



Full wwPDB EM Validation Report ⓘ

Jun 18, 2026 – 07:45 am BST

PDB ID : 7OW7 / pdb_00007ow7
EMDB ID : EMD-13094
Title : EIF6-bound large subunit of the human ribosome
Authors : Faille, A.; Warren, A.J.
Deposited on : 2021-06-16
Resolution : 2.40 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev132
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

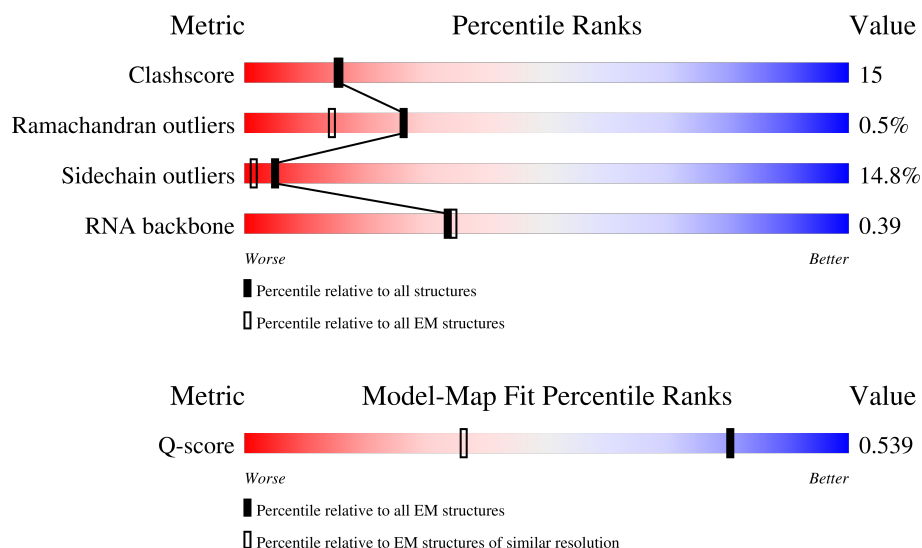
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.40 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.



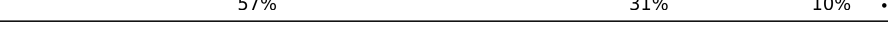
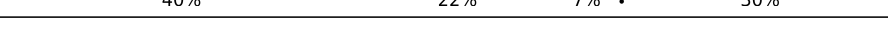
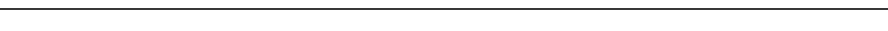
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	5628 (1.90 - 2.90)

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

Mol	Chain	Length	Quality of chain
1	A	5070	
2	B	121	
3	C	157	

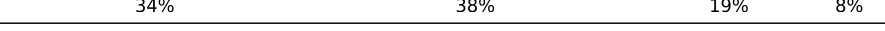
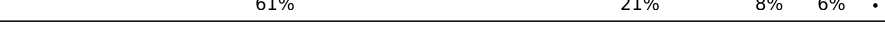
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Mol	Chain	Length	Quality of chain
4	D	257	
5	E	430	
6	F	427	
7	G	297	
8	H	288	
9	m	248	
10	n	266	
11	o	190	
12	p	214	
13	q	178	
14	r	211	
15	s	220	
16	t	204	
17	I	203	
18	J	184	
19	K	188	
20	L	196	
21	M	176	
22	N	160	
23	R	156	
24	S	145	
25	T	136	
26	U	148	
27	V	159	
28	W	115	

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Mol	Chain	Length	Quality of chain
29	X	125	
30	Y	135	
31	Z	110	
32	a	117	
33	b	123	
34	c	105	
35	d	97	
36	e	70	
37	f	157	
38	i	106	
39	j	92	
40	k	137	
41	P	245	
42	Q	140	
43	u	157	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
1	OMG	A	4228	-	-	X	-
48	BR	G	301	-	-	X	-

2 Entry composition

There are 49 unique types of molecules in this entry. The entry contains 137413 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 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	3303	Total	C	N	O	P	1	0
			70929	31625	12982	23019	3303		

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		

- Molecule 3 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	148	Total	C	N	O	P	0	0
			3153	1408	564	1034	147		

- Molecule 4 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	246	Total	C	N	O	S	0	0
			1887	1183	387	311	6		

- Molecule 5 is a protein called 60S ribosomal protein L3 isoform a.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	395	Total	C	N	O	S	1	0
			3194	2034	600	545	15		

- Molecule 6 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	359	Total	C	N	O	S	0	0
			2855	1797	571	474	13		

- Molecule 7 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	293	Total	C	N	O	S	0	0
			2376	1505	432	425	14		

- Molecule 8 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	221	Total	C	N	O	S	0	0
			1767	1138	335	290	4		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	40	ARG	GLY	conflict	UNP Q02878
H	41	ASN	LYS	conflict	UNP Q02878

- Molecule 9 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	m	225	Total	C	N	O	S	0	0
			1870	1202	358	301	9		

- Molecule 10 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	n	223	Total	C	N	O	S	0	0
			1809	1153	349	303	4		

- Molecule 11 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	o	190	Total	C	N	O	S	0	0
			1518	956	284	272	6		

- Molecule 12 is a protein called 60S ribosomal protein L10-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	p	158	Total	C	N	O	S	0	0
			1283	819	238	216	10		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
p	49	CYS	GLY	conflict	UNP Q96L21

- Molecule 13 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	q	170	Total	C	N	O	S	0	0
			1358	858	253	241	6		

- Molecule 14 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	r	206	Total	C	N	O	S	0	0
			1664	1041	345	274	4		

- Molecule 15 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	s	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

- Molecule 16 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	t	203	Total	C	N	O	S	2	0
			1720	1086	361	269	4		

- Molecule 17 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	I	199	Total	C	N	O	S	0	0
			1634	1053	319	257	5		

- Molecule 18 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	J	152	Total	C	N	O	S	0	0
			1233	771	240	213	9		

- Molecule 19 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	K	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 20 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	L	137	Total	C	N	O	S	0	0
			1137	716	235	178	8		

- Molecule 21 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	M	176	Total	C	N	O	S	0	0
			1461	930	284	236	11		

- Molecule 22 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	N	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 23 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	R	119	Total	C	N	O	S	0	0
			976	624	183	168	1		

- Molecule 24 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	S	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 25 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	T	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 26 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	U	147	Total	C	N	O	S	0	0
			1162	736	237	186	3		

- Molecule 27 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	V	104	Total	C	N	O	S	0	0
			837	518	185	130	4		

- Molecule 28 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	W	100	Total	C	N	O	S	0	0
			772	490	136	139	7		

- Molecule 29 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	X	106	Total	C	N	O	S	0	0
			868	551	170	145	2		

- Molecule 30 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Y	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 31 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Z	109	Total	C	N	O	S	1	0
			879	557	174	144	4		

- Molecule 32 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	a	112	Total	C	N	O	S	0	0
			888	555	183	144	6		

- Molecule 33 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	b	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 34 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	c	102	Total	C	N	O	S	0	0
			832	521	177	129	5		

- Molecule 35 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	d	86	Total	C	N	O	S	1	0
			713	442	155	111	5		

- Molecule 36 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	e	29	Total	C	N	O	S	0	0
			249	163	47	38	1		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
e	16	PRO	ARG	conflict	UNP P63173
e	23	ILE	VAL	conflict	UNP P63173

- Molecule 37 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	f	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 38 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	i	97	Total	C	N	O	S	0	0
			794	498	161	129	6		

- Molecule 39 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	j	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 40 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	k	124	Total	C	N	O	S	0	0
			992	615	206	167	4		

- Molecule 41 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	P	225	Total	C	N	O	S	0	0
			1712	1065	295	340	12		

- Molecule 42 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Q	134	Total	C	N	O	S	0	0
			993	625	187	176	5		

- Molecule 43 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	u	62	Total	C	N	O	S	0	0
			519	332	101	83	3		

- Molecule 44 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
44	A	209	Total	Mg	0
			209	209	
44	B	3	Total	Mg	0
			3	3	
44	C	6	Total	Mg	0
			6	6	
44	J	1	Total	Mg	0
			1	1	
44	L	2	Total	Mg	0
			2	2	
44	Q	2	Total	Mg	0
			2	2	

- Molecule 45 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
45	A	1	Total 1	Zn 1	0
45	a	1	Total 1	Zn 1	0
45	d	1	Total 1	Zn 1	0
45	i	1	Total 1	Zn 1	0
45	j	1	Total 1	Zn 1	0

- Molecule 46 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		AltConf
46	A	139	Total 139	K 139	0
46	B	1	Total 1	K 1	0
46	D	3	Total 3	K 3	0
46	o	1	Total 1	K 1	0
46	p	1	Total 1	K 1	0
46	t	1	Total 1	K 1	0
46	J	1	Total 1	K 1	0
46	N	1	Total 1	K 1	0
46	V	1	Total 1	K 1	0
46	Y	1	Total 1	K 1	0
46	Z	1	Total 1	K 1	0
46	f	1	Total 1	K 1	0
46	i	1	Total 1	K 1	0

- Molecule 47 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		AltConf
47	A	3	Total 3	Na 3	0
47	t	1	Total 1	Na 1	0

- Molecule 48 is BROMIDE ION (CCD ID: BR) (formula: Br).

Mol	Chain	Residues	Atoms		AltConf
48	G	1	Total 1	Br 1	0

- Molecule 49 is water.

Mol	Chain	Residues	Atoms		AltConf
49	A	6577	Total 6577	O 6577	0
49	B	132	Total 132	O 132	0
49	C	280	Total 280	O 280	0
49	D	109	Total 109	O 109	0
49	E	139	Total 139	O 139	0
49	F	182	Total 182	O 182	0
49	G	34	Total 34	O 34	0
49	H	36	Total 36	O 36	0
49	m	101	Total 101	O 101	0
49	n	35	Total 35	O 35	0
49	o	11	Total 11	O 11	0
49	p	12	Total 12	O 12	0
49	q	5	Total 5	O 5	0
49	r	84	Total 84	O 84	0
49	s	14	Total 14	O 14	0

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Mol	Chain	Residues	Atoms		AltConf
49	t	153	Total 153	O 153	0
49	I	87	Total 87	O 87	0
49	J	66	Total 66	O 66	0
49	K	130	Total 130	O 130	0
49	L	37	Total 37	O 37	0
49	M	53	Total 53	O 53	0
49	N	71	Total 71	O 71	0
49	R	29	Total 29	O 29	0
49	S	40	Total 40	O 40	0
49	T	6	Total 6	O 6	0
49	U	80	Total 80	O 80	0
49	V	27	Total 27	O 27	0
49	W	6	Total 6	O 6	0
49	X	24	Total 24	O 24	0
49	Y	96	Total 96	O 96	0
49	Z	58	Total 58	O 58	0
49	a	52	Total 52	O 52	0
49	b	38	Total 38	O 38	0
49	c	15	Total 15	O 15	0
49	d	56	Total 56	O 56	0
49	e	1	Total 1	O 1	0

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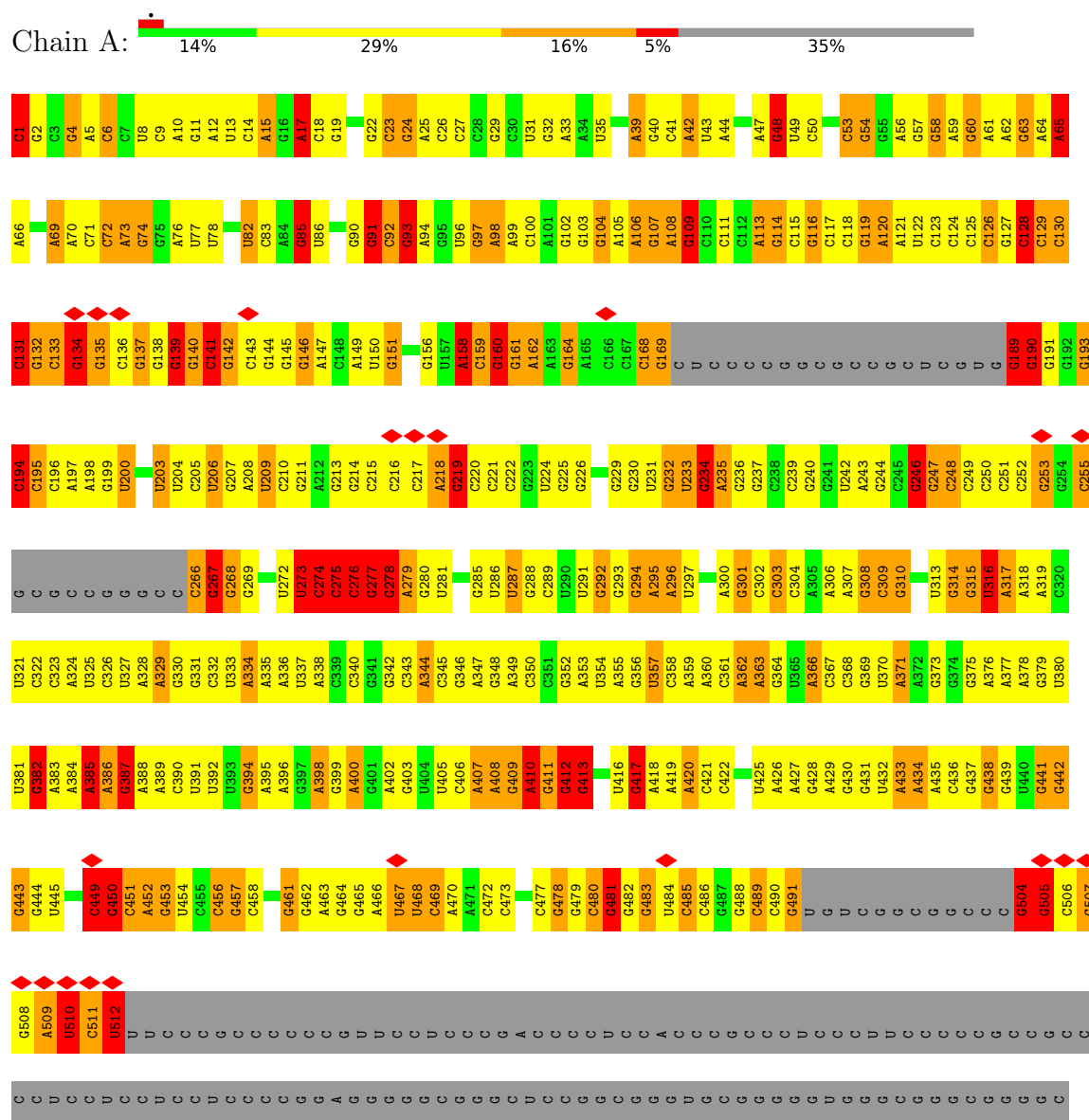
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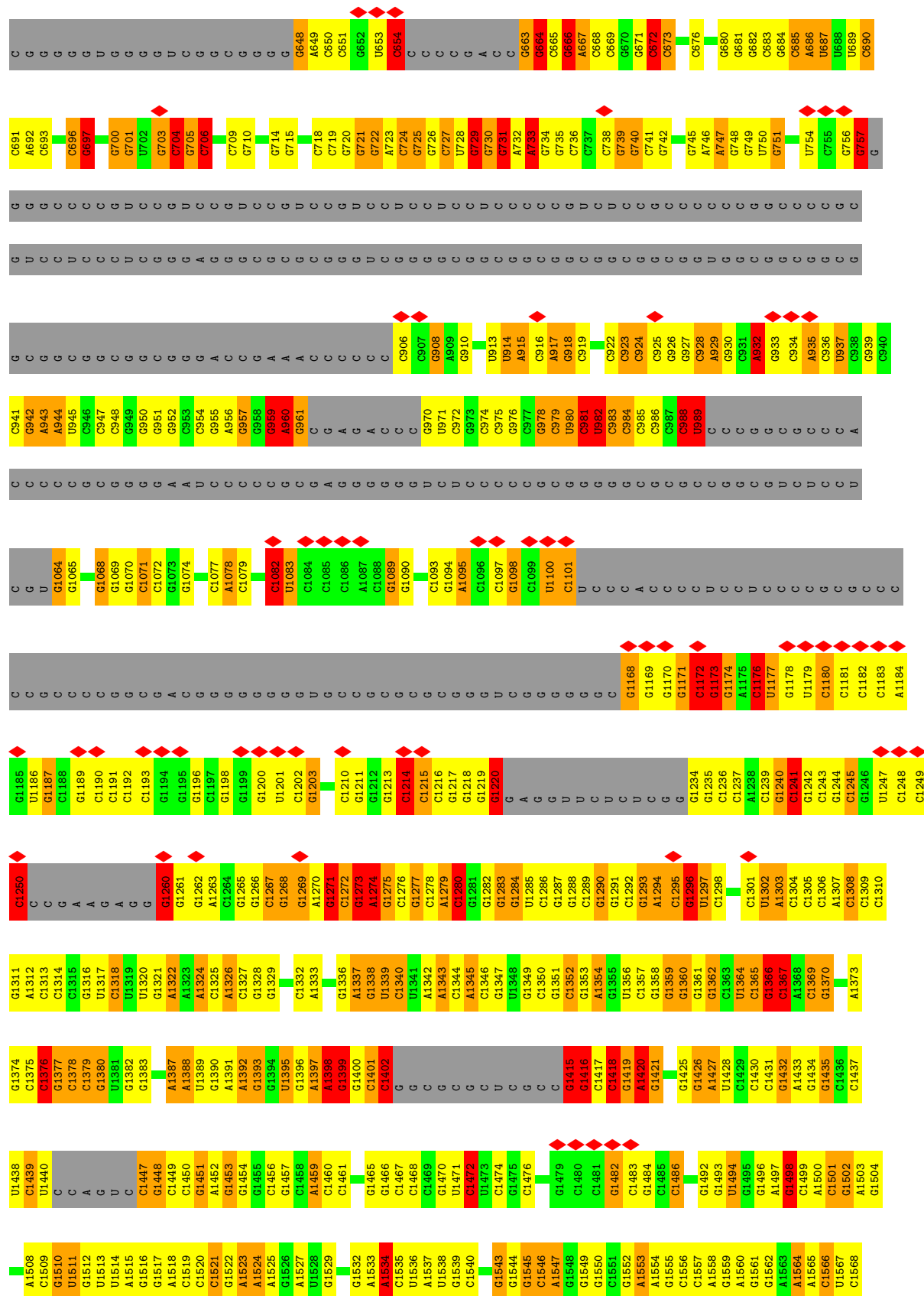
Mol	Chain	Residues	Atoms		AltConf
49	f	12	Total 12	O 12	0
49	i	35	Total 35	O 35	0
49	j	24	Total 24	O 24	0
49	k	59	Total 59	O 59	0
49	P	1	Total 1	O 1	0
49	Q	31	Total 31	O 31	0
49	u	6	Total 6	O 6	0

3 Residue-property plots

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

• Molecule 1: 28S rRNA

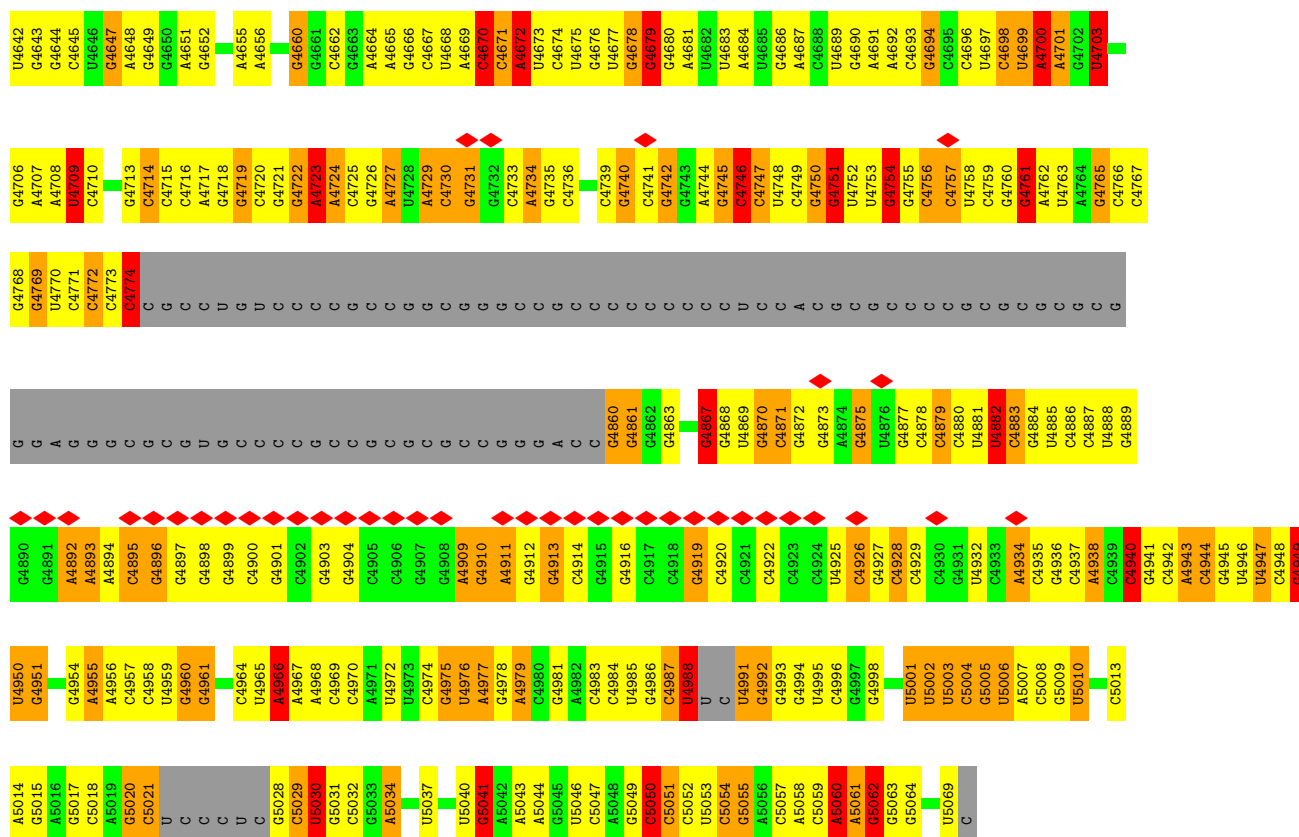




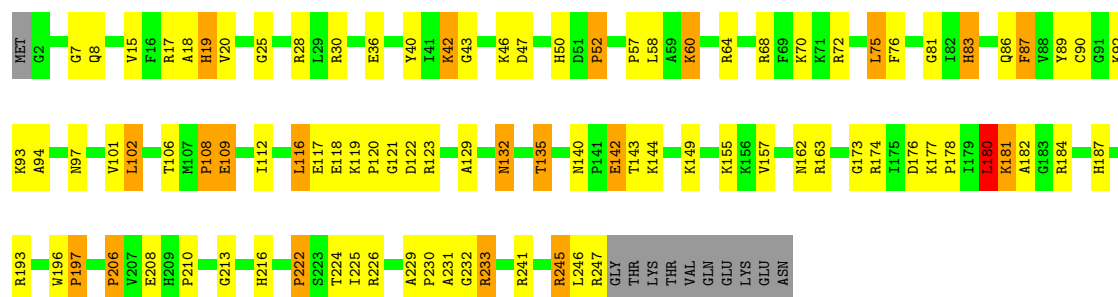
C2458	A2396	G2326	G2259	G2079	A	G1951	G1884	G1823	A	C	G1721	G1660	A1634	U1572
G2459	G2397	G2327	C2260	U2080	C	G1952	G1885	G1824	C	C	G1722	U1660	C1635	U1573
A2460	G2400	G2328	G2261	C	U	U1953	G1886	A1825	G	G	C1723	C1661	U1636	G1574
C2462	A2401	U2329	G2262	C	C	U1954	G1887	G1826	A	A	U1724	G1662	A1637	G1575
G2463	C2402	G2330	C2263	C	A	G1955	G1890	C1827	A	A	U1725	U1663	A1638	A1576
C2464	A2404	G2331	C2264	C	C	U1959	U1891	G1828	C	C	U1726	U1664	A1639	G1577
C2465	G2405	A2332	C2265	C	C	A1892	A1891	C1829	C	C	U1727	U1665	C1640	U1578
G2466	G2406	C2333	G2266	U	U	A1960	A1892	G1831	C	G	U1728	U1666	G1641	U1582
U2467	G2407	G2334	C2267	C	G	G1961	C1893	G1832	A	A	U1729	U1667	A1642	U1583
U2468	U2408	U2335	A2088	C	C	A1962	C1894	G1833	U	U	U1780	U1668	A1643	G1584
C2469	U2409	G2336	C2089	C	C	C1963	G1895	G1834	C	C	U1781	U1669	C1644	G1585
C2470	C2410	C2337	U2090	C	G	A1964	A1896	G1835	U	U	U1782	U1670	C1645	G1586
G2471	C2411	G2338	G2273	G	G	G1965	A1897	G1836	A	A	U1783	U1671	C1646	C1586
A2472	A2412	C2339	A2026	G	G	C	C1898	A1837	C	C	U1784	U1672	U1647	G1587
A2473	U2413	G2340	A2027	C	C	A	G1899	A1838	C	C	U1785	U1673	U1648	G1588
G2474	U2414	A2341	C2028	C	G	U	C1900	A1839	C	C	U1786	U1674	U1649	U1589
G2475	G2415	G2342	A2033	C	A	G	C1901	G1840	C	C	U1787	U1675	A1650	C1590
G2476	U2416	G2343	A2034	C	G	U	G1902	G1841	C	C	U1788	U1676	G1651	U1591
A	A2417	U2344	C2031	C	C	C	G1903	G1842	C	C	U1789	U1677	U1652	G1592
C	A2418	A2347	U2032	C	C	G	G1904	A1843	C	C	U1790	U1678	A1653	C1593
G	G2419	G2348	A2033	C	C	U	U1905	G1844	A	A	U1791	U1679	G1654	C1594
G	A2420	U2350	C2035	C	C	G	G1906	G1845	C	C	U1792	U1680	U1655	U1595
C	G2421	C2351	G2039	C	C	U	G1910	G1846	C	C	U1793	U1681	G1656	G1596
C	A2422	G2286	A2040	C	C	G	G1911	C1847	C	C	U1794	U1682	U1657	G1597
G	A2423	G2287	A2041	C	C	C	G1912	U1849	C	C	U1795	U1683	U1658	C1598
G	G2424	G2288	A2042	C	C	C	U1916	G1850	C	C	U1796	U1684	A1599	A1600
U	U2425	C2289	A2043	C	C	U	G1917	G1851	C	C	U1797	U1685	G1662	A1601
U	U2426	G2290	G2045	C	C	G	U1918	U1852	C	C	U1798	U1686	C1663	G1602
G	U2427	G2291	U2044	C	C	U	G1919	G1853	C	C	U1799	U1687	U1664	U1603
G	A2428	C2292	G2045	C	C	G	C1920	G1854	C	C	U1800	U1688	C1665	C1603
C	A2429	U2293	G2046	C	C	A	G1921	G1855	C	C	U1801	U1689	U1666	G1604
U	C2430	G2296	A2047	C	C	U	C1922	C1856	C	C	U1802	U1690	U1667	G1605
C	A2431	G2297	G2048	C	C	U	G1923	C1857	C	C	U1803	U1691	U1668	U1606
C	U2432	U2298	G2049	C	C	U	C1924	A1858	C	C	U1804	U1692	A1669	C1607
U	G2433	G2299	G2050	C	C	G	G1925	U1859	C	C	U1805	U1693	G1670	U1608
U	A2368	A2300	C2051	C	C	C	U1926	U1860	C	C	U1806	U1694	U1671	U1609
U	U2369	C2301	G2052	C	C	A	C1927	U1861	C	C	U1807	U1695	U1672	C1610
G	A2370	C2302	C2053	C	C	U	U1927	U1862	C	C	U1808	U1696	U1673	C1611
C	U2371	U2303	U2054	C	C	U	U1930	U1863	C	C	U1809	U1697	C1674	G1612
C	A2438	U2304	G2055	C	C	C	C1931	G1864	C	C	U1810	U1698	C1675	A1613
C	U2372	U2305	G2056	C	C	U	A1932	U1865	C	C	U1811	U1699	U1676	C1614
C	G2373	G2306	G2057	C	C	C	U1933	U1866	C	C	U1812	U1700	C1677	U1617
U	A2440	U2307	G2058	C	C	C	A1934	U1867	C	C	U1813	U1742	U1678	G1618
C	C2441	A2307	C2059	C	C	U	C1935	A1868	C	C	U1814	U1743	U1679	G1619
C	G2442	A2308	G2060	C	C	U	C1936	U1869	C	C	U1815	U1744	U1680	U1620
G2502	G2443	G2309	U2061	C	C	A	U1937	C1870	C	C	U1816	U1745	U1681	G1621
C2503	U2444	C	C2062	C	C	A	C	A1871	C	C	U1817	U1746	U1682	A1623
C2504	C2445	A2313	C2063	C	C	G	U1939	G1872	C	C	U1818	U1747	U1683	G1624
G2505	A2446	G2314	G2064	C	C	G	G1940	A1873	C	C	U1819	U1748	U1684	G1625
A2507	U2447	G2315	C2065	C	C	A	A1941	U1874	C	C	U1820	U1749	U1685	G1626
U2508	G2448	G2316	G2066	C	C	U	A1942	C1875	C	C	U1821	U1750	U1686	U1627
C2509	A2449	C2317	C2067	C	C	U	U1943	U1876	C	C	U1822	U1751	U1687	G1628
G2510	G2450	G2318	C2068	C	C	G	A1944	G1877	C	C	U1823	U1752	U1688	G1629
A2511	A2451	C2319	C2069	C	C	U	G1945	C1878	C	C	U1824	U1753	U1689	G1630
A2512	G2452	G2320	A2069	C	C	U	U1946	G1879	C	C	U1825	U1754	U1690	U1631
C2513	A2453	G2321	C	C	C	U	U1947	G1880	C	C	U1826	U1755	U1691	G1632
A2514	U2454	G2322	C2072	C	C	U	U1948	U1881	C	C	U1827	U1756	U1692	A1633
G2515	G2455	C2323	C2073	C	C	A	U1949	U1882	C	C	U1828	U1757	U1693	G1634
G2516	G2456	C2324	C2074	C	C	U	U1950	U1883	C	C	U1829	U1758	U1694	U1635
A2517	G2457	C2325	G2075	C	C	A			C	C	U1830	U1759	U1695	G1636





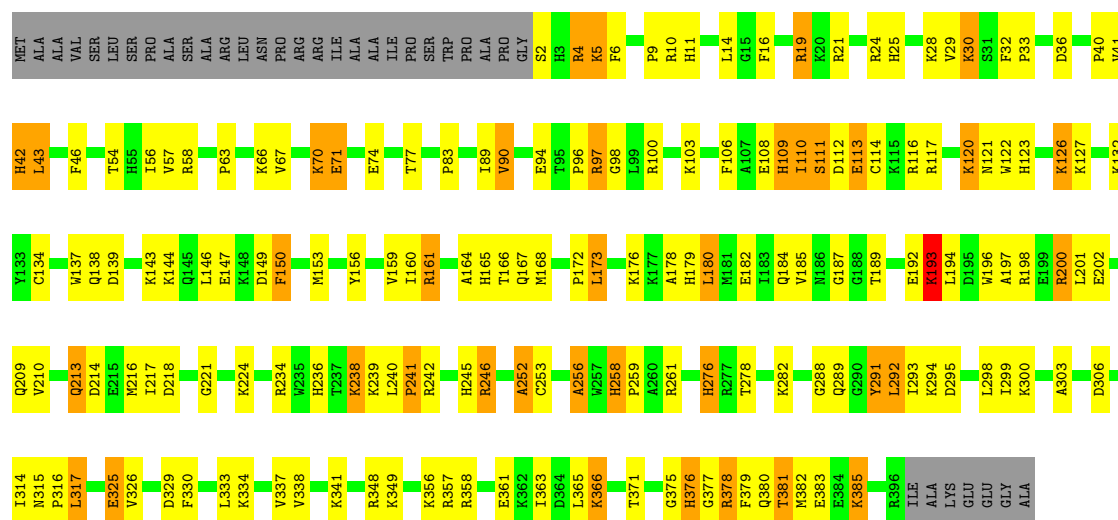


Chain D:  59% 28% 8% .



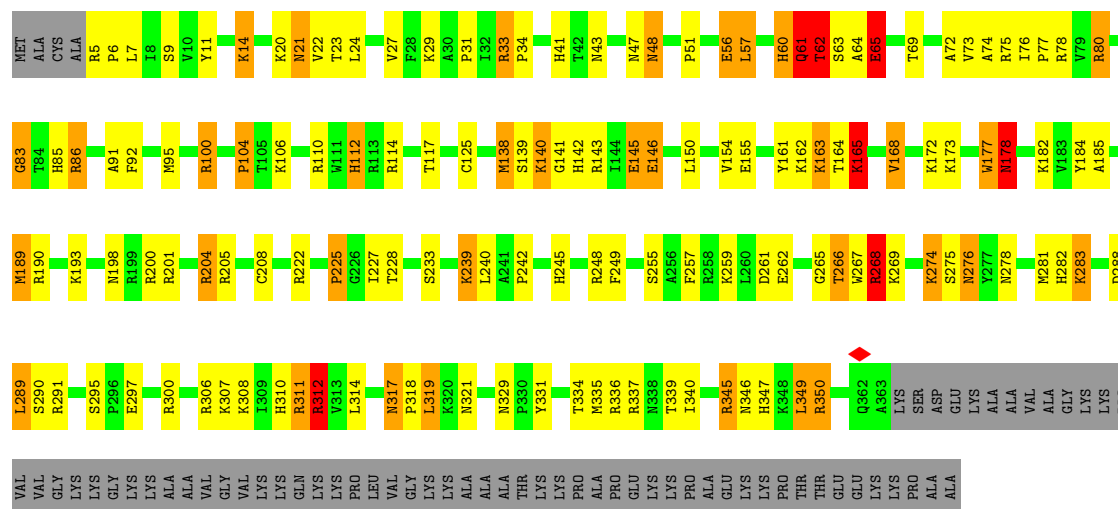
• Molecule 5: 60S ribosomal protein L3 isoform a

Chain E:  52% 31% 9% 8%

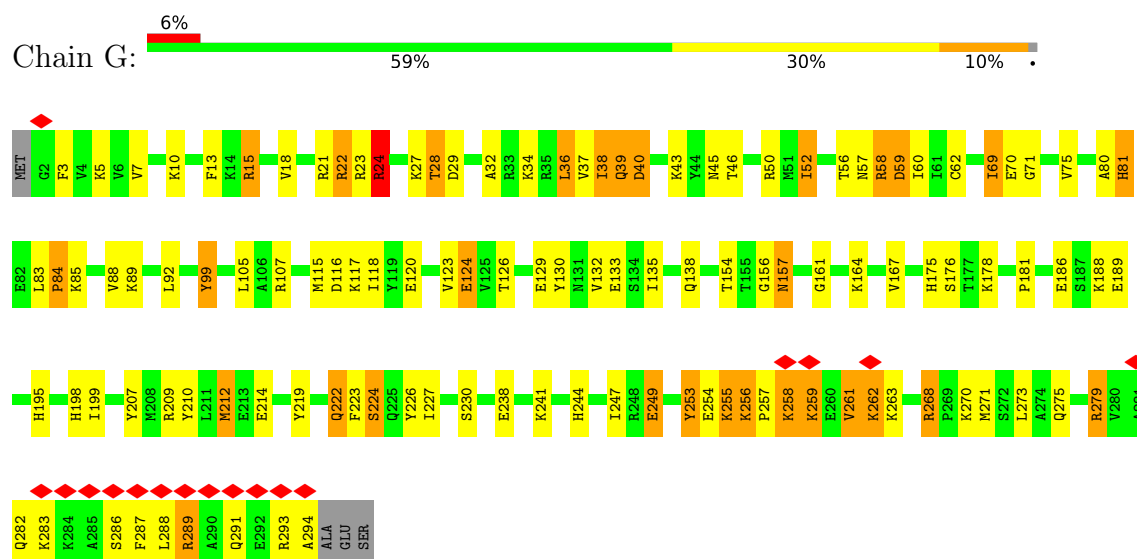


• Molecule 6: 60S ribosomal protein L4

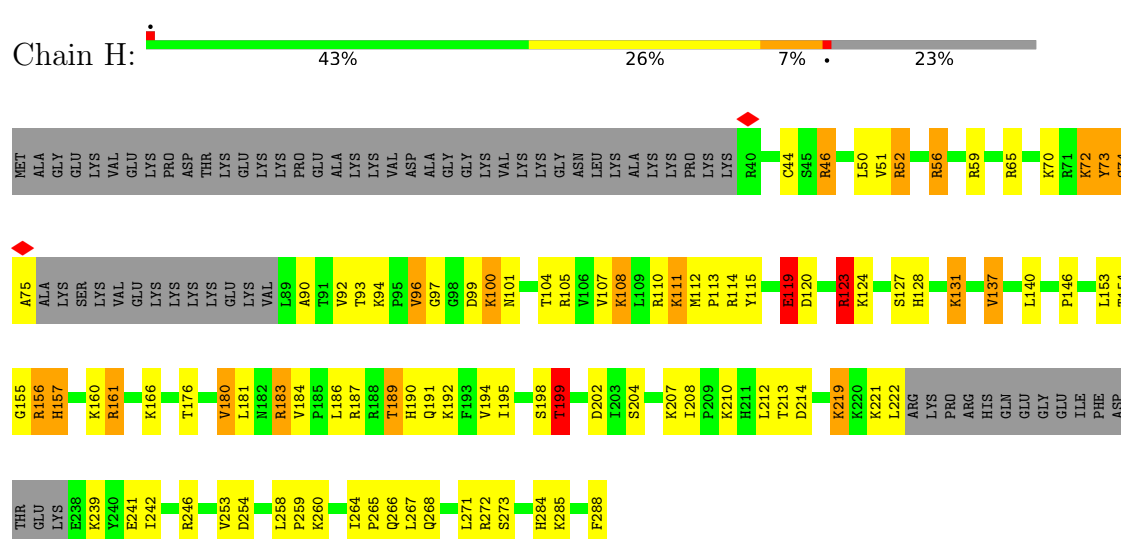
Chain F:  50% 24% 8% 16%



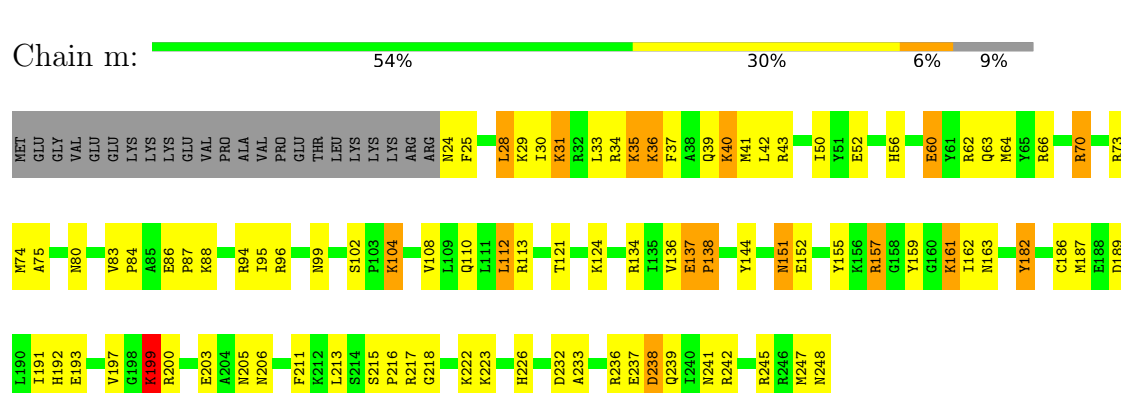
- Molecule 7: 60S ribosomal protein L5



- Molecule 8: 60S ribosomal protein L6



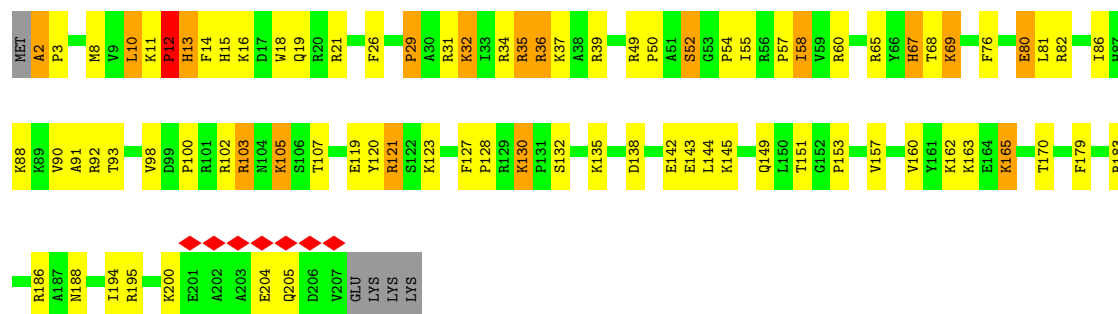
- Molecule 9: 60S ribosomal protein L7



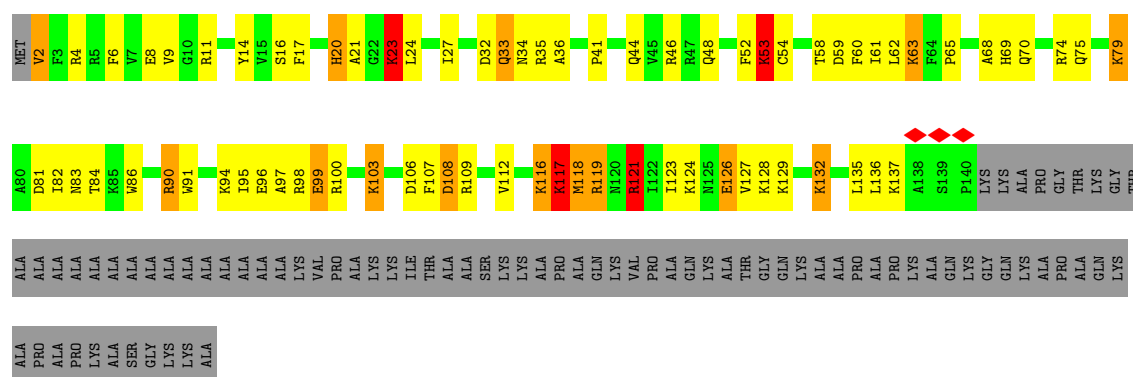
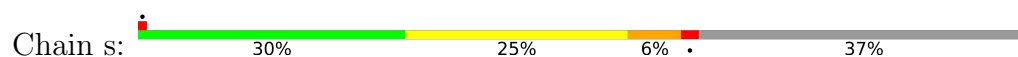
- Molecule 10: 60S ribosomal protein L7a



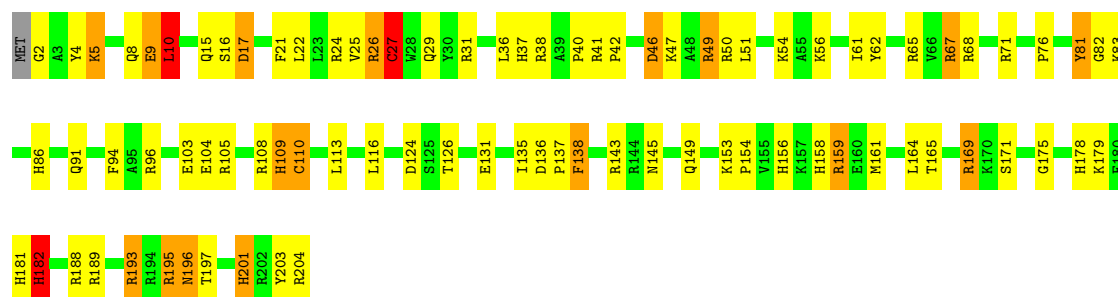
• Molecule 14: 60S ribosomal protein L13



• Molecule 15: 60S ribosomal protein L14

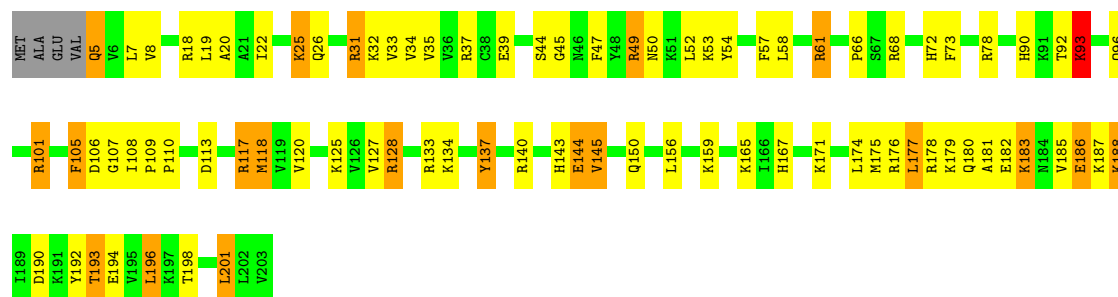


• Molecule 16: 60S ribosomal protein L15



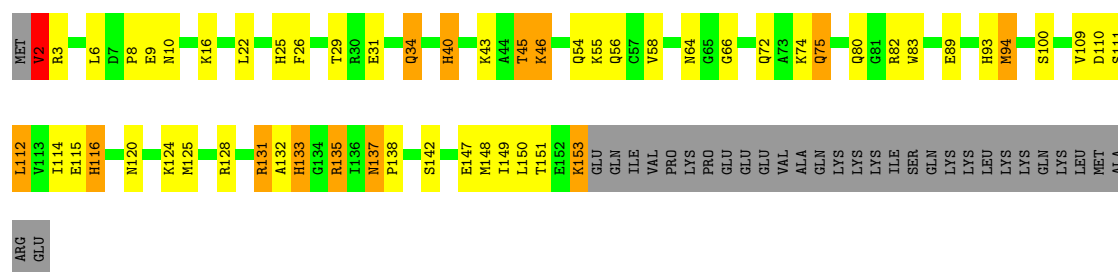
• Molecule 17: 60S ribosomal protein L13a





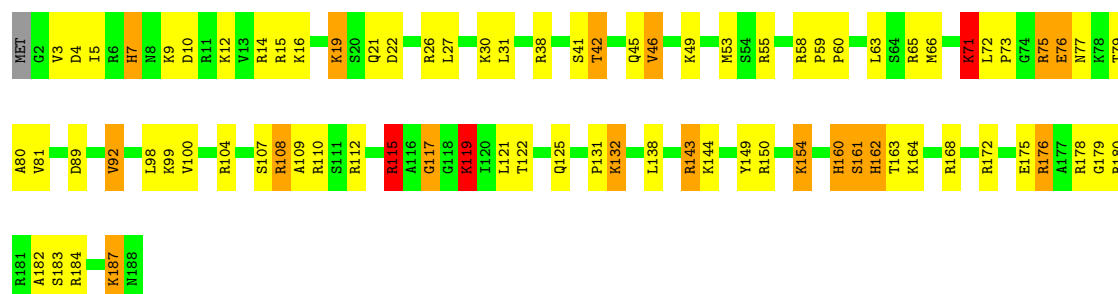
- Molecule 18: 60S ribosomal protein L17

Chain J: 52% 23% 7% 17%



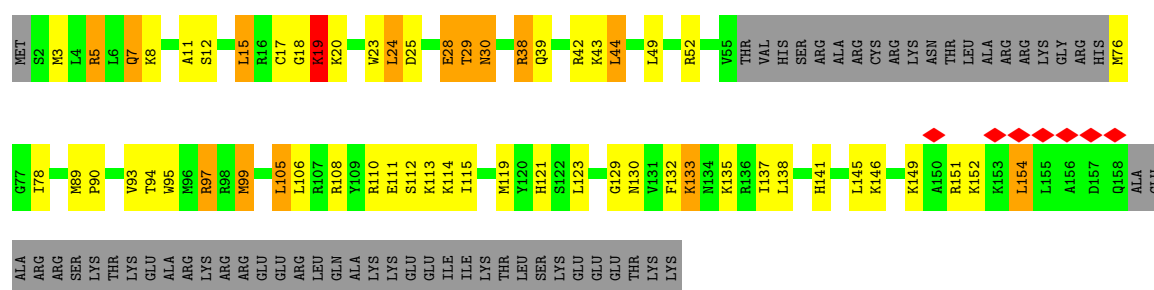
- Molecule 19: 60S ribosomal protein L18

Chain K: 56% 32% 9% ..



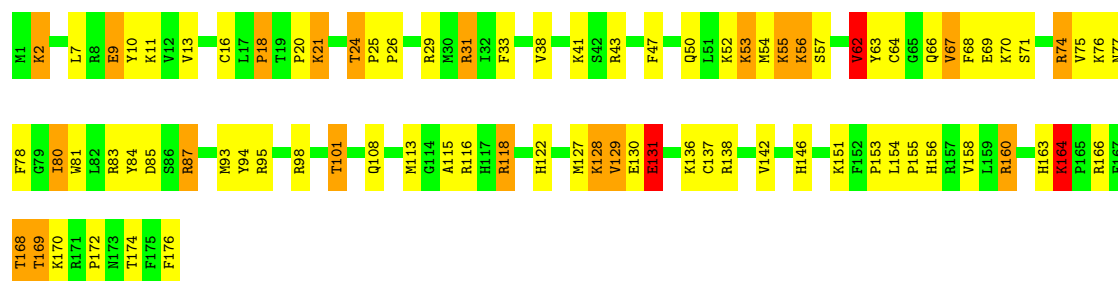
- Molecule 20: 60S ribosomal protein L19

Chain L: 40% 22% 7% 30%



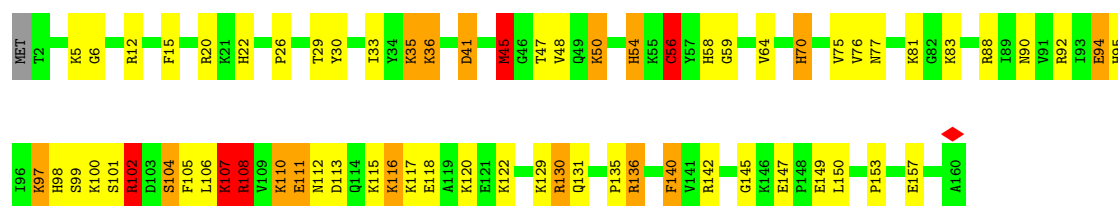
- Molecule 21: 60S ribosomal protein L18a

Chain M: 

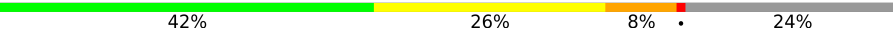


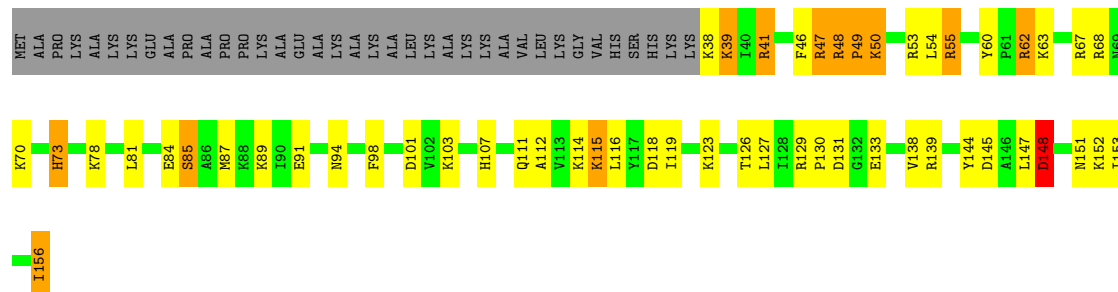
- Molecule 22: 60S ribosomal protein L21

Chain N: 



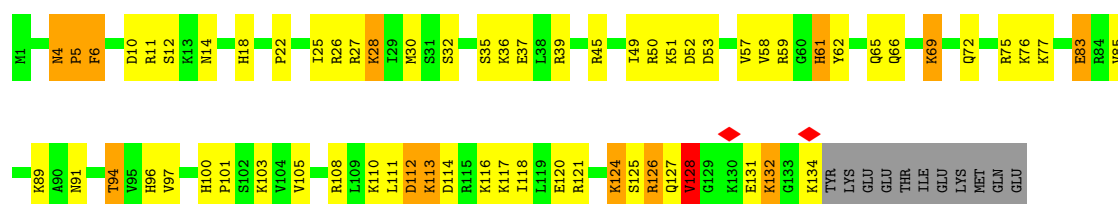
- Molecule 23: 60S ribosomal protein L23a

Chain R: 



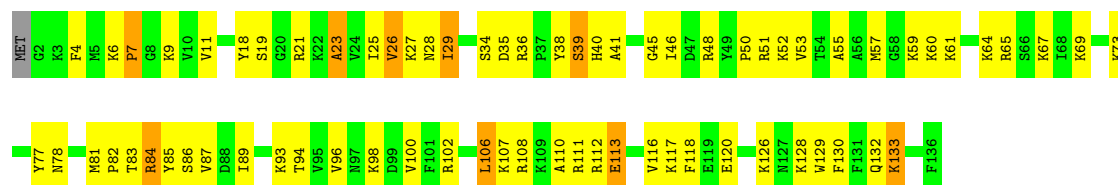
- Molecule 24: 60S ribosomal protein L26

Chain S: 



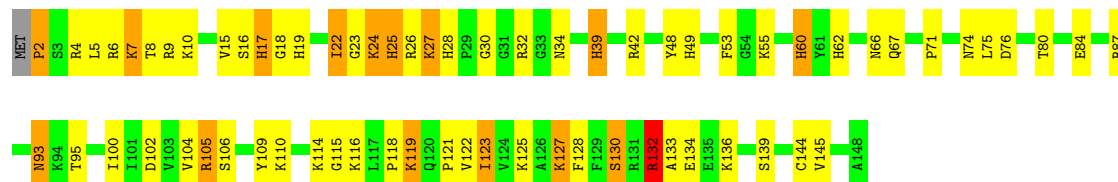
- Molecule 25: 60S ribosomal protein L27

Chain T: 



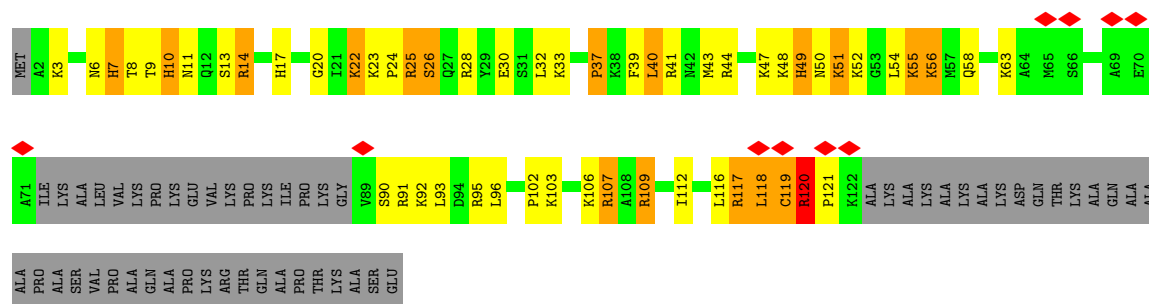
- Molecule 26: 60S ribosomal protein L27a

Chain U: 53% 35% 10% ..



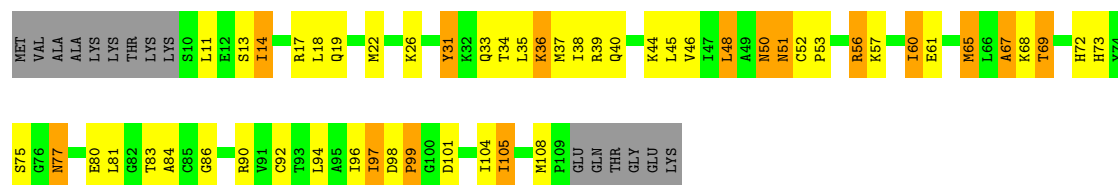
- Molecule 27: 60S ribosomal protein L29

Chain V: 6% 31% 23% 11% 35%



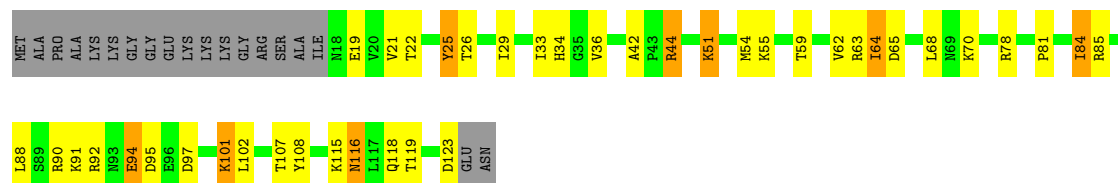
- Molecule 28: 60S ribosomal protein L30

Chain W: 41% 33% 13% 13%



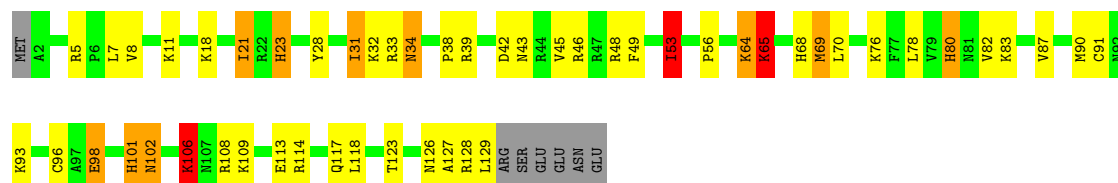
- Molecule 29: 60S ribosomal protein L31

Chain X: 52% 26% 6% 15%



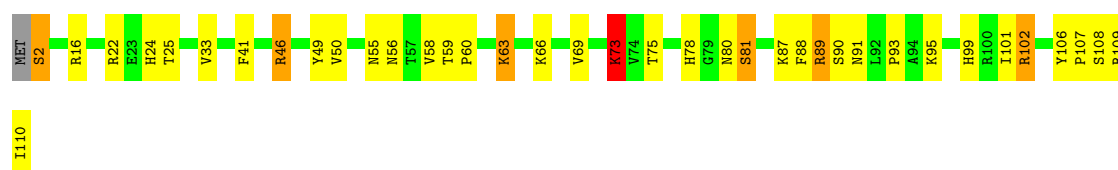
- Molecule 30: 60S ribosomal protein L32

Chain Y:  56% 29% 7% 5%



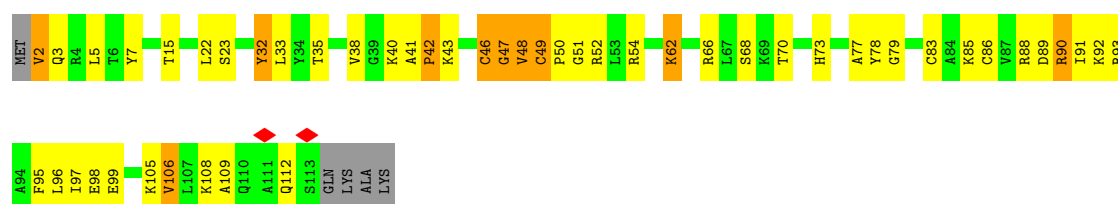
- Molecule 31: 60S ribosomal protein L35a

Chain Z:  65% 28% 5%



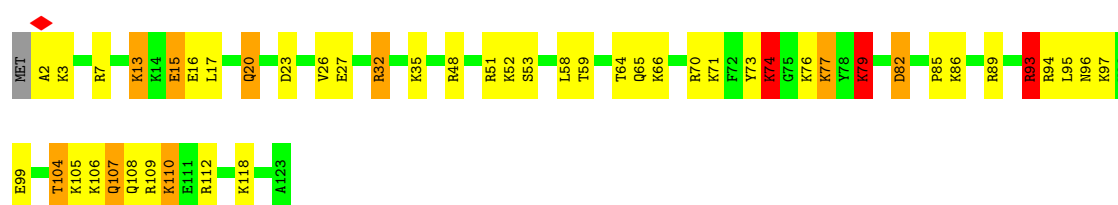
- Molecule 32: 60S ribosomal protein L34

Chain a:  53% 34% 9%

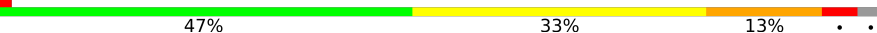


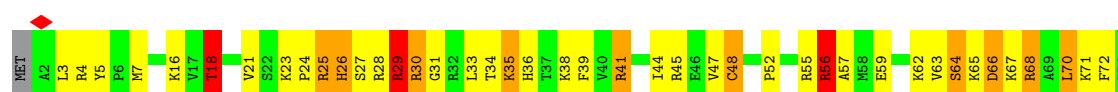
- Molecule 33: 60S ribosomal protein L35

Chain b:  60% 29% 7%



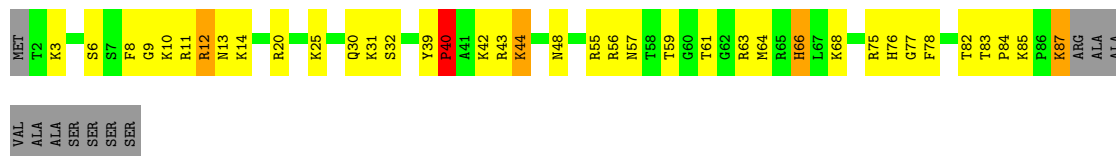
- Molecule 34: 60S ribosomal protein L36

Chain c:  47% 33% 13%





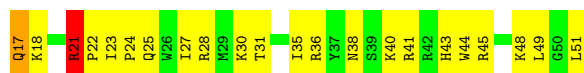
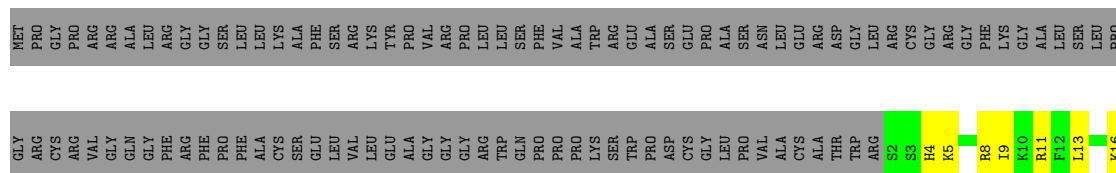
• Molecule 35: 60S ribosomal protein L37



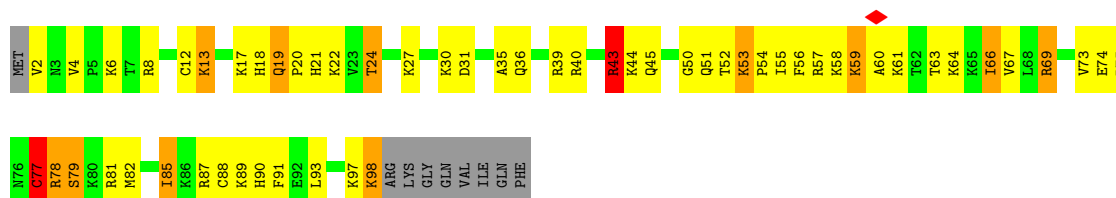
• Molecule 36: 60S ribosomal protein L38



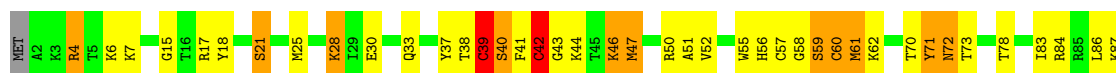
• Molecule 37: 60S ribosomal protein L39



• Molecule 38: 60S ribosomal protein L36a



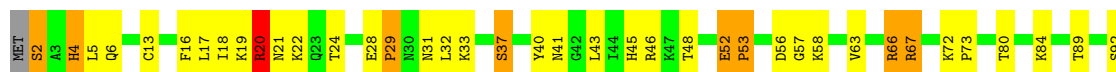
• Molecule 39: 60S ribosomal protein L37a





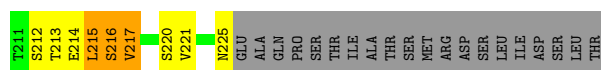
- Molecule 40: 60S ribosomal protein L28

Chain k: 53% 29% 7% 9%



- Molecule 41: Eukaryotic translation initiation factor 6

Chain P: 34% 38% 19% 8%



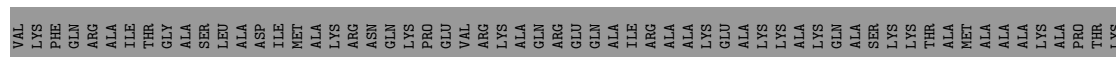
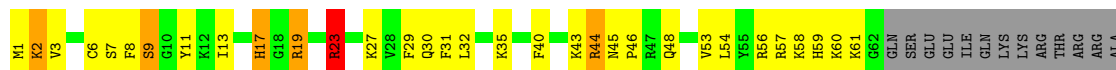
- Molecule 42: 60S ribosomal protein L23

Chain Q: 61% 21% 8% 6%



- Molecule 43: 60S ribosomal protein L24

Chain u: 19% 17% 61%



ALA
ALA
PRO
LYS
GLN
LYS
ILE
VAL
LYS
PRO
VAL
LYS
VAL
SER
ALA
PRO
ARG
VAL
GLY
GLY
LYS
ARG

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	30000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.235	Depositor
Minimum map value	-0.004	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	424.96, 424.96, 424.96	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.83, 0.83, 0.83	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, 6MZ, UR3, 1MA, K, MG, OMG, OMC, OMU, NA, 5MC, A2M, PSU, BR

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.96	106/76620 (0.1%)	1.62	2585/119500 (2.2%)
2	B	0.81	3/2858 (0.1%)	1.43	78/4455 (1.8%)
3	C	0.98	5/3450 (0.1%)	1.71	130/5372 (2.4%)
4	D	1.07	3/1925 (0.2%)	2.07	65/2581 (2.5%)
5	E	1.01	7/3265 (0.2%)	1.93	106/4369 (2.4%)
6	F	1.09	9/2909 (0.3%)	2.13	121/3908 (3.1%)
7	G	0.68	1/2422 (0.0%)	1.70	42/3244 (1.3%)
8	H	0.74	0/1801	1.73	43/2418 (1.8%)
9	m	1.05	2/1905 (0.1%)	1.93	48/2539 (1.9%)
10	n	0.74	1/1840 (0.1%)	1.76	39/2476 (1.6%)
11	o	0.60	0/1537	1.50	9/2066 (0.4%)
12	p	0.59	0/1312	1.32	8/1754 (0.5%)
13	q	0.57	0/1381	1.33	6/1848 (0.3%)
14	r	0.96	4/1695 (0.2%)	1.86	42/2270 (1.9%)
15	s	0.75	1/1161 (0.1%)	1.75	31/1554 (2.0%)
16	t	1.26	7/1766 (0.4%)	2.07	68/2366 (2.9%)
17	I	1.03	7/1666 (0.4%)	1.98	60/2228 (2.7%)
18	J	1.16	4/1259 (0.3%)	1.96	33/1689 (2.0%)
19	K	1.10	2/1537 (0.1%)	2.15	70/2052 (3.4%)
20	L	0.84	1/1150 (0.1%)	1.72	13/1523 (0.9%)
21	M	0.92	3/1501 (0.2%)	1.99	59/2013 (2.9%)
22	N	0.97	5/1326 (0.4%)	2.00	48/1770 (2.7%)
23	R	0.86	0/993	1.93	27/1334 (2.0%)
24	S	1.08	5/1132 (0.4%)	2.11	34/1504 (2.3%)
25	T	0.64	0/1130	1.59	14/1507 (0.9%)
26	U	1.21	5/1191 (0.4%)	2.13	54/1591 (3.4%)
27	V	0.86	3/850 (0.4%)	1.98	29/1123 (2.6%)
28	W	0.72	0/783	1.70	15/1052 (1.4%)
29	X	0.91	1/883 (0.1%)	1.82	15/1190 (1.3%)
30	Y	1.16	5/1071 (0.5%)	1.97	21/1429 (1.5%)
31	Z	1.08	2/901 (0.2%)	2.03	29/1206 (2.4%)
32	a	0.99	1/898 (0.1%)	2.00	27/1197 (2.3%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	b	0.83	1/1023 (0.1%)	1.86	21/1351 (1.6%)
34	c	0.87	1/843 (0.1%)	1.83	22/1115 (2.0%)
35	d	1.37	3/732 (0.4%)	2.11	28/968 (2.9%)
36	e	0.54	0/251	1.27	0/330
37	f	0.91	2/454 (0.4%)	1.81	7/599 (1.2%)
38	i	0.76	1/807 (0.1%)	1.83	20/1065 (1.9%)
39	j	1.05	1/718 (0.1%)	2.21	34/953 (3.6%)
40	k	1.12	3/1007 (0.3%)	1.91	24/1351 (1.8%)
41	P	0.56	0/1736	1.36	10/2362 (0.4%)
42	Q	1.11	1/1007 (0.1%)	2.13	39/1350 (2.9%)
43	u	0.93	2/532 (0.4%)	1.64	6/708 (0.8%)
All	All	0.95	208/135228 (0.2%)	1.72	4180/199280 (2.1%)

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	59
3	C	0	2
8	H	0	1
21	M	0	1
33	b	0	1
34	c	0	2
43	u	0	1
All	All	0	67

All (208) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	4273	A	O3'-P	15.19	1.83	1.61
32	a	2	VAL	N-CA	15.05	1.74	1.46
16	t	109	HIS	CE1-NE2	12.37	1.45	1.32
35	d	66	HIS	CE1-NE2	12.34	1.44	1.32
5	E	179	HIS	CE1-NE2	11.91	1.44	1.32
1	A	3823	G	O3'-P	11.16	1.77	1.61
35	d	66	HIS	CG-ND1	11.07	1.50	1.38
34	c	80	HIS	CE1-NE2	10.53	1.43	1.32
5	E	258	HIS	CE1-NE2	9.79	1.42	1.32
40	k	4	HIS	CE1-NE2	9.70	1.42	1.32
24	S	18	HIS	CE1-NE2	9.67	1.42	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	t	109	HIS	CG-ND1	9.62	1.48	1.38
35	d	76	HIS	CE1-NE2	9.59	1.42	1.32
26	U	17	HIS	CE1-NE2	9.29	1.41	1.32
1	A	2787	A2M	O3'-P	9.06	1.65	1.56
37	f	4	HIS	CE1-NE2	8.91	1.41	1.32
21	M	163	HIS	CE1-NE2	8.66	1.41	1.32
1	A	3663	A	O3'-P	-8.53	1.48	1.61
1	A	1326	A2M	O3'-P	8.50	1.64	1.56
40	k	2	SER	N-CA	8.31	1.62	1.46
3	C	150	C	O3'-P	-8.31	1.48	1.61
1	A	2415	OMU	O3'-P	8.29	1.64	1.56
1	A	4270	C	O3'-P	-8.17	1.48	1.61
16	t	182	HIS	CE1-NE2	8.17	1.40	1.32
18	J	116	HIS	CE1-NE2	8.14	1.40	1.32
18	J	40	HIS	CE1-NE2	7.99	1.40	1.32
17	I	167	HIS	CE1-NE2	7.93	1.40	1.32
1	A	3825	A2M	O3'-P	7.91	1.64	1.56
1	A	277	G	O3'-P	-7.84	1.49	1.61
4	D	193	ARG	CZ-NH1	7.79	1.43	1.32
6	F	282	HIS	CE1-NE2	7.74	1.40	1.32
30	Y	23	HIS	CE1-NE2	7.59	1.40	1.32
1	A	3785	A2M	O3'-P	7.56	1.63	1.56
1	A	2470	C	O3'-P	7.51	1.72	1.61
18	J	133	HIS	CE1-NE2	7.50	1.40	1.32
1	A	4300	U	O3'-P	-7.48	1.50	1.61
1	A	274	C	O3'-P	-7.46	1.50	1.61
1	A	1524	A2M	O3'-P	7.42	1.63	1.56
1	A	4547	C	O3'-P	7.39	1.72	1.61
20	L	121	HIS	CE1-NE2	7.36	1.40	1.32
1	A	2502	G	O3'-P	7.31	1.72	1.61
26	U	25	HIS	CE1-NE2	7.29	1.39	1.32
1	A	1415	G	O3'-P	7.29	1.72	1.61
1	A	2072	C	O3'-P	-7.29	1.50	1.61
1	A	4533	A	O3'-P	-7.27	1.50	1.61
1	A	275	C	O3'-P	7.19	1.72	1.61
17	I	90	HIS	CE1-NE2	7.16	1.39	1.32
33	b	53	SER	CA-CB	-7.16	1.41	1.53
15	s	20	HIS	CE1-NE2	7.13	1.39	1.32
1	A	4390	A	O3'-P	-7.12	1.50	1.61
42	Q	77	HIS	CE1-NE2	7.03	1.39	1.32
1	A	239	C	O3'-P	-7.01	1.50	1.61
1	A	4532	PSU	O3'-P	6.99	1.71	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	19	HIS	CE1-NE2	6.96	1.39	1.32
24	S	18	HIS	CG-ND1	6.91	1.45	1.38
16	t	37	HIS	CE1-NE2	6.90	1.39	1.32
1	A	3724	A2M	O3'-P	6.89	1.63	1.56
1	A	4271	A	O3'-P	-6.80	1.50	1.61
26	U	60	HIS	CE1-NE2	6.77	1.39	1.32
39	j	61	MET	CG-SD	6.77	1.97	1.80
3	C	81	C	O3'-P	6.70	1.71	1.61
1	A	3830	A2M	O3'-P	6.70	1.62	1.56
30	Y	80	HIS	CE1-NE2	6.69	1.39	1.32
6	F	245	HIS	CE1-NE2	6.66	1.39	1.32
21	M	163	HIS	CG-ND1	6.66	1.45	1.38
9	m	226	HIS	CE1-NE2	6.65	1.39	1.32
7	G	244	HIS	CE1-NE2	6.64	1.39	1.32
1	A	398	A2M	O3'-P	6.63	1.62	1.56
1	A	4590	A2M	O3'-P	6.63	1.62	1.56
1	A	3824	A	O5'-C5'	-6.58	1.32	1.42
1	A	276	C	O5'-C5'	6.54	1.52	1.42
6	F	139	SER	CA-CB	-6.54	1.42	1.53
1	A	1447	C	O3'-P	6.51	1.71	1.61
6	F	245	HIS	CG-ND1	6.49	1.45	1.38
1	A	4400	G	O3'-P	-6.48	1.51	1.61
14	r	13	HIS	CE1-NE2	6.47	1.39	1.32
1	A	478	G	O3'-P	-6.44	1.51	1.61
26	U	60	HIS	CG-ND1	6.43	1.45	1.38
22	N	58	HIS	CE1-NE2	6.42	1.39	1.32
1	A	189	G	O3'-P	6.42	1.70	1.61
5	E	42	HIS	CE1-NE2	6.37	1.39	1.32
1	A	4114	C	O3'-P	6.37	1.70	1.61
1	A	3867	A2M	O3'-P	6.36	1.62	1.56
17	I	167	HIS	CG-ND1	6.34	1.45	1.38
1	A	1382	G	O3'-P	-6.25	1.51	1.61
1	A	3716	C	O3'-P	6.24	1.70	1.61
1	A	4373	G	O3'-P	6.20	1.70	1.61
16	t	178	HIS	CE1-NE2	6.18	1.38	1.32
1	A	3674	G	C5'-C4'	6.14	1.60	1.51
1	A	5046	U	O3'-P	-6.13	1.51	1.61
6	F	233	SER	CA-CB	-6.12	1.43	1.53
1	A	1848	C	O3'-P	-6.11	1.51	1.61
30	Y	98	GLU	CD-OE2	6.11	1.36	1.25
14	r	13	HIS	CG-ND1	6.06	1.45	1.38
3	C	34	U	O3'-P	-6.02	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	E	25	HIS	CE1-NE2	6.01	1.38	1.32
1	A	3860	A	P-OP1	-6.00	1.36	1.49
1	A	2024	G	O5'-C5'	5.98	1.51	1.42
1	A	1389	U	O3'-P	-5.94	1.52	1.61
1	A	4228	OMG	O3'-P	-5.94	1.52	1.61
17	I	72	HIS	CE1-NE2	5.93	1.38	1.32
24	S	32	SER	CA-CB	-5.90	1.46	1.53
1	A	704	C	O3'-P	-5.90	1.52	1.61
1	A	1866	U	O3'-P	-5.89	1.52	1.61
2	B	5	A	O3'-P	-5.86	1.52	1.61
38	i	18	HIS	CE1-NE2	5.84	1.38	1.32
1	A	4372	U	O3'-P	-5.81	1.52	1.61
1	A	1628	C	O3'-P	-5.80	1.52	1.61
1	A	1521	C	P-OP1	-5.76	1.37	1.49
1	A	359	A	P-OP2	-5.75	1.37	1.49
43	u	23	ARG	CZ-NH2	5.74	1.41	1.33
1	A	3709	U	O3'-P	5.73	1.69	1.61
1	A	1415	G	O5'-C5'	5.72	1.51	1.42
6	F	85	HIS	CE1-NE2	5.72	1.38	1.32
1	A	1547	A	O3'-P	-5.71	1.52	1.61
17	I	143	HIS	CE1-NE2	5.71	1.38	1.32
1	A	1466	G	O3'-P	5.70	1.69	1.61
19	K	107	SER	CA-CB	-5.69	1.44	1.53
22	N	54	HIS	CG-ND1	5.69	1.44	1.38
2	B	45	U	O3'-P	-5.68	1.52	1.61
2	B	67	C	O3'-P	-5.67	1.52	1.61
1	A	4977	A	O3'-P	-5.67	1.52	1.61
1	A	1660	U	P-OP2	-5.67	1.37	1.49
1	A	2780	C	O3'-P	-5.66	1.52	1.61
1	A	1689	G	P-OP2	-5.64	1.37	1.49
19	K	7	HIS	CE1-NE2	5.58	1.38	1.32
1	A	1721	G	O5'-C5'	5.55	1.50	1.42
1	A	1320	U	O3'-P	-5.54	1.52	1.61
1	A	4231	C	O3'-P	-5.53	1.52	1.61
21	M	71	SER	CA-CB	-5.52	1.47	1.53
1	A	2506	G	O3'-P	-5.51	1.52	1.61
1	A	4076	G	O3'-P	-5.51	1.52	1.61
27	V	49	HIS	CE1-NE2	5.51	1.38	1.32
1	A	2510	G	O3'-P	-5.50	1.52	1.61
1	A	1721	G	O3'-P	5.49	1.69	1.61
16	t	46	ASP	CG-OD1	5.49	1.35	1.25
43	u	23	ARG	CD-NE	5.49	1.53	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	336	A	O5'-C5'	5.47	1.50	1.42
10	n	195	HIS	CE1-NE2	5.47	1.38	1.32
27	V	13	SER	CA-CB	-5.47	1.44	1.53
1	A	1514	U	O3'-P	-5.47	1.52	1.61
6	F	255	SER	CA-CB	-5.47	1.44	1.53
29	X	34	HIS	CE1-NE2	5.45	1.38	1.32
37	f	43	HIS	CE1-NE2	5.45	1.38	1.32
1	A	4756	C	O5'-C5'	5.44	1.50	1.42
1	A	94	A	O3'-P	-5.44	1.52	1.61
6	F	60	HIS	CG-ND1	5.44	1.44	1.38
17	I	44	SER	CA-CB	-5.44	1.44	1.53
22	N	98	HIS	CE1-NE2	5.42	1.38	1.32
1	A	310	G	O3'-P	-5.41	1.53	1.61
1	A	4469	U	O3'-P	-5.41	1.53	1.61
1	A	409	G	O3'-P	-5.40	1.53	1.61
1	A	1310	C	O3'-P	-5.38	1.53	1.61
18	J	26	PHE	C-O	-5.36	1.18	1.24
31	Z	78	HIS	CE1-NE2	5.36	1.38	1.32
14	r	13	HIS	CA-CB	5.35	1.59	1.52
14	r	13	HIS	CD2-NE2	5.34	1.43	1.37
1	A	4753	U	O3'-P	-5.33	1.53	1.61
27	V	7	HIS	CE1-NE2	5.33	1.37	1.32
1	A	370	U	O3'-P	-5.33	1.53	1.61
24	S	35	SER	CA-CB	-5.32	1.45	1.53
1	A	3689	G	O3'-P	-5.32	1.53	1.61
1	A	1599	A	O3'-P	-5.31	1.53	1.61
1	A	733	A	O3'-P	-5.31	1.53	1.61
1	A	3650	C	O3'-P	-5.30	1.53	1.61
1	A	1628	C	P-OP1	-5.30	1.38	1.49
17	I	90	HIS	CG-ND1	5.30	1.44	1.38
31	Z	108	SER	CA-CB	-5.26	1.45	1.53
1	A	4755	G	O5'-C5'	5.25	1.50	1.42
3	C	27	U	O3'-P	-5.25	1.53	1.61
1	A	2518	G	O3'-P	-5.24	1.53	1.61
1	A	3718	A2M	O3'-P	5.24	1.61	1.56
1	A	3945	A	O3'-P	5.23	1.69	1.61
16	t	181	HIS	CE1-NE2	5.23	1.37	1.32
1	A	1519	C	O3'-P	-5.22	1.53	1.61
1	A	1787	A	O5'-C5'	5.22	1.50	1.42
1	A	4364	G	O5'-C5'	-5.22	1.34	1.42
3	C	62	A	O3'-P	5.21	1.69	1.61
9	m	102	SER	CA-CB	-5.21	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	234	G	O3'-P	5.20	1.69	1.61
1	A	4233	A	O3'-P	5.19	1.69	1.61
1	A	3669	G	O3'-P	5.18	1.69	1.61
1	A	1674	C	O3'-P	-5.17	1.53	1.61
1	A	384	A	O3'-P	-5.17	1.53	1.61
1	A	4988	U	O5'-C5'	5.15	1.50	1.42
30	Y	68	HIS	CG-ND1	5.13	1.43	1.38
4	D	83	HIS	CB-CG	-5.12	1.43	1.50
26	U	16	SER	CA-CB	-5.12	1.44	1.53
6	F	112	HIS	CE1-NE2	5.12	1.37	1.32
1	A	3757	G	O5'-C5'	5.12	1.50	1.42
1	A	4944	C	O3'-P	-5.11	1.53	1.61
1	A	266	C	O5'-C5'	5.11	1.50	1.42
1	A	4970	C	O3'-P	-5.10	1.53	1.61
24	S	96	HIS	CE1-NE2	5.09	1.37	1.32
5	E	245	HIS	CE1-NE2	5.08	1.37	1.32
5	E	236	HIS	CE1-NE2	5.08	1.37	1.32
1	A	4978	G	P-OP2	-5.08	1.38	1.49
1	A	2423	A	C1'-N9	-5.05	1.40	1.48
1	A	1357	C	P-OP1	-5.05	1.38	1.49
22	N	22	HIS	CE1-NE2	5.05	1.37	1.32
1	A	5044	A	O3'-P	5.04	1.68	1.61
22	N	54	HIS	CE1-NE2	5.03	1.37	1.32
30	Y	101	HIS	C-O	-5.02	1.17	1.24
1	A	1919	G	O5'-C5'	-5.02	1.35	1.42
1	A	93	G	O3'-P	-5.02	1.53	1.61
5	E	258	HIS	ND1-CE1	5.01	1.37	1.32
40	k	45	HIS	CG-ND1	5.01	1.43	1.38
1	A	1525	A	O3'-P	-5.01	1.53	1.61

All (4180) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	277	G	C2'-C3'-O3'	-19.75	84.08	113.70
1	A	2652	G	C4'-C3'-O3'	-19.08	84.38	113.00
1	A	4722	G	C2'-C3'-O3'	-18.83	85.45	113.70
1	A	209	U	C4'-C3'-O3'	-18.80	84.81	113.00
1	A	4273	A	C3'-C2'-O2'	18.46	138.39	110.70
1	A	2396	A	C3'-C2'-O2'	-18.40	87.00	114.60
1	A	4270	C	C1'-C2'-O2'	-18.36	84.26	111.80
1	A	276	C	C1'-C2'-O2'	-18.11	81.23	108.40
1	A	4273	A	C1'-C2'-O2'	-17.95	81.48	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1415	G	C4'-C3'-O3'	17.45	139.17	113.00
1	A	207	G	C1'-C2'-O2'	-16.81	83.19	108.40
1	A	1734	G	C1'-C2'-O2'	-16.47	87.09	111.80
1	A	2585	C	C2'-C3'-O3'	-16.29	89.26	113.70
1	A	2087	C	C1'-C2'-O2'	-16.16	84.15	108.40
1	A	1721	G	C2'-C3'-O3'	-16.13	89.50	113.70
27	V	14	ARG	CB-CG-CD	-16.04	74.40	111.30
1	A	266	C	C4'-C3'-O3'	15.51	136.26	113.00
1	A	2090	U	C2'-C3'-O3'	15.39	132.58	109.50
1	A	4375	C	C1'-C2'-O2'	-15.28	85.48	108.40
1	A	234	G	C3'-C2'-O2'	-15.23	91.75	114.60
1	A	3878	C	C1'-C2'-O2'	-15.13	89.11	111.80
1	A	209	U	C1'-C2'-O2'	-15.08	85.78	108.40
1	A	3868	G	C1'-C2'-O2'	-14.95	89.38	111.80
1	A	1415	G	C2'-C3'-O3'	-14.89	91.36	113.70
1	A	2426	U	C2'-C3'-O3'	-14.79	91.51	113.70
1	A	2438	A	C1'-C2'-O2'	-14.75	89.67	111.80
1	A	58	G	C1'-C2'-O2'	-14.68	89.78	111.80
1	A	4273	A	C2'-C3'-O3'	14.56	135.53	113.70
1	A	2473	A	C1'-C2'-O2'	14.53	130.19	108.40
1	A	233	U	C4'-C3'-O3'	-14.46	91.31	113.00
1	A	4266	G	C1'-C2'-O2'	-14.44	90.14	111.80
1	A	1654	G	C1'-C2'-O2'	-14.24	90.44	111.80
1	A	4507	A	C1'-C2'-O2'	-14.23	87.05	108.40
4	D	193	ARG	NE-CZ-NH2	-14.20	106.42	119.20
1	A	2675	G	C2'-C3'-O3'	14.17	130.75	109.50
3	C	98	C	C2'-C3'-O3'	-13.94	92.79	113.70
23	R	49	PRO	CB-CA-C	-13.88	93.22	111.12
6	F	266	THR	CA-C-N	-13.88	96.25	122.06
6	F	266	THR	C-N-CA	-13.88	96.25	122.06
1	A	2332	A	C1'-C2'-O2'	-13.62	91.36	111.80
3	C	94	G	C1'-C2'-O2'	-13.59	91.41	111.80
1	A	4270	C	C4'-C3'-O3'	-13.48	89.17	109.40
1	A	2042	A	C3'-C2'-O2'	-13.41	94.49	114.60
1	A	308	G	C1'-C2'-O2'	-13.39	91.72	111.80
1	A	4067	U	C4'-C3'-O3'	13.38	133.07	113.00
1	A	70	A	C1'-C2'-O2'	-13.36	91.76	111.80
1	A	276	C	O4'-C4'-C3'	-13.30	90.70	104.00
1	A	957	G	C1'-C2'-O2'	-13.28	88.48	108.40
1	A	1721	G	C4'-C3'-O3'	13.24	132.86	113.00
1	A	426	A	C1'-C2'-O2'	-13.05	88.83	108.40
1	A	1754	U	C4'-C3'-O3'	12.96	132.44	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	I	110	PRO	CB-CA-C	-12.88	95.21	110.92
1	A	2440	U	C1'-C2'-O2'	-12.78	89.23	108.40
28	W	52	CYS	CB-CA-C	12.68	127.89	109.26
1	A	4946	U	C4'-C3'-O3'	-12.66	94.01	113.00
1	A	2814	C	C2'-C3'-O3'	-12.65	94.72	113.70
26	U	118	PRO	CB-CA-C	-12.50	94.58	110.95
1	A	2786	U	C1'-C2'-O2'	-12.47	89.69	108.40
1	A	648	G	C4'-C3'-O3'	12.46	131.69	113.00
24	S	83	GLU	CA-C-N	-12.44	102.52	122.79
24	S	83	GLU	C-N-CA	-12.44	102.52	122.79
1	A	334	A	C2'-C3'-O3'	-12.43	95.06	113.70
1	A	342	G	C1'-C2'-O2'	-12.42	89.78	108.40
1	A	3824	A	C5'-C4'-C3'	-12.36	97.46	116.00
1	A	2650	G	C2'-C3'-O3'	-12.31	95.24	113.70
1	A	4966	A	C4'-C3'-O3'	-12.28	94.59	113.00
2	B	101	A	C1'-C2'-O2'	-12.24	90.04	108.40
1	A	1676	C	C1'-C2'-O2'	-12.22	93.47	111.80
38	i	19	GLN	CB-CA-C	-12.20	94.12	110.22
1	A	276	C	N1-C1'-C2'	12.18	130.27	112.00
1	A	3618	C	C4'-C3'-O3'	-12.06	94.90	113.00
1	A	2347	A	C1'-C2'-O2'	-12.03	93.75	111.80
1	A	161	G	C1'-C2'-O2'	12.01	126.42	108.40
1	A	234	G	C1'-C2'-O2'	12.00	129.81	111.80
39	j	50	ARG	CB-CA-C	12.00	128.92	110.08
1	A	4677	U	C1'-C2'-O2'	-11.98	93.83	111.80
1	A	276	C	C2'-C3'-O3'	11.93	131.60	113.70
1	A	2740	U	C1'-C2'-O2'	-11.93	93.91	111.80
1	A	4310	A	C1'-C2'-O2'	-11.91	90.53	108.40
1	A	4379	A	C1'-C2'-O2'	11.79	129.49	111.80
1	A	294	G	C4'-C3'-O3'	-11.67	95.49	113.00
26	U	39	HIS	CA-CB-CG	-11.65	102.15	113.80
1	A	5002	U	C1'-C2'-O2'	-11.65	90.92	108.40
1	A	2723	U	C4'-C3'-O3'	-11.64	95.54	113.00
1	A	2828	U	C4'-C3'-O3'	-11.60	95.60	113.00
1	A	1432	G	C1'-C2'-O2'	-11.55	91.08	108.40
1	A	2083	C	C1'-C2'-O2'	-11.53	91.10	108.40
1	A	109	G	O5'-P-OP1	-11.53	73.42	108.00
1	A	47	A	O4'-C1'-C2'	-11.52	94.28	105.80
1	A	4513	A	C3'-C2'-O2'	-11.50	93.44	110.70
1	A	4690	G	C4'-C3'-O3'	-11.41	95.89	113.00
1	A	2821	U	C1'-C2'-O2'	-11.38	91.32	108.40
1	A	3617	G	C4'-C3'-O3'	-11.37	95.94	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	443	G	C1'-C2'-O2'	-11.32	91.41	108.40
21	M	78	PHE	CA-C-N	-11.31	114.37	122.18
21	M	78	PHE	C-N-CA	-11.31	114.37	122.18
1	A	1883	G	C2'-C3'-O3'	-11.30	96.75	113.70
3	C	60	G	C1'-C2'-O2'	-11.28	94.88	111.80
3	C	71	A	C1'-C2'-O2'	-11.28	94.89	111.80
33	b	32	ARG	CG-CD-NE	-11.24	87.26	112.00
3	C	100	U	C4'-C3'-O3'	-11.21	96.19	113.00
1	A	2426	U	C4'-C3'-O3'	-11.16	96.26	113.00
1	A	1921	C	C4'-C3'-O3'	-11.15	92.67	109.40
1	A	1607	C	C1'-C2'-O2'	11.13	125.10	108.40
1	A	325	U	C1'-C2'-O2'	-11.13	91.71	108.40
1	A	233	U	C2'-C3'-O3'	-11.09	97.06	113.70
1	A	1622	U	C1'-C2'-O2'	-11.09	91.77	108.40
1	A	2826	U	C4'-C3'-O3'	-11.03	92.85	109.40
19	K	161	SER	CA-C-N	-11.03	100.47	121.54
19	K	161	SER	C-N-CA	-11.03	100.47	121.54
1	A	277	G	O5'-P-OP1	-11.01	74.98	108.00
1	A	2348	G	C1'-C2'-O2'	-10.99	95.31	111.80
42	Q	22	VAL	CA-C-N	-10.99	99.88	121.41
42	Q	22	VAL	C-N-CA	-10.99	99.88	121.41
1	A	109	G	O5'-P-OP2	-10.93	75.23	108.00
1	A	5047	C	C1'-C2'-O2'	-10.93	95.41	111.80
1	A	4189	U	C2'-C3'-O3'	-10.91	97.33	113.70
3	C	152	U	C1'-C2'-O2'	-10.88	92.08	108.40
1	A	2900	U	C1'-C2'-O2'	10.86	124.68	108.40
1	A	2781	G	C2'-C3'-O3'	-10.85	97.42	113.70
1	A	137	G	C1'-C2'-O2'	10.85	124.67	108.40
1	A	193	G	C2'-C3'-O3'	10.80	129.90	113.70
1	A	1307	A	C1'-C2'-O2'	-10.76	92.26	108.40
1	A	1351	G	C1'-C2'-O2'	-10.73	92.30	108.40
1	A	2782	U	C1'-C2'-O2'	-10.71	95.73	111.80
1	A	3673	C	C1'-C2'-O2'	-10.71	95.74	111.80
21	M	25	PRO	N-CA-C	-10.64	99.19	110.58
19	K	160	HIS	CA-CB-CG	-10.63	103.17	113.80
7	G	181	PRO	CB-CA-C	-10.62	98.25	111.64
1	A	4448	G	C4'-C3'-O3'	-10.55	97.17	113.00
1	A	2440	U	C4'-C3'-O3'	-10.55	97.18	113.00
1	A	3775	A	C4'-C3'-O3'	-10.55	97.18	113.00
1	A	1891	A	C4'-C3'-O3'	-10.54	97.19	113.00
9	m	238	ASP	CA-CB-CG	-10.54	102.06	112.60
20	L	94	THR	CA-CB-OG1	-10.54	93.79	109.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1402	C	C4'-C3'-O3'	10.51	128.76	113.00
1	A	115	C	C4'-C3'-O3'	-10.50	97.25	113.00
6	F	60	HIS	CA-CB-CG	-10.50	103.30	113.80
1	A	1590	C	C2'-C3'-O3'	-10.50	97.96	113.70
1	A	3801	U	C4'-C3'-O3'	-10.46	97.31	113.00
1	A	1604	G	C1'-C2'-O2'	-10.46	92.72	108.40
1	A	360	A	C1'-C2'-O2'	-10.45	96.12	111.80
1	A	4632	U	C4'-C3'-O3'	-10.44	97.33	113.00
1	A	4970	C	C1'-C2'-O2'	-10.42	92.77	108.40
24	S	101	PRO	CB-CA-C	-10.39	97.09	111.85
3	C	102	G	C2'-C3'-O3'	-10.38	98.14	113.70
1	A	2518	G	C4'-C3'-O3'	-10.34	97.49	113.00
1	A	2879	A	C1'-C2'-O2'	-10.33	96.30	111.80
27	V	6	ASN	N-CA-C	-10.33	100.41	113.43
1	A	2686	G	C2'-C3'-O3'	10.33	129.19	113.70
1	A	2510	G	C4'-C3'-O3'	-10.32	97.52	113.00
1	A	3705	G	C5'-C4'-C3'	-10.32	100.52	116.00
1	A	4271	A	C2'-C3'-O3'	10.30	129.15	113.70
1	A	3908	A	C1'-C2'-O2'	-10.29	96.36	111.80
1	A	2051	C	C1'-C2'-O2'	-10.28	92.98	108.40
1	A	2444	U	C1'-C2'-O2'	-10.26	93.01	108.40
5	E	21	ARG	NE-CZ-NH1	-10.23	111.27	121.50
1	A	1818	G	C2'-C3'-O3'	-10.22	94.17	109.50
1	A	1430	C	C1'-C2'-O2'	-10.21	93.08	108.40
1	A	1575	A	C3'-C2'-O2'	-10.21	95.39	110.70
1	A	2299	G	C2'-C3'-O3'	-10.18	98.42	113.70
1	A	5004	C	C1'-C2'-O2'	-10.18	93.12	108.40
1	A	1868	A	C2'-C3'-O3'	-10.18	98.43	113.70
1	A	4325	A	C4'-C3'-O3'	-10.17	97.74	113.00
1	A	2349	A	C4'-C3'-O3'	-10.17	97.75	113.00
1	A	326	C	C2'-C3'-O3'	-10.16	98.45	113.70
1	A	715	G	C3'-C2'-O2'	10.16	125.94	110.70
1	A	1899	G	C2'-C3'-O3'	-10.15	98.47	113.70
1	A	654	C	C2'-C3'-O3'	10.15	128.92	113.70
1	A	3633	C	C2'-C3'-O3'	-10.14	98.48	113.70
1	A	2320	G	C1'-C2'-O2'	-10.14	93.19	108.40
1	A	1497	A	C1'-C2'-O2'	-10.12	96.63	111.80
1	A	3618	C	C5'-C4'-C3'	-10.11	100.84	116.00
37	f	43	HIS	CA-CB-CG	-10.11	103.69	113.80
3	C	33	G	C2'-C3'-O3'	-10.07	98.59	113.70
1	A	1240	G	C2'-C3'-O3'	-10.07	98.59	113.70
3	C	70	G	C3'-C2'-O2'	-10.07	99.50	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4674	C	C1'-C2'-O2'	-10.06	93.30	108.40
6	F	100	ARG	CB-CG-CD	-10.06	88.16	111.30
4	D	52	PRO	CA-C-N	-10.06	111.47	123.44
4	D	52	PRO	C-N-CA	-10.06	111.47	123.44
18	J	75	GLN	CB-CG-CD	10.05	129.69	112.60
1	A	4497	U	C3'-C2'-O2'	-10.04	95.63	110.70
6	F	275	SER	CA-C-N	-10.03	105.37	122.92
6	F	275	SER	C-N-CA	-10.03	105.37	122.92
1	A	1891	A	C1'-C2'-O2'	-10.03	93.36	108.40
1	A	4114	C	C2'-C3'-O3'	-10.02	98.67	113.70
1	A	4435	U	C3'-C2'-O2'	10.02	125.72	110.70
3	C	50	C	C4'-C3'-O3'	-10.02	97.98	113.00
1	A	276	C	C3'-C2'-O2'	10.01	125.72	110.70
1	A	4310	A	C2'-C3'-O3'	-10.00	98.69	113.70
1	A	5053	U	C2'-C3'-O3'	-10.00	94.50	109.50
1	A	386	A	C2'-C3'-O3'	9.98	128.67	113.70
1	A	1641	G	C1'-C2'-O2'	-9.96	96.86	111.80
1	A	3773	U	C4'-C3'-O3'	9.96	124.33	109.40
1	A	406	C	C1'-C2'-O2'	-9.95	93.47	108.40
1	A	4719	G	C1'-C2'-O2'	-9.95	96.88	111.80
1	A	3674	G	C1'-C2'-O2'	9.94	123.31	108.40
1	A	663	G	C4'-C3'-O3'	9.93	127.90	113.00
1	A	3674	G	C2'-C3'-O3'	-9.93	98.80	113.70
1	A	1722	C	C2'-C3'-O3'	-9.92	98.81	113.70
1	A	1268	G	C2'-C3'-O3'	9.92	124.38	109.50
1	A	3817	A	C3'-C2'-O2'	-9.90	99.75	114.60
1	A	4188	U	C1'-C2'-O2'	-9.89	93.56	108.40
1	A	3905	A	C1'-C2'-O2'	-9.88	93.57	108.40
5	E	4	ARG	CG-CD-NE	-9.88	90.26	112.00
1	A	2299	G	C1'-C2'-O2'	-9.88	93.58	108.40
1	A	1823	G	C3'-C2'-O2'	9.88	125.52	110.70
1	A	2276	A	C2'-C3'-O3'	-9.88	98.88	113.70
1	A	2746	A	C4'-C3'-O3'	-9.87	98.20	113.00
1	A	5002	U	C4'-C3'-O3'	-9.86	98.21	113.00
21	M	18	PRO	CB-CA-C	-9.85	99.55	111.46
1	A	1911	C	C2'-C3'-O3'	-9.84	98.94	113.70
3	C	152	U	C4'-C3'-O3'	-9.83	98.26	113.00
1	A	107	G	C1'-C2'-O2'	-9.82	93.67	108.40
1	A	2059	C	C2'-C3'-O3'	-9.82	98.97	113.70
1	A	2376	A	C2'-C3'-O3'	-9.80	99.00	113.70
1	A	4364	G	C5'-C4'-C3'	-9.79	101.32	116.00
1	A	1878	G	C2'-C3'-O3'	-9.78	99.03	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2802	C	C4'-C3'-O3'	-9.78	98.33	113.00
1	A	2428	A	O4'-C1'-C2'	-9.77	96.03	105.80
1	A	4213	A	C1'-C2'-O2'	-9.75	93.77	108.40
1	A	2257	C	C4'-C3'-O3'	-9.73	94.81	109.40
39	j	59	SER	CA-C-N	-9.72	106.50	122.54
39	j	59	SER	C-N-CA	-9.72	106.50	122.54
1	A	3786	U	C1'-C2'-O2'	-9.72	97.22	111.80
1	A	3752	C	C4'-C3'-O3'	-9.70	98.44	113.00
3	C	37	A	C1'-C2'-O2'	-9.70	97.25	111.80
1	A	1697	G	N9-C1'-C2'	9.70	128.55	114.00
1	A	409	G	C4'-C3'-O3'	-9.69	98.47	113.00
1	A	4583	C	C1'-C2'-O2'	9.68	126.32	111.80
1	A	1917	A	C4'-C3'-O3'	-9.66	98.50	113.00
3	C	150	C	C4'-C3'-O3'	9.66	127.50	113.00
1	A	4559	A	C1'-C2'-O2'	-9.65	93.92	108.40
1	A	2505	C	C4'-C3'-O3'	9.64	123.87	109.40
1	A	2318	G	C1'-C2'-O2'	9.63	122.85	108.40
32	a	49	CYS	CB-CA-C	9.63	125.56	109.67
1	A	4556	U	C4'-C3'-O3'	-9.61	94.99	109.40
1	A	1510	G	C1'-C2'-O2'	-9.61	93.99	108.40
3	C	47	C	C2'-C3'-O3'	-9.60	99.30	113.70
1	A	2441	C	C4'-C3'-O3'	-9.60	98.61	113.00
1	A	296	A	C2'-C3'-O3'	9.56	123.84	109.50
1	A	1471	U	C4'-C3'-O3'	-9.56	98.66	113.00
1	A	2510	G	C1'-C2'-O2'	-9.55	94.08	108.40
1	A	1924	C	C3'-C2'-O2'	-9.54	96.39	110.70
1	A	303	C	C4'-C3'-O3'	-9.54	98.69	113.00
1	A	62	A	C4'-C3'-O3'	-9.54	98.69	113.00
1	A	4231	C	C2'-C3'-O3'	-9.52	99.42	113.70
1	A	4455	G	C1'-C2'-O2'	-9.52	94.12	108.40
1	A	92	C	C1'-C2'-O2'	-9.51	97.53	111.80
1	A	4627	U	C1'-C2'-O2'	-9.51	94.13	108.40
1	A	4560	C	C1'-C2'-O2'	-9.50	97.55	111.80
40	k	29	PRO	CB-CA-C	-9.50	98.53	110.98
1	A	4502	C	C2'-C3'-O3'	-9.49	99.46	113.70
1	A	3651	A	C1'-C2'-O2'	-9.49	94.17	108.40
1	A	3839	G	C1'-C2'-O2'	-9.47	97.59	111.80
1	A	349	A	C1'-C2'-O2'	-9.46	97.60	111.80
1	A	2740	U	C4'-C3'-O3'	-9.46	95.21	109.40
2	B	114	U	C2'-C3'-O3'	-9.46	99.51	113.70
1	A	1425	G	C5'-C4'-C3'	-9.46	101.82	116.00
3	C	94	G	C2'-C3'-O3'	-9.46	95.32	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	b	110	LYS	CB-CA-C	-9.45	95.69	110.81
3	C	47	C	C3'-C2'-O2'	9.45	124.88	110.70
22	N	136	ARG	CG-CD-NE	-9.44	91.22	112.00
10	n	137	ARG	CG-CD-NE	-9.44	91.23	112.00
1	A	4522	G	C4'-C3'-O3'	-9.44	98.84	113.00
1	A	3901	A	C2'-C3'-O3'	-9.43	99.55	113.70
1	A	1950	U	C1'-C2'-O2'	-9.43	94.26	108.40
3	C	58	G	C1'-C2'-O2'	-9.43	97.66	111.80
6	F	62	THR	CA-C-N	-9.43	107.55	122.73
6	F	62	THR	C-N-CA	-9.43	107.55	122.73
1	A	4237	C	C4'-C3'-O3'	-9.42	98.87	113.00
1	A	386	A	C4'-C3'-O3'	-9.42	98.87	113.00
1	A	4280	A	C1'-C2'-O2'	-9.41	94.28	108.40
1	A	914	U	C2'-C3'-O3'	9.40	123.61	109.50
10	n	103	ARG	CB-CG-CD	9.40	132.92	111.30
17	I	73	PHE	CA-CB-CG	-9.39	104.41	113.80
1	A	1497	A	C4'-C3'-O3'	-9.38	95.32	109.40
1	A	2526	C	C1'-C2'-O2'	-9.38	94.33	108.40
14	r	65	ARG	CB-CG-CD	-9.38	89.74	111.30
1	A	1352	C	C3'-C2'-O2'	9.37	124.75	110.70
6	F	145	GLU	CB-CG-CD	9.36	128.52	112.60
1	A	293	G	C2'-C3'-O3'	-9.36	99.66	113.70
1	A	3757	G	O4'-C1'-C2'	-9.35	98.25	107.60
1	A	439	G	C4'-C3'-O3'	-9.34	98.99	113.00
1	A	2272	C	C2'-C3'-O3'	-9.34	99.69	113.70
39	j	42	CYS	CA-C-N	-9.34	103.11	121.41
39	j	42	CYS	C-N-CA	-9.34	103.11	121.41
1	A	2674	A	C1'-C2'-O2'	-9.34	97.80	111.80
1	A	4755	G	C1'-C2'-O2'	9.33	122.39	108.40
1	A	512	U	C4'-C3'-O3'	9.32	126.99	113.00
1	A	2653	C	C4'-C3'-O3'	-9.32	99.02	113.00
1	A	1920	C	C1'-C2'-O2'	-9.31	97.84	111.80
24	S	94	THR	CA-CB-OG1	-9.30	95.65	109.60
1	A	1859	C	C3'-C2'-O2'	9.30	124.65	110.70
1	A	4163	U	C3'-C2'-O2'	9.30	124.65	110.70
14	r	12	PRO	N-CA-CB	-9.30	95.86	103.30
1	A	1525	A	C4'-C3'-O3'	-9.30	99.06	113.00
1	A	4546	A	C1'-C2'-O2'	-9.29	94.47	108.40
1	A	5059	C	C3'-C2'-O2'	9.28	124.61	110.70
1	A	208	A	C1'-C2'-O2'	-9.27	94.49	108.40
1	A	2686	G	P-O5'-C5'	9.27	134.80	120.90
1	A	3663	A	C2'-C3'-O3'	-9.25	95.62	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	385	A	C1'-C2'-O2'	-9.25	97.93	111.80
1	A	3823	G	C3'-C2'-O2'	-9.24	96.83	110.70
15	s	117	LYS	N-CA-CB	9.23	123.46	110.07
1	A	2825	A	C1'-C2'-O2'	-9.22	97.97	111.80
14	r	13	HIS	CA-CB-CG	9.22	123.02	113.80
1	A	1306	C	C1'-C2'-O2'	-9.20	94.59	108.40
4	D	176	ASP	CB-CA-C	-9.20	93.45	110.01
14	r	36	ARG	CB-CG-CD	-9.20	90.14	111.30
14	r	80	GLU	CB-CG-CD	9.18	128.21	112.60
1	A	4385	A	C1'-C2'-O2'	-9.18	98.04	111.80
1	A	2857	A	C1'-C2'-O2'	-9.17	94.64	108.40
1	A	4357	G	C1'-C2'-O2'	-9.17	94.64	108.40
1	A	1393	G	C1'-C2'-O2'	-9.15	94.67	108.40
1	A	3619	G	C4'-C3'-O3'	-9.15	99.28	113.00
1	A	2517	A	C4'-C3'-O3'	-9.15	99.28	113.00
1	A	4124	G	C1'-C2'-O2'	-9.14	98.08	111.80
1	A	4271	A	C4'-C3'-O3'	-9.14	99.29	113.00
1	A	4121	G	C4'-C3'-O3'	-9.13	95.70	109.40
1	A	4723	A	C1'-C2'-O2'	-9.13	94.71	108.40
1	A	2473	A	C2'-C3'-O3'	-9.11	100.03	113.70
1	A	2786	U	C4'-C3'-O3'	-9.11	99.33	113.00
1	A	2594	C	C4'-C3'-O3'	-9.11	99.34	113.00
6	F	306	ARG	CG-CD-NE	-9.11	91.97	112.00
1	A	4766	C	C4'-C3'-O3'	-9.10	99.34	113.00
32	a	90	ARG	CD-NE-CZ	-9.10	111.66	124.40
13	q	54	ARG	CG-CD-NE	9.10	132.01	112.00
1	A	4335	C	C2'-C3'-O3'	-9.09	100.06	113.70
1	A	4727	A	C4'-C3'-O3'	-9.08	99.37	113.00
1	A	4867	G	C4'-C3'-O3'	-9.08	99.37	113.00
1	A	1468	C	C1'-C2'-O2'	-9.08	94.78	108.40
1	A	430	G	C4'-C3'-O3'	-9.07	99.39	113.00
1	A	1523	A	C4'-C3'-O3'	-9.07	99.40	113.00
1	A	4269	G	C2'-C3'-O3'	-9.06	100.11	113.70
1	A	2655	C	C2'-C3'-O3'	-9.05	100.12	113.70
42	Q	85	ARG	CB-CG-CD	-9.05	90.48	111.30
1	A	1282	G	C4'-C3'-O3'	-9.04	99.43	113.00
1	A	1922	G	C3'-C2'-O2'	9.05	124.27	110.70
1	A	1932	A	C4'-C3'-O3'	-9.04	99.43	113.00
26	U	55	LYS	CB-CA-C	-9.04	91.25	109.79
1	A	3698	G	C1'-C2'-O2'	-9.04	94.84	108.40
3	C	46	G	C5'-C4'-C3'	-9.04	102.44	116.00
1	A	943	A	C1'-C2'-O2'	-9.03	98.25	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3787	G	C4'-C3'-O3'	-9.02	95.87	109.40
1	A	1338	G	C4'-C3'-O3'	-9.02	95.88	109.40
1	A	4210	U	C1'-C2'-O2'	-9.02	94.88	108.40
1	A	4349	C	C4'-C3'-O3'	-9.02	99.48	113.00
1	A	4528	G	C4'-C3'-O3'	-9.02	99.48	113.00
1	A	1321	G	C1'-C2'-O2'	-9.01	94.88	108.40
1	A	2745	A	C1'-C2'-O2'	-9.01	94.88	108.40
27	V	41	ARG	CB-CG-CD	-9.00	90.60	111.30
1	A	2786	U	C2'-C3'-O3'	-8.99	100.21	113.70
1	A	244	G	C4'-C3'-O3'	-8.99	99.52	113.00
1	A	4343	U	C1'-C2'-O2'	-8.98	94.94	108.40
17	I	50	ASN	CA-CB-CG	-8.97	103.62	112.60
1	A	1887	G	C1'-C2'-O2'	-8.97	94.94	108.40
1	A	377	A	C2'-C3'-O3'	-8.97	100.25	113.70
39	j	40	SER	N-CA-CB	-8.96	95.34	110.49
42	Q	18	LEU	CA-C-N	-8.96	103.84	121.41
42	Q	18	LEU	C-N-CA	-8.96	103.84	121.41
1	A	4486	C	C3'-C2'-O2'	8.96	124.14	110.70
1	A	2688	G	C3'-C2'-O2'	8.95	124.13	110.70
1	A	1380	G	C1'-C2'-O2'	-8.95	98.38	111.80
1	A	2784	C	C1'-C2'-O2'	-8.95	94.98	108.40
1	A	150	U	C1'-C2'-O2'	-8.94	98.39	111.80
1	A	4675	U	C2'-C3'-O3'	-8.94	100.29	113.70
1	A	66	A	C4'-C3'-O3'	-8.93	99.60	113.00
1	A	1311	G	C1'-C2'-O2'	-8.93	95.00	108.40
1	A	313	U	C1'-C2'-O2'	-8.93	95.01	108.40
4	D	93	LYS	CB-CA-C	-8.92	96.66	111.02
17	I	144	GLU	CB-CA-C	-8.92	93.95	110.01
6	F	104	PRO	CB-CA-C	-8.91	99.97	111.46
1	A	329	A	C4'-C3'-O3'	-8.91	99.64	113.00
1	A	273	U	C2'-C3'-O3'	8.90	127.06	113.70
1	A	2676	A	C3'-C2'-O2'	8.90	124.05	110.70
4	D	57	PRO	CB-CA-C	-8.90	99.30	110.95
2	B	79	U	C2'-C3'-O3'	-8.89	100.36	113.70
1	A	1853	G	C1'-C2'-O2'	-8.89	95.06	108.40
1	A	3787	G	C1'-C2'-O2'	-8.88	98.48	111.80
1	A	2315	G	C2'-C3'-O3'	-8.88	100.38	113.70
4	D	108	PRO	CB-CA-C	-8.87	99.88	111.23
26	U	60	HIS	CA-CB-CG	-8.87	104.93	113.80
5	E	241	PRO	CB-CA-C	-8.86	99.69	111.12
1	A	4211	C	C3'-C2'-O2'	-8.85	97.42	110.70
1	A	4272	G	C2'-C3'-O3'	-8.85	96.22	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3888	G	C4'-C3'-O3'	-8.85	99.72	113.00
1	A	189	G	C2'-C3'-O3'	8.85	126.97	113.70
1	A	4983	C	C2'-C3'-O3'	-8.85	100.43	113.70
1	A	4400	G	C4'-C3'-O3'	-8.85	99.73	113.00
1	A	3640	U	C1'-C2'-O2'	-8.84	95.14	108.40
25	T	50	PRO	CB-CA-C	-8.83	100.51	111.64
1	A	2782	U	C3'-C2'-O2'	-8.83	101.36	114.60
1	A	1595	G	C1'-C2'-O2'	-8.82	95.17	108.40
1	A	1239	C	C4'-C3'-O3'	-8.81	99.79	113.00
1	A	4378	A	C4'-C3'-O3'	-8.81	99.79	113.00
1	A	3663	A	C1'-C2'-O2'	8.80	125.00	111.80
1	A	208	A	C4'-C3'-O3'	-8.79	99.81	113.00
1	A	2668	G	C4'-C3'-O3'	-8.79	99.81	113.00
1	A	2406	G	C1'-C2'-O2'	-8.78	95.22	108.40
1	A	4278	C	C3'-C2'-O2'	-8.79	97.52	110.70
1	A	2330	G	C4'-C3'-O3'	-8.78	99.83	113.00
11	o	130	PRO	CB-CA-C	-8.78	100.29	111.71
1	A	4274	A	C1'-C2'-O2'	-8.78	95.23	108.40
42	Q	53	PRO	CB-CA-C	-8.78	100.14	111.46
1	A	362	A	C4'-C3'-O3'	-8.78	99.83	113.00
1	A	1653	A	C4'-C3'-O3'	-8.78	99.83	113.00
1	A	4634	U	C1'-C2'-O2'	-8.76	98.66	111.80
1	A	1670	G	C4'-C3'-O3'	-8.75	99.87	113.00
1	A	1731	C	C4'-C3'-O3'	-8.75	99.88	113.00
10	n	133	PRO	CB-CA-C	-8.75	100.25	110.92
1	A	3664	G	C1'-C2'-O2'	-8.72	95.31	108.40
4	D	193	ARG	NH1-CZ-NH2	8.72	130.64	119.30
1	A	1237	C	C4'-C3'-O3'	-8.72	99.92	113.00
1	A	4655	A	C4'-C3'-O3'	-8.72	99.92	113.00
1	A	3735	G	C1'-C2'-O2'	8.71	121.47	108.40
1	A	3626	G	P-O5'-C5'	8.71	133.96	120.90
1	A	4546	A	C4'-C3'-O3'	-8.71	99.94	113.00
26	U	7	LYS	CB-CA-C	-8.70	96.36	110.79
1	A	1824	G	C4'-C3'-O3'	-8.69	99.96	113.00
1	A	2873	U	C1'-C2'-O2'	-8.69	95.37	108.40
21	M	26	PRO	CB-CA-C	-8.69	100.11	111.23
3	C	39	G	C1'-C2'-O2'	-8.68	98.78	111.80
1	A	2525	U	C4'-C3'-O3'	-8.68	99.98	113.00
23	R	73	HIS	CA-CB-CG	-8.68	105.12	113.80
1	A	1472	C	C5'-C4'-C3'	-8.66	103.01	116.00
1	A	199	G	C4'-C3'-O3'	-8.65	96.42	109.40
1	A	17	A	C3'-C2'-O2'	-8.65	97.72	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	190	G	C2'-C3'-O3'	-8.64	100.74	113.70
1	A	1952	G	C2'-C3'-O3'	-8.63	100.75	113.70
1	A	1471	U	C1'-C2'-O2'	-8.63	95.46	108.40
1	A	1	C	N1-C1'-C2'	8.63	126.94	114.00
1	A	3811	G	C1'-C2'-O2'	-8.62	98.86	111.80
28	W	53	PRO	CB-CA-C	-8.62	100.20	111.23
1	A	3889	G	C1'-C2'-O2'	-8.61	98.88	111.80
1	A	1337	A	C4'-C3'-O3'	-8.61	100.08	113.00
1	A	71	C	C4'-C3'-O3'	-8.61	100.09	113.00
1	A	407	A	C4'-C3'-O3'	-8.60	100.10	113.00
1	A	2471	G	O4'-C1'-C2'	-8.60	97.20	105.80
18	J	45	THR	CA-CB-OG1	-8.60	96.70	109.60
1	A	107	G	C4'-C3'-O3'	-8.59	100.12	113.00
1	A	3905	A	C5'-C4'-C3'	-8.59	103.12	116.00
1	A	1934	A	C1'-C2'-O2'	-8.58	95.53	108.40
1	A	2350	U	C3'-C2'-O2'	-8.58	97.83	110.70
16	t	188	ARG	CG-CD-NE	8.58	130.88	112.00
1	A	2350	U	C1'-C2'-O2'	-8.57	95.54	108.40
1	A	4219	A	C1'-C2'-O2'	-8.57	95.54	108.40
1	A	1918	U	C4'-C3'-O3'	-8.57	100.15	113.00
5	E	19	ARG	CG-CD-NE	-8.56	93.17	112.00
1	A	429	A	C4'-C3'-O3'	-8.56	100.17	113.00
1	A	3709	U	C2'-C3'-O3'	8.55	122.33	109.50
1	A	4241	C	C2'-C3'-O3'	-8.55	100.87	113.70
1	A	1362	G	C1'-C2'-O2'	-8.55	95.58	108.40
1	A	63	G	C4'-C3'-O3'	-8.55	100.18	113.00
1	A	2373	C	C2'-C3'-O3'	-8.54	100.89	113.70
1	A	4094	G	C4'-C3'-O3'	8.53	125.80	113.00
1	A	4340	U	C4'-C3'-O3'	-8.53	100.20	113.00
1	A	422	C	C1'-C2'-O2'	-8.53	95.61	108.40
19	K	14	ARG	CG-CD-NE	-8.52	93.25	112.00
1	A	1583	A	C1'-C2'-O2'	8.52	121.18	108.40
1	A	1685	G	C1'-C2'-O2'	-8.52	95.62	108.40
1	A	2900	U	N1-C1'-C2'	-8.52	99.22	112.00
1	A	1590	C	C4'-C3'-O3'	8.51	125.76	113.00
1	A	4546	A	C2'-C3'-O3'	-8.51	100.94	113.70
1	A	3615	G	C4'-C3'-O3'	-8.51	96.64	109.40
1	A	1882	U	C1'-C2'-O2'	-8.50	99.05	111.80
1	A	1302	U	C1'-C2'-O2'	-8.50	95.65	108.40
1	A	1827	C	C1'-C2'-O2'	-8.50	95.65	108.40
1	A	2370	A	C1'-C2'-O2'	-8.49	99.07	111.80
1	A	2288	G	C1'-C2'-O2'	-8.48	95.68	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4321	U	C4'-C3'-O3'	-8.46	100.31	113.00
1	A	318	A	C1'-C2'-O2'	-8.46	95.71	108.40
1	A	4126	C	C4'-C3'-O3'	-8.46	100.31	113.00
1	A	4535	A	C3'-C2'-O2'	8.46	123.39	110.70
5	E	236	HIS	CA-CB-CG	-8.45	105.35	113.80
1	A	4384	U	C4'-C3'-O3'	-8.45	100.33	113.00
1	A	2400	G	C1'-C2'-O2'	-8.44	95.75	108.40
1	A	3727	A	C4'-C3'-O3'	-8.42	100.37	113.00
1	A	246	G	C3'-C2'-O2'	8.42	123.33	110.70
3	C	150	C	C2'-C3'-O3'	-8.42	101.07	113.70
1	A	1512	G	C4'-C3'-O3'	-8.42	100.38	113.00
1	A	1618	G	C1'-C2'-O2'	-8.41	95.78	108.40
1	A	2304	U	C1'-C2'-O2'	-8.41	99.18	111.80
6	F	65	GLU	CB-CA-C	-8.41	91.99	111.09
1	A	3904	G	N9-C1'-C2'	-8.41	101.39	114.00
1	A	1493	G	C1'-C2'-O2'	8.40	120.99	108.40
6	F	278	ASN	CA-CB-CG	-8.39	104.21	112.60
22	N	113	ASP	CB-CA-C	8.38	126.14	110.63
1	A	982	U	C3'-C2'-O2'	8.38	123.27	110.70
6	F	80	ARG	CB-CA-C	-8.37	91.94	110.19
1	A	1089	G	C3'-C2'-O2'	8.37	123.25	110.70
1	A	242	U	C1'-C2'-O2'	-8.36	95.85	108.40
1	A	3849	A	C2'-C3'-O3'	-8.37	101.15	113.70
1	A	4879	C	C4'-C3'-O3'	-8.36	100.46	113.00
1	A	2333	G	O5'-P-OP1	8.36	133.08	108.00
5	E	110	ILE	CB-CA-C	8.36	123.37	110.50
5	E	4	ARG	CB-CA-C	8.36	123.94	109.65
1	A	4670	C	C4'-C3'-O3'	-8.35	100.47	113.00
1	A	2613	C	C4'-C3'-O3'	-8.34	100.49	113.00
1	A	4397	A	C1'-C2'-O2'	-8.34	95.90	108.40
1	A	1866	U	C2'-C3'-O3'	-8.33	101.20	113.70
6	F	86	ARG	CG-CD-NE	-8.33	93.67	112.00
1	A	296	A	C1'-C2'-O2'	-8.33	99.31	111.80
1	A	478	G	C5'-C4'-C3'	-8.33	103.51	116.00
1	A	3900	G	C2'-C3'-O3'	-8.32	101.21	113.70
1	A	327	U	C1'-C2'-O2'	-8.31	99.33	111.80
1	A	361	C	C4'-C3'-O3'	-8.31	96.93	109.40
1	A	2850	A	C1'-C2'-O2'	-8.31	95.94	108.40
1	A	4676	G	C4'-C3'-O3'	-8.30	100.55	113.00
1	A	277	G	N9-C1'-C2'	-8.30	99.55	112.00
43	u	19	ARG	CB-CG-CD	-8.30	92.21	111.30
1	A	1537	A	C1'-C2'-O2'	-8.30	95.95	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2533	C	C3'-C2'-O2'	-8.29	98.26	110.70
17	I	61	ARG	CB-CA-C	-8.29	92.27	109.94
1	A	4729	A	C4'-C3'-O3'	8.29	121.83	109.40
1	A	1349	G	C1'-C2'-O2'	-8.29	95.97	108.40
1	A	325	U	C3'-C2'-O2'	8.28	123.12	110.70
2	B	71	G	C3'-C2'-O2'	-8.29	98.27	110.70
1	A	3909	C	C3'-C2'-O2'	8.28	123.12	110.70
1	A	3937	C	C4'-C3'-O3'	-8.28	100.58	113.00
1	A	3876	A	C4'-C3'-O3'	-8.28	96.99	109.40
1	A	3822	U	C4'-C3'-O3'	-8.27	100.59	113.00
1	A	3912	U	C1'-C2'-O2'	-8.27	95.99	108.40
1	A	4587	G	C1'-C2'-O2'	-8.27	95.99	108.40
1	A	4597	U	C1'-C2'-O2'	-8.27	96.00	108.40
1	A	309	C	C2'-C3'-O3'	-8.26	101.31	113.70
19	K	76	GLU	CA-C-N	-8.26	113.89	126.86
19	K	76	GLU	C-N-CA	-8.26	113.89	126.86
1	A	1671	U	C2'-C3'-O3'	-8.26	101.31	113.70
5	E	109	HIS	CA-C-N	-8.25	111.47	122.94
5	E	109	HIS	C-N-CA	-8.25	111.47	122.94
16	t	124	ASP	CA-C-N	-8.25	106.72	122.06
16	t	124	ASP	C-N-CA	-8.25	106.72	122.06
1	A	235	A	C4'-C3'-O3'	8.24	121.76	109.40
1	A	4625	C	C4'-C3'-O3'	-8.24	100.64	113.00
15	s	53	LYS	CB-CA-C	-8.24	94.02	110.42
1	A	2897	G	C2'-C3'-O3'	-8.24	101.34	113.70
3	C	14	C	C1'-C2'-O2'	-8.23	96.05	108.40
1	A	234	G	O4'-C1'-C2'	-8.23	97.57	105.80
3	C	153	C	C3'-C2'-O2'	8.23	123.05	110.70
1	A	3893	C	C1'-C2'-O2'	-8.23	96.06	108.40
9	m	242	ARG	CB-CA-C	-8.23	97.14	110.79
1	A	4298	A	C3'-C2'-O2'	-8.22	98.37	110.70
1	A	2858	A	C1'-C2'-O2'	-8.22	96.07	108.40
1	A	4683	U	O4'-C4'-C3'	-8.22	95.78	104.00
34	c	30	ARG	CG-CD-NE	8.21	130.07	112.00
4	D	25	GLY	N-CA-C	-8.21	103.79	112.08
1	A	1358	G	O5'-C5'-C4'	-8.20	99.40	111.70
26	U	34	ASN	CA-CB-CG	-8.18	104.42	112.60
26	U	127	LYS	N-CA-C	-8.18	103.09	113.23
1	A	1380	G	C3'-C2'-O2'	-8.18	102.34	114.60
1	A	200	U	C1'-C2'-O2'	-8.16	99.55	111.80
1	A	2330	G	C1'-C2'-O2'	-8.16	96.15	108.40
1	A	2289	C	O5'-C5'-C4'	-8.16	99.46	111.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3814	U	C2'-C3'-O3'	-8.16	101.46	113.70
3	C	80	A	C4'-C3'-O3'	-8.16	100.76	113.00
1	A	4453	C	C3'-C2'-O2'	8.16	122.94	110.70
1	A	2333	G	O5'-P-OP2	-8.15	83.54	108.00
1	A	1607	C	C2'-C3'-O3'	8.15	125.92	113.70
1	A	1525	A	C3'-C2'-O2'	8.14	122.91	110.70
1	A	1874	A	C1'-C2'-O2'	-8.14	96.19	108.40
1	A	2420	A	C3'-C2'-O2'	-8.14	98.49	110.70
1	A	4525	C	C1'-C2'-O2'	-8.14	96.19	108.40
1	A	3800	A	C4'-C3'-O3'	-8.14	100.79	113.00
1	A	3721	U	C3'-C2'-O2'	8.13	122.90	110.70
1	A	4774	C	C4'-C3'-O3'	8.13	125.20	113.00
17	I	34	VAL	CA-C-N	-8.13	113.11	123.19
17	I	34	VAL	C-N-CA	-8.13	113.11	123.19
1	A	2536	A	C4'-C3'-O3'	-8.13	100.81	113.00
1	A	1508	A	C3'-C2'-O2'	8.13	122.89	110.70
1	A	2648	G	C2'-C3'-O3'	-8.12	101.51	113.70
1	A	4592	C	C1'-C2'-O2'	-8.12	96.22	108.40
6	F	189	MET	CB-CG-SD	-8.12	88.34	112.70
1	A	224	U	C1'-C2'-O2'	-8.12	99.63	111.80
1	A	2297	G	C3'-C2'-O2'	-8.11	98.53	110.70
1	A	1500	A	C1'-C2'-O2'	-8.11	96.24	108.40
28	W	40	GLN	CB-CG-CD	-8.11	98.82	112.60
1	A	944	A	C4'-C3'-O3'	-8.10	100.85	113.00
1	A	2653	C	O5'-C5'-C4'	-8.10	99.36	111.50
1	A	1725	U	C4'-C3'-O3'	-8.09	100.86	113.00
1	A	2511	A	C3'-C2'-O2'	-8.09	102.46	114.60
1	A	4169	G	C4'-C3'-O3'	-8.09	100.87	113.00
1	A	353	A	C1'-C2'-O2'	-8.08	99.67	111.80
1	A	1283	G	C1'-C2'-O2'	-8.08	99.67	111.80
1	A	4136	G	C4'-C3'-O3'	8.08	125.12	113.00
1	A	1504	G	C1'-C2'-O2'	-8.08	96.28	108.40
1	A	1556	C	C4'-C3'-O3'	-8.07	100.89	113.00
1	A	1325	C	C1'-C2'-O2'	-8.07	99.70	111.80
3	C	143	G	C2'-C3'-O3'	-8.07	101.60	113.70
1	A	3902	A	C3'-C2'-O2'	8.06	122.80	110.70
1	A	4233	A	C2'-C3'-O3'	-8.06	97.41	109.50
6	F	47	ASN	CA-C-N	-8.06	110.02	122.60
6	F	47	ASN	C-N-CA	-8.06	110.02	122.60
1	A	2396	A	C1'-C2'-O2'	8.06	123.89	111.80
1	A	2752	G	C1'-C2'-O2'	-8.05	96.32	108.40
1	A	2286	G	C2'-C3'-O3'	-8.05	101.62	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2744	A	C2'-C3'-O3'	-8.05	101.62	113.70
1	A	961	G	N9-C1'-C2'	8.05	126.08	114.00
1	A	3708	C	C4'-C3'-O3'	-8.05	100.93	113.00
1	A	2745	A	C2'-C3'-O3'	-8.04	101.63	113.70
1	A	1282	G	C1'-C2'-O2'	-8.04	96.33	108.40
1	A	2529	A	C4'-C3'-O3'	-8.04	100.94	113.00
3	C	37	A	C4'-C3'-O3'	-8.04	97.34	109.40
1	A	194	C	C4'-C3'-O3'	-8.03	100.95	113.00
1	A	1353	G	C4'-C3'-O3'	-8.04	100.95	113.00
2	B	71	G	C5'-C4'-C3'	-8.03	103.95	116.00
1	A	4085	A	C4'-C3'-O3'	-8.03	97.36	109.40
1	A	2330	G	C2'-C3'-O3'	-8.02	101.67	113.70
21	M	172	PRO	CB-CA-C	-8.02	99.11	111.22
1	A	2375	A	C1'-C2'-O2'	-8.01	96.39	108.40
10	n	52	THR	CA-CB-OG1	-8.01	97.59	109.60
1	A	4483	C	C1'-C2'-O2'	8.00	120.41	108.40
42	Q	64	THR	CA-C-N	-8.00	112.04	122.37
42	Q	64	THR	C-N-CA	-8.00	112.04	122.37
42	Q	73	ARG	CA-C-N	-8.00	106.25	121.54
42	Q	73	ARG	C-N-CA	-8.00	106.25	121.54
1	A	4561	C	C1'-C2'-O2'	-7.99	96.41	108.40
6	F	51	PRO	CB-CA-C	-7.99	100.52	110.98
1	A	1853	G	C4'-C3'-O3'	-7.99	101.02	113.00
1	A	53	C	C1'-C2'-O2'	-7.98	96.42	108.40
1	A	1397	A	C4'-C3'-O3'	-7.98	101.03	113.00
1	A	2427	G	C1'-C2'-O2'	-7.98	96.43	108.40
1	A	4487	A	C4'-C3'-O3'	-7.98	101.03	113.00
1	A	4944	C	C1'-C2'-O2'	-7.98	99.83	111.80
1	A	4114	C	C4'-C3'-O3'	7.98	124.97	113.00
1	A	1399	G	C1'-C2'-O2'	7.97	120.36	108.40
1	A	3677	U	C4'-C3'-O3'	-7.97	101.04	113.00
1	A	4725	C	C1'-C2'-O2'	-7.97	96.44	108.40
1	A	85	G	C4'-C3'-O3'	-7.97	97.45	109.40
1	A	443	G	C2'-C3'-O3'	-7.97	101.75	113.70
19	K	26	ARG	CG-CD-NE	-7.97	94.47	112.00
1	A	3663	A	C4'-C3'-O3'	7.97	121.35	109.40
1	A	315	G	C4'-C3'-O3'	-7.96	97.46	109.40
1	A	1599	A	C1'-C2'-O2'	-7.96	96.46	108.40
32	a	93	ARG	CG-CD-NE	-7.96	94.50	112.00
1	A	2801	U	C1'-C2'-O2'	-7.95	96.47	108.40
1	A	420	A	C4'-C3'-O3'	-7.95	101.08	113.00
27	V	7	HIS	CA-CB-CG	-7.95	105.85	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3823	G	C4'-C3'-C2'	-7.94	94.66	102.60
1	A	13	U	C2'-C3'-O3'	7.93	121.40	109.50
1	A	118	C	C2'-C3'-O3'	-7.93	101.80	113.70
1	A	4563	U	C2'-C3'-O3'	-7.93	101.80	113.70
1	A	2618	G	C1'-C2'-O2'	7.93	120.30	108.40
6	F	190	ARG	N-CA-CB	-7.93	99.02	110.36
1	A	65	A	C1'-C2'-O2'	-7.93	99.91	111.80
1	A	1612	G	C4'-C3'-O3'	-7.93	101.11	113.00
1	A	2858	A	C2'-C3'-O3'	-7.92	101.81	113.70
2	B	98	G	C3'-C2'-O2'	-7.92	98.82	110.70
1	A	4272	G	O4'-C1'-C2'	-7.92	97.88	105.80
1	A	4313	A	C4'-C3'-O3'	-7.92	101.12	113.00
6	F	276	ASN	CB-CA-C	7.91	123.42	111.95
1	A	2686	G	C3'-C2'-O2'	7.91	122.56	110.70
1	A	3902	A	C1'-C2'-O2'	-7.91	96.54	108.40
14	r	103	ARG	CB-CG-CD	7.90	129.48	111.30
1	A	2652	G	C3'-C2'-O2'	7.90	122.56	110.70
1	A	1652	U	C4'-C3'-O3'	-7.90	101.15	113.00
1	A	9	C	C5'-C4'-C3'	-7.90	104.15	116.00
1	A	1546	C	C1'-C2'-O2'	-7.90	96.55	108.40
19	K	108	ARG	CB-CG-CD	-7.90	93.14	111.30
35	d	13	ASN	CA-CB-CG	-7.90	104.70	112.60
1	A	2467	U	C1'-C2'-O2'	-7.90	99.96	111.80
1	A	2526	C	C4'-C3'-O3'	-7.89	101.16	113.00
1	A	4563	U	C1'-C2'-O2'	-7.89	96.56	108.40
7	G	24	ARG	CG-CD-NE	7.89	129.37	112.00
1	A	1279	A	C1'-C2'-O2'	-7.89	99.97	111.80
1	A	4067	U	C3'-C2'-O2'	7.89	122.53	110.70
2	B	36	C	C1'-C2'-O2'	7.88	120.22	108.40
1	A	4678	G	C4'-C3'-O3'	-7.88	101.18	113.00
22	N	26	PRO	CB-CA-C	-7.88	100.73	111.21
40	k	16	PHE	CA-CB-CG	-7.88	105.92	113.80
1	A	1613	A	C3'-C2'-O2'	-7.88	102.78	114.60
1	A	1663	C	C1'-C2'-O2'	-7.88	96.59	108.40
1	A	344	A	C4'-C3'-O3'	-7.87	101.20	113.00
1	A	3776	G	C5'-C4'-C3'	-7.87	103.40	115.20
1	A	3913	G	C1'-C2'-O2'	-7.86	100.00	111.80
34	c	29	ARG	CB-CG-CD	7.86	129.37	111.30
1	A	1825	A	C1'-C2'-O2'	-7.85	96.62	108.40
32	a	47	GLY	CA-C-N	7.85	130.28	122.66
32	a	47	GLY	C-N-CA	7.85	130.28	122.66
1	A	1891	A	C5'-C4'-C3'	-7.85	104.22	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2297	G	C1'-C2'-O2'	-7.85	96.63	108.40
1	A	1725	U	C2'-C3'-O3'	-7.84	101.94	113.70
1	A	1633	G	C4'-C3'-O3'	7.84	124.76	113.00
1	A	1893	C	C3'-C2'-O2'	7.84	122.46	110.70
11	o	100	PRO	CB-CA-C	-7.84	98.63	111.56
1	A	1933	G	C1'-C2'-O2'	-7.83	96.65	108.40
1	A	1729	A	C5'-C4'-C3'	-7.83	104.25	116.00
1	A	2068	C	C2'-C3'-O3'	-7.83	97.75	109.50
2	B	37	G	C4'-C3'-O3'	-7.83	101.25	113.00
8	H	288	PHE	CB-CA-C	7.83	124.98	110.10
1	A	2844	A	C4'-C3'-O3'	-7.83	101.25	113.00
15	s	48	GLN	CB-CA-C	-7.83	95.83	111.17
9	m	245	ARG	CG-CD-NE	-7.82	94.79	112.00
4	D	230	PRO	CB-CA-C	-7.82	101.03	111.12
1	A	4452	U	C3'-C2'-O2'	-7.82	102.87	114.60
1	A	2609	G	C1'-C2'-O2'	-7.82	96.68	108.40
1	A	1082	C	C4'-C3'-O3'	7.81	121.12	109.40
1	A	1872	G	C4'-C3'-O3'	-7.81	101.28	113.00
1	A	1881	C	C4'-C3'-O3'	-7.81	97.69	109.40
1	A	2461	G	C1'-C2'-O2'	-7.81	96.69	108.40
1	A	4307	A	C4'-C3'-O3'	-7.80	101.30	113.00
1	A	4451	G	C2'-C3'-O3'	-7.80	102.00	113.70
1	A	2441	C	C3'-C2'-O2'	-7.80	99.00	110.70
1	A	3625	G	O3'-P-O5'	-7.80	92.30	104.00
9	m	137	GLU	CB-CA-C	-7.80	97.16	112.05
1	A	654	C	C4'-C3'-O3'	7.79	124.69	113.00
1	A	4358	U	C2'-C3'-O3'	-7.79	102.01	113.70
1	A	4601	U	C1'-C2'-O2'	-7.79	96.72	108.40
1	A	392	U	C1'-C2'-O2'	-7.79	96.72	108.40
1	A	3905	A	C4'-C3'-O3'	-7.79	101.32	113.00
1	A	2598	A	O4'-C4'-C3'	-7.78	96.22	104.00
1	A	3663	A	P-O5'-C5'	7.78	132.57	120.90
1	A	4642	U	C1'-C2'-O2'	-7.78	96.73	108.40
1	A	2582	A	C4'-C3'-O3'	-7.78	101.33	113.00
1	A	3918	G	C2'-C3'-O3'	-7.78	102.03	113.70
3	C	135	C	C4'-C3'-O3'	-7.78	101.33	113.00
1	A	435	A	C1'-C2'-O2'	-7.78	96.73	108.40
5	E	375	GLY	CA-C-N	-7.77	109.54	121.66
5	E	375	GLY	C-N-CA	-7.77	109.54	121.66
6	F	85	HIS	CA-CB-CG	-7.76	106.03	113.80
1	A	1397	A	C2'-C3'-O3'	-7.76	102.06	113.70
1	A	1817	U	C4'-C3'-O3'	-7.76	101.36	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2445	C	C1'-C2'-O2'	-7.76	96.76	108.40
1	A	1430	C	C2'-C3'-O3'	-7.76	102.06	113.70
1	A	2423	A	C1'-C2'-O2'	-7.76	96.77	108.40
1	A	1632	A	C1'-C2'-O2'	-7.75	96.77	108.40
1	A	3927	U	C4'-C3'-O3'	-7.75	101.38	113.00
1	A	1078	A	C4'-C3'-O3'	7.75	124.62	113.00
1	A	3653	A	C2'-C3'-O3'	-7.74	102.09	113.70
1	A	4206	C	C5'-C4'-C3'	-7.74	104.39	116.00
3	C	10	G	C1'-C2'-O2'	-7.73	96.80	108.40
1	A	3623	C	C4'-C3'-O3'	-7.73	101.40	113.00
1	A	307	A	C1'-C2'-O2'	-7.73	96.81	108.40
1	A	2461	G	C4'-C3'-O3'	-7.73	101.41	113.00
42	Q	69	LYS	CB-CA-C	-7.73	97.31	109.52
1	A	14	C	C1'-C2'-O2'	-7.72	96.81	108.40
1	A	4510	A	C4'-C3'-O3'	-7.72	101.41	113.00
1	A	4524	G	C4'-C3'-O3'	-7.72	101.41	113.00
1	A	2054	U	C1'-C2'-O2'	-7.72	100.22	111.80
3	C	93	C	C4'-C3'-O3'	-7.72	101.42	113.00
1	A	1637	A	C3'-C2'-O2'	-7.72	103.02	114.60
1	A	4085	A	C1'-C2'-O2'	-7.72	100.22	111.80
1	A	3921	U	C1'-C2'-O2'	-7.71	96.83	108.40
1	A	4271	A	O5'-P-OP2	7.71	131.13	108.00
3	C	146	U	C1'-C2'-O2'	-7.70	96.84	108.40
4	D	28	ARG	CG-CD-NE	-7.70	95.05	112.00
1	A	1305	C	C2'-C3'-O3'	-7.70	102.15	113.70
1	A	3908	A	C3'-C2'-O2'	-7.69	103.06	114.60
1	A	371	A	C1'-C2'-O2'	-7.69	96.86	108.40
1	A	1839	U	C1'-C2'-O2'	-7.69	96.86	108.40
9	m	84	PRO	CB-CA-C	-7.69	100.87	110.95
1	A	2669	C	C1'-C2'-O2'	-7.69	96.87	108.40
1	A	689	U	C3'-C2'-O2'	7.69	122.23	110.70
1	A	4630	G	C1'-C2'-O2'	-7.69	96.87	108.40
1	A	4718	G	N9-C1'-C2'	-7.69	102.47	114.00
1	A	1787	A	C4'-C3'-O3'	-7.68	101.48	113.00
1	A	2055	G	C2'-C3'-O3'	-7.68	97.98	109.50
5	E	63	PRO	CB-CA-C	-7.68	101.89	111.64
1	A	1496	G	C4'-C3'-O3'	-7.67	101.50	113.00
1	A	4987	C	C4'-C3'-O3'	-7.67	101.50	113.00
34	c	59	GLU	CB-CG-CD	7.66	125.63	112.60
1	A	3850	C	C2'-C3'-O3'	-7.66	102.21	113.70
1	A	3797	C	C4'-C3'-O3'	-7.66	101.51	113.00
1	A	63	G	C1'-C2'-O2'	-7.66	96.91	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4283	G	C4'-C3'-O3'	-7.66	101.52	113.00
1	A	24	G	C4'-C3'-O3'	-7.64	101.53	113.00
1	A	381	U	C1'-C2'-O2'	-7.64	96.94	108.40
1	A	2849	A	C1'-C2'-O2'	-7.64	100.34	111.80
1	A	4294	C	C4'-C3'-O3'	-7.64	101.53	113.00
3	C	144	U	C1'-C2'-O2'	-7.64	96.94	108.40
6	F	140	LYS	CA-C-N	-7.64	111.70	122.86
6	F	140	LYS	C-N-CA	-7.64	111.70	122.86
1	A	4951	G	C3'-C2'-O2'	7.64	122.16	110.70
1	A	4486	C	C2'-C3'-O3'	7.64	125.16	113.70
5	E	6	PHE	CB-CA-C	-7.64	95.97	109.71
6	F	269	LYS	CB-CA-C	-7.63	93.43	109.38
9	m	242	ARG	CB-CG-CD	-7.63	93.74	111.30
37	f	21	ARG	CG-CD-NE	7.63	128.79	112.00
24	S	59	ARG	CA-C-N	-7.63	108.83	121.57
24	S	59	ARG	C-N-CA	-7.63	108.83	121.57
1	A	960	A	C4'-C3'-O3'	-7.63	97.96	109.40
16	t	153	LYS	CB-CA-C	-7.62	97.00	109.27
1	A	1486	C	C3'-C2'-O2'	7.62	122.13	110.70
33	b	94	ARG	CG-CD-NE	-7.62	95.24	112.00
1	A	386	A	C5'-C4'-C3'	-7.61	104.58	116.00
1	A	3874	G	C2'-C3'-O3'	-7.61	102.28	113.70
1	A	3900	G	C1'-C2'-O2'	-7.61	96.98	108.40
1	A	333	U	C1'-C2'-O2'	-7.61	96.98	108.40
1	A	4706	G	C3'-C2'-O2'	7.61	122.11	110.70
1	A	291	U	C1'-C2'-O2'	-7.61	96.99	108.40
1	A	2503	G	C1'-C2'-O2'	7.60	119.80	108.40
42	Q	123	LYS	CB-CA-C	-7.60	98.17	110.79
1	A	105	A	C1'-C2'-O2'	-7.60	97.00	108.40
1	A	1637	A	C1'-C2'-O2'	-7.60	100.40	111.80
1	A	4710	C	C1'-C2'-O2'	-7.60	97.01	108.40
3	C	92	U	C3'-C2'-O2'	-7.60	99.31	110.70
1	A	2417	A	C2'-C3'-O3'	-7.59	102.31	113.70
1	A	3946	G	C1'-C2'-O2'	7.59	119.78	108.40
1	A	4076	G	C2'-C3'-O3'	-7.59	98.12	109.50
7	G	23	ARG	N-CA-C	-7.59	104.15	113.41
21	M	68	PHE	CA-CB-CG	-7.58	106.22	113.80
1	A	1892	A	C3'-C2'-O2'	-7.58	103.23	114.60
1	A	1899	G	C1'-C2'-O2'	-7.58	97.03	108.40
1	A	3680	U	C4'-C3'-O3'	-7.58	101.63	113.00
32	a	70	THR	CA-CB-OG1	-7.58	98.23	109.60
1	A	4496	A	C3'-C2'-O2'	-7.58	99.34	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	57	G	C1'-C2'-O2'	-7.57	97.04	108.40
1	A	3928	A	C1'-C2'-O2'	-7.57	97.05	108.40
1	A	226	G	O5'-C5'-C4'	-7.57	100.35	111.70
1	A	1653	A	C1'-C2'-O2'	-7.56	97.06	108.40
1	A	2760	G	C2'-C3'-O3'	7.56	120.84	109.50
1	A	1921	C	N1-C1'-C2'	7.56	125.34	114.00
1	A	705	G	C2'-C3'-O3'	7.55	125.03	113.70
1	A	1499	C	C4'-C3'-O3'	-7.55	101.67	113.00
10	n	89	ARG	CB-CG-CD	7.55	128.67	111.30
1	A	2777	G	C4'-C3'-O3'	-7.55	101.67	113.00
1	A	1328	G	C1'-C2'-O2'	-7.55	97.08	108.40
1	A	1373	A	C3'-C2'-O2'	7.55	122.02	110.70
1	A	3877	A	C3'-C2'-O2'	-7.55	103.28	114.60
16	t	201	HIS	CA-CB-CG	-7.54	106.26	113.80
1	A	1857	C	C4'-C3'-O3'	-7.54	101.69	113.00
1	A	2360	A	C4'-C3'-O3'	-7.54	98.09	109.40
1	A	4465	U	C1'-C2'-O2'	-7.54	100.49	111.80
23	R	47	ARG	CB-CG-CD	-7.54	93.95	111.30
27	V	102	PRO	CB-CA-C	-7.54	99.52	112.64
31	Z	93	PRO	CB-CA-C	-7.54	101.10	110.98
1	A	1943	A	C1'-C2'-O2'	-7.54	97.09	108.40
2	B	70	G	C4'-C3'-O3'	-7.54	101.70	113.00
31	Z	99	HIS	CA-CB-CG	-7.53	106.27	113.80
1	A	4278	C	C4'-C3'-O3'	-7.53	101.71	113.00
29	X	118	GLN	CB-CA-C	-7.53	96.01	111.22
1	A	3605	C	C4'-C3'-O3'	-7.53	101.71	113.00
1	A	4266	G	C2'-C3'-O3'	7.53	120.79	109.50
1	A	2047	A	C4'-C3'-O3'	-7.52	98.12	109.40
5	E	58	ARG	CA-C-N	-7.52	112.62	123.00
5	E	58	ARG	C-N-CA	-7.52	112.62	123.00
1	A	4753	U	C1'-C2'-O2'	-7.52	100.53	111.80
1	A	3671	G	C4'-C3'-O3'	-7.51	101.73	113.00
34	c	87	ARG	CB-CA-C	-7.51	95.06	110.38
1	A	93	G	C1'-C2'-O2'	-7.51	97.14	108.40
1	A	757	G	O4'-C1'-C2'	-7.51	100.09	107.60
15	s	117	LYS	CB-CA-C	-7.50	99.04	110.90
1	A	2300	A	P-O5'-C5'	-7.50	109.65	120.90
1	A	3697	U	C4'-C3'-O3'	-7.50	101.75	113.00
1	A	285	G	C2'-C3'-O3'	-7.49	102.46	113.70
1	A	3788	C	C2'-C3'-O3'	-7.49	102.46	113.70
3	C	56	G	C2'-C3'-O3'	-7.49	102.46	113.70
35	d	11	ARG	CG-CD-NE	-7.49	95.52	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4715	C	C2'-C3'-O3'	-7.49	102.47	113.70
6	F	312	ARG	CB-CG-CD	-7.49	94.08	111.30
1	A	2743	A	C1'-C2'-O2'	-7.48	97.17	108.40
1	A	5041	G	C2'-C3'-O3'	-7.48	102.47	113.70
1	A	947	C	C2'-C3'-O3'	-7.48	102.48	113.70
1	A	1880	G	C4'-C3'-O3'	-7.48	101.78	113.00
1	A	3625	G	C4'-C3'-O3'	-7.48	101.78	113.00
1	A	276	C	P-O5'-C5'	7.47	132.11	120.90
1	A	720	G	C1'-C2'-O2'	-7.47	97.19	108.40
1	A	3673	C	C2'-C3'-O3'	7.47	120.71	109.50
2	B	7	G	O5'-C5'-C4'	-7.47	100.29	111.50
1	A	366	A	C2'-C3'-O3'	-7.46	102.51	113.70
1	A	4183	G	C2'-C3'-O3'	7.46	120.69	109.50
1	A	4282	A	C1'-C2'-O2'	-7.46	100.62	111.80
19	K	81	VAL	CA-C-N	-7.46	112.63	122.99
19	K	81	VAL	C-N-CA	-7.46	112.63	122.99
1	A	2517	A	C1'-C2'-O2'	-7.45	97.22	108.40
1	A	4649	G	C1'-C2'-O2'	7.45	119.58	108.40
1	A	17	A	P-O5'-C5'	7.45	132.07	120.90
1	A	445	U	C1'-C2'-O2'	-7.45	97.23	108.40
1	A	4213	A	C4'-C3'-O3'	-7.45	101.83	113.00
1	A	4460	U	C4'-C3'-O3'	-7.45	101.83	113.00
35	d	63	ARG	N-CA-CB	-7.45	98.26	110.40
1	A	4556	U	C1'-C2'-O2'	-7.44	100.64	111.80
1	A	292	G	C1'-C2'-O2'	-7.44	97.24	108.40
1	A	1508	A	C2'-C3'-O3'	-7.44	102.54	113.70
1	A	2504	C	C1'-C2'-O2'	7.44	119.56	108.40
1	A	4290	U	C4'-C3'-O3'	-7.43	98.25	109.40
1	A	1806	G	C1'-C2'-O2'	-7.43	97.25	108.40
1	A	1366	G	O4'-C1'-C2'	-7.43	100.17	107.60
1	A	1930	U	C1'-C2'-O2'	-7.43	100.66	111.80
1	A	3611	A	C3'-C2'-O2'	7.42	121.83	110.70
8	H	131	LYS	CB-CA-C	-7.42	96.02	109.45
1	A	1660	U	C1'-C2'-O2'	-7.42	100.67	111.80
1	A	1832	C	C2'-C3'-O3'	7.42	124.83	113.70
6	F	60	HIS	CB-CA-C	7.42	122.79	109.29
1	A	4450	U	C1'-C2'-O2'	-7.42	100.67	111.80
3	C	72	A	C4'-C3'-O3'	-7.42	101.88	113.00
12	p	44	ASP	CA-CB-CG	-7.42	105.19	112.60
1	A	331	G	C1'-C2'-O2'	-7.41	97.28	108.40
1	A	4407	G	C2'-C3'-O3'	7.41	124.82	113.70
1	A	4069	U	C1'-C2'-O2'	7.41	119.51	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	109	HIS	CA-CB-CG	-7.41	106.39	113.80
40	k	20	ARG	CB-CA-C	7.41	123.72	110.16
1	A	384	A	C1'-C2'-O2'	-7.41	97.29	108.40
7	G	257	PRO	N-CA-C	7.41	124.55	113.81
1	A	2731	C	C3'-C2'-O2'	7.40	121.80	110.70
19	K	162	HIS	CA-CB-CG	-7.40	106.40	113.80
2	B	64	G	C1'-C2'-O2'	7.40	119.50	108.40
1	A	2356	U	C4'-C3'-O3'	-7.39	101.91	113.00
1	A	1554	A	C1'-C2'-O2'	-7.39	97.31	108.40
1	A	1608	G	C2'-C3'-O3'	-7.39	102.62	113.70
26	U	128	PHE	CB-CA-C	-7.39	96.64	110.16
1	A	1518	A	C1'-C2'-O2'	-7.38	100.73	111.80
1	A	3932	U	C1'-C2'-O2'	-7.38	97.33	108.40
1	A	1728	U	C4'-C3'-O3'	-7.38	101.93	113.00
3	C	142	U	C1'-C2'-O2'	-7.38	97.33	108.40
1	A	917	A	C2'-C3'-O3'	-7.38	102.64	113.70
17	I	109	PRO	CB-CA-C	-7.38	101.92	110.92
1	A	3757	G	C4'-C3'-O3'	7.38	124.06	113.00
1	A	1883	G	O5'-P-OP1	7.37	130.12	108.00
1	A	2527	A	C3'-C2'-O2'	7.37	121.76	110.70
1	A	1922	G	O5'-P-OP1	-7.37	85.89	108.00
6	F	312	ARG	CB-CA-C	-7.37	98.40	109.90
1	A	2862	G	C1'-C2'-O2'	-7.37	100.75	111.80
1	A	4508	C	C1'-C2'-O2'	-7.37	97.35	108.40
6	F	6	PRO	CB-CA-C	-7.37	101.30	110.95
1	A	2359	U	C1'-C2'-O2'	-7.36	97.35	108.40
1	A	2779	C	C1'-C2'-O2'	-7.36	97.35	108.40
30	Y	48	ARG	CB-CG-CD	-7.36	94.37	111.30
39	j	70	THR	OG1-CB-CG2	-7.36	94.58	109.30
1	A	203	U	C2'-C3'-O3'	7.36	124.73	113.70
1	A	2749	C	C2'-C3'-O3'	-7.36	102.67	113.70
1	A	3828	A	C4'-C3'-O3'	-7.36	101.97	113.00
43	u	31	PHE	CA-CB-CG	-7.36	106.44	113.80
1	A	4761	G	C4'-C3'-O3'	-7.35	101.97	113.00
1	A	4291	G	O4'-C1'-C2'	-7.35	98.45	105.80
1	A	2356	U	O4'-C4'-C3'	-7.35	96.65	104.00
27	V	10	HIS	N-CA-CB	-7.35	99.75	110.26
1	A	4266	G	C3'-C2'-O2'	-7.34	103.58	114.60
27	V	20	GLY	CA-C-O	-7.34	115.56	122.39
1	A	322	C	C5'-C4'-C3'	-7.34	104.99	116.00
1	A	1421	G	P-O5'-C5'	-7.34	109.89	120.90
10	n	73	ARG	CG-CD-NE	-7.33	95.87	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1274	A	C3'-C2'-O2'	7.33	121.70	110.70
1	A	2089	G	C1'-C2'-O2'	-7.33	100.81	111.80
5	E	209	GLN	CA-C-N	-7.33	115.55	122.66
5	E	209	GLN	C-N-CA	-7.33	115.55	122.66
1	A	41	C	C1'-C2'-O2'	-7.33	97.41	108.40
31	Z	16	ARG	CA-C-N	-7.33	113.96	122.83
31	Z	16	ARG	C-N-CA	-7.33	113.96	122.83
3	C	102	G	C1'-C2'-O2'	-7.33	97.41	108.40
1	A	3752	C	C1'-C2'-O2'	-7.32	97.41	108.40
39	j	39	CYS	CA-C-N	7.32	135.53	121.54
39	j	39	CYS	C-N-CA	7.32	135.53	121.54
4	D	163	ARG	CG-CD-NE	-7.32	95.89	112.00
14	r	3	PRO	CB-CA-C	-7.32	101.37	110.95
1	A	1884	C	C1'-C2'-O2'	-7.31	97.44	108.40
1	A	1849	U	C1'-C2'-O2'	-7.31	97.44	108.40
1	A	2518	G	C3'-C2'-O2'	7.31	121.66	110.70
1	A	4291	G	P-O5'-C5'	-7.30	109.94	120.90
1	A	4645	C	O4'-C4'-C3'	-7.30	96.70	104.00
1	A	734	G	C2'-C3'-O3'	-7.30	102.75	113.70
1	A	4594	U	C1'-C2'-O2'	-7.30	97.45	108.40
1	A	4354	U	C1'-C2'-O2'	-7.29	100.87	111.80
1	A	1607	C	O4'-C4'-C3'	-7.29	96.71	104.00
1	A	2581	A	C2'-C3'-O3'	-7.29	102.77	113.70
1	A	342	G	C3'-C2'-O2'	7.29	121.63	110.70
1	A	2796	G	C1'-C2'-O2'	-7.29	100.87	111.80
1	A	477	C	C4'-C3'-O3'	-7.28	102.08	113.00
1	A	1627	G	C1'-C2'-O2'	-7.28	97.48	108.40
20	L	29	THR	CA-CB-OG1	-7.28	98.68	109.60
1	A	2371	U	C1'-C2'-O2'	-7.28	97.48	108.40
1	A	2543	A	C3'-C2'-O2'	7.28	121.61	110.70
1	A	1273	G	C2'-C3'-O3'	7.27	124.61	113.70
1	A	3892	U	C1'-C2'-O2'	-7.27	97.49	108.40
24	S	108	ARG	CG-CD-NE	-7.27	96.00	112.00
1	A	1739	G	C4'-C3'-O3'	-7.27	102.10	113.00
40	k	94	ARG	CG-CD-NE	7.26	127.98	112.00
1	A	4752	U	C4'-C3'-O3'	-7.26	102.11	113.00
1	A	3919	C	C1'-C2'-O2'	-7.26	97.51	108.40
1	A	1426	G	C4'-C3'-O3'	-7.26	102.11	113.00
21	M	10	TYR	CA-C-N	-7.26	112.99	123.00
21	M	10	TYR	C-N-CA	-7.26	112.99	123.00
35	d	40	PRO	N-CA-CB	-7.25	94.62	102.60
1	A	113	A	C4'-C3'-O3'	-7.25	102.12	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	325	GLU	CB-CA-C	7.25	121.69	109.80
6	F	14	LYS	CB-CA-C	7.25	122.20	110.09
18	J	2	VAL	CA-C-N	-7.25	112.51	122.30
18	J	2	VAL	C-N-CA	-7.25	112.51	122.30
3	C	134	G	C3'-C2'-O2'	7.25	121.57	110.70
1	A	1549	G	C4'-C3'-O3'	-7.25	102.13	113.00
1	A	1892	A	C1'-C2'-O2'	7.25	122.67	111.80
1	A	4600	G	C1'-C2'-O2'	-7.25	100.93	111.80
1	A	4336	A	C3'-C2'-O2'	-7.24	99.83	110.70
1	A	4473	A	C3'-C2'-O2'	7.24	121.56	110.70
1	A	158	A	P-O5'-C5'	7.24	131.76	120.90
1	A	3894	A	C1'-C2'-O2'	-7.24	97.55	108.40
16	t	71	ARG	CG-CD-NE	-7.24	96.08	112.00
1	A	61	A	C4'-C3'-O3'	-7.23	102.15	113.00
1	A	2670	C	C4'-C3'-O3'	-7.23	102.15	113.00
2	B	39	C	C4'-C3'-O3'	-7.23	102.15	113.00
1	A	1586	G	C4'-C3'-O3'	-7.23	102.16	113.00
1	A	2393	C	C1'-C2'-O2'	-7.23	97.56	108.40
40	k	17	LEU	N-CA-CB	-7.23	98.59	110.52
1	A	3606	U	C3'-C2'-O2'	-7.23	99.86	110.70
1	A	1466	G	C1'-C2'-O2'	7.22	119.23	108.40
1	A	4528	G	C1'-C2'-O2'	-7.22	97.57	108.40
18	J	74	LYS	CB-CA-C	-7.22	95.08	110.32
1	A	1587	G	C4'-C3'-O3'	-7.22	98.57	109.40
26	U	132	ARG	CB-CG-CD	7.21	127.89	111.30
1	A	2366	A	C1'-C2'-O2'	-7.21	97.59	108.40
42	Q	27	ASN	CA-CB-CG	-7.21	105.39	112.60
13	q	136	ARG	CB-CA-C	7.21	121.64	109.32
3	C	21	C	C2'-C3'-O3'	-7.21	102.89	113.70
1	A	379	G	C2'-C3'-O3'	-7.20	102.89	113.70
1	A	1727	U	C2'-C3'-O3'	-7.20	102.90	113.70
1	A	1896	A	C3'-C2'-O2'	7.20	121.50	110.70
1	A	4714	C	C3'-C2'-O2'	7.20	121.49	110.70
1	A	2053	C	C1'-C2'-O2'	-7.19	97.61	108.40
1	A	2293	U	C1'-C2'-O2'	-7.19	97.61	108.40
1	A	3606	U	C1'-C2'-O2'	7.19	119.19	108.40
1	A	3674	G	P-O5'-C5'	7.19	131.69	120.90
1	A	209	U	O5'-C5'-C4'	-7.19	100.72	111.50
1	A	17	A	C2'-C3'-O3'	7.18	124.48	113.70
1	A	4459	U	C2'-C3'-O3'	-7.18	102.92	113.70
1	A	2410	C	C1'-C2'-O2'	-7.18	97.63	108.40
1	A	3919	C	C3'-C2'-O2'	7.18	121.47	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4364	G	C4'-C3'-O3'	-7.18	102.23	113.00
1	A	2652	G	C2'-C3'-O3'	-7.18	102.93	113.70
1	A	3622	C	C1'-C2'-O2'	-7.18	97.63	108.40
8	H	207	LYS	CA-C-N	-7.18	117.42	122.59
8	H	207	LYS	C-N-CA	-7.18	117.42	122.59
1	A	2811	G	C4'-C3'-O3'	-7.18	102.23	113.00
1	A	1392	A	C4'-C3'-O3'	-7.18	102.23	113.00
1	A	3659	G	C3'-C2'-O2'	7.18	121.46	110.70
1	A	436	C	C1'-C2'-O2'	-7.17	97.64	108.40
3	C	140	C	C1'-C2'-O2'	-7.17	97.64	108.40
1	A	1826	G	C1'-C2'-O2'	-7.17	97.64	108.40
1	A	1906	U	C1'-C2'-O2'	-7.17	97.64	108.40
1	A	168	C	C3'-C2'-O2'	7.17	121.45	110.70
1	A	343	C	C2'-C3'-O3'	-7.17	102.95	113.70
1	A	421	C	C2'-C3'-O3'	-7.17	102.95	113.70
1	A	1740	C	C3'-C2'-O2'	7.16	125.34	114.60
1	A	3614	G	C4'-C3'-O3'	7.16	123.75	113.00
1	A	2277	C	C2'-C3'-O3'	-7.16	102.96	113.70
1	A	96	U	C3'-C2'-O2'	7.16	121.44	110.70
1	A	359	A	C4'-C3'-O3'	-7.16	102.26	113.00
1	A	2836	A	C3'-C2'-O2'	7.16	121.44	110.70
1	A	225	G	C3'-C2'-O2'	-7.16	103.86	114.60
1	A	1078	A	O4'-C4'-C3'	-7.16	96.84	104.00
1	A	4363	A	C4'-C3'-O3'	-7.16	102.26	113.00
2	B	62	U	C2'-C3'-O3'	-7.16	98.76	109.50
2	B	91	C	C3'-C2'-O2'	7.16	121.44	110.70
1	A	4975	G	C1'-C2'-O2'	7.16	122.53	111.80
1	A	1593	A	C4'-C3'-O3'	-7.16	102.27	113.00
1	A	3668	C	C2'-C3'-O3'	-7.15	102.97	113.70
1	A	2321	G	C4'-C3'-O3'	-7.15	102.28	113.00
14	r	68	THR	CB-CA-C	-7.15	97.65	110.37
16	t	131	GLU	CB-CG-CD	7.15	124.75	112.60
1	A	3622	C	C4'-C3'-O3'	-7.14	102.29	113.00
1	A	1785	C	C3'-C2'-O2'	7.14	121.41	110.70
4	D	112	ILE	N-CA-CB	-7.14	102.42	110.99
1	A	4402	C	C4'-C3'-O3'	-7.14	102.29	113.00
1	A	409	G	C2'-C3'-O3'	-7.13	103.00	113.70
1	A	2343	G	C1'-C2'-O2'	-7.13	101.10	111.80
1	A	2682	G	C3'-C2'-O2'	-7.13	100.00	110.70
1	A	421	C	C1'-C2'-O2'	-7.13	97.70	108.40
1	A	2582	A	C1'-C2'-O2'	-7.13	97.70	108.40
26	U	49	HIS	CA-CB-CG	-7.13	106.67	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	237	G	C1'-C2'-O2'	-7.12	97.72	108.40
1	A	1595	G	C2'-C3'-O3'	-7.12	103.02	113.70
1	A	1613	A	O4'-C1'-C2'	-7.12	98.68	105.80
4	D	52	PRO	N-CA-CB	-7.12	96.98	103.25
29	X	26	THR	CA-C-N	-7.12	113.96	122.93
29	X	26	THR	C-N-CA	-7.12	113.96	122.93
1	A	2473	A	N9-C1'-C2'	-7.12	101.32	112.00
23	R	101	ASP	CB-CA-C	-7.12	97.91	109.72
1	A	4611	A	C3'-C2'-O2'	7.11	121.37	110.70
22	N	94	GLU	CB-CA-C	-7.11	94.25	110.18
1	A	4766	C	C2'-C3'-O3'	7.11	124.36	113.70
18	J	138	PRO	CB-CA-C	-7.11	101.67	110.98
16	t	189	ARG	CB-CG-CD	-7.11	94.96	111.30
1	A	4194	U	C4'-C3'-O3'	-7.10	98.74	109.40
1	A	4326	G	C5'-C4'-C3'	-7.10	105.34	116.00
1	A	731	G	C3'-C2'-O2'	7.10	121.35	110.70
1	A	1214	C	C4'-C3'-O3'	-7.10	102.35	113.00
1	A	193	G	O4'-C4'-C3'	-7.10	96.90	104.00
1	A	2442	G	C5'-C4'-C3'	-7.10	105.35	116.00
1	A	3823	G	C4'-C3'-O3'	-7.10	102.35	113.00
3	C	97	A	C4'-C3'-O3'	-7.10	102.35	113.00
1	A	1354	A	C1'-C2'-O2'	-7.09	101.16	111.80
1	A	1575	A	C4'-C3'-O3'	-7.09	102.36	113.00
1	A	2083	C	C4'-C3'-O3'	-7.09	102.36	113.00
1	A	2855	G	C1'-C2'-O2'	-7.09	101.16	111.80
1	A	141	C	C4'-C3'-O3'	-7.09	102.37	113.00
1	A	4588	U	C4'-C3'-O3'	-7.08	102.38	113.00
1	A	4765	G	C4'-C3'-O3'	-7.08	102.38	113.00
6	F	347	HIS	N-CA-C	-7.08	103.64	111.36
1	A	1396	G	C4'-C3'-O3'	-7.08	102.38	113.00
1	A	2050	G	C3'-C2'-O2'	7.08	121.31	110.70
1	A	3710	G	O5'-C5'-C4'	-7.07	100.89	111.50
1	A	4213	A	P-O5'-C5'	7.07	131.51	120.90
5	E	21	ARG	NE-CZ-NH2	7.07	125.57	119.20
1	A	275	C	O4'-C4'-C3'	7.07	111.07	104.00
1	A	1881	C	C3'-C2'-O2'	7.07	125.20	114.60
1	A	73	A	O5'-P-OP1	-7.07	86.80	108.00
1	A	442	G	C1'-C2'-O2'	-7.07	97.80	108.40
1	A	2450	G	C4'-C3'-O3'	-7.07	102.40	113.00
1	A	2472	A	C1'-C2'-O2'	-7.07	101.20	111.80
1	A	724	C	O4'-C4'-C3'	-7.07	96.94	104.00
1	A	2868	G	C4'-C3'-O3'	-7.07	102.40	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4508	C	C4'-C3'-O3'	-7.07	102.40	113.00
1	A	4612	C	C3'-C2'-O2'	7.06	121.29	110.70
1	A	1538	U	C4'-C3'-O3'	-7.06	102.41	113.00
1	A	1789	C	C1'-C2'-O2'	7.06	118.99	108.40
24	S	72	GLN	CA-C-N	-7.06	114.13	123.17
24	S	72	GLN	C-N-CA	-7.06	114.13	123.17
1	A	1572	U	C1'-C2'-O2'	-7.06	97.82	108.40
1	A	1893	C	C1'-C2'-O2'	-7.06	97.82	108.40
2	B	105	C	C3'-C2'-O2'	7.06	121.28	110.70
35	d	20	ARG	NE-CZ-NH1	-7.05	114.44	121.50
3	C	121	G	C4'-C3'-O3'	7.05	123.58	113.00
1	A	211	G	C4'-C3'-O3'	-7.05	102.42	113.00
1	A	1643	A	C3'-C2'-O2'	7.05	121.28	110.70
1	A	2813	A	C4'-C3'-O3'	-7.05	102.42	113.00
1	A	2529	A	P-O5'-C5'	-7.05	110.33	120.90
25	T	36	ARG	CB-CG-CD	-7.05	95.09	111.30
3	C	3	A	C4'-C3'-O3'	-7.05	102.43	113.00
1	A	2734	U	C4'-C3'-O3'	-7.04	102.43	113.00
1	A	4381	A	C4'-C3'-O3'	-7.04	102.43	113.00
16	t	110	CYS	CB-CA-C	7.04	122.50	112.07
1	A	4765	G	C2'-C3'-O3'	7.04	124.26	113.70
21	M	62	VAL	N-CA-CB	-7.04	104.47	112.21
22	N	22	HIS	CA-CB-CG	-7.04	106.76	113.80
1	A	1537	A	C4'-C3'-O3'	-7.04	102.44	113.00
4	D	116	LEU	N-CA-CB	-7.04	99.63	109.97
1	A	4668	U	C1'-C2'-O2'	-7.03	97.85	108.40
1	A	321	U	C4'-C3'-O3'	-7.03	102.46	113.00
1	A	2432	U	C4'-C3'-O3'	-7.02	102.47	113.00
1	A	3686	G	C1'-C2'-O2'	-7.02	97.87	108.40
1	A	3754	G	C3'-C2'-O2'	7.02	121.23	110.70
1	A	1427	A	C2'-C3'-O3'	-7.02	103.17	113.70
1	A	4192	A	C4'-C3'-O3'	-7.02	102.47	113.00
1	A	1509	C	C1'-C2'-O2'	-7.02	97.88	108.40
1	A	1950	U	C3'-C2'-O2'	7.02	121.22	110.70
4	D	86	GLN	N-CA-CB	-7.01	100.33	110.36
1	A	1724	G	C1'-C2'-O2'	-7.01	101.28	111.80
1	A	1878	G	C3'-C2'-O2'	7.01	121.22	110.70
1	A	1312	A	C1'-C2'-O2'	-7.01	97.88	108.40
1	A	1847	C	C3'-C2'-O2'	7.01	121.21	110.70
3	C	80	A	C2'-C3'-O3'	7.01	124.21	113.70
5	E	90	VAL	CA-C-N	-7.01	117.34	122.18
5	E	90	VAL	C-N-CA	-7.01	117.34	122.18

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2672	C	C1'-C2'-O2'	-7.01	97.89	108.40
1	A	4375	C	C3'-C2'-O2'	-7.01	100.19	110.70
1	A	4572	U	N1-C1'-C2'	7.00	122.51	112.00
3	C	59	A	C4'-C3'-O3'	-7.00	98.89	109.40
1	A	1452	A	C2'-C3'-O3'	7.00	124.20	113.70
1	A	1629	G	C1'-C2'-O2'	-7.00	97.90	108.40
1	A	2657	G	C4'-C3'-O3'	-7.00	102.50	113.00
16	t	68	ARG	CG-CD-NE	-7.00	96.60	112.00
34	c	84	LYS	CB-CA-C	-7.00	97.68	110.63
1	A	2467	U	C4'-C3'-O3'	-6.99	98.91	109.40
1	A	4154	G	C1'-C2'-O2'	6.99	118.89	108.40
1	A	39	A	C1'-C2'-O2'	-6.99	101.32	111.80
1	A	4211	C	C4'-C3'-O3'	-6.99	102.52	113.00
23	R	139	ARG	CB-CA-C	-6.99	98.55	110.22
1	A	409	G	C1'-C2'-O2'	-6.99	97.92	108.40
1	A	2838	G	C4'-C3'-O3'	-6.99	102.52	113.00
15	s	48	GLN	CB-CG-CD	-6.99	100.72	112.60
32	a	33	LEU	CA-C-N	-6.98	112.34	122.19
32	a	33	LEU	C-N-CA	-6.98	112.34	122.19
1	A	249	C	C3'-C2'-O2'	6.98	121.17	110.70
1	A	103	G	C2'-C3'-O3'	-6.98	103.23	113.70
1	A	25	A	C1'-C2'-O2'	-6.98	97.94	108.40
1	A	2033	A	C4'-C3'-O3'	6.98	119.86	109.40
1	A	377	A	C1'-C2'-O2'	-6.97	97.94	108.40
1	A	4617	G	C3'-C2'-O2'	-6.97	100.24	110.70
5	E	218	ASP	CA-CB-CG	-6.97	105.63	112.60
1	A	2784	C	C3'-C2'-O2'	6.97	121.16	110.70
6	F	164	THR	CA-CB-OG1	-6.97	99.14	109.60
6	F	266	THR	N-CA-C	-6.97	99.03	108.86
1	A	1339	U	C1'-C2'-O2'	-6.97	97.95	108.40
1	A	676	C	C4'-C3'-O3'	-6.97	102.55	113.00
1	A	337	U	C3'-C2'-O2'	6.96	121.15	110.70
1	A	2649	G	C2'-C3'-O3'	-6.96	103.25	113.70
1	A	2267	U	C3'-C2'-O2'	6.96	121.14	110.70
1	A	2664	G	C1'-C2'-O2'	6.96	118.84	108.40
1	A	1730	U	C4'-C3'-O3'	-6.96	102.57	113.00
6	F	201	ARG	CB-CG-CD	6.96	127.30	111.30
1	A	4986	G	C1'-C2'-O2'	-6.96	97.97	108.40
9	m	151	ASN	CB-CA-C	-6.95	99.11	110.79
1	A	237	G	C4'-C3'-O3'	-6.95	102.58	113.00
6	F	268	ARG	CB-CG-CD	-6.95	95.32	111.30
1	A	3671	G	C2'-C3'-O3'	6.95	124.12	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4077	A	C2'-C3'-O3'	-6.95	103.28	113.70
1	A	1544	G	C1'-C2'-O2'	-6.94	97.98	108.40
1	A	2436	U	C1'-C2'-O2'	-6.94	101.39	111.80
9	m	152	GLU	CB-CG-CD	6.94	124.40	112.60
1	A	2881	A	C4'-C3'-O3'	-6.94	102.59	113.00
5	E	11	HIS	CA-CB-CG	-6.93	106.87	113.80
1	A	3712	A	C3'-C2'-O2'	6.93	121.10	110.70
16	t	83	LYS	CB-CA-C	6.93	120.83	109.46
1	A	1078	A	C2'-C3'-O3'	6.93	124.10	113.70
1	A	1786	A	C4'-C3'-O3'	-6.93	102.61	113.00
1	A	2452	G	C1'-C2'-O2'	-6.93	98.01	108.40
38	i	43	ARG	CB-CA-C	6.93	122.29	110.79
1	A	1841	C	C4'-C3'-O3'	-6.92	102.61	113.00
24	S	6	PHE	CA-CB-CG	-6.92	106.88	113.80
1	A	2043	A	C4'-C3'-O3'	-6.92	102.63	113.00
2	B	30	C	C3'-C2'-O2'	6.91	121.07	110.70
1	A	1559	G	C3'-C2'-O2'	6.91	121.07	110.70
3	C	76	C	C1'-C2'-O2'	6.91	118.77	108.40
7	G	39	GLN	N-CA-CB	-6.91	99.40	110.46
1	A	3681	G	C3'-C2'-O2'	-6.91	104.24	114.60
35	d	20	ARG	CD-NE-CZ	-6.91	114.73	124.40
1	A	4716	C	C3'-C2'-O2'	6.91	121.06	110.70
1	A	2359	U	C2'-C3'-O3'	-6.91	103.34	113.70
1	A	4219	A	C4'-C3'-O3'	-6.91	102.64	113.00
1	A	384	A	C4'-C3'-O3'	-6.90	102.64	113.00
1	A	1280	C	C1'-C2'-O2'	-6.90	101.45	111.80
1	A	4390	A	O4'-C4'-C3'	-6.90	97.10	104.00
1	A	4680	G	C4'-C3'-O3'	-6.90	102.65	113.00
2	B	11	A	C4'-C3'-O3'	-6.90	102.65	113.00
1	A	1317	U	C1'-C2'-O2'	-6.90	98.05	108.40
1	A	1809	C	C4'-C3'-O3'	-6.90	102.66	113.00
1	A	2267	U	C2'-C3'-O3'	-6.90	103.36	113.70
1	A	4335	C	C1'-C2'-O2'	-6.89	98.06	108.40
1	A	4892	A	C2'-C3'-O3'	-6.89	103.36	113.70
1	A	2509	C	C1'-C2'-O2'	-6.89	98.06	108.40
4	D	178	PRO	CB-CA-C	-6.89	102.04	111.21
1	A	4751	G	C4'-C3'-O3'	-6.89	102.67	113.00
1	A	90	G	C4'-C3'-O3'	-6.89	102.67	113.00
1	A	4371	G	C2'-C3'-O3'	6.89	119.83	109.50
16	t	195	ARG	CG-CD-NE	-6.89	96.85	112.00
1	A	4598	C	C4'-C3'-O3'	-6.88	102.67	113.00
1	A	32	G	C1'-C2'-O2'	-6.88	98.08	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4307	A	C1'-C2'-O2'	-6.88	98.08	108.40
1	A	248	C	O4'-C4'-C3'	-6.88	97.12	104.00
1	A	4548	A	C3'-C2'-O2'	6.88	121.02	110.70
1	A	4987	C	C1'-C2'-O2'	-6.88	98.08	108.40
4	D	17	ARG	CG-CD-NE	-6.88	96.87	112.00
1	A	13	U	C4'-C3'-O3'	-6.88	99.08	109.40
1	A	1910	G	C4'-C3'-O3'	-6.88	102.69	113.00
1	A	2686	G	C1'-C2'-O2'	-6.88	98.08	108.40
40	k	24	THR	OG1-CB-CG2	-6.88	95.55	109.30
1	A	1474	C	C1'-C2'-O2'	-6.87	98.09	108.40
1	A	4260	U	C4'-C3'-O3'	-6.87	102.69	113.00
1	A	4984	C	C1'-C2'-O2'	-6.87	98.09	108.40
2	B	67	C	C2'-C3'-O3'	-6.87	103.39	113.70
16	t	131	GLU	CA-CB-CG	-6.87	100.35	114.10
42	Q	13	LYS	N-CA-CB	-6.87	99.46	110.46
1	A	375	G	C1'-C2'-O2'	-6.87	98.09	108.40
1	A	2321	G	C1'-C2'-O2'	-6.87	98.09	108.40
1	A	4756	C	C3'-C2'-O2'	6.87	121.00	110.70
1	A	4491	G	C2'-C3'-O3'	-6.87	103.40	113.70
1	A	4281	A	C2'-C3'-O3'	6.86	119.79	109.50
1	A	718	C	C4'-C3'-O3'	-6.86	102.71	113.00
1	A	1694	C	C4'-C3'-O3'	-6.86	102.71	113.00
1	A	2607	C	C4'-C3'-O3'	-6.86	102.71	113.00
4	D	60	LYS	CB-CA-C	-6.86	98.55	109.80
4	D	157	VAL	CA-C-N	-6.85	111.85	122.68
4	D	157	VAL	C-N-CA	-6.85	111.85	122.68
1	A	1471	U	C2'-C3'-O3'	-6.85	103.42	113.70
1	A	4256	A	C3'-C2'-O2'	6.85	120.98	110.70
9	m	216	PRO	CB-CA-C	-6.85	106.11	111.87
25	T	78	ASN	CA-C-N	-6.85	111.70	122.73
25	T	78	ASN	C-N-CA	-6.85	111.70	122.73
1	A	3649	A	C4'-C3'-O3'	-6.85	102.73	113.00
9	m	99	ASN	CB-CA-C	-6.84	98.58	109.80
28	W	51	ASN	CA-CB-CG	6.84	119.44	112.60
1	A	1817	U	C1'-C2'-O2'	-6.84	98.14	108.40
1	A	3704	U	C4'-C3'-O3'	-6.84	102.74	113.00
1	A	278	G	C5'-C4'-O4'	-6.84	98.85	109.10
1	A	3880	G	C1'-C2'-O2'	-6.84	98.14	108.40
1	A	4563	U	C3'-C2'-O2'	6.84	120.95	110.70
3	C	68	G	C1'-C2'-O2'	-6.84	98.15	108.40
1	A	2882	A	C3'-C2'-O2'	-6.83	100.45	110.70
1	A	666	G	C4'-C3'-O3'	-6.83	102.75	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1550	G	C1'-C2'-O2'	-6.83	98.15	108.40
1	A	3776	G	P-O5'-C5'	-6.83	110.65	120.90
3	C	105	C	C3'-C2'-O2'	-6.83	104.35	114.60
15	s	53	LYS	CA-C-N	-6.83	111.72	122.65
15	s	53	LYS	C-N-CA	-6.83	111.72	122.65
6	F	161	TYR	CB-CA-C	-6.83	96.97	109.54
1	A	194	C	O4'-C4'-C3'	-6.83	97.17	104.00
3	C	62	A	O5'-C5'-C4'	-6.83	101.46	111.70
1	A	2833	A	C4'-C3'-O3'	-6.83	102.76	113.00
22	N	107	LYS	CA-C-N	-6.82	110.45	120.28
22	N	107	LYS	C-N-CA	-6.82	110.45	120.28
1	A	151	G	C3'-C2'-O2'	-6.82	104.37	114.60
1	A	3697	U	C3'-C2'-O2'	6.82	120.93	110.70
1	A	388	A	C4'-C3'-O3'	-6.82	102.77	113.00
1	A	1398	A	O5'-P-OP1	-6.82	87.54	108.00
2	B	111	C	C2'-C3'-O3'	-6.82	103.47	113.70
17	I	45	GLY	CA-C-O	-6.82	117.79	122.22
24	S	62	TYR	CB-CA-C	-6.82	99.69	110.94
1	A	429	A	C1'-C2'-O2'	-6.82	98.17	108.40
1	A	5053	U	C1'-C2'-O2'	-6.82	101.58	111.80
1	A	4534	G	C3'-C2'-O2'	6.81	120.92	110.70
4	D	231	ALA	CA-C-N	-6.81	115.33	123.44
4	D	231	ALA	C-N-CA	-6.81	115.33	123.44
24	S	5	PRO	CB-CA-C	-6.81	101.15	111.44
1	A	1376	C	N1-C1'-C2'	-6.81	103.79	114.00
1	A	221	C	C1'-C2'-O2'	-6.81	98.19	108.40
1	A	1430	C	C4'-C3'-O3'	-6.80	102.79	113.00
1	A	2289	C	C1'-C2'-O2'	-6.80	101.59	111.80
5	E	161	ARG	CA-C-N	-6.80	112.88	122.34
5	E	161	ARG	C-N-CA	-6.80	112.88	122.34
22	N	108	ARG	N-CA-CB	6.80	120.70	110.22
1	A	4275	G	C3'-C2'-O2'	6.80	120.90	110.70
22	N	64	VAL	CA-C-N	-6.80	111.57	121.98
22	N	64	VAL	C-N-CA	-6.80	111.57	121.98
1	A	651	C	C3'-C2'-O2'	6.80	120.90	110.70
1	A	4218	U	C1'-C2'-O2'	-6.80	98.20	108.40
9	m	193	GLU	CB-CA-C	-6.80	99.50	110.79
16	t	67	ARG	CB-CA-C	-6.80	97.03	109.54
1	A	1827	C	C4'-C3'-O3'	-6.80	102.81	113.00
3	C	135	C	C5'-C4'-C3'	-6.80	105.81	116.00
18	J	40	HIS	N-CA-CB	-6.80	99.80	110.06
1	A	280	G	O4'-C1'-C2'	-6.79	99.01	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	2	G	C2'-C3'-O3'	-6.79	103.51	113.70
42	Q	36	ASN	CB-CA-C	-6.79	94.48	109.56
1	A	4290	U	C1'-C2'-O2'	-6.79	101.62	111.80
1	A	318	A	C4'-C3'-O3'	-6.78	102.83	113.00
1	A	972	C	C1'-C2'-O2'	-6.78	98.22	108.40
1	A	1288	G	C2'-C3'-O3'	-6.78	103.52	113.70
1	A	4573	G	C2'-C3'-O3'	6.78	123.88	113.70
5	E	291	TYR	CB-CA-C	-6.78	98.46	109.72
1	A	2280	G	C1'-C2'-O2'	-6.77	98.24	108.40
1	A	29	G	C4'-C3'-O3'	-6.77	102.85	113.00
1	A	2451	A	C2'-C3'-O3'	-6.77	103.55	113.70
6	F	146	GLU	CB-CA-C	-6.77	99.00	110.64
26	U	132	ARG	CG-CD-NE	6.77	126.89	112.00
1	A	1375	C	C1'-C2'-O2'	-6.76	98.25	108.40
3	C	139	G	C2'-C3'-O3'	-6.76	103.55	113.70
1	A	189	G	C4'-C3'-O3'	6.76	123.14	113.00
1	A	376	A	C1'-C2'-O2'	-6.76	98.26	108.40
1	A	3626	G	O5'-C5'-C4'	-6.76	101.36	111.50
1	A	236	G	C1'-C2'-O2'	-6.76	98.26	108.40
1	A	4766	C	C5'-C4'-C3'	-6.76	105.86	116.00
1	A	1916	G	C4'-C3'-O3'	-6.76	102.86	113.00
1	A	2523	G	C2'-C3'-O3'	-6.76	103.57	113.70
1	A	4570	G	C4'-C3'-O3'	-6.76	102.87	113.00
10	n	97	LYS	CB-CA-C	6.76	122.33	110.85
32	a	88	ARG	CB-CA-C	-6.75	99.58	110.79
1	A	700	G	C2'-C3'-O3'	6.75	123.83	113.70
1	A	2877	G	C4'-C3'-O3'	-6.75	102.87	113.00
21	M	131	GLU	CB-CA-C	6.75	120.67	109.53
1	A	957	G	C4'-C3'-O3'	-6.75	102.87	113.00
1	A	4265	U	C3'-C2'-O2'	-6.75	104.48	114.60
14	r	35	ARG	CG-CD-NE	-6.75	97.16	112.00
22	N	35	LYS	N-CA-CB	-6.75	99.81	111.55
30	Y	49	PHE	CA-CB-CG	-6.74	107.06	113.80
1	A	2525	U	C1'-C2'-O2'	-6.74	98.29	108.40
1	A	114	G	C1'-C2'-O2'	-6.74	98.29	108.40
6	F	225	PRO	CB-CA-C	-6.74	102.77	111.46
1	A	329	A	C1'-C2'-O2'	-6.74	98.29	108.40
1	A	3612	C	C3'-C2'-O2'	6.74	120.81	110.70
1	A	2334	C	C1'-C2'-O2'	-6.74	98.30	108.40
1	A	5021	C	N1-C1'-C2'	-6.73	101.90	112.00
1	A	2441	C	C2'-C3'-O3'	6.73	123.80	113.70
27	V	120	ARG	CB-CA-C	6.73	120.12	110.02

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3815	G	C1'-C2'-O2'	-6.73	98.31	108.40
1	A	692	A	C1'-C2'-O2'	6.73	118.49	108.40
1	A	4275	G	C1'-C2'-O2'	-6.73	98.31	108.40
1	A	4294	C	C1'-C2'-O2'	-6.73	98.31	108.40
1	A	4717	A	C3'-C2'-O2'	6.73	120.79	110.70
35	d	63	ARG	CB-CG-CD	-6.73	95.83	111.30
1	A	1868	A	C3'-C2'-O2'	6.72	120.79	110.70
1	A	4136	G	O4'-C1'-C2'	-6.72	100.88	107.60
34	c	76	ARG	CG-CD-NE	-6.72	97.21	112.00
3	C	74	U	C1'-C2'-O2'	-6.72	98.33	108.40
4	D	123	ARG	CG-CD-NE	-6.72	97.23	112.00
40	k	89	THR	CA-CB-OG1	-6.72	99.53	109.60
1	A	1556	C	C1'-C2'-O2'	-6.71	98.33	108.40
1	A	318	A	C2'-C3'-O3'	-6.71	103.63	113.70
1	A	1878	G	C1'-C2'-O2'	-6.71	98.33	108.40
25	T	7	PRO	CB-CA-C	6.71	120.09	111.56
1	A	2888	G	C2'-C3'-O3'	-6.71	103.63	113.70
1	A	3798	U	C4'-C3'-O3'	-6.71	102.93	113.00
33	b	93	ARG	CB-CA-C	-6.71	99.22	110.56
23	R	98	PHE	CB-CA-C	-6.71	96.64	109.66
1	A	1795	A	C2'-C3'-O3'	-6.71	103.64	113.70
1	A	1863	U	C1'-C2'-O2'	-6.71	98.34	108.40
1	A	2514	G	C4'-C3'-O3'	-6.71	102.94	113.00
19	K	55	ARG	CB-CG-CD	6.71	126.73	111.30
3	C	25	G	C4'-C3'-O3'	-6.71	102.94	113.00
9	m	157	ARG	CA-C-N	-6.71	115.18	121.62
9	m	157	ARG	C-N-CA	-6.71	115.18	121.62
33	b	20	GLN	CB-CA-C	-6.71	99.66	110.79
14	r	36	ARG	CG-CD-NE	-6.71	97.25	112.00
1	A	386	A	C3'-C2'-O2'	-6.70	100.65	110.70
26	U	67	GLN	CA-C-N	-6.70	112.01	122.67
26	U	67	GLN	C-N-CA	-6.70	112.01	122.67
1	A	301	G	C1'-C2'-O2'	-6.70	98.35	108.40
10	n	62	ARG	CB-CA-C	-6.70	99.67	110.79
1	A	116	G	C4'-C3'-O3'	-6.70	102.96	113.00
1	A	1546	C	C4'-C3'-O3'	-6.70	102.96	113.00
5	E	376	HIS	N-CA-CB	6.70	120.58	109.60
6	F	350	ARG	CB-CG-CD	-6.70	95.90	111.30
1	A	1503	A	O4'-C1'-C2'	-6.69	99.11	105.80
34	c	66	ASP	CB-CA-C	-6.69	99.47	110.85
2	B	66	G	C4'-C3'-O3'	-6.69	102.97	113.00
1	A	4248	A	C3'-C2'-O2'	6.69	120.73	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3936	A	C1'-C2'-O2'	-6.68	98.37	108.40
1	A	267	G	C1'-C2'-O2'	6.68	118.42	108.40
1	A	3722	G	C3'-C2'-O2'	6.68	120.72	110.70
1	A	249	C	P-O5'-C5'	-6.68	110.89	120.90
1	A	706	C	C1'-C2'-O2'	6.68	118.42	108.40
1	A	4605	A	C3'-C2'-O2'	6.68	120.72	110.70
1	A	239	C	C2'-C3'-O3'	-6.67	103.69	113.70
38	i	69	ARG	CB-CG-CD	-6.67	95.95	111.30
1	A	4487	A	C3'-C2'-O2'	-6.67	100.69	110.70
1	A	4622	A	C4'-C3'-O3'	-6.67	102.99	113.00
1	A	1513	U	C4'-C3'-O3'	-6.67	103.00	113.00
1	A	4877	G	C1'-C2'-O2'	-6.67	98.39	108.40
6	F	138	MET	CB-CA-C	-6.67	97.86	110.67
1	A	2823	G	C4'-C3'-O3'	-6.67	103.00	113.00
1	A	26	C	C4'-C3'-O3'	-6.66	103.00	113.00
1	A	654	C	C3'-C2'-O2'	6.66	120.69	110.70
1	A	4675	U	C1'-C2'-O2'	-6.66	98.40	108.40
1	A	1845	U	C2'-C3'-O3'	-6.66	103.71	113.70
1	A	4875	G	N9-C1'-C2'	-6.66	104.01	114.00
1	A	3806	G	C2'-C3'-O3'	-6.66	103.71	113.70
1	A	4240	G	C3'-C2'-O2'	6.66	120.69	110.70
1	A	1693	U	C1'-C2'-O2'	-6.66	98.41	108.40
1	A	3886	G	C4'-C3'-O3'	-6.66	103.01	113.00
8	H	113	PRO	N-CA-C	-6.66	101.43	111.41
29	X	25	TYR	CB-CA-C	-6.65	95.48	109.38
3	C	122	G	C2'-C3'-O3'	-6.65	103.73	113.70
2	B	60	G	C1'-C2'-O2'	6.65	118.37	108.40
3	C	137	A	C1'-C2'-O2'	-6.65	98.43	108.40
40	k	48	THR	OG1-CB-CG2	-6.64	96.01	109.30
6	F	117	THR	CA-CB-OG1	-6.64	99.64	109.60
6	F	205	ARG	CB-CA-C	-6.64	98.58	109.53
21	M	47	PHE	CA-C-N	-6.64	110.99	120.42
21	M	47	PHE	C-N-CA	-6.64	110.99	120.42
1	A	4698	C	C3'-C2'-O2'	6.64	120.66	110.70
6	F	86	ARG	N-CA-CB	-6.64	99.37	110.39
35	d	61	THR	CA-CB-OG1	6.64	119.55	109.60
30	Y	5	ARG	CB-CA-C	-6.63	99.67	108.76
1	A	338	A	C1'-C2'-O2'	-6.63	98.45	108.40
1	A	1293	G	C4'-C3'-O3'	-6.63	103.05	113.00
1	A	4274	A	O5'-P-OP1	-6.63	88.11	108.00
1	A	412	G	C2'-C3'-O3'	-6.63	99.56	109.50
1	A	1468	C	C3'-C2'-O2'	6.63	120.64	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2823	G	C1'-C2'-O2'	-6.63	98.45	108.40
16	t	42	PRO	CB-CA-C	-6.63	102.91	111.46
1	A	2298	U	C1'-C2'-O2'	-6.63	98.46	108.40
1	A	2810	U	C3'-C2'-O2'	-6.63	100.76	110.70
2	B	44	C	C2'-C3'-O3'	-6.63	103.76	113.70
1	A	1366	G	C3'-C2'-O2'	6.63	120.64	110.70
1	A	4297	G	C5'-C4'-C3'	-6.63	106.06	116.00
1	A	2317	C	O4'-C4'-C3'	-6.62	97.38	104.00
1	A	416	U	C3'-C2'-O2'	6.62	120.63	110.70
1	A	1912	G	C1'-C2'-O2'	-6.62	98.47	108.40
1	A	1303	A	C4'-C3'-O3'	6.62	122.93	113.00
1	A	1314	C	C3'-C2'-O2'	-6.62	104.67	114.60
1	A	1651	G	C4'-C3'-O3'	-6.62	103.07	113.00
1	A	4262	C	C3'-C2'-O2'	6.62	120.63	110.70
1	A	4438	U	C3'-C2'-O2'	6.62	120.62	110.70
16	t	68	ARG	N-CA-CB	-6.62	100.98	110.44
1	A	2054	U	C4'-C3'-O3'	-6.61	99.48	109.40
1	A	3714	G	C3'-C2'-O2'	6.61	120.62	110.70
2	B	30	C	C4'-C3'-O3'	-6.61	103.08	113.00
5	E	46	PHE	N-CA-CB	-6.61	101.31	111.56
1	A	4564	A	C2'-C3'-O3'	-6.61	103.78	113.70
1	A	2800	G	O4'-C4'-C3'	-6.61	97.39	104.00
1	A	479	G	C1'-C2'-O2'	-6.61	98.49	108.40
1	A	1930	U	C4'-C3'-O3'	-6.61	99.49	109.40
1	A	230	G	C1'-C2'-O2'	-6.60	98.50	108.40
10	n	58	PRO	CB-CA-C	-6.60	100.67	111.56
18	J	58	VAL	O-C-N	-6.60	116.31	121.46
1	A	3656	A	C1'-C2'-O2'	-6.60	98.50	108.40
1	A	4271	A	O5'-P-OP1	-6.60	88.20	108.00
1	A	4970	C	C2'-C3'-O3'	-6.60	103.80	113.70
1	A	2031	C	C2'-C3'-O3'	6.60	123.59	113.70
1	A	4543	G	C1'-C2'-O2'	-6.60	98.50	108.40
24	S	11	ARG	CB-CG-CD	-6.60	96.12	111.30
30	Y	28	TYR	CB-CA-C	-6.60	95.99	109.38
16	t	61	ILE	CA-C-N	-6.60	111.73	122.81
16	t	61	ILE	C-N-CA	-6.60	111.73	122.81
1	A	406	C	C4'-C3'-O3'	-6.59	103.11	113.00
1	A	275	C	C2'-C3'-O3'	6.59	123.59	113.70
1	A	4928	C	C3'-C2'-O2'	6.59	120.59	110.70
1	A	4538	G	C2'-C3'-O3'	6.59	123.59	113.70
1	A	4633	G	O5'-C5'-C4'	-6.59	101.61	111.50
1	A	4969	C	C1'-C2'-O2'	-6.59	98.51	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	H	52	ARG	CA-C-N	-6.59	112.18	122.86
8	H	52	ARG	C-N-CA	-6.59	112.18	122.86
22	N	95	HIS	CA-C-N	-6.59	113.43	122.92
22	N	95	HIS	C-N-CA	-6.59	113.43	122.92
1	A	1452	A	C3'-C2'-O2'	6.59	120.58	110.70
1	A	4686	G	C3'-C2'-O2'	6.59	120.58	110.70
5	E	9	PRO	N-CD-CG	-6.59	93.32	103.20
1	A	4693	C	C2'-C3'-O3'	-6.59	99.62	109.50
1	A	4460	U	C1'-C2'-O2'	-6.59	98.52	108.40
1	A	4644	G	C1'-C2'-O2'	-6.58	98.52	108.40
17	I	140	ARG	CB-CA-C	-6.58	100.54	110.88
1	A	4555	U	N1-C1'-C2'	6.58	123.87	114.00
24	S	112	ASP	CA-C-N	-6.58	109.49	120.68
24	S	112	ASP	C-N-CA	-6.58	109.49	120.68
1	A	382	G	C4'-C3'-O3'	-6.58	103.13	113.00
1	A	4369	A	C2'-C3'-O3'	-6.58	103.83	113.70
28	W	36	LYS	CB-CA-C	-6.58	99.87	110.79
34	c	30	ARG	N-CA-CB	6.58	119.64	109.97
16	t	49	ARG	CA-C-N	-6.58	109.74	120.72
16	t	49	ARG	C-N-CA	-6.58	109.74	120.72
1	A	2821	U	C2'-C3'-O3'	-6.57	103.84	113.70
1	A	4117	U	C4'-C3'-O3'	-6.57	103.14	113.00
15	s	119	ARG	CB-CG-CD	-6.57	96.18	111.30
1	A	654	C	C1'-C2'-O2'	6.57	118.26	108.40
1	A	3909	C	C2'-C3'-O3'	-6.57	103.84	113.70
33	b	85	PRO	CB-CA-C	-6.57	102.64	111.12
2	B	72	U	C1'-C2'-O2'	6.57	118.25	108.40
26	U	123	ILE	CA-C-N	-6.57	115.05	123.19
26	U	123	ILE	C-N-CA	-6.57	115.05	123.19
1	A	48	G	C2'-C3'-O3'	-6.57	99.65	109.50
1	A	1418	C	C4'-C3'-O3'	-6.57	103.15	113.00
1	A	2596	G	O4'-C4'-C3'	-6.56	97.44	104.00
1	A	4995	U	C4'-C3'-O3'	-6.56	103.15	113.00
1	A	3707	U	C4'-C3'-O3'	-6.56	103.16	113.00
1	A	3827	G	C3'-C2'-O2'	-6.56	104.76	114.60
1	A	4371	G	C5'-C4'-C3'	-6.56	105.36	115.20
21	M	50	GLN	CB-CA-C	-6.56	98.20	110.01
1	A	1674	C	C1'-C2'-O2'	-6.56	98.56	108.40
1	A	1360	G	C1'-C2'-O2'	-6.56	98.56	108.40
1	A	1737	A	C1'-C2'-O2'	-6.56	98.56	108.40
3	C	156	U	C1'-C2'-O2'	-6.56	101.96	111.80
1	A	2610	G	C3'-C2'-O2'	6.56	120.54	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	F	142	HIS	CA-CB-CG	-6.56	107.24	113.80
1	A	22	G	C4'-C3'-O3'	-6.55	103.17	113.00
1	A	1916	G	C1'-C2'-O2'	-6.55	98.58	108.40
1	A	2823	G	O4'-C4'-C3'	-6.55	97.45	104.00
1	A	1798	G	C1'-C2'-O2'	-6.54	98.59	108.40
1	A	113	A	O4'-C4'-C3'	-6.54	97.46	104.00
1	A	435	A	C4'-C3'-O3'	-6.54	103.19	113.00
17	I	127	VAL	CA-C-N	-6.54	110.61	121.92
17	I	127	VAL	C-N-CA	-6.54	110.61	121.92
1	A	1652	U	C1'-C2'-O2'	-6.54	98.59	108.40
1	A	3865	A	C2'-C3'-O3'	-6.54	103.89	113.70
1	A	4087	G	C4'-C3'-O3'	-6.54	103.19	113.00
1	A	1645	C	C4'-C3'-O3'	-6.54	103.19	113.00
1	A	2725	A	C3'-C2'-O2'	6.54	120.50	110.70
6	F	100	ARG	CD-NE-CZ	-6.54	115.25	124.40
32	a	2	VAL	CA-C-N	-6.54	112.07	121.42
32	a	2	VAL	C-N-CA	-6.54	112.07	121.42
1	A	78	U	C1'-C2'-O2'	-6.53	98.60	108.40
2	B	56	G	C2'-C3'-O3'	-6.53	103.90	113.70
18	J	135	ARG	CG-CD-NE	-6.53	97.63	112.00
25	T	85	TYR	CB-CA-C	-6.53	99.02	109.80
1	A	2274	C	C3'-C2'-O2'	-6.53	100.90	110.70
17	I	93	LYS	CB-CA-C	-6.53	99.75	110.85
1	A	2470	C	N1-C1'-C2'	6.53	123.79	114.00
1	A	4616	A	O4'-C4'-C3'	-6.53	97.47	104.00
1	A	1897	A	O5'-C5'-C4'	-6.53	101.71	111.50
1	A	2357	G	C2'-C3'-O3'	-6.53	103.91	113.70
3	C	33	G	C3'-C2'-O2'	6.53	120.49	110.70
18	J	34	GLN	CB-CA-C	-6.52	98.14	110.67
1	A	4729	A	C2'-C3'-O3'	-6.52	99.72	109.50
9	m	217	ARG	CG-CD-NE	-6.52	97.65	112.00
1	A	1426	G	C1'-C2'-O2'	-6.52	98.62	108.40
1	A	3734	U	C4'-C3'-O3'	-6.52	103.22	113.00
1	A	3799	A	C3'-C2'-O2'	6.52	120.48	110.70
1	A	2413	U	C2'-C3'-O3'	-6.52	103.92	113.70
1	A	243	A	C1'-C2'-O2'	-6.51	98.63	108.40
1	A	1950	U	C2'-C3'-O3'	6.51	123.47	113.70
1	A	210	C	C1'-C2'-O2'	-6.51	102.03	111.80
1	A	3755	G	C3'-C2'-O2'	6.51	120.47	110.70
32	a	54	ARG	CG-CD-NE	-6.51	97.67	112.00
1	A	2471	G	C4'-C3'-O3'	-6.51	99.64	109.40
1	A	5049	G	C4'-C3'-O3'	6.50	119.16	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	Z	75	THR	OG1-CB-CG2	-6.50	96.29	109.30
1	A	295	A	C4'-C3'-O3'	-6.50	103.24	113.00
9	m	138	PRO	CB-CA-C	-6.50	101.62	111.44
1	A	357	U	C2'-C3'-O3'	-6.50	103.95	113.70
1	A	3635	A	C4'-C3'-O3'	-6.50	103.25	113.00
3	C	101	C	C5'-C4'-C3'	-6.50	106.25	116.00
3	C	64	U	C1'-C2'-O2'	-6.50	98.65	108.40
32	a	32	TYR	CB-CA-C	-6.50	98.55	109.53
1	A	304	C	C2'-C3'-O3'	-6.50	103.95	113.70
1	A	3834	C	C2'-C3'-O3'	-6.50	103.95	113.70
9	m	189	ASP	CB-CA-C	-6.50	97.13	110.38
3	C	53	G	C4'-C3'-O3'	-6.50	103.26	113.00
1	A	1925	G	C2'-C3'-O3'	-6.49	103.96	113.70
1	A	2411	C	C3'-C2'-O2'	-6.49	100.96	110.70
1	A	4377	G	C1'-C2'-O2'	-6.49	98.66	108.40
1	A	4599	A	C1'-C2'-O2'	6.49	121.54	111.80
18	J	29	THR	CA-CB-OG1	-6.49	99.86	109.60
1	A	1621	A	C1'-C2'-O2'	-6.49	98.66	108.40
1	A	4975	G	C2'-C3'-O3'	-6.49	99.76	109.50
34	c	41	ARG	CG-CD-NE	-6.49	97.72	112.00
1	A	2516	G	C1'-C2'-O2'	-6.49	98.66	108.40
1	A	3783	A	O5'-C5'-C4'	-6.49	101.96	111.70
1	A	3938	G	C4'-C3'-O3'	-6.49	99.67	109.40
2	B	25	G	C4'-C3'-O3'	-6.49	103.26	113.00
27	V	50	ASN	CB-CA-C	-6.49	96.75	110.31
1	A	1327	C	C3'-C2'-O2'	6.49	120.43	110.70
1	A	1369	C	C3'-C2'-O2'	6.49	120.43	110.70
1	A	723	A	C2'-C3'-O3'	-6.49	103.97	113.70
1	A	5064	G	C3'-C2'-O2'	6.49	120.43	110.70
40	k	113	ARG	NE-CZ-NH2	6.49	125.04	119.20
7	G	178	LYS	CA-C-N	-6.48	112.39	122.37
7	G	178	LYS	C-N-CA	-6.48	112.39	122.37
1	A	196	C	C3'-C2'-O2'	6.48	120.42	110.70
1	A	3881	G	C3'-C2'-O2'	-6.48	104.88	114.60
1	A	3711	A	C1'-C2'-O2'	6.48	118.12	108.40
5	E	9	PRO	N-CA-CB	-6.48	97.31	103.33
7	G	38	ILE	N-CA-CB	-6.48	103.47	110.53
1	A	2064	G	C2'-C3'-O3'	6.48	123.41	113.70
5	E	71	GLU	CA-C-N	-6.47	112.39	122.69
5	E	71	GLU	C-N-CA	-6.47	112.39	122.69
19	K	55	ARG	CD-NE-CZ	-6.47	115.34	124.40
34	c	48	CYS	CB-CA-C	-6.47	98.88	109.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2418	A	C4'-C3'-O3'	-6.47	103.29	113.00
1	A	4572	U	C2'-C3'-O3'	6.47	123.41	113.70
1	A	2722	G	C2'-C3'-O3'	6.47	123.41	113.70
1	A	2404	A	C1'-C2'-O2'	-6.47	98.70	108.40
1	A	4644	G	C2'-C3'-O3'	-6.47	104.00	113.70
1	A	1494	U	C4'-C3'-O3'	-6.46	103.31	113.00
1	A	2064	G	C1'-C2'-O2'	-6.46	98.71	108.40
18	J	40	HIS	CA-CB-CG	-6.46	107.34	113.80
1	A	3799	A	C1'-C2'-O2'	-6.46	98.71	108.40
1	A	1850	A	C2'-C3'-O3'	-6.45	104.02	113.70
6	F	43	ASN	CA-CB-CG	-6.45	106.15	112.60
1	A	3768	U	C3'-C2'-O2'	6.45	120.38	110.70
1	A	729	G	C4'-C3'-O3'	-6.45	99.73	109.40
6	F	345	ARG	CB-CA-C	-6.45	100.67	110.92
1	A	355	A	C2'-C3'-O3'	-6.45	104.03	113.70
10	n	47	PRO	CB-CA-C	-6.45	102.51	110.95
1	A	1690	C	C2'-C3'-O3'	-6.44	104.03	113.70
22	N	30	TYR	CA-C-N	-6.44	112.02	122.26
22	N	30	TYR	C-N-CA	-6.44	112.02	122.26
30	Y	102	ASN	CA-CB-CG	-6.44	106.16	112.60
1	A	354	U	C1'-C2'-O2'	-6.44	102.14	111.80
1	A	2034	G	C2'-C3'-O3'	6.44	123.36	113.70
4	D	180	LEU	CA-C-N	-6.44	113.28	122.94
4	D	180	LEU	C-N-CA	-6.44	113.28	122.94
16	t	203	TYR	CB-CA-C	-6.44	100.30	110.79
42	Q	87	SER	CA-C-N	-6.44	111.78	122.21
42	Q	87	SER	C-N-CA	-6.44	111.78	122.21
1	A	2032	U	C1'-C2'-O2'	6.44	118.05	108.40
1	A	4175	G	C1'-C2'-O2'	-6.44	98.75	108.40
17	I	49	ARG	CG-CD-NE	-6.44	97.84	112.00
1	A	1236	C	C4'-C3'-O3'	-6.43	103.35	113.00
1	A	1883	G	O5'-P-OP2	-6.43	88.69	108.00
1	A	4309	G	C3'-C2'-O2'	6.43	120.35	110.70
33	b	104	THR	CA-CB-OG1	-6.43	99.95	109.60
1	A	1900	C	C1'-C2'-O2'	-6.43	98.75	108.40
1	A	4593	C	C2'-C3'-O3'	-6.43	104.05	113.70
1	A	4736	C	C1'-C2'-O2'	6.43	118.05	108.40
1	A	1695	U	O5'-C5'-C4'	-6.43	101.86	111.50
1	A	2456	G	C4'-C3'-O3'	-6.43	103.36	113.00
1	A	981	C	C3'-C2'-O2'	6.43	120.34	110.70
1	A	2336	G	C1'-C2'-O2'	-6.43	98.76	108.40
5	E	96	PRO	N-CD-CG	-6.43	93.56	103.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	r	76	PHE	CA-CB-CG	-6.43	107.37	113.80
1	A	1726	U	C4'-C3'-O3'	-6.42	103.36	113.00
21	M	128	LYS	CA-C-N	-6.42	113.86	122.98
21	M	128	LYS	C-N-CA	-6.42	113.86	122.98
1	A	274	C	P-O5'-C5'	-6.42	111.27	120.90
1	A	1630	A	C4'-C3'-O3'	-6.42	103.37	113.00
1	A	3829	G	C2'-C3'-O3'	-6.42	104.07	113.70
1	A	4613	C	C3'-C2'-O2'	6.42	120.33	110.70
1	A	1924	C	C4'-C3'-O3'	6.42	122.63	113.00
1	A	2773	G	C3'-C2'-O2'	6.42	120.33	110.70
1	A	4115	G	C2'-C3'-O3'	6.42	119.13	109.50
1	A	4247	G	P-O5'-C5'	-6.42	111.27	120.90
4	D	43	GLY	CA-C-N	-6.42	114.82	123.10
4	D	43	GLY	C-N-CA	-6.42	114.82	123.10
31	Z	106	TYR	O-C-N	-6.42	115.89	121.35
1	A	317	A	C1'-C2'-O2'	-6.42	98.78	108.40
3	C	148	A	C4'-C3'-O3'	-6.42	103.38	113.00
1	A	948	C	C2'-C3'-O3'	-6.41	104.08	113.70
1	A	5041	G	C1'-C2'-O2'	6.41	118.02	108.40
1	A	3888	G	C1'-C2'-O2'	-6.41	98.78	108.40
1	A	69	A	N9-C1'-C2'	6.41	121.61	112.00
1	A	4116	C	C2'-C3'-O3'	-6.41	99.89	109.50
1	A	5005	G	C1'-C2'-O2'	-6.41	102.19	111.80
1	A	5015	G	C4'-C3'-O3'	-6.40	103.40	113.00
17	I	73	PHE	CB-CA-C	-6.40	98.71	109.53
1	A	1298	C	C3'-C2'-O2'	6.40	120.30	110.70
5	E	306	ASP	CB-CA-C	-6.40	97.95	110.11
1	A	4242	U	C1'-C2'-O2'	-6.40	102.20	111.80
1	A	5004	C	C4'-C3'-O3'	-6.39	103.41	113.00
1	A	441	G	C1'-C2'-O2'	-6.39	98.81	108.40
1	A	2088	A	C2'-C3'-O3'	-6.39	99.91	109.50
1	A	3882	C	C2'-C3'-O3'	-6.39	104.11	113.70
1	A	4531	U	O4'-C1'-C2'	-6.39	99.41	105.80
1	A	1872	G	C3'-C2'-O2'	-6.39	101.11	110.70
1	A	2865	U	C1'-C2'-O2'	-6.39	98.81	108.40
1	A	4339	A	C3'-C2'-O2'	-6.39	101.12	110.70
1	A	434	A	C5'-C4'-C3'	-6.39	106.42	116.00
1	A	1555	G	C2'-C3'-O3'	-6.39	104.12	113.70
1	A	2830	G	C2'-C3'-O3'	-6.39	104.12	113.70
1	A	4640	C	C1'-C2'-O2'	-6.38	98.82	108.40
17	I	133	ARG	CG-CD-NE	-6.38	97.96	112.00
24	S	58	VAL	CA-C-N	-6.38	112.57	122.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	S	58	VAL	C-N-CA	-6.38	112.57	122.59
24	S	128	VAL	CA-C-N	6.38	127.20	119.99
24	S	128	VAL	C-N-CA	6.38	127.20	119.99
1	A	1620	U	O4'-C4'-C3'	-6.38	97.62	104.00
19	K	71	LYS	CB-CA-C	-6.38	98.54	109.65
1	A	1812	C	C1'-C2'-O2'	6.38	117.97	108.40
3	C	146	U	C4'-C3'-O3'	-6.38	103.43	113.00
38	i	58	LYS	N-CA-CB	6.38	118.31	110.53
1	A	140	G	C3'-C2'-O2'	6.38	120.27	110.70
1	A	2470	C	C2'-C3'-O3'	6.38	119.07	109.50
1	A	4508	C	C2'-C3'-O3'	-6.38	104.13	113.70
8	H	183	ARG	CG-CD-NE	6.38	126.03	112.00
16	t	161	MET	CA-CB-CG	-6.38	101.34	114.10
26	U	2	PRO	CB-CA-C	-6.38	97.98	110.10
31	Z	81	SER	CA-C-N	-6.38	113.55	122.86
31	Z	81	SER	C-N-CA	-6.38	113.55	122.86
1	A	1650	A	C1'-C2'-O2'	-6.38	102.24	111.80
1	A	4543	G	C4'-C3'-O3'	-6.38	103.43	113.00
16	t	138	PHE	CA-CB-CG	-6.38	107.42	113.80
1	A	129	C	C1'-C2'-O2'	6.38	117.96	108.40
1	A	1794	A	C5'-C4'-C3'	-6.37	106.44	116.00
1	A	2428	A	C4'-C3'-O3'	-6.37	99.84	109.40
1	A	2457	G	C2'-C3'-O3'	-6.37	104.15	113.70
1	A	2800	G	C4'-C3'-O3'	-6.37	103.45	113.00
42	Q	94	VAL	N-CA-CB	-6.37	103.59	110.53
1	A	1269	G	C4'-C3'-O3'	6.37	118.95	109.40
1	A	3635	A	C2'-C3'-O3'	6.37	123.25	113.70
1	A	3945	A	C2'-C3'-O3'	6.37	123.25	113.70
1	A	4165	C	C1'-C2'-O2'	-6.37	98.85	108.40
1	A	4239	A	C3'-C2'-O2'	-6.37	101.15	110.70
1	A	980	U	C2'-C3'-O3'	-6.36	104.16	113.70
1	A	4451	G	C1'-C2'-O2'	-6.36	98.86	108.40
1	A	733	A	C2'-C3'-O3'	-6.36	104.16	113.70
2	B	11	A	C1'-C2'-O2'	-6.36	98.86	108.40
1	A	4774	C	C3'-C2'-O2'	6.36	120.24	110.70
1	A	4115	G	C1'-C2'-O2'	-6.36	102.27	111.80
1	A	722	G	C1'-C2'-O2'	-6.36	98.87	108.40
22	N	90	ASN	CA-CB-CG	-6.35	106.25	112.60
1	A	3896	C	C4'-C3'-O3'	-6.35	103.47	113.00
23	R	144	TYR	CA-C-N	-6.35	114.03	122.99
23	R	144	TYR	C-N-CA	-6.35	114.03	122.99
1	A	2376	A	C3'-C2'-O2'	6.35	120.23	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4080	C	C2'-C3'-O3'	-6.35	104.17	113.70
1	A	1689	G	C2'-C3'-O3'	-6.35	104.18	113.70
34	c	59	GLU	CB-CA-C	6.35	121.64	110.85
19	K	73	PRO	CB-CA-C	-6.34	103.27	111.46
1	A	1523	A	C1'-C2'-O2'	-6.34	98.89	108.40
39	j	60	CYS	CB-CA-C	6.34	120.68	110.09
1	A	3657	U	C1'-C2'-O2'	-6.34	98.89	108.40
1	A	4239	A	C1'-C2'-O2'	-6.34	98.89	108.40
20	L	30	ASN	CB-CA-C	6.34	121.63	110.85
3	C	62	A	C1'-C2'-O2'	-6.34	102.30	111.80
1	A	1817	U	C3'-C2'-O2'	6.33	120.20	110.70
1	A	1816	C	C4'-C3'-O3'	-6.33	103.50	113.00
1	A	3933	G	C3'-C2'-O2'	6.33	120.20	110.70
1	A	4721	G	C4'-C3'-O3'	-6.33	103.50	113.00
1	A	2801	U	C4'-C3'-O3'	-6.33	103.50	113.00
14	r	10	LEU	CA-C-N	-6.33	115.38	123.16
14	r	10	LEU	C-N-CA	-6.33	115.38	123.16
1	A	413	G	C2'-C3'-O3'	-6.33	100.01	109.50
1	A	1824	G	C2'-C3'-O3'	-6.33	104.21	113.70
35	d	6	SER	CB-CA-C	-6.33	100.09	110.85
1	A	4	G	C1'-C2'-O2'	-6.33	98.91	108.40
1	A	128	C	C3'-C2'-O2'	6.33	120.19	110.70
1	A	4161	G	C4'-C3'-O3'	-6.33	103.51	113.00
1	A	721	G	C5'-C4'-C3'	-6.33	106.51	116.00
1	A	2735	G	C4'-C3'-O3'	-6.33	103.51	113.00
22	N	116	LYS	CB-CA-C	6.33	120.81	110.88
1	A	1610	C	C4'-C3'-O3'	-6.32	103.51	113.00
3	C	66	A	C4'-C3'-O3'	-6.32	103.52	113.00
6	F	274	LYS	CA-C-N	-6.32	111.84	120.44
6	F	274	LYS	C-N-CA	-6.32	111.84	120.44
42	Q	123	LYS	CA-C-N	-6.32	111.18	120.28
42	Q	123	LYS	C-N-CA	-6.32	111.18	120.28
3	C	13	G	C4'-C3'-O3'	-6.32	103.52	113.00
1	A	8	U	C4'-C3'-O3'	-6.32	103.53	113.00
1	A	3817	A	C2'-C3'-O3'	6.32	118.98	109.50
1	A	654	C	N1-C1'-C2'	-6.32	102.53	112.00
2	B	58	A	C1'-C2'-O2'	6.32	117.87	108.40
5	E	192	GLU	CA-C-N	-6.32	110.71	120.31
5	E	192	GLU	C-N-CA	-6.32	110.71	120.31
7	G	36	LEU	CA-C-N	-6.32	112.68	121.77
7	G	36	LEU	C-N-CA	-6.32	112.68	121.77
8	H	119	GLU	CB-CG-CD	6.32	123.34	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	o	169	ASN	CB-CA-C	6.32	122.99	110.42
1	A	4608	G	C4'-C3'-O3'	-6.31	103.53	113.00
1	A	3894	A	C2'-C3'-O3'	-6.31	104.23	113.70
7	G	13	PHE	CA-CB-CG	-6.31	107.49	113.80
1	A	978	G	C3'-C2'-O2'	-6.31	101.24	110.70
1	A	1173	G	C2'-C3'-O3'	6.31	123.16	113.70
1	A	2736	G	C4'-C3'-O3'	-6.31	103.54	113.00
1	A	4619	U	C2'-C3'-O3'	6.31	123.16	113.70
3	C	58	G	O4'-C1'-C2'	-6.31	99.49	105.80
4	D	18	ALA	N-CA-CB	-6.31	100.70	109.97
8	H	59	ARG	CG-CD-NE	-6.31	98.12	112.00
1	A	4627	U	C2'-C3'-O3'	-6.30	104.24	113.70
1	A	3654	G	C3'-C2'-O2'	-6.30	101.25	110.70
1	A	306	A	C5'-C4'-C3'	-6.30	106.55	116.00
1	A	307	A	C3'-C2'-O2'	6.30	120.15	110.70
1	A	4121	G	C3'-C2'-O2'	-6.30	105.15	114.60
1	A	4313	A	C1'-C2'-O2'	-6.30	98.95	108.40
3	C	155	C	C2'-C3'-O3'	-6.30	104.25	113.70
1	A	316	U	C3'-C2'-O2'	-6.30	105.15	114.60
1	A	334	A	C1'-C2'-O2'	-6.30	98.95	108.40
32	a	88	ARG	N-CA-CB	6.30	119.38	110.12
1	A	2822	G	C1'-C2'-O2'	6.30	117.85	108.40
1	A	4574	U	C3'-C2'-O2'	6.30	120.15	110.70
1	A	4311	A	O5'-P-OP1	6.30	126.89	108.00
35	d	76	HIS	CA-C-N	-6.30	110.71	120.91
35	d	76	HIS	C-N-CA	-6.30	110.71	120.91
1	A	2798	A	C5'-C4'-C3'	-6.29	105.76	115.20
1	A	2897	G	C1'-C2'-O2'	6.29	117.84	108.40
35	d	12	ARG	CG-CD-NE	6.29	125.84	112.00
1	A	2051	C	C2'-C3'-O3'	-6.29	104.27	113.70
3	C	67	U	C3'-C2'-O2'	6.29	120.13	110.70
1	A	1622	U	C4'-C3'-O3'	-6.29	103.57	113.00
1	A	430	G	C2'-C3'-O3'	-6.29	104.27	113.70
1	A	664	G	C2'-C3'-O3'	6.28	123.12	113.70
1	A	673	C	C2'-C3'-O3'	6.28	123.12	113.70
6	F	239	LYS	CB-CG-CD	6.28	125.75	111.30
1	A	24	G	P-O5'-C5'	-6.28	111.48	120.90
1	A	3628	G	C1'-C2'-O2'	-6.28	98.98	108.40
1	A	4562	C	C2'-C3'-O3'	-6.28	104.28	113.70
1	A	4449	A	C1'-C2'-O2'	-6.27	102.39	111.80
1	A	1308	C	C4'-C3'-O3'	-6.27	103.59	113.00
2	B	79	U	C4'-C3'-O3'	-6.27	103.59	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	102	U	C4'-C3'-O3'	-6.27	103.60	113.00
17	I	52	LEU	CB-CA-C	-6.27	99.03	110.63
1	A	102	G	C4'-C3'-O3'	-6.27	103.60	113.00
1	A	2873	U	C4'-C3'-O3'	-6.27	103.60	113.00
14	r	31	ARG	CB-CG-CD	6.27	125.72	111.30
35	d	48	ASN	CA-CB-CG	-6.27	106.33	112.60
1	A	4769	G	C1'-C2'-O2'	6.27	117.80	108.40
1	A	1603	C	C2'-C3'-O3'	-6.26	104.31	113.70
1	A	2751	G	C1'-C2'-O2'	-6.26	99.01	108.40
35	d	44	LYS	N-CA-CB	-6.26	100.77	109.97
1	A	4998	G	C4'-C3'-O3'	-6.26	103.61	113.00
12	p	187	LYS	CB-CA-C	6.26	120.54	110.09
1	A	1921	C	C2'-C3'-O3'	6.26	118.89	109.50
1	A	1631	A	C3'-C2'-O2'	-6.26	105.22	114.60
1	A	1416	G	C3'-C2'-O2'	6.25	120.08	110.70
1	A	2838	G	C5'-C4'-C3'	-6.25	106.62	116.00
1	A	4206	C	C2'-C3'-O3'	6.25	123.08	113.70
1	A	4599	A	C4'-C3'-O3'	-6.25	100.02	109.40
30	Y	38	PRO	CB-CA-C	-6.25	103.89	111.46
1	A	23	C	C1'-C2'-O2'	-6.25	99.02	108.40
1	A	122	U	C4'-C3'-O3'	-6.25	103.62	113.00
1	A	2600	A	O4'-C1'-C2'	-6.25	99.55	105.80
1	A	1657	G	C3'-C2'-O2'	6.25	120.07	110.70
1	A	2281	U	C2'-C3'-O3'	-6.25	104.33	113.70
1	A	4231	C	C1'-C2'-O2'	-6.25	99.03	108.40
1	A	1470	G	C3'-C2'-O2'	6.25	120.07	110.70
1	A	2377	C	C3'-C2'-O2'	6.25	120.07	110.70
1	A	2807	A	C1'-C2'-O2'	-6.25	99.03	108.40
1	A	2291	G	C2'-C3'-O3'	-6.24	104.34	113.70
1	A	4082	G	C4'-C3'-O3'	-6.24	103.64	113.00
1	A	116	G	C5'-C4'-C3'	-6.24	106.64	116.00
1	A	1519	C	P-O5'-C5'	6.24	130.26	120.90
27	V	11	ASN	N-CA-CB	6.24	121.03	110.49
1	A	2272	C	C4'-C3'-C2'	-6.23	96.37	102.60
1	A	360	A	O4'-C1'-C2'	-6.23	99.57	105.80
1	A	4965	U	C2'-C3'-O3'	-6.23	100.15	109.50
1	A	378	A	C1'-C2'-O2'	6.23	117.75	108.40
21	M	62	VAL	N-CA-C	-6.23	106.64	113.43
41	P	85	ARG	CB-CG-CD	-6.23	96.97	111.30
1	A	4084	G	C2'-C3'-O3'	-6.23	100.16	109.50
1	A	4505	C	C1'-C2'-O2'	-6.23	99.06	108.40
21	M	81	TRP	CA-C-N	-6.23	112.12	122.21

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	M	81	TRP	C-N-CA	-6.23	112.12	122.21
26	U	26	ARG	NE-CZ-NH2	6.23	124.81	119.20
1	A	3660	C	O4'-C4'-C3'	-6.23	97.77	104.00
1	A	60	G	C4'-C3'-O3'	-6.22	103.66	113.00
1	A	115	C	C2'-C3'-O3'	6.22	123.04	113.70
1	A	988	C	C3'-C2'-O2'	6.22	120.04	110.70
1	A	1812	C	C2'-C3'-O3'	-6.22	104.36	113.70
1	A	1923	A	C1'-C2'-O2'	-6.22	99.06	108.40
1	A	2263	A	C1'-C2'-O2'	-6.22	99.07	108.40
1	A	4761	G	C1'-C2'-O2'	-6.22	99.07	108.40
18	J	22	LEU	CA-C-N	-6.22	112.84	122.05
18	J	22	LEU	C-N-CA	-6.22	112.84	122.05
1	A	99	A	C4'-C3'-O3'	-6.22	103.67	113.00
1	A	1186	U	C4'-C3'-O3'	-6.22	103.67	113.00
1	A	3914	U	C1'-C2'-O2'	-6.22	99.07	108.40
1	A	4974	C	C3'-C2'-O2'	-6.22	101.37	110.70
1	A	4735	G	C3'-C2'-O2'	6.22	120.03	110.70
5	E	246	ARG	CB-CA-C	-6.22	101.69	111.51
1	A	97	G	C2'-C3'-O3'	-6.21	104.38	113.70
1	A	350	C	C4'-C3'-O3'	-6.21	103.68	113.00
1	A	2617	G	C1'-C2'-O2'	6.21	117.72	108.40
1	A	3855	C	C4'-C3'-O3'	-6.21	103.68	113.00
1	A	74	G	C4'-C3'-O3'	-6.21	103.68	113.00
1	A	733	A	C1'-C2'-O2'	6.21	117.72	108.40
1	A	3804	G	C4'-C3'-O3'	-6.21	103.68	113.00
1	A	4885	U	C2'-C3'-O3'	6.21	123.02	113.70
1	A	1845	U	C1'-C2'-O2'	-6.21	99.09	108.40
41	P	90	ASP	CA-CB-CG	6.21	118.81	112.60
1	A	364	G	O4'-C1'-C2'	-6.21	99.59	105.80
42	Q	75	LYS	CB-CA-C	-6.21	96.42	110.07
1	A	281	U	C1'-C2'-O2'	-6.20	99.10	108.40
1	A	1453	G	C1'-C2'-O2'	6.20	117.70	108.40
1	A	3677	U	C1'-C2'-O2'	-6.20	99.10	108.40
2	B	69	U	C1'-C2'-O2'	-6.20	99.10	108.40
1	A	1291	G	C2'-C3'-O3'	-6.20	104.40	113.70
1	A	1544	G	C2'-C3'-O3'	-6.20	104.40	113.70
1	A	2803	U	C2'-C3'-O3'	6.20	123.00	113.70
1	A	2278	G	C3'-C2'-O2'	-6.20	105.30	114.60
4	D	97	ASN	CB-CA-C	-6.20	97.08	109.79
5	E	164	ALA	CA-C-N	-6.20	112.86	122.59
5	E	164	ALA	C-N-CA	-6.20	112.86	122.59
6	F	190	ARG	NE-CZ-NH1	-6.20	115.30	121.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	209	U	P-O3'-C3'	6.20	129.49	120.20
1	A	4435	U	C4'-C3'-O3'	-6.20	103.71	113.00
5	E	182	GLU	CB-CA-C	-6.20	99.64	109.80
21	M	62	VAL	CA-CB-CG1	6.19	120.93	110.40
24	S	77	LYS	CB-CA-C	-6.19	100.25	110.72
5	E	221	GLY	CA-C-N	-6.19	115.13	122.93
5	E	221	GLY	C-N-CA	-6.19	115.13	122.93
1	A	44	A	C1'-C2'-O2'	-6.19	99.12	108.40
1	A	1467	C	C2'-C3'-O3'	-6.19	104.42	113.70
1	A	2743	A	O5'-C5'-C4'	-6.19	102.22	111.50
2	B	15	C	C3'-C2'-O2'	6.19	119.98	110.70
2	B	16	A	C2'-C3'-O3'	6.19	122.98	113.70
8	H	120	ASP	CA-CB-CG	-6.19	106.41	112.60
1	A	1286	C	C1'-C2'-O2'	-6.19	99.12	108.40
1	A	4292	A	C1'-C2'-O2'	-6.19	102.52	111.80
9	m	199	LYS	CB-CA-C	-6.19	97.38	110.31
1	A	3673	C	O5'-C5'-C4'	-6.18	102.42	111.70
1	A	248	C	C3'-C2'-O2'	6.18	119.97	110.70
1	A	3698	G	C2'-C3'-O3'	-6.18	104.43	113.70
2	B	59	G	C1'-C2'-O2'	6.18	117.67	108.40
16	t	51	LEU	CA-C-N	-6.18	112.86	122.69
16	t	51	LEU	C-N-CA	-6.18	112.86	122.69
19	K	115	ARG	CB-CA-C	6.18	122.54	110.67
22	N	30	TYR	CB-CA-C	-6.18	99.37	110.37
6	F	208	CYS	N-CA-CB	-6.18	101.01	110.65
40	k	52	GLU	CB-CA-C	-6.18	99.83	109.22
1	A	2742	G	C4'-C3'-O3'	-6.18	103.73	113.00
10	n	35	ARG	CG-CD-NE	-6.18	98.41	112.00
39	j	4	ARG	CG-CD-NE	-6.18	98.41	112.00
1	A	1362	G	C2'-C3'-O3'	-6.18	104.44	113.70
1	A	2782	U	C4'-C3'-O3'	-6.18	100.14	109.40
1	A	4625	C	C1'-C2'-O2'	-6.18	99.14	108.40
1	A	1420	A	C4'-C3'-O3'	-6.17	100.14	109.40
5	E	71	GLU	CB-CG-CD	6.17	123.09	112.60
25	T	132	GLN	CB-CA-C	-6.17	99.56	109.75
1	A	131	C	C4'-C3'-O3'	6.17	122.26	113.00
1	A	323	C	C1'-C2'-O2'	-6.17	99.14	108.40
1	A	680	G	C1'-C2'-O2'	-6.17	99.14	108.40
1	A	3606	U	C5'-C4'-C3'	-6.17	106.74	116.00
1	A	3885	G	C3'-C2'-O2'	6.17	119.96	110.70
16	t	42	PRO	N-CD-CG	-6.17	93.94	103.20
1	A	4125	C	C4'-C3'-O3'	-6.17	103.75	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	r	26	PHE	CA-CB-CG	-6.17	107.63	113.80
1	A	2324	C	O4'-C4'-C3'	-6.17	97.83	104.00
1	A	2519	U	O5'-C5'-C4'	-6.17	102.45	111.70
1	A	4121	G	C1'-C2'-O2'	-6.17	102.55	111.80
1	A	3648	A	C3'-C2'-O2'	6.17	123.85	114.60
16	t	81[A]	TYR	CB-CA-C	6.16	122.69	110.42
16	t	81[B]	TYR	CB-CA-C	6.16	122.69	110.42
1	A	156	G	C4'-C3'-O3'	-6.16	103.76	113.00
3	C	122	G	C4'-C3'-O3'	6.16	122.24	113.00
1	A	121	A	C4'-C3'-O3'	-6.16	103.76	113.00
41	P	47	PRO	CB-CA-C	-6.16	103.17	111.12
1	A	4263	C	C3'-C2'-O2'	6.16	119.94	110.70
5	E	366	LYS	CB-CA-C	-6.16	98.46	109.24
3	C	117	C	C4'-C3'-O3'	-6.16	103.77	113.00
1	A	429	A	C3'-C2'-O2'	6.15	119.93	110.70
1	A	2089	G	C2'-C3'-O3'	-6.15	100.27	109.50
2	B	41	G	C1'-C2'-O2'	-6.15	102.57	111.80
1	A	410	A	C1'-C2'-O2'	-6.15	99.18	108.40
1	A	3697	U	C2'-C3'-O3'	-6.15	104.48	113.70
1	A	3847	C	O4'-C4'-C3'	-6.15	97.85	104.00
1	A	4148	C	C3'-C2'-O2'	6.15	119.92	110.70
1	A	4709	U	C2'-C3'-O3'	-6.15	104.48	113.70
40	k	100	ASN	CB-CA-C	-6.15	97.72	109.95
1	A	249	C	C4'-C3'-O3'	-6.14	103.78	113.00
1	A	1235	G	C3'-C2'-O2'	6.14	119.92	110.70
1	A	2515	G	C1'-C2'-O2'	-6.14	99.18	108.40
32	a	48	VAL	N-CA-C	-6.14	106.92	111.90
5	E	116	ARG	CB-CG-CD	-6.14	97.17	111.30
1	A	1374	G	C1'-C2'-O2'	-6.14	99.19	108.40
1	A	4755	G	C4'-C3'-O3'	6.14	122.21	113.00
4	D	7	GLY	O-C-N	-6.14	116.21	122.17
34	c	26	HIS	CA-CB-CG	6.14	119.94	113.80
1	A	3823	G	P-O3'-C3'	6.14	129.41	120.20
1	A	4303	C	C1'-C2'-O2'	-6.14	99.19	108.40
1	A	1415	G	C3'-C2'-O2'	6.13	119.90	110.70
1	A	1557	C	C4'-C3'-O3'	-6.13	103.80	113.00
17	I	53	LYS	CB-CA-C	-6.13	100.42	110.85
19	K	108	ARG	N-CA-CB	6.13	119.24	110.16
34	c	68	ARG	CG-CD-NE	-6.13	98.51	112.00
21	M	56	LYS	CB-CG-CD	-6.13	97.19	111.30
1	A	1861	U	C3'-C2'-O2'	6.13	119.90	110.70
1	A	2302	C	O4'-C4'-C3'	-6.13	97.87	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4378	A	C1'-C2'-O2'	-6.13	99.20	108.40
1	A	4537	C	C4'-C3'-O3'	-6.13	103.81	113.00
1	A	134	G	C2'-C3'-O3'	6.13	118.69	109.50
1	A	1344	C	C1'-C2'-O2'	-6.13	99.21	108.40
1	A	4377	G	C3'-C2'-O2'	-6.13	101.51	110.70
3	C	31	G	C2'-C3'-O3'	6.13	122.89	113.70
18	J	89	GLU	CB-CG-CD	6.12	123.01	112.60
22	N	130	ARG	CG-CD-NE	-6.12	98.53	112.00
1	A	2726	G	C3'-C2'-O2'	6.12	119.88	110.70
1	A	4612	C	C4'-C3'-O3'	-6.12	103.82	113.00
32	a	88	ARG	CG-CD-NE	-6.12	98.54	112.00
1	A	233	U	C3'-C2'-O2'	6.12	119.87	110.70
1	A	363	A	C4'-C3'-O3'	-6.12	100.23	109.40
1	A	4551	U	O4'-C4'-C3'	-6.12	97.89	104.00
26	U	8	THR	CA-CB-OG1	-6.12	100.43	109.60
29	X	119	THR	CA-CB-OG1	-6.12	100.43	109.60
1	A	1064	G	C3'-C2'-O2'	6.11	119.87	110.70
1	A	1089	G	C1'-C2'-O2'	-6.11	99.23	108.40
1	A	952	G	C2'-C3'-O3'	-6.11	104.53	113.70
1	A	2585	C	N1-C1'-C2'	-6.11	102.83	112.00
1	A	2780	C	C1'-C2'-O2'	-6.11	99.23	108.40
1	A	2867	C	C1'-C2'-O2'	6.11	117.57	108.40
31	Z	66	LYS	CB-CA-C	-6.11	99.49	110.37
1	A	4385	A	C4'-C3'-O3'	-6.11	100.24	109.40
6	F	204	ARG	CB-CA-C	6.11	122.06	110.51
1	A	206	U	C4'-C3'-O3'	-6.11	103.84	113.00
1	A	3707	U	C1'-C2'-O2'	-6.11	99.24	108.40
1	A	3787	G	O5'-C5'-C4'	-6.11	102.54	111.70
1	A	1358	G	C4'-C3'-O3'	-6.10	100.24	109.40
17	I	113	ASP	CA-C-N	-6.10	112.84	122.79
17	I	113	ASP	C-N-CA	-6.10	112.84	122.79
5	E	361	GLU	CB-CG-CD	6.10	122.98	112.60
6	F	200	ARG	CB-CA-C	-6.10	97.93	110.38
13	q	130	PHE	CB-CA-C	-6.10	98.54	109.71
19	K	79	THR	CA-CB-OG1	-6.10	100.45	109.60
20	L	108	ARG	CG-CD-NE	-6.10	98.58	112.00
21	M	85	ASP	CA-CB-CG	-6.10	106.50	112.60
8	H	187	ARG	CB-CA-C	-6.10	99.90	109.72
28	W	34	THR	CA-C-N	-6.10	111.63	120.29
28	W	34	THR	C-N-CA	-6.10	111.63	120.29
1	A	2083	C	C2'-C3'-O3'	-6.10	104.55	113.70
4	D	232	GLY	N-CA-C	-6.10	106.65	113.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4321	U	C1'-C2'-O2'	-6.10	99.25	108.40
35	d	64	MET	CB-CA-C	-6.10	103.23	111.89
1	A	1802	A	C2'-C3'-O3'	-6.10	104.56	113.70
1	A	4128	A	C3'-C2'-O2'	6.10	119.84	110.70
1	A	4755	G	C3'-C2'-O2'	6.10	119.84	110.70
1	A	1854	G	O4'-C1'-C2'	-6.09	99.71	105.80
1	A	2462	C	C4'-C3'-O3'	-6.09	103.86	113.00
1	A	3728	A	C3'-C2'-O2'	6.09	119.84	110.70
1	A	1721	G	P-O5'-C5'	6.09	130.03	120.90
1	A	2320	G	C4'-C3'-O3'	-6.09	103.87	113.00
1	A	4597	U	C4'-C3'-O3'	-6.09	103.86	113.00
1	A	4636	U	C2'-C3'-O3'	-6.09	104.57	113.70
4	D	118	GLU	CB-CG-CD	6.09	122.95	112.60
1	A	395	A	C3'-C2'-O2'	6.08	119.83	110.70
1	A	959	G	O5'-C5'-C4'	-6.08	102.58	111.70
1	A	370	U	C4'-C3'-O3'	-6.08	103.88	113.00
1	A	2749	C	C1'-C2'-O2'	-6.08	99.28	108.40
1	A	4713	G	C4'-C3'-O3'	-6.08	103.88	113.00
3	C	76	C	C2'-C3'-O3'	-6.08	104.58	113.70
31	Z	25	THR	CB-CA-C	-6.08	97.04	109.38
1	A	3653	A	C3'-C2'-O2'	6.08	119.82	110.70
1	A	3740	G	C4'-C3'-O3'	-6.08	103.88	113.00
9	m	239	GLN	CB-CG-CD	-6.08	102.27	112.60
39	j	50	ARG	CB-CG-CD	-6.08	97.32	111.30
1	A	1832	C	C4'-C3'-O3'	-6.08	103.89	113.00
1	A	2645	G	C3'-C2'-O2'	6.08	119.81	110.70
1	A	1303	A	N9-C1'-C2'	6.07	121.11	112.00
1	A	4507	A	O4'-C4'-C3'	-6.07	97.93	104.00
1	A	4589	A	C4'-C3'-O3'	-6.07	100.29	109.40
1	A	1343	A	O4'-C4'-C3'	-6.07	97.93	104.00
1	A	3791	C	C3'-C2'-O2'	-6.07	105.49	114.60
1	A	198	A	C1'-C2'-O2'	-6.07	99.29	108.40
1	A	4684	A	C3'-C2'-O2'	6.07	119.80	110.70
19	K	38	ARG	CB-CA-C	-6.07	100.30	110.56
1	A	3722	G	C1'-C2'-O2'	6.07	117.50	108.40
1	A	2065	G	C5'-C4'-C3'	-6.07	106.90	116.00
1	A	4672	A	C1'-C2'-O2'	-6.07	99.30	108.40
1	A	76	A	C1'-C2'-O2'	-6.07	99.30	108.40
1	A	2393	C	C4'-C3'-O3'	-6.07	103.90	113.00
1	A	2292	C	C2'-C3'-O3'	-6.06	104.61	113.70
1	A	2322	G	C4'-C3'-O3'	-6.06	103.91	113.00
1	A	2382	A	C3'-C2'-O2'	6.06	119.79	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4503	A	C3'-C2'-O2'	-6.06	101.61	110.70
1	A	5058	A	P-O5'-C5'	-6.06	111.81	120.90
1	A	2735	G	C2'-C3'-O3'	6.06	122.78	113.70
27	V	109	ARG	CG-CD-NE	-6.06	98.67	112.00
1	A	1695	U	C1'-C2'-O2'	-6.06	99.32	108.40
1	A	3946	G	N9-C1'-C2'	-6.06	102.92	112.00
1	A	2889	G	C3'-C2'-O2'	6.05	119.78	110.70
23	R	115	LYS	CB-CA-C	-6.05	101.38	110.88
2	B	5	A	C4'-C3'-O3'	-6.05	103.92	113.00
1	A	2722	G	C1'-C2'-O2'	6.05	117.48	108.40
39	j	70	THR	CA-CB-OG1	-6.05	100.52	109.60
1	A	1177	U	C3'-C2'-O2'	6.05	119.77	110.70
19	K	119	LYS	CA-C-N	-6.05	115.22	123.14
19	K	119	LYS	C-N-CA	-6.05	115.22	123.14
3	C	117	C	C1'-C2'-O2'	-6.05	99.33	108.40
1	A	2560	C	C4'-C3'-O3'	-6.05	103.93	113.00
1	A	4468	U	C2'-C3'-O3'	-6.05	104.63	113.70
35	d	63	ARG	CG-CD-NE	-6.05	98.70	112.00
1	A	3730	U	C1'-C2'-O2'	-6.04	99.33	108.40
1	A	5003	U	C1'-C2'-O2'	-6.04	99.34	108.40
6	F	162	LYS	CB-CA-C	-6.04	98.87	109.02
1	A	3663	A	O5'-C5'-C4'	-6.04	102.64	111.70
1	A	4724	A	C1'-C2'-O2'	-6.04	99.34	108.40
1	A	1573	G	C4'-C3'-O3'	-6.04	103.94	113.00
5	E	371	THR	CA-CB-OG1	-6.04	100.54	109.60
16	t	169	ARG	CG-CD-NE	-6.04	98.72	112.00
1	A	4152	G	C2'-C3'-O3'	6.04	122.75	113.70
6	F	100	ARG	N-CA-CB	-6.04	100.79	110.63
1	A	11	G	C3'-C2'-O2'	-6.03	101.65	110.70
1	A	208	A	C3'-C2'-O2'	6.03	119.75	110.70
21	M	2	LYS	CB-CA-C	6.03	120.24	109.38
26	U	42	ARG	CA-C-N	-6.03	112.20	120.46
26	U	42	ARG	C-N-CA	-6.03	112.20	120.46
1	A	1337	A	C2'-C3'-O3'	6.03	122.75	113.70
22	N	135	PRO	N-CD-CG	-6.03	94.15	103.20
1	A	1896	A	C2'-C3'-O3'	-6.03	104.66	113.70
35	d	20	ARG	CG-CD-NE	-6.03	98.74	112.00
1	A	1596	U	C4'-C3'-O3'	-6.03	103.96	113.00
21	M	31	ARG	CB-CA-C	-6.02	99.81	109.75
1	A	1533	A	O4'-C1'-C2'	-6.02	99.78	105.80
1	A	2080	U	C2'-C3'-O3'	-6.02	104.67	113.70
1	A	4550	G	C2'-C3'-O3'	-6.02	104.67	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	14	C	C3'-C2'-O2'	6.02	119.73	110.70
1	A	1912	G	C4'-C3'-O3'	-6.02	103.97	113.00
1	A	2427	G	C4'-C3'-O3'	-6.02	103.97	113.00
6	F	83	GLY	CA-C-N	-6.02	112.73	122.36
6	F	83	GLY	C-N-CA	-6.02	112.73	122.36
1	A	4938	A	C4'-C3'-O3'	-6.02	100.37	109.40
1	A	295	A	C1'-C2'-O2'	-6.02	99.38	108.40
1	A	4491	G	O5'-P-OP2	-6.02	89.95	108.00
1	A	303	C	O4'-C4'-C3'	-6.01	97.99	104.00
1	A	4485	C	C1'-C2'-O2'	6.01	117.42	108.40
1	A	1514	U	C4'-C3'-O3'	-6.01	103.98	113.00
1	A	4236	G	C1'-C2'-O2'	-6.01	99.38	108.40
3	C	9	A	C2'-C3'-O3'	-6.01	104.68	113.70
8	H	161	ARG	CA-C-N	-6.01	115.22	123.46
8	H	161	ARG	C-N-CA	-6.01	115.22	123.46
1	A	4085	A	C3'-C2'-O2'	-6.01	105.58	114.60
1	A	4245	G	C4'-C3'-O3'	-6.01	103.98	113.00
4	D	81	GLY	CA-C-N	-6.01	112.00	121.62
4	D	81	GLY	C-N-CA	-6.01	112.00	121.62
20	L	110	ARG	N-CA-C	-6.01	104.09	112.45
39	j	78	THR	CA-CB-OG1	-6.01	100.58	109.60
1	A	2410	C	C4'-C3'-O3'	-6.01	103.98	113.00
1	A	4575	G	C2'-C3'-O3'	6.01	122.72	113.70
5	E	106	PHE	CA-CB-CG	-6.01	107.79	113.80
16	t	24	ARG	CB-CA-C	-6.01	101.41	110.90
18	J	56	GLN	CB-CG-CD	-6.01	102.39	112.60
1	A	1799	G	C4'-C3'-O3'	-6.01	103.99	113.00
1	A	2074	C	C1'-C2'-O2'	-6.01	99.39	108.40
3	C	49	G	C2'-C3'-O3'	-6.01	104.69	113.70
15	s	126	GLU	CB-CA-C	-6.01	100.64	110.85
1	A	4277	G	C4'-C3'-O3'	-6.00	103.99	113.00
5	E	216	MET	CA-C-N	-6.00	114.27	122.92
5	E	216	MET	C-N-CA	-6.00	114.27	122.92
26	U	119	LYS	N-CA-CB	-6.00	103.62	110.35
1	A	326	C	C1'-C2'-O2'	-6.00	99.39	108.40
1	A	3717	A	C3'-C2'-O2'	6.00	119.71	110.70
6	F	266	THR	CA-C-O	-6.00	114.74	121.40
17	I	7	LEU	N-CA-CB	-6.00	100.08	110.17
34	c	78	GLY	CA-C-N	-6.00	113.00	122.73
34	c	78	GLY	C-N-CA	-6.00	113.00	122.73
1	A	24	G	C3'-C2'-O2'	6.00	119.70	110.70
1	A	1873	A	C1'-C2'-O2'	6.00	117.40	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	Y	56	PRO	CB-CA-C	-6.00	103.12	110.98
39	j	42	CYS	CA-C-O	6.00	125.59	118.69
1	A	1790	U	C1'-C2'-O2'	-6.00	99.40	108.40
1	A	4404	U	O5'-C5'-C4'	-6.00	102.70	111.70
8	H	268	GLN	CB-CG-CD	-6.00	102.40	112.60
1	A	425	U	C2'-C3'-O3'	-6.00	104.70	113.70
1	A	3862	A	C2'-C3'-O3'	-6.00	104.71	113.70
3	C	51	U	C2'-C3'-O3'	6.00	118.49	109.50
1	A	2685	C	C2'-C3'-O3'	5.99	122.69	113.70
1	A	2842	G	C4'-C3'-O3'	-5.99	104.01	113.00
1	A	3746	A	C4'-C3'-O3'	-5.99	104.01	113.00
1	A	4176	C	C2'-C3'-O3'	-5.99	104.71	113.70
1	A	394	G	C4'-C3'-O3'	-5.99	104.01	113.00
6	F	329	ASN	CB-CA-C	-5.99	101.26	111.15
1	A	2895	A	C4'-C3'-O3'	-5.99	104.02	113.00
11	o	168	LYS	CB-CA-C	5.99	121.21	109.35
1	A	984	C	C3'-C2'-O2'	5.99	119.68	110.70
1	A	2668	G	C1'-C2'-O2'	-5.99	99.42	108.40
2	B	31	G	C4'-C3'-O3'	-5.99	104.02	113.00
1	A	215	C	C4'-C3'-O3'	-5.99	104.02	113.00
5	E	150	PHE	CA-CB-CG	-5.99	107.81	113.80
21	M	160	ARG	CA-C-N	-5.99	113.74	122.06
21	M	160	ARG	C-N-CA	-5.99	113.74	122.06
26	U	139	SER	CA-C-N	-5.99	113.78	122.28
26	U	139	SER	C-N-CA	-5.99	113.78	122.28
3	C	149	G	C2'-C3'-O3'	-5.98	104.72	113.70
1	A	1354	A	O4'-C1'-C2'	-5.98	99.82	105.80
38	i	8	ARG	CA-C-N	-5.98	114.81	122.77
38	i	8	ARG	C-N-CA	-5.98	114.81	122.77
1	A	60	G	C3'-C2'-O2'	5.98	119.67	110.70
1	A	2672	C	C3'-C2'-O2'	-5.98	101.73	110.70
1	A	4603	C	C1'-C2'-O2'	5.98	117.37	108.40
1	A	33	A	C5'-C4'-C3'	-5.98	107.03	116.00
3	C	109	C	C2'-C3'-O3'	-5.98	100.53	109.50
1	A	1451	G	C3'-C2'-O2'	5.98	119.67	110.70
1	A	49	U	O4'-C4'-C3'	-5.98	98.02	104.00
1	A	4580	U	C1'-C2'-O2'	-5.98	99.44	108.40
1	A	352	G	N9-C1'-C2'	-5.97	105.04	114.00
39	j	47	MET	CB-CG-SD	-5.97	94.78	112.70
1	A	1070	G	C3'-C2'-O2'	5.97	119.66	110.70
1	A	2055	G	C4'-C3'-O3'	5.97	118.36	109.40
6	F	240	LEU	CA-C-N	-5.97	115.92	123.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	F	240	LEU	C-N-CA	-5.97	115.92	123.15
25	T	94	THR	N-CA-C	-5.97	106.03	113.38
1	A	943	A	C4'-C3'-O3'	-5.97	100.44	109.40
1	A	720	G	C4'-C3'-O3'	-5.97	104.05	113.00
1	A	4311	A	O5'-P-OP2	-5.97	90.10	108.00
1	A	4572	U	O5'-C5'-C4'	-5.97	102.55	111.50
6	F	61	GLN	CB-CG-CD	5.97	122.74	112.60
30	Y	106	LYS	CB-CA-C	-5.97	101.51	110.88
1	A	205	C	C1'-C2'-O2'	5.96	117.35	108.40
1	A	2661	U	C4'-C3'-O3'	-5.96	100.45	109.40
3	C	155	C	C1'-C2'-O2'	-5.96	99.45	108.40
19	K	7	HIS	CA-CB-CG	-5.96	107.84	113.80
1	A	347	A	C1'-C2'-O2'	-5.96	99.46	108.40
1	A	4961	G	C2'-C3'-O3'	5.96	122.64	113.70
29	X	44	ARG	N-CA-C	-5.96	105.09	112.90
1	A	86	U	C1'-C2'-O2'	-5.96	99.46	108.40
1	A	1614	C	C2'-C3'-O3'	-5.96	104.76	113.70
1	A	4205	A	C1'-C2'-O2'	-5.96	99.46	108.40
1	A	715	G	C4'-C3'-O3'	-5.96	104.06	113.00
6	F	48	ASN	CA-CB-CG	-5.96	106.64	112.60
21	M	95	ARG	CG-CD-NE	-5.96	98.90	112.00
1	A	4511	A	C4'-C3'-O3'	-5.96	104.07	113.00
1	A	3886	G	C3'-C2'-O2'	5.95	119.63	110.70
1	A	4244	A	C2'-C3'-O3'	-5.95	104.77	113.70
3	C	151	G	C2'-C3'-O3'	-5.95	104.77	113.70
1	A	1361	G	C1'-C2'-O2'	-5.95	99.47	108.40
1	A	1849	U	C4'-C3'-O3'	-5.95	104.07	113.00
1	A	1863	U	C2'-C3'-O3'	-5.95	104.77	113.70
2	B	23	A	C2'-C3'-O3'	5.95	122.63	113.70
1	A	1369	C	C4'-C3'-O3'	-5.95	104.07	113.00
19	K	182	ALA	CA-C-N	-5.95	112.33	122.56
19	K	182	ALA	C-N-CA	-5.95	112.33	122.56
21	M	164	LYS	N-CA-CB	-5.95	103.71	111.09
21	M	168	THR	CA-C-N	-5.95	112.33	122.56
21	M	168	THR	C-N-CA	-5.95	112.33	122.56
1	A	1278	C	C4'-C3'-O3'	-5.95	104.08	113.00
1	A	1819	G	C4'-C3'-O3'	-5.95	104.08	113.00
1	A	2053	C	C2'-C3'-O3'	-5.95	104.78	113.70
1	A	4360	U	C2'-C3'-O3'	5.95	122.62	113.70
2	B	92	C	C2'-C3'-O3'	-5.95	104.78	113.70
24	S	10	ASP	CA-CB-CG	5.95	118.55	112.60
1	A	111	C	C1'-C2'-O2'	-5.95	99.48	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4344	U	P-O5'-C5'	5.95	129.82	120.90
1	A	2664	G	C3'-C2'-O2'	-5.94	101.79	110.70
1	A	2882	A	C4'-C3'-O3'	-5.94	104.09	113.00
1	A	2721	G	C1'-C2'-O2'	5.94	117.31	108.40
1	A	5057	C	C4'-C3'-O3'	-5.94	104.09	113.00
1	A	2895	A	C3'-C2'-O2'	5.94	119.61	110.70
1	A	704	C	C4'-C3'-O3'	-5.94	100.50	109.40
1	A	3861	A	C3'-C2'-O2'	-5.94	101.79	110.70
3	C	142	U	C2'-C3'-O3'	-5.94	104.79	113.70
19	K	132	LYS	CA-C-N	-5.94	112.51	122.25
19	K	132	LYS	C-N-CA	-5.94	112.51	122.25
1	A	105	A	C2'-C3'-O3'	-5.94	104.80	113.70
1	A	2306	G	C1'-C2'-O2'	-5.94	102.90	111.80
1	A	724	C	C2'-C3'-O3'	-5.93	104.80	113.70
1	A	3625	G	C2'-C3'-O3'	5.93	122.60	113.70
1	A	4373	G	C3'-C2'-O2'	-5.93	105.70	114.60
34	c	57	ALA	N-CA-C	-5.93	104.94	111.82
38	i	77	CYS	CB-CA-C	5.93	122.23	110.42
1	A	2717	G	C1'-C2'-O2'	5.93	117.30	108.40
1	A	4633	G	C3'-C2'-O2'	-5.93	101.80	110.70
10	n	53	ARG	CB-CG-CD	5.93	124.95	111.30
23	R	114	LYS	CB-CA-C	-5.93	101.32	110.81
1	A	1402	C	C1'-C2'-O2'	5.93	117.30	108.40
27	V	44	ARG	CB-CG-CD	5.93	124.94	111.30
1	A	942	G	C3'-C2'-O2'	-5.93	105.71	114.60
1	A	959	G	O5'-P-OP1	-5.93	90.22	108.00
1	A	1317	U	C3'-C2'-O2'	-5.93	101.81	110.70
1	A	4300	U	C1'-C2'-O2'	-5.93	99.51	108.40
1	A	4996	C	C4'-C3'-O3'	-5.93	104.11	113.00
1	A	2592	U	C2'-C3'-O3'	-5.92	104.82	113.70
31	Z	16	ARG	O-C-N	-5.92	117.28	123.56
1	A	480	C	C2'-C3'-O3'	-5.92	104.82	113.70
2	B	85	G	C4'-C3'-O3'	-5.92	104.12	113.00
6	F	77	PRO	CB-CA-C	-5.92	103.65	111.23
17	I	198	THR	CA-CB-OG1	-5.92	100.72	109.60
33	b	99	GLU	CB-CG-CD	5.92	122.67	112.60
1	A	1826	G	C3'-C2'-O2'	5.92	119.58	110.70
8	H	189	THR	CA-CB-OG1	5.92	118.48	109.60
26	U	122	VAL	CA-C-N	-5.92	115.42	123.12
26	U	122	VAL	C-N-CA	-5.92	115.42	123.12
1	A	417	G	O4'-C1'-C2'	-5.92	99.88	105.80
5	E	167	GLN	CB-CG-CD	-5.92	102.54	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	G	29	ASP	CB-CA-C	-5.92	101.24	111.30
1	A	348	G	C1'-C2'-O2'	-5.92	102.92	111.80
1	A	4090	G	C3'-C2'-O2'	5.92	119.58	110.70
17	I	137	TYR	CB-CA-C	-5.92	99.54	109.48
1	A	1367	C	C2'-C3'-O3'	5.91	122.57	113.70
5	E	316	PRO	CB-CA-C	-5.91	103.49	111.12
40	k	32	LEU	CA-C-N	-5.91	112.68	122.08
40	k	32	LEU	C-N-CA	-5.91	112.68	122.08
1	A	4511	A	C2'-C3'-O3'	-5.91	104.83	113.70
10	n	109	GLU	CB-CG-CD	5.91	122.65	112.60
1	A	222	C	C1'-C2'-O2'	-5.91	99.54	108.40
1	A	1554	A	C4'-C3'-O3'	-5.91	104.14	113.00
1	A	2308	A	C3'-C2'-O2'	5.91	119.56	110.70
1	A	3615	G	C2'-C3'-O3'	5.91	118.36	109.50
7	G	71	GLY	CA-C-O	-5.91	115.72	121.86
21	M	9	GLU	CA-C-N	-5.91	113.53	122.81
21	M	9	GLU	C-N-CA	-5.91	113.53	122.81
31	Z	73	LYS	CA-C-O	-5.91	114.37	120.99
39	j	39	CYS	N-CA-CB	5.91	120.48	110.49
1	A	1338	G	O4'-C1'-C2'	-5.91	99.89	105.80
3	C	72	A	C1'-C2'-O2'	-5.91	99.54	108.40
5	E	10	ARG	CG-CD-NE	-5.91	99.01	112.00
18	J	66	GLY	CA-C-N	-5.91	112.17	121.62
18	J	66	GLY	C-N-CA	-5.91	112.17	121.62
30	Y	109	LYS	CB-CA-C	-5.91	100.64	110.68
1	A	1560	A	C4'-C3'-O3'	5.90	121.86	113.00
1	A	4372	U	C2'-C3'-O3'	5.90	122.56	113.70
2	B	112	U	C1'-C2'-O2'	-5.90	99.55	108.40
1	A	2061	U	C4'-C3'-O3'	-5.90	104.15	113.00
3	C	58	G	C3'-C2'-O2'	-5.90	105.75	114.60
40	k	84	LYS	CB-CA-C	-5.90	97.92	111.95
1	A	2048	U	C4'-C3'-O3'	-5.89	104.16	113.00
1	A	2298	U	C4'-C3'-O3'	-5.89	104.16	113.00
1	A	2617	G	C2'-C3'-O3'	5.89	122.54	113.70
1	A	4349	C	C3'-C2'-O2'	5.89	119.54	110.70
1	A	1397	A	C1'-C2'-O2'	-5.89	99.56	108.40
1	A	4382	G	C4'-C3'-O3'	-5.89	104.16	113.00
1	A	4535	A	C4'-C3'-O3'	-5.89	104.16	113.00
1	A	42	A	C3'-C2'-O2'	-5.89	105.77	114.60
1	A	2534	C	C2'-C3'-O3'	-5.89	104.86	113.70
38	i	53	LYS	CB-CA-C	-5.89	99.25	109.32
1	A	4281	A	O4'-C1'-C2'	-5.89	99.91	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4538	G	C4'-C3'-O3'	-5.89	104.17	113.00
1	A	4625	C	C2'-C3'-O3'	-5.89	104.87	113.70
37	f	21	ARG	CB-CG-CD	-5.89	97.76	111.30
1	A	131	C	C3'-C2'-O2'	5.89	119.53	110.70
7	G	249	GLU	CA-C-N	-5.89	116.50	122.74
7	G	249	GLU	C-N-CA	-5.89	116.50	122.74
1	A	2637	U	C3'-C2'-O2'	5.88	119.53	110.70
1	A	2308	A	C2'-C3'-O3'	-5.88	104.88	113.70
1	A	2416	G	C1'-C2'-O2'	-5.88	102.98	111.80
1	A	4547	C	C2'-C3'-O3'	-5.88	104.88	113.70
3	C	137	A	P-O5'-C5'	-5.88	112.08	120.90
1	A	337	U	C4'-C3'-O3'	-5.88	104.18	113.00
1	A	2747	U	C4'-C3'-O3'	-5.88	104.18	113.00
1	A	4331	G	O4'-C1'-C2'	-5.88	99.92	105.80
1	A	4190	U	C4'-C3'-O3'	-5.88	104.18	113.00
3	C	93	C	C2'-C3'-O3'	5.88	122.52	113.70
30	Y	31	ILE	CB-CA-C	-5.88	103.08	111.31
1	A	3880	G	C4'-C3'-O3'	-5.88	104.18	113.00
1	A	4611	A	C1'-C2'-O2'	5.88	117.22	108.40
9	m	157	ARG	CA-CB-CG	-5.88	102.35	114.10
19	K	92	VAL	CA-C-N	-5.88	111.25	122.53
19	K	92	VAL	C-N-CA	-5.88	111.25	122.53
1	A	364	G	C4'-C3'-O3'	-5.88	100.59	109.40
1	A	2440	U	C3'-C2'-O2'	-5.87	101.89	110.70
1	A	402	A	C3'-C2'-O2'	5.87	119.50	110.70
1	A	4753	U	C2'-C3'-O3'	-5.87	100.70	109.50
2	B	15	C	C2'-C3'-O3'	-5.87	104.90	113.70
31	Z	49	TYR	CA-C-N	-5.87	115.91	123.19
31	Z	49	TYR	C-N-CA	-5.87	115.91	123.19
1	A	1911	C	C1'-C2'-O2'	-5.87	99.60	108.40
1	A	2765	A	C3'-C2'-O2'	5.87	119.50	110.70
6	F	262	GLU	CB-CA-C	-5.87	98.41	110.38
1	A	3858	C	C3'-C2'-O2'	5.87	119.50	110.70
1	A	4327	C	C1'-C2'-O2'	-5.87	99.60	108.40
9	m	56	HIS	CA-CB-CG	-5.87	107.93	113.80
1	A	1493	G	O3'-P-O5'	-5.86	95.20	104.00
1	A	4430	G	P-O5'-C5'	5.86	129.70	120.90
6	F	297	GLU	CB-CA-C	-5.86	101.67	110.88
17	I	61	ARG	CG-CD-NE	5.86	124.90	112.00
19	K	150	ARG	CD-NE-CZ	5.86	132.61	124.40
1	A	232	G	C3'-C2'-O2'	-5.86	105.81	114.60
1	A	1941	A	C5'-C4'-C3'	-5.86	107.21	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	H	272	ARG	CB-CG-CD	5.86	124.78	111.30
1	A	1303	A	C2'-C3'-O3'	5.86	122.49	113.70
1	A	3938	G	P-O5'-C5'	-5.86	112.11	120.90
26	U	144	CYS	CA-C-N	-5.86	115.54	123.10
26	U	144	CYS	C-N-CA	-5.86	115.54	123.10
1	A	346	G	C2'-C3'-O3'	-5.86	104.91	113.70
1	A	4289	U	C2'-C3'-O3'	-5.86	104.91	113.70
1	A	4591	U	C3'-C2'-O2'	5.86	119.48	110.70
3	C	137	A	C4'-C3'-O3'	-5.86	104.21	113.00
22	N	29	THR	CB-CA-C	-5.86	101.02	110.74
38	i	6	LYS	CB-CA-C	-5.86	98.48	109.72
1	A	4081	G	C2'-C3'-O3'	-5.85	104.92	113.70
1	A	4558	U	C4'-C3'-O3'	-5.85	104.22	113.00
3	C	57	C	C1'-C2'-O2'	-5.85	99.62	108.40
1	A	2057	A	C3'-C2'-O2'	-5.85	105.82	114.60
1	A	3669	G	C4'-C3'-O3'	-5.85	104.22	113.00
7	G	59	ASP	CA-CB-CG	5.85	118.45	112.60
1	A	4595	G	C4'-C3'-O3'	-5.85	104.23	113.00
27	V	20	GLY	N-CA-C	-5.85	105.05	112.65
1	A	1184	A	C3'-C2'-O2'	5.84	119.47	110.70
1	A	2750	G	C2'-C3'-O3'	-5.84	104.93	113.70
1	A	3691	G	C4'-C3'-O3'	-5.84	100.63	109.40
1	A	3939	G	C2'-C3'-O3'	-5.84	104.93	113.70
1	A	4233	A	C4'-C3'-O3'	5.84	118.17	109.40
2	B	89	G	C3'-C2'-O2'	5.84	119.47	110.70
34	c	68	ARG	CB-CG-CD	5.84	124.74	111.30
1	A	235	A	C2'-C3'-O3'	-5.84	100.73	109.50
6	F	162	LYS	CA-C-N	-5.84	114.18	122.94
6	F	162	LYS	C-N-CA	-5.84	114.18	122.94
40	k	80	THR	CA-CB-OG1	-5.84	100.84	109.60
1	A	908	G	C3'-C2'-O2'	5.84	119.46	110.70
1	A	1517	G	C1'-C2'-O2'	-5.84	103.05	111.80
1	A	2080	U	C1'-C2'-O2'	-5.84	99.64	108.40
1	A	4088	C	C2'-C3'-O3'	-5.84	104.94	113.70
4	D	25	GLY	CA-C-O	-5.84	118.11	122.37
6	F	311	ARG	CG-CD-NE	-5.84	99.16	112.00
22	N	142	ARG	CB-CA-C	-5.84	100.23	109.80
27	V	41	ARG	CB-CA-C	-5.84	101.47	110.81
1	A	729	G	C1'-C2'-O2'	-5.83	103.05	111.80
1	A	2439	G	C4'-C3'-O3'	-5.83	104.25	113.00
1	A	4351	U	O4'-C4'-C3'	-5.83	98.17	104.00
6	F	76	ILE	N-CA-CB	-5.83	103.04	111.21

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	W	67	ALA	N-CA-C	-5.83	105.75	112.92
1	A	295	A	C2'-C3'-O3'	-5.83	104.95	113.70
1	A	3640	U	C4'-C3'-O3'	-5.83	104.25	113.00
1	A	3933	G	C1'-C2'-O2'	-5.83	99.65	108.40
5	E	25	HIS	N-CA-C	-5.83	106.51	113.97
1	A	4698	C	C4'-C3'-O3'	-5.83	104.25	113.00
2	B	19	C	C2'-C3'-O3'	-5.83	104.95	113.70
1	A	102	G	P-O5'-C5'	5.83	129.64	120.90
1	A	1220	G	C1'-C2'-O2'	5.83	117.14	108.40
40	k	45	HIS	CA-CB-CG	-5.83	107.97	113.80
27	V	14	ARG	CB-CA-C	-5.83	100.94	110.85
1	A	2518	G	O3'-P-O5'	-5.83	95.26	104.00
1	A	3873	G	C1'-C2'-O2'	-5.83	99.66	108.40
1	A	4226	G	O4'-C4'-C3'	-5.83	98.17	104.00
1	A	4703	U	C2'-C3'-O3'	5.83	122.44	113.70
1	A	1927	U	C4'-C3'-O3'	-5.82	104.27	113.00
1	A	2549	G	C1'-C2'-O2'	5.82	117.14	108.40
1	A	3908	A	C2'-C3'-O3'	-5.82	100.77	109.50
1	A	4519	C	C4'-C3'-O3'	-5.82	104.27	113.00
6	F	193	LYS	CB-CA-C	-5.82	97.46	110.21
1	A	2850	A	N9-C1'-C2'	5.82	120.73	112.00
10	n	59	ARG	CG-CD-NE	-5.82	99.19	112.00
14	r	179	PHE	CB-CA-C	5.82	120.02	110.88
1	A	3659	G	C1'-C2'-O2'	-5.82	99.67	108.40
1	A	4562	C	C1'-C2'-O2'	-5.82	99.67	108.40
1	A	69	A	C1'-C2'-O2'	-5.82	99.68	108.40
1	A	438	G	C3'-C2'-O2'	-5.82	101.98	110.70
42	Q	65	VAL	CG1-CB-CG2	5.82	123.59	110.80
33	b	79	LYS	CB-CA-C	-5.81	100.31	109.09
1	A	106	A	C4'-C3'-O3'	-5.81	104.28	113.00
1	A	130	C	C3'-C2'-O2'	5.81	119.42	110.70
6	F	114	ARG	CB-CA-C	-5.81	99.57	109.51
1	A	4978	G	C4'-C3'-O3'	-5.81	104.28	113.00
1	A	307	A	C4'-C3'-O3'	-5.81	104.29	113.00
1	A	412	G	O4'-C1'-C2'	-5.81	99.99	105.80
1	A	1875	C	C3'-C2'-O2'	-5.81	101.99	110.70
5	E	218	ASP	CA-C-N	-5.81	115.53	123.14
5	E	218	ASP	C-N-CA	-5.81	115.53	123.14
1	A	1743	A	C3'-C2'-O2'	5.81	119.41	110.70
1	A	3839	G	C3'-C2'-O2'	-5.81	105.89	114.60
31	Z	56	ASN	CB-CA-C	-5.81	97.78	109.68
1	A	1607	C	P-O5'-C5'	5.80	129.60	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	219	G	C3'-C2'-O2'	5.80	119.40	110.70
1	A	932	A	C4'-C3'-O3'	-5.80	100.70	109.40
1	A	4269	G	C1'-C2'-O2'	-5.80	99.70	108.40
1	A	4887	C	C4'-C3'-O3'	-5.80	104.30	113.00
15	s	60	PHE	CA-CB-CG	-5.80	108.00	113.80
31	Z	89	ARG	CA-C-N	-5.80	113.33	122.73
31	Z	89	ARG	C-N-CA	-5.80	113.33	122.73
1	A	4085	A	O4'-C1'-C2'	-5.80	100.00	105.80
1	A	4260	U	C3'-C2'-O2'	5.80	119.40	110.70
3	C	78	G	C4'-C3'-O3'	-5.80	104.30	113.00
20	L	132	PHE	CA-CB-CG	-5.80	108.00	113.80
1	A	2348	G	O4'-C1'-C2'	-5.80	100.00	105.80
1	A	3780	G	C1'-C2'-O2'	5.80	117.10	108.40
1	A	2058	G	C4'-C3'-O3'	-5.80	104.30	113.00
1	A	3823	G	O4'-C1'-C2'	-5.80	101.80	107.60
1	A	4469	U	C3'-C2'-O2'	5.80	119.39	110.70
7	G	15	ARG	CB-CA-C	-5.80	97.88	109.99
16	t	27	CYS	CB-CA-C	5.80	120.70	110.85
1	A	300	A	C1'-C2'-O2'	-5.79	99.71	108.40
1	A	4068	U	C1'-C2'-O2'	5.79	117.09	108.40
1	A	4604	G	C1'-C2'-O2'	5.79	117.09	108.40
41	P	209	ASP	CB-CA-C	-5.79	101.69	111.02
1	A	266	C	C5'-C4'-O4'	-5.79	101.11	109.80
1	A	274	C	C2'-C3'-O3'	5.79	122.39	113.70
1	A	2468	U	C2'-C3'-O3'	-5.79	100.81	109.50
1	A	4966	A	P-O5'-C5'	-5.79	112.22	120.90
4	D	28	ARG	CB-CG-CD	-5.79	97.98	111.30
1	A	160	G	C2'-C3'-O3'	-5.79	105.02	113.70
1	A	1587	G	C2'-C3'-O3'	5.79	118.18	109.50
1	A	1513	U	O3'-P-O5'	-5.79	95.32	104.00
14	r	82	ARG	CG-CD-NE	5.79	124.73	112.00
1	A	408	A	C1'-C2'-O2'	-5.79	103.12	111.80
1	A	1558	A	C4'-C3'-O3'	-5.79	104.32	113.00
1	A	4992	G	N9-C1'-C2'	5.79	120.68	112.00
30	Y	102	ASN	CB-CA-C	5.79	120.34	110.56
1	A	242	U	C3'-C2'-O2'	5.78	119.38	110.70
1	A	450	G	C3'-C2'-O2'	5.78	119.38	110.70
1	A	2561	C	C3'-C2'-O2'	5.78	119.38	110.70
1	A	4666	G	C1'-C2'-O2'	-5.78	99.73	108.40
22	N	41	ASP	CB-CA-C	-5.78	99.73	109.50
1	A	3840	U	C3'-C2'-O2'	5.78	119.37	110.70
19	K	60	PRO	CB-CA-C	-5.78	103.41	110.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1494	U	C5'-C4'-C3'	-5.78	107.33	116.00
1	A	2292	C	O4'-C4'-C3'	-5.78	98.22	104.00
1	A	2444	U	C2'-C3'-O3'	-5.78	105.03	113.70
1	A	242	U	C2'-C3'-O3'	-5.78	105.03	113.70
6	F	43	ASN	CA-C-O	-5.78	114.37	120.55
19	K	107	SER	CA-C-N	-5.78	112.09	120.29
19	K	107	SER	C-N-CA	-5.78	112.09	120.29
14	r	14	PHE	CA-C-N	-5.77	113.28	122.29
14	r	14	PHE	C-N-CA	-5.77	113.28	122.29
42	Q	88	TYR	CA-C-O	-5.77	114.88	121.40
1	A	3810	C	C4'-C3'-O3'	-5.77	100.74	109.40
4	D	19	HIS	CA-CB-CG	-5.77	108.03	113.80
6	F	125	CYS	CB-CA-C	-5.77	101.82	110.88
10	n	83	PHE	CA-CB-CG	-5.77	108.03	113.80
19	K	175	GLU	CB-CG-CD	5.77	122.41	112.60
24	S	97	VAL	N-CA-CB	-5.77	104.06	110.99
26	U	26	ARG	NE-CZ-NH1	-5.77	115.73	121.50
38	i	8	ARG	CG-CD-NE	-5.77	99.30	112.00
2	B	73	U	C4'-C3'-O3'	-5.77	104.35	113.00
7	G	58	ARG	CB-CG-CD	5.77	124.57	111.30
3	C	14	C	C4'-C3'-O3'	-5.77	104.35	113.00
1	A	3712	A	C2'-C3'-O3'	-5.77	105.05	113.70
8	H	154	THR	CB-CA-C	-5.77	98.00	111.09
1	A	725	G	C1'-C2'-O2'	-5.76	99.75	108.40
1	A	954	C	C1'-C2'-O2'	-5.76	99.75	108.40
1	A	1346	C	C3'-C2'-O2'	5.76	119.35	110.70
1	A	2444	U	C4'-C3'-O3'	-5.76	104.35	113.00
1	A	2842	G	P-O5'-C5'	-5.76	112.25	120.90
1	A	126	C	C2'-C3'-O3'	-5.76	105.06	113.70
1	A	3635	A	N9-C1'-C2'	-5.76	103.36	112.00
1	A	1332	C	O4'-C4'-C3'	-5.76	98.24	104.00
1	A	2475	G	N9-C1'-C2'	5.76	122.64	114.00
1	A	2506	G	N9-C1'-C2'	-5.76	105.36	114.00
24	S	100	HIS	CA-CB-CG	-5.76	108.04	113.80
4	D	222	PRO	N-CA-CB	-5.76	98.18	103.31
1	A	4218	U	C4'-C3'-O3'	-5.76	104.36	113.00
1	A	431	G	C4'-C3'-O3'	-5.76	104.36	113.00
8	H	123	ARG	CG-CD-NE	-5.76	99.33	112.00
35	d	43	ARG	N-CA-CB	-5.76	101.25	110.63
10	n	75	LYS	CA-C-N	-5.75	118.45	122.59
10	n	75	LYS	C-N-CA	-5.75	118.45	122.59
1	A	26	C	C2'-C3'-O3'	-5.75	105.07	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1516	G	C4'-C3'-O3'	-5.75	104.37	113.00
1	A	2529	A	O5'-C5'-C4'	5.75	120.13	111.50
1	A	2803	U	C5'-C4'-C3'	-5.75	107.37	116.00
1	A	3728	A	C2'-C3'-O3'	-5.75	105.07	113.70
1	A	4553	A	C4'-C3'-O3'	-5.75	104.37	113.00
5	E	379	PHE	CA-CB-CG	-5.75	108.05	113.80
16	t	56	LYS	CB-CA-C	-5.75	97.41	110.07
1	A	456	C	C3'-C2'-O2'	5.75	123.23	114.60
1	A	2384	U	C4'-C3'-O3'	-5.75	104.37	113.00
29	X	42	ALA	O-C-N	-5.75	115.30	120.71
1	A	504	G	C3'-C2'-O2'	5.75	119.33	110.70
1	A	939	G	C4'-C3'-O3'	-5.75	104.38	113.00
6	F	62	THR	OG1-CB-CG2	-5.75	97.80	109.30
23	R	116	LEU	CA-C-N	-5.75	113.02	121.99
23	R	116	LEU	C-N-CA	-5.75	113.02	121.99
25	T	133	LYS	N-CA-CB	5.75	118.51	109.83
1	A	35	U	C1'-C2'-O2'	-5.75	99.78	108.40
1	A	2803	U	C3'-C2'-O2'	-5.75	102.08	110.70
1	A	4427	G	N9-C1'-C2'	-5.75	105.38	114.00
1	A	4508	C	C3'-C2'-O2'	5.75	119.32	110.70
1	A	2771	G	C1'-C2'-O2'	5.75	117.02	108.40
1	A	5051	C	C2'-C3'-O3'	-5.74	105.09	113.70
16	t	195	ARG	NE-CZ-NH1	-5.74	115.76	121.50
1	A	1842	G	C2'-C3'-O3'	-5.74	105.09	113.70
9	m	159	TYR	CA-C-N	-5.74	116.18	122.38
9	m	159	TYR	C-N-CA	-5.74	116.18	122.38
1	A	3779	A	C2'-C3'-O3'	-5.74	105.09	113.70
2	B	10	C	C1'-C2'-O2'	-5.74	103.19	111.80
35	d	76	HIS	CA-CB-CG	-5.74	108.06	113.80
1	A	2067	C	C4'-C3'-O3'	-5.74	104.39	113.00
1	A	1841	C	C2'-C3'-O3'	-5.74	105.10	113.70
1	A	2428	A	N9-C1'-C2'	5.74	122.60	114.00
1	A	3939	G	C1'-C2'-O2'	-5.74	99.80	108.40
1	A	4233	A	O5'-C5'-C4'	-5.74	103.10	111.70
1	A	4991	U	C2'-C3'-O3'	-5.74	105.10	113.70
1	A	99	A	C1'-C2'-O2'	-5.73	99.80	108.40
1	A	1540	C	C4'-C3'-O3'	-5.73	104.40	113.00
1	A	422	C	C2'-C3'-O3'	-5.73	105.10	113.70
18	J	120	ASN	CA-CB-CG	-5.73	106.87	112.60
1	A	2333	G	C4'-C3'-C2'	-5.73	96.87	102.60
2	B	91	C	C2'-C3'-O3'	-5.73	105.11	113.70
19	K	143	ARG	CG-CD-NE	-5.73	99.39	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	W	99	PRO	CB-CA-C	-5.73	102.10	111.56
1	A	1886	G	C1'-C2'-O2'	-5.73	99.81	108.40
1	A	4928	C	C1'-C2'-O2'	5.73	116.99	108.40
1	A	701	G	C3'-C2'-O2'	5.73	119.29	110.70
1	A	2367	A	C3'-C2'-O2'	-5.73	102.11	110.70
1	A	3757	G	N9-C1'-C2'	-5.73	103.41	112.00
2	B	104	C	C3'-C2'-O2'	5.73	119.29	110.70
18	J	133	HIS	CA-CB-CG	-5.73	108.07	113.80
1	A	13	U	C1'-C2'-O2'	-5.73	103.21	111.80
1	A	1559	G	C1'-C2'-O2'	-5.72	99.81	108.40
1	A	3903	A	O4'-C4'-C3'	-5.72	98.28	104.00
7	G	22	ARG	CA-C-N	-5.72	111.84	122.09
7	G	22	ARG	C-N-CA	-5.72	111.84	122.09
1	A	108	A	O3'-P-O5'	-5.72	95.42	104.00
1	A	349	A	C4'-C3'-O3'	-5.72	100.81	109.40
1	A	3661	G	C1'-C2'-O2'	-5.72	103.22	111.80
5	E	120	LYS	CB-CA-C	-5.72	99.29	110.11
7	G	181	PRO	N-CA-C	-5.72	102.22	111.03
17	I	33	VAL	CA-C-N	-5.72	115.64	123.14
17	I	33	VAL	C-N-CA	-5.72	115.64	123.14
29	X	51	LYS	CB-CA-C	5.72	120.92	110.11
1	A	983	C	C1'-C2'-O2'	5.72	116.98	108.40
1	A	2318	G	N9-C1'-C2'	-5.72	103.42	112.00
35	d	59	THR	CA-C-O	-5.72	115.49	121.55
1	A	14	C	C3'-C2'-O2'	5.72	119.28	110.70
1	A	362	A	C1'-C2'-O2'	5.72	116.97	108.40
1	A	1511	U	C1'-C2'-O2'	-5.72	99.83	108.40
1	A	4225	G	C5'-C4'-C3'	-5.72	107.43	116.00
1	A	4878	C	C4'-C3'-O3'	-5.72	104.42	113.00
18	J	89	GLU	N-CA-C	5.72	117.19	111.07
19	K	117	GLY	CA-C-N	-5.72	116.61	122.27
19	K	117	GLY	C-N-CA	-5.72	116.61	122.27
24	S	26	ARG	CG-CD-NE	-5.72	99.42	112.00
1	A	4888	U	C2'-C3'-O3'	5.71	122.27	113.70
14	r	120	TYR	N-CA-C	-5.71	105.19	111.82
22	N	20	ARG	CB-CG-CD	5.71	124.44	111.30
1	A	728	U	C4'-C3'-O3'	5.71	117.97	109.40
1	A	1459	A	C4'-C3'-O3'	-5.71	104.43	113.00
1	A	4181	U	C2'-C3'-O3'	-5.71	105.13	113.70
1	A	2583	C	C4'-C3'-O3'	-5.71	104.44	113.00
42	Q	22	VAL	N-CA-C	5.71	121.22	109.34
1	A	1350	C	C1'-C2'-O2'	-5.71	99.84	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3837	C	C3'-C2'-O2'	5.71	119.26	110.70
1	A	3781	C	C4'-C3'-O3'	-5.71	104.44	113.00
1	A	4981	G	C2'-C3'-O3'	-5.71	105.14	113.70
29	X	81	PRO	CB-CA-C	-5.71	103.93	111.23
1	A	100	C	C1'-C2'-O2'	-5.70	99.84	108.40
1	A	394	G	C1'-C2'-O2'	5.70	116.95	108.40
1	A	4257	A	C3'-C2'-O2'	5.70	123.16	114.60
1	A	2860	C	C4'-C3'-O3'	-5.70	104.45	113.00
17	I	193	THR	CA-CB-OG1	-5.70	101.05	109.60
1	A	4297	G	O5'-P-OP2	5.70	125.10	108.00
2	B	30	C	C1'-C2'-O2'	-5.70	99.85	108.40
15	s	33	GLN	CB-CG-CD	5.70	122.29	112.60
26	U	134	GLU	CB-CA-C	5.70	119.91	110.90
31	Z	46	ARG	CG-CD-NE	5.70	124.54	112.00
1	A	4169	G	C1'-C2'-O2'	-5.70	99.85	108.40
42	Q	65	VAL	CA-CB-CG1	5.70	120.09	110.40
1	A	4257	A	C1'-C2'-O2'	-5.70	103.25	111.80
1	A	1250	C	C4'-C3'-O3'	5.70	121.54	113.00
1	A	2759	G	C4'-C3'-O3'	-5.70	104.46	113.00
33	b	2	ALA	CA-C-N	5.70	129.44	121.24
33	b	2	ALA	C-N-CA	5.70	129.44	121.24
1	A	1360	G	C2'-C3'-O3'	-5.69	105.16	113.70
22	N	47	THR	CA-C-N	-5.69	115.72	123.12
22	N	47	THR	C-N-CA	-5.69	115.72	123.12
40	k	31	ASN	CA-C-O	-5.69	114.62	120.54
1	A	126	C	C3'-C2'-O2'	5.69	119.23	110.70
1	A	4322	G	O4'-C4'-C3'	-5.69	98.31	104.00
6	F	138	MET	CA-CB-CG	-5.69	102.72	114.10
1	A	1176	C	C1'-C2'-O2'	5.69	116.93	108.40
27	V	52	LYS	CB-CA-C	-5.69	99.10	110.42
1	A	139	G	C1'-C2'-O2'	5.68	116.93	108.40
1	A	288	G	C3'-C2'-O2'	-5.68	102.17	110.70
1	A	1949	U	C1'-C2'-O2'	-5.68	99.87	108.40
5	E	6	PHE	CA-CB-CG	-5.68	108.12	113.80
3	C	22	U	O4'-C1'-C2'	-5.68	100.12	105.80
3	C	62	A	C2'-C3'-O3'	5.68	118.02	109.50
1	A	3679	U	C1'-C2'-O2'	5.68	120.32	111.80
32	a	5	LEU	N-CA-CB	-5.68	102.29	110.87
28	W	31	TYR	N-CA-C	-5.68	105.17	111.36
2	B	7	G	C4'-C3'-O3'	-5.68	104.48	113.00
1	A	121	A	C3'-C2'-O2'	-5.68	102.19	110.70
1	A	434	A	C4'-C3'-O3'	-5.68	104.48	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2883	G	C3'-C2'-O2'	5.68	119.21	110.70
18	J	151	THR	CA-CB-OG1	-5.68	101.09	109.60
39	j	84	ARG	CG-CD-NE	-5.68	99.51	112.00
1	A	195	C	C5'-C4'-C3'	-5.67	107.49	116.00
1	A	709	C	C2'-C3'-O3'	-5.67	105.19	113.70
1	A	1867	A	C4'-C3'-O3'	-5.67	104.49	113.00
1	A	1903	G	C1'-C2'-O2'	5.67	116.91	108.40
1	A	4334	U	C4'-C3'-O3'	-5.67	104.49	113.00
1	A	4365	C	C3'-C2'-O2'	-5.67	102.19	110.70
1	A	4470	G	C3'-C2'-O2'	5.67	119.21	110.70
2	B	6	C	C4'-C3'-O3'	-5.67	104.49	113.00
1	A	162	A	N9-C1'-C2'	5.67	120.51	112.00
1	A	505	G	C1'-C2'-O2'	5.67	116.91	108.40
1	A	4996	C	C5'-C4'-C3'	-5.67	107.49	116.00
1	A	735	G	C4'-C3'-O3'	-5.67	104.49	113.00
1	A	2055	G	N9-C1'-C2'	-5.67	105.49	114.00
1	A	2768	C	C3'-C2'-O2'	5.67	119.21	110.70
1	A	4279	A	C4'-C3'-O3'	-5.67	100.89	109.40
21	M	101	THR	CA-C-N	-5.67	112.72	120.44
21	M	101	THR	C-N-CA	-5.67	112.72	120.44
21	M	166	ARG	CD-NE-CZ	-5.67	116.46	124.40
1	A	1090	G	C3'-C2'-O2'	5.67	119.20	110.70
24	S	103	LYS	N-CA-C	-5.67	105.04	112.41
1	A	1729	A	C3'-C2'-O2'	-5.67	102.20	110.70
1	A	2090	U	C3'-C2'-O2'	5.67	123.10	114.60
20	L	141	HIS	N-CA-C	-5.67	106.20	113.23
40	k	67	ARG	CB-CA-C	-5.67	101.21	110.85
1	A	395	A	C4'-C3'-O3'	-5.67	104.50	113.00
1	A	2088	A	O4'-C1'-C2'	-5.67	100.13	105.80
3	C	149	G	C3'-C2'-O2'	-5.67	102.20	110.70
5	E	132	LYS	CB-CA-C	-5.67	101.22	110.85
1	A	1743	A	C4'-C3'-O3'	5.66	121.50	113.00
1	A	3811	G	O5'-C5'-C4'	-5.66	103.20	111.70
1	A	3817	A	C4'-C3'-O3'	-5.66	100.91	109.40
1	A	77	U	C2'-C3'-O3'	-5.66	105.21	113.70
1	A	2511	A	O4'-C1'-C2'	-5.66	100.14	105.80
1	A	2341	A	C2'-C3'-O3'	-5.66	105.21	113.70
1	A	3662	A	O4'-C1'-C2'	-5.66	100.14	105.80
9	m	124	LYS	N-CA-CB	-5.66	100.82	110.16
1	A	3630	A	O5'-P-OP2	-5.66	91.03	108.00
1	A	4330	G	C4'-C3'-O3'	-5.66	104.51	113.00
1	A	4464	A	N9-C1'-C2'	5.66	122.49	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4519	C	C3'-C2'-O2'	5.66	119.19	110.70
19	K	14	ARG	CA-C-N	-5.66	112.84	120.87
19	K	14	ARG	C-N-CA	-5.66	112.84	120.87
1	A	4163	U	O5'-C5'-C4'	-5.66	103.01	111.50
5	E	29	VAL	CA-C-N	-5.66	111.71	121.66
5	E	29	VAL	C-N-CA	-5.66	111.71	121.66
1	A	444	G	C1'-C2'-O2'	-5.65	99.92	108.40
1	A	1883	G	C1'-C2'-O2'	-5.65	99.92	108.40
1	A	4490	C	C3'-C2'-O2'	-5.65	102.22	110.70
1	A	937	U	C1'-C2'-O2'	5.65	116.87	108.40
1	A	4593	C	C1'-C2'-O2'	-5.65	99.93	108.40
1	A	1945	G	C1'-C2'-O2'	5.65	116.87	108.40
35	d	11	ARG	N-CA-CB	-5.65	102.05	110.24
1	A	2388	A	C1'-C2'-O2'	-5.65	99.93	108.40
3	C	100	U	C1'-C2'-O2'	-5.65	99.93	108.40
1	A	1776	A	C1'-C2'-O2'	5.65	116.87	108.40
1	A	4602	A	C3'-C2'-O2'	5.65	119.17	110.70
1	A	4671	C	O4'-C1'-C2'	-5.65	100.15	105.80
15	s	132	LYS	CB-CA-C	5.65	119.74	110.88
1	A	1391	A	C3'-C2'-O2'	5.64	119.17	110.70
1	A	3674	G	O5'-C5'-C4'	5.64	119.97	111.50
1	A	6	C	C2'-C3'-O3'	-5.64	105.24	113.70
1	A	66	A	C1'-C2'-O2'	-5.64	99.94	108.40
1	A	1828	C	C4'-C3'-O3'	-5.64	104.54	113.00
1	A	4318	C	C4'-C3'-O3'	-5.64	104.54	113.00
1	A	4475	G	C1'-C2'-O2'	5.64	116.86	108.40
9	m	218	GLY	N-CA-C	-5.64	107.26	114.37
10	n	80	ILE	N-CA-C	-5.64	105.60	111.58
14	r	54	PRO	CB-CA-C	-5.64	102.71	111.40
1	A	2287	G	C4'-C3'-O3'	-5.64	104.54	113.00
3	C	19	C	C4'-C3'-O3'	-5.64	104.54	113.00
17	I	5	GLN	CA-C-N	-5.64	115.79	123.12
17	I	5	GLN	C-N-CA	-5.64	115.79	123.12
1	A	54	G	O4'-C4'-C3'	-5.64	98.36	104.00
1	A	2671	C	C3'-C2'-O2'	-5.64	102.25	110.70
29	X	34	HIS	CA-C-N	-5.64	113.73	122.86
29	X	34	HIS	C-N-CA	-5.64	113.73	122.86
1	A	273	U	C3'-C2'-O2'	5.63	119.15	110.70
1	A	1353	G	C1'-C2'-O2'	-5.63	99.95	108.40
1	A	1492	G	C1'-C2'-O2'	5.63	116.85	108.40
1	A	3767	C	C3'-C2'-O2'	5.63	119.15	110.70
1	A	4694	G	C2'-C3'-O3'	5.63	117.95	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	F	72	ALA	CA-C-O	-5.63	115.06	121.65
1	A	1172	C	C2'-C3'-O3'	5.63	122.15	113.70
1	A	1543	G	C3'-C2'-O2'	5.63	119.15	110.70
1	A	4267	G	C4'-C3'-O3'	-5.63	104.55	113.00
7	G	52	ILE	N-CA-CB	-5.63	104.58	110.72
1	A	10	A	C1'-C2'-O2'	-5.63	99.96	108.40
1	A	2448	G	O4'-C4'-C3'	-5.63	98.37	104.00
1	A	2539	C	C2'-C3'-O3'	-5.63	105.26	113.70
1	A	4122	G	C3'-C2'-O2'	-5.63	102.26	110.70
16	t	169	ARG	CB-CA-C	-5.63	101.45	110.79
1	A	399	G	C1'-C2'-O2'	-5.63	99.96	108.40
1	A	2344	U	C4'-C3'-O3'	-5.63	104.56	113.00
21	M	31	ARG	CB-CG-CD	-5.63	98.36	111.30
30	Y	23	HIS	N-CA-CB	-5.63	101.08	109.69
1	A	304	C	C1'-C2'-O2'	-5.62	99.97	108.40
1	A	314	G	C4'-C3'-O3'	-5.62	104.56	113.00
1	A	5030	U	C3'-C2'-O2'	5.62	119.14	110.70
1	A	1271	G	C2'-C3'-O3'	5.62	117.93	109.50
1	A	1352	C	C2'-C3'-O3'	-5.62	105.27	113.70
1	A	2513	A	C1'-C2'-O2'	-5.62	103.37	111.80
1	A	2735	G	C5'-C4'-C3'	-5.62	107.57	116.00
1	A	3614	G	O5'-C5'-C4'	-5.62	103.07	111.50
4	D	210	PRO	CA-C-N	-5.62	113.83	122.60
4	D	210	PRO	C-N-CA	-5.62	113.83	122.60
1	A	2512	A	C1'-C2'-O2'	-5.62	103.37	111.80
7	G	247	ILE	N-CA-C	-5.62	105.03	110.42
11	o	165	THR	CA-CB-OG1	-5.62	101.17	109.60
42	Q	124	GLU	CB-CA-C	-5.62	100.23	110.63
1	A	140	G	C1'-C2'-O2'	5.62	116.83	108.40
15	s	108	ASP	CB-CA-C	-5.62	102.06	110.88
1	A	387	G	C1'-C2'-O2'	-5.62	103.38	111.80
1	A	2299	G	C4'-C3'-O3'	-5.62	104.58	113.00
14	r	29	PRO	CB-CA-C	-5.62	103.91	112.11
1	A	3636	C	C1'-C2'-O2'	-5.61	99.98	108.40
4	D	52	PRO	CB-CA-C	-5.61	104.43	111.56
6	F	310	HIS	CA-CB-CG	-5.61	108.19	113.80
1	A	2024	G	C2'-C3'-O3'	-5.61	101.08	109.50
1	A	3769	C	C4'-C3'-O3'	5.61	117.82	109.40
1	A	4282	A	C3'-C2'-O2'	-5.61	106.19	114.60
1	A	4570	G	O5'-P-OP2	-5.61	91.17	108.00
9	m	216	PRO	N-CA-CB	5.61	106.06	102.92
26	U	6	ARG	CB-CG-CD	5.61	124.20	111.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	78	U	C3'-C2'-O2'	-5.61	102.29	110.70
6	F	248	ARG	CB-CA-C	-5.61	100.41	109.72
10	n	195	HIS	CB-CA-C	-5.61	104.34	111.86
27	V	49	HIS	CE1-NE2-CD2	-5.61	103.39	109.00
1	A	701	G	C1'-C2'-O2'	5.61	116.81	108.40
1	A	2468	U	C1'-C2'-O2'	-5.61	103.39	111.80
1	A	2638	G	C4'-C3'-O3'	-5.61	104.59	113.00
11	o	69	THR	CA-CB-OG1	-5.61	101.19	109.60
21	M	169	THR	CA-CB-OG1	-5.61	101.19	109.60
1	A	3778	U	C2'-C3'-O3'	-5.61	105.29	113.70
1	A	4667	C	C2'-C3'-O3'	-5.61	105.29	113.70
16	t	49	ARG	N-CA-CB	5.61	118.97	110.28
40	k	53	PRO	CB-CA-C	-5.61	103.75	111.21
1	A	3735	G	C2'-C3'-O3'	-5.60	105.29	113.70
1	A	3741	C	C2'-C3'-O3'	-5.60	105.30	113.70
1	A	4632	U	C2'-C3'-O3'	-5.60	105.30	113.70
32	a	89	ASP	CA-CB-CG	-5.60	107.00	112.60
37	f	5	LYS	CB-CA-C	-5.60	97.74	110.07
1	A	200	U	O4'-C1'-C2'	-5.60	100.20	105.80
1	A	2533	C	C1'-C2'-O2'	-5.60	100.00	108.40
31	Z	55	ASN	CB-CA-C	-5.60	99.94	109.51
1	A	1904	G	C3'-C2'-O2'	5.60	119.09	110.70
1	A	1924	C	C2'-C3'-O3'	-5.60	105.30	113.70
1	A	2325	C	C4'-C3'-O3'	-5.60	104.60	113.00
7	G	56	THR	CA-CB-OG1	-5.60	101.20	109.60
16	t	67	ARG	CB-CG-CD	-5.60	98.43	111.30
1	A	1508	A	C1'-C2'-O2'	-5.59	100.01	108.40
1	A	3751	G	C2'-C3'-O3'	-5.59	105.31	113.70
1	A	5021	C	C1'-C2'-O2'	5.59	116.79	108.40
26	U	74	ASN	CA-CB-CG	-5.59	107.01	112.60
1	A	1342	A	O4'-C4'-C3'	-5.59	98.41	104.00
1	A	5049	G	C3'-C2'-O2'	5.59	122.99	114.60
10	n	217	LYS	CB-CA-C	-5.59	102.06	110.90
1	A	1553	A	C4'-C3'-O3'	-5.59	104.62	113.00
1	A	1648	C	O4'-C4'-C3'	-5.59	98.41	104.00
1	A	1873	A	C3'-C2'-O2'	-5.59	102.32	110.70
1	A	3767	C	C2'-C3'-O3'	-5.59	105.31	113.70
1	A	4405	G	C4'-C3'-O3'	-5.59	104.62	113.00
1	A	1388	A	C4'-C3'-O3'	-5.59	104.62	113.00
16	t	149	GLN	CA-CB-CG	-5.59	102.92	114.10
1	A	268	G	C4'-C3'-O3'	-5.59	104.62	113.00
1	A	2314	G	C2'-C3'-O3'	-5.59	105.32	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4329	G	C4'-C3'-O3'	-5.59	104.62	113.00
1	A	4458	C	C3'-C2'-O2'	5.59	119.08	110.70
35	d	30	GLN	CA-C-N	-5.59	112.27	122.38
35	d	30	GLN	C-N-CA	-5.59	112.27	122.38
1	A	4484	A	C1'-C2'-O2'	5.58	116.78	108.40
2	B	43	U	C4'-C3'-O3'	-5.58	104.62	113.00
14	r	149	GLN	CB-CG-CD	-5.58	103.11	112.60
39	j	61	MET	CA-CB-CG	-5.58	102.94	114.10
1	A	306	A	C1'-C2'-O2'	-5.58	100.03	108.40
1	A	1389	U	C4'-C3'-O3'	-5.58	104.63	113.00
1	A	2335	C	C4'-C3'-O3'	-5.58	104.63	113.00
1	A	4504	C	C1'-C2'-O2'	-5.58	100.03	108.40
27	V	44	ARG	CG-CD-NE	-5.58	99.72	112.00
35	d	59	THR	CB-CA-C	-5.58	99.63	109.62
1	A	929	A	C3'-C2'-O2'	5.58	119.07	110.70
22	N	77	ASN	CA-CB-CG	-5.58	107.02	112.60
1	A	1901	C	C4'-C3'-O3'	-5.58	104.63	113.00
1	A	4554	G	C4'-C3'-O3'	-5.58	104.63	113.00
1	A	915	A	C2'-C3'-O3'	-5.58	101.14	109.50
1	A	2050	G	C1'-C2'-O2'	-5.58	100.03	108.40
20	L	99	MET	CB-CA-C	-5.58	101.20	110.68
1	A	701	G	C4'-C3'-O3'	-5.57	104.64	113.00
1	A	1946	G	C1'-C2'-O2'	-5.57	100.04	108.40
1	A	3636	C	C4'-C3'-O3'	-5.57	104.64	113.00
1	A	3659	G	C4'-C3'-O3'	-5.57	104.64	113.00
1	A	4206	C	C4'-C3'-O3'	-5.57	104.64	113.00
13	q	28	GLU	CB-CG-CD	5.57	122.07	112.60
16	t	96	ARG	CG-CD-NE	-5.57	99.74	112.00
38	i	87	ARG	CB-CA-C	-5.57	99.64	109.62
40	k	73	PRO	CB-CA-C	-5.57	102.95	112.26
1	A	1189	G	C3'-C2'-O2'	5.57	119.06	110.70
1	A	2476	G	C1'-C2'-O2'	5.57	116.76	108.40
1	A	403	G	C2'-C3'-O3'	-5.57	105.35	113.70
1	A	2731	C	C4'-C3'-O3'	-5.57	104.65	113.00
9	m	247	MET	N-CA-C	-5.57	107.13	114.04
1	A	363	A	C2'-C3'-O3'	-5.57	101.15	109.50
1	A	1287	G	C4'-C3'-O3'	-5.57	104.65	113.00
1	A	2372	U	C1'-C2'-O2'	-5.57	100.05	108.40
1	A	3694	U	C3'-C2'-O2'	-5.57	102.35	110.70
1	A	4396	A	C1'-C2'-O2'	-5.57	100.05	108.40
1	A	4662	C	O4'-C4'-C3'	-5.57	98.43	104.00
10	n	171	PRO	CB-CA-C	-5.57	103.79	113.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	o	64	ARG	CB-CA-C	5.57	119.70	110.90
27	V	13	SER	CA-CB-OG	-5.57	99.96	111.10
1	A	332	C	C2'-C3'-O3'	-5.57	105.35	113.70
1	A	1338	G	C1'-C2'-O2'	-5.57	103.45	111.80
1	A	3706	C	C2'-C3'-O3'	-5.57	105.35	113.70
16	t	175	GLY	CA-C-N	-5.57	113.18	122.64
16	t	175	GLY	C-N-CA	-5.57	113.18	122.64
1	A	3704	U	C1'-C2'-O2'	-5.56	100.06	108.40
1	A	3845	A	C1'-C2'-O2'	-5.56	100.06	108.40
3	C	49	G	C4'-C3'-O3'	-5.56	104.66	113.00
23	R	138	VAL	CA-C-N	-5.56	114.79	122.30
23	R	138	VAL	C-N-CA	-5.56	114.79	122.30
40	k	63	VAL	N-CA-CB	-5.56	104.45	111.46
1	A	303	C	O5'-C5'-C4'	-5.56	103.16	111.50
10	n	210	GLU	CB-CA-C	-5.56	99.35	110.42
3	C	82	A	C3'-C2'-O2'	5.56	119.04	110.70
1	A	4518	A	C3'-C2'-O2'	-5.56	106.26	114.60
1	A	4991	U	C3'-C2'-O2'	5.56	119.04	110.70
1	A	959	G	O5'-P-OP2	5.55	124.67	108.00
1	A	1277	G	C5'-C4'-C3'	-5.55	107.67	116.00
1	A	4179	G	C3'-C2'-O2'	5.55	119.03	110.70
27	V	17	HIS	CA-C-N	-5.55	112.40	120.29
27	V	17	HIS	C-N-CA	-5.55	112.40	120.29
1	A	317	A	C4'-C3'-O3'	-5.55	104.67	113.00
1	A	4163	U	C4'-C3'-O3'	-5.55	104.67	113.00
4	D	206	PRO	CB-CA-C	-5.55	104.00	112.11
19	K	31	LEU	N-CA-CB	-5.55	102.02	110.07
1	A	1737	A	O4'-C1'-C2'	-5.55	102.05	107.60
1	A	4316	G	O4'-C4'-C3'	-5.55	98.45	104.00
27	V	8	THR	CA-CB-OG1	-5.55	101.27	109.60
1	A	1586	G	C2'-C3'-O3'	-5.55	105.38	113.70
24	S	61	HIS	N-CA-CB	-5.55	101.67	110.22
1	A	1689	G	C4'-C3'-O3'	-5.55	104.68	113.00
30	Y	33	ARG	CB-CA-C	-5.55	100.02	110.67
1	A	1697	G	C4'-C3'-O3'	-5.55	101.08	109.40
1	A	1739	G	C1'-C2'-O2'	-5.54	100.09	108.40
1	A	2869	U	C5'-C4'-C3'	-5.54	107.68	116.00
1	A	3801	U	C1'-C2'-O2'	-5.54	100.08	108.40
33	b	93	ARG	CB-CG-CD	-5.54	98.55	111.30
1	A	1500	A	C3'-C2'-O2'	-5.54	102.39	110.70
1	A	1798	G	N9-C1'-C2'	-5.54	103.69	112.00
1	A	4435	U	C2'-C3'-O3'	5.54	122.01	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4913	G	C4'-C3'-O3'	5.54	117.71	109.40
4	D	87	PHE	CA-C-N	-5.54	113.88	122.69
4	D	87	PHE	C-N-CA	-5.54	113.88	122.69
26	U	32	ARG	CB-CA-C	-5.54	100.17	109.48
1	A	2031	C	C1'-C2'-O2'	5.54	116.71	108.40
1	A	4555	U	C3'-C2'-O2'	-5.54	106.29	114.60
1	A	3860	A	C3'-C2'-O2'	-5.54	102.39	110.70
1	A	1427	A	N9-C1'-C2'	-5.54	103.69	112.00
1	A	1608	G	C1'-C2'-O2'	-5.54	100.10	108.40
1	A	2864	A	C1'-C2'-O2'	-5.54	100.10	108.40
1	A	4520	G	C4'-C3'-O3'	-5.54	104.70	113.00
21	M	24	THR	CB-CA-C	-5.54	100.82	111.12
24	S	12	SER	CB-CA-C	-5.54	101.60	110.79
26	U	144	CYS	CB-CA-C	-5.54	100.62	109.75
1	A	200	U	O5'-P-OP2	-5.53	91.40	108.00
1	A	2628	U	C3'-C2'-O2'	5.53	119.00	110.70
1	A	4375	C	C2'-C3'-O3'	-5.53	105.40	113.70
1	A	4463	U	C3'-C2'-O2'	5.53	122.90	114.60
1	A	4948	C	C3'-C2'-O2'	5.53	119.00	110.70
8	H	111	LYS	CB-CA-C	5.53	119.64	109.46
15	s	14	TYR	CA-C-N	-5.53	115.45	122.37
15	s	14	TYR	C-N-CA	-5.53	115.45	122.37
1	A	1820	C	C4'-C3'-O3'	-5.53	104.70	113.00
1	A	2392	C	C1'-C2'-O2'	-5.53	100.11	108.40
1	A	3876	A	C2'-C3'-O3'	-5.53	101.20	109.50
9	m	80	ASN	CA-CB-CG	-5.53	107.07	112.60
31	Z	50	VAL	CA-C-N	-5.53	113.63	122.53
31	Z	50	VAL	C-N-CA	-5.53	113.63	122.53
15	s	63	LYS	CB-CA-C	5.53	119.26	110.19
42	Q	110	GLY	CA-C-N	-5.53	114.41	122.65
42	Q	110	GLY	C-N-CA	-5.53	114.41	122.65
1	A	4407	G	C3'-C2'-O2'	5.53	118.99	110.70
4	D	181	LYS	CA-C-N	-5.53	112.81	120.38
4	D	181	LYS	C-N-CA	-5.53	112.81	120.38
38	i	66	ILE	CA-C-N	-5.53	115.75	123.10
38	i	66	ILE	C-N-CA	-5.53	115.75	123.10
1	A	1724	G	C4'-C3'-O3'	-5.53	101.11	109.40
7	G	253	TYR	CB-CA-C	-5.52	100.74	109.80
1	A	4124	G	C3'-C2'-O2'	5.52	122.88	114.60
3	C	111	U	C1'-C2'-O2'	5.52	116.68	108.40
6	F	29	LYS	CA-CB-CG	-5.52	103.06	114.10
8	H	253	VAL	N-CA-C	-5.52	105.46	110.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	c	29	ARG	CA-C-N	-5.52	113.03	120.87
34	c	29	ARG	C-N-CA	-5.52	113.03	120.87
1	A	4250	G	C2'-C3'-O3'	-5.52	105.42	113.70
1	A	2785	C	C1'-C2'-O2'	-5.52	100.12	108.40
1	A	4356	G	O4'-C4'-C3'	-5.52	98.48	104.00
9	m	233	ALA	N-CA-CB	-5.52	102.03	110.42
30	Y	34	ASN	CB-CA-C	-5.52	101.56	109.84
1	A	281	U	C2'-C3'-O3'	-5.52	105.42	113.70
1	A	1872	G	C1'-C2'-O2'	-5.52	100.12	108.40
9	m	213	LEU	N-CA-CB	-5.52	102.03	110.42
1	A	266	C	N1-C1'-C2'	5.51	120.27	112.00
1	A	1613	A	O4'-C4'-C3'	-5.51	100.59	106.10
1	A	1626	G	P-O5'-C5'	5.51	129.17	120.90
1	A	2262	G	C2'-C3'-O3'	-5.51	105.43	113.70
1	A	2685	C	C4'-C3'-O3'	-5.51	104.73	113.00
19	K	164	LYS	N-CA-CB	-5.51	101.02	110.01
1	A	1440	U	C4'-C3'-O3'	5.51	121.27	113.00
1	A	2575	U	C2'-C3'-O3'	-5.51	105.43	113.70
5	E	276	HIS	O-C-N	-5.51	116.59	123.04
1	A	1651	G	C3'-C2'-O2'	-5.51	102.43	110.70
1	A	4578	G	C2'-C3'-O3'	-5.51	105.43	113.70
40	k	113	ARG	NE-CZ-NH1	-5.51	115.99	121.50
1	A	1516	G	C2'-C3'-O3'	5.51	121.97	113.70
1	A	4624	A	C4'-C3'-O3'	-5.51	104.73	113.00
1	A	5060	A	C4'-C3'-O3'	-5.51	104.73	113.00
17	I	45	GLY	N-CA-C	-5.51	106.72	111.95
1	A	1306	C	C2'-C3'-O3'	-5.51	105.44	113.70
1	A	2781	G	C1'-C2'-O2'	-5.51	100.14	108.40
1	A	4235	G	C4'-C3'-O3'	-5.51	104.74	113.00
1	A	4206	C	C3'-C2'-O2'	-5.51	102.44	110.70
2	B	119	U	C3'-C2'-O2'	5.51	118.96	110.70
5	E	112	ASP	CA-CB-CG	-5.51	107.09	112.60
5	E	210	VAL	N-CA-C	-5.51	107.44	111.90
19	K	42	THR	CB-CA-C	5.51	119.23	109.65
1	A	1324	A	C1'-C2'-O2'	-5.50	103.54	111.80
1	A	4319	C	C2'-C3'-O3'	-5.50	105.44	113.70
3	C	18	U	C1'-C2'-O2'	-5.50	100.15	108.40
4	D	106	THR	CA-CB-OG1	5.50	117.86	109.60
26	U	105	ARG	CB-CG-CD	-5.50	98.64	111.30
1	A	125	C	C1'-C2'-O2'	-5.50	100.15	108.40
1	A	1303	A	C1'-C2'-O2'	5.50	116.65	108.40
2	B	119	U	C4'-C3'-O3'	-5.50	104.75	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	a	90	ARG	NE-CZ-NH1	-5.50	116.00	121.50
1	A	1645	C	O4'-C4'-C3'	-5.50	98.50	104.00
1	A	3870	C	C2'-C3'-O3'	-5.50	105.45	113.70
1	A	2374	A	C4'-C3'-O3'	-5.50	104.75	113.00
1	A	4956	A	C2'-C3'-O3'	5.50	121.95	113.70
8	H	157	HIS	CA-CB-CG	-5.50	108.30	113.80
1	A	4351	U	C4'-C3'-O3'	-5.50	104.75	113.00
2	B	71	G	C1'-C2'-O2'	5.50	116.65	108.40
7	G	99	TYR	CA-C-N	-5.50	111.41	121.52
7	G	99	TYR	C-N-CA	-5.50	111.41	121.52
1	A	2813	A	C1'-C2'-O2'	-5.50	100.16	108.40
1	A	3694	U	O4'-C4'-C3'	-5.50	98.50	104.00
1	A	2538	U	C4'-C3'-O3'	-5.49	104.76	113.00
6	F	31	PRO	CB-CA-C	-5.49	104.20	111.23
1	A	1391	A	C2'-C3'-O3'	-5.49	105.46	113.70
39	j	78	THR	CB-CA-C	-5.49	101.72	110.84
1	A	1402	C	C3'-C2'-O2'	5.49	118.94	110.70
1	A	2075	G	C1'-C2'-O2'	5.49	116.64	108.40
1	A	2463	G	C3'-C2'-O2'	5.49	118.94	110.70
1	A	4526	U	C4'-C3'-O3'	-5.49	104.77	113.00
1	A	4984	C	O4'-C4'-C3'	-5.49	98.51	104.00
2	B	38	U	C2'-C3'-O3'	-5.49	105.47	113.70
16	t	5	LYS	N-CA-CB	-5.49	102.05	110.12
1	A	1260	G	C1'-C2'-O2'	5.49	116.63	108.40
1	A	4735	G	C1'-C2'-O2'	5.49	116.63	108.40
31	Z	69	VAL	CA-C-N	-5.49	115.99	123.12
31	Z	69	VAL	C-N-CA	-5.49	115.99	123.12
1	A	2298	U	O4'-C4'-C3'	-5.49	98.51	104.00
1	A	2374	A	C1'-C2'-O2'	-5.49	100.17	108.40
1	A	3629	A	C4'-C3'-O3'	-5.49	104.77	113.00
3	C	60	G	C3'-C2'-O2'	5.49	122.83	114.60
16	t	159	ARG	CG-CD-NE	-5.49	99.93	112.00
22	N	140	PHE	CB-CA-C	-5.49	100.13	109.51
1	A	1364	U	C5'-C4'-C3'	-5.48	107.77	116.00
1	A	1873	A	C4'-C3'-O3'	-5.48	104.77	113.00
1	A	2679	G	C2'-C3'-O3'	5.48	121.93	113.70
5	E	289	GLN	CB-CA-C	5.48	118.79	109.80
1	A	2848	G	C1'-C2'-O2'	-5.48	103.58	111.80
1	A	3872	A	C2'-C3'-O3'	-5.48	105.48	113.70
4	D	226	ARG	CB-CA-C	-5.48	98.85	109.76
5	E	253	CYS	O-C-N	-5.48	116.82	123.29
19	K	161	SER	N-CA-CB	-5.48	101.68	109.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	b	108	GLN	CB-CA-C	5.48	121.45	109.99
1	A	310	G	C1'-C2'-O2'	5.48	116.62	108.40
1	A	1308	C	C1'-C2'-O2'	-5.48	100.18	108.40
1	A	2826	U	C1'-C2'-O2'	-5.48	103.58	111.80
3	C	33	G	C1'-C2'-O2'	-5.48	100.18	108.40
16	t	126	THR	CA-CB-OG1	-5.48	101.38	109.60
1	A	2328	G	C2'-C3'-O3'	-5.48	105.48	113.70
1	A	3868	G	C4'-C3'-O3'	-5.48	101.18	109.40
39	j	61	MET	CG-SD-CE	5.48	112.95	100.90
2	B	6	C	C3'-C2'-O2'	-5.48	102.48	110.70
1	A	1389	U	C1'-C2'-O2'	-5.48	100.19	108.40
4	D	64	ARG	CB-CA-C	-5.48	100.28	109.53
6	F	314	LEU	CA-C-N	-5.48	113.83	121.99
6	F	314	LEU	C-N-CA	-5.48	113.83	121.99
30	Y	69	MET	CB-CA-C	-5.48	100.50	109.53
1	A	1965	G	N9-C1'-C2'	5.47	122.21	114.00
1	A	4213	A	C3'-C2'-O2'	-5.47	102.49	110.70
2	B	67	C	C1'-C2'-O2'	-5.47	100.19	108.40
19	K	131	PRO	CA-C-N	-5.47	113.94	122.37
19	K	131	PRO	C-N-CA	-5.47	113.94	122.37
1	A	2614	C	C3'-C2'-O2'	5.47	118.90	110.70
1	A	2663	G	C1'-C2'-O2'	-5.47	100.20	108.40
1	A	3678	G	O4'-C1'-C2'	-5.47	100.33	105.80
1	A	4157	A	C3'-C2'-O2'	5.47	122.80	114.60
1	A	4348	A	C3'-C2'-O2'	5.47	122.81	114.60
6	F	311	ARG	CD-NE-CZ	-5.47	116.74	124.40
10	n	87	LEU	CB-CA-C	-5.47	102.11	109.71
16	t	67	ARG	CG-CD-NE	5.47	124.03	112.00
1	A	4186	A	C2'-C3'-O3'	-5.47	105.50	113.70
1	A	4528	G	C3'-C2'-O2'	-5.47	102.50	110.70
4	D	233	ARG	N-CA-C	-5.47	106.97	113.97
3	C	101	C	C4'-C3'-O3'	-5.47	104.80	113.00
6	F	78	ARG	NE-CZ-NH1	-5.47	116.03	121.50
10	n	71	TYR	CB-CA-C	-5.47	99.67	110.27
1	A	371	A	C4'-C3'-O3'	-5.46	104.80	113.00
1	A	1821	G	C1'-C2'-O2'	5.46	116.60	108.40
1	A	4415	A	C1'-C2'-O2'	5.46	116.60	108.40
1	A	4665	A	C4'-C3'-O3'	-5.46	104.80	113.00
1	A	4703	U	C5'-C4'-C3'	-5.46	107.80	116.00
4	D	132	ASN	CA-CB-CG	-5.46	107.14	112.60
21	M	7	LEU	N-CA-CB	-5.46	102.14	110.45
1	A	1905	U	C1'-C2'-O2'	-5.46	100.21	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2431	A	C4'-C3'-O3'	-5.46	104.81	113.00
1	A	4413	C	C4'-C3'-O3'	-5.46	104.81	113.00
1	A	4701	A	C3'-C2'-O2'	5.46	118.89	110.70
31	Z	101	ILE	CA-C-N	-5.46	115.01	122.93
31	Z	101	ILE	C-N-CA	-5.46	115.01	122.93
1	A	735	G	C2'-C3'-O3'	-5.46	105.51	113.70
1	A	24	G	C2'-C3'-O3'	5.46	121.89	113.70
1	A	1329	G	C1'-C2'-O2'	-5.46	100.22	108.40
1	A	5050	C	C3'-C2'-O2'	-5.46	102.52	110.70
6	F	178	ASN	CA-CB-CG	-5.46	107.14	112.60
1	A	4232	U	C1'-C2'-O2'	-5.46	103.62	111.80
3	C	31	G	C4'-C3'-O3'	-5.46	104.82	113.00
1	A	1453	G	C5'-C4'-C3'	-5.45	107.82	116.00
1	A	1594	C	C1'-C2'-O2'	-5.45	100.22	108.40
22	N	140	PHE	CA-CB-CG	-5.45	108.35	113.80
1	A	673	C	C5'-C4'-C3'	-5.45	107.82	116.00
1	A	4569	U	C2'-C3'-O3'	-5.45	105.52	113.70
5	E	109	HIS	CB-CA-C	-5.45	97.98	109.38
1	A	2079	G	C1'-C2'-O2'	-5.45	100.22	108.40
9	m	245	ARG	CB-CG-CD	5.45	123.83	111.30
32	a	7	TYR	CA-C-N	-5.45	114.04	122.49
32	a	7	TYR	C-N-CA	-5.45	114.04	122.49
42	Q	77	HIS	O-C-N	-5.45	116.28	121.57
1	A	1472	C	P-O5'-C5'	-5.45	112.73	120.90
3	C	150	C	C3'-C2'-O2'	5.45	118.87	110.70
15	s	20	HIS	CA-CB-CG	-5.45	108.35	113.80
17	I	26	GLN	CA-C-N	-5.45	111.60	120.64
17	I	26	GLN	C-N-CA	-5.45	111.60	120.64
1	A	4739	C	C2'-C3'-O3'	-5.45	105.53	113.70
9	m	60	GLU	CB-CA-C	5.45	120.11	110.85
8	H	113	PRO	CA-C-N	-5.45	114.01	122.67
8	H	113	PRO	C-N-CA	-5.45	114.01	122.67
22	N	45	MET	CB-CG-SD	-5.45	96.37	112.70
28	W	72	HIS	CA-CB-CG	-5.44	108.36	113.80
1	A	354	U	O5'-C5'-C4'	-5.44	103.54	111.70
1	A	4751	G	C1'-C2'-O2'	5.44	116.56	108.40
5	E	239	LYS	CB-CA-C	-5.44	99.53	109.54
1	A	1921	C	C3'-C2'-O2'	5.44	122.76	114.60
1	A	3906	A	C4'-C3'-O3'	-5.44	101.24	109.40
1	A	4339	A	C1'-C2'-O2'	5.44	116.56	108.40
1	A	1855	G	C4'-C3'-O3'	-5.44	104.84	113.00
1	A	2476	G	C5'-C4'-C3'	5.44	124.16	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2532	C	C4'-C3'-O3'	-5.44	104.84	113.00
3	C	78	G	C2'-C3'-O3'	-5.44	105.54	113.70
14	r	67	HIS	CA-C-N	-5.44	113.21	122.56
14	r	67	HIS	C-N-CA	-5.44	113.21	122.56
1	A	2412	A	C3'-C2'-O2'	-5.44	102.55	110.70
1	A	2644	G	C3'-C2'-O2'	5.44	118.85	110.70
26	U	80	THR	CB-CA-C	-5.44	98.95	110.31
1	A	330	G	C4'-C3'-O3'	-5.43	104.85	113.00
1	A	1342	A	C3'-C2'-O2'	-5.43	102.55	110.70
1	A	2518	G	C1'-C2'-O2'	-5.43	100.25	108.40
3	C	21	C	C4'-C3'-O3'	-5.43	104.85	113.00
3	C	54	C	C2'-C3'-O3'	-5.43	105.55	113.70
8	H	52	ARG	CG-CD-NE	-5.43	100.04	112.00
9	m	232	ASP	CB-CA-C	-5.43	100.36	109.27
1	A	1416	G	C1'-C2'-O2'	5.43	116.55	108.40
1	A	1819	G	C3'-C2'-O2'	-5.43	102.55	110.70
1	A	1919	G	O5'-P-OP2	-5.43	91.70	108.00
1	A	2638	G	C3'-C2'-O2'	5.43	118.85	110.70
2	B	95	C	C1'-C2'-O2'	-5.43	100.25	108.40
7	G	186	GLU	CB-CA-C	5.43	120.59	109.67
42	Q	39	ILE	CA-C-N	-5.43	115.39	121.85
42	Q	39	ILE	C-N-CA	-5.43	115.39	121.85
1	A	1457	G	C4'-C3'-O3'	-5.43	104.85	113.00
12	p	130	HIS	CA-CB-CG	-5.43	108.37	113.80
1	A	1675	C	C1'-C2'-O2'	-5.43	100.26	108.40
1	A	1891	A	O5'-P-OP2	-5.43	91.71	108.00
6	F	165	LYS	CB-CA-C	-5.43	101.78	110.79
6	F	268	ARG	CG-CD-NE	5.43	123.94	112.00
1	A	99	A	C3'-C2'-O2'	5.43	118.84	110.70
1	A	1778	C	C4'-C3'-O3'	-5.43	104.86	113.00
1	A	2528	G	N9-C1'-C2'	5.43	120.14	112.00
1	A	2753	G	O4'-C4'-C3'	-5.43	98.57	104.00
1	A	4189	U	C1'-C2'-O2'	-5.43	100.26	108.40
14	r	2	ALA	N-CA-CB	-5.43	102.26	110.40
33	b	86	LYS	CB-CA-C	5.43	118.51	109.56
1	A	5006	U	C3'-C2'-O2'	-5.42	106.46	114.60
1	A	2616	C	C4'-C3'-O3'	-5.42	104.87	113.00
1	A	1651	G	C1'-C2'-O2'	-5.42	100.27	108.40
1	A	1818	G	N9-C1'-C2'	-5.42	105.87	114.00
22	N	33	ILE	N-CA-CB	-5.42	104.48	110.99
27	V	28	ARG	CB-CG-CD	-5.42	98.83	111.30
33	b	74	LYS	CB-CA-C	5.42	118.92	109.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	j	61	MET	CA-C-N	-5.42	113.29	122.67
39	j	61	MET	C-N-CA	-5.42	113.29	122.67
1	A	3675	G	C4'-C3'-O3'	-5.42	104.87	113.00
17	I	90	HIS	CA-C-N	-5.42	114.00	122.73
17	I	90	HIS	C-N-CA	-5.42	114.00	122.73
1	A	3912	U	C2'-C3'-O3'	-5.42	105.57	113.70
1	A	4882	U	C3'-C2'-O2'	5.42	118.83	110.70
5	E	71	GLU	CA-CB-CG	-5.42	103.26	114.10
1	A	214	G	C2'-C3'-O3'	-5.42	105.58	113.70
1	A	504	G	O4'-C1'-C2'	-5.42	102.18	107.60
1	A	1801	A	C1'-C2'-O2'	-5.42	100.27	108.40
9	m	211	PHE	CA-CB-CG	-5.42	108.38	113.80
11	o	71	ARG	CB-CG-CD	5.42	123.76	111.30
1	A	35	U	C4'-C3'-O3'	-5.42	104.88	113.00
1	A	1547	A	C5'-C4'-C3'	-5.42	107.88	116.00
1	A	2515	G	C2'-C3'-O3'	-5.41	105.58	113.70
1	A	3700	C	C2'-C3'-O3'	-5.41	105.58	113.70
9	m	236	ARG	N-CA-C	-5.41	105.37	112.41
1	A	15	A	C1'-C2'-O2'	-5.41	100.28	108.40
1	A	1896	A	P-O5'-C5'	5.41	129.01	120.90
1	A	4217	G	C3'-C2'-O2'	-5.41	102.58	110.70
1	A	1250	C	C3'-C2'-O2'	5.41	118.81	110.70
2	B	73	U	C1'-C2'-O2'	-5.41	100.29	108.40
1	A	380	U	C4'-C3'-O3'	-5.41	101.29	109.40
1	A	4767	C	P-O5'-C5'	-5.41	112.79	120.90
6	F	222	ARG	CA-C-N	-5.41	113.26	122.56
6	F	222	ARG	C-N-CA	-5.41	113.26	122.56
1	A	438	G	O4'-C4'-C3'	-5.41	98.59	104.00
1	A	4094	G	O4'-C1'-C2'	-5.41	102.19	107.60
21	M	74	ARG	CB-CG-CD	5.41	123.73	111.30
21	M	129	VAL	CA-C-N	-5.40	114.11	122.59
21	M	129	VAL	C-N-CA	-5.40	114.11	122.59
39	j	38	THR	O-C-N	5.40	129.52	122.87
1	A	1432	G	C2'-C3'-O3'	-5.40	105.60	113.70
1	A	1897	A	C2'-C3'-O3'	-5.40	105.60	113.70
1	A	2741	U	C1'-C2'-O2'	-5.40	103.69	111.80
1	A	4672	A	C2'-C3'-O3'	5.40	121.80	113.70
6	F	106	LYS	CA-C-N	-5.40	111.69	121.14
6	F	106	LYS	C-N-CA	-5.40	111.69	121.14
16	t	137	PRO	CB-CA-C	-5.40	103.26	110.88
24	S	27	ARG	CB-CG-CD	-5.40	98.87	111.30
1	A	1415	G	P-O5'-C5'	5.40	129.00	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	213	GLN	CB-CG-CD	-5.40	103.42	112.60
19	K	176	ARG	CG-CD-NE	-5.40	100.12	112.00
38	i	57	ARG	CG-CD-NE	5.40	123.88	112.00
1	A	1068	G	C1'-C2'-O2'	5.40	116.50	108.40
1	A	1476	C	C3'-C2'-O2'	5.40	118.80	110.70
1	A	1520	C	C1'-C2'-O2'	-5.40	100.30	108.40
1	A	4940	C	C2'-C3'-O3'	-5.40	105.60	113.70
1	A	211	G	C2'-C3'-O3'	-5.40	105.60	113.70
1	A	2814	C	C5'-C4'-O4'	-5.40	101.70	109.80
17	I	92	THR	CA-CB-OG1	5.40	117.69	109.60
37	f	11	ARG	CB-CG-CD	-5.40	98.89	111.30
1	A	1803	G	C3'-C2'-O2'	-5.40	106.51	114.60
17	I	26	GLN	CB-CA-C	-5.40	101.83	110.79
1	A	115	C	O3'-P-O5'	-5.39	95.91	104.00
1	A	164	G	C1'-C2'-O2'	5.39	116.49	108.40
1	A	347	A	C4'-C3'-O3'	-5.39	104.91	113.00
1	A	449	C	C4'-C3'-O3'	5.39	117.49	109.40
1	A	403	G	C3'-C2'-O2'	5.39	118.79	110.70
1	A	445	U	C2'-C3'-O3'	5.39	121.79	113.70
1	A	1456	C	O4'-C4'-C3'	-5.39	98.61	104.00
1	A	1523	A	C5'-C4'-C3'	-5.39	107.91	116.00
1	A	2506	G	C2'-C3'-O3'	-5.39	101.41	109.50
1	A	3664	G	C3'-C2'-O2'	5.39	118.79	110.70
1	A	4179	G	C2'-C3'-O3'	-5.39	105.61	113.70
7	G	154	THR	CA-CB-OG1	-5.39	101.51	109.60
14	r	153	PRO	N-CA-CB	5.39	108.04	103.35
17	I	145	VAL	CA-C-N	-5.39	113.73	122.30
17	I	145	VAL	C-N-CA	-5.39	113.73	122.30
1	A	2049	G	C4'-C3'-O3'	-5.39	104.91	113.00
43	u	35	LYS	CB-CA-C	5.39	119.84	110.68
1	A	2840	A	C2'-C3'-O3'	-5.39	105.62	113.70
1	A	4135	G	C1'-C2'-O2'	5.39	116.48	108.40
22	N	6	GLY	CA-C-O	-5.39	116.67	121.41
26	U	48	TYR	CA-C-N	-5.39	116.85	122.89
26	U	48	TYR	C-N-CA	-5.39	116.85	122.89
1	A	1749	A	C3'-C2'-O2'	5.39	118.78	110.70
1	A	4572	U	C5'-C4'-C3'	-5.39	107.92	116.00
1	A	2754	G	N9-C1'-C2'	-5.39	105.92	114.00
1	A	3735	G	N9-C1'-C2'	-5.39	103.92	112.00
6	F	242	PRO	CB-CA-C	5.39	118.43	111.64
10	n	193	LEU	CB-CA-C	-5.39	102.39	110.90
1	A	92	C	C3'-C2'-O2'	-5.38	106.52	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4069	U	C4'-C3'-O3'	-5.38	104.92	113.00
1	A	477	C	C2'-C3'-O3'	5.38	121.78	113.70
1	A	3675	G	C2'-C3'-O3'	-5.38	105.63	113.70
19	K	19	LYS	N-CA-C	-5.38	105.45	112.23
1	A	4130	C	C4'-C3'-O3'	-5.38	104.93	113.00
1	A	5018	C	C3'-C2'-O2'	5.38	118.77	110.70
5	E	278	THR	CA-C-N	-5.38	114.87	122.94
5	E	278	THR	C-N-CA	-5.38	114.87	122.94
1	A	82	U	C4'-C3'-O3'	-5.38	104.94	113.00
1	A	4875	G	C2'-C3'-O3'	-5.38	101.44	109.50
6	F	138	MET	CB-CG-SD	-5.38	96.57	112.70
17	I	18	ARG	N-CA-C	-5.38	105.08	111.69
13	q	136	ARG	N-CA-CB	-5.38	101.50	111.18
40	k	66	ARG	CB-CA-C	5.38	119.35	109.46
1	A	279	A	O4'-C1'-C2'	-5.37	100.43	105.80
1	A	1390	G	N9-C1'-C2'	-5.37	103.94	112.00
1	A	1845	U	C4'-C3'-O3'	-5.37	104.94	113.00
10	n	67	ARG	N-CA-C	-5.37	105.50	111.36
1	A	151	G	C1'-C2'-O2'	-5.37	103.74	111.80
19	K	21	GLN	CB-CA-C	-5.37	101.48	110.56
38	i	66	ILE	N-CA-CB	-5.37	104.68	110.53
41	P	107	VAL	N-CA-C	-5.37	107.89	113.10
1	A	4587	G	C4'-C3'-O3'	-5.37	104.94	113.00
3	C	60	G	O4'-C1'-C2'	-5.37	100.43	105.80
1	A	2323	C	O4'-C4'-C3'	-5.37	98.63	104.00
1	A	4717	A	C2'-C3'-O3'	-5.37	105.65	113.70
15	s	34	ASN	CA-C-N	-5.37	114.25	122.62
15	s	34	ASN	C-N-CA	-5.37	114.25	122.62
23	R	126	THR	OG1-CB-CG2	-5.37	98.57	109.30
42	Q	124	GLU	CB-CG-CD	5.37	121.72	112.60
1	A	1627	G	C2'-C3'-O3'	-5.37	105.65	113.70
1	A	2045	G	C1'-C2'-O2'	-5.37	103.75	111.80
1	A	2416	G	N9-C1'-C2'	-5.37	105.95	114.00
1	A	4485	C	C2'-C3'-O3'	5.37	121.75	113.70
24	S	57	VAL	N-CA-CB	-5.37	104.87	110.72
33	b	64	THR	CB-CA-C	-5.37	102.45	110.88
1	A	394	G	C3'-C2'-O2'	5.36	118.75	110.70
1	A	1333	A	O4'-C4'-C3'	-5.36	98.64	104.00
1	A	1878	G	C4'-C3'-C2'	-5.36	97.24	102.60
16	t	41	ARG	O-C-N	-5.36	116.98	121.54
19	K	80	ALA	CA-C-N	-5.36	116.11	123.14
19	K	80	ALA	C-N-CA	-5.36	116.11	123.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	L	95	TRP	N-CA-C	-5.36	105.51	111.36
32	a	42	PRO	CB-CA-C	-5.36	104.36	111.23
1	A	255	C	C3'-C2'-O2'	5.36	118.74	110.70
1	A	4212	A	C1'-C2'-O2'	-5.36	103.76	111.80
1	A	4430	G	C3'-C2'-O2'	5.36	118.74	110.70
1	A	2288	G	C4'-C3'-O3'	-5.36	104.97	113.00
1	A	3922	G	C1'-C2'-O2'	-5.36	103.76	111.80
3	C	121	G	C2'-C3'-O3'	-5.36	105.66	113.70
8	H	119	GLU	CB-CA-C	-5.36	98.93	110.45
42	Q	124	GLU	N-CA-CB	5.36	118.47	110.22
1	A	3742	G	C3'-C2'-O2'	5.36	118.73	110.70
5	E	240	LEU	N-CA-CB	-5.36	102.39	109.78
1	A	149	A	C1'-C2'-O2'	-5.35	103.77	111.80
1	A	2841	G	O4'-C4'-C3'	-5.35	98.65	104.00
8	H	183	ARG	CA-C-N	-5.35	114.89	123.46
8	H	183	ARG	C-N-CA	-5.35	114.89	123.46
1	A	754	U	C1'-C2'-O2'	5.35	116.43	108.40
1	A	2830	G	C4'-C3'-O3'	-5.35	104.97	113.00
5	E	57	VAL	CA-C-N	-5.35	113.80	122.36
5	E	57	VAL	C-N-CA	-5.35	113.80	122.36
10	n	50	ASP	CB-CA-C	-5.35	101.28	110.22
22	N	112	ASN	CB-CA-C	-5.35	101.75	110.85
30	Y	39	ARG	CG-CD-NE	-5.35	100.22	112.00
1	A	1345	A	C4'-C3'-O3'	-5.35	104.97	113.00
1	A	4295	U	C4'-C3'-O3'	-5.35	104.97	113.00
1	A	4726	G	C2'-C3'-O3'	-5.35	105.67	113.70
1	A	2069	A	O5'-P-OP2	-5.35	91.95	108.00
4	D	20	VAL	CB-CA-C	-5.35	105.34	112.46
30	Y	32	LYS	N-CA-CB	-5.35	102.79	110.44
32	a	15	THR	CB-CA-C	-5.35	100.90	111.60
2	B	6	C	C1'-C2'-O2'	5.35	116.42	108.40
5	E	16	PHE	CA-C-N	-5.35	113.55	123.55
5	E	16	PHE	C-N-CA	-5.35	113.55	123.55
17	I	35	VAL	CA-C-N	-5.35	116.44	122.48
17	I	35	VAL	C-N-CA	-5.35	116.44	122.48
24	S	14	ASN	CA-CB-CG	-5.35	107.25	112.60
1	A	1748	U	C4'-C3'-O3'	5.35	121.02	113.00
1	A	4432	C	C4'-C3'-O3'	-5.35	104.98	113.00
1	A	4774	C	C1'-C2'-O2'	5.34	116.42	108.40
9	m	205	ASN	N-CA-C	-5.34	106.26	112.89
19	K	42	THR	N-CA-C	-5.34	106.81	113.38
21	M	68	PHE	CB-CA-C	-5.34	100.48	109.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	Z	107	PRO	CB-CA-C	-5.34	98.64	112.00
1	A	2041	A	C4'-C3'-O3'	-5.34	104.98	113.00
1	A	4638	U	C1'-C2'-O2'	-5.34	100.39	108.40
1	A	2430	C	C2'-C3'-O3'	-5.34	105.69	113.70
1	A	3706	C	C4'-C3'-O3'	-5.34	104.99	113.00
7	G	207	TYR	N-CA-C	-5.34	105.50	112.23
16	t	24	ARG	CA-C-N	-5.34	113.14	120.46
16	t	24	ARG	C-N-CA	-5.34	113.14	120.46
18	J	131	ARG	CB-CA-C	-5.34	100.20	110.24
1	A	1602	U	C2'-C3'-O3'	-5.34	105.69	113.70
1	A	728	U	P-O5'-C5'	-5.34	112.89	120.90
1	A	1656	U	C4'-C3'-C2'	-5.34	97.26	102.60
1	A	2537	A	C4'-C3'-O3'	-5.34	104.99	113.00
1	A	2608	G	C1'-C2'-O2'	-5.33	100.40	108.40
19	K	179	GLY	N-CA-C	-5.33	107.98	114.92
21	M	80	ILE	CA-C-N	-5.33	115.58	123.05
21	M	80	ILE	C-N-CA	-5.33	115.58	123.05
1	A	433	A	C1'-C2'-O2'	-5.33	100.40	108.40
1	A	1512	G	C1'-C2'-O2'	-5.33	100.40	108.40
1	A	1844	G	C2'-C3'-O3'	-5.33	105.70	113.70
1	A	4679	G	C4'-C3'-O3'	-5.33	105.00	113.00
3	C	104	A	C1'-C2'-O2'	-5.33	103.80	111.80
15	s	90	ARG	CB-CA-C	-5.33	101.61	110.68
18	J	72	GLN	CA-C-N	-5.33	111.81	120.72
18	J	72	GLN	C-N-CA	-5.33	111.81	120.72
42	Q	138	SER	CA-C-N	-5.33	115.41	122.98
42	Q	138	SER	C-N-CA	-5.33	115.41	122.98
1	A	1342	A	C4'-C3'-O3'	-5.33	105.00	113.00
3	C	64	U	C3'-C2'-O2'	5.33	118.69	110.70
34	c	56	ARG	CG-CD-NE	5.33	123.73	112.00
1	A	1634	A	C5'-C4'-C3'	-5.33	108.01	116.00
1	A	1864	G	C2'-C3'-O3'	-5.33	105.71	113.70
1	A	4388	A	O4'-C4'-C3'	-5.33	98.67	104.00
26	U	121	PRO	N-CD-CG	-5.33	95.21	103.20
1	A	2326	G	C4'-C3'-O3'	-5.33	105.01	113.00
1	A	1285	U	C4'-C3'-O3'	-5.33	105.01	113.00
1	A	1498	G	C1'-C2'-O2'	-5.32	100.41	108.40
1	A	3706	C	C1'-C2'-O2'	-5.32	100.42	108.40
29	X	59	THR	CB-CA-C	-5.32	103.78	109.85
1	A	4348	A	C4'-C3'-O3'	-5.32	101.42	109.40
18	J	93	HIS	N-CA-CB	5.32	118.04	110.06
42	Q	49	LEU	N-CA-CB	-5.32	101.23	109.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	s	27	ILE	N-CA-CB	-5.32	104.94	111.00
1	A	731	G	O5'-C5'-C4'	-5.32	103.52	111.50
1	A	961	G	O4'-C4'-C3'	-5.32	100.78	106.10
1	A	1818	G	C1'-C2'-O2'	-5.32	103.82	111.80
5	E	32	PHE	CA-CB-CG	-5.32	108.48	113.80
1	A	2034	G	C3'-C2'-O2'	-5.32	102.73	110.70
1	A	2602	G	C1'-C2'-O2'	-5.32	100.43	108.40
10	n	113	ARG	CG-CD-NE	-5.32	100.31	112.00
12	p	146	GLU	CB-CG-CD	5.32	121.64	112.60
1	A	1514	U	C5'-C4'-C3'	-5.31	108.03	116.00
1	A	2675	G	C4'-C3'-O3'	5.31	117.37	109.40
8	H	46	ARG	CG-CD-NE	-5.31	100.31	112.00
17	I	58	LEU	CA-C-N	-5.31	110.66	121.18
17	I	58	LEU	C-N-CA	-5.31	110.66	121.18
1	A	226	G	O5'-P-OP1	-5.31	92.06	108.00
1	A	1620	U	C4'-C3'-O3'	-5.31	105.03	113.00
1	A	1801	A	C2'-C3'-O3'	-5.31	105.73	113.70
1	A	4461	C	C2'-C3'-O3'	-5.31	105.73	113.70
5	E	94	GLU	CB-CG-CD	5.31	121.63	112.60
12	p	135	ILE	N-CA-C	-5.31	106.62	111.67
1	A	1545	G	C4'-C3'-O3'	-5.31	105.03	113.00
1	A	3923	A	C4'-C3'-O3'	-5.31	105.04	113.00
1	A	4289	U	C4'-C3'-O3'	-5.31	105.04	113.00
1	A	4867	G	C2'-C3'-O3'	5.31	121.66	113.70
3	C	77	A	C3'-C2'-O2'	5.31	118.66	110.70
6	F	225	PRO	CA-C-N	-5.31	114.71	122.46
6	F	225	PRO	C-N-CA	-5.31	114.71	122.46
15	s	34	ASN	CB-CA-C	-5.31	100.16	109.07
21	M	67	VAL	N-CA-CB	-5.31	104.77	111.46
1	A	2516	G	C2'-C3'-O3'	-5.31	105.74	113.70
5	E	198	ARG	N-CA-CB	5.31	117.92	110.12
33	b	108	GLN	CB-CG-CD	-5.31	103.58	112.60
1	A	1693	U	C4'-C3'-O3'	-5.30	105.04	113.00
19	K	41	SER	CA-C-N	-5.30	113.08	122.26
19	K	41	SER	C-N-CA	-5.30	113.08	122.26
24	S	53	ASP	CA-C-N	-5.30	115.24	122.93
24	S	53	ASP	C-N-CA	-5.30	115.24	122.93
1	A	1663	C	C2'-C3'-O3'	-5.30	105.75	113.70
1	A	2308	A	C1'-C2'-O2'	-5.30	100.45	108.40
1	A	2360	A	O4'-C1'-C2'	-5.30	100.50	105.80
1	A	3928	A	C4'-C3'-O3'	-5.30	105.05	113.00
1	A	4639	G	C3'-C2'-O2'	-5.30	102.75	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	5034	A	C1'-C2'-O2'	5.30	116.35	108.40
2	B	102	U	C3'-C2'-O2'	5.30	118.65	110.70
5	E	54	THR	CA-CB-OG1	-5.30	101.65	109.60
1	A	213	G	C2'-C3'-O3'	-5.30	105.75	113.70
1	A	2584	G	C3'-C2'-O2'	-5.30	102.75	110.70
1	A	2527	A	C4'-C3'-O3'	-5.30	105.05	113.00
1	A	2603	C	C1'-C2'-O2'	-5.30	100.46	108.40
1	A	31	U	C3'-C2'-O2'	5.29	118.64	110.70
1	A	77	U	C4'-C3'-O3'	-5.29	105.06	113.00
1	A	979	C	C1'-C2'-O2'	-5.29	100.46	108.40
1	A	989	U	O4'-C1'-N1	5.29	116.14	108.20
1	A	1373	A	O4'-C4'-C3'	-5.29	98.70	104.00
1	A	1664	U	C1'-C2'-O2'	-5.29	100.46	108.40
8	H	137	VAL	CB-CA-C	-5.29	102.69	111.32
1	A	48	G	O5'-P-OP1	-5.29	92.12	108.00
1	A	4513	A	C4'-C3'-O3'	-5.29	105.06	113.00
5	E	33	PRO	CB-CA-C	-5.29	104.05	110.98
6	F	163	LYS	N-CA-CB	-5.29	101.62	110.83
9	m	70	ARG	CG-CD-NE	-5.29	100.36	112.00
15	s	16	SER	CA-C-N	-5.29	113.10	122.20
15	s	16	SER	C-N-CA	-5.29	113.10	122.20
18	J	114	ILE	CA-C-N	-5.29	112.37	122.53
18	J	114	ILE	C-N-CA	-5.29	112.37	122.53
1	A	2793	G	C4'-C3'-O3'	-5.29	105.06	113.00
1	A	220	C	C1'-C2'-O2'	-5.29	100.47	108.40
1	A	417	G	C1'-C2'-O2'	-5.29	103.87	111.80
1	A	425	U	C1'-C2'-O2'	-5.29	100.47	108.40
1	A	1855	G	C1'-C2'-O2'	-5.29	100.47	108.40
3	C	46	G	C4'-C3'-O3'	-5.29	105.07	113.00
9	m	247	MET	CA-CB-CG	-5.29	103.52	114.10
10	n	111	LYS	CB-CA-C	-5.29	102.35	110.81
14	r	81	LEU	N-CA-C	-5.29	105.19	111.69
21	M	56	LYS	CG-CD-CE	5.29	123.46	111.30
22	N	98	HIS	CA-C-N	-5.29	114.26	122.09
22	N	98	HIS	C-N-CA	-5.29	114.26	122.09
23	R	129	ARG	CG-CD-NE	-5.29	100.36	112.00
27	V	14	ARG	CG-CD-NE	5.29	123.63	112.00
1	A	168	C	C4'-C3'-O3'	5.29	120.93	113.00
1	A	2064	G	C4'-C3'-C2'	-5.29	97.31	102.60
3	C	39	G	C3'-C2'-O2'	-5.29	106.67	114.60
1	A	1360	G	C4'-C3'-O3'	-5.29	105.07	113.00
1	A	3665	G	C3'-C2'-O2'	5.29	118.63	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	G	45	ASN	CB-CA-C	-5.29	101.63	110.56
1	A	1336	G	C3'-C2'-O2'	5.28	118.62	110.70
1	A	4527	G	O4'-C1'-C2'	-5.28	100.52	105.80
13	q	23	ASN	CB-CA-C	-5.28	99.22	109.68
19	K	30	LYS	CB-CA-C	-5.28	101.87	110.85
26	U	139	SER	N-CA-C	-5.28	106.79	113.18
37	f	21	ARG	CD-NE-CZ	5.28	131.80	124.40
1	A	10	A	O5'-P-OP2	-5.28	92.15	108.00
1	A	104	G	C4'-C3'-O3'	-5.28	105.08	113.00
1	A	1783	C	C2'-C3'-O3'	5.28	121.62	113.70
33	b	73	TYR	CA-C-N	-5.28	113.37	120.87
33	b	73	TYR	C-N-CA	-5.28	113.37	120.87
1	A	1350	C	C3'-C2'-O2'	5.28	118.62	110.70
1	A	4513	A	C5'-C4'-C3'	-5.28	108.08	116.00
33	b	107	GLN	CA-C-N	-5.28	111.90	121.14
33	b	107	GLN	C-N-CA	-5.28	111.90	121.14
1	A	1620	U	C4'-C3'-C2'	-5.28	97.32	102.60
1	A	2456	G	C1'-C2'-O2'	5.28	116.32	108.40
3	C	22	U	C3'-C2'-O2'	-5.28	106.69	114.60
1	A	315	G	C2'-C3'-O3'	5.28	117.41	109.50
1	A	2801	U	N1-C1'-C2'	-5.28	104.09	112.00
5	E	253	CYS	CA-C-N	-5.28	114.48	122.76
5	E	253	CYS	C-N-CA	-5.28	114.48	122.76
26	U	127	LYS	CG-CD-CE	5.28	123.43	111.30
1	A	1635	C	C3'-C2'-O2'	5.27	118.61	110.70
3	C	97	A	C3'-C2'-O2'	5.27	118.61	110.70
26	U	109	TYR	N-CA-C	-5.27	106.90	113.55
29	X	116	ASN	CA-CB-CG	-5.27	107.33	112.60
1	A	408	A	C4'-C3'-O3'	-5.27	101.49	109.40
3	C	88	A	C4'-C3'-O3'	-5.27	105.09	113.00
3	C	80	A	C1'-C2'-O2'	5.27	116.31	108.40
1	A	381	U	C4'-C3'-O3'	-5.27	105.10	113.00
1	A	2313	A	P-O5'-C5'	-5.27	113.00	120.90
1	A	2606	G	C1'-C2'-O2'	-5.27	100.50	108.40
1	A	2748	C	C4'-C3'-O3'	-5.27	105.09	113.00
1	A	3738	G	C4'-C3'-O3'	-5.27	105.09	113.00
1	A	4756	C	C5'-C4'-C3'	5.27	123.91	116.00
2	B	102	U	C2'-C3'-O3'	5.27	121.61	113.70
6	F	7	LEU	CA-C-N	-5.27	116.24	123.14
6	F	7	LEU	C-N-CA	-5.27	116.24	123.14
24	S	85	VAL	N-CA-CB	-5.27	106.41	111.89
1	A	3790	U	C1'-C2'-O2'	-5.27	103.90	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4069	U	C5'-C4'-C3'	-5.27	108.10	116.00
1	A	4266	G	C4'-C3'-O3'	-5.27	101.50	109.40
5	E	256	ALA	N-CA-CB	-5.27	102.91	110.44
9	m	182	TYR	CB-CA-C	-5.27	102.49	111.02
1	A	2647	A	C3'-C2'-O2'	5.27	118.60	110.70
16	t	86	HIS	CB-CA-C	5.27	119.62	110.72
21	M	108	GLN	CB-CA-C	-5.27	100.56	110.67
1	A	332	C	C1'-C2'-O2'	-5.26	100.50	108.40
1	A	411	G	C1'-C2'-O2'	-5.26	103.90	111.80
1	A	4550	G	C1'-C2'-O2'	5.26	116.30	108.40
6	F	267	TRP	N-CA-CB	5.26	118.72	110.46
6	F	198	ASN	CA-C-N	-5.26	115.29	122.87
6	F	198	ASN	C-N-CA	-5.26	115.29	122.87
34	c	80	HIS	ND1-CG-CD2	5.26	111.36	106.10
1	A	2857	A	C2'-C3'-O3'	-5.26	105.81	113.70
6	F	312	ARG	CG-CD-NE	5.26	123.57	112.00
1	A	1289	C	C2'-C3'-O3'	-5.26	105.81	113.70
1	A	1425	G	C3'-C2'-O2'	-5.26	102.81	110.70
40	k	121	GLN	N-CA-C	-5.26	106.88	113.72
1	A	2451	A	O4'-C4'-C3'	-5.26	98.74	104.00
1	A	2599	G	O4'-C4'-C3'	-5.26	98.74	104.00
1	A	4433	G	C4'-C3'-O3'	-5.26	105.12	113.00
2	B	110	G	C3'-C2'-O2'	5.26	118.58	110.70
3	C	108	A	C4'-C3'-O3'	-5.26	105.12	113.00
15	s	23	LYS	N-CA-CB	-5.26	102.46	110.45
1	A	1378	C	N1-C1'-C2'	5.25	121.88	114.00
20	L	97	ARG	CG-CD-NE	5.25	123.56	112.00
26	U	27	LYS	CA-C-N	-5.25	116.76	122.59
26	U	27	LYS	C-N-CA	-5.25	116.76	122.59
1	A	4684	A	O5'-P-OP1	5.25	123.76	108.00
38	i	13	LYS	N-CA-CB	5.25	118.31	110.22
39	j	21	SER	CB-CA-C	-5.25	101.92	110.85
1	A	161	G	C3'-C2'-O2'	5.25	118.58	110.70
1	A	1347	G	C4'-C3'-O3'	-5.25	105.12	113.00
6	F	172	LYS	N-CA-C	-5.25	105.23	111.69
1	A	1687	U	C1'-C2'-O2'	-5.25	100.53	108.40
1	A	4174	U	C4'-C3'-O3'	-5.25	105.12	113.00
16	t	26	ARG	CA-CB-CG	-5.25	103.60	114.10
1	A	1292	C	C3'-C2'-O2'	5.25	118.57	110.70
1	A	1944	A	C2'-C3'-O3'	5.25	121.57	113.70
1	A	4884	G	C4'-C3'-O3'	-5.25	105.13	113.00
5	E	97	ARG	CB-CG-CD	5.25	123.37	111.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	r	98	VAL	CA-C-N	-5.25	115.60	122.74
14	r	98	VAL	C-N-CA	-5.25	115.60	122.74
15	s	58	THR	CB-CA-C	-5.25	103.06	113.45
17	I	128	ARG	CA-C-N	-5.25	114.42	122.87
17	I	128	ARG	C-N-CA	-5.25	114.42	122.87
1	A	108	A	C4'-C3'-O3'	-5.25	101.53	109.40
1	A	418	A	C1'-C2'-O2'	-5.25	100.53	108.40
1	A	464	G	C1'-C2'-O2'	5.25	116.27	108.40
1	A	1800	U	C2'-C3'-O3'	-5.25	105.83	113.70
1	A	2305	U	C2'-C3'-O3'	-5.25	101.63	109.50
1	A	4286	C	C1'-C2'-O2'	-5.25	100.53	108.40
14	r	57	PRO	CB-CA-C	-5.25	102.99	110.75
1	A	1787	A	C2'-C3'-O3'	5.25	121.57	113.70
21	M	66	GLN	CB-CG-CD	-5.25	103.68	112.60
1	A	4236	G	C4'-C3'-O3'	-5.24	105.14	113.00
8	H	207	LYS	CB-CA-C	-5.24	101.59	110.19
16	t	189	ARG	CA-C-N	-5.24	112.84	120.29
16	t	189	ARG	C-N-CA	-5.24	112.84	120.29
1	A	1336	G	P-O3'-C3'	5.24	128.06	120.20
26	U	114	LYS	CA-C-N	-5.24	113.46	122.21
26	U	114	LYS	C-N-CA	-5.24	113.46	122.21
1	A	4700	A	C5'-C4'-C3'	-5.24	108.14	116.00
5	E	197	ALA	N-CA-C	-5.24	105.48	111.14
16	t	54	LYS	CA-C-N	-5.24	114.30	122.16
16	t	54	LYS	C-N-CA	-5.24	114.30	122.16
23	R	126	THR	CB-CA-C	-5.24	99.18	110.45
1	A	335	A	O5'-P-OP1	-5.24	92.29	108.00
1	A	4333	C	O4'-C4'-C3'	-5.24	98.76	104.00
1	A	35	U	O4'-C4'-C3'	-5.24	98.76	104.00
1	A	2066	C	C3'-C2'-O2'	5.24	118.56	110.70
4	D	224	THR	CA-CB-OG1	-5.24	101.75	109.60
18	J	82	ARG	CG-CD-NE	-5.24	100.48	112.00
23	R	148	ASP	N-CA-C	-5.24	105.48	111.14
1	A	2303	C	C4'-C3'-O3'	-5.24	105.15	113.00
1	A	4350	C	O5'-C5'-C4'	-5.24	103.65	111.50
18	J	8	PRO	N-CA-C	-5.24	102.89	111.21
1	A	5054	C	C4'-C3'-O3'	-5.23	101.55	109.40
1	A	481	G	O4'-C4'-C3'	-5.23	98.77	104.00
1	A	1456	C	C2'-C3'-O3'	5.23	121.55	113.70
1	A	1660	U	O5'-C5'-C4'	-5.23	103.85	111.70
1	A	1951	G	C3'-C2'-O2'	5.23	118.55	110.70
1	A	2257	C	C5'-C4'-C3'	5.23	123.05	115.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4537	C	C3'-C2'-O2'	-5.23	102.85	110.70
1	A	2040	A	C3'-C2'-O2'	5.23	122.45	114.60
1	A	3901	A	C1'-C2'-O2'	-5.23	100.55	108.40
6	F	33	ARG	O-C-N	-5.23	115.11	121.02
17	I	66	PRO	N-CD-CG	-5.23	95.36	103.20
1	A	2330	G	O5'-C5'-C4'	-5.23	103.66	111.50
1	A	3854	C	C1'-C2'-O2'	-5.23	100.56	108.40
16	t	105	ARG	CD-NE-CZ	-5.23	117.08	124.40
1	A	65	A	C4'-C3'-O3'	-5.23	101.56	109.40
1	A	1100	U	C1'-C2'-O2'	5.23	116.24	108.40
1	A	1893	C	C4'-C3'-O3'	-5.23	105.16	113.00
1	A	2024	G	C5'-C4'-C3'	5.23	123.04	115.20
39	j	38	THR	CB-CA-C	-5.23	102.53	111.31
1	A	247	G	C2'-C3'-O3'	-5.23	105.86	113.70
1	A	307	A	C2'-C3'-O3'	-5.23	105.86	113.70
35	d	11	ARG	CB-CG-CD	-5.23	99.28	111.30
1	A	2863	G	C4'-C3'-O3'	-5.22	105.16	113.00
1	A	3858	C	C4'-C3'-C2'	-5.22	97.38	102.60
10	n	153	GLN	CB-CG-CD	-5.22	103.72	112.60
19	K	22	ASP	CA-CB-CG	5.22	117.83	112.60
21	M	166	ARG	NE-CZ-NH1	-5.22	116.28	121.50
34	c	18	THR	CB-CA-C	5.22	118.86	110.29
1	A	727	C	C4'-C3'-O3'	-5.22	105.17	113.00
1	A	1263	A	C3'-C2'-O2'	5.22	118.53	110.70
1	A	2357	G	C4'-C3'-O3'	-5.22	105.17	113.00
1	A	2369	U	C4'-C3'-O3'	-5.22	101.57	109.40
1	A	4236	G	C2'-C3'-O3'	-5.22	105.87	113.70
2	B	75	G	O4'-C1'-C2'	-5.22	100.58	105.80
6	F	91	ALA	N-CA-CB	-5.22	103.31	111.56
17	I	165	LYS	CB-CA-C	-5.22	100.64	110.67
22	N	70	HIS	CA-CB-CG	-5.22	108.58	113.80
24	S	59	ARG	CB-CG-CD	-5.22	99.29	111.30
35	d	75	ARG	CG-CD-NE	-5.22	100.51	112.00
38	i	22	LYS	CA-C-N	-5.22	116.72	123.19
38	i	22	LYS	C-N-CA	-5.22	116.72	123.19
39	j	71	TYR	CA-C-N	-5.22	114.27	122.73
39	j	71	TYR	C-N-CA	-5.22	114.27	122.73
1	A	1290	G	C3'-C2'-O2'	5.22	118.53	110.70
19	K	12	LYS	CA-C-N	-5.22	116.01	123.11
19	K	12	LYS	C-N-CA	-5.22	116.01	123.11
1	A	5	A	O4'-C4'-C3'	-5.22	98.78	104.00
1	A	1642	A	C1'-C2'-O2'	-5.22	103.97	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2751	G	C4'-C3'-O3'	-5.22	105.17	113.00
1	A	4334	U	C2'-C3'-O3'	-5.22	105.87	113.70
10	n	153	GLN	CB-CA-C	-5.22	100.58	109.03
16	t	17	ASP	CA-CB-CG	-5.22	107.38	112.60
19	K	76	GLU	CB-CG-CD	5.22	121.47	112.60
1	A	102	G	O4'-C4'-C3'	-5.22	98.78	104.00
1	A	1896	A	C4'-C3'-O3'	-5.22	105.17	113.00
16	t	10	LEU	N-CA-CB	-5.22	102.45	110.12
1	A	352	G	O4'-C1'-C2'	-5.21	100.58	105.80
1	A	1517	G	P-O5'-C5'	5.21	128.72	120.90
1	A	2063	G	C3'-C2'-O2'	5.21	118.52	110.70
22	N	81	LYS	CA-C-N	-5.21	111.19	121.41
22	N	81	LYS	C-N-CA	-5.21	111.19	121.41
1	A	2445	C	C4'-C3'-O3'	-5.21	105.18	113.00
1	A	3813	A	C3'-C2'-O2'	-5.21	106.78	114.60
3	C	25	G	C5'-C4'-C3'	-5.21	108.18	116.00
7	G	36	LEU	CB-CA-C	-5.21	102.03	110.79
9	m	121	THR	CA-CB-OG1	5.21	117.42	109.60
1	A	2257	C	N1-C1'-C2'	5.21	121.82	114.00
1	A	2394	G	O4'-C1'-C2'	-5.21	100.59	105.80
22	N	102	ARG	CG-CD-NE	5.21	123.47	112.00
30	Y	65	LYS	CB-CA-C	-5.21	99.42	110.31
41	P	210	THR	CA-CB-OG1	-5.21	101.78	109.60
6	F	339	THR	CB-CA-C	-5.21	102.47	110.81
1	A	3943	A	C3'-C2'-O2'	5.21	118.51	110.70
14	r	93	THR	CA-C-N	-5.21	114.33	122.56
14	r	93	THR	C-N-CA	-5.21	114.33	122.56
1	A	2829	U	O5'-C5'-C4'	-5.21	103.69	111.50
1	A	4668	U	C4'-C3'-O3'	-5.21	105.19	113.00
7	G	161	GLY	N-CA-C	-5.21	106.19	112.49
19	K	46	VAL	N-CA-C	-5.21	105.33	111.00
26	U	71	PRO	CB-CA-C	-5.21	104.74	111.46
1	A	1399	G	C2'-C3'-O3'	5.21	121.51	113.70
1	A	2296	G	C2'-C3'-O3'	-5.21	105.89	113.70
1	A	2315	G	O5'-P-OP2	5.21	123.61	108.00
1	A	1607	C	C5'-C4'-C3'	-5.20	108.20	116.00
1	A	4506	C	C2'-C3'-O3'	-5.20	105.89	113.70
22	N	56	CYS	CB-CA-C	-5.20	101.00	110.63
1	A	2812	A	C4'-C3'-O3'	-5.20	105.20	113.00
5	E	98	GLY	CA-C-O	-5.20	118.70	122.45
18	J	137	ASN	CA-C-O	-5.20	115.49	120.64
23	R	62	ARG	N-CA-C	-5.20	105.29	111.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1732	C	C4'-C3'-O3'	-5.20	105.20	113.00
1	A	2505	C	P-O5'-C5'	5.20	128.70	120.90
1	A	3757	G	P-O5'-C5'	5.20	128.70	120.90
6	F	350	ARG	CB-CA-C	-5.20	102.05	110.79
15	s	62	LEU	CA-C-N	-5.20	115.77	123.05
15	s	62	LEU	C-N-CA	-5.20	115.77	123.05
1	A	1833	G	C2'-C3'-O3'	5.20	117.30	109.50
1	A	4525	C	C2'-C3'-O3'	-5.20	105.90	113.70
8	H	181	LEU	CA-C-N	-5.20	112.17	120.17
8	H	181	LEU	C-N-CA	-5.20	112.17	120.17
1	A	2679	G	C5'-C4'-C3'	-5.20	108.20	116.00
1	A	4088	C	C3'-C2'-O2'	-5.20	102.90	110.70
1	A	4541	G	N9-C1'-C2'	-5.20	104.20	112.00
1	A	5043	A	C1'-C2'-O2'	5.20	116.20	108.40
1	A	5046	U	C1'-C2'-O2'	-5.20	100.60	108.40
1	A	3735	G	C3'-C2'-O2'	5.20	118.49	110.70
1	A	4660	G	C2'-C3'-O3'	-5.20	105.91	113.70
38	i	78	ARG	CB-CG-CD	5.20	123.25	111.30
39	j	55	TRP	CA-C-N	-5.20	114.31	122.73
39	j	55	TRP	C-N-CA	-5.20	114.31	122.73
1	A	1905	U	C3'-C2'-O2'	-5.19	102.91	110.70
1	A	2417	A	C1'-C2'-O2'	-5.19	100.61	108.40
1	A	1241	C	C1'-C2'-O2'	5.19	116.19	108.40
1	A	2421	G	C3'-C2'-O2'	5.19	122.39	114.60
1	A	2769	U	C1'-C2'-O2'	-5.19	104.01	111.80
9	m	50	ILE	CA-C-N	-5.19	113.32	120.28
9	m	50	ILE	C-N-CA	-5.19	113.32	120.28
16	t	94	PHE	N-CA-CB	-5.19	102.34	109.97
1	A	690	C	C1'-C2'-O2'	5.19	116.19	108.40
1	A	2063	G	O4'-C4'-C3'	-5.19	98.81	104.00
4	D	8	GLN	CB-CG-CD	-5.19	103.78	112.60
5	E	252	ALA	CA-C-N	-5.19	115.84	123.00
5	E	252	ALA	C-N-CA	-5.19	115.84	123.00
1	A	42	A	O4'-C1'-C2'	-5.19	100.61	105.80
1	A	1383	G	C2'-C3'-O3'	-5.19	105.92	113.70
1	A	1597	G	O4'-C1'-C2'	-5.19	102.41	107.60
7	G	40	ASP	CA-CB-CG	-5.19	107.41	112.60
1	A	432	U	C3'-C2'-O2'	-5.19	106.82	114.60
1	A	2034	G	C1'-C2'-O2'	5.19	116.18	108.40
1	A	2833	A	O5'-P-OP2	-5.19	92.44	108.00
26	U	130	SER	CA-CB-OG	-5.19	100.72	111.10
27	V	107	ARG	N-CA-CB	5.19	118.29	110.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2578	G	C3'-C2'-O2'	5.19	118.48	110.70
1	A	4569	U	C3'-C2'-O2'	5.19	118.48	110.70
1	A	287	U	C2'-C3'-O3'	-5.18	105.92	113.70
1	A	1610	C	C2'-C3'-O3'	-5.18	105.92	113.70
1	A	1731	C	C3'-C2'-O2'	5.18	118.48	110.70
5	E	329	ASP	CA-C-N	-5.18	113.37	121.87
5	E	329	ASP	C-N-CA	-5.18	113.37	121.87
17	I	150	GLN	CB-CA-C	-5.18	102.18	110.79
30	Y	64	LYS	CB-CA-C	-5.18	101.04	110.63
1	A	62	A	P-O5'-C5'	5.18	128.67	120.90
1	A	4348	A	C1'-C2'-O2'	-5.18	104.03	111.80
16	t	9	GLU	CB-CG-CD	5.18	121.41	112.60
1	A	961	G	C2'-C3'-O3'	5.18	117.27	109.50
1	A	1529	G	O4'-C4'-C3'	-5.18	98.82	104.00
1	A	3613	U	C4'-C3'-O3'	-5.18	105.23	113.00
2	B	2	U	C5'-C4'-C3'	-5.18	108.23	116.00
2	B	46	C	C4'-C3'-O3'	-5.18	105.23	113.00
6	F	201	ARG	CA-CB-CG	-5.18	103.74	114.10
32	a	106	VAL	N-CA-C	-5.18	107.70	111.90
43	u	17	HIS	CA-C-N	-5.18	112.92	121.57
43	u	17	HIS	C-N-CA	-5.18	112.92	121.57
1	A	1894	C	C3'-C2'-O2'	5.18	118.47	110.70
1	A	4700	A	C1'-C2'-O2'	5.18	116.17	108.40
1	A	941	C	C4'-C3'-O3'	-5.18	105.24	113.00
1	A	1274	A	O4'-C1'-C2'	-5.18	102.42	107.60
1	A	1944	A	C1'-C2'-O2'	5.18	116.16	108.40
1	A	3921	U	C4'-C3'-O3'	-5.18	105.23	113.00
1	A	4949	G	C1'-C2'-O2'	-5.18	104.03	111.80
14	r	12	PRO	CA-C-N	-5.18	114.31	122.08
14	r	12	PRO	C-N-CA	-5.18	114.31	122.08
19	K	45	GLN	CB-CG-CD	-5.18	103.80	112.60
20	L	110	ARG	NE-CZ-NH1	-5.18	116.32	121.50
1	A	98	A	C3'-C2'-O2'	5.17	118.46	110.70
1	A	4184	G	C4'-C3'-O3'	-5.17	105.24	113.00
1	A	4686	G	C4'-C3'-O3'	-5.17	105.24	113.00
1	A	4756	C	P-O5'-C5'	5.17	128.66	120.90
9	m	94	ARG	CG-CD-NE	-5.17	100.61	112.00
18	J	16	LYS	CB-CG-CD	-5.17	99.40	111.30
22	N	47	THR	CB-CA-C	-5.17	102.20	110.79
1	A	1610	C	C1'-C2'-O2'	-5.17	100.64	108.40
1	A	4121	G	N9-C1'-C2'	5.17	121.75	114.00
1	A	4961	G	C1'-C2'-O2'	5.17	116.16	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3655	C	C1'-C2'-O2'	-5.17	100.65	108.40
1	A	4279	A	C3'-C2'-O2'	-5.17	106.85	114.60
1	A	4360	U	C4'-C3'-O3'	-5.17	105.25	113.00
1	A	5062	G	C3'-C2'-O2'	5.17	118.45	110.70
5	E	193	LYS	CB-CA-C	5.17	120.59	110.67
16	t	91	GLN	CA-C-O	-5.17	114.17	120.12
1	A	2460	A	C3'-C2'-O2'	-5.17	102.95	110.70
1	A	3817	A	O5'-C5'-C4'	-5.17	103.95	111.70
1	A	4067	U	C2'-C3'-O3'	-5.17	105.95	113.70
1	A	4118	U	C4'-C3'-O3'	-5.17	101.65	109.40
1	A	4746	C	C4'-C3'-O3'	-5.17	105.25	113.00
14	r	58	ILE	CA-C-N	-5.17	115.48	122.92
14	r	58	ILE	C-N-CA	-5.17	115.48	122.92
17	I	176	ARG	N-CA-C	-5.17	105.54	111.07
29	X	78	ARG	CG-CD-NE	-5.17	100.63	112.00
1	A	4373	G	O5'-C5'-C4'	-5.17	103.95	111.70
2	B	32	A	C1'-C2'-O2'	-5.17	104.05	111.80
1	A	387	G	O4'-C1'-C2'	-5.16	100.64	105.80
1	A	2328	G	C1'-C2'-O2'	-5.16	100.66	108.40
1	A	4183	G	O5'-C5'-C4'	-5.16	103.95	111.70
4	D	42	LYS	N-CA-CB	-5.16	102.21	110.63
20	L	30	ASN	CA-CB-CG	-5.16	107.44	112.60
1	A	2476	G	P-O5'-C5'	5.16	128.64	120.90
1	A	1567	U	C3'-C2'-O2'	5.16	118.44	110.70
5	E	385	LYS	N-CA-C	-5.16	105.66	111.28
6	F	306	ARG	CB-CA-C	-5.16	102.52	110.78
39	j	47	MET	N-CA-CB	-5.16	101.50	110.17
41	P	131	ASP	N-CA-C	-5.16	106.80	114.64
1	A	294	G	C5'-C4'-C3'	-5.16	108.26	116.00
3	C	3	A	C2'-C3'-O3'	5.16	121.44	113.70
3	C	63	U	O5'-P-OP2	-5.16	92.52	108.00
1	A	234	G	C3'-C2'-C1'	5.16	106.66	101.50
1	A	1735	U	C4'-C3'-O3'	-5.16	105.27	113.00
1	A	373	G	C5'-C4'-C3'	-5.16	108.27	116.00
1	A	1725	U	C1'-C2'-O2'	-5.16	100.67	108.40
14	r	39	ARG	CB-CA-C	-5.16	102.09	110.85
1	A	757	G	N9-C1'-C2'	-5.15	104.27	112.00
1	A	3803	A	C4'-C3'-O3'	-5.15	105.27	113.00
1	A	1380	G	C4'-C3'-O3'	-5.15	101.67	109.40
1	A	1734	G	C3'-C2'-O2'	-5.15	106.87	114.60
1	A	463	A	C1'-C2'-O2'	5.15	116.13	108.40
1	A	1851	G	C1'-C2'-O2'	-5.15	100.67	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2710	C	C3'-C2'-O2'	5.15	118.42	110.70
1	A	2737	C	C2'-C3'-O3'	-5.15	105.97	113.70
1	A	2882	A	N9-C1'-C2'	-5.15	104.27	112.00
6	F	138	MET	CG-SD-CE	-5.15	89.57	100.90
42	Q	90	ARG	CG-CD-NE	-5.15	100.67	112.00
1	A	728	U	C3'-C2'-O2'	-5.15	106.88	114.60
1	A	203	U	C3'-C2'-O2'	5.15	118.42	110.70
1	A	954	C	C4'-C3'-O3'	-5.15	105.28	113.00
1	A	1213	G	C3'-C2'-O2'	5.15	118.42	110.70
4	D	173	GLY	N-CA-C	-5.15	108.23	114.92
12	p	158	LYS	CB-CA-C	5.15	119.60	109.72
21	M	116	ARG	CG-CD-NE	-5.15	100.67	112.00
39	j	83	ILE	N-CA-C	-5.15	105.52	110.72
41	P	107	VAL	N-CA-CB	-5.15	105.67	112.36
1	A	3816	A	C4'-C3'-O3'	-5.15	105.28	113.00
1	A	4943	A	C1'-C2'-O2'	-5.15	104.08	111.80
1	A	4474	A	C3'-C2'-O2'	5.14	118.42	110.70
4	D	15	VAL	CA-C-N	-5.14	114.49	122.67
4	D	15	VAL	C-N-CA	-5.14	114.49	122.67
1	A	1688	G	C4'-C3'-O3'	-5.14	105.29	113.00
5	E	189	THR	CB-CA-C	-5.14	100.79	110.51
1	A	3798	U	N1-C1'-C2'	-5.14	104.29	112.00
2	B	79	U	O5'-C5'-C4'	-5.14	103.79	111.50
6	F	349	LEU	CB-CA-C	-5.14	102.20	110.74
1	A	4446	U	C2'-C3'-O3'	-5.14	105.99	113.70
6	F	190	ARG	CD-NE-CZ	-5.14	117.20	124.40
19	K	58	ARG	CB-CA-C	-5.14	104.12	110.96
29	X	90	ARG	CG-CD-NE	-5.14	100.69	112.00
1	A	3880	G	O5'-P-OP2	5.14	123.41	108.00
39	j	87	LYS	N-CA-C	-5.14	105.59	111.14
1	A	653	U	C1'-C2'-O2'	5.14	116.10	108.40
1	A	1835	G	C2'-C3'-O3'	-5.14	101.80	109.50
6	F	11	TYR	CA-CB-CG	-5.14	104.66	113.90
12	p	51	HIS	CB-CA-C	-5.14	100.31	109.71
17	I	25	LYS	CB-CG-CD	5.14	123.11	111.30
28	W	39	ARG	CB-CA-C	5.14	120.17	109.95
1	A	430	G	C1'-C2'-O2'	-5.13	100.70	108.40
1	A	954	C	C2'-C3'-O3'	-5.13	106.00	113.70
1	A	1846	G	C4'-C3'-C2'	-5.13	97.47	102.60
1	A	4691	A	C5'-C4'-C3'	-5.13	108.30	116.00
3	C	97	A	C2'-C3'-O3'	-5.13	106.00	113.70
1	A	1527	A	C4'-C3'-O3'	-5.13	105.30	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	H	199	THR	CB-CA-C	5.13	118.20	109.53
1	A	17	A	C1'-C2'-O2'	5.13	116.10	108.40
7	G	198	HIS	CA-C-N	-5.13	112.36	120.47
7	G	198	HIS	C-N-CA	-5.13	112.36	120.47
8	H	254	ASP	CB-CA-C	5.13	119.31	110.79
9	m	241	ASN	CA-CB-CG	-5.13	107.47	112.60
42	Q	22	VAL	O-C-N	-5.13	116.16	122.57
1	A	3878	C	O5'-P-OP2	-5.13	92.61	108.00
5	E	161	ARG	CD-NE-CZ	-5.13	117.22	124.40
25	T	21	ARG	CG-CD-NE	-5.13	100.71	112.00
1	A	2075	G	O4'-C4'-C3'	-5.13	98.87	104.00
1	A	4290	U	C2'-C3'-O3'	5.13	117.19	109.50
5	E	28	LYS	CB-CA-C	-5.13	101.29	109.75
1	A	391	U	C1'-C2'-O2'	-5.13	100.71	108.40
1	A	1500	A	C4'-C3'-O3'	-5.13	105.31	113.00
1	A	1814	C	C4'-C3'-O3'	-5.13	105.31	113.00
1	A	3886	G	C1'-C2'-O2'	-5.13	100.71	108.40
17	I	178	ARG	CG-CD-NE	5.13	123.28	112.00
28	W	56	ARG	CB-CG-CD	-5.13	99.51	111.30
1	A	1370	G	C3'-C2'-O2'	-5.12	106.91	114.60
1	A	2691	U	C1'-C2'-O2'	5.12	116.09	108.40
26	U	67	GLN	CB-CA-C	-5.12	99.60	110.31
1	A	2033	A	N9-C1'-C2'	-5.12	106.31	114.00
1	A	4994	G	N9-C1'-C2'	5.12	119.69	112.00
8	H	146	PRO	N-CD-CG	-5.12	95.51	103.20
17	I	105	PHE	CA-CB-CG	-5.12	108.68	113.80
21	M	41	LYS	CA-C-N	-5.12	112.90	120.28
21	M	41	LYS	C-N-CA	-5.12	112.90	120.28
3	C	103	A	O4'-C4'-C3'	-5.12	98.88	104.00
16	t	203	TYR	CA-C-N	-5.12	112.48	121.70
16	t	203	TYR	C-N-CA	-5.12	112.48	121.70
1	A	237	G	C2'-C3'-O3'	-5.12	106.02	113.70
1	A	1468	C	C2'-C3'-O3'	5.12	121.38	113.70
1	A	2409	U	C1'-C2'-O2'	-5.12	100.72	108.40
1	A	751	G	C1'-C2'-O2'	5.12	116.08	108.40
1	A	1639	U	C4'-C3'-O3'	-5.12	105.32	113.00
1	A	4883	C	C1'-C2'-O2'	5.12	116.08	108.40
5	E	180	LEU	CB-CA-C	-5.12	100.76	109.51
15	s	98	ARG	CB-CG-CD	-5.12	99.53	111.30
22	N	59	GLY	CA-C-N	-5.12	113.89	123.05
22	N	59	GLY	C-N-CA	-5.12	113.89	123.05
1	A	4159	C	C4'-C3'-O3'	-5.12	105.33	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	K	75	ARG	CG-CD-NE	-5.12	100.74	112.00
1	A	4323	A	C4'-C3'-O3'	-5.12	105.33	113.00
1	A	4647	G	C3'-C2'-O2'	5.12	118.37	110.70
2	B	70	G	C2'-C3'-O3'	5.12	121.37	113.70
12	p	148	VAL	N-CA-C	-5.12	105.40	110.62
14	r	14	PHE	CB-CA-C	-5.12	100.24	110.42
26	U	53	PHE	CA-CB-CG	-5.12	108.69	113.80
32	a	54	ARG	N-CA-CB	-5.12	102.58	110.56
1	A	2283	G	O4'-C4'-C3'	-5.11	98.89	104.00
1	A	2307	A	C1'-C2'-O2'	-5.11	100.73	108.40
1	A	2434	G	P-O5'-C5'	-5.11	113.23	120.90
1	A	2608	G	C2'-C3'-O3'	-5.11	106.03	113.70
1	A	2780	C	C4'-C3'-O3'	-5.11	105.33	113.00
1	A	3809	G	C4'-C3'-O3'	-5.11	101.73	109.40
1	A	4626	A	C4'-C3'-O3'	-5.11	101.73	109.40
37	f	11	ARG	CG-CD-NE	-5.11	100.75	112.00
1	A	1388	A	C3'-C2'-O2'	5.11	118.37	110.70
1	A	2612	G	C4'-C3'-O3'	-5.11	105.33	113.00
1	A	3704	U	C3'-C2'-O2'	5.11	118.36	110.70
1	A	5032	C	C3'-C2'-O2'	5.11	118.36	110.70
19	K	163	THR	N-CA-CB	-5.11	101.95	110.23
15	s	121	ARG	CG-CD-NE	5.11	123.24	112.00
1	A	1942	A	C3'-C2'-O2'	5.11	118.36	110.70
1	A	2406	G	P-O5'-C5'	5.11	128.56	120.90
1	A	2535	G	P-O5'-C5'	-5.11	113.24	120.90
1	A	3811	G	O4'-C1'-C2'	-5.11	100.69	105.80
1	A	4539	U	C1'-C2'-O2'	-5.11	100.74	108.40
8	H	166	LYS	CB-CA-C	-5.11	101.76	110.95
26	U	22	ILE	CB-CA-C	-5.11	105.23	111.92
1	A	231	U	C4'-C3'-O3'	-5.11	105.34	113.00
1	A	1950	U	C4'-C3'-O3'	-5.11	105.34	113.00
2	B	78	C	C4'-C3'-O3'	-5.11	105.34	113.00
16	t	196	ASN	CA-CB-CG	-5.11	107.50	112.60
38	i	24	THR	CA-CB-OG1	-5.11	101.94	109.60
1	A	1644	C	O5'-C5'-C4'	-5.10	103.84	111.50
1	A	1723	A	C1'-C2'-O2'	-5.10	104.14	111.80
31	Z	102	ARG	CA-C-N	-5.10	116.48	123.12
31	Z	102	ARG	C-N-CA	-5.10	116.48	123.12
1	A	2428	A	P-O5'-C5'	-5.10	113.25	120.90
1	A	2651	C	C3'-C2'-O2'	-5.10	103.05	110.70
1	A	278	G	C1'-C2'-O2'	-5.10	104.15	111.80
1	A	301	G	C2'-C3'-O3'	-5.10	106.05	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1572	U	C3'-C2'-O2'	5.10	118.35	110.70
1	A	1816	C	O5'-C5'-C4'	-5.10	103.85	111.50
1	A	4182	G	C2'-C3'-O3'	-5.10	106.05	113.70
25	T	23	ALA	CA-C-N	-5.10	116.52	123.10
25	T	23	ALA	C-N-CA	-5.10	116.52	123.10
1	A	342	G	C2'-C3'-O3'	-5.10	106.05	113.70
1	A	1686	C	C4'-C3'-O3'	-5.10	105.35	113.00
1	A	2425	U	C1'-C2'-O2'	-5.10	104.15	111.80
1	A	3862	A	C3'-C2'-O2'	5.10	118.34	110.70
1	A	4993	G	C1'-C2'-O2'	-5.10	100.75	108.40
1	A	5052	C	C2'-C3'-O3'	-5.10	106.05	113.70
16	t	109	HIS	ND1-CG-CD2	5.10	111.20	106.10
1	A	2452	G	C4'-C3'-O3'	-5.10	105.36	113.00
1	A	2745	A	C4'-C3'-O3'	-5.10	105.36	113.00
1	A	3913	G	C3'-C2'-O2'	-5.10	106.96	114.60
1	A	4589	A	C1'-C2'-O2'	-5.10	104.16	111.80
1	A	510	U	C2'-C3'-O3'	-5.09	106.06	113.70
1	A	672	C	C4'-C3'-O3'	-5.09	105.36	113.00
1	A	1454	G	P-O5'-C5'	-5.09	113.26	120.90
1	A	2733	C	C1'-C2'-O2'	-5.09	100.76	108.40
1	A	3638	G	C4'-C3'-O3'	-5.09	105.36	113.00
8	H	194	VAL	CA-C-N	-5.09	116.87	123.19
8	H	194	VAL	C-N-CA	-5.09	116.87	123.19
21	M	52	LYS	CA-C-N	-5.09	114.19	122.34
21	M	52	LYS	C-N-CA	-5.09	114.19	122.34
1	A	2767	U	C3'-C2'-O2'	5.09	118.34	110.70
1	A	4317	A	C5'-C4'-C3'	-5.09	108.36	116.00
2	B	28	C	C2'-C3'-O3'	-5.09	106.06	113.70
6	F	177	TRP	N-CA-C	-5.09	106.91	113.23
10	n	193	LEU	CA-C-N	-5.09	115.05	122.28
10	n	193	LEU	C-N-CA	-5.09	115.05	122.28
28	W	97	ILE	N-CA-C	-5.09	107.87	112.96
1	A	482	G	C3'-C2'-O2'	5.09	118.34	110.70
1	A	2648	G	C4'-C3'-O3'	-5.09	105.36	113.00
2	B	3	C	C4'-C3'-O3'	-5.09	105.36	113.00
6	F	185	ALA	CA-C-N	-5.09	113.16	122.38
6	F	185	ALA	C-N-CA	-5.09	113.16	122.38
1	A	736	C	C4'-C3'-O3'	5.09	120.64	113.00
1	A	3914	U	C4'-C3'-O3'	-5.09	105.37	113.00
9	m	96	ARG	CA-C-N	-5.09	114.71	122.04
9	m	96	ARG	C-N-CA	-5.09	114.71	122.04
10	n	77	PRO	N-CA-CB	5.09	106.04	103.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	W	33	GLN	CB-CG-CD	-5.09	103.95	112.60
1	A	1588	U	O5'-C5'-C4'	-5.09	103.87	111.50
1	A	4136	G	C1'-C2'-O2'	5.09	116.03	108.40
22	N	129	LYS	CB-CA-C	-5.09	100.95	109.65
1	A	1283	G	O4'-C1'-C2'	-5.09	100.71	105.80
1	A	4632	U	O5'-C5'-C4'	-5.09	103.87	111.50
7	G	32	ALA	CA-C-N	-5.09	113.46	120.28
7	G	32	ALA	C-N-CA	-5.09	113.46	120.28
20	L	108	ARG	CB-CG-CD	5.09	123.00	111.30
30	Y	42	ASP	CA-CB-CG	5.09	117.69	112.60
6	F	283	LYS	CB-CA-C	5.08	119.48	109.72
1	A	96	U	C2'-C3'-O3'	-5.08	106.07	113.70
1	A	1619	G	C4'-C3'-O3'	-5.08	105.37	113.00
5	E	358	ARG	CG-CD-NE	-5.08	100.82	112.00
14	r	58	ILE	CB-CA-C	-5.08	104.02	110.98
17	I	50	ASN	CA-C-N	-5.08	113.07	120.29
17	I	50	ASN	C-N-CA	-5.08	113.07	120.29
1	A	1943	A	C2'-C3'-O3'	-5.08	106.08	113.70
1	A	2757	A	C3'-C2'-O2'	5.08	118.32	110.70
19	K	59	PRO	CB-CA-C	-5.08	104.72	110.92
1	A	3905	A	P-O5'-C5'	-5.08	113.28	120.90
27	V	14	ARG	CA-C-N	-5.08	113.47	120.28
27	V	14	ARG	C-N-CA	-5.08	113.47	120.28
1	A	4748	U	C3'-C2'-O2'	5.08	118.32	110.70
1	A	3650	C	C3'-C2'-O2'	5.08	118.31	110.70
1	A	4979	A	C1'-C2'-O2'	-5.08	100.79	108.40
4	D	229	ALA	O-C-N	-5.08	115.75	121.43
8	H	246	ARG	N-CA-C	-5.08	105.83	111.36
1	A	1234	G	C3'-C2'-O2'	5.07	118.31	110.70
1	A	3784	A	C2'-C3'-O3'	5.07	117.11	109.50
22	N	75	VAL	CB-CA-C	-5.07	104.03	110.98
1	A	2266	C	C3'-C2'-O2'	5.07	122.21	114.60
1	A	4256	A	C2'-C3'-O3'	5.07	121.31	113.70
1	A	720	G	O4'-C4'-C3'	-5.07	98.93	104.00
1	A	1262	G	C3'-C2'-O2'	5.07	118.31	110.70
1	A	1546	C	C2'-C3'-O3'	-5.07	106.09	113.70
1	A	1791	U	C2'-C3'-O3'	-5.07	106.09	113.70
11	o	89	ARG	CB-CG-CD	5.07	122.96	111.30
17	I	101	ARG	CG-CD-NE	-5.07	100.84	112.00
1	A	1651	G	P-O5'-C5'	5.07	128.50	120.90
1	A	2830	G	O5'-P-OP2	-5.07	92.79	108.00
1	A	974	C	C4'-C3'-O3'	-5.07	105.40	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1633	G	C5'-C4'-C3'	-5.07	108.40	116.00
1	A	3787	G	C3'-C2'-O2'	-5.07	107.00	114.60
1	A	4387	C	O5'-P-OP1	-5.07	92.80	108.00
23	R	55	ARG	CG-CD-NE	5.07	123.15	112.00
1	A	17	A	O4'-C4'-C3'	-5.07	98.94	104.00
1	A	2859	G	C1'-C2'-O2'	-5.07	100.80	108.40
3	C	143	G	C1'-C2'-O2'	-5.07	100.80	108.40
15	s	35	ARG	CG-CD-NE	5.07	123.14	112.00
19	K	187	LYS	CA-C-N	-5.07	112.58	121.70
19	K	187	LYS	C-N-CA	-5.07	112.58	121.70
21	M	174	THR	CA-C-N	-5.07	115.96	123.05
21	M	174	THR	C-N-CA	-5.07	115.96	123.05
25	T	65	ARG	CA-C-N	-5.07	114.61	122.67
25	T	65	ARG	C-N-CA	-5.07	114.61	122.67
26	U	24	LYS	CA-C-N	-5.07	115.28	123.23
26	U	24	LYS	C-N-CA	-5.07	115.28	123.23
8	H	184	VAL	N-CA-C	-5.06	101.96	107.73
1	A	405	U	C4'-C3'-O3'	-5.06	105.41	113.00
22	N	108	ARG	CG-CD-NE	-5.06	100.86	112.00
41	P	169	ASP	CB-CA-C	5.06	119.46	110.85
23	R	70	LYS	CA-C-N	-5.06	116.22	123.20
23	R	70	LYS	C-N-CA	-5.06	116.22	123.20
1	A	2397	G	C1'-C2'-O2'	-5.06	104.21	111.80
1	A	4761	G	O5'-P-OP2	-5.06	92.82	108.00
9	m	95	ILE	CB-CA-C	-5.06	105.48	111.65
10	n	65	ARG	NE-CZ-NH1	-5.06	116.44	121.50
1	A	289	C	C2'-C3'-O3'	-5.06	106.11	113.70
1	A	2780	C	O5'-C5'-C4'	-5.06	103.91	111.50
3	C	104	A	C4'-C3'-O3'	-5.06	101.81	109.40
5	E	117	ARG	CB-CG-CD	5.06	122.93	111.30
7	G	226	TYR	CB-CA-C	-5.06	102.25	110.85
23	R	41	ARG	CA-C-N	-5.06	114.20	122.54
23	R	41	ARG	C-N-CA	-5.06	114.20	122.54
1	A	1416	G	C4'-C3'-O3'	5.05	120.58	113.00
1	A	1887	G	O4'-C4'-C3'	-5.05	98.95	104.00
1	A	2348	G	O5'-C5'-C4'	-5.05	104.12	111.70
1	A	3687	A	C4'-C3'-O3'	-5.05	105.42	113.00
4	D	197	PRO	CB-CA-C	-5.05	99.37	112.00
5	E	366	LYS	N-CA-C	-5.05	107.24	113.41
1	A	490	C	C3'-C2'-O2'	5.05	118.28	110.70
1	A	1352	C	C1'-C2'-O2'	-5.05	100.82	108.40
1	A	3819	G	C4'-C3'-O3'	-5.05	105.42	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4255	A	C1'-C2'-O2'	5.05	115.98	108.40
4	D	92	LYS	CA-C-N	-5.05	114.64	122.67
4	D	92	LYS	C-N-CA	-5.05	114.64	122.67
1	A	3833	C	C4'-C3'-O3'	-5.05	105.42	113.00
1	A	4491	G	C4'-C3'-O3'	-5.05	105.42	113.00
1	A	253	G	C1'-C2'-O2'	5.05	115.98	108.40
1	A	2725	A	C4'-C3'-O3'	5.05	120.58	113.00
1	A	3741	C	C3'-C2'-O2'	5.05	118.27	110.70
1	A	4581	G	C4'-C3'-O3'	-5.05	105.43	113.00
1	A	1390	G	O4'-C4'-C3'	-5.05	98.95	104.00
39	j	57	CYS	CB-CA-C	-5.05	101.42	109.75
1	A	1274	A	N9-C1'-C2'	-5.05	104.43	112.00
1	A	2689	C	C1'-C2'-O2'	5.05	115.97	108.40
1	A	3876	A	O4'-C1'-C2'	-5.05	100.75	105.80
1	A	4717	A	C4'-C3'-O3'	-5.05	105.43	113.00
1	A	4335	C	C4'-C3'-O3'	-5.04	105.43	113.00
1	A	1395	U	C2'-C3'-O3'	-5.04	106.13	113.70
1	A	2809	G	C1'-C2'-O2'	5.04	115.97	108.40
1	A	3687	A	C1'-C2'-O2'	-5.04	100.83	108.40
1	A	3939	G	C4'-C3'-O3'	-5.04	105.43	113.00
1	A	4636	U	C4'-C3'-O3'	-5.04	105.43	113.00
6	F	168	VAL	N-CA-C	-5.04	105.63	110.72
1	A	2313	A	C4'-C3'-O3'	5.04	116.96	109.40
1	A	3936	A	C3'-C2'-O2'	5.04	118.26	110.70
3	C	28	C	C1'-C2'-O2'	-5.04	100.84	108.40
6	F	249	PHE	N-CA-CB	-5.04	102.34	109.85
1	A	2397	G	C3'-C2'-O2'	-5.04	107.04	114.60
1	A	1935	C	C4'-C3'-O3'	-5.04	101.84	109.40
16	t	2	GLY	CA-C-N	-5.04	112.31	120.72
16	t	2	GLY	C-N-CA	-5.04	112.31	120.72
17	I	177	LEU	CB-CA-C	-5.04	102.91	110.92
35	d	68	LYS	CB-CA-C	5.04	120.84	110.31
1	A	2417	A	C3'-C2'-O2'	5.04	118.26	110.70
17	I	117	ARG	CB-CA-C	-5.04	101.49	109.80
19	K	163	THR	CA-CB-OG1	-5.04	102.05	109.60
1	A	275	C	C3'-C2'-C1'	5.04	106.34	101.30
1	A	2326	G	C1'-C2'-O2'	-5.04	100.85	108.40
1	A	2375	A	C3'-C2'-O2'	5.04	118.25	110.70
1	A	2380	G	C3'-C2'-O2'	5.04	118.25	110.70
35	d	57	ASN	CA-C-O	5.04	124.75	119.51
1	A	390	C	C3'-C2'-O2'	5.03	118.25	110.70
1	A	1633	G	C3'-C2'-O2'	-5.03	103.15	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2085	G	C1'-C2'-O2'	5.03	115.95	108.40
1	A	2655	C	C1'-C2'-O2'	-5.03	100.85	108.40
1	A	4410	G	C4'-C3'-O3'	-5.03	105.45	113.00
2	B	9	C	C1'-C2'-O2'	-5.03	100.85	108.40
1	A	141	C	N1-C1'-C2'	5.03	119.55	112.00
26	U	10	LYS	CA-C-N	-5.03	113.90	122.56
26	U	10	LYS	C-N-CA	-5.03	113.90	122.56
42	Q	20	LEU	CB-CA-C	-5.03	105.42	110.65
2	B	108	G	C4'-C3'-O3'	-5.03	105.45	113.00
3	C	152	U	C2'-C3'-O3'	-5.03	106.16	113.70
31	Z	88	PHE	CA-CB-CG	-5.03	108.77	113.80
43	u	30	GLN	CB-CA-C	-5.03	100.50	109.71
1	A	58	G	C4'-C3'-O3'	-5.03	101.86	109.40
1	A	4324	A	C4'-C3'-O3'	-5.03	105.46	113.00
1	A	1284	G	C4'-C3'-O3'	-5.03	101.86	109.40
2	B	3	C	C1'-C2'-O2'	5.03	115.94	108.40
7	G	279	ARG	CB-CA-C	5.03	119.14	110.79
19	K	104	ARG	NE-CZ-NH1	-5.03	116.47	121.50
1	A	2419	C	C4'-C3'-O3'	-5.03	105.46	113.00
2	B	7	G	P-O5'-C5'	5.03	128.44	120.90
10	n	180	PRO	CA-C-N	-5.03	114.70	122.59
10	n	180	PRO	C-N-CA	-5.03	114.70	122.59
1	A	1669	A	C4'-C3'-O3'	-5.02	105.46	113.00
1	A	4358	U	C4'-C3'-O3'	5.02	120.54	113.00
1	A	229	G	C1'-C2'-O2'	-5.02	100.86	108.40
1	A	1638	A	C1'-C2'-O2'	-5.02	104.27	111.80
1	A	1803	G	C4'-C3'-O3'	5.02	116.93	109.40
1	A	4418	G	C1'-C2'-O2'	5.02	115.93	108.40
1	A	4979	A	C2'-C3'-O3'	-5.02	106.17	113.70
9	m	137	GLU	CB-CG-CD	-5.02	104.06	112.60
1	A	4945	G	C4'-C3'-O3'	-5.02	105.47	113.00
3	C	42	G	O4'-C4'-C3'	-5.02	98.98	104.00
3	C	133	G	C2'-C3'-O3'	-5.02	106.17	113.70
17	I	96	GLN	CA-C-N	-5.02	112.68	120.31
17	I	96	GLN	C-N-CA	-5.02	112.68	120.31
23	R	153	ILE	CA-C-N	-5.02	116.30	123.08
23	R	153	ILE	C-N-CA	-5.02	116.30	123.08
1	A	1332	C	C3'-C2'-O2'	-5.02	103.17	110.70
9	m	112	LEU	N-CA-C	-5.02	106.75	112.92
22	N	92	ARG	CG-CD-NE	-5.02	100.95	112.00
32	a	52	ARG	CB-CA-C	5.02	118.56	109.37
41	P	78	ASP	N-CA-C	-5.02	107.01	113.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2411	C	C4'-C3'-O3'	-5.02	105.47	113.00
1	A	2796	G	C4'-C3'-O3'	-5.02	101.87	109.40
1	A	3648	A	O4'-C1'-C2'	-5.02	100.78	105.80
1	A	4206	C	P-O5'-C5'	-5.02	113.37	120.90
4	D	174	ARG	CA-C-N	-5.02	112.94	121.97
4	D	174	ARG	C-N-CA	-5.02	112.94	121.97
5	E	83	PRO	CB-CA-C	-5.02	104.81	111.23
7	G	46	THR	CB-CA-C	-5.02	102.02	109.60
1	A	1095	A	C2'-C3'-O3'	5.02	121.22	113.70
22	N	70	HIS	CB-CA-C	-5.02	101.26	109.99
1	A	697	G	C1'-C2'-O2'	5.01	115.92	108.40
10	n	181	TYR	CA-C-N	-5.01	114.46	122.53
10	n	181	TYR	C-N-CA	-5.01	114.46	122.53
17	I	145	VAL	N-CA-C	-5.01	106.56	111.88
27	V	22	LYS	CB-CA-C	-5.01	101.58	109.80
27	V	37	PRO	CB-CA-C	-5.01	103.91	112.64
1	A	2075	G	O4'-C1'-C2'	-5.01	102.59	107.60
1	A	1501	C	N1-C1'-C2'	5.01	121.52	114.00
3	C	60	G	C4'-C3'-O3'	-5.01	101.88	109.40
32	a	2	VAL	N-CA-CB	5.01	120.02	111.50
1	A	1784	U	C4'-C3'-O3'	-5.01	105.48	113.00
1	A	1875	C	C1'-C2'-O2'	-5.01	100.89	108.40
1	A	3633	C	C4'-C3'-C2'	-5.01	97.59	102.60
1	A	3802	U	C4'-C3'-O3'	5.01	116.91	109.40
8	H	156	ARG	CA-C-N	-5.01	114.49	122.66
8	H	156	ARG	C-N-CA	-5.01	114.49	122.66
23	R	94	ASN	CB-CA-C	-5.01	104.62	111.73
1	A	17	A	C5'-C4'-C3'	-5.01	108.49	116.00
1	A	204	U	C1'-C2'-O2'	5.01	115.91	108.40
1	A	1296	G	C2'-C3'-O3'	-5.01	106.19	113.70
1	A	1387	A	O4'-C1'-C2'	-5.01	100.79	105.80
1	A	2290	C	C5'-C4'-C3'	-5.01	108.49	116.00
14	r	52	SER	CA-C-N	-5.01	114.01	121.87
14	r	52	SER	C-N-CA	-5.01	114.01	121.87
19	K	143	ARG	CA-C-N	-5.01	114.71	122.67
19	K	143	ARG	C-N-CA	-5.01	114.71	122.67
1	A	356	G	O4'-C4'-C3'	-5.01	98.99	104.00
1	A	1356	U	C4'-C3'-O3'	-5.01	105.49	113.00
1	A	1806	G	C4'-C3'-O3'	-5.01	105.49	113.00
1	A	4684	A	O5'-P-OP2	-5.01	92.98	108.00
30	Y	53	ILE	N-CA-CB	-5.01	101.72	110.13
1	A	490	C	C2'-C3'-O3'	5.00	121.21	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1952	G	C4'-C3'-O3'	-5.00	105.49	113.00
7	G	45	ASN	CA-CB-CG	-5.00	107.59	112.60
16	t	62	TYR	CA-C-N	-5.00	115.93	122.99
16	t	62	TYR	C-N-CA	-5.00	115.93	122.99
1	A	1247	U	C3'-C2'-O2'	5.00	118.20	110.70
1	A	1645	C	C1'-C2'-O2'	-5.00	100.89	108.40
1	A	2035	C	C1'-C2'-O2'	5.00	115.91	108.40
2	B	109	U	C2'-C3'-O3'	5.00	117.00	109.50
1	A	2313	A	C1'-C2'-O2'	-5.00	104.30	111.80
5	E	381	THR	CB-CA-C	-5.00	101.37	111.17
18	J	9	GLU	CB-CG-CD	5.00	121.10	112.60
21	M	33	PHE	CA-C-N	-5.00	114.26	122.26
21	M	33	PHE	C-N-CA	-5.00	114.26	122.26

There are no chirality outliers.

All (67) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1220	G	Sidechain
1	A	1274	A	Sidechain
1	A	1318	C	Sidechain
1	A	1366	G	Sidechain
1	A	1523	A	Sidechain
1	A	1552	G	Sidechain
1	A	1740	C	Sidechain
1	A	1818	G	Sidechain
1	A	1892	A	Sidechain
1	A	1897	A	Sidechain
1	A	1932	A	Sidechain
1	A	2054	U	Sidechain
1	A	2267	U	Sidechain
1	A	2318	G	Sidechain
1	A	2342	G	Sidechain
1	A	2473	A	Sidechain
1	A	2513	A	Sidechain
1	A	2526	C	Sidechain
1	A	275	C	Sidechain
1	A	276	C	Sidechain
1	A	2806	A	Sidechain
1	A	2811	G	Sidechain
1	A	2900	U	Sidechain
1	A	292	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	314	G	Sidechain
1	A	3634	G	Sidechain
1	A	3635	A	Sidechain
1	A	369	G	Sidechain
1	A	3710	G	Sidechain
1	A	3735	G	Sidechain
1	A	3757	G	Sidechain
1	A	382	G	Sidechain
1	A	3880	G	Sidechain
1	A	3904	G	Sidechain
1	A	3908	A	Sidechain
1	A	3946	G	Sidechain
1	A	4136	G	Sidechain
1	A	417	G	Sidechain
1	A	420	A	Sidechain
1	A	4322	G	Sidechain
1	A	4390	A	Sidechain
1	A	4404	U	Sidechain
1	A	4463	U	Sidechain
1	A	4510	A	Sidechain
1	A	4522	G	Sidechain
1	A	4531	U	Sidechain
1	A	4560	C	Sidechain
1	A	4583	C	Sidechain
1	A	4670	C	Sidechain
1	A	4754	G	Sidechain
1	A	4774	C	Sidechain
1	A	4860	G	Sidechain
1	A	491	G	Sidechain
1	A	4975	G	Sidechain
1	A	504	G	Sidechain
1	A	654	C	Sidechain
1	A	757	G	Sidechain
1	A	91	G	Sidechain
1	A	93	G	Sidechain
3	C	128	C	Sidechain
3	C	16	G	Sidechain
8	H	73	TYR	Peptide
21	M	87	ARG	Peptide
33	b	93	ARG	Sidechain
34	c	24	PRO	Peptide
34	c	29	ARG	Peptide

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Mol	Chain	Res	Type	Group
43	u	7	SER	Peptide

5.2 Too-close contacts [i](#)

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	70929	0	35891	1648	0
2	B	2558	0	1295	70	0
3	C	3153	0	1604	77	0
4	D	1887	0	1983	55	0
5	E	3194	0	3336	107	0
6	F	2855	0	3021	91	0
7	G	2376	0	2406	116	0
8	H	1767	0	1913	78	0
9	m	1870	0	1996	48	0
10	n	1809	0	1941	53	0
11	o	1518	0	1601	71	0
12	p	1283	0	1309	40	0
13	q	1358	0	1388	47	0
14	r	1664	0	1773	66	0
15	s	1138	0	1204	83	0
16	t	1720	0	1764	57	0
17	I	1634	0	1779	44	0
18	J	1233	0	1263	32	0
19	K	1513	0	1628	42	0
20	L	1137	0	1251	50	0
21	M	1461	0	1500	52	0
22	N	1298	0	1366	31	0
23	R	976	0	1053	42	0
24	S	1115	0	1205	65	0
25	T	1107	0	1182	37	0
26	U	1162	0	1213	46	0
27	V	837	0	895	62	0
28	W	772	0	808	30	0
29	X	868	0	913	19	0
30	Y	1053	0	1146	45	0
31	Z	879	0	916	19	0
32	a	888	0	979	34	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
33	b	1015	0	1148	30	0
34	c	832	0	917	56	0
35	d	713	0	746	24	0
36	e	249	0	285	14	0
37	f	444	0	482	27	0
38	i	794	0	856	61	0
39	j	708	0	756	54	0
40	k	992	0	1052	25	0
41	P	1712	0	1689	87	0
42	Q	993	0	1050	24	0
43	u	519	0	533	24	0
44	A	209	0	0	1	0
44	B	3	0	0	0	0
44	C	6	0	0	0	0
44	J	1	0	0	0	0
44	L	2	0	0	0	0
44	Q	2	0	0	0	0
45	A	1	0	0	0	0
45	a	1	0	0	0	0
45	d	1	0	0	0	0
45	i	1	0	0	0	0
45	j	1	0	0	0	0
46	A	139	0	0	1	0
46	B	1	0	0	0	0
46	D	3	0	0	0	0
46	J	1	0	0	0	0
46	N	1	0	0	0	0
46	V	1	0	0	0	0
46	Y	1	0	0	0	0
46	Z	1	0	0	0	0
46	f	1	0	0	0	0
46	i	1	0	0	0	0
46	o	1	0	0	0	0
46	p	1	0	0	0	0
46	t	1	0	0	0	0
47	A	3	0	0	0	0
47	t	1	0	0	0	0
48	G	1	0	0	3	0
49	A	6577	0	0	540	0
49	B	132	0	0	20	0
49	C	280	0	0	26	0
49	D	109	0	0	14	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
49	E	139	0	0	23	0
49	F	182	0	0	32	0
49	G	34	0	0	4	0
49	H	36	0	0	4	0
49	I	87	0	0	6	0
49	J	66	0	0	8	0
49	K	130	0	0	16	0
49	L	37	0	0	5	0
49	M	53	0	0	11	0
49	N	71	0	0	10	0
49	P	1	0	0	0	0
49	Q	31	0	0	2	0
49	R	29	0	0	5	0
49	S	40	0	0	4	0
49	T	6	0	0	1	0
49	U	80	0	0	19	0
49	V	27	0	0	2	0
49	W	6	0	0	2	0
49	X	24	0	0	0	0
49	Y	96	0	0	11	0
49	Z	58	0	0	5	0
49	a	52	0	0	7	0
49	b	38	0	0	3	0
49	c	15	0	0	4	0
49	d	56	0	0	5	0
49	e	1	0	0	0	0
49	f	12	0	0	1	0
49	i	35	0	0	11	0
49	j	24	0	0	10	0
49	k	59	0	0	3	0
49	m	101	0	0	8	0
49	n	35	0	0	2	0
49	o	11	0	0	3	0
49	p	12	0	0	1	0
49	q	5	0	0	0	0
49	r	84	0	0	22	0
49	s	14	0	0	7	0
49	t	153	0	0	19	0
49	u	6	0	0	5	0
All	All	137413	0	93036	3182	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 15.

All (3182) 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)
1:A:247:G:C4'	24:S:128:VAL:HG11	1.30	1.60
1:A:247:G:H4'	24:S:128:VAL:CG1	1.14	1.55
32:a:2:VAL:N	32:a:2:VAL:CA	1.74	1.47
1:A:4373:G:N7	38:i:61:LYS:HE3	1.10	1.41
1:A:4337:C:N3	38:i:61:LYS:HE2	1.33	1.40
1:A:2055:G:O6	21:M:156:HIS:CD2	1.80	1.33
1:A:2841:G:H3'	49:A:7847:HOH:O	1.17	1.33
32:a:47:GLY:HA3	49:a:316:HOH:O	1.24	1.33
2:B:16:A:H3'	49:B:334:HOH:O	1.16	1.31
1:A:4875:G:H8	49:A:5692:HOH:O	1.04	1.30
35:d:66:HIS:HB2	49:d:251:HOH:O	1.19	1.30
1:A:4604:G:H5''	49:A:6627:HOH:O	1.21	1.29
1:A:1366:G:H1'	49:A:7713:HOH:O	1.14	1.27
26:U:17:HIS:HD2	49:U:202:HOH:O	1.19	1.26
3:C:132:G:H1'	49:C:393:HOH:O	1.34	1.25
4:D:187:HIS:HD2	49:D:486:HOH:O	1.10	1.25
11:o:74:CYS:HB3	49:o:302:HOH:O	1.21	1.25
19:K:160:HIS:HD2	49:K:204:HOH:O	1.01	1.24
1:A:246:G:O2'	24:S:132:LYS:HG2	1.39	1.22
1:A:1377:G:O5'	49:A:5501:HOH:O	1.58	1.22
1:A:159:C:OP2	34:c:25:ARG:HB3	1.37	1.21
1:A:4469:U:H5	49:A:6759:HOH:O	1.22	1.21
1:A:275:C:H3'	49:A:7380:HOH:O	1.05	1.20
1:A:4355:G:N7	49:A:5502:HOH:O	1.67	1.20
1:A:4373:G:N7	38:i:61:LYS:CE	2.04	1.20
20:L:52:ARG:HD2	49:L:320:HOH:O	1.42	1.19
1:A:1242:G:C1'	27:V:120:ARG:HB3	1.71	1.18
1:A:247:G:O2'	24:S:128:VAL:HG21	1.05	1.18
1:A:1783:C:H6	49:A:5537:HOH:O	0.85	1.18
38:i:21:HIS:HE1	49:i:327:HOH:O	1.23	1.18
39:j:60:CYS:C	49:j:201:HOH:O	1.85	1.17
1:A:2360:A:P	49:A:5531:HOH:O	2.02	1.17
1:A:4560:C:H5	49:A:9495:HOH:O	1.25	1.17
49:A:6288:HOH:O	6:F:165:LYS:HE3	1.03	1.17
1:A:4258:C:C5'	13:q:54:ARG:HH12	1.58	1.17
1:A:2615:C:H3'	49:A:6041:HOH:O	1.41	1.16
1:A:1939:A:N1	49:A:5509:HOH:O	1.80	1.15
1:A:4271:A:H5'	49:A:5675:HOH:O	0.99	1.15
1:A:246:G:H4'	24:S:132:LYS:HE2	1.22	1.15
1:A:4434:C:N3	49:A:5508:HOH:O	1.78	1.14

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:m:62:ARG:HD2	49:m:335:HOH:O	1.45	1.14
1:A:4252:C:N4	13:q:25:CYS:HB3	1.62	1.14
49:A:5510:HOH:O	27:V:10:HIS:HE1	1.30	1.14
1:A:4988:U:C5	1:A:4992:G:H5''	1.83	1.14
1:A:2416:G:N2	1:A:2427:G:N7	1.95	1.13
21:M:93:MET:HE3	49:M:250:HOH:O	1.48	1.12
1:A:246:G:C4'	24:S:132:LYS:HE2	1.77	1.12
1:A:1860:PSU:H3'	49:A:6917:HOH:O	1.49	1.11
9:m:66:ARG:HG2	49:m:375:HOH:O	1.47	1.11
1:A:246:G:O3'	24:S:132:LYS:HD3	1.50	1.11
49:D:509:HOH:O	39:j:41:PHE:CZ	2.02	1.11
1:A:1877:G:N7	49:A:5510:HOH:O	1.83	1.10
3:C:101:C:OP2	49:C:301:HOH:O	1.69	1.10
1:A:246:G:H4'	24:S:132:LYS:CE	1.80	1.09
1:A:4504:C:N3	49:A:5506:HOH:O	1.82	1.09
1:A:4258:C:H5''	13:q:54:ARG:HH12	1.11	1.09
5:E:43:LEU:HD11	5:E:196:TRP:HH2	1.18	1.09
1:A:2649:G:H5''	49:A:6217:HOH:O	1.50	1.09
1:A:4228:OMG:O3'	1:A:4228:OMG:HM22	1.38	1.09
1:A:247:G:O2'	24:S:128:VAL:CG2	2.00	1.08
1:A:4868:G:N7	49:A:5518:HOH:O	1.87	1.07
1:A:981:C:H2'	8:H:73:TYR:CE2	1.87	1.07
1:A:2033:A:H1'	49:A:6213:HOH:O	0.90	1.07
1:A:2055:G:O6	21:M:156:HIS:HD2	1.17	1.07
1:A:4172:A:N7	49:A:5514:HOH:O	1.86	1.07
1:A:114:G:N2	1:A:158:A:H61	1.51	1.07
1:A:4227:OMU:HM22	1:A:4228:OMG:H5'	1.34	1.06
1:A:246:G:C3'	24:S:132:LYS:HD3	1.83	1.06
1:A:209:U:O4	49:A:5504:HOH:O	1.71	1.06
1:A:2303:C:N3	49:A:5517:HOH:O	1.87	1.06
1:A:2465:C:H5''	49:A:5883:HOH:O	1.56	1.06
22:N:105:PHE:HA	49:N:304:HOH:O	1.56	1.06
30:Y:128:ARG:HD2	49:Y:359:HOH:O	1.53	1.05
1:A:4469:U:C5	49:A:6759:HOH:O	1.96	1.05
1:A:273:U:H2'	1:A:274:C:H5''	1.36	1.05
1:A:2437:C:N3	23:R:89:LYS:NZ	2.05	1.05
1:A:3878:C:N3	49:A:5522:HOH:O	1.90	1.05
1:A:4225:G:O3'	49:A:5505:HOH:O	1.73	1.05
1:A:4433:G:N1	49:A:5508:HOH:O	1.89	1.04
34:c:74:LYS:NZ	34:c:80:HIS:HD2	1.55	1.03
1:A:4473:A:N6	1:A:4482:U:H3	1.56	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4892:A:H5''	17:I:188:LYS:HZ3	1.18	1.03
1:A:1921:C:N3	15:s:17:PHE:CD1	2.27	1.03
1:A:2469:C:H5	1:A:2471:G:N1	1.55	1.03
35:d:56:ARG:HA	49:d:201:HOH:O	1.59	1.03
1:A:1242:G:H1'	27:V:120:ARG:CB	1.89	1.03
1:A:3675:G:N7	49:A:5520:HOH:O	1.88	1.03
30:Y:108:ARG:HD3	49:Y:356:HOH:O	1.57	1.03
1:A:134:G:N2	33:b:70:ARG:HH11	1.57	1.02
1:A:4434:C:C4	49:A:5508:HOH:O	2.08	1.02
2:B:3:C:H1'	49:B:345:HOH:O	0.86	1.02
1:A:1179:U:O2	7:G:286:SER:HB3	1.58	1.02
1:A:1242:G:O4'	27:V:120:ARG:HB3	1.58	1.01
1:A:684:G:H5''	8:H:100:LYS:HE2	1.38	1.01
1:A:3779:A:C2	49:A:8029:HOH:O	2.11	1.01
49:A:5796:HOH:O	39:j:42:CYS:HB2	1.60	1.01
1:A:4228:OMG:O3'	1:A:4228:OMG:CM2	2.07	1.01
14:r:92:ARG:HB2	49:r:327:HOH:O	1.61	1.01
1:A:2711:G:C5	20:L:43:LYS:HG2	1.96	1.01
39:j:60:CYS:CB	49:j:201:HOH:O	2.07	1.00
1:A:4402:C:C5	49:A:5856:HOH:O	2.12	1.00
1:A:2455:G:N3	49:A:5529:HOH:O	1.94	1.00
1:A:4402:C:H5	49:A:5856:HOH:O	1.43	1.00
5:E:246:ARG:HG2	49:E:502:HOH:O	1.61	1.00
1:A:1214:C:N3	27:V:91:ARG:HA	1.76	0.99
1:A:3739:C:N4	49:A:5507:HOH:O	1.75	0.99
1:A:246:G:OP2	24:S:132:LYS:NZ	1.96	0.98
1:A:1921:C:C2	15:s:17:PHE:CE1	2.50	0.98
1:A:989:U:N3	1:A:1064:G:O6	1.95	0.98
1:A:1377:G:P	49:A:5501:HOH:O	2.19	0.98
1:A:1890:G:N7	49:A:5509:HOH:O	1.95	0.98
18:J:64:ASN:HD22	18:J:80:GLN:HE22	1.11	0.98
1:A:722:G:N7	49:A:5528:HOH:O	1.93	0.98
1:A:2333:G:N7	49:A:5533:HOH:O	1.97	0.98
5:E:43:LEU:HD11	5:E:196:TRP:CH2	1.97	0.98
1:A:4337:C:N3	38:i:61:LYS:CE	2.28	0.97
1:A:277:G:N7	49:A:5532:HOH:O	1.95	0.97
1:A:4867:G:N7	49:A:5536:HOH:O	1.98	0.97
31:Z:41:PHE:HE1	31:Z:110:ILE:HD11	1.24	0.97
1:A:4892:A:H5''	17:I:188:LYS:NZ	1.77	0.97
11:o:5:LEU:HD12	11:o:6:SER:H	1.29	0.97
1:A:4487:A:P	49:A:5539:HOH:O	2.21	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1176:C:OP1	7:G:268:ARG:HD3	1.64	0.96
1:A:4560:C:C5	49:A:9495:HOH:O	2.03	0.96
1:A:93:G:OP1	49:A:5511:HOH:O	1.84	0.96
1:A:4136:G:N3	1:A:4136:G:H2'	1.80	0.95
1:A:247:G:HO2'	24:S:128:VAL:HG21	1.29	0.95
1:A:4895:C:H1'	15:s:132:LYS:HD2	1.48	0.95
4:D:245:ARG:HH21	4:D:245:ARG:CG	1.79	0.95
1:A:4875:G:C8	49:A:5692:HOH:O	1.86	0.95
41:P:162:HIS:HD2	41:P:162:HIS:H	1.13	0.95
1:A:1260:G:H8	1:A:1260:G:H5''	1.30	0.95
1:A:1921:C:C4	15:s:17:PHE:CD1	2.54	0.95
1:A:4409:C:OP2	49:A:5515:HOH:O	1.86	0.94
1:A:2652:G:C6	39:j:61:MET:HE3	2.02	0.94
1:A:3802:U:H4'	49:A:9228:HOH:O	1.67	0.94
6:F:143:ARG:HD3	49:F:504:HOH:O	1.66	0.94
1:A:1242:G:C1'	27:V:120:ARG:CB	2.43	0.94
1:A:2395:A:N1	32:a:2:VAL:N	2.15	0.94
1:A:1953:U:OP2	49:A:5513:HOH:O	1.85	0.94
1:A:4571:A2M:H2'	1:A:4572:U:H6	1.31	0.94
16:t:36:LEU:HB2	49:t:550:HOH:O	1.68	0.93
31:Z:73:LYS:HD2	49:Z:309:HOH:O	1.67	0.93
1:A:4200:G:N7	49:A:5538:HOH:O	2.00	0.93
24:S:76:LYS:HE3	37:f:31:THR:HB	1.51	0.93
1:A:4258:C:C5'	13:q:54:ARG:NH1	2.30	0.93
1:A:3823:G:H8	49:A:5519:HOH:O	1.51	0.93
1:A:1776:A:P	1:A:1776:A:C8	2.61	0.93
1:A:1214:C:C6	27:V:91:ARG:NH2	2.37	0.92
1:A:4148:C:P	1:A:4148:C:C6	2.62	0.92
49:D:509:HOH:O	39:j:41:PHE:CE2	2.18	0.92
1:A:328:A:N7	49:A:5541:HOH:O	2.01	0.92
1:A:4307:A:N7	49:A:5545:HOH:O	2.02	0.92
1:A:4227:OMU:HM22	1:A:4228:OMG:C5'	1.98	0.92
49:A:6952:HOH:O	8:H:112:MET:SD	2.28	0.92
1:A:1242:G:H1'	27:V:120:ARG:HB3	1.42	0.92
5:E:378:ARG:HD2	43:u:11:TYR:CE1	2.04	0.92
1:A:246:G:O2'	24:S:132:LYS:CG	2.18	0.92
1:A:4252:C:H42	13:q:25:CYS:HB3	1.31	0.92
1:A:1:C:N4	3:C:156:U:O2	2.03	0.92
1:A:1379:C:H5	49:A:6352:HOH:O	1.50	0.92
1:A:2633:U:H3'	49:A:6315:HOH:O	1.70	0.92
1:A:4590:A2M:N7	49:A:5540:HOH:O	2.01	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2652:G:O6	39:j:61:MET:HE3	1.70	0.92
1:A:981:C:H2'	8:H:73:TYR:HE2	1.30	0.92
1:A:275:C:O2	49:A:5516:HOH:O	1.87	0.91
1:A:1267:C:H3'	49:V:302:HOH:O	1.70	0.91
8:H:190:HIS:HD2	8:H:192:LYS:H	1.16	0.91
1:A:2262:G:OP2	40:k:98:ARG:NH2	2.01	0.91
2:B:85:G:N7	49:B:301:HOH:O	2.02	0.91
1:A:1950:U:H4'	49:A:5631:HOH:O	1.67	0.91
5:E:202:GLU:HG2	49:E:612:HOH:O	1.69	0.91
5:E:315:ASN:HD21	5:E:326:VAL:H	1.07	0.91
1:A:4756:C:O2	49:A:5521:HOH:O	1.89	0.91
1:A:1650:A:N7	49:A:5547:HOH:O	2.03	0.91
1:A:4929:C:O4'	15:s:118:MET:SD	2.29	0.91
1:A:4597:U:H3	1:A:4613:C:H42	1.16	0.91
30:Y:101:HIS:CD2	49:Y:391:HOH:O	2.23	0.91
34:c:74:LYS:HZ2	34:c:80:HIS:HD2	1.19	0.91
1:A:91:G:N7	49:A:5546:HOH:O	2.02	0.90
1:A:273:U:C2'	1:A:274:C:H5''	2.00	0.90
3:C:52:A:C8	49:C:308:HOH:O	2.22	0.90
43:u:23:ARG:HD3	49:u:204:HOH:O	1.67	0.90
1:A:1242:G:H1'	27:V:120:ARG:CG	2.00	0.90
3:C:62:A:N1	49:C:305:HOH:O	2.03	0.90
19:K:110:ARG:HD3	49:K:258:HOH:O	1.70	0.90
15:s:126:GLU:OE1	17:I:181:ALA:HA	1.71	0.90
1:A:1415:G:H2'	1:A:1416:G:O5'	1.70	0.90
15:s:33:GLN:CB	49:s:308:HOH:O	2.20	0.90
1:A:1677:PSU:C6	49:A:6537:HOH:O	2.24	0.90
1:A:4258:C:O5'	13:q:54:ARG:NH1	2.04	0.90
1:A:3823:G:C8	49:A:5519:HOH:O	2.23	0.90
40:k:13:CYS:O	49:k:201:HOH:O	1.88	0.90
1:A:4136:G:H1	1:A:4148:C:H42	1.19	0.89
1:A:247:G:C3'	24:S:128:VAL:HG11	2.02	0.89
1:A:2622:G:N7	49:A:5554:HOH:O	2.05	0.89
41:P:162:HIS:H	41:P:162:HIS:CD2	1.79	0.89
1:A:159:C:H3'	49:A:5695:HOH:O	1.72	0.89
19:K:160:HIS:CD2	49:K:204:HOH:O	1.84	0.89
1:A:247:G:H4'	24:S:128:VAL:HG12	1.47	0.89
1:A:3614:G:N7	49:A:5550:HOH:O	2.04	0.89
2:B:102:U:H6	49:B:372:HOH:O	1.55	0.89
1:A:4700:A:C8	49:A:5746:HOH:O	2.26	0.89
1:A:4895:C:H1'	15:s:132:LYS:CD	2.02	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4148:C:P	1:A:4148:C:C5	2.66	0.89
1:A:114:G:H22	1:A:158:A:H61	1.15	0.89
1:A:5060:A:H5''	1:A:5060:A:H8	1.36	0.89
1:A:1754:U:H3	1:A:1776:A:N6	1.70	0.88
1:A:4226:G:P	49:A:5505:HOH:O	2.28	0.88
17:I:5:GLN:O	49:I:301:HOH:O	1.91	0.88
39:j:39:CYS:O	39:j:42:CYS:N	2.06	0.88
15:s:33:GLN:HB2	49:s:308:HOH:O	1.70	0.88
1:A:1379:C:C5	49:A:6352:HOH:O	2.23	0.88
1:A:2605:G:N7	49:A:5555:HOH:O	2.05	0.88
1:A:2738:C:OP2	49:A:5524:HOH:O	1.91	0.88
1:A:3622:C:N3	49:A:5558:HOH:O	2.05	0.88
5:E:378:ARG:HD3	43:u:11:TYR:CD1	2.09	0.87
1:A:1241:C:H5'	8:H:72:LYS:HZ1	1.37	0.87
1:A:3606:U:C5'	20:L:76:MET:HE1	2.05	0.87
1:A:4687:A:N3	49:A:5571:HOH:O	2.08	0.87
34:c:35:LYS:HB3	49:c:214:HOH:O	1.73	0.87
1:A:4527:G:N7	49:A:5565:HOH:O	2.06	0.87
21:M:83:ARG:HD3	49:M:213:HOH:O	1.74	0.87
2:B:117:G:OP2	7:G:255:LYS:HE2	1.74	0.87
3:C:151:G:N7	49:C:306:HOH:O	2.06	0.87
4:D:83:HIS:HB3	49:D:509:HOH:O	1.74	0.87
1:A:4757:C:H2'	49:A:5699:HOH:O	1.75	0.87
14:r:103:ARG:HD2	49:r:311:HOH:O	1.72	0.87
18:J:25:HIS:HD2	49:J:330:HOH:O	1.57	0.87
1:A:3905:A:H1'	49:A:5676:HOH:O	1.73	0.86
1:A:4597:U:H3	1:A:4613:C:N4	1.73	0.86
18:J:94:MET:HG2	18:J:148:MET:HE3	1.55	0.86
2:B:65:G:N7	49:B:303:HOH:O	2.07	0.86
19:K:180:ARG:NH2	49:K:202:HOH:O	2.09	0.86
1:A:1724:G:H8	49:A:7779:HOH:O	1.57	0.86
1:A:4938:A:OP1	8:H:183:ARG:NH1	2.08	0.86
18:J:75:GLN:HB2	49:J:363:HOH:O	1.75	0.86
1:A:4487:A:N1	49:A:5568:HOH:O	2.07	0.86
1:A:1790:U:H2'	49:A:7465:HOH:O	1.75	0.85
14:r:10:LEU:HD23	49:r:379:HOH:O	1.76	0.85
1:A:2300:A:H61	6:F:178:ASN:HD22	1.22	0.85
1:A:3926:C:C6	49:A:8108:HOH:O	2.29	0.85
7:G:62:CYS:HB3	7:G:105:LEU:HD22	1.59	0.85
1:A:4474:A:P	11:o:173:ARG:HH22	2.00	0.85
1:A:4696:C:H5	49:A:7454:HOH:O	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:308:G:H1'	34:c:31:GLY:O	1.76	0.85
1:A:1242:G:H1'	27:V:120:ARG:HG2	1.58	0.85
1:A:1921:C:C2	15:s:17:PHE:CD1	2.64	0.85
6:F:290:SER:HB2	49:F:665:HOH:O	1.75	0.85
9:m:43:ARG:HD3	49:m:382:HOH:O	1.75	0.85
30:Y:80:HIS:HD2	49:Y:302:HOH:O	1.58	0.85
1:A:4571:A2M:H2'	1:A:4572:U:C6	2.11	0.85
1:A:1365:C:OP2	1:A:1365:C:H4'	1.77	0.85
49:A:6898:HOH:O	27:V:7:HIS:HE1	1.58	0.85
1:A:4474:A:OP2	11:o:173:ARG:NH2	2.08	0.85
11:o:8:GLN:HG2	11:o:74:CYS:SG	2.17	0.84
1:A:4988:U:H6	1:A:4992:G:H4'	1.42	0.84
1:A:3930:U:O2'	49:A:5530:HOH:O	1.94	0.84
1:A:2698:G:C8	49:A:6738:HOH:O	2.30	0.84
1:A:3926:C:H6	49:A:8108:HOH:O	1.61	0.84
1:A:4228:OMG:H1'	49:A:5599:HOH:O	1.78	0.84
11:o:128:MET:HE1	11:o:146:LEU:HD23	1.60	0.84
1:A:3710:G:O6	1:A:3741:C:N4	2.10	0.84
1:A:4114:C:O5'	1:A:4114:C:C6	2.30	0.84
1:A:1428:U:H5''	19:K:42:THR:HG23	1.60	0.84
1:A:4553:A:N1	49:A:5590:HOH:O	2.11	0.84
49:A:6250:HOH:O	14:r:32:LYS:HE3	1.78	0.84
1:A:1398:A:H4'	1:A:1399:G:OP1	1.78	0.83
1:A:2507:A:N1	49:A:5578:HOH:O	2.09	0.83
23:R:48:ARG:HG2	23:R:48:ARG:HH11	1.43	0.83
1:A:1068:G:N7	8:H:44:CYS:SG	2.51	0.83
5:E:315:ASN:ND2	5:E:326:VAL:H	1.76	0.83
1:A:2711:G:C6	20:L:43:LYS:HG2	2.12	0.83
1:A:189:G:H2'	1:A:190:G:O4'	1.77	0.83
1:A:950:G:N7	49:A:5581:HOH:O	2.10	0.83
1:A:1864:G:N7	49:A:5582:HOH:O	2.10	0.83
1:A:2469:C:H5	1:A:2471:G:H1	0.87	0.83
1:A:4227:OMU:CM2	1:A:4228:OMG:H5'	2.08	0.83
1:A:4258:C:H5''	13:q:54:ARG:NH1	1.90	0.83
1:A:757:G:H2'	1:A:757:G:N3	1.92	0.83
1:A:4700:A:H8	49:A:5746:HOH:O	1.59	0.83
19:K:178:ARG:NE	49:K:201:HOH:O	1.85	0.83
1:A:726:G:N7	49:A:5580:HOH:O	2.10	0.83
1:A:2773:G:P	36:e:40:ARG:HB2	2.18	0.83
1:A:2674:A:H61	39:j:42:CYS:HA	1.43	0.83
1:A:135:G:O2'	33:b:96:ASN:HB2	1.78	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3788:C:N3	49:A:5596:HOH:O	2.12	0.82
1:A:4402:C:H3'	49:A:5603:HOH:O	1.79	0.82
1:A:146:G:N7	49:A:5588:HOH:O	2.11	0.82
1:A:3879:G:OP1	49:A:5534:HOH:O	1.97	0.82
1:A:194:C:O2	24:S:121:ARG:NH2	2.11	0.82
1:A:4496:A:N6	49:A:5506:HOH:O	1.73	0.82
49:A:8167:HOH:O	38:i:88:CYS:HB2	1.79	0.82
2:B:120:U:O4'	7:G:261:VAL:HG22	1.79	0.82
1:A:4940:C:OP1	8:H:156:ARG:NH1	2.12	0.82
1:A:1214:C:H6	27:V:91:ARG:NH2	1.76	0.82
1:A:4254:G:H3'	1:A:4256:A:OP2	1.80	0.82
1:A:4633:G:N2	49:A:5587:HOH:O	2.11	0.82
1:A:274:C:H6	1:A:274:C:H5'	1.44	0.82
1:A:935:A:H61	15:s:70:GLN:HE22	1.26	0.82
1:A:2698:G:H3'	49:A:6738:HOH:O	1.78	0.82
1:A:4519:C:N3	49:A:5598:HOH:O	2.12	0.82
49:D:509:HOH:O	39:j:41:PHE:HZ	1.51	0.82
7:G:175:HIS:NE2	48:G:301:BR:BR	2.67	0.81
11:o:5:LEU:HD12	11:o:6:SER:N	1.94	0.81
19:K:168:ARG:NH2	49:K:203:HOH:O	2.12	0.81
1:A:2725:A:H1'	20:L:93:VAL:HG21	1.62	0.81
1:A:4179:G:N7	49:A:5601:HOH:O	2.13	0.81
14:r:128:PRO:HA	14:r:138:ASP:OD2	1.79	0.81
2:B:91:C:H5'	49:B:322:HOH:O	1.79	0.81
1:A:1730:U:OP2	49:A:5535:HOH:O	1.97	0.81
1:A:1783:C:O5'	49:A:5537:HOH:O	1.98	0.81
1:A:247:G:C4'	24:S:128:VAL:CG1	2.11	0.81
1:A:1482:G:N7	14:r:188:ASN:ND2	2.27	0.81
1:A:3634:G:N7	49:A:5608:HOH:O	2.14	0.81
1:A:1241:C:C6	27:V:118:LEU:HB3	2.16	0.81
39:j:56:HIS:CE1	39:j:61:MET:HE2	2.16	0.81
39:j:60:CYS:SG	49:j:201:HOH:O	2.36	0.81
1:A:4252:C:H42	13:q:25:CYS:CB	1.94	0.81
1:A:4522:G:C6	49:A:5892:HOH:O	2.33	0.80
37:f:25:GLN:O	37:f:28:ARG:HG2	1.80	0.80
1:A:684:G:C5'	8:H:100:LYS:HE2	2.10	0.80
5:E:200:ARG:HG2	5:E:200:ARG:HH11	1.46	0.80
6:F:63:SER:C	49:F:503:HOH:O	2.24	0.80
9:m:66:ARG:CG	49:m:375:HOH:O	2.15	0.80
1:A:277:G:N7	34:c:29:ARG:NH1	2.29	0.80
1:A:4373:G:C5	38:i:61:LYS:HE3	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:112:G:H5'	49:C:448:HOH:O	1.81	0.80
6:F:64:ALA:N	49:F:503:HOH:O	2.15	0.80
20:L:7:GLN:HE21	20:L:7:GLN:H	1.29	0.80
1:A:508:G:O2'	1:A:510:U:OP2	1.98	0.80
1:A:234:G:N2	49:A:5517:HOH:O	2.12	0.80
1:A:442:G:N7	49:A:5600:HOH:O	2.13	0.80
1:A:450:G:H5'	1:A:450:G:H8	1.45	0.80
1:A:4320:G:N7	49:A:5615:HOH:O	2.15	0.80
1:A:1178:G:H5''	7:G:283:LYS:HG2	1.64	0.80
1:A:4175:G:H1'	49:A:5811:HOH:O	1.81	0.80
3:C:104:A:OP1	49:C:302:HOH:O	2.00	0.80
1:A:2360:A:OP1	49:A:5531:HOH:O	1.94	0.79
1:A:4486:C:O3'	49:A:5539:HOH:O	2.00	0.79
5:E:315:ASN:HD21	5:E:326:VAL:N	1.79	0.79
1:A:2063:G:N7	49:A:5613:HOH:O	2.15	0.79
1:A:3816:A:OP1	1:A:3818:OMU:H5	1.82	0.79
1:A:2652:G:H1	39:j:61:MET:CE	1.95	0.79
1:A:4298:A:OP1	19:K:160:HIS:HE1	1.66	0.79
34:c:74:LYS:NZ	34:c:80:HIS:CD2	2.47	0.79
1:A:56:A:N7	49:A:5619:HOH:O	2.15	0.79
1:A:1242:G:O4'	27:V:120:ARG:CB	2.29	0.79
1:A:1858:A:N7	49:A:5617:HOH:O	2.15	0.79
1:A:2693:G:OP1	36:e:35:LYS:NZ	2.15	0.79
11:o:5:LEU:HD22	11:o:60:TRP:CH2	2.18	0.79
41:P:43:SER:O	41:P:45:THR:HG22	1.82	0.79
1:A:158:A:C4	49:A:5644:HOH:O	2.35	0.79
1:A:273:U:C3'	1:A:274:C:H5''	2.12	0.79
5:E:378:ARG:CD	43:u:11:TYR:CE1	2.65	0.79
1:A:4114:C:O5'	1:A:4114:C:H6	1.63	0.79
1:A:4681:A:N1	49:A:5563:HOH:O	2.16	0.79
1:A:169:G:N2	1:A:266:C:O2	2.15	0.79
20:L:7:GLN:H	20:L:7:GLN:NE2	1.79	0.79
22:N:45:MET:HG3	22:N:45:MET:O	1.83	0.79
25:T:29:ILE:HD12	25:T:98:LYS:HZ3	1.48	0.79
15:s:126:GLU:HG3	17:I:185:VAL:HG13	1.65	0.78
35:d:14:LYS:HE3	37:f:51:LEU:O	1.83	0.78
1:A:134:G:N2	33:b:70:ARG:NH1	2.31	0.78
1:A:428:G:N7	49:A:5633:HOH:O	2.16	0.78
14:r:186:ARG:NH1	49:r:301:HOH:O	2.10	0.78
1:A:1948:G:N7	49:A:5618:HOH:O	2.15	0.78
6:F:182:LYS:NZ	49:F:504:HOH:O	2.16	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4228:OMG:N7	49:A:5611:HOH:O	2.15	0.78
2:B:117:G:H5'	7:G:256:LYS:HD3	1.66	0.78
1:A:2055:G:C6	21:M:156:HIS:HD2	2.00	0.78
1:A:2850:A:N7	49:A:5616:HOH:O	2.15	0.78
3:C:122:G:H1	3:C:128:C:H42	1.30	0.78
1:A:246:G:O3'	24:S:132:LYS:CD	2.30	0.78
1:A:277:G:C8	34:c:29:ARG:NH1	2.52	0.78
1:A:4988:U:H5	1:A:4992:G:H5''	1.40	0.78
49:A:6862:HOH:O	34:c:30:ARG:HB3	1.83	0.78
34:c:79:THR:HG22	34:c:82:ARG:H	1.48	0.78
1:A:1921:C:C5	15:s:17:PHE:HB3	2.19	0.78
1:A:2600:A:N1	49:A:5640:HOH:O	2.17	0.78
1:A:3665:G:N7	49:A:5641:HOH:O	2.17	0.78
1:A:2674:A:N6	39:j:42:CYS:HA	1.97	0.78
30:Y:101:HIS:HB2	49:Y:391:HOH:O	1.83	0.78
1:A:1952:G:N7	49:A:5622:HOH:O	2.16	0.78
1:A:3711:A:H2'	1:A:3712:A:O4'	1.84	0.78
3:C:114:G:H5''	49:C:533:HOH:O	1.84	0.78
1:A:411:G:H4'	1:A:412:G:H5''	1.65	0.77
26:U:93:ASN:O	49:U:201:HOH:O	2.02	0.77
1:A:1241:C:H5'	8:H:72:LYS:NZ	1.97	0.77
1:A:2309:G:OP2	49:A:5543:HOH:O	2.02	0.77
38:i:78:ARG:HH21	38:i:78:ARG:HG3	1.47	0.77
1:A:4160:C:H5''	1:A:4160:C:H6	1.49	0.77
1:A:4162:C:H5	10:n:73:ARG:HH12	1.33	0.77
1:A:159:C:OP2	34:c:25:ARG:CB	2.28	0.77
1:A:4643:G:N7	49:A:5639:HOH:O	2.17	0.77
3:C:62:A:O4'	49:C:303:HOH:O	2.00	0.77
1:A:4347:G:N1	1:A:4348:A:N6	2.32	0.77
1:A:4723:A:N7	49:A:5630:HOH:O	2.16	0.77
2:B:63:C:H3'	12:p:204:GLY:O	1.85	0.77
1:A:725:G:N7	49:A:5620:HOH:O	2.15	0.77
1:A:1747:U:O2	49:A:5544:HOH:O	2.02	0.77
1:A:2608:G:N7	49:A:5650:HOH:O	2.18	0.77
18:J:31:GLU:OE1	49:J:301:HOH:O	2.02	0.77
1:A:5060:A:H5''	1:A:5060:A:C8	2.20	0.77
16:t:182:HIS:H	16:t:182:HIS:CD2	2.02	0.77
22:N:48:VAL:HG21	22:N:94:GLU:HG2	1.66	0.77
1:A:4258:C:P	13:q:54:ARG:NH1	2.57	0.77
1:A:932:A:H1'	49:A:8509:HOH:O	1.83	0.77
1:A:2755:A:OP2	25:T:51:ARG:NH1	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:r:21:ARG:HD3	49:r:312:HOH:O	1.84	0.76
28:W:17:ARG:HD3	28:W:104:ILE:HA	1.67	0.76
1:A:2652:G:N1	39:j:61:MET:HE3	1.99	0.76
49:A:5559:HOH:O	3:C:137:A:N1	2.16	0.76
19:K:122:THR:H	19:K:125:GLN:HE21	1.28	0.76
1:A:329:A:H3'	49:A:7967:HOH:O	1.86	0.76
1:A:4136:G:H1	1:A:4148:C:N4	1.83	0.76
3:C:52:A:N7	49:C:308:HOH:O	2.16	0.76
26:U:132:ARG:HD2	49:U:222:HOH:O	1.84	0.76
1:A:2476:G:N1	49:A:5567:HOH:O	2.07	0.76
1:A:4367:G:OP2	49:A:5548:HOH:O	2.04	0.76
1:A:1214:C:N4	27:V:90:SER:O	2.17	0.76
15:s:65:PRO:HD2	15:s:68:ALA:HB2	1.68	0.76
1:A:1860:PSU:C6	49:A:6917:HOH:O	2.39	0.76
39:j:60:CYS:CA	49:j:201:HOH:O	2.18	0.76
1:A:450:G:H5'	1:A:450:G:C8	2.21	0.76
1:A:4344:U:H5'	38:i:31:ASP:OD1	1.85	0.76
1:A:1369:C:C5	49:A:5610:HOH:O	2.38	0.75
1:A:4228:OMG:C4'	49:A:5599:HOH:O	2.34	0.75
1:A:1869:G:N3	49:A:5662:HOH:O	2.19	0.75
1:A:2615:C:C6	49:A:6041:HOH:O	2.40	0.75
5:E:43:LEU:CD1	5:E:196:TRP:CH2	2.68	0.75
38:i:45:GLN:HE22	38:i:52:THR:H	1.34	0.75
38:i:63:THR:HG22	38:i:89:LYS:HG2	1.68	0.75
1:A:246:G:C2'	24:S:132:LYS:HD3	2.15	0.75
1:A:247:G:H4'	24:S:128:VAL:CB	2.13	0.75
1:A:250:C:H5''	1:A:250:C:H6	1.49	0.75
1:A:4947:U:H6	1:A:4947:U:H5''	1.50	0.75
1:A:4988:U:C5	1:A:4992:G:C5'	2.68	0.75
8:H:73:TYR:O	27:V:117:ARG:HA	1.86	0.75
23:R:73:HIS:CE1	23:R:115:LYS:HG3	2.21	0.75
1:A:449:C:C5	30:Y:126:ASN:CG	2.64	0.75
5:E:291:TYR:HB3	5:E:298:LEU:HD11	1.68	0.75
19:K:162:HIS:NE2	49:K:204:HOH:O	2.19	0.75
1:A:4228:OMG:H4'	49:A:5599:HOH:O	1.87	0.75
2:B:72:U:O2	2:B:103:A:N6	2.19	0.75
11:o:71:ARG:HB2	49:o:305:HOH:O	1.85	0.75
14:r:10:LEU:CD2	49:r:379:HOH:O	2.34	0.75
1:A:4437:U:H3'	49:A:6620:HOH:O	1.85	0.75
3:C:128:C:H2'	3:C:128:C:O2	1.84	0.75
1:A:151:G:OP2	16:t:4:TYR:OH	2.05	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2034:G:OP2	49:A:5556:HOH:O	2.05	0.74
39:j:56:HIS:HE1	39:j:61:MET:HE2	1.49	0.74
1:A:2441:C:P	49:A:5572:HOH:O	2.44	0.74
6:F:317:ASN:HD22	6:F:317:ASN:C	1.95	0.74
1:A:2696:A:H62	36:e:35:LYS:HE3	1.50	0.74
1:A:2596:G:N7	49:A:5664:HOH:O	2.20	0.74
1:A:2803:U:OP1	49:A:5549:HOH:O	2.04	0.74
1:A:4430:G:OP2	49:A:5551:HOH:O	2.04	0.74
1:A:4598:C:OP2	1:A:4599:A:O2'	2.06	0.74
32:a:51:GLY:O	49:a:301:HOH:O	2.05	0.74
18:J:64:ASN:ND2	18:J:80:GLN:HE22	1.84	0.74
1:A:2773:G:OP1	36:e:40:ARG:N	2.20	0.74
1:A:3626:G:OP2	49:A:5552:HOH:O	2.05	0.74
1:A:4533:A:N7	49:A:5590:HOH:O	2.20	0.74
1:A:4714:C:OP1	49:A:5560:HOH:O	2.05	0.74
21:M:16:CYS:SG	21:M:54:MET:HE2	2.28	0.74
1:A:4928:C:O2'	15:s:121:ARG:HD3	1.86	0.74
3:C:134:G:OP1	23:R:67:ARG:HD3	1.87	0.74
21:M:137:CYS:SG	21:M:146:HIS:HE1	2.10	0.74
30:Y:43:ASN:HD22	30:Y:46:ARG:H	1.35	0.74
41:P:46:ILE:O	41:P:46:ILE:HG23	1.88	0.74
1:A:1260:G:H8	1:A:1260:G:C5'	2.00	0.74
1:A:1892:A:OP2	49:A:5557:HOH:O	2.05	0.74
1:A:3672:G:O2'	1:A:3674:G:H5'	1.88	0.74
1:A:4253:A:N1	13:q:25:CYS:SG	2.60	0.74
1:A:5021:C:O2	1:A:5021:C:H2'	1.86	0.74
4:D:245:ARG:HH21	4:D:245:ARG:HG2	1.51	0.74
23:R:89:LYS:CE	49:R:203:HOH:O	2.35	0.74
1:A:4366:A:N7	49:A:5680:HOH:O	2.21	0.74
1:A:4647:G:C8	49:A:7990:HOH:O	2.40	0.74
49:A:5533:HOH:O	6:F:189:MET:HG3	1.87	0.74
2:B:16:A:OP2	49:B:302:HOH:O	2.06	0.74
13:q:56:THR:HG22	13:q:64:ARG:H	1.53	0.74
1:A:2055:G:C6	21:M:156:HIS:CD2	2.74	0.73
1:A:4253:A:H4'	1:A:4254:G:O5'	1.87	0.73
1:A:4610:A:N1	49:A:5667:HOH:O	2.20	0.73
1:A:72:C:N3	49:A:5665:HOH:O	2.20	0.73
23:R:78:LYS:NZ	23:R:133:GLU:OE1	2.21	0.73
1:A:672:C:H6	1:A:672:C:H5''	1.53	0.73
30:Y:90:MET:HE2	49:k:240:HOH:O	1.88	0.73
1:A:358:C:N3	49:A:5685:HOH:O	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4228:OMG:C1'	49:A:5599:HOH:O	2.34	0.73
10:n:73:ARG:HG2	10:n:73:ARG:NH1	2.02	0.73
38:i:90:HIS:HB3	49:i:320:HOH:O	1.88	0.73
1:A:4226:G:OP1	49:A:5505:HOH:O	2.07	0.73
3:C:52:A:N6	37:f:27:ILE:HD12	2.04	0.73
18:J:64:ASN:HD22	18:J:80:GLN:NE2	1.85	0.73
20:L:39:GLN:HG2	49:L:335:HOH:O	1.89	0.73
34:c:74:LYS:HZ2	34:c:80:HIS:CD2	2.05	0.73
1:A:134:G:H22	33:b:70:ARG:HH11	1.33	0.73
1:A:4347:G:N7	49:A:5690:HOH:O	2.22	0.73
1:A:4678:G:N7	49:A:5674:HOH:O	2.21	0.73
1:A:2789:A:H1'	37:f:45:ARG:HH12	1.54	0.73
8:H:119:GLU:OE2	30:Y:93:LYS:HB2	1.89	0.73
20:L:52:ARG:CD	49:L:320:HOH:O	2.17	0.73
1:A:234:G:C2	49:A:5517:HOH:O	2.41	0.73
1:A:935:A:N6	15:s:70:GLN:HE22	1.86	0.73
5:E:246:ARG:CG	49:E:502:HOH:O	2.24	0.73
1:A:74:G:OP1	49:A:5561:HOH:O	2.06	0.73
1:A:3905:A:N3	49:A:5676:HOH:O	2.21	0.73
6:F:110:ARG:NH1	49:F:505:HOH:O	2.17	0.73
1:A:935:A:H61	15:s:70:GLN:NE2	1.85	0.73
1:A:1515:A:N7	49:A:5688:HOH:O	2.22	0.73
38:i:82:MET:HE2	38:i:82:MET:HA	1.71	0.73
39:j:56:HIS:HE1	39:j:61:MET:CE	2.02	0.73
1:A:437:G:N7	49:A:5689:HOH:O	2.22	0.72
1:A:4988:U:C4	5:E:176:LYS:HE2	2.24	0.72
2:B:120:U:H4'	7:G:262:LYS:H	1.53	0.72
24:S:51:LYS:O	24:S:52:ASP:HB2	1.88	0.72
1:A:1783:C:N3	49:A:5544:HOH:O	2.22	0.72
1:A:4297:G:N7	49:A:5668:HOH:O	2.20	0.72
1:A:4727:A:OP2	49:A:5562:HOH:O	2.06	0.72
1:A:4538:G:OP1	49:A:5569:HOH:O	2.07	0.72
1:A:328:A:OP2	49:A:5566:HOH:O	2.07	0.72
1:A:2440:U:O3'	49:A:5572:HOH:O	2.08	0.72
1:A:2474:G:H22	1:A:2503:G:H5''	1.54	0.72
1:A:3946:G:H2'	1:A:3946:G:N3	2.05	0.72
41:P:142:VAL:HG21	41:P:162:HIS:CE1	2.24	0.72
1:A:4988:U:C6	1:A:4992:G:H4'	2.24	0.72
6:F:204:ARG:NE	49:F:506:HOH:O	2.22	0.72
18:J:109:VAL:HA	18:J:112:LEU:HD22	1.69	0.72
1:A:3829:G:N7	49:A:5711:HOH:O	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2035:C:OP2	49:A:5570:HOH:O	2.07	0.72
8:H:180:VAL:HG22	49:H:306:HOH:O	1.90	0.72
17:I:125:LYS:HD3	49:I:356:HOH:O	1.89	0.72
1:A:4337:C:C4	38:i:61:LYS:HE2	2.23	0.72
21:M:31:ARG:HG2	49:M:245:HOH:O	1.90	0.72
1:A:1077:C:OP1	1:A:1215:C:H2'	1.89	0.72
3:C:122:G:H1	3:C:128:C:N4	1.87	0.72
20:L:19:LYS:O	49:L:301:HOH:O	2.08	0.72
1:A:344:A:N7	49:A:5720:HOH:O	2.23	0.71
1:A:2601:A:N1	49:A:5715:HOH:O	2.23	0.71
4:D:245:ARG:HH21	4:D:245:ARG:HG3	1.53	0.71
6:F:80:ARG:NH2	49:F:501:HOH:O	1.87	0.71
24:S:39:ARG:HD3	49:S:206:HOH:O	1.89	0.71
1:A:2033:A:O2'	49:A:5556:HOH:O	2.08	0.71
1:A:3627:OMG:N7	49:A:5723:HOH:O	2.24	0.71
1:A:4443:C:OP1	49:A:5564:HOH:O	2.06	0.71
1:A:4875:G:N1	49:A:5713:HOH:O	2.23	0.71
19:K:66:MET:HE3	19:K:98:LEU:HD13	1.73	0.71
1:A:452:A:H4'	1:A:453:G:H5'	1.71	0.71
1:A:4504:C:N4	49:A:5506:HOH:O	2.23	0.71
1:A:4647:G:H8	49:A:7990:HOH:O	1.72	0.71
18:J:150:LEU:HD12	18:J:150:LEU:N	2.05	0.71
40:k:13:CYS:O	40:k:13:CYS:SG	2.49	0.71
1:A:3784:A:N7	49:A:5687:HOH:O	2.22	0.71
25:T:29:ILE:HD12	25:T:98:LYS:NZ	2.04	0.71
6:F:182:LYS:CE	49:F:504:HOH:O	2.37	0.71
8:H:124:LYS:HB2	49:H:319:HOH:O	1.90	0.71
1:A:2032:U:O2'	1:A:2033:A:H5'	1.90	0.71
1:A:4491:G:N7	49:A:5702:HOH:O	2.22	0.71
1:A:4521:PSU:H4'	49:E:600:HOH:O	1.91	0.71
5:E:166:THR:HB	49:E:506:HOH:O	1.90	0.71
6:F:204:ARG:HD3	49:F:506:HOH:O	1.91	0.71
1:A:2601:A:N7	49:A:5574:HOH:O	2.24	0.71
49:A:5510:HOH:O	27:V:10:HIS:CE1	2.16	0.71
3:C:51:U:H1'	49:C:308:HOH:O	1.90	0.71
17:I:22:ILE:HD13	17:I:120:VAL:HG11	1.73	0.71
1:A:2469:C:H5	1:A:2471:G:C2	2.09	0.70
1:A:1241:C:H6	27:V:120:ARG:HD3	1.54	0.70
1:A:3772:U:H5	1:A:3776:G:O6	1.74	0.70
1:A:4170:A:OP2	49:A:5573:HOH:O	2.08	0.70
1:A:250:C:H5''	1:A:250:C:C6	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3606:U:H5''	20:L:76:MET:HE1	1.72	0.70
1:A:4724:A:N7	49:A:5730:HOH:O	2.24	0.70
1:A:3717:A:H3'	49:A:8008:HOH:O	1.90	0.70
41:P:121:LEU:HD13	41:P:125:THR:OG1	1.92	0.70
16:t:138:PHE:HA	16:t:143:ARG:HD2	1.73	0.70
19:K:154:LYS:HA	19:K:154:LYS:NZ	2.06	0.70
38:i:12:CYS:SG	49:i:327:HOH:O	2.49	0.70
1:A:1783:C:C6	49:A:5537:HOH:O	1.77	0.70
33:b:107:GLN:NE2	49:b:201:HOH:O	2.24	0.70
1:A:2543:A:H2	1:A:2773:G:H22	1.38	0.70
1:A:2744:A:OP2	49:A:5574:HOH:O	2.09	0.70
1:A:3725:G:N7	34:c:67:LYS:NZ	2.39	0.70
8:H:112:MET:HE2	8:H:112:MET:HA	1.74	0.70
1:A:3875:G:N7	49:A:5763:HOH:O	2.25	0.70
1:A:4271:A:C5'	49:A:5675:HOH:O	1.74	0.70
2:B:60:G:H5'	7:G:268:ARG:O	1.92	0.70
14:r:12:PRO:O	14:r:12:PRO:HG2	1.91	0.70
1:A:2773:G:H5''	36:e:39:SER:CB	2.22	0.70
1:A:3757:G:H2'	1:A:3757:G:N3	2.06	0.70
1:A:1833:G:N2	1:A:1835:G:O4'	2.25	0.69
1:A:2530:U:OP1	49:A:5577:HOH:O	2.09	0.69
1:A:4452:U:C5	1:A:4531:U:O4	2.45	0.69
13:q:50:PHE:CD1	13:q:70:VAL:HG12	2.27	0.69
1:A:648:G:P	1:A:648:G:C8	2.85	0.69
1:A:2397:G:H5''	49:A:6771:HOH:O	1.91	0.69
1:A:4581:G:N7	49:A:5767:HOH:O	2.26	0.69
35:d:83:THR:HB	35:d:84:PRO:HD2	1.73	0.69
1:A:1865:G:N7	49:A:5762:HOH:O	2.25	0.69
1:A:2299:G:O3'	49:A:5575:HOH:O	2.09	0.69
1:A:3916:G:N7	49:A:5729:HOH:O	2.24	0.69
32:a:32:TYR:OH	49:a:302:HOH:O	2.10	0.69
1:A:989:U:C2	1:A:1064:G:O6	2.46	0.69
1:A:4284:C:OP1	49:A:5584:HOH:O	2.10	0.69
1:A:4603:C:H3'	49:A:6627:HOH:O	1.92	0.69
14:r:34:ARG:HD2	49:r:336:HOH:O	1.91	0.69
1:A:1930:U:OP2	17:l:49:ARG:HD2	1.91	0.69
7:G:287:PHE:CE1	12:p:210:ARG:HB2	2.26	0.69
16:t:182:HIS:HB3	49:t:543:HOH:O	1.91	0.69
30:Y:76:LYS:NZ	30:Y:98:GLU:OE1	2.23	0.69
32:a:46:CYS:SG	32:a:48:VAL:HB	2.32	0.69
1:A:2064:G:N7	49:A:5768:HOH:O	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2427:G:OP1	20:L:5:ARG:NH2	2.26	0.69
1:A:3615:G:O4'	43:u:44:ARG:HD3	1.93	0.69
1:A:4217:G:OP2	49:A:5579:HOH:O	2.09	0.69
4:D:143:THR:O	4:D:144:LYS:HB2	1.90	0.69
1:A:1860:PSU:C3'	49:A:6917:HOH:O	2.22	0.69
1:A:2596:G:N3	49:A:5761:HOH:O	2.25	0.69
1:A:2773:G:H5''	36:e:39:SER:OG	1.92	0.69
1:A:4175:G:N7	49:A:5736:HOH:O	2.24	0.69
1:A:4273:A:N7	49:A:5740:HOH:O	2.24	0.69
16:t:36:LEU:HD23	16:t:36:LEU:C	2.18	0.69
1:A:334:A:P	49:A:5638:HOH:O	2.49	0.69
1:A:441:G:N7	49:A:5750:HOH:O	2.25	0.69
1:A:976:G:N7	49:A:5753:HOH:O	2.25	0.69
1:A:1260:G:H5''	1:A:1260:G:C8	2.22	0.69
1:A:1539:G:N7	49:A:5745:HOH:O	2.24	0.69
1:A:4114:C:H2'	1:A:4115:G:O5'	1.91	0.69
1:A:4204:C:C5	49:A:5822:HOH:O	2.45	0.69
49:A:5644:HOH:O	34:c:26:HIS:ND1	2.24	0.69
7:G:219:TYR:CE1	7:G:227:ILE:HD11	2.27	0.69
1:A:133:C:H42	33:b:79:LYS:CE	2.05	0.69
1:A:1676:C:O2'	49:A:5576:HOH:O	2.09	0.69
18:J:6:LEU:HD12	18:J:116:HIS:CD2	2.28	0.69
41:P:19:LEU:HD12	41:P:24:CYS:SG	2.33	0.69
1:A:1274:A:HO2'	1:A:1275:G:H8	1.41	0.69
1:A:1731:C:OP1	22:N:100:LYS:HE2	1.93	0.69
1:A:4539:U:O4	4:D:216:HIS:HE1	1.75	0.69
1:A:5055:G:N7	49:A:5724:HOH:O	2.24	0.69
8:H:140:LEU:HA	8:H:191:GLN:HE22	1.57	0.69
22:N:41:ASP:OD1	22:N:99:SER:HB3	1.92	0.69
1:A:509:A:N6	26:U:106:SER:OG	2.26	0.68
3:C:96:C:N3	49:C:312:HOH:O	2.26	0.68
24:S:4:ASN:C	24:S:4:ASN:HD22	2.00	0.68
1:A:4233:A:OP2	38:i:97:LYS:HD3	1.92	0.68
5:E:246:ARG:HD3	49:E:502:HOH:O	1.92	0.68
16:t:40:PRO:HA	49:t:445:HOH:O	1.94	0.68
38:i:53:LYS:HD3	49:i:309:HOH:O	1.92	0.68
1:A:382:G:OP2	49:A:5589:HOH:O	2.11	0.68
1:A:1754:U:H3	1:A:1776:A:H61	0.85	0.68
1:A:2652:G:O6	39:j:61:MET:CE	2.41	0.68
1:A:114:G:H22	1:A:158:A:N6	1.89	0.68
1:A:2476:G:N3	1:A:2476:G:H2'	2.08	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:A:5532:HOH:O	34:c:29:ARG:HD3	1.93	0.68
2:B:118:C:OP1	7:G:256:LYS:HE2	1.93	0.68
1:A:4136:G:N3	1:A:4136:G:C2'	2.55	0.68
31:Z:41:PHE:CE1	31:Z:110:ILE:HD11	2.17	0.68
1:A:232:G:O6	24:S:61:HIS:HB2	1.94	0.68
1:A:3836:A:N3	49:A:5779:HOH:O	2.26	0.68
7:G:37:VAL:HB	49:G:403:HOH:O	1.93	0.68
5:E:42:HIS:HE1	49:E:629:HOH:O	1.75	0.68
5:E:376:HIS:HB3	49:u:206:HOH:O	1.92	0.68
14:r:11:LYS:HB2	49:r:308:HOH:O	1.94	0.68
1:A:1273:G:H1'	8:H:74:SER:O	1.94	0.68
1:A:2827:G:N3	1:A:2827:G:H5''	2.09	0.68
1:A:4585:U:OP2	49:A:5593:HOH:O	2.11	0.68
3:C:109:C:N3	49:C:315:HOH:O	2.27	0.68
5:E:378:ARG:CD	43:u:11:TYR:CD1	2.77	0.68
34:c:35:LYS:HA	49:c:210:HOH:O	1.92	0.68
1:A:1339:U:H2'	1:A:1340:OMC:C6	2.29	0.68
1:A:3710:G:C2'	1:A:3711:A:H5'	2.23	0.68
1:A:4160:C:H5''	1:A:4160:C:C6	2.29	0.68
38:i:63:THR:CG2	38:i:89:LYS:HG2	2.23	0.68
1:A:3710:G:H5''	1:A:3710:G:N3	2.08	0.68
5:E:246:ARG:CD	49:E:502:HOH:O	2.42	0.68
41:P:179:VAL:HG22	41:P:180:PRO:HD2	1.76	0.68
1:A:1343:A:N7	49:A:5759:HOH:O	2.25	0.67
1:A:4687:A:C2	49:A:5571:HOH:O	2.47	0.67
49:A:9957:HOH:O	30:Y:101:HIS:HB2	1.94	0.67
7:G:287:PHE:HB3	12:p:209:TRP:HZ3	1.58	0.67
26:U:60:HIS:ND1	49:U:204:HOH:O	2.27	0.67
11:o:18:ILE:HG12	11:o:27:VAL:HG22	1.76	0.67
1:A:247:G:C5'	24:S:128:VAL:CG1	2.72	0.67
1:A:2351:OMC:HM23	6:F:95:MET:HG3	1.74	0.67
1:A:2674:A:N1	49:A:5796:HOH:O	2.27	0.67
14:r:127:PHE:CD2	33:b:118:LYS:HE2	2.29	0.67
1:A:60:G:O6	49:A:5583:HOH:O	2.10	0.67
1:A:158:A:C1'	34:c:26:HIS:HD1	2.07	0.67
1:A:3718:A2M:H8	1:A:3718:A2M:O5'	1.94	0.67
44:A:5182:MG:MG	49:A:7191:HOH:O	1.37	0.67
18:J:124:LYS:HE2	49:J:356:HOH:O	1.95	0.67
38:i:51:GLN:HG2	38:i:55:ILE:HD11	1.75	0.67
41:P:162:HIS:CD2	41:P:162:HIS:N	2.57	0.67
1:A:685:C:H5'	8:H:101:ASN:ND2	2.09	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2049:G:N7	49:A:5787:HOH:O	2.27	0.67
1:A:3641:U:OP2	49:A:5592:HOH:O	2.11	0.67
1:A:4873:G:C8	17:I:179:LYS:HE3	2.29	0.67
1:A:114:G:N2	1:A:158:A:N6	2.35	0.67
1:A:733:A:H4'	21:M:70:LYS:O	1.95	0.67
1:A:3717:A:C8	49:A:8008:HOH:O	2.47	0.67
2:B:47:G:H21	7:G:222:GLN:NE2	1.93	0.67
1:A:684:G:H5''	8:H:100:LYS:CE	2.19	0.67
1:A:1274:A:O2'	1:A:1275:G:H8	1.77	0.67
1:A:3635:A:H5'	49:A:7684:HOH:O	1.94	0.67
1:A:4480:A:N1	49:A:5774:HOH:O	2.26	0.67
1:A:4495:G:N7	49:A:5785:HOH:O	2.27	0.67
1:A:4664:A:N1	49:A:5800:HOH:O	2.28	0.67
1:A:4935:C:H2'	1:A:4936:G:H8	1.60	0.67
15:s:32:ASP:OD2	49:s:301:HOH:O	2.12	0.67
1:A:1779:U:P	7:G:5:LYS:HG3	2.35	0.67
1:A:4228:OMG:O4'	49:A:5599:HOH:O	2.13	0.67
1:A:4967:A:OP2	49:A:5595:HOH:O	2.12	0.67
6:F:331:TYR:CE2	6:F:335:MET:HG3	2.30	0.67
7:G:27:LYS:HG2	13:q:147:ARG:HD2	1.76	0.67
8:H:190:HIS:CD2	8:H:192:LYS:H	2.06	0.67
1:A:2807:A:N3	49:A:5784:HOH:O	2.27	0.67
1:A:4515:G:N7	49:A:5781:HOH:O	2.27	0.67
6:F:100:ARG:NH1	49:F:502:HOH:O	2.09	0.67
13:q:21:CYS:SG	13:q:73:THR:HG22	2.34	0.67
22:N:45:MET:HA	49:N:330:HOH:O	1.93	0.67
39:j:73:THR:HB	49:j:212:HOH:O	1.94	0.67
1:A:1921:C:C4	15:s:17:PHE:HB3	2.29	0.67
1:A:3819:G:OP2	49:A:5594:HOH:O	2.11	0.67
7:G:129:GLU:HA	48:G:301:BR:BR	2.49	0.67
13:q:113:ILE:HG23	13:q:117:ILE:O	1.95	0.66
1:A:512:U:OP2	14:r:165:LYS:HD2	1.95	0.66
1:A:4297:G:H5''	1:A:4297:G:H8	1.61	0.66
1:A:4533:A:OP1	49:A:5597:HOH:O	2.12	0.66
1:A:4860:G:H3'	1:A:4861:G:H8	1.60	0.66
5:E:317:LEU:HD21	5:E:382:MET:HG2	1.77	0.66
15:s:95:ILE:HG13	49:s:313:HOH:O	1.95	0.66
41:P:28:ILE:HG12	41:P:52:SER:HB3	1.77	0.66
1:A:2652:G:C2	32:a:50:PRO:HD3	2.30	0.66
1:A:4162:C:H5	10:n:73:ARG:NH1	1.92	0.66
1:A:4976:U:OP1	49:A:5602:HOH:O	2.13	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:488:G:C2	1:A:489:C:H1'	2.29	0.66
1:A:1595:G:N3	49:A:5780:HOH:O	2.26	0.66
1:A:4373:G:H2'	38:i:60:ALA:HB1	1.77	0.66
1:A:161:G:C2	1:A:275:C:C2	2.83	0.66
1:A:2773:G:OP1	36:e:40:ARG:HB2	1.95	0.66
1:A:4403:PSU:OP2	49:A:5603:HOH:O	2.13	0.66
1:A:2469:C:C5	1:A:2471:G:N1	2.43	0.66
1:A:2787:A2M:H8	49:A:7690:HOH:O	1.94	0.66
1:A:3712:A:H2'	1:A:3713:U:C6	2.30	0.66
8:H:264:ILE:O	49:H:301:HOH:O	2.14	0.66
14:r:35:ARG:HD2	49:r:329:HOH:O	1.96	0.66
26:U:132:ARG:CD	49:U:222:HOH:O	2.42	0.66
1:A:1241:C:O2'	27:V:120:ARG:HB2	1.94	0.66
1:A:1776:A:P	1:A:1776:A:N7	2.69	0.66
6:F:41:HIS:HD2	49:F:584:HOH:O	1.78	0.66
14:r:16:LYS:HZ1	16:t:196:ASN:HD21	1.44	0.66
1:A:1697:G:N3	1:A:1697:G:O4'	2.28	0.66
1:A:2505:C:C4	49:A:8747:HOH:O	2.48	0.66
1:A:4201:G:O6	49:A:5586:HOH:O	2.11	0.66
1:A:4252:C:N4	13:q:25:CYS:CB	2.48	0.66
3:C:52:A:N3	37:f:23:ILE:HG22	2.11	0.66
1:A:942:G:N7	49:A:5817:HOH:O	2.29	0.66
13:q:50:PHE:HD1	13:q:70:VAL:HG12	1.59	0.66
15:s:17:PHE:HA	15:s:21:ALA:HB2	1.78	0.66
16:t:65:ARG:NH2	49:t:403:HOH:O	2.23	0.66
41:P:68:HIS:O	41:P:92:VAL:HA	1.95	0.66
1:A:3712:A:N1	49:A:5507:HOH:O	2.28	0.66
1:A:3768:U:O2'	1:A:3769:C:H5'	1.95	0.66
41:P:99:GLU:HB2	41:P:125:THR:HG21	1.78	0.66
1:A:275:C:C3'	49:A:7380:HOH:O	1.86	0.65
1:A:317:A:OP1	49:A:5609:HOH:O	2.15	0.65
1:A:686:A:H4'	8:H:97:GLY:C	2.21	0.65
1:A:1272:C:H5''	9:m:34:ARG:HG2	1.78	0.65
1:A:4697:U:H2'	1:A:4699:U:OP1	1.95	0.65
7:G:34:LYS:HD2	49:N:335:HOH:O	1.96	0.65
1:A:458:C:O2'	8:H:110:ARG:NH1	2.29	0.65
1:A:3599:A:C8	1:A:3599:A:O5'	2.49	0.65
1:A:2825:A:N7	49:A:5828:HOH:O	2.30	0.65
1:A:732:A:N7	49:A:5810:HOH:O	2.28	0.65
1:A:2587:A:OP1	32:a:68:SER:HB2	1.97	0.65
1:A:2632:PSU:H2'	1:A:2633:U:C6	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3878:C:OP1	49:A:5606:HOH:O	2.14	0.65
5:E:200:ARG:HH11	5:E:200:ARG:CG	2.09	0.65
1:A:1921:C:C5	15:s:17:PHE:CB	2.79	0.65
5:E:71:GLU:OE1	43:u:1:MET:HA	1.97	0.65
1:A:54:G:N7	49:A:5826:HOH:O	2.30	0.65
1:A:686:A:H4'	8:H:97:GLY:CA	2.26	0.65
1:A:1196:G:H4'	49:A:8721:HOH:O	1.95	0.65
1:A:1214:C:C6	27:V:91:ARG:CZ	2.79	0.65
1:A:2454:U:OP2	49:A:5553:HOH:O	2.13	0.65
3:C:78:G:H2'	3:C:79:G:O4'	1.97	0.65
1:A:1447:C:H2'	1:A:1448:G:C8	2.32	0.65
1:A:4335:C:N4	49:A:5512:HOH:O	1.85	0.65
1:A:4875:G:N3	49:A:5805:HOH:O	2.28	0.65
49:A:8393:HOH:O	21:M:70:LYS:HD3	1.97	0.65
10:n:29:ASN:HD22	10:n:30:PRO:HD2	1.61	0.65
3:C:139:G:O5'	49:C:307:HOH:O	2.14	0.65
6:F:182:LYS:HG2	6:F:204:ARG:HD3	1.77	0.65
11:o:129:ARG:HD2	11:o:156:ASN:HD22	1.61	0.65
1:A:2383:C:N3	1:A:2422:OMC:N3	2.44	0.65
1:A:2674:A:N1	39:j:42:CYS:HB2	2.12	0.65
1:A:4253:A:H8	1:A:4253:A:OP1	1.80	0.65
49:A:9392:HOH:O	26:U:39:HIS:HD2	1.79	0.65
2:B:13:A:N7	49:B:306:HOH:O	2.29	0.65
3:C:52:A:N6	37:f:27:ILE:CD1	2.60	0.65
1:A:2469:C:C5	1:A:2471:G:N2	2.64	0.65
1:A:4867:G:C8	49:A:5536:HOH:O	2.43	0.65
13:q:15:LEU:HD21	13:q:157:ILE:HG12	1.78	0.65
1:A:246:G:H4'	24:S:132:LYS:CD	2.26	0.64
1:A:3927:U:O4	49:A:5605:HOH:O	2.14	0.64
1:A:4338:G:N7	38:i:61:LYS:NZ	2.46	0.64
5:E:165:HIS:HB3	5:E:180:LEU:HD23	1.79	0.64
1:A:137:G:H2'	1:A:138:G:C8	2.32	0.64
1:A:1543:G:N7	49:A:5825:HOH:O	2.29	0.64
1:A:2832:A:N3	49:A:5838:HOH:O	2.30	0.64
25:T:41:ALA:HB2	25:T:77:TYR:HE1	1.61	0.64
30:Y:91:CYS:SG	49:k:256:HOH:O	2.55	0.64
1:A:1273:G:H2'	1:A:1274:A:O4'	1.98	0.64
1:A:4494:OMG:N7	49:A:5831:HOH:O	2.30	0.64
1:A:4910:G:N2	17:I:106:ASP:O	2.29	0.64
29:X:84:ILE:HD13	29:X:85:ARG:N	2.11	0.64
31:Z:73:LYS:CD	49:Z:309:HOH:O	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:161:G:N2	1:A:275:C:C2	2.65	0.64
1:A:1743:A:N7	49:A:5841:HOH:O	2.30	0.64
1:A:1813:U:H3'	49:A:5707:HOH:O	1.96	0.64
1:A:4372:U:OP1	38:i:59:LYS:HA	1.97	0.64
1:A:4426:C:OP2	49:A:5612:HOH:O	2.15	0.64
1:A:4929:C:H5''	15:s:117:LYS:HG3	1.80	0.64
9:m:62:ARG:CD	49:m:335:HOH:O	2.19	0.64
32:a:77:ALA:O	32:a:78:TYR:HB2	1.97	0.64
39:j:56:HIS:CE1	39:j:61:MET:CE	2.79	0.64
1:A:4251:A:H62	13:q:25:CYS:H	1.45	0.64
1:A:4273:A:H2'	1:A:4274:A:C8	2.33	0.64
1:A:4504:C:C4	49:A:5506:HOH:O	2.34	0.64
19:K:122:THR:H	19:K:125:GLN:NE2	1.96	0.64
41:P:66:ASN:C	41:P:66:ASN:HD22	2.05	0.64
1:A:687:U:OP1	8:H:97:GLY:N	2.30	0.64
1:A:4987:C:N3	49:A:5844:HOH:O	2.30	0.64
40:k:41:ASN:ND2	40:k:43:LEU:H	1.96	0.64
1:A:4640:C:H5	49:A:5922:HOH:O	1.81	0.64
1:A:4911:A:N1	17:I:105:PHE:HE1	1.95	0.64
4:D:129:ALA:HB3	4:D:132:ASN:HD22	1.62	0.64
4:D:135:THR:HG23	4:D:149:LYS:HB3	1.78	0.64
1:A:427:A:N7	49:A:5824:HOH:O	2.29	0.64
1:A:672:C:H5''	1:A:672:C:C6	2.33	0.64
1:A:951:G:N7	49:A:5834:HOH:O	2.30	0.64
7:G:209:ARG:O	7:G:212:MET:HG2	1.97	0.64
1:A:2773:G:H5''	36:e:39:SER:HB2	1.78	0.64
4:D:76:PHE:HD2	49:D:491:HOH:O	1.80	0.64
19:K:76:GLU:O	19:K:77:ASN:HB2	1.98	0.64
1:A:683:C:H2'	1:A:684:G:O4'	1.98	0.64
1:A:1369:C:H5	49:A:5610:HOH:O	1.76	0.64
1:A:1935:C:O3'	49:A:5607:HOH:O	2.14	0.64
1:A:160:G:H3'	49:A:7615:HOH:O	1.98	0.63
1:A:1077:C:OP1	1:A:1215:C:C2'	2.46	0.63
1:A:2300:A:P	49:A:5575:HOH:O	2.55	0.63
1:A:2519:U:O2'	1:A:2530:U:O2	2.16	0.63
1:A:4483:C:H2'	1:A:4484:A:C8	2.33	0.63
1:A:4487:A:OP2	49:A:5539:HOH:O	2.12	0.63
12:p:87:MET:HG2	12:p:138:ILE:HG12	1.80	0.63
15:s:116:LYS:HE3	17:I:201:LEU:HD23	1.80	0.63
24:S:126:ARG:HD3	49:S:214:HOH:O	1.98	0.63
1:A:246:G:C4'	24:S:132:LYS:HD3	2.27	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:273:U:H3'	1:A:274:C:H5''	1.79	0.63
1:A:1377:G:OP2	49:A:5501:HOH:O	2.13	0.63
1:A:2336:G:H5'	49:A:6715:HOH:O	1.97	0.63
3:C:51:U:O2'	49:C:308:HOH:O	2.15	0.63
3:C:122:G:N3	3:C:122:G:H2'	2.13	0.63
7:G:288:LEU:HG	12:p:209:TRP:HH2	1.63	0.63
1:A:2475:G:C2	23:R:50:LYS:HE3	2.33	0.63
1:A:3815:G:OP1	49:A:5569:HOH:O	2.15	0.63
42:Q:105:ILE:O	49:Q:301:HOH:O	2.15	0.63
1:A:2786:U:H2'	49:A:7638:HOH:O	1.97	0.63
1:A:4297:G:H5''	1:A:4297:G:C8	2.33	0.63
1:A:4988:U:C6	1:A:4992:G:C5'	2.81	0.63
7:G:81:HIS:C	7:G:81:HIS:CD2	2.76	0.63
1:A:1778:C:H5''	7:G:5:LYS:HE2	1.81	0.63
1:A:3934:G:N7	49:A:5846:HOH:O	2.30	0.63
1:A:4271:A:N7	49:A:5523:HOH:O	2.30	0.63
1:A:4373:G:C8	38:i:61:LYS:HE3	2.17	0.63
1:A:507:G:H5''	1:A:507:G:H8	1.62	0.63
1:A:4385:A:H5''	49:A:7283:HOH:O	1.98	0.63
1:A:4940:C:OP2	8:H:219:LYS:NZ	2.30	0.63
34:c:30:ARG:HG3	34:c:31:GLY:N	2.13	0.63
1:A:276:C:H2'	1:A:277:G:C8	2.33	0.63
4:D:109:GLU:HB3	49:D:431:HOH:O	1.97	0.63
4:D:245:ARG:CG	4:D:245:ARG:NH2	2.51	0.63
7:G:164:LYS:HG2	7:G:195:HIS:HE1	1.63	0.63
18:J:54:GLN:HA	18:J:83:TRP:CD1	2.34	0.63
40:k:28:GLU:HB2	40:k:29:PRO:HD2	1.81	0.63
1:A:3830:A2M:N7	49:A:5842:HOH:O	2.30	0.63
1:A:1959:U:H4'	1:A:1960:A:H3'	1.80	0.63
1:A:4398:C:H4'	49:A:9679:HOH:O	1.99	0.63
14:r:121:ARG:CG	14:r:121:ARG:HH11	2.12	0.63
39:j:60:CYS:O	49:j:201:HOH:O	1.97	0.63
1:A:2267:U:OP1	40:k:37:SER:HB2	1.98	0.62
1:A:4988:U:C6	1:A:4992:G:H5''	2.34	0.62
8:H:265:PRO:O	8:H:266:GLN:HB2	1.98	0.62
41:P:217:VAL:O	41:P:221:VAL:HG23	1.99	0.62
1:A:162:A:C2	1:A:274:C:O2	2.52	0.62
1:A:1747:U:H2'	49:A:6907:HOH:O	2.00	0.62
1:A:4869:U:H5''	49:A:7984:HOH:O	1.98	0.62
2:B:91:C:H5''	2:B:91:C:H6	1.64	0.62
11:o:128:MET:HE1	11:o:157:SER:HB3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1871:A2M:OP2	49:A:5627:HOH:O	2.16	0.62
1:A:4599:A:H8	1:A:4599:A:OP1	1.82	0.62
49:A:6862:HOH:O	34:c:30:ARG:CB	2.42	0.62
43:u:23:ARG:CD	49:u:204:HOH:O	2.32	0.62
1:A:119:G:H3'	1:A:120:A:H5''	1.82	0.62
1:A:980:U:H2'	1:A:981:C:C6	2.34	0.62
28:W:90:ARG:NH2	39:j:44:LYS:HG2	2.13	0.62
1:A:1272:C:C5'	9:m:34:ARG:HG2	2.30	0.62
1:A:4204:C:H5	49:A:5822:HOH:O	1.81	0.62
5:E:166:THR:CA	49:E:506:HOH:O	2.48	0.62
10:n:73:ARG:HG2	10:n:73:ARG:HH11	1.63	0.62
1:A:449:C:H5	30:Y:126:ASN:CG	2.06	0.62
1:A:247:G:C5'	24:S:128:VAL:HG11	2.25	0.62
1:A:3606:U:H5'	20:L:76:MET:HE1	1.82	0.62
1:A:4928:C:O3'	15:s:117:LYS:HE2	2.00	0.62
6:F:204:ARG:CD	49:F:506:HOH:O	2.48	0.62
19:K:143:ARG:HD2	49:K:206:HOH:O	1.98	0.62
23:R:127:LEU:C	23:R:127:LEU:HD12	2.25	0.62
1:A:685:C:H5'	8:H:101:ASN:HD21	1.63	0.62
1:A:2787:A2M:C8	49:A:7690:HOH:O	2.45	0.62
1:A:4485:C:OP2	49:A:5625:HOH:O	2.16	0.62
1:A:4603:C:H6	1:A:4603:C:O5'	1.83	0.62
4:D:50:HIS:HD2	49:j:214:HOH:O	1.81	0.62
1:A:1776:A:P	1:A:1776:A:H8	2.20	0.62
1:A:4129:G:H5'	10:n:33:GLU:O	2.00	0.62
1:A:4232:U:OP1	38:i:98:LYS:HD3	2.00	0.62
1:A:4751:G:H5''	49:A:6548:HOH:O	2.00	0.62
14:r:12:PRO:O	49:r:302:HOH:O	2.16	0.62
24:S:39:ARG:CD	49:S:206:HOH:O	2.47	0.61
41:P:150:SER:HA	41:P:194:ALA:HB3	1.81	0.61
1:A:4252:C:H41	13:q:25:CYS:HB3	1.59	0.61
1:A:4335:C:C5	49:A:5512:HOH:O	2.52	0.61
8:H:96:VAL:HG21	8:H:105:ARG:HG2	1.82	0.61
16:t:50:ARG:NH2	49:t:402:HOH:O	2.21	0.61
25:T:40:HIS:NE2	25:T:98:LYS:NZ	2.48	0.61
38:i:20:PRO:HG2	38:i:73:VAL:CG2	2.31	0.61
1:A:935:A:H2'	15:s:46:ARG:CZ	2.30	0.61
1:A:4412:C:P	49:A:6314:HOH:O	2.58	0.61
3:C:47:C:OP2	49:C:309:HOH:O	2.16	0.61
26:U:2:PRO:HG2	26:U:5:LEU:HG	1.82	0.61
27:V:23:LYS:HB3	27:V:24:PRO:HD2	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:12:ARG:HD3	49:d:248:HOH:O	1.99	0.61
39:j:44:LYS:HB2	39:j:46:LYS:HG3	1.82	0.61
1:A:3599:A:C8	1:A:3599:A:P	2.93	0.61
1:A:3710:G:N3	1:A:3710:G:C5'	2.63	0.61
5:E:348:ARG:HG2	5:E:349:LYS:O	2.00	0.61
6:F:60:HIS:NE2	6:F:100:ARG:HD3	2.15	0.61
12:p:49:CYS:SG	12:p:51:HIS:CE1	2.92	0.61
1:A:246:G:O4'	24:S:132:LYS:HE2	1.99	0.61
1:A:686:A:H5'	8:H:97:GLY:C	2.25	0.61
1:A:5006:U:H4'	1:A:5007:A:H5'	1.83	0.61
3:C:1:C:H2'	3:C:2:G:O4'	2.00	0.61
1:A:158:A:N3	49:A:5644:HOH:O	2.31	0.61
1:A:507:G:H5''	1:A:507:G:C8	2.36	0.61
1:A:3941:G:H2'	1:A:3942:A:O4'	2.00	0.61
1:A:4118:U:H5	49:D:433:HOH:O	1.81	0.61
49:A:9910:HOH:O	16:t:171:SER:HB3	1.99	0.61
11:o:41:ILE:HD13	11:o:73:ILE:HD11	1.81	0.61
16:t:15:GLN:HB2	49:t:438:HOH:O	1.99	0.61
1:A:4281:A:OP1	49:A:5626:HOH:O	2.16	0.61
7:G:21:ARG:HG2	7:G:21:ARG:NH1	2.15	0.61
26:U:136:LYS:HD3	49:U:272:HOH:O	2.01	0.61
1:A:147:A:N7	49:A:5847:HOH:O	2.30	0.61
1:A:169:G:H2'	1:A:169:G:N3	2.15	0.61
1:A:978:G:N7	49:A:5850:HOH:O	2.31	0.61
20:L:38:ARG:HG2	20:L:38:ARG:HH11	1.66	0.61
1:A:2647:A:C4	1:A:2688:G:N2	2.69	0.61
1:A:2752:G:N7	49:A:5845:HOH:O	2.30	0.61
1:A:2840:A:N7	49:A:5863:HOH:O	2.31	0.61
1:A:5003:U:OP2	49:A:5628:HOH:O	2.16	0.61
7:G:164:LYS:HG2	7:G:195:HIS:CE1	2.36	0.61
9:m:87:PRO:HG2	9:m:144:TYR:CZ	2.36	0.61
1:A:478:G:H21	40:k:100:ASN:HD21	1.49	0.61
1:A:1940:G:N2	1:A:4434:C:OP1	2.34	0.61
1:A:3799:A:OP1	42:Q:64:THR:HG21	2.01	0.61
1:A:4251:A:H62	13:q:25:CYS:N	1.98	0.61
7:G:107:ARG:HH12	7:G:120:GLU:HA	1.65	0.61
7:G:222:GLN:HB3	7:G:223:PHE:CD2	2.36	0.61
1:A:3735:G:H4'	1:A:3736:A:OP1	2.00	0.60
3:C:62:A:C4'	49:C:303:HOH:O	2.49	0.60
20:L:23:TRP:CH2	20:L:25:ASP:HA	2.35	0.60
38:i:24:THR:HB	49:i:315:HOH:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Q:22:VAL:O	42:Q:39:ILE:O	2.18	0.60
1:A:137:G:H2'	1:A:138:G:H8	1.66	0.60
1:A:2683:C:OP1	49:A:5634:HOH:O	2.16	0.60
1:A:3890:A:OP2	49:A:5624:HOH:O	2.16	0.60
1:A:4115:G:H4'	1:A:4116:C:H5'	1.83	0.60
6:F:80:ARG:HD3	49:F:501:HOH:O	2.01	0.60
10:n:63:LEU:C	10:n:63:LEU:HD23	2.27	0.60
13:q:112:HIS:HD2	13:q:126:TYR:H	1.49	0.60
14:r:16:LYS:NZ	16:t:196:ASN:HD21	1.98	0.60
20:L:99:MET:HE2	20:L:99:MET:HA	1.82	0.60
1:A:334:A:OP1	49:A:5638:HOH:O	2.17	0.60
11:o:77:VAL:HA	11:o:80:MET:HE3	1.82	0.60
28:W:17:ARG:HG3	28:W:104:ILE:HD12	1.83	0.60
1:A:232:G:OP2	49:A:5632:HOH:O	2.16	0.60
1:A:1369:C:N4	49:A:5610:HOH:O	2.15	0.60
1:A:4241:C:OP2	13:q:145:LYS:HE3	2.02	0.60
11:o:114:ILE:HG21	11:o:165:THR:CG2	2.31	0.60
23:R:41:ARG:NH1	23:R:41:ARG:HG2	2.15	0.60
1:A:134:G:H1	33:b:70:ARG:HB3	1.65	0.60
49:A:6547:HOH:O	16:t:204:ARG:HA	2.01	0.60
4:D:101:VAL:C	4:D:102:LEU:HD23	2.27	0.60
8:H:75:ALA:H	27:V:117:ARG:NH1	2.00	0.60
11:o:82:LYS:HD2	11:o:88:PHE:CZ	2.35	0.60
11:o:171:ASP:HB3	11:o:173:ARG:HG2	1.82	0.60
22:N:36:LYS:HD2	49:N:313:HOH:O	2.01	0.60
1:A:1376:C:H3'	49:A:5501:HOH:O	2.01	0.60
1:A:1782:PSU:H2'	49:A:5537:HOH:O	2.00	0.60
1:A:2476:G:H3'	49:A:8506:HOH:O	2.01	0.60
1:A:4606:G:H2'	1:A:4607:A:C8	2.37	0.60
2:B:117:G:OP1	7:G:253:TYR:OH	2.20	0.60
14:r:67:HIS:NE2	26:U:127:LYS:NZ	2.48	0.60
40:k:94:ARG:HB2	40:k:111:ILE:HD11	1.84	0.60
1:A:133:C:H5	33:b:74:LYS:HD3	1.67	0.60
1:A:1653:A:OP1	26:U:28:HIS:HD2	1.85	0.60
1:A:2652:G:N2	32:a:50:PRO:HD3	2.16	0.60
1:A:3879:G:P	49:A:5534:HOH:O	2.56	0.60
1:A:4895:C:H3'	1:A:4896:G:H5'	1.84	0.60
1:A:1273:G:C1'	8:H:74:SER:O	2.49	0.60
1:A:4187:G:O3'	49:A:5637:HOH:O	2.17	0.60
1:A:4522:G:C5	49:A:5892:HOH:O	2.52	0.60
15:s:119:ARG:NH2	49:s:302:HOH:O	2.20	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:t:195:ARG:HD2	49:t:432:HOH:O	2.01	0.60
1:A:135:G:C6	33:b:97:LYS:HD3	2.37	0.60
1:A:268:G:H2'	1:A:269:G:C8	2.37	0.60
1:A:1214:C:C4	27:V:91:ARG:HA	2.36	0.60
1:A:4522:G:N1	49:A:5892:HOH:O	2.33	0.60
30:Y:101:HIS:HD2	49:Y:391:HOH:O	1.70	0.60
1:A:246:G:C4'	24:S:132:LYS:CE	2.56	0.60
1:A:1345:A:N7	49:A:5858:HOH:O	2.31	0.60
6:F:317:ASN:ND2	6:F:319:LEU:H	1.99	0.60
11:o:44:GLU:HG3	15:s:2:VAL:HG12	1.82	0.60
23:R:41:ARG:HG2	23:R:41:ARG:HH11	1.67	0.60
26:U:19:HIS:NE2	49:U:202:HOH:O	2.19	0.60
29:X:84:ILE:HD11	29:X:108:TYR:HD1	1.66	0.60
41:P:54:ALA:HB2	41:P:75:ASN:HB2	1.84	0.60
1:A:1401:C:H2'	1:A:1402:C:O4'	2.02	0.59
1:A:1447:C:H2'	1:A:1448:G:H8	1.66	0.59
1:A:1921:C:C4	15:s:17:PHE:HD1	2.16	0.59
1:A:4228:OMG:H4'	1:A:4229:U:OP2	2.02	0.59
30:Y:43:ASN:ND2	30:Y:45:VAL:H	2.00	0.59
1:A:3757:G:H8	1:A:3757:G:O5'	1.85	0.59
1:A:4935:C:H2'	1:A:4936:G:C8	2.36	0.59
6:F:274:LYS:HG2	49:F:566:HOH:O	2.00	0.59
9:m:137:GLU:HB3	9:m:138:PRO:HD3	1.85	0.59
12:p:210:ARG:O	12:p:214:SER:HB2	2.03	0.59
32:a:35:THR:OG1	49:a:303:HOH:O	2.17	0.59
1:A:246:G:O2'	24:S:132:LYS:CD	2.50	0.59
1:A:1366:G:O2'	1:A:1367:C:O2	2.19	0.59
1:A:4892:A:C5'	17:I:188:LYS:NZ	2.60	0.59
29:X:84:ILE:HD11	29:X:108:TYR:CD1	2.37	0.59
7:G:212:MET:HE3	7:G:219:TYR:CE2	2.37	0.59
22:N:35:LYS:O	22:N:36:LYS:C	2.45	0.59
38:i:78:ARG:HG3	38:i:78:ARG:NH2	2.17	0.59
1:A:1532:G:N7	49:A:5867:HOH:O	2.32	0.59
1:A:4201:G:O2'	1:A:4202:U:H5'	2.02	0.59
1:A:4266:G:H2'	1:A:4266:G:N3	2.17	0.59
1:A:4347:G:H5''	49:A:6156:HOH:O	2.01	0.59
9:m:60:GLU:OE2	9:m:192:HIS:HE1	1.85	0.59
1:A:2300:A:N6	6:F:178:ASN:HD22	1.99	0.59
1:A:2461:G:H2'	1:A:2462:C:C6	2.38	0.59
1:A:2706:G:O2'	1:A:2707:U:H2'	2.01	0.59
2:B:118:C:OP1	7:G:256:LYS:CE	2.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:51:U:C2'	49:C:308:HOH:O	2.51	0.59
11:o:98:HIS:O	11:o:100:PRO:HD3	2.02	0.59
20:L:28:GLU:HG2	20:L:49:LEU:CD1	2.32	0.59
41:P:66:ASN:ND2	41:P:68:HIS:H	2.01	0.59
1:A:2900:U:H3'	1:A:2900:U:C6	2.37	0.59
42:Q:13:LYS:HB3	42:Q:128:LEU:HD11	1.84	0.59
1:A:218:A:H1'	1:A:219:G:C8	2.37	0.59
1:A:1900:C:OP2	49:A:5636:HOH:O	2.17	0.59
1:A:4507:A:OP2	49:A:5623:HOH:O	2.16	0.59
2:B:16:A:C3'	49:B:334:HOH:O	1.97	0.59
23:R:89:LYS:HE2	49:R:203:HOH:O	1.97	0.59
1:A:1168:G:OP1	1:A:1168:G:H4'	2.02	0.59
1:A:1890:G:C8	49:A:5509:HOH:O	2.49	0.59
1:A:2034:G:N7	49:A:5877:HOH:O	2.32	0.59
1:A:5041:G:OP2	43:u:61:LYS:NZ	2.32	0.59
19:K:72:LEU:HB2	19:K:75:ARG:HD2	1.84	0.59
20:L:28:GLU:HG2	20:L:49:LEU:HD13	1.85	0.59
23:R:60:TYR:CE2	23:R:62:ARG:HD2	2.38	0.59
1:A:268:G:H2'	1:A:269:G:H8	1.68	0.58
1:A:1786:A:H2'	1:A:1789:C:C5	2.38	0.58
1:A:3673:C:H4'	1:A:3674:G:OP2	2.02	0.58
1:A:4198:G:O6	49:A:5635:HOH:O	2.16	0.58
1:A:4882:U:O2	31:Z:2:SER:HB3	2.01	0.58
21:M:76:LYS:HB3	21:M:131:GLU:OE2	2.03	0.58
42:Q:62:MET:HE3	42:Q:76:VAL:HG12	1.85	0.58
1:A:274:C:H6	1:A:274:C:C5'	2.16	0.58
1:A:2649:G:C5'	49:A:6217:HOH:O	2.28	0.58
1:A:4988:U:C5	5:E:176:LYS:NZ	2.70	0.58
2:B:119:U:O4	7:G:258:LYS:HE2	2.03	0.58
17:I:118:MET:HE2	21:M:169:THR:HG23	1.86	0.58
1:A:1729:A:N7	49:A:5868:HOH:O	2.32	0.58
1:A:1940:G:H5''	1:A:1940:G:H8	1.68	0.58
1:A:4347:G:H1	1:A:4348:A:N6	2.00	0.58
1:A:4373:G:H2'	38:i:60:ALA:CB	2.34	0.58
2:B:27:G:H5''	7:G:57:ASN:ND2	2.18	0.58
6:F:182:LYS:HG2	49:F:506:HOH:O	2.03	0.58
1:A:1852:U:H5''	26:U:22:ILE:HD12	1.85	0.58
1:A:3599:A:O5'	1:A:3599:A:H8	1.85	0.58
20:L:89:MET:HE3	20:L:90:PRO:HD2	1.85	0.58
28:W:38:ILE:HD11	28:W:46:VAL:HG21	1.86	0.58
1:A:131:C:H1'	1:A:138:G:N2	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:41:PHE:HE1	31:Z:110:ILE:CD1	2.09	0.58
1:A:2676:A:H8	1:A:2676:A:OP2	1.86	0.58
3:C:52:A:H62	37:f:27:ILE:CD1	2.15	0.58
3:C:52:A:C2	37:f:23:ILE:HG22	2.37	0.58
3:C:135:C:OP1	23:R:63:LYS:HD2	2.04	0.58
5:E:111:SER:OG	5:E:113:GLU:HG3	2.03	0.58
1:A:457:G:H5''	8:H:115:TYR:HB3	1.86	0.58
1:A:2475:G:C2	23:R:53:ARG:HD2	2.39	0.58
1:A:4590:A2M:H3'	49:A:5642:HOH:O	2.02	0.58
1:A:274:C:H5'	1:A:274:C:C6	2.33	0.58
1:A:4590:A2M:OP1	49:A:5645:HOH:O	2.17	0.58
1:A:1778:C:C5'	7:G:5:LYS:HE2	2.34	0.58
1:A:4582:C:H6	49:A:6080:HOH:O	1.87	0.58
1:A:4910:G:H1	17:I:107:GLY:HA3	1.68	0.58
8:H:208:ILE:HG22	8:H:212:LEU:HD12	1.85	0.58
11:o:13:PRO:HD2	11:o:16:VAL:HG21	1.84	0.58
18:J:150:LEU:N	18:J:150:LEU:CD1	2.66	0.58
28:W:50:ASN:HD22	28:W:51:ASN:N	2.02	0.58
1:A:3710:G:H2'	1:A:3711:A:H5'	1.85	0.58
2:B:115:A:H1'	49:B:315:HOH:O	2.02	0.58
14:r:21:ARG:O	16:t:197:THR:HG23	2.04	0.58
16:t:156:HIS:HD2	49:t:405:HOH:O	1.87	0.58
17:I:47:PHE:HZ	17:I:144:GLU:HG3	1.68	0.58
29:X:33:ILE:HG22	29:X:44:ARG:HG3	1.85	0.58
30:Y:101:HIS:CG	49:Y:391:HOH:O	2.51	0.58
1:A:1370:G:N7	6:F:239:LYS:NZ	2.51	0.57
1:A:1743:A:H1'	7:G:15:ARG:CZ	2.34	0.57
1:A:1918:U:H2'	49:A:8498:HOH:O	2.04	0.57
1:A:4114:C:C6	1:A:4114:C:C3'	2.86	0.57
49:A:5796:HOH:O	39:j:42:CYS:CB	2.33	0.57
15:s:36:ALA:HB2	15:s:52:PHE:CE1	2.38	0.57
25:T:84:ARG:NH2	32:a:99:GLU:OE2	2.36	0.57
30:Y:43:ASN:HD21	30:Y:45:VAL:HB	1.69	0.57
1:A:104:G:OP2	49:A:5646:HOH:O	2.17	0.57
1:A:1241:C:C5	27:V:120:ARG:CZ	2.87	0.57
3:C:155:C:H2'	3:C:156:U:C4'	2.34	0.57
6:F:14:LYS:HD3	6:F:173:LYS:HZ3	1.69	0.57
1:A:2475:G:N2	23:R:50:LYS:HE3	2.18	0.57
1:A:3862:A:N1	49:A:5881:HOH:O	2.32	0.57
15:s:95:ILE:CG1	49:s:313:HOH:O	2.51	0.57
38:i:13:LYS:N	49:i:305:HOH:O	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1696:C:H2'	1:A:1697:G:O4'	2.04	0.57
1:A:2469:C:H5	1:A:2471:G:N2	2.01	0.57
1:A:2633:U:C6	49:A:6315:HOH:O	2.52	0.57
5:E:74:GLU:OE1	5:E:334:LYS:HE3	2.03	0.57
6:F:182:LYS:HE3	49:F:504:HOH:O	1.98	0.57
41:P:173:LEU:HB3	41:P:181:LEU:CD1	2.34	0.57
42:Q:90:ARG:O	42:Q:91:LYS:HB2	2.04	0.57
1:A:131:C:H1'	1:A:138:G:H22	1.70	0.57
1:A:1534:A2M:C2	49:A:9217:HOH:O	2.53	0.57
1:A:4895:C:C4	15:s:129:LYS:HG2	2.39	0.57
2:B:102:U:C6	49:B:372:HOH:O	2.41	0.57
24:S:45:ARG:HG3	24:S:45:ARG:HH11	1.68	0.57
32:a:98:GLU:O	32:a:99:GLU:C	2.48	0.57
43:u:6:CYS:SG	43:u:9:SER:OG	2.62	0.57
11:o:114:ILE:HG21	11:o:165:THR:HG21	1.85	0.57
1:A:4610:A:N6	49:A:5525:HOH:O	1.91	0.57
7:G:39:GLN:OE1	7:G:39:GLN:HA	2.05	0.57
12:p:49:CYS:HB3	12:p:168:SER:HB3	1.85	0.57
14:r:2:ALA:N	49:r:305:HOH:O	2.38	0.57
1:A:449:C:H5	30:Y:126:ASN:OD1	1.88	0.57
1:A:485:C:H2'	1:A:486:C:C6	2.40	0.57
1:A:1743:A:N1	1:A:1789:C:O2'	2.34	0.57
1:A:2839:PSU:OP2	49:A:5648:HOH:O	2.18	0.57
1:A:4452:U:H2'	1:A:4452:U:O2	2.03	0.57
24:S:22:PRO:CG	24:S:25:ILE:HD12	2.34	0.57
1:A:919:C:OP1	15:s:69:HIS:ND1	2.33	0.57
49:A:6097:HOH:O	15:s:17:PHE:CD2	2.58	0.57
5:E:282:LYS:HA	49:E:510:HOH:O	2.05	0.57
6:F:141:GLY:HA3	6:F:204:ARG:HH12	1.70	0.57
10:n:189:ARG:N	49:n:302:HOH:O	2.37	0.57
21:M:137:CYS:SG	21:M:146:HIS:CE1	2.96	0.57
1:A:1434:G:H2'	1:A:1435:G:O4'	2.05	0.57
1:A:2563:C:H3'	1:A:2564:G:H8	1.69	0.57
1:A:4092:G:H3'	1:A:4093:G:C8	2.39	0.57
8:H:75:ALA:HB3	27:V:117:ARG:HH12	1.70	0.57
1:A:190:G:H2'	1:A:191:G:H8	1.69	0.56
1:A:724:C:OP1	6:F:350:ARG:HD3	2.05	0.56
1:A:749:G:N2	1:A:750:U:O4	2.32	0.56
6:F:100:ARG:NH2	49:F:502:HOH:O	2.35	0.56
7:G:287:PHE:HB3	12:p:209:TRP:CZ3	2.40	0.56
37:f:21:ARG:HB3	37:f:21:ARG:HH11	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4591:U:OP2	49:A:5642:HOH:O	2.17	0.56
1:A:4687:A:OP2	1:A:4698:C:H5	1.87	0.56
3:C:150:C:H5''	3:C:151:G:OP1	2.05	0.56
5:E:108:GLU:O	5:E:108:GLU:HG2	2.05	0.56
5:E:161:ARG:HG2	5:E:184:GLN:HA	1.88	0.56
8:H:176:THR:HB	8:H:186:LEU:HD23	1.87	0.56
15:s:11:ARG:NH2	15:s:61:ILE:HD11	2.20	0.56
16:t:182:HIS:CD2	16:t:182:HIS:N	2.71	0.56
41:P:142:VAL:HG11	41:P:162:HIS:HE2	1.70	0.56
1:A:247:G:C2'	24:S:128:VAL:HG21	2.25	0.56
1:A:461:G:H2'	1:A:462:G:H8	1.69	0.56
1:A:935:A:H2'	15:s:46:ARG:NH2	2.20	0.56
1:A:3736:A:H2'	1:A:3737:A:C8	2.41	0.56
1:A:4122:G:N1	32:a:98:GLU:OE2	2.33	0.56
1:A:4232:U:O2'	38:i:97:LYS:NZ	2.26	0.56
1:A:4357:G:O6	49:A:5629:HOH:O	2.16	0.56
1:A:4929:C:C1'	15:s:118:MET:SD	2.94	0.56
1:A:5028:G:O2'	1:A:5029:C:H5'	2.05	0.56
2:B:64:G:O5'	12:p:204:GLY:HA2	2.04	0.56
14:r:105:LYS:HG3	49:r:311:HOH:O	2.04	0.56
22:N:5:LYS:HD3	49:N:351:HOH:O	2.05	0.56
35:d:14:LYS:CE	37:f:51:LEU:O	2.54	0.56
42:Q:16:ILE:HD12	42:Q:17:SER:O	2.05	0.56
43:u:29:PHE:CE1	43:u:40:PHE:HZ	2.23	0.56
1:A:158:A:O4'	49:A:5644:HOH:O	2.17	0.56
1:A:703:G:H2'	1:A:704:C:H4'	1.88	0.56
1:A:733:A:N6	1:A:930:G:N2	2.53	0.56
1:A:1482:G:C8	14:r:188:ASN:ND2	2.73	0.56
1:A:1812:C:H5''	27:V:56:LYS:HE2	1.87	0.56
1:A:1818:G:OP1	7:G:43:LYS:HE2	2.04	0.56
1:A:2476:G:H22	1:A:2502:G:P	2.28	0.56
6:F:145:GLU:HG3	6:F:146:GLU:N	2.21	0.56
1:A:5029:C:O2'	1:A:5030:U:H6	1.88	0.56
1:A:2431:A:N3	49:A:5886:HOH:O	2.33	0.56
1:A:5061:A:H4'	1:A:5062:G:OP2	2.05	0.56
5:E:166:THR:CB	49:E:506:HOH:O	2.48	0.56
6:F:56:GLU:HG3	6:F:57:LEU:HD22	1.87	0.56
8:H:75:ALA:HB3	27:V:117:ARG:NH1	2.20	0.56
13:q:10:ASN:HD22	13:q:12:MET:H	1.52	0.56
32:a:46:CYS:SG	32:a:86:CYS:SG	3.04	0.56
32:a:73:HIS:C	32:a:73:HIS:CD2	2.81	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1521:C:OP1	6:F:100:ARG:NH2	2.38	0.56
1:A:1613:A:OP2	4:D:187:HIS:HE1	1.88	0.56
1:A:3672:G:N3	1:A:3672:G:H2'	2.19	0.56
1:A:4254:G:H2'	1:A:4254:G:N3	2.21	0.56
1:A:4860:G:H3'	1:A:4861:G:C8	2.41	0.56
26:U:62:HIS:HA	49:U:218:HOH:O	2.04	0.56
38:i:21:HIS:CE1	49:i:327:HOH:O	2.13	0.56
39:j:72:ASN:C	39:j:72:ASN:HD22	2.13	0.56
1:A:1171:G:H5'	1:A:1172:C:OP2	2.05	0.56
1:A:1534:A2M:HM'3	1:A:1637:A:C2	2.40	0.56
1:A:4483:C:H2'	1:A:4484:A:H8	1.69	0.56
1:A:4756:C:H4'	49:A:5699:HOH:O	2.06	0.56
1:A:4895:C:H1'	15:s:132:LYS:HD3	1.87	0.56
16:t:17:ASP:HB2	49:t:407:HOH:O	2.06	0.56
31:Z:73:LYS:CE	49:Z:309:HOH:O	2.54	0.56
1:A:1964:A:H2'	1:A:1965:G:O4'	2.05	0.56
5:E:19:ARG:NH2	49:E:501:HOH:O	2.25	0.56
1:A:654:C:H4'	6:F:268:ARG:HD3	1.87	0.56
1:A:1564:A:H2'	1:A:1565:A:C8	2.40	0.56
1:A:1950:U:O2'	49:A:5631:HOH:O	2.16	0.56
1:A:4260:U:H2'	1:A:4261:C:C6	2.40	0.56
7:G:156:GLY:O	7:G:157:ASN:C	2.48	0.56
10:n:107:LYS:HA	10:n:107:LYS:CE	2.34	0.56
26:U:60:HIS:HB2	49:U:276:HOH:O	2.05	0.56
42:Q:13:LYS:NZ	42:Q:13:LYS:CB	2.69	0.56
1:A:1202:C:OP2	1:A:1203:G:H5''	2.06	0.55
1:A:1242:G:C2	27:V:120:ARG:NH2	2.73	0.55
1:A:1730:U:P	49:A:5535:HOH:O	2.60	0.55
1:A:4687:A:OP2	1:A:4698:C:C5	2.58	0.55
21:M:9:GLU:OE2	21:M:31:ARG:NE	2.38	0.55
25:T:28:ASN:HB2	25:T:77:TYR:OH	2.07	0.55
41:P:15:CYS:HB3	41:P:58:ILE:HG22	1.87	0.55
3:C:31:G:N7	49:C:321:HOH:O	2.33	0.55
1:A:413:G:C8	37:f:36:ARG:NH1	2.75	0.55
1:A:1936:C:P	49:A:5607:HOH:O	2.64	0.55
1:A:4875:G:P	49:A:5692:HOH:O	2.63	0.55
9:m:36:LYS:HA	9:m:39:GLN:HE21	1.71	0.55
16:t:9:GLU:HB2	34:c:44:ILE:HG13	1.89	0.55
38:i:61:LYS:HB3	49:i:301:HOH:O	2.06	0.55
1:A:240:G:N7	49:A:5869:HOH:O	2.32	0.55
1:A:4114:C:H6	1:A:4114:C:C5'	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4768:G:H3'	49:A:8201:HOH:O	2.06	0.55
25:T:4:PHE:HE2	28:W:67:ALA:HB2	1.71	0.55
41:P:36:SER:O	41:P:37:VAL:C	2.48	0.55
1:A:116:G:H2'	1:A:117:C:C6	2.42	0.55
1:A:1920:C:N4	49:A:5708:HOH:O	2.23	0.55
1:A:4068:U:H2'	1:A:4069:U:O4'	2.07	0.55
1:A:4452:U:C4	1:A:4531:U:C4	2.94	0.55
1:A:4919:G:H2'	1:A:4920:C:C6	2.41	0.55
7:G:69:ILE:HG13	49:G:418:HOH:O	2.05	0.55
8:H:73:TYR:O	27:V:117:ARG:CA	2.55	0.55
21:M:20:PRO:HG2	21:M:21:LYS:HE2	1.88	0.55
26:U:116:LYS:CG	26:U:116:LYS:O	2.54	0.55
1:A:1178:G:H5''	7:G:283:LYS:CG	2.35	0.55
1:A:1359:G:O6	49:A:5651:HOH:O	2.18	0.55
1:A:4092:G:H3'	1:A:4093:G:H8	1.71	0.55
1:A:4747:C:C6	1:A:4747:C:H5''	2.42	0.55
16:t:10:LEU:CD2	34:c:48:CYS:SG	2.95	0.55
1:A:731:G:H5''	1:A:731:G:H8	1.72	0.55
1:A:3925:OMU:CM2	38:i:50:GLY:HA3	2.37	0.55
1:A:4476:C:H1'	1:A:4477:A:C8	2.42	0.55
1:A:4605:A:H2'	1:A:4606:G:C8	2.41	0.55
4:D:102:LEU:HD23	4:D:102:LEU:N	2.22	0.55
6:F:100:ARG:CZ	49:F:502:HOH:O	2.52	0.55
9:m:237:GLU:OE1	21:M:38:VAL:HG22	2.07	0.55
16:t:109:HIS:ND1	16:t:110:CYS:SG	2.68	0.55
19:K:76:GLU:O	19:K:77:ASN:CB	2.54	0.55
41:P:84:ILE:HG22	41:P:94:ILE:HD12	1.88	0.55
1:A:247:G:C5'	24:S:128:VAL:HG12	2.36	0.55
1:A:1943:A:H2'	1:A:1944:A:H5'	1.88	0.55
1:A:4518:A:N7	5:E:258:HIS:HE1	2.04	0.55
1:A:4606:G:H2'	1:A:4607:A:H8	1.69	0.55
2:B:61:G:H5''	7:G:271:MET:SD	2.46	0.55
29:X:19:GLU:OE2	29:X:92:ARG:NH1	2.40	0.55
1:A:132:G:C2	1:A:133:C:H1'	2.41	0.55
1:A:1187:G:C8	7:G:275:GLN:NE2	2.74	0.55
1:A:4067:U:O2'	1:A:4068:U:H5'	2.06	0.55
5:E:241:PRO:HD3	49:E:614:HOH:O	2.07	0.55
7:G:38:ILE:HA	49:G:402:HOH:O	2.06	0.55
15:s:70:GLN:HE21	15:s:74:ARG:HH22	1.55	0.55
1:A:277:G:C5	49:A:5532:HOH:O	2.50	0.55
1:A:2786:U:H3'	49:A:7638:HOH:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:108:G:OP2	7:G:273:LEU:HD13	2.07	0.55
21:M:29:ARG:HD2	49:M:203:HOH:O	2.07	0.55
26:U:145:VAL:HG13	34:c:5:TYR:CE1	2.41	0.55
30:Y:7:LEU:HB3	49:Y:323:HOH:O	2.07	0.55
41:P:95:ARG:HG3	41:P:132:VAL:HG21	1.89	0.55
41:P:198:VAL:HG23	41:P:205:PHE:HB2	1.89	0.55
1:A:3709:U:H4'	1:A:3710:G:OP1	2.07	0.54
1:A:4273:A:H2'	1:A:4274:A:O4'	2.07	0.54
5:E:43:LEU:CD1	5:E:196:TRP:HH2	2.01	0.54
24:S:4:ASN:HD22	24:S:5:PRO:N	2.05	0.54
32:a:109:ALA:O	32:a:112:GLN:HB3	2.06	0.54
34:c:33:LEU:HD21	34:c:38:LYS:HG3	1.87	0.54
34:c:63:VAL:HG23	34:c:63:VAL:O	2.06	0.54
1:A:141:C:H5''	1:A:142:G:OP2	2.06	0.54
1:A:1939:A:C6	49:A:5509:HOH:O	2.44	0.54
1:A:4133:C:O2	1:A:4133:C:H2'	2.05	0.54
1:A:4450:U:H5''	49:A:8706:HOH:O	2.06	0.54
1:A:4934:A:H2'	1:A:4935:C:C6	2.43	0.54
3:C:3:A:H2'	3:C:4:C:O4'	2.08	0.54
10:n:95:LEU:C	10:n:95:LEU:HD13	2.31	0.54
10:n:102:TYR:CE2	10:n:207:VAL:HG12	2.41	0.54
20:L:89:MET:HE3	20:L:90:PRO:CD	2.37	0.54
23:R:87:MET:O	23:R:91:GLU:HG2	2.08	0.54
25:T:128:LYS:N	49:T:202:HOH:O	2.39	0.54
26:U:116:LYS:O	26:U:116:LYS:HG3	2.06	0.54
41:P:168:GLU:O	41:P:171:ASP:HB2	2.07	0.54
1:A:209:U:O2	1:A:209:U:C2'	2.54	0.54
1:A:246:G:O2'	24:S:132:LYS:HD3	2.06	0.54
1:A:1362:G:N7	14:r:32:LYS:NZ	2.55	0.54
1:A:1921:C:O2	15:s:17:PHE:CE1	2.59	0.54
1:A:2521:G:H5'	1:A:2640:G:H1'	1.89	0.54
6:F:168:VAL:HG13	6:F:177:TRP:CZ3	2.42	0.54
7:G:135:ILE:O	7:G:138:GLN:HB2	2.07	0.54
9:m:42:LEU:HD13	27:V:109:ARG:CZ	2.37	0.54
38:i:24:THR:HA	38:i:93:LEU:HD11	1.89	0.54
1:A:246:G:C4'	24:S:132:LYS:CD	2.84	0.54
49:A:6328:HOH:O	22:N:12:ARG:HD3	2.08	0.54
3:C:82:A:H5''	3:C:86:U:H4'	1.89	0.54
4:D:181:LYS:O	4:D:182:ALA:C	2.47	0.54
8:H:266:GLN:O	8:H:267:LEU:C	2.50	0.54
10:n:165:GLU:OE1	16:t:26:ARG:NH2	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:935:A:H61	15:s:70:GLN:CD	2.15	0.54
1:A:1921:C:C5	15:s:17:PHE:CG	2.96	0.54
1:A:3867:A2M:HM'3	1:A:3880:G:N2	2.23	0.54
1:A:4271:A:N6	49:A:5523:HOH:O	1.90	0.54
49:A:6008:HOH:O	8:H:266:GLN:HA	2.06	0.54
5:E:5:LYS:HE2	5:E:5:LYS:HA	1.89	0.54
6:F:184:TYR:CE1	6:F:225:PRO:HG2	2.42	0.54
24:S:4:ASN:ND2	24:S:6:PHE:H	2.06	0.54
28:W:11:LEU:HA	28:W:14:ILE:HD12	1.87	0.54
1:A:5028:G:P	1:A:5028:G:H8	2.30	0.54
25:T:26:VAL:HG21	25:T:96:VAL:HG12	1.88	0.54
28:W:31:TYR:CE1	28:W:56:ARG:HG3	2.43	0.54
28:W:77:ASN:C	28:W:77:ASN:HD22	2.16	0.54
32:a:47:GLY:CA	49:a:316:HOH:O	2.07	0.54
41:P:31:SER:O	41:P:33:ASN:N	2.41	0.54
1:A:2730:U:H2'	1:A:2731:C:C6	2.42	0.54
6:F:337:ARG:NH2	49:F:508:HOH:O	2.27	0.54
11:o:13:PRO:HB2	11:o:16:VAL:CG2	2.38	0.54
20:L:24:LEU:O	20:L:25:ASP:C	2.51	0.54
25:T:102:ARG:HH11	25:T:102:ARG:HG3	1.72	0.54
31:Z:73:LYS:HG3	31:Z:73:LYS:O	2.06	0.54
34:c:70:LEU:HD23	34:c:87:ARG:CZ	2.38	0.54
1:A:6:C:H5''	10:n:197:LYS:HB3	1.90	0.54
1:A:17:A:N1	3:C:140:C:O2	2.41	0.54
1:A:1260:G:C8	1:A:1260:G:C4'	2.91	0.54
1:A:4114:C:C6	1:A:4114:C:H3'	2.43	0.54
1:A:4730:C:H1'	1:A:4734:A:C6	2.43	0.54
1:A:4747:C:H5''	1:A:4747:C:H6	1.73	0.54
25:T:107:LYS:O	25:T:108:ARG:C	2.50	0.54
38:i:69:ARG:O	49:i:302:HOH:O	2.18	0.54
1:A:1597:G:P	49:A:6260:HOH:O	2.66	0.54
1:A:1789:C:O2'	1:A:1790:U:H5'	2.08	0.54
1:A:4071:U:H2'	1:A:4072:C:C6	2.43	0.54
1:A:654:C:H4'	6:F:268:ARG:CD	2.38	0.54
6:F:340:ILE:HG21	8:H:50:LEU:HG	1.88	0.54
8:H:157:HIS:ND1	8:H:160:LYS:NZ	2.55	0.54
13:q:18:ARG:HG3	13:q:135:GLY:HA3	1.89	0.54
31:Z:22:ARG:HD2	49:Z:349:HOH:O	2.08	0.54
1:A:714:G:N7	49:A:5911:HOH:O	2.34	0.53
1:A:982:U:H2'	1:A:983:C:C6	2.44	0.53
1:A:3887:OMC:HM23	49:A:6437:HOH:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:K:183:SER:N	49:K:207:HOH:O	2.41	0.53
22:N:54:HIS:ND1	22:N:56:CYS:SG	2.72	0.53
4:D:177:LYS:NZ	39:j:33:GLN:HE22	2.06	0.53
7:G:21:ARG:HG2	7:G:21:ARG:HH11	1.72	0.53
25:T:96:VAL:HG22	25:T:110:ALA:HB1	1.89	0.53
38:i:66:ILE:HB	38:i:85:ILE:HG12	1.91	0.53
1:A:1241:C:H5	27:V:120:ARG:CZ	2.21	0.53
1:A:4909:A:H2'	5:E:156:TYR:CD1	2.43	0.53
2:B:35:U:C4	2:B:36:C:C4	2.96	0.53
4:D:187:HIS:CD2	49:D:486:HOH:O	2.01	0.53
16:t:76:PRO:O	16:t:76:PRO:HG2	2.08	0.53
43:u:17:HIS:HD2	49:u:206:HOH:O	1.90	0.53
1:A:319:A:N7	49:A:5915:HOH:O	2.34	0.53
1:A:2465:C:C5'	49:A:5883:HOH:O	2.31	0.53
5:E:153:MET:HE2	5:E:194:LEU:HD21	1.90	0.53
6:F:65:GLU:OE2	49:F:501:HOH:O	2.18	0.53
41:P:118:HIS:CD2	41:P:120:ASP:H	2.27	0.53
1:A:3928:A:H2'	1:A:3929:G:O4'	2.08	0.53
1:A:4322:G:O2'	1:A:4324:A:N7	2.36	0.53
1:A:4575:G:H3'	49:A:5891:HOH:O	2.08	0.53
5:E:56:ILE:HD13	5:E:365:LEU:HD22	1.90	0.53
30:Y:65:LYS:HE3	30:Y:65:LYS:HA	1.91	0.53
43:u:13:ILE:HG12	43:u:32:LEU:HD13	1.90	0.53
1:A:710:G:O2'	8:H:190:HIS:HE1	1.91	0.53
1:A:4402:C:N4	49:A:5856:HOH:O	2.31	0.53
3:C:140:C:H2'	3:C:141:C:C6	2.43	0.53
2:B:94:C:H4'	21:M:122:HIS:HB2	1.91	0.53
2:B:117:G:OP1	7:G:253:TYR:CE2	2.61	0.53
2:B:120:U:O3'	7:G:262:LYS:HB2	2.09	0.53
3:C:92:U:H2'	3:C:93:C:O4'	2.09	0.53
6:F:14:LYS:HD3	6:F:173:LYS:NZ	2.23	0.53
1:A:27:C:OP1	49:A:5652:HOH:O	2.18	0.53
1:A:1590:C:H3'	1:A:1591:U:H4'	1.90	0.53
3:C:91:A:H2'	3:C:92:U:O4'	2.09	0.53
49:C:544:HOH:O	35:d:42:LYS:HD3	2.09	0.53
6:F:312:ARG:NE	49:F:513:HOH:O	2.39	0.53
12:p:184:MET:HA	12:p:187:LYS:HD2	1.90	0.53
39:j:60:CYS:HB2	49:j:201:HOH:O	1.92	0.53
1:A:686:A:H4'	8:H:97:GLY:O	2.08	0.53
1:A:1179:U:C4	7:G:287:PHE:HA	2.44	0.53
1:A:4258:C:OP1	13:q:54:ARG:NH1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4610:A:C2	49:A:5667:HOH:O	2.59	0.53
1:A:4909:A:C8	5:E:156:TYR:CE2	2.97	0.53
5:E:166:THR:HA	49:E:506:HOH:O	2.08	0.53
17:I:78:ARG:HD3	49:I:371:HOH:O	2.08	0.53
20:L:52:ARG:NH1	49:L:302:HOH:O	2.13	0.53
1:A:1364:U:OP2	14:r:36:ARG:NH1	2.41	0.53
1:A:4119:C:H4'	1:A:4119:C:OP2	2.07	0.53
1:A:4371:G:H4'	38:i:56:PHE:CE2	2.43	0.53
1:A:4754:G:C2	1:A:4880:C:O2	2.62	0.53
7:G:288:LEU:HG	12:p:209:TRP:CH2	2.42	0.53
26:U:30:GLY:HA3	49:U:210:HOH:O	2.08	0.53
31:Z:102:ARG:NH1	49:Z:302:HOH:O	2.28	0.53
1:A:1794:A:H1'	49:A:5765:HOH:O	2.08	0.52
1:A:1821:G:N3	1:A:1821:G:H2'	2.24	0.52
1:A:2638:G:N7	1:A:2697:A:N1	2.57	0.52
1:A:4966:A:H2'	1:A:4967:A:O4'	2.10	0.52
18:J:94:MET:HG2	18:J:148:MET:CE	2.35	0.52
34:c:56:ARG:HD2	34:c:72:PHE:CZ	2.43	0.52
38:i:19:GLN:HB3	38:i:20:PRO:HD2	1.91	0.52
1:A:1450:C:H2'	1:A:1451:G:O4'	2.08	0.52
1:A:1590:C:H4'	1:A:2857:A:H5'	1.91	0.52
1:A:1672:U:OP1	27:V:7:HIS:HD2	1.92	0.52
1:A:1921:C:C4	15:s:17:PHE:CG	2.96	0.52
1:A:3617:G:C8	1:A:3617:G:H3'	2.44	0.52
4:D:245:ARG:HG2	4:D:245:ARG:NH2	2.20	0.52
10:n:85:GLN:NE2	10:n:229:ARG:HH12	2.07	0.52
16:t:108:ARG:NH2	49:t:401:HOH:O	2.13	0.52
19:K:49:LYS:HG2	19:K:53:MET:HE3	1.92	0.52
30:Y:23:HIS:HD2	49:Y:369:HOH:O	1.91	0.52
34:c:63:VAL:O	34:c:64:SER:C	2.52	0.52
41:P:114:VAL:HG21	41:P:177:LEU:HA	1.89	0.52
1:A:906:C:C5	1:A:906:C:P	3.02	0.52
1:A:1918:U:H6	49:A:8498:HOH:O	1.93	0.52
1:A:2408:U:OP1	37:f:44:TRP:HB3	2.10	0.52
1:A:3606:U:H5''	20:L:76:MET:CE	2.40	0.52
1:A:4162:C:C5	10:n:73:ARG:NH1	2.70	0.52
2:B:115:A:C2'	49:B:315:HOH:O	2.56	0.52
9:m:182:TYR:HB3	9:m:200:ARG:HG3	1.91	0.52
10:n:188:ALA:HB3	49:n:302:HOH:O	2.10	0.52
20:L:7:GLN:NE2	20:L:7:GLN:N	2.54	0.52
20:L:112:SER:OG	20:L:114:LYS:HE3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Y:21:ILE:HD11	30:Y:53:ILE:HD11	1.90	0.52
1:A:2064:G:O6	49:A:5647:HOH:O	2.18	0.52
1:A:2795:A:N1	49:A:5909:HOH:O	2.34	0.52
1:A:4749:C:C2'	1:A:4750:G:H5'	2.40	0.52
4:D:109:GLU:O	4:D:109:GLU:HG2	2.09	0.52
8:H:199:THR:HG21	15:s:107:PHE:HB2	1.89	0.52
12:p:207:ASP:HA	12:p:210:ARG:HG2	1.90	0.52
16:t:16:SER:HB2	34:c:48:CYS:HB3	1.90	0.52
16:t:27:CYS:SG	16:t:31:ARG:NH1	2.82	0.52
1:A:158:A:O2'	34:c:27:SER:HB3	2.10	0.52
1:A:1179:U:N3	7:G:287:PHE:HA	2.25	0.52
1:A:1241:C:O2'	27:V:120:ARG:N	2.43	0.52
1:A:1294:A:H1'	1:A:1295:C:C2	2.44	0.52
14:r:92:ARG:CB	49:r:327:HOH:O	2.37	0.52
24:S:4:ASN:C	24:S:4:ASN:ND2	2.68	0.52
26:U:9:ARG:NH1	49:U:208:HOH:O	2.34	0.52
37:f:21:ARG:NH1	37:f:22:PRO:O	2.42	0.52
39:j:39:CYS:HA	39:j:47:MET:CE	2.39	0.52
40:k:33:LYS:HD2	40:k:40:TYR:CZ	2.45	0.52
41:P:36:SER:O	41:P:38:PHE:N	2.42	0.52
1:A:906:C:P	1:A:906:C:C6	3.03	0.52
1:A:1472:C:H6	1:A:1472:C:H5''	1.75	0.52
1:A:2276:A:H5''	49:A:9789:HOH:O	2.08	0.52
1:A:2289:C:N3	40:k:22:LYS:HA	2.24	0.52
1:A:3616:U:H5'	1:A:3617:G:C2	2.45	0.52
1:A:4988:U:H3'	1:A:4991:U:O2'	2.10	0.52
49:B:318:HOH:O	13:q:16:ARG:NH2	2.42	0.52
3:C:51:U:C1'	49:C:308:HOH:O	2.54	0.52
11:o:31:ARG:HH12	11:o:187:VAL:HG21	1.74	0.52
16:t:164:LEU:HA	49:t:434:HOH:O	2.10	0.52
18:J:132:ALA:O	18:J:133:HIS:HB2	2.09	0.52
23:R:107:HIS:CD2	49:R:227:HOH:O	2.63	0.52
1:A:1844:G:N7	49:A:5901:HOH:O	2.33	0.52
1:A:1860:PSU:C5	49:A:6917:HOH:O	2.62	0.52
1:A:2787:A2M:CM'	1:A:2788:U:H5'	2.40	0.52
1:A:4511:A:H5''	1:A:4512:U:OP2	2.10	0.52
1:A:4909:A:H8	5:E:156:TYR:CE2	2.28	0.52
2:B:47:G:H21	7:G:222:GLN:HE21	1.56	0.52
3:C:52:A:H61	37:f:27:ILE:HD12	1.75	0.52
11:o:112:VAL:HG21	11:o:161:ILE:HD11	1.92	0.52
21:M:84:TYR:HE2	49:M:239:HOH:O	1.93	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:118:LEU:HG	27:V:120:ARG:NH1	2.25	0.52
43:u:53:VAL:HG13	49:u:205:HOH:O	2.09	0.52
1:A:246:G:H2'	1:A:246:G:N3	2.24	0.52
10:n:63:LEU:HD21	16:t:29:GLN:HG3	1.90	0.52
18:J:116:HIS:HE1	18:J:147:GLU:OE2	1.93	0.52
41:P:99:GLU:HG3	41:P:101:LEU:N	2.25	0.52
41:P:175:SER:O	41:P:178:GLN:HG3	2.09	0.52
1:A:275:C:C2'	49:A:7380:HOH:O	2.40	0.52
1:A:295:A:OP1	49:A:5656:HOH:O	2.19	0.52
1:A:960:A:H2'	1:A:970:G:N7	2.25	0.52
1:A:1661:C:OP2	49:A:5658:HOH:O	2.19	0.52
1:A:3615:G:N2	43:u:44:ARG:NH2	2.58	0.52
1:A:4119:C:H5'	1:A:4120:U:OP2	2.10	0.52
1:A:4151:G:H2'	1:A:4152:G:O4'	2.10	0.52
1:A:4372:U:P	38:i:60:ALA:H	2.32	0.52
1:A:4543:G:H2'	1:A:4544:A:C8	2.44	0.52
3:C:3:A:N7	49:C:323:HOH:O	2.34	0.52
3:C:80:A:H5'	3:C:81:C:OP2	2.10	0.52
17:I:183:LYS:O	17:I:186:GLU:HG2	2.08	0.52
1:A:1695:U:H2'	1:A:1696:C:C6	2.44	0.52
1:A:3733:A:H2'	1:A:3734:U:O4'	2.10	0.52
1:A:3757:G:O5'	1:A:3757:G:C8	2.63	0.52
1:A:4370:OMG:C8	49:A:5755:HOH:O	2.60	0.52
2:B:27:G:O6	7:G:58:ARG:NH2	2.41	0.52
3:C:94:G:O2'	35:d:82:THR:O	2.27	0.52
5:E:298:LEU:C	5:E:299:ILE:HD13	2.35	0.52
11:o:97:ALA:O	11:o:98:HIS:HB2	2.08	0.52
16:t:182:HIS:H	16:t:182:HIS:HD2	1.53	0.52
38:i:20:PRO:HG2	38:i:73:VAL:HG22	1.91	0.52
38:i:35:ALA:O	38:i:36:GLN:C	2.53	0.52
1:A:136:C:H41	33:b:79:LYS:HE3	1.75	0.51
1:A:276:C:P	49:A:5812:HOH:O	2.68	0.51
1:A:3726:A:H2'	1:A:3727:A:C8	2.45	0.51
2:B:16:A:C8	49:B:334:HOH:O	2.55	0.51
14:r:107:THR:HG23	34:c:18:THR:O	2.10	0.51
30:Y:114:ARG:HH11	30:Y:117:GLN:HE21	1.58	0.51
38:i:45:GLN:NE2	38:i:52:THR:H	2.05	0.51
1:A:127:G:H2'	1:A:128:C:O4'	2.11	0.51
1:A:1631:A:OP2	49:A:5654:HOH:O	2.19	0.51
1:A:5003:U:OP2	49:A:5653:HOH:O	2.18	0.51
1:A:119:G:H3'	1:A:120:A:C5'	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4338:G:H4'	1:A:4339:A:OP1	2.10	0.51
2:B:119:U:H5	7:G:259:LYS:HZ3	1.58	0.51
5:E:126:LYS:O	5:E:127:LYS:HB2	2.08	0.51
29:X:54:MET:HG3	29:X:62:VAL:HG21	1.92	0.51
1:A:274:C:N4	1:A:275:C:N4	2.58	0.51
1:A:2718:U:H5'	1:A:2719:C:H5'	1.91	0.51
1:A:3615:G:C1'	43:u:44:ARG:HD3	2.41	0.51
1:A:4463:U:H3'	49:A:9938:HOH:O	2.09	0.51
3:C:59:A:H3'	3:C:59:A:OP2	2.11	0.51
4:D:206:PRO:HG3	4:D:213:GLY:HA3	1.93	0.51
1:A:480:C:C2'	1:A:481:G:H5'	2.41	0.51
1:A:1290:G:N7	49:A:5917:HOH:O	2.34	0.51
3:C:82:A:OP1	3:C:86:U:H5'	2.11	0.51
5:E:217:ILE:HD11	5:E:333:LEU:HD21	1.92	0.51
1:A:1912:G:N7	49:A:5927:HOH:O	2.34	0.51
49:A:8741:HOH:O	23:R:85:SER:HB3	2.11	0.51
20:L:119:MET:HE3	20:L:145:LEU:HB3	1.93	0.51
1:A:663:G:H2'	1:A:664:G:O5'	2.11	0.51
1:A:3615:G:N3	43:u:44:ARG:CZ	2.74	0.51
1:A:3757:G:N3	1:A:3757:G:C2'	2.73	0.51
1:A:4484:A:H2'	1:A:4485:C:C6	2.45	0.51
2:B:85:G:OP1	9:m:222:LYS:HE2	2.11	0.51
2:B:118:C:OP1	7:G:256:LYS:NZ	2.43	0.51
7:G:50:ARG:NH1	49:G:401:HOH:O	2.12	0.51
15:s:112:VAL:HG11	17:I:201:LEU:HD22	1.91	0.51
16:t:116:LEU:HD22	16:t:135:ILE:HD11	1.91	0.51
1:A:1077:C:OP1	1:A:1215:C:O2'	2.27	0.51
1:A:1921:C:N3	15:s:17:PHE:CE1	2.69	0.51
1:A:3859:G:OP2	18:J:25:HIS:HE1	1.94	0.51
49:A:6097:HOH:O	15:s:17:PHE:CE2	2.54	0.51
5:E:5:LYS:HA	5:E:5:LYS:CE	2.41	0.51
14:r:119:GLU:OE2	14:r:123:LYS:HE3	2.11	0.51
24:S:89:LYS:HD2	49:S:237:HOH:O	2.11	0.51
32:a:41:ALA:HB1	32:a:42:PRO:CD	2.41	0.51
1:A:512:U:O2	1:A:512:U:H2'	2.11	0.51
1:A:733:A:H61	1:A:930:G:N2	2.09	0.51
1:A:1093:C:H2'	1:A:1094:G:O4'	2.10	0.51
1:A:2900:U:C6	1:A:2900:U:C3'	2.93	0.51
2:B:6:C:H4'	7:G:52:ILE:HD13	1.92	0.51
23:R:48:ARG:HG2	23:R:48:ARG:NH1	2.19	0.51
24:S:75:ARG:O	24:S:76:LYS:C	2.53	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:161:G:N1	1:A:275:C:C4	2.79	0.51
1:A:935:A:N3	15:s:44:GLN:HA	2.26	0.51
1:A:1187:G:H1'	7:G:275:GLN:CG	2.41	0.51
1:A:1459:A:OP1	19:K:65:ARG:NH2	2.42	0.51
1:A:1893:C:OP1	49:A:5655:HOH:O	2.19	0.51
1:A:2055:G:H3'	1:A:2056:G:H5'	1.92	0.51
1:A:4252:C:H3'	1:A:4253:A:H2'	1.93	0.51
1:A:4323:A:H4'	7:G:176:SER:HB3	1.93	0.51
11:o:31:ARG:CZ	11:o:87:GLY:HA3	2.41	0.51
15:s:119:ARG:O	15:s:123:ILE:HD12	2.11	0.51
25:T:102:ARG:HG3	25:T:102:ARG:NH1	2.26	0.51
32:a:22:LEU:N	49:a:307:HOH:O	2.34	0.51
1:A:147:A:OP1	10:n:197:LYS:NZ	2.40	0.50
1:A:1378:C:H4'	1:A:1379:C:H5'	1.92	0.50
1:A:2261:G:H4'	49:A:6952:HOH:O	2.11	0.50
1:A:2416:G:N2	1:A:2427:G:C5	2.76	0.50
1:A:2528:G:P	49:A:6274:HOH:O	2.68	0.50
1:A:2563:C:H3'	1:A:2564:G:C8	2.47	0.50
1:A:3938:G:N1	49:A:5514:HOH:O	2.12	0.50
1:A:4271:A:C5	49:A:5523:HOH:O	2.63	0.50
5:E:299:ILE:HD13	5:E:299:ILE:N	2.25	0.50
9:m:112:LEU:O	9:m:113:ARG:HB2	2.11	0.50
19:K:99:LYS:HE3	19:K:119:LYS:HE3	1.94	0.50
25:T:57:MET:HG2	25:T:61:LYS:HE2	1.94	0.50
41:P:142:VAL:HG11	41:P:162:HIS:NE2	2.26	0.50
1:A:2396:A:H4'	1:A:2397:G:OP2	2.12	0.50
1:A:2415:OMU:O2'	1:A:2416:G:H5'	2.11	0.50
1:A:3630:A:N7	49:A:5933:HOH:O	2.35	0.50
10:n:175:ARG:HG3	10:n:230:TYR:CG	2.46	0.50
24:S:45:ARG:HG3	24:S:45:ARG:NH1	2.27	0.50
28:W:99:PRO:HG3	28:W:105:ILE:CD1	2.42	0.50
1:A:690:C:O2'	1:A:691:C:H5'	2.11	0.50
1:A:1097:C:H2'	1:A:1098:G:C8	2.46	0.50
1:A:1279:A:OP1	8:H:131:LYS:NZ	2.44	0.50
1:A:3868:G:H22	1:A:3900:G:H1'	1.75	0.50
1:A:4758:U:OP2	17:I:171:LYS:NZ	2.39	0.50
1:A:4910:G:C8	17:I:156:LEU:HD22	2.47	0.50
1:A:5062:G:H2'	1:A:5062:G:N3	2.27	0.50
49:A:5796:HOH:O	39:j:60:CYS:CB	2.60	0.50
27:V:39:PHE:CE2	27:V:43:MET:CE	2.95	0.50
34:c:36:HIS:O	34:c:39:PHE:HB3	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:161:G:N2	1:A:275:C:N1	2.58	0.50
1:A:1273:G:H5''	27:V:117:ARG:HG2	1.93	0.50
1:A:1942:A:N6	1:A:2039:G:H2'	2.27	0.50
1:A:2401:A2M:OP2	49:A:5660:HOH:O	2.19	0.50
1:A:2662:G:H2'	1:A:2663:G:O4'	2.11	0.50
1:A:4537:C:H4'	49:A:6693:HOH:O	2.11	0.50
2:B:115:A:C1'	49:B:315:HOH:O	2.59	0.50
6:F:62:THR:HG23	6:F:92:PHE:CE1	2.47	0.50
18:J:75:GLN:HG2	18:J:75:GLN:O	2.11	0.50
1:A:4740:G:H1'	1:A:4742:G:H5''	1.92	0.50
49:A:5644:HOH:O	34:c:26:HIS:CE1	2.64	0.50
49:A:6674:HOH:O	14:r:19:GLN:CD	2.54	0.50
29:X:115:LYS:O	29:X:116:ASN:HB2	2.11	0.50
1:A:296:A:OP1	49:A:5663:HOH:O	2.20	0.50
1:A:696:C:H3'	1:A:697:G:C5'	2.42	0.50
1:A:1860:PSU:C2'	49:A:6917:HOH:O	2.57	0.50
1:A:1921:C:N3	15:s:17:PHE:HD1	1.98	0.50
1:A:4478:G:H1'	1:A:4608:G:N2	2.26	0.50
1:A:4530:UR3:H2'	1:A:4531:U:H2'	1.92	0.50
1:A:4938:A:C4	8:H:242:ILE:HD13	2.46	0.50
7:G:99:TYR:CD1	7:G:99:TYR:O	2.64	0.50
14:r:121:ARG:HH11	14:r:121:ARG:HG3	1.76	0.50
1:A:2601:A:H2	49:A:6652:HOH:O	1.94	0.50
1:A:3757:G:C8	1:A:3757:G:C5'	2.95	0.50
1:A:4491:G:H5'	49:A:5983:HOH:O	2.10	0.50
15:s:33:GLN:HB3	49:s:308:HOH:O	1.97	0.50
24:S:30:MET:O	24:S:49:ILE:HG22	2.12	0.50
26:U:9:ARG:CD	49:U:257:HOH:O	2.59	0.50
30:Y:43:ASN:ND2	30:Y:46:ARG:H	2.05	0.50
1:A:937:U:OP1	15:s:46:ARG:NH2	2.44	0.50
1:A:4084:G:O6	4:D:72:ARG:NH2	2.31	0.50
29:X:21:VAL:HG22	29:X:22:THR:N	2.26	0.50
29:X:84:ILE:HD13	29:X:84:ILE:C	2.37	0.50
32:a:41:ALA:HB1	32:a:42:PRO:HD2	1.93	0.50
1:A:12:A:H3'	49:A:9428:HOH:O	2.12	0.50
1:A:69:A:N1	1:A:324:A:O2'	2.41	0.50
1:A:389:A:H1'	24:S:91:ASN:HA	1.94	0.50
1:A:3774:A:H8	1:A:3774:A:OP1	1.95	0.50
1:A:4600:G:O2'	1:A:4609:G:O6	2.28	0.50
2:B:11:A:N1	2:B:66:G:O2'	2.40	0.50
6:F:311:ARG:HD2	49:F:543:HOH:O	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:o:13:PRO:O	11:o:16:VAL:HG23	2.11	0.50
21:M:94:TYR:CE2	21:M:138:ARG:HD3	2.47	0.50
28:W:50:ASN:HD22	28:W:50:ASN:C	2.20	0.50
41:P:7:PHE:O	41:P:8:GLU:C	2.54	0.50
1:A:278:G:H4'	16:t:8:GLN:NE2	2.27	0.49
1:A:959:G:N7	8:H:123:ARG:HG2	2.27	0.49
1:A:1812:C:O2'	1:A:1813:U:H5'	2.12	0.49
1:A:4275:G:H5'	49:A:6849:HOH:O	2.11	0.49
1:A:4326:G:H2'	1:A:4327:C:O4'	2.11	0.49
1:A:4699:U:H4'	1:A:4700:A:O5'	2.12	0.49
22:N:130:ARG:NH2	49:N:303:HOH:O	2.35	0.49
40:k:28:GLU:HB2	40:k:29:PRO:CD	2.41	0.49
3:C:77:A:H2'	3:C:78:G:O4'	2.12	0.49
22:N:97:LYS:HB2	22:N:97:LYS:NZ	2.27	0.49
1:A:316:U:H3'	1:A:316:U:OP1	2.11	0.49
1:A:383:A:OP1	49:A:5659:HOH:O	2.19	0.49
1:A:750:U:H2'	1:A:751:G:O4'	2.12	0.49
1:A:989:U:O2	1:A:1064:G:C6	2.65	0.49
1:A:1094:G:H1	1:A:1201:U:H3	1.59	0.49
1:A:1534:A2M:HM'3	1:A:1637:A:N3	2.27	0.49
1:A:2417:A:N1	49:A:5944:HOH:O	2.35	0.49
1:A:4094:G:H1	1:A:4114:C:N4	2.11	0.49
1:A:4379:A:C8	38:i:54:PRO:HA	2.47	0.49
16:t:201:HIS:CG	49:t:436:HOH:O	2.65	0.49
23:R:89:LYS:NZ	49:R:203:HOH:O	2.45	0.49
30:Y:80:HIS:CD2	49:Y:302:HOH:O	2.45	0.49
32:a:78:TYR:CZ	32:a:90:ARG:NH1	2.80	0.49
1:A:1242:G:H4'	27:V:121:PRO:O	2.13	0.49
1:A:4291:G:H5'	49:A:7643:HOH:O	2.12	0.49
5:E:122:TRP:CE2	5:E:127:LYS:HE3	2.46	0.49
10:n:78:PRO:HD3	10:n:237:TRP:CE2	2.47	0.49
10:n:134:PRO:HB3	10:n:206:GLN:HG3	1.94	0.49
22:N:104:SER:C	49:N:304:HOH:O	2.55	0.49
24:S:114:ASP:O	24:S:118:ILE:HG12	2.12	0.49
29:X:95:ASP:C	29:X:97:ASP:H	2.21	0.49
34:c:30:ARG:HG3	34:c:31:GLY:H	1.77	0.49
38:i:40:ARG:HD2	49:i:306:HOH:O	2.11	0.49
1:A:1417:C:H2'	1:A:1418:C:O4'	2.12	0.49
1:A:2359:U:O3'	49:A:5531:HOH:O	2.19	0.49
1:A:4410:G:H2'	1:A:4410:G:N3	2.27	0.49
1:A:4745:G:H1	1:A:4955:A:H61	1.61	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:150:C:H2'	3:C:150:C:O2	2.12	0.49
10:n:173:LEU:O	10:n:177:MET:HG2	2.13	0.49
11:o:31:ARG:NH1	11:o:187:VAL:HG21	2.27	0.49
14:r:49:ARG:HH11	14:r:49:ARG:HG3	1.77	0.49
30:Y:96:CYS:SG	30:Y:123:THR:CG2	3.00	0.49
30:Y:128:ARG:O	30:Y:129:LEU:HB2	2.12	0.49
42:Q:13:LYS:HB2	42:Q:13:LYS:HZ2	1.77	0.49
1:A:729:G:H5'	1:A:729:G:N3	2.27	0.49
1:A:1448:G:H2'	1:A:1449:C:C6	2.48	0.49
1:A:1502:G:H2'	1:A:1502:G:N3	2.28	0.49
1:A:2368:A:N6	1:A:2827:G:O2'	2.44	0.49
1:A:4416:G:H8	1:A:4416:G:H5''	1.76	0.49
5:E:67:VAL:O	5:E:70:LYS:HB2	2.11	0.49
11:o:44:GLU:CG	15:s:2:VAL:HG12	2.42	0.49
12:p:146:GLU:HG2	12:p:147:HIS:N	2.27	0.49
18:J:135:ARG:NH1	49:J:302:HOH:O	2.27	0.49
19:K:154:LYS:HA	19:K:154:LYS:HZ2	1.77	0.49
26:U:60:HIS:HB2	49:U:204:HOH:O	2.12	0.49
27:V:25:ARG:HD3	27:V:26:SER:H	1.77	0.49
41:P:71:LEU:HD12	41:P:129:LEU:HD12	1.94	0.49
1:A:466:A:C2	1:A:468:U:C5	3.01	0.49
1:A:1082:C:H1'	1:A:1083:U:OP1	2.13	0.49
1:A:1862:PSU:N3	49:A:5503:HOH:O	1.70	0.49
1:A:2339:G:N7	49:A:5946:HOH:O	2.35	0.49
1:A:4091:G:N2	1:A:4159:C:C2	2.81	0.49
1:A:4337:C:C2	38:i:61:LYS:HE2	2.33	0.49
21:M:13:VAL:HG22	21:M:29:ARG:HB2	1.94	0.49
23:R:47:ARG:O	23:R:48:ARG:C	2.55	0.49
28:W:84:ALA:C	28:W:86:GLY:H	2.21	0.49
1:A:308:G:H8	34:c:31:GLY:HA3	1.77	0.49
1:A:1071:C:O2'	8:H:70:LYS:NZ	2.45	0.49
1:A:1260:G:C8	1:A:1260:G:C3'	2.96	0.49
1:A:2347:A:C5	30:Y:31:ILE:HD11	2.48	0.49
1:A:2677:G:H2'	1:A:2678:A:H5'	1.95	0.49
1:A:4364:G:N7	49:A:5926:HOH:O	2.34	0.49
1:A:4692:A:P	11:o:71:ARG:HH11	2.35	0.49
1:A:4909:A:H8	5:E:156:TYR:CZ	2.30	0.49
3:C:155:C:H2'	3:C:156:U:H4'	1.95	0.49
5:E:108:GLU:HA	5:E:137:TRP:CD1	2.47	0.49
7:G:70:GLU:H	7:G:70:GLU:CD	2.20	0.49
14:r:15:HIS:HE1	49:r:302:HOH:O	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:t:10:LEU:HD23	34:c:48:CYS:SG	2.53	0.49
28:W:51:ASN:HB3	49:W:202:HOH:O	2.11	0.49
33:b:32:ARG:HH22	33:b:51:ARG:HD2	1.77	0.49
38:i:82:MET:HE2	38:i:82:MET:CA	2.42	0.49
1:A:277:G:C2'	1:A:277:G:N3	2.72	0.49
1:A:411:G:H4'	1:A:412:G:C5'	2.38	0.49
1:A:1433:A:H2'	1:A:1434:G:O4'	2.13	0.49
1:A:2442:G:O2'	1:A:2512:A:N3	2.45	0.49
1:A:2635:U:H2'	1:A:2636:U:O4'	2.13	0.49
1:A:3768:U:C2'	1:A:3769:C:H5'	2.42	0.49
1:A:4114:C:C6	1:A:4114:C:C4'	2.96	0.49
1:A:4870:G:H5''	15:s:91:TRP:CD2	2.48	0.49
6:F:265:GLY:C	6:F:266:THR:HG23	2.37	0.49
11:o:27:VAL:HG12	11:o:84:VAL:HG21	1.94	0.49
13:q:40:LEU:HD12	13:q:70:VAL:HG23	1.94	0.49
1:A:133:C:H41	33:b:74:LYS:HA	1.78	0.49
1:A:1089:G:H4'	49:A:9496:HOH:O	2.13	0.49
1:A:1180:C:OP2	7:G:289:ARG:NH1	2.33	0.49
1:A:2517:A:N1	49:A:5954:HOH:O	2.35	0.49
1:A:2786:U:C3'	49:A:7638:HOH:O	2.60	0.49
1:A:4258:C:P	13:q:54:ARG:CZ	3.01	0.49
41:P:140:GLN:HG3	41:P:141:THR:N	2.27	0.49
2:B:19:C:H2'	2:B:20:U:H6	1.78	0.48
4:D:42:LYS:HE2	4:D:87:PHE:CE1	2.48	0.48
5:E:89:ILE:HG22	5:E:153:MET:HE1	1.95	0.48
22:N:105:PHE:CA	49:N:304:HOH:O	2.33	0.48
26:U:75:LEU:HD11	26:U:133:ALA:HA	1.94	0.48
32:a:79:GLY:HA2	49:a:330:HOH:O	2.12	0.48
41:P:173:LEU:HB3	41:P:181:LEU:HD12	1.95	0.48
1:A:1064:G:H3'	1:A:1065:G:H8	1.78	0.48
1:A:1214:C:C2	27:V:91:ARG:HA	2.44	0.48
1:A:1667:G:H5'	1:A:1688:G:OP1	2.14	0.48
1:A:2718:U:C5'	1:A:2719:C:H5'	2.43	0.48
1:A:4150:G:C2'	1:A:4151:G:H5'	2.43	0.48
1:A:4162:C:C5	10:n:243:GLY:HA2	2.48	0.48
1:A:4487:A:N6	49:A:5568:HOH:O	2.42	0.48
6:F:63:SER:CA	49:F:503:HOH:O	2.59	0.48
35:d:39:TYR:CD1	35:d:40:PRO:HA	2.48	0.48
1:A:247:G:H4'	24:S:128:VAL:HG11	0.49	0.48
1:A:988:C:N3	1:A:1065:G:N2	2.59	0.48
1:A:2421:G:H2'	1:A:2828:U:O2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4537:C:H2'	1:A:4538:G:C8	2.48	0.48
1:A:5004:C:O5'	1:A:5004:C:H6	1.96	0.48
2:B:83:A:H2'	49:B:423:HOH:O	2.12	0.48
2:B:106:G:OP2	12:p:203:HIS:CE1	2.66	0.48
4:D:30:ARG:HD3	4:D:36:GLU:OE1	2.13	0.48
5:E:258:HIS:HA	5:E:259:PRO:C	2.37	0.48
20:L:106:LEU:HA	20:L:106:LEU:HD23	1.54	0.48
41:P:59:ILE:O	41:P:63:CYS:HB2	2.14	0.48
1:A:308:G:O3'	34:c:33:LEU:HB2	2.13	0.48
1:A:2736:G:N3	49:A:5961:HOH:O	2.35	0.48
1:A:2773:G:O2'	1:A:2774:C:H5'	2.14	0.48
1:A:4587:G:OP1	17:I:61:ARG:NH1	2.46	0.48
1:A:4762:A:C2'	1:A:4763:U:H5'	2.43	0.48
1:A:5002:U:H3'	49:A:5830:HOH:O	2.13	0.48
1:A:5008:C:H2'	1:A:5009:G:O4'	2.13	0.48
2:B:61:G:OP1	7:G:271:MET:N	2.43	0.48
6:F:48:ASN:CG	49:F:517:HOH:O	2.56	0.48
12:p:207:ASP:HA	12:p:210:ARG:CG	2.44	0.48
16:t:65:ARG:HD3	49:t:403:HOH:O	2.12	0.48
19:K:19:LYS:NZ	49:K:211:HOH:O	2.46	0.48
26:U:23:GLY:O	26:U:24:LYS:HB2	2.12	0.48
1:A:451:C:H5''	1:A:452:A:O5'	2.12	0.48
1:A:1465:G:N7	49:A:5953:HOH:O	2.35	0.48
1:A:1808:C:O2	1:A:1831:G:C2	2.66	0.48
1:A:3663:A:H4'	1:A:3664:G:OP2	2.14	0.48
1:A:4068:U:H3'	1:A:4068:U:C6	2.48	0.48
1:A:4070:U:H2'	1:A:4071:U:O4'	2.13	0.48
1:A:4957:C:H2'	1:A:4958:C:C6	2.49	0.48
49:A:5533:HOH:O	6:F:189:MET:CG	2.51	0.48
6:F:154:VAL:HG22	6:F:155:GLU:N	2.28	0.48
6:F:261:ASP:N	49:F:507:HOH:O	2.25	0.48
16:t:16:SER:CB	34:c:48:CYS:HB3	2.44	0.48
17:I:31:ARG:O	17:I:101:ARG:HD2	2.14	0.48
41:P:71:LEU:CD1	41:P:129:LEU:HD12	2.44	0.48
1:A:97:G:N7	14:r:13:HIS:NE2	2.46	0.48
1:A:1187:G:H1'	7:G:275:GLN:HG3	1.96	0.48
1:A:1460:C:O2'	1:A:1461:C:H5'	2.13	0.48
1:A:1920:C:C5	49:A:5708:HOH:O	2.55	0.48
1:A:2503:G:C6	1:A:4084:G:C6	3.01	0.48
1:A:2773:G:OP1	36:e:39:SER:HB2	2.12	0.48
1:A:4370:OMG:OP1	38:i:64:LYS:HB3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4742:G:H1	1:A:4958:C:H42	1.61	0.48
1:A:4968:A:N7	49:A:5955:HOH:O	2.35	0.48
2:B:64:G:H4'	12:p:204:GLY:HA2	1.96	0.48
5:E:19:ARG:NE	49:E:501:HOH:O	2.42	0.48
5:E:378:ARG:N	49:E:509:HOH:O	2.44	0.48
6:F:48:ASN:OD1	6:F:48:ASN:N	2.46	0.48
7:G:130:TYR:N	48:G:301:BR:BR	2.89	0.48
15:s:6:PHE:H	15:s:11:ARG:NH2	2.11	0.48
25:T:29:ILE:HD11	25:T:98:LYS:HD2	1.96	0.48
28:W:90:ARG:HH21	39:j:44:LYS:HG2	1.77	0.48
1:A:65:A:H5''	49:A:7692:HOH:O	2.14	0.48
1:A:1433:A:N6	1:A:1451:G:O2'	2.46	0.48
1:A:1637:A:C2'	49:A:5808:HOH:O	2.60	0.48
1:A:4204:C:N4	49:A:5822:HOH:O	2.29	0.48
1:A:4522:G:C2	49:A:5892:HOH:O	2.65	0.48
1:A:4926:C:O2	1:A:4926:C:O4'	2.31	0.48
2:B:91:C:C5'	49:B:322:HOH:O	2.49	0.48
11:o:111:LEU:HD21	11:o:125:ARG:HD3	1.95	0.48
20:L:17:CYS:HB3	20:L:52:ARG:NH1	2.28	0.48
26:U:110:LYS:HD3	49:U:203:HOH:O	2.13	0.48
1:A:19:G:N7	49:A:5962:HOH:O	2.35	0.48
1:A:453:G:N3	1:A:453:G:C2'	2.76	0.48
1:A:687:U:O2'	8:H:94:LYS:HE3	2.14	0.48
1:A:2434:G:O2'	1:A:2527:A:N1	2.45	0.48
1:A:3909:C:O2	1:A:4396:A:N1	2.46	0.48
1:A:4196:OMG:HM23	1:A:4196:OMG:H1'	1.61	0.48
1:A:4452:U:C4	1:A:4531:U:O4	2.67	0.48
1:A:4520:G:OP2	5:E:2:SER:OG	2.17	0.48
1:A:4746:C:H4'	1:A:4746:C:OP1	2.14	0.48
1:A:4754:G:N2	1:A:4880:C:O2	2.47	0.48
10:n:32:PHE:CE2	25:T:55:ALA:HA	2.48	0.48
20:L:11:ALA:O	20:L:15:LEU:HB2	2.13	0.48
21:M:9:GLU:HG2	21:M:67:VAL:HB	1.96	0.48
28:W:57:LYS:HD3	49:W:204:HOH:O	2.13	0.48
30:Y:70:LEU:HD11	30:Y:76:LYS:HB3	1.96	0.48
35:d:25:LYS:O	35:d:25:LYS:HG2	2.14	0.48
1:A:1179:U:H3'	7:G:286:SER:HB3	1.95	0.48
1:A:4709:U:O2	1:A:4709:U:H2'	2.14	0.48
11:o:110:SER:O	11:o:127:ARG:HD3	2.14	0.48
25:T:83:THR:HG22	32:a:95:PHE:CZ	2.49	0.48
30:Y:21:ILE:HD11	30:Y:53:ILE:CD1	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:91:G:OP1	38:i:44:LYS:HE2	2.14	0.48
1:A:286:U:H2'	1:A:287:U:C6	2.49	0.48
1:A:2725:A:H2'	1:A:2725:A:N3	2.29	0.48
1:A:4253:A:H4'	1:A:4254:G:C5'	2.43	0.48
4:D:68:ARG:HG3	4:D:70:LYS:HE3	1.95	0.48
8:H:72:LYS:HG3	27:V:119:CYS:SG	2.54	0.48
21:M:153:PRO:O	21:M:155:PRO:HD3	2.14	0.48
25:T:89:ILE:CD1	25:T:118:PHE:HD1	2.27	0.48
32:a:91:ILE:O	32:a:92:LYS:C	2.56	0.48
1:A:56:A:H4'	49:A:7034:HOH:O	2.14	0.47
1:A:1180:C:H5'	7:G:289:ARG:HD2	1.96	0.47
1:A:1322:1MA:H4'	49:A:6115:HOH:O	2.13	0.47
1:A:2532:C:OP1	49:A:5666:HOH:O	2.20	0.47
2:B:58:A:H2'	2:B:59:G:C8	2.49	0.47
7:G:99:TYR:CD1	7:G:99:TYR:C	2.92	0.47
11:o:128:MET:HE2	11:o:134:CYS:HB2	1.95	0.47
19:K:63:LEU:HD12	19:K:63:LEU:HA	1.59	0.47
19:K:63:LEU:HD12	19:K:66:MET:HE2	1.96	0.47
19:K:112:ARG:HE	19:K:115:ARG:NH2	2.12	0.47
22:N:102:ARG:HD3	22:N:102:ARG:HA	1.47	0.47
1:A:1178:G:C1'	7:G:282:GLN:HB3	2.44	0.47
1:A:1778:C:O5'	7:G:5:LYS:HE2	2.14	0.47
1:A:2407:G:OP1	37:f:48:LYS:HD2	2.14	0.47
1:A:2640:G:H2'	1:A:2641:A:C8	2.49	0.47
1:A:4273:A:N6	1:A:4335:C:C4	2.83	0.47
1:A:4433:G:C2	49:A:5508:HOH:O	2.55	0.47
1:A:4612:C:H2'	1:A:4613:C:O4'	2.14	0.47
49:A:9144:HOH:O	42:Q:46:LYS:HE2	2.14	0.47
5:E:200:ARG:CG	5:E:200:ARG:NH1	2.74	0.47
39:j:39:CYS:O	39:j:43:GLY:N	2.47	0.47
41:P:153:VAL:HG23	41:P:194:ALA:HA	1.96	0.47
1:A:106:A:H2'	1:A:107:G:O4'	2.14	0.47
1:A:4225:G:N2	1:A:4273:A:C2	2.81	0.47
1:A:4574:U:H2'	1:A:4575:G:OP1	2.14	0.47
1:A:4672:A:OP1	42:Q:15:ARG:NH2	2.47	0.47
2:B:11:A:C2'	2:B:12:U:H5''	2.44	0.47
5:E:160:ILE:HG13	5:E:193:LYS:HG3	1.95	0.47
7:G:223:PHE:O	7:G:224:SER:C	2.57	0.47
34:c:87:ARG:HG2	34:c:87:ARG:O	2.13	0.47
1:A:2752:G:H2'	1:A:2753:G:O4'	2.15	0.47
1:A:3693:U:OP1	49:A:5670:HOH:O	2.20	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4135:G:C3'	1:A:4136:G:H8	2.27	0.47
1:A:4194:U:H3'	27:V:3:LYS:HE3	1.96	0.47
1:A:4315:A:OP1	49:A:5657:HOH:O	2.19	0.47
1:A:4560:C:N4	49:A:5799:HOH:O	2.28	0.47
49:A:6024:HOH:O	35:d:31:LYS:NZ	2.47	0.47
2:B:111:C:H2'	2:B:112:U:O4'	2.14	0.47
49:B:361:HOH:O	21:M:57:SER:HB3	2.15	0.47
4:D:58:LEU:HB3	4:D:75:LEU:HD22	1.96	0.47
49:K:239:HOH:O	40:k:4:HIS:HD2	1.97	0.47
20:L:17:CYS:CB	20:L:52:ARG:NH1	2.77	0.47
25:T:48:ARG:HB3	25:T:69:LYS:HB3	1.96	0.47
25:T:81:MET:HE1	32:a:96:LEU:HD21	1.96	0.47
29:X:101:LYS:HE2	29:X:101:LYS:HB2	1.53	0.47
37:f:41:ARG:HD2	37:f:41:ARG:HA	1.59	0.47
41:P:156:ASN:OD1	41:P:156:ASN:N	2.47	0.47
1:A:308:G:H8	34:c:31:GLY:CA	2.27	0.47
1:A:1177:U:H4'	7:G:279:ARG:HD2	1.95	0.47
1:A:1241:C:O2'	27:V:120:ARG:CB	2.60	0.47
1:A:1273:G:C6	8:H:73:TYR:HB2	2.50	0.47
1:A:4183:G:N3	1:A:4183:G:H2'	2.29	0.47
49:A:8053:HOH:O	43:u:44:ARG:HG2	2.14	0.47
9:m:63:GLN:O	9:m:64:MET:C	2.56	0.47
14:r:11:LYS:CB	49:r:308:HOH:O	2.55	0.47
28:W:65:MET:HE3	28:W:65:MET:HB3	1.72	0.47
31:Z:90:SER:O	31:Z:91:ASN:C	2.57	0.47
42:Q:123:LYS:O	42:Q:124:GLU:C	2.55	0.47
1:A:714:G:H5'	49:A:8348:HOH:O	2.14	0.47
1:A:1297:U:O3'	31:Z:58:VAL:HG13	2.15	0.47
1:A:1939:A:N6	49:A:5509:HOH:O	2.41	0.47
1:A:2859:G:P	49:A:5865:HOH:O	2.72	0.47
1:A:3615:G:C2	43:u:44:ARG:NH2	2.82	0.47
1:A:3746:A:H3'	1:A:3746:A:H8	1.79	0.47
1:A:4258:C:O5'	13:q:54:ARG:CZ	2.62	0.47
1:A:5037:U:H5''	43:u:59:HIS:HE1	1.78	0.47
3:C:139:G:P	49:C:307:HOH:O	2.73	0.47
6:F:345:ARG:O	6:F:346:ASN:C	2.55	0.47
10:n:29:ASN:ND2	10:n:30:PRO:HD2	2.26	0.47
12:p:52:MET:HE1	12:p:155:ALA:HB3	1.97	0.47
15:s:103:LYS:HB3	15:s:103:LYS:HE2	1.75	0.47
26:U:9:ARG:HD2	49:U:257:HOH:O	2.15	0.47
26:U:110:LYS:CD	49:U:203:HOH:O	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:294:G:H3'	1:A:294:G:N3	2.29	0.47
1:A:1214:C:H6	27:V:91:ARG:HH22	1.60	0.47
1:A:1214:C:C5	27:V:91:ARG:CZ	2.98	0.47
1:A:1241:C:O2'	27:V:120:ARG:CA	2.63	0.47
1:A:1272:C:H4'	9:m:37:PHE:CD1	2.48	0.47
1:A:1308:C:H2'	1:A:1309:C:C6	2.49	0.47
1:A:1379:C:N4	49:A:6352:HOH:O	2.45	0.47
1:A:1780:A:H1'	12:p:198:LYS:HZ1	1.80	0.47
1:A:2065:G:H2'	1:A:2066:C:O4'	2.15	0.47
1:A:2472:A:O2'	23:R:48:ARG:HD3	2.14	0.47
1:A:2517:A:OP2	49:A:5669:HOH:O	2.20	0.47
1:A:2528:G:H3'	49:A:6274:HOH:O	2.14	0.47
1:A:2711:G:N7	20:L:43:LYS:HE3	2.29	0.47
1:A:2859:G:N2	49:A:5885:HOH:O	2.33	0.47
1:A:2861:OMC:N3	1:A:3626:G:OP2	2.48	0.47
1:A:4434:C:C2	49:A:5508:HOH:O	2.39	0.47
1:A:4954:G:H2'	1:A:4955:A:O4'	2.14	0.47
1:A:5009:G:H2'	1:A:5010:PSU:O4'	2.15	0.47
6:F:21:ASN:OD1	6:F:21:ASN:N	2.46	0.47
8:H:213:THR:O	8:H:214:ASP:C	2.55	0.47
49:H:309:HOH:O	15:s:106:ASP:HB3	2.14	0.47
9:m:41:MET:HE2	9:m:41:MET:HA	1.96	0.47
14:r:195:ARG:HD2	49:r:318:HOH:O	2.15	0.47
20:L:17:CYS:HB3	20:L:52:ARG:CZ	2.43	0.47
34:c:3:LEU:HD13	34:c:5:TYR:OH	2.15	0.47
42:Q:13:LYS:NZ	42:Q:13:LYS:HB2	2.29	0.47
1:A:1639:U:OP1	35:d:3:LYS:HE3	2.14	0.47
1:A:1921:C:O2	21:M:160:ARG:HG3	2.14	0.47
1:A:2601:A:OP1	32:a:40:LYS:NZ	2.43	0.47
1:A:3718:A2M:H2	1:A:3934:G:O4'	2.15	0.47
3:C:9:A:O2'	3:C:10:G:H5'	2.15	0.47
10:n:100:HIS:ND1	10:n:103:ARG:HD3	2.30	0.47
10:n:102:TYR:OH	10:n:211:ASP:HB2	2.15	0.47
13:q:78:LYS:HE3	13:q:81:GLU:OE1	2.14	0.47
16:t:103:GLU:OE1	16:t:165:THR:OG1	2.26	0.47
21:M:31:ARG:CG	49:M:245:HOH:O	2.54	0.47
21:M:176:PHE:HA	49:M:219:HOH:O	2.15	0.47
30:Y:23:HIS:CD2	49:Y:369:HOH:O	2.67	0.47
41:P:49:VAL:HG21	41:P:88:LEU:HD23	1.97	0.47
1:A:273:U:H2'	1:A:274:C:C5'	2.24	0.47
1:A:452:A:H1'	1:A:453:G:C2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2436:U:C4	23:R:130:PRO:HG3	2.50	0.47
1:A:2786:U:C2'	49:A:7638:HOH:O	2.59	0.47
1:A:2815:A2M:HM'3	1:A:2815:A2M:H1'	1.67	0.47
1:A:4162:C:H5	10:n:73:ARG:NH2	2.13	0.47
1:A:4324:A:O2'	49:A:5671:HOH:O	2.20	0.47
1:A:4988:U:C6	1:A:4992:G:C4'	2.96	0.47
1:A:5001:PSU:OP1	5:E:382:MET:SD	2.73	0.47
4:D:89:TYR:CD1	4:D:89:TYR:N	2.83	0.47
6:F:60:HIS:NE2	6:F:100:ARG:CD	2.78	0.47
7:G:18:VAL:O	7:G:18:VAL:HG23	2.15	0.47
21:M:77:ASN:HD21	21:M:98:ARG:HH11	1.62	0.47
27:V:51:LYS:HE2	27:V:51:LYS:HB2	1.45	0.47
30:Y:106:LYS:HE2	30:Y:106:LYS:HB3	1.44	0.47
40:k:52:GLU:HB3	40:k:53:PRO:HD2	1.97	0.47
1:A:1241:C:C6	27:V:120:ARG:HD3	2.42	0.47
1:A:1666:C:O2'	1:A:1688:G:OP1	2.33	0.47
1:A:2512:A:H4'	1:A:2513:A:OP2	2.14	0.47
4:D:122:ASP:C	4:D:122:ASP:OD1	2.57	0.47
27:V:9:THR:O	27:V:10:HIS:C	2.56	0.47
28:W:45:LEU:HD23	28:W:96:ILE:HD12	1.97	0.47
33:b:15:GLU:H	33:b:15:GLU:CD	2.23	0.47
34:c:79:THR:O	34:c:80:HIS:C	2.58	0.47
41:P:169:ASP:O	41:P:170:GLN:C	2.57	0.47
1:A:85:G:N7	49:A:5945:HOH:O	2.35	0.46
1:A:433:A:C2	1:A:3867:A2M:H4'	2.49	0.46
1:A:745:G:H2'	1:A:746:A:O4'	2.15	0.46
1:A:1179:U:O2	7:G:286:SER:CB	2.48	0.46
1:A:1553:A:OP2	39:j:4:ARG:HD2	2.15	0.46
1:A:3879:G:H5''	49:A:5534:HOH:O	2.14	0.46
1:A:4068:U:C6	1:A:4068:U:C3'	2.98	0.46
1:A:4094:G:H1	1:A:4114:C:H42	1.62	0.46
49:A:8571:HOH:O	26:U:62:HIS:HE1	1.98	0.46
8:H:284:HIS:CE1	31:Z:33:VAL:HG22	2.50	0.46
33:b:105:LYS:NZ	49:b:204:HOH:O	2.48	0.46
38:i:63:THR:N	49:i:301:HOH:O	2.14	0.46
1:A:123:C:H2'	1:A:124:C:C6	2.50	0.46
1:A:1187:G:H1'	7:G:275:GLN:CD	2.39	0.46
1:A:2257:C:H2'	1:A:2257:C:O2	2.14	0.46
1:A:2590:G:O2'	1:A:2755:A:N6	2.46	0.46
49:A:5666:HOH:O	23:R:123:LYS:NZ	2.47	0.46
2:B:89:G:H2'	2:B:90:A:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:129:ALA:HB3	4:D:132:ASN:ND2	2.27	0.46
18:J:6:LEU:HD12	18:J:116:HIS:CG	2.50	0.46
1:A:724:C:OP1	6:F:350:ARG:CD	2.63	0.46
1:A:4582:C:C6	49:A:6080:HOH:O	2.54	0.46
1:A:4637:OMG:HM23	1:A:4637:OMG:H1'	1.72	0.46
1:A:4895:C:C3'	1:A:4896:G:H5'	2.44	0.46
5:E:242:ARG:O	5:E:242:ARG:HG2	2.15	0.46
5:E:377:GLY:HA2	49:E:509:HOH:O	2.15	0.46
13:q:78:LYS:HE2	13:q:82:ILE:HD11	1.97	0.46
19:K:178:ARG:HA	19:K:184:ARG:O	2.14	0.46
22:N:83:LYS:HA	49:V:303:HOH:O	2.14	0.46
22:N:107:LYS:O	22:N:108:ARG:C	2.54	0.46
43:u:29:PHE:CE1	43:u:40:PHE:CZ	3.03	0.46
1:A:927:G:O2'	1:A:928:C:H5'	2.16	0.46
1:A:4165:C:OP1	10:n:245:LYS:NZ	2.44	0.46
1:A:4872:G:C8	15:s:94:LYS:HD2	2.49	0.46
3:C:62:A:H4'	49:C:310:HOH:O	2.15	0.46
3:C:155:C:OP2	10:n:89:ARG:HD2	2.15	0.46
10:n:77:PRO:HA	10:n:237:TRP:CE3	2.50	0.46
10:n:229:ARG:O	10:n:230:TYR:C	2.59	0.46
13:q:24:ILE:HG12	13:q:128:LEU:HB3	1.96	0.46
20:L:7:GLN:HE21	20:L:7:GLN:N	2.07	0.46
34:c:45:ARG:HA	34:c:45:ARG:HD3	1.82	0.46
1:A:1271:G:H4'	1:A:1272:C:OP1	2.16	0.46
1:A:1418:C:C2'	1:A:1419:G:H5'	2.45	0.46
1:A:3673:C:O2'	1:A:3674:G:P	2.73	0.46
1:A:3878:C:N4	1:A:4400:G:H4'	2.30	0.46
1:A:4266:G:N3	1:A:4266:G:C2'	2.79	0.46
1:A:4703:U:H5''	1:A:4703:U:H6	1.80	0.46
1:A:4762:A:O2'	1:A:4763:U:H5'	2.15	0.46
2:B:19:C:H2'	2:B:20:U:C6	2.49	0.46
2:B:72:U:H2'	2:B:73:U:O4'	2.16	0.46
4:D:233:ARG:O	4:D:233:ARG:HG3	2.15	0.46
5:E:111:SER:O	5:E:114:CYS:HB3	2.15	0.46
6:F:73:VAL:O	6:F:74:ALA:C	2.56	0.46
8:H:108:LYS:HE3	8:H:108:LYS:HB3	1.36	0.46
20:L:129:GLY:O	20:L:130:ASN:HB3	2.15	0.46
21:M:155:PRO:O	21:M:156:HIS:C	2.55	0.46
24:S:124:LYS:O	24:S:125:SER:C	2.58	0.46
28:W:31:TYR:HD1	28:W:60:ILE:HD11	1.79	0.46
29:X:36:VAL:HG21	29:X:44:ARG:HG2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1545:G:OP2	49:A:5673:HOH:O	2.21	0.46
1:A:1825:A:H1'	49:A:8969:HOH:O	2.16	0.46
1:A:1833:G:H4'	1:A:1834:U:OP1	2.14	0.46
1:A:1942:A:H61	1:A:2039:G:H2'	1.80	0.46
1:A:2652:G:N1	39:j:61:MET:CE	2.60	0.46
1:A:4228:OMG:HM22	1:A:4229:U:P	2.49	0.46
1:A:4474:A:P	11:o:173:ARG:NH2	2.81	0.46
1:A:4478:G:H1'	1:A:4608:G:H22	1.81	0.46
49:A:5796:HOH:O	39:j:60:CYS:SG	2.60	0.46
3:C:82:A:N1	24:S:50:ARG:NH2	2.64	0.46
10:n:63:LEU:HD23	10:n:63:LEU:O	2.15	0.46
19:K:144:LYS:HD3	19:K:149:TYR:CD1	2.50	0.46
1:A:158:A:H2	1:A:276:C:O2	1.99	0.46
1:A:648:G:P	1:A:648:G:H8	2.37	0.46
1:A:2466:G:N1	49:A:5553:HOH:O	2.05	0.46
1:A:2773:G:OP2	36:e:40:ARG:HB2	2.15	0.46
1:A:4354:U:C4	26:U:60:HIS:CE1	3.03	0.46
1:A:4524:G:N3	5:E:252:ALA:HB1	2.29	0.46
1:A:4949:G:H4'	1:A:4950:U:O5'	2.15	0.46
4:D:135:THR:CG2	4:D:149:LYS:HB3	2.46	0.46
5:E:149:ASP:O	5:E:150:PHE:C	2.59	0.46
5:E:338:VAL:HG13	49:E:534:HOH:O	2.15	0.46
7:G:21:ARG:HH11	7:G:21:ARG:CG	2.28	0.46
8:H:50:LEU:HD22	8:H:56:ARG:HA	1.97	0.46
9:m:144:TYR:CE2	9:m:237:GLU:HG2	2.50	0.46
12:p:161:GLY:N	49:p:401:HOH:O	2.48	0.46
20:L:99:MET:HE2	20:L:99:MET:CA	2.45	0.46
28:W:67:ALA:HB3	28:W:69:THR:HG22	1.98	0.46
33:b:82:ASP:OD1	33:b:82:ASP:N	2.49	0.46
34:c:25:ARG:HG2	34:c:25:ARG:HH21	1.81	0.46
41:P:13:ILE:HD11	41:P:205:PHE:C	2.41	0.46
42:Q:13:LYS:HD2	49:Q:329:HOH:O	2.15	0.46
1:A:275:C:H2'	49:A:7380:HOH:O	2.12	0.46
1:A:1068:G:C8	8:H:44:CYS:SG	3.09	0.46
1:A:2537:A:OP1	36:e:2:PRO:N	2.49	0.46
1:A:3906:A:H2'	6:F:69:THR:OG1	2.15	0.46
3:C:53:G:O2'	37:f:40:LYS:HE3	2.15	0.46
5:E:56:ILE:HD12	5:E:56:ILE:C	2.41	0.46
8:H:202:ASP:O	8:H:260:LYS:HD3	2.16	0.46
11:o:175:PHE:O	11:o:177:ASP:N	2.49	0.46
14:r:49:ARG:HG3	14:r:49:ARG:NH1	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:s:17:PHE:CZ	15:s:54:CYS:HB3	2.50	0.46
15:s:118:MET:HG3	17:I:192:TYR:CZ	2.51	0.46
20:L:114:LYS:O	20:L:146:LYS:HD3	2.16	0.46
42:Q:91:LYS:HD3	42:Q:91:LYS:HA	1.51	0.46
1:A:453:G:N3	1:A:453:G:H2'	2.30	0.46
1:A:1510:G:H2'	1:A:1511:U:C6	2.51	0.46
1:A:2397:G:H2'	49:A:7901:HOH:O	2.16	0.46
1:A:2792:C:O2	35:d:9:GLY:HA2	2.15	0.46
1:A:4579:PSU:H3'	49:A:6002:HOH:O	2.15	0.46
1:A:4660:G:N3	49:A:5974:HOH:O	2.36	0.46
1:A:4909:A:H2'	5:E:156:TYR:CE1	2.50	0.46
1:A:4988:U:C4	5:E:176:LYS:CE	2.96	0.46
1:A:5020:G:H3'	1:A:5021:C:C6	2.50	0.46
3:C:52:A:C8	3:C:52:A:H5''	2.50	0.46
3:C:155:C:H2'	3:C:156:U:O4'	2.16	0.46
4:D:180:LEU:HD22	39:j:18:TYR:HB3	1.97	0.46
15:s:96:GLU:O	15:s:97:ALA:C	2.58	0.46
16:t:145:ASN:C	16:t:145:ASN:OD1	2.58	0.46
18:J:94:MET:CG	18:J:148:MET:HE3	2.38	0.46
18:J:149:ILE:C	18:J:150:LEU:HD12	2.41	0.46
30:Y:108:ARG:CZ	30:Y:128:ARG:HD3	2.46	0.46
39:j:28:LYS:HE3	49:j:220:HOH:O	2.16	0.46
39:j:39:CYS:SG	39:j:42:CYS:HB3	2.54	0.46
1:A:733:A:N6	1:A:930:G:H22	2.14	0.46
1:A:1241:C:C5	27:V:118:LEU:HB3	2.50	0.46
1:A:1280:C:O2'	6:F:321:ASN:OD1	2.34	0.46
1:A:2259:G:N3	8:H:90:ALA:HB2	2.31	0.46
1:A:2652:G:C6	39:j:61:MET:CE	2.86	0.46
1:A:2725:A:H8	20:L:97:ARG:NH2	2.14	0.46
1:A:2900:U:O2	1:A:2900:U:H2'	2.13	0.46
1:A:3673:C:O2'	1:A:3674:G:OP1	2.33	0.46
1:A:4324:A:H1'	49:A:6491:HOH:O	2.14	0.46
1:A:5020:G:H3'	1:A:5021:C:H6	1.81	0.46
1:A:5050:C:H2'	1:A:5051:C:C6	2.51	0.46
17:I:128:ARG:HD2	49:I:329:HOH:O	2.15	0.46
22:N:15:PHE:HB2	49:N:325:HOH:O	2.15	0.46
41:P:28:ILE:H	41:P:28:ILE:HG13	1.47	0.46
1:A:407:A:O2'	1:A:410:A:OP1	2.28	0.45
1:A:491:G:C6	1:A:663:G:C6	3.04	0.45
1:A:1214:C:OP1	1:A:1215:C:H5'	2.16	0.45
1:A:1360:G:N3	49:A:5972:HOH:O	2.36	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2469:C:H6	1:A:2471:G:H22	1.56	0.45
1:A:4162:C:H5	10:n:73:ARG:CZ	2.28	0.45
1:A:4162:C:C5	10:n:73:ARG:NH2	2.84	0.45
4:D:47:ASP:HB3	4:D:60:LYS:HG3	1.98	0.45
10:n:78:PRO:O	10:n:79:ALA:C	2.59	0.45
16:t:36:LEU:C	16:t:36:LEU:CD2	2.88	0.45
17:I:180:GLN:O	17:I:181:ALA:C	2.56	0.45
1:A:975:C:H5	49:A:7552:HOH:O	1.99	0.45
1:A:1367:C:O2'	1:A:1369:C:OP2	2.32	0.45
1:A:1584:G:N7	49:A:5980:HOH:O	2.36	0.45
1:A:2326:G:H5''	30:Y:127:ALA:HB2	1.97	0.45
1:A:3620:G:N3	1:A:3620:G:H5'	2.31	0.45
1:A:4347:G:C5'	49:A:6156:HOH:O	2.64	0.45
2:B:24:C:H2'	2:B:25:G:O4'	2.15	0.45
2:B:63:C:H5''	12:p:204:GLY:O	2.16	0.45
13:q:38:LYS:O	13:q:39:VAL:C	2.58	0.45
15:s:24:LEU:HD11	15:s:86:TRP:CG	2.52	0.45
20:L:18:GLY:C	20:L:20:LYS:N	2.73	0.45
28:W:36:LYS:HB3	28:W:37:MET:HE2	1.99	0.45
39:j:39:CYS:HA	39:j:47:MET:HE2	1.99	0.45
41:P:21:ASN:ND2	41:P:112:ASP:OD2	2.47	0.45
1:A:82:U:H2'	1:A:83:C:O4'	2.16	0.45
1:A:131:C:H1'	1:A:138:G:N1	2.32	0.45
1:A:467:U:H6	1:A:467:U:H2'	1.64	0.45
1:A:1173:G:H2'	1:A:1174:G:O4'	2.17	0.45
1:A:2647:A:C2	1:A:2688:G:N3	2.85	0.45
1:A:2758:G:O2'	1:A:2765:A:N3	2.47	0.45
1:A:4612:C:N3	11:o:121:LYS:HB2	2.31	0.45
49:A:8387:HOH:O	5:E:30:LYS:HB2	2.16	0.45
2:B:91:C:C4'	49:B:322:HOH:O	2.63	0.45
5:E:114:CYS:HB2	5:E:165:HIS:NE2	2.31	0.45
10:n:218:LEU:HD12	10:n:218:LEU:HA	1.75	0.45
16:t:81[B]:TYR:CD2	16:t:81[B]:TYR:N	2.84	0.45
41:P:173:LEU:HD12	41:P:173:LEU:HA	1.75	0.45
1:A:189:G:C2'	1:A:190:G:O4'	2.58	0.45
1:A:2647:A:C4	1:A:2688:G:C2	3.05	0.45
1:A:2862:G:N3	1:A:3624:A:H2'	2.31	0.45
1:A:4115:G:H4'	1:A:4116:C:C5'	2.46	0.45
1:A:4119:C:H3'	1:A:4120:U:O2	2.17	0.45
1:A:4125:C:H5'	10:n:45:ILE:HD12	1.98	0.45
1:A:4167:G:N7	49:A:5986:HOH:O	2.36	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4227:OMU:C2'	1:A:4228:OMG:H5'	2.46	0.45
1:A:4423:PSU:H1'	49:A:6087:HOH:O	2.16	0.45
1:A:4501:U:H2'	1:A:4502:C:H5'	1.98	0.45
1:A:4692:A:P	11:o:71:ARG:NH1	2.89	0.45
5:E:24:ARG:HD2	5:E:276:HIS:CD2	2.52	0.45
5:E:168[A]:MET:CG	5:E:178:ALA:HA	2.46	0.45
6:F:227:ILE:HG22	6:F:228:THR:N	2.31	0.45
9:m:70:ARG:HD3	49:m:327:HOH:O	2.15	0.45
9:m:104:LYS:HB2	9:m:104:LYS:HE2	1.61	0.45
11:o:5:LEU:HD22	11:o:60:TRP:CZ3	2.51	0.45
16:t:201:HIS:CE1	49:t:436:HOH:O	2.69	0.45
21:M:164:LYS:HD2	21:M:164:LYS:O	2.16	0.45
26:U:76:ASP:HB3	26:U:115:GLY:HA3	1.97	0.45
33:b:104:THR:HG23	49:b:201:HOH:O	2.16	0.45
41:P:124:GLU:HG2	41:P:128:ILE:HD11	1.97	0.45
1:A:1672:U:H2'	1:A:1673:U:C6	2.51	0.45
1:A:2462:C:H5	49:A:6387:HOH:O	1.98	0.45
1:A:4452:U:C6	1:A:4531:U:O4	2.69	0.45
49:A:9669:HOH:O	17:I:57:PHE:HE1	1.99	0.45
3:C:33:G:H4'	3:C:34:U:C5	2.51	0.45
14:r:121:ARG:HH11	14:r:121:ARG:HG2	1.82	0.45
41:P:216:SER:O	41:P:217:VAL:C	2.58	0.45
42:Q:109:LYS:HE2	42:Q:109:LYS:HB3	1.72	0.45
1:A:247:G:O3'	24:S:128:VAL:HG11	2.16	0.45
1:A:4114:C:H6	1:A:4114:C:C4'	2.30	0.45
1:A:4769:G:H8	49:A:8201:HOH:O	1.96	0.45
1:A:4967:A:H2'	1:A:4968:A:C8	2.52	0.45
4:D:50:HIS:CD2	49:j:214:HOH:O	2.63	0.45
5:E:213:GLN:HG3	5:E:214:ASP:OD2	2.15	0.45
7:G:115:MET:HA	7:G:118:ILE:HD12	1.98	0.45
9:m:137:GLU:N	9:m:138:PRO:CD	2.80	0.45
14:r:12:PRO:O	14:r:12:PRO:CG	2.63	0.45
19:K:117:GLY:HA2	49:K:226:HOH:O	2.17	0.45
20:L:105:LEU:HD12	20:L:138:LEU:HD23	1.99	0.45
20:L:154:LEU:HA	20:L:154:LEU:HD12	1.79	0.45
29:X:65:ASP:HB2	29:X:107:THR:HG22	1.99	0.45
32:a:49:CYS:SG	32:a:83:CYS:SG	3.11	0.45
41:P:121:LEU:HD22	41:P:121:LEU:HA	1.73	0.45
41:P:127:GLU:O	41:P:131:ASP:HB2	2.17	0.45
1:A:266:C:H4'	33:b:112:ARG:NH2	2.31	0.45
1:A:705:G:H2'	1:A:706:C:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2525:U:P	20:L:42:ARG:HH12	2.40	0.45
1:A:2677:G:C2'	1:A:2678:A:H5'	2.45	0.45
1:A:3786:U:O2	1:A:3814:U:H4'	2.17	0.45
1:A:4085:A:H2'	10:n:54:PHE:O	2.16	0.45
2:B:64:G:O5'	12:p:204:GLY:CA	2.63	0.45
2:B:117:G:OP1	7:G:253:TYR:HE2	1.98	0.45
3:C:51:U:H4'	37:f:24:PRO:HG3	1.98	0.45
4:D:140:ASN:OD1	4:D:142:GLU:HG3	2.15	0.45
11:o:82:LYS:HD2	11:o:88:PHE:CE1	2.52	0.45
23:R:145:ASP:OD2	23:R:148:ASP:HB3	2.17	0.45
23:R:151:ASN:HA	23:R:156:ILE:HG22	1.99	0.45
41:P:43:SER:O	41:P:45:THR:N	2.34	0.45
1:A:1646:A:N7	49:A:5982:HOH:O	2.36	0.45
1:A:2656:U:H2'	1:A:2657:G:O4'	2.16	0.45
1:A:2705:G:O2'	1:A:2706:G:H5''	2.16	0.45
1:A:2800:G:H1'	35:d:9:GLY:HA3	1.99	0.45
3:C:103:A:C8	3:C:104:A:C8	3.05	0.45
5:E:77:THR:HG21	5:E:337:VAL:HG22	1.99	0.45
10:n:77:PRO:HA	10:n:237:TRP:CZ3	2.52	0.45
11:o:93:ARG:HD3	11:o:143:GLU:HG3	1.99	0.45
25:T:69:LYS:HE3	25:T:111:ARG:HH12	1.82	0.45
1:A:511:C:OP2	14:r:165:LYS:HA	2.17	0.45
1:A:1439:C:OP2	9:m:31:LYS:HB2	2.17	0.45
1:A:1639:U:O2	1:A:1639:U:H2'	2.17	0.45
1:A:1861:U:H3'	49:A:6562:HOH:O	2.16	0.45
1:A:2089:G:H1'	6:F:307:LYS:NZ	2.32	0.45
1:A:3738:G:H8	1:A:3738:G:O5'	1.99	0.45
1:A:3935:C:H5	49:A:9313:HOH:O	2.00	0.45
1:A:4416:G:H5''	1:A:4416:G:C8	2.52	0.45
1:A:4879:C:H2'	1:A:4880:C:O4'	2.17	0.45
12:p:193:ASP:OD2	12:p:198:LYS:HE3	2.17	0.45
24:S:110:LYS:O	24:S:110:LYS:HG3	2.17	0.45
1:A:23:C:H2'	1:A:24:G:O4'	2.16	0.45
1:A:53:C:OP1	49:A:5681:HOH:O	2.21	0.45
1:A:398:A2M:HM'3	1:A:398:A2M:H1'	1.58	0.45
1:A:1179:U:O4	7:G:287:PHE:HD1	2.00	0.45
1:A:1392:A:H2'	1:A:1393:G:C8	2.52	0.45
1:A:1448:G:H2'	1:A:1449:C:H6	1.82	0.45
1:A:1781:PSU:O4'	12:p:198:LYS:HE2	2.17	0.45
1:A:1814:C:H5'	27:V:49:HIS:HD2	1.82	0.45
1:A:3710:G:C3'	1:A:3711:A:H5'	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4473:A:H61	1:A:4482:U:H3	0.72	0.45
1:A:5029:C:OP2	1:A:5029:C:H6	2.00	0.45
7:G:291:GLN:NE2	12:p:213:HIS:O	2.49	0.45
11:o:50:LYS:HB3	11:o:50:LYS:HE2	1.58	0.45
13:q:88:LYS:HB2	13:q:88:LYS:HE3	1.53	0.45
18:J:40:HIS:NE2	18:J:110:ASP:O	2.45	0.45
22:N:106:LEU:HA	22:N:106:LEU:HD23	1.63	0.45
25:T:23:ALA:HA	25:T:45:GLY:HA2	1.99	0.45
41:P:95:ARG:HB3	41:P:95:ARG:HH11	1.82	0.45
1:A:1638:A:C6	35:d:8[B]:PHE:HE2	2.35	0.44
1:A:1814:C:C5'	27:V:49:HIS:HD2	2.29	0.44
1:A:1962:A:H2	1:A:2027:U:H1'	1.83	0.44
1:A:2528:G:N3	49:A:6274:HOH:O	2.46	0.44
1:A:2652:G:N1	39:j:61:MET:SD	2.73	0.44
1:A:4640:C:C5	49:A:5922:HOH:O	2.56	0.44
6:F:27:VAL:O	6:F:27:VAL:HG22	2.17	0.44
6:F:288:ASP:O	6:F:289:LEU:C	2.58	0.44
11:o:129:ARG:HD2	11:o:156:ASN:ND2	2.30	0.44
15:s:108:ASP:O	15:s:109:ARG:C	2.56	0.44
37:f:13:LEU:O	37:f:17:GLN:HG2	2.18	0.44
41:P:19:LEU:CD1	41:P:24:CYS:SG	3.04	0.44
1:A:161:G:N1	1:A:275:C:N3	2.65	0.44
1:A:273:U:H3'	1:A:274:C:C5'	2.46	0.44
1:A:979:C:OP1	8:H:46:ARG:HB2	2.17	0.44
1:A:4136:G:C8	1:A:4136:G:O5'	2.70	0.44
1:A:4487:A:C6	49:A:5568:HOH:O	2.61	0.44
1:A:4678:G:H2'	1:A:4679:G:O5'	2.17	0.44
3:C:62:A:O5'	49:C:310:HOH:O	2.21	0.44
5:E:303:ALA:HB2	5:E:314:ILE:HA	1.99	0.44
5:E:380:GLN:C	5:E:381:THR:HG23	2.42	0.44
7:G:39:GLN:OE1	7:G:39:GLN:CA	2.65	0.44
8:H:161:ARG:NH2	8:H:273:SER:OG	2.50	0.44
11:o:45:LEU:CD2	11:o:57:VAL:HG22	2.47	0.44
15:s:124:LYS:HB3	15:s:124:LYS:HE3	1.75	0.44
17:I:118:MET:CE	21:M:169:THR:HG23	2.47	0.44
1:A:1082:C:O2'	1:A:1083:U:H5''	2.16	0.44
1:A:1594:C:H4'	49:A:7310:HOH:O	2.16	0.44
1:A:2615:C:C2'	1:A:2616:C:H5'	2.47	0.44
5:E:256:ALA:N	49:E:513:HOH:O	2.48	0.44
16:t:5:LYS:HG2	49:c:204:HOH:O	2.17	0.44
23:R:84:GLU:OE1	23:R:84:GLU:HA	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:22:PRO:HG2	24:S:25:ILE:HD12	2.00	0.44
1:A:309:C:P	34:c:33:LEU:HB2	2.57	0.44
1:A:443:G:N7	49:A:5969:HOH:O	2.36	0.44
1:A:739:G:H2'	1:A:740:G:C8	2.53	0.44
1:A:1748:U:C6	49:A:6907:HOH:O	2.67	0.44
1:A:1778:C:H1'	7:G:3:PHE:HB3	1.99	0.44
1:A:3617:G:H3'	1:A:3617:G:H8	1.81	0.44
1:A:3873:G:H2'	1:A:3874:G:C8	2.52	0.44
1:A:5028:G:H2'	1:A:5029:C:C6	2.52	0.44
3:C:122:G:N3	3:C:122:G:C2'	2.80	0.44
7:G:81:HIS:O	7:G:81:HIS:HD2	2.01	0.44
13:q:120:ASP:HB3	13:q:123:ILE:HG13	1.98	0.44
37:f:23:ILE:O	37:f:23:ILE:HG13	2.17	0.44
1:A:345:C:H6	1:A:345:C:H5''	1.82	0.44
1:A:1431:C:H2'	1:A:1432:G:O4'	2.17	0.44
1:A:2696:A:N6	36:e:35:LYS:HE3	2.23	0.44
1:A:2876:OMG:CM2	39:j:15:GLY:HA2	2.47	0.44
1:A:4392:OMG:H1'	49:A:5960:HOH:O	2.17	0.44
1:A:4518:A:H8	1:A:4518:A:OP2	2.01	0.44
6:F:317:ASN:HD22	6:F:318:PRO:N	2.15	0.44
7:G:60:ILE:HB	7:G:80:ALA:HB2	2.00	0.44
7:G:81:HIS:CD2	7:G:81:HIS:O	2.71	0.44
7:G:279:ARG:O	7:G:283:LYS:HG3	2.18	0.44
9:m:86:GLU:HG3	22:N:136:ARG:HB2	2.00	0.44
10:n:217:LYS:HE3	10:n:217:LYS:HB3	1.79	0.44
11:o:106:GLN:HB2	11:o:107:GLU:OE2	2.18	0.44
15:s:96:GLU:HA	15:s:96:GLU:OE2	2.17	0.44
16:t:179:LYS:HE2	49:t:490:HOH:O	2.16	0.44
1:A:438:G:OP2	30:Y:18:LYS:NZ	2.38	0.44
1:A:690:C:H2'	1:A:691:C:H6	1.83	0.44
1:A:756:G:C2	1:A:757:G:C4	3.06	0.44
1:A:2583:C:O2'	1:A:2584:G:H5'	2.18	0.44
1:A:4337:C:OP1	49:A:5677:HOH:O	2.21	0.44
1:A:4651:A:H2'	1:A:4652:G:O4'	2.18	0.44
2:B:30:C:C2	2:B:48:G:N2	2.85	0.44
3:C:75:OMG:H2'	3:C:76:C:C6	2.52	0.44
11:o:44:GLU:HG3	15:s:2:VAL:CG1	2.48	0.44
21:M:53:LYS:HE3	21:M:53:LYS:HB2	1.91	0.44
31:Z:109:ARG:HH11	31:Z:109:ARG:HD2	1.50	0.44
1:A:161:G:C2	1:A:275:C:N3	2.86	0.44
1:A:276:C:H2'	1:A:277:G:H8	1.78	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:733:A:H61	1:A:930:G:H21	1.66	0.44
1:A:747:A:C2	1:A:918:G:N2	2.86	0.44
1:A:1178:G:O3'	7:G:283:LYS:HA	2.17	0.44
1:A:3615:G:O6	1:A:5005:G:H3'	2.18	0.44
1:A:3753:G:H2'	1:A:3754:G:O5'	2.18	0.44
1:A:3880:G:H2'	1:A:3881:G:C8	2.52	0.44
1:A:4436:U:H4'	1:A:4437:U:C5'	2.48	0.44
1:A:5002:U:OP2	5:E:385:LYS:NZ	2.50	0.44
2:B:117:G:P	7:G:253:TYR:HH	2.40	0.44
5:E:288:GLY:HA3	5:E:330:PHE:CE2	2.52	0.44
11:o:5:LEU:CD1	11:o:6:SER:N	2.76	0.44
11:o:15:ASN:ND2	11:o:15:ASN:H	2.16	0.44
13:q:38:LYS:HD2	13:q:38:LYS:HA	1.47	0.44
34:c:76:ARG:HA	34:c:76:ARG:HD2	1.43	0.44
1:A:40:G:H1'	49:A:7136:HOH:O	2.18	0.44
1:A:50:C:N3	49:A:5984:HOH:O	2.36	0.44
1:A:131:C:H1'	1:A:138:G:C2	2.52	0.44
1:A:398:A2M:H3'	49:A:6359:HOH:O	2.18	0.44
1:A:483:G:H5''	1:A:485:C:OP1	2.18	0.44
1:A:1595:G:H1'	49:A:5780:HOH:O	2.17	0.44
1:A:1961:G:H2'	1:A:2024:G:N2	2.33	0.44
1:A:3879:G:O2'	1:A:3881:G:OP2	2.33	0.44
1:A:4770:U:H2'	1:A:4771:C:C6	2.53	0.44
13:q:113:ILE:HD12	13:q:119:TYR:HA	1.98	0.44
15:s:41:PRO:HB2	15:s:74:ARG:HB2	1.99	0.44
16:t:49:ARG:HD2	49:t:431:HOH:O	2.17	0.44
27:V:93:LEU:HD12	27:V:93:LEU:HA	1.89	0.44
35:d:55:ARG:HH21	35:d:55:ARG:HD3	1.56	0.44
1:A:310:G:C5	34:c:30:ARG:O	2.71	0.44
1:A:654:C:H5'	6:F:268:ARG:HH11	1.82	0.44
1:A:1870:C:H2'	1:A:1871:A2M:H8	1.99	0.44
1:A:2283:G:H5''	26:U:18:GLY:O	2.18	0.44
1:A:2475:G:N2	23:R:53:ARG:HD2	2.33	0.44
1:A:3801:U:O4'	49:A:5679:HOH:O	2.21	0.44
1:A:4317:A:H1'	49:A:6338:HOH:O	2.17	0.44
1:A:4473:A:P	49:A:5793:HOH:O	2.76	0.44
1:A:4498:OMU:O5'	1:A:4498:OMU:H6	2.18	0.44
1:A:4535:A:N7	49:A:5985:HOH:O	2.36	0.44
5:E:363:ILE:HA	49:E:530:HOH:O	2.18	0.44
19:K:7:HIS:HD2	19:K:10:ASP:OD2	2.00	0.44
20:L:133:LYS:HB2	20:L:133:LYS:HE2	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:102:ASP:HA	26:U:125:LYS:HB2	1.98	0.44
28:W:99:PRO:HG3	28:W:105:ILE:HD11	2.00	0.44
29:X:25:TYR:CE1	29:X:88:LEU:HD22	2.52	0.44
31:Z:63:LYS:H	31:Z:63:LYS:HG2	1.60	0.44
41:P:66:ASN:C	41:P:66:ASN:ND2	2.75	0.44
41:P:99:GLU:HG3	41:P:101:LEU:H	1.83	0.44
41:P:104:LEU:O	41:P:108:THR:HG23	2.17	0.44
41:P:142:VAL:CG2	41:P:162:HIS:CE1	2.97	0.44
41:P:147:LEU:HD12	42:Q:135:ASN:HA	1.99	0.44
1:A:1599:A:H2'	1:A:1600:A:H5''	2.00	0.43
1:A:2033:A:C1'	49:A:6213:HOH:O	1.80	0.43
1:A:2685:C:H2'	1:A:2686:G:O4'	2.17	0.43
1:A:2729:C:H2'	1:A:2730:U:O4'	2.18	0.43
2:B:16:A:P	49:B:302:HOH:O	2.74	0.43
2:B:120:U:C4'	7:G:262:LYS:H	2.29	0.43
5:E:19:ARG:HB2	5:E:234:ARG:NH2	2.33	0.43
10:n:190:LEU:HD23	10:n:190:LEU:HA	1.87	0.43
25:T:4:PHE:CE2	28:W:67:ALA:HB2	2.52	0.43
34:c:99:LYS:HE2	34:c:99:LYS:HB2	1.66	0.43
42:Q:90:ARG:O	42:Q:91:LYS:CB	2.66	0.43
1:A:139:G:C8	1:A:139:G:OP2	2.71	0.43
1:A:1778:C:H1'	7:G:3:PHE:CB	2.47	0.43
1:A:2458:C:OP1	16:t:67:ARG:NH1	2.51	0.43
1:A:4419:U:C6	1:A:4420:PSU:C6	3.06	0.43
1:A:4426:C:N4	1:A:4427:G:C6	2.86	0.43
1:A:4504:C:H2'	1:A:4505:C:O4'	2.18	0.43
2:B:7:G:OP2	7:G:28:THR:OG1	2.36	0.43
6:F:281:MET:HE2	19:K:110:ARG:CZ	2.48	0.43
7:G:84:PRO:HA	7:G:88:VAL:O	2.18	0.43
26:U:30:GLY:CA	49:U:210:HOH:O	2.66	0.43
30:Y:78:LEU:O	40:k:20:ARG:NH1	2.49	0.43
39:j:37:TYR:CG	39:j:71:TYR:HB2	2.54	0.43
41:P:214:GLU:O	41:P:215:LEU:C	2.62	0.43
1:A:2746:A:H2'	1:A:2747:U:O4'	2.17	0.43
1:A:3896:C:O2	1:A:4564:A:N1	2.52	0.43
1:A:5028:G:C2'	1:A:5029:C:H5'	2.48	0.43
2:B:117:G:P	7:G:253:TYR:OH	2.77	0.43
5:E:172:PRO:HG2	5:E:173:LEU:HD13	2.00	0.43
6:F:20:LYS:HE3	6:F:20:LYS:HB2	1.80	0.43
9:m:186:CYS:O	9:m:187:MET:C	2.60	0.43
16:t:154:PRO:HG2	49:t:468:HOH:O	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:47:ARG:HA	23:R:47:ARG:HD2	1.73	0.43
24:S:69:LYS:HB2	24:S:69:LYS:HE3	1.60	0.43
25:T:6:LYS:HD3	25:T:6:LYS:HA	1.81	0.43
27:V:39:PHE:CE2	27:V:43:MET:HE2	2.53	0.43
28:W:80:GLU:O	28:W:81:LEU:C	2.58	0.43
30:Y:102:ASN:OD1	30:Y:102:ASN:N	2.44	0.43
1:A:371:A:OP1	35:d:25:LYS:HE3	2.19	0.43
1:A:480:C:H2'	1:A:481:G:H5'	1.99	0.43
1:A:756:G:C6	1:A:908:G:C6	3.06	0.43
1:A:1395:U:OP1	14:r:183:ARG:NH1	2.51	0.43
1:A:2741:U:OP2	4:D:50:HIS:HE1	2.01	0.43
1:A:3923:A:H2'	1:A:3924:C:C6	2.54	0.43
1:A:4254:G:HO2'	1:A:4256:A:H2	1.62	0.43
1:A:4768:G:O2'	1:A:4769:G:H5'	2.18	0.43
1:A:4959:U:H2'	1:A:4960:G:H5''	2.00	0.43
3:C:139:G:H3'	49:C:307:HOH:O	2.18	0.43
5:E:111:SER:O	5:E:114:CYS:N	2.52	0.43
14:r:11:LYS:N	49:r:306:HOH:O	2.39	0.43
18:J:25:HIS:CD2	49:J:330:HOH:O	2.45	0.43
19:K:71:LYS:HE2	49:K:240:HOH:O	2.18	0.43
21:M:74:ARG:NE	49:M:201:HOH:O	2.08	0.43
28:W:37:MET:HG3	28:W:97:ILE:HD11	1.99	0.43
1:A:504:G:N2	1:A:505:G:C4	2.87	0.43
1:A:2258:C:C2	8:H:90:ALA:HB3	2.53	0.43
1:A:3697:U:H5''	1:A:3698:G:H5'	2.01	0.43
1:A:4895:C:C5	15:s:129:LYS:HG2	2.54	0.43
6:F:334:THR:O	6:F:335:MET:C	2.58	0.43
7:G:18:VAL:O	7:G:18:VAL:CG2	2.66	0.43
7:G:261:VAL:HG13	7:G:262:LYS:N	2.34	0.43
9:m:110:GLN:NE2	49:m:307:HOH:O	2.45	0.43
11:o:107:GLU:C	11:o:109:GLY:H	2.26	0.43
13:q:169:LYS:HE2	13:q:169:LYS:HB3	1.86	0.43
20:L:115:ILE:HG22	20:L:119:MET:SD	2.59	0.43
37:f:38:ASN:OD1	49:f:201:HOH:O	2.21	0.43
41:P:141:THR:HG22	41:P:148:VAL:HG22	2.00	0.43
1:A:1925:G:H1'	21:M:115:ALA:CB	2.49	0.43
1:A:3930:U:H2'	1:A:3931:C:C6	2.54	0.43
49:A:5652:HOH:O	16:t:193:ARG:CZ	2.67	0.43
5:E:224:LYS:NZ	49:E:518:HOH:O	2.51	0.43
6:F:312:ARG:HD3	49:F:513:HOH:O	2.19	0.43
7:G:21:ARG:NH1	7:G:21:ARG:CG	2.78	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:o:90:TYR:CZ	11:o:184:LYS:HB3	2.53	0.43
12:p:91:LEU:HD12	12:p:135:ILE:HG23	2.00	0.43
18:J:43:LYS:HD3	49:J:347:HOH:O	2.17	0.43
21:M:118:ARG:HA	21:M:118:ARG:HD3	1.86	0.43
23:R:73:HIS:CD2	23:R:73:HIS:N	2.82	0.43
30:Y:114:ARG:HH11	30:Y:117:GLN:NE2	2.16	0.43
37:f:51:LEU:HD12	37:f:51:LEU:HA	1.86	0.43
41:P:25:LEU:HD11	41:P:70:LEU:HD11	2.00	0.43
41:P:62:MET:O	41:P:73:PRO:HD3	2.18	0.43
41:P:104:LEU:HA	41:P:107:VAL:HG12	2.00	0.43
41:P:119:PRO:HD3	41:P:141:THR:CG2	2.49	0.43
41:P:215:LEU:HD23	41:P:215:LEU:HA	1.65	0.43
1:A:274:C:N4	1:A:275:C:H41	2.16	0.43
1:A:451:C:H2'	1:A:1294:A:C2	2.54	0.43
1:A:664:G:H21	1:A:667:A:H62	1.66	0.43
1:A:1565:A:C5	1:A:1566:C:H1'	2.53	0.43
1:A:2409:U:O2	1:A:2409:U:C2'	2.67	0.43
1:A:3746:A:C3'	1:A:3746:A:C8	3.02	0.43
1:A:4363:A:H1'	49:A:8049:HOH:O	2.19	0.43
1:A:5040:U:OP1	1:A:5040:U:H6	2.02	0.43
6:F:145:GLU:HG2	49:F:658:HOH:O	2.18	0.43
11:o:98:HIS:O	11:o:100:PRO:CD	2.67	0.43
14:r:11:LYS:NZ	49:r:304:HOH:O	2.33	0.43
17:I:137:TYR:HE1	49:I:349:HOH:O	2.02	0.43
23:R:39:LYS:HD2	23:R:39:LYS:HA	1.55	0.43
25:T:18:TYR:O	25:T:19:SER:C	2.61	0.43
25:T:129:TRP:O	25:T:130:PHE:C	2.61	0.43
31:Z:59:THR:O	31:Z:60:PRO:C	2.61	0.43
34:c:52:PRO:HG3	34:c:55:ARG:NH2	2.33	0.43
40:k:41:ASN:HD22	40:k:43:LEU:H	1.63	0.43
42:Q:18:LEU:HD12	42:Q:18:LEU:HA	1.49	0.43
1:A:267:G:H5'	33:b:109:ARG:HH21	1.83	0.43
1:A:478:G:OP1	40:k:66:ARG:NH2	2.51	0.43
1:A:756:G:H2'	1:A:757:G:C8	2.54	0.43
1:A:1272:C:H5'	9:m:34:ARG:HG2	2.01	0.43
1:A:1524:A2M:H8	1:A:3915:U:O2	2.18	0.43
1:A:1545:G:H2'	1:A:1546:C:C6	2.54	0.43
1:A:2523:G:H2'	1:A:2524:U:O4'	2.18	0.43
1:A:2575:U:H3'	1:A:2575:U:H6	1.82	0.43
1:A:3659:G:OP1	4:D:241:ARG:NH1	2.52	0.43
1:A:4760:G:H2'	1:A:4761:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4879:C:H2'	1:A:4880:C:C6	2.54	0.43
1:A:4895:C:H6	15:s:132:LYS:HD2	1.83	0.43
49:A:5910:HOH:O	33:b:106:LYS:HE2	2.19	0.43
4:D:196:TRP:CG	4:D:197:PRO:HA	2.53	0.43
7:G:212:MET:HE3	7:G:212:MET:HB3	1.87	0.43
7:G:287:PHE:CD2	12:p:209:TRP:CZ3	3.06	0.43
9:m:75:ALA:HB2	22:N:140:PHE:CE1	2.54	0.43
11:o:8:GLN:CG	11:o:74:CYS:SG	2.98	0.43
14:r:80:GLU:OE2	14:r:102:ARG:NH1	2.49	0.43
17:I:54:TYR:CD1	17:I:145:VAL:HG21	2.53	0.43
19:K:46:VAL:HG11	19:K:138:LEU:HD21	2.00	0.43
19:K:108:ARG:O	19:K:109:ALA:C	2.62	0.43
22:N:70:HIS:HD2	49:N:366:HOH:O	2.01	0.43
35:d:87:LYS:NZ	35:d:87:LYS:CB	2.81	0.43
38:i:77:CYS:O	38:i:78:ARG:HB2	2.18	0.43
1:A:119:G:C5	10:n:113:ARG:NH1	2.86	0.43
1:A:394:G:N2	49:A:6180:HOH:O	2.51	0.43
1:A:690:C:HO2'	1:A:691:C:H5'	1.84	0.43
1:A:2673:G:H2'	1:A:2673:G:N3	2.34	0.43
1:A:3938:G:H4'	1:A:3939:G:C5'	2.48	0.43
1:A:4094:G:N3	1:A:4094:G:H2'	2.33	0.43
1:A:4988:U:C5	5:E:176:LYS:HE2	2.54	0.43
6:F:22:VAL:HG11	6:F:257:PHE:HD2	1.84	0.43
9:m:162:ILE:O	9:m:163:ASN:HB3	2.18	0.43
11:o:115:ARG:HG2	11:o:123:ILE:HG23	2.01	0.43
12:p:38:ARG:NH2	12:p:45:GLU:OE1	2.49	0.43
13:q:43:LEU:HD11	13:q:82:ILE:HG23	2.01	0.43
17:I:39:GLU:OE2	17:I:39:GLU:N	2.43	0.43
18:J:55:LYS:HD3	18:J:55:LYS:HA	1.76	0.43
23:R:46:PHE:CD1	23:R:46:PHE:C	2.97	0.43
30:Y:76:LYS:CE	30:Y:98:GLU:OE1	2.66	0.43
36:e:36:VAL:HG13	36:e:43:TYR:HB2	2.00	0.43
41:P:113:TYR:C	41:P:135:VAL:HG22	2.43	0.43
41:P:160:LEU:O	41:P:161:VAL:HG13	2.19	0.43
41:P:205:PHE:N	41:P:205:PHE:CD1	2.87	0.43
1:A:246:G:C2'	1:A:246:G:N3	2.78	0.43
1:A:727:C:H5	49:A:7280:HOH:O	2.00	0.43
1:A:1398:A:N6	26:U:116:LYS:HD3	2.34	0.43
1:A:1918:U:OP1	31:Z:80:ASN:HB2	2.19	0.43
1:A:1920:C:H5	49:A:5708:HOH:O	1.95	0.43
1:A:2587:A:OP1	32:a:68:SER:CB	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:109:HIS:O	5:E:110:ILE:HG13	2.18	0.43
5:E:122:TRP:CH2	5:E:127:LYS:HG2	2.53	0.43
7:G:24:ARG:HH21	7:G:24:ARG:HD3	1.57	0.43
9:m:155:TYR:CD1	9:m:187:MET:HE3	2.54	0.43
14:r:16:LYS:NZ	16:t:196:ASN:ND2	2.67	0.43
22:N:107:LYS:HG2	22:N:108:ARG:N	2.32	0.43
25:T:38:TYR:O	25:T:39:SER:C	2.62	0.43
28:W:48:LEU:HD12	28:W:48:LEU:HA	1.81	0.43
33:b:52:LYS:HA	33:b:52:LYS:HD3	1.90	0.43
33:b:71:LYS:O	33:b:71:LYS:HD3	2.19	0.43
42:Q:27:ASN:HD22	42:Q:27:ASN:HA	1.60	0.43
1:A:686:A:H4'	8:H:97:GLY:HA3	2.01	0.42
1:A:1426:G:H1'	49:A:7754:HOH:O	2.19	0.42
1:A:1653:A:H2'	1:A:1655:C:C4	2.54	0.42
1:A:1693:U:H2'	1:A:1694:C:O4'	2.19	0.42
1:A:3945:A:H3'	1:A:3946:G:H8	1.83	0.42
1:A:4392:OMG:HM21	1:A:4394:A:H2'	2.00	0.42
1:A:4633:G:O2'	1:A:4634:U:H3'	2.18	0.42
1:A:4697:U:O4	49:A:5682:HOH:O	2.21	0.42
1:A:5028:G:P	1:A:5028:G:C8	3.11	0.42
6:F:281:MET:HE3	49:F:582:HOH:O	2.18	0.42
13:q:134:LEU:HD12	13:q:134:LEU:HA	1.84	0.42
20:L:3:MET:SD	20:L:5:ARG:HB3	2.59	0.42
26:U:30:GLY:C	49:U:210:HOH:O	2.61	0.42
41:P:14:GLY:HA3	41:P:194:ALA:O	2.19	0.42
43:u:1:MET:HB3	43:u:2:LYS:H	1.59	0.42
1:A:113:A:N1	1:A:277:G:O2'	2.52	0.42
1:A:126:C:H2'	1:A:127:G:C8	2.55	0.42
1:A:131:C:H1'	1:A:138:G:H1	1.84	0.42
1:A:1177:U:H2'	1:A:1178:G:C8	2.54	0.42
1:A:2455:G:C2'	49:A:5529:HOH:O	2.67	0.42
1:A:2744:A:H2'	1:A:2745:A:C8	2.54	0.42
1:A:3756:A:H2'	1:A:3757:G:C8	2.54	0.42
1:A:5021:C:O2	1:A:5028:G:N1	2.47	0.42
6:F:345:ARG:HH11	6:F:345:ARG:HD3	1.58	0.42
7:G:258:LYS:HA	7:G:258:LYS:HD2	1.70	0.42
10:n:159:HIS:CD2	10:n:185:LYS:HD2	2.54	0.42
11:o:172:ILE:O	11:o:176:LEU:CD2	2.67	0.42
17:I:93:LYS:HA	17:I:93:LYS:HD2	1.82	0.42
20:L:119:MET:HE3	20:L:145:LEU:CB	2.49	0.42
26:U:66:ASN:HD22	26:U:66:ASN:N	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:b:26:VAL:O	33:b:27:GLU:C	2.60	0.42
38:i:74:GLU:CD	38:i:75:PRO:HD2	2.44	0.42
1:A:135:G:N1	33:b:97:LYS:HD2	2.34	0.42
1:A:929:A:H2'	1:A:930:G:O4'	2.20	0.42
1:A:1179:U:O4	7:G:287:PHE:CD1	2.72	0.42
1:A:4895:C:C6	15:s:132:LYS:HD2	2.53	0.42
3:C:105:C:C2'	3:C:105:C:O5'	2.67	0.42
4:D:121:GLY:HA3	49:D:439:HOH:O	2.20	0.42
6:F:5:ARG:HD2	6:F:24:LEU:O	2.18	0.42
6:F:265:GLY:C	6:F:266:THR:CG2	2.93	0.42
19:K:49:LYS:HE3	49:K:269:HOH:O	2.18	0.42
24:S:45:ARG:NH1	24:S:45:ARG:CG	2.81	0.42
24:S:127:GLN:O	24:S:128:VAL:C	2.61	0.42
30:Y:34:ASN:OD1	30:Y:34:ASN:N	2.39	0.42
39:j:51:ALA:O	39:j:52:VAL:C	2.62	0.42
41:P:123:ARG:HA	41:P:123:ARG:HD3	1.64	0.42
1:A:368:C:O4'	6:F:83:GLY:HA3	2.19	0.42
1:A:400:A2M:O5'	1:A:400:A2M:H8	2.19	0.42
1:A:1272:C:O2'	1:A:1273:G:H4'	2.19	0.42
1:A:2034:G:H5''	49:A:5556:HOH:O	2.20	0.42
1:A:4608:G:H3'	1:A:4609:G:C8	2.54	0.42
49:A:6801:HOH:O	5:E:14:LEU:HD12	2.19	0.42
8:H:73:TYR:O	27:V:117:ARG:CB	2.67	0.42
9:m:36:LYS:HB3	9:m:36:LYS:HE2	1.63	0.42
9:m:39:GLN:O	9:m:40:LYS:C	2.62	0.42
10:n:69:ILE:O	10:n:70:LEU:C	2.62	0.42
10:n:255:LYS:HE2	10:n:255:LYS:HB3	1.45	0.42
11:o:116:ASN:O	11:o:117:PHE:C	2.63	0.42
11:o:163:GLN:O	11:o:166:THR:HG22	2.19	0.42
14:r:18:TRP:CD1	14:r:18:TRP:H	2.37	0.42
14:r:58:ILE:HG12	14:r:157:VAL:HG13	2.01	0.42
35:d:25:LYS:HB3	49:d:241:HOH:O	2.19	0.42
1:A:906:C:O2	1:A:906:C:H2'	2.18	0.42
1:A:1296:G:H2'	1:A:1297:U:C6	2.54	0.42
1:A:2360:A:O5'	49:A:5531:HOH:O	2.17	0.42
1:A:3616:U:H2'	1:A:3616:U:O5'	2.19	0.42
1:A:3772:U:C5	1:A:3776:G:O6	2.64	0.42
1:A:4936:G:H2'	8:H:183:ARG:NH1	2.34	0.42
2:B:58:A:H2'	2:B:59:G:H8	1.85	0.42
4:D:108:PRO:HG2	39:j:86:LEU:HB3	2.01	0.42
6:F:312:ARG:HH11	6:F:312:ARG:HB2	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:m:83:VAL:HG22	21:M:62:VAL:HA	2.01	0.42
15:s:8:GLU:O	15:s:9:VAL:C	2.61	0.42
15:s:24:LEU:HA	15:s:24:LEU:HD23	1.80	0.42
18:J:34:GLN:NE2	49:J:305:HOH:O	2.45	0.42
21:M:77:ASN:ND2	21:M:98:ARG:HH11	2.18	0.42
23:R:81:LEU:HD23	23:R:81:LEU:HA	1.87	0.42
25:T:6:LYS:O	25:T:7:PRO:C	2.62	0.42
26:U:27:LYS:HG3	49:U:207:HOH:O	2.19	0.42
34:c:30:ARG:CG	34:c:31:GLY:N	2.80	0.42
35:d:44:LYS:NZ	49:d:202:HOH:O	2.50	0.42
36:e:35:LYS:HA	36:e:43:TYR:O	2.18	0.42
38:i:69:ARG:HH11	38:i:69:ARG:HD3	1.58	0.42
1:A:703:G:OP1	30:Y:8:VAL:HA	2.19	0.42
1:A:757:G:C4	1:A:757:G:H3'	2.53	0.42
1:A:2438:A:O2'	1:A:2440:U:OP2	2.33	0.42
1:A:2622:G:H4'	1:A:2701:U:O3'	2.19	0.42
1:A:4431:PSU:H5'	12:p:160:PRO:HD3	2.02	0.42
1:A:4472:G:O2'	1:A:4473:A:H5'	2.20	0.42
4:D:120:PRO:HG3	4:D:162:ASN:OD1	2.20	0.42
11:o:186:THR:O	11:o:187:VAL:O	2.36	0.42
14:r:10:LEU:HD23	14:r:10:LEU:HA	1.83	0.42
16:t:10:LEU:HD21	34:c:48:CYS:SG	2.60	0.42
17:I:19:LEU:O	17:I:20:ALA:C	2.58	0.42
18:J:153:LYS:HD2	18:J:153:LYS:HA	1.66	0.42
22:N:101:SER:O	22:N:102:ARG:C	2.61	0.42
26:U:104:VAL:O	26:U:105:ARG:C	2.60	0.42
29:X:64:ILE:HG23	29:X:68:LEU:HD23	2.01	0.42
29:X:94:GLU:HA	29:X:94:GLU:OE2	2.18	0.42
30:Y:82:VAL:O	30:Y:83:LYS:C	2.60	0.42
31:Z:24:HIS:O	31:Z:87:LYS:HE2	2.19	0.42
40:k:57:GLY:O	40:k:58:LYS:HD3	2.19	0.42
1:A:23:C:N4	49:A:5614:HOH:O	2.15	0.42
1:A:419:A:N6	3:C:15:G:H1'	2.35	0.42
1:A:730:G:C5	9:m:73:ARG:HD3	2.54	0.42
1:A:957:G:C2	1:A:1283:G:H2'	2.55	0.42
1:A:1778:C:OP1	7:G:5:LYS:HE3	2.19	0.42
1:A:2264:C:H2'	1:A:2265:G:O4'	2.19	0.42
1:A:2851:G:N2	49:A:5643:HOH:O	2.17	0.42
1:A:3617:G:C8	1:A:3617:G:C3'	3.00	0.42
1:A:5021:C:N3	1:A:5028:G:O6	2.52	0.42
2:B:11:A:H2'	2:B:12:U:H5''	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:75:OMG:HM23	3:C:75:OMG:H1'	1.75	0.42
10:n:115:LEU:O	10:n:118:ALA:HB3	2.20	0.42
14:r:11:LYS:HA	14:r:12:PRO:HD2	1.65	0.42
22:N:110:LYS:O	22:N:111:GLU:C	2.60	0.42
25:T:11:VAL:HG12	25:T:82:PRO:HA	2.02	0.42
28:W:94:LEU:HD12	28:W:94:LEU:C	2.44	0.42
38:i:51:GLN:HG2	38:i:55:ILE:CD1	2.47	0.42
41:P:133:LEU:O	41:P:134:LYS:C	2.63	0.42
43:u:45:ASN:OD1	43:u:46:PRO:HD2	2.20	0.42
1:A:922:C:H2'	1:A:923:C:O4'	2.20	0.42
1:A:1637:A:H2'	49:A:5808:HOH:O	2.20	0.42
1:A:2437:C:H42	23:R:89:LYS:HE3	1.85	0.42
1:A:2827:G:N3	1:A:2827:G:H2'	2.34	0.42
1:A:4530:UR3:O2	1:A:4531:U:C4	2.73	0.42
1:A:4730:C:H2'	1:A:4731:G:O4'	2.19	0.42
4:D:40:TYR:CD1	4:D:40:TYR:C	2.98	0.42
5:E:238:LYS:HB2	5:E:238:LYS:HE2	1.61	0.42
11:o:23:ARG:NH2	11:o:41:ILE:O	2.51	0.42
11:o:103:VAL:HG11	11:o:144:LEU:HD11	2.01	0.42
12:p:38:ARG:HG2	12:p:41:ALA:HB2	2.01	0.42
18:J:6:LEU:CD1	18:J:116:HIS:CD2	3.01	0.42
24:S:69:LYS:HB3	24:S:83:GLU:CD	2.45	0.42
34:c:28:ARG:HB2	49:c:201:HOH:O	2.18	0.42
41:P:138:PHE:O	41:P:140:GLN:N	2.53	0.42
1:A:469:C:H2'	1:A:470:A:C8	2.55	0.42
1:A:1427:A:N6	49:A:6795:HOH:O	2.53	0.42
1:A:1604:G:H2'	1:A:1605:G:C8	2.54	0.42
1:A:1964:A:H1'	1:A:4694:G:N3	2.35	0.42
1:A:2347:A:C4	30:Y:31:ILE:HD11	2.54	0.42
1:A:2519:U:C2	1:A:2520:C:C5	3.08	0.42
1:A:4158:C:H2'	1:A:4159:C:C6	2.54	0.42
1:A:4485:C:O2'	1:A:4486:C:H5'	2.20	0.42
1:A:4701:A:C2	11:o:72:THR:HG21	2.55	0.42
4:D:83:HIS:CG	49:D:509:HOH:O	2.73	0.42
5:E:40:PRO:O	5:E:187:GLY:HA3	2.19	0.42
7:G:287:PHE:CB	12:p:209:TRP:HZ3	2.30	0.42
9:m:75:ALA:HB2	22:N:140:PHE:HE1	1.83	0.42
11:o:88:PHE:HD2	11:o:149:ASN:O	2.03	0.42
13:q:78:LYS:HD2	13:q:78:LYS:HA	1.81	0.42
28:W:81:LEU:O	28:W:84:ALA:HB3	2.20	0.42
29:X:115:LYS:HA	29:X:115:LYS:HD3	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:P:175:SER:O	41:P:178:GLN:N	2.52	0.42
42:Q:123:LYS:HE2	42:Q:123:LYS:HB2	1.79	0.42
1:A:234:G:N2	1:A:2303:C:O2	2.52	0.42
1:A:1318:C:H4'	49:A:6582:HOH:O	2.19	0.42
1:A:2029:A:H1'	49:A:6932:HOH:O	2.20	0.42
1:A:2574:G:OP1	25:T:67:LYS:HD3	2.20	0.42
1:A:2869:U:O2'	1:A:2881:A:N7	2.47	0.42
1:A:3823:G:H3'	1:A:3823:G:N3	2.34	0.42
1:A:4135:G:H2'	1:A:4136:G:C8	2.55	0.42
1:A:4203:A:H1'	1:A:4221:C:H5'	2.02	0.42
5:E:71:GLU:OE2	5:E:366:LYS:NZ	2.42	0.42
5:E:378:ARG:HD3	43:u:11:TYR:CE1	2.42	0.42
6:F:61:GLN:H	6:F:61:GLN:HG3	1.76	0.42
7:G:287:PHE:CD1	12:p:210:ARG:HB2	2.54	0.42
8:H:208:ILE:CG2	8:H:212:LEU:HD12	2.50	0.42
9:m:203:GLU:OE1	9:m:203:GLU:N	2.52	0.42
11:o:12:ILE:HG12	11:o:18:ILE:HD12	2.02	0.42
11:o:141:LYS:HB3	11:o:141:LYS:HE3	1.56	0.42
12:p:47:PRO:HB3	12:p:171:TRP:CZ2	2.54	0.42
13:q:87:LEU:HD23	13:q:87:LEU:HA	1.92	0.42
15:s:82:ILE:O	15:s:83:ASN:C	2.60	0.42
17:I:8:VAL:HG12	17:I:117:ARG:HG3	2.01	0.42
17:I:68:ARG:HD3	49:I:330:HOH:O	2.18	0.42
21:M:136:LYS:HA	21:M:136:LYS:HD3	1.83	0.42
34:c:7:MET:HE2	34:c:7:MET:HB2	1.79	0.42
34:c:56:ARG:HB2	34:c:56:ARG:HH11	1.85	0.42
38:i:39:ARG:HH21	38:i:39:ARG:HD3	1.70	0.42
40:k:2:SER:O	40:k:6:GLN:HG3	2.20	0.42
40:k:106:LEU:HD23	40:k:106:LEU:HA	1.87	0.42
41:P:20:THR:HG21	41:P:23:TYR:CZ	2.55	0.42
41:P:106:ASN:OD1	41:P:150:SER:HB3	2.19	0.42
41:P:191:GLU:O	41:P:193:ILE:N	2.53	0.42
1:A:206:U:H1'	1:A:209:U:C4	2.55	0.41
1:A:218:A:N3	1:A:219:G:N7	2.68	0.41
1:A:747:A:H4'	1:A:748:G:OP1	2.19	0.41
1:A:983:C:H2'	1:A:984:C:O4'	2.20	0.41
1:A:1179:U:H3	7:G:287:PHE:HA	1.85	0.41
1:A:2459:G:H2'	1:A:2461:G:OP2	2.20	0.41
1:A:3757:G:H1	1:A:3767:C:H42	1.66	0.41
1:A:4329:G:H3'	1:A:4329:G:N3	2.35	0.41
1:A:4771:C:H2'	1:A:4772:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4942:C:H5''	8:H:155:GLY:HA3	2.00	0.41
1:A:5002:U:H2'	1:A:5003:U:C6	2.55	0.41
4:D:83:HIS:CD2	39:j:41:PHE:CZ	3.08	0.41
5:E:261:ARG:HG3	5:E:261:ARG:HH11	1.85	0.41
7:G:59:ASP:OD1	7:G:60:ILE:N	2.53	0.41
12:p:48:LEU:O	12:p:139:ARG:HA	2.20	0.41
14:r:29:PRO:HD2	49:r:315:HOH:O	2.20	0.41
18:J:46:LYS:HB2	18:J:46:LYS:HE3	1.66	0.41
19:K:176:ARG:HD3	49:K:232:HOH:O	2.19	0.41
22:N:102:ARG:O	22:N:105:PHE:N	2.53	0.41
40:k:18:ILE:HG21	40:k:18:ILE:HD13	1.75	0.41
41:P:2:ALA:CB	41:P:215:LEU:HD22	2.50	0.41
1:A:308:G:C3'	34:c:33:LEU:HB2	2.51	0.41
1:A:976:G:O6	49:A:5683:HOH:O	2.21	0.41
1:A:1933:G:H2'	1:A:1934:A:C8	2.56	0.41
1:A:3712:A:H2'	1:A:3713:U:C5	2.56	0.41
1:A:3746:A:H3'	1:A:3746:A:C8	2.55	0.41
1:A:3769:C:O2'	1:A:3770:U:C6	2.73	0.41
1:A:3938:G:H4'	1:A:3939:G:H5'	2.01	0.41
1:A:4162:C:H5	10:n:73:ARG:HH22	1.62	0.41
1:A:4188:U:H2'	1:A:4189:U:C6	2.56	0.41
1:A:4477:A:H1'	1:A:4603:C:O2'	2.20	0.41
6:F:317:ASN:HD22	6:F:319:LEU:H	1.65	0.41
9:m:134:ARG:HD2	49:m:392:HOH:O	2.20	0.41
10:n:51:LEU:O	10:n:52:THR:C	2.63	0.41
15:s:119:ARG:HE	17:I:193:THR:HG1	1.65	0.41
17:I:31:ARG:HG3	17:I:32:LYS:N	2.34	0.41
21:M:29:ARG:NH1	22:N:150:LEU:HD13	2.36	0.41
21:M:69:GLU:HG2	21:M:101:THR:HG22	2.01	0.41
27:V:47:LYS:O	27:V:48:LYS:C	2.63	0.41
27:V:55:LYS:HA	27:V:55:LYS:HD3	1.76	0.41
27:V:112:ILE:O	27:V:116:LEU:HD13	2.20	0.41
29:X:84:ILE:HG23	29:X:84:ILE:HD12	1.64	0.41
30:Y:46:ARG:HG2	30:Y:46:ARG:HH11	1.85	0.41
33:b:77:LYS:HB3	33:b:77:LYS:HE3	1.85	0.41
37:f:16:LYS:HG3	37:f:49:LEU:HD22	2.01	0.41
1:A:72:C:O2'	14:r:60:ARG:HD2	2.20	0.41
1:A:1180:C:OP2	7:G:289:ARG:HD2	2.21	0.41
1:A:1366:G:N7	14:r:37:LYS:HD2	2.35	0.41
1:A:1921:C:C4	15:s:17:PHE:CB	3.01	0.41
1:A:1965:G:H8	1:A:1965:G:OP2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2476:G:C6	49:A:5567:HOH:O	2.52	0.41
1:A:4121:G:O6	39:j:61:MET:O	2.38	0.41
1:A:4477:A:H1'	1:A:4478:G:H5'	2.01	0.41
1:A:4911:A:N1	17:I:105:PHE:CE1	2.82	0.41
1:A:4947:U:H5''	1:A:4947:U:C6	2.41	0.41
3:C:52:A:C8	37:f:24:PRO:HD3	2.55	0.41
4:D:121:GLY:HA3	49:D:494:HOH:O	2.21	0.41
5:E:159:VAL:HA	49:E:541:HOH:O	2.18	0.41
8:H:153:LEU:HD11	8:H:195:ILE:HG13	2.02	0.41
16:t:82:GLY:HA3	49:t:491:HOH:O	2.19	0.41
16:t:136:ASP:C	16:t:136:ASP:OD1	2.63	0.41
24:S:113:LYS:HE3	24:S:113:LYS:HB2	1.77	0.41
25:T:81:MET:HE2	32:a:95:PHE:HD2	1.84	0.41
26:U:19:HIS:CG	26:U:25:HIS:HB2	2.55	0.41
28:W:61:GLU:OE2	28:W:73:HIS:HE1	2.03	0.41
33:b:58:LEU:O	33:b:59:THR:C	2.61	0.41
41:P:153:VAL:HG11	41:P:197:MET:HE3	2.01	0.41
41:P:200:ASN:HB3	41:P:202:TRP:H	1.86	0.41
1:A:108:A:H4'	1:A:109:G:OP1	2.18	0.41
1:A:131:C:C1'	1:A:138:G:H22	2.31	0.41
1:A:315:G:N3	1:A:315:G:H2'	2.35	0.41
1:A:366:A:H2'	1:A:367:C:O4'	2.20	0.41
1:A:649:A:H2'	1:A:650:C:O4'	2.19	0.41
1:A:684:G:H4'	8:H:100:LYS:HB3	2.03	0.41
1:A:3681:G:OP1	49:A:5686:HOH:O	2.22	0.41
1:A:4431:PSU:H5''	12:p:158:LYS:O	2.20	0.41
1:A:4903:G:H2'	1:A:4904:G:O4'	2.19	0.41
10:n:38:ASN:C	10:n:38:ASN:HD22	2.28	0.41
14:r:49:ARG:O	14:r:50:PRO:C	2.63	0.41
14:r:130:LYS:HD3	14:r:130:LYS:HA	1.76	0.41
16:t:46:ASP:CG	16:t:47:LYS:N	2.79	0.41
19:K:27:LEU:HD23	19:K:27:LEU:HA	1.91	0.41
19:K:121:LEU:N	19:K:121:LEU:CD1	2.83	0.41
20:L:106:LEU:HD11	20:L:123:LEU:HB3	2.03	0.41
21:M:11:LYS:HD3	21:M:63:TYR:CE2	2.56	0.41
21:M:80:ILE:HG12	21:M:129:VAL:HG22	2.02	0.41
23:R:131:ASP:OD1	23:R:131:ASP:C	2.62	0.41
1:A:667:A:H2'	1:A:668:C:C6	2.55	0.41
1:A:685:C:OP2	8:H:100:LYS:NZ	2.43	0.41
1:A:2055:G:H3'	1:A:2056:G:C5'	2.50	0.41
1:A:2411:C:H2'	1:A:2412:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3684:G:H2'	1:A:3685:C:C6	2.55	0.41
1:A:3795:A:N3	49:A:5998:HOH:O	2.37	0.41
1:A:4410:G:C2	1:A:4411:G:C8	3.08	0.41
49:A:7338:HOH:O	5:E:4:ARG:HG3	2.21	0.41
7:G:123:VAL:O	7:G:123:VAL:HG12	2.20	0.41
7:G:124:GLU:H	7:G:124:GLU:HG3	1.46	0.41
9:m:108:VAL:HG11	9:m:136:VAL:HG13	2.02	0.41
11:o:67:LEU:HD12	11:o:67:LEU:HA	1.77	0.41
12:p:66:GLU:CD	12:p:69:ARG:HH11	2.29	0.41
15:s:53:LYS:HE2	49:M:224:HOH:O	2.20	0.41
18:J:131:ARG:HG3	18:J:137:ASN:OD1	2.19	0.41
21:M:43:ARG:HD2	21:M:43:ARG:HA	1.67	0.41
26:U:27:LYS:HA	26:U:27:LYS:HD2	1.77	0.41
39:j:42:CYS:SG	39:j:59:SER:OG	2.78	0.41
41:P:82:GLN:HE21	41:P:82:GLN:HB3	1.61	0.41
41:P:128:ILE:HG22	41:P:128:ILE:O	2.21	0.41
1:A:63:G:P	49:A:6401:HOH:O	2.78	0.41
1:A:131:C:OP2	1:A:131:C:H6	2.03	0.41
1:A:252:C:H2'	1:A:253:G:O4'	2.19	0.41
1:A:488:G:N3	1:A:489:C:H1'	2.35	0.41
1:A:1101:C:O2'	1:A:1168:G:O4'	2.37	0.41
1:A:1486:C:H4'	14:r:195:ARG:NH2	2.35	0.41
1:A:1577:G:N2	39:j:17:ARG:HD2	2.36	0.41
1:A:3937:C:H2'	1:A:3938:G:C8	2.55	0.41
1:A:4116:C:H6	1:A:4116:C:H2'	1.52	0.41
1:A:4928:C:HO2'	15:s:121:ARG:HD3	1.85	0.41
4:D:116:LEU:HD12	4:D:117:GLU:N	2.36	0.41
4:D:245:ARG:HA	49:D:407:HOH:O	2.21	0.41
6:F:33:ARG:O	6:F:34:PRO:C	2.61	0.41
8:H:51:VAL:O	8:H:52:ARG:C	2.64	0.41
14:r:52:SER:HB2	49:r:310:HOH:O	2.20	0.41
14:r:86:ILE:HA	49:r:332:HOH:O	2.20	0.41
17:I:31:ARG:HH11	17:I:31:ARG:HD2	1.77	0.41
23:R:123:LYS:HE3	49:R:221:HOH:O	2.20	0.41
25:T:29:ILE:CD1	25:T:98:LYS:HZ3	2.26	0.41
33:b:13:LYS:HG2	33:b:16:GLU:OE2	2.19	0.41
38:i:43:ARG:HH21	38:i:43:ARG:HD3	1.67	0.41
40:k:19:LYS:O	40:k:20:ARG:CB	2.67	0.41
41:P:7:PHE:HD2	41:P:34:PHE:CD2	2.38	0.41
1:A:195:C:H5''	1:A:195:C:H6	1.84	0.41
1:A:301:G:OP2	49:A:5694:HOH:O	2.22	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:690:C:H2'	1:A:691:C:C6	2.56	0.41
1:A:1250:C:H6	1:A:1250:C:O5'	2.03	0.41
1:A:1737:A:H2'	1:A:1738:A:H5'	2.01	0.41
1:A:2332:A:P	49:A:5840:HOH:O	2.79	0.41
1:A:2861:OMC:N4	49:A:5552:HOH:O	2.23	0.41
1:A:3614:G:O2'	1:A:3615:G:OP1	2.27	0.41
1:A:3624:A:OP2	49:A:5672:HOH:O	2.20	0.41
1:A:3732:A:H2'	1:A:3733:A:C8	2.56	0.41
1:A:4584:A:H2'	1:A:4585:U:O4'	2.21	0.41
1:A:4988:U:O4	5:E:176:LYS:HE2	2.20	0.41
2:B:54:A:N3	13:q:155:HIS:CE1	2.88	0.41
3:C:110:U:N3	3:C:112:G:H1'	2.35	0.41
7:G:293:ARG:O	7:G:294:ALA:C	2.64	0.41
9:m:151:ASN:OD1	9:m:191:ILE:HD13	2.21	0.41
9:m:161:LYS:NZ	9:m:206:ASN:HD21	2.19	0.41
14:r:8:MET:HE3	14:r:8:MET:HB2	1.92	0.41
15:s:20:HIS:O	15:s:23:LYS:HB2	2.21	0.41
17:I:196:LEU:HA	17:I:196:LEU:HD12	1.58	0.41
26:U:84:GLU:CD	26:U:87:ARG:HH21	2.29	0.41
30:Y:65:LYS:HA	30:Y:65:LYS:CE	2.50	0.41
1:A:276:C:O2	34:c:26:HIS:NE2	2.54	0.41
1:A:666:G:H5''	40:k:67:ARG:NH2	2.36	0.41
1:A:719:C:H5''	49:A:6663:HOH:O	2.21	0.41
1:A:1808:C:O2	1:A:1831:G:N2	2.54	0.41
1:A:2474:G:O6	23:R:47:ARG:HG3	2.21	0.41
1:A:4271:A:O4'	49:A:5675:HOH:O	2.21	0.41
1:A:4729:A:N3	49:A:6007:HOH:O	2.37	0.41
1:A:4893:A:H8	1:A:4893:A:H5''	1.86	0.41
5:E:41:VAL:HG13	5:E:185:VAL:CG1	2.51	0.41
7:G:40:ASP:HB2	7:G:43:LYS:HD2	2.02	0.41
11:o:117:PHE:CZ	11:o:118:LEU:HD22	2.55	0.41
13:q:94:LEU:O	13:q:174:ILE:HA	2.21	0.41
21:M:113:MET:HE3	21:M:113:MET:HB3	1.88	0.41
21:M:130:GLU:HA	49:M:207:HOH:O	2.20	0.41
25:T:81:MET:CE	32:a:96:LEU:HD21	2.51	0.41
32:a:90:ARG:HH11	32:a:90:ARG:HD3	1.41	0.41
33:b:48:ARG:HE	33:b:48:ARG:HB2	1.57	0.41
1:A:160:G:O5'	49:A:5695:HOH:O	2.22	0.41
1:A:449:C:H4'	1:A:450:G:OP2	2.21	0.41
1:A:666:G:C4'	40:k:67:ARG:HH22	2.34	0.41
1:A:690:C:OP1	8:H:111:LYS:HE3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:757:G:C8	1:A:757:G:O5'	2.74	0.41
1:A:1617:G:H5'	1:A:2802:C:H5'	2.02	0.41
1:A:1814:C:H5'	27:V:49:HIS:CD2	2.56	0.41
1:A:1862:PSU:H2'	1:A:1863:U:C6	2.56	0.41
1:A:2469:C:C5	1:A:2471:G:C2	2.98	0.41
1:A:2512:A:OP1	1:A:2512:A:H3'	2.20	0.41
1:A:2664:G:H4'	1:A:2677:G:H4'	2.02	0.41
1:A:3684:G:H3'	49:A:6106:HOH:O	2.21	0.41
1:A:3803:A:N6	49:A:5621:HOH:O	2.16	0.41
1:A:3813:A:N3	1:A:4538:G:O2'	2.49	0.41
1:A:3851:PSU:H5'	49:A:6604:HOH:O	2.20	0.41
1:A:3925:OMU:HM21	38:i:50:GLY:HA3	2.02	0.41
1:A:4911:A:OP2	5:E:100:ARG:NE	2.50	0.41
49:A:9785:HOH:O	16:t:158:HIS:HE1	2.03	0.41
4:D:36:GLU:CD	4:D:90:CYS:HB3	2.46	0.41
4:D:94:ALA:HB3	4:D:102:LEU:HD22	2.02	0.41
4:D:119:LYS:HD3	4:D:119:LYS:HA	1.76	0.41
5:E:40:PRO:O	5:E:42:HIS:HD2	2.04	0.41
5:E:109:HIS:HA	49:E:537:HOH:O	2.21	0.41
5:E:121:ASN:OD1	5:E:123:HIS:HB3	2.21	0.41
9:m:28:LEU:HD12	9:m:28:LEU:HA	1.85	0.41
9:m:74:MET:HE2	9:m:74:MET:HB3	1.96	0.41
13:q:147:ARG:HE	13:q:147:ARG:HB3	1.63	0.41
14:r:90:VAL:O	14:r:91:ALA:C	2.64	0.41
15:s:116:LYS:HE3	17:I:201:LEU:CD2	2.49	0.41
16:t:158:HIS:O	16:t:159:ARG:C	2.60	0.41
18:J:2:VAL:HB	18:J:3:ARG:H	1.81	0.41
19:K:15:ARG:NH2	49:K:205:HOH:O	2.22	0.41
20:L:28:GLU:CG	20:L:49:LEU:HD13	2.49	0.41
21:M:127:MET:HG2	22:N:153:PRO:HB2	2.03	0.41
24:S:89:LYS:HE2	24:S:89:LYS:HB3	1.85	0.41
25:T:53:VAL:HA	25:T:57:MET:SD	2.61	0.41
25:T:113:GLU:OE2	25:T:117:LYS:NZ	2.53	0.41
28:W:13:SER:O	28:W:17:ARG:HG2	2.21	0.41
33:b:89:ARG:O	33:b:93:ARG:HG2	2.21	0.41
41:P:106:ASN:HB3	41:P:147:LEU:HD13	2.03	0.41
1:A:24:G:H5''	49:A:5875:HOH:O	2.19	0.41
1:A:272:U:H2'	1:A:273:U:O4'	2.20	0.41
1:A:2528:G:N2	49:A:6274:HOH:O	2.54	0.41
1:A:2674:A:C6	39:j:42:CYS:HA	2.55	0.41
1:A:3798:U:OP2	42:Q:74:LYS:NZ	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4314:C:N3	49:A:6003:HOH:O	2.37	0.41
1:A:4343:U:H2'	1:A:4344:U:C6	2.55	0.41
1:A:4484:A:H2'	1:A:4485:C:H6	1.85	0.41
3:C:33:G:H4'	3:C:34:U:H5	1.86	0.41
5:E:103:LYS:HE2	5:E:103:LYS:HB2	1.83	0.41
6:F:63:SER:N	49:F:503:HOH:O	2.53	0.41
7:G:195:HIS:CE1	7:G:199:ILE:HD11	2.56	0.41
9:m:137:GLU:HB3	9:m:138:PRO:CD	2.49	0.41
10:n:63:LEU:C	10:n:63:LEU:CD2	2.92	0.41
11:o:128:MET:HE3	11:o:128:MET:HB3	1.83	0.41
13:q:144:LYS:HD2	13:q:146:ARG:O	2.21	0.41
15:s:11:ARG:CZ	15:s:61:ILE:HD11	2.50	0.41
17:l:117:ARG:HD3	17:l:117:ARG:N	2.35	0.41
19:K:3:VAL:HG12	19:K:5:ILE:HG23	2.02	0.41
20:L:18:GLY:O	20:L:19:LYS:C	2.63	0.41
23:R:111:GLN:O	23:R:112:ALA:C	2.64	0.41
26:U:100:ILE:HD13	26:U:123:ILE:HD12	2.02	0.41
27:V:32:LEU:HB3	27:V:40:LEU:HD21	2.03	0.41
32:a:66:ARG:HH11	32:a:66:ARG:HD3	1.76	0.41
33:b:17:LEU:HD23	33:b:17:LEU:HA	1.82	0.41
39:j:21:SER:O	39:j:25:MET:HG3	2.21	0.41
1:A:1388:A:H4'	1:A:1498:G:O2'	2.21	0.40
1:A:1780:A:H1'	12:p:198:LYS:NZ	2.36	0.40
1:A:1866:U:C2	1:A:4405:G:O4'	2.74	0.40
1:A:2528:G:H2'	1:A:2529:A:O4'	2.21	0.40
1:A:3798:U:H2'	1:A:3800:A:OP2	2.21	0.40
1:A:4072:C:H2'	1:A:4073:A:O4'	2.20	0.40
3:C:75:OMG:C8	37:f:30:LYS:HG2	2.56	0.40
5:E:292:LEU:HD12	5:E:292:LEU:HA	1.81	0.40
9:m:52:GLU:HG3	27:V:96:LEU:CD1	2.52	0.40
9:m:157:ARG:HE	9:m:248:ASN:HD22	1.69	0.40
12:p:54:SER:O	12:p:131:ILE:O	2.38	0.40
16:t:169:ARG:HD2	49:t:434:HOH:O	2.19	0.40
20:L:18:GLY:O	20:L:20:LYS:N	2.55	0.40
28:W:38:ILE:HD11	28:W:46:VAL:CG2	2.51	0.40
42:Q:107:ASN:OD1	42:Q:107:ASN:C	2.63	0.40
1:A:385:A:N3	1:A:387:G:H5''	2.36	0.40
1:A:924:C:H2'	1:A:925:C:H5''	2.03	0.40
1:A:1171:G:H1	1:A:1190:C:N4	2.20	0.40
1:A:1248:C:H2'	1:A:1249:C:C6	2.56	0.40
1:A:1846:G:H2'	1:A:1847:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1871:A2M:H1'	1:A:4195:G:O6	2.21	0.40
1:A:2561:C:H3'	1:A:2562:G:H8	1.86	0.40
1:A:3757:G:C4	1:A:3757:G:C3'	3.00	0.40
1:A:4195:G:N7	49:A:6018:HOH:O	2.37	0.40
1:A:4532:PSU:N1	1:A:4554:G:N2	2.69	0.40
11:o:74:CYS:CB	49:o:302:HOH:O	2.08	0.40
14:r:194:ILE:HD12	14:r:194:ILE:HA	1.90	0.40
16:t:21:PHE:O	16:t:22:LEU:C	2.62	0.40
20:L:44:LEU:HD12	20:L:44:LEU:HA	1.81	0.40
23:R:73:HIS:HE1	23:R:115:LYS:HG3	1.81	0.40
23:R:127:LEU:HD12	23:R:127:LEU:O	2.20	0.40
25:T:106:LEU:HD12	25:T:106:LEU:HA	1.78	0.40
40:k:20:ARG:O	40:k:21:ASN:HB2	2.22	0.40
41:P:64:VAL:HG12	41:P:104:LEU:HB3	2.03	0.40
42:Q:56:GLY:O	42:Q:57:VAL:C	2.60	0.40
1:A:1214:C:H42	27:V:90:SER:C	2.20	0.40
1:A:1639:U:O2	1:A:1639:U:C2'	2.67	0.40
1:A:1733:G:N3	1:A:4214:A:H2'	2.35	0.40
1:A:2436:U:O4	23:R:130:PRO:HG3	2.21	0.40
1:A:2568:C:H2'	1:A:2569:G:C8	2.57	0.40
1:A:3789:C:H6	1:A:3789:C:O5'	2.05	0.40
1:A:4459:U:H2'	1:A:4460:U:C6	2.56	0.40
1:A:4486:C:H2'	1:A:4487:A:O4'	2.21	0.40
1:A:4669:A:N3	1:A:4671:C:O2'	2.54	0.40
1:A:4698:C:H6	49:A:9465:HOH:O	2.03	0.40
1:A:4870:G:H4'	1:A:4871:C:O5'	2.21	0.40
1:A:4988:U:C5	5:E:176:LYS:CE	3.05	0.40
49:A:9524:HOH:O	4:D:225:ILE:HD12	2.21	0.40
2:B:61:G:OP2	7:G:270:LYS:HG2	2.21	0.40
3:C:82:A:O5'	3:C:82:A:H8	2.04	0.40
6:F:168:VAL:HG13	6:F:177:TRP:CH2	2.56	0.40
10:n:164:ILE:O	10:n:164:ILE:HG13	2.21	0.40
11:o:99:PHE:HA	11:o:100:PRO:HD2	1.94	0.40
11:o:187:VAL:O	11:o:189:GLN:N	2.55	0.40
15:s:99:GLU:HG3	15:s:100:ARG:N	2.36	0.40
21:M:55:LYS:O	21:M:56:LYS:C	2.62	0.40
31:Z:46:ARG:HH21	31:Z:89:ARG:NH1	2.19	0.40
35:d:83:THR:HB	35:d:84:PRO:CD	2.48	0.40
38:i:4:VAL:HG21	38:i:91:PHE:HE1	1.87	0.40
40:k:92:SER:O	40:k:96:MET:HG3	2.21	0.40
41:P:46:ILE:O	41:P:46:ILE:CG2	2.59	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1069:G:P	8:H:65:ARG:HH22	2.44	0.40
1:A:1245:C:H42	1:A:1265:G:H1	1.68	0.40
1:A:1502:G:H1	19:K:89:ASP:HA	1.87	0.40
1:A:2516:G:O3'	32:a:62:LYS:NZ	2.46	0.40
1:A:4094:G:N2	1:A:4114:C:N3	2.58	0.40
1:A:4480:A:H2'	1:A:4481:U:O4'	2.21	0.40
3:C:44:A:H2'	3:C:45:C:O4'	2.21	0.40
3:C:49:G:C6	3:C:50:C:C4	3.09	0.40
8:H:75:ALA:CB	27:V:117:ARG:NH1	2.85	0.40
9:m:35:LYS:HB3	9:m:35:LYS:HE2	1.68	0.40
9:m:199:LYS:HD2	9:m:199:LYS:HA	1.73	0.40
11:o:168:LYS:HB2	11:o:168:LYS:HE3	1.93	0.40
14:r:121:ARG:CG	14:r:121:ARG:NH1	2.77	0.40
21:M:18:PRO:HG2	49:M:247:HOH:O	2.21	0.40
23:R:151:ASN:ND2	23:R:156:ILE:HG21	2.36	0.40
29:X:29:ILE:HD13	29:X:29:ILE:HA	1.86	0.40
37:f:17:GLN:HG2	37:f:17:GLN:H	1.64	0.40
39:j:37:TYR:O	39:j:47:MET:HB3	2.20	0.40
39:j:58:GLY:O	39:j:61:MET:HG2	2.20	0.40
41:P:2:ALA:HB1	41:P:215:LEU:HD22	2.03	0.40
41:P:43:SER:C	41:P:45:THR:H	2.26	0.40
1:A:302:C:H2'	1:A:303:C:C6	2.56	0.40
1:A:1609:U:H2'	1:A:1610:C:O4'	2.21	0.40
1:A:1857:C:H2'	1:A:1858:A:C8	2.56	0.40
1:A:1921:C:N4	15:s:17:PHE:HB3	2.36	0.40
1:A:3604:A:H2'	1:A:3605:C:C6	2.57	0.40
1:A:4205:A:H1'	49:A:5996:HOH:O	2.20	0.40
1:A:4317:A:C2'	49:A:6338:HOH:O	2.70	0.40
1:A:4369:A:H4'	38:i:67:VAL:CG2	2.51	0.40
1:A:4911:A:N6	17:I:105:PHE:HD1	2.20	0.40
2:B:117:G:O3'	7:G:256:LYS:NZ	2.54	0.40
4:D:184:ARG:NE	49:D:404:HOH:O	2.38	0.40
6:F:75:ARG:HA	49:F:603:HOH:O	2.20	0.40
6:F:182:LYS:HD3	49:F:506:HOH:O	2.21	0.40
11:o:64:ARG:O	11:o:65:LYS:C	2.64	0.40
12:p:36:LEU:N	12:p:36:LEU:HD23	2.36	0.40
12:p:150:GLU:OE2	12:p:154:ARG:HD2	2.21	0.40
14:r:11:LYS:C	49:r:306:HOH:O	2.64	0.40
14:r:103:ARG:HD2	14:r:105:LYS:HG2	2.04	0.40
15:s:75:GLN:HB3	15:s:79:LYS:NZ	2.37	0.40
16:t:110:CYS:HB3	16:t:113:LEU:HD12	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:M:75:VAL:HG11	21:M:98:ARG:NH2	2.37	0.40
35:d:77:GLY:O	35:d:78:PHE:C	2.62	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	D	244/257 (95%)	234 (96%)	9 (4%)	1 (0%)	30	43
5	E	394/430 (92%)	373 (95%)	20 (5%)	1 (0%)	36	50
6	F	357/427 (84%)	341 (96%)	16 (4%)	0	100	100
7	G	291/297 (98%)	280 (96%)	10 (3%)	1 (0%)	36	50
8	H	215/288 (75%)	202 (94%)	13 (6%)	0	100	100
9	m	223/248 (90%)	214 (96%)	9 (4%)	0	100	100
10	n	219/266 (82%)	202 (92%)	15 (7%)	2 (1%)	14	22
11	o	188/190 (99%)	169 (90%)	12 (6%)	7 (4%)	2	2
12	p	154/214 (72%)	146 (95%)	8 (5%)	0	100	100
13	q	168/178 (94%)	157 (94%)	10 (6%)	1 (1%)	21	32
14	r	204/211 (97%)	195 (96%)	9 (4%)	0	100	100
15	s	137/220 (62%)	128 (93%)	9 (7%)	0	100	100
16	t	203/204 (100%)	196 (97%)	7 (3%)	0	100	100
17	I	197/203 (97%)	192 (98%)	5 (2%)	0	100	100
18	J	150/184 (82%)	148 (99%)	2 (1%)	0	100	100
19	K	185/188 (98%)	176 (95%)	9 (5%)	0	100	100
20	L	133/196 (68%)	130 (98%)	1 (1%)	2 (2%)	8	12
21	M	174/176 (99%)	170 (98%)	4 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	N	157/160 (98%)	146 (93%)	10 (6%)	1 (1%)	21	32
23	R	117/156 (75%)	116 (99%)	1 (1%)	0	100	100
24	S	132/145 (91%)	124 (94%)	7 (5%)	1 (1%)	16	25
25	T	133/136 (98%)	122 (92%)	11 (8%)	0	100	100
26	U	145/148 (98%)	140 (97%)	4 (3%)	1 (1%)	18	28
27	V	100/159 (63%)	91 (91%)	9 (9%)	0	100	100
28	W	98/115 (85%)	91 (93%)	7 (7%)	0	100	100
29	X	104/125 (83%)	100 (96%)	4 (4%)	0	100	100
30	Y	126/135 (93%)	125 (99%)	1 (1%)	0	100	100
31	Z	108/110 (98%)	108 (100%)	0	0	100	100
32	a	110/117 (94%)	105 (96%)	5 (4%)	0	100	100
33	b	120/123 (98%)	118 (98%)	2 (2%)	0	100	100
34	c	100/105 (95%)	93 (93%)	4 (4%)	3 (3%)	3	3
35	d	85/97 (88%)	82 (96%)	3 (4%)	0	100	100
36	e	25/70 (36%)	24 (96%)	1 (4%)	0	100	100
37	f	48/157 (31%)	45 (94%)	3 (6%)	0	100	100
38	i	95/106 (90%)	87 (92%)	6 (6%)	2 (2%)	5	7
39	j	89/92 (97%)	81 (91%)	7 (8%)	1 (1%)	11	18
40	k	122/137 (89%)	121 (99%)	1 (1%)	0	100	100
41	P	223/245 (91%)	173 (78%)	44 (20%)	6 (3%)	4	4
42	Q	132/140 (94%)	122 (92%)	7 (5%)	3 (2%)	5	6
43	u	60/157 (38%)	56 (93%)	3 (5%)	1 (2%)	7	10
All	All	6265/7312 (86%)	5923 (94%)	308 (5%)	34 (0%)	26	37

All (34) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	o	98	HIS
11	o	187	VAL
11	o	188	GLN
38	i	79	SER
39	j	39	CYS
41	P	201	ASP
42	Q	22	VAL

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Mol	Chain	Res	Type
43	u	8	PHE
11	o	108	ASN
11	o	172	ILE
13	q	147	ARG
20	L	19	LYS
22	N	145	GLY
34	c	64	SER
41	P	139	ARG
42	Q	91	LYS
7	G	157	ASN
10	n	52	THR
11	o	107	GLU
41	P	40	GLY
4	D	180	LEU
10	n	210	GLU
26	U	15	VAL
34	c	35	LYS
41	P	32	GLU
11	o	109	GLY
24	S	112	ASP
34	c	25	ARG
38	i	77	CYS
42	Q	18	LEU
5	E	139	ASP
41	P	192	VAL
41	P	37	VAL
20	L	78	ILE

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	
4	D	189/199 (95%)	176 (93%)	13 (7%)	14	24
5	E	345/368 (94%)	310 (90%)	35 (10%)	7	11
6	F	297/348 (85%)	268 (90%)	29 (10%)	7	12

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	G	245/250 (98%)	203 (83%)	42 (17%)	2	2
8	H	193/253 (76%)	162 (84%)	31 (16%)	2	3
9	m	194/215 (90%)	176 (91%)	18 (9%)	8	14
10	n	193/223 (86%)	157 (81%)	36 (19%)	1	2
11	o	169/169 (100%)	125 (74%)	44 (26%)	0	0
12	p	138/182 (76%)	120 (87%)	18 (13%)	4	5
13	q	142/149 (95%)	106 (75%)	36 (25%)	0	1
14	r	172/177 (97%)	148 (86%)	24 (14%)	3	4
15	s	118/161 (73%)	97 (82%)	21 (18%)	2	2
16	t	173/172 (101%)	166 (96%)	7 (4%)	28	47
17	I	171/174 (98%)	151 (88%)	20 (12%)	5	7
18	J	133/163 (82%)	120 (90%)	13 (10%)	7	12
19	K	164/165 (99%)	152 (93%)	12 (7%)	13	22
20	L	121/175 (69%)	99 (82%)	22 (18%)	2	2
21	M	157/157 (100%)	139 (88%)	18 (12%)	5	8
22	N	139/140 (99%)	116 (84%)	23 (16%)	2	3
23	R	107/133 (80%)	91 (85%)	16 (15%)	3	3
24	S	124/135 (92%)	104 (84%)	20 (16%)	2	3
25	T	117/118 (99%)	91 (78%)	26 (22%)	1	1
26	U	120/121 (99%)	114 (95%)	6 (5%)	22	38
27	V	83/126 (66%)	60 (72%)	23 (28%)	0	0
28	W	84/97 (87%)	63 (75%)	21 (25%)	0	1
29	X	93/110 (84%)	82 (88%)	11 (12%)	5	7
30	Y	114/121 (94%)	104 (91%)	10 (9%)	9	15
31	Z	89/89 (100%)	84 (94%)	5 (6%)	19	33
32	a	96/100 (96%)	85 (88%)	11 (12%)	5	8
33	b	109/110 (99%)	93 (85%)	16 (15%)	3	4
34	c	86/89 (97%)	66 (77%)	20 (23%)	1	1
35	d	74/80 (92%)	70 (95%)	4 (5%)	20	35
36	e	29/65 (45%)	24 (83%)	5 (17%)	2	2
37	f	47/130 (36%)	41 (87%)	6 (13%)	4	6

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	i	86/94 (92%)	77 (90%)	9 (10%)	6	10
39	j	74/75 (99%)	62 (84%)	12 (16%)	2	3
40	k	107/121 (88%)	97 (91%)	10 (9%)	8	14
41	P	195/213 (92%)	122 (63%)	73 (37%)	0	0
42	Q	102/107 (95%)	76 (74%)	26 (26%)	0	0
43	u	54/126 (43%)	40 (74%)	14 (26%)	0	0
All	All	5443/6200 (88%)	4637 (85%)	806 (15%)	5	4

All (806) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	D	46	LYS
4	D	52	PRO
4	D	75	LEU
4	D	102	LEU
4	D	109	GLU
4	D	135	THR
4	D	142	GLU
4	D	155	LYS
4	D	208	GLU
4	D	222	PRO
4	D	245	ARG
4	D	246	LEU
4	D	247	ARG
5	E	5	LYS
5	E	30	LYS
5	E	36	ASP
5	E	43	LEU
5	E	66	LYS
5	E	70	LYS
5	E	90	VAL
5	E	97	ARG
5	E	111	SER
5	E	113	GLU
5	E	120	LYS
5	E	126	LYS
5	E	134	CYS
5	E	138	GLN
5	E	143	LYS
5	E	144	LYS

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Mol	Chain	Res	Type
5	E	146	LEU
5	E	147	GLU
5	E	173	LEU
5	E	193	LYS
5	E	200	ARG
5	E	201	LEU
5	E	238	LYS
5	E	292	LEU
5	E	293	ILE
5	E	294	LYS
5	E	295	ASP
5	E	300	LYS
5	E	317	LEU
5	E	325	GLU
5	E	341	LYS
5	E	356	LYS
5	E	357	ARG
5	E	378	ARG
5	E	383	GLU
6	F	9	SER
6	F	21	ASN
6	F	23	THR
6	F	56	GLU
6	F	57	LEU
6	F	61	GLN
6	F	62	THR
6	F	65	GLU
6	F	104	PRO
6	F	138	MET
6	F	140	LYS
6	F	150	LEU
6	F	163	LYS
6	F	165	LYS
6	F	178	ASN
6	F	259	LYS
6	F	268	ARG
6	F	276	ASN
6	F	283	LYS
6	F	289	LEU
6	F	291	ARG
6	F	295	SER
6	F	300	ARG

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Mol	Chain	Res	Type
6	F	308	LYS
6	F	312	ARG
6	F	317	ASN
6	F	319	LEU
6	F	336	ARG
6	F	349	LEU
7	G	7	VAL
7	G	10	LYS
7	G	22	ARG
7	G	24	ARG
7	G	28	THR
7	G	36	LEU
7	G	69	ILE
7	G	75	VAL
7	G	81	HIS
7	G	83	LEU
7	G	84	PRO
7	G	85	LYS
7	G	89	LYS
7	G	92	LEU
7	G	116	ASP
7	G	117	LYS
7	G	124	GLU
7	G	126	THR
7	G	132	VAL
7	G	133	GLU
7	G	167	VAL
7	G	188	LYS
7	G	189	GLU
7	G	210	TYR
7	G	212	MET
7	G	214	GLU
7	G	222	GLN
7	G	224	SER
7	G	230	SER
7	G	238	GLU
7	G	241	LYS
7	G	249	GLU
7	G	254	GLU
7	G	255	LYS
7	G	256	LYS
7	G	258	LYS

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Mol	Chain	Res	Type
7	G	259	LYS
7	G	261	VAL
7	G	262	LYS
7	G	263	LYS
7	G	268	ARG
7	G	289	ARG
8	H	56	ARG
8	H	72	LYS
8	H	74	SER
8	H	92	VAL
8	H	93	THR
8	H	96	VAL
8	H	99	ASP
8	H	100	LYS
8	H	104	THR
8	H	107	VAL
8	H	108	LYS
8	H	114	ARG
8	H	119	GLU
8	H	123	ARG
8	H	127	SER
8	H	137	VAL
8	H	180	VAL
8	H	189	THR
8	H	198	SER
8	H	199	THR
8	H	204	SER
8	H	210	LYS
8	H	219	LYS
8	H	221	LYS
8	H	222	LEU
8	H	239	LYS
8	H	241	GLU
8	H	258	LEU
8	H	259	PRO
8	H	271	LEU
8	H	285	LYS
9	m	24	ASN
9	m	25	PHE
9	m	28	LEU
9	m	29	LYS
9	m	30	ILE

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Mol	Chain	Res	Type
9	m	31	LYS
9	m	33	LEU
9	m	35	LYS
9	m	36	LYS
9	m	40	LYS
9	m	88	LYS
9	m	104	LYS
9	m	161	LYS
9	m	197	VAL
9	m	199	LYS
9	m	215	SER
9	m	223	LYS
9	m	238	ASP
10	n	28	VAL
10	n	29	ASN
10	n	33	GLU
10	n	43	GLN
10	n	52	THR
10	n	63	LEU
10	n	70	LEU
10	n	74	LEU
10	n	85	GLN
10	n	87	LEU
10	n	89	ARG
10	n	95	LEU
10	n	97	LYS
10	n	105	GLU
10	n	107	LYS
10	n	108	GLN
10	n	112	GLN
10	n	117	ARG
10	n	119	GLU
10	n	120	LYS
10	n	121	LYS
10	n	136	LEU
10	n	137	ARG
10	n	149	ASN
10	n	151	LYS
10	n	171	PRO
10	n	176	LYS
10	n	201	THR
10	n	206	GLN

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Mol	Chain	Res	Type
10	n	215	LEU
10	n	218	LEU
10	n	252	LYS
10	n	253	LEU
10	n	255	LYS
10	n	259	LYS
10	n	260	GLU
11	o	2	LYS
11	o	14	GLU
11	o	15	ASN
11	o	16	VAL
11	o	17	ASP
11	o	19	THR
11	o	21	LYS
11	o	28	LYS
11	o	31	ARG
11	o	41	ILE
11	o	46	SER
11	o	48	LEU
11	o	50	LYS
11	o	51	LYS
11	o	52	LYS
11	o	53	LYS
11	o	64	ARG
11	o	65	LYS
11	o	67	LEU
11	o	91	LYS
11	o	96	TYR
11	o	103	VAL
11	o	104	VAL
11	o	105	ILE
11	o	106	GLN
11	o	112	VAL
11	o	118	LEU
11	o	121	LYS
11	o	123	ILE
11	o	125	ARG
11	o	140	GLN
11	o	141	LYS
11	o	142	ASP
11	o	143	GLU
11	o	152	GLU

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Mol	Chain	Res	Type
11	o	166	THR
11	o	168	LYS
11	o	170	LYS
11	o	171	ASP
11	o	173	ARG
11	o	181	VAL
11	o	184	LYS
11	o	186	THR
11	o	189	GLN
12	p	30	LYS
12	p	32	ARG
12	p	40	LYS
12	p	44	ASP
12	p	77	VAL
12	p	78	LYS
12	p	97	ILE
12	p	141	LYS
12	p	142	LEU
12	p	146	GLU
12	p	179	ASP
12	p	183	ASP
12	p	187	LYS
12	p	195	CYS
12	p	206	LEU
12	p	208	LYS
12	p	211	VAL
12	p	212	LEU
13	q	10	ASN
13	q	14	GLU
13	q	16	ARG
13	q	33	LEU
13	q	38	LYS
13	q	41	GLU
13	q	43	LEU
13	q	49	VAL
13	q	54	ARG
13	q	56	THR
13	q	58	ARG
13	q	63	ARG
13	q	64	ARG
13	q	72	CYS
13	q	74	VAL

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Mol	Chain	Res	Type
13	q	81	GLU
13	q	83	LEU
13	q	88	LYS
13	q	95	ARG
13	q	114	ASP
13	q	115	LEU
13	q	118	LYS
13	q	122	SER
13	q	123	ILE
13	q	125	ILE
13	q	128	LEU
13	q	129	ASP
13	q	134	LEU
13	q	140	SER
13	q	144	LYS
13	q	147	ARG
13	q	154	LYS
13	q	163	MET
13	q	168	GLN
13	q	169	LYS
13	q	174	ILE
14	r	12	PRO
14	r	32	LYS
14	r	55	ILE
14	r	69	LYS
14	r	88	LYS
14	r	100	PRO
14	r	105	LYS
14	r	121	ARG
14	r	130	LYS
14	r	132	SER
14	r	135	LYS
14	r	142	GLU
14	r	143	GLU
14	r	144	LEU
14	r	145	LYS
14	r	151	THR
14	r	160	VAL
14	r	162	LYS
14	r	163	LYS
14	r	165	LYS
14	r	170	THR

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Mol	Chain	Res	Type
14	r	200	LYS
14	r	204	GLU
14	r	205	GLN
15	s	2	VAL
15	s	4	ARG
15	s	23	LYS
15	s	53	LYS
15	s	59	ASP
15	s	63	LYS
15	s	79	LYS
15	s	81	ASP
15	s	84	THR
15	s	90	ARG
15	s	99	GLU
15	s	103	LYS
15	s	116	LYS
15	s	117	LYS
15	s	118	MET
15	s	121	ARG
15	s	127	VAL
15	s	128	LYS
15	s	135	LEU
15	s	136	LEU
15	s	137	LYS
16	t	10	LEU
16	t	25	VAL
16	t	27	CYS
16	t	38	ARG
16	t	104	GLU
16	t	182	HIS
16	t	193	ARG
17	I	25	LYS
17	I	31	ARG
17	I	37	ARG
17	I	93	LYS
17	I	108	ILE
17	I	118	MET
17	I	134	LYS
17	I	159	LYS
17	I	174	LEU
17	I	175	MET
17	I	177	LEU

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Mol	Chain	Res	Type
17	I	182	GLU
17	I	183	LYS
17	I	186	GLU
17	I	187	LYS
17	I	188	LYS
17	I	190	ASP
17	I	194	GLU
17	I	196	LEU
17	I	201	LEU
18	J	2	VAL
18	J	10	ASN
18	J	45	THR
18	J	46	LYS
18	J	94	MET
18	J	100	SER
18	J	111	SER
18	J	112	LEU
18	J	115	GLU
18	J	125	MET
18	J	128	ARG
18	J	142	SER
18	J	153	LYS
19	K	4	ASP
19	K	9	LYS
19	K	16	LYS
19	K	71	LYS
19	K	92	VAL
19	K	100	VAL
19	K	115	ARG
19	K	119	LYS
19	K	132	LYS
19	K	154	LYS
19	K	161	SER
19	K	172	ARG
20	L	5	ARG
20	L	7	GLN
20	L	8	LYS
20	L	12	SER
20	L	15	LEU
20	L	19	LYS
20	L	24	LEU
20	L	28	GLU

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Mol	Chain	Res	Type
20	L	29	THR
20	L	30	ASN
20	L	38	ARG
20	L	44	LEU
20	L	105	LEU
20	L	111	GLU
20	L	113	LYS
20	L	133	LYS
20	L	135	LYS
20	L	137	ILE
20	L	149	LYS
20	L	151	ARG
20	L	152	LYS
20	L	154	LEU
21	M	2	LYS
21	M	21	LYS
21	M	24	THR
21	M	53	LYS
21	M	55	LYS
21	M	62	VAL
21	M	64	CYS
21	M	87	ARG
21	M	118	ARG
21	M	128	LYS
21	M	131	GLU
21	M	142	VAL
21	M	151	LYS
21	M	154	LEU
21	M	158	VAL
21	M	164	LYS
21	M	168	THR
21	M	170	LYS
22	N	36	LYS
22	N	45	MET
22	N	50	LYS
22	N	56	CYS
22	N	76	VAL
22	N	88	ARG
22	N	97	LYS
22	N	102	ARG
22	N	104	SER
22	N	107	LYS

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Mol	Chain	Res	Type
22	N	108	ARG
22	N	110	LYS
22	N	111	GLU
22	N	115	LYS
22	N	116	LYS
22	N	117	LYS
22	N	118	GLU
22	N	120	LYS
22	N	122	LYS
22	N	131	GLN
22	N	147	GLU
22	N	149	GLU
22	N	157	GLU
23	R	38	LYS
23	R	39	LYS
23	R	48	ARG
23	R	49	PRO
23	R	50	LYS
23	R	54	LEU
23	R	55	ARG
23	R	68	ARG
23	R	85	SER
23	R	103	LYS
23	R	118	ASP
23	R	119	ILE
23	R	147	LEU
23	R	148	ASP
23	R	152	LYS
23	R	156	ILE
24	S	4	ASN
24	S	28	LYS
24	S	36	LYS
24	S	37	GLU
24	S	65	GLN
24	S	66	GLN
24	S	69	LYS
24	S	94	THR
24	S	105	VAL
24	S	111	LEU
24	S	113	LYS
24	S	116	LYS
24	S	117	LYS

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Mol	Chain	Res	Type
24	S	120	GLU
24	S	124	LYS
24	S	126	ARG
24	S	128	VAL
24	S	131	GLU
24	S	132	LYS
24	S	134	LYS
25	T	9	LYS
25	T	25	ILE
25	T	26	VAL
25	T	27	LYS
25	T	29	ILE
25	T	34	SER
25	T	35	ASP
25	T	39	SER
25	T	46	ILE
25	T	52	LYS
25	T	59	LYS
25	T	60	LYS
25	T	64	LYS
25	T	73	LYS
25	T	84	ARG
25	T	86	SER
25	T	87	VAL
25	T	93	LYS
25	T	100	VAL
25	T	106	LEU
25	T	112	ARG
25	T	113	GLU
25	T	116	VAL
25	T	120	GLU
25	T	126	LYS
25	T	133	LYS
26	U	7	LYS
26	U	93	ASN
26	U	95	THR
26	U	119	LYS
26	U	130	SER
26	U	132	ARG
27	V	14	ARG
27	V	22	LYS
27	V	25	ARG

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Mol	Chain	Res	Type
27	V	26	SER
27	V	30	GLU
27	V	33	LYS
27	V	37	PRO
27	V	40	LEU
27	V	51	LYS
27	V	54	LEU
27	V	55	LYS
27	V	56	LYS
27	V	58	GLN
27	V	63	LYS
27	V	92	LYS
27	V	95	ARG
27	V	103	LYS
27	V	106	LYS
27	V	107	ARG
27	V	117	ARG
27	V	118	LEU
27	V	119	CYS
27	V	120	ARG
28	W	14	ILE
28	W	18	LEU
28	W	19	GLN
28	W	22	MET
28	W	26	LYS
28	W	35	LEU
28	W	44	LYS
28	W	48	LEU
28	W	50	ASN
28	W	60	ILE
28	W	65	MET
28	W	68	LYS
28	W	69	THR
28	W	75	SER
28	W	77	ASN
28	W	83	THR
28	W	92	CYS
28	W	98	ASP
28	W	101	ASP
28	W	105	ILE
28	W	108	MET
29	X	51	LYS

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Mol	Chain	Res	Type
29	X	55	LYS
29	X	63	ARG
29	X	64	ILE
29	X	70	LYS
29	X	84	ILE
29	X	91	LYS
29	X	94	GLU
29	X	101	LYS
29	X	102	LEU
29	X	123	ASP
30	Y	11	LYS
30	Y	21	ILE
30	Y	53	ILE
30	Y	64	LYS
30	Y	65	LYS
30	Y	69	MET
30	Y	87	VAL
30	Y	106	LYS
30	Y	113	GLU
30	Y	118	LEU
31	Z	2	SER
31	Z	63	LYS
31	Z	73	LYS
31	Z	81	SER
31	Z	95	LYS
32	a	3	GLN
32	a	23	SER
32	a	38	VAL
32	a	43	LYS
32	a	46	CYS
32	a	62	LYS
32	a	85	LYS
32	a	97	ILE
32	a	105	LYS
32	a	106	VAL
32	a	108	LYS
33	b	3	LYS
33	b	7	ARG
33	b	13	LYS
33	b	15	GLU
33	b	20	GLN
33	b	23	ASP

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Mol	Chain	Res	Type
33	b	35	LYS
33	b	65	GLN
33	b	66	LYS
33	b	74	LYS
33	b	76	LYS
33	b	77	LYS
33	b	79	LYS
33	b	82	ASP
33	b	95	LEU
33	b	110	LYS
34	c	4	ARG
34	c	16	LYS
34	c	18	THR
34	c	21	VAL
34	c	23	LYS
34	c	29	ARG
34	c	34	THR
34	c	47	VAL
34	c	56	ARG
34	c	62	LYS
34	c	65	LYS
34	c	66	ASP
34	c	68	ARG
34	c	70	LEU
34	c	71	LYS
34	c	76	ARG
34	c	79	THR
34	c	88	GLU
34	c	97	MET
34	c	99	LYS
35	d	32	SER
35	d	40	PRO
35	d	85	LYS
35	d	87	LYS
36	e	27	LYS
36	e	29	LYS
36	e	35	LYS
36	e	36	VAL
36	e	48	THR
37	f	8	ARG
37	f	9	ILE
37	f	17	GLN

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Mol	Chain	Res	Type
37	f	18	LYS
37	f	21	ARG
37	f	35	ILE
38	i	2	VAL
38	i	17	LYS
38	i	27	LYS
38	i	30	LYS
38	i	43	ARG
38	i	59	LYS
38	i	79	SER
38	i	85	ILE
38	i	98	LYS
39	j	6	LYS
39	j	7	LYS
39	j	28	LYS
39	j	30	GLU
39	j	40	SER
39	j	42	CYS
39	j	46	LYS
39	j	62	LYS
39	j	72	ASN
39	j	88	GLU
39	j	90	LYS
39	j	92	GLN
40	k	5	LEU
40	k	20	ARG
40	k	37	SER
40	k	46	ARG
40	k	56	ASP
40	k	72	LYS
40	k	101	LYS
40	k	105	ASP
40	k	119	ARG
40	k	124	VAL
41	P	1	MET
41	P	10	ASN
41	P	12	GLU
41	P	18	LYS
41	P	19	LEU
41	P	26	VAL
41	P	28	ILE
41	P	31	SER

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Mol	Chain	Res	Type
41	P	43	SER
41	P	45	THR
41	P	53	ILE
41	P	57	ARG
41	P	58	ILE
41	P	63	CYS
41	P	64	VAL
41	P	66	ASN
41	P	70	LEU
41	P	74	ASN
41	P	75	ASN
41	P	77	THR
41	P	79	GLN
41	P	82	GLN
41	P	85	ARG
41	P	88	LEU
41	P	90	ASP
41	P	91	THR
41	P	94	ILE
41	P	95	ARG
41	P	97	VAL
41	P	100	ARG
41	P	107	VAL
41	P	108	THR
41	P	109	THR
41	P	114	VAL
41	P	117	VAL
41	P	118	HIS
41	P	121	LEU
41	P	122	ASP
41	P	123	ARG
41	P	125	THR
41	P	126	GLU
41	P	129	LEU
41	P	135	VAL
41	P	139	ARG
41	P	140	GLN
41	P	142	VAL
41	P	145	GLN
41	P	147	LEU
41	P	148	VAL
41	P	153	VAL

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Mol	Chain	Res	Type
41	P	156	ASN
41	P	162	HIS
41	P	164	LYS
41	P	167	ILE
41	P	173	LEU
41	P	175	SER
41	P	176	LEU
41	P	177	LEU
41	P	179	VAL
41	P	186	VAL
41	P	191	GLU
41	P	192	VAL
41	P	198	VAL
41	P	199	VAL
41	P	208	LEU
41	P	209	ASP
41	P	212	SER
41	P	213	THR
41	P	215	LEU
41	P	216	SER
41	P	217	VAL
41	P	220	SER
41	P	225	ASN
42	Q	9	SER
42	Q	13	LYS
42	Q	18	LEU
42	Q	20	LEU
42	Q	32	THR
42	Q	35	LYS
42	Q	41	SER
42	Q	43	LYS
42	Q	64	THR
42	Q	65	VAL
42	Q	67	LYS
42	Q	73	ARG
42	Q	75	LYS
42	Q	85	ARG
42	Q	87	SER
42	Q	90	ARG
42	Q	91	LYS
42	Q	92	ASP
42	Q	109	LYS

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Mol	Chain	Res	Type
42	Q	118	THR
42	Q	123	LYS
42	Q	124	GLU
42	Q	128	LEU
42	Q	130	PRO
42	Q	138	SER
42	Q	139	ILE
43	u	2	LYS
43	u	3	VAL
43	u	9	SER
43	u	19	ARG
43	u	23	ARG
43	u	27	LYS
43	u	43	LYS
43	u	44	ARG
43	u	48	GLN
43	u	54	LEU
43	u	56	ARG
43	u	57	ARG
43	u	58	LYS
43	u	60	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (162) such sidechains are listed below:

Mol	Chain	Res	Type
4	D	50	HIS
4	D	83	HIS
4	D	132	ASN
4	D	187	HIS
4	D	205	ASN
4	D	216	HIS
4	D	218	HIS
5	E	42	HIS
5	E	204	GLN
5	E	208	ASN
5	E	258	HIS
5	E	315	ASN
6	F	41	HIS
6	F	50	GLN
6	F	112	HIS
6	F	178	ASN
6	F	317	ASN

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Mol	Chain	Res	Type
6	F	346	ASN
7	G	57	ASN
7	G	81	HIS
7	G	222	GLN
7	G	229	ASN
8	H	101	ASN
8	H	128	HIS
8	H	135	GLN
8	H	190	HIS
8	H	191	GLN
8	H	211	HIS
8	H	266	GLN
9	m	39	GLN
9	m	63	GLN
9	m	110	GLN
9	m	116	GLN
9	m	119	ASN
9	m	192	HIS
9	m	206	ASN
9	m	248	ASN
10	n	29	ASN
10	n	38	ASN
10	n	85	GLN
10	n	94	GLN
10	n	141	ASN
10	n	208	ASN
11	o	15	ASN
11	o	40	HIS
11	o	102	ASN
11	o	108	ASN
11	o	138	GLN
11	o	140	GLN
11	o	156	ASN
11	o	189	GLN
12	p	51	HIS
12	p	59	GLN
12	p	73	ASN
12	p	92	HIS
12	p	95	HIS
12	p	166	HIS
13	q	10	ASN
13	q	65	ASN

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Mol	Chain	Res	Type
13	q	98	ASN
13	q	104	ASN
13	q	112	HIS
14	r	175	ASN
15	s	33	GLN
15	s	34	ASN
15	s	70	GLN
15	s	75	GLN
15	s	131	GLN
16	t	29	GLN
16	t	32	GLN
16	t	86	HIS
16	t	91	GLN
16	t	149	GLN
16	t	156	HIS
16	t	158	HIS
16	t	182	HIS
16	t	196	ASN
17	I	42	ASN
17	I	72	HIS
17	I	173	GLN
17	I	184	ASN
17	I	199	HIS
18	J	21	ASN
18	J	25	HIS
18	J	34	GLN
18	J	80	GLN
18	J	97	ASN
18	J	116	HIS
18	J	133	HIS
19	K	44	ASN
19	K	77	ASN
19	K	125	GLN
19	K	160	HIS
20	L	7	GLN
20	L	34	ASN
20	L	130	ASN
21	M	77	ASN
21	M	108	GLN
21	M	117	HIS
21	M	122	HIS
21	M	146	HIS

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Mol	Chain	Res	Type
21	M	156	HIS
22	N	90	ASN
22	N	131	GLN
23	R	73	HIS
23	R	93	ASN
23	R	151	ASN
24	S	4	ASN
24	S	56	GLN
24	S	65	GLN
24	S	86	GLN
25	T	78	ASN
26	U	14	HIS
26	U	17	HIS
26	U	28	HIS
26	U	39	HIS
26	U	62	HIS
26	U	66	ASN
27	V	7	HIS
27	V	10	HIS
27	V	19	ASN
27	V	42	ASN
27	V	60	ASN
28	W	50	ASN
28	W	73	HIS
28	W	77	ASN
30	Y	23	HIS
30	Y	43	ASN
30	Y	52	GLN
30	Y	80	HIS
30	Y	101	HIS
30	Y	117	GLN
31	Z	56	ASN
31	Z	80	ASN
32	a	100	GLN
33	b	101	ASN
33	b	107	GLN
34	c	15	HIS
34	c	80	HIS
35	d	57	ASN
37	f	19	GLN
38	i	21	HIS
38	i	45	GLN

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Mol	Chain	Res	Type
38	i	51	GLN
38	i	90	HIS
39	j	33	GLN
39	j	56	HIS
39	j	72	ASN
40	k	4	HIS
40	k	41	ASN
40	k	100	ASN
41	P	9	ASN
41	P	10	ASN
41	P	66	ASN
41	P	82	GLN
41	P	86	ASN
41	P	118	HIS
41	P	225	ASN
42	Q	27	ASN
42	Q	135	ASN
43	u	17	HIS
43	u	48	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	3282/5070 (64%)	742 (22%)	151 (4%)
2	B	119/121 (98%)	19 (15%)	6 (5%)
3	C	145/157 (92%)	21 (14%)	4 (2%)
All	All	3546/5348 (66%)	782 (22%)	161 (4%)

All (782) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	2	G
1	A	4	G
1	A	15	A
1	A	17	A
1	A	18	C
1	A	39	A
1	A	42	A
1	A	43	U
1	A	48	G
1	A	59	A

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Mol	Chain	Res	Type
1	A	64	A
1	A	65	A
1	A	72	C
1	A	73	A
1	A	85	G
1	A	91	G
1	A	92	C
1	A	93	G
1	A	98	A
1	A	109	G
1	A	119	G
1	A	120	A
1	A	128	C
1	A	129	C
1	A	130	C
1	A	131	C
1	A	132	G
1	A	133	C
1	A	134	G
1	A	135	G
1	A	139	G
1	A	140	G
1	A	141	C
1	A	142	G
1	A	143	C
1	A	144	G
1	A	145	G
1	A	146	G
1	A	158	A
1	A	159	C
1	A	160	G
1	A	164	G
1	A	168	C
1	A	169	G
1	A	190	G
1	A	193	G
1	A	194	C
1	A	197	A
1	A	200	U
1	A	216	C
1	A	217	C
1	A	218	A

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Mol	Chain	Res	Type
1	A	219	G
1	A	233	U
1	A	234	G
1	A	235	A
1	A	251	C
1	A	255	C
1	A	267	G
1	A	274	C
1	A	276	C
1	A	277	G
1	A	278	G
1	A	279	A
1	A	297	U
1	A	316	U
1	A	340	C
1	A	357	U
1	A	362	A
1	A	363	A
1	A	385	A
1	A	386	A
1	A	387	G
1	A	396	A
1	A	408	A
1	A	409	G
1	A	410	A
1	A	412	G
1	A	413	G
1	A	434	A
1	A	449	C
1	A	450	G
1	A	451	C
1	A	452	A
1	A	453	G
1	A	454	U
1	A	456	C
1	A	457	G
1	A	461	G
1	A	465	G
1	A	467	U
1	A	468	U
1	A	469	C
1	A	472	C

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Mol	Chain	Res	Type
1	A	473	C
1	A	481	G
1	A	483	G
1	A	484	U
1	A	485	C
1	A	489	C
1	A	505	G
1	A	506	C
1	A	507	G
1	A	509	A
1	A	510	U
1	A	511	C
1	A	512	U
1	A	654	C
1	A	664	G
1	A	665	C
1	A	666	G
1	A	667	A
1	A	669	C
1	A	671	G
1	A	672	C
1	A	673	C
1	A	682	G
1	A	685	C
1	A	686	A
1	A	687	U
1	A	693	C
1	A	696	C
1	A	697	G
1	A	700	G
1	A	701	G
1	A	703	G
1	A	704	C
1	A	706	C
1	A	721	G
1	A	730	G
1	A	731	G
1	A	733	A
1	A	738	C
1	A	739	G
1	A	740	G
1	A	741	C

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Mol	Chain	Res	Type
1	A	742	G
1	A	747	A
1	A	757	G
1	A	910	G
1	A	913	U
1	A	914	U
1	A	915	A
1	A	916	C
1	A	917	A
1	A	918	G
1	A	923	C
1	A	924	C
1	A	926	G
1	A	928	C
1	A	932	A
1	A	933	G
1	A	934	C
1	A	935	A
1	A	936	C
1	A	943	A
1	A	944	A
1	A	945	U
1	A	955	G
1	A	956	A
1	A	959	G
1	A	960	A
1	A	961	G
1	A	971	U
1	A	981	C
1	A	982	U
1	A	985	C
1	A	986	C
1	A	988	C
1	A	989	U
1	A	1071	C
1	A	1072	C
1	A	1074	G
1	A	1078	A
1	A	1079	C
1	A	1083	U
1	A	1095	A
1	A	1098	G

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Mol	Chain	Res	Type
1	A	1100	U
1	A	1101	C
1	A	1168	G
1	A	1169	G
1	A	1170	G
1	A	1171	G
1	A	1172	C
1	A	1174	G
1	A	1176	C
1	A	1180	C
1	A	1181	C
1	A	1182	C
1	A	1183	C
1	A	1187	G
1	A	1191	C
1	A	1192	C
1	A	1193	C
1	A	1198	G
1	A	1200	G
1	A	1203	G
1	A	1210	C
1	A	1211	G
1	A	1214	C
1	A	1215	C
1	A	1216	C
1	A	1217	G
1	A	1218	G
1	A	1219	G
1	A	1220	G
1	A	1241	C
1	A	1243	C
1	A	1244	G
1	A	1245	C
1	A	1250	C
1	A	1261	G
1	A	1266	G
1	A	1267	C
1	A	1268	G
1	A	1269	G
1	A	1270	A
1	A	1271	G
1	A	1272	C

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Mol	Chain	Res	Type
1	A	1273	G
1	A	1274	A
1	A	1275	G
1	A	1276	C
1	A	1277	G
1	A	1280	C
1	A	1284	G
1	A	1293	G
1	A	1294	A
1	A	1295	C
1	A	1296	G
1	A	1297	U
1	A	1301	C
1	A	1302	U
1	A	1303	A
1	A	1304	C
1	A	1313	C
1	A	1326	A2M
1	A	1337	A
1	A	1338	G
1	A	1354	A
1	A	1359	G
1	A	1365	C
1	A	1366	G
1	A	1367	C
1	A	1376	C
1	A	1377	G
1	A	1379	C
1	A	1387	A
1	A	1397	A
1	A	1398	A
1	A	1399	G
1	A	1400	G
1	A	1401	C
1	A	1402	C
1	A	1416	G
1	A	1418	C
1	A	1419	G
1	A	1420	A
1	A	1421	G
1	A	1435	G
1	A	1437	C

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Mol	Chain	Res	Type
1	A	1438	U
1	A	1439	C
1	A	1448	G
1	A	1453	G
1	A	1472	C
1	A	1482	G
1	A	1483	C
1	A	1484	G
1	A	1494	U
1	A	1498	G
1	A	1501	C
1	A	1502	G
1	A	1534	A2M
1	A	1535	C
1	A	1547	A
1	A	1561	G
1	A	1562	G
1	A	1564	A
1	A	1566	C
1	A	1568	C
1	A	1578	U
1	A	1582	PSU
1	A	1591	U
1	A	1596	U
1	A	1607	C
1	A	1613	A
1	A	1614	C
1	A	1624	G
1	A	1625	OMG
1	A	1626	G
1	A	1631	A
1	A	1633	G
1	A	1634	A
1	A	1638	A
1	A	1654	G
1	A	1661	C
1	A	1676	C
1	A	1677	PSU
1	A	1678	C
1	A	1697	G
1	A	1722	C
1	A	1726	U

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Mol	Chain	Res	Type
1	A	1734	G
1	A	1735	U
1	A	1742	A
1	A	1750	G
1	A	1754	U
1	A	1787	A
1	A	1792	PSU
1	A	1804	A
1	A	1805	A
1	A	1810	G
1	A	1815	G
1	A	1820	C
1	A	1821	G
1	A	1822	U
1	A	1833	G
1	A	1834	U
1	A	1836	G
1	A	1837	A
1	A	1842	G
1	A	1855	G
1	A	1869	G
1	A	1876	U
1	A	1897	A
1	A	1906	U
1	A	1918	U
1	A	1919	G
1	A	1920	C
1	A	1921	C
1	A	1922	G
1	A	1923	A
1	A	1925	G
1	A	1931	C
1	A	1932	A
1	A	1940	G
1	A	1948	G
1	A	1950	U
1	A	1951	G
1	A	1955	G
1	A	1959	U
1	A	1960	A
1	A	1961	G
1	A	1962	A

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Mol	Chain	Res	Type
1	A	1964	A
1	A	1965	G
1	A	2025	A
1	A	2026	A
1	A	2042	A
1	A	2046	G
1	A	2048	U
1	A	2052	G
1	A	2055	G
1	A	2056	G
1	A	2065	G
1	A	2069	A
1	A	2084	C
1	A	2089	G
1	A	2258	C
1	A	2259	G
1	A	2277	C
1	A	2289	C
1	A	2300	A
1	A	2301	G
1	A	2313	A
1	A	2316	G
1	A	2332	A
1	A	2333	G
1	A	2348	G
1	A	2351	OMC
1	A	2360	A
1	A	2365	OMC
1	A	2380	G
1	A	2389	A
1	A	2395	A
1	A	2397	G
1	A	2417	A
1	A	2421	G
1	A	2424	OMG
1	A	2425	U
1	A	2427	G
1	A	2447	U
1	A	2453	A
1	A	2470	C
1	A	2471	G
1	A	2474	G

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Mol	Chain	Res	Type
1	A	2475	G
1	A	2476	G
1	A	2503	G
1	A	2504	C
1	A	2505	C
1	A	2507	A
1	A	2511	A
1	A	2513	A
1	A	2519	U
1	A	2529	A
1	A	2536	A
1	A	2543	A
1	A	2554	U
1	A	2555	G
1	A	2556	G
1	A	2559	G
1	A	2560	C
1	A	2561	C
1	A	2568	C
1	A	2569	G
1	A	2570	U
1	A	2573	A
1	A	2576	G
1	A	2586	G
1	A	2587	A
1	A	2588	C
1	A	2589	C
1	A	2601	A
1	A	2602	G
1	A	2616	C
1	A	2617	G
1	A	2618	G
1	A	2627	C
1	A	2643	G
1	A	2652	G
1	A	2653	C
1	A	2662	G
1	A	2663	G
1	A	2664	G
1	A	2669	C
1	A	2673	G
1	A	2675	G

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Mol	Chain	Res	Type
1	A	2676	A
1	A	2680	G
1	A	2686	G
1	A	2687	U
1	A	2694	G
1	A	2695	A
1	A	2696	A
1	A	2703	G
1	A	2704	C
1	A	2705	G
1	A	2706	G
1	A	2707	U
1	A	2708	U
1	A	2709	C
1	A	2710	C
1	A	2711	G
1	A	2712	G
1	A	2717	G
1	A	2724	G
1	A	2726	G
1	A	2743	A
1	A	2756	G
1	A	2761	U
1	A	2763	U
1	A	2764	A
1	A	2769	U
1	A	2770	C
1	A	2788	U
1	A	2790	U
1	A	2791	C
1	A	2794	C
1	A	2795	A
1	A	2798	A
1	A	2799	G
1	A	2814	C
1	A	2815	A2M
1	A	2826	U
1	A	2827	G
1	A	2828	U
1	A	2830	G
1	A	2833	A
1	A	2839	PSU

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Mol	Chain	Res	Type
1	A	2855	G
1	A	2867	C
1	A	2900	U
1	A	3601	C
1	A	3604	A
1	A	3605	C
1	A	3606	U
1	A	3614	G
1	A	3615	G
1	A	3626	G
1	A	3635	A
1	A	3644	U
1	A	3662	A
1	A	3673	C
1	A	3674	G
1	A	3702	A
1	A	3705	G
1	A	3709	U
1	A	3710	G
1	A	3713	U
1	A	3714	G
1	A	3722	G
1	A	3735	G
1	A	3736	A
1	A	3754	G
1	A	3755	G
1	A	3756	A
1	A	3757	G
1	A	3768	U
1	A	3769	C
1	A	3770	U
1	A	3771	C
1	A	3773	U
1	A	3774	A
1	A	3776	G
1	A	3777	G
1	A	3778	U
1	A	3784	A
1	A	3785	A2M
1	A	3811	G
1	A	3814	U
1	A	3817	A

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Mol	Chain	Res	Type
1	A	3819	G
1	A	3824	A
1	A	3838	U
1	A	3839	G
1	A	3840	U
1	A	3876	A
1	A	3877	A
1	A	3878	C
1	A	3879	G
1	A	3897	G
1	A	3901	A
1	A	3902	A
1	A	3905	A
1	A	3906	A
1	A	3907	G
1	A	3908	A
1	A	3915	U
1	A	3939	G
1	A	3942	A
1	A	3943	A
1	A	3944	G
1	A	3945	A
1	A	4070	U
1	A	4073	A
1	A	4076	G
1	A	4077	A
1	A	4084	G
1	A	4085	A
1	A	4091	G
1	A	4094	G
1	A	4115	G
1	A	4116	C
1	A	4119	C
1	A	4121	G
1	A	4122	G
1	A	4127	A
1	A	4131	G
1	A	4133	C
1	A	4135	G
1	A	4149	C
1	A	4150	G
1	A	4151	G

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Mol	Chain	Res	Type
1	A	4152	G
1	A	4154	G
1	A	4160	C
1	A	4162	C
1	A	4163	U
1	A	4170	A
1	A	4183	G
1	A	4184	G
1	A	4191	G
1	A	4203	A
1	A	4227	OMU
1	A	4228	OMG
1	A	4229	U
1	A	4233	A
1	A	4234	A
1	A	4235	G
1	A	4251	A
1	A	4254	G
1	A	4255	A
1	A	4256	A
1	A	4257	A
1	A	4258	C
1	A	4266	G
1	A	4267	G
1	A	4268	A
1	A	4272	G
1	A	4273	A
1	A	4274	A
1	A	4281	A
1	A	4282	A
1	A	4289	U
1	A	4290	U
1	A	4291	G
1	A	4297	G
1	A	4305	G
1	A	4306	OMU
1	A	4330	G
1	A	4332	C
1	A	4336	A
1	A	4339	A
1	A	4371	G
1	A	4373	G

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Mol	Chain	Res	Type
1	A	4376	A
1	A	4377	G
1	A	4378	A
1	A	4379	A
1	A	4387	C
1	A	4394	A
1	A	4415	A
1	A	4416	G
1	A	4422	A
1	A	4447	5MC
1	A	4448	G
1	A	4449	A
1	A	4450	U
1	A	4464	A
1	A	4475	G
1	A	4476	C
1	A	4477	A
1	A	4478	G
1	A	4480	A
1	A	4482	U
1	A	4484	A
1	A	4487	A
1	A	4491	G
1	A	4500	PSU
1	A	4512	U
1	A	4513	A
1	A	4519	C
1	A	4524	G
1	A	4548	A
1	A	4549	G
1	A	4567	G
1	A	4573	G
1	A	4575	G
1	A	4584	A
1	A	4590	A2M
1	A	4601	U
1	A	4603	C
1	A	4604	G
1	A	4608	G
1	A	4609	G
1	A	4612	C
1	A	4635	A

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Mol	Chain	Res	Type
1	A	4636	U
1	A	4637	OMG
1	A	4648	A
1	A	4656	A
1	A	4670	C
1	A	4672	A
1	A	4679	G
1	A	4700	A
1	A	4703	U
1	A	4707	A
1	A	4708	A
1	A	4709	U
1	A	4719	G
1	A	4720	C
1	A	4722	G
1	A	4723	A
1	A	4730	C
1	A	4731	G
1	A	4733	C
1	A	4734	A
1	A	4740	G
1	A	4741	C
1	A	4742	G
1	A	4744	A
1	A	4745	G
1	A	4746	C
1	A	4747	C
1	A	4750	G
1	A	4751	G
1	A	4754	G
1	A	4757	C
1	A	4759	C
1	A	4761	G
1	A	4765	G
1	A	4772	C
1	A	4773	C
1	A	4774	C
1	A	4861	G
1	A	4863	G
1	A	4867	G
1	A	4870	G
1	A	4871	C

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Mol	Chain	Res	Type
1	A	4882	U
1	A	4883	C
1	A	4886	C
1	A	4889	G
1	A	4893	A
1	A	4894	A
1	A	4895	C
1	A	4896	G
1	A	4897	G
1	A	4898	G
1	A	4899	G
1	A	4900	C
1	A	4901	G
1	A	4909	A
1	A	4910	G
1	A	4911	A
1	A	4912	G
1	A	4913	G
1	A	4914	C
1	A	4916	G
1	A	4919	G
1	A	4922	C
1	A	4925	U
1	A	4926	C
1	A	4932	U
1	A	4934	A
1	A	4937	C
1	A	4940	C
1	A	4941	G
1	A	4943	A
1	A	4944	C
1	A	4947	U
1	A	4949	G
1	A	4950	U
1	A	4951	G
1	A	4955	A
1	A	4960	G
1	A	4961	G
1	A	4964	C
1	A	4966	A
1	A	4976	U
1	A	4979	A

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Mol	Chain	Res	Type
1	A	4985	U
1	A	4988	U
1	A	5013	C
1	A	5014	A
1	A	5017	G
1	A	5029	C
1	A	5030	U
1	A	5031	G
1	A	5034	A
1	A	5041	G
1	A	5050	C
1	A	5054	C
1	A	5055	G
1	A	5060	A
1	A	5061	A
1	A	5062	G
1	A	5063	G
1	A	5069	U
2	B	4	U
2	B	10	C
2	B	22	A
2	B	24	C
2	B	30	C
2	B	31	G
2	B	33	U
2	B	38	U
2	B	41	G
2	B	42	A
2	B	53	U
2	B	54	A
2	B	62	U
2	B	63	C
2	B	64	G
2	B	102	U
2	B	103	A
2	B	109	U
2	B	110	G
3	C	3	A
3	C	34	U
3	C	35	C
3	C	43	A
3	C	51	U

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Mol	Chain	Res	Type
3	C	52	A
3	C	59	A
3	C	62	A
3	C	63	U
3	C	87	G
3	C	98	C
3	C	99	U
3	C	103	A
3	C	104	A
3	C	105	C
3	C	109	C
3	C	110	U
3	C	111	U
3	C	114	G
3	C	121	G
3	C	156	U

All (161) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	1	C
1	A	17	A
1	A	42	A
1	A	48	G
1	A	58	G
1	A	92	C
1	A	119	G
1	A	131	C
1	A	134	G
1	A	145	G
1	A	189	G
1	A	193	G
1	A	203	U
1	A	234	G
1	A	246	G
1	A	248	C
1	A	273	U
1	A	276	C
1	A	277	G
1	A	278	G
1	A	385	A
1	A	408	A

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Mol	Chain	Res	Type
1	A	417	G
1	A	449	C
1	A	452	A
1	A	504	G
1	A	664	G
1	A	681	G
1	A	700	G
1	A	703	G
1	A	729	G
1	A	913	U
1	A	914	U
1	A	935	A
1	A	955	G
1	A	959	G
1	A	1078	A
1	A	1082	C
1	A	1083	U
1	A	1173	G
1	A	1240	G
1	A	1260	G
1	A	1269	G
1	A	1274	A
1	A	1303	A
1	A	1324	A
1	A	1365	C
1	A	1366	G
1	A	1376	C
1	A	1380	G
1	A	1399	G
1	A	1401	C
1	A	1415	G
1	A	1419	G
1	A	1438	U
1	A	1482	G
1	A	1483	C
1	A	1501	C
1	A	1590	C
1	A	1607	C
1	A	1613	A
1	A	1625	OMG
1	A	1633	G
1	A	1677	PSU

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Mol	Chain	Res	Type
1	A	1721	G
1	A	1733	G
1	A	1783	C
1	A	1804	A
1	A	1832	C
1	A	1918	U
1	A	1919	G
1	A	1921	C
1	A	1950	U
1	A	2064	G
1	A	2068	C
1	A	2089	G
1	A	2267	U
1	A	2347	A
1	A	2351	OMC
1	A	2436	U
1	A	2475	G
1	A	2585	C
1	A	2587	A
1	A	2660	A
1	A	2673	G
1	A	2675	G
1	A	2686	G
1	A	2696	A
1	A	2707	U
1	A	2708	U
1	A	2760	G
1	A	2790	U
1	A	2794	C
1	A	2798	A
1	A	2827	G
1	A	3614	G
1	A	3620	G
1	A	3646	A
1	A	3672	G
1	A	3673	C
1	A	3709	U
1	A	3713	U
1	A	3735	G
1	A	3773	U
1	A	3876	A
1	A	3901	A

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Mol	Chain	Res	Type
1	A	3938	G
1	A	3942	A
1	A	3945	A
1	A	4070	U
1	A	4071	U
1	A	4076	G
1	A	4114	C
1	A	4115	G
1	A	4135	G
1	A	4228	OMG
1	A	4233	A
1	A	4254	G
1	A	4256	A
1	A	4265	U
1	A	4266	G
1	A	4270	C
1	A	4271	A
1	A	4273	A
1	A	4281	A
1	A	4289	U
1	A	4291	G
1	A	4378	A
1	A	4407	G
1	A	4447	5MC
1	A	4449	A
1	A	4464	A
1	A	4485	C
1	A	4486	C
1	A	4532	PSU
1	A	4635	A
1	A	4699	U
1	A	4722	G
1	A	4733	C
1	A	4740	G
1	A	4870	G
1	A	4881	U
1	A	4909	A
1	A	4910	G
1	A	4913	G
1	A	4927	G
1	A	5013	C
1	A	5020	G

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Mol	Chain	Res	Type
1	A	5054	C
1	A	5060	A
1	A	5061	A
2	B	16	A
2	B	41	G
2	B	53	U
2	B	62	U
2	B	102	U
2	B	109	U
3	C	51	U
3	C	98	C
3	C	109	C
3	C	110	U

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

117 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
1	PSU	A	4493	1,46	18,21,22	1.30	2 (11%)	22,30,33	7.39	13 (59%)
3	OMG	C	75	3	23,26,27	1.27	2 (8%)	33,38,41	2.30	12 (36%)
1	OMU	A	4498	1,46	19,22,23	1.35	3 (15%)	26,31,34	2.60	9 (34%)
1	OMC	A	2365	1,44	19,22,23	1.46	4 (21%)	26,31,34	2.49	10 (38%)
1	OMG	A	4370	1,44	23,26,27	1.53	6 (26%)	33,38,41	3.36	11 (33%)
1	OMG	A	4623	1	23,26,27	2.23	7 (30%)	33,38,41	2.54	11 (33%)
1	OMU	A	2837	1	19,22,23	2.33	6 (31%)	26,31,34	3.98	11 (42%)
1	A2M	A	1871	1,46,44	22,25,26	2.03	6 (27%)	31,36,39	2.59	13 (41%)
1	PSU	A	2632	1	18,21,22	1.72	3 (16%)	22,30,33	2.03	7 (31%)
1	PSU	A	4500	1,46	18,21,22	1.75	5 (27%)	22,30,33	4.02	9 (40%)
1	OMC	A	3887	1	19,22,23	1.18	1 (5%)	26,31,34	3.82	13 (50%)
1	PSU	A	4353	1,46	18,21,22	2.53	7 (38%)	22,30,33	4.81	14 (63%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMG	A	2424	1	23,26,27	1.91	6 (26%)	33,38,41	3.62	18 (54%)
1	OMU	A	3925	1	19,22,23	1.74	5 (26%)	26,31,34	3.99	13 (50%)
1	A2M	A	4523	1,44	22,25,26	1.89	5 (22%)	31,36,39	3.53	16 (51%)
1	OMG	A	4196	1,44	23,26,27	1.45	3 (13%)	33,38,41	2.62	13 (39%)
1	PSU	A	4579	1	18,21,22	1.70	4 (22%)	22,30,33	3.51	11 (50%)
1	OMG	A	1625	1,46	23,26,27	1.81	8 (34%)	33,38,41	3.71	17 (51%)
1	PSU	A	3844	1	18,21,22	2.32	5 (27%)	22,30,33	4.20	13 (59%)
1	PSU	A	3851	1	18,21,22	1.64	4 (22%)	22,30,33	4.68	16 (72%)
1	PSU	A	3729	1	18,21,22	1.85	5 (27%)	22,30,33	2.96	9 (40%)
1	PSU	A	4972	1,46	18,21,22	2.31	6 (33%)	22,30,33	4.72	14 (63%)
1	PSU	A	3884	1,46	18,21,22	2.87	10 (55%)	22,30,33	4.09	14 (63%)
1	A2M	A	4571	1	22,25,26	1.83	7 (31%)	31,36,39	3.19	16 (51%)
1	PSU	A	4552	1	18,21,22	1.83	7 (38%)	22,30,33	4.53	14 (63%)
1	OMG	A	4392	1	23,26,27	1.89	8 (34%)	33,38,41	3.26	12 (36%)
1	PSU	A	1683	1,46	18,21,22	2.86	10 (55%)	22,30,33	4.18	13 (59%)
1	OMG	A	3899	1	23,26,27	2.25	10 (43%)	33,38,41	2.56	10 (30%)
1	OMC	A	4456	1	19,22,23	1.74	5 (26%)	26,31,34	2.64	14 (53%)
1	OMG	A	4494	1	23,26,27	2.18	10 (43%)	33,38,41	3.08	14 (42%)
1	PSU	A	5001	1,46	18,21,22	1.69	5 (27%)	22,30,33	3.58	12 (54%)
1	A2M	A	2401	1	22,25,26	1.48	5 (22%)	31,36,39	3.03	18 (58%)
1	PSU	A	4293	1	18,21,22	1.53	4 (22%)	22,30,33	3.96	12 (54%)
1	6MZ	A	4220	1	22,25,26	1.53	5 (22%)	30,36,39	2.71	10 (33%)
1	OMU	A	4620	1	19,22,23	2.06	6 (31%)	26,31,34	4.12	14 (53%)
1	PSU	A	3695	1,46	18,21,22	1.88	5 (27%)	22,30,33	2.50	7 (31%)
1	A2M	A	3825	1	22,25,26	1.81	6 (27%)	31,36,39	3.20	16 (51%)
1	1MA	A	1322	1,44	21,25,26	2.27	8 (38%)	31,37,40	2.74	11 (35%)
1	OMU	A	4227	1	19,22,23	1.76	5 (26%)	26,31,34	5.63	16 (61%)
1	A2M	A	3785	1	22,25,26	1.41	4 (18%)	31,36,39	3.13	17 (54%)
1	OMG	A	1522	1	23,26,27	2.18	5 (21%)	33,38,41	3.18	17 (51%)
1	OMG	A	2364	1	23,26,27	1.95	8 (34%)	33,38,41	3.11	21 (63%)
1	OMU	A	4306	1	19,22,23	2.46	6 (31%)	26,31,34	3.34	13 (50%)
1	A2M	A	3867	1	22,25,26	2.17	7 (31%)	31,36,39	2.06	10 (32%)
1	PSU	A	1792	1,46	18,21,22	1.36	1 (5%)	22,30,33	2.27	7 (31%)
1	OMG	A	2876	1	23,26,27	1.79	3 (13%)	33,38,41	2.53	8 (24%)
1	A2M	A	1524	1	22,25,26	2.29	10 (45%)	31,36,39	2.52	9 (29%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	A2M	A	2787	1,46,44	22,25,26	1.67	5 (22%)	31,36,39	3.16	15 (48%)
1	PSU	A	4403	1,46	18,21,22	2.32	6 (33%)	22,30,33	3.73	10 (45%)
1	PSU	A	4296	1	18,21,22	1.80	5 (27%)	22,30,33	3.04	13 (59%)
1	OMC	A	2422	1,44	19,22,23	2.58	6 (31%)	26,31,34	9.61	12 (46%)
1	OMC	A	1340	1	19,22,23	1.45	5 (26%)	26,31,34	2.73	12 (46%)
1	OMG	A	4228	1	23,26,27	2.41	10 (43%)	33,38,41	4.77	26 (78%)
1	OMG	A	4637	1,46	23,26,27	1.68	4 (17%)	33,38,41	2.78	12 (36%)
1	PSU	A	4361	1,46	18,21,22	1.69	5 (27%)	22,30,33	3.92	9 (40%)
1	PSU	A	1582	1	18,21,22	1.92	3 (16%)	22,30,33	4.03	15 (68%)
1	OMG	A	3627	1	23,26,27	1.65	6 (26%)	33,38,41	2.86	15 (45%)
1	PSU	A	5010	1	18,21,22	1.49	2 (11%)	22,30,33	2.12	5 (22%)
1	PSU	A	4673	1,46	18,21,22	2.18	5 (27%)	22,30,33	4.58	13 (59%)
1	A2M	A	3724	1	22,25,26	1.47	3 (13%)	31,36,39	2.70	11 (35%)
1	PSU	A	1781	1	18,21,22	2.03	3 (16%)	22,30,33	2.83	6 (27%)
1	PSU	A	4423	1	18,21,22	1.61	2 (11%)	22,30,33	2.00	5 (22%)
1	A2M	A	1326	1	22,25,26	2.14	5 (22%)	31,36,39	3.26	13 (41%)
1	PSU	A	1677	1,46	18,21,22	3.32	11 (61%)	22,30,33	3.93	10 (45%)
1	PSU	A	1782	1	18,21,22	2.55	4 (22%)	22,30,33	3.13	9 (40%)
1	OMG	A	4499	1	23,26,27	1.41	5 (21%)	33,38,41	2.39	11 (33%)
1	UR3	A	4530	1	19,22,23	2.00	5 (26%)	26,32,35	2.91	14 (53%)
1	OMG	A	3744	1	23,26,27	1.55	6 (26%)	33,38,41	3.04	19 (57%)
1	PSU	A	3637	1,46	18,21,22	2.21	7 (38%)	22,30,33	4.12	12 (54%)
1	A2M	A	2815	1	22,25,26	1.91	5 (22%)	31,36,39	2.57	11 (35%)
1	A2M	A	1534	1,44	22,25,26	2.61	9 (40%)	31,36,39	2.65	15 (48%)
1	OMC	A	3808	1,46	19,22,23	1.24	1 (5%)	26,31,34	1.91	7 (26%)
1	5MC	A	3782	1,44	18,22,23	1.67	4 (22%)	26,32,35	1.79	4 (15%)
1	OMG	A	3792	1	23,26,27	1.59	5 (21%)	33,38,41	2.33	12 (36%)
1	OMU	A	2415	1	19,22,23	1.63	5 (26%)	26,31,34	5.14	12 (46%)
1	PSU	A	4471	1	18,21,22	1.42	5 (27%)	22,30,33	3.37	9 (40%)
1	PSU	A	4576	1	18,21,22	1.61	5 (27%)	22,30,33	3.23	12 (54%)
1	PSU	A	2839	1	18,21,22	1.77	4 (22%)	22,30,33	3.73	15 (68%)
1	OMG	A	1316	1,46	23,26,27	2.50	9 (39%)	33,38,41	2.91	15 (45%)
1	OMC	A	2861	1	19,22,23	1.53	4 (21%)	26,31,34	1.07	3 (11%)
1	A2M	A	3830	1	22,25,26	2.06	6 (27%)	31,36,39	2.96	12 (38%)
1	OMU	A	3818	1,46	19,22,23	1.93	6 (31%)	26,31,34	3.62	11 (42%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMC	A	3841	1	19,22,23	2.07	6 (31%)	26,31,34	1.96	7 (26%)
1	PSU	A	3715	1	18,21,22	1.94	4 (22%)	22,30,33	1.86	7 (31%)
1	PSU	A	3920	1,44	18,21,22	2.52	9 (50%)	22,30,33	4.23	13 (59%)
1	PSU	A	4299	1	18,21,22	2.27	6 (33%)	22,30,33	4.39	10 (45%)
3	PSU	C	69	3	18,21,22	2.05	4 (22%)	22,30,33	2.92	9 (40%)
1	PSU	A	4689	1	18,21,22	1.86	5 (27%)	22,30,33	3.06	11 (50%)
1	OMC	A	3869	1	19,22,23	2.00	6 (31%)	26,31,34	2.63	8 (30%)
3	PSU	C	55	3	18,21,22	1.41	3 (16%)	22,30,33	3.59	10 (45%)
1	PSU	A	4312	1	18,21,22	1.79	6 (33%)	22,30,33	3.63	12 (54%)
1	OMC	A	2824	1	19,22,23	1.51	5 (26%)	26,31,34	2.81	13 (50%)
1	PSU	A	4457	1	18,21,22	2.02	6 (33%)	22,30,33	3.47	9 (40%)
1	PSU	A	4628	1	18,21,22	2.41	6 (33%)	22,30,33	4.28	14 (63%)
1	PSU	A	4532	1,46	18,21,22	2.86	9 (50%)	22,30,33	4.16	17 (77%)
1	PSU	A	4521	1,46,44	18,21,22	2.44	8 (44%)	22,30,33	4.68	13 (59%)
1	PSU	A	3853	1,44	18,21,22	2.65	10 (55%)	22,30,33	5.12	11 (50%)
1	A2M	A	4590	1	22,25,26	2.24	8 (36%)	31,36,39	2.60	16 (51%)
1	OMC	A	4536	1	19,22,23	2.11	9 (47%)	26,31,34	2.51	12 (46%)
1	PSU	A	4420	1	18,21,22	1.62	2 (11%)	22,30,33	2.13	6 (27%)
1	PSU	A	1862	1	18,21,22	1.70	3 (16%)	22,30,33	3.15	11 (50%)
1	OMC	A	2804	1	19,22,23	1.54	3 (15%)	26,31,34	1.91	9 (34%)
1	OMG	A	4618	1,46	23,26,27	1.89	4 (17%)	33,38,41	2.92	17 (51%)
1	A2M	A	400	1	22,25,26	1.98	6 (27%)	31,36,39	2.67	14 (45%)
1	A2M	A	3718	1	22,25,26	1.82	5 (22%)	31,36,39	2.21	13 (41%)
1	PSU	A	2508	1	18,21,22	1.97	7 (38%)	22,30,33	3.11	10 (45%)
1	PSU	A	4442	1	18,21,22	1.85	3 (16%)	22,30,33	4.30	9 (40%)
1	PSU	A	1860	1	18,21,22	1.88	3 (16%)	22,30,33	3.07	4 (18%)
1	PSU	A	1744	1,46	18,21,22	1.78	2 (11%)	22,30,33	2.71	8 (36%)
1	OMC	A	3701	1,46	19,22,23	1.49	3 (15%)	26,31,34	2.25	9 (34%)
1	A2M	A	398	1	22,25,26	1.94	3 (13%)	31,36,39	3.51	15 (48%)
1	PSU	A	4431	1,46	18,21,22	1.26	2 (11%)	22,30,33	2.49	6 (27%)
1	A2M	A	2363	1,44	22,25,26	1.84	6 (27%)	31,36,39	3.24	17 (54%)
1	5MC	A	4447	1,46	18,22,23	1.88	2 (11%)	26,32,35	3.20	14 (53%)
1	PSU	A	3639	1	18,21,22	2.56	6 (33%)	22,30,33	4.59	12 (54%)
1	OMC	A	2351	1,44	19,22,23	2.43	9 (47%)	26,31,34	2.55	13 (50%)
1	PSU	A	1536	1	18,21,22	2.70	8 (44%)	22,30,33	4.92	13 (59%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	A	4493	1,46	-	0/7/25/26	0/2/2/2
3	OMG	C	75	3	-	1/9/27/28	0/3/3/3
1	OMU	A	4498	1,46	-	0/9/27/28	0/2/2/2
1	OMC	A	2365	1,44	-	2/9/27/28	0/2/2/2
1	OMG	A	4370	1,44	-	2/9/27/28	0/3/3/3
1	OMG	A	4623	1	-	0/9/27/28	0/3/3/3
1	OMU	A	2837	1	-	0/9/27/28	0/2/2/2
1	A2M	A	1871	1,46,44	-	0/9/27/28	0/3/3/3
1	PSU	A	2632	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4500	1,46	-	3/7/25/26	0/2/2/2
1	OMC	A	3887	1	-	0/9/27/28	0/2/2/2
1	PSU	A	4353	1,46	-	0/7/25/26	0/2/2/2
1	OMG	A	2424	1	-	2/9/27/28	0/3/3/3
1	OMU	A	3925	1	-	0/9/27/28	0/2/2/2
1	A2M	A	4523	1,44	-	0/9/27/28	0/3/3/3
1	OMG	A	4196	1,44	-	1/9/27/28	0/3/3/3
1	PSU	A	4579	1	-	0/7/25/26	0/2/2/2
1	OMG	A	1625	1,46	-	1/9/27/28	0/3/3/3
1	PSU	A	3844	1	-	1/7/25/26	0/2/2/2
1	PSU	A	3851	1	-	1/7/25/26	0/2/2/2
1	PSU	A	3729	1	-	1/7/25/26	0/2/2/2
1	PSU	A	4972	1,46	-	2/7/25/26	0/2/2/2
1	PSU	A	3884	1,46	-	0/7/25/26	0/2/2/2
1	A2M	A	4571	1	-	0/9/27/28	0/3/3/3
1	PSU	A	4552	1	-	0/7/25/26	0/2/2/2
1	OMG	A	4392	1	-	0/9/27/28	0/3/3/3
1	PSU	A	1683	1,46	-	0/7/25/26	0/2/2/2
1	OMG	A	3899	1	-	0/9/27/28	0/3/3/3
1	OMC	A	4456	1	-	0/9/27/28	0/2/2/2
1	OMG	A	4494	1	-	0/9/27/28	0/3/3/3
1	PSU	A	5001	1,46	-	1/7/25/26	0/2/2/2
1	A2M	A	2401	1	-	0/9/27/28	0/3/3/3
1	PSU	A	4293	1	-	0/7/25/26	0/2/2/2
1	6MZ	A	4220	1	-	0/9/27/28	0/3/3/3
1	OMU	A	4620	1	-	0/9/27/28	0/2/2/2
1	PSU	A	3695	1,46	-	0/7/25/26	0/2/2/2
1	A2M	A	3825	1	-	1/9/27/28	0/3/3/3
1	1MA	A	1322	1,44	-	1/7/25/26	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMU	A	4227	1	-	2/9/27/28	0/2/2/2
1	A2M	A	3785	1	-	2/9/27/28	0/3/3/3
1	OMG	A	1522	1	-	0/9/27/28	0/3/3/3
1	OMG	A	2364	1	-	2/9/27/28	0/3/3/3
1	OMU	A	4306	1	-	0/9/27/28	0/2/2/2
1	A2M	A	3867	1	-	0/9/27/28	0/3/3/3
1	PSU	A	1792	1,46	-	2/7/25/26	0/2/2/2
1	OMG	A	2876	1	-	0/9/27/28	0/3/3/3
1	A2M	A	1524	1	-	3/9/27/28	0/3/3/3
1	A2M	A	2787	1,46,44	-	3/9/27/28	0/3/3/3
1	PSU	A	4403	1,46	-	0/7/25/26	0/2/2/2
1	PSU	A	4296	1	-	1/7/25/26	0/2/2/2
1	OMC	A	2422	1,44	-	1/9/27/28	0/2/2/2
1	OMC	A	1340	1	-	0/9/27/28	0/2/2/2
1	OMG	A	4228	1	-	1/9/27/28	0/3/3/3
1	OMG	A	4637	1,46	-	0/9/27/28	0/3/3/3
1	PSU	A	4361	1,46	-	0/7/25/26	0/2/2/2
1	PSU	A	1582	1	-	1/7/25/26	0/2/2/2
1	OMG	A	3627	1	-	0/9/27/28	0/3/3/3
1	PSU	A	5010	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4673	1,46	-	0/7/25/26	0/2/2/2
1	A2M	A	3724	1	-	0/9/27/28	0/3/3/3
1	PSU	A	1781	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4423	1	-	0/7/25/26	0/2/2/2
1	A2M	A	1326	1	-	0/9/27/28	0/3/3/3
1	PSU	A	1677	1,46	-	1/7/25/26	0/2/2/2
1	PSU	A	1782	1	-	0/7/25/26	0/2/2/2
1	OMG	A	4499	1	-	0/9/27/28	0/3/3/3
1	UR3	A	4530	1	-	1/7/25/26	0/2/2/2
1	OMG	A	3744	1	-	0/9/27/28	0/3/3/3
1	PSU	A	3637	1,46	-	0/7/25/26	0/2/2/2
1	A2M	A	2815	1	-	3/9/27/28	0/3/3/3
1	A2M	A	1534	1,44	-	2/9/27/28	0/3/3/3
1	OMC	A	3808	1,46	-	1/9/27/28	0/2/2/2
1	5MC	A	3782	1,44	-	0/7/25/26	0/2/2/2
1	OMG	A	3792	1	-	0/9/27/28	0/3/3/3
1	OMU	A	2415	1	-	1/9/27/28	0/2/2/2
1	PSU	A	4471	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4576	1	-	0/7/25/26	0/2/2/2
1	PSU	A	2839	1	-	2/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMG	A	1316	1,46	-	0/9/27/28	0/3/3/3
1	OMC	A	2861	1	-	0/9/27/28	0/2/2/2
1	A2M	A	3830	1	-	3/9/27/28	0/3/3/3
1	OMU	A	3818	1,46	-	1/9/27/28	0/2/2/2
1	OMC	A	3841	1	-	0/9/27/28	0/2/2/2
1	PSU	A	3715	1	-	0/7/25/26	0/2/2/2
1	PSU	A	3920	1,44	-	0/7/25/26	0/2/2/2
1	PSU	A	4299	1	-	0/7/25/26	0/2/2/2
3	PSU	C	69	3	-	0/7/25/26	0/2/2/2
1	PSU	A	4689	1	-	1/7/25/26	0/2/2/2
1	OMC	A	3869	1	-	1/9/27/28	0/2/2/2
3	PSU	C	55	3	-	0/7/25/26	0/2/2/2
1	PSU	A	4312	1	-	0/7/25/26	0/2/2/2
1	OMC	A	2824	1	-	0/9/27/28	0/2/2/2
1	PSU	A	4457	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4628	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4532	1,46	-	0/7/25/26	0/2/2/2
1	PSU	A	4521	1,46,44	-	0/7/25/26	0/2/2/2
1	PSU	A	3853	1,44	-	0/7/25/26	0/2/2/2
1	A2M	A	4590	1	-	1/9/27/28	0/3/3/3
1	OMC	A	4536	1	-	0/9/27/28	0/2/2/2
1	PSU	A	4420	1	-	0/7/25/26	0/2/2/2
1	PSU	A	1862	1	-	0/7/25/26	0/2/2/2
1	OMC	A	2804	1	-	0/9/27/28	0/2/2/2
1	OMG	A	4618	1,46	-	0/9/27/28	0/3/3/3
1	A2M	A	400	1	-	1/9/27/28	0/3/3/3
1	A2M	A	3718	1	-	1/9/27/28	0/3/3/3
1	PSU	A	2508	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4442	1	-	0/7/25/26	0/2/2/2
1	PSU	A	1860	1	-	0/7/25/26	0/2/2/2
1	PSU	A	1744	1,46	-	0/7/25/26	0/2/2/2
1	OMC	A	3701	1,46	-	5/9/27/28	0/2/2/2
1	A2M	A	398	1	-	1/9/27/28	0/3/3/3
1	PSU	A	4431	1,46	-	0/7/25/26	0/2/2/2
1	A2M	A	2363	1,44	-	0/9/27/28	0/3/3/3
1	5MC	A	4447	1,46	-	4/7/25/26	0/2/2/2
1	PSU	A	3639	1	-	0/7/25/26	0/2/2/2
1	OMC	A	2351	1,44	-	2/9/27/28	0/2/2/2
1	PSU	A	1536	1	-	0/7/25/26	0/2/2/2

All (631) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1782	PSU	C6-C5	8.00	1.44	1.35
1	A	1677	PSU	C2'-C1'	-7.78	1.43	1.53
1	A	2422	OMC	C5-C4	7.46	1.60	1.42
1	A	4623	OMG	C6-N1	-7.14	1.25	1.38
1	A	4353	PSU	C2-N3	-6.82	1.25	1.37
1	A	4972	PSU	C6-C5	6.71	1.43	1.35
1	A	1781	PSU	C6-C5	6.67	1.43	1.35
1	A	1326	A2M	C5-N7	-6.60	1.26	1.39
1	A	3639	PSU	C2-N3	-6.59	1.26	1.37
1	A	4306	OMU	C4-N3	-6.53	1.26	1.38
1	A	3830	A2M	C8-N7	6.39	1.43	1.31
1	A	1534	A2M	C5-N7	-6.35	1.27	1.39
1	A	3899	OMG	C6-N1	-6.33	1.27	1.38
1	A	2876	OMG	C6-N1	-6.27	1.27	1.38
1	A	4228	OMG	O4'-C1'	-6.13	1.27	1.42
1	A	3884	PSU	C4-N3	-6.10	1.27	1.38
1	A	1683	PSU	C4-N3	-6.07	1.27	1.38
1	A	1522	OMG	C6-N1	-5.95	1.27	1.38
1	A	4532	PSU	C6-C5	5.91	1.42	1.35
1	A	4299	PSU	C4-N3	-5.91	1.27	1.38
1	A	3715	PSU	C6-C5	5.90	1.42	1.35
1	A	2364	OMG	C6-N1	-5.89	1.27	1.38
1	A	3825	A2M	C5-N7	-5.79	1.28	1.39
1	A	4442	PSU	C6-C5	5.77	1.42	1.35
1	A	3844	PSU	C4-N3	-5.71	1.28	1.38
1	A	398	A2M	C8-N7	5.60	1.42	1.31
1	A	1316	OMG	C5-N7	-5.59	1.28	1.39
1	A	1316	OMG	C4-N9	-5.58	1.23	1.38
1	A	1860	PSU	C6-C5	5.52	1.41	1.35
1	A	4447	5MC	C6-N1	-5.50	1.28	1.38
1	A	1744	PSU	C6-C5	5.40	1.41	1.35
1	A	4299	PSU	C2-N3	-5.38	1.28	1.37
1	A	4306	OMU	C2-N3	-5.36	1.28	1.38
1	A	1683	PSU	C2'-C1'	-5.33	1.46	1.53
1	A	1582	PSU	C4-N3	-5.32	1.29	1.38
1	A	3718	A2M	C5-C4	5.31	1.48	1.39
1	A	4530	UR3	C2-N1	-5.27	1.31	1.38
1	A	4532	PSU	O3'-C3'	5.21	1.55	1.43
1	A	3841	OMC	C6-C5	5.19	1.47	1.35
1	A	4523	A2M	C5-N7	-5.17	1.29	1.39
1	A	4423	PSU	C6-C5	5.16	1.41	1.35
1	A	4420	PSU	C6-C5	5.15	1.41	1.35
1	A	1536	PSU	C2'-C1'	-5.14	1.47	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1677	PSU	C6-C5	-5.08	1.29	1.35
1	A	4403	PSU	C2'-C1'	-5.05	1.47	1.53
1	A	3853	PSU	C2-N1	-5.02	1.29	1.36
3	C	69	PSU	C2-N1	-4.99	1.30	1.36
1	A	3637	PSU	C2-N1	-4.97	1.30	1.36
1	A	1322	1MA	C5-N7	-4.97	1.29	1.39
1	A	2837	OMU	C2-N3	-4.95	1.29	1.38
1	A	1677	PSU	O4'-C1'	-4.87	1.37	1.43
1	A	1316	OMG	C8-N9	-4.87	1.26	1.37
1	A	4521	PSU	C2-N3	-4.85	1.29	1.37
1	A	2632	PSU	C6-C5	4.81	1.40	1.35
1	A	2351	OMC	C6-N1	-4.80	1.26	1.38
1	A	4673	PSU	C4-N3	-4.80	1.29	1.38
1	A	1326	A2M	C3'-C4'	-4.76	1.40	1.53
1	A	1862	PSU	C4-N3	-4.74	1.30	1.38
1	A	4457	PSU	C4-N3	-4.73	1.30	1.38
1	A	1534	A2M	C4-N9	-4.69	1.27	1.37
1	A	3920	PSU	C2'-C1'	-4.68	1.47	1.53
1	A	4628	PSU	C2'-C1'	-4.65	1.47	1.53
1	A	3884	PSU	C2-N3	-4.63	1.29	1.37
1	A	2839	PSU	C4-N3	-4.63	1.30	1.38
1	A	1524	A2M	C4-N9	-4.62	1.27	1.37
1	A	4628	PSU	C2-N1	-4.61	1.30	1.36
1	A	1782	PSU	C2-N1	4.58	1.42	1.36
1	A	3844	PSU	C6-C5	4.55	1.40	1.35
1	A	2424	OMG	C5-N7	-4.54	1.30	1.39
1	A	4618	OMG	C2-N1	-4.52	1.26	1.37
1	A	4579	PSU	C2-N1	-4.52	1.30	1.36
1	A	1536	PSU	C2-N3	-4.51	1.29	1.37
1	A	3695	PSU	C4-N3	-4.51	1.30	1.38
1	A	3867	A2M	C5-N7	-4.50	1.30	1.39
1	A	4590	A2M	C5-N7	-4.50	1.30	1.39
1	A	3869	OMC	O2-C2	-4.50	1.15	1.23
1	A	4673	PSU	C2'-C1'	-4.49	1.47	1.53
1	A	398	A2M	C2-N3	4.49	1.42	1.33
1	A	2422	OMC	C2-N3	4.48	1.45	1.36
1	A	3830	A2M	C5-N7	-4.47	1.30	1.39
1	A	3818	OMU	C5-C4	-4.47	1.33	1.43
1	A	4353	PSU	C4-N3	-4.46	1.30	1.38
1	A	3920	PSU	C2-N3	-4.44	1.29	1.37
1	A	1322	1MA	C2-N1	-4.43	1.27	1.35
1	A	2837	OMU	C6-C5	4.41	1.45	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2351	OMC	O5'-C5'	-4.40	1.34	1.44
1	A	2815	A2M	C8-N7	4.39	1.39	1.31
1	A	4628	PSU	C4-N3	-4.37	1.30	1.38
1	A	3639	PSU	C4-N3	-4.34	1.30	1.38
1	A	4590	A2M	C8-N7	4.33	1.39	1.31
1	A	4620	OMU	C6-C5	4.27	1.45	1.35
1	A	1683	PSU	C6-C5	4.27	1.40	1.35
1	A	3853	PSU	C2'-C1'	-4.27	1.48	1.53
1	A	2351	OMC	C5-C4	-4.23	1.33	1.42
1	A	5010	PSU	C6-C5	4.23	1.40	1.35
1	A	4618	OMG	C6-N1	-4.22	1.31	1.38
1	A	1677	PSU	O5'-C5'	-4.21	1.34	1.44
1	A	3884	PSU	C2'-C1'	-4.17	1.48	1.53
1	A	1683	PSU	C2-N3	-4.17	1.30	1.37
1	A	3853	PSU	O5'-C5'	-4.16	1.34	1.44
1	A	1322	1MA	C4-N3	-4.16	1.27	1.35
1	A	2363	A2M	C5-N7	-4.15	1.31	1.39
1	A	4532	PSU	C4-C5	4.15	1.56	1.44
1	A	4196	OMG	C6-N1	-4.15	1.31	1.38
1	A	2508	PSU	C2-N3	-4.15	1.30	1.37
1	A	2815	A2M	C5-N7	-4.15	1.31	1.39
1	A	4536	OMC	C2'-C1'	-4.15	1.42	1.53
1	A	3729	PSU	C6-C5	4.13	1.40	1.35
1	A	1871	A2M	C8-N9	-4.12	1.30	1.37
1	A	4620	OMU	C4-N3	-4.11	1.31	1.38
1	A	4590	A2M	C2-N3	4.11	1.41	1.33
1	A	3782	5MC	C6-N1	-4.11	1.31	1.38
1	A	1522	OMG	C4-N9	-4.10	1.27	1.38
1	A	4618	OMG	C4-N9	-4.10	1.27	1.38
1	A	1860	PSU	C4-N3	-4.09	1.31	1.38
1	A	4689	PSU	C6-C5	4.09	1.40	1.35
1	A	3639	PSU	C2-N1	-4.08	1.31	1.36
1	A	4403	PSU	C4-N3	-4.07	1.31	1.38
1	A	3724	A2M	C5-C4	4.07	1.46	1.39
1	A	4637	OMG	C6-N1	-4.06	1.31	1.38
1	A	1524	A2M	C5-C4	4.05	1.46	1.39
1	A	4637	OMG	C4-N9	-4.04	1.27	1.38
1	A	1536	PSU	C1'-C5	-4.03	1.41	1.50
1	A	1871	A2M	C4-N9	-4.00	1.28	1.37
1	A	1536	PSU	O2-C2	-3.99	1.15	1.23
1	A	3867	A2M	C8-N7	3.99	1.39	1.31
1	A	400	A2M	C8-N9	-3.99	1.30	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	3851	PSU	C4-N3	-3.99	1.31	1.38
1	A	4312	PSU	C2-N3	-3.97	1.30	1.37
1	A	398	A2M	C5-C4	3.97	1.46	1.39
1	A	3637	PSU	O4'-C1'	-3.96	1.38	1.43
1	A	1625	OMG	C5-N7	-3.95	1.31	1.39
1	A	4228	OMG	C3'-C2'	-3.95	1.44	1.52
1	A	4220	6MZ	C5-C4	3.94	1.46	1.39
1	A	4499	OMG	C6-N1	-3.91	1.31	1.38
1	A	1534	A2M	C5-C4	3.91	1.46	1.39
1	A	4521	PSU	O4-C4	-3.90	1.16	1.23
1	A	4521	PSU	C2-N1	-3.90	1.31	1.36
1	A	2837	OMU	C4-N3	-3.89	1.31	1.38
1	A	4457	PSU	C6-C5	3.89	1.39	1.35
1	A	3627	OMG	C6-N1	-3.89	1.31	1.38
1	A	4494	OMG	C2-N1	-3.89	1.28	1.37
1	A	3639	PSU	C2'-C1'	-3.88	1.48	1.53
1	A	3884	PSU	C2-N1	-3.86	1.31	1.36
1	A	2824	OMC	C6-C5	3.85	1.44	1.35
1	A	3869	OMC	C2-N3	-3.85	1.28	1.36
1	A	4500	PSU	C6-C5	3.85	1.39	1.35
1	A	4521	PSU	C4-N3	-3.85	1.31	1.38
1	A	2351	OMC	O2-C2	-3.83	1.16	1.23
1	A	1781	PSU	C4-C5	3.83	1.55	1.44
1	A	2424	OMG	C4-N3	-3.82	1.25	1.34
1	A	1522	OMG	C2-N1	-3.81	1.28	1.37
1	A	4403	PSU	C2-N3	-3.80	1.31	1.37
1	A	3925	OMU	C4-N3	-3.79	1.31	1.38
1	A	4536	OMC	C6-C5	3.79	1.43	1.35
1	A	3899	OMG	C4-N3	-3.79	1.25	1.34
1	A	2424	OMG	C4-N9	-3.78	1.28	1.38
1	A	4623	OMG	C5-N7	-3.78	1.31	1.39
1	A	1782	PSU	C4-C5	3.77	1.54	1.44
1	A	4590	A2M	C5-C4	3.77	1.46	1.39
1	A	4361	PSU	C2-N3	-3.74	1.31	1.37
1	A	4532	PSU	C2'-C1'	3.73	1.58	1.53
1	A	4494	OMG	C5-N7	-3.71	1.31	1.39
1	A	3899	OMG	C4-N9	-3.71	1.28	1.38
1	A	2839	PSU	C2-N3	-3.69	1.31	1.37
1	A	1524	A2M	C8-N7	3.67	1.38	1.31
1	A	4628	PSU	C6-N1	-3.65	1.30	1.36
1	A	4228	OMG	C2-N1	-3.65	1.28	1.37
1	A	4523	A2M	C8-N7	3.65	1.38	1.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	4447	5MC	O2'-C2'	3.63	1.51	1.43
1	A	3920	PSU	C4-N3	-3.63	1.32	1.38
1	A	1534	A2M	C8-N9	-3.63	1.31	1.37
1	A	4306	OMU	C3'-C4'	-3.63	1.43	1.53
1	A	1534	A2M	C4-N3	-3.63	1.27	1.34
1	A	4620	OMU	C5-C4	-3.62	1.35	1.43
1	A	4571	A2M	C2'-C1'	-3.60	1.43	1.53
1	A	4521	PSU	O4'-C1'	-3.60	1.38	1.43
1	A	2787	A2M	C4-N9	-3.58	1.29	1.37
1	A	5001	PSU	C2-N3	-3.58	1.31	1.37
1	A	4972	PSU	C2'-C1'	-3.58	1.49	1.53
1	A	4673	PSU	C3'-C4'	-3.57	1.43	1.53
1	A	4532	PSU	C2-N1	3.56	1.41	1.36
1	A	3853	PSU	C6-C5	3.56	1.39	1.35
1	A	4403	PSU	C2-N1	-3.55	1.31	1.36
1	A	2632	PSU	C4-C5	3.55	1.54	1.44
1	A	1522	OMG	O5'-C5'	-3.55	1.36	1.44
1	A	4296	PSU	O2-C2	3.54	1.30	1.23
1	A	1871	A2M	C5-N7	-3.53	1.32	1.39
1	A	3844	PSU	C2-N3	-3.53	1.31	1.37
1	A	4392	OMG	C4-N9	-3.52	1.28	1.38
1	A	3853	PSU	O4'-C4'	-3.52	1.37	1.45
1	A	1871	A2M	O5'-C5'	-3.52	1.36	1.44
1	A	4689	PSU	C4-C5	3.51	1.54	1.44
1	A	4498	OMU	C2-N3	-3.49	1.31	1.38
1	A	3884	PSU	O5'-C5'	-3.49	1.36	1.44
1	A	3884	PSU	O4-C4	-3.45	1.17	1.23
1	A	1536	PSU	O5'-C5'	-3.45	1.36	1.44
1	A	1677	PSU	C2-N3	-3.44	1.31	1.37
1	A	2422	OMC	C3'-C2'	-3.44	1.45	1.52
1	A	3695	PSU	C2-N1	-3.42	1.32	1.36
1	A	3851	PSU	C2-N3	-3.42	1.31	1.37
1	A	2508	PSU	C4-N3	-3.41	1.32	1.38
1	A	4523	A2M	C3'-C2'	-3.41	1.45	1.52
1	A	1316	OMG	C6-N1	-3.41	1.32	1.38
3	C	69	PSU	C2-N3	-3.40	1.31	1.37
1	A	3637	PSU	C3'-C4'	-3.40	1.44	1.53
1	A	400	A2M	C5-N7	-3.40	1.32	1.39
1	A	4403	PSU	C1'-C5	-3.39	1.42	1.50
1	A	4494	OMG	O5'-C5'	-3.38	1.36	1.44
1	A	4220	6MZ	C4-N9	-3.38	1.30	1.37
1	A	1316	OMG	O3'-C3'	-3.36	1.35	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1524	A2M	C4-N3	-3.36	1.27	1.34
1	A	400	A2M	C8-N7	3.36	1.37	1.31
1	A	3867	A2M	C2'-C1'	-3.35	1.44	1.53
1	A	4552	PSU	C4-N3	-3.35	1.32	1.38
1	A	5001	PSU	C6-C5	3.34	1.39	1.35
1	A	4456	OMC	C6-N1	-3.34	1.29	1.38
1	A	4227	OMU	C6-C5	3.34	1.42	1.35
1	A	1536	PSU	C4-N3	-3.32	1.32	1.38
1	A	3867	A2M	O5'-C5'	-3.32	1.36	1.44
1	A	3744	OMG	C8-N9	-3.31	1.30	1.37
1	A	4673	PSU	C2-N3	-3.31	1.31	1.37
1	A	4227	OMU	C3'-C4'	-3.31	1.44	1.53
1	A	1524	A2M	C5-N7	-3.31	1.32	1.39
1	A	2415	OMU	C2'-C1'	-3.31	1.44	1.53
1	A	3920	PSU	O4'-C1'	-3.29	1.39	1.43
1	A	3744	OMG	C6-N1	-3.29	1.32	1.38
1	A	2837	OMU	C2-N1	3.29	1.43	1.38
1	A	1536	PSU	C2-N1	-3.29	1.32	1.36
1	A	4571	A2M	C4-N9	-3.28	1.30	1.37
1	A	2363	A2M	C8-N7	3.27	1.37	1.31
1	A	4370	OMG	C4-N9	-3.26	1.29	1.38
1	A	4228	OMG	C6-N1	-3.25	1.32	1.38
1	A	4392	OMG	C5-N7	-3.25	1.32	1.39
1	A	4552	PSU	C6-C5	-3.25	1.31	1.35
1	A	3818	OMU	C2-N3	-3.23	1.32	1.38
1	A	4590	A2M	C8-N9	-3.23	1.31	1.37
3	C	69	PSU	C2'-C1'	-3.21	1.49	1.53
1	A	1677	PSU	O4-C4	3.21	1.29	1.23
1	A	1534	A2M	C8-N7	3.21	1.37	1.31
3	C	55	PSU	C2-N3	-3.21	1.32	1.37
1	A	1322	1MA	C4-N9	-3.20	1.29	1.38
1	A	400	A2M	C5-C4	3.19	1.45	1.39
1	A	4392	OMG	C6-N1	-3.19	1.32	1.38
1	A	4353	PSU	C2-N1	-3.19	1.32	1.36
1	A	3701	OMC	C6-N1	-3.18	1.30	1.38
1	A	4494	OMG	C6-N1	-3.18	1.32	1.38
1	A	4312	PSU	C4-N3	-3.18	1.32	1.38
1	A	4972	PSU	C4-C5	3.17	1.53	1.44
1	A	3867	A2M	C4-N9	-3.15	1.30	1.37
1	A	3920	PSU	O5'-C5'	-3.15	1.37	1.44
1	A	4590	A2M	C4-N9	-3.15	1.30	1.37
1	A	3637	PSU	C2-N3	-3.13	1.32	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1683	PSU	C2-N1	-3.12	1.32	1.36
1	A	3627	OMG	C8-N7	3.12	1.41	1.32
1	A	3920	PSU	O2-C2	-3.12	1.16	1.23
1	A	2815	A2M	C5-C4	3.12	1.44	1.39
1	A	3718	A2M	C5-N7	-3.11	1.33	1.39
1	A	3792	OMG	C4-N3	-3.09	1.26	1.34
1	A	2837	OMU	O5'-C5'	-3.09	1.37	1.44
1	A	4361	PSU	C2-N1	-3.08	1.32	1.36
1	A	3715	PSU	C4-C5	3.07	1.52	1.44
1	A	1316	OMG	O5'-C5'	-3.06	1.37	1.44
1	A	4420	PSU	C4-C5	3.06	1.52	1.44
1	A	4392	OMG	O6-C6	-3.05	1.17	1.23
1	A	3729	PSU	C2'-C1'	-3.05	1.49	1.53
1	A	4456	OMC	C2-N1	-3.04	1.33	1.40
1	A	2422	OMC	C2-N1	3.03	1.46	1.40
1	A	3627	OMG	O5'-C5'	-3.03	1.37	1.44
1	A	1677	PSU	C4-N3	-3.03	1.33	1.38
1	A	3785	A2M	C5-N7	-3.03	1.33	1.39
1	A	4689	PSU	O4-C4	3.01	1.29	1.23
1	A	3853	PSU	O2-C2	-3.01	1.17	1.23
1	A	4353	PSU	O2-C2	-3.00	1.17	1.23
1	A	2422	OMC	O5'-C5'	-3.00	1.37	1.44
1	A	4536	OMC	C3'-C2'	-3.00	1.46	1.52
1	A	2876	OMG	C5-N7	-3.00	1.33	1.39
1	A	1677	PSU	C4-C5	2.99	1.52	1.44
1	A	4370	OMG	C5-N7	-2.99	1.33	1.39
1	A	4494	OMG	O2'-C2'	-2.99	1.35	1.42
1	A	4620	OMU	C6-N1	-2.98	1.30	1.38
1	A	4637	OMG	C2-N1	-2.98	1.30	1.37
1	A	2815	A2M	C3'-C4'	-2.98	1.45	1.53
1	A	3782	5MC	O4'-C4'	-2.98	1.38	1.45
1	A	4623	OMG	O5'-C5'	-2.96	1.37	1.44
1	A	4571	A2M	C5-C6	2.96	1.49	1.41
1	A	1683	PSU	O4'-C4'	-2.96	1.38	1.45
1	A	1536	PSU	O4-C4	-2.96	1.18	1.23
1	A	3825	A2M	C8-N9	-2.95	1.32	1.37
1	A	4423	PSU	C4-C5	2.95	1.52	1.44
1	A	4293	PSU	C2'-C1'	-2.94	1.49	1.53
1	A	1326	A2M	C2'-C1'	-2.93	1.45	1.53
1	A	4431	PSU	C4-N3	-2.93	1.33	1.38
1	A	1316	OMG	C2-N1	-2.92	1.30	1.37
1	A	4579	PSU	C6-C5	2.92	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	55	PSU	C2'-C1'	-2.89	1.50	1.53
1	A	1582	PSU	O2-C2	2.89	1.29	1.23
1	A	1871	A2M	C8-N7	2.89	1.37	1.31
1	A	4442	PSU	C4-N3	-2.89	1.33	1.38
1	A	3782	5MC	C6-C5	2.88	1.39	1.34
1	A	3925	OMU	C3'-C4'	-2.88	1.45	1.53
1	A	2839	PSU	O4'-C1'	-2.88	1.39	1.43
1	A	4972	PSU	C6-N1	-2.88	1.31	1.36
1	A	2401	A2M	C8-N7	2.87	1.37	1.31
1	A	4228	OMG	O2'-C2'	2.87	1.50	1.42
1	A	4494	OMG	C8-N9	-2.87	1.31	1.37
1	A	2508	PSU	C6-N1	-2.87	1.31	1.36
1	A	1625	OMG	C2-N1	-2.87	1.30	1.37
1	A	4306	OMU	C5-C4	-2.86	1.37	1.43
1	A	1322	1MA	O5'-C5'	-2.86	1.37	1.44
1	A	3830	A2M	C3'-C2'	-2.86	1.46	1.52
1	A	4620	OMU	C2-N3	-2.85	1.32	1.38
1	A	1677	PSU	C1'-C5	-2.84	1.43	1.50
1	A	4456	OMC	C6-C5	2.84	1.41	1.35
1	A	3724	A2M	C5-C6	2.84	1.49	1.41
1	A	4312	PSU	O4-C4	2.84	1.29	1.23
1	A	3818	OMU	O4'-C4'	-2.83	1.38	1.45
1	A	4576	PSU	C2'-C1'	-2.82	1.50	1.53
1	A	4293	PSU	C2-N1	-2.82	1.32	1.36
1	A	2401	A2M	C4-N9	-2.82	1.31	1.37
1	A	2415	OMU	C2-N1	2.82	1.43	1.38
1	A	4532	PSU	C3'-C4'	2.82	1.60	1.53
1	A	4628	PSU	C2-N3	-2.81	1.32	1.37
1	A	4579	PSU	C2'-C1'	-2.81	1.50	1.53
1	A	3729	PSU	C4-C5	2.81	1.52	1.44
1	A	1677	PSU	O4'-C4'	-2.80	1.38	1.45
1	A	4521	PSU	C6-C5	-2.79	1.32	1.35
1	A	4296	PSU	O4-C4	2.78	1.28	1.23
1	A	1744	PSU	C4-C5	2.78	1.52	1.44
1	A	2861	OMC	C6-C5	2.78	1.41	1.35
3	C	75	OMG	C6-N1	-2.78	1.33	1.38
1	A	4552	PSU	C2-N3	-2.78	1.32	1.37
1	A	3808	OMC	C5-C4	-2.77	1.36	1.42
1	A	1534	A2M	O4'-C1'	-2.77	1.35	1.42
1	A	1524	A2M	C2'-C1'	-2.77	1.45	1.53
1	A	3792	OMG	C5-N7	-2.77	1.33	1.39
1	A	4494	OMG	C4-N9	-2.77	1.30	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1677	PSU	C2-N1	-2.76	1.33	1.36
1	A	4457	PSU	C2'-C1'	-2.76	1.50	1.53
1	A	4293	PSU	C6-C5	2.76	1.38	1.35
1	A	2365	OMC	C2-N3	-2.76	1.30	1.36
1	A	4228	OMG	O5'-C5'	2.75	1.51	1.44
1	A	2804	OMC	C6-C5	2.74	1.41	1.35
1	A	3899	OMG	O5'-C5'	-2.74	1.38	1.44
1	A	3695	PSU	C2'-C1'	-2.74	1.50	1.53
1	A	4392	OMG	C2-N2	-2.74	1.27	1.34
1	A	4392	OMG	C2-N1	-2.73	1.30	1.37
1	A	2351	OMC	O2'-C2'	-2.73	1.35	1.42
1	A	4296	PSU	C1'-C5	-2.73	1.44	1.50
1	A	2508	PSU	O4-C4	2.73	1.28	1.23
1	A	4689	PSU	C2'-C1'	-2.72	1.50	1.53
1	A	3695	PSU	C2-N3	-2.72	1.32	1.37
1	A	3899	OMG	O4'-C4'	-2.72	1.38	1.45
1	A	4227	OMU	C5-C4	2.71	1.49	1.43
1	A	4494	OMG	C2-N3	-2.71	1.26	1.33
1	A	3841	OMC	C5-C4	-2.71	1.36	1.42
1	A	4228	OMG	C8-N7	2.71	1.40	1.32
1	A	4571	A2M	C8-N9	-2.71	1.32	1.37
1	A	3844	PSU	C2-N1	-2.71	1.33	1.36
1	A	2424	OMG	O5'-C5'	-2.71	1.38	1.44
1	A	1625	OMG	O5'-C5'	-2.70	1.38	1.44
1	A	4673	PSU	O4'-C1'	-2.70	1.40	1.43
1	A	5001	PSU	C4-N3	-2.69	1.33	1.38
1	A	4370	OMG	C2-N3	2.69	1.39	1.33
1	A	2837	OMU	C2'-C1'	-2.69	1.46	1.53
1	A	2824	OMC	C6-N1	-2.68	1.31	1.38
1	A	3639	PSU	O2-C2	-2.68	1.17	1.23
1	A	1524	A2M	C8-N9	2.68	1.42	1.37
1	A	4552	PSU	C4-C5	2.67	1.51	1.44
1	A	1326	A2M	C4-N9	-2.67	1.31	1.37
3	C	69	PSU	C4-N3	-2.66	1.33	1.38
1	A	3869	OMC	C2-N1	-2.66	1.34	1.40
1	A	3639	PSU	O4'-C4'	-2.66	1.39	1.45
1	A	4227	OMU	C2-N1	2.65	1.42	1.38
1	A	1625	OMG	C6-N1	-2.64	1.33	1.38
3	C	55	PSU	C4-N3	-2.64	1.33	1.38
1	A	3744	OMG	C5-N7	-2.64	1.34	1.39
1	A	4228	OMG	C2'-C1'	2.64	1.59	1.53
1	A	4361	PSU	O2-C2	-2.62	1.17	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1524	A2M	O5'-C5'	-2.62	1.38	1.44
1	A	3718	A2M	C2-N1	2.62	1.38	1.33
1	A	4972	PSU	C4-N3	-2.62	1.34	1.38
1	A	2364	OMG	C3'-C4'	-2.61	1.46	1.53
1	A	3899	OMG	C5-N7	-2.61	1.34	1.39
1	A	4532	PSU	O4'-C4'	2.61	1.50	1.45
1	A	4306	OMU	C6-N1	-2.61	1.31	1.38
1	A	1522	OMG	O6-C6	-2.61	1.18	1.23
1	A	3869	OMC	O3'-C3'	-2.60	1.36	1.43
1	A	4536	OMC	C6-N1	-2.60	1.31	1.38
1	A	4498	OMU	C6-C5	2.60	1.41	1.35
1	A	4471	PSU	C4-C5	2.60	1.51	1.44
1	A	4312	PSU	C2-N1	-2.60	1.33	1.36
1	A	2363	A2M	C4-N9	-2.59	1.31	1.37
1	A	3884	PSU	C3'-C4'	-2.59	1.46	1.53
1	A	5010	PSU	C4-C5	2.59	1.51	1.44
1	A	2415	OMU	C6-N1	-2.58	1.31	1.38
1	A	4293	PSU	C2-N3	-2.58	1.33	1.37
1	A	4576	PSU	O2-C2	2.58	1.28	1.23
1	A	3920	PSU	C3'-C2'	-2.58	1.46	1.53
1	A	2861	OMC	O2-C2	2.58	1.28	1.23
1	A	1534	A2M	C6-N1	-2.58	1.28	1.35
1	A	2508	PSU	C2'-C1'	-2.57	1.50	1.53
1	A	4689	PSU	C3'-C4'	-2.57	1.46	1.53
1	A	2363	A2M	C4-N3	-2.57	1.29	1.34
1	A	3729	PSU	C4-N3	-2.56	1.34	1.38
1	A	4623	OMG	C3'-C2'	-2.56	1.47	1.52
1	A	4353	PSU	C3'-C2'	-2.56	1.46	1.53
1	A	4523	A2M	C4-N9	-2.55	1.32	1.37
1	A	4227	OMU	O4'-C4'	2.54	1.50	1.45
1	A	3792	OMG	C4-N9	-2.54	1.31	1.38
1	A	4571	A2M	C5-N7	-2.54	1.34	1.39
1	A	3744	OMG	C2-N1	-2.54	1.31	1.37
1	A	4623	OMG	C4-N9	-2.53	1.31	1.38
1	A	3853	PSU	C3'-C4'	-2.53	1.46	1.53
1	A	3729	PSU	O2-C2	2.53	1.28	1.23
1	A	4618	OMG	O5'-C5'	-2.53	1.38	1.44
1	A	4536	OMC	C5-C4	-2.52	1.37	1.42
1	A	3851	PSU	C3'-C4'	-2.52	1.46	1.53
1	A	1683	PSU	O4-C4	-2.52	1.18	1.23
1	A	3637	PSU	C4-N3	-2.52	1.34	1.38
1	A	4306	OMU	C2'-C1'	-2.51	1.46	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	3925	OMU	C2-N3	-2.51	1.33	1.38
1	A	2861	OMC	C5-C4	-2.50	1.37	1.42
1	A	4431	PSU	C6-C5	2.49	1.38	1.35
1	A	3841	OMC	C3'-C4'	-2.49	1.46	1.53
1	A	3637	PSU	C6-N1	-2.49	1.32	1.36
1	A	4576	PSU	C6-C5	2.48	1.38	1.35
1	A	3695	PSU	C6-N1	-2.48	1.32	1.36
1	A	2424	OMG	C6-N1	-2.48	1.34	1.38
1	A	2422	OMC	C6-C5	2.48	1.40	1.35
1	A	3925	OMU	C6-N1	-2.48	1.32	1.38
1	A	4628	PSU	C6-C5	2.48	1.38	1.35
1	A	3841	OMC	O2'-C2'	-2.47	1.36	1.42
1	A	4361	PSU	O2'-C2'	2.47	1.48	1.43
1	A	2365	OMC	C5-C4	-2.47	1.37	1.42
1	A	2364	OMG	C2-N3	-2.47	1.27	1.33
1	A	4442	PSU	C6-N1	-2.47	1.32	1.36
1	A	3884	PSU	O2'-C2'	-2.46	1.37	1.43
1	A	1683	PSU	O2-C2	-2.46	1.18	1.23
3	C	75	OMG	C5-C4	2.44	1.45	1.38
1	A	3818	OMU	C2-N1	2.44	1.42	1.38
1	A	4532	PSU	C3'-C2'	2.43	1.60	1.53
1	A	3715	PSU	O2-C2	2.43	1.28	1.23
1	A	4536	OMC	C4-N3	-2.43	1.29	1.34
1	A	3718	A2M	C4-N9	-2.43	1.32	1.37
1	A	4296	PSU	C2-N1	-2.43	1.33	1.36
1	A	3887	OMC	C3'-C4'	-2.42	1.46	1.53
1	A	4530	UR3	O5'-C5'	-2.42	1.38	1.44
1	A	2363	A2M	C6-N1	-2.41	1.28	1.35
1	A	2351	OMC	O4'-C1'	-2.41	1.36	1.42
1	A	4471	PSU	C6-C5	2.40	1.38	1.35
1	A	3825	A2M	C8-N7	2.40	1.36	1.31
1	A	2861	OMC	C6-N1	-2.40	1.32	1.38
1	A	2632	PSU	O4-C4	2.39	1.28	1.23
1	A	4576	PSU	C4-N3	-2.39	1.34	1.38
1	A	3818	OMU	C4-N3	-2.39	1.34	1.38
1	A	4536	OMC	C4-N4	-2.39	1.28	1.33
1	A	4296	PSU	O4'-C1'	-2.38	1.40	1.43
1	A	3899	OMG	C2-N2	2.37	1.39	1.34
1	A	3825	A2M	C6-N1	-2.37	1.28	1.35
1	A	400	A2M	C6-N1	-2.37	1.28	1.35
1	A	1326	A2M	C8-N9	-2.37	1.33	1.37
1	A	2365	OMC	C6-N1	-2.37	1.32	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	3869	OMC	C6-C5	2.36	1.40	1.35
1	A	4370	OMG	O2'-C2'	2.36	1.48	1.42
1	A	4228	OMG	O2'-CM2	2.36	1.50	1.42
1	A	4571	A2M	C5-C4	2.36	1.43	1.39
1	A	2351	OMC	C2-N3	-2.36	1.31	1.36
1	A	4457	PSU	O2'-C2'	2.36	1.48	1.43
1	A	3853	PSU	O4-C4	-2.36	1.19	1.23
1	A	3841	OMC	C6-N1	-2.36	1.32	1.38
1	A	1683	PSU	C3'-C4'	-2.35	1.47	1.53
1	A	2415	OMU	O4-C4	2.35	1.29	1.24
1	A	2804	OMC	O3'-C3'	-2.35	1.37	1.43
1	A	4196	OMG	C8-N9	-2.34	1.32	1.37
1	A	1582	PSU	C6-C5	2.34	1.38	1.35
1	A	3830	A2M	O3'-C3'	2.34	1.48	1.43
1	A	4532	PSU	C6-N1	2.34	1.40	1.36
1	A	4552	PSU	O5'-C5'	-2.34	1.39	1.44
1	A	2364	OMG	C8-N9	-2.34	1.32	1.37
1	A	2839	PSU	C6-C5	2.34	1.38	1.35
1	A	4493	PSU	C2-N3	2.33	1.41	1.37
1	A	1322	1MA	C8-N9	-2.33	1.32	1.37
1	A	3715	PSU	O4-C4	2.33	1.28	1.23
1	A	3724	A2M	C8-N7	2.32	1.36	1.31
1	A	4499	OMG	C5-C4	2.32	1.45	1.38
1	A	3925	OMU	C6-C5	2.31	1.40	1.35
1	A	4552	PSU	O4'-C1'	-2.31	1.40	1.43
1	A	2824	OMC	C2'-C1'	-2.31	1.47	1.53
1	A	3825	A2M	C2-N1	-2.30	1.29	1.33
1	A	4494	OMG	C3'-C4'	-2.30	1.47	1.53
1	A	4299	PSU	C3'-C4'	-2.30	1.47	1.53
1	A	3744	OMG	C8-N7	2.30	1.38	1.32
1	A	4299	PSU	C2-N1	-2.29	1.33	1.36
1	A	3627	OMG	C2-N1	-2.29	1.32	1.37
1	A	1625	OMG	C8-N9	-2.29	1.32	1.37
1	A	2364	OMG	O5'-C5'	-2.28	1.39	1.44
1	A	2401	A2M	C5-C4	2.28	1.43	1.39
1	A	4392	OMG	C5-C4	2.28	1.45	1.38
1	A	2401	A2M	C5-N7	-2.27	1.34	1.39
1	A	2351	OMC	C3'-C2'	-2.27	1.47	1.52
1	A	4500	PSU	O3'-C3'	-2.27	1.37	1.43
1	A	1524	A2M	C3'-C4'	-2.27	1.47	1.53
1	A	4456	OMC	C5-C4	-2.27	1.37	1.42
1	A	3844	PSU	O2-C2	2.26	1.28	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	4530	UR3	C2-N3	-2.26	1.34	1.39
1	A	4370	OMG	C4-N3	-2.25	1.28	1.34
1	A	2351	OMC	C6-C5	2.25	1.40	1.35
1	A	3920	PSU	C5'-C4'	2.25	1.58	1.51
1	A	1862	PSU	C2-N3	-2.25	1.33	1.37
1	A	2787	A2M	C3'-C2'	-2.24	1.47	1.52
1	A	3785	A2M	C8-N9	-2.24	1.33	1.37
1	A	4228	OMG	C3'-C4'	-2.24	1.47	1.53
1	A	4456	OMC	O2'-C2'	-2.24	1.36	1.42
1	A	3884	PSU	C4-C5	-2.24	1.37	1.44
1	A	3701	OMC	C3'-C2'	-2.24	1.48	1.52
1	A	4530	UR3	C4-N3	-2.24	1.35	1.40
1	A	2787	A2M	C3'-C4'	-2.23	1.47	1.53
1	A	3744	OMG	O3'-C3'	2.23	1.48	1.43
1	A	2508	PSU	O5'-C5'	-2.23	1.39	1.44
1	A	2415	OMU	C3'-C4'	-2.23	1.47	1.53
1	A	4499	OMG	C8-N7	2.23	1.38	1.32
1	A	4196	OMG	C5-C4	2.22	1.44	1.38
1	A	1860	PSU	C4-C5	2.22	1.50	1.44
1	A	4471	PSU	C2'-C1'	-2.22	1.50	1.53
1	A	4637	OMG	C8-N7	2.22	1.38	1.32
1	A	4312	PSU	O5'-C5'	-2.22	1.39	1.44
1	A	4471	PSU	C2-N3	-2.22	1.33	1.37
1	A	3899	OMG	C3'-C2'	-2.21	1.48	1.52
1	A	3782	5MC	O5'-C5'	-2.21	1.39	1.44
1	A	4299	PSU	C1'-C5	-2.21	1.45	1.50
1	A	1340	OMC	O3'-C3'	-2.20	1.37	1.43
1	A	3867	A2M	C6-N1	-2.20	1.29	1.35
1	A	1524	A2M	C6-N6	2.20	1.39	1.34
1	A	1782	PSU	C4-N3	-2.19	1.34	1.38
1	A	1340	OMC	C6-C5	2.19	1.40	1.35
1	A	1340	OMC	O4'-C4'	-2.19	1.40	1.45
1	A	2364	OMG	C4-N3	-2.19	1.29	1.34
1	A	3867	A2M	C2-N3	-2.19	1.29	1.33
1	A	4552	PSU	C2-N1	-2.19	1.33	1.36
1	A	4500	PSU	O4'-C1'	2.19	1.46	1.43
1	A	1534	A2M	O2'-C2'	-2.19	1.37	1.42
1	A	2508	PSU	O2-C2	2.18	1.28	1.23
1	A	3792	OMG	C8-N7	2.18	1.38	1.32
1	A	4579	PSU	C2-N3	-2.18	1.33	1.37
1	A	2815	A2M	C4-N9	-2.18	1.32	1.37
1	A	1625	OMG	O3'-C3'	2.17	1.48	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	3627	OMG	C4-N9	-2.17	1.32	1.38
1	A	2424	OMG	C3'-C4'	-2.16	1.47	1.53
1	A	3830	A2M	C5-C4	2.16	1.43	1.39
1	A	1316	OMG	C1'-N9	-2.16	1.41	1.47
1	A	4576	PSU	C1'-C5	-2.16	1.45	1.50
1	A	1862	PSU	C4-C5	2.16	1.50	1.44
1	A	5001	PSU	O3'-C3'	-2.16	1.37	1.43
1	A	4220	6MZ	C5-N7	-2.16	1.34	1.39
1	A	4361	PSU	O4'-C1'	-2.15	1.40	1.43
1	A	4620	OMU	O5'-C5'	2.15	1.50	1.44
1	A	3851	PSU	C2'-C1'	-2.15	1.51	1.53
1	A	1340	OMC	C3'-C2'	-2.15	1.48	1.52
1	A	4493	PSU	C1'-C5	-2.15	1.45	1.50
1	A	4370	OMG	C2-N2	2.14	1.39	1.34
1	A	3869	OMC	O4'-C4'	-2.14	1.40	1.45
1	A	3920	PSU	C3'-C4'	-2.14	1.47	1.53
1	A	4494	OMG	C3'-C2'	-2.14	1.48	1.52
1	A	4623	OMG	O6-C6	-2.14	1.19	1.23
1	A	3853	PSU	O4'-C1'	-2.13	1.40	1.43
1	A	3627	OMG	C8-N9	-2.13	1.32	1.37
1	A	2401	A2M	C8-N9	-2.13	1.33	1.37
1	A	3899	OMG	C2-N1	-2.13	1.32	1.37
1	A	1340	OMC	C2-N1	-2.13	1.35	1.40
1	A	4521	PSU	C6-N1	-2.13	1.32	1.36
1	A	4353	PSU	O4'-C4'	-2.12	1.40	1.45
1	A	4499	OMG	C8-N9	-2.12	1.32	1.37
1	A	1871	A2M	C5-C4	2.12	1.43	1.39
1	A	4353	PSU	C2'-C1'	-2.12	1.51	1.53
1	A	4500	PSU	C2-N1	-2.11	1.33	1.36
1	A	4403	PSU	O4-C4	-2.11	1.19	1.23
1	A	3884	PSU	C6-N1	-2.11	1.32	1.36
1	A	1322	1MA	C2'-C1'	-2.11	1.46	1.53
1	A	4392	OMG	O4'-C4'	-2.11	1.40	1.45
1	A	3637	PSU	O4-C4	-2.10	1.19	1.23
1	A	3853	PSU	C3'-C2'	-2.10	1.47	1.53
1	A	2364	OMG	O2'-CM2	2.10	1.49	1.42
1	A	4299	PSU	O5'-C5'	-2.10	1.39	1.44
1	A	1781	PSU	C2-N1	2.09	1.39	1.36
1	A	4623	OMG	C2-N3	2.09	1.38	1.33
1	A	4471	PSU	C4-N3	-2.09	1.35	1.38
1	A	3825	A2M	C4-N9	-2.09	1.33	1.37
1	A	2804	OMC	C2-N1	-2.08	1.35	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	4312	PSU	O4'-C1'	-2.08	1.41	1.43
1	A	3785	A2M	O4'-C1'	-2.07	1.37	1.42
1	A	1625	OMG	O2'-CM2	2.07	1.49	1.42
1	A	4457	PSU	O5'-C5'	-2.07	1.39	1.44
1	A	4536	OMC	O5'-C5'	-2.07	1.39	1.44
1	A	4521	PSU	O4'-C4'	-2.07	1.40	1.45
1	A	1625	OMG	C4-N9	-2.06	1.32	1.38
1	A	4571	A2M	O4'-C1'	2.06	1.46	1.42
1	A	4500	PSU	C2-N3	2.06	1.41	1.37
1	A	4457	PSU	O2-C2	2.06	1.27	1.23
1	A	4220	6MZ	C8-N7	2.06	1.35	1.31
1	A	2365	OMC	C2-N1	-2.06	1.35	1.40
1	A	4536	OMC	C5'-C4'	2.06	1.58	1.51
1	A	1322	1MA	O4'-C4'	-2.06	1.40	1.45
1	A	3785	A2M	C8-N7	2.06	1.35	1.31
1	A	2876	OMG	C5-C4	2.06	1.44	1.38
1	A	2787	A2M	C8-N9	-2.05	1.33	1.37
1	A	4590	A2M	C6-N6	2.05	1.39	1.34
1	A	2824	OMC	C1'-N1	-2.05	1.41	1.47
1	A	400	A2M	C3'-C2'	-2.05	1.48	1.52
1	A	3841	OMC	O2-C2	-2.05	1.19	1.23
1	A	3792	OMG	C2-N1	-2.05	1.32	1.37
1	A	3899	OMG	C1'-N9	-2.04	1.41	1.47
1	A	3701	OMC	C4-N4	2.04	1.38	1.33
1	A	4972	PSU	C3'-C4'	-2.04	1.47	1.53
1	A	1792	PSU	C2-N3	-2.04	1.34	1.37
1	A	4499	OMG	C2-N1	-2.03	1.32	1.37
1	A	4220	6MZ	O5'-C5'	-2.03	1.39	1.44
1	A	4530	UR3	C6-N1	-2.03	1.33	1.38
1	A	1683	PSU	O5'-C5'	-2.02	1.39	1.44
1	A	3818	OMU	C3'-C2'	-2.02	1.48	1.52
1	A	2787	A2M	C5'-C4'	2.02	1.57	1.51
1	A	4523	A2M	O4'-C4'	-2.02	1.40	1.45
1	A	4498	OMU	O4-C4	2.02	1.28	1.24
1	A	1316	OMG	O2'-C2'	-2.02	1.37	1.42
1	A	2363	A2M	C3'-C4'	-2.02	1.47	1.53
1	A	2824	OMC	C5-C4	-2.01	1.38	1.42
1	A	2364	OMG	C4-N9	-2.00	1.32	1.38
1	A	4590	A2M	C3'-C4'	-2.00	1.47	1.53
1	A	5001	PSU	C2-N1	-2.00	1.34	1.36
1	A	3830	A2M	C2-N3	-2.00	1.30	1.33
1	A	3718	A2M	C8-N7	2.00	1.35	1.31

All (1395) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2422	OMC	N4-C4-N3	-27.53	69.65	117.97
1	A	2422	OMC	C4-N3-C2	-23.05	83.03	120.25
1	A	4493	PSU	C4-N3-C2	-19.76	97.87	126.34
1	A	2422	OMC	C5-C4-N4	18.62	149.88	120.57
1	A	4493	PSU	N1-C2-N3	16.91	134.29	115.13
1	A	2415	OMU	C4-N3-C2	-15.97	105.51	126.58
1	A	4493	PSU	O2-C2-N1	-15.29	105.95	122.79
1	A	4227	OMU	C4-N3-C2	-14.92	106.90	126.58
1	A	2422	OMC	C5-C6-N1	-14.65	97.27	121.81
1	A	2422	OMC	N1-C2-N3	14.63	145.46	118.81
1	A	4972	PSU	N1-C2-N3	14.02	131.02	115.13
1	A	3853	PSU	N1-C2-N3	13.83	130.80	115.13
1	A	4299	PSU	N1-C2-N3	13.66	130.61	115.13
1	A	4500	PSU	O2-C2-N1	-13.59	107.82	122.79
1	A	3639	PSU	N1-C2-N3	13.24	130.13	115.13
1	A	4353	PSU	N1-C2-N3	13.05	129.91	115.13
1	A	3851	PSU	N1-C2-N3	12.71	129.53	115.13
1	A	4521	PSU	C6-C5-C4	-12.60	109.39	118.20
1	A	1536	PSU	N1-C2-N3	12.16	128.91	115.13
1	A	4552	PSU	C4-N3-C2	-12.04	109.00	126.34
1	A	1683	PSU	N1-C2-N3	12.02	128.75	115.13
1	A	1536	PSU	C4-N3-C2	-11.88	109.23	126.34
1	A	4442	PSU	N1-C2-N3	11.84	128.54	115.13
1	A	4228	OMG	O2'-C2'-C1'	11.72	131.94	109.08
1	A	1677	PSU	O2'-C2'-C1'	-11.71	83.32	111.23
1	A	3637	PSU	N1-C2-N3	11.65	128.33	115.13
1	A	4227	OMU	N3-C2-N1	11.45	130.09	114.89
1	A	2422	OMC	C5-C4-N3	11.25	140.47	121.33
1	A	4673	PSU	N1-C2-N3	11.20	127.82	115.13
1	A	3851	PSU	C4-N3-C2	-11.19	110.22	126.34
1	A	4673	PSU	C4-N3-C2	-11.17	110.25	126.34
1	A	3920	PSU	N1-C2-N3	10.76	127.32	115.13
1	A	2415	OMU	N3-C2-N1	10.73	129.14	114.89
1	A	3844	PSU	N1-C2-N3	10.64	127.19	115.13
1	A	3818	OMU	O2'-C2'-C1'	-10.60	88.39	109.08
1	A	4552	PSU	N1-C2-N3	10.58	127.12	115.13
1	A	4620	OMU	N3-C2-N1	10.52	128.86	114.89
1	A	4293	PSU	C4-N3-C2	-10.50	111.21	126.34
1	A	4361	PSU	N1-C2-N3	10.49	127.02	115.13
1	A	4353	PSU	C4-N3-C2	-10.48	111.24	126.34
1	A	4361	PSU	C4-N3-C2	-10.47	111.25	126.34
1	A	2424	OMG	N2-C2-N3	-10.47	99.35	119.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4972	PSU	C4-N3-C2	-10.35	111.43	126.34
1	A	3925	OMU	C4-N3-C2	-10.13	113.21	126.58
1	A	3884	PSU	N1-C2-N3	10.11	126.58	115.13
1	A	4628	PSU	N1-C2-N3	10.06	126.53	115.13
1	A	2837	OMU	N3-C2-N1	10.05	128.24	114.89
1	A	4293	PSU	N1-C2-N3	9.97	126.42	115.13
1	A	3853	PSU	C4-N3-C2	-9.89	112.09	126.34
1	A	1582	PSU	C4-N3-C2	-9.85	112.16	126.34
1	A	4628	PSU	C6-N1-C2	-9.81	112.65	122.68
1	A	1582	PSU	N1-C2-N3	9.80	126.23	115.13
1	A	1860	PSU	N1-C2-N3	9.76	126.19	115.13
3	C	55	PSU	C4-N3-C2	-9.74	112.31	126.34
1	A	2839	PSU	N1-C2-N3	9.74	126.16	115.13
1	A	2422	OMC	O2-C2-N3	-9.74	106.49	122.33
3	C	55	PSU	N1-C2-N3	9.69	126.11	115.13
1	A	4521	PSU	C4-N3-C2	-9.67	112.40	126.34
1	A	1536	PSU	O2-C2-N1	-9.61	112.20	122.79
1	A	2837	OMU	C4-N3-C2	-9.60	113.91	126.58
1	A	4493	PSU	O4-C4-C5	-9.59	98.96	124.05
1	A	4403	PSU	N1-C2-N3	9.59	125.99	115.13
1	A	1782	PSU	N1-C2-N3	9.58	125.98	115.13
1	A	4532	PSU	C3'-C2'-C1'	9.56	112.78	101.64
1	A	4353	PSU	O2-C2-N1	-9.51	112.31	122.79
1	A	1625	OMG	C5-C4-N3	-9.45	113.13	128.46
1	A	4299	PSU	C4-N3-C2	-9.43	112.75	126.34
1	A	3925	OMU	O2-C2-N1	-9.33	110.38	122.79
1	A	4442	PSU	C6-N1-C2	-9.32	113.15	122.68
1	A	4972	PSU	O2-C2-N1	-9.23	112.63	122.79
1	A	3887	OMC	O4'-C4'-C3'	-9.21	86.88	105.11
1	A	3884	PSU	C4-N3-C2	-9.20	113.09	126.34
1	A	4312	PSU	N1-C2-N3	9.17	125.52	115.13
1	A	1625	OMG	C2-N3-C4	9.14	128.59	112.30
1	A	2424	OMG	C2-N1-C6	-9.11	108.48	125.10
1	A	3925	OMU	N3-C2-N1	9.11	126.98	114.89
1	A	398	A2M	C5-C4-N3	-9.10	114.88	126.75
1	A	4471	PSU	N1-C2-N3	9.09	125.43	115.13
1	A	4579	PSU	N1-C2-N3	9.04	125.37	115.13
1	A	4312	PSU	C4-N3-C2	-9.03	113.33	126.34
1	A	5001	PSU	N1-C2-N3	9.02	125.35	115.13
1	A	4227	OMU	O4'-C4'-C3'	-8.97	87.37	105.11
1	A	1781	PSU	N1-C2-N3	8.95	125.27	115.13
1	A	3853	PSU	O2-C2-N1	-8.91	112.98	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1677	PSU	N1-C2-N3	8.74	125.03	115.13
1	A	4471	PSU	C4-N3-C2	-8.73	113.76	126.34
1	A	3853	PSU	C6-C5-C4	-8.72	112.10	118.20
1	A	4620	OMU	C4-N3-C2	-8.52	115.34	126.58
1	A	3724	A2M	C5-C4-N3	-8.47	115.70	126.75
1	A	2415	OMU	C5-C4-N3	8.38	127.37	114.84
1	A	4521	PSU	N1-C2-N3	8.36	124.60	115.13
1	A	2363	A2M	N3-C2-N1	-8.32	115.58	128.60
1	A	4227	OMU	O2-C2-N1	-8.32	111.72	122.79
1	A	4403	PSU	C4-N3-C2	-8.31	114.36	126.34
1	A	4530	UR3	C3U-N3-C4	8.20	129.62	117.89
1	A	3637	PSU	C4-N3-C2	-8.20	114.53	126.34
1	A	4228	OMG	C2-N3-C4	8.11	126.76	112.30
1	A	4457	PSU	N1-C2-N3	8.10	124.31	115.13
1	A	4306	OMU	N3-C2-N1	8.08	125.61	114.89
1	A	3639	PSU	C4-N3-C2	-8.03	114.77	126.34
1	A	4523	A2M	C5-C4-N3	-7.99	116.33	126.75
1	A	4227	OMU	O4'-C1'-C2'	-7.95	92.62	106.57
1	A	4457	PSU	C6-C5-C4	-7.90	112.67	118.20
1	A	2415	OMU	O2-C2-N1	-7.89	112.30	122.79
1	A	4494	OMG	O2'-C2'-C1'	-7.86	93.75	109.08
1	A	3695	PSU	N1-C2-N3	7.78	123.94	115.13
1	A	1522	OMG	C5-C4-N3	-7.74	115.90	128.46
1	A	3920	PSU	C4-N3-C2	-7.71	115.23	126.34
1	A	4532	PSU	C6-C5-C4	-7.69	112.82	118.20
1	A	4370	OMG	C2-N1-C6	-7.67	111.11	125.10
1	A	1744	PSU	N1-C2-N3	7.64	123.79	115.13
1	A	4576	PSU	C4-N3-C2	-7.62	115.36	126.34
1	A	3887	OMC	C4-N3-C2	-7.61	107.97	120.25
1	A	4579	PSU	C4-N3-C2	-7.58	115.41	126.34
1	A	3744	OMG	C2-N3-C4	7.56	125.78	112.30
1	A	4620	OMU	O2-C2-N1	-7.56	112.74	122.79
1	A	4571	A2M	O2'-C2'-C1'	-7.53	94.38	109.08
1	A	4220	6MZ	N1-C2-N3	-7.53	116.83	128.60
1	A	4442	PSU	C3'-C2'-C1'	7.52	110.39	101.64
3	C	69	PSU	N1-C2-N3	7.51	123.64	115.13
1	A	2839	PSU	C4-N3-C2	-7.49	115.55	126.34
1	A	4493	PSU	C5-C4-N3	7.49	133.51	116.58
1	A	4403	PSU	O2'-C2'-C1'	-7.48	93.40	111.23
1	A	4299	PSU	O2-C2-N3	-7.47	107.72	121.82
1	A	4500	PSU	N1-C2-N3	7.47	123.60	115.13
1	A	4689	PSU	N1-C2-N3	7.45	123.58	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3639	PSU	C6-N1-C2	-7.45	115.07	122.68
1	A	1683	PSU	C4-N3-C2	-7.44	115.62	126.34
1	A	2824	OMC	O2-C2-N3	-7.39	110.31	122.33
1	A	2415	OMU	O4-C4-C5	-7.36	112.21	125.16
1	A	4228	OMG	O4'-C4'-C3'	7.35	119.66	105.11
1	A	4494	OMG	C5-C4-N3	-7.35	116.54	128.46
1	A	1862	PSU	N1-C2-N3	7.34	123.44	115.13
1	A	2508	PSU	N1-C2-N3	7.33	123.44	115.13
1	A	1522	OMG	C2-N3-C4	7.33	125.37	112.30
1	A	3818	OMU	C2'-C1'-N1	-7.31	100.03	114.22
1	A	3869	OMC	O2-C2-N3	-7.30	110.46	122.33
1	A	4370	OMG	C5-C4-N3	-7.28	116.65	128.46
1	A	4457	PSU	C4-N3-C2	-7.21	115.95	126.34
1	A	1322	1MA	N1-C2-N3	-7.19	117.45	126.00
1	A	4571	A2M	C4-N9-C8	7.14	113.47	105.73
1	A	4227	OMU	C5-C4-N3	7.13	125.51	114.84
1	A	2876	OMG	C5-C4-N3	-7.10	116.94	128.46
1	A	3825	A2M	C5-C4-N3	-7.09	117.50	126.75
1	A	3639	PSU	C6-C5-C4	-7.09	113.24	118.20
1	A	1677	PSU	C4-N3-C2	-7.07	116.15	126.34
1	A	4576	PSU	N1-C2-N3	7.07	123.14	115.13
1	A	4523	A2M	N9-C8-N7	-7.05	104.26	113.91
1	A	1322	1MA	C2-N3-C4	7.05	126.28	112.41
1	A	1326	A2M	N3-C2-N1	-7.03	117.60	128.60
1	A	4493	PSU	C5-C6-N1	-7.01	111.60	122.11
1	A	1316	OMG	C5-C4-N3	-7.00	117.10	128.46
1	A	4392	OMG	C2-N3-C4	6.97	124.72	112.30
1	A	3744	OMG	C5-C4-N3	-6.94	117.21	128.46
1	A	4196	OMG	C5-C4-N3	-6.93	117.22	128.46
1	A	3853	PSU	C6-N1-C2	-6.93	115.59	122.68
1	A	3920	PSU	C6-N1-C2	-6.91	115.62	122.68
1	A	4552	PSU	C6-C5-C4	-6.90	113.37	118.20
1	A	4370	OMG	C2-N3-C4	6.90	124.59	112.30
1	A	4392	OMG	C5-C4-N3	-6.86	117.33	128.46
1	A	4523	A2M	C5-N7-C8	6.86	113.25	103.51
1	A	4228	OMG	C5'-C4'-C3'	-6.85	89.49	115.18
1	A	4306	OMU	C4-N3-C2	-6.85	117.54	126.58
1	A	1625	OMG	CM2-O2'-C2'	6.83	132.46	114.52
1	A	3830	A2M	C5-C4-N3	-6.83	117.84	126.75
1	A	3825	A2M	N3-C2-N1	-6.82	117.94	128.60
1	A	5001	PSU	C4-N3-C2	-6.80	116.55	126.34
1	A	4228	OMG	C6-C5-N7	6.76	142.81	130.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4620	OMU	O4'-C4'-C3'	-6.73	91.79	105.11
1	A	3724	A2M	N3-C4-N9	6.71	138.14	127.08
1	A	1522	OMG	C2'-C1'-N9	-6.71	101.20	114.22
1	A	3844	PSU	C6-N1-C2	-6.67	115.86	122.68
1	A	3844	PSU	O2-C2-N3	-6.67	109.23	121.82
1	A	4447	5MC	O2'-C2'-C1'	-6.64	87.80	110.02
1	A	4392	OMG	O2'-C2'-C1'	-6.62	96.16	109.08
1	A	2508	PSU	C4-N3-C2	-6.62	116.81	126.34
1	A	398	A2M	N9-C8-N7	-6.61	104.87	113.91
1	A	1326	A2M	C5-C4-N3	-6.59	118.15	126.75
1	A	4228	OMG	C5-C4-N3	-6.59	117.77	128.46
1	A	4306	OMU	O4'-C4'-C3'	-6.59	92.08	105.11
1	A	1782	PSU	C4-N3-C2	-6.58	116.85	126.34
1	A	4628	PSU	C3'-C2'-C1'	6.58	109.30	101.64
1	A	4637	OMG	C2-N3-C4	6.55	123.97	112.30
1	A	3920	PSU	O2-C2-N1	-6.52	115.61	122.79
1	A	3830	A2M	C2'-C1'-N9	-6.51	102.56	113.53
1	A	3920	PSU	C6-C5-C4	-6.48	113.67	118.20
1	A	4673	PSU	O2-C2-N3	-6.44	109.68	121.82
1	A	2876	OMG	N9-C4-N3	6.44	138.87	125.94
1	A	1524	A2M	O4'-C1'-C2'	-6.40	95.34	106.57
1	A	2787	A2M	N3-C2-N1	-6.40	118.59	128.60
1	A	3818	OMU	C5-C4-N3	6.39	124.41	114.84
1	A	4673	PSU	O4'-C1'-C2'	-6.39	96.13	105.14
1	A	4370	OMG	O6-C6-C5	-6.35	109.75	126.60
1	A	4498	OMU	N3-C2-N1	6.34	123.31	114.89
1	A	1326	A2M	C5-N7-C8	6.34	112.52	103.51
1	A	4447	5MC	C3'-C2'-C1'	6.33	113.46	101.43
1	A	3729	PSU	N1-C2-N3	6.31	122.28	115.13
1	A	2837	OMU	C2'-C1'-N1	-6.31	101.97	114.22
1	A	2401	A2M	C5-C4-N3	-6.30	118.53	126.75
1	A	2837	OMU	C5-C6-N1	-6.29	111.28	121.81
1	A	4431	PSU	N1-C2-N3	6.28	122.24	115.13
1	A	4228	OMG	O4'-C4'-C5'	-6.27	88.74	109.37
1	A	2363	A2M	O2'-C2'-C1'	-6.27	96.86	109.08
1	A	4196	OMG	C2-N3-C4	6.24	123.42	112.30
1	A	3785	A2M	N3-C2-N1	-6.23	118.86	128.60
1	A	1524	A2M	O2'-C2'-C1'	-6.22	96.94	109.08
1	A	4689	PSU	C4-N3-C2	-6.21	117.39	126.34
1	A	3899	OMG	C2-N3-C4	6.21	123.37	112.30
1	A	4532	PSU	C4-N3-C2	-6.20	117.41	126.34
1	A	4228	OMG	O3'-C3'-C4'	6.19	128.96	111.05

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1683	PSU	O2-C2-N3	-6.17	110.17	121.82
1	A	398	A2M	C5-N7-C8	6.15	112.25	103.51
1	A	4392	OMG	C5-C6-N1	6.13	128.76	113.19
1	A	398	A2M	N3-C4-N9	6.13	137.19	127.08
1	A	1781	PSU	C4-N3-C2	-6.13	117.51	126.34
1	A	1871	A2M	O2'-C2'-C1'	-6.09	97.20	109.08
1	A	3884	PSU	C6-C5-C4	-6.09	113.94	118.20
1	A	4628	PSU	O2'-C2'-C1'	-6.08	96.73	111.23
1	A	4220	6MZ	C9-N6-C6	-6.08	117.64	122.87
1	A	3844	PSU	C6-C5-C4	-6.07	113.95	118.20
1	A	4370	OMG	O3'-C3'-C4'	-6.06	93.52	111.05
1	A	3818	OMU	O4-C4-C5	-6.04	114.54	125.16
1	A	4536	OMC	O4'-C4'-C3'	-6.03	93.19	105.11
1	A	3887	OMC	O4'-C1'-C2'	-6.02	96.00	106.57
3	C	75	OMG	C5-C4-N3	-5.99	118.74	128.46
1	A	2815	A2M	C5-C4-N3	-5.97	118.96	126.75
1	A	3844	PSU	C4-N3-C2	-5.97	117.73	126.34
1	A	3639	PSU	O2-C2-N1	-5.97	116.22	122.79
1	A	4499	OMG	C5-C4-N3	-5.97	118.78	128.46
1	A	4423	PSU	N1-C2-N3	5.95	121.87	115.13
1	A	1326	A2M	N9-C8-N7	-5.95	105.78	113.91
1	A	2422	OMC	C6-C5-C4	5.95	127.10	117.50
1	A	3899	OMG	C5-C4-N3	-5.95	118.81	128.46
1	A	4618	OMG	C5-C6-N1	5.93	128.24	113.19
1	A	2839	PSU	C3'-C2'-C1'	5.93	108.54	101.64
1	A	398	A2M	C4-C5-N7	-5.92	103.40	110.62
1	A	3782	5MC	C5-C4-N4	-5.92	112.63	121.48
1	A	2364	OMG	N2-C2-N3	-5.91	108.23	119.73
1	A	1871	A2M	C5-C4-N3	-5.90	119.05	126.75
1	A	4521	PSU	C5-C4-N3	5.89	129.90	116.58
1	A	4523	A2M	C4-C5-N7	-5.88	103.46	110.62
1	A	3627	OMG	C5-C4-N3	-5.87	118.94	128.46
1	A	4227	OMU	O2'-C2'-C1'	5.86	120.50	109.08
1	A	2632	PSU	N1-C2-N3	5.85	121.76	115.13
1	A	400	A2M	C5-C4-N3	-5.85	119.12	126.75
1	A	4499	OMG	C2-N3-C4	5.85	122.72	112.30
1	A	1340	OMC	N1-C2-N3	5.83	129.43	118.81
1	A	2364	OMG	C2-N1-C6	-5.83	114.47	125.10
1	A	1316	OMG	C2-N1-C6	-5.83	114.47	125.10
1	A	1860	PSU	O2-C2-N3	-5.83	110.83	121.82
1	A	4590	A2M	C4-C5-N7	-5.82	103.53	110.62
1	A	3729	PSU	C4-N3-C2	-5.79	117.99	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2824	OMC	C5-C4-N4	5.79	129.69	120.57
1	A	4498	OMU	C4-N3-C2	-5.79	118.94	126.58
1	A	3808	OMC	O2-C2-N3	-5.79	112.92	122.33
1	A	400	A2M	C4-C5-N7	-5.77	103.59	110.62
1	A	1860	PSU	C4-N3-C2	-5.76	118.05	126.34
1	A	4227	OMU	C5-C6-N1	-5.75	112.18	121.81
1	A	2815	A2M	N9-C8-N7	-5.75	106.05	113.91
1	A	3887	OMC	O2-C2-N3	-5.75	112.98	122.33
1	A	2415	OMU	C5-C6-N1	-5.74	112.20	121.81
1	A	3825	A2M	C5-N7-C8	5.73	111.66	103.51
1	A	1625	OMG	N9-C4-N3	5.73	137.45	125.94
1	A	3627	OMG	C2-N3-C4	5.73	122.51	112.30
1	A	4623	OMG	O4'-C4'-C3'	-5.71	93.81	105.11
1	A	4228	OMG	C5-C6-N1	5.71	127.69	113.19
1	A	4552	PSU	O2-C2-N1	-5.70	116.52	122.79
1	A	1316	OMG	C2-N3-C4	5.69	122.44	112.30
1	A	4420	PSU	N1-C2-N3	5.69	121.57	115.13
1	A	3701	OMC	O3'-C3'-C4'	-5.68	94.61	111.05
1	A	1744	PSU	C4-N3-C2	-5.68	118.16	126.34
1	A	1326	A2M	C2-N3-C4	5.67	125.14	111.75
1	A	2351	OMC	O2'-C2'-C1'	-5.65	98.07	109.08
1	A	4442	PSU	C4-N3-C2	-5.64	118.22	126.34
1	A	1536	PSU	C6-C5-C4	-5.63	114.26	118.20
1	A	4228	OMG	C6-C5-C4	-5.63	110.11	118.77
3	C	69	PSU	O2'-C2'-C1'	-5.63	97.81	111.23
1	A	5001	PSU	O2-C2-N3	-5.62	111.22	121.82
1	A	2815	A2M	C5-N7-C8	5.61	111.49	103.51
1	A	4500	PSU	C4-N3-C2	-5.60	118.27	126.34
3	C	69	PSU	C4-N3-C2	-5.60	118.28	126.34
1	A	2508	PSU	C3'-C2'-C1'	5.58	108.13	101.64
1	A	2787	A2M	C5-C4-N3	-5.57	119.48	126.75
1	A	1534	A2M	C4-N9-C8	-5.57	99.69	105.73
1	A	1862	PSU	C4-N3-C2	-5.55	118.34	126.34
1	A	3785	A2M	C4-N9-C8	5.55	111.75	105.73
1	A	3637	PSU	C6-N1-C2	-5.55	117.01	122.68
1	A	4571	A2M	N9-C8-N7	-5.54	106.33	113.91
1	A	5010	PSU	N1-C2-N3	5.54	121.40	115.13
1	A	4361	PSU	O2-C2-N3	-5.51	111.43	121.82
1	A	3869	OMC	N1-C2-N3	5.50	128.82	118.81
1	A	4494	OMG	C2-N3-C4	5.50	122.09	112.30
1	A	1534	A2M	C5-C4-N9	5.48	112.16	105.78
1	A	4227	OMU	O4-C4-N3	-5.45	111.30	119.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3899	OMG	N9-C8-N7	-5.44	103.14	113.39
1	A	3867	A2M	N9-C8-N7	-5.44	106.48	113.91
1	A	4456	OMC	N1-C2-N3	5.43	128.70	118.81
1	A	3637	PSU	C6-C5-C4	-5.43	114.40	118.20
1	A	3887	OMC	O4'-C1'-N1	-5.42	95.97	108.36
1	A	4552	PSU	C5-C4-N3	5.42	128.85	116.58
1	A	4227	OMU	O4'-C1'-N1	-5.42	95.98	108.36
1	A	2363	A2M	N9-C8-N7	-5.42	106.50	113.91
1	A	398	A2M	C4-N9-C8	5.41	111.59	105.73
1	A	4618	OMG	C6-C5-N7	5.38	140.26	130.25
1	A	4500	PSU	O3'-C3'-C4'	-5.38	95.49	111.05
1	A	2837	OMU	C5-C4-N3	5.38	122.89	114.84
1	A	2363	A2M	C2-N1-C6	5.38	128.00	118.77
1	A	2363	A2M	C4-N9-C8	5.37	111.55	105.73
1	A	1862	PSU	C2'-C3'-C4'	-5.36	92.23	102.64
1	A	4523	A2M	O4'-C4'-C3'	-5.36	94.51	105.11
1	A	4637	OMG	C6-C5-C4	-5.35	110.54	118.77
1	A	3627	OMG	C2-N1-C6	-5.35	115.35	125.10
1	A	2837	OMU	O2-C2-N3	-5.34	111.56	121.50
1	A	3724	A2M	C2-N3-C4	5.31	124.29	111.75
1	A	3830	A2M	N9-C8-N7	-5.30	106.66	113.91
1	A	4673	PSU	C5-C4-N3	5.29	128.54	116.58
1	A	2787	A2M	C4'-O4'-C1'	5.28	121.13	109.47
1	A	3718	A2M	O4'-C1'-N9	5.28	118.46	108.06
1	A	4637	OMG	C5-C4-N3	-5.27	119.91	128.46
1	A	4471	PSU	O2-C2-N1	-5.27	116.99	122.79
1	A	4618	OMG	C2-N1-C6	-5.27	115.49	125.10
1	A	4370	OMG	C5-C6-N1	5.27	126.56	113.19
1	A	4442	PSU	O2-C2-N1	-5.26	117.00	122.79
1	A	2422	OMC	O2-C2-N1	-5.26	108.04	118.89
1	A	1322	1MA	C5-C4-N3	-5.24	119.44	127.26
1	A	2424	OMG	N1-C2-N3	5.24	133.09	123.32
1	A	4523	A2M	C2'-C1'-N9	-5.23	104.72	113.53
1	A	1683	PSU	C6-N1-C2	-5.23	117.34	122.68
1	A	4392	OMG	N9-C4-N3	5.22	136.42	125.94
1	A	4499	OMG	C6-C5-N7	5.21	139.94	130.25
1	A	4447	5MC	C5-C6-N1	-5.21	117.98	123.34
1	A	3785	A2M	N9-C8-N7	-5.20	106.80	113.91
1	A	4296	PSU	C2'-C3'-C4'	-5.20	92.55	102.64
1	A	4623	OMG	C5-C4-N3	-5.19	120.04	128.46
1	A	3925	OMU	C5-C6-N1	-5.19	113.12	121.81
1	A	4431	PSU	O2-C2-N1	-5.19	117.08	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4620	OMU	O4'-C1'-C2'	-5.19	97.47	106.57
1	A	4228	OMG	C2-N1-C6	-5.18	115.65	125.10
1	A	4521	PSU	O2'-C2'-C1'	-5.18	98.88	111.23
1	A	4618	OMG	C6-C5-C4	-5.18	110.81	118.77
1	A	2815	A2M	C4-C5-N7	-5.17	104.32	110.62
1	A	4431	PSU	C4-N3-C2	-5.17	118.89	126.34
1	A	3627	OMG	C6-C5-N7	5.16	139.85	130.25
1	A	1582	PSU	O4-C4-C5	-5.16	110.54	124.05
1	A	4306	OMU	O2-C2-N1	-5.16	115.93	122.79
1	A	3887	OMC	N1-C2-N3	5.16	128.20	118.81
1	A	4392	OMG	O6-C6-C5	-5.16	112.92	126.60
1	A	2787	A2M	O4'-C4'-C3'	-5.15	94.91	105.11
1	A	4494	OMG	N2-C2-N3	-5.14	109.73	119.73
1	A	1340	OMC	C6-C5-C4	5.13	125.78	117.50
1	A	2424	OMG	C5-C4-N3	-5.12	120.15	128.46
1	A	4447	5MC	O3'-C3'-C4'	-5.11	96.28	111.05
1	A	4618	OMG	O6-C6-C5	-5.11	113.05	126.60
1	A	4228	OMG	O5'-C5'-C4'	5.10	126.36	108.99
1	A	2424	OMG	N2-C2-N1	5.09	127.55	116.71
1	A	4618	OMG	C5-C4-N3	-5.09	120.20	128.46
1	A	3718	A2M	C2'-C1'-N9	-5.07	105.00	113.53
1	A	4228	OMG	C4'-O4'-C1'	-5.07	98.29	109.47
1	A	4689	PSU	C5-C6-N1	-5.06	114.52	122.11
1	A	4623	OMG	C2-N1-C6	-5.06	115.86	125.10
1	A	3627	OMG	C5-C6-N1	5.06	126.05	113.19
1	A	3844	PSU	O4'-C1'-C2'	-5.06	98.02	105.14
1	A	3729	PSU	O2-C2-N1	-5.05	117.23	122.79
1	A	2837	OMU	O4-C4-N3	-5.04	111.90	119.31
1	A	4228	OMG	O6-C6-N1	-5.04	110.45	120.12
1	A	1326	A2M	O4'-C1'-C2'	-5.04	97.73	106.57
1	A	3825	A2M	N9-C8-N7	-5.04	107.03	113.91
1	A	1524	A2M	O4'-C4'-C3'	-5.03	95.16	105.11
1	A	3884	PSU	C5-C4-N3	5.03	127.96	116.58
1	A	1316	OMG	O4'-C1'-C2'	-5.02	97.77	106.57
1	A	2364	OMG	O4'-C1'-C2'	-5.02	97.77	106.57
1	A	3785	A2M	N3-C4-N9	5.01	135.34	127.08
1	A	1536	PSU	C5-C4-N3	5.01	127.91	116.58
1	A	1340	OMC	O4'-C4'-C3'	-5.00	95.21	105.11
1	A	1683	PSU	O4'-C1'-C2'	-5.00	98.09	105.14
1	A	3830	A2M	C5-N7-C8	4.99	110.60	103.51
1	A	2424	OMG	O6-C6-C5	-4.99	113.36	126.60
1	A	4392	OMG	C2-N1-C6	-4.98	116.01	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2876	OMG	O6-C6-C5	-4.98	113.39	126.60
1	A	3899	OMG	N9-C4-N3	4.98	135.94	125.94
1	A	2364	OMG	C5-C4-N3	-4.97	120.40	128.46
1	A	4536	OMC	O2-C2-N1	-4.96	108.66	118.89
1	A	4196	OMG	N9-C4-N3	4.96	135.90	125.94
1	A	4196	OMG	C6-C5-N7	4.96	139.47	130.25
1	A	3792	OMG	C5-C4-N3	-4.96	120.42	128.46
3	C	75	OMG	N9-C4-N3	4.95	135.87	125.94
1	A	2365	OMC	O4'-C1'-C2'	-4.94	97.90	106.57
1	A	4521	PSU	O2-C2-N1	-4.92	117.37	122.79
1	A	3825	A2M	C4-C5-N7	-4.92	104.63	110.62
1	A	3785	A2M	C5-C4-N3	-4.90	120.35	126.75
1	A	4571	A2M	N3-C4-N9	4.90	135.15	127.08
1	A	4623	OMG	C2'-C1'-N9	-4.89	104.73	114.22
1	A	1871	A2M	C2'-C1'-N9	-4.89	105.30	113.53
1	A	2401	A2M	C2-N3-C4	4.87	123.25	111.75
1	A	3744	OMG	C6-C5-N7	4.86	139.29	130.25
1	A	1534	A2M	C5-C4-N3	-4.86	120.41	126.75
1	A	3695	PSU	C4-N3-C2	-4.86	119.34	126.34
1	A	4493	PSU	C3'-C2'-C1'	4.86	107.29	101.64
1	A	1316	OMG	C5-C6-N1	4.85	125.50	113.19
1	A	4293	PSU	O2-C2-N3	-4.85	112.68	121.82
1	A	3851	PSU	O2-C2-N1	-4.84	117.46	122.79
1	A	3744	OMG	C2'-C1'-N9	-4.84	104.83	114.22
1	A	3830	A2M	C4-C5-N7	-4.83	104.73	110.62
1	A	4523	A2M	N3-C2-N1	-4.83	121.05	128.60
1	A	4296	PSU	C4-N3-C2	-4.82	119.39	126.34
1	A	4571	A2M	C5-C4-N3	-4.82	120.46	126.75
1	A	4296	PSU	N1-C2-N3	4.82	120.59	115.13
1	A	4361	PSU	C2'-C3'-C4'	-4.81	93.29	102.64
1	A	4392	OMG	C6-C5-C4	-4.81	111.37	118.77
1	A	4620	OMU	C6-N1-C2	-4.80	114.85	120.99
1	A	2363	A2M	C2-N3-C4	4.79	123.07	111.75
1	A	4296	PSU	O2-C2-N1	-4.79	117.52	122.79
1	A	3627	OMG	O2'-C2'-C1'	-4.77	99.77	109.08
1	A	1340	OMC	O2-C2-N1	-4.77	109.06	118.89
1	A	4620	OMU	C5-C4-N3	4.76	121.97	114.84
1	A	1862	PSU	C5-C6-N1	-4.76	114.97	122.11
1	A	3925	OMU	C5-C4-N3	4.76	121.95	114.84
1	A	4457	PSU	O2-C2-N3	-4.75	112.86	121.82
1	A	5001	PSU	O4'-C1'-C2'	-4.75	98.45	105.14
1	A	4637	OMG	C5-C6-N1	4.74	125.23	113.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4306	OMU	O4'-C1'-C2'	-4.72	98.29	106.57
1	A	1582	PSU	C5-C4-N3	4.71	127.24	116.58
1	A	2787	A2M	N3-C4-N9	4.71	134.84	127.08
1	A	2401	A2M	N3-C4-N9	4.71	134.84	127.08
1	A	400	A2M	O3'-C3'-C4'	-4.70	97.45	111.05
1	A	4353	PSU	O2'-C2'-C1'	-4.69	100.05	111.23
1	A	2787	A2M	CM'-O2'-C2'	-4.69	102.22	114.52
1	A	1792	PSU	O2'-C2'-C1'	-4.68	100.06	111.23
1	A	3851	PSU	O2-C2-N3	-4.68	112.99	121.82
1	A	3853	PSU	O4'-C4'-C3'	-4.68	95.86	105.11
1	A	1534	A2M	O4'-C1'-N9	-4.67	98.86	108.06
1	A	2365	OMC	N1-C2-N3	4.66	127.29	118.81
1	A	4579	PSU	O2'-C2'-C1'	-4.65	100.14	111.23
1	A	1860	PSU	C6-N1-C2	-4.64	117.93	122.68
3	C	55	PSU	O2-C2-N3	-4.64	113.06	121.82
1	A	4530	UR3	O4'-C4'-C3'	-4.64	95.94	105.11
1	A	4532	PSU	O4'-C1'-C2'	-4.64	98.61	105.14
1	A	4312	PSU	O2-C2-N3	-4.61	113.12	121.82
1	A	1625	OMG	O6-C6-C5	-4.61	114.37	126.60
1	A	2787	A2M	O2'-C2'-C1'	-4.60	100.10	109.08
1	A	400	A2M	C2'-C1'-N9	-4.60	105.79	113.53
3	C	75	OMG	C2-N3-C4	4.59	120.48	112.30
1	A	3637	PSU	O2-C2-N3	-4.58	113.18	121.82
1	A	3851	PSU	O2'-C2'-C1'	-4.58	100.32	111.23
1	A	1316	OMG	N9-C4-N3	4.57	135.12	125.94
1	A	1625	OMG	O4'-C1'-N9	-4.57	97.92	108.36
1	A	5010	PSU	C4-N3-C2	-4.57	119.76	126.34
1	A	4494	OMG	C2-N1-C6	-4.56	116.78	125.10
1	A	2365	OMC	C4-N3-C2	-4.56	112.89	120.25
1	A	3887	OMC	C5-C6-N1	-4.56	114.17	121.81
3	C	75	OMG	C2'-C1'-N9	-4.56	105.37	114.22
1	A	4494	OMG	N9-C4-N3	4.56	135.09	125.94
1	A	3844	PSU	C3'-C2'-C1'	4.56	106.94	101.64
1	A	3884	PSU	O2-C2-N3	-4.55	113.23	121.82
1	A	3887	OMC	C4'-O4'-C1'	4.54	119.50	109.47
1	A	4579	PSU	C3'-C2'-C1'	4.54	106.93	101.64
1	A	400	A2M	C5-N7-C8	4.54	109.96	103.51
1	A	3792	OMG	C2-N1-C6	-4.54	116.83	125.10
1	A	398	A2M	C5-C6-N6	-4.54	113.56	123.43
1	A	3729	PSU	C3'-C2'-C1'	4.53	106.92	101.64
1	A	1782	PSU	O2-C2-N3	-4.53	113.27	121.82
1	A	3785	A2M	C2-N3-C4	4.53	122.46	111.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2351	OMC	N1-C2-N3	4.53	127.06	118.81
1	A	5001	PSU	C5'-C4'-C3'	-4.53	98.21	115.18
1	A	4299	PSU	C5-C6-N1	-4.52	115.33	122.11
1	A	4532	PSU	O2'-C2'-C1'	-4.52	100.45	111.23
1	A	4403	PSU	O4'-C4'-C3'	-4.51	96.18	105.11
1	A	3830	A2M	C5-C4-N9	4.51	111.03	105.78
1	A	2787	A2M	C2-N3-C4	4.51	122.40	111.75
1	A	4628	PSU	O4'-C1'-C2'	-4.50	98.80	105.14
1	A	3701	OMC	O4'-C1'-C2'	-4.50	98.68	106.57
1	A	4227	OMU	O3'-C3'-C4'	4.49	124.04	111.05
1	A	2787	A2M	C2-N1-C6	4.49	126.47	118.77
1	A	2422	OMC	C1'-N1-C2	-4.48	108.42	118.42
1	A	3785	A2M	O4'-C1'-N9	4.48	116.89	108.06
1	A	2876	OMG	C5-C6-N1	4.48	124.56	113.19
1	A	4370	OMG	O3'-C3'-C2'	-4.47	98.46	111.17
1	A	2401	A2M	O2'-C2'-C1'	-4.46	100.38	109.08
1	A	4498	OMU	O2-C2-N1	-4.45	116.87	122.79
1	A	2415	OMU	CM2-O2'-C2'	4.45	126.20	114.52
1	A	4293	PSU	C5-C4-N3	4.45	126.64	116.58
1	A	3792	OMG	C2-N3-C4	4.45	120.23	112.30
1	A	2401	A2M	C2'-C1'-N9	-4.44	106.05	113.53
1	A	4571	A2M	O3'-C3'-C4'	-4.44	98.22	111.05
1	A	4590	A2M	N3-C2-N1	-4.43	121.67	128.60
1	A	4447	5MC	C4-N3-C2	-4.43	114.70	120.69
1	A	2401	A2M	C4-N9-C8	4.43	110.53	105.73
1	A	2424	OMG	O4'-C1'-N9	-4.42	98.26	108.36
1	A	4532	PSU	C6-N1-C2	4.42	127.21	122.68
1	A	4299	PSU	C6-N1-C2	-4.42	118.16	122.68
1	A	1536	PSU	C3'-C2'-C1'	4.42	106.78	101.64
1	A	1582	PSU	O2-C2-N1	-4.41	117.94	122.79
1	A	2364	OMG	O2'-C2'-C1'	-4.41	100.48	109.08
1	A	3792	OMG	N9-C4-N3	4.40	134.78	125.94
1	A	4637	OMG	N9-C4-N3	4.39	134.76	125.94
1	A	4623	OMG	C5-C6-N1	4.39	124.35	113.19
1	A	3851	PSU	C5-C4-N3	4.39	126.52	116.58
1	A	3637	PSU	C3'-C2'-C1'	4.39	106.74	101.64
1	A	4447	5MC	O4'-C1'-N1	4.38	118.37	108.36
1	A	4494	OMG	C6-C5-N7	4.38	138.38	130.25
1	A	4637	OMG	O6-C6-C5	-4.37	115.00	126.60
1	A	1683	PSU	C3'-C2'-C1'	4.37	106.72	101.64
1	A	3818	OMU	C4-N3-C2	-4.37	120.82	126.58
1	A	1625	OMG	C2-N1-C6	-4.37	117.14	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4576	PSU	O2-C2-N1	-4.36	117.98	122.79
1	A	1522	OMG	N9-C4-N3	4.34	134.66	125.94
1	A	3825	A2M	C2-N3-C4	4.34	121.99	111.75
1	A	3639	PSU	O2-C2-N3	-4.33	113.65	121.82
1	A	1871	A2M	N3-C2-N1	-4.33	121.83	128.60
1	A	3715	PSU	N1-C2-N3	4.33	120.03	115.13
1	A	4618	OMG	O2'-C2'-C1'	-4.32	100.65	109.08
1	A	2401	A2M	O4'-C1'-C2'	-4.32	98.99	106.57
1	A	2824	OMC	O2'-C2'-C1'	-4.32	100.65	109.08
1	A	4442	PSU	C2'-C3'-C4'	-4.32	94.25	102.64
1	A	2365	OMC	C2'-C1'-N1	-4.31	105.84	114.22
1	A	4312	PSU	C5-C6-N1	-4.31	115.65	122.11
1	A	4623	OMG	N9-C4-N3	4.31	134.59	125.94
1	A	4370	OMG	N9-C4-N3	4.30	134.58	125.94
1	A	3887	OMC	C2'-C1'-N1	-4.30	105.88	114.22
1	A	4576	PSU	C5-C6-N1	-4.30	115.67	122.11
1	A	4590	A2M	C5-N7-C8	4.29	109.61	103.51
1	A	4530	UR3	C3U-N3-C2	-4.28	109.81	117.31
1	A	4689	PSU	C6-C5-C4	4.27	121.19	118.20
1	A	4306	OMU	C4'-O4'-C1'	4.27	118.89	109.47
1	A	4447	5MC	N1-C2-N3	4.26	126.57	118.81
1	A	3869	OMC	C6-N1-C2	-4.26	113.10	120.49
1	A	2876	OMG	C2-N3-C4	4.26	119.89	112.30
1	A	1744	PSU	O2-C2-N1	-4.26	118.11	122.79
1	A	4530	UR3	C4-N3-C2	-4.26	120.56	124.56
1	A	4523	A2M	C2-N3-C4	4.25	121.80	111.75
1	A	2364	OMG	C3'-C2'-C1'	4.25	110.87	102.89
1	A	4296	PSU	C5-C6-N1	-4.24	115.75	122.11
1	A	4353	PSU	C3'-C2'-C1'	4.24	106.57	101.64
1	A	1522	OMG	C5-C6-N1	4.23	123.92	113.19
1	A	4353	PSU	C5-C4-N3	4.21	126.11	116.58
1	A	3818	OMU	O4'-C1'-N1	4.21	117.98	108.36
1	A	3884	PSU	O4'-C1'-C2'	-4.21	99.21	105.14
1	A	2364	OMG	O6-C6-C5	-4.20	115.45	126.60
1	A	3792	OMG	N9-C8-N7	-4.20	105.48	113.39
1	A	3841	OMC	N1-C2-N3	4.20	126.46	118.81
1	A	1522	OMG	O4'-C1'-C2'	-4.20	99.21	106.57
1	A	1625	OMG	O4'-C1'-C2'	-4.19	99.22	106.57
1	A	1871	A2M	C4-C5-N7	-4.18	105.52	110.62
1	A	4456	OMC	O4'-C1'-N1	-4.18	98.81	108.36
1	A	4494	OMG	O6-C6-C5	-4.18	115.52	126.60
1	A	3729	PSU	O2'-C2'-C3'	-4.17	98.32	111.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2351	OMC	C6-C5-C4	4.17	124.23	117.50
1	A	4228	OMG	C2'-C3'-C4'	-4.16	92.95	101.99
1	A	1326	A2M	C4'-O4'-C1'	4.16	118.66	109.47
1	A	1316	OMG	C2'-C1'-N9	-4.16	106.15	114.22
1	A	3899	OMG	C8-N9-C4	4.16	113.96	106.05
1	A	4623	OMG	O4'-C1'-C2'	-4.15	99.28	106.57
1	A	4590	A2M	C5'-C4'-C3'	-4.15	99.62	115.18
1	A	1326	A2M	C4-C5-N7	-4.14	105.58	110.62
1	A	1792	PSU	N1-C2-N3	4.14	119.81	115.13
1	A	4392	OMG	C4'-O4'-C1'	4.13	118.59	109.47
1	A	3627	OMG	N9-C4-N3	4.13	134.23	125.94
1	A	1534	A2M	N9-C8-N7	4.13	119.56	113.91
1	A	4673	PSU	O4-C4-C5	-4.13	113.25	124.05
1	A	1524	A2M	C3'-C2'-C1'	4.12	110.64	102.89
1	A	1792	PSU	C4-N3-C2	-4.12	120.41	126.34
1	A	4579	PSU	C6-C5-C4	-4.11	115.32	118.20
1	A	4532	PSU	O3'-C3'-C2'	4.11	125.12	111.82
1	A	3925	OMU	O4'-C1'-C2'	-4.10	99.37	106.57
1	A	3785	A2M	C5-N7-C8	4.10	109.34	103.51
1	A	1862	PSU	C3'-C2'-C1'	4.10	106.41	101.64
1	A	4536	OMC	N1-C2-N3	4.10	126.27	118.81
1	A	2415	OMU	O4'-C1'-C2'	-4.09	99.40	106.57
1	A	2401	A2M	N9-C8-N7	-4.09	108.32	113.91
1	A	4403	PSU	O2-C2-N3	-4.08	114.12	121.82
1	A	4628	PSU	C6-C5-C4	-4.08	115.34	118.20
1	A	3841	OMC	C6-N1-C2	-4.08	113.42	120.49
1	A	4530	UR3	C6-N1-C2	-4.08	118.14	121.79
1	A	1871	A2M	C2-N3-C4	4.07	121.38	111.75
1	A	4532	PSU	C5-C4-N3	4.07	125.80	116.58
1	A	3853	PSU	O4-C4-C5	-4.07	113.41	124.05
1	A	1316	OMG	O6-C6-C5	-4.07	115.81	126.60
1	A	1862	PSU	O2-C2-N3	-4.06	114.16	121.82
1	A	4293	PSU	O4-C4-C5	-4.06	113.42	124.05
1	A	2876	OMG	C2-N1-C6	-4.06	117.69	125.10
1	A	3884	PSU	C6-N1-C2	-4.06	118.53	122.68
1	A	398	A2M	C2-N1-C6	-4.05	111.81	118.77
1	A	4370	OMG	C2'-C1'-N9	-4.05	106.36	114.22
1	A	1744	PSU	C5-C6-N1	-4.05	116.04	122.11
1	A	4457	PSU	C5-C4-N3	4.04	125.73	116.58
1	A	4420	PSU	O2-C2-N1	-4.04	118.34	122.79
1	A	2424	OMG	O4'-C1'-C2'	-4.04	99.48	106.57
1	A	3785	A2M	O4'-C4'-C5'	-4.04	96.09	109.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4618	OMG	O4'-C1'-N9	-4.04	99.14	108.36
1	A	2839	PSU	C6-N1-C2	-4.03	118.56	122.68
1	A	4306	OMU	C5-C4-N3	4.03	120.87	114.84
1	A	4530	UR3	C4'-O4'-C1'	4.01	118.32	109.47
1	A	2401	A2M	N3-C2-N1	-4.01	122.33	128.60
1	A	4420	PSU	C4-N3-C2	-4.00	120.57	126.34
1	A	4673	PSU	O2'-C2'-C1'	-4.00	101.70	111.23
1	A	4220	6MZ	C5-C4-N3	-4.00	121.54	126.75
1	A	2508	PSU	O2-C2-N3	-3.99	114.30	121.82
1	A	1625	OMG	C6-C5-N7	3.98	137.65	130.25
1	A	1322	1MA	O3'-C3'-C4'	-3.98	99.55	111.05
1	A	3782	5MC	N4-C4-N3	3.97	125.72	118.48
1	A	4293	PSU	C5-C6-N1	-3.97	116.16	122.11
1	A	4620	OMU	O4'-C1'-N1	-3.96	99.32	108.36
1	A	4228	OMG	O4'-C1'-N9	3.95	117.40	108.36
1	A	2787	A2M	O4'-C1'-C2'	-3.95	99.64	106.57
1	A	4220	6MZ	N3-C4-N9	3.95	133.59	127.08
1	A	4628	PSU	O2-C2-N1	-3.95	118.44	122.79
1	A	3627	OMG	C6-C5-C4	-3.95	112.70	118.77
1	A	3830	A2M	C3'-C2'-C1'	3.94	110.30	102.89
1	A	1625	OMG	O3'-C3'-C4'	-3.94	99.65	111.05
1	A	4571	A2M	C5-N7-C8	3.94	109.11	103.51
1	A	4637	OMG	C6-C5-N7	3.94	137.58	130.25
1	A	4353	PSU	O3'-C3'-C4'	-3.94	99.65	111.05
1	A	3637	PSU	O2-C2-N1	-3.94	118.45	122.79
1	A	3851	PSU	C5-C6-N1	-3.93	116.21	122.11
1	A	4576	PSU	O4-C4-C5	-3.93	113.76	124.05
1	A	4499	OMG	N9-C4-N3	3.93	133.83	125.94
1	A	398	A2M	C2-N3-C4	3.93	121.03	111.75
1	A	1522	OMG	C3'-C2'-C1'	3.92	110.27	102.89
1	A	3920	PSU	O4-C4-C5	-3.92	113.78	124.05
1	A	4618	OMG	C2-N3-C4	3.92	119.28	112.30
1	A	4628	PSU	C4-N3-C2	-3.92	120.69	126.34
1	A	1781	PSU	C5-C6-N1	-3.91	116.24	122.11
1	A	4423	PSU	C4-N3-C2	-3.91	120.70	126.34
1	A	4361	PSU	C5-C6-N1	-3.90	116.26	122.11
1	A	4442	PSU	O2-C2-N3	-3.90	114.46	121.82
1	A	3715	PSU	O2-C2-N3	-3.90	114.47	121.82
1	A	4220	6MZ	C2-N1-C6	3.90	128.33	115.25
1	A	1326	A2M	O4'-C4'-C3'	-3.89	97.41	105.11
1	A	2815	A2M	O5'-C5'-C4'	3.89	122.24	108.99
1	A	4296	PSU	O4-C4-C5	-3.89	113.87	124.05

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3887	OMC	C5-C4-N3	3.89	127.94	121.33
1	A	3744	OMG	N9-C4-N3	3.88	133.74	125.94
1	A	1792	PSU	C3'-C2'-C1'	3.88	106.16	101.64
1	A	4571	A2M	O4'-C4'-C3'	-3.88	97.44	105.11
1	A	4392	OMG	O4'-C1'-C2'	-3.88	99.77	106.57
1	A	3899	OMG	C2'-C1'-N9	-3.87	106.70	114.22
1	A	3887	OMC	N4-C4-N3	-3.87	111.17	117.97
1	A	1322	1MA	N9-C4-N3	3.87	135.96	126.94
1	A	2508	PSU	O4'-C1'-C2'	-3.87	99.69	105.14
1	A	2401	A2M	C3'-C2'-C1'	3.87	110.16	102.89
1	A	4312	PSU	O2'-C2'-C1'	-3.86	102.03	111.23
1	A	3844	PSU	C4'-O4'-C1'	3.86	118.25	108.55
1	A	4532	PSU	O3'-C3'-C4'	3.85	122.19	111.05
1	A	4392	OMG	C6-C5-N7	3.85	137.41	130.25
1	A	2804	OMC	N1-C2-N3	3.85	125.82	118.81
1	A	3830	A2M	O4'-C1'-C2'	-3.85	99.82	106.57
1	A	3825	A2M	N3-C4-N9	3.84	133.41	127.08
1	A	4552	PSU	C2'-C3'-C4'	-3.84	95.18	102.64
1	A	3867	A2M	C5-C4-N3	-3.83	121.75	126.75
1	A	4456	OMC	C6-C5-C4	3.83	123.68	117.50
3	C	55	PSU	C5-C4-N3	3.83	125.23	116.58
1	A	3869	OMC	CM2-O2'-C2'	3.82	124.56	114.52
1	A	4498	OMU	O4'-C1'-N1	-3.82	99.63	108.36
1	A	1326	A2M	N3-C4-N9	3.82	133.37	127.08
1	A	4689	PSU	O4'-C4'-C3'	-3.81	97.57	105.11
1	A	3920	PSU	C5-C4-N3	3.81	125.20	116.58
1	A	2415	OMU	O4'-C4'-C3'	-3.80	97.59	105.11
1	A	4493	PSU	O4-C4-N3	3.80	127.40	120.12
1	A	4361	PSU	C5-C4-N3	3.80	125.18	116.58
1	A	2839	PSU	O2-C2-N3	-3.80	114.66	121.82
1	A	4590	A2M	C5-C4-N3	-3.79	121.81	126.75
1	A	3851	PSU	C3'-C2'-C1'	3.79	106.05	101.64
1	A	3637	PSU	O2'-C2'-C1'	-3.78	102.22	111.23
1	A	4456	OMC	C5-C4-N3	-3.78	114.90	121.33
1	A	4296	PSU	O4-C4-N3	3.77	127.35	120.12
1	A	3744	OMG	C5-C6-N1	3.77	122.77	113.19
1	A	2824	OMC	N4-C4-N3	-3.77	111.35	117.97
1	A	1677	PSU	O2'-C2'-C3'	-3.77	99.62	111.82
1	A	1782	PSU	C5-C6-N1	-3.77	116.46	122.11
1	A	4498	OMU	O4-C4-C5	-3.77	118.54	125.16
1	A	1534	A2M	O4'-C1'-C2'	-3.76	99.97	106.57
1	A	4673	PSU	C2'-C3'-C4'	-3.76	95.34	102.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4521	PSU	C3'-C2'-C1'	3.76	106.01	101.64
1	A	1683	PSU	C6-C5-C4	-3.75	115.57	118.20
1	A	4523	A2M	N3-C4-N9	3.75	133.26	127.08
1	A	1536	PSU	O4'-C4'-C3'	-3.75	97.70	105.11
1	A	3869	OMC	C2'-C1'-N1	-3.74	106.96	114.22
1	A	5001	PSU	C6-C5-C4	-3.74	115.58	118.20
1	A	2632	PSU	C4-N3-C2	-3.74	120.95	126.34
1	A	4456	OMC	O4'-C4'-C3'	-3.73	97.74	105.11
1	A	1781	PSU	O2-C2-N3	-3.72	114.80	121.82
1	A	1322	1MA	N9-C8-N7	-3.71	106.41	113.39
1	A	3825	A2M	C2'-C1'-N9	-3.70	107.30	113.53
1	A	2837	OMU	O4'-C4'-C3'	-3.70	97.80	105.11
1	A	3785	A2M	O4'-C4'-C3'	3.70	112.43	105.11
1	A	3844	PSU	O4'-C4'-C3'	-3.69	97.82	105.11
1	A	2815	A2M	C4-N9-C8	3.68	109.72	105.73
1	A	1582	PSU	O4'-C4'-C3'	-3.67	97.84	105.11
1	A	4220	6MZ	C2-N3-C4	3.67	120.43	111.75
1	A	4532	PSU	N1-C2-N3	3.67	119.29	115.13
1	A	4299	PSU	O2'-C2'-C1'	-3.67	102.48	111.23
1	A	2508	PSU	C2'-C3'-C4'	-3.67	95.51	102.64
1	A	4620	OMU	O2'-C2'-C1'	-3.67	101.92	109.08
1	A	4523	A2M	C5-C4-N9	3.67	110.05	105.78
1	A	4628	PSU	O2-C2-N3	-3.67	114.91	121.82
1	A	2839	PSU	O4-C4-C5	-3.65	114.49	124.05
1	A	1536	PSU	O4'-C1'-C2'	-3.65	99.99	105.14
1	A	4196	OMG	C4-C5-N7	-3.65	104.94	110.72
1	A	3851	PSU	O2'-C2'-C3'	-3.64	100.04	111.82
1	A	4220	6MZ	C2'-C1'-N9	-3.64	104.08	113.30
1	A	2787	A2M	C2'-C3'-C4'	3.64	109.89	101.99
1	A	3639	PSU	O4'-C4'-C3'	-3.64	97.92	105.11
1	A	4552	PSU	O4'-C1'-C2'	-3.63	100.03	105.14
1	A	1534	A2M	O4'-C4'-C3'	-3.62	97.94	105.11
1	A	1625	OMG	C5-C6-N1	3.62	122.38	113.19
1	A	2804	OMC	O4'-C4'-C3'	-3.61	97.97	105.11
1	A	2415	OMU	C4'-O4'-C1'	3.60	117.41	109.47
1	A	2424	OMG	C5-C6-N1	3.60	122.32	113.19
1	A	3841	OMC	O2-C2-N1	-3.59	111.48	118.89
1	A	1534	A2M	C4'-O4'-C1'	3.59	117.39	109.47
1	A	1582	PSU	C6-C5-C4	-3.59	115.69	118.20
1	A	2364	OMG	N9-C8-N7	-3.59	106.64	113.39
1	A	4523	A2M	C6-C5-C4	3.58	122.00	117.18
1	A	1522	OMG	C6-C5-N7	3.58	136.90	130.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	69	PSU	C3'-C2'-C1'	3.58	105.80	101.64
1	A	5010	PSU	C5-C6-N1	-3.58	116.75	122.11
1	A	4500	PSU	O2-C2-N3	3.58	128.56	121.82
1	A	4403	PSU	C5-C6-N1	-3.57	116.75	122.11
1	A	1340	OMC	C5-C6-N1	-3.57	115.84	121.81
1	A	4552	PSU	O4-C4-N3	-3.57	113.28	120.12
1	A	4312	PSU	C5-C4-N3	3.56	124.64	116.58
1	A	4456	OMC	C6-N1-C2	-3.56	114.32	120.49
1	A	1522	OMG	N2-C2-N1	3.56	124.29	116.71
1	A	3853	PSU	C5-C4-N3	3.56	124.62	116.58
3	C	55	PSU	C5-C6-N1	-3.55	116.78	122.11
1	A	4590	A2M	C2'-C3'-C4'	-3.55	94.28	101.99
1	A	2363	A2M	N3-C4-N9	3.55	132.93	127.08
1	A	4493	PSU	C2'-C3'-C4'	-3.54	95.75	102.64
1	A	4576	PSU	O2'-C2'-C1'	-3.54	102.78	111.23
1	A	3920	PSU	O4'-C1'-C2'	-3.54	100.15	105.14
1	A	4590	A2M	N9-C8-N7	-3.54	109.07	113.91
1	A	2839	PSU	C5-C4-N3	3.54	124.59	116.58
1	A	4493	PSU	O2'-C2'-C1'	-3.54	102.80	111.23
1	A	4590	A2M	CM'-O2'-C2'	-3.53	105.26	114.52
1	A	4637	OMG	O2'-C2'-C1'	-3.53	102.19	109.08
1	A	4972	PSU	O4'-C1'-C2'	-3.52	100.18	105.14
1	A	3825	A2M	O4'-C1'-C2'	-3.52	100.39	106.57
1	A	4447	5MC	O4'-C1'-C2'	-3.52	98.98	106.64
1	A	3851	PSU	O5'-C5'-C4'	-3.51	97.06	108.99
1	A	2824	OMC	N1-C2-N3	3.51	125.20	118.81
1	A	1677	PSU	O2-C2-N1	-3.51	118.93	122.79
1	A	2351	OMC	O2-C2-N3	-3.50	116.63	122.33
1	A	1625	OMG	C5'-C4'-C3'	-3.50	102.06	115.18
1	A	2365	OMC	C1'-N1-C6	3.50	128.47	120.84
1	A	3818	OMU	O4'-C4'-C3'	-3.49	98.20	105.11
1	A	5001	PSU	O4'-C4'-C3'	-3.49	98.21	105.11
1	A	2364	OMG	C6-C5-N7	3.49	136.73	130.25
1	A	2804	OMC	C4'-O4'-C1'	3.48	117.16	109.47
1	A	4296	PSU	C4'-O4'-C1'	-3.48	99.79	108.55
1	A	4499	OMG	C4-C5-N7	-3.48	105.21	110.72
1	A	4590	A2M	C5-C4-N9	3.48	109.83	105.78
1	A	4227	OMU	O3'-C3'-C2'	3.48	121.04	111.17
1	A	2422	OMC	C6-N1-C2	3.48	126.53	120.49
1	A	4523	A2M	O4'-C1'-C2'	-3.47	100.48	106.57
1	A	4353	PSU	C5-C6-N1	-3.47	116.90	122.11
1	A	1625	OMG	N2-C2-N1	3.47	124.10	116.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4628	PSU	C4'-O4'-C1'	3.46	117.26	108.55
1	A	4536	OMC	O3'-C3'-C4'	-3.46	101.04	111.05
1	A	3744	OMG	C4-C5-N7	-3.46	105.24	110.72
1	A	4579	PSU	O2-C2-N3	-3.45	115.31	121.82
1	A	4293	PSU	O2'-C2'-C3'	-3.44	100.68	111.82
1	A	4673	PSU	C5-C6-N1	-3.44	116.95	122.11
1	A	2364	OMG	C2-N3-C4	3.43	118.42	112.30
1	A	5001	PSU	C3'-C2'-C1'	3.43	105.63	101.64
1	A	4532	PSU	O4-C4-N3	-3.43	113.55	120.12
1	A	3825	A2M	C2-N1-C6	3.42	124.64	118.77
1	A	1340	OMC	C4-N3-C2	-3.41	114.74	120.25
1	A	2824	OMC	O4'-C4'-C3'	-3.41	98.36	105.11
1	A	4296	PSU	O4'-C4'-C3'	-3.41	98.36	105.11
1	A	2363	A2M	C5-C4-N3	-3.41	122.30	126.75
1	A	4312	PSU	O4'-C4'-C5'	3.41	120.58	109.37
1	A	2365	OMC	O4'-C1'-N1	3.41	116.15	108.36
1	A	3744	OMG	C2'-C3'-C4'	-3.40	94.61	101.99
1	A	4220	6MZ	C4-N9-C8	3.40	109.41	105.73
1	A	1871	A2M	C5-C4-N9	3.40	109.73	105.78
1	A	3724	A2M	N3-C2-N1	-3.39	123.30	128.60
1	A	4532	PSU	C2'-C3'-C4'	-3.38	96.07	102.64
1	A	2364	OMG	C5-C6-N1	3.38	121.78	113.19
1	A	1862	PSU	C6-C5-C4	3.37	120.56	118.20
1	A	400	A2M	N9-C8-N7	-3.37	109.30	113.91
1	A	4228	OMG	N9-C4-N3	3.37	132.71	125.94
1	A	2365	OMC	O2-C2-N1	-3.37	111.94	118.89
1	A	3744	OMG	O4'-C1'-C2'	-3.37	100.66	106.57
1	A	4456	OMC	C5-C4-N4	3.36	125.87	120.57
1	A	4471	PSU	C6-C5-C4	-3.36	115.85	118.20
1	A	3851	PSU	O4'-C1'-C2'	-3.35	100.42	105.14
1	A	3729	PSU	C5-C6-N1	-3.35	117.09	122.11
1	A	3729	PSU	O4'-C1'-C2'	-3.34	100.44	105.14
1	A	4498	OMU	C2'-C1'-N1	-3.34	107.74	114.22
1	A	4227	OMU	C2'-C1'-N1	3.34	120.70	114.22
1	A	4423	PSU	O2-C2-N1	-3.33	119.12	122.79
1	A	1536	PSU	C5-C6-N1	-3.33	117.11	122.11
1	A	4972	PSU	C3'-C2'-C1'	3.33	105.52	101.64
1	A	4228	OMG	C1'-N9-C4	-3.33	116.61	126.50
1	A	1683	PSU	C4'-O4'-C1'	3.33	116.92	108.55
1	A	4306	OMU	C5-C6-N1	-3.33	116.24	121.81
1	A	1522	OMG	O6-C6-C5	-3.32	117.79	126.60
1	A	4196	OMG	C5-C6-N1	3.32	121.62	113.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3792	OMG	O6-C6-C5	-3.32	117.79	126.60
1	A	4498	OMU	C5-C4-N3	3.32	119.81	114.84
1	A	2839	PSU	O2-C2-N1	-3.31	119.14	122.79
1	A	2815	A2M	C2-N3-C4	3.31	119.57	111.75
1	A	3925	OMU	C6-C5-C4	3.31	124.04	119.52
1	A	3830	A2M	C2-N3-C4	3.31	119.56	111.75
1	A	3627	OMG	C2'-C1'-N9	-3.31	107.80	114.22
1	A	4457	PSU	O4-C4-C5	-3.30	115.41	124.05
3	C	69	PSU	O2-C2-N1	-3.30	119.15	122.79
1	A	4689	PSU	O2-C2-N1	-3.30	119.16	122.79
1	A	1625	OMG	C4-C5-N7	-3.30	105.50	110.72
1	A	3925	OMU	C1'-N1-C2	-3.30	111.61	117.57
1	A	3695	PSU	O2-C2-N3	-3.29	115.61	121.82
1	A	3718	A2M	C4-N9-C1'	-3.29	118.76	126.59
1	A	3867	A2M	C4-N9-C8	3.29	109.29	105.73
1	A	3701	OMC	O4'-C4'-C3'	-3.29	98.61	105.11
1	A	2401	A2M	C5-C6-N6	-3.29	116.28	123.43
1	A	3792	OMG	C8-N9-C4	3.28	112.30	106.05
1	A	3724	A2M	O2'-C2'-C1'	3.28	115.48	109.08
1	A	3841	OMC	CM2-O2'-C2'	3.28	123.13	114.52
1	A	2401	A2M	C4-C5-N7	-3.28	106.63	110.62
1	A	4447	5MC	N4-C4-N3	3.27	124.44	118.48
1	A	4673	PSU	C6-C5-C4	-3.26	115.92	118.20
1	A	2363	A2M	O3'-C3'-C4'	3.26	120.48	111.05
1	A	1677	PSU	O4-C4-N3	-3.26	113.86	120.12
1	A	4431	PSU	O2'-C2'-C3'	-3.26	101.28	111.82
1	A	4447	5MC	O2-C2-N3	-3.26	117.03	122.33
1	A	2364	OMG	C2'-C3'-C4'	-3.26	94.92	101.99
1	A	1322	1MA	C8-N7-C5	3.25	110.12	104.24
1	A	4579	PSU	O2'-C2'-C3'	-3.25	101.32	111.82
1	A	2364	OMG	N9-C4-N3	3.24	132.45	125.94
1	A	2837	OMU	CM2-O2'-C2'	3.24	123.01	114.52
1	A	4521	PSU	C6-N1-C2	-3.23	119.38	122.68
1	A	3825	A2M	C4'-O4'-C1'	3.22	116.59	109.47
1	A	4571	A2M	C4-C5-N7	-3.22	106.70	110.62
1	A	2815	A2M	N3-C4-N9	3.21	132.38	127.08
1	A	2804	OMC	C1'-N1-C6	3.21	127.84	120.84
1	A	4471	PSU	C5-C4-N3	3.21	123.84	116.58
1	A	3701	OMC	O2'-C2'-C1'	-3.21	102.82	109.08
1	A	3899	OMG	C8-N7-C5	3.21	110.05	104.24
1	A	1683	PSU	C5-C4-N3	3.21	123.84	116.58
1	A	4431	PSU	C5-C6-N1	-3.21	117.30	122.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1582	PSU	O2-C2-N3	-3.21	115.77	121.82
1	A	3744	OMG	C3'-C2'-C1'	3.20	108.91	102.89
1	A	4457	PSU	C6-N1-C2	-3.20	119.41	122.68
1	A	398	A2M	O3'-C3'-C2'	3.20	120.25	111.17
1	A	4293	PSU	C6-C5-C4	-3.20	115.96	118.20
1	A	3785	A2M	C2-N1-C6	3.20	124.25	118.77
1	A	2351	OMC	C4'-O4'-C1'	3.20	116.52	109.47
1	A	2364	OMG	O3'-C3'-C2'	-3.19	102.09	111.17
1	A	3844	PSU	O3'-C3'-C2'	3.19	122.13	111.82
1	A	2804	OMC	O4'-C1'-C2'	-3.18	100.98	106.57
1	A	4494	OMG	C5-C6-N1	3.18	121.27	113.19
1	A	4353	PSU	C6-C5-C4	-3.18	115.97	118.20
1	A	1683	PSU	O4-C4-N3	-3.18	114.03	120.12
1	A	1582	PSU	C5'-C4'-C3'	-3.18	103.28	115.18
1	A	5001	PSU	C4'-O4'-C1'	3.18	116.54	108.55
1	A	4499	OMG	C5-C6-N1	3.18	121.26	113.19
1	A	4521	PSU	O4-C4-N3	-3.17	114.04	120.12
1	A	3869	OMC	O4'-C1'-C2'	-3.17	101.01	106.57
1	A	4623	OMG	O6-C6-C5	-3.17	118.20	126.60
1	A	4361	PSU	C6-C5-C4	-3.16	115.99	118.20
1	A	4689	PSU	O4'-C1'-C2'	-3.16	100.68	105.14
1	A	4628	PSU	C5-C6-N1	3.16	126.84	122.11
1	A	4571	A2M	N6-C6-N1	3.16	125.27	118.35
1	A	4579	PSU	O2-C2-N1	-3.16	119.31	122.79
1	A	4618	OMG	N9-C4-N3	3.16	132.28	125.94
1	A	3639	PSU	C4'-O4'-C1'	3.15	116.48	108.55
1	A	3782	5MC	O2'-C2'-C3'	-3.15	101.62	111.82
1	A	4442	PSU	O4'-C1'-C2'	-3.15	100.70	105.14
1	A	2787	A2M	C4-N9-C8	3.15	109.14	105.73
1	A	3637	PSU	O4'-C1'-C2'	-3.15	100.70	105.14
1	A	2424	OMG	C4'-O4'-C1'	3.14	116.41	109.47
1	A	4972	PSU	C5-C6-N1	-3.14	117.40	122.11
1	A	4530	UR3	O2-C2-N1	-3.14	115.37	122.72
1	A	4532	PSU	C5-C6-N1	-3.13	117.41	122.11
1	A	2839	PSU	O2'-C2'-C1'	-3.13	103.78	111.23
1	A	1862	PSU	O4'-C1'-C2'	-3.12	100.74	105.14
1	A	4299	PSU	C5-C4-N3	3.12	123.63	116.58
1	A	4420	PSU	O4'-C1'-C2'	3.12	109.54	105.14
1	A	4228	OMG	C2'-C1'-N9	-3.12	108.17	114.22
1	A	2415	OMU	C6-C5-C4	3.12	123.77	119.52
1	A	4620	OMU	C2'-C3'-C4'	-3.11	95.23	101.99
1	A	4494	OMG	C2'-C1'-N9	-3.11	108.18	114.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4521	PSU	O4-C4-C5	-3.11	115.91	124.05
1	A	3925	OMU	C1'-N1-C6	3.11	127.62	120.84
1	A	2363	A2M	O4'-C1'-C2'	-3.11	101.12	106.57
1	A	400	A2M	N3-C4-N9	3.10	132.19	127.08
1	A	4471	PSU	C5-C6-N1	-3.10	117.46	122.11
1	A	3785	A2M	C2'-C1'-N9	-3.10	108.31	113.53
1	A	1677	PSU	O2-C2-N3	-3.10	115.98	121.82
1	A	4493	PSU	O4'-C1'-C2'	-3.10	100.78	105.14
1	A	2351	OMC	O5'-C5'-C4'	-3.10	98.46	108.99
1	A	4312	PSU	O4'-C1'-C2'	-3.09	100.78	105.14
3	C	75	OMG	O3'-C3'-C2'	3.09	119.94	111.17
1	A	4457	PSU	O4'-C4'-C3'	-3.09	99.01	105.11
1	A	4637	OMG	O4'-C1'-C2'	-3.08	101.16	106.57
1	A	4579	PSU	O4-C4-C5	-3.08	116.00	124.05
1	A	3701	OMC	C2'-C3'-C4'	3.07	108.67	101.99
1	A	3701	OMC	O2-C2-N3	-3.07	117.34	122.33
1	A	2401	A2M	C5-N7-C8	3.05	107.84	103.51
1	A	3920	PSU	C3'-C2'-C1'	3.05	105.19	101.64
1	A	1316	OMG	C6-C5-N7	3.05	135.92	130.25
1	A	4576	PSU	C5-C4-N3	3.05	123.47	116.58
1	A	3867	A2M	N3-C2-N1	-3.05	123.84	128.60
1	A	4972	PSU	O4'-C4'-C3'	-3.03	99.11	105.11
1	A	4296	PSU	O5'-C5'-C4'	-3.03	98.69	108.99
1	A	1522	OMG	O3'-C3'-C4'	-3.03	102.29	111.05
1	A	3639	PSU	C5-C4-N3	3.03	123.43	116.58
1	A	4447	5MC	C5-C4-N3	-3.03	118.41	121.67
1	A	4536	OMC	O4'-C4'-C5'	3.03	119.33	109.37
1	A	3825	A2M	O3'-C3'-C2'	3.02	119.75	111.17
1	A	1744	PSU	O2'-C2'-C1'	-3.02	104.03	111.23
1	A	1316	OMG	C4'-O4'-C1'	3.02	116.14	109.47
1	A	1862	PSU	O3'-C3'-C2'	-3.02	102.05	111.82
1	A	2787	A2M	C5'-C4'-C3'	-3.02	103.86	115.18
1	A	4579	PSU	C5-C4-N3	3.02	123.41	116.58
1	A	3925	OMU	O3'-C3'-C4'	-3.01	102.35	111.05
1	A	4972	PSU	O2'-C2'-C1'	-3.00	104.07	111.23
1	A	1340	OMC	O3'-C3'-C2'	3.00	119.69	111.17
1	A	2363	A2M	C5-N7-C8	3.00	107.77	103.51
1	A	3818	OMU	C6-C5-C4	-3.00	115.42	119.52
1	A	4227	OMU	C5'-C4'-C3'	-3.00	103.94	115.18
1	A	3853	PSU	O2-C2-N3	-2.99	116.17	121.82
1	A	4536	OMC	O3'-C3'-C2'	-2.99	102.68	111.17
1	A	1322	1MA	CM1-N1-C6	-2.98	115.75	120.27

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4353	PSU	C6-N1-C2	-2.98	119.64	122.68
1	A	1862	PSU	O3'-C3'-C4'	-2.97	102.45	111.05
1	A	2508	PSU	O2'-C2'-C1'	-2.97	104.14	111.23
1	A	2363	A2M	O3'-C3'-C2'	-2.97	102.72	111.17
1	A	1524	A2M	C4-N9-C8	2.97	108.95	105.73
1	A	4620	OMU	C1'-N1-C6	2.97	127.31	120.84
1	A	3884	PSU	O2'-C2'-C1'	-2.97	104.15	111.23
1	A	4972	PSU	O2-C2-N3	-2.97	116.22	121.82
1	A	3718	A2M	N6-C6-N1	2.97	124.85	118.35
1	A	1316	OMG	C2'-C3'-C4'	-2.96	95.56	101.99
1	A	3808	OMC	C5-C6-N1	-2.96	116.85	121.81
3	C	69	PSU	O3'-C3'-C4'	-2.96	102.49	111.05
1	A	398	A2M	C5-C6-N1	2.96	123.75	117.39
1	A	2424	OMG	N9-C8-N7	-2.96	107.82	113.39
1	A	4532	PSU	O5'-C5'-C4'	2.96	119.06	108.99
1	A	4500	PSU	O4'-C4'-C5'	2.96	119.11	109.37
1	A	5001	PSU	O2'-C2'-C1'	-2.96	104.18	111.23
1	A	4590	A2M	C2-N1-C6	2.95	123.83	118.77
1	A	4403	PSU	C5-C4-N3	2.95	123.26	116.58
1	A	4196	OMG	C2-N1-C6	-2.95	119.72	125.10
1	A	4456	OMC	O3'-C3'-C2'	2.95	119.54	111.17
1	A	4494	OMG	C4-C5-N7	-2.95	106.06	110.72
1	A	4576	PSU	O4'-C1'-C2'	-2.95	100.99	105.14
1	A	3851	PSU	O4-C4-C5	-2.95	116.34	124.05
1	A	2364	OMG	C8-N9-C4	2.94	111.65	106.05
1	A	3925	OMU	O4-C4-C5	-2.94	119.99	125.16
1	A	3920	PSU	C4'-O4'-C1'	2.94	115.95	108.55
1	A	2364	OMG	N1-C2-N3	2.94	128.81	123.32
1	A	4552	PSU	O3'-C3'-C4'	-2.94	102.56	111.05
1	A	3884	PSU	C4'-O4'-C1'	2.94	115.94	108.55
3	C	69	PSU	C5-C6-N1	-2.93	117.71	122.11
1	A	1792	PSU	O2'-C2'-C3'	-2.93	102.34	111.82
1	A	2351	OMC	C5-C6-N1	-2.93	116.91	121.81
1	A	4576	PSU	C3'-C2'-C1'	2.93	105.05	101.64
1	A	4403	PSU	O4-C4-C5	-2.93	116.40	124.05
1	A	3729	PSU	O4'-C4'-C3'	-2.92	99.33	105.11
1	A	1582	PSU	O3'-C3'-C2'	2.92	121.28	111.82
1	A	2839	PSU	C2'-C3'-C4'	-2.92	96.97	102.64
1	A	3841	OMC	C1'-N1-C6	2.92	127.21	120.84
1	A	4571	A2M	C5-C6-N6	-2.92	117.08	123.43
1	A	2876	OMG	O4'-C1'-N9	-2.92	101.70	108.36
1	A	3851	PSU	C4'-O4'-C1'	2.91	115.88	108.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3639	PSU	O4'-C1'-C2'	-2.91	101.04	105.14
1	A	3715	PSU	O4'-C1'-C2'	2.91	109.25	105.14
1	A	2364	OMG	N2-C2-N1	2.91	122.90	116.71
1	A	4972	PSU	C4'-O4'-C1'	2.91	115.86	108.55
1	A	1582	PSU	O2'-C2'-C1'	2.91	118.16	111.23
1	A	1316	OMG	O4'-C4'-C3'	-2.90	99.37	105.11
1	A	2415	OMU	C3'-C2'-C1'	2.90	108.34	102.89
1	A	2804	OMC	O3'-C3'-C2'	2.90	119.40	111.17
1	A	2363	A2M	C4-N9-C1'	-2.90	119.69	126.59
1	A	4552	PSU	O2-C2-N3	-2.90	116.35	121.82
1	A	1522	OMG	C2-N1-C6	-2.90	119.82	125.10
1	A	4447	5MC	C5-C4-N4	-2.90	117.15	121.48
1	A	1536	PSU	C4'-O4'-C1'	2.90	115.83	108.55
1	A	4571	A2M	O4'-C4'-C5'	2.90	118.90	109.37
1	A	4420	PSU	C5-C6-N1	-2.89	117.78	122.11
1	A	4972	PSU	C6-N1-C2	-2.88	119.74	122.68
1	A	4498	OMU	C5-C6-N1	-2.88	116.98	121.81
3	C	55	PSU	O4-C4-C5	-2.88	116.52	124.05
1	A	2508	PSU	O4-C4-C5	-2.88	116.52	124.05
1	A	4637	OMG	C2-N1-C6	-2.88	119.85	125.10
1	A	3867	A2M	C5-N7-C8	2.87	107.59	103.51
1	A	3744	OMG	N1-C2-N3	-2.87	117.96	123.32
1	A	1625	OMG	N2-C2-N3	-2.87	114.14	119.73
3	C	75	OMG	C6-C5-N7	2.87	135.59	130.25
1	A	4571	A2M	C2-N3-C4	2.87	118.53	111.75
1	A	2351	OMC	C5-C4-N4	2.87	125.09	120.57
1	A	1340	OMC	O4'-C1'-C2'	-2.87	101.54	106.57
1	A	3899	OMG	C6-C5-N7	2.86	135.57	130.25
1	A	4227	OMU	O4'-C4'-C5'	2.86	118.79	109.37
1	A	1582	PSU	C2'-C3'-C4'	2.86	108.20	102.64
1	A	1522	OMG	O4'-C1'-N9	2.86	114.90	108.36
1	A	3627	OMG	O6-C6-N1	-2.86	114.64	120.12
1	A	3920	PSU	O4'-C4'-C3'	-2.85	99.47	105.11
1	A	4471	PSU	C5'-C4'-C3'	-2.85	104.50	115.18
1	A	4370	OMG	C6-C5-N7	2.85	135.55	130.25
1	A	1871	A2M	C6-C5-N7	2.85	137.33	132.02
1	A	1792	PSU	C6-C5-C4	-2.84	116.21	118.20
1	A	1322	1MA	C8-N9-C4	2.84	111.46	106.05
1	A	3724	A2M	C4-C5-N7	-2.84	107.16	110.62
1	A	2839	PSU	C6-C5-C4	-2.84	116.21	118.20
1	A	4521	PSU	O5'-C5'-C4'	-2.84	99.34	108.99
1	A	2351	OMC	O4'-C4'-C3'	-2.84	99.50	105.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1536	PSU	O4-C4-C5	-2.83	116.66	124.05
1	A	1582	PSU	C4'-O4'-C1'	2.82	115.65	108.55
1	A	4523	A2M	C4-N9-C8	2.82	108.78	105.73
1	A	1522	OMG	C4'-O4'-C1'	2.82	115.69	109.47
1	A	1792	PSU	O4'-C4'-C5'	2.82	118.64	109.37
1	A	2424	OMG	C5'-C4'-C3'	-2.82	104.63	115.18
1	A	3808	OMC	C6-C5-C4	2.81	122.03	117.50
1	A	3718	A2M	N3-C2-N1	-2.81	124.22	128.60
1	A	4590	A2M	O4'-C1'-C2'	-2.80	101.65	106.57
1	A	4456	OMC	O2-C2-N3	-2.80	117.77	122.33
1	A	4494	OMG	N2-C2-N1	2.80	122.67	116.71
1	A	3844	PSU	O4-C4-N3	-2.80	114.75	120.12
1	A	3825	A2M	C5-C4-N9	2.79	109.03	105.78
1	A	3627	OMG	O6-C6-C5	-2.79	119.20	126.60
1	A	4618	OMG	C1'-N9-C4	-2.79	118.22	126.50
1	A	3884	PSU	O4'-C4'-C3'	-2.79	99.60	105.11
1	A	4296	PSU	C6-C5-C4	2.78	120.14	118.20
1	A	2365	OMC	C4'-O4'-C1'	2.78	115.60	109.47
1	A	4530	UR3	O3'-C3'-C2'	2.78	120.80	111.82
1	A	2401	A2M	C5'-C4'-C3'	-2.77	104.78	115.18
1	A	3851	PSU	C5'-C4'-C3'	-2.77	104.79	115.18
1	A	4689	PSU	C4'-O4'-C1'	2.77	115.52	108.55
1	A	4532	PSU	O2-C2-N3	-2.77	116.59	121.82
1	A	3844	PSU	C5-C4-N3	2.76	122.83	116.58
1	A	2364	OMG	O4'-C1'-N9	-2.76	102.06	108.36
1	A	1534	A2M	C4-C5-N7	-2.76	107.26	110.62
1	A	4196	OMG	N9-C8-N7	-2.76	108.20	113.39
1	A	4403	PSU	O2-C2-N1	-2.76	119.76	122.79
1	A	4456	OMC	C1'-N1-C6	2.75	126.84	120.84
1	A	1522	OMG	C6-C5-C4	-2.75	114.54	118.77
1	A	4673	PSU	O2'-C2'-C3'	2.75	120.71	111.82
1	A	398	A2M	O2'-C2'-C1'	-2.75	103.72	109.08
1	A	1625	OMG	O2'-C2'-C1'	-2.75	103.72	109.08
1	A	4673	PSU	C4'-O4'-C1'	2.74	115.45	108.55
1	A	5001	PSU	C5-C4-N3	2.74	122.78	116.58
3	C	75	OMG	C8-N9-C4	2.74	111.26	106.05
1	A	1677	PSU	O3'-C3'-C4'	-2.74	103.14	111.05
1	A	2632	PSU	C5-C6-N1	-2.73	118.01	122.11
1	A	4689	PSU	C5'-C4'-C3'	-2.73	104.94	115.18
1	A	3884	PSU	O4-C4-N3	-2.73	114.89	120.12
1	A	4196	OMG	C8-N7-C5	2.72	109.17	104.24
1	A	2824	OMC	C6-C5-C4	2.72	121.89	117.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4312	PSU	O3'-C3'-C4'	-2.72	103.19	111.05
1	A	4447	5MC	CM5-C5-C6	2.72	126.47	122.85
1	A	3744	OMG	N9-C8-N7	-2.72	108.28	113.39
1	A	4499	OMG	C6-C5-C4	-2.72	114.60	118.77
1	A	3830	A2M	C6-C5-N7	2.71	137.08	132.02
1	A	4431	PSU	C3'-C2'-C1'	2.71	104.80	101.64
1	A	3627	OMG	C8-N9-C4	2.71	111.21	106.05
1	A	3792	OMG	C5-C6-N1	2.70	120.05	113.19
1	A	3637	PSU	O4-C4-C5	-2.70	116.98	124.05
1	A	3853	PSU	C4'-O4'-C1'	2.70	115.35	108.55
1	A	4299	PSU	O4-C4-C5	-2.70	116.98	124.05
3	C	69	PSU	O2-C2-N3	-2.70	116.72	121.82
1	A	1871	A2M	C2-N1-C6	2.70	123.40	118.77
1	A	4220	6MZ	O2'-C2'-C1'	-2.70	101.00	110.02
1	A	2815	A2M	C6-C5-N7	2.70	137.05	132.02
1	A	2401	A2M	C6-C5-N7	2.70	137.04	132.02
1	A	2424	OMG	C2-N3-C4	2.69	117.10	112.30
1	A	5010	PSU	C3'-C2'-C1'	2.69	104.77	101.64
1	A	398	A2M	C1'-N9-C8	-2.69	121.06	127.14
1	A	3639	PSU	O4-C4-C5	-2.69	117.01	124.05
1	A	1683	PSU	O4'-C4'-C3'	-2.69	99.79	105.11
3	C	75	OMG	C2-N1-C6	-2.69	120.19	125.10
1	A	4493	PSU	O2'-C2'-C3'	-2.69	103.13	111.82
1	A	3718	A2M	N3-C4-N9	2.69	131.51	127.08
1	A	3744	OMG	O4'-C1'-N9	2.68	114.49	108.36
1	A	4620	OMU	C2'-C1'-N1	-2.68	109.03	114.22
1	A	2824	OMC	O2-C2-N1	2.68	124.42	118.89
3	C	75	OMG	N9-C8-N7	-2.67	108.37	113.39
1	A	1582	PSU	C5-C6-N1	-2.66	118.12	122.11
1	A	3825	A2M	C6-C5-N7	2.66	136.98	132.02
1	A	2364	OMG	C4-C5-N7	-2.66	106.51	110.72
1	A	4536	OMC	C4-N3-C2	-2.66	115.96	120.25
1	A	3818	OMU	O2-C2-N3	-2.66	116.55	121.50
1	A	3718	A2M	C2-N1-C6	2.66	123.33	118.77
1	A	3792	OMG	O3'-C3'-C4'	-2.65	103.38	111.05
1	A	4370	OMG	N2-C2-N3	-2.65	114.57	119.73
1	A	4523	A2M	O3'-C3'-C4'	-2.65	103.39	111.05
1	A	2824	OMC	C4'-O4'-C1'	2.65	115.32	109.47
1	A	2824	OMC	C5-C6-N1	-2.65	117.37	121.81
1	A	4571	A2M	C4-N9-C1'	-2.65	120.28	126.59
1	A	2351	OMC	C1'-N1-C6	2.64	126.60	120.84
1	A	4536	OMC	C2'-C1'-N1	-2.64	109.10	114.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4353	PSU	C2'-C3'-C4'	-2.64	97.52	102.64
1	A	3884	PSU	O4-C4-C5	-2.64	117.15	124.05
1	A	3695	PSU	O2'-C2'-C1'	-2.64	104.95	111.23
1	A	1524	A2M	C4-C5-N7	2.63	113.82	110.62
1	A	1782	PSU	O2'-C2'-C1'	2.63	117.49	111.23
1	A	2839	PSU	O4'-C1'-C2'	-2.62	101.44	105.14
1	A	2365	OMC	C1'-N1-C2	-2.62	112.57	118.42
1	A	2824	OMC	O4'-C1'-C2'	-2.62	101.97	106.57
1	A	2363	A2M	C6-C5-N7	2.62	136.90	132.02
1	A	3785	A2M	O5'-C5'-C4'	-2.62	100.09	108.99
1	A	3841	OMC	C5-C4-N3	-2.61	116.88	121.33
1	A	1340	OMC	C2'-C1'-N1	2.61	119.30	114.22
1	A	4456	OMC	O2-C2-N1	-2.61	113.51	118.89
1	A	2824	OMC	O3'-C3'-C4'	-2.61	103.51	111.05
1	A	4500	PSU	C3'-C2'-C1'	-2.60	98.60	101.64
1	A	1781	PSU	O2-C2-N1	-2.60	119.93	122.79
1	A	4590	A2M	C4-N9-C1'	-2.60	120.41	126.59
1	A	4296	PSU	C6-N1-C2	2.60	125.34	122.68
1	A	2363	A2M	C6-C5-C4	-2.59	113.69	117.18
1	A	2401	A2M	CM'-O2'-C2'	2.59	121.33	114.52
1	A	3853	PSU	O4'-C1'-C2'	-2.59	101.49	105.14
1	A	2787	A2M	O4'-C1'-N9	-2.59	102.95	108.06
1	A	4456	OMC	C2'-C1'-N1	-2.59	109.20	114.22
1	A	4392	OMG	O4'-C4'-C3'	-2.58	100.00	105.11
1	A	4530	UR3	C5'-C4'-C3'	-2.58	105.50	115.18
1	A	3808	OMC	O2-C2-N1	2.58	124.22	118.89
1	A	3792	OMG	O2'-C2'-C1'	-2.58	104.05	109.08
1	A	3744	OMG	O6-C6-C5	-2.58	119.77	126.60
1	A	3744	OMG	C8-N7-C5	2.57	108.90	104.24
1	A	3639	PSU	O3'-C3'-C2'	-2.57	103.50	111.82
1	A	3825	A2M	O4'-C4'-C3'	-2.57	100.03	105.11
1	A	4530	UR3	O2'-C2'-C3'	-2.57	103.51	111.82
1	A	3637	PSU	C5-C4-N3	2.57	122.39	116.58
1	A	2837	OMU	C6-C5-C4	2.57	123.02	119.52
1	A	4312	PSU	O4-C4-C5	-2.56	117.35	124.05
1	A	3899	OMG	C2-N1-C6	-2.56	120.44	125.10
1	A	4972	PSU	O4-C4-N3	-2.55	115.22	120.12
1	A	4576	PSU	C2'-C3'-C4'	-2.55	97.70	102.64
1	A	2508	PSU	C5-C4-N3	2.54	122.32	116.58
1	A	4530	UR3	O4'-C1'-N1	-2.53	102.58	108.36
1	A	4571	A2M	C2'-C1'-N9	-2.53	109.28	113.53
1	A	2861	OMC	O4'-C1'-N1	-2.52	102.60	108.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1524	A2M	C5-C6-N6	-2.52	117.94	123.43
1	A	3718	A2M	CM'-O2'-C2'	2.52	121.14	114.52
1	A	3920	PSU	O2-C2-N3	-2.52	117.06	121.82
1	A	3718	A2M	C4-N9-C8	2.52	108.45	105.73
1	A	4552	PSU	C3'-C2'-C1'	2.51	104.56	101.64
1	A	4196	OMG	C8-N9-C4	2.51	110.83	106.05
1	A	1782	PSU	O4-C4-N3	-2.51	115.30	120.12
1	A	3884	PSU	C3'-C2'-C1'	2.51	104.56	101.64
1	A	4972	PSU	C5'-C4'-C3'	-2.51	105.78	115.18
1	A	2351	OMC	C4-N3-C2	-2.51	116.21	120.25
1	A	1340	OMC	C5-C4-N3	-2.51	117.06	121.33
1	A	1871	A2M	N3-C4-N9	2.50	131.21	127.08
1	A	3744	OMG	O3'-C3'-C4'	-2.50	103.82	111.05
1	A	400	A2M	O4'-C1'-N9	-2.50	103.13	108.06
1	A	1782	PSU	O4'-C1'-C2'	2.50	108.66	105.14
1	A	3899	OMG	C5-C6-N1	2.49	119.53	113.19
1	A	4628	PSU	O4'-C4'-C3'	-2.49	100.18	105.11
1	A	400	A2M	C4-N9-C8	2.49	108.43	105.73
1	A	3841	OMC	C5-C4-N4	2.49	124.49	120.57
1	A	4228	OMG	CM2-O2'-C2'	2.49	121.05	114.52
1	A	3851	PSU	C6-N1-C2	-2.48	120.14	122.68
1	A	3869	OMC	O3'-C3'-C2'	-2.48	104.11	111.17
1	A	4403	PSU	O3'-C3'-C2'	2.48	119.84	111.82
1	A	3808	OMC	O5'-C5'-C4'	2.47	117.41	108.99
1	A	4972	PSU	C5-C4-N3	2.47	122.17	116.58
1	A	1536	PSU	O4-C4-N3	-2.47	115.39	120.12
1	A	400	A2M	C5-C4-N9	2.47	108.65	105.78
1	A	3724	A2M	O4'-C4'-C5'	2.46	117.45	109.37
1	A	3925	OMU	CM2-O2'-C2'	2.45	120.97	114.52
1	A	4220	6MZ	C5-C6-N1	-2.45	115.60	118.20
1	A	1322	1MA	C6-C5-N7	2.44	136.64	132.20
1	A	1534	A2M	C2'-C1'-N9	2.44	117.64	113.53
1	A	3701	OMC	C5-C4-N4	2.44	124.41	120.57
1	A	5010	PSU	O2-C2-N3	-2.44	117.22	121.82
3	C	55	PSU	O4'-C1'-C2'	-2.44	101.71	105.14
1	A	4620	OMU	C4'-O4'-C1'	2.43	114.84	109.47
1	A	3715	PSU	O2-C2-N1	2.43	125.47	122.79
1	A	4552	PSU	C5-C6-N1	-2.43	118.46	122.11
1	A	4293	PSU	O4'-C4'-C3'	-2.43	100.30	105.11
1	A	2508	PSU	C6-C5-C4	-2.43	116.50	118.20
1	A	3785	A2M	O4'-C1'-C2'	-2.43	102.31	106.57
1	A	3744	OMG	C6-C5-C4	-2.42	115.05	118.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1677	PSU	C3'-C2'-C1'	2.42	104.45	101.64
1	A	4353	PSU	O4-C4-N3	-2.42	115.48	120.12
1	A	4530	UR3	O4'-C1'-C2'	-2.41	101.38	106.64
1	A	2424	OMG	N9-C4-N3	2.41	130.79	125.94
1	A	3724	A2M	C4-N9-C8	2.41	108.34	105.73
1	A	4689	PSU	O2-C2-N3	-2.41	117.27	121.82
1	A	2424	OMG	O4'-C4'-C3'	-2.41	100.34	105.11
1	A	3925	OMU	C2'-C3'-C4'	-2.41	96.76	101.99
1	A	3884	PSU	O2-C2-N1	-2.41	120.14	122.79
1	A	1534	A2M	C5-C6-N6	2.41	128.68	123.43
1	A	3818	OMU	O2-C2-N1	2.41	125.99	122.79
1	A	3744	OMG	C2-N1-C6	-2.41	120.71	125.10
1	A	4536	OMC	C4'-O4'-C1'	2.40	114.78	109.47
1	A	398	A2M	C6-C5-C4	2.40	120.41	117.18
1	A	3844	PSU	O2'-C2'-C3'	-2.40	104.06	111.82
1	A	2424	OMG	O2'-C2'-C1'	-2.40	104.40	109.08
1	A	2815	A2M	N3-C2-N1	-2.40	124.85	128.60
1	A	3718	A2M	C1'-N9-C8	2.40	132.55	127.14
1	A	3718	A2M	C5-C6-N6	-2.39	118.22	123.43
1	A	4620	OMU	O4-C4-C5	-2.39	120.95	125.16
1	A	3627	OMG	N9-C8-N7	-2.39	108.89	113.39
3	C	55	PSU	O2'-C2'-C1'	-2.38	105.55	111.23
1	A	5001	PSU	C5-C6-N1	-2.38	118.53	122.11
1	A	3830	A2M	N3-C4-N9	2.38	131.01	127.08
1	A	3867	A2M	O5'-C5'-C4'	-2.38	100.89	108.99
1	A	4228	OMG	C4-C5-N7	-2.38	106.95	110.72
1	A	400	A2M	C6-C5-N7	2.38	136.45	132.02
1	A	2632	PSU	O2-C2-N3	-2.38	117.33	121.82
1	A	3695	PSU	C6-N1-C2	-2.38	120.25	122.68
1	A	4312	PSU	C4'-O4'-C1'	2.38	114.53	108.55
1	A	4312	PSU	O4'-C4'-C3'	-2.37	100.42	105.11
1	A	4530	UR3	C1'-N1-C6	2.37	126.01	120.84
1	A	2839	PSU	O3'-C3'-C2'	-2.37	104.16	111.82
1	A	3887	OMC	C2'-C3'-C4'	2.37	107.14	101.99
1	A	4499	OMG	N9-C8-N7	-2.37	108.93	113.39
1	A	4579	PSU	O3'-C3'-C4'	2.37	117.89	111.05
1	A	2363	A2M	C4'-O4'-C1'	2.37	114.69	109.47
1	A	4552	PSU	O4-C4-C5	-2.37	117.86	124.05
1	A	4471	PSU	O4-C4-N3	-2.36	115.58	120.12
1	A	3729	PSU	O4-C4-N3	-2.36	115.59	120.12
1	A	1340	OMC	O3'-C3'-C4'	-2.36	104.22	111.05
1	A	3724	A2M	C5-N7-C8	2.36	106.86	103.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4673	PSU	C6-N1-C2	-2.36	120.27	122.68
1	A	4590	A2M	O2'-C2'-C1'	2.35	113.67	109.08
1	A	1536	PSU	O2'-C2'-C3'	-2.35	104.21	111.82
1	A	4536	OMC	C1'-N1-C6	2.35	125.97	120.84
1	A	1316	OMG	C6-C5-C4	-2.35	115.16	118.77
1	A	2632	PSU	O4'-C1'-C2'	2.34	108.44	105.14
1	A	3785	A2M	C4'-O4'-C1'	-2.33	104.32	109.47
3	C	75	OMG	O2'-C2'-C1'	-2.33	104.53	109.08
1	A	2363	A2M	C3'-C2'-C1'	2.33	107.26	102.89
1	A	1871	A2M	CM'-O2'-C2'	2.33	120.63	114.52
1	A	3724	A2M	C6-C5-N7	2.32	136.35	132.02
1	A	3785	A2M	C4-C5-N7	-2.32	107.79	110.62
1	A	3701	OMC	N1-C2-N3	2.32	123.04	118.81
1	A	3867	A2M	O4'-C4'-C5'	2.32	117.01	109.37
1	A	4500	PSU	O4-C4-C5	-2.32	117.98	124.05
1	A	4499	OMG	O2'-C2'-C1'	-2.31	104.57	109.08
1	A	4618	OMG	C2'-C3'-C4'	-2.31	96.98	101.99
1	A	4420	PSU	C2'-C3'-C4'	2.31	107.13	102.64
1	A	4532	PSU	C4'-O4'-C1'	2.30	114.34	108.55
1	A	2861	OMC	O4'-C4'-C3'	-2.30	100.56	105.11
1	A	3808	OMC	O3'-C3'-C2'	2.30	117.69	111.17
1	A	3695	PSU	O3'-C3'-C4'	-2.30	104.41	111.05
1	A	2401	A2M	N6-C6-N1	2.29	123.36	118.35
1	A	4494	OMG	N1-C2-N3	2.28	127.59	123.32
1	A	2787	A2M	O3'-C3'-C4'	-2.28	104.45	111.05
1	A	4296	PSU	O2'-C2'-C3'	-2.28	104.45	111.82
1	A	4471	PSU	O2-C2-N3	-2.28	117.52	121.82
1	A	4590	A2M	C6-C5-N7	2.28	136.27	132.02
1	A	2632	PSU	C5'-C4'-C3'	-2.28	106.64	115.18
1	A	2351	OMC	CM2-O2'-C2'	2.28	120.50	114.52
1	A	1782	PSU	C6-C5-C4	2.28	119.79	118.20
1	A	3718	A2M	C5-C4-N3	-2.28	123.78	126.75
1	A	4456	OMC	O4'-C1'-C2'	-2.27	102.58	106.57
1	A	2364	OMG	CM2-O2'-C2'	-2.27	108.56	114.52
1	A	3869	OMC	O2'-C2'-C1'	2.27	113.51	109.08
1	A	4552	PSU	O2'-C2'-C1'	-2.27	105.82	111.23
1	A	400	A2M	O2'-C2'-C1'	-2.27	104.65	109.08
1	A	3867	A2M	C4'-O4'-C1'	2.26	114.46	109.47
1	A	4299	PSU	C5'-C4'-C3'	-2.26	106.72	115.18
1	A	1522	OMG	N2-C2-N3	-2.26	115.34	119.73
1	A	400	A2M	O4'-C1'-C2'	-2.25	102.62	106.57
1	A	1582	PSU	C6-N1-C2	-2.25	120.38	122.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3867	A2M	O4'-C4'-C3'	-2.25	100.67	105.11
1	A	4623	OMG	N9-C8-N7	-2.25	109.16	113.39
1	A	4532	PSU	O4'-C4'-C3'	2.24	109.55	105.11
1	A	1524	A2M	N3-C4-N9	2.24	130.77	127.08
1	A	3627	OMG	C1'-N9-C4	-2.24	119.85	126.50
1	A	4521	PSU	O3'-C3'-C4'	-2.24	104.58	111.05
1	A	2365	OMC	C5-C6-N1	-2.24	118.06	121.81
1	A	4499	OMG	C8-N7-C5	2.23	108.28	104.24
1	A	4628	PSU	O4'-C4'-C5'	2.23	116.72	109.37
1	A	4618	OMG	N2-C2-N3	-2.23	115.39	119.73
1	A	1316	OMG	CM2-O2'-C2'	-2.23	108.67	114.52
1	A	3782	5MC	C5-C6-N1	-2.23	121.05	123.34
1	A	4299	PSU	O4'-C4'-C3'	-2.23	100.71	105.11
1	A	4623	OMG	O4'-C1'-N9	-2.22	103.28	108.36
1	A	4493	PSU	C6-C5-C4	2.22	119.75	118.20
1	A	3920	PSU	O2'-C2'-C1'	-2.22	105.94	111.23
1	A	4689	PSU	C6-N1-C2	2.22	124.95	122.68
1	A	4523	A2M	C2-N1-C6	2.22	122.57	118.77
1	A	3851	PSU	O4'-C4'-C3'	-2.21	100.73	105.11
1	A	4196	OMG	O6-C6-N1	-2.21	115.88	120.12
1	A	4637	OMG	C1'-N9-C4	-2.21	119.93	126.50
1	A	398	A2M	C6-C5-N7	2.21	136.13	132.02
1	A	2824	OMC	C1'-N1-C6	2.21	125.65	120.84
1	A	1340	OMC	C6-N1-C2	-2.20	116.67	120.49
1	A	1871	A2M	O4'-C1'-N9	-2.20	103.72	108.06
1	A	2815	A2M	C5-C4-N9	2.20	108.34	105.78
1	A	3715	PSU	C4-N3-C2	-2.20	123.17	126.34
1	A	1782	PSU	O4'-C4'-C5'	2.20	116.61	109.37
1	A	4196	OMG	C2'-C1'-N9	-2.20	109.96	114.22
1	A	4576	PSU	O4'-C4'-C3'	-2.20	100.77	105.11
1	A	3830	A2M	C4'-O4'-C1'	2.20	114.32	109.47
1	A	3792	OMG	C8-N7-C5	2.19	108.21	104.24
1	A	1744	PSU	O2'-C2'-C3'	2.19	118.91	111.82
1	A	4353	PSU	O2-C2-N3	-2.19	117.69	121.82
1	A	2424	OMG	O6-C6-N1	2.19	124.31	120.12
1	A	4227	OMU	C3'-C2'-C1'	2.19	107.00	102.89
1	A	4499	OMG	C8-N9-C4	2.19	110.21	106.05
1	A	4442	PSU	C5-C6-N1	2.18	125.38	122.11
1	A	2632	PSU	C2'-C3'-C4'	2.18	106.87	102.64
1	A	1534	A2M	C6-C5-C4	2.17	120.11	117.18
1	A	1326	A2M	C5'-C4'-C3'	-2.17	107.03	115.18
3	C	75	OMG	C4-C5-N7	-2.17	107.28	110.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2804	OMC	O2-C2-N1	-2.17	114.41	118.89
1	A	4618	OMG	C2'-C1'-N9	-2.17	110.01	114.22
1	A	2351	OMC	O4'-C1'-C2'	-2.17	102.76	106.57
1	A	4576	PSU	O2'-C2'-C3'	-2.17	104.80	111.82
1	A	3808	OMC	N1-C2-N3	2.17	122.76	118.81
1	A	4361	PSU	O4-C4-C5	-2.17	118.37	124.05
1	A	4423	PSU	C5-C6-N1	-2.17	118.86	122.11
1	A	4353	PSU	O4-C4-C5	-2.17	118.38	124.05
1	A	3867	A2M	C2-N3-C4	2.16	116.85	111.75
1	A	4228	OMG	N9-C8-N7	-2.16	109.33	113.39
1	A	1683	PSU	C5-C6-N1	-2.15	118.88	122.11
1	A	4500	PSU	O4-C4-N3	2.15	124.24	120.12
1	A	1744	PSU	C6-C5-C4	2.15	119.70	118.20
1	A	2839	PSU	C5-C6-N1	-2.15	118.89	122.11
1	A	3715	PSU	C5-C6-N1	-2.15	118.89	122.11
1	A	2837	OMU	C4'-O4'-C1'	2.15	114.21	109.47
1	A	1625	OMG	C8-N7-C5	2.14	108.12	104.24
1	A	3695	PSU	O2-C2-N1	-2.14	120.43	122.79
1	A	4536	OMC	O4'-C1'-C2'	-2.14	102.81	106.57
1	A	4228	OMG	C3'-C2'-C1'	2.14	106.91	102.89
3	C	75	OMG	C5-C6-N1	2.14	118.63	113.19
1	A	2804	OMC	O3'-C3'-C4'	-2.13	104.88	111.05
1	A	4494	OMG	C6-C5-C4	-2.13	115.49	118.77
1	A	3701	OMC	CM2-O2'-C2'	-2.13	108.93	114.52
1	A	4618	OMG	C1'-N9-C8	2.13	132.76	126.70
3	C	55	PSU	C3'-C2'-C1'	2.13	104.11	101.64
1	A	4306	OMU	C6-N1-C2	-2.13	118.27	120.99
1	A	3825	A2M	O2'-C2'-C1'	-2.12	104.93	109.08
1	A	4571	A2M	N3-C2-N1	-2.12	125.29	128.60
1	A	2876	OMG	C2'-C1'-N9	-2.12	110.11	114.22
1	A	4618	OMG	O4'-C1'-C2'	-2.12	102.86	106.57
1	A	4228	OMG	C5-C4-N9	2.12	109.47	105.63
1	A	2401	A2M	O3'-C3'-C2'	2.12	117.17	111.17
1	A	3627	OMG	C4-C5-N7	-2.11	107.38	110.72
1	A	3785	A2M	N6-C6-N1	2.11	122.97	118.35
1	A	4590	A2M	C6-C5-C4	2.11	120.02	117.18
1	A	4293	PSU	O4'-C1'-C2'	-2.11	102.17	105.14
1	A	3744	OMG	N2-C2-N1	2.10	121.19	116.71
1	A	3715	PSU	C2'-C3'-C4'	2.10	106.71	102.64
1	A	4196	OMG	C6-C5-C4	-2.10	115.55	118.77
1	A	4637	OMG	CM2-O2'-C2'	-2.09	109.03	114.52
1	A	2861	OMC	C4'-O4'-C1'	2.09	114.09	109.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2364	OMG	C8-N7-C5	2.09	108.02	104.24
1	A	4306	OMU	O3'-C3'-C4'	-2.09	105.02	111.05
1	A	1683	PSU	O2'-C2'-C3'	-2.09	105.08	111.82
1	A	4457	PSU	C5'-C4'-C3'	2.08	122.97	115.18
1	A	1326	A2M	CM'-O2'-C2'	2.08	119.97	114.52
1	A	3792	OMG	C6-C5-N7	2.08	134.11	130.25
1	A	4306	OMU	O4-C4-C5	-2.07	121.51	125.16
1	A	1744	PSU	O3'-C3'-C2'	2.07	118.53	111.82
1	A	2424	OMG	C4-C5-N7	-2.07	107.44	110.72
1	A	4536	OMC	C5-C6-N1	-2.07	118.34	121.81
1	A	1322	1MA	C4-C5-N7	-2.07	107.45	110.72
1	A	2422	OMC	C2'-C3'-C4'	-2.07	97.51	101.99
1	A	3637	PSU	O5'-C5'-C4'	2.06	116.01	108.99
1	A	4447	5MC	C4'-O4'-C1'	2.06	114.02	109.47
1	A	4228	OMG	C1'-N9-C8	2.06	132.57	126.70
1	A	4523	A2M	C1'-N9-C8	-2.06	122.48	127.14
1	A	3887	OMC	O2'-C2'-C1'	2.06	113.10	109.08
1	A	2839	PSU	C4'-O4'-C1'	2.06	113.73	108.55
1	A	4361	PSU	O4'-C1'-C2'	-2.06	102.24	105.14
1	A	4306	OMU	C5'-C4'-C3'	-2.06	107.47	115.18
1	A	4293	PSU	C3'-C2'-C1'	2.06	104.03	101.64
1	A	4530	UR3	C2'-C3'-C4'	2.05	106.63	102.64
1	A	4590	A2M	C1'-N9-C8	2.05	131.77	127.14
1	A	4423	PSU	O3'-C3'-C4'	2.05	116.96	111.05
1	A	3724	A2M	C1'-N9-C8	-2.04	122.52	127.14
1	A	4623	OMG	O2'-C2'-C1'	-2.04	105.09	109.08
1	A	1522	OMG	C5-C4-N9	2.04	109.34	105.63
1	A	1871	A2M	O4'-C4'-C3'	-2.04	101.07	105.11
1	A	1326	A2M	C5-C4-N9	2.04	108.16	105.78
1	A	1534	A2M	O3'-C3'-C4'	-2.04	105.16	111.05
1	A	1534	A2M	C1'-N9-C8	2.03	131.73	127.14
1	A	4306	OMU	O4'-C1'-N1	-2.03	103.72	108.36
1	A	400	A2M	C6-C5-C4	2.03	119.92	117.18
1	A	3718	A2M	C3'-C2'-C1'	-2.03	99.07	102.89
1	A	1677	PSU	O4'-C1'-C2'	2.03	108.01	105.14
1	A	4498	OMU	C2'-C3'-C4'	-2.03	97.59	101.99
1	A	4456	OMC	O5'-C5'-C4'	-2.03	102.11	108.99
1	A	2804	OMC	C4-N3-C2	-2.02	116.99	120.25
1	A	1316	OMG	C3'-C2'-C1'	2.02	106.69	102.89
1	A	4618	OMG	O5'-C5'-C4'	2.02	115.86	108.99
1	A	4628	PSU	O2'-C2'-C3'	-2.02	105.29	111.82
1	A	1534	A2M	O2'-C2'-C1'	-2.02	105.14	109.08

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	55	PSU	C4'-O4'-C1'	2.01	113.62	108.55
1	A	1524	A2M	C2'-C1'-N9	-2.01	110.14	113.53
1	A	4521	PSU	O2-C2-N3	-2.01	118.02	121.82
1	A	4293	PSU	O2'-C2'-C1'	-2.01	106.44	111.23
1	A	1781	PSU	C6-C5-C4	2.01	119.60	118.20
1	A	3818	OMU	O3'-C3'-C4'	-2.01	105.25	111.05
3	C	69	PSU	O4'-C1'-C2'	-2.00	102.32	105.14
1	A	1862	PSU	O2'-C2'-C1'	-2.00	106.45	111.23
1	A	4228	OMG	N2-C2-N1	2.00	120.97	116.71

There are no chirality outliers.

All (70) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	400	A2M	C1'-C2'-O2'-CM'
1	A	1582	PSU	C3'-C4'-C5'-O5'
1	A	1625	OMG	C3'-C2'-O2'-CM2
1	A	2415	OMU	C1'-C2'-O2'-CM2
1	A	2424	OMG	O4'-C4'-C5'-O5'
1	A	2815	A2M	C1'-C2'-O2'-CM'
1	A	3701	OMC	C2'-C1'-N1-C2
1	A	3701	OMC	C2'-C1'-N1-C6
1	A	3785	A2M	O4'-C4'-C5'-O5'
1	A	3830	A2M	C1'-C2'-O2'-CM'
1	A	3869	OMC	C1'-C2'-O2'-CM2
1	A	4196	OMG	C1'-C2'-O2'-CM2
1	A	4227	OMU	O4'-C4'-C5'-O5'
1	A	4228	OMG	C3'-C2'-O2'-CM2
1	A	4370	OMG	C1'-C2'-O2'-CM2
1	A	4447	5MC	C2'-C1'-N1-C6
1	A	4590	A2M	C4'-C5'-O5'-P
3	C	75	OMG	C1'-C2'-O2'-CM2
1	A	2365	OMC	C3'-C4'-C5'-O5'
1	A	2424	OMG	C3'-C4'-C5'-O5'
1	A	3785	A2M	C3'-C4'-C5'-O5'
1	A	4227	OMU	C3'-C4'-C5'-O5'
1	A	4972	PSU	O4'-C4'-C5'-O5'
1	A	5001	PSU	O4'-C4'-C5'-O5'
1	A	1792	PSU	C3'-C4'-C5'-O5'
1	A	1792	PSU	O4'-C4'-C5'-O5'
1	A	2365	OMC	O4'-C4'-C5'-O5'
1	A	2815	A2M	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
1	A	2815	A2M	C3'-C4'-C5'-O5'
1	A	4500	PSU	O4'-C4'-C5'-O5'
1	A	4689	PSU	O4'-C4'-C5'-O5'
1	A	398	A2M	O4'-C4'-C5'-O5'
1	A	2364	OMG	O4'-C4'-C5'-O5'
1	A	2839	PSU	O4'-C4'-C5'-O5'
1	A	4500	PSU	C3'-C4'-C5'-O5'
1	A	2787	A2M	C2'-C1'-N9-C8
1	A	4447	5MC	C2'-C1'-N1-C2
1	A	2839	PSU	C3'-C4'-C5'-O5'
1	A	4370	OMG	O4'-C4'-C5'-O5'
1	A	4447	5MC	O4'-C1'-N1-C6
1	A	3818	OMU	C4'-C5'-O5'-P
1	A	4500	PSU	C4'-C5'-O5'-P
1	A	2364	OMG	C3'-C4'-C5'-O5'
1	A	3830	A2M	O4'-C4'-C5'-O5'
1	A	3830	A2M	C3'-C4'-C5'-O5'
1	A	3825	A2M	C3'-C4'-C5'-O5'
1	A	4296	PSU	O4'-C4'-C5'-O5'
1	A	1524	A2M	O4'-C1'-N9-C4
1	A	1534	A2M	C4'-C5'-O5'-P
1	A	4447	5MC	O4'-C1'-N1-C2
1	A	3808	OMC	O4'-C4'-C5'-O5'
1	A	3701	OMC	O4'-C1'-N1-C6
1	A	3701	OMC	O4'-C1'-N1-C2
1	A	1524	A2M	O4'-C1'-N9-C8
1	A	2787	A2M	C2'-C1'-N9-C4
1	A	3851	PSU	O4'-C4'-C5'-O5'
1	A	3701	OMC	C3'-C2'-O2'-CM2
1	A	3729	PSU	O4'-C4'-C5'-O5'
1	A	4530	UR3	O4'-C4'-C5'-O5'
1	A	4972	PSU	C3'-C4'-C5'-O5'
1	A	3718	A2M	C1'-C2'-O2'-CM'
1	A	1322	1MA	C2'-C1'-N9-C8
1	A	2787	A2M	O4'-C1'-N9-C8
1	A	2422	OMC	C3'-C4'-C5'-O5'
1	A	1677	PSU	O4'-C1'-C5-C6
1	A	1534	A2M	O4'-C4'-C5'-O5'
1	A	2351	OMC	O4'-C4'-C5'-O5'
1	A	1524	A2M	C3'-C2'-O2'-CM'
1	A	2351	OMC	C3'-C4'-C5'-O5'
1	A	3844	PSU	C4'-C5'-O5'-P

There are no ring outliers.

52 monomers are involved in 89 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	75	OMG	3	0
1	A	4498	OMU	1	0
1	A	4370	OMG	2	0
1	A	1871	A2M	3	0
1	A	2632	PSU	1	0
1	A	3887	OMC	1	0
1	A	3925	OMU	2	0
1	A	4196	OMG	1	0
1	A	4579	PSU	1	0
1	A	3851	PSU	1	0
1	A	4571	A2M	2	0
1	A	4392	OMG	2	0
1	A	4494	OMG	1	0
1	A	5001	PSU	1	0
1	A	2401	A2M	1	0
1	A	1322	1MA	1	0
1	A	4227	OMU	4	0
1	A	3785	A2M	1	0
1	A	3867	A2M	2	0
1	A	2876	OMG	1	0
1	A	1524	A2M	1	0
1	A	2787	A2M	3	0
1	A	4403	PSU	1	0
1	A	2422	OMC	1	0
1	A	1340	OMC	1	0
1	A	4228	OMG	14	0
1	A	4637	OMG	1	0
1	A	3627	OMG	1	0
1	A	5010	PSU	1	0
1	A	1781	PSU	1	0
1	A	4423	PSU	1	0
1	A	1677	PSU	1	0
1	A	1782	PSU	1	0
1	A	4530	UR3	2	0
1	A	2815	A2M	1	0
1	A	1534	A2M	3	0
1	A	2415	OMU	1	0
1	A	2839	PSU	1	0
1	A	2861	OMC	2	0
1	A	3830	A2M	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	3818	OMU	1	0
1	A	4532	PSU	1	0
1	A	4521	PSU	1	0
1	A	4590	A2M	3	0
1	A	4420	PSU	1	0
1	A	1862	PSU	2	0
1	A	400	A2M	1	0
1	A	3718	A2M	2	0
1	A	1860	PSU	5	0
1	A	398	A2M	2	0
1	A	4431	PSU	2	0
1	A	2351	OMC	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 386 ligands modelled in this entry, 386 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	4273:A	O3'	4274:A	P	1.83
1	A	3823:G	O3'	3824:A	P	1.77

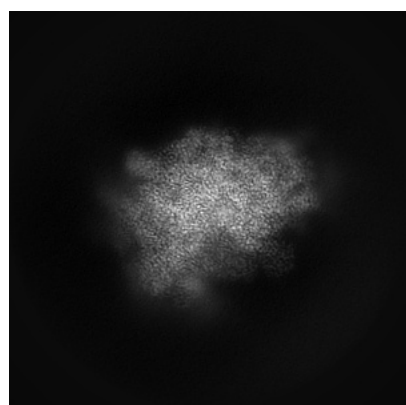
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13094. These allow visual inspection of the internal detail of the map and identification of artifacts.

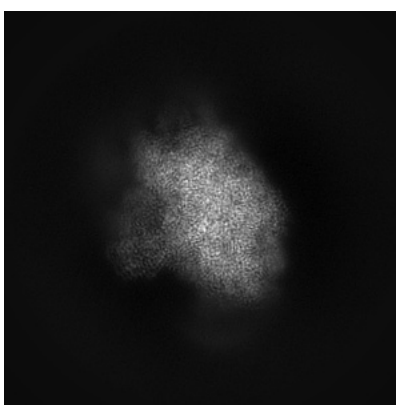
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

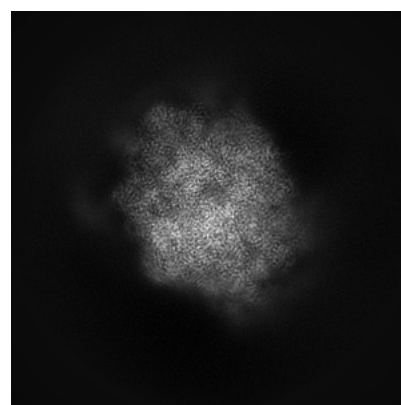
6.1.1 Primary map



X



Y

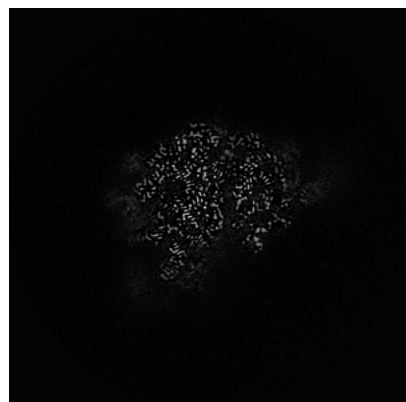


Z

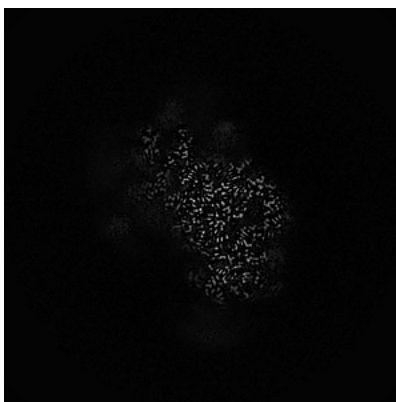
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

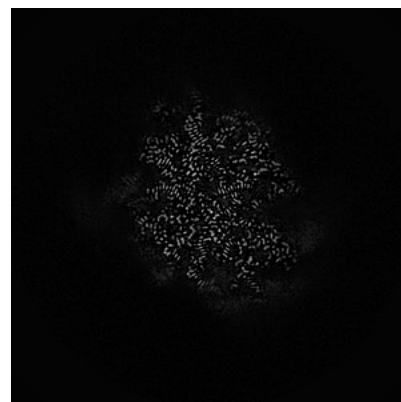
6.2.1 Primary map



X Index: 256



Y Index: 256

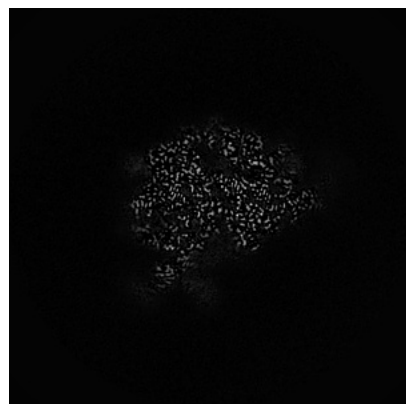


Z Index: 256

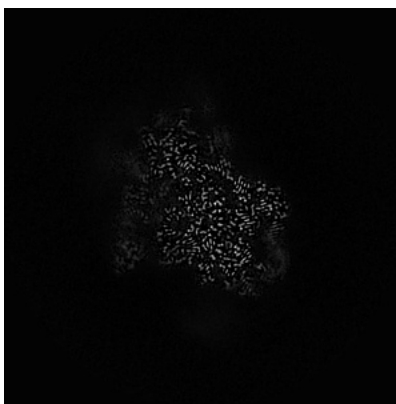
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

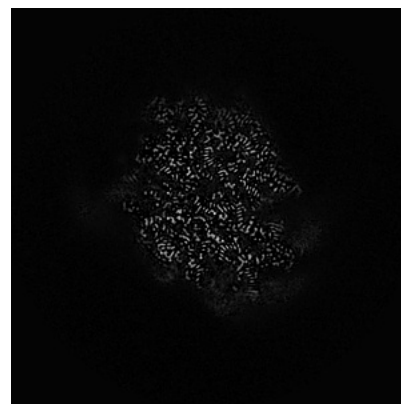
6.3.1 Primary map



X Index: 239



Y Index: 238

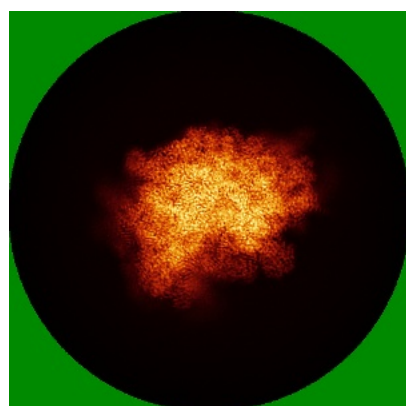


Z Index: 261

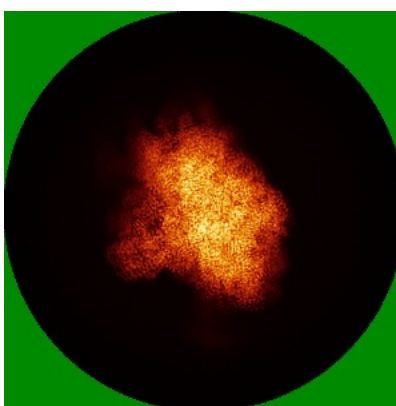
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

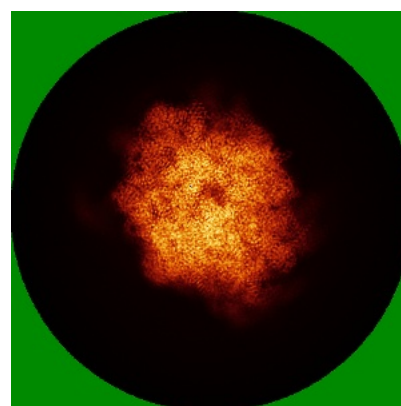
6.4.1 Primary map



X



Y

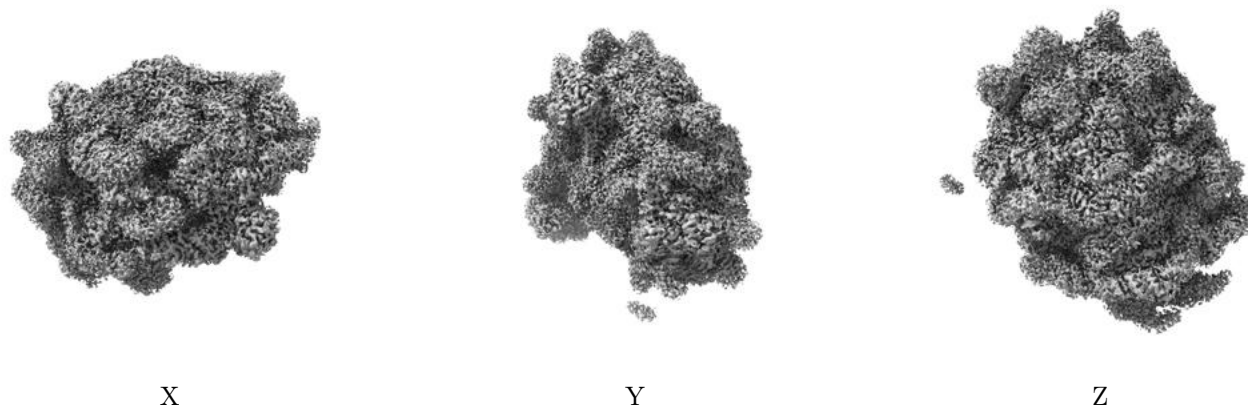


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

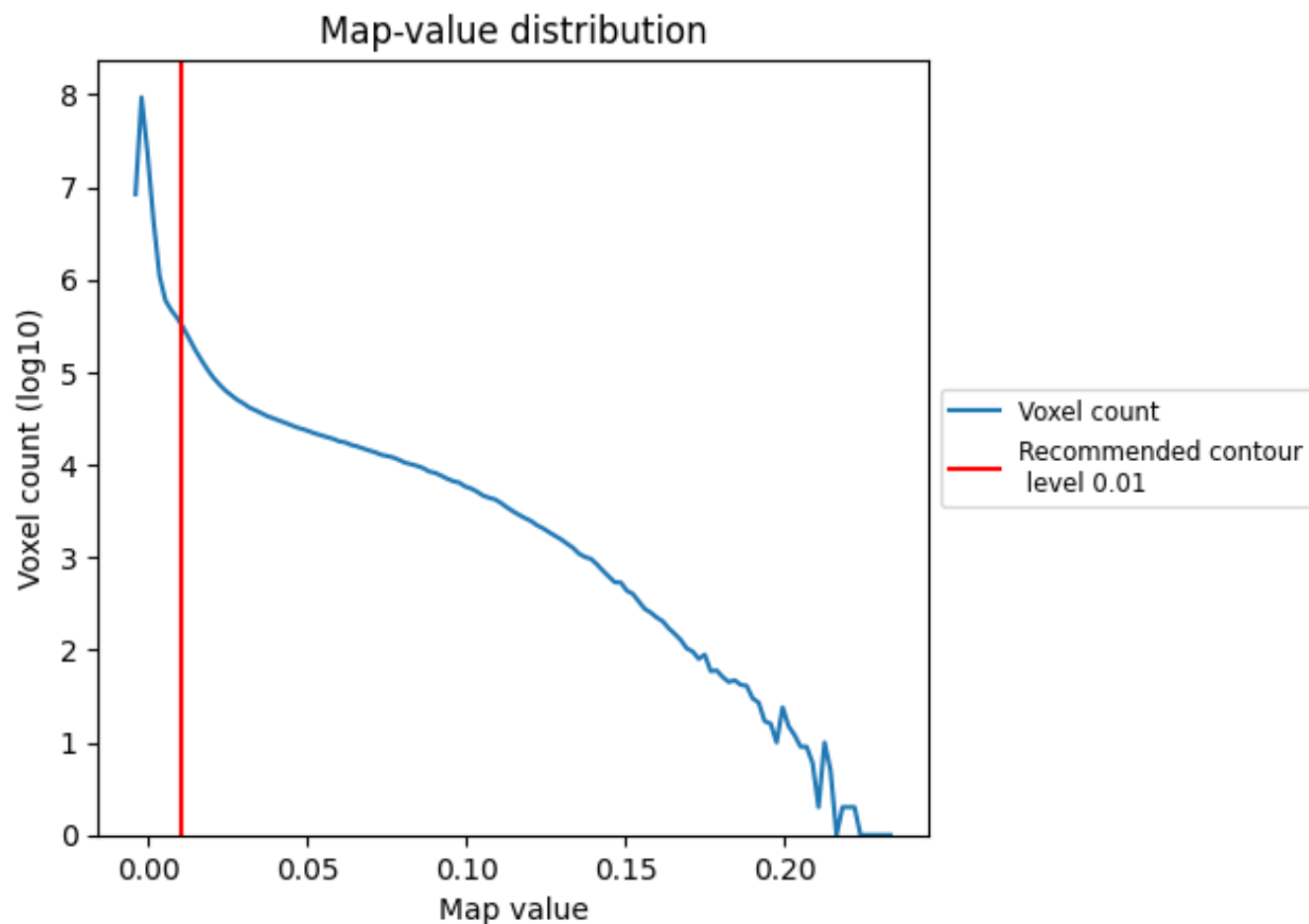
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

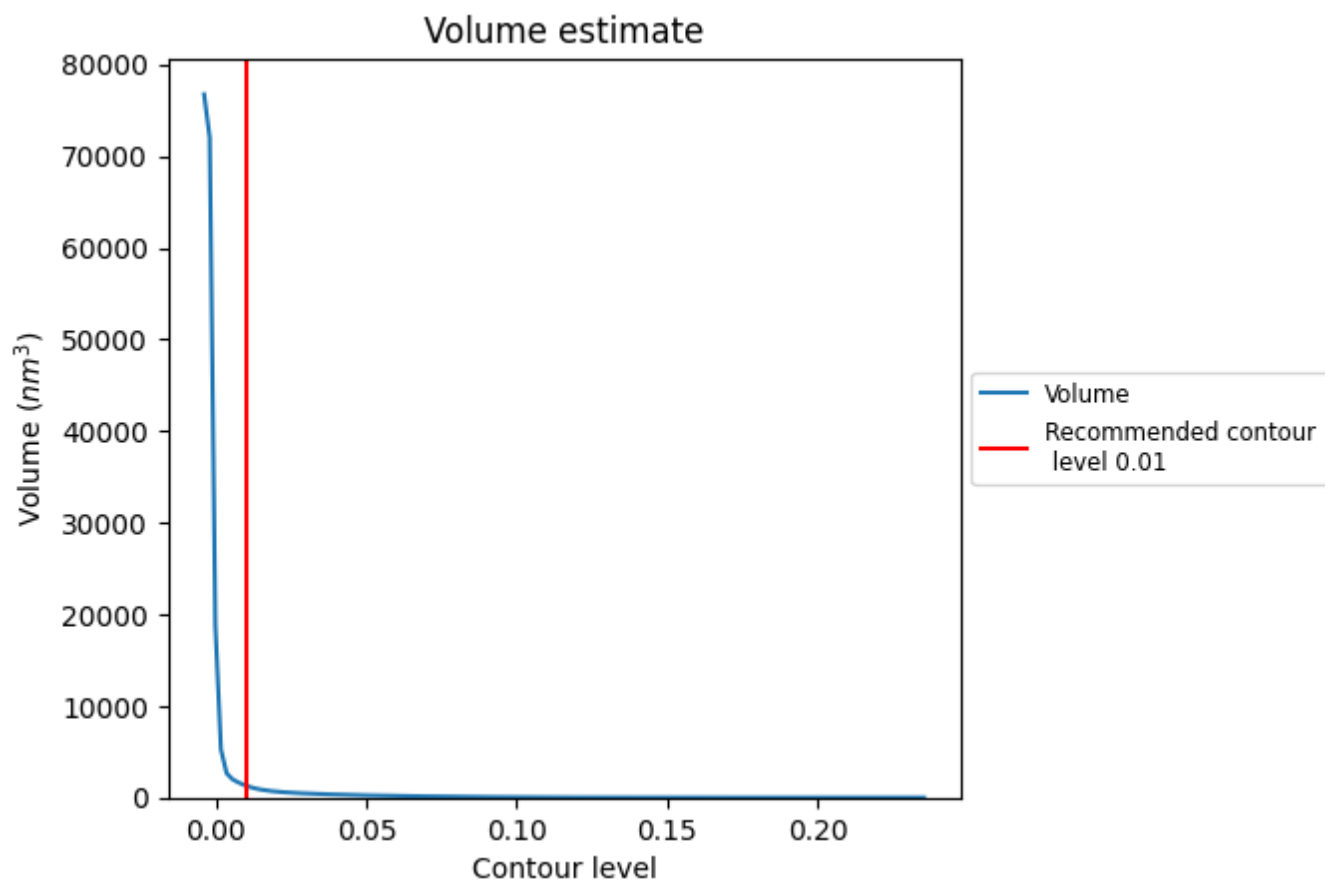
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

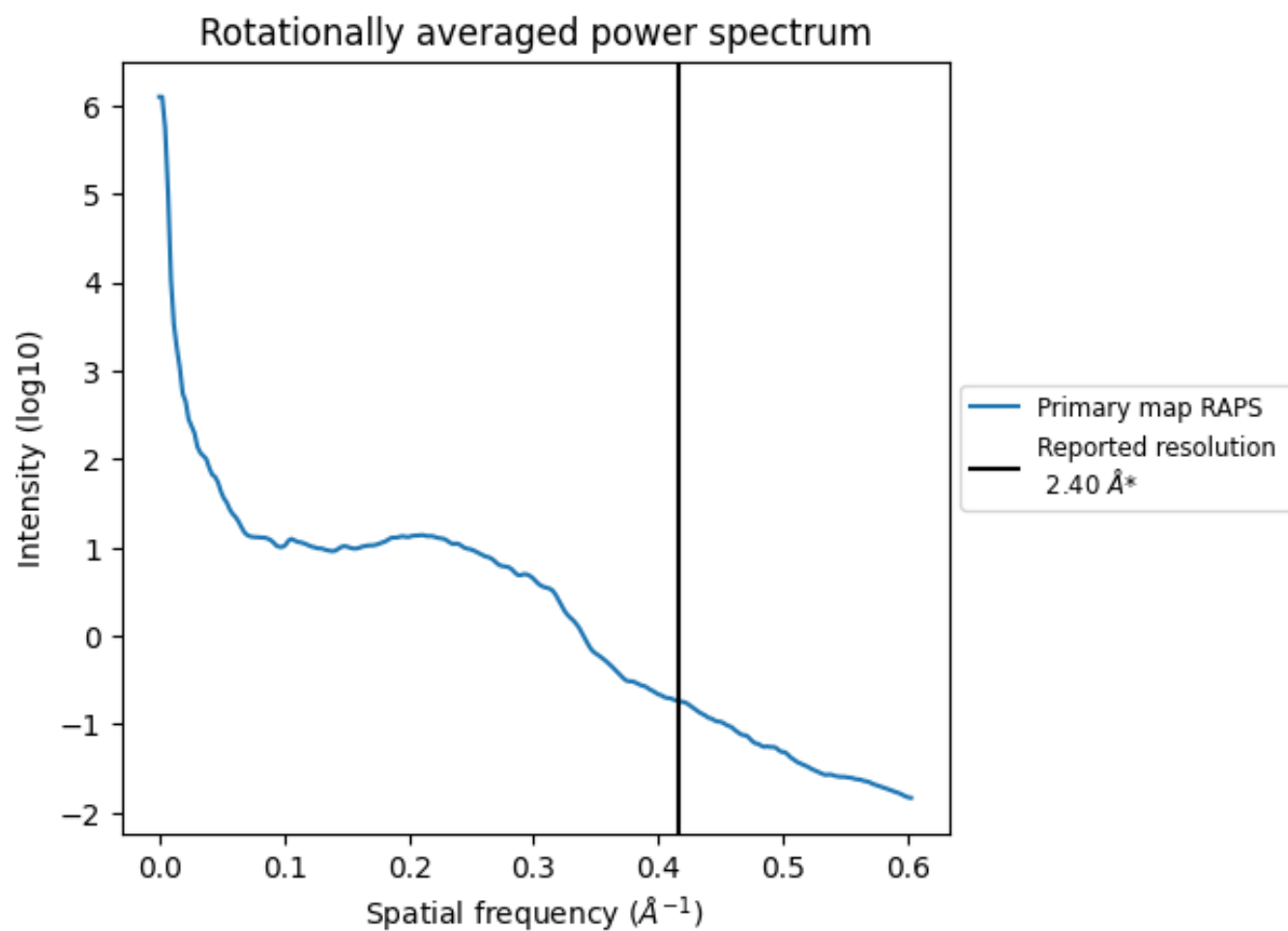
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1295 nm³; this corresponds to an approximate mass of 1170 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

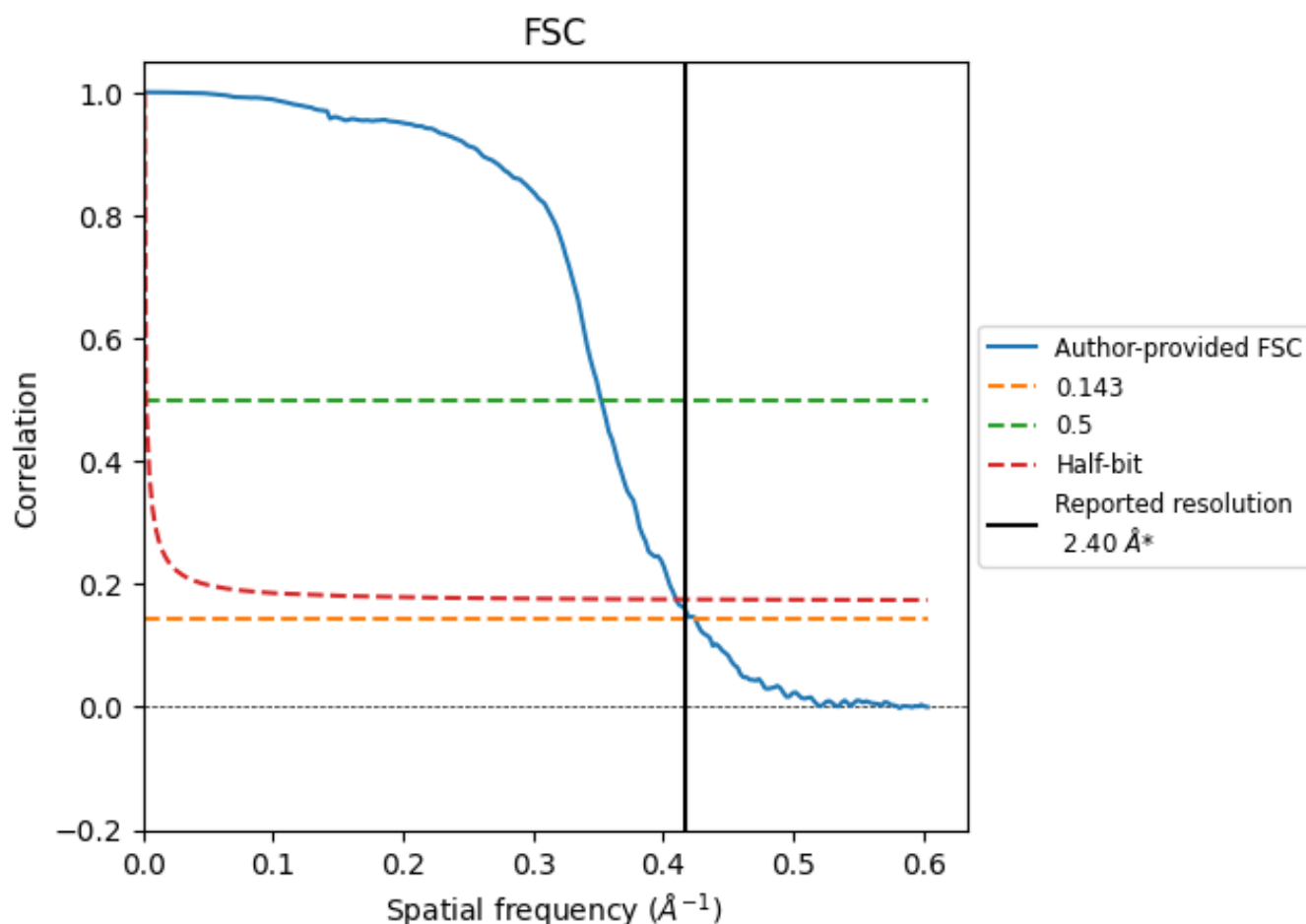


*Reported resolution corresponds to spatial frequency of 0.417 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.417 Å⁻¹

8.2 Resolution estimates [i](#)

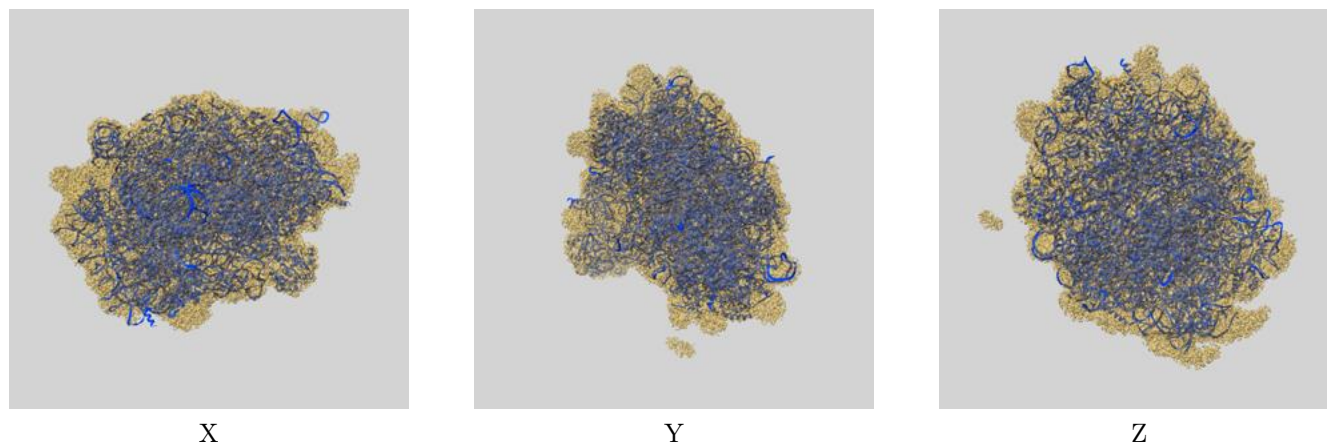
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.40	-	-
Author-provided FSC curve	2.36	2.84	2.44
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

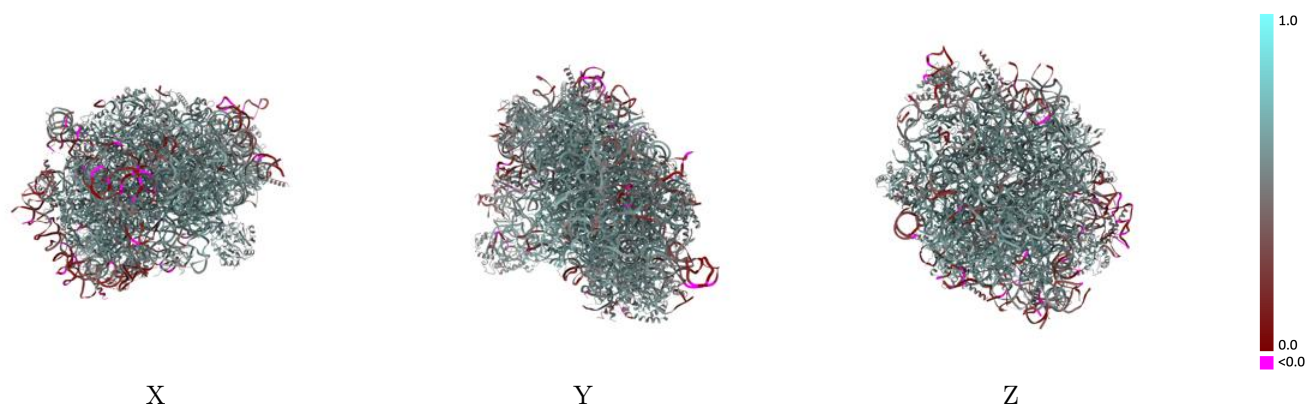
This section contains information regarding the fit between EMDB map EMD-13094 and PDB model 7OW7. Per-residue inclusion information can be found in [section 3](#) on [page 16](#).

9.1 Map-model overlay [i](#)



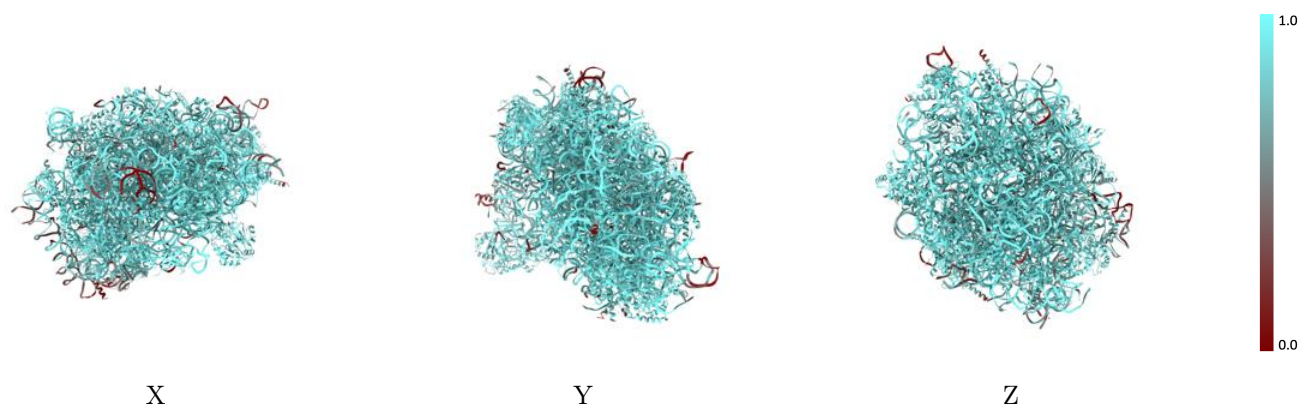
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



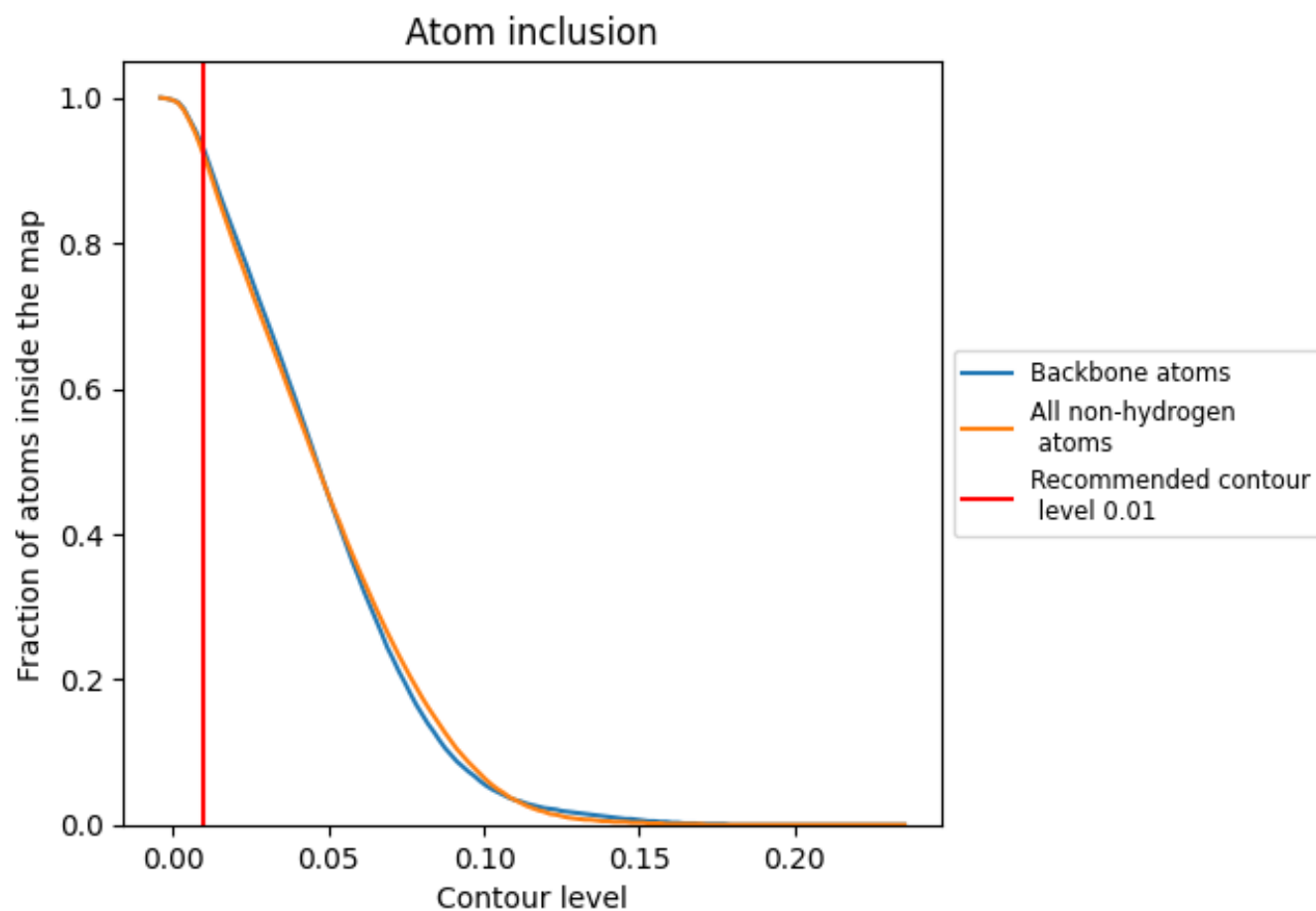
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.01).

9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 92% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9200	 0.5390
A	 0.9100	 0.5170
B	 0.9820	 0.5800
C	 0.9720	 0.5680
D	 0.9800	 0.6120
E	 0.9510	 0.5750
F	 0.9700	 0.6060
G	 0.8790	 0.5420
H	 0.9240	 0.5500
I	 0.9510	 0.5810
J	 0.9710	 0.5870
K	 0.9790	 0.6260
L	 0.8900	 0.5270
M	 0.9660	 0.5890
N	 0.9530	 0.5920
P	 0.8820	 0.5290
Q	 0.9610	 0.5910
R	 0.9480	 0.5570
S	 0.9240	 0.5500
T	 0.8980	 0.5210
U	 0.9720	 0.6220
V	 0.8640	 0.5150
W	 0.9100	 0.5350
X	 0.9350	 0.5560
Y	 0.9750	 0.6060
Z	 0.9820	 0.6150
a	 0.9150	 0.5470
b	 0.9180	 0.5540
c	 0.8900	 0.5400
d	 0.9750	 0.6080
e	 0.7390	 0.4490
f	 0.9460	 0.5630
i	 0.9300	 0.5710
j	 0.9330	 0.5590
k	 0.9710	 0.6020



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Chain	Atom inclusion	Q-score
m	 0.9660	 0.6060
n	 0.9040	 0.5520
o	 0.9030	 0.5300
p	 0.7930	 0.4490
q	 0.8100	 0.4810
r	 0.9200	 0.5760
s	 0.9150	 0.5410
t	 0.9880	 0.6240
u	 0.9220	 0.5420