



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 06:22 PM UTC

PDB ID : 3J9Z / pdb_00003j9z
EMDB ID : EMD-6315
Title : Activation of GTP Hydrolysis in mRNA-tRNA Translocation by Elongation Factor G
Authors : Li, W.; Liu, Z.; Koripella, R.K.; Langlois, R.; Sanyal, S.; Frank, J.
Deposited on : 2015-03-27
Resolution : 3.60 Å(reported)
Based on initial model : 3J0U

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:

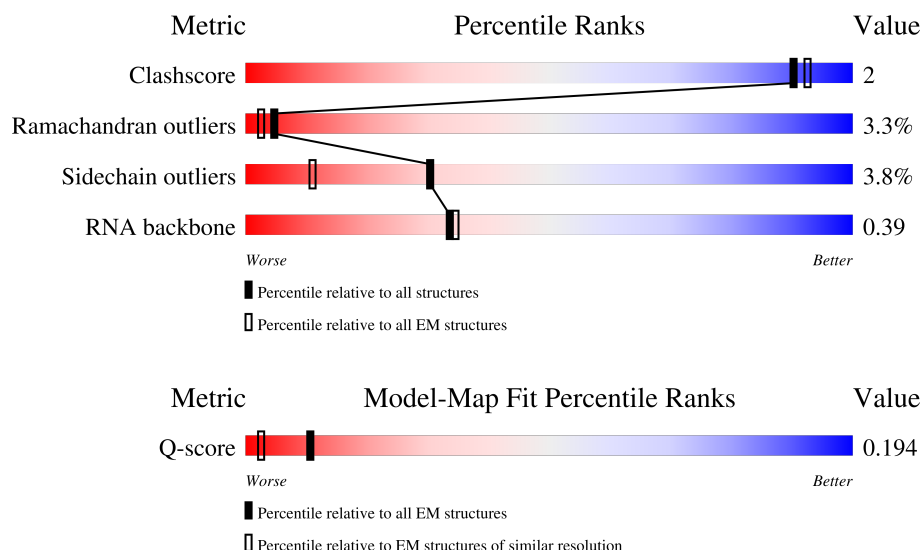
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data 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 3.60 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	12797 (3.10 - 4.10)

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	SA	1542	
2	S6	77	
3	S7	74	

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Mol	Chain	Length	Quality of chain
4	SJ	103	
5	SK	128	
6	SL	123	
7	SM	117	
8	SN	100	
9	SO	88	
10	SP	82	
11	SQ	83	
12	SR	74	
13	SS	91	
14	SB	240	
15	ST	86	
16	SU	70	
17	SC	232	
18	SD	205	
19	SE	166	
20	SF	135	
21	SG	178	
22	SH	129	
23	SI	129	
24	S1	702	
25	LA	2904	
26	LB	120	
27	LC	234	
28	LM	114	

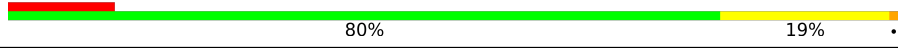
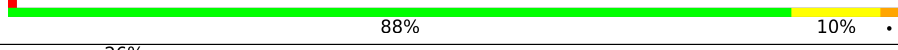
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Mol	Chain	Length	Quality of chain
29	LN	272	
30	LO	117	
31	LP	103	
32	LQ	110	
33	LR	100	
34	LS	103	
35	LT	94	
36	LU	84	
37	LV	77	
38	LD	164	
39	LW	63	
40	LX	209	
41	LY	58	
42	L1	56	
43	L2	54	
44	L3	46	
45	L4	64	
46	L5	38	
47	L6	201	
48	LE	141	
49	L7	178	
50	L8	176	
51	L9	149	
52	LF	142	
53	LG	123	

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Mol	Chain	Length	Quality of chain
54	LH	144	
55	LI	136	
56	LJ	127	
57	LK	117	
58	LZ	70	

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
59	GTP	S1	801	-	-	X	-

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 156714 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 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	SA	1542	Total	C	N	O	P	0	0
			33076	14754	6064	10717	1541		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	S6	77	Total	C	N	O	P	0	0
			1639	732	297	534	76		

- Molecule 3 is a RNA chain called E-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	S7	74	Total	C	N	O	P	0	0
			1577	704	282	518	73		

- Molecule 4 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	SJ	103	Total	C	N	O	S	0	0
			825	514	158	151	2		

- Molecule 5 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	SK	128	Total	C	N	O	S	0	0
			965	595	196	171	3		

- Molecule 6 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	SL	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 7 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	SM	117	Total	C	N	O	S	0	0
			910	564	183	160	3		

- Molecule 8 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	SN	100	Total	C	N	O	S	0	0
			805	499	164	139	3		

- Molecule 9 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	SO	88	Total	C	N	O	S	0	0
			716	440	146	129	1		

- Molecule 10 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	SP	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 11 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	SQ	83	Total	C	N	O	S	0	0
			672	425	124	120	3		

- Molecule 12 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	SR	74	Total	C	N	O	S	0	0
			626	395	123	107	1		

- Molecule 13 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	SS	91	Total	C	N	O	S	0	0
			727	464	139	122	2		

- Molecule 14 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	SB	240	Total	C	N	O	S	0	0
			1872	1180	332	352	8		

- Molecule 15 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	ST	86	Total	C	N	O	S	0	0
			670	414	138	115	3		

- Molecule 16 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	SU	70	Total	C	N	O	S	0	0
			590	366	125	98	1		

- Molecule 17 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	SC	232	Total	C	N	O	S	0	0
			1822	1149	346	323	4		

- Molecule 18 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	SD	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 19 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	SE	166	Total	C	N	O	S	0	0
			1225	761	232	226	6		

- Molecule 20 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	SF	135	Total	C	N	O	S	0	0
			1101	677	198	219	7		

- Molecule 21 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	SG	178	Total	C	N	O	S	0	0
			1400	874	269	253	4		

- Molecule 22 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	SH	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 23 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	SI	129	Total	C	N	O	S	0	0
			1036	642	208	183	3		

- Molecule 24 is a protein called Elongation factor G.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	S1	702	Total	C	N	O	S	0	0
			5431	3420	938	1048	25		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
S1	91	ALA	HIS	engineered mutation	UNP P0A6M8

- Molecule 25 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LA	2904	Total	C	N	O	P	0	0
			62333	27808	11464	20158	2903		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LA	1618	U	A	conflict	GB 33357927
LA	2030	C	A	conflict	GB 33357927

- Molecule 26 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	LB	120	Total	C	N	O	P	0	0
			2566	1144	468	835	119		

- Molecule 27 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	LC	234	Total	C	N	O	S	0	0
			1733	1081	315	330	7		

- Molecule 28 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	LM	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 29 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	LN	272	Total	C	N	O	S	0	0
			2092	1294	425	366	7		

- Molecule 30 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	LO	117	Total	C	N	O	0	0
			947	604	192	151		

- Molecule 31 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	LP	103	Total	C	N	O	S	0	0
			816	516	153	145	2		

- Molecule 32 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	LQ	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

- Molecule 33 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	LR	100	Total	C	N	O	S	0	0
			787	496	146	143	2		

- Molecule 34 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	LS	103	Total	C	N	O	S	0	0
			789	498	148	143			

- Molecule 35 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	LT	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

- Molecule 36 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	LU	84	Total	C	N	O	S	0	0
			634	391	129	113	1		

- Molecule 37 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	LV	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 38 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	LD	164	Total	C	N	O	S	0	0
			1233	776	220	231	6		

- Molecule 39 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	LW	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

- Molecule 40 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	LX	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 41 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	LY	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 42 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	L1	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 43 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	L2	54	Total	C	N	O	S	0	0
			441	284	81	76			

- Molecule 44 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	L3	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 45 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	L4	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 46 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	L5	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 47 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	L6	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 48 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	LE	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		

- Molecule 49 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	L7	178	Total	C	N	O	S	0	0
			1420	905	251	258	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
50	L8	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 51 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	L9	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 52 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	LF	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 53 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	LG	123	Total	C	N	O	S	0	0
			947	593	181	167	6		

- Molecule 54 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	LH	144	Total	C	N	O	S	0	0
			1053	654	207	190	2		

- Molecule 55 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	LI	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 56 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	LJ	127	Total	C	N	O	S	0	0
			1008	621	204	178	5		

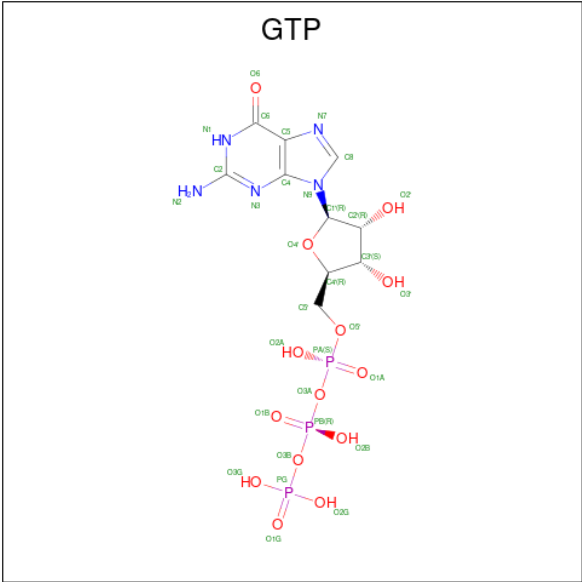
- Molecule 57 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	LK	117	Total	C	N	O	S	0	0
			900	557	179	163	1		

- Molecule 58 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	LZ	70	Total	C	N	O	S	0	0
			549	339	104	100	6		

- Molecule 59 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: C₁₀H₁₆N₅O₁₄P₃).

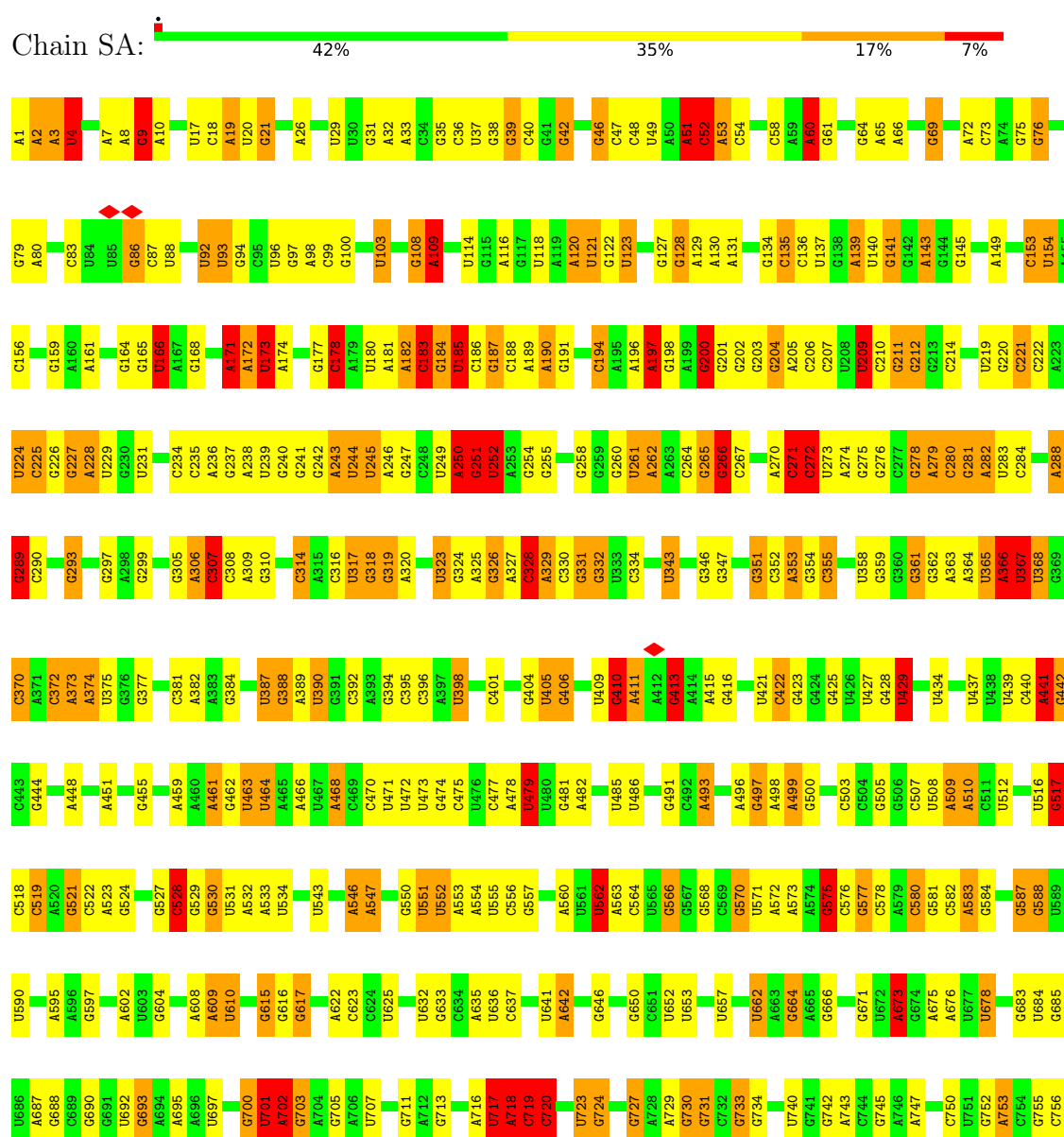


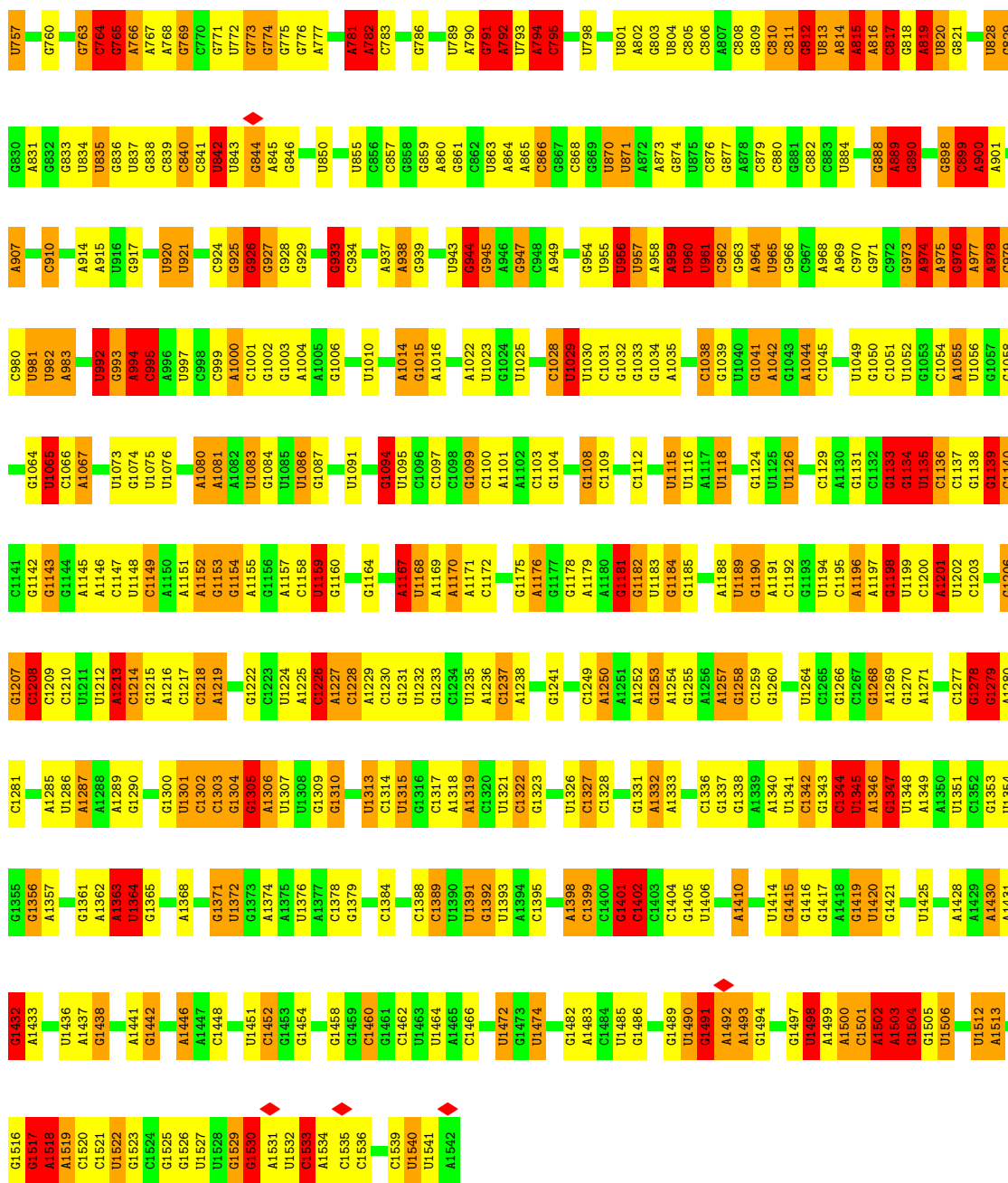
Mol	Chain	Residues	Atoms					AltConf
59	S1	1	Total	C	N	O	P	0
			32	10	5	14	3	

3 Residue-property plots

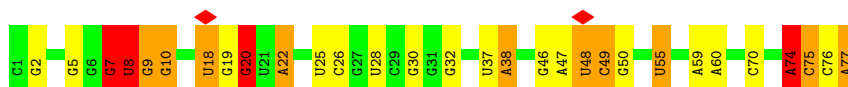
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: 16S ribosomal RNA

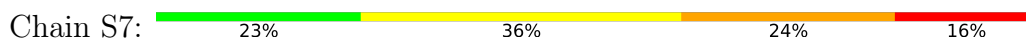


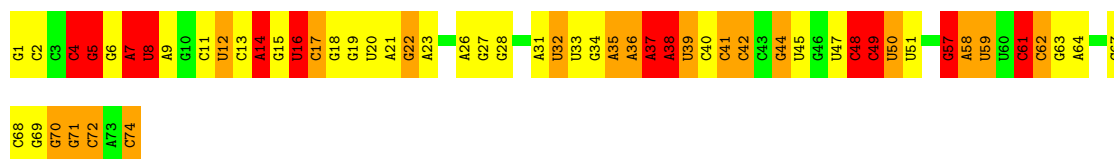


- Molecule 2: P-tRNA

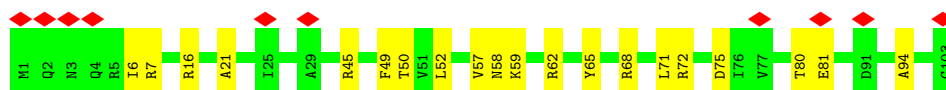
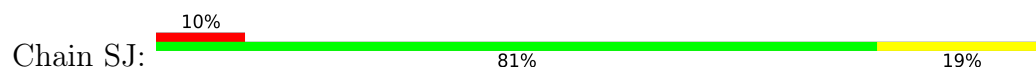


- Molecule 3: E-tRNA

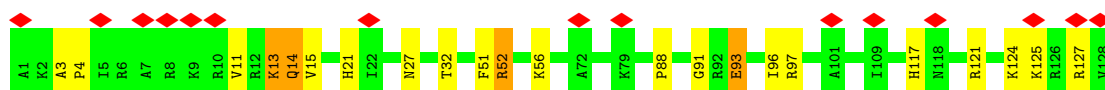
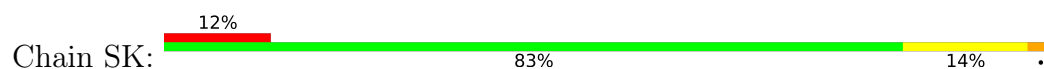




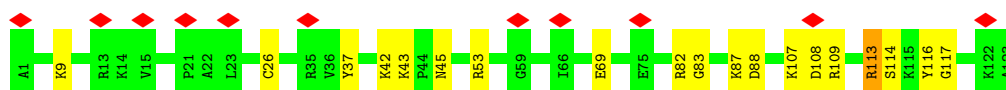
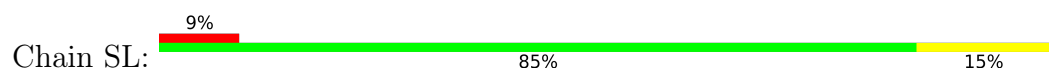
• Molecule 4: 30S ribosomal protein S10



• Molecule 5: 30S ribosomal protein S11



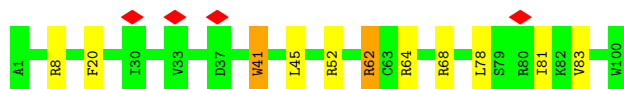
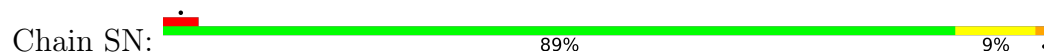
• Molecule 6: 30S ribosomal protein S12



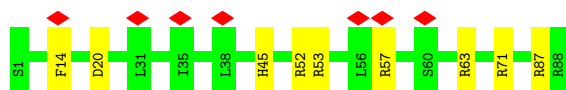
• Molecule 7: 30S ribosomal protein S13



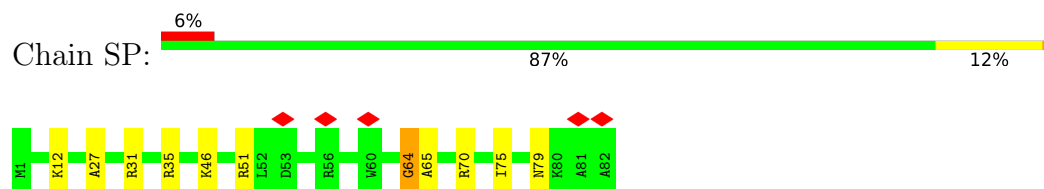
• Molecule 8: 30S ribosomal protein S14



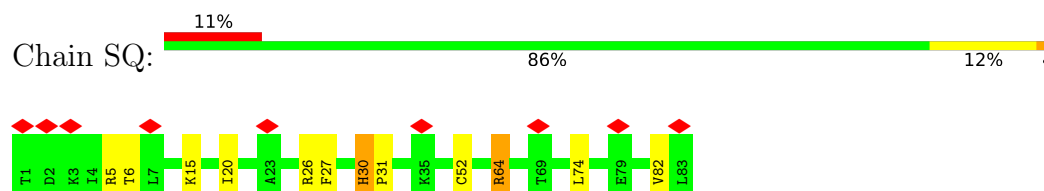
• Molecule 9: 30S ribosomal protein S15



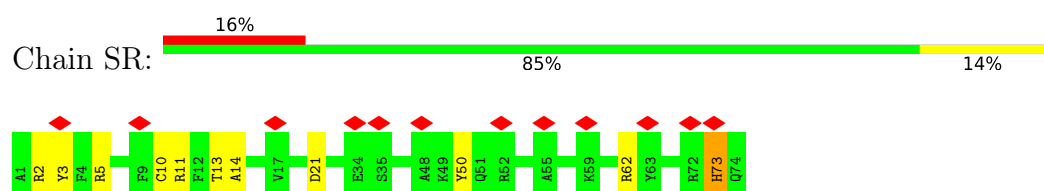
- Molecule 10: 30S ribosomal protein S16



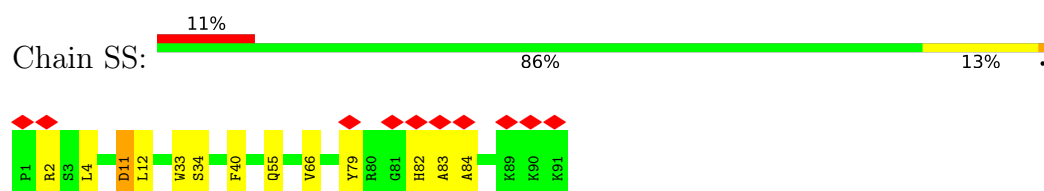
- Molecule 11: 30S ribosomal protein S17



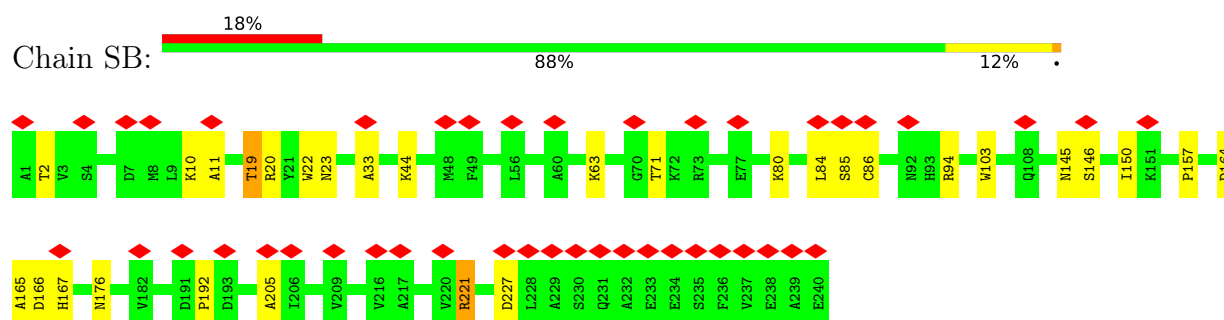
- Molecule 12: 30S ribosomal protein S18



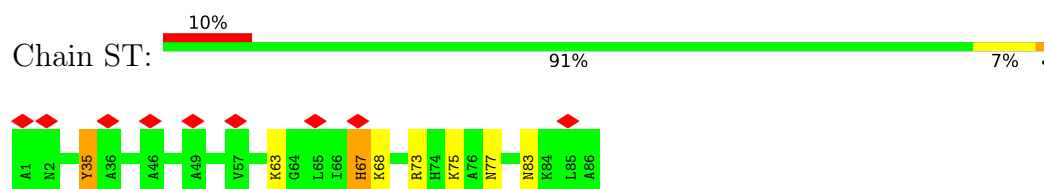
- Molecule 13: 30S ribosomal protein S19



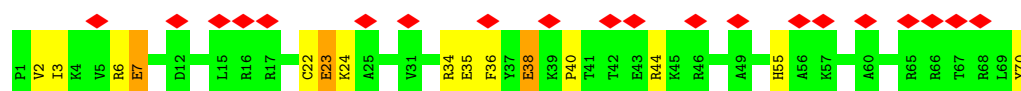
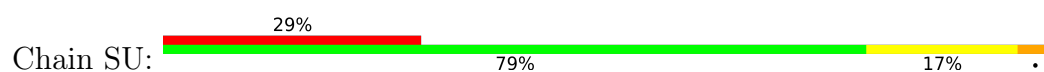
- Molecule 14: 30S ribosomal protein S2



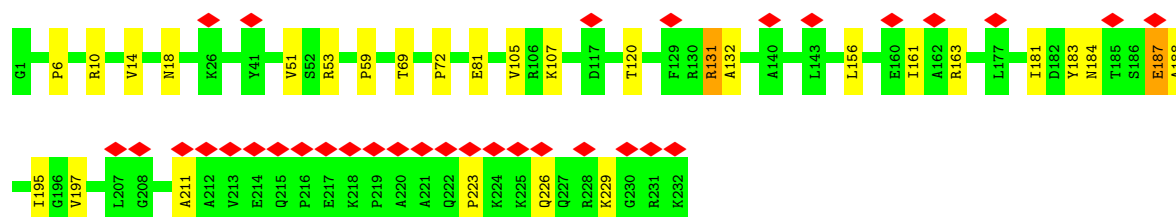
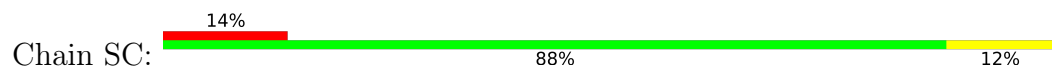
- Molecule 15: 30S ribosomal protein S20



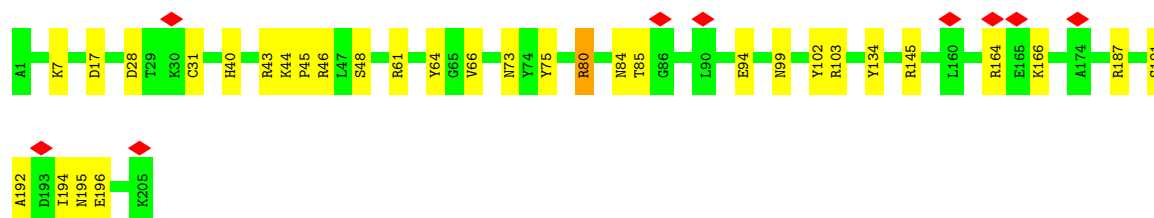
- Molecule 16: 30S ribosomal protein S21



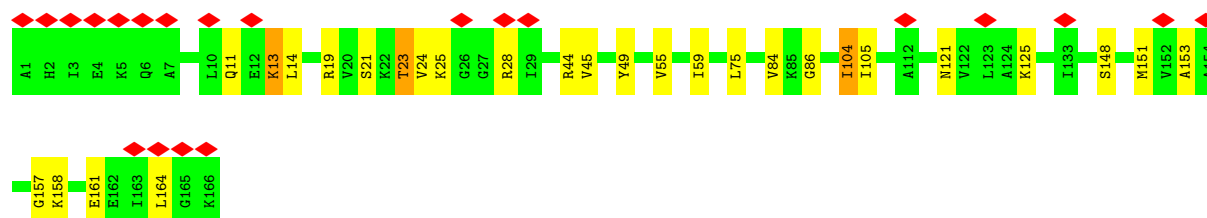
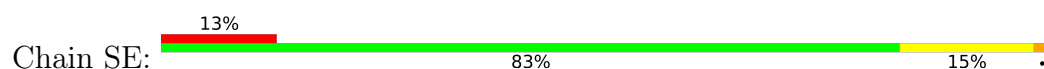
• Molecule 17: 30S ribosomal protein S3



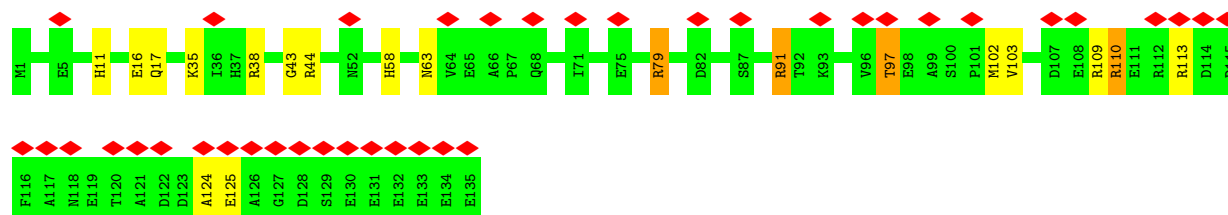
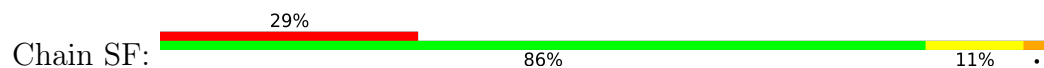
• Molecule 18: 30S ribosomal protein S4



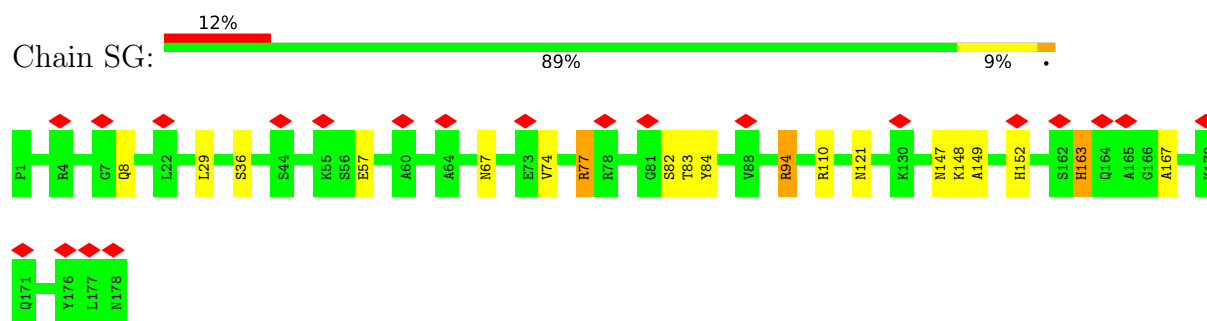
• Molecule 19: 30S ribosomal protein S5



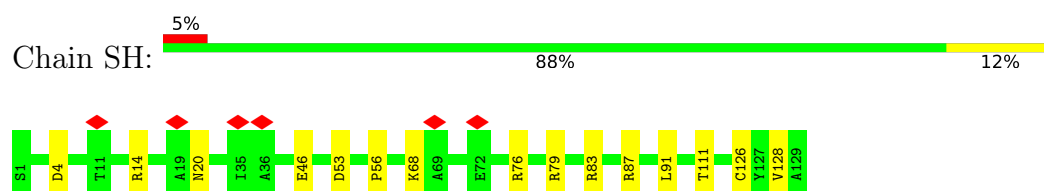
• Molecule 20: 30S ribosomal protein S6



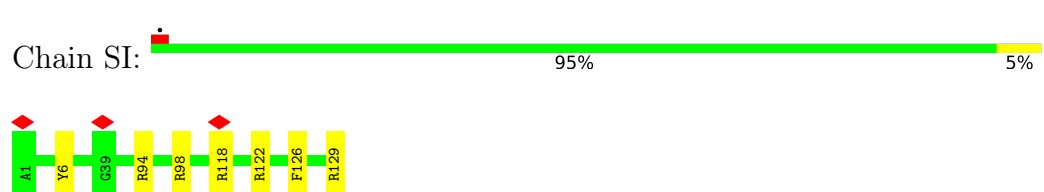
- Molecule 21: 30S ribosomal protein S7



- Molecule 22: 30S ribosomal protein S8



- Molecule 23: 30S ribosomal protein S9



- Molecule 24: Elongation factor G

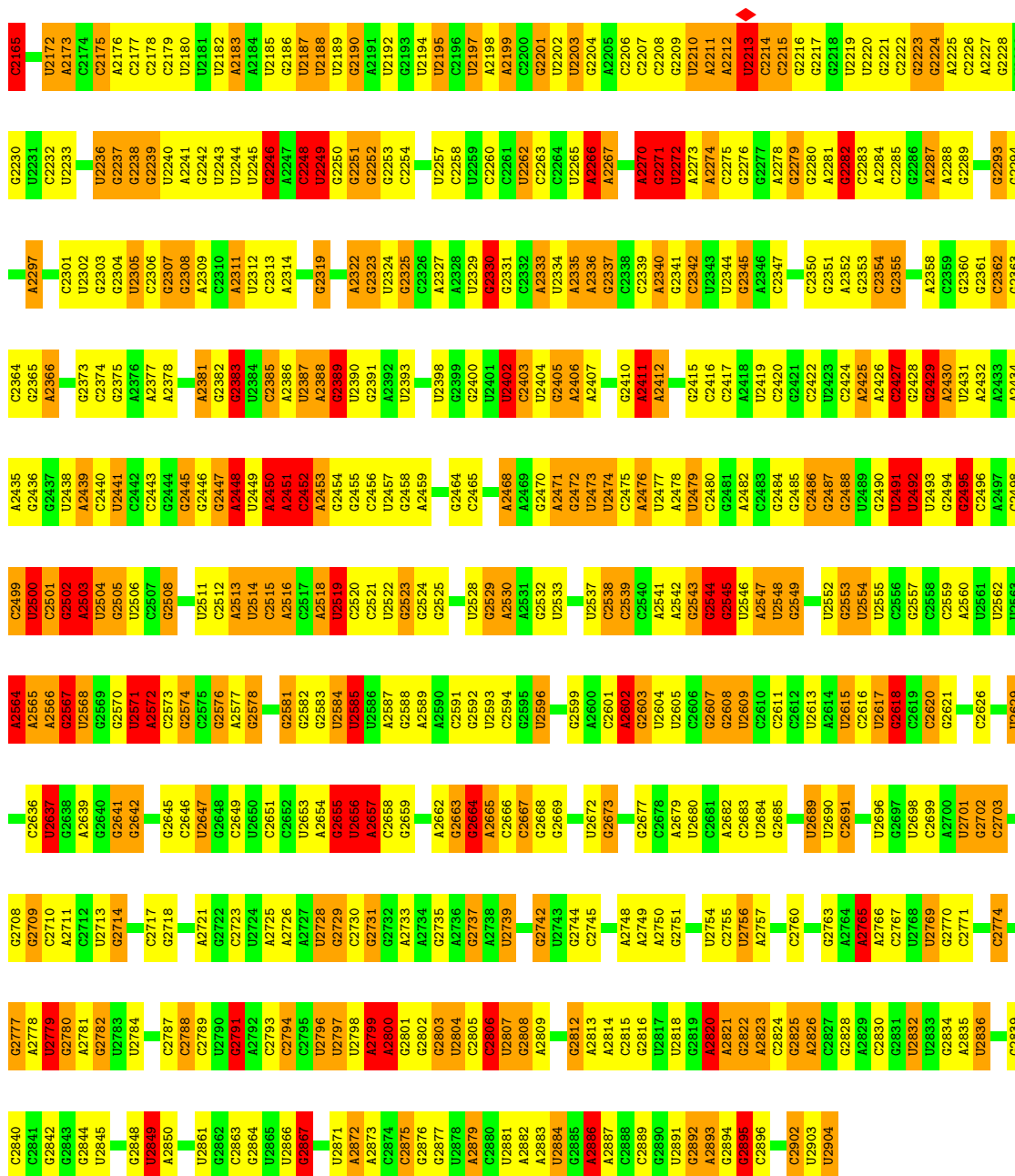


- Molecule 25: 23S ribosomal RNA

Frequency	Percentage
Daily	38%
Often	37%
Sometimes	19%
Rarely	7%

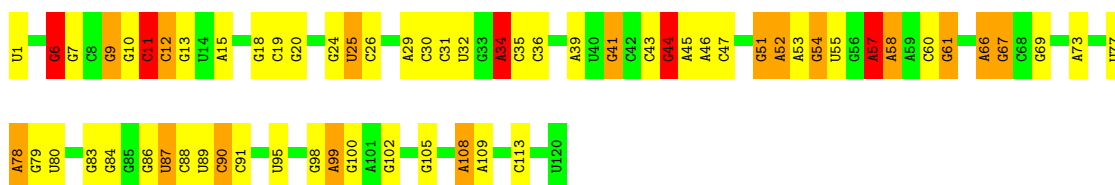


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U141	G1210	A1286	C1362	A1431	G1514	A1595	G1673	G1756	G1831	C1902	G1968	C2036	G2102
A142	G1211	G1363	G1364	A1434	G1516	A1596	G1674	A1757	C1832	G1903	A1969	A2037	C2103
A143	G1212	U1294	A1365	A1439	G1517	A1598	A1675	U1758	C1833	G1904	G1970	G2038	
A147	A1214	A1366	A1365	U1440	G1518	A1608	A1676	G1759	U1835	C1905	G1971	U2041	U2106
U148	G1215	A1367	A1367	U1443	A1522	A1609	A1678	C1760	C1836	G1906	G1972	A2042	G2107
G149	U1216	G1368	G1368	U1447	A1523	A1610	A1679	G1761	C1837	G1907	G1973	C2043	A2108
	G1217	C1297	G1369	U1453	G1524	A1611	A1680	A1762	G1838	U1911	C1974	C2044	G2109
	G1218	G1298	G1370	C1447	G1525	C1612	G1681	G1763	G1839	A1912	G1975	C2045	U2109
	G1219	G1299	G1371	C1448	G1527	G1613	G1682	C1764	G1840	A1913	A1976	G2046	G2110
	G1220	A1301	A1302	G1449	G1528	A1614	U1683	U1765	G1841	C1914	A1977	C2047	U2111
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	A1226	G1303	G1380	U1458	G1534	U1621	U1693	A1772	A1847	G1984	G1984	G2053	G2120
	G1227	U1234	G1381	G1459	G1535	G1622	C1694	A1773	A1848	U1923	C1985	A2054	G2121
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	G1236	G1163	A1383	C1461	G1537	U1624	G1699	U1775	G1850	C1925	C1990	G2056	G2124
	A1237	A1165	A1384	C1461	U1539	C1625	G1700	G1776	U1851	U1926	U1991	G2057	G2125
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			A1395	U1481	U1558	G1642	U1722	U1797	C1868	U1940	G2010	C2072	U2139
			U1396	G1482	U1559	G1643	G1723	G1798	U1869	C1942	U2011	C2073	U2140
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			U1400	U1484	C1561	G1645	U1725	C1800	G1873	U1944	A2013	U2075	A2142
			U1402	U1485	U1562	C1646	C1726	G1799	G1874	G1945	A2014	U2076	C2143
			U1406	U1486	C1565	U1647	C1727	C1803	G1875	C1947	A2015	C2077	G2144
			G1407	U1487	C1566	U1648		A1803	U1876	G1948	U2017	U2078	G2145
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			U1427	A1508	A1583	A1668	G1742	U1826	G1896	U1962	C2030	U2092	C2160
			C1428	A1589	U1584	A1669	G1743	G1827	C1897	U1963	A2031	G2093	G2161
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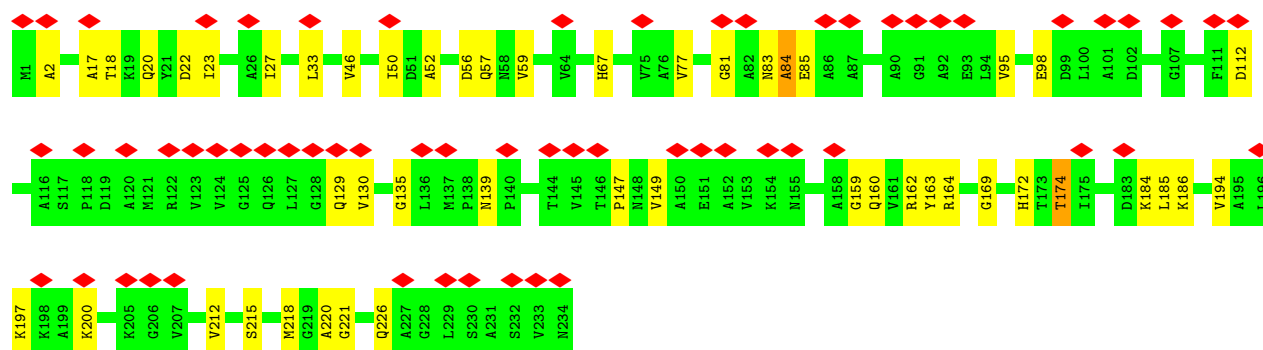
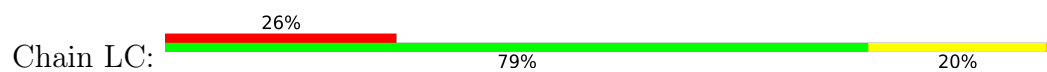


• Molecule 26: 5S ribosomal RNA

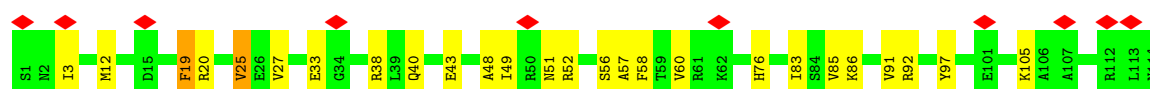
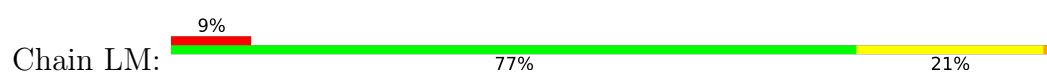
Chain LB: 48% 35% 13%



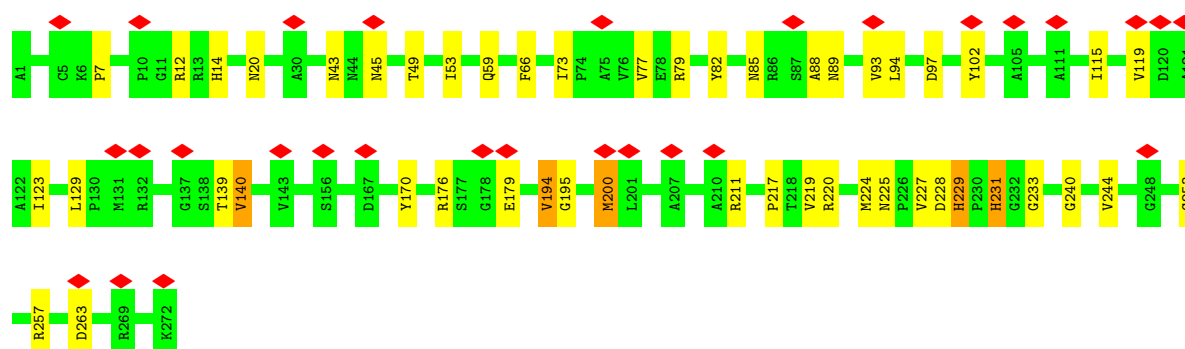
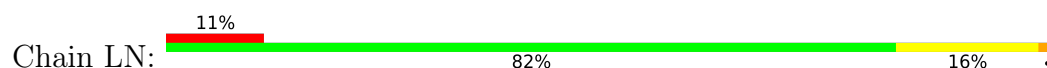
• Molecule 27: 50S ribosomal protein L1



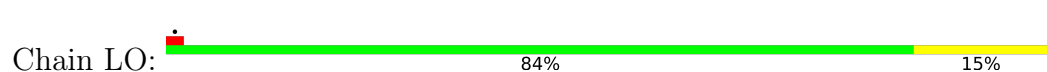
- Molecule 28: 50S ribosomal protein L19



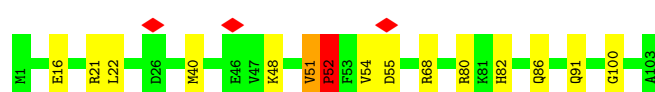
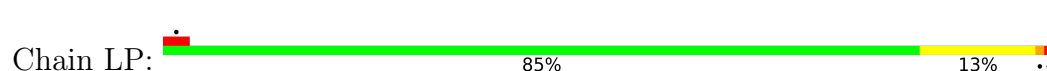
- Molecule 29: 50S ribosomal protein L2



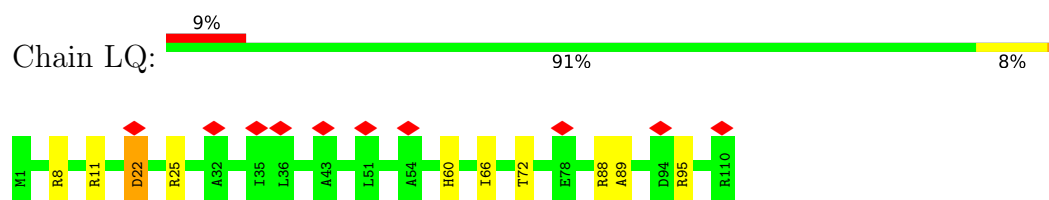
- Molecule 30: 50S ribosomal protein L20



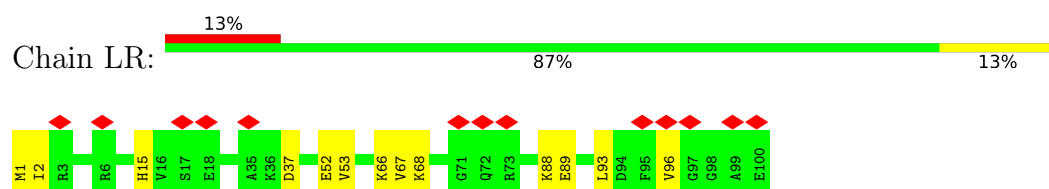
- Molecule 31: 50S ribosomal protein L21



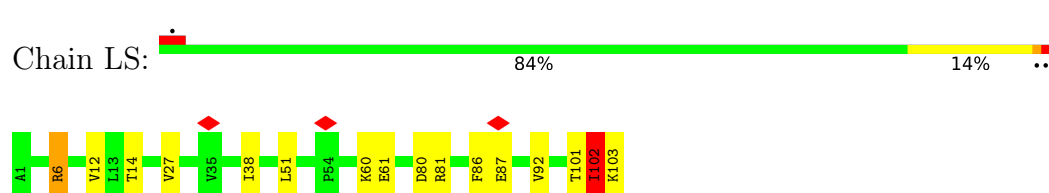
- Molecule 32: 50S ribosomal protein L22



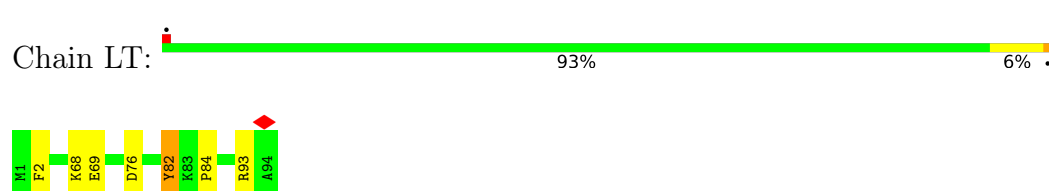
- Molecule 33: 50S ribosomal protein L23



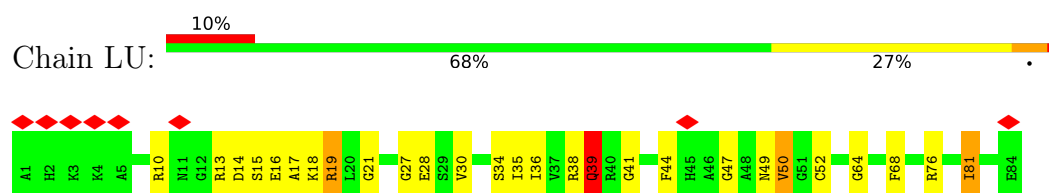
- Molecule 34: 50S ribosomal protein L24



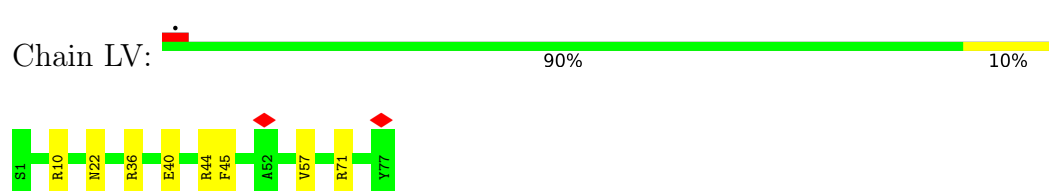
- Molecule 35: 50S ribosomal protein L25



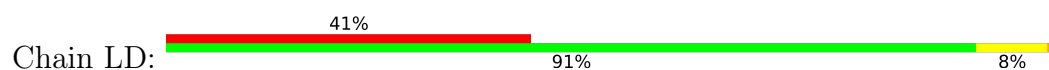
- Molecule 36: 50S ribosomal protein L27

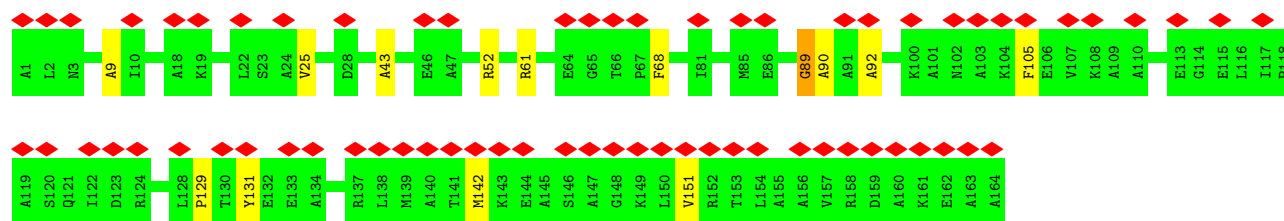


- Molecule 37: 50S ribosomal protein L28

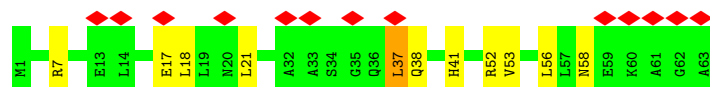
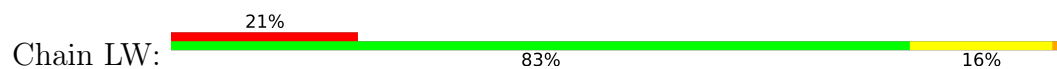


- Molecule 38: 50S ribosomal protein L10

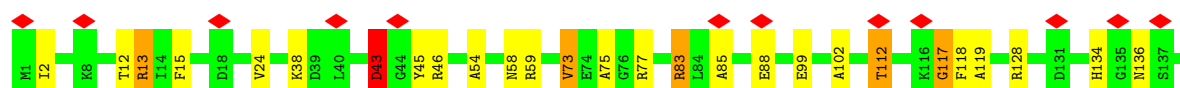
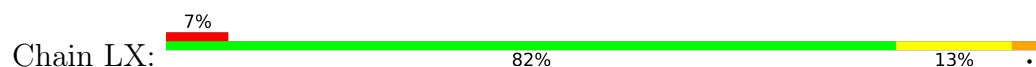




- Molecule 39: 50S ribosomal protein L29



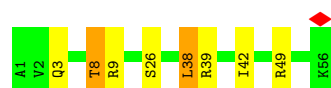
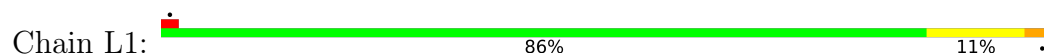
- Molecule 40: 50S ribosomal protein L3



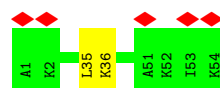
- Molecule 41: 50S ribosomal protein L30



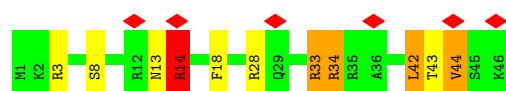
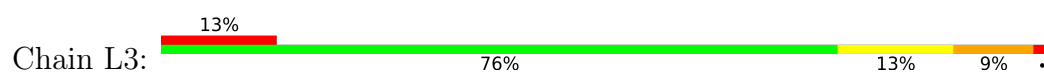
- Molecule 42: 50S ribosomal protein L32



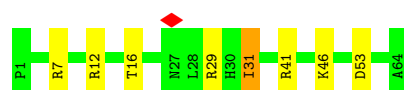
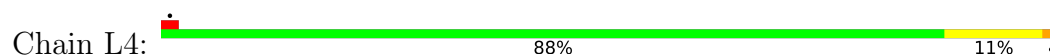
- Molecule 43: 50S ribosomal protein L33



- Molecule 44: 50S ribosomal protein L34



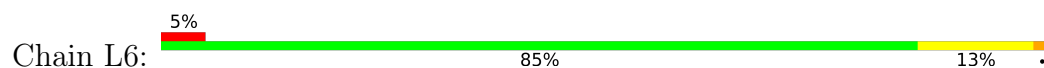
- Molecule 45: 50S ribosomal protein L35



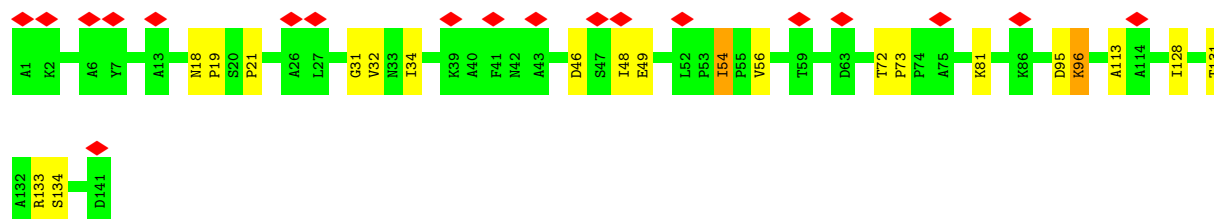
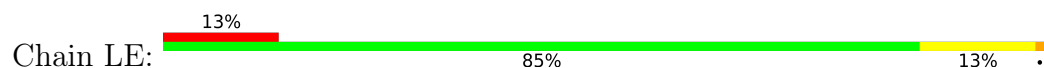
- Molecule 46: 50S ribosomal protein L36



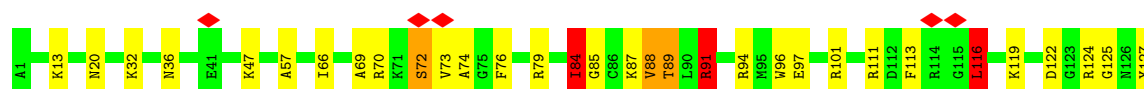
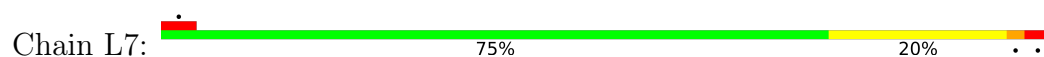
- Molecule 47: 50S ribosomal protein L4



- Molecule 48: 50S ribosomal protein L11

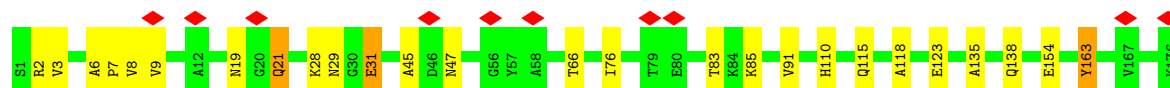
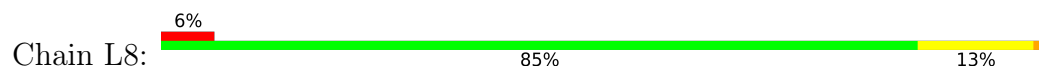


- Molecule 49: 50S ribosomal protein L5

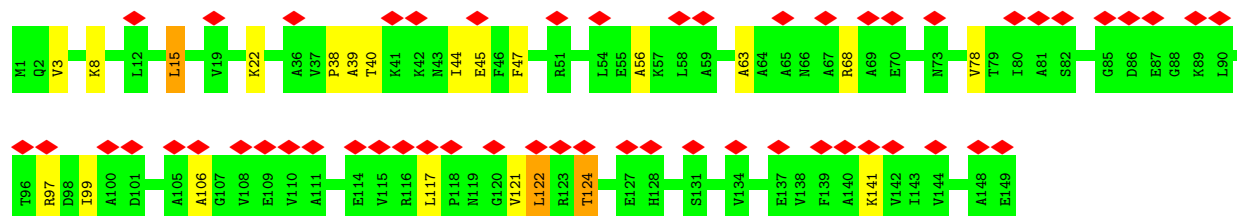
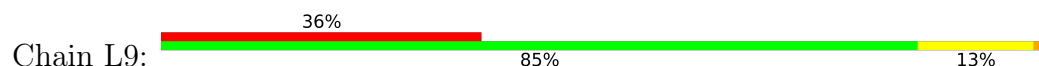




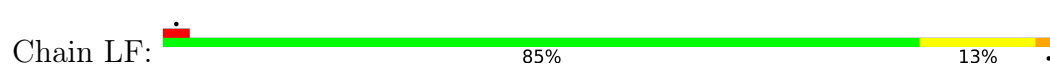
- Molecule 50: 50S ribosomal protein L6



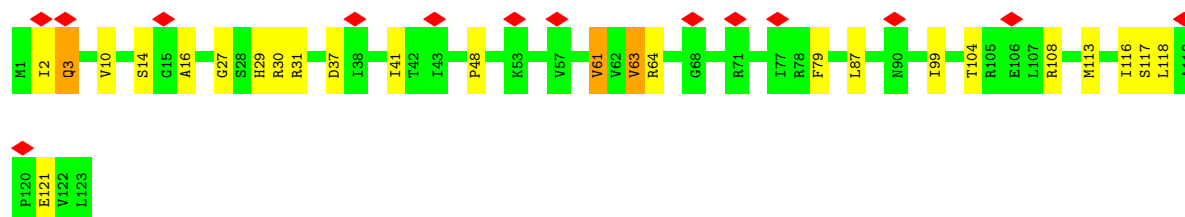
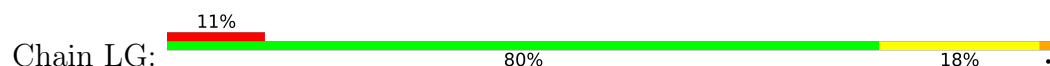
- Molecule 51: 50S ribosomal protein L9



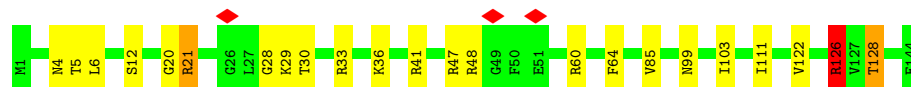
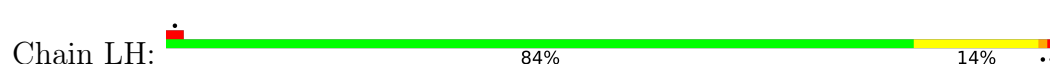
- Molecule 52: 50S ribosomal protein L13



- Molecule 53: 50S ribosomal protein L14

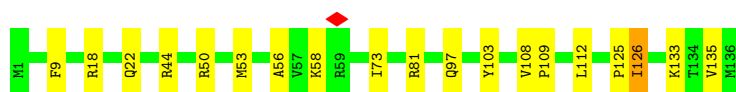


- Molecule 54: 50S ribosomal protein L15



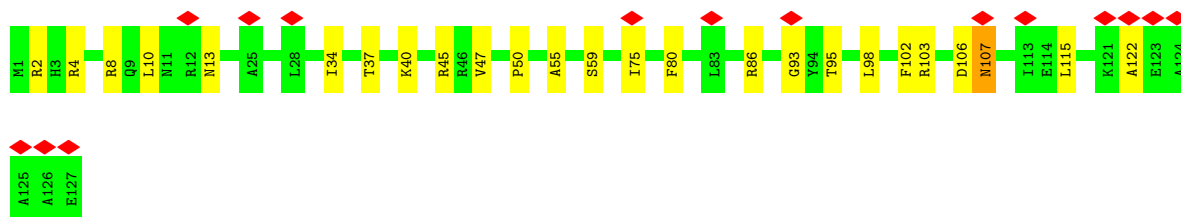
- Molecule 55: 50S ribosomal protein L16

Chain LI:  86% 13%



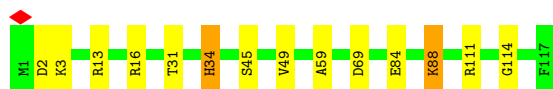
- Molecule 56: 50S ribosomal protein L17

Chain LJ:  12% 80% 19%



- Molecule 57: 50S ribosomal protein L18

Chain LK:  88% 10%



- Molecule 58: 50S ribosomal protein L31

Chain LZ:  26% 86% 10%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	90000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	CTFFIND3 and CTFIT	Depositor
Microscope	FEI TITAN	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	Not provided	
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	5000	Depositor
Magnification	58000	Depositor
Image detector	DIRECT ELECTRON DE-12 (4k x 3k)	Depositor
Maximum map value	0.305	Depositor
Minimum map value	-0.154	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.017	Depositor
Recommended contour level	0.03	Depositor
Map size ($\text{\AA}$)	377.99997, 377.99997, 377.99997	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.05, 1.05, 1.05	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	SA	1.12	20/37035 (0.1%)	1.46	575/57774 (1.0%)
2	S6	1.06	0/1831	1.36	24/2853 (0.8%)
3	S7	1.10	0/1762	1.53	34/2746 (1.2%)
4	SJ	1.03	0/835	1.58	9/1127 (0.8%)
5	SK	1.03	1/982 (0.1%)	1.59	8/1323 (0.6%)
6	SL	1.03	0/969	1.55	6/1300 (0.5%)
7	SM	0.96	0/919	1.62	6/1226 (0.5%)
8	SN	0.95	0/817	1.61	4/1088 (0.4%)
9	SO	1.00	0/724	1.61	2/966 (0.2%)
10	SP	1.00	0/659	1.57	4/884 (0.5%)
11	SQ	1.00	0/681	1.55	6/913 (0.7%)
12	SR	0.95	0/637	1.53	5/851 (0.6%)
13	SS	0.95	0/744	1.69	6/995 (0.6%)
14	SB	0.91	0/1904	1.65	15/2565 (0.6%)
15	ST	0.95	0/676	1.65	3/895 (0.3%)
16	SU	1.06	0/598	1.75	6/792 (0.8%)
17	SC	1.02	0/1852	1.54	9/2490 (0.4%)
18	SD	0.90	0/1665	1.59	10/2227 (0.4%)
19	SE	1.04	1/1239 (0.1%)	1.65	15/1664 (0.9%)
20	SF	0.99	0/1121	1.61	13/1509 (0.9%)
21	SG	0.97	0/1422	1.60	8/1908 (0.4%)
22	SH	0.96	0/989	1.53	6/1326 (0.5%)
23	SI	0.96	0/1048	1.49	3/1394 (0.2%)
24	S1	0.91	0/5532	1.61	50/7485 (0.7%)
25	LA	1.17	35/69812 (0.1%)	1.47	1142/108912 (1.0%)
26	LB	1.05	1/2869 (0.0%)	1.34	27/4474 (0.6%)
27	LC	0.91	0/1748	1.70	28/2355 (1.2%)
28	LM	1.04	0/929	1.62	11/1242 (0.9%)
29	LN	1.06	0/2131	1.63	20/2863 (0.7%)
30	LO	0.99	0/960	1.69	12/1278 (0.9%)
31	LP	1.03	0/829	1.48	8/1107 (0.7%)
32	LQ	1.10	0/864	1.58	8/1156 (0.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	LR	1.02	0/794	1.53	5/1060 (0.5%)
34	LS	0.94	0/797	1.52	7/1062 (0.7%)
35	LT	0.97	0/766	1.45	4/1025 (0.4%)
36	LU	1.05	0/642	1.68	7/848 (0.8%)
37	LV	1.06	0/635	1.63	6/848 (0.7%)
38	LD	0.89	0/1247	1.61	13/1679 (0.8%)
39	LW	0.95	0/510	1.70	9/677 (1.3%)
40	LX	1.10	1/1586 (0.1%)	1.65	17/2134 (0.8%)
41	LY	0.95	0/453	1.66	3/605 (0.5%)
42	L1	1.04	0/450	1.59	0/599
43	L2	1.01	0/448	1.45	0/594
44	L3	1.15	1/380 (0.3%)	1.83	10/498 (2.0%)
45	L4	0.95	0/513	1.66	6/676 (0.9%)
46	L5	1.18	0/303	1.57	1/397 (0.3%)
47	L6	0.95	0/1571	1.62	15/2113 (0.7%)
48	LE	0.85	0/1046	1.66	16/1410 (1.1%)
49	L7	0.93	0/1444	1.71	17/1937 (0.9%)
50	L8	0.93	0/1343	1.54	8/1816 (0.4%)
51	L9	0.91	0/1122	1.61	13/1515 (0.9%)
52	LF	1.09	0/1152	1.64	10/1551 (0.6%)
53	LG	1.14	1/956 (0.1%)	1.56	8/1279 (0.6%)
54	LH	0.97	0/1062	1.60	6/1413 (0.4%)
55	LI	1.03	0/1093	1.59	16/1460 (1.1%)
56	LJ	1.06	0/1021	1.60	3/1364 (0.2%)
57	LK	0.96	0/910	1.57	6/1219 (0.5%)
58	LZ	0.93	0/559	1.64	7/745 (0.9%)
All	All	1.10	61/169586 (0.0%)	1.51	2296/252212 (0.9%)

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	SA	2	423
2	S6	0	16
3	S7	0	31
4	SJ	0	7
5	SK	0	5
6	SL	0	9
7	SM	0	4
8	SN	0	5

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Mol	Chain	#Chirality outliers	#Planarity outliers
9	SO	0	4
10	SP	0	4
11	SQ	0	4
12	SR	0	3
13	SS	0	2
14	SB	0	3
15	ST	0	2
16	SU	0	3
17	SC	0	7
18	SD	0	6
19	SE	0	8
20	SF	0	6
21	SG	0	4
22	SH	0	3
23	SI	0	4
24	S1	0	19
25	LA	1	941
26	LB	0	21
27	LC	0	4
28	LM	0	5
29	LN	0	9
30	LO	0	4
31	LP	0	1
32	LQ	0	2
34	LS	0	3
35	LT	0	2
36	LU	0	5
37	LV	0	3
38	LD	0	3
39	LW	0	4
40	LX	0	10
41	LY	0	1
42	L1	0	2
44	L3	0	5
45	L4	0	3
46	L5	0	1
47	L6	0	6
48	LE	0	1
49	L7	0	8
50	L8	0	3
51	L9	0	2
52	LF	0	6

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Mol	Chain	#Chirality outliers	#Planarity outliers
53	LG	0	4
54	LH	0	5
55	LI	0	1
56	LJ	0	6
57	LK	0	3
58	LZ	0	4
All	All	3	1660

All (61) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	LA	2571	U	O3'-P	-8.13	1.49	1.61
44	L3	18	PHE	CA-C	-7.41	1.47	1.52
1	SA	51	A	O3'-P	-7.29	1.50	1.61
19	SE	55	VAL	CA-CB	-7.28	1.50	1.54
25	LA	2665	A	C1'-N9	-6.97	1.37	1.48
25	LA	570	G	C1'-N9	-6.79	1.37	1.48
1	SA	781	A	C1'-N9	-6.67	1.38	1.48
25	LA	752	A	C1'-N9	-6.28	1.37	1.47
1	SA	1080	A	O3'-P	-6.21	1.51	1.61
25	LA	1944	U	C1'-N1	6.13	1.56	1.47
25	LA	1967	C	C5'-C4'	6.13	1.60	1.51
1	SA	764	C	O3'-P	-6.12	1.51	1.61
25	LA	2588	G	C1'-N9	-6.07	1.38	1.48
25	LA	2445	G	C2'-C1'	-5.91	1.44	1.53
25	LA	2607	G	C2'-C1'	-5.91	1.44	1.53
25	LA	1322	A	O3'-P	-5.87	1.52	1.61
25	LA	2647	U	O3'-P	-5.71	1.52	1.61
25	LA	2657	A	C2'-C1'	-5.70	1.44	1.53
25	LA	2236	U	O3'-P	-5.62	1.52	1.61
25	LA	945	A	C1'-N9	-5.59	1.38	1.47
25	LA	2060	A	O3'-P	-5.57	1.52	1.61
1	SA	1305	G	C4'-O4'	-5.50	1.37	1.45
1	SA	1513	A	C1'-N9	-5.48	1.39	1.48
25	LA	1967	C	C2'-C1'	-5.46	1.45	1.53
1	SA	957	U	O3'-P	-5.44	1.52	1.61
25	LA	677	A	C1'-N9	-5.41	1.39	1.48
25	LA	752	A	C2'-C1'	-5.41	1.45	1.53
25	LA	2665	A	C2'-C1'	-5.41	1.45	1.53
25	LA	2518	A	C1'-N9	-5.40	1.38	1.47
1	SA	609	A	C1'-N9	-5.39	1.39	1.48
25	LA	2731	G	C2'-C1'	-5.39	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	LA	465	G	O3'-P	-5.38	1.53	1.61
1	SA	1190	G	O3'-P	-5.35	1.53	1.61
5	SK	88	PRO	N-CA	-5.34	1.44	1.47
1	SA	1305	G	O4'-C1'	-5.33	1.33	1.41
25	LA	573	U	C5'-C4'	5.33	1.59	1.51
1	SA	1416	G	C2'-C1'	-5.29	1.45	1.53
25	LA	1807	G	O3'-P	-5.28	1.53	1.61
53	LG	61	VAL	CA-C	-5.27	1.46	1.52
25	LA	826	U	O3'-P	-5.26	1.53	1.61
1	SA	817	C	O3'-P	-5.25	1.53	1.61
25	LA	29	U	O3'-P	-5.24	1.53	1.61
25	LA	1543	G	O3'-P	-5.24	1.53	1.61
1	SA	652	U	O3'-P	-5.23	1.53	1.61
26	LB	86	G	C3'-O3'	5.23	1.50	1.42
1	SA	804	U	O3'-P	-5.22	1.53	1.61
1	SA	978	A	C1'-N9	-5.22	1.40	1.48
25	LA	470	A	C1'-N9	-5.21	1.40	1.48
1	SA	1419	G	C2'-C1'	-5.17	1.45	1.53
25	LA	15	G	C2'-C1'	-5.16	1.45	1.53
40	LX	148	GLN	CA-C	-5.14	1.49	1.52
25	LA	1797	G	O3'-P	-5.13	1.53	1.61
25	LA	643	A	C5'-C4'	5.11	1.58	1.51
1	SA	1402	C	C2'-C1'	-5.07	1.45	1.53
25	LA	1616	A	C1'-N9	-5.04	1.39	1.47
1	SA	1402	C	O3'-P	-5.03	1.53	1.61
1	SA	944	G	O3'-P	-5.02	1.53	1.61
1	SA	261	U	O3'-P	-5.02	1.53	1.61
25	LA	526	A	C3'-O3'	5.01	1.49	1.42
25	LA	1953	A	C1'-N9	-5.01	1.40	1.48
25	LA	764	A	C2'-C1'	-5.00	1.45	1.53

All (2296) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	1900	A	P-O3'-C3'	20.44	150.87	120.20
1	SA	51	A	P-O3'-C3'	19.85	149.97	120.20
1	SA	810	C	P-O5'-C5'	17.34	146.91	120.90
25	LA	1420	A	P-O3'-C3'	15.01	142.71	120.20
25	LA	1409	U	P-O5'-C5'	14.91	143.26	120.90
25	LA	2568	U	P-O5'-C5'	14.33	142.40	120.90
25	LA	2251	G	O4'-C1'-N9	13.96	129.44	108.50
25	LA	2609	U	P-O3'-C3'	13.93	141.10	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	1849	G	C5'-C4'-C3'	-13.86	95.22	116.00
25	LA	2211	A	P-O3'-C3'	13.71	140.77	120.20
25	LA	2308	G	P-O3'-C3'	13.05	139.78	120.20
1	SA	764	C	P-O3'-C3'	13.03	139.75	120.20
25	LA	2516	A	P-O5'-C5'	12.83	140.15	120.90
25	LA	2701	U	P-O3'-C3'	-12.78	101.04	120.20
25	LA	826	U	P-O3'-C3'	12.71	139.26	120.20
25	LA	1272	A	P-O3'-C3'	12.48	138.92	120.20
25	LA	2667	C	P-O5'-C5'	12.47	139.61	120.90
26	LB	34	A	P-O3'-C3'	12.22	138.53	120.20
25	LA	2118	U	P-O3'-C3'	12.19	138.48	120.20
1	SA	367	U	O3'-P-O5'	-12.03	85.96	104.00
1	SA	794	A	C5'-C4'-C3'	11.93	133.89	116.00
1	SA	752	G	P-O3'-C3'	11.91	138.06	120.20
25	LA	2136	G	P-O5'-C5'	11.90	138.75	120.90
25	LA	644	A	P-O3'-C3'	11.85	137.98	120.20
25	LA	2649	C	P-O3'-C3'	11.81	137.91	120.20
25	LA	42	A	P-O5'-C5'	11.77	138.55	120.90
25	LA	2566	A	P-O3'-C3'	-11.63	102.76	120.20
1	SA	1414	U	O3'-P-O5'	-11.43	86.86	104.00
3	S7	33	U	P-O5'-C5'	11.42	138.04	120.90
25	LA	643	A	C5'-C4'-C3'	11.42	133.13	116.00
25	LA	2424	C	O3'-P-O5'	-11.41	86.88	104.00
25	LA	2246	G	C5'-C4'-C3'	-11.34	98.98	116.00
1	SA	1155	A	P-O5'-C5'	11.26	137.80	120.90
25	LA	2448	A	P-O3'-C3'	11.26	137.09	120.20
1	SA	497	G	P-O3'-C3'	11.25	137.07	120.20
26	LB	108	A	C2'-C3'-O3'	11.14	126.22	109.50
25	LA	1807	G	P-O3'-C3'	11.14	136.91	120.20
25	LA	1332	G	P-O3'-C3'	11.11	136.86	120.20
25	LA	2445	G	O4'-C1'-N9	11.09	125.13	108.50
25	LA	2412	A	P-O5'-C5'	11.05	137.48	120.90
1	SA	1301	U	P-O5'-C5'	11.02	137.43	120.90
25	LA	2447	G	C4'-C3'-C2'	-11.01	91.59	102.60
25	LA	2822	G	C5'-C4'-C3'	-10.97	99.54	116.00
25	LA	2030	C	O4'-C1'-C2'	-10.95	94.85	105.80
25	LA	2146	C	P-O3'-C3'	10.79	136.39	120.20
1	SA	676	A	P-O5'-C5'	10.73	136.99	120.90
25	LA	2245	U	O3'-P-O5'	-10.70	87.95	104.00
1	SA	1159	U	P-O3'-C3'	10.65	136.18	120.20
25	LA	1274	A	P-O3'-C3'	-10.64	104.25	120.20
25	LA	1837	C	C5'-C4'-C3'	-10.60	100.10	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	1315	U	P-O5'-C5'	10.49	136.63	120.90
1	SA	570	G	P-O5'-C5'	10.47	136.60	120.90
25	LA	2666	C	C5'-C4'-C3'	-10.46	100.32	116.00
25	LA	1856	U	P-O5'-C5'	10.42	136.54	120.90
25	LA	2543	G	C5'-C4'-C3'	-10.37	100.44	116.00
25	LA	1460	U	P-O3'-C3'	10.35	135.72	120.20
25	LA	1935	G	P-O5'-C5'	10.34	136.41	120.90
25	LA	2821	A	C5'-C4'-C3'	-10.29	100.56	116.00
25	LA	2427	C	P-O5'-C5'	10.17	136.15	120.90
1	SA	1226	C	P-O3'-C3'	10.13	135.39	120.20
25	LA	2055	C	C5'-C4'-C3'	10.12	131.18	116.00
25	LA	1081	U	P-O5'-C5'	10.08	136.03	120.90
1	SA	1001	C	P-O5'-C5'	10.07	136.00	120.90
25	LA	914	G	C5'-C4'-C3'	-10.07	100.90	116.00
25	LA	1142	A	P-O3'-C3'	10.04	135.26	120.20
25	LA	2702	G	O3'-P-O5'	-10.04	88.95	104.00
25	LA	1323	C	C5'-C4'-C3'	-10.02	100.17	115.20
25	LA	1917	U	O5'-C5'-C4'	9.97	126.46	111.50
25	LA	2564	A	P-O3'-C3'	9.95	135.13	120.20
25	LA	2451	A	C5'-C4'-C3'	-9.92	101.12	116.00
25	LA	2447	G	O4'-C1'-C2'	-9.91	95.89	105.80
1	SA	961	U	P-O5'-C5'	-9.90	106.05	120.90
1	SA	1201	A	C2'-C3'-O3'	9.87	124.31	109.50
14	SB	11	ALA	N-CA-C	9.86	121.79	111.14
25	LA	2287	A	P-O3'-C3'	9.84	134.96	120.20
25	LA	2571	U	P-O3'-C3'	9.80	134.90	120.20
25	LA	900	A	P-O3'-C3'	9.74	134.82	120.20
25	LA	1962	C	P-O5'-C5'	9.74	135.50	120.90
1	SA	781	A	P-O5'-C5'	-9.72	106.32	120.90
25	LA	2804	U	C5'-C4'-C3'	-9.70	101.45	116.00
3	S7	49	C	P-O5'-C5'	9.69	135.43	120.90
25	LA	1428	C	P-O5'-C5'	9.67	135.41	120.90
26	LB	90	C	C5'-C4'-C3'	-9.67	101.49	116.00
25	LA	2345	G	C5'-C4'-C3'	-9.66	100.71	115.20
25	LA	1514	G	P-O5'-C5'	9.62	135.33	120.90
1	SA	961	U	O4'-C4'-C3'	9.57	113.57	104.00
25	LA	1564	C	P-O5'-C5'	9.57	135.25	120.90
25	LA	2702	G	P-O3'-C3'	9.55	134.53	120.20
25	LA	463	G	C5'-C4'-C3'	-9.55	101.67	116.00
25	LA	2297	A	C5'-C4'-C3'	-9.55	101.68	116.00
25	LA	2756	U	P-O3'-C3'	9.54	134.51	120.20
1	SA	1159	U	C2'-C3'-O3'	9.51	123.77	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	609	A	P-O5'-C5'	9.50	135.14	120.90
21	SG	147	ASN	CA-CB-CG	-9.48	103.12	112.60
1	SA	365	U	O3'-P-O5'	-9.46	89.81	104.00
1	SA	1332	A	C5'-C4'-C3'	-9.46	101.81	116.00
1	SA	1345	U	P-O5'-C5'	-9.46	106.71	120.90
25	LA	2655	G	P-O5'-C5'	-9.46	106.71	120.90
25	LA	948	C	C5'-C4'-C3'	9.36	130.03	116.00
1	SA	1530	G	C1'-O4'-C4'	-9.33	100.37	109.70
1	SA	834	U	C5'-C4'-C3'	-9.32	102.02	116.00
1	SA	275	G	P-O5'-C5'	9.31	134.86	120.90
1	SA	717	U	P-O3'-C3'	9.29	134.14	120.20
1	SA	960	U	C2'-C3'-O3'	9.29	123.44	109.50
3	S7	41	C	P-O3'-C3'	9.26	134.09	120.20
25	LA	289	G	O3'-P-O5'	-9.26	90.11	104.00
25	LA	2271	G	P-O3'-C3'	9.25	134.08	120.20
25	LA	1808	A	P-O5'-C5'	9.20	134.69	120.90
25	LA	2500	U	P-O3'-C3'	9.19	133.99	120.20
39	LW	21	LEU	CA-C-N	9.18	132.38	120.44
39	LW	21	LEU	C-N-CA	9.18	132.38	120.44
25	LA	948	C	P-O5'-C5'	9.16	134.65	120.90
25	LA	1940	U	C5'-C4'-C3'	9.15	128.92	115.20
25	LA	2211	A	C2'-C3'-O3'	9.15	123.22	109.50
25	LA	1321	A	O4'-C1'-N9	9.13	122.19	108.50
25	LA	2808	G	P-O3'-C3'	9.12	133.88	120.20
57	LK	31	THR	N-CA-C	-9.07	100.05	108.22
1	SA	503	C	P-O5'-C5'	9.07	134.51	120.90
1	SA	1213	A	C2'-C3'-O3'	9.05	123.08	109.50
1	SA	1209	C	P-O5'-C5'	9.05	134.47	120.90
25	LA	2539	C	P-O5'-C5'	9.01	134.42	120.90
1	SA	828	U	C5'-C4'-C3'	8.98	129.47	116.00
1	SA	1206	G	C5'-C4'-C3'	-8.97	102.55	116.00
3	S7	14	A	C5'-C4'-C3'	-8.96	102.55	116.00
1	SA	472	U	P-O5'-C5'	8.96	134.34	120.90
25	LA	1923	U	P-O5'-C5'	8.96	134.34	120.90
1	SA	1148	U	P-O5'-C5'	8.96	134.34	120.90
1	SA	405	U	P-O5'-C5'	8.95	134.33	120.90
25	LA	798	G	C5'-C4'-C3'	-8.95	102.58	116.00
1	SA	1531	A	P-O5'-C5'	-8.92	107.52	120.90
26	LB	6	G	P-O5'-C5'	8.91	134.26	120.90
25	LA	2806	C	P-O3'-C3'	8.90	133.55	120.20
26	LB	86	G	P-O3'-C3'	-8.89	106.87	120.20
25	LA	1057	A	O3'-P-O5'	-8.87	90.70	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	413	G	P-O3'-C3'	-8.81	106.98	120.20
27	LC	84	ALA	N-CA-C	8.79	120.48	111.07
25	LA	2282	G	P-O3'-C3'	8.79	133.38	120.20
26	LB	25	U	P-O3'-C3'	8.78	133.37	120.20
25	LA	2796	U	P-O5'-C5'	8.78	134.07	120.90
45	L4	53	ASP	CA-CB-CG	-8.77	103.83	112.60
3	S7	31	A	P-O5'-C5'	8.76	134.04	120.90
1	SA	243	A	P-O3'-C3'	8.75	133.32	120.20
25	LA	574	A	P-O3'-C3'	8.71	133.26	120.20
25	LA	2427	C	O5'-C5'-C4'	8.71	124.56	111.50
25	LA	267	C	P-O5'-C5'	8.70	133.95	120.90
1	SA	956	U	P-O5'-C5'	8.70	133.95	120.90
2	S6	8	U	C5'-C4'-C3'	-8.66	102.22	115.20
25	LA	2020	A	C5'-C4'-C3'	8.66	128.99	116.00
1	SA	1344	C	O3'-P-O5'	8.65	116.97	104.00
25	LA	456	C	P-O5'-C5'	8.64	133.87	120.90
1	SA	243	A	C2'-C3'-O3'	8.61	122.41	109.50
1	SA	812	G	C5'-C4'-C3'	-8.60	103.10	116.00
1	SA	1028	C	P-O5'-C5'	8.60	133.80	120.90
25	LA	1434	A	P-O5'-C5'	8.60	133.79	120.90
1	SA	844	G	P-O3'-C3'	8.59	133.08	120.20
25	LA	1899	A	P-O3'-C3'	8.58	133.07	120.20
1	SA	122	G	P-O3'-C3'	8.58	133.06	120.20
25	LA	1249	U	C5'-C4'-C3'	-8.58	103.13	116.00
2	S6	74	A	O3'-P-O5'	-8.55	91.18	104.00
1	SA	716	A	P-O5'-C5'	-8.55	108.08	120.90
25	LA	2756	U	C2'-C3'-O3'	8.53	122.30	109.50
1	SA	139	A	P-O5'-C5'	8.53	133.70	120.90
53	LG	3	GLN	N-CA-C	-8.52	96.88	108.38
25	LA	1149	G	C5'-C4'-C3'	-8.50	103.24	116.00
1	SA	866	C	P-O5'-C5'	8.48	133.62	120.90
1	SA	51	A	C5'-C4'-C3'	-8.48	102.48	115.20
25	LA	1361	G	C5'-C4'-C3'	-8.45	103.33	116.00
25	LA	30	G	P-O5'-C5'	-8.44	108.24	120.90
25	LA	2642	G	C5'-C4'-C3'	-8.41	103.39	116.00
1	SA	1327	C	C5'-C4'-C3'	-8.41	103.39	116.00
18	SD	7	LYS	N-CA-C	8.40	120.51	111.36
1	SA	1217	C	P-O5'-C5'	8.40	133.49	120.90
1	SA	203	G	P-O3'-C3'	8.39	132.79	120.20
1	SA	795	C	P-O5'-C5'	-8.37	108.34	120.90
1	SA	330	C	C5'-C4'-C3'	-8.37	103.45	116.00
25	LA	1912	A	P-O5'-C5'	8.36	133.44	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	307	C	P-O3'-C3'	8.35	132.72	120.20
25	LA	1902	C	P-O3'-C3'	-8.32	107.72	120.20
1	SA	52	C	P-O5'-C5'	8.30	133.35	120.90
25	LA	1917	U	P-O3'-C3'	-8.29	107.76	120.20
25	LA	2820	A	C4'-C3'-C2'	-8.28	94.32	102.60
25	LA	670	A	P-O3'-C3'	8.26	132.59	120.20
9	SO	14	PHE	CA-CB-CG	-8.26	105.54	113.80
25	LA	17	G	O3'-P-O5'	-8.26	91.61	104.00
25	LA	547	A	C1'-O4'-C4'	-8.22	101.48	109.70
25	LA	2385	C	P-O5'-C5'	8.21	133.22	120.90
3	S7	23	A	C5'-C4'-C3'	-8.20	103.70	116.00
25	LA	1098	A	P-O5'-C5'	8.20	133.20	120.90
25	LA	1240	U	C5'-C4'-C3'	8.18	128.27	116.00
25	LA	130	C	C5'-C4'-C3'	-8.18	103.74	116.00
25	LA	1582	C	P-O5'-C5'	8.15	133.13	120.90
25	LA	1927	A	P-O3'-C3'	8.15	132.43	120.20
1	SA	451	A	P-O3'-C3'	8.15	132.43	120.20
25	LA	2383	G	C5'-C4'-C3'	-8.14	103.78	116.00
25	LA	895	U	C5'-C4'-C3'	-8.14	103.00	115.20
25	LA	574	A	O3'-P-O5'	-8.13	91.80	104.00
1	SA	1097	C	P-O5'-C5'	8.12	133.08	120.90
19	SE	21	SER	N-CA-C	8.12	120.92	108.42
25	LA	2545	G	P-O5'-C5'	8.12	133.08	120.90
25	LA	2093	G	C5'-C4'-C3'	8.11	128.17	116.00
25	LA	1939	U	P-O3'-C3'	-8.11	108.04	120.20
25	LA	436	C	P-O5'-C5'	8.10	133.04	120.90
25	LA	2405	G	C5'-C4'-C3'	8.09	128.13	116.00
25	LA	163	C	P-O3'-C3'	8.08	132.32	120.20
25	LA	2664	G	O3'-P-O5'	-8.08	91.88	104.00
1	SA	1530	G	C5'-C4'-O4'	8.07	121.20	109.10
1	SA	1530	G	O5'-C5'-C4'	8.07	123.80	111.70
1	SA	1323	G	P-O5'-C5'	-8.05	108.82	120.90
25	LA	194	G	C4'-C3'-C2'	-8.04	94.56	102.60
25	LA	1979	U	C4'-C3'-C2'	-8.04	94.56	102.60
25	LA	2177	C	P-O5'-C5'	8.04	132.95	120.90
25	LA	2092	U	P-O3'-C3'	8.03	132.24	120.20
25	LA	2094	A	C5'-C4'-C3'	-8.02	103.17	115.20
25	LA	1590	A	C5'-C4'-C3'	-8.00	104.00	116.00
25	LA	1899	A	P-O5'-C5'	7.99	132.88	120.90
3	S7	14	A	P-O5'-C5'	7.98	132.87	120.90
19	SE	105	ILE	N-CA-C	7.98	120.07	108.58
1	SA	1278	G	O4'-C1'-C2'	7.97	113.77	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	960	U	C5'-C4'-O4'	7.95	121.02	109.10
25	LA	1211	C	P-O3'-C3'	7.95	132.12	120.20
25	LA	455	C	P-O3'-C3'	7.93	132.09	120.20
1	SA	795	C	P-O3'-C3'	7.91	132.06	120.20
1	SA	346	G	C4'-C3'-C2'	-7.87	94.73	102.60
25	LA	1573	G	P-O5'-C5'	7.86	132.70	120.90
1	SA	929	G	C5'-C4'-C3'	-7.86	104.21	116.00
1	SA	528	C	C5'-C4'-C3'	-7.86	104.21	116.00
25	LA	1322	A	P-O5'-C5'	7.86	132.68	120.90
1	SA	927	G	P-O5'-C5'	7.85	132.68	120.90
25	LA	390	U	P-O3'-C3'	7.84	131.96	120.20
1	SA	781	A	C5'-C4'-C3'	7.83	127.75	116.00
44	L3	14	ARG	NE-CZ-NH2	7.81	126.23	119.20
25	LA	1012	U	C4'-C3'-C2'	-7.81	94.79	102.60
1	SA	181	A	P-O5'-C5'	-7.81	109.19	120.90
25	LA	1242	U	P-O5'-C5'	7.80	132.60	120.90
1	SA	196	A	C5'-C4'-C3'	-7.80	104.31	116.00
25	LA	909	A	C5'-C4'-C3'	-7.79	104.31	116.00
25	LA	1854	A	P-O5'-C5'	-7.79	109.22	120.90
3	S7	48	C	C2'-C3'-O3'	7.78	121.17	109.50
25	LA	2769	U	C5'-C4'-C3'	-7.78	104.33	116.00
25	LA	1012	U	C1'-O4'-C4'	-7.77	101.93	109.70
25	LA	2866	U	P-O3'-C3'	7.77	131.86	120.20
25	LA	1648	U	P-O5'-C5'	7.77	132.55	120.90
25	LA	2823	A	C5'-C4'-C3'	-7.77	104.35	116.00
1	SA	1134	G	C5'-C4'-C3'	7.76	127.63	116.00
1	SA	831	A	C5'-C4'-C3'	-7.75	104.37	116.00
1	SA	221	C	C5'-C4'-C3'	-7.75	104.38	116.00
1	SA	976	G	P-O5'-C5'	7.74	132.52	120.90
1	SA	863	U	P-O3'-C3'	-7.74	108.59	120.20
1	SA	1393	U	P-O5'-C5'	7.74	132.50	120.90
25	LA	2647	U	P-O5'-C5'	-7.73	109.30	120.90
6	SL	43	LYS	N-CA-C	7.72	124.13	113.16
25	LA	2774	C	P-O5'-C5'	7.72	132.48	120.90
1	SA	1139	G	P-O3'-C3'	-7.72	108.62	120.20
25	LA	2562	U	C5'-C4'-C3'	7.72	127.57	116.00
25	LA	1855	U	C5'-C4'-C3'	-7.71	104.43	116.00
25	LA	2448	A	O4'-C4'-C3'	-7.70	98.40	106.10
25	LA	1882	U	C5'-C4'-C3'	-7.69	104.46	116.00
1	SA	767	A	P-O5'-C5'	7.69	132.43	120.90
25	LA	2801	G	C5'-C4'-C3'	-7.69	104.47	116.00
1	SA	731	G	C5'-C4'-C3'	7.67	127.51	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	227	G	P-O3'-C3'	7.67	131.70	120.20
25	LA	750	A	C5'-C4'-C3'	-7.66	104.51	116.00
1	SA	441	A	C5'-C4'-C3'	-7.65	104.53	116.00
1	SA	1188	A	C5'-C4'-C3'	7.65	127.47	116.00
25	LA	28	A	O3'-P-O5'	-7.65	92.52	104.00
1	SA	743	A	C5'-C4'-C3'	-7.65	104.53	116.00
1	SA	1067	A	C5'-C4'-C3'	-7.63	103.76	115.20
1	SA	1344	C	C2'-C3'-O3'	7.59	125.09	113.70
1	SA	271	C	O3'-P-O5'	7.59	115.39	104.00
1	SA	792	A	P-O5'-C5'	7.59	132.28	120.90
25	LA	61	C	P-O5'-C5'	7.59	132.28	120.90
25	LA	1012	U	P-O5'-C5'	-7.59	109.52	120.90
25	LA	2448	A	C2'-C3'-O3'	7.59	120.88	109.50
25	LA	603	A	P-O3'-C3'	7.58	131.57	120.20
25	LA	2279	G	C5'-C4'-C3'	7.58	127.36	116.00
1	SA	252	U	C5'-C4'-C3'	-7.57	104.64	116.00
25	LA	2618	G	P-O5'-C5'	7.57	132.25	120.90
1	SA	1016	A	C5'-C4'-C3'	7.56	127.34	116.00
25	LA	2799	A	O4'-C1'-N9	7.56	119.84	108.50
25	LA	2293	G	C5'-C4'-C3'	-7.55	104.67	116.00
25	LA	1241	A	P-O5'-C5'	7.55	132.22	120.90
25	LA	2355	G	P-O5'-C5'	7.55	132.22	120.90
25	LA	2664	G	P-O3'-C3'	7.55	131.52	120.20
25	LA	2342	C	O3'-P-O5'	7.54	115.31	104.00
40	LX	58	ASN	CA-CB-CG	-7.54	105.06	112.60
1	SA	960	U	C1'-O4'-C4'	-7.53	102.17	109.70
1	SA	51	A	O4'-C1'-C2'	-7.53	98.27	105.80
1	SA	701	U	C4'-C3'-O3'	7.53	120.69	109.40
25	LA	2574	G	P-O3'-C3'	7.53	131.49	120.20
40	LX	136	ASN	CA-CB-CG	-7.52	105.08	112.60
24	S1	506	LYS	N-CA-C	7.52	119.48	111.28
1	SA	197	A	P-O5'-C5'	-7.52	109.62	120.90
1	SA	328	C	C2'-C3'-O3'	7.52	120.78	109.50
25	LA	2549	G	P-O5'-C5'	7.52	132.18	120.90
17	SC	132	ALA	N-CA-C	7.51	119.11	111.07
56	LJ	47	VAL	N-CA-C	7.51	117.63	110.42
25	LA	2400	G	P-O3'-C3'	7.51	131.46	120.20
25	LA	1253	A	P-O3'-C3'	-7.50	108.94	120.20
25	LA	2410	G	P-O3'-C3'	7.50	131.46	120.20
25	LA	2070	A	P-O5'-C5'	-7.49	109.66	120.90
25	LA	2657	A	P-O5'-C5'	7.49	132.13	120.90
1	SA	927	G	C5'-C4'-C3'	7.47	127.21	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	1321	A	P-O5'-C5'	-7.47	109.69	120.90
25	LA	1209	U	P-O3'-C3'	-7.47	109.00	120.20
39	LW	37	LEU	N-CA-C	7.47	119.21	111.14
25	LA	1863	G	P-O5'-C5'	7.46	132.08	120.90
25	LA	2431	U	C5'-C4'-C3'	-7.45	104.82	116.00
2	S6	22	A	C2'-C3'-O3'	7.45	120.67	109.50
25	LA	1227	G	C5'-C4'-C3'	7.44	127.17	116.00
25	LA	2175	C	C5'-C4'-C3'	7.44	127.16	116.00
41	LY	10	ARG	NE-CZ-NH2	7.44	125.89	119.20
25	LA	1167	C	C5'-C4'-C3'	-7.43	104.85	116.00
25	LA	1155	A	O3'-P-O5'	-7.43	92.86	104.00
1	SA	1154	G	O5'-C5'-C4'	7.42	122.63	111.50
24	S1	22	LYS	N-CA-C	7.41	119.05	110.97
25	LA	1608	A	C2'-C3'-O3'	7.40	120.60	109.50
1	SA	1103	C	P-O5'-C5'	7.40	132.00	120.90
1	SA	271	C	P-O3'-C3'	7.38	131.28	120.20
1	SA	794	A	P-O5'-C5'	-7.37	109.84	120.90
1	SA	521	G	C5'-C4'-C3'	7.36	127.04	116.00
1	SA	1417	G	C5'-C4'-C3'	-7.36	104.96	116.00
25	LA	23	G	C5'-C4'-C3'	7.36	127.04	116.00
1	SA	328	C	P-O3'-C3'	7.36	131.23	120.20
25	LA	2248	C	P-O5'-C5'	-7.36	109.87	120.90
25	LA	1257	C	P-O5'-C5'	7.34	131.92	120.90
25	LA	2486	C	P-O5'-C5'	7.34	131.92	120.90
1	SA	1314	C	O3'-P-O5'	-7.34	92.98	104.00
25	LA	2505	G	P-O3'-C3'	-7.34	109.19	120.20
1	SA	1206	G	P-O5'-C5'	7.34	131.91	120.90
25	LA	1266	G	P-O3'-C3'	7.34	131.21	120.20
25	LA	1772	A	P-O3'-C3'	-7.34	109.19	120.20
25	LA	27	G	C5'-C4'-C3'	7.33	127.00	116.00
2	S6	75	C	C2'-C3'-O3'	7.33	120.50	109.50
25	LA	1527	G	P-O5'-C5'	7.33	131.89	120.90
25	LA	684	G	C5'-C4'-C3'	7.33	126.99	116.00
25	LA	1846	G	C5'-C4'-C3'	-7.33	105.01	116.00
25	LA	2820	A	C2'-C3'-O3'	7.31	120.46	109.50
25	LA	759	G	C5'-C4'-C3'	-7.30	105.05	116.00
47	L6	144	GLU	N-CA-C	-7.30	98.21	109.24
25	LA	1584	U	P-O3'-C3'	7.30	131.15	120.20
1	SA	1305	G	O4'-C4'-C3'	7.30	111.30	104.00
25	LA	682	G	C5'-C4'-C3'	7.30	126.95	116.00
1	SA	1139	G	O5'-C5'-C4'	7.29	122.64	111.70
25	LA	2453	A	P-O5'-C5'	-7.29	109.97	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	51	A	C1'-O4'-C4'	-7.28	102.42	109.70
1	SA	1249	C	P-O5'-C5'	7.28	131.82	120.90
25	LA	2656	U	C5'-C4'-C3'	-7.28	105.08	116.00
25	LA	2238	G	P-O3'-C3'	7.27	131.11	120.20
25	LA	2662	A	P-O5'-C5'	7.27	131.80	120.90
25	LA	2106	U	P-O3'-C3'	7.26	131.09	120.20
57	LK	31	THR	N-CA-CB	7.26	118.72	111.10
51	L9	47	PHE	CA-CB-CG	-7.26	106.54	113.80
1	SA	740	U	P-O5'-C5'	7.26	131.79	120.90
26	LB	44	G	C2'-C3'-O3'	7.25	120.38	109.50
1	SA	173	U	O3'-P-O5'	-7.24	93.14	104.00
1	SA	51	A	O4'-C1'-N9	7.24	119.05	108.20
1	SA	154	U	P-O5'-C5'	7.23	131.75	120.90
25	LA	1781	U	C2'-C3'-O3'	7.23	120.34	109.50
1	SA	766	A	O3'-P-O5'	-7.23	93.16	104.00
25	LA	1282	U	P-O3'-C3'	7.23	131.04	120.20
25	LA	2094	A	C5'-C4'-O4'	7.22	119.94	109.10
1	SA	468	A	P-O5'-C5'	7.21	131.72	120.90
25	LA	212	G	C4'-C3'-C2'	-7.21	95.39	102.60
25	LA	753	A	P-O5'-C5'	-7.21	110.08	120.90
25	LA	2902	C	C5'-C4'-C3'	7.21	126.81	116.00
1	SA	475	C	P-O5'-C5'	7.21	131.71	120.90
25	LA	1012	U	O4'-C1'-C2'	-7.21	98.59	105.80
25	LA	1964	G	O3'-P-O5'	7.20	114.80	104.00
1	SA	960	U	O3'-P-O5'	7.19	114.79	104.00
25	LA	1044	C	P-O5'-C5'	-7.19	110.12	120.90
15	ST	75	LYS	N-CA-C	7.18	119.73	111.11
1	SA	899	C	P-O3'-C3'	7.18	130.97	120.20
25	LA	1427	A	P-O3'-C3'	7.18	130.97	120.20
25	LA	2445	G	C1'-O4'-C4'	-7.18	102.72	109.90
1	SA	752	G	O3'-P-O5'	-7.17	93.24	104.00
39	LW	58	ASN	CA-CB-CG	-7.17	105.43	112.60
1	SA	1342	C	P-O5'-C5'	7.16	131.64	120.90
25	LA	2086	U	P-O5'-C5'	7.16	131.64	120.90
1	SA	522	C	C5'-C4'-C3'	-7.15	105.27	116.00
1	SA	1419	G	C5'-C4'-C3'	7.15	126.73	116.00
1	SA	833	G	P-O5'-C5'	-7.14	110.18	120.90
36	LU	19	ARG	N-CA-C	-7.14	97.86	108.79
1	SA	260	G	P-O5'-C5'	7.13	131.60	120.90
1	SA	517	G	P-O5'-C5'	-7.12	110.21	120.90
25	LA	1160	G	C5'-C4'-C3'	-7.12	105.32	116.00
1	SA	870	U	P-O5'-C5'	7.12	131.58	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	2282	G	C2'-C3'-O3'	7.12	120.18	109.50
2	S6	28	U	C5'-C4'-C3'	-7.12	105.32	116.00
1	SA	1302	C	P-O3'-C3'	7.11	130.87	120.20
25	LA	16	C	C5'-C4'-C3'	-7.11	105.33	116.00
25	LA	2728	U	C5'-C4'-C3'	7.11	126.67	116.00
25	LA	1086	A	O3'-P-O5'	-7.11	93.34	104.00
25	LA	1950	G	P-O5'-C5'	7.10	131.56	120.90
1	SA	19	A	C5'-C4'-C3'	7.10	126.65	116.00
25	LA	697	G	P-O3'-C3'	7.10	130.85	120.20
25	LA	513	A	P-O5'-C5'	-7.09	110.26	120.90
25	LA	105	C	C5'-C4'-C3'	-7.09	105.37	116.00
1	SA	992	U	P-O5'-C5'	-7.08	110.27	120.90
1	SA	1065	U	O4'-C1'-C2'	-7.08	98.72	105.80
25	LA	1167	C	C4'-C3'-C2'	-7.07	95.53	102.60
1	SA	889	A	P-O3'-C3'	7.07	130.81	120.20
1	SA	1118	U	C5'-C4'-C3'	-7.07	105.39	116.00
17	SC	181	ILE	N-CA-C	-7.07	98.59	108.27
25	LA	885	C	P-O3'-C3'	7.07	130.80	120.20
25	LA	1565	C	P-O5'-C5'	7.07	131.50	120.90
25	LA	2251	G	O4'-C1'-C2'	7.07	114.67	107.60
25	LA	1379	U	P-O5'-C5'	7.06	131.49	120.90
25	LA	1489	C	C5'-C4'-C3'	-7.06	105.41	116.00
25	LA	1691	C	C5'-C4'-C3'	7.06	126.59	116.00
25	LA	26	G	P-O3'-C3'	7.06	130.78	120.20
1	SA	1133	G	O3'-P-O5'	-7.05	93.42	104.00
1	SA	1460	C	P-O5'-C5'	7.05	131.48	120.90
1	SA	46	G	C4'-C3'-C2'	-7.05	95.55	102.60
3	S7	13	C	C5'-C4'-C3'	-7.05	105.42	116.00
25	LA	952	G	C4'-C3'-C2'	-7.05	95.55	102.60
25	LA	1565	C	C5'-C4'-C3'	-7.05	104.63	115.20
1	SA	366	A	P-O3'-C3'	7.05	130.77	120.20
25	LA	2071	A	C5'-C4'-C3'	-7.04	105.43	116.00
25	LA	241	A	P-O3'-C3'	7.04	130.75	120.20
25	LA	976	G	C5'-C4'-C3'	-7.04	105.45	116.00
25	LA	1994	C	O3'-P-O5'	7.04	114.55	104.00
25	LA	1896	G	C5'-C4'-C3'	7.03	126.55	116.00
1	SA	888	G	C5'-C4'-C3'	-7.03	105.46	116.00
25	LA	1779	U	P-O5'-C5'	7.03	131.44	120.90
2	S6	22	A	P-O5'-C5'	7.02	131.43	120.90
25	LA	1889	A	P-O5'-C5'	7.02	131.43	120.90
25	LA	405	U	P-O3'-C3'	7.02	130.72	120.20
1	SA	272	C	C5'-C4'-C3'	7.01	126.52	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	1502	A	O4'-C1'-N9	7.01	118.72	108.20
1	SA	266	G	C1'-O4'-C4'	-7.01	102.89	109.90
14	SB	166	ASP	CA-CB-CG	7.00	119.60	112.60
29	LN	129	LEU	O-C-N	-7.00	116.91	121.88
34	LS	6	ARG	N-CA-C	7.00	118.91	111.28
25	LA	2485	G	C5'-C4'-C3'	6.99	126.49	116.00
41	LY	13	ILE	N-CA-C	6.99	117.13	110.42
1	SA	1058	G	O3'-P-O5'	-6.99	93.52	104.00
25	LA	1021	A	C5'-C4'-C3'	-6.99	105.52	116.00
49	L7	32	LYS	N-CA-C	6.99	120.13	110.35
25	LA	232	G	C5'-C4'-C3'	-6.98	104.73	115.20
52	LF	84	ILE	N-CA-CB	6.98	119.48	110.13
25	LA	2133	G	P-O3'-C3'	6.97	130.66	120.20
25	LA	2262	U	P-O5'-C5'	-6.97	110.45	120.90
55	LI	135	VAL	N-CA-C	6.97	117.08	110.53
25	LA	2682	A	P-O3'-C3'	-6.97	109.75	120.20
47	L6	155	GLU	CA-C-N	6.96	129.61	120.28
47	L6	155	GLU	C-N-CA	6.96	129.61	120.28
1	SA	772	U	C5'-C4'-C3'	-6.96	105.56	116.00
19	SE	125	LYS	N-CA-C	6.96	119.81	110.35
1	SA	1014	A	P-O3'-C3'	6.96	130.63	120.20
25	LA	1652	A	C5'-C4'-C3'	-6.95	105.57	116.00
25	LA	974	G	P-O3'-C3'	6.95	130.62	120.20
25	LA	491	G	C5'-C4'-C3'	6.94	126.41	116.00
1	SA	99	C	P-O5'-C5'	6.93	131.29	120.90
12	SR	5	ARG	N-CA-C	6.92	120.62	111.28
25	LA	470	A	P-O5'-C5'	-6.92	110.53	120.90
25	LA	1778	U	C5'-C4'-C3'	-6.91	105.64	116.00
25	LA	2802	G	O3'-P-O5'	-6.91	93.64	104.00
25	LA	2197	U	C5'-C4'-C3'	-6.91	104.84	115.20
25	LA	1416	G	P-O3'-C3'	6.90	130.56	120.20
57	LK	59	ALA	N-CA-C	6.90	119.65	111.71
1	SA	1442	G	P-O5'-C5'	6.90	131.25	120.90
3	S7	5	G	P-O5'-C5'	6.90	131.25	120.90
25	LA	332	A	O4'-C1'-C2'	-6.90	98.90	105.80
25	LA	2425	A	C2'-C3'-O3'	6.90	119.85	109.50
1	SA	475	C	C5'-C4'-C3'	-6.90	105.65	116.00
25	LA	1838	C	C5'-C4'-C3'	6.90	125.55	115.20
25	LA	2504	U	P-O3'-C3'	-6.89	109.86	120.20
2	S6	7	G	P-O3'-C3'	6.89	130.53	120.20
1	SA	143	A	O3'-P-O5'	-6.88	93.68	104.00
1	SA	1136	C	P-O3'-C3'	6.88	130.51	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	SC	18	ASN	CA-CB-CG	-6.87	105.73	112.60
53	LG	79	PHE	CA-CB-CG	-6.87	106.93	113.80
25	LA	611	C	P-O3'-C3'	6.87	130.50	120.20
25	LA	763	G	C5'-C4'-C3'	6.87	126.30	116.00
25	LA	2486	C	C4'-C3'-C2'	-6.86	95.74	102.60
25	LA	2249	U	O3'-P-O5'	-6.86	93.71	104.00
1	SA	652	U	C4'-C3'-O3'	6.86	119.69	109.40
25	LA	1639	C	C5'-C4'-C3'	6.86	126.28	116.00
25	LA	1509	A	P-O3'-C3'	6.86	130.48	120.20
24	S1	586	ASP	N-CA-C	6.85	120.16	110.23
50	L8	85	LYS	N-CA-C	6.84	119.28	108.67
25	LA	147	C	P-O5'-C5'	6.84	131.16	120.90
25	LA	2307	G	P-O3'-C3'	6.84	130.46	120.20
1	SA	224	U	P-O3'-C3'	6.84	130.46	120.20
1	SA	673	A	C5'-C4'-C3'	-6.83	105.75	116.00
25	LA	2682	A	C4'-C3'-C2'	-6.83	95.77	102.60
1	SA	114	U	C5'-C4'-C3'	6.83	126.25	116.00
3	S7	33	U	C5'-C4'-C3'	6.83	126.25	116.00
25	LA	651	G	C4'-C3'-C2'	-6.83	95.77	102.60
25	LA	2572	A	C1'-O4'-C4'	-6.83	103.07	109.90
25	LA	951	C	P-O5'-C5'	-6.83	110.66	120.90
25	LA	1388	G	O3'-P-O5'	-6.83	93.76	104.00
25	LA	1762	A	O4'-C4'-C3'	-6.82	99.28	106.10
25	LA	723	C	C5'-C4'-C3'	6.82	126.23	116.00
25	LA	1056	G	O3'-P-O5'	6.82	114.23	104.00
27	LC	23	ILE	N-CA-C	6.82	117.57	110.62
1	SA	1492	A	P-O5'-C5'	6.81	131.11	120.90
25	LA	757	G	C5'-C4'-C3'	6.81	126.21	116.00
36	LU	18	LYS	N-CA-C	6.81	118.35	111.07
52	LF	111	LYS	N-CA-C	6.81	121.84	109.32
1	SA	1364	U	C2'-C3'-O3'	6.80	119.71	109.50
1	SA	700	G	P-O3'-C3'	-6.80	110.00	120.20
25	LA	2271	G	P-O5'-C5'	6.80	131.10	120.90
25	LA	194	G	P-O5'-C5'	6.80	131.09	120.90
1	SA	239	U	P-O5'-C5'	6.79	131.09	120.90
25	LA	1851	U	P-O5'-C5'	-6.79	110.71	120.90
25	LA	1070	A	C4'-C3'-C2'	-6.78	95.82	102.60
25	LA	1254	A	P-O5'-C5'	-6.78	110.72	120.90
4	SJ	52	LEU	N-CA-C	-6.78	98.64	109.76
25	LA	2665	A	C5'-C4'-C3'	6.78	126.17	116.00
25	LA	2673	G	C5'-C4'-C3'	6.78	126.17	116.00
27	LC	149	VAL	N-CA-C	6.78	116.90	110.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	1967	C	O5'-C5'-C4'	6.78	121.67	111.50
1	SA	46	G	C5'-C4'-C3'	-6.77	105.84	116.00
25	LA	1382	G	P-O5'-C5'	6.77	131.06	120.90
1	SA	1118	U	P-O5'-C5'	6.77	131.05	120.90
1	SA	351	G	P-O5'-C5'	6.76	131.05	120.90
25	LA	2060	A	C5'-C4'-O4'	6.76	119.25	109.10
1	SA	831	A	C4'-C3'-C2'	-6.76	95.84	102.60
1	SA	1364	U	O4'-C1'-C2'	6.76	112.56	105.80
25	LA	876	C	P-O3'-C3'	-6.76	110.06	120.20
25	LA	1565	C	C4'-C3'-O3'	6.76	119.54	109.40
25	LA	1964	G	P-O5'-C5'	6.76	131.03	120.90
1	SA	1279	G	P-O5'-C5'	6.75	131.03	120.90
1	SA	470	C	P-O3'-C3'	6.75	130.33	120.20
5	SK	51	PHE	CA-CB-CG	-6.75	107.05	113.80
25	LA	2056	G	O5'-C5'-C4'	6.75	121.63	111.50
25	LA	1236	G	P-O3'-C3'	-6.75	110.08	120.20
1	SA	86	G	P-O3'-C3'	6.75	130.32	120.20
38	LD	9	ALA	N-CA-C	6.75	118.71	111.36
34	LS	86	PHE	CA-C-N	6.74	129.32	120.28
34	LS	86	PHE	C-N-CA	6.74	129.32	120.28
1	SA	1513	A	C5'-C4'-C3'	6.74	126.11	116.00
3	S7	61	C	C5'-C4'-C3'	-6.74	105.09	115.20
25	LA	313	G	C5'-C4'-C3'	-6.74	105.89	116.00
44	L3	18	PHE	N-CA-C	-6.74	100.78	111.02
25	LA	2487	G	C5'-C4'-C3'	6.73	126.10	116.00
1	SA	1503	A	P-O3'-C3'	6.73	130.30	120.20
25	LA	285	G	C5'-C4'-C3'	6.73	126.09	116.00
21	SG	149	ALA	N-CA-C	6.73	119.50	110.35
25	LA	729	G	P-O5'-C5'	-6.73	110.81	120.90
25	LA	1026	G	P-O3'-C3'	6.73	130.29	120.20
25	LA	2565	A	P-O3'-C3'	6.72	130.29	120.20
25	LA	2887	A	P-O5'-C5'	6.72	130.99	120.90
25	LA	2895	G	P-O5'-C5'	6.72	130.99	120.90
49	L7	175	PRO	N-CA-C	6.71	126.30	112.47
25	LA	1900	A	O3'-P-O5'	6.71	114.07	104.00
25	LA	2160	C	C5'-C4'-C3'	6.71	126.07	116.00
28	LM	76	HIS	CA-CB-CG	-6.71	107.09	113.80
14	SB	165	ALA	CA-C-N	6.71	129.27	120.28
14	SB	165	ALA	C-N-CA	6.71	129.27	120.28
1	SA	416	G	P-O5'-C5'	6.70	130.95	120.90
27	LC	2	ALA	N-CA-C	6.70	120.55	110.64
50	L8	118	ALA	N-CA-C	6.70	118.58	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	1226	C	C2'-C3'-O3'	6.70	119.55	109.50
25	LA	2566	A	O4'-C4'-C3'	-6.69	99.41	106.10
1	SA	510	A	P-O5'-C5'	-6.69	110.86	120.90
25	LA	1439	A	P-O5'-C5'	6.69	130.94	120.90
1	SA	410	G	C5'-C4'-C3'	-6.69	105.97	116.00
1	SA	1151	A	P-O5'-C5'	6.69	130.93	120.90
26	LB	52	A	C5'-C4'-C3'	6.69	126.03	116.00
1	SA	1087	G	P-O5'-C5'	6.68	130.92	120.90
25	LA	1784	A	C5'-C4'-O4'	6.68	119.12	109.10
25	LA	1434	A	C5'-C4'-C3'	6.67	126.01	116.00
19	SE	21	SER	CA-C-N	6.67	130.45	120.31
19	SE	21	SER	C-N-CA	6.67	130.45	120.31
33	LR	37	ASP	CA-CB-CG	-6.67	105.93	112.60
25	LA	2788	C	C5'-C4'-C3'	-6.67	106.00	116.00
25	LA	41	C	O3'-P-O5'	-6.67	94.00	104.00
26	LB	20	G	C5'-C4'-C3'	-6.67	106.00	116.00
3	S7	58	A	C5'-C4'-C3'	-6.66	106.00	116.00
25	LA	2886	A	P-O5'-C5'	6.66	130.89	120.90
25	LA	2095	A	P-O5'-C5'	6.65	130.87	120.90
1	SA	1332	A	C5'-C4'-O4'	6.64	119.76	109.80
1	SA	717	U	C2'-C3'-O3'	6.64	123.66	113.70
25	LA	387	U	C5'-C4'-O4'	6.63	119.05	109.10
25	LA	757	G	P-O5'-C5'	6.63	130.85	120.90
25	LA	2313	C	P-O5'-C5'	-6.63	110.96	120.90
25	LA	1670	C	P-O5'-C5'	6.62	130.83	120.90
1	SA	346	G	P-O5'-C5'	-6.62	110.97	120.90
1	SA	609	A	C5'-C4'-C3'	-6.62	106.07	116.00
1	SA	1345	U	O5'-C5'-C4'	6.62	121.63	111.70
25	LA	2110	G	O3'-P-O5'	6.62	113.93	104.00
25	LA	468	G	P-O3'-C3'	-6.62	110.28	120.20
3	S7	37	A	P-O5'-C5'	6.61	130.82	120.90
18	SD	40	HIS	CA-CB-CG	-6.61	107.19	113.80
25	LA	2871	U	O3'-P-O5'	-6.61	94.09	104.00
25	LA	2430	A	C2'-C3'-O3'	6.61	119.41	109.50
1	SA	1049	U	C5'-C4'-O4'	6.60	119.00	109.10
1	SA	1503	A	C2'-C3'-O3'	6.60	119.40	109.50
25	LA	752	A	P-O5'-C5'	-6.60	111.00	120.90
40	LX	15	PHE	CA-CB-CG	-6.60	107.20	113.80
25	LA	398	C	O3'-P-O5'	6.59	113.89	104.00
25	LA	2251	G	C1'-O4'-C4'	-6.59	103.31	109.90
19	SE	86	GLY	O-C-N	-6.59	119.20	123.35
25	LA	729	G	C5'-C4'-C3'	-6.59	106.11	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	1135	C	C5'-C4'-C3'	6.58	125.88	116.00
13	SS	82	HIS	CA-CB-CG	6.58	120.38	113.80
25	LA	371	A	C5'-C4'-C3'	6.58	125.07	115.20
1	SA	959	A	C1'-O4'-C4'	-6.58	103.32	109.90
25	LA	229	C	C4'-C3'-C2'	-6.58	96.02	102.60
1	SA	225	C	C5'-C4'-C3'	-6.57	106.14	116.00
25	LA	765	C	C5'-C4'-C3'	-6.57	106.14	116.00
1	SA	374	A	P-O5'-C5'	6.57	130.75	120.90
1	SA	568	G	C5'-C4'-C3'	6.57	125.85	116.00
25	LA	2141	G	C5'-C4'-C3'	-6.57	106.15	116.00
1	SA	1402	C	O4'-C1'-C2'	6.57	114.17	107.60
25	LA	526	A	O3'-P-O5'	6.57	113.85	104.00
25	LA	2406	A	O3'-P-O5'	-6.57	94.15	104.00
25	LA	1115	G	P-O5'-C5'	6.56	130.74	120.90
25	LA	1376	C	C5'-C4'-C3'	6.56	125.84	116.00
1	SA	1029	U	P-O3'-C3'	6.55	130.03	120.20
1	SA	791	G	C5'-C4'-C3'	-6.55	106.17	116.00
1	SA	1147	C	C5'-C4'-C3'	-6.55	106.18	116.00
1	SA	597	G	C5'-C4'-C3'	-6.54	106.19	116.00
1	SA	1279	G	C5'-C4'-C3'	-6.54	105.39	115.20
25	LA	1626	A	P-O5'-C5'	6.53	130.70	120.90
25	LA	2452	C	C2'-C3'-O3'	6.53	119.30	109.50
1	SA	678	U	C5'-C4'-C3'	6.53	125.79	116.00
25	LA	748	G	P-O5'-C5'	-6.53	111.11	120.90
1	SA	683	G	P-O5'-C5'	-6.53	111.11	120.90
15	ST	83	ASN	CA-CB-CG	-6.53	106.07	112.60
25	LA	1965	C	O4'-C4'-C3'	6.52	110.52	104.00
32	LQ	11	ARG	N-CA-C	6.52	118.19	111.14
25	LA	2620	C	C5'-C4'-C3'	-6.52	106.22	116.00
1	SA	794	A	O5'-C5'-C4'	6.52	121.28	111.50
25	LA	2742	G	C4'-C3'-C2'	-6.52	96.08	102.60
1	SA	204	G	O4'-C1'-N9	6.51	118.27	108.50
25	LA	1007	C	C5'-C4'-C3'	6.51	125.77	116.00
29	LN	119	VAL	N-CA-C	6.51	117.30	110.72
25	LA	2430	A	O3'-P-O5'	6.50	113.75	104.00
25	LA	792	A	C2'-C3'-O3'	6.50	119.25	109.50
49	L7	154	THR	N-CA-CB	6.50	120.11	110.49
25	LA	1850	G	C5'-C4'-C3'	-6.49	106.26	116.00
1	SA	368	U	C5'-C4'-C3'	-6.49	106.27	116.00
29	LN	220	ARG	CA-C-N	6.49	127.19	119.98
29	LN	220	ARG	C-N-CA	6.49	127.19	119.98
1	SA	331	G	P-O5'-C5'	6.49	130.63	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	1990	C	P-O5'-C5'	6.49	130.63	120.90
1	SA	38	G	P-O3'-C3'	-6.48	110.47	120.20
18	SD	195	ASN	CA-CB-CG	-6.48	106.12	112.60
28	LM	60	VAL	N-CA-C	6.48	118.03	109.21
1	SA	910	C	C4'-C3'-C2'	-6.48	96.12	102.60
1	SA	519	C	O4'-C1'-N1	6.48	118.22	108.50
55	LI	22	GLN	N-CA-C	6.47	118.34	111.28
1	SA	194	C	P-O3'-C3'	-6.47	110.49	120.20
1	SA	750	C	C5'-C4'-C3'	-6.47	106.29	116.00
25	LA	1967	C	P-O5'-C5'	6.47	130.61	120.90
25	LA	2422	C	P-O5'-C5'	6.47	130.61	120.90
25	LA	539	G	P-O5'-C5'	-6.47	111.19	120.90
25	LA	2544	G	C4'-C3'-C2'	-6.47	96.13	102.60
53	LG	104	THR	CA-C-N	6.47	128.94	120.28
53	LG	104	THR	C-N-CA	6.47	128.94	120.28
25	LA	456	C	O4'-C4'-C3'	-6.46	99.64	106.10
25	LA	1296	G	C5'-C4'-C3'	6.46	125.69	116.00
25	LA	231	A	P-O3'-C3'	6.45	129.87	120.20
25	LA	631	A	P-O3'-C3'	6.45	129.88	120.20
25	LA	1763	G	P-O3'-C3'	6.45	129.88	120.20
25	LA	2147	A	P-O5'-C5'	-6.45	111.22	120.90
1	SA	1501	C	O3'-P-O5'	-6.45	94.33	104.00
1	SA	530	G	C4'-C3'-C2'	6.45	109.05	102.60
24	S1	406	GLU	N-CA-C	6.44	117.96	111.07
25	LA	1321	A	C1'-O4'-C4'	-6.44	103.46	109.90
57	LK	88	LYS	N-CA-C	-6.44	99.68	108.38
25	LA	1168	G	O3'-P-O5'	-6.44	94.35	104.00
1	SA	306	A	P-O3'-C3'	6.43	129.85	120.20
1	SA	947	G	C5'-C4'-C3'	-6.43	106.35	116.00
35	LT	76	ASP	N-CA-C	6.43	118.60	110.24
25	LA	1202	G	O3'-P-O5'	-6.43	94.36	104.00
1	SA	173	U	C5'-C4'-C3'	-6.42	105.56	115.20
25	LA	242	G	C2'-C3'-O3'	6.42	119.14	109.50
25	LA	648	G	P-O5'-C5'	-6.42	111.27	120.90
1	SA	1259	C	C5'-C4'-C3'	-6.42	106.37	116.00
25	LA	1116	G	C5'-C4'-C3'	6.42	125.63	116.00
3	S7	62	C	P-O5'-C5'	-6.42	111.28	120.90
25	LA	1942	C	C5'-C4'-C3'	-6.41	106.39	116.00
25	LA	2162	G	C2'-C3'-O3'	6.40	119.10	109.50
30	LO	105	PHE	N-CA-C	-6.40	105.77	113.97
25	LA	2506	U	O3'-P-O5'	6.40	113.60	104.00
25	LA	245	G	C5'-C4'-C3'	6.40	125.60	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	768	A	C4'-C3'-C2'	-6.40	96.20	102.60
25	LA	2137	U	P-O5'-C5'	6.39	130.49	120.90
25	LA	510	C	O3'-P-O5'	-6.39	94.42	104.00
27	LC	197	LYS	CA-C-N	6.39	128.84	120.28
27	LC	197	LYS	C-N-CA	6.39	128.84	120.28
25	LA	1192	G	P-O5'-C5'	-6.39	111.32	120.90
25	LA	1947	C	C4'-C3'-C2'	-6.39	96.21	102.60
25	LA	2118	U	C2'-C3'-O3'	6.39	119.08	109.50
25	LA	2147	A	O3'-P-O5'	-6.39	94.42	104.00
25	LA	2471	A	C2'-C3'-O3'	6.38	119.08	109.50
1	SA	173	U	P-O3'-C3'	6.38	129.78	120.20
25	LA	741	U	C5'-C4'-C3'	-6.38	106.43	116.00
25	LA	2067	G	P-O3'-C3'	-6.38	110.63	120.20
25	LA	2799	A	C1'-O4'-C4'	-6.38	103.53	109.90
25	LA	974	G	P-O5'-C5'	-6.37	111.35	120.90
25	LA	2069	G	C5'-C4'-C3'	6.37	125.55	116.00
25	LA	2036	C	O3'-P-O5'	-6.37	94.45	104.00
3	S7	51	U	C5'-C4'-C3'	6.36	125.55	116.00
26	LB	87	U	C4'-C3'-C2'	-6.36	96.24	102.60
25	LA	920	A	C5'-C4'-C3'	6.36	125.54	116.00
1	SA	976	G	C4'-C3'-O3'	6.36	118.94	109.40
1	SA	1167	A	P-O3'-C3'	6.36	129.74	120.20
1	SA	1302	C	C2'-C3'-O3'	6.36	119.04	109.50
25	LA	931	U	C5'-C4'-C3'	6.36	124.74	115.20
1	SA	1425	U	O3'-P-O5'	-6.36	94.46	104.00
25	LA	1840	G	C5'-C4'-C3'	-6.36	106.46	116.00
25	LA	349	U	C5'-C4'-C3'	-6.36	106.46	116.00
25	LA	571	U	C5'-C4'-C3'	-6.36	105.67	115.20
25	LA	93	G	C4'-C3'-C2'	-6.36	96.24	102.60
10	SP	65	ALA	N-CA-C	6.35	119.44	110.23
4	SJ	58	ASN	CA-CB-CG	-6.35	106.25	112.60
25	LA	2574	G	C5'-C4'-C3'	6.35	125.52	116.00
25	LA	1896	G	P-O5'-C5'	6.34	130.42	120.90
25	LA	2263	C	P-O5'-C5'	-6.34	111.39	120.90
1	SA	1531	A	O3'-P-O5'	-6.34	94.49	104.00
14	SB	10	LYS	N-CA-C	6.34	118.19	111.28
25	LA	2339	C	C4'-C3'-C2'	-6.34	96.26	102.60
25	LA	2344	U	P-O5'-C5'	6.34	130.41	120.90
22	SH	20	ASN	CA-CB-CG	-6.34	106.26	112.60
25	LA	1965	C	C5'-C4'-C3'	-6.33	106.50	116.00
25	LA	2500	U	C4'-C3'-C2'	-6.33	96.27	102.60
1	SA	678	U	P-O5'-C5'	-6.33	111.41	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	289	G	C5'-C4'-C3'	6.33	125.49	116.00
25	LA	891	G	P-O5'-C5'	6.33	130.39	120.90
25	LA	2581	G	O5'-C5'-C4'	6.32	121.19	111.70
25	LA	2427	C	C2'-C3'-O3'	-6.32	104.22	113.70
25	LA	2145	C	P-O3'-C3'	6.32	129.68	120.20
25	LA	591	U	C4'-C3'-C2'	-6.32	96.28	102.60
24	S1	688	GLU	N-CA-C	6.32	119.41	110.50
55	LI	18	ARG	N-CA-C	6.31	117.83	111.07
29	LN	89	ASN	CA-CB-CG	-6.31	106.29	112.60
25	LA	63	A	P-O5'-C5'	-6.31	111.44	120.90
25	LA	1645	G	C5'-C4'-C3'	-6.31	105.74	115.20
25	LA	507	A	P-O3'-C3'	6.31	129.66	120.20
25	LA	684	G	O3'-P-O5'	-6.30	94.54	104.00
1	SA	925	G	P-O5'-C5'	6.30	130.35	120.90
2	S6	8	U	P-O3'-C3'	-6.30	110.75	120.20
1	SA	954	G	C5'-C4'-C3'	6.30	125.44	116.00
25	LA	2445	G	O4'-C1'-C2'	6.29	113.89	107.60
55	LI	133	LYS	N-CA-C	6.29	118.70	111.02
25	LA	1640	A	P-O5'-C5'	6.29	130.34	120.90
25	LA	2828	G	C4'-C3'-C2'	-6.29	96.31	102.60
1	SA	143	A	P-O5'-C5'	6.29	130.33	120.90
25	LA	508	A	P-O3'-C3'	6.29	129.63	120.20
25	LA	93	G	C5'-C4'-C3'	-6.29	106.57	116.00
1	SA	1152	A	C4'-C3'-C2'	-6.28	96.32	102.60
25	LA	2583	G	C5'-C4'-C3'	-6.28	106.57	116.00
25	LA	1495	A	P-O5'-C5'	6.28	130.32	120.90
25	LA	2521	C	C4'-C3'-C2'	-6.28	96.32	102.60
25	LA	143	C	P-O5'-C5'	6.28	130.32	120.90
1	SA	279	A	P-O3'-C3'	6.28	129.62	120.20
25	LA	2663	G	P-O3'-C3'	6.28	129.62	120.20
1	SA	177	G	O4'-C1'-N9	6.28	117.92	108.50
1	SA	1194	U	P-O5'-C5'	6.28	130.31	120.90
25	LA	1646	C	C5'-C4'-C3'	6.28	125.41	116.00
25	LA	453	A	P-O3'-C3'	6.27	129.61	120.20
54	LH	103	ILE	N-CA-C	6.27	117.02	110.62
25	LA	2448	A	C5'-C4'-C3'	6.26	124.60	115.20
1	SA	252	U	P-O3'-C3'	-6.26	110.81	120.20
25	LA	2043	C	C5'-C4'-C3'	6.26	125.39	116.00
1	SA	964	A	P-O3'-C3'	6.26	129.59	120.20
1	SA	1531	A	C5'-C4'-C3'	6.25	125.38	116.00
25	LA	2425	A	P-O3'-C3'	6.25	129.58	120.20
25	LA	1323	C	O4'-C1'-N1	6.25	117.58	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	LO	8	ILE	CB-CA-C	-6.25	104.06	111.94
1	SA	1213	A	P-O3'-C3'	6.25	129.57	120.20
25	LA	1449	G	P-O5'-C5'	6.25	130.27	120.90
28	LM	12	MET	N-CA-C	6.25	118.77	110.53
25	LA	297	G	C5'-C4'-C3'	-6.24	106.63	116.00
25	LA	984	A	O4'-C1'-C2'	-6.24	99.56	105.80
1	SA	1003	G	C5'-C4'-C3'	6.24	125.36	116.00
25	LA	3	U	C5'-C4'-C3'	-6.24	106.64	116.00
29	LN	85	ASN	CA-CB-CG	-6.24	106.36	112.60
25	LA	463	G	C2'-C3'-O3'	6.24	123.06	113.70
25	LA	1543	G	C5'-C4'-C3'	-6.24	106.64	116.00
1	SA	976	G	C2'-C3'-O3'	6.24	118.86	109.50
3	S7	6	G	C5'-C4'-C3'	6.24	125.36	116.00
6	SL	113	ARG	N-CA-C	6.24	118.88	111.71
25	LA	725	G	P-O3'-C3'	6.24	129.56	120.20
1	SA	1192	C	P-O5'-C5'	-6.23	111.55	120.90
25	LA	181	A	P-O5'-C5'	-6.23	111.55	120.90
25	LA	603	A	C2'-C3'-O3'	6.23	118.84	109.50
1	SA	1176	A	C5'-C4'-C3'	-6.22	106.66	116.00
40	LX	77	ARG	NE-CZ-NH2	6.22	124.80	119.20
1	SA	320	A	C5'-C4'-C3'	-6.22	106.67	116.00
24	S1	507	GLN	CA-C-N	6.22	128.62	120.28
24	S1	507	GLN	C-N-CA	6.22	128.62	120.28
25	LA	413	C	P-O5'-C5'	6.22	130.23	120.90
25	LA	1867	G	P-O5'-C5'	-6.22	111.57	120.90
1	SA	1503	A	C3'-C2'-O2'	-6.22	105.27	114.60
25	LA	2272	U	C2'-C3'-O3'	6.22	123.03	113.70
25	LA	1067	A	O4'-C1'-N9	6.22	117.82	108.50
25	LA	2060	A	C3'-C2'-C1'	-6.21	95.29	101.50
15	ST	77	ASN	CA-CB-CG	-6.21	106.39	112.60
39	LW	56	LEU	N-CA-C	6.21	119.00	110.24
1	SA	183	C	P-O3'-C3'	6.21	129.52	120.20
25	LA	2422	C	P-O3'-C3'	6.21	129.51	120.20
25	LA	2484	G	C4'-C3'-C2'	-6.21	96.39	102.60
25	LA	2626	C	C4'-C3'-C2'	-6.21	96.39	102.60
25	LA	641	U	P-O3'-C3'	6.21	129.51	120.20
25	LA	2245	U	P-O3'-C3'	-6.21	110.89	120.20
1	SA	52	C	O4'-C1'-N1	6.20	117.81	108.50
1	SA	765	G	N9-C1'-C2'	-6.20	102.70	112.00
25	LA	938	G	P-O5'-C5'	6.20	130.20	120.90
1	SA	1490	U	P-O5'-C5'	6.20	130.20	120.90
25	LA	1159	U	C5'-C4'-C3'	-6.20	106.70	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	971	G	P-O3'-C3'	-6.20	110.90	120.20
1	SA	1280	A	P-O5'-C5'	6.20	130.19	120.90
25	LA	470	A	C4'-C3'-C2'	-6.20	96.41	102.60
25	LA	829	A	P-O5'-C5'	6.20	130.19	120.90
25	LA	2033	A	C2'-C3'-O3'	6.20	118.79	109.50
47	L6	12	LEU	CA-C-N	6.20	133.37	121.54
47	L6	12	LEU	C-N-CA	6.20	133.37	121.54
25	LA	142	A	O3'-P-O5'	-6.19	94.71	104.00
8	SN	83	VAL	N-CA-CB	6.19	117.79	110.55
27	LC	85	GLU	N-CA-C	6.19	118.02	111.28
14	SB	176	ASN	CA-CB-CG	-6.18	106.42	112.60
27	LC	174	THR	N-CA-CB	6.18	119.06	109.85
25	LA	647	G	O3'-P-O5'	-6.18	94.73	104.00
25	LA	330	A	C5'-C4'-C3'	-6.18	105.93	115.20
25	LA	1831	G	P-O5'-C5'	6.18	130.16	120.90
1	SA	1347	G	P-O3'-C3'	6.17	129.46	120.20
13	SS	11	ASP	CA-C-N	6.17	129.16	120.28
13	SS	11	ASP	C-N-CA	6.17	129.16	120.28
25	LA	796	C	C5'-C4'-C3'	-6.17	106.75	116.00
25	LA	2770	G	P-O3'-C3'	6.17	129.45	120.20
1	SA	774	G	C5'-C4'-C3'	6.17	125.25	116.00
25	LA	529	A	O5'-C5'-C4'	6.17	120.95	111.70
25	LA	1781	U	C1'-O4'-C4'	-6.17	103.53	109.70
25	LA	2276	G	P-O5'-C5'	6.16	130.15	120.90
25	LA	675	A	C4'-C3'-C2'	-6.16	96.44	102.60
1	SA	363	A	P-O5'-C5'	-6.16	111.66	120.90
1	SA	813	U	C5'-C4'-C3'	6.16	125.24	116.00
25	LA	1070	A	C5'-C4'-O4'	6.16	118.34	109.10
25	LA	2427	C	O4'-C1'-N1	6.16	117.74	108.50
1	SA	485	U	P-O3'-C3'	-6.16	110.97	120.20
25	LA	2641	G	O3'-P-O5'	-6.16	94.77	104.00
50	L8	135	ALA	N-CA-C	6.15	117.79	111.14
2	S6	8	U	C4'-C3'-O3'	6.15	118.63	109.40
25	LA	973	A	C5'-C4'-C3'	-6.15	105.97	115.20
25	LA	62	U	P-O3'-C3'	6.15	129.43	120.20
25	LA	196	A	C1'-O4'-C4'	-6.15	103.55	109.70
25	LA	2322	A	O5'-C5'-C4'	6.15	120.73	111.50
25	LA	233	A	C4'-C3'-C2'	-6.15	96.45	102.60
1	SA	724	G	P-O5'-C5'	6.15	130.12	120.90
25	LA	1513	U	P-O5'-C5'	6.15	130.12	120.90
1	SA	51	A	P-O5'-C5'	-6.15	111.68	120.90
1	SA	1015	G	O3'-P-O5'	-6.15	94.78	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	38	A	P-O5'-C5'	6.14	130.12	120.90
25	LA	527	C	C1'-O4'-C4'	-6.14	103.76	109.90
25	LA	1681	G	C5'-C4'-C3'	-6.14	105.98	115.20
1	SA	3	A	P-O3'-C3'	6.14	129.41	120.20
12	SR	11	ARG	NE-CZ-NH2	6.14	124.73	119.20
1	SA	1313	U	P-O3'-C3'	-6.14	110.99	120.20
24	S1	441	ASP	CA-CB-CG	-6.14	106.46	112.60
1	SA	995	C	C5'-C4'-C3'	-6.14	106.80	116.00
25	LA	953	G	C5'-C4'-C3'	6.14	125.20	116.00
25	LA	1460	U	C2'-C3'-O3'	6.14	118.70	109.50
25	LA	2549	G	C5'-C4'-C3'	6.14	125.20	116.00
1	SA	819	A	C2'-C3'-O3'	6.13	118.70	109.50
25	LA	1888	G	O3'-P-O5'	6.13	113.20	104.00
25	LA	756	A	C4'-C3'-C2'	-6.13	96.47	102.60
1	SA	1014	A	C2'-C3'-O3'	6.13	122.89	113.70
25	LA	853	C	C5'-C4'-C3'	-6.13	106.81	116.00
25	LA	896	A	O3'-P-O5'	-6.12	94.81	104.00
25	LA	2237	G	C5'-C4'-C3'	-6.12	106.81	116.00
25	LA	2566	A	P-O5'-C5'	-6.12	111.72	120.90
1	SA	782	A	C4'-C3'-C2'	-6.12	96.48	102.60
1	SA	1279	G	P-O3'-C3'	-6.12	111.02	120.20
25	LA	2663	G	C4'-C3'-C2'	-6.12	96.48	102.60
25	LA	1003	G	C5'-C4'-C3'	6.12	125.18	116.00
25	LA	2055	C	C4'-C3'-C2'	-6.12	96.48	102.60
26	LB	78	A	C5'-C4'-C3'	-6.12	106.82	116.00
1	SA	237	G	O3'-P-O5'	-6.12	94.82	104.00
1	SA	982	U	P-O5'-C5'	-6.12	111.73	120.90
30	LO	95	ALA	CA-C-N	6.12	128.48	120.28
30	LO	95	ALA	C-N-CA	6.12	128.48	120.28
25	LA	2607	G	P-O5'-C5'	6.11	130.07	120.90
1	SA	255	G	C5'-C4'-C3'	-6.11	106.83	116.00
25	LA	2336	A	P-O5'-C5'	6.11	130.06	120.90
25	LA	2571	U	P-O5'-C5'	6.11	130.06	120.90
27	LC	17	ALA	N-CA-C	6.11	118.66	110.35
1	SA	590	U	C5'-C4'-C3'	-6.11	106.84	116.00
26	LB	54	G	P-O5'-C5'	6.11	130.06	120.90
25	LA	14	A	C5'-C4'-C3'	-6.10	106.84	116.00
25	LA	1882	U	C5'-C4'-O4'	6.10	118.96	109.80
25	LA	475	C	P-O5'-C5'	6.10	130.05	120.90
25	LA	46	G	O5'-C5'-C4'	6.10	120.65	111.50
25	LA	2502	G	O3'-P-O5'	6.10	113.15	104.00
25	LA	2537	U	P-O5'-C5'	-6.10	111.75	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	1968	G	C5'-C4'-C3'	-6.09	106.86	116.00
19	SE	164	LEU	N-CA-C	6.09	117.59	111.07
25	LA	2280	G	O3'-P-O5'	6.09	113.14	104.00
1	SA	93	U	P-O3'-C3'	6.09	129.34	120.20
1	SA	455	G	O3'-P-O5'	-6.09	94.87	104.00
1	SA	1271	A	P-O3'-C3'	6.08	129.33	120.20
25	LA	1061	U	C1'-O4'-C4'	-6.08	103.61	109.70
1	SA	370	C	P-O5'-C5'	6.08	130.03	120.90
25	LA	57	C	C5'-C4'-C3'	6.08	125.13	116.00
25	LA	1012	U	C5'-C4'-O4'	6.08	118.22	109.10
25	LA	2213	U	P-O3'-C3'	6.08	129.32	120.20
25	LA	1266	G	C4'-C3'-C2'	-6.08	96.52	102.60
25	LA	1428	C	C4'-C3'-C2'	-6.08	96.52	102.60
1	SA	528	C	C5'-C4'-O4'	6.08	118.92	109.80
1	SA	792	A	O4'-C1'-N9	6.08	117.31	108.20
25	LA	20	C	C5'-C4'-C3'	6.07	125.11	116.00
25	LA	1997	C	C4'-C3'-C2'	-6.07	96.53	102.60
49	L7	111	ARG	N-CA-C	6.07	117.69	111.14
1	SA	173	U	C2'-C3'-O3'	6.07	118.60	109.50
25	LA	704	G	C5'-C4'-C3'	6.07	125.10	116.00
25	LA	1147	A	C5'-C4'-C3'	6.07	125.10	116.00
1	SA	328	C	C5'-C4'-O4'	6.07	118.20	109.10
1	SA	1227	A	C4'-C3'-C2'	-6.07	96.53	102.60
25	LA	759	G	C4'-C3'-C2'	-6.07	96.53	102.60
25	LA	1483	G	P-O5'-C5'	6.07	130.00	120.90
25	LA	2651	C	P-O5'-C5'	6.06	130.00	120.90
25	LA	1560	G	C5'-C4'-C3'	-6.06	106.91	116.00
25	LA	2647	U	C4'-C3'-O3'	-6.06	103.91	113.00
1	SA	273	U	P-O5'-C5'	6.06	129.99	120.90
1	SA	857	C	C5'-C4'-C3'	6.05	125.08	116.00
25	LA	846	U	C2'-C3'-O3'	6.05	118.58	109.50
3	S7	8	U	P-O5'-C5'	6.05	129.98	120.90
25	LA	878	A	C5'-C4'-C3'	-6.05	106.92	116.00
1	SA	1054	C	C2'-C3'-O3'	6.05	118.57	109.50
25	LA	321	U	P-O3'-C3'	-6.05	111.13	120.20
25	LA	1329	U	O5'-C5'-C4'	-6.05	102.63	111.70
25	LA	1213	A	C5'-C4'-C3'	-6.04	106.93	116.00
25	LA	2355	G	C5'-C4'-C3'	6.04	125.07	116.00
25	LA	644	A	P-O5'-C5'	-6.04	111.84	120.90
25	LA	1327	A	C4'-C3'-C2'	-6.04	96.56	102.60
25	LA	2576	G	P-O3'-C3'	-6.04	111.13	120.20
1	SA	703	G	C4'-C3'-O3'	6.04	118.46	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	94	A	P-O5'-C5'	6.04	129.96	120.90
51	L9	15	LEU	N-CA-CB	6.04	120.70	110.49
1	SA	632	U	P-O3'-C3'	-6.04	111.14	120.20
3	S7	57	G	P-O5'-C5'	-6.04	111.84	120.90
25	LA	1282	U	C2'-C3'-O3'	6.04	122.76	113.70
25	LA	1680	U	C4'-C3'-C2'	-6.04	96.56	102.60
25	LA	2252	G	P-O5'-C5'	6.04	129.95	120.90
1	SA	938	A	P-O5'-C5'	-6.03	111.85	120.90
1	SA	809	G	C4'-C3'-C2'	-6.03	96.57	102.60
1	SA	1099	G	C4'-C3'-C2'	-6.03	96.57	102.60
1	SA	1198	G	C4'-C3'-C2'	-6.03	96.57	102.60
25	LA	2666	C	C4'-C3'-O3'	-6.03	103.96	113.00
44	L3	13	ASN	N-CA-C	6.03	117.85	111.28
1	SA	546	A	P-O5'-C5'	-6.02	111.86	120.90
25	LA	1644	C	C5'-C4'-C3'	-6.02	106.97	116.00
7	SM	65	GLU	N-CA-C	6.02	117.84	111.28
25	LA	2135	A	C5'-C4'-C3'	6.02	125.03	116.00
52	LF	42	ALA	CA-C-N	6.02	128.63	120.38
52	LF	42	ALA	C-N-CA	6.02	128.63	120.38
1	SA	1532	U	P-O3'-C3'	-6.02	111.17	120.20
25	LA	1270	C	C5'-C4'-C3'	-6.02	106.17	115.20
1	SA	343	U	C5'-C4'-C3'	-6.02	106.98	116.00
25	LA	119	A	C4'-C3'-O3'	6.02	118.42	109.40
1	SA	387	U	P-O3'-C3'	-6.01	111.18	120.20
1	SA	974	A	O4'-C1'-N9	6.01	117.22	108.20
24	S1	401	ALA	N-CA-C	6.01	123.10	109.81
6	SL	43	LYS	O-C-N	-6.01	115.06	120.71
25	LA	2714	G	P-O5'-C5'	6.01	129.92	120.90
32	LQ	66	ILE	CA-C-N	6.01	128.34	120.28
32	LQ	66	ILE	C-N-CA	6.01	128.34	120.28
13	SS	66	VAL	N-CA-C	6.01	116.75	110.62
25	LA	2495	G	C5'-C4'-C3'	-6.01	106.99	116.00
3	S7	17	C	C2'-C3'-O3'	6.00	118.50	109.50
8	SN	52	ARG	N-CA-C	6.00	118.59	111.33
18	SD	85	THR	N-CA-C	6.00	117.83	111.28
25	LA	1158	C	P-O5'-C5'	-6.00	111.90	120.90
25	LA	105	C	P-O3'-C3'	6.00	129.20	120.20
1	SA	323	U	P-O5'-C5'	6.00	129.89	120.90
1	SA	1235	U	C5'-C4'-C3'	-6.00	107.01	116.00
58	LZ	14	ALA	N-CA-C	6.00	118.28	110.43
25	LA	2424	C	C5'-C4'-C3'	-5.99	107.01	116.00
25	LA	1777	U	P-O5'-C5'	-5.99	111.92	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	196	A	O5'-C5'-C4'	-5.99	102.72	111.70
25	LA	510	C	P-O3'-C3'	5.99	129.18	120.20
25	LA	2441	U	P-O5'-C5'	5.99	129.88	120.90
1	SA	52	C	P-O3'-C3'	-5.99	111.22	120.20
1	SA	701	U	P-O3'-C3'	-5.99	111.22	120.20
7	SM	112	ARG	N-CA-C	5.99	118.91	110.23
25	LA	1523	U	P-O3'-C3'	5.98	129.18	120.20
25	LA	130	C	C4'-C3'-C2'	-5.98	96.62	102.60
25	LA	1025	G	P-O3'-C3'	5.98	129.17	120.20
25	LA	2608	G	P-O3'-C3'	-5.98	111.23	120.20
1	SA	1152	A	O5'-C5'-C4'	5.98	120.47	111.50
29	LN	14	HIS	CA-CB-CG	-5.98	107.82	113.80
22	SH	83	ARG	N-CA-C	5.98	119.49	111.24
25	LA	114	U	P-O3'-C3'	5.98	129.16	120.20
26	LB	60	C	P-O5'-C5'	5.98	129.86	120.90
1	SA	396	C	P-O5'-C5'	5.97	129.86	120.90
25	LA	1241	A	C5'-C4'-C3'	-5.97	107.04	116.00
46	L5	13	ASN	CA-CB-CG	-5.97	106.63	112.60
25	LA	1991	U	C5'-C4'-C3'	5.97	124.96	116.00
25	LA	868	U	C5'-C4'-C3'	-5.97	107.05	116.00
25	LA	144	A	C5'-C4'-C3'	-5.96	107.05	116.00
25	LA	1164	C	C5'-C4'-C3'	-5.96	107.05	116.00
25	LA	2055	C	O5'-C5'-C4'	5.96	120.45	111.50
1	SA	1235	U	C4'-C3'-C2'	-5.96	96.64	102.60
25	LA	1850	G	P-O3'-C3'	-5.96	111.26	120.20
25	LA	791	C	C5'-C4'-C3'	-5.96	106.27	115.20
25	LA	2214	C	O3'-P-O5'	5.96	112.94	104.00
1	SA	1253	G	P-O3'-C3'	5.96	129.13	120.20
25	LA	377	G	C5'-C4'-C3'	-5.95	107.07	116.00
25	LA	333	G	P-O5'-C5'	-5.95	111.98	120.90
25	LA	377	G	C4'-C3'-C2'	-5.95	96.65	102.60
25	LA	2195	U	C4'-C3'-C2'	-5.95	96.65	102.60
25	LA	1784	A	O4'-C1'-C2'	5.95	111.75	105.80
1	SA	135	C	C4'-C3'-O3'	-5.94	104.08	113.00
25	LA	445	C	C5'-C4'-O4'	5.94	118.71	109.80
1	SA	1432	G	C5'-C4'-C3'	-5.94	106.29	115.20
25	LA	655	A	P-O3'-C3'	5.94	129.11	120.20
25	LA	1743	G	C5'-C4'-C3'	-5.94	107.09	116.00
1	SA	617	G	C5'-C4'-C3'	-5.93	107.10	116.00
25	LA	1210	G	C2'-C3'-O3'	5.93	118.40	109.50
1	SA	1218	C	O3'-P-O5'	5.93	112.90	104.00
25	LA	580	U	P-O3'-C3'	5.93	129.10	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	728	G	P-O3'-C3'	-5.93	111.30	120.20
18	SD	99	ASN	CA-CB-CG	-5.93	106.67	112.60
25	LA	2492	U	C5'-C4'-C3'	-5.93	106.30	115.20
25	LA	1757	A	C2'-C3'-O3'	5.93	122.59	113.70
1	SA	1305	G	C2'-C3'-O3'	5.93	122.59	113.70
1	SA	1402	C	O4'-C1'-N1	5.93	117.39	108.50
1	SA	251	G	C2'-C3'-O3'	5.93	118.39	109.50
1	SA	1399	C	P-O5'-C5'	-5.93	112.01	120.90
25	LA	732	C	P-O5'-C5'	5.93	129.79	120.90
25	LA	126	A	O4'-C1'-N9	5.92	117.08	108.20
1	SA	812	G	C4'-C3'-C2'	-5.92	96.68	102.60
25	LA	430	A	P-O3'-C3'	5.92	129.08	120.20
25	LA	2251	G	P-O3'-C3'	-5.92	111.32	120.20
32	LQ	95	ARG	NE-CZ-NH2	5.92	124.53	119.20
1	SA	422	C	P-O3'-C3'	5.92	129.07	120.20
25	LA	1420	A	C2'-C3'-O3'	5.92	118.38	109.50
1	SA	39	G	C5'-C4'-C3'	5.91	124.87	116.00
1	SA	120	A	P-O3'-C3'	5.91	129.07	120.20
1	SA	662	U	P-O5'-C5'	-5.91	112.03	120.90
1	SA	1049	U	C3'-C2'-O2'	-5.91	105.73	114.60
1	SA	1278	G	C2'-C3'-O3'	5.91	118.37	109.50
25	LA	2249	U	C2'-C3'-O3'	5.91	118.37	109.50
25	LA	695	G	C4'-C3'-C2'	-5.91	96.69	102.60
25	LA	1843	C	C5'-C4'-C3'	-5.91	107.14	116.00
25	LA	1904	G	C5'-C4'-C3'	-5.91	107.14	116.00
27	LC	20	GLN	N-CA-C	5.91	118.57	110.24
25	LA	199	A	O3'-P-O5'	-5.91	95.14	104.00
25	LA	1070	A	C1'-O4'-C4'	-5.91	103.80	109.70
25	LA	2322	A	C5'-C4'-C3'	5.91	124.86	116.00
25	LA	939	G	P-O5'-C5'	-5.90	112.04	120.90
25	LA	1297	C	C5'-C4'-C3'	5.90	124.85	116.00
25	LA	567	U	C4'-C3'-C2'	-5.90	96.70	102.60
25	LA	488	G	P-O5'-C5'	5.90	129.75	120.90
25	LA	1530	G	C5'-C4'-C3'	-5.90	107.15	116.00
1	SA	1436	U	C5'-C4'-C3'	-5.90	107.16	116.00
24	S1	391	THR	CA-C-N	5.90	132.80	121.54
24	S1	391	THR	C-N-CA	5.90	132.80	121.54
25	LA	741	U	C4'-C3'-C2'	-5.90	96.70	102.60
1	SA	1073	U	C4'-C3'-C2'	-5.89	96.71	102.60
25	LA	2572	A	P-O3'-C3'	5.89	129.04	120.20
25	LA	2143	C	C5'-C4'-C3'	-5.89	107.16	116.00
12	SR	21	ASP	CA-CB-CG	-5.89	106.71	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	LI	18	ARG	NE-CZ-NH2	5.89	124.50	119.20
1	SA	202	G	P-O5'-C5'	5.89	129.73	120.90
1	SA	944	G	C2'-C3'-O3'	5.89	122.53	113.70
25	LA	783	A	O3'-P-O5'	-5.89	95.17	104.00
25	LA	2684	U	C5'-C4'-C3'	-5.88	107.17	116.00
55	LI	9	PHE	CA-CB-CG	-5.88	107.92	113.80
56	LJ	102	PHE	CA-CB-CG	-5.88	107.92	113.80
1	SA	406	G	P-O5'-C5'	-5.88	112.08	120.90
8	SN	62	ARG	N-CA-C	5.88	119.51	111.39
1	SA	361	G	P-O3'-C3'	5.88	129.02	120.20
25	LA	2434	A	P-O3'-C3'	-5.88	111.38	120.20
26	LB	44	G	O5'-C5'-C4'	5.88	120.52	111.70
1	SA	270	A	C4'-C3'-C2'	-5.88	96.72	102.60
1	SA	1201	A	P-O3'-C3'	5.88	129.01	120.20
25	LA	1945	G	P-O5'-C5'	5.88	129.72	120.90
44	L3	33	ARG	CA-C-N	5.88	128.16	120.28
44	L3	33	ARG	C-N-CA	5.88	128.16	120.28
25	LA	2435	A	C4'-C3'-C2'	-5.88	96.72	102.60
49	L7	174	PHE	CA-C-N	5.88	127.18	119.84
49	L7	174	PHE	C-N-CA	5.88	127.18	119.84
1	SA	1214	C	C2'-C3'-O3'	5.87	118.31	109.50
25	LA	1609	A	C1'-O4'-C4'	-5.87	103.83	109.70
40	LX	12	THR	N-CA-CB	5.87	121.64	111.13
25	LA	2165	C	O4'-C1'-N1	5.87	117.30	108.50
25	LA	2657	A	P-O3'-C3'	-5.87	111.40	120.20
25	LA	1762	A	C4'-C3'-O3'	5.87	118.20	109.40
25	LA	2336	A	P-O3'-C3'	5.87	129.00	120.20
54	LH	128	THR	N-CA-CB	5.87	118.75	110.36
2	S6	74	A	P-O5'-C5'	-5.86	112.11	120.90
25	LA	2515	C	O3'-P-O5'	-5.86	95.20	104.00
25	LA	126	A	C1'-O4'-C4'	-5.86	103.84	109.70
25	LA	1559	U	P-O5'-C5'	5.86	129.69	120.90
25	LA	242	G	P-O3'-C3'	5.86	128.99	120.20
25	LA	747	U	C2'-C3'-O3'	5.86	122.49	113.70
25	LA	2128	G	C5'-C4'-C3'	-5.86	107.21	116.00
1	SA	831	A	P-O3'-C3'	-5.86	111.41	120.20
37	LV	22	ASN	CA-CB-CG	-5.86	106.74	112.60
25	LA	1778	U	C3'-C2'-C1'	5.86	107.16	101.30
25	LA	2703	C	C5'-C4'-C3'	5.85	124.78	116.00
1	SA	1492	A	C2'-C3'-O3'	5.85	118.28	109.50
25	LA	558	U	C5'-C4'-C3'	-5.85	107.23	116.00
26	LB	29	A	C5'-C4'-C3'	-5.85	107.23	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	L7	20	ASN	CA-CB-CG	-5.85	106.75	112.60
25	LA	956	G	P-O5'-C5'	-5.85	112.13	120.90
22	SH	126	CYS	CA-C-N	-5.84	114.45	122.93
22	SH	126	CYS	C-N-CA	-5.84	114.45	122.93
25	LA	2730	C	P-O5'-C5'	5.84	129.66	120.90
1	SA	910	C	C5'-C4'-C3'	-5.84	107.24	116.00
25	LA	2060	A	C1'-O4'-C4'	-5.84	103.86	109.70
25	LA	2479	U	P-O3'-C3'	5.84	128.96	120.20
1	SA	635	A	P-O3'-C3'	5.84	128.96	120.20
25	LA	229	C	O4'-C1'-N1	5.84	117.26	108.50
3	S7	4	C	P-O5'-C5'	-5.84	112.14	120.90
3	S7	67	C	C5'-C4'-C3'	5.84	124.75	116.00
25	LA	2002	G	C4'-C3'-C2'	-5.84	96.76	102.60
25	LA	644	A	C2'-C3'-O3'	5.83	118.25	109.50
25	LA	1895	C	C5'-C4'-C3'	-5.83	107.25	116.00
1	SA	516	U	O3'-P-O5'	5.83	112.75	104.00
1	SA	877	G	C5'-C4'-C3'	5.83	124.75	116.00
25	LA	1079	C	O4'-C1'-N1	5.83	117.25	108.50
25	LA	2335	A	O3'-P-O5'	5.83	112.75	104.00
25	LA	2702	G	P-O5'-C5'	-5.83	112.16	120.90
1	SA	1203	C	C5'-C4'-C3'	-5.83	107.26	116.00
49	L7	13	LYS	N-CA-C	5.83	117.63	111.28
1	SA	926	G	O3'-P-O5'	5.83	112.74	104.00
35	LT	2	PHE	CA-CB-CG	-5.83	107.97	113.80
25	LA	2340	A	P-O5'-C5'	5.82	129.64	120.90
30	LO	6	GLY	N-CA-C	5.82	119.93	112.83
19	SE	13	LYS	N-CA-C	5.82	117.94	108.63
25	LA	2503	A	O5'-C5'-C4'	5.82	120.23	111.50
1	SA	924	C	C4'-C3'-C2'	-5.82	96.78	102.60
25	LA	2354	C	C4'-C3'-C2'	-5.82	96.78	102.60
25	LA	877	A	C5'-C4'-C3'	5.82	124.72	116.00
25	LA	931	U	O4'-C4'-C3'	-5.82	100.28	106.10
1	SA	1432	G	P-O5'-C5'	-5.81	112.18	120.90
25	LA	525	U	P-O3'-C3'	5.81	128.92	120.20
25	LA	1217	U	C4'-C3'-C2'	-5.81	96.79	102.60
25	LA	1963	U	C5'-C4'-C3'	5.81	124.72	116.00
26	LB	15	A	O4'-C1'-N9	5.81	116.92	108.20
1	SA	815	A	C1'-O4'-C4'	-5.81	103.89	109.70
25	LA	322	A	C5'-C4'-C3'	5.81	123.91	115.20
25	LA	1331	G	O3'-P-O5'	-5.81	95.29	104.00
22	SH	56	PRO	N-CA-C	5.80	119.63	111.33
25	LA	1323	C	P-O3'-C3'	5.80	128.90	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	1890	A	C5'-C4'-C3'	5.80	124.70	116.00
45	L4	16	THR	CA-C-N	5.80	126.55	119.99
45	L4	16	THR	C-N-CA	5.80	126.55	119.99
48	LE	31	GLY	CA-C-N	5.80	128.28	120.50
48	LE	31	GLY	C-N-CA	5.80	128.28	120.50
1	SA	1438	G	C5'-C4'-C3'	-5.80	107.30	116.00
25	LA	2362	C	P-O5'-C5'	5.80	129.60	120.90
25	LA	2341	G	C5'-C4'-C3'	-5.80	107.30	116.00
25	LA	2274	A	O3'-P-O5'	-5.80	95.30	104.00
1	SA	700	G	C4'-C3'-C2'	-5.80	96.80	102.60
23	SI	6	TYR	CA-C-N	5.79	126.18	122.18
23	SI	6	TYR	C-N-CA	5.79	126.18	122.18
25	LA	1551	A	P-O5'-C5'	5.79	129.59	120.90
51	L9	106	ALA	N-CA-C	5.79	118.54	111.82
25	LA	195	A	C5'-C4'-C3'	5.79	124.69	116.00
25	LA	745	G	P-O5'-C5'	5.79	129.59	120.90
1	SA	776	G	O3'-P-O5'	-5.79	95.31	104.00
17	SC	211	ALA	N-CA-C	5.79	118.62	110.23
25	LA	97	C	C5'-C4'-C3'	5.79	124.68	116.00
25	LA	2336	A	O4'-C1'-N9	5.79	116.88	108.20
27	LC	59	VAL	N-CA-C	5.79	117.96	109.63
25	LA	516	C	P-O3'-C3'	5.78	128.88	120.20
1	SA	275	G	C5'-C4'-C3'	-5.78	107.33	116.00
25	LA	1656	C	C5'-C4'-C3'	-5.78	107.33	116.00
25	LA	231	A	C2'-C3'-O3'	5.78	122.37	113.70
1	SA	1430	A	P-O5'-C5'	-5.78	112.23	120.90
25	LA	487	C	C5'-C4'-C3'	-5.78	107.33	116.00
25	LA	2111	U	P-O3'-C3'	5.78	128.87	120.20
25	LA	553	G	C5'-C4'-C3'	-5.78	107.34	116.00
2	S6	55	U	C5'-C4'-C3'	-5.77	107.34	116.00
47	L6	19	PHE	CA-CB-CG	-5.77	108.03	113.80
1	SA	166	U	P-O5'-C5'	5.77	129.55	120.90
1	SA	850	U	C5'-C4'-C3'	-5.77	107.35	116.00
25	LA	2083	G	C4'-C3'-C2'	-5.77	96.83	102.60
37	LV	36	ARG	NE-CZ-NH1	-5.77	115.73	121.50
25	LA	296	U	C5'-C4'-C3'	-5.77	107.35	116.00
25	LA	512	G	C5'-C4'-C3'	5.77	124.65	116.00
25	LA	2094	A	C4'-C3'-C2'	-5.77	96.83	102.60
24	S1	85	ILE	N-CA-C	5.76	115.84	108.12
25	LA	737	C	O3'-P-O5'	5.76	112.65	104.00
25	LA	2691	C	C4'-C3'-C2'	-5.76	96.83	102.60
25	LA	2363	G	P-O5'-C5'	-5.76	112.26	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	103	U	P-O5'-C5'	-5.76	112.26	120.90
25	LA	642	U	P-O5'-C5'	5.76	129.54	120.90
25	LA	2422	C	C4'-C3'-C2'	5.76	108.36	102.60
40	LX	83	ARG	NE-CZ-NH2	5.76	124.38	119.20
25	LA	1323	C	C2'-C3'-O3'	5.76	118.13	109.50
5	SK	27	ASN	CA-CB-CG	-5.75	106.85	112.60
25	LA	1906	G	C4'-C3'-C2'	-5.75	96.85	102.60
1	SA	1310	G	P-O5'-C5'	-5.75	112.28	120.90
25	LA	1226	A	P-O3'-C3'	5.75	128.82	120.20
1	SA	388	G	C5'-C4'-C3'	-5.75	106.58	115.20
25	LA	1269	A	P-O5'-C5'	5.75	129.52	120.90
25	LA	1924	C	P-O5'-C5'	-5.75	112.28	120.90
25	LA	561	G	C4'-C3'-C2'	-5.75	96.85	102.60
25	LA	1085	A	C1'-O4'-C4'	-5.75	104.15	109.90
25	LA	1757	A	P-O5'-C5'	5.75	129.52	120.90
49	L7	91	ARG	N-CA-CB	5.75	120.81	111.21
1	SA	1280	A	C4'-C3'-C2'	-5.74	96.86	102.60
24	S1	92	VAL	CA-C-N	5.74	128.55	120.28
24	S1	92	VAL	C-N-CA	5.74	128.55	120.28
1	SA	499	A	P-O5'-C5'	-5.74	112.29	120.90
1	SA	1042	A	C5'-C4'-C3'	5.74	124.61	116.00
25	LA	570	G	C5'-C4'-C3'	-5.74	107.39	116.00
25	LA	2665	A	P-O5'-C5'	-5.74	112.29	120.90
50	L8	66	THR	CB-CA-C	-5.74	101.87	110.88
25	LA	1083	U	P-O3'-C3'	5.74	128.81	120.20
25	LA	1209	U	C4'-C3'-C2'	-5.74	96.86	102.60
1	SA	1441	A	C4'-C3'-C2'	-5.74	96.86	102.60
25	LA	2323	G	P-O5'-C5'	-5.74	112.30	120.90
40	LX	38	LYS	N-CA-C	-5.74	99.66	109.24
41	LY	10	ARG	NE-CZ-NH1	-5.74	115.76	121.50
25	LA	2637	U	P-O5'-C5'	5.73	129.50	120.90
1	SA	429	U	C4'-C3'-C2'	-5.73	96.87	102.60
13	SS	40	PHE	CA-C-N	5.73	125.20	119.24
13	SS	40	PHE	C-N-CA	5.73	125.20	119.24
25	LA	2519	U	O3'-P-O5'	-5.73	95.41	104.00
1	SA	1388	C	C5'-C4'-C3'	-5.73	107.41	116.00
25	LA	876	C	O4'-C1'-N1	5.73	117.09	108.50
2	S6	22	A	C1'-O4'-C4'	-5.73	103.97	109.70
25	LA	2799	A	O4'-C1'-C2'	-5.73	101.87	107.60
1	SA	757	U	P-O5'-C5'	5.72	129.49	120.90
25	LA	207	A	P-O5'-C5'	5.72	129.49	120.90
25	LA	2476	A	P-O3'-C3'	5.72	128.79	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	1016	A	P-O5'-C5'	5.72	129.48	120.90
16	SU	34	ARG	N-CA-C	-5.72	99.19	108.52
1	SA	718	A	P-O5'-C5'	-5.72	112.32	120.90
25	LA	195	A	P-O5'-C5'	5.72	129.48	120.90
1	SA	128	G	P-O3'-C3'	5.72	128.77	120.20
1	SA	401	C	C5'-C4'-C3'	-5.72	107.43	116.00
27	LC	160	GLN	N-CA-C	5.72	118.62	110.10
36	LU	17	ALA	CA-C-N	5.72	127.87	120.44
36	LU	17	ALA	C-N-CA	5.72	127.87	120.44
20	SF	124	ALA	N-CA-C	5.71	118.45	111.82
27	LC	83	ASN	CA-C-N	5.71	127.87	120.44
27	LC	83	ASN	C-N-CA	5.71	127.87	120.44
1	SA	1133	G	C5'-C4'-C3'	-5.71	107.43	116.00
2	S6	10	G	O3'-P-O5'	5.71	112.57	104.00
25	LA	1565	C	C5'-C4'-O4'	5.71	117.67	109.10
25	LA	2052	A	C4'-C3'-C2'	-5.71	96.89	102.60
38	LD	105	PHE	CA-C-N	5.71	127.93	120.28
38	LD	105	PHE	C-N-CA	5.71	127.93	120.28
25	LA	1964	G	P-O3'-C3'	-5.71	111.64	120.20
25	LA	1012	U	O4'-C4'-C3'	5.70	111.80	106.10
25	LA	2272	U	N1-C1'-C2'	5.70	120.55	112.00
25	LA	386	G	C4'-C3'-C2'	-5.70	96.90	102.60
25	LA	1515	A	C4'-C3'-C2'	-5.70	96.90	102.60
25	LA	2803	G	C5'-C4'-C3'	-5.70	107.45	116.00
25	LA	456	C	O4'-C1'-C2'	5.70	111.50	105.80
25	LA	1938	A	C1'-O4'-C4'	-5.70	104.00	109.70
38	LD	43	ALA	CA-C-N	5.70	126.30	119.98
38	LD	43	ALA	C-N-CA	5.70	126.30	119.98
1	SA	1374	A	C4'-C3'-C2'	-5.70	96.91	102.60
25	LA	700	G	C4'-C3'-C2'	-5.70	96.91	102.60
25	LA	945	A	P-O5'-C5'	5.70	129.44	120.90
29	LN	140	VAL	N-CA-C	5.70	121.19	109.34
1	SA	96	U	P-O5'-C5'	-5.69	112.36	120.90
1	SA	1530	G	P-O3'-C3'	-5.69	111.66	120.20
25	LA	105	C	P-O5'-C5'	5.69	129.44	120.90
57	LK	69	ASP	CA-CB-CG	-5.69	106.91	112.60
1	SA	372	C	P-O3'-C3'	5.69	128.73	120.20
25	LA	1898	U	P-O5'-C5'	5.69	129.43	120.90
25	LA	2581	G	O4'-C1'-N9	5.69	116.73	108.20
1	SA	1353	G	C5'-C4'-C3'	5.69	124.53	116.00
3	S7	47	U	P-O3'-C3'	-5.69	111.67	120.20
25	LA	1981	A	C5'-C4'-C3'	-5.69	107.47	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	815	C	C5'-C4'-C3'	-5.68	107.47	116.00
44	L3	43	THR	N-CA-CB	5.68	118.35	110.17
1	SA	60	A	P-O3'-C3'	5.68	128.72	120.20
49	L7	76	PHE	N-CA-C	-5.68	100.10	108.79
1	SA	1052	U	C5'-C4'-C3'	-5.68	107.48	116.00
1	SA	842	U	P-O5'-C5'	-5.68	112.38	120.90
52	LF	120	ARG	NE-CZ-NH1	-5.68	115.82	121.50
1	SA	273	U	C4'-C3'-C2'	-5.67	96.92	102.60
25	LA	469	G	O3'-P-O5'	-5.67	95.49	104.00
25	LA	1085	A	C2'-C3'-O3'	5.67	122.21	113.70
25	LA	2027	G	P-O3'-C3'	5.67	128.71	120.20
1	SA	29	U	P-O5'-C5'	-5.67	112.39	120.90
1	SA	766	A	C5'-C4'-O4'	-5.67	101.29	109.80
25	LA	1269	A	O3'-P-O5'	-5.67	95.49	104.00
25	LA	1554	U	O3'-P-O5'	-5.67	95.49	104.00
25	LA	1676	A	C5'-C4'-C3'	5.67	124.50	116.00
30	LO	56	PHE	CA-CB-CG	-5.67	108.13	113.80
53	LG	2	ILE	CA-C-N	5.67	131.51	122.10
53	LG	2	ILE	C-N-CA	5.67	131.51	122.10
29	LN	220	ARG	NE-CZ-NH2	-5.67	114.10	119.20
25	LA	147	C	C5'-C4'-C3'	-5.67	107.50	116.00
25	LA	2110	G	P-O3'-C3'	5.67	128.70	120.20
29	LN	66	PHE	CA-CB-CG	-5.67	108.14	113.80
11	SQ	82	VAL	N-CA-C	5.66	116.40	110.62
1	SA	1138	G	P-O3'-C3'	5.66	128.69	120.20
2	S6	26	C	C5'-C4'-C3'	-5.66	107.51	116.00
25	LA	670	A	C5'-C4'-C3'	5.66	123.69	115.20
1	SA	673	A	P-O5'-C5'	5.65	129.38	120.90
25	LA	765	C	C4'-C3'-C2'	-5.65	96.95	102.60
1	SA	51	A	O5'-C5'-C4'	5.65	120.18	111.70
25	LA	350	G	C5'-C4'-C3'	-5.65	107.52	116.00
25	LA	1340	U	C2'-C3'-O3'	5.65	117.98	109.50
24	S1	260	ILE	N-CA-C	5.65	116.02	108.11
1	SA	224	U	P-O5'-C5'	-5.65	112.43	120.90
11	SQ	30	HIS	CA-C-N	-5.65	112.78	119.84
11	SQ	30	HIS	C-N-CA	-5.65	112.78	119.84
25	LA	2594	C	C5'-C4'-C3'	-5.65	107.53	116.00
14	SB	86	CYS	N-CA-C	5.64	118.98	111.75
25	LA	1007	C	P-O3'-C3'	5.64	128.67	120.20
1	SA	194	C	C5'-C4'-C3'	-5.64	107.54	116.00
25	LA	2572	A	O4'-C1'-N9	5.64	116.97	108.50
4	SJ	50	THR	N-CA-C	-5.64	99.82	109.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	154	U	O3'-P-O5'	-5.64	95.54	104.00
25	LA	1188	U	O3'-P-O5'	5.64	112.46	104.00
25	LA	1427	A	O3'-P-O5'	-5.64	95.55	104.00
25	LA	2402	U	C1'-O4'-C4'	-5.64	104.26	109.90
1	SA	890	G	O4'-C1'-N9	5.63	116.65	108.20
4	SJ	94	ALA	N-CA-C	5.63	117.42	111.28
25	LA	2548	U	C4'-C3'-C2'	-5.63	96.97	102.60
25	LA	2867	G	P-O3'-C3'	5.63	128.65	120.20
25	LA	2048	G	P-O5'-C5'	5.63	129.34	120.90
47	L6	167	VAL	N-CA-C	-5.63	100.37	108.42
1	SA	204	G	C1'-O4'-C4'	-5.63	104.27	109.90
25	LA	1320	C	O4'-C1'-C2'	5.63	111.43	105.80
1	SA	1493	A	P-O3'-C3'	-5.62	111.76	120.20
21	SG	83	THR	N-CA-C	5.62	117.09	111.07
6	SL	88	ASP	N-CA-C	5.62	117.41	111.28
25	LA	1182	G	P-O5'-C5'	5.62	129.34	120.90
47	L6	49	ARG	NE-CZ-NH2	5.62	124.26	119.20
25	LA	2691	C	P-O3'-C3'	-5.62	111.77	120.20
3	S7	1	G	P-O3'-C3'	5.62	128.63	120.20
25	LA	2791	G	P-O3'-C3'	-5.62	111.77	120.20
52	LF	7	LYS	CA-C-N	5.61	125.98	119.47
52	LF	7	LYS	C-N-CA	5.61	125.98	119.47
1	SA	978	A	C5'-C4'-O4'	5.61	118.22	109.80
24	S1	425	ALA	CA-C-N	5.61	132.29	121.18
24	S1	425	ALA	C-N-CA	5.61	132.29	121.18
25	LA	767	U	C5'-C4'-C3'	-5.61	107.58	116.00
25	LA	784	G	C1'-O4'-C4'	-5.61	104.29	109.90
48	LE	19	PRO	CA-C-N	5.61	126.74	120.06
48	LE	19	PRO	C-N-CA	5.61	126.74	120.06
1	SA	1002	G	C5'-C4'-C3'	5.61	124.41	116.00
25	LA	2499	C	C5'-C4'-C3'	-5.61	107.59	116.00
1	SA	1153	G	C5'-C4'-C3'	5.61	124.41	116.00
1	SA	578	C	C5'-C4'-C3'	-5.61	107.59	116.00
2	S6	37	U	P-O5'-C5'	-5.61	112.49	120.90
18	SD	191	SER	N-CA-C	5.61	117.39	111.28
1	SA	1051	C	P-O5'-C5'	5.60	129.31	120.90
25	LA	1926	U	C4'-C3'-C2'	-5.60	97.00	102.60
25	LA	2147	A	P-O3'-C3'	5.60	128.60	120.20
1	SA	261	U	C5'-C4'-C3'	5.60	124.40	116.00
1	SA	1441	A	P-O5'-C5'	5.60	129.30	120.90
22	SH	46	GLU	N-CA-C	5.60	117.19	111.14
25	LA	2730	C	C4'-C3'-C2'	-5.60	97.00	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	731	C	O3'-P-O5'	-5.60	95.60	104.00
32	LQ	95	ARG	NE-CZ-NH1	-5.60	115.90	121.50
25	LA	2280	G	C5'-C4'-C3'	5.60	124.39	116.00
25	LA	2578	G	C4'-C3'-O3'	-5.60	104.61	113.00
1	SA	693	G	O4'-C1'-N9	5.59	116.89	108.50
25	LA	1323	C	C5'-C4'-O4'	5.59	117.49	109.10
25	LA	1636	U	P-O5'-C5'	-5.59	112.51	120.90
52	LF	50	THR	N-CA-C	-5.59	100.83	108.38
25	LA	1012	U	N1-C1'-C2'	5.59	122.39	114.00
1	SA	1277	C	C5'-C4'-C3'	5.59	124.39	116.00
52	LF	67	ASN	CA-CB-CG	-5.59	107.01	112.60
1	SA	920	U	P-O5'-C5'	5.59	129.28	120.90
25	LA	547	A	C2'-C3'-O3'	5.59	117.89	109.50
25	LA	1249	U	O3'-P-O5'	-5.59	95.62	104.00
25	LA	18	U	P-O5'-C5'	5.59	129.28	120.90
25	LA	379	G	C4'-C3'-C2'	-5.59	97.01	102.60
1	SA	1067	A	P-O5'-C5'	-5.58	112.53	120.90
25	LA	457	A	P-O5'-C5'	5.58	129.27	120.90
25	LA	1846	G	C5'-C4'-O4'	5.58	118.17	109.80
25	LA	2892	G	O3'-P-O5'	-5.58	95.63	104.00
34	LS	80	ASP	CA-C-N	5.58	128.69	120.82
34	LS	80	ASP	C-N-CA	5.58	128.69	120.82
28	LM	85	VAL	N-CA-C	5.58	116.31	110.62
58	LZ	30	HIS	CA-C-N	5.58	127.76	120.28
58	LZ	30	HIS	C-N-CA	5.58	127.76	120.28
1	SA	1208	C	C4'-C3'-C2'	-5.58	97.02	102.60
21	SG	121	ASN	CB-CA-C	-5.58	101.37	110.85
25	LA	2709	G	C2'-C3'-O3'	5.58	122.07	113.70
25	LA	1739	A	C5'-C4'-C3'	-5.58	107.64	116.00
1	SA	1525	G	O3'-P-O5'	5.57	112.36	104.00
20	SF	16	GLU	CA-C-N	5.57	130.15	120.68
20	SF	16	GLU	C-N-CA	5.57	130.15	120.68
24	S1	5	PRO	N-CA-C	-5.57	108.29	114.92
25	LA	744	U	C4'-C3'-C2'	-5.57	97.03	102.60
25	LA	737	C	C4'-C3'-C2'	-5.57	97.03	102.60
29	LN	139	THR	N-CA-C	5.57	118.19	111.40
19	SE	21	SER	CB-CA-C	-5.57	101.08	110.43
24	S1	398	ASP	CA-C-O	-5.57	114.38	120.17
25	LA	774	G	C4'-C3'-O3'	5.57	117.75	109.40
29	LN	231	HIS	CB-CA-C	-5.56	101.19	110.81
55	LI	56	ALA	N-CA-C	5.56	118.53	111.69
56	LJ	37	THR	N-CA-CB	5.56	118.18	110.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	193	U	C5'-C4'-C3'	-5.56	107.66	116.00
25	LA	1695	G	C5'-C4'-C3'	5.56	124.34	116.00
25	LA	2330	G	C5'-C4'-C3'	5.56	124.34	116.00
25	LA	1952	A	P-O5'-C5'	-5.56	112.56	120.90
1	SA	933	G	P-O5'-C5'	5.56	129.24	120.90
25	LA	261	G	P-O5'-C5'	5.56	129.24	120.90
25	LA	1609	A	O4'-C1'-C2'	-5.56	100.24	105.80
25	LA	2094	A	C1'-O4'-C4'	-5.56	104.14	109.70
28	LM	57	ALA	CA-C-N	5.56	130.16	122.77
28	LM	57	ALA	C-N-CA	5.56	130.16	122.77
55	LI	109	PRO	N-CA-C	5.56	119.93	111.15
25	LA	937	C	C4'-C3'-C2'	-5.56	97.04	102.60
25	LA	2246	G	C2'-C3'-O3'	5.56	122.03	113.70
1	SA	173	U	O4'-C1'-C2'	5.55	111.35	105.80
25	LA	455	C	O3'-P-O5'	5.55	112.33	104.00
25	LA	1943	U	P-O3'-C3'	5.55	128.53	120.20
26	LB	43	C	P-O3'-C3'	5.55	128.53	120.20
1	SA	962	C	P-O3'-C3'	-5.55	111.88	120.20
25	LA	1763	G	C4'-C3'-C2'	-5.55	97.05	102.60
36	LU	64	GLY	N-CA-C	5.55	118.34	110.74
1	SA	473	U	O4'-C1'-N1	5.55	116.82	108.50
25	LA	2826	A	P-O5'-C5'	5.55	129.22	120.90
25	LA	2156	G	O4'-C1'-N9	5.54	116.82	108.50
25	LA	2361	G	C5'-C4'-C3'	5.54	124.32	116.00
1	SA	516	U	C5'-C4'-C3'	5.54	124.31	116.00
25	LA	674	G	C4'-C3'-C2'	-5.54	97.06	102.60
1	SA	811	C	O4'-C1'-C2'	5.54	113.14	107.60
19	SE	153	ALA	CA-C-N	5.54	127.70	120.28
19	SE	153	ALA	C-N-CA	5.54	127.70	120.28
25	LA	220	G	P-O5'-C5'	5.54	129.21	120.90
25	LA	2222	C	C4'-C3'-C2'	-5.54	97.06	102.60
1	SA	309	A	P-O5'-C5'	5.54	129.20	120.90
1	SA	1512	U	C2'-C3'-O3'	5.54	122.00	113.70
1	SA	388	G	P-O3'-C3'	-5.53	111.90	120.20
11	SQ	15	LYS	N-CA-C	5.53	117.39	111.36
25	LA	1675	C	P-O5'-C5'	-5.53	112.60	120.90
25	LA	397	U	P-O5'-C5'	-5.53	112.60	120.90
25	LA	2382	G	C5'-C4'-O4'	5.53	117.40	109.10
25	LA	2587	A	P-O3'-C3'	5.53	128.50	120.20
25	LA	22	C	C4'-C3'-C2'	-5.53	97.07	102.60
25	LA	40	U	C5'-C4'-C3'	-5.53	107.70	116.00
3	S7	17	C	C1'-O4'-C4'	-5.53	104.17	109.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	964	C	C4'-C3'-C2'	-5.53	97.07	102.60
33	LR	52	GLU	CA-C-N	5.53	127.98	120.63
33	LR	52	GLU	C-N-CA	5.53	127.98	120.63
25	LA	2845	U	O3'-P-O5'	-5.52	95.71	104.00
21	SG	94	ARG	CA-C-N	5.52	127.62	120.44
21	SG	94	ARG	C-N-CA	5.52	127.62	120.44
1	SA	1518	A	O4'-C1'-N9	5.52	116.78	108.50
25	LA	34	U	P-O5'-C5'	5.52	129.18	120.90
1	SA	1502	A	C3'-C2'-O2'	-5.52	106.32	114.60
27	LC	22	ASP	CA-CB-CG	-5.52	107.08	112.60
1	SA	587	G	O3'-P-O5'	-5.52	95.72	104.00
25	LA	2737	G	P-O5'-C5'	5.52	129.18	120.90
51	L9	121	VAL	CA-C-N	5.52	132.08	121.54
51	L9	121	VAL	C-N-CA	5.52	132.08	121.54
25	LA	134	G	C5'-C4'-C3'	-5.51	107.73	116.00
25	LA	2385	C	P-O3'-C3'	-5.51	111.93	120.20
25	LA	2336	A	C1'-O4'-C4'	-5.51	104.19	109.70
1	SA	209	U	P-O3'-C3'	5.51	128.47	120.20
1	SA	1131	G	O3'-P-O5'	-5.51	95.73	104.00
1	SA	1181	G	C5'-C4'-C3'	-5.51	106.93	115.20
25	LA	689	A	C4'-C3'-C2'	-5.51	97.09	102.60
25	LA	2498	C	P-O3'-C3'	-5.51	111.93	120.20
25	LA	2718	G	C5'-C4'-C3'	5.51	124.26	116.00
1	SA	781	A	O5'-C5'-C4'	5.51	119.76	111.50
25	LA	507	A	C2'-C3'-O3'	5.51	121.96	113.70
1	SA	507	C	P-O5'-C5'	5.50	129.16	120.90
25	LA	479	A	P-O3'-C3'	5.50	128.46	120.20
31	LP	55	ASP	N-CA-C	5.50	117.09	111.14
1	SA	137	U	C5'-C4'-C3'	-5.50	107.75	116.00
25	LA	46	G	C4'-C3'-C2'	-5.50	97.10	102.60
25	LA	479	A	C2'-C3'-O3'	5.50	117.76	109.50
25	LA	1849	G	C5'-C4'-O4'	5.50	118.06	109.80
25	LA	2120	G	P-O5'-C5'	-5.50	112.64	120.90
25	LA	2523	G	P-O5'-C5'	-5.50	112.64	120.90
25	LA	2802	G	C2'-C3'-O3'	5.50	121.95	113.70
24	S1	33	THR	N-CA-C	5.50	116.96	111.07
48	LE	54	ILE	N-CA-C	5.50	114.00	107.73
25	LA	2022	U	P-O3'-C3'	-5.50	111.95	120.20
25	LA	2045	C	C4'-C3'-C2'	-5.50	97.10	102.60
1	SA	94	G	O3'-P-O5'	-5.50	95.75	104.00
1	SA	675	A	C4'-C3'-C2'	-5.50	97.10	102.60
25	LA	2567	G	P-O3'-C3'	5.50	128.45	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	1104	G	C5'-C4'-C3'	5.50	124.25	116.00
1	SA	1345	U	C5'-C4'-C3'	-5.50	106.95	115.20
25	LA	752	A	C3'-C2'-C1'	-5.50	96.00	101.50
25	LA	2061	G	O4'-C1'-C2'	-5.50	100.30	105.80
25	LA	44	A	P-O3'-C3'	-5.49	111.96	120.20
25	LA	2850	A	P-O5'-C5'	-5.49	112.67	120.90
1	SA	278	G	O3'-P-O5'	-5.49	95.77	104.00
1	SA	792	A	C1'-O4'-C4'	-5.49	104.21	109.70
1	SA	817	C	C3'-C2'-O2'	-5.49	106.37	114.60
24	S1	583	HIS	CA-C-N	5.49	127.64	120.28
24	S1	583	HIS	C-N-CA	5.49	127.64	120.28
25	LA	2336	A	C2'-C3'-O3'	5.49	117.73	109.50
25	LA	2403	C	C5'-C4'-C3'	5.49	124.23	116.00
1	SA	1196	A	C2'-C3'-O3'	5.49	117.73	109.50
25	LA	504	A	C2'-C3'-O3'	5.49	117.73	109.50
38	LD	151	VAL	N-CA-C	5.49	116.26	110.72
1	SA	1519	A	O3'-P-O5'	5.48	112.22	104.00
25	LA	1941	C	P-O5'-C5'	-5.48	112.67	120.90
1	SA	1073	U	C5'-C4'-C3'	-5.48	107.78	116.00
19	SE	164	LEU	CA-C-N	5.48	125.31	120.10
19	SE	164	LEU	C-N-CA	5.48	125.31	120.10
25	LA	311	A	O4'-C1'-N9	5.48	116.42	108.20
25	LA	2236	U	C2'-C3'-O3'	5.48	121.92	113.70
37	LV	45	PHE	CA-CB-CG	-5.48	108.32	113.80
25	LA	752	A	C2'-C3'-O3'	5.48	117.72	109.50
25	LA	1030	C	C5'-C4'-C3'	5.48	124.22	116.00
25	LA	1308	A	C4'-C3'-C2'	-5.48	97.12	102.60
1	SA	817	C	O4'-C1'-C2'	5.48	111.28	105.80
1	SA	1168	U	O4'-C1'-N1	5.48	116.42	108.20
25	LA	2206	C	P-O5'-C5'	5.48	129.12	120.90
25	LA	945	A	O3'-P-O5'	-5.48	95.78	104.00
25	LA	193	U	O3'-P-O5'	-5.47	95.79	104.00
1	SA	47	C	O4'-C1'-C2'	-5.47	100.33	105.80
1	SA	979	C	P-O5'-C5'	5.47	129.11	120.90
4	SJ	49	PHE	CA-CB-CG	-5.47	108.33	113.80
25	LA	241	A	C4'-C3'-O3'	5.47	117.61	109.40
25	LA	1927	A	C2'-C3'-O3'	5.47	121.91	113.70
25	LA	29	U	P-O3'-C3'	5.47	128.41	120.20
25	LA	2815	C	P-O5'-C5'	-5.47	112.70	120.90
1	SA	1472	U	C4'-C3'-C2'	-5.47	97.13	102.60
25	LA	1665	A	C4'-C3'-C2'	-5.47	97.13	102.60
25	LA	2621	G	C5'-C4'-C3'	5.47	124.20	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	334	C	P-O5'-C5'	5.47	129.10	120.90
1	SA	1395	C	P-O5'-C5'	5.47	129.10	120.90
24	S1	426	ASP	CA-C-N	5.47	127.92	120.54
24	S1	426	ASP	C-N-CA	5.47	127.92	120.54
25	LA	1775	U	C4'-C3'-C2'	-5.47	97.13	102.60
48	LE	128	ILE	CA-C-N	5.47	127.92	120.54
48	LE	128	ILE	C-N-CA	5.47	127.92	120.54
1	SA	185	U	P-O5'-C5'	5.46	129.10	120.90
17	SC	14	VAL	CB-CA-C	-5.46	105.55	110.91
17	SC	197	VAL	CB-CA-C	-5.46	102.54	110.63
1	SA	1213	A	C4'-C3'-O3'	5.46	117.59	109.40
50	L8	47	ASN	CA-CB-CG	-5.46	107.14	112.60
1	SA	1492	A	P-O3'-C3'	5.46	128.39	120.20
25	LA	777	G	O3'-P-O5'	-5.46	95.81	104.00
1	SA	254	G	P-O5'-C5'	-5.46	112.71	120.90
1	SA	756	C	C4'-C3'-C2'	-5.46	97.14	102.60
24	S1	172	ILE	N-CA-CB	5.46	118.75	112.15
1	SA	1213	A	C5'-C4'-C3'	5.46	123.39	115.20
25	LA	1543	G	O3'-P-O5'	-5.46	95.82	104.00
1	SA	962	C	C4'-C3'-C2'	-5.45	97.15	102.60
1	SA	1533	C	P-O3'-C3'	5.45	128.38	120.20
1	SA	1379	G	C5'-C4'-C3'	5.45	124.18	116.00
25	LA	2750	A	P-O3'-C3'	-5.45	112.02	120.20
1	SA	719	C	C2'-C3'-O3'	5.45	121.88	113.70
1	SA	1035	A	P-O5'-C5'	5.45	129.08	120.90
1	SA	1313	U	C5'-C4'-C3'	-5.45	107.82	116.00
4	SJ	81	GLU	N-CA-C	5.45	117.22	111.28
25	LA	1916	A	P-O3'-C3'	-5.45	112.02	120.20
25	LA	2076	U	P-O3'-C3'	5.45	128.38	120.20
1	SA	307	C	C2'-C3'-O3'	5.45	121.87	113.70
1	SA	839	C	C5'-C4'-C3'	5.45	124.17	116.00
25	LA	747	U	P-O5'-C5'	-5.45	112.73	120.90
27	LC	172	HIS	CA-CB-CG	5.45	119.25	113.80
35	LT	68	LYS	CA-C-N	5.45	129.67	122.42
35	LT	68	LYS	C-N-CA	5.45	129.67	122.42
28	LM	58	PHE	N-CA-C	5.45	117.61	108.73
25	LA	1781	U	C5'-C4'-O4'	5.44	117.27	109.10
25	LA	573	U	P-O5'-C5'	5.44	129.06	120.90
25	LA	932	U	P-O5'-C5'	-5.44	112.73	120.90
25	LA	1888	G	O4'-C1'-N9	5.44	116.66	108.50
25	LA	2541	A	C5'-C4'-C3'	-5.44	107.83	116.00
25	LA	782	A	C5'-C4'-C3'	-5.44	107.04	115.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	2572	A	P-O5'-C5'	-5.44	112.74	120.90
26	LB	91	C	P-O5'-C5'	5.44	129.06	120.90
25	LA	266	G	C5'-C4'-C3'	5.44	124.16	116.00
25	LA	948	C	C5'-C4'-O4'	-5.44	101.65	109.80
25	LA	2669	G	C5'-C4'-C3'	5.44	124.15	116.00
1	SA	156	C	P-O5'-C5'	-5.43	112.75	120.90
25	LA	2718	G	C4'-C3'-C2'	-5.43	97.17	102.60
40	LX	43	ASP	CA-CB-CG	-5.43	107.17	112.60
25	LA	2822	G	P-O3'-C3'	-5.43	112.05	120.20
25	LA	2840	C	C5'-C4'-C3'	-5.43	107.85	116.00
1	SA	814	A	P-O3'-C3'	5.43	128.34	120.20
24	S1	599	ALA	CA-C-N	5.43	127.55	120.28
24	S1	599	ALA	C-N-CA	5.43	127.55	120.28
25	LA	366	C	C4'-C3'-C2'	-5.43	97.17	102.60
25	LA	386	G	C4'-C3'-O3'	5.43	117.55	109.40
1	SA	40	C	C4'-C3'-C2'	-5.43	97.17	102.60
1	SA	1389	C	P-O5'-C5'	5.43	129.04	120.90
2	S6	38	A	P-O3'-C3'	5.43	128.34	120.20
25	LA	569	U	P-O5'-C5'	-5.43	112.76	120.90
25	LA	1764	C	C4'-C3'-C2'	-5.43	97.17	102.60
1	SA	882	C	C5'-C4'-C3'	-5.42	107.86	116.00
21	SG	163	HIS	CA-CB-CG	5.42	119.22	113.80
25	LA	507	A	C4'-C3'-O3'	-5.42	104.86	113.00
25	LA	2246	G	C4'-C3'-O3'	-5.42	104.86	113.00
33	LR	15	HIS	CA-CB-CG	-5.42	108.38	113.80
50	L8	76	ILE	CA-C-N	5.42	125.96	119.94
50	L8	76	ILE	C-N-CA	5.42	125.96	119.94
1	SA	583	A	P-O5'-C5'	-5.42	112.77	120.90
25	LA	332	A	P-O5'-C5'	-5.42	112.77	120.90
25	LA	1185	G	P-O3'-C3'	5.42	128.34	120.20
25	LA	2071	A	O4'-C4'-C3'	5.42	109.42	104.00
25	LA	2683	C	P-O5'-C5'	-5.42	112.77	120.90
1	SA	328	C	C1'-O4'-C4'	-5.42	104.28	109.70
25	LA	2047	C	C5'-C4'-C3'	-5.42	107.87	116.00
25	LA	956	G	C4'-C3'-C2'	-5.42	97.18	102.60
25	LA	1015	U	P-O3'-C3'	-5.42	112.07	120.20
1	SA	814	A	C4'-C3'-O3'	-5.42	104.88	113.00
25	LA	1609	A	O4'-C1'-N9	5.41	116.32	108.20
58	LZ	24	ILE	N-CA-C	5.41	120.60	109.34
1	SA	879	C	C4'-C3'-C2'	-5.41	97.19	102.60
25	LA	1585	C	C5'-C4'-C3'	-5.41	107.88	116.00
1	SA	1415	G	C5'-C4'-C3'	5.41	124.12	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	LI	108	VAL	CA-C-N	5.41	125.42	119.90
55	LI	108	VAL	C-N-CA	5.41	125.42	119.90
1	SA	240	G	C4'-C3'-C2'	-5.41	97.19	102.60
12	SR	11	ARG	NE-CZ-NH1	-5.41	116.09	121.50
1	SA	961	U	C2'-C3'-O3'	5.41	121.81	113.70
25	LA	1509	A	O4'-C1'-N9	5.41	116.31	108.20
1	SA	815	A	N9-C1'-C2'	5.41	122.11	114.00
26	LB	66	A	P-O3'-C3'	5.41	128.31	120.20
51	L9	56	ALA	N-CA-C	5.41	117.93	111.71
14	SB	33	ALA	N-CA-C	5.40	118.06	110.23
25	LA	752	A	C5'-C4'-C3'	5.40	123.30	115.20
25	LA	1317	G	P-O3'-C3'	5.40	128.30	120.20
25	LA	1983	G	C4'-C3'-C2'	-5.40	97.20	102.60
40	LX	206	ALA	N-CA-C	5.40	118.63	110.64
50	L8	91	VAL	N-CA-C	5.40	116.66	109.37
19	SE	157	GLY	N-CA-C	5.40	118.76	112.50
25	LA	1385	A	C5'-C4'-C3'	-5.40	107.10	115.20
1	SA	265	G	P-O5'-C5'	5.40	129.00	120.90
25	LA	2431	U	C4'-C3'-C2'	-5.40	97.20	102.60
1	SA	1140	C	O4'-C1'-N1	5.40	116.59	108.50
25	LA	1223	G	C5'-C4'-C3'	-5.39	107.91	116.00
6	SL	9	LYS	CA-C-N	5.39	126.58	119.84
6	SL	9	LYS	C-N-CA	5.39	126.58	119.84
55	LI	44	ARG	NE-CZ-NH2	5.39	124.05	119.20
25	LA	1141	U	C5'-C4'-C3'	-5.39	107.11	115.20
27	LC	98	GLU	N-CA-C	5.39	117.23	111.36
29	LN	73	ILE	O-C-N	-5.39	117.26	121.46
27	LC	57	GLN	N-CA-C	5.39	117.97	111.40
1	SA	235	C	P-O5'-C5'	-5.38	112.82	120.90
24	S1	143	MET	CA-C-N	5.38	129.83	120.68
24	S1	143	MET	C-N-CA	5.38	129.83	120.68
25	LA	2830	C	C5'-C4'-C3'	-5.38	107.92	116.00
16	SU	7	GLU	N-CA-CB	5.38	119.59	110.49
25	LA	2480	C	O4'-C1'-N1	5.38	116.58	108.50
48	LE	21	PRO	CB-CA-C	5.38	117.49	110.92
25	LA	451	U	C1'-O4'-C4'	-5.38	104.52	109.90
25	LA	778	G	C5'-C4'-C3'	-5.38	107.93	116.00
25	LA	1453	A	O5'-C5'-C4'	-5.38	103.43	111.50
25	LA	1836	C	C5'-C4'-C3'	5.38	124.07	116.00
27	LC	52	ALA	CA-C-N	5.38	127.49	120.28
27	LC	52	ALA	C-N-CA	5.38	127.49	120.28
32	LQ	95	ARG	CD-NE-CZ	5.38	131.93	124.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	1356	G	O3'-P-O5'	-5.38	95.93	104.00
14	SB	23	ASN	CA-CB-CG	-5.38	107.22	112.60
29	LN	20	ASN	CB-CA-C	-5.38	104.84	110.17
31	LP	51	VAL	CA-C-N	5.38	126.56	119.84
31	LP	51	VAL	C-N-CA	5.38	126.56	119.84
1	SA	178	C	C5'-C4'-O4'	5.38	117.87	109.80
1	SA	365	U	P-O5'-C5'	5.38	128.97	120.90
47	L6	187	VAL	N-CA-CB	5.38	116.58	110.72
25	LA	507	A	C5'-C4'-C3'	-5.38	107.94	116.00
25	LA	1956	U	P-O5'-C5'	-5.38	112.84	120.90
1	SA	727	G	C5'-C4'-C3'	5.37	124.06	116.00
1	SA	1317	C	P-O3'-C3'	5.37	128.26	120.20
25	LA	298	G	O3'-P-O5'	-5.37	95.94	104.00
44	L3	13	ASN	CA-CB-CG	-5.37	107.23	112.60
1	SA	318	G	C4'-C3'-C2'	-5.37	97.23	102.60
1	SA	556	C	C4'-C3'-C2'	-5.37	97.23	102.60
25	LA	15	G	O4'-C1'-N9	5.37	116.56	108.50
49	L7	113	PHE	CA-CB-CG	-5.37	108.43	113.80
25	LA	901	C	C2'-C3'-O3'	5.37	121.75	113.70
1	SA	10	A	C5'-C4'-C3'	-5.37	107.95	116.00
25	LA	102	U	O3'-P-O5'	-5.37	95.95	104.00
25	LA	1557	C	C5'-C4'-C3'	5.37	124.05	116.00
25	LA	1738	G	C2'-C3'-O3'	5.37	117.55	109.50
1	SA	1305	G	P-O5'-C5'	-5.37	112.85	120.90
25	LA	1022	G	P-O5'-C5'	5.37	128.95	120.90
1	SA	252	U	O4'-C1'-N1	5.36	116.55	108.50
25	LA	1784	A	P-O5'-C5'	-5.36	112.86	120.90
1	SA	1500	A	P-O3'-C3'	-5.36	112.16	120.20
2	S6	38	A	P-O5'-C5'	-5.36	112.86	120.90
24	S1	672	LEU	CB-CA-C	-5.36	101.74	110.85
25	LA	947	A	C5'-C4'-C3'	-5.36	107.96	116.00
25	LA	2213	U	O3'-P-O5'	5.36	112.04	104.00
1	SA	1151	A	C2'-C3'-O3'	5.36	117.54	109.50
1	SA	1420	U	P-O3'-C3'	5.36	128.24	120.20
25	LA	238	C	C5'-C4'-C3'	5.36	124.03	116.00
25	LA	896	A	P-O3'-C3'	5.36	128.24	120.20
1	SA	971	G	C5'-C4'-C3'	-5.36	107.17	115.20
1	SA	1112	C	P-O5'-C5'	5.36	128.93	120.90
2	S6	8	U	O3'-P-O5'	-5.36	95.97	104.00
25	LA	2281	A	O3'-P-O5'	-5.36	95.97	104.00
54	LH	47	ARG	N-CA-C	5.36	117.85	110.35
1	SA	260	G	C2'-C3'-O3'	5.35	121.73	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	269	C	P-O5'-C5'	5.35	128.93	120.90
48	LE	73	PRO	N-CA-C	5.35	117.23	110.70
1	SA	1438	G	C4'-C3'-C2'	-5.35	97.25	102.60
25	LA	1509	A	C2'-C3'-O3'	5.35	117.53	109.50
25	LA	329	G	C3'-C2'-O2'	-5.35	106.58	114.60
1	SA	510	A	P-O3'-C3'	-5.35	112.18	120.20
20	SF	125	GLU	N-CA-C	5.35	119.43	113.01
37	LV	40	GLU	CA-C-N	5.34	127.44	120.28
37	LV	40	GLU	C-N-CA	5.34	127.44	120.28
25	LA	756	A	C5'-C4'-C3'	-5.34	107.99	116.00
36	LU	81	ILE	CA-C-N	5.34	128.93	121.24
36	LU	81	ILE	C-N-CA	5.34	128.93	121.24
1	SA	51	A	O3'-P-O5'	-5.34	95.99	104.00
1	SA	109	A	O4'-C1'-C2'	-5.34	100.46	105.80
25	LA	1835	G	P-O5'-C5'	-5.34	112.89	120.90
25	LA	2498	C	O4'-C1'-C2'	5.34	112.94	107.60
1	SA	368	U	O3'-P-O5'	-5.34	95.99	104.00
1	SA	1323	G	C4'-C3'-C2'	-5.34	97.26	102.60
25	LA	369	U	O3'-P-O5'	5.34	112.01	104.00
25	LA	2345	G	C4'-C3'-O3'	5.34	117.41	109.40
1	SA	580	C	P-O5'-C5'	-5.34	112.89	120.90
29	LN	195	GLY	N-CA-C	5.34	123.99	115.66
1	SA	813	U	P-O5'-C5'	-5.34	112.90	120.90
5	SK	91	GLY	CA-C-N	5.34	127.43	120.28
5	SK	91	GLY	C-N-CA	5.34	127.43	120.28
25	LA	2042	A	C4'-C3'-C2'	-5.34	97.26	102.60
25	LA	2391	G	C5'-C4'-C3'	-5.34	107.20	115.20
4	SJ	6	ILE	N-CA-C	5.33	116.11	110.72
11	SQ	52	CYS	N-CA-C	5.33	117.43	109.59
25	LA	776	G	P-O3'-C3'	5.33	128.20	120.20
25	LA	947	A	P-O5'-C5'	5.33	128.90	120.90
25	LA	1947	C	O3'-P-O5'	5.33	112.00	104.00
25	LA	2319	G	P-O5'-C5'	-5.33	112.90	120.90
51	L9	122	LEU	N-CA-C	5.33	122.16	110.80
25	LA	1101	U	O3'-P-O5'	5.33	112.00	104.00
25	LA	2194	U	C2'-C3'-O3'	5.33	121.70	113.70
17	SC	81	GLU	N-CA-C	5.33	116.77	111.07
25	LA	564	C	C4'-C3'-C2'	-5.33	97.27	102.60
25	LA	906	U	P-O3'-C3'	-5.33	112.21	120.20
25	LA	1128	G	O4'-C1'-N9	5.33	116.19	108.20
25	LA	1565	C	O5'-C5'-C4'	5.33	119.69	111.70
25	LA	2405	G	P-O5'-C5'	5.33	128.89	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	187	G	C2'-C3'-O3'	5.33	121.69	113.70
1	SA	642	A	P-O5'-C5'	5.32	128.88	120.90
1	SA	921	U	C4'-C3'-C2'	-5.32	97.28	102.60
25	LA	1944	U	P-O5'-C5'	-5.32	112.92	120.90
25	LA	321	U	C2'-C3'-O3'	5.32	117.48	109.50
25	LA	1162	G	C4'-C3'-C2'	-5.32	97.28	102.60
55	LI	50	ARG	NE-CZ-NH2	5.32	123.99	119.20
1	SA	898	G	C4'-C3'-C2'	-5.32	97.28	102.60
25	LA	1296	G	O3'-P-O5'	-5.32	96.02	104.00
1	SA	723	U	P-O5'-C5'	-5.32	112.92	120.90
25	LA	2821	A	C5'-C4'-O4'	5.32	117.77	109.80
25	LA	2863	C	C5'-C4'-C3'	-5.32	108.03	116.00
31	LP	68	ARG	NE-CZ-NH2	5.32	123.98	119.20
1	SA	87	C	C5'-C4'-C3'	5.31	123.97	116.00
1	SA	1201	A	C5'-C4'-C3'	5.31	123.17	115.20
1	SA	1541	U	O3'-P-O5'	-5.31	96.03	104.00
25	LA	1365	A	P-O5'-C5'	-5.31	112.93	120.90
25	LA	2015	A	O3'-P-O5'	5.31	111.97	104.00
1	SA	79	G	C5'-C4'-C3'	-5.31	108.04	116.00
47	L6	191	ASP	CA-CB-CG	-5.31	107.29	112.60
1	SA	265	G	O3'-P-O5'	-5.31	96.04	104.00
1	SA	974	A	O4'-C1'-C2'	5.31	111.11	105.80
11	SQ	74	LEU	N-CA-C	5.31	117.87	109.96
25	LA	1408	G	C4'-C3'-C2'	-5.31	97.29	102.60
44	L3	34	ARG	N-CA-C	5.31	117.06	111.28
25	LA	63	A	O3'-P-O5'	-5.30	96.05	104.00
25	LA	2491	U	C2'-C3'-O3'	5.30	117.45	109.50
1	SA	1279	G	C4'-C3'-O3'	5.30	117.35	109.40
25	LA	646	U	C1'-O4'-C4'	-5.30	104.60	109.90
1	SA	1313	U	P-O5'-C5'	-5.30	112.95	120.90
25	LA	669	G	P-O5'-C5'	-5.30	112.95	120.90
25	LA	793	A	O4'-C1'-C2'	-5.30	102.30	107.60
25	LA	1723	G	C4'-C3'-C2'	-5.30	97.30	102.60
1	SA	671	G	C5'-C4'-C3'	5.30	123.95	116.00
25	LA	774	G	C5'-C4'-C3'	-5.30	107.25	115.20
25	LA	2436	G	C4'-C3'-C2'	-5.30	97.30	102.60
1	SA	80	A	C5'-C4'-C3'	-5.30	108.05	116.00
3	S7	71	G	P-O3'-C3'	5.30	128.15	120.20
25	LA	106	C	P-O5'-C5'	5.30	128.85	120.90
25	LA	1142	A	C2'-C3'-O3'	5.30	117.44	109.50
25	LA	2344	U	C4'-C3'-O3'	5.30	117.34	109.40
25	LA	2881	U	C5'-C4'-C3'	-5.30	108.06	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	952	G	C5'-C4'-C3'	-5.29	108.06	116.00
25	LA	1110	G	O4'-C1'-N9	5.29	116.14	108.20
25	LA	2232	C	P-O5'-C5'	-5.29	112.96	120.90
25	LA	2537	U	C5'-C4'-C3'	5.29	123.94	116.00
25	LA	132	G	P-O5'-C5'	-5.29	112.96	120.90
2	S6	59	A	P-O5'-C5'	5.29	128.83	120.90
25	LA	1324	G	O4'-C1'-N9	5.29	116.13	108.20
25	LA	2800	A	C5'-C4'-C3'	-5.29	108.07	116.00
25	LA	96	C	C5'-C4'-C3'	5.29	123.93	116.00
1	SA	1208	C	P-O5'-C5'	-5.29	112.97	120.90
24	S1	298	LEU	CA-C-N	5.29	127.31	120.44
24	S1	298	LEU	C-N-CA	5.29	127.31	120.44
40	LX	77	ARG	NE-CZ-NH1	-5.29	116.21	121.50
1	SA	1097	C	C5'-C4'-C3'	5.28	123.93	116.00
25	LA	903	C	C5'-C4'-C3'	5.28	123.93	116.00
31	LP	52	PRO	N-CA-C	5.28	123.35	112.47
3	S7	38	A	P-O3'-C3'	-5.28	112.28	120.20
25	LA	2797	U	C2'-C3'-O3'	5.28	117.42	109.50
54	LH	4	ASN	CA-CB-CG	-5.28	107.32	112.60
1	SA	1118	U	C4'-C3'-O3'	-5.28	105.08	113.00
25	LA	2609	U	C3'-C2'-C1'	-5.28	96.22	101.50
26	LB	11	C	C4'-C3'-C2'	-5.28	97.32	102.60
25	LA	2222	C	P-O3'-C3'	-5.28	112.28	120.20
25	LA	2301	C	C5'-C4'-C3'	-5.28	108.09	116.00
25	LA	2646	C	C5'-C4'-C3'	-5.28	108.08	116.00
1	SA	562	U	C5'-C4'-C3'	5.27	123.11	115.20
25	LA	1966	A	C3'-C2'-O2'	-5.27	106.69	114.60
25	LA	2024	G	C4'-C3'-C2'	-5.27	97.33	102.60
48	LE	18	ASN	N-CA-C	5.27	119.42	112.35
1	SA	551	U	C5'-C4'-C3'	-5.27	108.09	116.00
7	SM	22	TYR	N-CA-CB	5.27	119.39	110.49
25	LA	2249	U	C4'-C3'-C2'	5.27	107.87	102.60
31	LP	100	GLY	N-CA-C	5.27	115.00	110.21
25	LA	1349	C	C4'-C3'-O3'	-5.27	105.10	113.00
25	LA	1133	A	O4'-C1'-N9	5.26	116.10	108.20
25	LA	2499	C	P-O5'-C5'	-5.26	113.01	120.90
1	SA	234	C	C4'-C3'-O3'	-5.26	105.11	113.00
25	LA	1472	C	C5'-C4'-C3'	-5.26	108.11	116.00
25	LA	2239	G	C5'-C4'-C3'	5.26	123.89	116.00
55	LI	44	ARG	NE-CZ-NH1	-5.26	116.24	121.50
1	SA	664	G	C2'-C3'-O3'	5.26	121.59	113.70
1	SA	769	G	C4'-C3'-C2'	-5.26	97.34	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	S7	67	C	P-O5'-C5'	5.26	128.79	120.90
24	S1	49	MET	CA-C-N	5.26	131.59	121.54
24	S1	49	MET	C-N-CA	5.26	131.59	121.54
25	LA	2717	C	C4'-C3'-C2'	-5.26	97.34	102.60
38	LD	89	GLY	CA-C-N	5.26	127.33	120.28
38	LD	89	GLY	C-N-CA	5.26	127.33	120.28
1	SA	440	C	P-O5'-C5'	-5.26	113.02	120.90
49	L7	70	ARG	NE-CZ-NH2	5.26	123.93	119.20
25	LA	958	U	P-O5'-C5'	-5.25	113.02	120.90
25	LA	1518	C	P-O5'-C5'	5.25	128.78	120.90
1	SA	1184	G	C4'-C3'-O3'	-5.25	105.12	113.00
25	LA	1060	U	C4'-C3'-O3'	5.25	117.28	109.40
27	LC	169	GLY	CA-C-N	5.25	128.91	121.66
27	LC	169	GLY	C-N-CA	5.25	128.91	121.66
49	L7	69	ALA	N-CA-C	5.25	117.85	110.23
1	SA	372	C	C2'-C3'-O3'	5.25	117.38	109.50
1	SA	693	G	C1'-O4'-C4'	-5.25	104.65	109.90
10	SP	46	LYS	CA-C-N	5.25	129.81	122.36
10	SP	46	LYS	C-N-CA	5.25	129.81	122.36
25	LA	1270	C	O4'-C1'-N1	5.25	116.07	108.20
51	L9	124	THR	N-CA-CB	5.25	119.36	110.49
17	SC	53	ARG	N-CA-CB	-5.25	103.43	111.56
25	LA	2448	A	C3'-C2'-O2'	-5.25	106.73	114.60
27	LC	218	MET	CA-C-N	5.25	125.92	119.99
27	LC	218	MET	C-N-CA	5.25	125.92	119.99
25	LA	1889	A	O5'-C5'-C4'	5.24	119.37	111.50
25	LA	2581	G	C4'-C3'-O3'	5.24	117.26	109.40
1	SA	168	G	C4'-C3'-C2'	-5.24	97.36	102.60
24	S1	294	ILE	CA-C-N	5.24	128.66	120.75
24	S1	294	ILE	C-N-CA	5.24	128.66	120.75
25	LA	117	G	C4'-C3'-O3'	-5.24	105.14	113.00
25	LA	1268	A	C5'-C4'-C3'	-5.24	108.14	116.00
25	LA	2278	A	C4'-C3'-C2'	-5.24	97.36	102.60
26	LB	113	C	P-O3'-C3'	5.24	128.06	120.20
1	SA	31	G	P-O3'-C3'	-5.24	112.34	120.20
1	SA	219	U	C4'-C3'-C2'	-5.24	97.36	102.60
25	LA	2313	C	C5'-C4'-C3'	-5.24	108.14	116.00
14	SB	146	SER	N-CA-C	5.24	117.07	111.36
25	LA	645	C	C2'-C3'-O3'	5.24	121.56	113.70
25	LA	1596	A	C5'-C4'-C3'	-5.24	108.14	116.00
25	LA	647	G	C4'-C3'-C2'	-5.24	97.36	102.60
25	LA	1418	G	C5'-C4'-C3'	-5.24	108.15	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	1647	U	C5'-C4'-C3'	5.24	123.85	116.00
25	LA	2450	A	O3'-P-O5'	-5.24	96.15	104.00
25	LA	424	G	C5'-C4'-C3'	5.23	123.85	116.00
25	LA	829	A	P-O3'-C3'	-5.23	112.35	120.20
1	SA	1533	C	O4'-C1'-C2'	-5.23	102.37	107.60
25	LA	2111	U	C5'-C4'-O4'	5.23	116.95	109.10
20	SF	110	ARG	N-CA-C	5.23	116.98	111.28
25	LA	662	G	C5'-C4'-C3'	-5.23	108.15	116.00
25	LA	1071	G	O4'-C4'-C3'	5.23	109.23	104.00
25	LA	1763	G	P-O5'-C5'	-5.23	113.06	120.90
25	LA	1895	C	C4'-C3'-C2'	-5.23	97.37	102.60
25	LA	2602	A	C5'-C4'-O4'	5.23	116.95	109.10
25	LA	895	U	C5'-C4'-O4'	5.23	116.94	109.10
25	LA	2393	U	C4'-C3'-C2'	-5.23	97.37	102.60
37	LV	57	VAL	CB-CA-C	-5.23	105.28	111.97
25	LA	1928	A	P-O3'-C3'	5.23	128.04	120.20
29	LN	229	HIS	CA-C-N	5.23	125.28	119.32
29	LN	229	HIS	C-N-CA	5.23	125.28	119.32
48	LE	46	ASP	CA-C-N	5.23	127.28	120.28
48	LE	46	ASP	C-N-CA	5.23	127.28	120.28
25	LA	2118	U	C4'-C3'-O3'	5.22	117.24	109.40
26	LB	18	G	C5'-C4'-C3'	-5.22	108.16	116.00
29	LN	233	GLY	N-CA-C	5.22	119.25	112.25
45	L4	53	ASP	CA-C-N	5.22	127.54	120.38
45	L4	53	ASP	C-N-CA	5.22	127.54	120.38
57	LK	34	HIS	CA-CB-CG	5.22	119.03	113.80
1	SA	87	C	P-O3'-C3'	-5.22	112.37	120.20
25	LA	945	A	C3'-C2'-C1'	-5.22	96.28	101.50
25	LA	1595	C	P-O5'-C5'	5.22	128.73	120.90
25	LA	2213	U	C2'-C3'-O3'	5.22	117.33	109.50
27	LC	2	ALA	CA-C-N	5.22	131.51	121.54
27	LC	2	ALA	C-N-CA	5.22	131.51	121.54
47	L6	102	ARG	NE-CZ-NH1	-5.22	116.28	121.50
25	LA	458	G	C3'-C2'-C1'	-5.22	96.28	101.50
3	S7	40	C	C5'-C4'-C3'	-5.22	108.17	116.00
1	SA	375	U	P-O3'-C3'	-5.22	112.37	120.20
25	LA	1328	A	C2'-C3'-O3'	5.22	121.53	113.70
1	SA	609	A	C5'-C4'-O4'	5.22	117.62	109.80
1	SA	690	G	C5'-C4'-C3'	-5.22	108.18	116.00
24	S1	297	ILE	N-CA-C	5.22	115.47	108.17
1	SA	1517	G	P-O5'-C5'	-5.21	113.08	120.90
18	SD	44	LYS	CA-C-N	5.21	126.36	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	SD	44	LYS	C-N-CA	5.21	126.36	119.84
25	LA	1052	C	P-O5'-C5'	5.21	128.72	120.90
25	LA	1721	G	O3'-P-O5'	-5.21	96.18	104.00
34	LS	87	GLU	N-CA-C	5.21	116.96	111.28
1	SA	1277	C	O4'-C1'-N1	5.21	116.32	108.50
25	LA	2465	C	P-O5'-C5'	5.21	128.72	120.90
1	SA	42	G	P-O5'-C5'	5.21	128.72	120.90
1	SA	702	A	P-O5'-C5'	-5.21	113.08	120.90
58	LZ	44	PHE	N-CA-C	-5.21	106.94	113.72
12	SR	73	HIS	CA-CB-CG	5.21	119.01	113.80
1	SA	1404	C	P-O5'-C5'	5.21	128.71	120.90
25	LA	1240	U	P-O3'-C3'	5.21	128.01	120.20
25	LA	2557	G	C4-N9-C1'	5.21	142.12	126.50
26	LB	61	G	P-O5'-C5'	5.21	128.71	120.90
1	SA	1081	A	C4'-C3'-C2'	-5.21	97.39	102.60
25	LA	2708	G	C4'-C3'-C2'	-5.21	97.39	102.60
1	SA	733	G	C1'-O4'-C4'	-5.21	104.50	109.70
16	SU	38	GLU	CA-C-N	5.21	126.60	120.09
16	SU	38	GLU	C-N-CA	5.21	126.60	120.09
25	LA	824	U	C5'-C4'-C3'	-5.21	108.19	116.00
25	LA	1783	A	O5'-C5'-C4'	5.21	119.31	111.50
27	LC	194	VAL	N-CA-CB	5.21	120.19	110.77
1	SA	1086	U	C5'-C4'-C3'	-5.20	108.19	116.00
1	SA	1519	A	P-O3'-C3'	5.20	128.01	120.20
20	SF	103	VAL	CA-C-N	5.20	127.68	120.29
20	SF	103	VAL	C-N-CA	5.20	127.68	120.29
25	LA	1634	A	C2'-C3'-O3'	5.20	117.31	109.50
25	LA	2492	U	O4'-C1'-N1	5.20	116.01	108.20
25	LA	2629	U	C4'-C3'-O3'	5.20	117.20	109.40
2	S6	74	A	P-O3'-C3'	5.20	128.00	120.20
20	SF	113	ARG	N-CA-C	5.20	116.75	111.14
25	LA	2366	A	C5'-C4'-C3'	5.20	123.80	116.00
1	SA	1227	A	O4'-C1'-N9	5.20	116.00	108.20
25	LA	2142	A	P-O5'-C5'	5.20	128.70	120.90
25	LA	2893	A	P-O3'-C3'	-5.20	112.40	120.20
32	LQ	60	HIS	N-CA-C	-5.20	101.21	108.96
39	LW	56	LEU	CA-C-N	5.20	131.47	121.54
39	LW	56	LEU	C-N-CA	5.20	131.47	121.54
25	LA	2389	G	P-O5'-C5'	5.20	128.69	120.90
51	L9	117	LEU	O-C-N	-5.20	118.38	121.71
1	SA	1347	G	C4'-C3'-O3'	5.20	117.19	109.40
25	LA	336	C	C5'-C4'-C3'	-5.20	108.21	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	547	A	O4'-C1'-N9	5.19	115.99	108.20
25	LA	1663	G	C5'-C4'-C3'	-5.19	108.21	116.00
25	LA	2146	C	C2'-C3'-O3'	5.19	117.29	109.50
23	SI	126	PHE	CA-CB-CG	5.19	118.99	113.80
25	LA	1783	A	P-O5'-C5'	-5.19	113.11	120.90
25	LA	2530	A	C2'-C3'-O3'	5.19	121.49	113.70
25	LA	2742	G	P-O5'-C5'	-5.19	113.11	120.90
25	LA	2873	A	O4'-C1'-C2'	-5.19	100.61	105.80
25	LA	1637	A	C4'-C3'-O3'	-5.19	105.22	113.00
25	LA	2060	A	O3'-P-O5'	5.19	111.78	104.00
25	LA	2311	A	C2'-C3'-O3'	5.19	117.28	109.50
27	LC	18	THR	N-CA-CB	5.19	119.25	110.49
54	LH	41	ARG	NE-CZ-NH2	-5.19	114.53	119.20
1	SA	552	U	O4'-C1'-C2'	5.18	112.78	107.60
24	S1	150	PHE	CA-CB-CG	5.18	118.98	113.80
24	S1	696	ALA	N-CA-C	5.18	116.93	111.28
25	LA	906	U	O4'-C4'-C3'	-5.18	98.81	104.00
25	LA	1239	G	C4'-C3'-C2'	-5.18	97.42	102.60
25	LA	1782	U	P-O5'-C5'	5.18	128.68	120.90
26	LB	43	C	O4'-C1'-N1	5.18	116.28	108.50
38	LD	131	TYR	N-CA-C	5.18	116.93	111.28
58	LZ	19	GLY	CA-C-N	5.18	127.23	120.28
58	LZ	19	GLY	C-N-CA	5.18	127.23	120.28
25	LA	2086	U	C4'-C3'-C2'	-5.18	97.42	102.60
24	S1	85	ILE	CB-CA-C	-5.18	105.70	111.35
25	LA	822	G	C4'-C3'-O3'	-5.18	105.23	113.00
25	LA	2096	C	C5'-C4'-C3'	5.18	123.77	116.00
40	LX	112	THR	N-CA-C	-5.18	99.77	110.80
24	S1	178	PHE	CA-CB-CG	-5.18	108.62	113.80
25	LA	672	C	C4'-C3'-C2'	-5.18	97.42	102.60
25	LA	1268	A	C4'-C3'-C2'	-5.18	97.42	102.60
25	LA	1855	U	P-O5'-C5'	5.18	128.67	120.90
25	LA	1452	G	P-O3'-C3'	-5.18	112.44	120.20
25	LA	2085	U	P-O3'-C3'	-5.18	112.44	120.20
30	LO	4	LYS	CA-C-N	5.18	127.22	120.28
30	LO	4	LYS	C-N-CA	5.18	127.22	120.28
25	LA	1962	C	C4'-C3'-O3'	5.17	117.16	109.40
25	LA	2499	C	C4'-C3'-O3'	-5.17	105.24	113.00
1	SA	523	A	O3'-P-O5'	-5.17	96.24	104.00
1	SA	1346	A	O3'-P-O5'	-5.17	96.24	104.00
25	LA	1810	A	C5'-C4'-C3'	5.17	123.76	116.00
25	LA	2721	A	C4'-C3'-C2'	-5.17	97.43	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	LX	112	THR	N-CA-CB	5.17	119.23	110.49
1	SA	907	A	P-O5'-C5'	-5.17	113.14	120.90
24	S1	557	GLN	CA-C-N	5.17	127.16	120.44
24	S1	557	GLN	C-N-CA	5.17	127.16	120.44
1	SA	40	C	P-O5'-C5'	-5.17	113.15	120.90
25	LA	914	G	C4'-C3'-C2'	-5.17	97.43	102.60
1	SA	280	C	P-O5'-C5'	-5.17	113.15	120.90
25	LA	810	U	O3'-P-O5'	-5.17	96.25	104.00
25	LA	2425	A	O4'-C4'-C3'	-5.17	100.93	106.10
47	L6	163	ASN	CA-CB-CG	-5.17	107.44	112.60
2	S6	70	C	C4'-C3'-C2'	-5.16	97.44	102.60
1	SA	1278	G	C4'-C3'-C2'	5.16	107.76	102.60
14	SB	2	THR	CA-C-N	5.16	127.53	120.46
14	SB	2	THR	C-N-CA	5.16	127.53	120.46
16	SU	6	ARG	CA-C-N	5.16	131.40	121.54
16	SU	6	ARG	C-N-CA	5.16	131.40	121.54
24	S1	243	THR	CA-C-N	5.16	127.20	120.28
24	S1	243	THR	C-N-CA	5.16	127.20	120.28
25	LA	242	G	C5'-C4'-C3'	-5.16	107.46	115.20
3	S7	61	C	C4'-C3'-O3'	5.16	117.14	109.40
24	S1	597	SER	N-CA-CB	5.16	117.49	110.01
25	LA	525	U	O3'-P-O5'	-5.16	96.27	104.00
31	LP	16	GLU	N-CA-C	5.16	117.36	110.35
45	L4	31	ILE	N-CA-C	5.16	120.07	109.34
1	SA	366	A	C2'-C3'-O3'	5.16	121.43	113.70
1	SA	933	G	O3'-P-O5'	5.16	111.73	104.00
24	S1	237	LEU	CA-C-N	5.16	126.58	120.14
24	S1	237	LEU	C-N-CA	5.16	126.58	120.14
25	LA	816	C	C5'-C4'-C3'	-5.16	108.27	116.00
25	LA	2607	G	C8-N9-C1'	5.16	142.47	127.00
1	SA	720	C	C4'-C3'-O3'	-5.15	105.27	113.00
25	LA	2199	A	C5'-C4'-C3'	-5.15	108.27	116.00
18	SD	17	ASP	CA-CB-CG	-5.15	107.45	112.60
40	LX	88	GLU	CA-C-N	5.15	131.38	121.54
40	LX	88	GLU	C-N-CA	5.15	131.38	121.54
25	LA	1016	G	C4'-C3'-C2'	-5.15	97.45	102.60
25	LA	2190	G	O3'-P-O5'	-5.15	96.28	104.00
25	LA	2391	G	C4'-C3'-O3'	5.15	117.13	109.40
25	LA	1954	G	C5'-C4'-O4'	5.15	116.82	109.10
28	LM	49	ILE	N-CA-C	5.15	116.70	108.87
1	SA	250	A	P-O3'-C3'	-5.15	112.48	120.20
25	LA	465	G	C4'-C3'-O3'	-5.15	105.28	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	750	A	P-O5'-C5'	-5.15	113.18	120.90
3	S7	7	A	P-O3'-C3'	5.15	127.92	120.20
25	LA	1873	G	C5'-C4'-C3'	5.15	123.72	116.00
25	LA	2165	C	C1'-O4'-C4'	-5.15	104.75	109.90
34	LS	101	THR	N-CA-C	5.15	117.35	110.35
3	S7	72	C	O4'-C1'-N1	5.14	116.22	108.50
25	LA	370	G	O3'-P-O5'	5.14	111.72	104.00
25	LA	481	G	O4'-C1'-N9	5.14	115.92	108.20
25	LA	2322	A	O4'-C4'-C3'	-5.14	98.86	104.00
25	LA	1223	G	C4'-C3'-C2'	-5.14	97.46	102.60
25	LA	2364	C	C5'-C4'-C3'	-5.14	108.29	116.00
1	SA	355	C	C5'-C4'-C3'	-5.14	108.29	116.00
25	LA	1502	A	C5'-C4'-C3'	-5.14	108.29	116.00
29	LN	45	ASN	CA-CB-CG	-5.14	107.46	112.60
25	LA	418	C	O3'-P-O5'	5.14	111.71	104.00
2	S6	8	U	O4'-C1'-C2'	5.14	110.94	105.80
25	LA	1999	C	C4'-C3'-C2'	-5.14	97.46	102.60
1	SA	1194	U	C4'-C3'-O3'	-5.13	105.30	113.00
39	LW	18	LEU	CA-C-N	5.13	128.12	120.31
39	LW	18	LEU	C-N-CA	5.13	128.12	120.31
17	SC	131	ARG	N-CA-C	-5.13	108.04	114.56
1	SA	35	G	P-O5'-C5'	-5.13	113.20	120.90
20	SF	97	THR	CA-C-N	5.13	127.16	120.28
20	SF	97	THR	C-N-CA	5.13	127.16	120.28
1	SA	1530	G	C2'-C3'-O3'	5.13	117.19	109.50
25	LA	232	G	C5'-C4'-O4'	5.13	116.80	109.10
25	LA	1165	A	P-O5'-C5'	5.13	128.59	120.90
25	LA	2061	G	O4'-C1'-N9	5.13	115.89	108.20
25	LA	2224	G	P-O5'-C5'	-5.13	113.21	120.90
5	SK	124	LYS	CA-C-N	5.13	131.33	121.54
5	SK	124	LYS	C-N-CA	5.13	131.33	121.54
19	SE	59	ILE	N-CA-CB	5.12	117.51	110.54
25	LA	266	G	P-O5'-C5'	-5.12	113.22	120.90
25	LA	2605	U	C5'-C4'-C3'	-5.12	108.32	116.00
26	LB	51	G	C5'-C4'-C3'	-5.12	108.32	116.00
38	LD	90	ALA	CA-C-N	5.12	127.40	120.38
38	LD	90	ALA	C-N-CA	5.12	127.40	120.38
1	SA	479	U	C4'-C3'-C2'	-5.12	97.48	102.60
24	S1	424	LYS	N-CA-C	5.12	116.86	111.28
25	LA	1156	A	P-O5'-C5'	5.12	128.58	120.90
25	LA	1322	A	P-O3'-C3'	5.12	127.88	120.20
44	L3	33	ARG	NE-CZ-NH2	5.12	123.81	119.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	766	A	C5'-C4'-C3'	5.12	123.68	116.00
25	LA	753	A	C5'-C4'-O4'	5.12	117.48	109.80
25	LA	2339	C	O3'-P-O5'	-5.12	96.33	104.00
1	SA	440	C	C5'-C4'-C3'	-5.12	108.33	116.00
30	LO	73	ILE	O-C-N	-5.12	117.15	123.03
1	SA	149	A	O4'-C1'-N9	5.11	116.17	108.50
1	SA	1331	G	O4'-C1'-N9	5.11	116.17	108.50
25	LA	777	G	C4'-C3'-C2'	-5.11	97.49	102.60
25	LA	1327	A	P-O3'-C3'	5.11	127.87	120.20
25	LA	372	G	P-O3'-C3'	5.11	127.87	120.20
25	LA	906	U	O4'-C1'-N1	5.11	116.17	108.50
25	LA	1562	U	P-O5'-C5'	-5.11	113.23	120.90
25	LA	2417	C	P-O5'-C5'	-5.11	113.23	120.90
1	SA	1149	C	P-O5'-C5'	-5.11	113.23	120.90
14	SB	221	ARG	CB-CA-C	-5.11	102.16	110.85
25	LA	1048	A	P-O5'-C5'	5.11	128.56	120.90
25	LA	1282	U	P-O5'-C5'	5.11	128.56	120.90
25	LA	1410	G	C5'-C4'-C3'	5.11	123.66	116.00
25	LA	1484	U	C5'-C4'-C3'	-5.11	108.33	116.00
25	LA	2656	U	O4'-C1'-N1	5.11	116.17	108.50
25	LA	468	G	C5'-C4'-C3'	-5.11	108.34	116.00
25	LA	2725	A	C2'-C3'-O3'	5.11	117.16	109.50
53	LG	63	VAL	CB-CA-C	5.11	115.43	110.63
25	LA	70	G	C4'-C3'-O3'	5.11	117.06	109.40
25	LA	2559	C	C5'-C4'-C3'	-5.11	108.34	116.00
25	LA	545	U	P-O3'-C3'	5.11	127.86	120.20
25	LA	2385	C	C5'-C4'-C3'	5.11	123.66	116.00
25	LA	2656	U	C1'-O4'-C4'	-5.11	104.79	109.90
1	SA	1328	C	C5'-C4'-C3'	-5.10	108.34	116.00
25	LA	1778	U	O3'-P-O5'	-5.10	96.34	104.00
1	SA	1410	A	C5'-C4'-C3'	-5.10	108.35	116.00
25	LA	861	A	C4'-C3'-C2'	-5.10	97.50	102.60
25	LA	989	G	O4'-C1'-N9	5.10	115.86	108.20
25	LA	2076	U	O4'-C1'-N1	5.10	116.16	108.50
40	LX	85	ALA	N-CA-C	5.10	116.84	111.28
55	LI	18	ARG	NE-CZ-NH1	-5.10	116.40	121.50
25	LA	2197	U	C4'-C3'-O3'	5.10	117.05	109.40
1	SA	200	G	P-O5'-C5'	5.10	128.55	120.90
25	LA	1930	G	C4'-C3'-C2'	-5.10	97.50	102.60
25	LA	2172	U	P-O3'-C3'	-5.10	112.55	120.20
25	LA	2365	G	C5'-C4'-C3'	-5.10	108.35	116.00
1	SA	1081	A	C5'-C4'-C3'	-5.10	108.35	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	LB	39	A	C5'-C4'-C3'	-5.10	108.36	116.00
1	SA	1182	G	P-O3'-C3'	5.10	127.84	120.20
3	S7	51	U	P-O5'-C5'	5.10	128.54	120.90
25	LA	2271	G	O4'-C1'-N9	5.09	115.84	108.20
25	LA	2596	U	C5'-C4'-C3'	5.09	123.64	116.00
25	LA	2863	C	O4'-C1'-N1	5.09	116.14	108.50
25	LA	1832	C	C2'-C3'-O3'	5.09	121.34	113.70
51	L9	39	ALA	CA-C-N	5.09	131.27	121.54
51	L9	39	ALA	C-N-CA	5.09	131.27	121.54
1	SA	471	U	O3'-P-O5'	5.09	111.64	104.00
25	LA	223	A	O3'-P-O5'	-5.09	96.36	104.00
25	LA	534	U	C2'-C3'-O3'	5.09	121.34	113.70
25	LA	1135	C	P-O5'-C5'	-5.09	113.26	120.90
25	LA	1307	A	O5'-C5'-C4'	-5.09	103.86	111.50
25	LA	2797	U	P-O5'-C5'	-5.09	113.26	120.90
25	LA	398	C	P-O5'-C5'	5.09	128.53	120.90
49	L7	84	ILE	CB-CA-C	5.09	119.64	111.29
55	LI	97	GLN	O-C-N	-5.09	117.47	121.14
25	LA	586	A	P-O5'-C5'	5.09	128.53	120.90
48	LE	95	ASP	CA-C-N	5.09	131.26	121.54
48	LE	95	ASP	C-N-CA	5.09	131.26	121.54
49	L7	57	ALA	CA-C-N	5.09	127.10	120.28
49	L7	57	ALA	C-N-CA	5.09	127.10	120.28
25	LA	731	C	C5'-C4'-C3'	-5.09	108.37	116.00
28	LM	40	GLN	N-CA-C	-5.09	101.34	109.07
24	S1	391	THR	N-CA-CB	5.08	119.08	110.49
25	LA	292	U	P-O3'-C3'	5.08	127.83	120.20
1	SA	320	A	C4'-C3'-C2'	-5.08	97.52	102.60
25	LA	52	A	P-O3'-C3'	5.08	127.82	120.20
25	LA	411	G	O4'-C1'-C2'	-5.08	100.72	105.80
25	LA	462	C	O3'-P-O5'	-5.08	96.38	104.00
25	LA	1386	C	O4'-C1'-N1	5.08	116.12	108.50
25	LA	1718	G	C5'-C4'-C3'	5.08	123.62	116.00
25	LA	2872	A	C4'-C3'-C2'	-5.08	97.52	102.60
25	LA	1096	A	C5'-C4'-C3'	-5.08	108.38	116.00
28	LM	33	GLU	N-CA-C	-5.08	101.02	108.99
1	SA	575	G	O5'-C5'-C4'	-5.08	104.08	111.70
3	S7	16	U	P-O3'-C3'	5.08	127.82	120.20
25	LA	1295	C	C5'-C4'-C3'	-5.08	108.38	116.00
1	SA	604	G	C4'-C3'-C2'	-5.08	97.52	102.60
1	SA	1100	C	C5'-C4'-C3'	5.08	123.62	116.00
1	SA	1523	G	C4'-C3'-O3'	-5.08	105.38	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	200	G	C5'-C4'-C3'	5.08	123.61	116.00
1	SA	1304	G	C4'-C3'-C2'	-5.08	97.52	102.60
4	SJ	21	ALA	CA-C-N	5.08	127.04	120.44
4	SJ	21	ALA	C-N-CA	5.08	127.04	120.44
7	SM	62	PHE	CA-CB-CG	-5.07	108.73	113.80
25	LA	292	U	O3'-P-O5'	-5.07	96.39	104.00
25	LA	1198	U	P-O5'-C5'	-5.07	113.29	120.90
25	LA	2765	A	C1'-O4'-C4'	-5.07	104.83	109.90
2	S6	20	G	C2'-C3'-O3'	5.07	117.10	109.50
10	SP	12	LYS	CB-CA-C	-5.07	102.24	109.84
25	LA	2185	U	O3'-P-O5'	-5.07	96.40	104.00
25	LA	2207	C	C5'-C4'-C3'	-5.07	108.40	116.00
18	SD	73	ASN	CA-CB-CG	-5.07	107.53	112.60
25	LA	1725	U	C5'-C4'-C3'	-5.07	108.40	116.00
25	LA	1985	C	C4'-C3'-C2'	-5.07	97.53	102.60
25	LA	2313	C	O3'-P-O5'	-5.07	96.40	104.00
25	LA	2566	A	C4'-C3'-C2'	5.07	107.67	102.60
40	LX	99	GLU	CA-C-N	5.07	127.78	120.38
40	LX	99	GLU	C-N-CA	5.07	127.78	120.38
1	SA	1168	U	C4'-C3'-O3'	5.06	116.99	109.40
5	SK	88	PRO	N-CA-C	-5.06	108.20	114.68
25	LA	1398	C	P-O5'-C5'	-5.06	113.31	120.90
25	LA	924	G	C5'-C4'-C3'	-5.06	108.41	116.00
25	LA	2032	G	P-O3'-C3'	5.06	127.79	120.20
25	LA	2439	A	O4'-C1'-N9	5.06	115.79	108.20
29	LN	115	ILE	CB-CA-C	-5.06	105.77	111.23
30	LO	44	TYR	N-CA-CB	5.06	117.56	110.12
49	L7	72	SER	N-CA-C	5.06	117.40	108.75
1	SA	1115	U	C5'-C4'-C3'	-5.06	108.41	116.00
1	SA	1182	G	P-O5'-C5'	5.06	128.49	120.90
25	LA	573	U	O4'-C4'-C3'	-5.06	98.94	104.00
25	LA	1453	A	O4'-C1'-N9	5.06	116.09	108.50
1	SA	123	U	P-O3'-C3'	5.06	127.78	120.20
20	SF	63	ASN	CA-CB-CG	-5.05	107.55	112.60
1	SA	1135	U	C5'-C4'-C3'	-5.05	108.42	116.00
25	LA	2019	A	C2'-C3'-O3'	5.05	121.28	113.70
1	SA	289	G	C4'-C3'-C2'	-5.05	97.55	102.60
1	SA	442	G	P-O5'-C5'	5.05	128.47	120.90
1	SA	229	U	C4'-C3'-C2'	-5.05	97.55	102.60
25	LA	1362	C	C4'-C3'-C2'	-5.05	97.55	102.60
25	LA	2016	U	O5'-C5'-C4'	5.05	119.07	111.50
25	LA	2017	U	P-O3'-C3'	5.05	127.77	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	LA	2308	G	C5'-C4'-C3'	5.05	123.57	116.00
1	SA	241	G	C4'-C3'-C2'	-5.04	97.56	102.60
25	LA	200	U	P-O5'-C5'	-5.04	113.33	120.90
25	LA	973	A	P-O3'-C3'	-5.04	112.63	120.20
25	LA	2280	G	C4'-C3'-C2'	-5.04	97.56	102.60
25	LA	2387	U	C4'-C3'-C2'	-5.04	97.56	102.60
25	LA	2501	C	O4'-C1'-N1	5.04	116.07	108.50
9	SO	45	HIS	CA-CB-CG	-5.04	108.76	113.80
25	LA	1453	A	P-O5'-C5'	5.04	128.46	120.90
25	LA	2383	G	O4'-C4'-C3'	5.04	109.04	104.00
38	LD	142	MET	CA-C-N	5.04	127.97	120.31
38	LD	142	MET	C-N-CA	5.04	127.97	120.31
25	LA	1494	A	O4'-C1'-N9	5.04	116.06	108.50
25	LA	2717	C	O3'-P-O5'	5.04	111.56	104.00
1	SA	1157	A	P-O5'-C5'	-5.04	113.34	120.90
5	SK	32	THR	CB-CA-C	-5.04	102.08	110.14
21	SG	67	ASN	CA-CB-CG	-5.04	107.56	112.60
25	LA	2260	C	C5'-C4'-C3'	-5.04	108.44	116.00
47	L6	21	ARG	N-CA-C	5.04	117.40	110.35
55	LI	50	ARG	NE-CZ-NH1	-5.04	116.46	121.50
25	LA	830	G	C2'-C3'-O3'	5.04	117.06	109.50
25	LA	2266	A	P-O5'-C5'	-5.04	113.34	120.90
1	SA	180	U	P-O5'-C5'	-5.04	113.35	120.90
25	LA	940	G	C4'-C3'-C2'	-5.04	97.56	102.60
25	LA	1270	C	C4'-C3'-O3'	5.04	116.95	109.40
31	LP	21	ARG	NE-CZ-NH1	-5.04	116.47	121.50
1	SA	1022	A	C4'-C3'-C2'	-5.03	97.57	102.60
25	LA	839	U	C5'-C4'-C3'	-5.03	108.45	116.00
25	LA	1070	A	P-O3'-C3'	-5.03	112.65	120.20
25	LA	1439	A	C5'-C4'-C3'	-5.03	108.45	116.00
25	LA	2245	U	P-O5'-C5'	5.03	128.45	120.90
14	SB	157	PRO	CA-C-N	5.03	127.43	120.29
14	SB	157	PRO	C-N-CA	5.03	127.43	120.29
25	LA	1922	G	C5'-C4'-C3'	-5.03	108.45	116.00
26	LB	57	A	C2'-C3'-O3'	5.03	121.24	113.70
52	LF	32	LEU	CB-CA-C	-5.03	102.76	110.81
7	SM	110	GLY	CA-C-N	5.03	126.12	119.84
7	SM	110	GLY	C-N-CA	5.03	126.12	119.84
25	LA	317	G	P-O5'-C5'	5.03	128.44	120.90
25	LA	2080	A	C4'-C3'-C2'	-5.03	97.57	102.60
30	LO	87	VAL	CA-C-N	5.03	131.14	121.54
30	LO	87	VAL	C-N-CA	5.03	131.14	121.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	1094	G	C2'-C3'-O3'	5.03	117.04	109.50
1	SA	1332	A	P-O5'-C5'	-5.03	113.36	120.90
1	SA	1198	G	O5'-C5'-C4'	5.02	119.03	111.50
20	SF	11	HIS	CA-C-N	5.02	126.12	119.84
20	SF	11	HIS	C-N-CA	5.02	126.12	119.84
25	LA	1428	C	C4'-C3'-O3'	5.02	116.93	109.40
25	LA	2017	U	C5'-C4'-C3'	-5.02	108.47	116.00
25	LA	2252	G	N9-C1'-C2'	-5.02	106.47	114.00
33	LR	53	VAL	N-CA-C	5.02	116.15	109.37
1	SA	141	G	C4'-C3'-C2'	-5.02	97.58	102.60
1	SA	835	U	P-O5'-C5'	5.02	128.43	120.90
1	SA	1044	A	C5'-C4'-C3'	5.02	123.53	116.00
1	SA	1474	U	C5'-C4'-C3'	5.02	123.53	116.00
25	LA	503	A	P-O3'-C3'	5.02	127.73	120.20
25	LA	1415	U	C2'-C3'-O3'	5.02	121.23	113.70
25	LA	1916	A	P-O5'-C5'	-5.02	113.37	120.90
25	LA	2226	C	C4'-C3'-C2'	-5.02	97.58	102.60
32	LQ	72	THR	N-CA-C	5.02	116.83	111.36
1	SA	1230	C	P-O5'-C5'	-5.02	113.37	120.90
8	SN	81	ILE	N-CA-C	5.02	115.24	110.42
47	L6	44	ARG	NE-CZ-NH1	-5.02	116.48	121.50
51	L9	68	ARG	CA-C-N	5.02	127.00	120.28
51	L9	68	ARG	C-N-CA	5.02	127.00	120.28
1	SA	1498	U	C5'-C4'-C3'	-5.02	108.48	116.00
25	LA	1265	A	C5'-C4'-C3'	5.02	122.72	115.20
1	SA	136	C	P-O5'-C5'	-5.01	113.38	120.90
1	SA	657	U	C5'-C4'-C3'	-5.01	108.48	116.00
2	S6	75	C	C5'-C4'-O4'	5.01	116.62	109.10
25	LA	738	G	C4'-C3'-C2'	-5.01	97.58	102.60
25	LA	964	C	O3'-P-O5'	5.01	111.52	104.00
25	LA	2242	G	C4'-C3'-C2'	-5.01	97.59	102.60
28	LM	19	PHE	N-CA-C	5.01	121.48	110.80
48	LE	131	THR	CA-C-N	5.01	127.00	120.28
48	LE	131	THR	C-N-CA	5.01	127.00	120.28
25	LA	1236	G	P-O5'-C5'	5.01	128.42	120.90
25	LA	1514	G	P-O3'-C3'	-5.01	112.68	120.20
25	LA	2061	G	N9-C1'-C2'	-5.01	106.48	114.00
47	L6	93	SER	N-CA-C	5.01	121.47	110.80
1	SA	1034	G	P-O5'-C5'	5.01	128.41	120.90
25	LA	250	G	P-O5'-C5'	5.01	128.42	120.90
25	LA	543	G	P-O3'-C3'	5.01	127.72	120.20
25	LA	895	U	O4'-C1'-C2'	5.01	110.81	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	LH	12	SER	CB-CA-C	-5.01	103.02	110.88
25	LA	1119	U	P-O3'-C3'	-5.01	112.69	120.20
25	LA	1984	G	C4'-C3'-C2'	-5.01	97.59	102.60
53	LG	14	SER	N-CA-C	5.01	116.55	111.14
25	LA	715	A	O4'-C1'-N9	5.01	116.01	108.50
25	LA	1093	G	P-O5'-C5'	5.01	128.41	120.90
25	LA	1320	C	C3'-C2'-O2'	-5.01	107.09	114.60
25	LA	1476	U	P-O5'-C5'	-5.01	113.39	120.90
1	SA	1038	C	C4'-C3'-C2'	-5.00	97.59	102.60
25	LA	37	C	O4'-C1'-N1	5.00	116.01	108.50
25	LA	1901	A	C4'-C3'-O3'	-5.00	105.49	113.00
25	LA	2879	A	P-O5'-C5'	5.00	128.41	120.90
44	L3	3	ARG	NE-CZ-NH2	5.00	123.70	119.20
1	SA	21	G	P-O5'-C5'	5.00	128.41	120.90
1	SA	116	A	P-O5'-C5'	5.00	128.40	120.90
25	LA	1048	A	O5'-C5'-C4'	5.00	119.00	111.50
25	LA	1733	G	O3'-P-O5'	5.00	111.50	104.00
25	LA	1739	A	P-O5'-C5'	-5.00	113.40	120.90
25	LA	1906	G	P-O5'-C5'	5.00	128.41	120.90
25	LA	2797	U	P-O3'-C3'	5.00	127.70	120.20

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	SA	1498	U	C3',C4'
25	LA	2251	G	C1'

All (1660) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
42	L1	49	ARG	Sidechain
42	L1	9	ARG	Sidechain
44	L3	14	ARG	Sidechain
44	L3	28	ARG	Sidechain
44	L3	33	ARG	Sidechain
44	L3	34	ARG	Sidechain
44	L3	44	VAL	Peptide
45	L4	12	ARG	Sidechain
45	L4	41	ARG	Sidechain
45	L4	7	ARG	Sidechain
46	L5	4	ARG	Sidechain
47	L6	114	ARG	Sidechain

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Mol	Chain	Res	Type	Group
47	L6	162	ARG	Sidechain
47	L6	170	ARG	Sidechain
47	L6	40	ARG	Sidechain
47	L6	61	ARG	Sidechain
47	L6	67	ARG	Sidechain
49	L7	101	ARG	Peptide
49	L7	116	LEU	Peptide
49	L7	124	ARG	Sidechain
49	L7	127	TYR	Sidechain
49	L7	174	PHE	Peptide
49	L7	72	SER	Peptide
49	L7	91	ARG	Sidechain
49	L7	94	ARG	Sidechain
50	L8	154	GLU	Peptide
50	L8	163	TYR	Sidechain
50	L8	6	ALA	Peptide
51	L9	22	LYS	Peptide
51	L9	63	ALA	Peptide
25	LA	1	G	Sidechain
25	LA	1004	U	Sidechain
25	LA	1005	C	Sidechain
25	LA	1012	U	Sidechain
25	LA	1019	U	Sidechain
25	LA	102	U	Sidechain
25	LA	1021	A	Sidechain
25	LA	1022	G	Sidechain
25	LA	1025	G	Sidechain
25	LA	1026	G	Sidechain
25	LA	1028	A	Sidechain
25	LA	1029	A	Sidechain
25	LA	1030	C	Sidechain
25	LA	1031	G	Sidechain
25	LA	1034	G	Sidechain
25	LA	1038	G	Sidechain
25	LA	105	C	Sidechain
25	LA	1055	G	Sidechain
25	LA	1056	G	Sidechain
25	LA	1058	U	Sidechain
25	LA	106	C	Sidechain
25	LA	1061	U	Sidechain
25	LA	1063	G	Sidechain
25	LA	1069	A	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	1079	C	Sidechain
25	LA	1083	U	Sidechain
25	LA	1084	A	Sidechain
25	LA	1085	A	Sidechain
25	LA	1086	A	Sidechain
25	LA	1088	A	Sidechain
25	LA	1093	G	Sidechain
25	LA	1094	U	Sidechain
25	LA	1095	A	Sidechain
25	LA	1097	U	Sidechain
25	LA	1098	A	Sidechain
25	LA	1110	G	Sidechain
25	LA	1118	C	Sidechain
25	LA	1125	G	Sidechain
25	LA	113	U	Sidechain
25	LA	1130	U	Sidechain
25	LA	1133	A	Sidechain
25	LA	1134	A	Sidechain
25	LA	1137	G	Sidechain
25	LA	114	U	Sidechain
25	LA	1143	A	Sidechain
25	LA	1153	C	Sidechain
25	LA	1156	A	Sidechain
25	LA	1166	G	Sidechain
25	LA	1172	C	Sidechain
25	LA	1174	U	Sidechain
25	LA	1176	U	Sidechain
25	LA	1177	G	Sidechain
25	LA	1183	U	Sidechain
25	LA	1186	G	Sidechain
25	LA	1188	U	Sidechain
25	LA	1189	A	Sidechain
25	LA	1190	G	Sidechain
25	LA	1192	G	Sidechain
25	LA	1196	C	Sidechain
25	LA	1198	U	Sidechain
25	LA	1199	U	Sidechain
25	LA	12	U	Sidechain
25	LA	120	U	Sidechain
25	LA	1203	U	Sidechain
25	LA	1204	A	Sidechain
25	LA	1206	G	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	1209	U	Sidechain
25	LA	121	G	Sidechain
25	LA	1214	A	Sidechain
25	LA	1215	G	Sidechain
25	LA	1223	G	Sidechain
25	LA	1225	G	Sidechain
25	LA	1226	A	Sidechain
25	LA	123	G	Sidechain
25	LA	1230	A	Sidechain
25	LA	1234	U	Sidechain
25	LA	1236	G	Sidechain
25	LA	1248	G	Sidechain
25	LA	1249	U	Sidechain
25	LA	1253	A	Sidechain
25	LA	1257	C	Sidechain
25	LA	1259	G	Sidechain
25	LA	126	A	Sidechain
25	LA	1261	C	Sidechain
25	LA	1263	U	Sidechain
25	LA	1267	U	Sidechain
25	LA	1268	A	Sidechain
25	LA	1269	A	Sidechain
25	LA	1270	C	Sidechain
25	LA	1271	G	Sidechain
25	LA	1275	A	Sidechain
25	LA	1294	U	Sidechain
25	LA	1296	G	Sidechain
25	LA	1299	G	Sidechain
25	LA	1307	A	Sidechain
25	LA	1310	G	Sidechain
25	LA	1311	G	Sidechain
25	LA	1312	U	Sidechain
25	LA	1313	U	Sidechain
25	LA	1314	C	Sidechain
25	LA	1316	U	Sidechain
25	LA	1318	U	Sidechain
25	LA	1321	A	Sidechain
25	LA	1324	G	Sidechain
25	LA	1326	U	Sidechain
25	LA	1327	A	Sidechain
25	LA	1330	C	Sidechain
25	LA	1332	G	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	1338	G	Sidechain
25	LA	1340	U	Sidechain
25	LA	1345	C	Sidechain
25	LA	1354	A	Sidechain
25	LA	1356	G	Sidechain
25	LA	1357	C	Sidechain
25	LA	1358	G	Sidechain
25	LA	136	G	Sidechain
25	LA	1360	G	Sidechain
25	LA	1363	C	Sidechain
25	LA	1364	G	Sidechain
25	LA	1370	C	Sidechain
25	LA	1372	U	Sidechain
25	LA	1377	G	Sidechain
25	LA	1378	A	Sidechain
25	LA	1379	U	Sidechain
25	LA	1381	G	Sidechain
25	LA	1382	G	Sidechain
25	LA	1388	G	Sidechain
25	LA	1389	G	Sidechain
25	LA	1390	U	Sidechain
25	LA	1393	A	Sidechain
25	LA	1396	U	Sidechain
25	LA	1398	C	Sidechain
25	LA	1400	U	Sidechain
25	LA	1406	U	Sidechain
25	LA	1407	G	Sidechain
25	LA	1408	G	Sidechain
25	LA	1412	U	Sidechain
25	LA	1417	C	Sidechain
25	LA	1419	A	Sidechain
25	LA	1431	A	Sidechain
25	LA	144	A	Sidechain
25	LA	1440	U	Sidechain
25	LA	1443	U	Sidechain
25	LA	1447	C	Sidechain
25	LA	1449	G	Sidechain
25	LA	1450	G	Sidechain
25	LA	1458	U	Sidechain
25	LA	1459	G	Sidechain
25	LA	146	A	Sidechain
25	LA	1469	A	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	147	C	Sidechain
25	LA	1472	C	Sidechain
25	LA	1474	U	Sidechain
25	LA	1478	G	Sidechain
25	LA	1481	U	Sidechain
25	LA	1485	U	Sidechain
25	LA	1496	A	Sidechain
25	LA	1497	U	Sidechain
25	LA	15	G	Sidechain
25	LA	1506	U	Sidechain
25	LA	1508	A	Sidechain
25	LA	1510	G	Sidechain
25	LA	1513	U	Sidechain
25	LA	1514	G	Sidechain
25	LA	1516	G	Sidechain
25	LA	152	A	Sidechain
25	LA	1523	U	Sidechain
25	LA	1524	G	Sidechain
25	LA	1530	G	Sidechain
25	LA	1532	A	Sidechain
25	LA	1533	C	Sidechain
25	LA	1537	G	Sidechain
25	LA	1539	U	Sidechain
25	LA	1540	G	Sidechain
25	LA	1552	A	Sidechain
25	LA	1561	C	Sidechain
25	LA	1564	C	Sidechain
25	LA	1565	C	Sidechain
25	LA	1566	A	Sidechain
25	LA	1567	G	Sidechain
25	LA	1568	G	Sidechain
25	LA	1569	A	Sidechain
25	LA	1570	A	Sidechain
25	LA	1572	A	Sidechain
25	LA	1576	U	Sidechain
25	LA	1578	U	Sidechain
25	LA	1583	A	Sidechain
25	LA	1584	U	Sidechain
25	LA	1586	A	Sidechain
25	LA	1596	A	Sidechain
25	LA	16	C	Sidechain
25	LA	160	A	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	1610	A	Sidechain
25	LA	1613	G	Sidechain
25	LA	1614	A	Sidechain
25	LA	1615	C	Sidechain
25	LA	1621	U	Sidechain
25	LA	1622	G	Sidechain
25	LA	1624	U	Sidechain
25	LA	1629	U	Sidechain
25	LA	1633	G	Sidechain
25	LA	1636	U	Sidechain
25	LA	1638	C	Sidechain
25	LA	1641	A	Sidechain
25	LA	1642	G	Sidechain
25	LA	1643	G	Sidechain
25	LA	1644	C	Sidechain
25	LA	1646	C	Sidechain
25	LA	1647	U	Sidechain
25	LA	1649	G	Sidechain
25	LA	1657	U	Sidechain
25	LA	1666	G	Sidechain
25	LA	1668	A	Sidechain
25	LA	1672	A	Sidechain
25	LA	1674	G	Sidechain
25	LA	1675	C	Sidechain
25	LA	1676	A	Sidechain
25	LA	1677	A	Sidechain
25	LA	1678	A	Sidechain
25	LA	1680	U	Sidechain
25	LA	1681	G	Sidechain
25	LA	1683	U	Sidechain
25	LA	1689	A	Sidechain
25	LA	169	G	Sidechain
25	LA	1690	A	Sidechain
25	LA	1692	U	Sidechain
25	LA	1693	U	Sidechain
25	LA	1699	G	Sidechain
25	LA	170	U	Sidechain
25	LA	1704	C	Sidechain
25	LA	1707	G	Sidechain
25	LA	1715	G	Sidechain
25	LA	1719	G	Sidechain
25	LA	1720	U	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	1721	G	Sidechain
25	LA	1723	G	Sidechain
25	LA	1724	G	Sidechain
25	LA	1727	C	Sidechain
25	LA	1731	G	Sidechain
25	LA	1736	U	Sidechain
25	LA	1737	G	Sidechain
25	LA	1738	G	Sidechain
25	LA	1741	C	Sidechain
25	LA	1744	A	Sidechain
25	LA	1747	U	Sidechain
25	LA	175	G	Sidechain
25	LA	1756	G	Sidechain
25	LA	1760	C	Sidechain
25	LA	1766	G	Sidechain
25	LA	1769	U	Sidechain
25	LA	177	G	Sidechain
25	LA	1771	C	Sidechain
25	LA	1777	U	Sidechain
25	LA	1779	U	Sidechain
25	LA	1781	U	Sidechain
25	LA	1782	U	Sidechain
25	LA	1783	A	Sidechain
25	LA	1784	A	Sidechain
25	LA	1795	C	Sidechain
25	LA	1803	A	Sidechain
25	LA	1807	G	Sidechain
25	LA	1808	A	Sidechain
25	LA	1813	G	Sidechain
25	LA	1824	G	Sidechain
25	LA	1825	U	Sidechain
25	LA	1826	G	Sidechain
25	LA	1827	U	Sidechain
25	LA	1829	A	Sidechain
25	LA	1830	C	Sidechain
25	LA	1832	C	Sidechain
25	LA	1834	U	Sidechain
25	LA	1835	G	Sidechain
25	LA	1838	C	Sidechain
25	LA	1841	U	Sidechain
25	LA	1845	G	Sidechain
25	LA	1848	A	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	1849	G	Sidechain
25	LA	185	G	Sidechain
25	LA	1850	G	Sidechain
25	LA	1851	U	Sidechain
25	LA	1852	U	Sidechain
25	LA	1857	G	Sidechain
25	LA	186	G	Sidechain
25	LA	1862	G	Sidechain
25	LA	1863	G	Sidechain
25	LA	1865	U	Sidechain
25	LA	1869	G	Sidechain
25	LA	187	G	Sidechain
25	LA	1872	A	Sidechain
25	LA	1876	A	Sidechain
25	LA	1880	U	Sidechain
25	LA	1890	A	Sidechain
25	LA	1893	C	Sidechain
25	LA	1896	G	Sidechain
25	LA	1897	G	Sidechain
25	LA	1898	U	Sidechain
25	LA	1899	A	Sidechain
25	LA	1900	A	Sidechain
25	LA	1901	A	Sidechain
25	LA	1902	C	Sidechain
25	LA	1903	G	Sidechain
25	LA	1904	G	Sidechain
25	LA	1905	C	Sidechain
25	LA	1907	G	Sidechain
25	LA	191	A	Sidechain
25	LA	1911	U	Sidechain
25	LA	1913	A	Sidechain
25	LA	1915	U	Sidechain
25	LA	1917	U	Sidechain
25	LA	1925	C	Sidechain
25	LA	1926	U	Sidechain
25	LA	1927	A	Sidechain
25	LA	1929	G	Sidechain
25	LA	1930	G	Sidechain
25	LA	1931	U	Sidechain
25	LA	1932	A	Sidechain
25	LA	1935	G	Sidechain
25	LA	1936	A	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	194	G	Sidechain
25	LA	1942	C	Sidechain
25	LA	1943	U	Sidechain
25	LA	1944	U	Sidechain
25	LA	1949	G	Sidechain
25	LA	1951	U	Sidechain
25	LA	1952	A	Sidechain
25	LA	1955	U	Sidechain
25	LA	1956	U	Sidechain
25	LA	1959	G	Sidechain
25	LA	196	A	Sidechain
25	LA	1961	C	Sidechain
25	LA	1962	C	Sidechain
25	LA	1964	G	Sidechain
25	LA	1968	G	Sidechain
25	LA	1974	C	Sidechain
25	LA	1975	G	Sidechain
25	LA	1976	U	Sidechain
25	LA	1978	A	Sidechain
25	LA	1979	U	Sidechain
25	LA	1983	G	Sidechain
25	LA	199	A	Sidechain
25	LA	1991	U	Sidechain
25	LA	1992	G	Sidechain
25	LA	1993	U	Sidechain
25	LA	1995	U	Sidechain
25	LA	1996	C	Sidechain
25	LA	2	G	Sidechain
25	LA	200	U	Sidechain
25	LA	2010	G	Sidechain
25	LA	2015	A	Sidechain
25	LA	2016	U	Sidechain
25	LA	2017	U	Sidechain
25	LA	202	U	Sidechain
25	LA	2022	U	Sidechain
25	LA	2023	C	Sidechain
25	LA	2026	U	Sidechain
25	LA	2027	G	Sidechain
25	LA	2029	G	Sidechain
25	LA	2030	C	Sidechain
25	LA	2034	U	Sidechain
25	LA	2037	A	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	2038	G	Sidechain
25	LA	2041	U	Sidechain
25	LA	2045	C	Sidechain
25	LA	2049	G	Sidechain
25	LA	205	G	Sidechain
25	LA	2050	C	Sidechain
25	LA	2053	G	Sidechain
25	LA	2054	A	Sidechain
25	LA	2056	G	Sidechain
25	LA	2057	G	Sidechain
25	LA	206	U	Sidechain
25	LA	2060	A	Sidechain
25	LA	2061	G	Sidechain
25	LA	2062	A	Sidechain
25	LA	2065	C	Sidechain
25	LA	2068	U	Sidechain
25	LA	2069	G	Sidechain
25	LA	207	A	Sidechain
25	LA	2073	C	Sidechain
25	LA	2074	U	Sidechain
25	LA	2075	U	Sidechain
25	LA	2076	U	Sidechain
25	LA	2078	C	Sidechain
25	LA	2082	A	Sidechain
25	LA	2083	G	Sidechain
25	LA	2087	G	Sidechain
25	LA	2088	A	Sidechain
25	LA	2090	A	Sidechain
25	LA	2091	C	Sidechain
25	LA	2092	U	Sidechain
25	LA	2093	G	Sidechain
25	LA	2094	A	Sidechain
25	LA	2099	U	Sidechain
25	LA	2102	G	Sidechain
25	LA	2109	U	Sidechain
25	LA	2110	G	Sidechain
25	LA	2111	U	Sidechain
25	LA	2112	G	Sidechain
25	LA	2113	U	Sidechain
25	LA	2118	U	Sidechain
25	LA	2121	G	Sidechain
25	LA	2124	G	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	2125	G	Sidechain
25	LA	2126	A	Sidechain
25	LA	2127	G	Sidechain
25	LA	2132	U	Sidechain
25	LA	2133	G	Sidechain
25	LA	2134	A	Sidechain
25	LA	2135	A	Sidechain
25	LA	2136	G	Sidechain
25	LA	2137	U	Sidechain
25	LA	2139	U	Sidechain
25	LA	2141	G	Sidechain
25	LA	2144	G	Sidechain
25	LA	2148	G	Sidechain
25	LA	2149	U	Sidechain
25	LA	215	G	Sidechain
25	LA	2154	A	Sidechain
25	LA	2156	G	Sidechain
25	LA	2157	G	Sidechain
25	LA	2160	C	Sidechain
25	LA	2165	C	Sidechain
25	LA	2172	U	Sidechain
25	LA	2173	A	Sidechain
25	LA	2175	C	Sidechain
25	LA	2176	A	Sidechain
25	LA	2179	C	Sidechain
25	LA	2180	U	Sidechain
25	LA	2183	A	Sidechain
25	LA	2186	G	Sidechain
25	LA	2187	U	Sidechain
25	LA	2188	U	Sidechain
25	LA	2190	G	Sidechain
25	LA	2192	U	Sidechain
25	LA	2195	U	Sidechain
25	LA	2197	U	Sidechain
25	LA	2201	G	Sidechain
25	LA	2203	U	Sidechain
25	LA	2208	C	Sidechain
25	LA	221	A	Sidechain
25	LA	2210	U	Sidechain
25	LA	2213	U	Sidechain
25	LA	2215	C	Sidechain
25	LA	2216	G	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	2217	G	Sidechain
25	LA	2219	U	Sidechain
25	LA	2220	U	Sidechain
25	LA	2221	G	Sidechain
25	LA	2223	G	Sidechain
25	LA	2227	A	Sidechain
25	LA	2228	G	Sidechain
25	LA	2230	G	Sidechain
25	LA	2233	U	Sidechain
25	LA	2240	U	Sidechain
25	LA	2241	A	Sidechain
25	LA	2243	U	Sidechain
25	LA	2244	U	Sidechain
25	LA	2246	G	Sidechain
25	LA	2248	C	Sidechain
25	LA	2249	U	Sidechain
25	LA	2251	G	Sidechain
25	LA	2252	G	Sidechain
25	LA	2254	C	Sidechain
25	LA	2257	U	Sidechain
25	LA	2258	C	Sidechain
25	LA	2262	U	Sidechain
25	LA	2265	U	Sidechain
25	LA	2266	A	Sidechain
25	LA	2267	A	Sidechain
25	LA	2270	A	Sidechain
25	LA	2272	U	Sidechain
25	LA	2273	A	Sidechain
25	LA	2274	A	Sidechain
25	LA	2275	C	Sidechain
25	LA	2279	G	Sidechain
25	LA	228	C	Sidechain
25	LA	2282	G	Sidechain
25	LA	2284	A	Sidechain
25	LA	2285	C	Sidechain
25	LA	2289	G	Sidechain
25	LA	2293	G	Sidechain
25	LA	2294	G	Sidechain
25	LA	2297	A	Sidechain
25	LA	230	G	Sidechain
25	LA	2302	U	Sidechain
25	LA	2303	G	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	2304	G	Sidechain
25	LA	2305	U	Sidechain
25	LA	2314	A	Sidechain
25	LA	2319	G	Sidechain
25	LA	2323	G	Sidechain
25	LA	2324	U	Sidechain
25	LA	2325	G	Sidechain
25	LA	2327	A	Sidechain
25	LA	2329	U	Sidechain
25	LA	233	A	Sidechain
25	LA	2330	G	Sidechain
25	LA	2331	G	Sidechain
25	LA	2333	A	Sidechain
25	LA	2337	G	Sidechain
25	LA	2342	C	Sidechain
25	LA	2351	G	Sidechain
25	LA	2352	A	Sidechain
25	LA	2353	G	Sidechain
25	LA	2355	G	Sidechain
25	LA	2360	G	Sidechain
25	LA	2362	C	Sidechain
25	LA	2366	A	Sidechain
25	LA	2375	G	Sidechain
25	LA	2383	G	Sidechain
25	LA	2387	U	Sidechain
25	LA	2388	A	Sidechain
25	LA	2398	U	Sidechain
25	LA	24	G	Sidechain
25	LA	240	C	Sidechain
25	LA	2402	U	Sidechain
25	LA	2403	C	Sidechain
25	LA	2404	U	Sidechain
25	LA	2405	G	Sidechain
25	LA	2411	A	Sidechain
25	LA	2419	U	Sidechain
25	LA	2420	C	Sidechain
25	LA	2429	G	Sidechain
25	LA	243	U	Sidechain
25	LA	2438	U	Sidechain
25	LA	2443	C	Sidechain
25	LA	2445	G	Sidechain
25	LA	2446	G	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	2448	A	Sidechain
25	LA	2451	A	Sidechain
25	LA	2452	C	Sidechain
25	LA	2454	G	Sidechain
25	LA	2455	G	Sidechain
25	LA	2458	G	Sidechain
25	LA	2459	A	Sidechain
25	LA	2464	G	Sidechain
25	LA	2468	A	Sidechain
25	LA	2471	A	Sidechain
25	LA	2472	G	Sidechain
25	LA	2473	U	Sidechain
25	LA	2474	U	Sidechain
25	LA	2475	C	Sidechain
25	LA	2477	U	Sidechain
25	LA	2479	U	Sidechain
25	LA	2482	A	Sidechain
25	LA	2488	G	Sidechain
25	LA	249	C	Sidechain
25	LA	2490	G	Sidechain
25	LA	2491	U	Sidechain
25	LA	2492	U	Sidechain
25	LA	2495	G	Sidechain
25	LA	2499	C	Sidechain
25	LA	25	U	Sidechain
25	LA	250	G	Sidechain
25	LA	2500	U	Sidechain
25	LA	2501	C	Sidechain
25	LA	2504	U	Sidechain
25	LA	2505	G	Sidechain
25	LA	2508	G	Sidechain
25	LA	251	A	Sidechain
25	LA	2511	U	Sidechain
25	LA	2512	C	Sidechain
25	LA	2513	A	Sidechain
25	LA	2514	U	Sidechain
25	LA	252	G	Sidechain
25	LA	2520	C	Sidechain
25	LA	2522	U	Sidechain
25	LA	2523	G	Sidechain
25	LA	2524	G	Sidechain
25	LA	2525	G	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	2528	U	Sidechain
25	LA	2529	G	Sidechain
25	LA	2532	G	Sidechain
25	LA	2533	U	Sidechain
25	LA	2538	C	Sidechain
25	LA	2544	G	Sidechain
25	LA	2545	G	Sidechain
25	LA	2546	U	Sidechain
25	LA	2547	A	Sidechain
25	LA	2548	U	Sidechain
25	LA	2549	G	Sidechain
25	LA	255	A	Sidechain
25	LA	2552	U	Sidechain
25	LA	2553	G	Sidechain
25	LA	2554	U	Sidechain
25	LA	2555	U	Sidechain
25	LA	2560	A	Sidechain
25	LA	2564	A	Sidechain
25	LA	2567	G	Sidechain
25	LA	2568	U	Sidechain
25	LA	2570	G	Sidechain
25	LA	2571	U	Sidechain
25	LA	2572	A	Sidechain
25	LA	2576	G	Sidechain
25	LA	2577	A	Sidechain
25	LA	2578	G	Sidechain
25	LA	258	G	Sidechain
25	LA	2582	G	Sidechain
25	LA	2584	U	Sidechain
25	LA	2585	U	Sidechain
25	LA	2589	A	Sidechain
25	LA	2591	C	Sidechain
25	LA	2592	G	Sidechain
25	LA	2596	U	Sidechain
25	LA	26	G	Sidechain
25	LA	2601	C	Sidechain
25	LA	2602	A	Sidechain
25	LA	2603	G	Sidechain
25	LA	2604	U	Sidechain
25	LA	2607	G	Sidechain
25	LA	2608	G	Sidechain
25	LA	2609	U	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	2611	C	Sidechain
25	LA	2615	U	Sidechain
25	LA	2617	U	Sidechain
25	LA	2618	G	Sidechain
25	LA	2620	C	Sidechain
25	LA	263	G	Sidechain
25	LA	2637	U	Sidechain
25	LA	2641	G	Sidechain
25	LA	2642	G	Sidechain
25	LA	2645	G	Sidechain
25	LA	2647	U	Sidechain
25	LA	2653	U	Sidechain
25	LA	2655	G	Sidechain
25	LA	2656	U	Sidechain
25	LA	2657	A	Sidechain
25	LA	2659	G	Sidechain
25	LA	2664	G	Sidechain
25	LA	2667	C	Sidechain
25	LA	2668	G	Sidechain
25	LA	2672	U	Sidechain
25	LA	2673	G	Sidechain
25	LA	2677	G	Sidechain
25	LA	2680	U	Sidechain
25	LA	2689	U	Sidechain
25	LA	2691	C	Sidechain
25	LA	2696	U	Sidechain
25	LA	2698	U	Sidechain
25	LA	2699	C	Sidechain
25	LA	27	G	Sidechain
25	LA	2701	U	Sidechain
25	LA	2702	G	Sidechain
25	LA	2703	C	Sidechain
25	LA	2713	U	Sidechain
25	LA	2723	C	Sidechain
25	LA	2728	U	Sidechain
25	LA	2729	G	Sidechain
25	LA	273	G	Sidechain
25	LA	2731	G	Sidechain
25	LA	2733	A	Sidechain
25	LA	2735	G	Sidechain
25	LA	2739	U	Sidechain
25	LA	2745	C	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	2751	G	Sidechain
25	LA	2754	U	Sidechain
25	LA	2755	C	Sidechain
25	LA	276	U	Sidechain
25	LA	2760	C	Sidechain
25	LA	2763	G	Sidechain
25	LA	2767	C	Sidechain
25	LA	2777	G	Sidechain
25	LA	2779	U	Sidechain
25	LA	2780	G	Sidechain
25	LA	2782	G	Sidechain
25	LA	2784	U	Sidechain
25	LA	2787	C	Sidechain
25	LA	2791	G	Sidechain
25	LA	2794	C	Sidechain
25	LA	2796	U	Sidechain
25	LA	2799	A	Sidechain
25	LA	2803	G	Sidechain
25	LA	2806	C	Sidechain
25	LA	2807	U	Sidechain
25	LA	2812	G	Sidechain
25	LA	2814	A	Sidechain
25	LA	2816	G	Sidechain
25	LA	2820	A	Sidechain
25	LA	2822	G	Sidechain
25	LA	2823	A	Sidechain
25	LA	2824	C	Sidechain
25	LA	2825	G	Sidechain
25	LA	2826	A	Sidechain
25	LA	2832	U	Sidechain
25	LA	2834	G	Sidechain
25	LA	2836	U	Sidechain
25	LA	2839	G	Sidechain
25	LA	284	U	Sidechain
25	LA	2844	G	Sidechain
25	LA	2848	G	Sidechain
25	LA	2849	U	Sidechain
25	LA	2867	G	Sidechain
25	LA	2875	C	Sidechain
25	LA	2877	G	Sidechain
25	LA	2879	A	Sidechain
25	LA	2882	A	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	2884	U	Sidechain
25	LA	289	G	Sidechain
25	LA	2891	U	Sidechain
25	LA	2892	G	Sidechain
25	LA	2894	G	Sidechain
25	LA	2895	G	Sidechain
25	LA	2896	C	Sidechain
25	LA	29	U	Sidechain
25	LA	2902	C	Sidechain
25	LA	2904	U	Sidechain
25	LA	291	G	Sidechain
25	LA	294	A	Sidechain
25	LA	303	G	Sidechain
25	LA	305	C	Sidechain
25	LA	311	A	Sidechain
25	LA	312	G	Sidechain
25	LA	313	G	Sidechain
25	LA	319	G	Sidechain
25	LA	320	A	Sidechain
25	LA	330	A	Sidechain
25	LA	337	C	Sidechain
25	LA	34	U	Sidechain
25	LA	342	A	Sidechain
25	LA	345	A	Sidechain
25	LA	349	U	Sidechain
25	LA	354	A	Sidechain
25	LA	358	U	Sidechain
25	LA	36	G	Sidechain
25	LA	361	G	Sidechain
25	LA	370	G	Sidechain
25	LA	384	A	Sidechain
25	LA	387	U	Sidechain
25	LA	388	G	Sidechain
25	LA	390	U	Sidechain
25	LA	395	U	Sidechain
25	LA	399	U	Sidechain
25	LA	403	U	Sidechain
25	LA	404	A	Sidechain
25	LA	406	G	Sidechain
25	LA	411	G	Sidechain
25	LA	412	A	Sidechain
25	LA	413	C	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	43	G	Sidechain
25	LA	436	C	Sidechain
25	LA	437	U	Sidechain
25	LA	441	U	Sidechain
25	LA	442	G	Sidechain
25	LA	445	C	Sidechain
25	LA	446	G	Sidechain
25	LA	451	U	Sidechain
25	LA	454	A	Sidechain
25	LA	456	C	Sidechain
25	LA	459	U	Sidechain
25	LA	462	C	Sidechain
25	LA	464	U	Sidechain
25	LA	465	G	Sidechain
25	LA	466	A	Sidechain
25	LA	47	C	Sidechain
25	LA	472	A	Sidechain
25	LA	477	A	Sidechain
25	LA	48	G	Sidechain
25	LA	489	G	Sidechain
25	LA	49	A	Sidechain
25	LA	491	G	Sidechain
25	LA	496	G	Sidechain
25	LA	50	U	Sidechain
25	LA	500	G	Sidechain
25	LA	503	A	Sidechain
25	LA	506	G	Sidechain
25	LA	511	U	Sidechain
25	LA	512	G	Sidechain
25	LA	514	A	Sidechain
25	LA	516	C	Sidechain
25	LA	517	C	Sidechain
25	LA	519	U	Sidechain
25	LA	52	A	Sidechain
25	LA	521	U	Sidechain
25	LA	524	G	Sidechain
25	LA	525	U	Sidechain
25	LA	528	A	Sidechain
25	LA	535	G	Sidechain
25	LA	537	G	Sidechain
25	LA	539	G	Sidechain
25	LA	541	A	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	549	G	Sidechain
25	LA	550	C	Sidechain
25	LA	558	U	Sidechain
25	LA	561	G	Sidechain
25	LA	562	U	Sidechain
25	LA	569	U	Sidechain
25	LA	570	G	Sidechain
25	LA	571	U	Sidechain
25	LA	572	A	Sidechain
25	LA	577	G	Sidechain
25	LA	582	A	Sidechain
25	LA	583	G	Sidechain
25	LA	584	C	Sidechain
25	LA	585	G	Sidechain
25	LA	589	U	Sidechain
25	LA	592	A	Sidechain
25	LA	594	U	Sidechain
25	LA	60	G	Sidechain
25	LA	603	A	Sidechain
25	LA	607	U	Sidechain
25	LA	616	A	Sidechain
25	LA	620	G	Sidechain
25	LA	624	C	Sidechain
25	LA	633	A	Sidechain
25	LA	636	G	Sidechain
25	LA	640	C	Sidechain
25	LA	641	U	Sidechain
25	LA	642	U	Sidechain
25	LA	644	A	Sidechain
25	LA	646	U	Sidechain
25	LA	65	U	Sidechain
25	LA	651	G	Sidechain
25	LA	652	U	Sidechain
25	LA	653	U	Sidechain
25	LA	654	A	Sidechain
25	LA	662	G	Sidechain
25	LA	663	G	Sidechain
25	LA	664	G	Sidechain
25	LA	666	A	Sidechain
25	LA	668	A	Sidechain
25	LA	670	A	Sidechain
25	LA	680	C	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	682	G	Sidechain
25	LA	686	U	Sidechain
25	LA	687	C	Sidechain
25	LA	694	U	Sidechain
25	LA	695	G	Sidechain
25	LA	696	G	Sidechain
25	LA	700	G	Sidechain
25	LA	701	G	Sidechain
25	LA	703	U	Sidechain
25	LA	704	G	Sidechain
25	LA	707	G	Sidechain
25	LA	708	G	Sidechain
25	LA	711	G	Sidechain
25	LA	712	G	Sidechain
25	LA	718	A	Sidechain
25	LA	72	U	Sidechain
25	LA	726	G	Sidechain
25	LA	731	C	Sidechain
25	LA	733	G	Sidechain
25	LA	738	G	Sidechain
25	LA	74	A	Sidechain
25	LA	741	U	Sidechain
25	LA	744	U	Sidechain
25	LA	745	G	Sidechain
25	LA	746	U	Sidechain
25	LA	747	U	Sidechain
25	LA	748	G	Sidechain
25	LA	749	A	Sidechain
25	LA	75	G	Sidechain
25	LA	750	A	Sidechain
25	LA	752	A	Sidechain
25	LA	753	A	Sidechain
25	LA	754	U	Sidechain
25	LA	757	G	Sidechain
25	LA	767	U	Sidechain
25	LA	773	U	Sidechain
25	LA	777	G	Sidechain
25	LA	778	G	Sidechain
25	LA	779	U	Sidechain
25	LA	780	G	Sidechain
25	LA	783	A	Sidechain
25	LA	786	C	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	789	A	Sidechain
25	LA	79	C	Sidechain
25	LA	790	U	Sidechain
25	LA	793	A	Sidechain
25	LA	803	U	Sidechain
25	LA	805	G	Sidechain
25	LA	806	C	Sidechain
25	LA	810	U	Sidechain
25	LA	811	U	Sidechain
25	LA	813	U	Sidechain
25	LA	82	U	Sidechain
25	LA	822	G	Sidechain
25	LA	823	C	Sidechain
25	LA	824	U	Sidechain
25	LA	827	U	Sidechain
25	LA	828	U	Sidechain
25	LA	829	A	Sidechain
25	LA	83	A	Sidechain
25	LA	830	G	Sidechain
25	LA	834	G	Sidechain
25	LA	841	G	Sidechain
25	LA	844	A	Sidechain
25	LA	845	A	Sidechain
25	LA	852	U	Sidechain
25	LA	857	G	Sidechain
25	LA	858	G	Sidechain
25	LA	859	G	Sidechain
25	LA	86	G	Sidechain
25	LA	860	U	Sidechain
25	LA	862	G	Sidechain
25	LA	863	A	Sidechain
25	LA	872	U	Sidechain
25	LA	873	C	Sidechain
25	LA	875	G	Sidechain
25	LA	876	C	Sidechain
25	LA	877	A	Sidechain
25	LA	881	G	Sidechain
25	LA	883	G	Sidechain
25	LA	888	C	Sidechain
25	LA	892	A	Sidechain
25	LA	894	U	Sidechain
25	LA	895	U	Sidechain

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Mol	Chain	Res	Type	Group
25	LA	898	C	Sidechain
25	LA	900	A	Sidechain
25	LA	906	U	Sidechain
25	LA	907	G	Sidechain
25	LA	910	A	Sidechain
25	LA	913	U	Sidechain
25	LA	914	G	Sidechain
25	LA	916	G	Sidechain
25	LA	919	U	Sidechain
25	LA	923	G	Sidechain
25	LA	927	A	Sidechain
25	LA	931	U	Sidechain
25	LA	932	U	Sidechain
25	LA	934	U	Sidechain
25	LA	938	G	Sidechain
25	LA	945	A	Sidechain
25	LA	948	C	Sidechain
25	LA	950	G	Sidechain
25	LA	952	G	Sidechain
25	LA	953	G	Sidechain
25	LA	954	G	Sidechain
25	LA	955	U	Sidechain
25	LA	958	U	Sidechain
25	LA	968	C	Sidechain
25	LA	969	G	Sidechain
25	LA	97	C	Sidechain
25	LA	970	U	Sidechain
25	LA	974	G	Sidechain
25	LA	980	A	Sidechain
25	LA	983	A	Sidechain
25	LA	984	A	Sidechain
25	LA	989	G	Sidechain
25	LA	994	C	Sidechain
25	LA	995	C	Sidechain
25	LA	999	U	Sidechain
26	LB	1	U	Sidechain
26	LB	100	G	Sidechain
26	LB	102	G	Sidechain
26	LB	105	G	Sidechain
26	LB	19	C	Sidechain
26	LB	24	G	Sidechain
26	LB	32	U	Sidechain

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Mol	Chain	Res	Type	Group
26	LB	34	A	Sidechain
26	LB	41	G	Sidechain
26	LB	6	G	Sidechain
26	LB	61	G	Sidechain
26	LB	67	G	Sidechain
26	LB	69	G	Sidechain
26	LB	7	G	Sidechain
26	LB	77	U	Sidechain
26	LB	79	G	Sidechain
26	LB	80	U	Sidechain
26	LB	83	G	Sidechain
26	LB	84	G	Sidechain
26	LB	95	U	Sidechain
26	LB	98	G	Sidechain
27	LC	163	TYR	Sidechain
27	LC	164	ARG	Sidechain
27	LC	56	ASP	Peptide
27	LC	84	ALA	Peptide
38	LD	52	ARG	Sidechain
38	LD	61	ARG	Sidechain
38	LD	89	GLY	Peptide
48	LE	133	ARG	Sidechain
52	LF	116	ARG	Sidechain
52	LF	34	ARG	Sidechain
52	LF	5	THR	Peptide
52	LF	69	ARG	Sidechain
52	LF	74	TYR	Sidechain
52	LF	75	TYR	Sidechain
53	LG	117	SER	Peptide
53	LG	30	ARG	Sidechain
53	LG	31	ARG	Sidechain
53	LG	64	ARG	Sidechain
54	LH	126	ARG	Sidechain
54	LH	21	ARG	Sidechain
54	LH	28	GLY	Peptide
54	LH	33	ARG	Sidechain
54	LH	60	ARG	Sidechain
55	LI	81	ARG	Sidechain
56	LJ	103	ARG	Sidechain
56	LJ	2	ARG	Sidechain
56	LJ	4	ARG	Sidechain
56	LJ	45	ARG	Sidechain

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Mol	Chain	Res	Type	Group
56	LJ	8	ARG	Sidechain
56	LJ	86	ARG	Sidechain
57	LK	111	ARG	Sidechain
57	LK	13	ARG	Sidechain
57	LK	16	ARG	Sidechain
28	LM	20	ARG	Sidechain
28	LM	38	ARG	Sidechain
28	LM	48	ALA	Peptide
28	LM	92	ARG	Sidechain
28	LM	97	TYR	Sidechain
29	LN	102	TYR	Sidechain
29	LN	12	ARG	Sidechain
29	LN	170	TYR	Sidechain
29	LN	176	ARG	Sidechain
29	LN	194	VAL	Peptide
29	LN	211	ARG	Sidechain
29	LN	225	ASN	Peptide
29	LN	79	ARG	Sidechain
29	LN	82	TYR	Sidechain
30	LO	12	ARG	Sidechain
30	LO	27	ARG	Sidechain
30	LO	49	ARG	Sidechain
30	LO	63	ARG	Sidechain
31	LP	52	PRO	Peptide
32	LQ	8	ARG	Sidechain
32	LQ	88	ARG	Sidechain
34	LS	14	THR	Peptide
34	LS	6	ARG	Sidechain
34	LS	81	ARG	Sidechain
35	LT	82	TYR	Sidechain
35	LT	93	ARG	Sidechain
36	LU	10	ARG	Peptide
36	LU	14	ASP	Peptide
36	LU	16	GLU	Peptide
36	LU	38	ARG	Sidechain
36	LU	39	GLN	Peptide
37	LV	10	ARG	Sidechain
37	LV	44	ARG	Sidechain
37	LV	71	ARG	Sidechain
39	LW	37	LEU	Peptide
39	LW	38	GLN	Peptide
39	LW	52	ARG	Sidechain

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Mol	Chain	Res	Type	Group
39	LW	7	ARG	Sidechain
40	LX	117	GLY	Peptide
40	LX	128	ARG	Sidechain
40	LX	13	ARG	Sidechain
40	LX	166	GLY	Peptide
40	LX	179	ARG	Sidechain
40	LX	43	ASP	Peptide
40	LX	45	TYR	Sidechain
40	LX	46	ARG	Sidechain
40	LX	59	ARG	Sidechain
40	LX	83	ARG	Sidechain
41	LY	15	ARG	Sidechain
58	LZ	15	SER	Peptide
58	LZ	49	ARG	Sidechain
58	LZ	6	HIS	Peptide
58	LZ	9	TYR	Sidechain
24	S1	103	ARG	Sidechain
24	S1	132	TYR	Sidechain
24	S1	179	THR	Peptide
24	S1	193	ASN	Peptide
24	S1	303	ASP	Peptide
24	S1	338	TYR	Sidechain
24	S1	361	ARG	Sidechain
24	S1	400	ASP	Peptide
24	S1	401	ALA	Peptide
24	S1	407	ARG	Sidechain
24	S1	445	ARG	Sidechain
24	S1	474	ARG	Sidechain
24	S1	490	ARG	Sidechain
24	S1	506	LYS	Peptide
24	S1	511	ARG	Sidechain,Peptide
24	S1	568	TYR	Sidechain
24	S1	585	VAL	Peptide
24	S1	586	ASP	Peptide
2	S6	18	U	Sidechain
2	S6	2	G	Sidechain
2	S6	20	G	Sidechain
2	S6	25	U	Sidechain
2	S6	30	G	Sidechain
2	S6	32	G	Sidechain
2	S6	46	G	Sidechain
2	S6	47	A	Sidechain

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Mol	Chain	Res	Type	Group
2	S6	5	G	Sidechain
2	S6	55	U	Sidechain
2	S6	60	A	Sidechain
2	S6	7	G	Sidechain
2	S6	74	A	Sidechain
2	S6	77	A	Sidechain
2	S6	8	U	Sidechain
2	S6	9	G	Sidechain
3	S7	12	U	Sidechain
3	S7	14	A	Sidechain
3	S7	15	G	Sidechain
3	S7	16	U	Sidechain
3	S7	19	G	Sidechain
3	S7	2	C	Sidechain
3	S7	22	G	Sidechain
3	S7	27	G	Sidechain
3	S7	28	G	Sidechain
3	S7	32	U	Sidechain
3	S7	34	G	Sidechain
3	S7	37	A	Sidechain
3	S7	39	U	Sidechain
3	S7	4	C	Sidechain
3	S7	42	C	Sidechain
3	S7	44	G	Sidechain
3	S7	48	C	Sidechain
3	S7	49	C	Sidechain
3	S7	5	G	Sidechain
3	S7	50	U	Sidechain
3	S7	57	G	Sidechain
3	S7	59	U	Sidechain
3	S7	61	C	Sidechain
3	S7	64	A	Sidechain
3	S7	69	G	Sidechain
3	S7	7	A	Sidechain
3	S7	70	G	Sidechain
3	S7	71	G	Sidechain
3	S7	72	C	Sidechain
3	S7	74	C	Sidechain
3	S7	8	U	Sidechain
1	SA	100	G	Sidechain
1	SA	1000	A	Sidechain
1	SA	1010	U	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	1023	U	Sidechain
1	SA	1025	U	Sidechain
1	SA	1029	U	Sidechain
1	SA	103	U	Sidechain
1	SA	1032	G	Sidechain
1	SA	1033	G	Sidechain
1	SA	1038	C	Sidechain
1	SA	1039	G	Sidechain
1	SA	1041	G	Sidechain
1	SA	1044	A	Sidechain
1	SA	1055	A	Sidechain
1	SA	1056	U	Sidechain
1	SA	1065	U	Sidechain
1	SA	1066	C	Sidechain
1	SA	1067	A	Sidechain
1	SA	1076	U	Sidechain
1	SA	108	G	Sidechain
1	SA	1080	A	Sidechain
1	SA	1083	U	Sidechain
1	SA	1086	U	Sidechain
1	SA	109	A	Sidechain
1	SA	1091	U	Sidechain
1	SA	1094	G	Sidechain
1	SA	1099	G	Sidechain
1	SA	1108	G	Sidechain
1	SA	1115	U	Sidechain
1	SA	1116	U	Sidechain
1	SA	1124	G	Sidechain
1	SA	1126	U	Sidechain
1	SA	1129	C	Sidechain
1	SA	1133	G	Sidechain
1	SA	1134	G	Sidechain
1	SA	1135	U	Sidechain
1	SA	1139	G	Sidechain
1	SA	1140	C	Sidechain
1	SA	1143	G	Sidechain
1	SA	1145	A	Sidechain
1	SA	1153	G	Sidechain
1	SA	1164	G	Sidechain
1	SA	1167	A	Sidechain
1	SA	1170	A	Sidechain
1	SA	1175	G	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	1176	A	Sidechain
1	SA	1178	G	Sidechain
1	SA	1179	A	Sidechain
1	SA	1181	G	Sidechain
1	SA	1182	G	Sidechain
1	SA	1184	G	Sidechain
1	SA	1185	G	Sidechain
1	SA	1189	U	Sidechain
1	SA	1195	C	Sidechain
1	SA	1198	G	Sidechain
1	SA	1199	U	Sidechain
1	SA	1201	A	Sidechain
1	SA	1206	G	Sidechain
1	SA	1207	G	Sidechain
1	SA	1208	C	Sidechain
1	SA	121	U	Sidechain
1	SA	1210	C	Sidechain
1	SA	1213	A	Sidechain
1	SA	1219	A	Sidechain
1	SA	1222	G	Sidechain
1	SA	1225	A	Sidechain
1	SA	1226	C	Sidechain
1	SA	1237	C	Sidechain
1	SA	1252	A	Sidechain
1	SA	1257	A	Sidechain
1	SA	1258	G	Sidechain
1	SA	1260	G	Sidechain
1	SA	1266	G	Sidechain
1	SA	1268	G	Sidechain
1	SA	1269	A	Sidechain
1	SA	127	G	Sidechain
1	SA	1278	G	Sidechain
1	SA	1279	G	Sidechain
1	SA	1285	A	Sidechain
1	SA	130	A	Sidechain
1	SA	1303	C	Sidechain
1	SA	1304	G	Sidechain
1	SA	1306	A	Sidechain
1	SA	1307	U	Sidechain
1	SA	1313	U	Sidechain
1	SA	1318	A	Sidechain
1	SA	1321	U	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	1322	C	Sidechain
1	SA	1326	U	Sidechain
1	SA	1327	C	Sidechain
1	SA	1337	G	Sidechain
1	SA	1338	G	Sidechain
1	SA	1341	U	Sidechain
1	SA	1344	C	Sidechain
1	SA	1345	U	Sidechain
1	SA	1347	G	Sidechain
1	SA	1349	A	Sidechain
1	SA	1351	U	Sidechain
1	SA	1354	U	Sidechain
1	SA	1356	G	Sidechain
1	SA	1357	A	Sidechain
1	SA	1361	G	Sidechain
1	SA	1363	A	Sidechain
1	SA	1364	U	Sidechain
1	SA	1371	G	Sidechain
1	SA	1372	U	Sidechain
1	SA	1376	U	Sidechain
1	SA	1384	C	Sidechain
1	SA	1389	C	Sidechain
1	SA	139	A	Sidechain
1	SA	1391	U	Sidechain
1	SA	1392	G	Sidechain
1	SA	1398	A	Sidechain
1	SA	1399	C	Sidechain
1	SA	140	U	Sidechain
1	SA	1401	G	Sidechain
1	SA	1402	C	Sidechain
1	SA	1405	G	Sidechain
1	SA	1406	U	Sidechain
1	SA	141	G	Sidechain
1	SA	1415	G	Sidechain
1	SA	1420	U	Sidechain
1	SA	1421	G	Sidechain
1	SA	1428	A	Sidechain
1	SA	143	A	Sidechain
1	SA	1432	G	Sidechain
1	SA	1433	A	Sidechain
1	SA	1438	G	Sidechain
1	SA	1442	G	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	1446	A	Sidechain
1	SA	145	G	Sidechain
1	SA	1458	G	Sidechain
1	SA	1460	C	Sidechain
1	SA	1464	U	Sidechain
1	SA	1472	U	Sidechain
1	SA	1474	U	Sidechain
1	SA	1482	G	Sidechain
1	SA	1483	A	Sidechain
1	SA	1485	U	Sidechain
1	SA	1486	G	Sidechain
1	SA	1489	G	Sidechain
1	SA	1491	G	Sidechain
1	SA	1497	G	Sidechain
1	SA	1500	A	Sidechain
1	SA	1504	G	Sidechain
1	SA	1506	U	Sidechain
1	SA	1512	U	Sidechain
1	SA	1513	A	Sidechain
1	SA	1516	G	Sidechain
1	SA	1517	G	Sidechain
1	SA	1518	A	Sidechain
1	SA	1519	A	Sidechain
1	SA	1521	C	Sidechain
1	SA	1522	U	Sidechain
1	SA	1526	G	Sidechain
1	SA	1527	U	Sidechain
1	SA	1529	G	Sidechain
1	SA	153	C	Sidechain
1	SA	1530	G	Sidechain
1	SA	1533	C	Sidechain
1	SA	154	U	Sidechain
1	SA	1540	U	Sidechain
1	SA	159	G	Sidechain
1	SA	161	A	Sidechain
1	SA	165	G	Sidechain
1	SA	166	U	Sidechain
1	SA	171	A	Sidechain
1	SA	172	A	Sidechain
1	SA	173	U	Sidechain
1	SA	178	C	Sidechain
1	SA	182	A	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	183	C	Sidechain
1	SA	184	G	Sidechain
1	SA	185	U	Sidechain
1	SA	190	A	Sidechain
1	SA	194	C	Sidechain
1	SA	197	A	Sidechain
1	SA	20	U	Sidechain
1	SA	200	G	Sidechain
1	SA	201	G	Sidechain
1	SA	209	U	Sidechain
1	SA	21	G	Sidechain
1	SA	210	C	Sidechain
1	SA	211	G	Sidechain
1	SA	212	G	Sidechain
1	SA	214	C	Sidechain
1	SA	220	G	Sidechain
1	SA	228	A	Sidechain
1	SA	231	U	Sidechain
1	SA	236	A	Sidechain
1	SA	238	A	Sidechain
1	SA	242	G	Sidechain
1	SA	244	U	Sidechain
1	SA	245	U	Sidechain
1	SA	246	A	Sidechain
1	SA	249	U	Sidechain
1	SA	250	A	Sidechain
1	SA	251	G	Sidechain
1	SA	252	U	Sidechain
1	SA	258	G	Sidechain
1	SA	261	U	Sidechain
1	SA	262	A	Sidechain
1	SA	264	C	Sidechain
1	SA	265	G	Sidechain
1	SA	266	G	Sidechain
1	SA	271	C	Sidechain
1	SA	274	A	Sidechain
1	SA	276	G	Sidechain
1	SA	278	G	Sidechain
1	SA	281	G	Sidechain
1	SA	288	A	Sidechain
1	SA	297	G	Sidechain
1	SA	299	G	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	305	G	Sidechain
1	SA	310	G	Sidechain
1	SA	314	C	Sidechain
1	SA	317	U	Sidechain
1	SA	318	G	Sidechain
1	SA	319	G	Sidechain
1	SA	33	A	Sidechain
1	SA	331	G	Sidechain
1	SA	332	G	Sidechain
1	SA	343	U	Sidechain
1	SA	347	G	Sidechain
1	SA	351	G	Sidechain
1	SA	353	A	Sidechain
1	SA	355	C	Sidechain
1	SA	358	U	Sidechain
1	SA	361	G	Sidechain
1	SA	362	G	Sidechain
1	SA	365	U	Sidechain
1	SA	366	A	Sidechain
1	SA	367	U	Sidechain
1	SA	368	U	Sidechain
1	SA	37	U	Sidechain
1	SA	370	C	Sidechain
1	SA	377	G	Sidechain
1	SA	387	U	Sidechain
1	SA	388	G	Sidechain
1	SA	390	U	Sidechain
1	SA	394	G	Sidechain
1	SA	398	U	Sidechain
1	SA	4	U	Sidechain
1	SA	405	U	Sidechain
1	SA	410	G	Sidechain
1	SA	411	A	Sidechain
1	SA	413	G	Sidechain
1	SA	42	G	Sidechain
1	SA	423	G	Sidechain
1	SA	425	G	Sidechain
1	SA	427	U	Sidechain
1	SA	429	U	Sidechain
1	SA	434	U	Sidechain
1	SA	437	U	Sidechain
1	SA	439	U	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	441	A	Sidechain
1	SA	442	G	Sidechain
1	SA	448	A	Sidechain
1	SA	459	A	Sidechain
1	SA	46	G	Sidechain
1	SA	461	A	Sidechain
1	SA	463	U	Sidechain
1	SA	464	U	Sidechain
1	SA	466	A	Sidechain
1	SA	474	G	Sidechain
1	SA	479	U	Sidechain
1	SA	481	G	Sidechain
1	SA	486	U	Sidechain
1	SA	491	G	Sidechain
1	SA	493	A	Sidechain
1	SA	509	A	Sidechain
1	SA	51	A	Sidechain
1	SA	512	U	Sidechain
1	SA	517	G	Sidechain
1	SA	52	C	Sidechain
1	SA	521	G	Sidechain
1	SA	524	G	Sidechain
1	SA	528	C	Sidechain
1	SA	529	G	Sidechain
1	SA	530	G	Sidechain
1	SA	534	U	Sidechain
1	SA	543	U	Sidechain
1	SA	554	A	Sidechain
1	SA	555	U	Sidechain
1	SA	557	G	Sidechain
1	SA	562	U	Sidechain
1	SA	564	C	Sidechain
1	SA	570	G	Sidechain
1	SA	571	U	Sidechain
1	SA	575	G	Sidechain
1	SA	577	G	Sidechain
1	SA	58	C	Sidechain
1	SA	580	C	Sidechain
1	SA	581	G	Sidechain
1	SA	584	G	Sidechain
1	SA	587	G	Sidechain
1	SA	588	G	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	595	A	Sidechain
1	SA	60	A	Sidechain
1	SA	602	A	Sidechain
1	SA	610	U	Sidechain
1	SA	615	G	Sidechain
1	SA	616	G	Sidechain
1	SA	617	G	Sidechain
1	SA	622	A	Sidechain
1	SA	623	C	Sidechain
1	SA	625	U	Sidechain
1	SA	637	C	Sidechain
1	SA	64	G	Sidechain
1	SA	641	U	Sidechain
1	SA	646	G	Sidechain
1	SA	65	A	Sidechain
1	SA	66	A	Sidechain
1	SA	662	U	Sidechain
1	SA	664	G	Sidechain
1	SA	666	G	Sidechain
1	SA	673	A	Sidechain
1	SA	678	U	Sidechain
1	SA	684	U	Sidechain
1	SA	685	G	Sidechain
1	SA	69	G	Sidechain
1	SA	692	U	Sidechain
1	SA	693	G	Sidechain
1	SA	695	A	Sidechain
1	SA	697	U	Sidechain
1	SA	701	U	Sidechain
1	SA	703	G	Sidechain
1	SA	705	G	Sidechain
1	SA	707	U	Sidechain
1	SA	711	G	Sidechain
1	SA	713	G	Sidechain
1	SA	717	U	Sidechain
1	SA	719	C	Sidechain
1	SA	72	A	Sidechain
1	SA	720	C	Sidechain
1	SA	727	G	Sidechain
1	SA	730	G	Sidechain
1	SA	742	G	Sidechain
1	SA	745	G	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	747	A	Sidechain
1	SA	753	A	Sidechain
1	SA	757	U	Sidechain
1	SA	76	G	Sidechain
1	SA	763	G	Sidechain
1	SA	764	C	Sidechain
1	SA	765	G	Sidechain
1	SA	769	G	Sidechain
1	SA	771	G	Sidechain
1	SA	773	G	Sidechain
1	SA	774	G	Sidechain
1	SA	775	G	Sidechain
1	SA	782	A	Sidechain
1	SA	786	G	Sidechain
1	SA	789	U	Sidechain
1	SA	791	G	Sidechain
1	SA	792	A	Sidechain
1	SA	795	C	Sidechain
1	SA	798	U	Sidechain
1	SA	801	U	Sidechain
1	SA	802	A	Sidechain
1	SA	803	G	Sidechain
1	SA	806	C	Sidechain
1	SA	808	C	Sidechain
1	SA	812	G	Sidechain
1	SA	813	U	Sidechain
1	SA	815	A	Sidechain
1	SA	816	A	Sidechain
1	SA	817	C	Sidechain
1	SA	819	A	Sidechain
1	SA	820	U	Sidechain
1	SA	829	G	Sidechain
1	SA	835	U	Sidechain
1	SA	838	G	Sidechain
1	SA	842	U	Sidechain
1	SA	855	U	Sidechain
1	SA	859	G	Sidechain
1	SA	86	G	Sidechain
1	SA	860	A	Sidechain
1	SA	861	G	Sidechain
1	SA	866	C	Sidechain
1	SA	868	C	Sidechain

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Mol	Chain	Res	Type	Group
1	SA	871	U	Sidechain
1	SA	88	U	Sidechain
1	SA	880	C	Sidechain
1	SA	884	U	Sidechain
1	SA	888	G	Sidechain
1	SA	890	G	Sidechain
1	SA	899	C	Sidechain
1	SA	9	G	Sidechain
1	SA	900	A	Sidechain
1	SA	907	A	Sidechain
1	SA	915	A	Sidechain
1	SA	92	U	Sidechain
1	SA	920	U	Sidechain
1	SA	921	U	Sidechain
1	SA	925	G	Sidechain
1	SA	926	G	Sidechain
1	SA	928	G	Sidechain
1	SA	933	G	Sidechain
1	SA	943	U	Sidechain
1	SA	944	G	Sidechain
1	SA	945	G	Sidechain
1	SA	947	G	Sidechain
1	SA	956	U	Sidechain
1	SA	957	U	Sidechain
1	SA	958	A	Sidechain
1	SA	959	A	Sidechain
1	SA	961	U	Sidechain
1	SA	963	G	Sidechain
1	SA	965	U	Sidechain
1	SA	973	G	Sidechain
1	SA	975	A	Sidechain
1	SA	976	G	Sidechain
1	SA	977	A	Sidechain
1	SA	978	A	Sidechain
1	SA	979	C	Sidechain
1	SA	980	C	Sidechain
1	SA	981	U	Sidechain
1	SA	983	A	Sidechain
1	SA	992	U	Sidechain
1	SA	993	G	Sidechain
1	SA	994	A	Sidechain
1	SA	997	U	Sidechain

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Mol	Chain	Res	Type	Group
14	SB	150	ILE	Peptide
14	SB	164	ASP	Peptide
14	SB	94	ARG	Sidechain
17	SC	10	ARG	Sidechain
17	SC	105	VAL	Peptide
17	SC	131	ARG	Sidechain,Peptide
17	SC	163	ARG	Sidechain
17	SC	183	TYR	Sidechain
17	SC	187	GLU	Peptide
18	SD	102	TYR	Sidechain
18	SD	61	ARG	Sidechain
18	SD	64	TYR	Sidechain
18	SD	75	TYR	Sidechain
18	SD	80	ARG	Sidechain
18	SD	84	ASN	Peptide
19	SE	104	ILE	Peptide
19	SE	11	GLN	Peptide
19	SE	121	ASN	Peptide
19	SE	19	ARG	Sidechain
19	SE	25	LYS	Peptide
19	SE	28	ARG	Sidechain
19	SE	44	ARG	Sidechain
19	SE	49	TYR	Sidechain
20	SF	109	ARG	Sidechain
20	SF	110	ARG	Sidechain
20	SF	17	GLN	Peptide
20	SF	38	ARG	Sidechain
20	SF	44	ARG	Sidechain
20	SF	79	ARG	Sidechain
21	SG	110	ARG	Sidechain
21	SG	148	LYS	Peptide
21	SG	77	ARG	Sidechain
21	SG	94	ARG	Sidechain
22	SH	14	ARG	Sidechain
22	SH	79	ARG	Sidechain
22	SH	87	ARG	Sidechain
23	SI	118	ARG	Sidechain
23	SI	122	ARG	Sidechain
23	SI	129	ARG	Sidechain
23	SI	98	ARG	Sidechain
4	SJ	16	ARG	Sidechain
4	SJ	45	ARG	Sidechain

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Mol	Chain	Res	Type	Group
4	SJ	62	ARG	Sidechain
4	SJ	65	TYR	Sidechain
4	SJ	68	ARG	Sidechain
4	SJ	72	ARG	Sidechain
4	SJ	80	THR	Peptide
5	SK	121	ARG	Sidechain
5	SK	127	ARG	Sidechain
5	SK	3	ALA	Peptide
5	SK	52	ARG	Sidechain
5	SK	97	ARG	Sidechain
6	SL	108	ASP	Peptide
6	SL	109	ARG	Sidechain
6	SL	113	ARG	Sidechain
6	SL	114	SER	Peptide
6	SL	26	CYS	Peptide
6	SL	37	TYR	Peptide
6	SL	42	LYS	Peptide
6	SL	53	ARG	Sidechain
6	SL	82	ARG	Sidechain
7	SM	108	ARG	Sidechain
7	SM	69	ARG	Sidechain
7	SM	70	ARG	Sidechain
7	SM	97	ARG	Sidechain
8	SN	41	TRP	Peptide
8	SN	62	ARG	Sidechain
8	SN	64	ARG	Sidechain
8	SN	68	ARG	Sidechain
8	SN	8	ARG	Sidechain
9	SO	52	ARG	Sidechain
9	SO	53	ARG	Sidechain
9	SO	63	ARG	Sidechain
9	SO	71	ARG	Sidechain
10	SP	35	ARG	Sidechain
10	SP	51	ARG	Sidechain
10	SP	64	GLY	Peptide
10	SP	70	ARG	Sidechain
11	SQ	26	ARG	Sidechain
11	SQ	30	HIS	Peptide
11	SQ	5	ARG	Sidechain
11	SQ	6	THR	Peptide
12	SR	3	TYR	Sidechain
12	SR	50	TYR	Sidechain

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Mol	Chain	Res	Type	Group
12	SR	62	ARG	Sidechain
13	SS	11	ASP	Peptide
13	SS	2	ARG	Sidechain
15	ST	35	TYR	Sidechain
15	ST	73	ARG	Sidechain
16	SU	36	PHE	Peptide
16	SU	38	GLU	Peptide
16	SU	70	TYR	Sidechain

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	SA	33076	0	16648	113	0
2	S6	1639	0	837	1	0
3	S7	1577	0	800	5	0
4	SJ	825	0	865	0	0
5	SK	965	0	997	3	0
6	SL	955	0	1019	2	0
7	SM	910	0	981	2	0
8	SN	805	0	847	1	0
9	SO	716	0	742	0	0
10	SP	649	0	666	0	0
11	SQ	672	0	716	0	0
12	SR	626	0	651	0	0
13	SS	727	0	769	2	0
14	SB	1872	0	1885	1	0
15	ST	670	0	722	3	0
16	SU	590	0	631	1	0
17	SC	1822	0	1913	2	0
18	SD	1643	0	1710	2	0
19	SE	1225	0	1273	1	0
20	SF	1101	0	1050	1	0
21	SG	1400	0	1449	2	0
22	SH	979	0	1034	1	0
23	SI	1036	0	1084	0	0
24	S1	5431	0	5403	18	0
25	LA	62333	0	31349	252	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	LB	2566	0	1302	10	0
27	LC	1733	0	1824	6	0
28	LM	917	0	965	1	0
29	LN	2092	0	2170	7	0
30	LO	947	0	1022	1	0
31	LP	816	0	839	2	0
32	LQ	857	0	922	1	0
33	LR	787	0	846	0	0
34	LS	789	0	847	1	0
35	LT	753	0	780	0	0
36	LU	634	0	656	4	0
37	LV	625	0	655	0	0
38	LD	1233	0	1283	1	0
39	LW	509	0	543	2	0
40	LX	1565	0	1616	2	0
41	LY	449	0	491	1	0
42	L1	444	0	461	5	0
43	L2	441	0	485	0	0
44	L3	377	0	418	0	0
45	L4	504	0	574	0	0
46	L5	302	0	343	0	0
47	L6	1552	0	1619	3	0
48	LE	1032	0	1088	0	0
49	L7	1420	0	1460	4	0
50	L8	1323	0	1374	2	0
51	L9	1111	0	1148	0	0
52	LF	1129	0	1162	7	0
53	LG	947	0	1023	5	0
54	LH	1053	0	1129	2	0
55	LI	1074	0	1157	2	0
56	LJ	1008	0	1045	4	0
57	LK	900	0	935	0	0
58	LZ	549	0	552	1	0
59	S1	32	0	12	16	0
All	All	156714	0	108787	462	0

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

All (462) 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)
24:S1:22:LYS:CE	59:S1:801:GTP:O3G	2.13	0.97
24:S1:23:THR:N	59:S1:801:GTP:O2B	2.08	0.86
24:S1:22:LYS:HE3	59:S1:801:GTP:O3G	1.76	0.85
24:S1:144:ASP:CG	59:S1:801:GTP:HN1	1.89	0.79
21:SG:77:ARG:HE	21:SG:152:HIS:CD2	2.05	0.74
25:LA:2799:A:H3'	25:LA:2800:A:H5'	1.73	0.71
25:LA:2849:U:H3	25:LA:2867:G:H1'	1.57	0.70
24:S1:144:ASP:OD2	59:S1:801:GTP:N1	2.27	0.68
24:S1:269:PHE:HB2	59:S1:801:GTP:C5	2.29	0.67
25:LA:45:G:H4'	25:LA:46:G:H5'	1.76	0.67
25:LA:1241:A:C2	25:LA:1242:U:C4	2.87	0.63
1:SA:701:U:H4'	1:SA:702:A:OP2	1.98	0.61
17:SC:120:THR:HG23	17:SC:188:ALA:HB1	1.83	0.60
25:LA:1127:A:H61	25:LA:2488:G:H21	1.48	0.59
25:LA:1367:A:H2'	25:LA:1368:G:H5'	1.85	0.59
20:SF:43:GLY:HA2	20:SF:58:HIS:CE1	2.37	0.59
8:SN:45:LEU:H	8:SN:45:LEU:HD22	1.68	0.59
24:S1:22:LYS:HE2	59:S1:801:GTP:O3G	2.02	0.58
25:LA:877:A:H62	25:LA:900:A:H61	1.53	0.57
25:LA:82:U:H2'	25:LA:83:A:C8	2.40	0.57
25:LA:63:A:H2'	25:LA:64:A:C8	2.41	0.56
3:S7:5:G:H1	3:S7:68:C:H42	1.54	0.55
24:S1:269:PHE:CB	59:S1:801:GTP:C5	2.89	0.55
25:LA:948:C:H1'	25:LA:984:A:C8	2.42	0.55
25:LA:1615:C:C5	25:LA:1617:C:C4	2.95	0.54
1:SA:92:U:H2'	1:SA:93:U:C6	2.42	0.54
25:LA:2210:U:C6	25:LA:2212:A:C2	2.95	0.54
5:SK:93:GLU:H	5:SK:93:GLU:CD	2.15	0.54
25:LA:1763:G:H3'	25:LA:1764:C:H5''	1.89	0.54
25:LA:2657:A:C2	25:LA:2665:A:C4	2.95	0.54
25:LA:1783:A:H3'	25:LA:1783:A:C8	2.43	0.54
56:LJ:106:ASP:CG	56:LJ:107:ASN:H	2.15	0.54
25:LA:780:G:C2	25:LA:782:A:C2	2.96	0.54
25:LA:2125:G:H21	25:LA:2173:A:H62	1.56	0.54
1:SA:794:A:C5	1:SA:795:C:C5	2.94	0.54
25:LA:452:G:H2'	25:LA:453:A:C8	2.42	0.54
1:SA:1401:G:C6	1:SA:1402:C:N3	2.76	0.53
25:LA:2427:C:H5'	25:LA:2429:G:H5'	1.90	0.53
24:S1:23:THR:HG1	59:S1:801:GTP:PB	2.32	0.53
25:LA:322:A:H5'	25:LA:340:A:H1'	1.89	0.53
27:LC:112:ASP:CG	27:LC:162:ARG:HH21	2.17	0.53
25:LA:745:G:C2	25:LA:750:A:C6	2.97	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:SS:12:LEU:HD12	13:SS:12:LEU:H	1.73	0.53
1:SA:171:A:H2'	1:SA:172:A:C8	2.44	0.52
1:SA:994:A:C5	1:SA:995:C:C5	2.97	0.52
25:LA:1899:A:C2	25:LA:1902:C:N4	2.78	0.52
1:SA:190:A:C6	1:SA:191:G:H1'	2.44	0.52
25:LA:784:G:C5	29:LN:227:VAL:HG11	2.44	0.52
24:S1:23:THR:CB	59:S1:801:GTP:O2B	2.58	0.52
25:LA:1899:A:C2	25:LA:1903:G:C2	2.98	0.51
42:L1:38:LEU:HD22	42:L1:38:LEU:H	1.75	0.51
25:LA:489:G:H22	25:LA:1320:C:H3'	1.74	0.51
25:LA:590:A:C2	25:LA:668:A:C2	2.98	0.51
25:LA:2330:G:C2	25:LA:2386:A:C2	2.98	0.51
1:SA:1391:U:H2'	1:SA:1392:G:C8	2.46	0.51
25:LA:2125:G:N2	25:LA:2173:A:H62	2.09	0.51
25:LA:1942:C:C5	25:LA:1943:U:C5	2.99	0.51
25:LA:2799:A:H3'	25:LA:2800:A:C5'	2.39	0.51
25:LA:96:C:H5'	39:LW:41:HIS:CD2	2.46	0.51
1:SA:1501:C:C5	1:SA:1504:G:C5	2.99	0.51
1:SA:560:A:C2	1:SA:566:G:C5	2.99	0.50
25:LA:2657:A:C2	25:LA:2665:A:C5	2.99	0.50
1:SA:609:A:C6	1:SA:610:U:C4	2.99	0.50
1:SA:1236:A:H5'	1:SA:1305:G:OP1	2.11	0.50
25:LA:1670:C:H42	25:LA:1674:G:H5'	1.77	0.50
52:LF:47:HIS:CE1	52:LF:48:VAL:HG23	2.46	0.50
1:SA:118:U:C5	1:SA:288:A:C6	2.99	0.50
1:SA:293:G:H4'	1:SA:610:U:C4	2.46	0.50
25:LA:451:U:C5	25:LA:453:A:H3'	2.46	0.50
26:LB:30:C:H2'	26:LB:31:C:H5'	1.94	0.50
25:LA:745:G:N2	25:LA:750:A:C6	2.80	0.50
25:LA:573:U:C6	25:LA:2030:C:H2'	2.46	0.50
25:LA:1366:A:H62	25:LA:1808:A:N6	2.10	0.50
1:SA:283:U:C4	1:SA:284:C:C4	3.00	0.50
18:SD:196:GLU:CD	18:SD:196:GLU:H	2.19	0.50
25:LA:2519:U:C4	25:LA:2542:A:C5	3.00	0.49
1:SA:889:A:H4'	1:SA:890:G:H5'	1.95	0.49
25:LA:25:U:C5	25:LA:26:G:C6	3.01	0.49
25:LA:1174:U:H3'	25:LA:1175:A:H5''	1.94	0.49
25:LA:2061:G:H5'	25:LA:2502:G:H4'	1.94	0.49
56:LJ:95:THR:HG22	56:LJ:115:LEU:HD23	1.93	0.49
25:LA:1274:A:C2	25:LA:1646:C:C2	3.01	0.49
25:LA:1851:U:C5	25:LA:1852:U:C4	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:SA:609:A:N1	1:SA:610:U:C4	2.81	0.49
25:LA:244:A:C2	25:LA:255:A:C4	3.01	0.49
25:LA:1439:A:C2	25:LA:1553:A:C6	3.01	0.49
25:LA:2710:C:H2'	25:LA:2711:A:C8	2.48	0.49
1:SA:49:U:C4	1:SA:364:A:C6	3.00	0.49
1:SA:1158:C:H2'	1:SA:1159:U:H4'	1.95	0.49
25:LA:443:A:H3'	47:L6:40:ARG:HH12	1.78	0.49
1:SA:1342:C:H2'	1:SA:1343:G:C8	2.48	0.49
25:LA:55:G:H2'	25:LA:56:A:C8	2.47	0.49
25:LA:877:A:H62	25:LA:900:A:N6	2.10	0.49
25:LA:861:A:C2	25:LA:917:A:C4	3.01	0.49
25:LA:2451:A:N7	25:LA:2452:C:C5	2.81	0.49
25:LA:1028:A:H1'	25:LA:2487:G:H5'	1.95	0.48
1:SA:204:G:H2'	1:SA:205:A:C8	2.48	0.48
25:LA:780:G:H1	29:LN:228:ASP:CG	2.21	0.48
25:LA:1082:U:C5	25:LA:1083:U:C5	3.01	0.48
25:LA:2748:A:C2	25:LA:2749:A:C4	3.02	0.48
50:L8:110:HIS:CD2	50:L8:110:HIS:O	2.67	0.48
52:LF:81:ILE:HD13	52:LF:81:ILE:H	1.78	0.48
25:LA:983:A:C8	25:LA:983:A:H3'	2.49	0.48
38:LD:25:VAL:HG21	38:LD:92:ALA:HA	1.94	0.48
52:LF:5:THR:HA	52:LF:44:TYR:CE1	2.48	0.48
1:SA:978:A:C4	1:SA:1319:A:C2	3.02	0.48
25:LA:1127:A:H61	25:LA:2488:G:N2	2.12	0.48
25:LA:1268:A:C2	25:LA:2013:A:C4	3.01	0.48
36:LU:47:GLY:O	36:LU:50:VAL:HG23	2.13	0.48
1:SA:461:A:C6	1:SA:462:G:C6	3.02	0.48
25:LA:1242:U:C4	25:LA:1243:C:C4	3.02	0.48
27:LC:77:VAL:HB	27:LC:95:VAL:HG22	1.95	0.48
25:LA:2812:G:C6	25:LA:2813:A:C6	3.01	0.48
53:LG:61:VAL:HG13	53:LG:87:LEU:HD11	1.95	0.48
1:SA:811:C:H5'	1:SA:898:G:H4'	1.95	0.47
34:LS:102:ILE:HG23	34:LS:103:LYS:H	1.79	0.47
25:LA:1789:A:C5	25:LA:1790:C:C4	3.02	0.47
25:LA:45:G:C4'	25:LA:46:G:H5'	2.42	0.47
1:SA:325:A:C6	1:SA:326:G:C2	3.02	0.47
1:SA:500:G:C6	1:SA:546:A:C2	3.02	0.47
1:SA:864:A:H2'	1:SA:865:A:C8	2.49	0.47
1:SA:934:C:C5	1:SA:1345:U:C6	3.01	0.47
24:S1:269:PHE:HB2	59:S1:801:GTP:C4	2.50	0.47
25:LA:489:G:C6	25:LA:491:G:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:LC:215:SER:HA	27:LC:221:GLY:HA2	1.97	0.47
29:LN:229:HIS:CD2	29:LN:231:HIS:H	2.33	0.47
25:LA:2584:U:C5	25:LA:2585:U:C4	3.03	0.47
1:SA:794:A:C4	1:SA:795:C:C5	3.03	0.47
25:LA:478:A:C6	25:LA:480:A:C5	3.03	0.47
1:SA:109:A:C4	1:SA:327:A:C2	3.02	0.47
1:SA:293:G:H4'	1:SA:610:U:C5	2.50	0.47
25:LA:643:A:H62	25:LA:644:A:N6	2.13	0.47
1:SA:1502:A:H3'	1:SA:1503:A:H5'	1.96	0.47
1:SA:53:A:C2	1:SA:359:G:C2	3.03	0.47
1:SA:306:A:H2'	1:SA:307:C:H5'	1.97	0.47
25:LA:640:C:C4	25:LA:641:U:C4	3.03	0.47
52:LF:45:THR:OG1	52:LF:47:HIS:CD2	2.68	0.47
1:SA:673:A:C2	1:SA:734:G:C2	3.03	0.46
24:S1:23:THR:OG1	59:S1:801:GTP:O2B	2.28	0.46
1:SA:477:C:H2'	1:SA:478:A:C8	2.50	0.46
25:LA:388:G:C8	25:LA:390:U:C6	3.03	0.46
25:LA:1242:U:C5	25:LA:1243:C:C4	3.04	0.46
26:LB:11:C:C5	26:LB:12:C:C4	3.03	0.46
25:LA:819:A:C4	25:LA:1189:A:C2	3.04	0.46
25:LA:864:G:H21	25:LA:866:A:N6	2.13	0.46
25:LA:1760:C:C5	25:LA:1761:C:C4	3.03	0.46
25:LA:2447:G:C5	25:LA:2500:U:C5	3.03	0.46
1:SA:1074:G:C6	1:SA:1075:U:C4	3.04	0.46
25:LA:13:A:H61	25:LA:525:U:H3'	1.81	0.46
25:LA:1467:U:C4	25:LA:1546:G:C2	3.04	0.46
1:SA:1134:G:H2'	1:SA:1135:U:H5'	1.98	0.46
36:LU:30:VAL:HG12	36:LU:30:VAL:O	2.16	0.46
1:SA:840:C:C4	1:SA:842:U:H1'	2.50	0.46
1:SA:1332:A:C2	1:SA:1333:A:C4	3.04	0.46
3:S7:35:A:H5''	3:S7:36:A:C8	2.50	0.46
25:LA:27:G:H1'	25:LA:513:A:H62	1.81	0.46
25:LA:983:A:C5	25:LA:984:A:C6	3.03	0.46
25:LA:1838:C:C5	25:LA:1899:A:N7	2.84	0.46
1:SA:282:A:C6	1:SA:283:U:C2	3.03	0.46
1:SA:864:A:C6	1:SA:865:A:C6	3.04	0.46
1:SA:994:A:C5	1:SA:1216:A:H4'	2.51	0.46
22:SH:4:ASP:CG	22:SH:76:ARG:HH12	2.23	0.46
25:LA:44:A:C6	25:LA:45:G:C5	3.04	0.46
25:LA:277:G:H1'	25:LA:361:G:H1	1.81	0.46
25:LA:2584:U:C5	25:LA:2585:U:C5	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LA:717:C:H3'	25:LA:718:A:H5''	1.98	0.45
53:LG:113:MET:HA	53:LG:116:ILE:HG22	1.98	0.45
25:LA:1853:A:C6	25:LA:1854:A:C2	3.05	0.45
25:LA:2061:G:O6	25:LA:2503:A:C5	2.70	0.45
25:LA:2373:G:C2	25:LA:2381:A:C2	3.04	0.45
25:LA:586:A:H5''	47:L6:84:THR:HG21	1.99	0.45
25:LA:2657:A:C8	25:LA:2658:C:C6	3.05	0.45
25:LA:1329:U:OP2	25:LA:1330:C:C5	2.69	0.45
53:LG:108:ARG:HH22	53:LG:121:GLU:CD	2.24	0.45
21:SG:57:GLU:H	21:SG:57:GLU:CD	2.25	0.45
25:LA:65:U:H2'	25:LA:66:C:C6	2.51	0.45
25:LA:2636:C:H2'	25:LA:2637:U:C6	2.51	0.45
25:LA:1797:G:C6	25:LA:1798:U:C4	3.05	0.45
30:LO:60:TRP:CZ2	30:LO:93:ILE:HD13	2.51	0.45
42:L1:42:ILE:HD11	56:LJ:98:LEU:HB3	1.98	0.45
1:SA:185:U:H2'	1:SA:186:C:C6	2.52	0.45
1:SA:221:C:H2'	1:SA:222:C:C6	2.52	0.45
1:SA:1171:A:H2'	1:SA:1172:C:C6	2.52	0.45
3:S7:37:A:C5	3:S7:38:A:H1'	2.52	0.45
25:LA:983:A:C8	25:LA:983:A:C3'	3.00	0.45
25:LA:1171:G:H2'	25:LA:1172:C:C6	2.52	0.45
25:LA:2061:G:O6	25:LA:2503:A:C6	2.70	0.45
25:LA:2788:C:H2'	25:LA:2789:C:C6	2.51	0.45
1:SA:499:A:C6	1:SA:547:A:C8	3.05	0.45
25:LA:2584:U:C6	25:LA:2585:U:C5	3.05	0.45
27:LC:67:HIS:CE1	27:LC:184:LYS:HA	2.51	0.45
39:LW:17:GLU:HA	39:LW:53:VAL:HG21	1.98	0.45
2:S6:48:U:H4'	2:S6:49:C:OP2	2.17	0.45
25:LA:2377:A:H2'	25:LA:2378:A:C8	2.51	0.45
1:SA:441:A:H61	1:SA:493:A:N6	2.14	0.45
25:LA:524:G:C5	25:LA:525:U:C5	3.05	0.45
25:LA:1276:A:C2	25:LA:1277:G:C5	3.05	0.45
25:LA:2875:C:H2'	25:LA:2876:G:C8	2.53	0.44
1:SA:960:U:H4'	1:SA:961:U:OP2	2.18	0.44
25:LA:1872:A:C6	25:LA:1873:G:H1'	2.53	0.44
25:LA:2188:U:C4	25:LA:2189:U:C4	3.04	0.44
50:L8:31:GLU:H	50:L8:31:GLU:CD	2.24	0.44
1:SA:2:A:C8	1:SA:4:U:O4	2.70	0.44
1:SA:976:G:C6	1:SA:1363:A:C2	3.05	0.44
1:SA:1236:A:H2'	1:SA:1237:C:C6	2.53	0.44
24:S1:22:LYS:NZ	59:S1:801:GTP:O3G	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LA:652:U:H4'	25:LA:653:U:C4	2.52	0.44
1:SA:323:U:C4	1:SA:324:G:C5	3.05	0.44
1:SA:949:A:C2	1:SA:1233:G:C2	3.05	0.44
15:ST:67:HIS:CG	15:ST:68:LYS:H	2.35	0.44
25:LA:28:A:C4	25:LA:513:A:C8	3.06	0.44
25:LA:85:G:C5	25:LA:98:G:C2	3.05	0.44
25:LA:1064:C:C4	25:LA:1065:U:C4	3.06	0.44
25:LA:1490:A:C8	29:LN:97:ASP:HB3	2.52	0.44
1:SA:271:C:H3'	1:SA:272:C:H5''	2.00	0.44
1:SA:1517:G:N1	1:SA:1518:A:C2	2.86	0.44
25:LA:19:A:C2	25:LA:522:A:C2	3.06	0.44
25:LA:845:A:C5	25:LA:847:U:O2	2.71	0.44
1:SA:588:G:C5	1:SA:753:A:C5	3.06	0.44
25:LA:638:G:C5	25:LA:639:U:C4	3.06	0.44
25:LA:705:A:H1'	25:LA:727:A:C2	2.53	0.44
25:LA:782:A:N7	29:LN:219:VAL:HG11	2.33	0.44
25:LA:845:A:C2	25:LA:847:U:H1'	2.53	0.44
25:LA:1917:U:H2'	25:LA:1918:A:C8	2.52	0.44
25:LA:1966:A:C8	25:LA:2593:U:H5'	2.52	0.44
25:LA:983:A:C5	25:LA:984:A:C5	3.06	0.44
25:LA:1213:A:C2	25:LA:1214:A:C4	3.05	0.44
1:SA:999:C:H2'	1:SA:1000:A:C8	2.53	0.44
25:LA:181:A:C2	25:LA:435:C:C5	3.06	0.44
25:LA:1153:C:C4	25:LA:1154:G:C6	3.05	0.44
25:LA:1717:A:C2	25:LA:1744:A:C4	3.05	0.44
25:LA:2209:G:C4	25:LA:2210:U:C5	3.06	0.44
1:SA:1432:G:H5'	28:LM:105:LYS:HB2	2.00	0.44
25:LA:2187:U:H2'	25:LA:2188:U:C6	2.53	0.44
25:LA:2451:A:H2'	25:LA:2452:C:H5'	1.99	0.44
1:SA:1041:G:C2	1:SA:1042:A:C5	3.06	0.43
1:SA:1142:G:C2	1:SA:1143:G:H1'	2.53	0.43
16:SU:35:GLU:CD	16:SU:44:ARG:HH12	2.26	0.43
25:LA:782:A:C2	29:LN:224:MET:HG2	2.53	0.43
25:LA:792:A:O3'	25:LA:793:A:C2	2.70	0.43
25:LA:1675:C:C5	25:LA:1676:A:C4	3.05	0.43
41:LY:10:ARG:HE	41:LY:10:ARG:HA	1.82	0.43
1:SA:373:A:C2	1:SA:482:A:C6	3.06	0.43
1:SA:1231:G:C6	1:SA:1232:U:C4	3.06	0.43
1:SA:1401:G:C6	1:SA:1402:C:C2	3.05	0.43
25:LA:705:A:H62	25:LA:726:G:H1'	1.83	0.43
25:LA:983:A:C6	25:LA:984:A:C6	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LA:2373:G:C6	25:LA:2374:C:C4	3.06	0.43
56:LJ:55:ALA:HA	56:LJ:80:PHE:CE1	2.53	0.43
1:SA:1501:C:C5	1:SA:1504:G:C4	3.07	0.43
14:SB:19:THR:HG23	14:SB:20:ARG:H	1.83	0.43
25:LA:81:G:C6	25:LA:82:U:C2	3.06	0.43
25:LA:2799:A:C3'	25:LA:2800:A:H5'	2.43	0.43
26:LB:52:A:C6	26:LB:53:A:C5	3.07	0.43
26:LB:54:G:C6	26:LB:55:U:C4	3.06	0.43
54:LH:126:ARG:HH22	54:LH:128:THR:HG22	1.82	0.43
1:SA:1065:U:C5	1:SA:1189:U:N3	2.87	0.43
25:LA:1486:U:H2'	25:LA:1487:U:C6	2.52	0.43
25:LA:2411:A:H2'	25:LA:2412:A:C8	2.53	0.43
25:LA:2447:G:C4	25:LA:2500:U:C5	3.06	0.43
25:LA:2495:G:C6	25:LA:2496:C:C4	3.07	0.43
1:SA:1451:U:H3'	1:SA:1452:C:C6	2.54	0.43
1:SA:1502:A:H2'	1:SA:1504:G:C8	2.53	0.43
25:LA:558:U:H3'	52:LF:111:LYS:HZ2	1.84	0.43
25:LA:893:C:C5	25:LA:894:U:C2	3.07	0.43
25:LA:1242:U:C5	25:LA:1243:C:C5	3.06	0.43
25:LA:103:A:C6	25:LA:104:A:C4	3.06	0.43
25:LA:103:A:C2	25:LA:104:A:H1'	2.53	0.43
25:LA:204:A:C5	25:LA:206:U:O4	2.72	0.43
25:LA:652:U:H4'	25:LA:653:U:C5	2.53	0.43
25:LA:1022:G:C6	25:LA:1141:U:C5	3.07	0.43
25:LA:1206:G:C6	25:LA:1207:C:C4	3.06	0.43
26:LB:78:A:C2	26:LB:99:A:C4	3.06	0.43
49:L7:84:ILE:HG23	49:L7:85:GLY:H	1.83	0.43
3:S7:48:C:C4	3:S7:59:U:C5	3.07	0.43
25:LA:558:U:H5''	52:LF:111:LYS:HD3	2.01	0.43
25:LA:568:U:H5''	25:LA:945:A:N6	2.34	0.43
25:LA:748:G:C4	25:LA:750:A:C6	3.06	0.43
25:LA:1557:C:H2'	25:LA:1558:C:C5	2.53	0.43
25:LA:1779:U:C4	25:LA:1783:A:C8	3.06	0.43
32:LQ:22:ASP:CG	32:LQ:25:ARG:HH12	2.27	0.43
1:SA:1517:G:C6	1:SA:1518:A:C6	3.06	0.43
19:SE:23:THR:HG22	19:SE:24:VAL:HG13	2.00	0.43
25:LA:194:G:C6	25:LA:195:A:C5	3.06	0.43
25:LA:1645:G:H5''	25:LA:1646:C:H5'	1.99	0.43
25:LA:2709:G:C6	25:LA:2710:C:C4	3.06	0.43
31:LP:82:HIS:O	31:LP:82:HIS:CG	2.72	0.43
40:LX:149:ASN:CG	40:LX:150:GLN:H	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:LG:99:ILE:HG22	53:LG:118:LEU:HB2	2.00	0.43
1:SA:17:U:H2'	1:SA:18:C:C6	2.53	0.43
1:SA:328:C:C5'	1:SA:329:A:H5'	2.49	0.43
24:S1:269:PHE:HB2	59:S1:801:GTP:N7	2.33	0.43
25:LA:1118:C:C5	25:LA:1119:U:C5	3.07	0.43
25:LA:2886:A:H62	42:L1:39:ARG:CZ	2.32	0.43
25:LA:2886:A:H62	42:L1:39:ARG:NE	2.17	0.43
1:SA:206:C:H2'	1:SA:207:C:C6	2.53	0.43
1:SA:608:A:C6	1:SA:609:A:N6	2.87	0.43
1:SA:729:A:H2'	1:SA:730:G:C8	2.54	0.43
1:SA:900:A:H2'	1:SA:901:A:C8	2.53	0.43
25:LA:21:A:C2	25:LA:520:G:C2	3.06	0.43
25:LA:1965:C:C6	25:LA:1966:A:H2'	2.54	0.43
25:LA:2389:G:H5''	25:LA:2390:U:H5'	2.00	0.43
25:LA:2615:U:C2	42:L1:3:GLN:HA	2.53	0.43
1:SA:75:G:H2'	1:SA:76:G:C8	2.54	0.42
5:SK:4:PRO:HA	25:LA:2146:C:H2'	2.00	0.42
13:SS:4:LEU:HD23	13:SS:4:LEU:H	1.83	0.42
25:LA:1508:A:H1'	25:LA:1509:A:H3'	2.00	0.42
25:LA:1873:G:H2'	25:LA:1874:C:C6	2.54	0.42
36:LU:28:GLU:CD	36:LU:28:GLU:H	2.27	0.42
49:L7:135:ILE:HG13	49:L7:136:ILE:H	1.84	0.42
25:LA:2136:G:H2'	25:LA:2137:U:C6	2.54	0.42
18:SD:94:GLU:CD	18:SD:103:ARG:HH21	2.27	0.42
25:LA:684:G:C2	25:LA:794:A:C2	3.07	0.42
25:LA:1395:A:C6	25:LA:1398:C:C2	3.07	0.42
25:LA:2048:G:C6	25:LA:2049:G:C5	3.07	0.42
25:LA:2135:A:N6	25:LA:2156:G:H1'	2.34	0.42
25:LA:2201:G:C5	25:LA:2202:U:C4	3.08	0.42
25:LA:2513:A:C2	25:LA:2514:U:C2	3.06	0.42
25:LA:317:G:C6	25:LA:318:C:C4	3.07	0.42
1:SA:409:U:C4	1:SA:410:G:C5	3.07	0.42
25:LA:80:G:H5'	25:LA:346:A:H1'	2.01	0.42
25:LA:309:A:C6	25:LA:330:A:C6	3.08	0.42
25:LA:1114:C:H2'	25:LA:1115:G:C8	2.54	0.42
25:LA:1726:C:C2	25:LA:1735:A:C2	3.08	0.42
25:LA:2492:U:O2'	25:LA:2493:U:C6	2.72	0.42
25:LA:2617:U:O4	25:LA:2618:G:C6	2.72	0.42
36:LU:36:ILE:HG22	36:LU:39:GLN:HG2	2.01	0.42
25:LA:1536:C:H4'	25:LA:1537:G:H5''	2.01	0.42
25:LA:2084:C:C4	25:LA:2085:U:C4	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:SA:1218:C:H2'	1:SA:1219:A:C8	2.55	0.42
25:LA:636:G:C5	54:LH:111:ILE:HD12	2.55	0.42
25:LA:952:G:C6	25:LA:953:G:C5	3.07	0.42
26:LB:44:G:H4'	26:LB:46:A:H62	1.84	0.42
26:LB:57:A:H2'	26:LB:58:A:C8	2.55	0.42
52:LF:5:THR:HA	52:LF:44:TYR:CD1	2.54	0.42
1:SA:1133:G:C6	1:SA:1134:G:C5	3.08	0.42
1:SA:1410:A:C2	1:SA:1491:G:C2	3.08	0.42
25:LA:695:G:H5'	25:LA:1380:G:H4'	2.01	0.42
25:LA:1724:G:C6	25:LA:1725:U:C4	3.07	0.42
25:LA:1779:U:H2'	25:LA:1783:A:C6	2.55	0.42
25:LA:2513:A:C6	25:LA:2574:G:C6	3.08	0.42
25:LA:2567:G:H4'	25:LA:2567:G:OP1	2.20	0.42
1:SA:9:G:C2	1:SA:26:A:C2	3.08	0.42
1:SA:718:A:C4	5:SK:117:HIS:CD2	3.08	0.42
1:SA:955:U:C4	1:SA:956:U:C4	3.08	0.42
1:SA:961:U:H3	1:SA:974:A:H61	1.68	0.42
1:SA:1108:G:C5	1:SA:1109:C:C5	3.07	0.42
3:S7:11:C:H2'	3:S7:12:U:C6	2.55	0.42
7:SM:108:ARG:HB2	7:SM:108:ARG:CZ	2.50	0.42
25:LA:1014:A:C2	25:LA:1149:G:C2	3.08	0.42
25:LA:1135:C:C6	25:LA:1137:G:OP2	2.73	0.42
25:LA:1281:G:H2'	25:LA:1282:U:C6	2.55	0.42
25:LA:1926:U:C5	25:LA:1929:G:C2	3.07	0.42
25:LA:2456:C:C5	25:LA:2457:U:C5	3.08	0.42
49:L7:88:VAL:HG12	49:L7:89:THR:H	1.83	0.42
1:SA:773:G:H4'	29:LN:200:MET:HE2	2.02	0.42
1:SA:1000:A:C2	1:SA:1041:G:C2	3.08	0.42
1:SA:1083:U:C5	1:SA:1084:G:C6	3.08	0.42
7:SM:26:LYS:HD2	7:SM:27:THR:H	1.84	0.42
24:S1:144:ASP:OD1	59:S1:801:GTP:N1	2.52	0.42
25:LA:572:A:C5	25:LA:573:U:H1'	2.55	0.42
25:LA:2182:U:H2'	25:LA:2183:A:C8	2.55	0.42
55:LI:53:MET:HE1	55:LI:103:TYR:CD2	2.55	0.42
1:SA:226:G:C6	1:SA:227:G:C5	3.07	0.41
25:LA:745:G:C2	25:LA:753:A:C2	3.08	0.41
26:LB:30:C:H1'	26:LB:57:A:H61	1.85	0.41
25:LA:649:G:C5	25:LA:650:C:C4	3.08	0.41
1:SA:109:A:C6	1:SA:325:A:N1	2.88	0.41
1:SA:1074:G:C5	1:SA:1075:U:C5	3.08	0.41
31:LP:51:VAL:H	31:LP:54:VAL:HG22	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:SA:19:A:C2	1:SA:917:G:C6	3.09	0.41
1:SA:1309:G:C6	1:SA:1310:G:C5	3.09	0.41
15:ST:67:HIS:CD2	15:ST:68:LYS:H	2.38	0.41
25:LA:28:A:C2	25:LA:513:A:H1'	2.56	0.41
25:LA:190:A:C4	25:LA:207:A:C2	3.09	0.41
25:LA:355:U:H2'	25:LA:356:G:C8	2.56	0.41
25:LA:586:A:C5'	47:L6:84:THR:HG21	2.50	0.41
25:LA:1847:A:O2'	25:LA:1848:A:C8	2.69	0.41
25:LA:1980:G:H3'	25:LA:1981:A:H5''	2.03	0.41
55:LI:126:ILE:HD13	55:LI:126:ILE:H	1.84	0.41
25:LA:571:U:H3	25:LA:2030:C:N4	2.14	0.41
25:LA:1061:U:H1'	25:LA:1070:A:H4'	2.03	0.41
25:LA:2543:G:C2	25:LA:2765:A:C8	3.08	0.41
1:SA:1255:G:C5	1:SA:1279:G:C6	3.08	0.41
25:LA:528:A:C8	25:LA:528:A:H3'	2.56	0.41
25:LA:647:G:C6	25:LA:648:G:C5	3.08	0.41
25:LA:1897:G:C6	25:LA:1898:U:C4	3.09	0.41
25:LA:2584:U:C6	25:LA:2585:U:C6	3.09	0.41
25:LA:2804:U:H2'	25:LA:2805:C:C6	2.56	0.41
1:SA:550:G:C5	1:SA:551:U:C5	3.08	0.41
1:SA:836:G:C6	1:SA:837:U:C2	3.08	0.41
25:LA:745:G:N2	25:LA:753:A:C4	2.89	0.41
25:LA:910:A:C6	25:LA:911:A:C6	3.08	0.41
25:LA:1065:U:C5	25:LA:1066:U:C5	3.09	0.41
25:LA:2102:G:C5	25:LA:2103:C:C4	3.09	0.41
25:LA:2502:G:H3'	25:LA:2503:A:H5'	2.02	0.41
26:LB:46:A:C5	26:LB:47:C:C4	3.08	0.41
27:LC:27:ILE:HG21	27:LC:185:LEU:HB2	2.03	0.41
1:SA:289:G:C5	1:SA:290:C:C5	3.09	0.41
1:SA:1306:A:C2	1:SA:1332:A:C8	3.09	0.41
1:SA:1401:G:C5	1:SA:1402:C:N3	2.89	0.41
24:S1:252:ARG:HH12	24:S1:290:ASP:CG	2.29	0.41
27:LC:46:VAL:HG13	27:LC:212:VAL:HG22	2.03	0.41
15:ST:63:LYS:HA	15:ST:63:LYS:HD3	1.98	0.41
25:LA:105:C:H2'	25:LA:106:C:C6	2.56	0.41
25:LA:118:A:C8	25:LA:119:A:C8	3.09	0.41
25:LA:483:A:C8	25:LA:484:C:C5	3.09	0.41
25:LA:878:A:C2	25:LA:900:A:N6	2.89	0.41
25:LA:1117:C:H2'	25:LA:1118:C:C6	2.56	0.41
25:LA:1174:U:C4	25:LA:1177:G:C6	3.09	0.41
25:LA:1661:G:C5	25:LA:1662:U:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LA:2270:A:H3'	25:LA:2271:G:H5'	2.03	0.41
25:LA:2450:A:H2'	25:LA:2451:A:C8	2.56	0.41
25:LA:2544:G:C6	25:LA:2545:G:C5	3.09	0.41
1:SA:51:A:H61	1:SA:314:C:H1'	1.86	0.41
1:SA:325:A:C2	1:SA:326:G:H2'	2.56	0.41
1:SA:1503:A:H4'	1:SA:1504:G:OP2	2.21	0.41
24:S1:269:PHE:HB2	59:S1:801:GTP:C8	2.56	0.41
25:LA:524:G:C6	25:LA:525:U:C4	3.09	0.41
25:LA:825:A:C2	25:LA:833:A:C2	3.09	0.41
25:LA:948:C:H3'	25:LA:948:C:C6	2.55	0.41
25:LA:1012:U:N3	25:LA:1143:A:N7	2.69	0.41
25:LA:1107:G:C6	25:LA:1108:U:C4	3.09	0.41
25:LA:1881:C:C5	25:LA:1882:U:C5	3.09	0.41
25:LA:2538:C:H2'	25:LA:2539:C:C6	2.56	0.41
1:SA:811:C:H1'	1:SA:901:A:H61	1.86	0.40
25:LA:527:C:C6	25:LA:2779:U:C5	3.09	0.40
25:LA:2793:C:H2'	25:LA:2794:C:C6	2.55	0.40
49:L7:176:PHE:CG	58:LZ:30:HIS:HB3	2.56	0.40
1:SA:528:C:H41	6:SL:45:ASN:CG	2.30	0.40
1:SA:730:G:C6	1:SA:731:G:H1'	2.56	0.40
1:SA:763:G:H2'	1:SA:764:C:C6	2.56	0.40
1:SA:781:A:H4'	1:SA:1522:U:O2'	2.22	0.40
1:SA:1228:C:H2'	1:SA:1229:A:C8	2.57	0.40
25:LA:194:G:C6	25:LA:195:A:C6	3.09	0.40
25:LA:194:G:O6	25:LA:195:A:C6	2.74	0.40
25:LA:644:A:H2'	25:LA:647:G:C5	2.56	0.40
25:LA:1483:G:C6	25:LA:1484:U:C4	3.09	0.40
25:LA:1532:A:C2	25:LA:1540:G:C2	3.09	0.40
1:SA:32:A:C2	1:SA:553:A:C2	3.09	0.40
1:SA:552:U:H4'	6:SL:83:GLY:O	2.22	0.40
1:SA:1371:G:C5	1:SA:1372:U:C5	3.09	0.40
17:SC:51:VAL:HA	17:SC:69:THR:HA	2.04	0.40
24:S1:395:THR:HG21	24:S1:405:LEU:H	1.86	0.40
25:LA:847:U:O4	25:LA:932:U:C6	2.75	0.40
25:LA:1673:G:H2'	25:LA:1674:G:H5''	2.03	0.40
25:LA:1739:A:C6	25:LA:1740:G:C6	3.10	0.40
25:LA:1746:A:C2	25:LA:1747:U:C2	3.10	0.40
25:LA:1897:G:C5	25:LA:1898:U:C4	3.09	0.40
1:SA:1083:U:H3'	1:SA:1084:G:C8	2.56	0.40
1:SA:1250:A:C2	1:SA:1287:A:C6	3.09	0.40
25:LA:460:A:C2	25:LA:470:A:C4	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LA:1995:U:H1'	53:LG:3:GLN:HG2	2.03	0.40
25:LA:2248:C:C5	25:LA:2249:U:C4	3.10	0.40
25:LA:2415:G:C6	25:LA:2416:C:C4	3.10	0.40
25:LA:2574:G:N2	40:LX:148:GLN:HE21	2.20	0.40
25:LA:100:U:O2'	25:LA:101:A:C5	2.75	0.40
25:LA:160:A:C6	25:LA:161:A:C6	3.10	0.40
25:LA:1783:A:C8	25:LA:1783:A:C3'	2.99	0.40
25:LA:2210:U:C5	25:LA:2212:A:C2	3.09	0.40
25:LA:2679:A:C2	25:LA:2729:G:C2	3.10	0.40
26:LB:9:G:C6	26:LB:10:G:C5	3.10	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	SJ	101/103 (98%)	98 (97%)	0	3 (3%)	3	25
5	SK	126/128 (98%)	104 (82%)	17 (14%)	5 (4%)	2	20
6	SL	121/123 (98%)	109 (90%)	10 (8%)	2 (2%)	7	35
7	SM	115/117 (98%)	101 (88%)	9 (8%)	5 (4%)	2	18
8	SN	98/100 (98%)	88 (90%)	9 (9%)	1 (1%)	12	45
9	SO	86/88 (98%)	83 (96%)	1 (1%)	2 (2%)	5	30
10	SP	80/82 (98%)	72 (90%)	4 (5%)	4 (5%)	1	16
11	SQ	81/83 (98%)	71 (88%)	8 (10%)	2 (2%)	4	28
12	SR	72/74 (97%)	58 (81%)	11 (15%)	3 (4%)	2	19
13	SS	89/91 (98%)	74 (83%)	10 (11%)	5 (6%)	1	14
14	SB	238/240 (99%)	217 (91%)	13 (6%)	8 (3%)	3	23
15	ST	84/86 (98%)	79 (94%)	4 (5%)	1 (1%)	10	41

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
16	SU	68/70 (97%)	52 (76%)	11 (16%)	5 (7%)	1	9
17	SC	230/232 (99%)	212 (92%)	13 (6%)	5 (2%)	5	30
18	SD	203/205 (99%)	177 (87%)	18 (9%)	8 (4%)	2	20
19	SE	164/166 (99%)	149 (91%)	13 (8%)	2 (1%)	10	41
20	SF	133/135 (98%)	123 (92%)	9 (7%)	1 (1%)	16	49
21	SG	176/178 (99%)	158 (90%)	15 (8%)	3 (2%)	7	35
22	SH	127/129 (98%)	121 (95%)	4 (3%)	2 (2%)	7	36
23	SI	127/129 (98%)	117 (92%)	10 (8%)	0	100	100
24	S1	700/702 (100%)	632 (90%)	45 (6%)	23 (3%)	3	24
27	LC	232/234 (99%)	206 (89%)	19 (8%)	7 (3%)	3	25
28	LM	112/114 (98%)	99 (88%)	10 (9%)	3 (3%)	4	27
29	LN	270/272 (99%)	244 (90%)	16 (6%)	10 (4%)	2	21
30	LO	115/117 (98%)	108 (94%)	4 (4%)	3 (3%)	4	27
31	LP	101/103 (98%)	89 (88%)	10 (10%)	2 (2%)	6	32
32	LQ	108/110 (98%)	102 (94%)	5 (5%)	1 (1%)	14	46
33	LR	98/100 (98%)	84 (86%)	9 (9%)	5 (5%)	1	15
34	LS	101/103 (98%)	89 (88%)	8 (8%)	4 (4%)	2	20
35	LT	92/94 (98%)	85 (92%)	6 (6%)	1 (1%)	11	43
36	LU	82/84 (98%)	56 (68%)	15 (18%)	11 (13%)	0	3
37	LV	75/77 (97%)	71 (95%)	4 (5%)	0	100	100
38	LD	162/164 (99%)	154 (95%)	7 (4%)	1 (1%)	21	54
39	LW	61/63 (97%)	56 (92%)	5 (8%)	0	100	100
40	LX	207/209 (99%)	168 (81%)	25 (12%)	14 (7%)	1	11
41	LY	56/58 (97%)	52 (93%)	3 (5%)	1 (2%)	6	34
42	L1	54/56 (96%)	47 (87%)	5 (9%)	2 (4%)	2	21
43	L2	52/54 (96%)	44 (85%)	7 (14%)	1 (2%)	6	33
44	L3	44/46 (96%)	39 (89%)	2 (4%)	3 (7%)	1	11
45	L4	62/64 (97%)	59 (95%)	2 (3%)	1 (2%)	7	36
46	L5	36/38 (95%)	34 (94%)	2 (6%)	0	100	100
47	L6	199/201 (99%)	172 (86%)	18 (9%)	9 (4%)	2	17
48	LE	139/141 (99%)	123 (88%)	12 (9%)	4 (3%)	3	26

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
49	L7	176/178 (99%)	137 (78%)	21 (12%)	18 (10%)	0	5
50	L8	174/176 (99%)	156 (90%)	9 (5%)	9 (5%)	1	15
51	L9	147/149 (99%)	132 (90%)	9 (6%)	6 (4%)	2	19
52	LF	140/142 (99%)	122 (87%)	16 (11%)	2 (1%)	9	38
53	LG	121/123 (98%)	107 (88%)	12 (10%)	2 (2%)	7	35
54	LH	142/144 (99%)	129 (91%)	5 (4%)	8 (6%)	1	14
55	LI	134/136 (98%)	122 (91%)	10 (8%)	2 (2%)	8	37
56	LJ	125/127 (98%)	110 (88%)	9 (7%)	6 (5%)	2	16
57	LK	115/117 (98%)	107 (93%)	5 (4%)	3 (3%)	4	27
58	LZ	68/70 (97%)	56 (82%)	10 (15%)	2 (3%)	3	26
All	All	7019/7125 (98%)	6254 (89%)	534 (8%)	231 (3%)	5	24

All (231) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	SK	125	LYS
7	SM	62	PHE
16	SU	7	GLU
18	SD	48	SER
18	SD	134	TYR
18	SD	192	ALA
24	S1	539	ILE
27	LC	147	PRO
27	LC	220	ALA
28	LM	25	VAL
29	LN	140	VAL
33	LR	88	LYS
36	LU	15	SER
36	LU	34	SER
40	LX	43	ASP
40	LX	102	ALA
40	LX	112	THR
40	LX	119	ALA
40	LX	162	ALA
42	L1	8	THR
45	L4	31	ILE
47	L6	13	THR
48	LE	96	LYS

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Mol	Chain	Res	Type
49	L7	122	ASP
49	L7	138	PRO
51	L9	3	VAL
51	L9	15	LEU
51	L9	124	THR
4	SJ	57	VAL
4	SJ	75	ASP
7	SM	3	ILE
7	SM	104	ASN
12	SR	14	ALA
13	SS	84	ALA
14	SB	22	TRP
14	SB	71	THR
14	SB	84	LEU
15	ST	67	HIS
16	SU	3	ILE
16	SU	22	CYS
16	SU	23	GLU
17	SC	156	LEU
18	SD	45	PRO
18	SD	66	VAL
19	SE	23	THR
21	SG	8	GLN
24	S1	75	ALA
24	S1	116	GLY
24	S1	258	ASN
24	S1	390	VAL
24	S1	392	THR
24	S1	495	GLN
24	S1	511	ARG
27	LC	135	GLY
27	LC	200	LYS
29	LN	94	LEU
30	LO	88	GLU
33	LR	2	ILE
33	LR	93	LEU
33	LR	96	VAL
36	LU	52	CYS
40	LX	73	VAL
40	LX	117	GLY
40	LX	166	GLY
42	L1	26	SER

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Mol	Chain	Res	Type
47	L6	45	ALA
47	L6	68	ALA
47	L6	70	SER
47	L6	93	SER
48	LE	113	ALA
49	L7	36	ASN
49	L7	73	VAL
49	L7	79	ARG
49	L7	116	LEU
49	L7	119	LYS
50	L8	7	PRO
51	L9	40	THR
52	LF	21	THR
52	LF	129	GLU
54	LH	21	ARG
54	LH	30	THR
55	LI	58	LYS
56	LJ	10	LEU
56	LJ	13	ASN
57	LK	2	ASP
58	LZ	24	ILE
5	SK	11	VAL
5	SK	13	LYS
5	SK	52	ARG
7	SM	22	TYR
7	SM	111	PRO
9	SO	20	ASP
9	SO	87	ARG
10	SP	27	ALA
10	SP	31	ARG
14	SB	19	THR
14	SB	192	PRO
17	SC	59	PRO
17	SC	72	PRO
17	SC	223	PRO
17	SC	229	LYS
18	SD	31	CYS
21	SG	84	TYR
22	SH	91	LEU
24	S1	17	HIS
24	S1	50	ASP
24	S1	52	MET

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Mol	Chain	Res	Type
24	S1	114	ALA
24	S1	293	ALA
24	S1	391	THR
24	S1	524	LEU
27	LC	81	GLY
28	LM	86	LYS
29	LN	43	ASN
29	LN	240	GLY
29	LN	253	GLY
31	LP	91	GLN
35	LT	84	PRO
36	LU	27	GLY
36	LU	41	GLY
40	LX	54	ALA
40	LX	75	ALA
40	LX	149	ASN
44	L3	8	SER
47	L6	44	ARG
48	LE	49	GLU
49	L7	87	LYS
49	L7	175	PRO
50	L8	21	GLN
50	L8	45	ALA
51	L9	38	PRO
53	LG	16	ALA
54	LH	5	THR
54	LH	99	ASN
56	LJ	59	SER
56	LJ	107	ASN
58	LZ	18	CYS
6	SL	116	TYR
6	SL	117	GLY
10	SP	64	GLY
10	SP	79	ASN
11	SQ	31	PRO
12	SR	2	ARG
12	SR	10	CYS
13	SS	34	SER
14	SB	63	LYS
14	SB	205	ALA
18	SD	164	ARG
19	SE	148	SER

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Mol	Chain	Res	Type
24	S1	76	LYS
24	S1	567	GLY
24	S1	608	LYS
27	LC	159	GLY
29	LN	59	GLN
29	LN	88	ALA
31	LP	52	PRO
34	LS	51	LEU
36	LU	68	PHE
38	LD	129	PRO
40	LX	134	HIS
44	L3	42	LEU
49	L7	74	ALA
49	L7	146	ASP
49	L7	148	VAL
50	L8	2	ARG
50	L8	8	VAL
50	L8	29	ASN
54	LH	36	LYS
55	LI	125	PRO
57	LK	45	SER
57	LK	114	GLY
4	SJ	7	ARG
5	SK	14	GLN
13	SS	79	TYR
14	SB	85	SER
16	SU	24	LYS
20	SF	91	ARG
21	SG	167	ALA
24	S1	42	VAL
24	S1	178	PHE
28	LM	56	SER
29	LN	7	PRO
32	LQ	89	ALA
33	LR	89	GLU
34	LS	92	VAL
36	LU	13	ARG
36	LU	39	GLN
40	LX	118	PHE
40	LX	173	GLN
41	LY	40	THR
47	L6	59	PRO

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Mol	Chain	Res	Type
48	LE	72	THR
49	L7	66	ILE
49	L7	149	ARG
49	L7	173	ASP
51	L9	122	LEU
54	LH	20	GLY
56	LJ	122	ALA
8	SN	41	TRP
13	SS	33	TRP
13	SS	83	ALA
18	SD	145	ARG
22	SH	53	ASP
24	S1	6	ILE
24	S1	194	ASP
30	LO	100	PHE
36	LU	21	GLY
43	L2	35	LEU
47	L6	46	GLN
49	L7	84	ILE
49	L7	89	THR
49	L7	125	GLY
50	L8	83	THR
54	LH	6	LEU
56	LJ	93	GLY
24	S1	118	VAL
29	LN	77	VAL
30	LO	87	VAL
34	LS	38	ILE
47	L6	96	VAL
50	L8	3	VAL
27	LC	130	VAL
53	LG	27	GLY
29	LN	123	ILE
34	LS	102	ILE
36	LU	35	ILE
36	LU	50	VAL
44	L3	44	VAL
11	SQ	64	ARG
50	L8	9	VAL
54	LH	85	VAL

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	SJ	90/90 (100%)	88 (98%)	2 (2%)	45	65
5	SK	98/98 (100%)	91 (93%)	7 (7%)	13	40
6	SL	103/103 (100%)	100 (97%)	3 (3%)	37	60
7	SM	95/95 (100%)	90 (95%)	5 (5%)	20	48
8	SN	83/83 (100%)	81 (98%)	2 (2%)	43	63
9	SO	76/76 (100%)	75 (99%)	1 (1%)	61	72
10	SP	65/65 (100%)	64 (98%)	1 (2%)	57	70
11	SQ	77/77 (100%)	74 (96%)	3 (4%)	28	54
12	SR	64/64 (100%)	62 (97%)	2 (3%)	35	59
13	SS	78/78 (100%)	77 (99%)	1 (1%)	61	72
14	SB	198/198 (100%)	191 (96%)	7 (4%)	32	57
15	ST	65/65 (100%)	64 (98%)	1 (2%)	57	70
16	SU	60/60 (100%)	56 (93%)	4 (7%)	15	42
17	SC	189/189 (100%)	182 (96%)	7 (4%)	30	56
18	SD	172/172 (100%)	165 (96%)	7 (4%)	27	53
19	SE	125/125 (100%)	116 (93%)	9 (7%)	13	40
20	SF	116/116 (100%)	111 (96%)	5 (4%)	26	52
21	SG	146/146 (100%)	141 (97%)	5 (3%)	32	57
22	SH	104/104 (100%)	101 (97%)	3 (3%)	37	60
23	SI	106/106 (100%)	105 (99%)	1 (1%)	70	76
24	S1	575/575 (100%)	559 (97%)	16 (3%)	38	60
27	LC	181/181 (100%)	174 (96%)	7 (4%)	28	54
28	LM	99/99 (100%)	90 (91%)	9 (9%)	9	33
29	LN	217/217 (100%)	207 (95%)	10 (5%)	24	51
30	LO	89/89 (100%)	87 (98%)	2 (2%)	45	65
31	LP	84/84 (100%)	78 (93%)	6 (7%)	13	40

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
32	LQ	93/93 (100%)	92 (99%)	1 (1%)	65	74
33	LR	84/84 (100%)	80 (95%)	4 (5%)	23	50
34	LS	84/84 (100%)	79 (94%)	5 (6%)	17	45
35	LT	78/78 (100%)	76 (97%)	2 (3%)	40	62
36	LU	62/62 (100%)	57 (92%)	5 (8%)	11	36
37	LV	67/67 (100%)	67 (100%)	0	100	100
38	LD	122/122 (100%)	121 (99%)	1 (1%)	73	77
39	LW	55/55 (100%)	55 (100%)	0	100	100
40	LX	164/164 (100%)	158 (96%)	6 (4%)	30	56
41	LY	48/48 (100%)	47 (98%)	1 (2%)	47	65
42	L1	47/47 (100%)	45 (96%)	2 (4%)	26	52
43	L2	48/48 (100%)	47 (98%)	1 (2%)	47	65
44	L3	38/38 (100%)	36 (95%)	2 (5%)	20	48
45	L4	51/51 (100%)	49 (96%)	2 (4%)	28	54
46	L5	34/34 (100%)	34 (100%)	0	100	100
47	L6	165/165 (100%)	161 (98%)	4 (2%)	43	63
48	LE	109/109 (100%)	101 (93%)	8 (7%)	13	40
49	L7	149/149 (100%)	140 (94%)	9 (6%)	17	45
50	L8	137/137 (100%)	129 (94%)	8 (6%)	18	46
51	L9	114/114 (100%)	107 (94%)	7 (6%)	17	45
52	LF	116/116 (100%)	113 (97%)	3 (3%)	40	62
53	LG	104/104 (100%)	98 (94%)	6 (6%)	18	46
54	LH	103/103 (100%)	98 (95%)	5 (5%)	22	49
55	LI	109/109 (100%)	106 (97%)	3 (3%)	38	60
56	LJ	103/103 (100%)	99 (96%)	4 (4%)	28	54
57	LK	87/87 (100%)	82 (94%)	5 (6%)	18	46
58	LZ	62/62 (100%)	61 (98%)	1 (2%)	55	69
All	All	5788/5788 (100%)	5567 (96%)	221 (4%)	30	55

All (221) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	SJ	59	LYS

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Mol	Chain	Res	Type
4	SJ	71	LEU
5	SK	13	LYS
5	SK	14	GLN
5	SK	15	VAL
5	SK	21	HIS
5	SK	56	LYS
5	SK	93	GLU
5	SK	96	ILE
6	SL	69	GLU
6	SL	87	LYS
6	SL	107	LYS
7	SM	6	ILE
7	SM	26	LYS
7	SM	90	HIS
7	SM	108	ARG
7	SM	112	ARG
8	SN	20	PHE
8	SN	78	LEU
9	SO	57	ARG
10	SP	75	ILE
11	SQ	20	ILE
11	SQ	27	PHE
11	SQ	64	ARG
12	SR	13	THR
12	SR	73	HIS
13	SS	55	GLN
14	SB	44	LYS
14	SB	80	LYS
14	SB	103	TRP
14	SB	145	ASN
14	SB	167	HIS
14	SB	221	ARG
14	SB	227	ASP
15	ST	35	TYR
16	SU	2	VAL
16	SU	23	GLU
16	SU	40	PRO
16	SU	55	HIS
17	SC	6	PRO
17	SC	107	LYS
17	SC	161	ILE
17	SC	184	ASN

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Mol	Chain	Res	Type
17	SC	187	GLU
17	SC	195	ILE
17	SC	226	GLN
18	SD	28	ASP
18	SD	43	ARG
18	SD	46	ARG
18	SD	80	ARG
18	SD	166	LYS
18	SD	187	ARG
18	SD	194	ILE
19	SE	13	LYS
19	SE	14	LEU
19	SE	45	VAL
19	SE	75	LEU
19	SE	84	VAL
19	SE	104	ILE
19	SE	151	MET
19	SE	158	LYS
19	SE	161	GLU
20	SF	35	LYS
20	SF	79	ARG
20	SF	91	ARG
20	SF	97	THR
20	SF	102	MET
21	SG	29	LEU
21	SG	36	SER
21	SG	74	VAL
21	SG	82	SER
21	SG	163	HIS
22	SH	68	LYS
22	SH	111	THR
22	SH	128	VAL
23	SI	94	ARG
24	S1	41	GLU
24	S1	77	GLN
24	S1	120	PRO
24	S1	152	LYS
24	S1	260	ILE
24	S1	307	GLU
24	S1	341	VAL
24	S1	368	ASN
24	S1	370	ARG

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Mol	Chain	Res	Type
24	S1	377	ARG
24	S1	493	ILE
24	S1	504	HIS
24	S1	514	TYR
24	S1	537	ASN
24	S1	553	ASP
24	S1	582	TYR
27	LC	33	LEU
27	LC	50	ILE
27	LC	129	GLN
27	LC	139	ASN
27	LC	174	THR
27	LC	186	LYS
27	LC	226	GLN
28	LM	3	ILE
28	LM	19	PHE
28	LM	25	VAL
28	LM	27	VAL
28	LM	43	GLU
28	LM	51	ASN
28	LM	52	ARG
28	LM	83	ILE
28	LM	91	VAL
29	LN	49	THR
29	LN	53	ILE
29	LN	93	VAL
29	LN	179	GLU
29	LN	194	VAL
29	LN	200	MET
29	LN	217	PRO
29	LN	244	VAL
29	LN	257	ARG
29	LN	263	ASP
30	LO	77	LYS
30	LO	91	ARG
31	LP	22	LEU
31	LP	40	MET
31	LP	48	LYS
31	LP	52	PRO
31	LP	80	ARG
31	LP	86	GLN
32	LQ	22	ASP

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Mol	Chain	Res	Type
33	LR	1	MET
33	LR	66	LYS
33	LR	67	VAL
33	LR	68	LYS
34	LS	12	VAL
34	LS	27	VAL
34	LS	60	LYS
34	LS	61	GLU
34	LS	102	ILE
35	LT	69	GLU
35	LT	82	TYR
36	LU	19	ARG
36	LU	44	PHE
36	LU	49	ASN
36	LU	76	ARG
36	LU	81	ILE
38	LD	68	PHE
40	LX	2	ILE
40	LX	13	ARG
40	LX	24	VAL
40	LX	73	VAL
40	LX	152	PRO
40	LX	194	PRO
41	LY	10	ARG
42	L1	8	THR
42	L1	38	LEU
43	L2	36	LYS
44	L3	14	ARG
44	L3	42	LEU
45	L4	29	ARG
45	L4	46	LYS
47	L6	47	LYS
47	L6	60	TRP
47	L6	105	LEU
47	L6	163	ASN
48	LE	32	VAL
48	LE	34	ILE
48	LE	48	ILE
48	LE	54	ILE
48	LE	56	VAL
48	LE	81	LYS
48	LE	96	LYS

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Mol	Chain	Res	Type
48	LE	134	SER
49	L7	47	LYS
49	L7	88	VAL
49	L7	91	ARG
49	L7	96	TRP
49	L7	97	GLU
49	L7	116	LEU
49	L7	147	ARG
49	L7	174	PHE
49	L7	175	PRO
50	L8	19	ASN
50	L8	21	GLN
50	L8	28	LYS
50	L8	31	GLU
50	L8	115	GLN
50	L8	123	GLU
50	L8	138	GLN
50	L8	163	TYR
51	L9	8	LYS
51	L9	44	ILE
51	L9	45	GLU
51	L9	78	VAL
51	L9	97	ARG
51	L9	99	ILE
51	L9	141	LYS
52	LF	34	ARG
52	LF	81	ILE
52	LF	138	GLN
53	LG	10	VAL
53	LG	29	HIS
53	LG	37	ASP
53	LG	41	ILE
53	LG	48	PRO
53	LG	63	VAL
54	LH	29	LYS
54	LH	48	ARG
54	LH	64	PHE
54	LH	122	VAL
54	LH	126	ARG
55	LI	73	ILE
55	LI	112	LEU
55	LI	126	ILE

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Mol	Chain	Res	Type
56	LJ	34	ILE
56	LJ	40	LYS
56	LJ	50	PRO
56	LJ	75	ILE
57	LK	3	LYS
57	LK	34	HIS
57	LK	49	VAL
57	LK	84	GLU
57	LK	88	LYS
58	LZ	9	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (71) such sidechains are listed below:

Mol	Chain	Res	Type
4	SJ	99	GLN
5	SK	14	GLN
5	SK	108	ASN
8	SN	3	GLN
10	SP	9	HIS
10	SP	59	HIS
12	SR	73	HIS
12	SR	74	GLN
13	SS	51	HIS
13	SS	56	HIS
14	SB	14	HIS
17	SC	24	ASN
17	SC	99	GLN
17	SC	101	ASN
19	SE	69	ASN
19	SE	121	ASN
19	SE	147	ASN
21	SG	8	GLN
21	SG	121	ASN
21	SG	129	ASN
21	SG	152	HIS
21	SG	178	ASN
24	S1	84	ASN
24	S1	119	GLN
24	S1	191	ASN
24	S1	197	GLN
24	S1	504	HIS
24	S1	695	GLN

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Mol	Chain	Res	Type
27	LC	103	GLN
27	LC	172	HIS
29	LN	14	HIS
30	LO	43	GLN
30	LO	51	GLN
31	LP	89	HIS
33	LR	70	HIS
34	LS	53	GLN
35	LT	88	HIS
36	LU	45	HIS
36	LU	56	HIS
37	LV	15	ASN
38	LD	56	ASN
38	LD	121	GLN
39	LW	38	GLN
40	LX	42	ASN
40	LX	148	GLN
40	LX	149	ASN
40	LX	167	ASN
41	LY	19	HIS
42	L1	18	HIS
44	L3	16	HIS
47	L6	165	HIS
48	LE	5	GLN
48	LE	42	ASN
49	L7	4	HIS
49	L7	22	ASN
49	L7	26	GLN
49	L7	80	GLN
50	L8	37	ASN
50	L8	142	GLN
51	L9	20	ASN
51	L9	43	ASN
51	L9	135	HIS
52	LF	47	HIS
52	LF	76	HIS
52	LF	77	HIS
55	LI	3	GLN
55	LI	97	GLN
57	LK	29	HIS
57	LK	104	GLN
58	LZ	41	HIS

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Mol	Chain	Res	Type
58	LZ	65	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	SA	1542/1542 (100%)	314 (20%)	87 (5%)
2	S6	76/77 (98%)	13 (17%)	4 (5%)
25	LA	2903/2904 (99%)	570 (19%)	141 (4%)
26	LB	119/120 (99%)	21 (17%)	11 (9%)
3	S7	73/74 (98%)	29 (39%)	7 (9%)
All	All	4713/4717 (99%)	947 (20%)	250 (5%)

All (947) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	SA	2	A
1	SA	3	A
1	SA	4	U
1	SA	7	A
1	SA	8	A
1	SA	9	G
1	SA	36	C
1	SA	48	C
1	SA	51	A
1	SA	52	C
1	SA	53	A
1	SA	54	C
1	SA	60	A
1	SA	61	G
1	SA	69	G
1	SA	73	C
1	SA	83	C
1	SA	98	A
1	SA	108	G
1	SA	120	A
1	SA	121	U
1	SA	123	U
1	SA	129	A
1	SA	131	A
1	SA	135	C
1	SA	153	C

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Mol	Chain	Res	Type
1	SA	164	G
1	SA	166	U
1	SA	171	A
1	SA	174	A
1	SA	182	A
1	SA	183	C
1	SA	184	G
1	SA	188	C
1	SA	189	A
1	SA	197	A
1	SA	198	G
1	SA	200	G
1	SA	209	U
1	SA	211	G
1	SA	212	G
1	SA	225	C
1	SA	228	A
1	SA	244	U
1	SA	245	U
1	SA	247	G
1	SA	250	A
1	SA	251	G
1	SA	252	U
1	SA	262	A
1	SA	266	G
1	SA	267	C
1	SA	272	C
1	SA	280	C
1	SA	282	A
1	SA	289	G
1	SA	293	G
1	SA	307	C
1	SA	308	C
1	SA	316	C
1	SA	317	U
1	SA	319	G
1	SA	328	C
1	SA	329	A
1	SA	332	G
1	SA	352	C
1	SA	353	A
1	SA	354	G

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Mol	Chain	Res	Type
1	SA	367	U
1	SA	372	C
1	SA	373	A
1	SA	374	A
1	SA	381	C
1	SA	382	A
1	SA	384	G
1	SA	389	A
1	SA	390	U
1	SA	392	C
1	SA	395	C
1	SA	398	U
1	SA	404	G
1	SA	406	G
1	SA	411	A
1	SA	413	G
1	SA	415	A
1	SA	421	U
1	SA	422	C
1	SA	428	G
1	SA	429	U
1	SA	444	G
1	SA	463	U
1	SA	464	U
1	SA	468	A
1	SA	479	U
1	SA	496	A
1	SA	497	G
1	SA	498	A
1	SA	505	G
1	SA	508	U
1	SA	509	A
1	SA	510	A
1	SA	517	G
1	SA	518	C
1	SA	519	C
1	SA	527	G
1	SA	528	C
1	SA	531	U
1	SA	532	A
1	SA	533	A
1	SA	547	A

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Mol	Chain	Res	Type
1	SA	562	U
1	SA	563	A
1	SA	566	G
1	SA	572	A
1	SA	573	A
1	SA	575	G
1	SA	576	C
1	SA	577	G
1	SA	583	A
1	SA	615	G
1	SA	633	G
1	SA	636	U
1	SA	642	A
1	SA	650	G
1	SA	653	U
1	SA	687	A
1	SA	688	G
1	SA	700	G
1	SA	701	U
1	SA	702	A
1	SA	718	A
1	SA	720	C
1	SA	723	U
1	SA	724	G
1	SA	755	G
1	SA	760	G
1	SA	765	G
1	SA	766	A
1	SA	777	A
1	SA	783	C
1	SA	790	A
1	SA	791	G
1	SA	792	A
1	SA	793	U
1	SA	794	A
1	SA	805	C
1	SA	810	C
1	SA	812	G
1	SA	815	A
1	SA	816	A
1	SA	817	C
1	SA	818	G

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Mol	Chain	Res	Type
1	SA	819	A
1	SA	820	U
1	SA	821	G
1	SA	828	U
1	SA	829	G
1	SA	841	C
1	SA	842	U
1	SA	843	U
1	SA	845	A
1	SA	846	G
1	SA	870	U
1	SA	871	U
1	SA	873	A
1	SA	874	G
1	SA	876	C
1	SA	889	A
1	SA	890	G
1	SA	900	A
1	SA	910	C
1	SA	914	A
1	SA	926	G
1	SA	927	G
1	SA	933	G
1	SA	938	A
1	SA	939	G
1	SA	945	G
1	SA	959	A
1	SA	960	U
1	SA	961	U
1	SA	962	C
1	SA	965	U
1	SA	966	G
1	SA	968	A
1	SA	969	A
1	SA	970	C
1	SA	973	G
1	SA	974	A
1	SA	975	A
1	SA	977	A
1	SA	978	A
1	SA	981	U
1	SA	982	U

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Mol	Chain	Res	Type
1	SA	983	A
1	SA	992	U
1	SA	993	G
1	SA	994	A
1	SA	995	C
1	SA	1004	A
1	SA	1006	G
1	SA	1014	A
1	SA	1015	G
1	SA	1028	C
1	SA	1030	U
1	SA	1031	C
1	SA	1045	C
1	SA	1050	G
1	SA	1055	A
1	SA	1064	G
1	SA	1065	U
1	SA	1081	A
1	SA	1094	G
1	SA	1095	U
1	SA	1101	A
1	SA	1118	U
1	SA	1126	U
1	SA	1136	C
1	SA	1137	C
1	SA	1139	G
1	SA	1146	A
1	SA	1149	C
1	SA	1152	A
1	SA	1154	G
1	SA	1159	U
1	SA	1160	G
1	SA	1168	U
1	SA	1169	A
1	SA	1170	A
1	SA	1181	G
1	SA	1183	U
1	SA	1190	G
1	SA	1191	A
1	SA	1196	A
1	SA	1197	A
1	SA	1198	G

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Mol	Chain	Res	Type
1	SA	1200	C
1	SA	1201	A
1	SA	1202	U
1	SA	1208	C
1	SA	1212	U
1	SA	1214	C
1	SA	1215	G
1	SA	1224	U
1	SA	1226	C
1	SA	1227	A
1	SA	1228	C
1	SA	1238	A
1	SA	1241	G
1	SA	1250	A
1	SA	1254	A
1	SA	1257	A
1	SA	1258	G
1	SA	1264	U
1	SA	1268	G
1	SA	1270	G
1	SA	1278	G
1	SA	1279	G
1	SA	1281	C
1	SA	1286	U
1	SA	1287	A
1	SA	1290	G
1	SA	1300	G
1	SA	1301	U
1	SA	1302	C
1	SA	1303	C
1	SA	1305	G
1	SA	1315	U
1	SA	1319	A
1	SA	1322	C
1	SA	1336	C
1	SA	1340	A
1	SA	1345	U
1	SA	1346	A
1	SA	1347	G
1	SA	1348	U
1	SA	1362	A
1	SA	1363	A

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Mol	Chain	Res	Type
1	SA	1364	U
1	SA	1365	G
1	SA	1368	A
1	SA	1378	C
1	SA	1398	A
1	SA	1401	G
1	SA	1419	G
1	SA	1431	A
1	SA	1432	G
1	SA	1437	A
1	SA	1446	A
1	SA	1448	C
1	SA	1452	C
1	SA	1454	G
1	SA	1462	C
1	SA	1466	C
1	SA	1490	U
1	SA	1492	A
1	SA	1493	A
1	SA	1494	G
1	SA	1498	U
1	SA	1499	A
1	SA	1502	A
1	SA	1503	A
1	SA	1504	G
1	SA	1505	G
1	SA	1506	U
1	SA	1520	C
1	SA	1529	G
1	SA	1530	G
1	SA	1533	C
1	SA	1534	A
1	SA	1535	C
1	SA	1536	C
1	SA	1539	C
1	SA	1540	U
2	S6	8	U
2	S6	10	G
2	S6	18	U
2	S6	19	G
2	S6	20	G
2	S6	22	A

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Mol	Chain	Res	Type
2	S6	38	A
2	S6	48	U
2	S6	49	C
2	S6	50	G
2	S6	75	C
2	S6	76	C
2	S6	77	A
3	S7	4	C
3	S7	8	U
3	S7	9	A
3	S7	14	A
3	S7	16	U
3	S7	17	C
3	S7	18	G
3	S7	20	U
3	S7	21	A
3	S7	22	G
3	S7	26	A
3	S7	32	U
3	S7	35	A
3	S7	36	A
3	S7	37	A
3	S7	38	A
3	S7	39	U
3	S7	42	C
3	S7	44	G
3	S7	45	U
3	S7	49	C
3	S7	50	U
3	S7	57	G
3	S7	58	A
3	S7	61	C
3	S7	62	C
3	S7	63	G
3	S7	70	G
3	S7	74	C
25	LA	18	U
25	LA	30	G
25	LA	34	U
25	LA	35	G
25	LA	42	A
25	LA	46	G

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Mol	Chain	Res	Type
25	LA	49	A
25	LA	50	U
25	LA	63	A
25	LA	71	A
25	LA	74	A
25	LA	75	G
25	LA	91	A
25	LA	100	U
25	LA	101	A
25	LA	102	U
25	LA	103	A
25	LA	113	U
25	LA	115	C
25	LA	119	A
25	LA	120	U
25	LA	126	A
25	LA	127	A
25	LA	128	C
25	LA	140	C
25	LA	163	C
25	LA	164	C
25	LA	181	A
25	LA	194	G
25	LA	196	A
25	LA	197	A
25	LA	204	A
25	LA	205	G
25	LA	215	G
25	LA	216	A
25	LA	220	G
25	LA	222	A
25	LA	224	U
25	LA	225	C
25	LA	232	G
25	LA	233	A
25	LA	242	G
25	LA	243	U
25	LA	248	G
25	LA	250	G
25	LA	255	A
25	LA	265	A
25	LA	266	G

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Mol	Chain	Res	Type
25	LA	271	G
25	LA	277	G
25	LA	295	G
25	LA	311	A
25	LA	321	U
25	LA	330	A
25	LA	332	A
25	LA	333	G
25	LA	338	G
25	LA	369	U
25	LA	371	A
25	LA	372	G
25	LA	386	G
25	LA	387	U
25	LA	388	G
25	LA	389	G
25	LA	390	U
25	LA	391	A
25	LA	396	G
25	LA	404	A
25	LA	405	U
25	LA	406	G
25	LA	411	G
25	LA	424	G
25	LA	428	A
25	LA	429	A
25	LA	431	U
25	LA	436	C
25	LA	443	A
25	LA	447	A
25	LA	453	A
25	LA	454	A
25	LA	456	C
25	LA	472	A
25	LA	475	C
25	LA	479	A
25	LA	480	A
25	LA	481	G
25	LA	484	C
25	LA	490	C
25	LA	504	A
25	LA	505	A

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Mol	Chain	Res	Type
25	LA	508	A
25	LA	509	C
25	LA	513	A
25	LA	527	C
25	LA	530	G
25	LA	532	A
25	LA	544	C
25	LA	546	U
25	LA	547	A
25	LA	549	G
25	LA	550	C
25	LA	562	U
25	LA	563	A
25	LA	573	U
25	LA	574	A
25	LA	575	A
25	LA	603	A
25	LA	604	G
25	LA	612	G
25	LA	613	A
25	LA	614	A
25	LA	615	U
25	LA	620	G
25	LA	621	A
25	LA	632	A
25	LA	637	A
25	LA	642	U
25	LA	645	C
25	LA	652	U
25	LA	653	U
25	LA	655	A
25	LA	656	G
25	LA	675	A
25	LA	686	U
25	LA	696	G
25	LA	702	U
25	LA	718	A
25	LA	719	C
25	LA	728	G
25	LA	730	A
25	LA	732	C
25	LA	736	C

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Mol	Chain	Res	Type
25	LA	746	U
25	LA	747	U
25	LA	748	G
25	LA	752	A
25	LA	758	C
25	LA	763	G
25	LA	775	G
25	LA	776	G
25	LA	782	A
25	LA	784	G
25	LA	786	C
25	LA	789	A
25	LA	792	A
25	LA	802	A
25	LA	805	G
25	LA	812	C
25	LA	829	A
25	LA	846	U
25	LA	847	U
25	LA	848	C
25	LA	859	G
25	LA	870	U
25	LA	894	U
25	LA	896	A
25	LA	897	C
25	LA	901	C
25	LA	910	A
25	LA	915	C
25	LA	925	A
25	LA	932	U
25	LA	938	G
25	LA	941	A
25	LA	945	A
25	LA	946	C
25	LA	961	C
25	LA	973	A
25	LA	974	G
25	LA	975	A
25	LA	985	C
25	LA	986	C
25	LA	988	A
25	LA	995	C

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Mol	Chain	Res	Type
25	LA	996	A
25	LA	1002	G
25	LA	1003	G
25	LA	1005	C
25	LA	1008	A
25	LA	1009	A
25	LA	1012	U
25	LA	1013	C
25	LA	1022	G
25	LA	1025	G
25	LA	1027	A
25	LA	1044	C
25	LA	1048	A
25	LA	1052	C
25	LA	1060	U
25	LA	1061	U
25	LA	1062	G
25	LA	1067	A
25	LA	1069	A
25	LA	1070	A
25	LA	1073	A
25	LA	1078	U
25	LA	1079	C
25	LA	1081	U
25	LA	1084	A
25	LA	1087	G
25	LA	1094	U
25	LA	1095	A
25	LA	1096	A
25	LA	1097	U
25	LA	1098	A
25	LA	1104	C
25	LA	1109	C
25	LA	1110	G
25	LA	1112	G
25	LA	1128	G
25	LA	1129	A
25	LA	1132	U
25	LA	1133	A
25	LA	1134	A
25	LA	1143	A
25	LA	1156	A

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Mol	Chain	Res	Type
25	LA	1158	C
25	LA	1173	U
25	LA	1176	U
25	LA	1177	G
25	LA	1178	C
25	LA	1184	U
25	LA	1211	C
25	LA	1212	G
25	LA	1236	G
25	LA	1237	A
25	LA	1238	G
25	LA	1241	A
25	LA	1253	A
25	LA	1254	A
25	LA	1255	U
25	LA	1256	G
25	LA	1266	G
25	LA	1272	A
25	LA	1273	U
25	LA	1274	A
25	LA	1283	G
25	LA	1300	G
25	LA	1301	A
25	LA	1302	A
25	LA	1303	G
25	LA	1307	A
25	LA	1308	A
25	LA	1318	U
25	LA	1321	A
25	LA	1323	C
25	LA	1324	G
25	LA	1327	A
25	LA	1328	A
25	LA	1329	U
25	LA	1332	G
25	LA	1333	G
25	LA	1341	G
25	LA	1349	C
25	LA	1362	C
25	LA	1363	C
25	LA	1368	G
25	LA	1378	A

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Mol	Chain	Res	Type
25	LA	1379	U
25	LA	1384	A
25	LA	1385	A
25	LA	1386	C
25	LA	1387	A
25	LA	1392	A
25	LA	1395	A
25	LA	1396	U
25	LA	1416	G
25	LA	1417	C
25	LA	1420	A
25	LA	1421	G
25	LA	1429	G
25	LA	1452	G
25	LA	1453	A
25	LA	1458	U
25	LA	1459	G
25	LA	1460	U
25	LA	1461	C
25	LA	1482	G
25	LA	1493	C
25	LA	1494	A
25	LA	1495	A
25	LA	1497	U
25	LA	1508	A
25	LA	1509	A
25	LA	1510	G
25	LA	1514	G
25	LA	1522	A
25	LA	1523	U
25	LA	1524	G
25	LA	1552	A
25	LA	1558	C
25	LA	1565	C
25	LA	1566	A
25	LA	1569	A
25	LA	1578	U
25	LA	1585	C
25	LA	1586	A
25	LA	1608	A
25	LA	1609	A
25	LA	1610	A

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Mol	Chain	Res	Type
25	LA	1612	C
25	LA	1615	C
25	LA	1626	A
25	LA	1634	A
25	LA	1635	A
25	LA	1646	C
25	LA	1648	U
25	LA	1649	G
25	LA	1669	A
25	LA	1670	C
25	LA	1672	A
25	LA	1673	G
25	LA	1674	G
25	LA	1713	A
25	LA	1714	U
25	LA	1715	G
25	LA	1724	G
25	LA	1730	C
25	LA	1737	G
25	LA	1757	A
25	LA	1759	A
25	LA	1762	A
25	LA	1763	G
25	LA	1764	C
25	LA	1773	A
25	LA	1776	G
25	LA	1780	A
25	LA	1781	U
25	LA	1783	A
25	LA	1800	C
25	LA	1808	A
25	LA	1809	A
25	LA	1815	A
25	LA	1816	C
25	LA	1817	G
25	LA	1825	U
25	LA	1830	C
25	LA	1831	G
25	LA	1833	C
25	LA	1851	U
25	LA	1873	G
25	LA	1889	A

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Mol	Chain	Res	Type
25	LA	1900	A
25	LA	1901	A
25	LA	1913	A
25	LA	1914	C
25	LA	1915	U
25	LA	1917	U
25	LA	1928	A
25	LA	1930	G
25	LA	1937	A
25	LA	1938	A
25	LA	1939	U
25	LA	1941	C
25	LA	1943	U
25	LA	1955	U
25	LA	1956	U
25	LA	1963	U
25	LA	1964	G
25	LA	1965	C
25	LA	1966	A
25	LA	1967	C
25	LA	1968	G
25	LA	1970	A
25	LA	1971	U
25	LA	1972	G
25	LA	1982	U
25	LA	1993	U
25	LA	1996	C
25	LA	2004	G
25	LA	2012	G
25	LA	2020	A
25	LA	2023	C
25	LA	2030	C
25	LA	2031	A
25	LA	2034	U
25	LA	2043	C
25	LA	2055	C
25	LA	2056	G
25	LA	2059	A
25	LA	2061	G
25	LA	2062	A
25	LA	2069	G
25	LA	2077	A

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Mol	Chain	Res	Type
25	LA	2092	U
25	LA	2093	G
25	LA	2095	A
25	LA	2107	G
25	LA	2111	U
25	LA	2112	G
25	LA	2113	U
25	LA	2118	U
25	LA	2119	A
25	LA	2126	A
25	LA	2127	G
25	LA	2128	G
25	LA	2130	U
25	LA	2132	U
25	LA	2133	G
25	LA	2134	A
25	LA	2137	U
25	LA	2143	C
25	LA	2144	G
25	LA	2145	C
25	LA	2146	C
25	LA	2147	A
25	LA	2148	G
25	LA	2152	G
25	LA	2153	C
25	LA	2154	A
25	LA	2157	G
25	LA	2158	A
25	LA	2159	G
25	LA	2163	A
25	LA	2164	C
25	LA	2165	C
25	LA	2178	C
25	LA	2198	A
25	LA	2199	A
25	LA	2203	U
25	LA	2204	G
25	LA	2211	A
25	LA	2212	A
25	LA	2214	C
25	LA	2215	C
25	LA	2224	G

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Mol	Chain	Res	Type
25	LA	2225	A
25	LA	2237	G
25	LA	2238	G
25	LA	2239	G
25	LA	2246	G
25	LA	2249	U
25	LA	2250	G
25	LA	2253	G
25	LA	2266	A
25	LA	2267	A
25	LA	2270	A
25	LA	2271	G
25	LA	2272	U
25	LA	2282	G
25	LA	2283	C
25	LA	2287	A
25	LA	2288	A
25	LA	2305	U
25	LA	2306	C
25	LA	2307	G
25	LA	2308	G
25	LA	2309	A
25	LA	2311	A
25	LA	2312	U
25	LA	2322	A
25	LA	2325	G
25	LA	2333	A
25	LA	2334	U
25	LA	2335	A
25	LA	2336	A
25	LA	2337	G
25	LA	2340	A
25	LA	2345	G
25	LA	2347	C
25	LA	2350	C
25	LA	2354	C
25	LA	2358	A
25	LA	2381	A
25	LA	2383	G
25	LA	2385	C
25	LA	2388	A
25	LA	2389	G

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Mol	Chain	Res	Type
25	LA	2402	U
25	LA	2406	A
25	LA	2407	A
25	LA	2411	A
25	LA	2426	A
25	LA	2427	C
25	LA	2428	G
25	LA	2429	G
25	LA	2432	A
25	LA	2439	A
25	LA	2441	U
25	LA	2448	A
25	LA	2449	U
25	LA	2450	A
25	LA	2452	C
25	LA	2453	A
25	LA	2470	G
25	LA	2472	G
25	LA	2474	U
25	LA	2476	A
25	LA	2478	A
25	LA	2486	C
25	LA	2491	U
25	LA	2494	G
25	LA	2502	G
25	LA	2503	A
25	LA	2508	G
25	LA	2515	C
25	LA	2516	A
25	LA	2518	A
25	LA	2519	U
25	LA	2529	G
25	LA	2530	A
25	LA	2547	A
25	LA	2553	G
25	LA	2554	U
25	LA	2564	A
25	LA	2565	A
25	LA	2566	A
25	LA	2567	G
25	LA	2572	A
25	LA	2573	C

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Mol	Chain	Res	Type
25	LA	2581	G
25	LA	2585	U
25	LA	2599	G
25	LA	2602	A
25	LA	2603	G
25	LA	2613	U
25	LA	2616	C
25	LA	2629	U
25	LA	2639	A
25	LA	2654	A
25	LA	2655	G
25	LA	2656	U
25	LA	2664	G
25	LA	2685	G
25	LA	2689	U
25	LA	2690	U
25	LA	2714	G
25	LA	2726	A
25	LA	2737	G
25	LA	2739	U
25	LA	2742	G
25	LA	2744	G
25	LA	2757	A
25	LA	2765	A
25	LA	2766	A
25	LA	2769	U
25	LA	2771	C
25	LA	2774	C
25	LA	2777	G
25	LA	2778	A
25	LA	2779	U
25	LA	2780	G
25	LA	2781	A
25	LA	2782	G
25	LA	2791	G
25	LA	2798	U
25	LA	2800	A
25	LA	2807	U
25	LA	2808	G
25	LA	2809	A
25	LA	2820	A
25	LA	2821	A

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Mol	Chain	Res	Type
25	LA	2825	G
25	LA	2832	U
25	LA	2835	A
25	LA	2836	U
25	LA	2842	G
25	LA	2849	U
25	LA	2861	U
25	LA	2864	G
25	LA	2867	G
25	LA	2872	A
25	LA	2883	A
25	LA	2884	U
25	LA	2886	A
25	LA	2889	C
25	LA	2893	A
25	LA	2895	G
25	LA	2903	U
25	LA	2904	U
26	LB	6	G
26	LB	9	G
26	LB	12	C
26	LB	13	G
26	LB	25	U
26	LB	26	C
26	LB	35	C
26	LB	41	G
26	LB	44	G
26	LB	45	A
26	LB	51	G
26	LB	57	A
26	LB	58	A
26	LB	66	A
26	LB	67	G
26	LB	73	A
26	LB	87	U
26	LB	88	C
26	LB	89	U
26	LB	90	C
26	LB	99	A

All (250) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	SA	1	A
1	SA	7	A
1	SA	39	G
1	SA	51	A
1	SA	97	G
1	SA	128	G
1	SA	134	G
1	SA	173	U
1	SA	178	C
1	SA	187	G
1	SA	224	U
1	SA	243	A
1	SA	244	U
1	SA	250	A
1	SA	251	G
1	SA	279	A
1	SA	281	G
1	SA	307	C
1	SA	326	G
1	SA	328	C
1	SA	366	A
1	SA	372	C
1	SA	421	U
1	SA	497	G
1	SA	533	A
1	SA	562	U
1	SA	582	C
1	SA	700	G
1	SA	701	U
1	SA	717	U
1	SA	719	C
1	SA	733	G
1	SA	764	C
1	SA	765	G
1	SA	781	A
1	SA	782	A
1	SA	793	U
1	SA	814	A
1	SA	815	A
1	SA	816	A
1	SA	840	C
1	SA	844	G
1	SA	870	U

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Mol	Chain	Res	Type
1	SA	899	C
1	SA	937	A
1	SA	944	G
1	SA	960	U
1	SA	964	A
1	SA	965	U
1	SA	968	A
1	SA	976	G
1	SA	992	U
1	SA	993	G
1	SA	1014	A
1	SA	1029	U
1	SA	1159	U
1	SA	1167	A
1	SA	1168	U
1	SA	1190	G
1	SA	1196	A
1	SA	1201	A
1	SA	1207	G
1	SA	1213	A
1	SA	1214	C
1	SA	1226	C
1	SA	1227	A
1	SA	1253	G
1	SA	1278	G
1	SA	1286	U
1	SA	1289	A
1	SA	1302	C
1	SA	1344	C
1	SA	1346	A
1	SA	1347	G
1	SA	1362	A
1	SA	1364	U
1	SA	1430	A
1	SA	1491	G
1	SA	1492	A
1	SA	1498	U
1	SA	1502	A
1	SA	1503	A
1	SA	1529	G
1	SA	1530	G
1	SA	1533	C

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Mol	Chain	Res	Type
1	SA	1534	A
1	SA	1539	C
2	S6	7	G
2	S6	9	G
2	S6	22	A
2	S6	74	A
3	S7	7	A
3	S7	16	U
3	S7	17	C
3	S7	21	A
3	S7	38	A
3	S7	41	C
3	S7	57	G
25	LA	13	A
25	LA	29	U
25	LA	49	A
25	LA	71	A
25	LA	114	U
25	LA	118	A
25	LA	126	A
25	LA	163	C
25	LA	196	A
25	LA	231	A
25	LA	241	A
25	LA	242	G
25	LA	265	A
25	LA	332	A
25	LA	368	A
25	LA	386	G
25	LA	387	U
25	LA	428	A
25	LA	453	A
25	LA	479	A
25	LA	527	C
25	LA	529	A
25	LA	545	U
25	LA	547	A
25	LA	548	G
25	LA	561	G
25	LA	603	A
25	LA	611	C
25	LA	620	G

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Mol	Chain	Res	Type
25	LA	631	A
25	LA	644	A
25	LA	651	G
25	LA	652	U
25	LA	735	A
25	LA	805	G
25	LA	846	U
25	LA	847	U
25	LA	900	A
25	LA	974	G
25	LA	982	C
25	LA	1012	U
25	LA	1061	U
25	LA	1069	A
25	LA	1085	A
25	LA	1133	A
25	LA	1142	A
25	LA	1157	G
25	LA	1176	U
25	LA	1210	G
25	LA	1211	C
25	LA	1254	A
25	LA	1282	U
25	LA	1286	A
25	LA	1327	A
25	LA	1328	A
25	LA	1329	U
25	LA	1332	G
25	LA	1340	U
25	LA	1348	C
25	LA	1386	C
25	LA	1395	A
25	LA	1402	U
25	LA	1416	G
25	LA	1460	U
25	LA	1508	A
25	LA	1509	A
25	LA	1510	G
25	LA	1523	U
25	LA	1608	A
25	LA	1634	A
25	LA	1723	G

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Mol	Chain	Res	Type
25	LA	1762	A
25	LA	1764	C
25	LA	1781	U
25	LA	1784	A
25	LA	1807	G
25	LA	1888	G
25	LA	1900	A
25	LA	1914	C
25	LA	1927	A
25	LA	1938	A
25	LA	1940	U
25	LA	1944	U
25	LA	1954	G
25	LA	1955	U
25	LA	2022	U
25	LA	2030	C
25	LA	2042	A
25	LA	2055	C
25	LA	2068	U
25	LA	2076	U
25	LA	2092	U
25	LA	2106	U
25	LA	2118	U
25	LA	2133	G
25	LA	2145	C
25	LA	2146	C
25	LA	2162	G
25	LA	2198	A
25	LA	2211	A
25	LA	2213	U
25	LA	2223	G
25	LA	2225	A
25	LA	2236	U
25	LA	2238	G
25	LA	2249	U
25	LA	2271	G
25	LA	2282	G
25	LA	2287	A
25	LA	2305	U
25	LA	2307	G
25	LA	2308	G
25	LA	2311	A

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Mol	Chain	Res	Type
25	LA	2336	A
25	LA	2385	C
25	LA	2402	U
25	LA	2425	A
25	LA	2430	A
25	LA	2439	A
25	LA	2440	C
25	LA	2448	A
25	LA	2452	C
25	LA	2468	A
25	LA	2473	U
25	LA	2515	C
25	LA	2564	A
25	LA	2571	U
25	LA	2585	U
25	LA	2602	A
25	LA	2655	G
25	LA	2663	G
25	LA	2756	U
25	LA	2765	A
25	LA	2797	U
25	LA	2806	C
25	LA	2808	G
25	LA	2818	U
25	LA	2832	U
25	LA	2835	A
25	LA	2849	U
25	LA	2861	U
26	LB	11	C
26	LB	12	C
26	LB	25	U
26	LB	34	A
26	LB	36	C
26	LB	44	G
26	LB	57	A
26	LB	66	A
26	LB	87	U
26	LB	108	A
26	LB	109	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

1 ligand is 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	$\# Z > 2$
59	GTP	S1	801	-	33,34,34	3.73	5 (15%)	50,54,54	1.67	11 (22%)

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
59	GTP	S1	801	-	-	2/22/38/38	0/3/3/3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	S1	801	GTP	PB-O3B	20.18	1.81	1.59
59	S1	801	GTP	C5-C6	-3.00	1.33	1.44
59	S1	801	GTP	C5-N7	-2.74	1.33	1.39
59	S1	801	GTP	PG-O3G	-2.04	1.47	1.54
59	S1	801	GTP	PG-O2G	-2.04	1.47	1.54

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	S1	801	GTP	C2-N3-C4	4.85	120.65	112.30
59	S1	801	GTP	C5-C4-N3	-4.58	121.10	128.39
59	S1	801	GTP	C2-N1-C6	-3.79	118.24	125.11
59	S1	801	GTP	N9-C8-N7	-3.02	107.81	113.40
59	S1	801	GTP	N9-C4-N3	2.62	131.18	125.95
59	S1	801	GTP	C4'-O4'-C1'	-2.49	103.96	109.47
59	S1	801	GTP	C5-C6-N1	2.47	119.55	113.25
59	S1	801	GTP	O3G-PG-O2G	2.30	116.41	107.80
59	S1	801	GTP	C8-N7-C5	2.17	108.12	104.26
59	S1	801	GTP	O6-C6-C5	-2.16	120.82	126.53
59	S1	801	GTP	N1-C2-N3	-2.11	119.46	123.32

There are no chirality outliers.

All (2) torsion outliers are listed below:

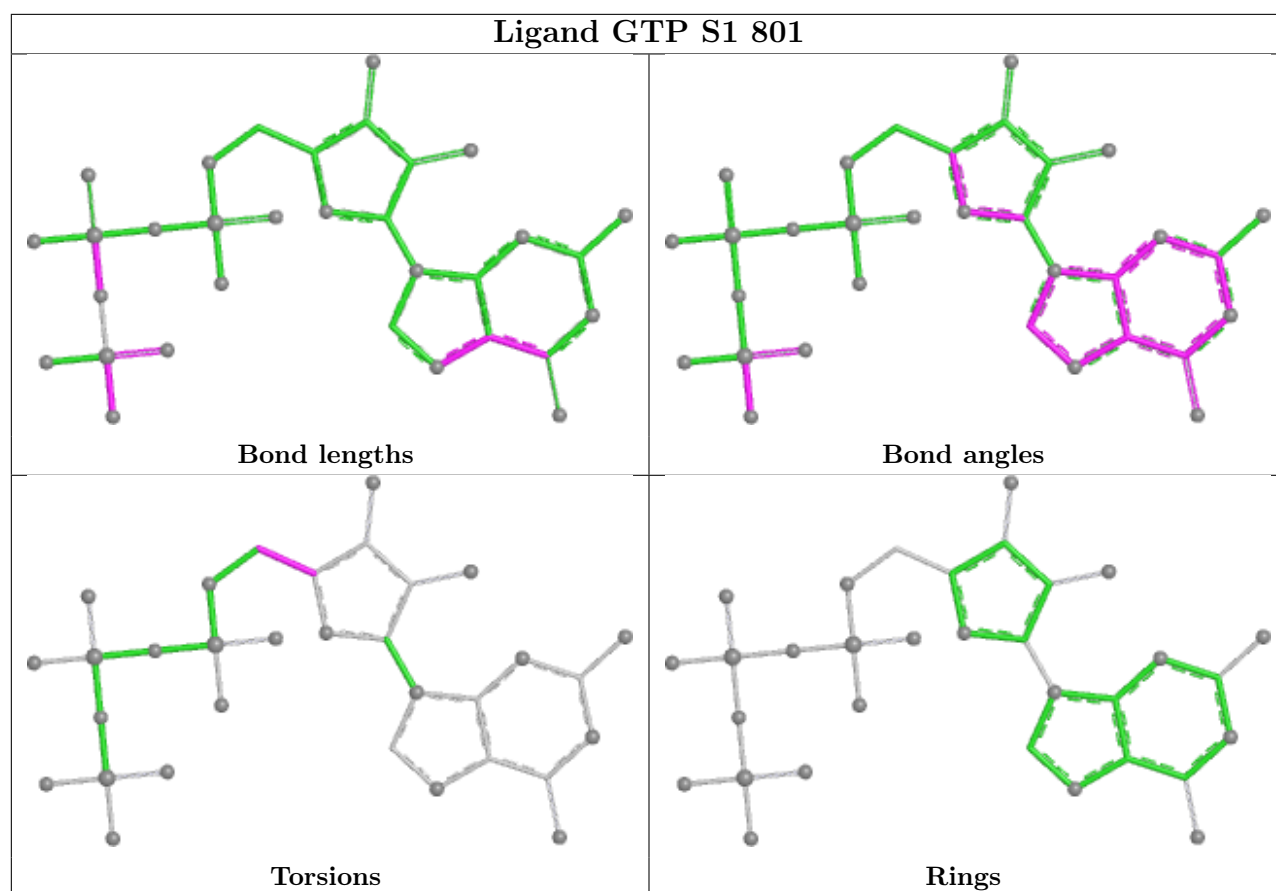
Mol	Chain	Res	Type	Atoms
59	S1	801	GTP	O4'-C4'-C5'-O5'
59	S1	801	GTP	C3'-C4'-C5'-O5'

There are no ring outliers.

1 monomer is involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
59	S1	801	GTP	16	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

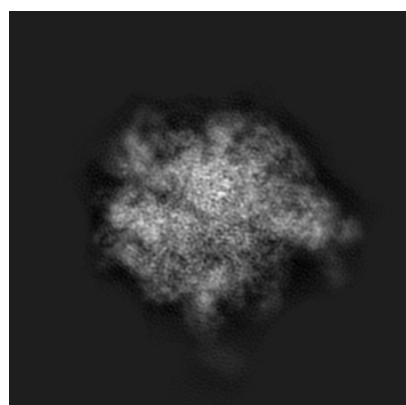
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-6315. These allow visual inspection of the internal detail of the map and identification of artifacts.

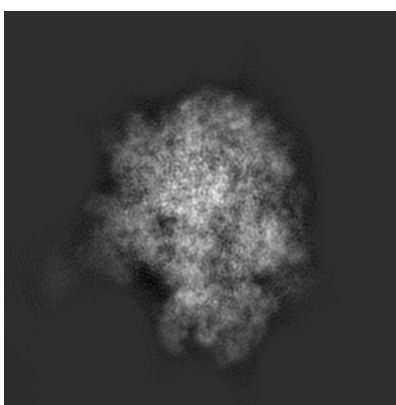
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

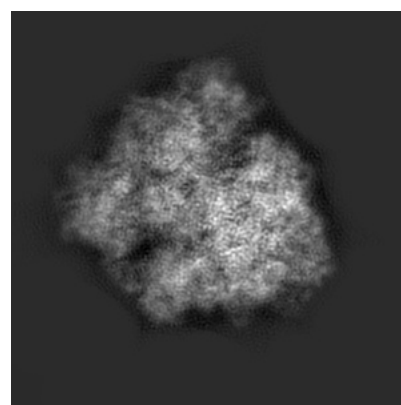
6.1.1 Primary map



X



Y

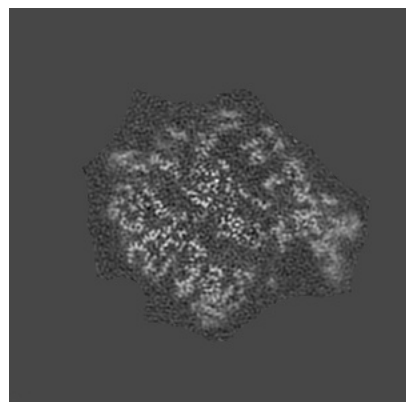


Z

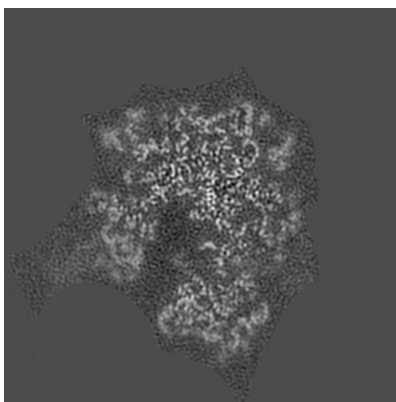
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

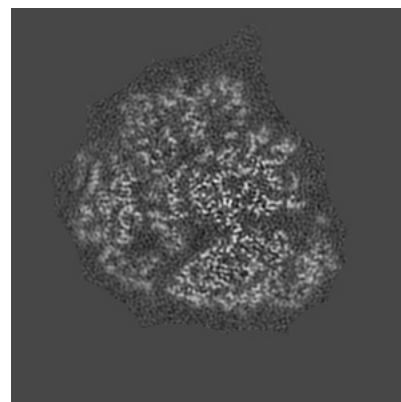
6.2.1 Primary map



X Index: 180



Y Index: 180

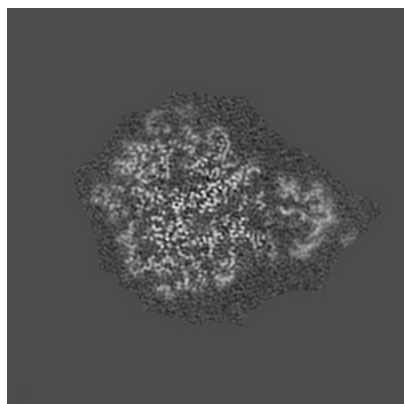


Z Index: 180

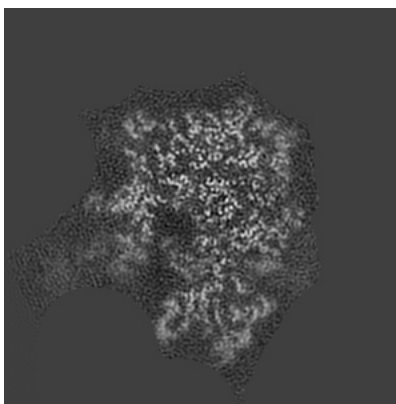
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

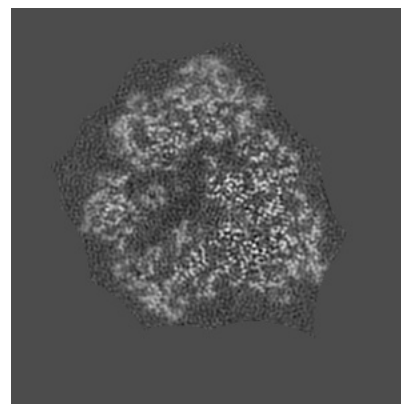
6.3.1 Primary map



X Index: 201



Y Index: 187

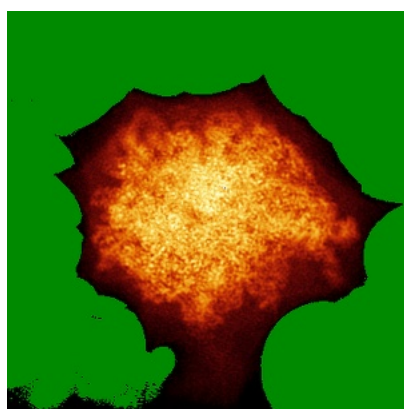


Z Index: 164

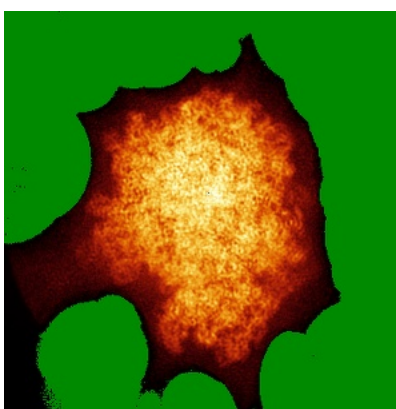
The images above show the largest variance slices of the map in three orthogonal directions.

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

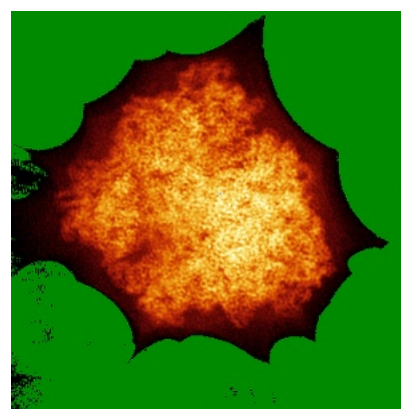
6.4.1 Primary map



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 0.03. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

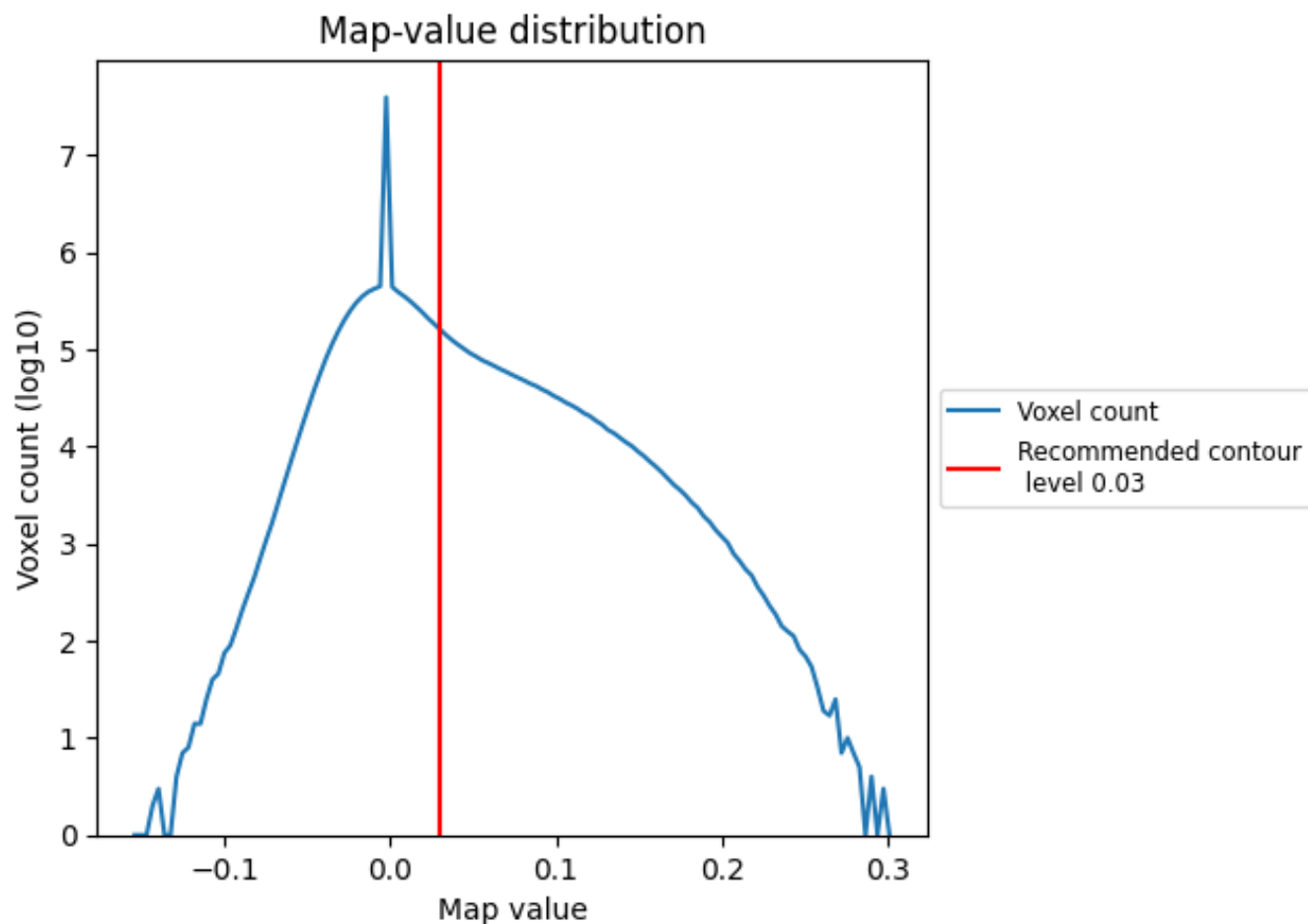
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

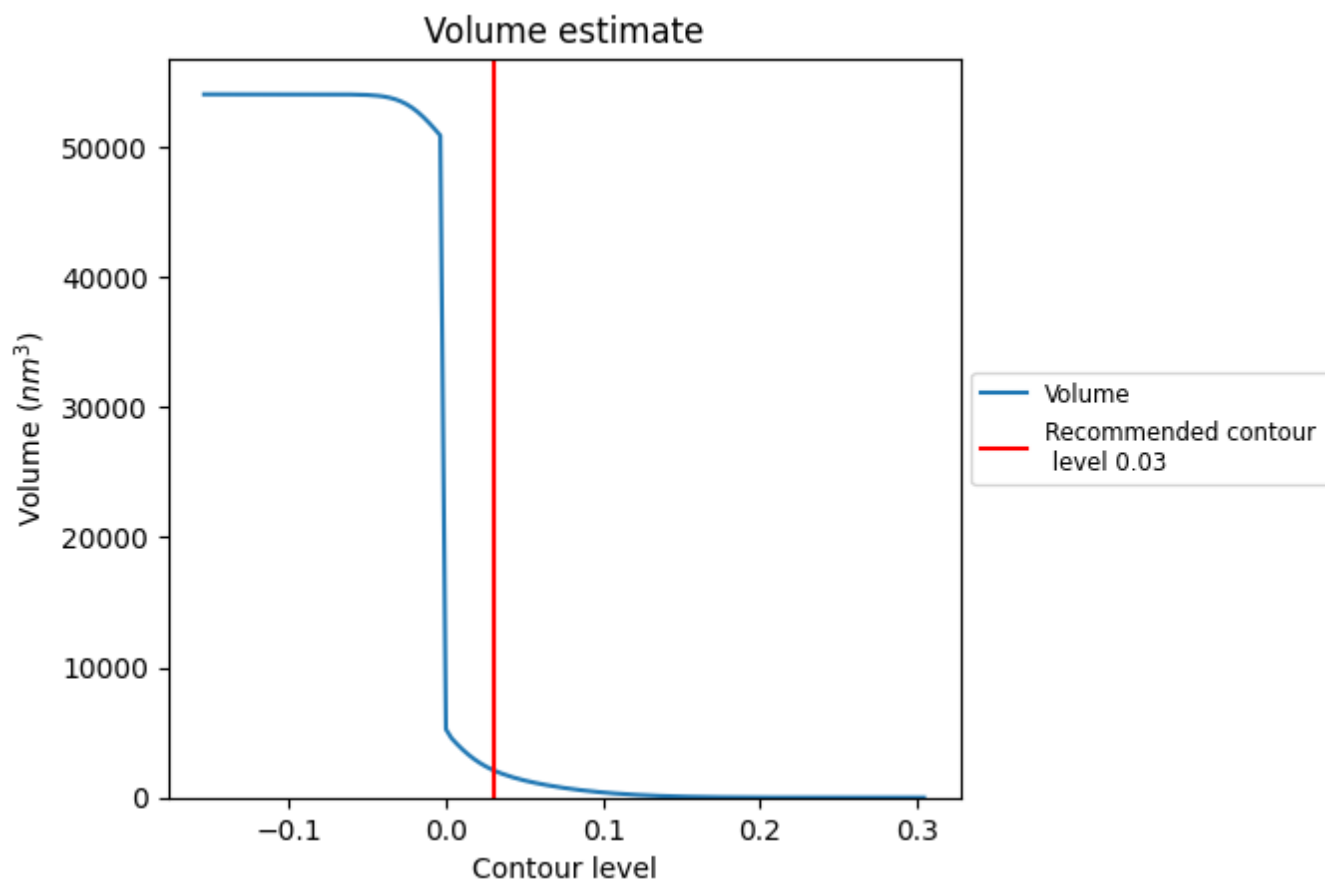
This section contains the results of statistical analysis of the map.

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.

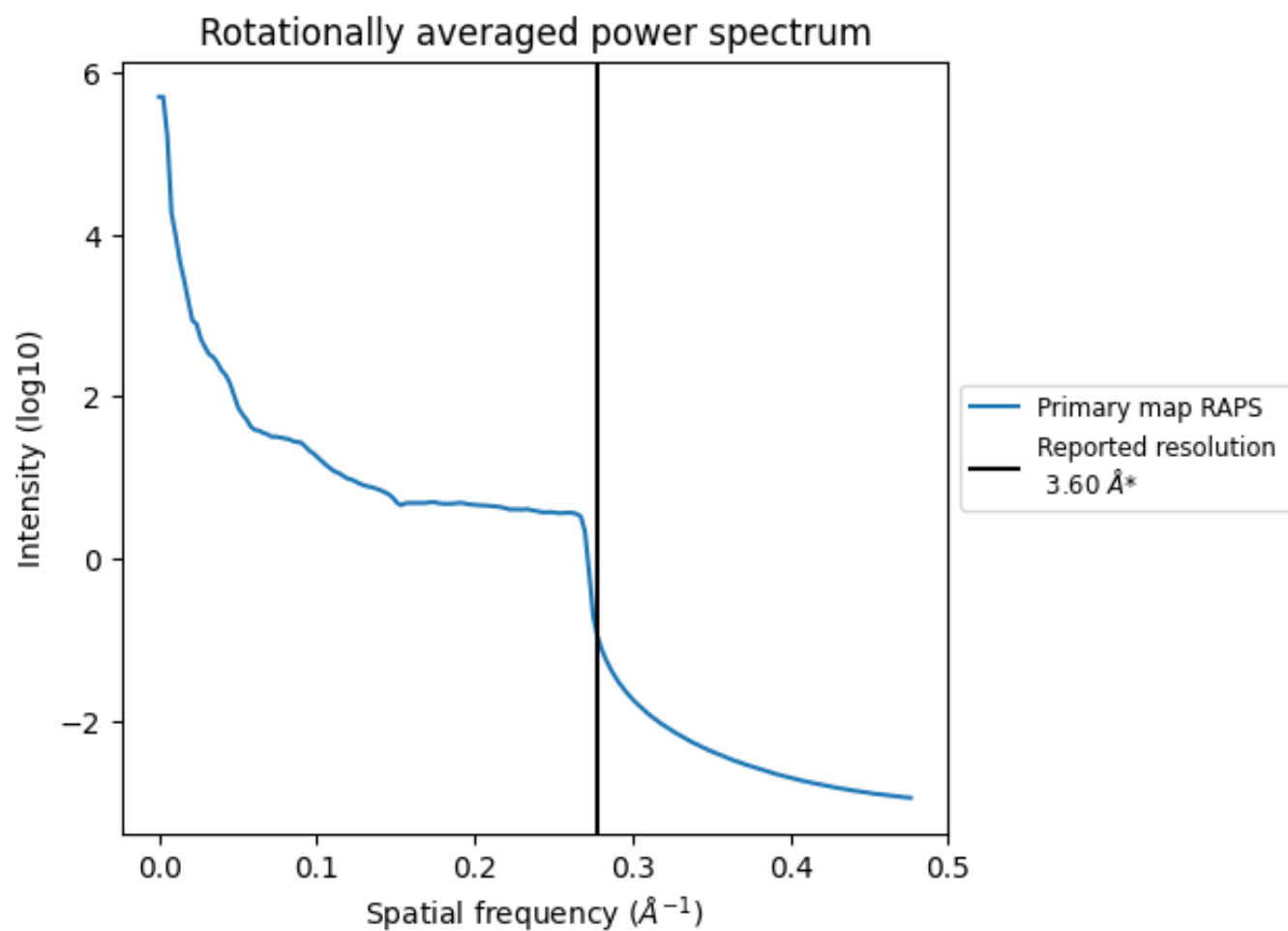
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2119 nm³; this corresponds to an approximate mass of 1915 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 0.278 Å⁻¹

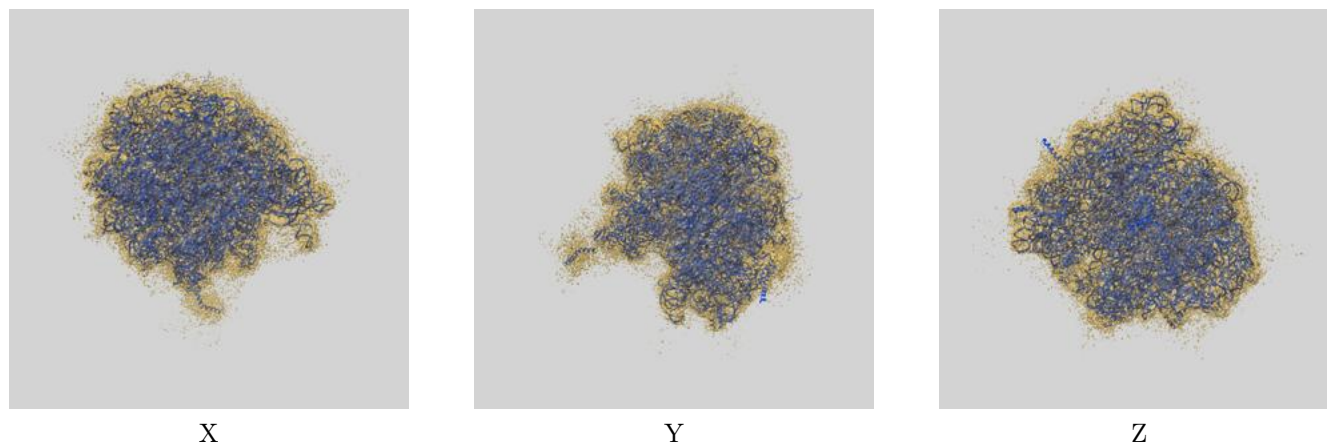
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-6315 and PDB model 3J9Z. Per-residue inclusion information can be found in section 3 on page 16.

9.1 Map-model overlay [i](#)



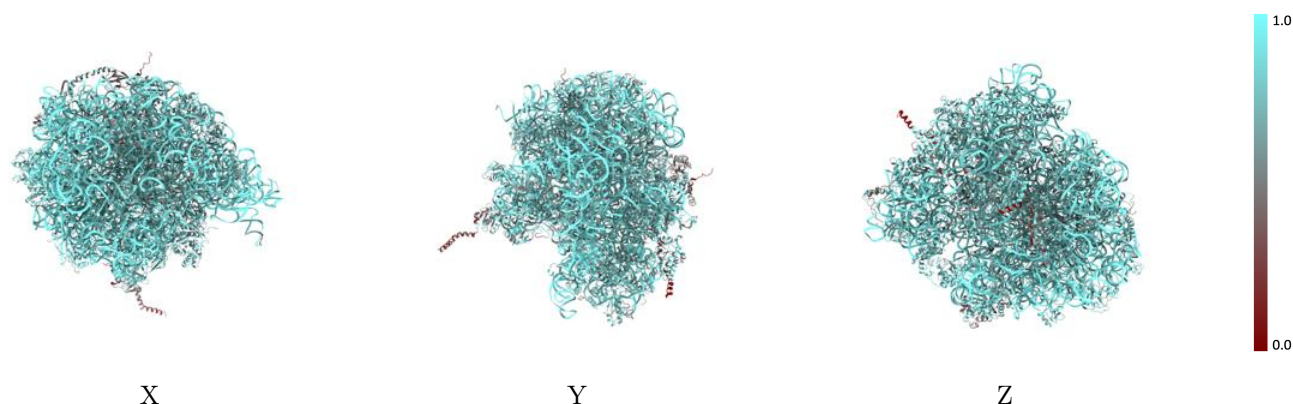
The images above show the 3D surface view of the map at the recommended contour level 0.03 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



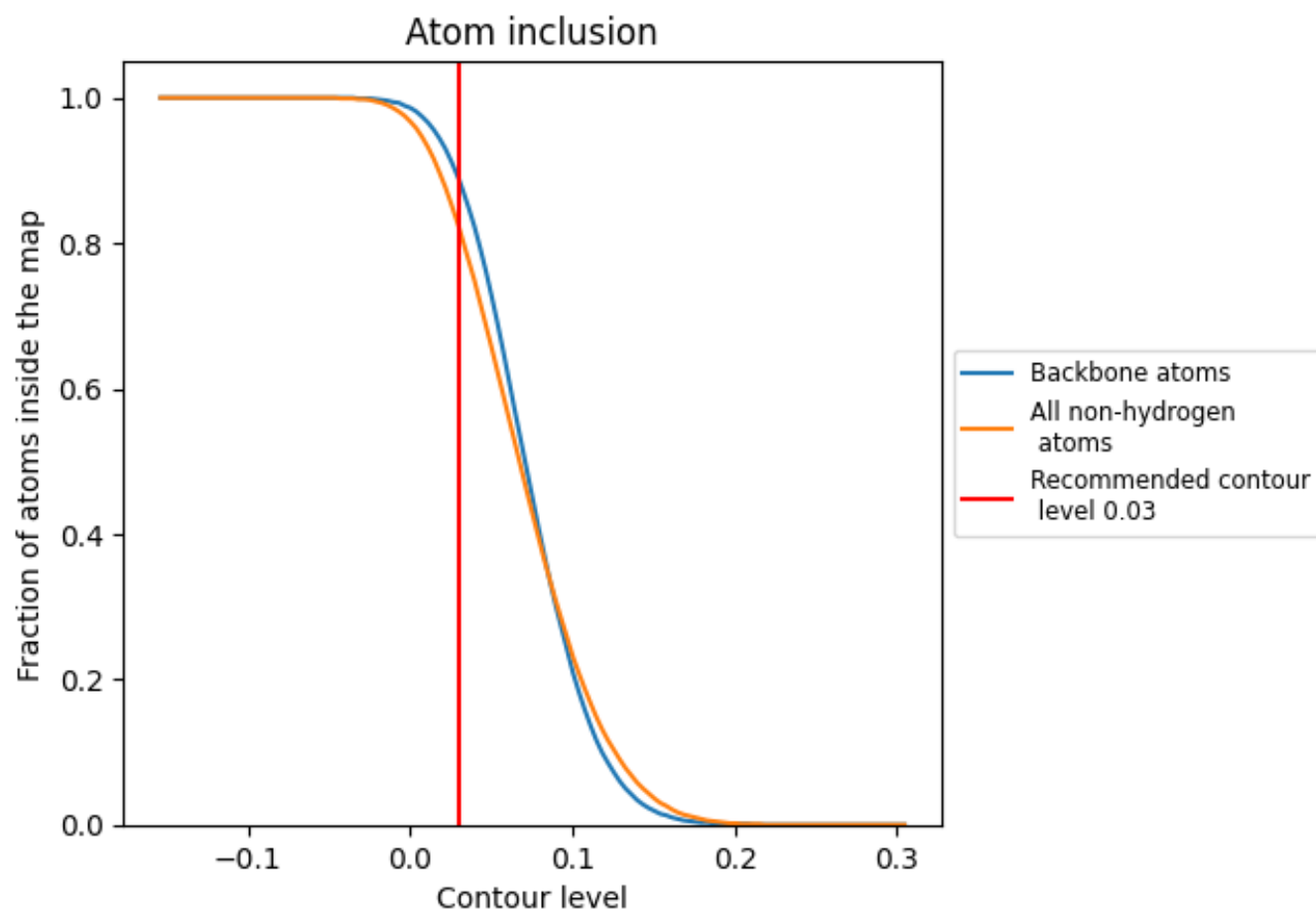
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.03).

9.4 Atom inclusion [i](#)



At the recommended contour level, 89% of all backbone atoms, 82% 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 (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8210	 0.1940
L1	 0.7380	 0.1660
L2	 0.7570	 0.2300
L3	 0.6760	 0.1490
L4	 0.7720	 0.2340
L5	 0.7880	 0.2560
L6	 0.7570	 0.1840
L7	 0.8160	 0.2540
L8	 0.8020	 0.2460
L9	 0.5100	 0.1070
LA	 0.8750	 0.2050
LB	 0.9630	 0.2750
LC	 0.6100	 0.1060
LD	 0.4940	 0.1870
LE	 0.7120	 0.1980
LF	 0.7910	 0.2260
LG	 0.6440	 0.1730
LH	 0.7810	 0.2110
LI	 0.8080	 0.2900
LJ	 0.6830	 0.1270
LK	 0.8530	 0.2540
LM	 0.6860	 0.1430
LN	 0.6740	 0.1470
LO	 0.7950	 0.2170
LP	 0.7880	 0.2220
LQ	 0.7140	 0.1760
LR	 0.6780	 0.1130
LS	 0.7900	 0.1340
LT	 0.8500	 0.3110
LU	 0.7280	 0.2380
LV	 0.7350	 0.1800
LW	 0.6800	 0.0770
LX	 0.7220	 0.1850
LY	 0.7990	 0.2660
LZ	 0.6410	 0.1850



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Chain	Atom inclusion	Q-score
S1	 0.7010	 0.1850
S6	 0.8650	 0.2260
S7	 0.8100	 0.1550
SA	 0.8840	 0.1920
SB	 0.6410	 0.1240
SC	 0.6850	 0.1890
SD	 0.7720	 0.1700
SE	 0.6680	 0.1570
SF	 0.5730	 0.0870
SG	 0.7070	 0.1740
SH	 0.7160	 0.1140
SI	 0.7600	 0.1720
SJ	 0.7000	 0.1970
SK	 0.6910	 0.1670
SL	 0.7130	 0.1850
SM	 0.7940	 0.2500
SN	 0.8000	 0.2190
SO	 0.6800	 0.0970
SP	 0.7580	 0.1140
SQ	 0.6980	 0.1110
SR	 0.6760	 0.1380
SS	 0.7610	 0.2490
ST	 0.7270	 0.1220
SU	 0.5980	 0.1600