U
1	A	908	U
1	A	915	G
1	A	917	C
1	A	920	A
1	A	921	G
1	A	922	U
1	A	924	A
1	A	925	C
1	A	927	A
1	A	928	U
1	A	929	U
1	A	930	A
1	A	931	A
1	A	941	C
1	A	942	U
1	A	945	G

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Mol	Chain	Res	Type
1	A	962	A
1	A	965	U
1	A	966	C
1	A	967	A
1	A	973	G
1	A	974	A
1	A	982	A
1	A	983	G
1	A	984	A
1	A	990	U
1	A	999	A
1	A	1002	A
1	A	1003	C
1	A	1004	U
1	A	1011	G
1	A	1013	A
1	A	1021	A
1	A	1029	U
1	A	1035	A
1	A	1038	C
1	A	1051	U
1	A	1054	G
1	A	1057	A
1	A	1061	A
1	A	1062	A
1	A	1065	C
1	A	1072	A
1	A	1073	U
1	A	1074	A
1	A	1082	A
1	A	1089	A
1	A	1090	C
1	A	1092	A
1	A	1093	U
1	A	1094	A
1	A	1095	A
1	A	1097	C
1	A	1098	U
1	A	1099	A
1	A	1100	U
1	A	1101	G
1	A	1107	U

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Mol	Chain	Res	Type
1	A	1108	A
1	A	1109	G
1	A	1112	G
1	A	1116	G
1	A	1119	G
1	A	1175	G
1	A	1177	A
1	A	1183	U
1	A	1193	A
1	A	1195	G
1	A	1197	C
1	A	1198	U
1	A	1199	U
1	A	1209	G
1	A	1210	G
1	A	1212	C
1	A	1227	G
1	A	1230	A
1	A	1239	A
1	A	1247	G
1	A	1251	G
1	A	1252	A
1	A	1255	G
1	A	1259	C
1	A	1260	C
1	A	1261	A
1	A	1265	G
1	A	1268	G
1	A	1271	G
1	A	1274	C
1	A	1279	G
1	A	1284	A
1	A	1285	A
1	A	1286	U
1	A	1287	U
1	A	1292	U
1	A	1295	A
1	A	1296	C
1	A	1297	A
1	A	1301	G
1	A	1302	G
1	A	1303	A

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Mol	Chain	Res	Type
1	A	1304	A
1	A	1307	U
1	A	1308	C
1	A	1315	U
1	A	1318	A
1	A	1319	G
1	A	1321	C
1	A	1363	U
1	A	1366	A
1	A	1367	U
1	A	1374	G
1	A	1375	C
1	A	1382	G
1	A	1383	U
1	A	1384	U
1	A	1385	U
1	A	1386	U
1	A	1387	U
1	A	1388	A
1	A	1401	G
1	A	1409	U
1	A	1414	A
1	A	1415	A
1	A	1416	U
1	A	1417	U
1	A	1422	U
1	A	1423	A
1	A	1427	A
1	A	1431	A
1	A	1432	G
1	A	1433	A
1	A	1437	U
1	A	1443	G
1	A	1444	C
1	A	1445	U
1	A	1449	U
1	A	1450	A
1	A	1451	G
1	A	1453	G
1	A	1454	G
1	A	1456	G
1	A	1459	U

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Mol	Chain	Res	Type
1	A	1462	A
1	A	1463	C
1	A	1464	U
1	A	1607	U
1	A	1623	U
1	A	1624	U
1	A	1625	C
1	A	1626	U
1	A	1635	C
1	A	1636	A
1	A	1644	U
1	A	1645	C
1	A	1646	U
1	A	1648	A
1	A	1649	C
1	A	1656	A
1	A	1659	U
1	A	1660	U
1	A	1661	U
1	A	1664	G
1	A	1668	A
1	A	1673	A
1	A	1674	G
1	A	1677	C
1	A	1678	U
1	A	1679	G
1	A	1691	G
1	A	1692	A
1	A	1693	U
1	A	1703	U
1	A	1705	C
1	A	1706	A
1	A	1715	A
1	A	1716	C
1	A	1717	A
1	A	1718	C
1	A	1719	U
1	A	1720	G
1	A	1721	A
1	A	1723	A
1	A	1727	A
1	A	1728	U

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Mol	Chain	Res	Type
1	A	1732	G
1	A	1735	U
1	A	1742	A
1	A	1749	C
1	A	1750	U
1	A	1787	U
1	A	1790	C
1	A	1792	U
1	A	1795	G
1	A	1796	C
1	A	1801	A
1	A	1802	G
1	A	1806	U
1	A	1810	U
1	A	1812	A
1	A	1813	U
1	A	1817	U
1	A	1818	A
1	A	1819	U
1	A	1820	C
1	A	1824	A
1	A	1825	U
1	A	1830	C
1	A	1833	G
1	A	1834	A
1	A	1835	U
1	A	1837	G
1	A	1846	U
1	A	1850	G
1	A	1854	U
1	A	1856	A
1	A	1861	U
1	A	1866	A
1	A	1868	C
1	A	1870	A
1	A	1871	G
1	A	1881	G
1	A	1882	U
1	A	1887	A
1	A	1892	U
1	A	1897	A
1	A	1898	G

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Mol	Chain	Res	Type
1	A	1902	G
1	A	1904	G
1	A	1907	A
1	A	1908	A
1	A	1911	A
1	A	1912	C
1	A	1913	G
1	A	1915	C
1	A	1916	C
1	A	1927	U
1	A	1928	A
1	A	1929	C
1	A	1930	A
1	A	1932	A
1	A	1938	C
1	A	1944	U
1	A	1954	U
1	A	1955	G
1	A	1961	U
1	A	1977	G
1	A	1978	A
1	A	1979	C
1	A	1980	A
1	A	1981	A
1	A	1982	G
1	A	1983	A
1	A	2012	G
1	A	2016	A
1	A	2019	C
1	A	2020	G
1	A	2021	U
1	A	2028	U
1	A	2034	U
1	A	2042	A
1	A	2048	A
1	A	2049	G
1	A	2054	A
1	A	2058	A
1	A	2061	U
1	A	2072	G
1	A	2075	C
1	A	2084	G

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Mol	Chain	Res	Type
1	A	2085	G
1	A	2086	A
1	A	2087	U
1	A	2088	C
1	A	2089	A
1	A	2090	U
2	7	8	U
2	7	13	C
2	7	16	U
2	7	17	U
2	7	18	G
2	7	19	G
2	7	20	U
2	7	21	U
2	7	32	U
2	7	33	C
2	7	34	U
2	7	41	C
2	7	43	C
2	7	46	G
2	7	50	G
2	7	53	A
2	7	55	U
2	7	56	U
2	7	69	U
2	7	70	A
2	7	72	C
2	7	73	C
2	7	74	A
34	AA	11	A
34	AA	12	U
34	AA	13	G
34	AA	14	U
34	AA	16	A
34	AA	18	G
34	AA	25	A
34	AA	26	A
34	AA	30	G
34	AA	32	C
34	AA	40	A
34	AA	43	A
34	AA	44	U

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Mol	Chain	Res	Type
34	AA	45	A
34	AA	49	U
34	AA	55	G
34	AA	57	A
34	AA	59	G
34	AA	60	A
34	AA	62	A
34	AA	63	A
34	AA	66	A
34	AA	73	U
34	AA	75	U
34	AA	83	U
34	AA	85	A
34	AA	87	U
34	AA	92	G
34	AA	105	G
34	AA	109	A
34	AA	110	G
34	AA	111	C
34	AA	113	C
34	AA	121	U
34	AA	122	A
34	AA	124	U
34	AA	125	C
34	AA	130	G
34	AA	133	U
34	AA	134	G
34	AA	135	G
34	AA	136	U
34	AA	137	G
34	AA	144	U
34	AA	145	U
34	AA	147	C
34	AA	148	G
34	AA	149	A
34	AA	152	G
34	AA	157	G
34	AA	163	G
34	AA	165	A
34	AA	167	U
34	AA	168	A
34	AA	172	C

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Mol	Chain	Res	Type
34	AA	173	A
34	AA	174	U
34	AA	175	G
34	AA	180	C
34	AA	182	U
34	AA	183	U
34	AA	185	A
34	AA	186	A
34	AA	189	U
34	AA	190	G
34	AA	191	A
34	AA	192	G
34	AA	195	A
34	AA	197	G
34	AA	198	U
34	AA	199	G
34	AA	200	A
34	AA	201	G
34	AA	207	A
34	AA	208	U
34	AA	211	U
34	AA	215	C
34	AA	216	C
34	AA	219	A
34	AA	220	G
34	AA	221	A
34	AA	226	G
34	AA	227	A
34	AA	228	A
34	AA	229	A
34	AA	231	G
34	AA	235	A
34	AA	239	U
34	AA	242	U
34	AA	246	U
34	AA	247	A
34	AA	250	U
34	AA	258	U
34	AA	263	U
34	AA	265	U
34	AA	268	C
34	AA	269	A

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Mol	Chain	Res	Type
34	AA	271	G
34	AA	276	G
34	AA	290	G
34	AA	292	U
34	AA	293	U
34	AA	302	A
34	AA	303	A
34	AA	304	U
34	AA	305	A
34	AA	307	G
34	AA	308	U
34	AA	309	G
34	AA	310	U
34	AA	313	U
34	AA	315	C
34	AA	317	U
34	AA	319	U
34	AA	324	U
34	AA	325	A
34	AA	333	A
34	AA	336	U
34	AA	337	A
34	AA	338	U
34	AA	342	G
34	AA	344	A
34	AA	345	G
34	AA	347	C
34	AA	351	U
34	AA	354	C
34	AA	359	A
34	AA	360	A
34	AA	362	U
34	AA	378	U
34	AA	382	A
34	AA	384	A
34	AA	385	G
34	AA	386	U
34	AA	392	G
34	AA	396	U
34	AA	400	C
34	AA	401	A
34	AA	402	A

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Mol	Chain	Res	Type
34	AA	405	A
34	AA	408	U
34	AA	409	A
34	AA	411	U
34	AA	412	A
34	AA	413	C
34	AA	431	G
34	AA	432	A
34	AA	433	A
34	AA	439	U
34	AA	442	G
34	AA	444	G
34	AA	447	A
34	AA	448	A
34	AA	449	A
34	AA	450	A
34	AA	451	C
34	AA	458	A
34	AA	459	G
34	AA	462	G
34	AA	463	G
34	AA	467	U
34	AA	489	U
34	AA	494	U
34	AA	495	U
34	AA	497	U
34	AA	498	U
34	AA	499	U
34	AA	500	A
34	AA	501	U
34	AA	502	U
34	AA	503	A
34	AA	504	A
34	AA	505	A
34	AA	506	A
34	AA	509	A
34	AA	510	A
34	AA	514	C
34	AA	521	U
34	AA	522	A
34	AA	523	A
34	AA	527	A

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Mol	Chain	Res	Type
34	AA	530	U
34	AA	532	C
34	AA	534	A
34	AA	536	A
34	AA	538	A
34	AA	539	G
34	AA	542	A
34	AA	543	U
34	AA	545	C
34	AA	547	C
34	AA	549	G
34	AA	573	U
34	AA	579	C
34	AA	580	A
34	AA	581	C
34	AA	582	U
34	AA	583	U
34	AA	585	C
34	AA	586	U
34	AA	592	C
34	AA	594	C
34	AA	595	U
34	AA	598	U
34	AA	599	G
34	AA	601	G
34	AA	604	G
34	AA	605	A
34	AA	608	A
34	AA	610	U
34	AA	615	U
34	AA	617	A
34	AA	618	U
34	AA	620	U
34	AA	621	C
34	AA	622	U
34	AA	623	U
34	AA	628	U
34	AA	631	U
34	AA	636	U
34	AA	637	U
34	AA	641	G
34	AA	642	A

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Mol	Chain	Res	Type
34	AA	645	A
34	AA	646	A
34	AA	648	U
34	AA	649	U
34	AA	650	U
34	AA	651	A
34	AA	653	A
34	AA	659	U
34	AA	662	A
34	AA	666	U
34	AA	671	U
34	AA	672	C
34	AA	674	U
34	AA	675	A
34	AA	677	A
34	AA	678	A
34	AA	679	U
34	AA	681	U
34	AA	682	A
34	AA	683	A
34	AA	684	G
34	AA	685	U
34	AA	694	U
34	AA	697	A
34	AA	698	G
34	AA	699	U
34	AA	704	U
34	AA	707	U
34	AA	708	A
34	AA	714	C
34	AA	715	U
34	AA	716	C
34	AA	722	G
34	AA	727	A
34	AA	729	G
34	AA	738	A
34	AA	755	A
34	AA	760	A
34	AA	761	U
34	AA	763	U
34	AA	765	A
34	AA	767	U

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Mol	Chain	Res	Type
34	AA	769	U
34	AA	771	U
34	AA	773	A
34	AA	774	A
34	AA	778	U
34	AA	779	U
34	AA	793	A
34	AA	794	C
34	AA	806	G
34	AA	809	A
34	AA	810	U
34	AA	811	A
34	AA	812	U
34	AA	813	G
34	AA	822	A
34	AA	825	G
34	AA	833	G
34	AA	834	U
34	AA	835	G
34	AA	859	C
34	AA	860	A
34	AA	862	U
34	AA	873	U
34	AA	874	A
34	AA	880	A
34	AA	885	A
34	AA	889	U
34	AA	890	G
34	AA	893	U
34	AA	896	U
34	AA	899	A
34	AA	900	G
34	AA	903	C
34	AA	905	A
34	AA	918	G
34	AA	920	A
34	AA	925	A
34	AA	927	A
34	AA	934	G
34	AA	936	A
34	AA	937	C
34	AA	945	G

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Mol	Chain	Res	Type
34	AA	946	A
34	AA	951	A
34	AA	955	A
34	AA	956	A
34	AA	965	A
34	AA	966	A
34	AA	968	G
34	AA	970	C
34	AA	976	G
34	AA	980	A
34	AA	984	A
34	AA	988	G
34	AA	989	A
34	AA	993	U
34	AA	998	U
34	AA	999	G
34	AA	1013	U
34	AA	1014	C
34	AA	1015	A
34	AA	1016	A
34	AA	1024	U
34	AA	1026	G
34	AA	1027	G
34	AA	1033	A
34	AA	1034	A
34	AA	1035	G
34	AA	1036	A
34	AA	1040	A
34	AA	1042	C
34	AA	1043	G
34	AA	1053	U
34	AA	1056	G
34	AA	1062	U
34	AA	1063	A
34	AA	1070	A
34	AA	1072	A
34	AA	1073	G
34	AA	1078	C
34	AA	1079	U
34	AA	1081	A
34	AA	1086	C
34	AA	1087	G

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Mol	Chain	Res	Type
34	AA	1092	A
34	AA	1099	U
34	AA	1100	A
34	AA	1101	A
34	AA	1102	U
34	AA	1106	A
34	AA	1109	U
34	AA	1111	A
34	AA	1113	C
34	AA	1114	A
34	AA	1115	G
34	AA	1116	G
34	AA	1121	G
34	AA	1122	A
34	AA	1123	U
34	AA	1124	A
34	AA	1132	G
34	AA	1136	A
34	AA	1158	G
34	AA	1164	U
34	AA	1168	C
34	AA	1169	A
34	AA	1170	A
34	AA	1172	C
34	AA	1174	C
34	AA	1186	A
34	AA	1187	A
34	AA	1188	A
34	AA	1193	G
34	AA	1194	A
34	AA	1196	A
34	AA	1197	U
34	AA	1198	A
34	AA	1199	A
34	AA	1200	C
34	AA	1202	C
34	AA	1205	U
34	AA	1206	U
34	AA	1207	U
34	AA	1210	A
34	AA	1215	A
34	AA	1217	U

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Mol	Chain	Res	Type
34	AA	1218	C
34	AA	1219	A
34	AA	1221	A
34	AA	1222	U
34	AA	1223	U
34	AA	1224	A
34	AA	1225	A
34	AA	1226	A
34	AA	1229	A
34	AA	1230	A
34	AA	1231	A
34	AA	1232	U
34	AA	1233	A
34	AA	1234	A
34	AA	1239	A
34	AA	1240	A
34	AA	1245	G
34	AA	1257	A
34	AA	1259	G
34	AA	1263	A
34	AA	1272	U
34	AA	1273	G
34	AA	1279	U
34	AA	1281	C
34	AA	1283	C
34	AA	1287	A
34	AA	1288	C
34	AA	1291	U
34	AA	1295	A
34	AA	1299	G
34	AA	1300	G
34	AA	1306	A
34	AA	1309	U
34	AA	1310	A
34	AA	1313	C
34	AA	1314	G
34	AA	1320	G
34	AA	1321	A
34	AA	1324	U
34	AA	1325	C
34	AA	1329	U
34	AA	1334	G

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Mol	Chain	Res	Type
34	AA	1337	G
34	AA	1340	G
34	AA	1341	G
34	AA	1344	C
34	AA	1345	A
34	AA	1346	U
34	AA	1416	U
34	AA	1418	A
34	AA	1420	C
34	AA	1423	G
34	AA	1431	A
34	AA	1432	A
34	AA	1433	U
34	AA	1435	G
34	AA	1436	A
34	AA	1437	U
34	AA	1441	G
34	AA	1444	A
34	AA	1445	A
34	AA	1450	G
34	AA	1451	A
34	AA	1453	U
34	AA	1458	A
34	AA	1460	A
34	AA	1473	A
34	AA	1476	A
34	AA	1480	G
34	AA	1481	A
34	AA	1486	A
34	AA	1498	U
34	AA	1499	U
34	AA	1503	A
34	AA	1504	A
34	AA	1506	C
34	AA	1524	U
34	AA	1535	G
34	AA	1537	G
34	AA	1539	U
34	AA	1540	G
34	AA	1549	U
34	AA	1550	A
34	AA	1556	G

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Mol	Chain	Res	Type
34	AA	1565	G
34	AA	1567	A
34	AA	1572	U
34	AA	1575	C
34	AA	1578	G
34	AA	1583	G
34	AA	1586	C
34	AA	1592	G
34	AA	1595	A
34	AA	1599	G
34	AA	1601	A
34	AA	1602	A
34	AA	1605	A
34	AA	1619	U
34	AA	1626	A
34	AA	1630	A
34	AA	1631	A
34	AA	1635	G
34	AA	1636	A
34	AA	1637	G
34	AA	1642	G
34	AA	1643	U
34	AA	1649	G
34	AA	1651	C
34	AA	1657	U
34	AA	1659	A
34	AA	1661	U
34	AA	1668	G
34	AA	1676	C
34	AA	1677	G
34	AA	1685	G
34	AA	1688	A
34	AA	1691	G
34	AA	1693	U
34	AA	1703	U
34	AA	1704	U
34	AA	1705	A
34	AA	1706	A
34	AA	1707	A
34	AA	1721	C
34	AA	1725	U
34	AA	1730	A

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Mol	Chain	Res	Type
34	AA	1732	A
34	AA	1733	G
34	AA	1736	A
34	AA	1737	A
34	AA	1739	C
34	AA	1748	A
34	AA	1750	U
34	AA	1751	C
34	AA	1756	G
34	AA	1762	A
34	AA	1763	G
34	AA	1766	U
34	AA	1767	U
34	AA	1768	A
34	AA	1769	U
34	AA	1770	G
34	AA	1771	A
34	AA	1774	U
34	AA	1780	G
34	AA	1781	A
34	AA	1782	U
34	AA	1783	G
34	AA	1788	C
34	AA	1794	U
34	AA	1797	A
34	AA	1798	A
34	AA	1799	A
34	AA	1800	U
34	AA	1801	G
34	AA	1805	U
34	AA	1806	C
34	AA	1812	C
34	AA	1817	G
34	AA	1832	U
34	AA	1842	U
34	AA	1850	U
34	AA	1852	C
34	AA	1855	U
34	AA	1856	U
34	AA	1857	A
34	AA	1871	A
34	AA	1872	A

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Mol	Chain	Res	Type
34	AA	1874	C
34	AA	1881	C
34	AA	1882	U
34	AA	1886	A
34	AA	1887	G
34	AA	1888	A
34	AA	1898	U
34	AA	1899	U
34	AA	1900	G
34	AA	1902	A
34	AA	1903	C
34	AA	1904	U
34	AA	1905	C
34	AA	1914	A
34	AA	1915	A
34	AA	1963	U
34	AA	1964	G
34	AA	1965	U
34	AA	1966	A
34	AA	1969	A
34	AA	1970	A
34	AA	1971	U
34	AA	1976	A
34	AA	1978	U
34	AA	1981	U
34	AA	1990	A
34	AA	1991	U
34	AA	1996	C
34	AA	1997	G
34	AA	1998	A
34	AA	1999	A
34	AA	2000	G
34	AA	2003	G
34	AA	2010	C
34	AA	2018	G
34	AA	2019	A
34	AA	2030	G
34	AA	2034	G
34	AA	2072	U
34	AA	2082	C
34	AA	2084	U
34	AA	2090	U

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Mol	Chain	Res	Type
34	AA	2092	G
34	AA	2093	U
34	AA	2096	G
34	AA	2097	A
34	AA	2102	A
34	AA	2106	A
34	AA	2107	C
34	AA	2108	A
34	AA	2109	A
34	AA	2113	C
34	AA	2114	A
34	AA	2115	U
34	AA	2125	A
34	AA	2136	C
34	AA	2145	A
34	AA	2146	A
34	AA	2147	A
34	AA	2148	U
34	AA	2149	A
34	AA	2154	A
34	AA	2160	G
34	AA	2161	G
34	AA	2174	G
34	AA	2181	A
34	AA	2186	C
34	AA	2203	G
34	AA	2218	C
34	AA	2219	A
34	AA	2220	U
34	AA	2389	G
34	AA	2394	C
34	AA	2395	U
34	AA	2400	A
34	AA	2403	G
34	AA	2404	A
34	AA	2405	A
34	AA	2410	A
34	AA	2415	G
34	AA	2419	A
34	AA	2424	A
34	AA	2427	G
34	AA	2433	U

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Mol	Chain	Res	Type
34	AA	2437	A
34	AA	2438	A
34	AA	2451	A
34	AA	2453	A
34	AA	2463	U
34	AA	2464	G
34	AA	2465	G
34	AA	2477	U
34	AA	2486	U
34	AA	2489	C
34	AA	2500	A
34	AA	2501	A
34	AA	2510	U
34	AA	2516	A
34	AA	2518	U
34	AA	2521	A
34	AA	2524	C
34	AA	2536	A
34	AA	2537	A
34	AA	2539	G
34	AA	2542	G
34	AA	2544	G
34	AA	2545	A
34	AA	2548	A
34	AA	2549	A
34	AA	2550	C
34	AA	2552	A
34	AA	2555	A
34	AA	2556	C
34	AA	2565	G
34	AA	2566	G
34	AA	2573	A
34	AA	2574	A
34	AA	2575	U
34	AA	2581	G
34	AA	2584	A
34	AA	2589	A
34	AA	2591	U
34	AA	2596	A
34	AA	2600	G
34	AA	2602	A
34	AA	2603	U

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Mol	Chain	Res	Type
34	AA	2606	A
34	AA	2608	G
34	AA	2618	G
34	AA	2627	U
34	AA	2628	G
34	AA	2629	U
34	AA	2640	U
34	AA	2666	A
34	AA	2667	C
34	AA	2668	G
34	AA	2671	C
34	AA	2676	C
34	AA	2681	U
34	AA	2684	G
34	AA	2686	G
34	AA	2690	A
34	AA	2695	A
34	AA	2696	G
34	AA	2697	A
34	AA	2698	C
34	AA	2703	U
34	AA	2704	U
34	AA	2705	G
34	AA	2710	U
34	AA	2711	U
34	AA	2712	A
34	AA	2727	U
34	AA	2728	G
34	AA	2730	G
34	AA	2745	G
34	AA	2803	A
34	AA	2809	A
34	AA	2810	A
34	AA	2811	A
34	AA	2817	U
34	AA	2822	U
34	AA	2823	U
34	AA	2824	A
34	AA	2833	U
34	AA	2835	G
34	AA	2837	G
34	AA	2884	G

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Mol	Chain	Res	Type
34	AA	2886	A
34	AA	2887	U
34	AA	2888	U
34	AA	2920	A
34	AA	2928	G
34	AA	2932	A
34	AA	2933	C
34	AA	2945	G
34	AA	2946	G
34	AA	2953	G
34	AA	2959	G
34	AA	2960	G
34	AA	2967	A
34	AA	2968	U
34	AA	2975	A
34	AA	2980	U
34	AA	2981	A
34	AA	2987	G
34	AA	2990	G
34	AA	2991	U
34	AA	2995	A
34	AA	2996	A
34	AA	3005	C
34	AA	3013	A
34	AA	3015	A
34	AA	3016	G
34	AA	3017	A
34	AA	3018	A
34	AA	3019	A
34	AA	3020	U
34	AA	3028	A
34	AA	3029	G
34	AA	3030	A
34	AA	3033	A
34	AA	3034	A
34	AA	3035	A
34	AA	3044	A
34	AA	3053	G
34	AA	3059	U
34	AA	3068	A
34	AA	3076	G
34	AA	3079	A

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Mol	Chain	Res	Type
34	AA	3081	C
34	AA	3086	A
34	AA	3088	G
34	AA	3091	U
34	AA	3092	G
34	AA	3094	C
34	AA	3100	G
34	AA	3108	A
34	AA	3111	U
34	AA	3112	U
34	AA	3113	U
34	AA	3116	A
34	AA	3118	A
34	AA	3123	C
34	AA	3124	G
34	AA	3126	A
34	AA	3127	A
34	AA	3130	U
34	AA	3131	A
34	AA	3135	A
34	AA	3138	A
34	AA	3139	C
34	AA	3140	U
34	AA	3141	G
34	AA	3146	U
34	AA	3155	G
34	AA	3158	U
34	AA	3159	G
34	AA	3160	A
34	AA	3161	A
34	AA	3167	A
34	AA	3168	C
34	AA	3169	C
34	AA	3173	G
34	AA	3175	G
34	AA	3176	A
34	AA	3180	C
34	AA	3187	G
34	AA	3193	G
34	AA	3201	C
34	AA	3204	C
34	AA	3208	C

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Mol	Chain	Res	Type
34	AA	3209	G
34	AA	3212	G
34	AA	3220	U
34	AA	3222	G
34	AA	3225	C
34	AA	3230	G
34	AA	3231	A
34	AA	3232	U
34	AA	3235	C
34	AA	3245	U
34	AA	3246	A
34	AA	3248	C
34	AA	3253	G
34	AA	3257	G
34	AA	3258	C
34	AA	3269	A
34	AA	3277	G
34	AA	3282	U
34	AA	3287	C
34	AA	3292	A
34	AA	3294	U
34	AA	3295	A
34	AA	3297	G
34	AA	3301	C
34	AA	3302	G
34	AA	3304	G
34	AA	3305	A
34	AA	3306	G
34	AA	3330	A
34	AA	3336	G
34	AA	3337	U
34	AA	3342	C
34	AA	3343	C
34	AA	3349	G
34	AA	3351	U
34	AA	3353	A
34	AA	3356	U
34	AA	3357	U
34	AA	3358	U
34	AA	3359	A
34	AA	3361	U
34	AA	3362	A

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Mol	Chain	Res	Type
34	AA	3374	U
34	AA	3375	A
34	AA	3378	C
34	AA	3379	A
34	AA	3380	U
34	AA	3381	A
34	AA	3382	U
34	AA	3383	A
34	AA	3389	G
34	AA	3391	G
34	AA	3398	A
34	AA	3414	G
34	AA	3415	A
34	AA	3416	G
34	AA	3418	A
34	AA	3421	A
34	AA	3432	A
34	AA	3434	A
34	AA	3435	A
34	AA	3442	C
34	AA	3443	A
34	AA	3444	G
34	AA	3445	C
34	AA	3459	A
34	AA	3463	G
34	AA	3464	U
34	AA	3468	G
34	AA	3471	A
34	AA	3472	A
34	AA	3476	A
34	AA	3477	A
34	AA	3483	U
34	AA	3488	U
34	AA	3493	G
34	AA	3500	G
34	AA	3507	A
34	AA	3510	C
34	AA	3513	G
34	AA	3515	A
34	AA	3516	A
34	AA	3526	U
34	AA	3527	U

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Mol	Chain	Res	Type
34	AA	3528	A
34	AA	3530	A
34	AA	3568	G
34	AA	3571	A
34	AA	3573	U
34	AA	3575	U
34	AA	3576	A
34	AA	3578	A
34	AA	3580	G
34	AA	3581	A
34	AA	3582	G
34	AA	3585	A
34	AA	3586	U
34	AA	3588	A
34	AA	3589	U
34	AA	3590	A
34	AA	3591	U
34	AA	3594	G
34	AA	3597	C
34	AA	3612	U
34	AA	3615	A
34	AA	3616	U
34	AA	3617	A
34	AA	3618	A
34	AA	3623	A
34	AA	3624	U
34	AA	3626	A
34	AA	3627	C
34	AA	3632	U
34	AA	3635	G
34	AA	3658	G
34	AA	3659	C
34	AA	3663	A
34	AA	3664	G
34	AA	3665	U
34	AA	3667	C
34	AA	3668	U
34	AA	3670	U
34	AA	3671	A
34	AA	3676	C
34	AA	3677	A
34	AA	3680	A

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Mol	Chain	Res	Type
34	AA	3683	G
34	AA	3684	A
34	AA	3689	C
34	AA	3697	G
34	AA	3698	U
34	AA	3707	U
34	AA	3711	U
34	AA	3712	G
34	AA	3716	C
34	AA	3727	A
34	AA	3728	A
34	AA	3732	U
34	AA	3733	G
34	AA	3736	A
34	AA	3737	G
34	AA	3739	A
34	AA	3740	A
34	AA	3741	A
34	AA	3752	C
34	AA	3761	G
34	AA	3767	U
34	AA	3768	A
34	AA	3770	C
34	AA	3774	A
34	AA	3775	G
34	AA	3778	G
34	AA	3779	U
34	AA	3782	A
34	AA	3783	G
35	AC	5	A
35	AC	25	C
35	AC	36	C
35	AC	37	A
35	AC	38	G
35	AC	39	C
35	AC	43	G
35	AC	44	A
35	AC	50	G
35	AC	53	G
35	AC	55	A
35	AC	56	A
35	AC	63	A

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Mol	Chain	Res	Type
35	AC	64	U
35	AC	66	C
35	AC	67	G
35	AC	73	A
35	AC	75	A
35	AC	78	U
35	AC	79	G
35	AC	80	C
35	AC	82	G
35	AC	85	A
35	AC	90	G
35	AC	91	A
35	AC	92	A
35	AC	94	C
35	AC	98	A
35	AC	99	G
35	AC	107	A
35	AC	108	A
35	AC	109	U
35	AC	111	U
35	AC	112	A
35	AC	114	A
35	AC	115	C
35	AC	116	U
35	AC	117	A
35	AC	119	A
35	AC	122	A
35	AC	123	A
35	AC	135	G
35	AC	136	A
35	AC	137	A
35	AC	138	U
35	AC	139	A
35	AC	140	G
35	AC	142	G
35	AC	145	A
35	AC	146	C
35	AC	156	A
36	AB	3	A
36	AB	7	G
36	AB	13	A
36	AB	16	A

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Mol	Chain	Res	Type
36	AB	18	A
36	AB	22	G
36	AB	25	A
36	AB	26	C
36	AB	27	A
36	AB	33	U
36	AB	38	U
36	AB	39	C
36	AB	40	A
36	AB	48	G
36	AB	51	G
36	AB	53	U
36	AB	54	A
36	AB	63	A
36	AB	64	A
36	AB	69	U
36	AB	71	G
36	AB	74	A
36	AB	76	U
36	AB	89	G
36	AB	93	G
36	AB	97	G
36	AB	100	A
36	AB	110	G

All (289) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	25	C
1	A	39	A
1	A	45	U
1	A	105	A
1	A	116	A
1	A	138	U
1	A	139	A
1	A	156	A
1	A	157	G
1	A	161	U
1	A	206	A
1	A	246	A
1	A	248	G
1	A	250	A

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Mol	Chain	Res	Type
1	A	251	U
1	A	273	A
1	A	291	A
1	A	383	G
1	A	386	U
1	A	423	A
1	A	474	A
1	A	525	G
1	A	544	G
1	A	586	A
1	A	589	U
1	A	614	A
1	A	752	U
1	A	753	U
1	A	789	U
1	A	790	U
1	A	793	G
1	A	805	A
1	A	815	G
1	A	844	G
1	A	876	U
1	A	919	U
1	A	930	A
1	A	973	G
1	A	975	A
1	A	981	U
1	A	983	G
1	A	1028	U
1	A	1071	G
1	A	1073	U
1	A	1099	A
1	A	1100	U
1	A	1182	A
1	A	1209	G
1	A	1259	C
1	A	1283	U
1	A	1284	A
1	A	1295	A
1	A	1381	C
1	A	1386	U
1	A	1400	U
1	A	1413	U

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Mol	Chain	Res	Type
1	A	1414	A
1	A	1421	A
1	A	1423	A
1	A	1430	G
1	A	1431	A
1	A	1448	U
1	A	1455	C
1	A	1623	U
1	A	1624	U
1	A	1645	C
1	A	1660	U
1	A	1673	A
1	A	1692	A
1	A	1703	U
1	A	1705	C
1	A	1786	U
1	A	1817	U
1	A	1818	A
1	A	1819	U
1	A	1834	A
1	A	1865	G
1	A	1870	A
1	A	1897	A
1	A	1898	G
1	A	1912	C
1	A	1976	G
1	A	1977	G
1	A	2048	A
1	A	2053	U
1	A	2071	U
2	7	32	U
2	7	33	C
2	7	56	U
34	AA	10	G
34	AA	11	A
34	AA	13	G
34	AA	21	G
34	AA	25	A
34	AA	40	A
34	AA	43	A
34	AA	61	A
34	AA	62	A

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Mol	Chain	Res	Type
34	AA	65	A
34	AA	124	U
34	AA	149	A
34	AA	162	U
34	AA	179	G
34	AA	181	C
34	AA	206	A
34	AA	215	C
34	AA	257	U
34	AA	270	U
34	AA	289	A
34	AA	337	A
34	AA	344	A
34	AA	353	G
34	AA	358	C
34	AA	385	G
34	AA	411	U
34	AA	416	G
34	AA	432	A
34	AA	500	A
34	AA	501	U
34	AA	504	A
34	AA	505	A
34	AA	579	C
34	AA	580	A
34	AA	581	C
34	AA	583	U
34	AA	593	A
34	AA	594	C
34	AA	597	A
34	AA	607	A
34	AA	608	A
34	AA	620	U
34	AA	621	C
34	AA	641	G
34	AA	645	A
34	AA	652	A
34	AA	666	U
34	AA	667	U
34	AA	673	U
34	AA	674	U
34	AA	681	U

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Mol	Chain	Res	Type
34	AA	683	A
34	AA	697	A
34	AA	698	G
34	AA	702	U
34	AA	703	U
34	AA	715	U
34	AA	721	U
34	AA	754	A
34	AA	764	G
34	AA	809	A
34	AA	821	C
34	AA	859	C
34	AA	888	A
34	AA	889	U
34	AA	935	A
34	AA	965	A
34	AA	998	U
34	AA	1013	U
34	AA	1032	A
34	AA	1035	G
34	AA	1042	C
34	AA	1078	C
34	AA	1080	C
34	AA	1101	A
34	AA	1115	G
34	AA	1197	U
34	AA	1204	A
34	AA	1205	U
34	AA	1206	U
34	AA	1217	U
34	AA	1222	U
34	AA	1224	A
34	AA	1230	A
34	AA	1234	A
34	AA	1272	U
34	AA	1336	U
34	AA	1422	A
34	AA	1431	A
34	AA	1435	G
34	AA	1457	G
34	AA	1459	U
34	AA	1503	A

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Mol	Chain	Res	Type
34	AA	1504	A
34	AA	1538	U
34	AA	1566	A
34	AA	1574	C
34	AA	1632	G
34	AA	1642	G
34	AA	1643	U
34	AA	1658	G
34	AA	1705	A
34	AA	1736	A
34	AA	1748	A
34	AA	1750	U
34	AA	1779	A
34	AA	1794	U
34	AA	1805	U
34	AA	1841	U
34	AA	1873	U
34	AA	1881	C
34	AA	1898	U
34	AA	1913	A
34	AA	1964	G
34	AA	1980	G
34	AA	1989	A
34	AA	1990	A
34	AA	1996	C
34	AA	1999	A
34	AA	2015	C
34	AA	2033	C
34	AA	2096	G
34	AA	2109	A
34	AA	2146	A
34	AA	2153	A
34	AA	2180	U
34	AA	2193	U
34	AA	2219	A
34	AA	2394	C
34	AA	2437	A
34	AA	2523	U
34	AA	2590	U
34	AA	2618	G
34	AA	2665	A
34	AA	2696	G

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Mol	Chain	Res	Type
34	AA	2697	A
34	AA	2727	U
34	AA	2816	U
34	AA	2822	U
34	AA	2832	A
34	AA	2883	U
34	AA	2885	A
34	AA	2886	A
34	AA	2919	A
34	AA	2932	A
34	AA	2958	G
34	AA	2959	G
34	AA	3016	G
34	AA	3018	A
34	AA	3034	A
34	AA	3067	G
34	AA	3111	U
34	AA	3130	U
34	AA	3137	U
34	AA	3139	C
34	AA	3140	U
34	AA	3160	A
34	AA	3167	A
34	AA	3229	C
34	AA	3230	G
34	AA	3232	U
34	AA	3245	U
34	AA	3309	G
34	AA	3361	U
34	AA	3379	A
34	AA	3381	A
34	AA	3382	U
34	AA	3391	G
34	AA	3414	G
34	AA	3434	A
34	AA	3476	A
34	AA	3505	U
34	AA	3526	U
34	AA	3575	U
34	AA	3577	A
34	AA	3585	A
34	AA	3588	A

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Mol	Chain	Res	Type
34	AA	3590	A
34	AA	3627	C
34	AA	3658	G
34	AA	3662	U
34	AA	3664	G
34	AA	3667	C
34	AA	3698	U
34	AA	3711	U
34	AA	3727	A
34	AA	3736	A
34	AA	3767	U
34	AA	3769	U
34	AA	3782	A
35	AC	35	A
35	AC	37	A
35	AC	75	A
35	AC	134	G
35	AC	139	A
35	AC	145	A
36	AB	13	A
36	AB	39	C
36	AB	84	U
36	AB	88	A

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.