



Full wwPDB/EMDatabank EM Map/Model Validation Report ⓘ

Sep 10, 2017 – 05:14 AM EDT

PDB ID : 5O2R
EMDB ID: : EMD-3730
Title : Cryo-EM structure of the proline-rich antimicrobial peptide Api137 bound to the terminating ribosome
Authors : Graf, M.; Berninghausen, O.; Beckmann, R.; Wilson, D.N.
Deposited on : unknown
Resolution : 3.40 Å(reported)

This is a Full wwPDB/EMDatabank EM Map/Model Validation Report
for a publicly released PDB/EMDB entry.

We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

MolProbity : 4.02b-467
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20029824

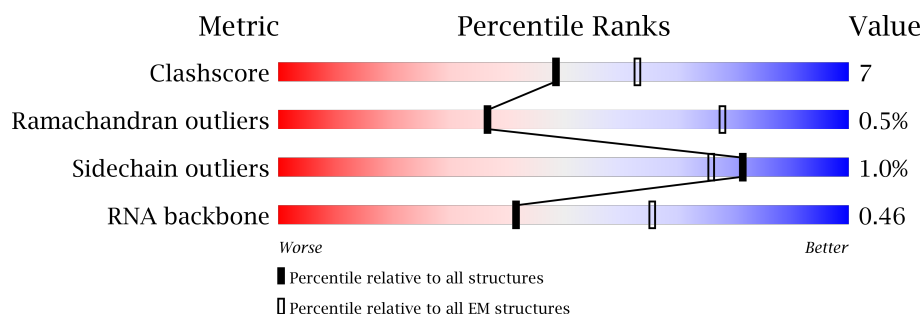
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.40 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	125131	1336
Ramachandran outliers	121729	1120
Sidechain outliers	121581	1026
RNA backbone	3398	335

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

Mol	Chain	Length	Quality of chain
1	A	2903	53% 37% 10% .
2	B	120	52% 32% 15% .
3	C	271	79% 21%
4	D	209	86% 14%
5	E	201	75% 24%
6	F	177	82% 17% .
7	G	176	79% 20% .
8	H	149	80% 19% .

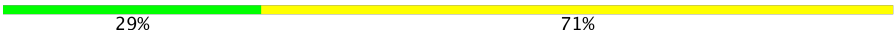

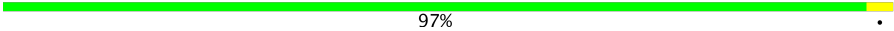
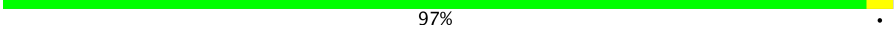
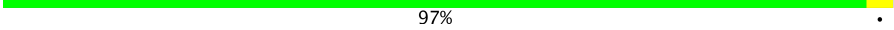
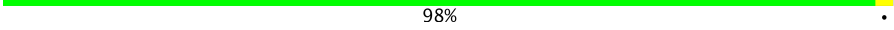
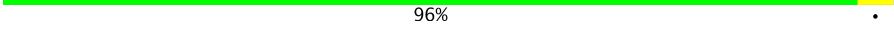
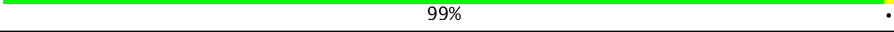
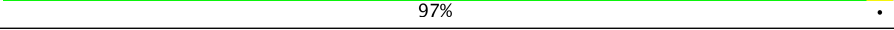
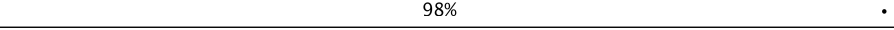
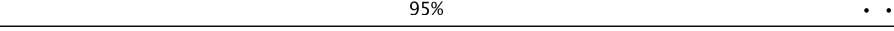
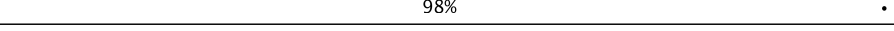
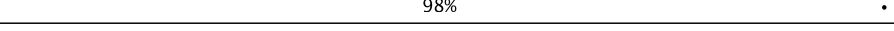
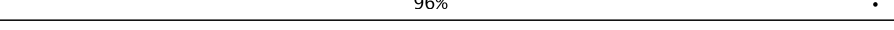
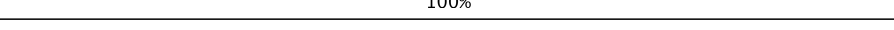
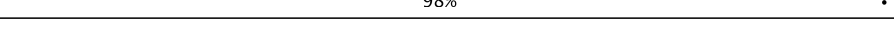
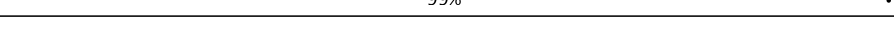
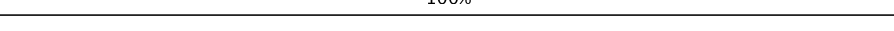
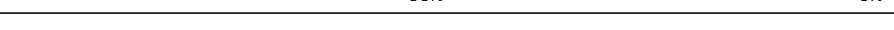
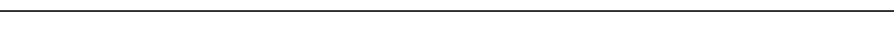

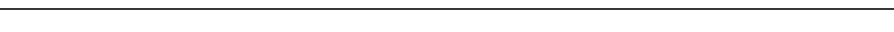
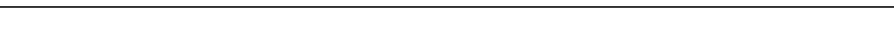


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Mol	Chain	Length	Quality of chain	
9	I	141	<div><div></div></div>	80% 20%
10	J	142	<div><div></div></div>	82% 18%
11	K	122	<div><div></div></div>	81% 19%
12	L	143	<div><div></div></div>	84% 15% .
13	M	136	<div><div></div></div>	80% 19% .
14	N	120	<div><div></div></div>	79% 21%
15	O	116	<div><div></div></div>	79% 21%
16	P	114	<div><div></div></div>	81% 19%
17	Q	117	<div><div></div></div>	84% 15% .
18	R	103	<div><div></div></div>	78% 21% .
19	S	110	<div><div></div></div>	84% 16%
20	T	93	<div><div></div></div>	81% 19%
21	U	102	<div><div></div></div>	83% 17%
22	V	94	<div><div></div></div>	81% 19%
23	W	75	<div><div></div></div>	89% 9% .
24	X	77	<div><div></div></div>	73% 27%
25	Y	63	<div><div></div></div>	79% 21%
26	Z	58	<div><div></div></div>	81% 19%
27	0	56	<div><div></div></div>	84% 16%
28	1	50	<div><div></div></div>	84% 16%
29	2	46	<div><div></div></div>	74% 26%
30	3	64	<div><div></div></div>	72% 27% .
31	4	38	<div><div></div></div>	82% 18%
32	5	131	<div><div></div></div>	72% 27% .
33	6	66	<div><div></div></div>	85% 15%

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Mol	Chain	Length	Quality of chain
34	7	7	 29% 71%
35	a	1539	 68% 29% .
36	b	218	 97% .
37	c	206	 97% .
38	d	205	 97% .
39	e	157	 98% .
40	f	100	 96% .
41	g	151	 99% .
42	h	129	 97% .
43	i	127	 98% .
44	j	98	 95% . .
45	k	116	 98% .
46	l	123	 98% .
47	m	114	 96% .
48	n	101	 100%
49	o	88	 98% .
50	p	82	 99% .
51	q	80	 100%
52	r	65	 95% 5%
53	s	79	 100%
54	t	85	 100%
55	u	65	 95% 5%
56	v	242	 95% .
57	x	77	 61% 35% .
58	z	14	 86% 14%

2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 147985 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 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	2900	Total	C	N	O	P	0	0
			62262	27774	11460	20128	2900		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	747	C	U	conflict	GB 802133627
A	1847	G	A	conflict	GB 802133627

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	120	Total	C	N	O	P	0	0
			2572	1145	471	836	120		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	120	A	U	conflict	GB 1150448909

- Molecule 3 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 4 is a protein called 50S ribosomal protein L3.

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

- Molecule 5 is a protein called 50S ribosomal protein L4.

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

- Molecule 6 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 7 is a protein called 50S ribosomal protein L6.

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

- Molecule 8 is a protein called 50S ribosomal protein L9.

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

- Molecule 9 is a protein called 50S ribosomal protein L11.

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

- Molecule 10 is a protein called 50S ribosomal protein L13.

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

- Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

- Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

- Molecule 13 is a protein called 50S ribosomal protein L16.

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

- Molecule 14 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	120	Total	C	N	O	S	0	0
			960	593	196	166	5		

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	O	116	Total	C	N	O	0	0
			892	552	178	162		

- Molecule 16 is a protein called 50S ribosomal protein L19.

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

- Molecule 17 is a protein called 50S ribosomal protein L20.

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

- Molecule 18 is a protein called 50S ribosomal protein L21.

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

- Molecule 19 is a protein called 50S ribosomal protein L22.

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

- Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

- Molecule 21 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	102	Total	C	N	O		0	0
			779	492	146	141			

- Molecule 22 is a protein called 50S ribosomal protein L25.

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

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	75	Total	C	N	O	S	0	0
			575	356	116	102	1		

- Molecule 24 is a protein called 50S ribosomal protein L28.

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

- Molecule 25 is a protein called 50S ribosomal protein L29.

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

- Molecule 26 is a protein called 50S ribosomal protein L30.

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

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	0	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	1	50	Total	C	N	O	S	0	0
			409	263	75	71			

- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	2	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	3	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	4	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 32 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	5	131	Total	C	N	O	S	0	0
			988	625	175	183	5		

- Molecule 33 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	6	66	Total	C	N	O	S	0	0
			522	323	99	94	6		

- Molecule 34 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	7	7	Total	C	N	O	P	0	0
			149	67	27	48	7		

- Molecule 35 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	a	1539	Total	C	N	O	P	0	0
			33016	14725	6052	10700	1539		

- Molecule 36 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	b	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 37 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	c	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 38 is a protein called 30S ribosomal protein S4.

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

- Molecule 39 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	e	157	Total	C	N	O	S	0	0
			1141	709	218	208	6		

- Molecule 40 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	f	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 41 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	g	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		

- Molecule 42 is a protein called 30S ribosomal protein S8.

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

- Molecule 43 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	i	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 44 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	j	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 45 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	k	116	Total	C	N	O	S	0	0
			869	535	173	158	3		

- Molecule 46 is a protein called 30S ribosomal protein S12.

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

- Molecule 47 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	m	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 48 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	n	101	Total	C	N	O	S	0	0
			799	498	165	133	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n	35	ALA	-	insertion	UNP P0AG59

- Molecule 49 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	o	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 50 is a protein called 30S ribosomal protein S16.

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

- Molecule 51 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	q	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 52 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
52	r	65	Total	C	N	O	0	0
			504	317	96	91		

- Molecule 53 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	s	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

- Molecule 54 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	t	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 55 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	u	65	Total	C	N	O	S	0	0
			495	307	100	87	1		

- Molecule 56 is a protein called Peptide chain release factor RF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	v	242	Total	C	N	O	S	0	0
			1880	1151	359	362	8		

- Molecule 57 is a RNA chain called P-site Ile-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	x	77	Total	C	N	O	P	0	0
			1647	734	296	540	77		

- Molecule 58 is a protein called Apidaecin.

Mol	Chain	Residues	Atoms				AltConf	Trace
58	z	14	Total	C	N	O	0	0
			120	80	25	15		

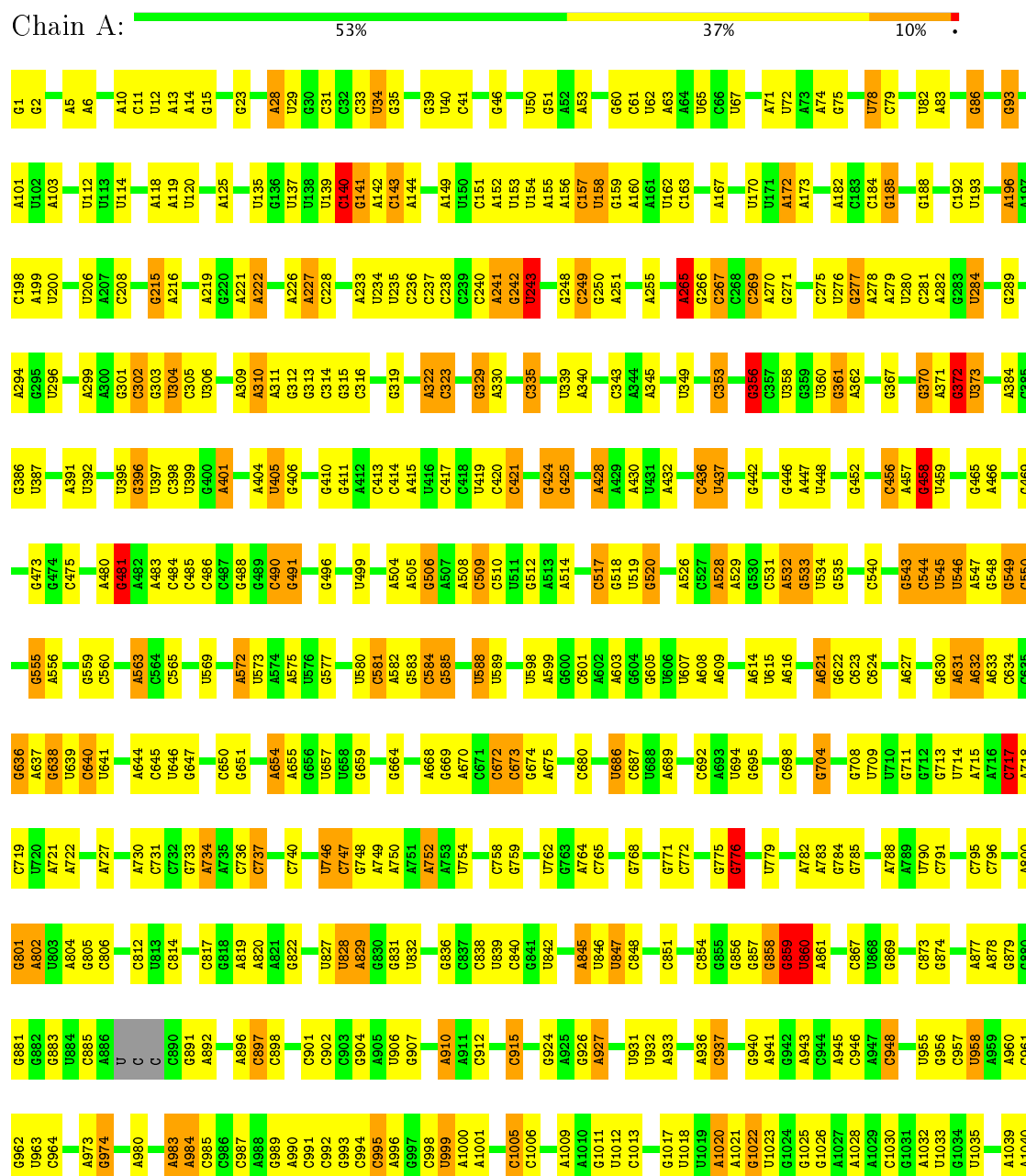
There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
z	10	ARG	GLN	conflict	UNP Q8WSY8

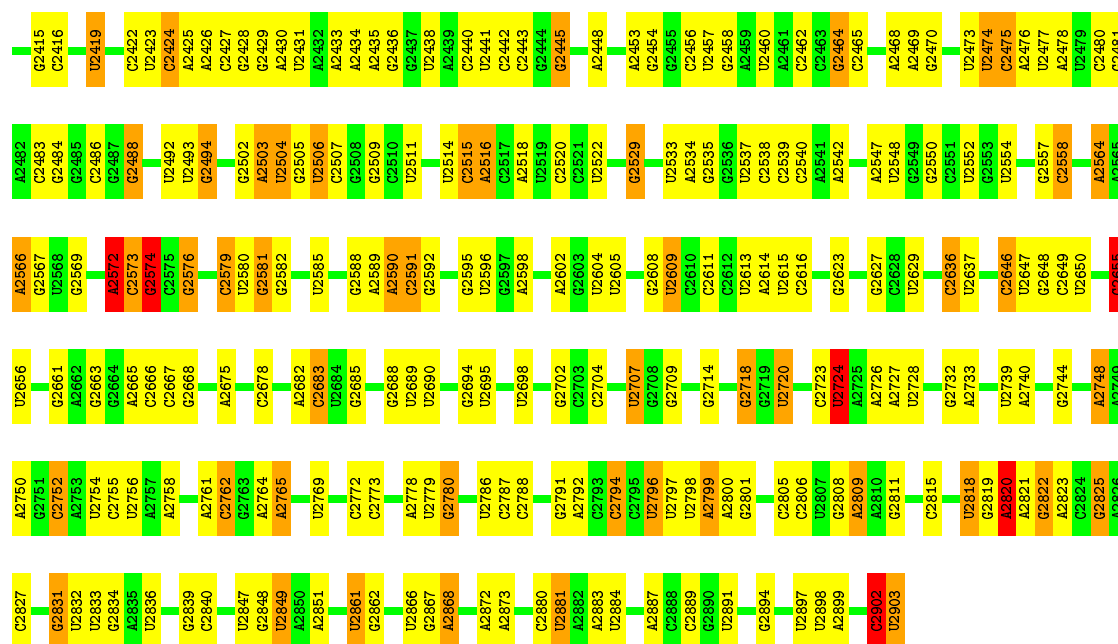
3 Residue-property plots

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

• Molecule 1: 23S ribosomal RNA

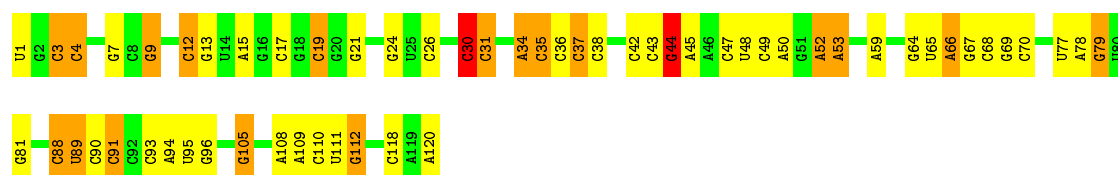


C2326	U2229	C2160	U2085	C2006	A1912	U1818	G1738	C1646	C1550	G1485	C1370	G1292	A1183	G1106	C1044
A2327	U2293	C2161	U2086	C2007	A1913	C1822	A1739	U1647	G1555	U1458	G1371	C1293	G1190	G1107	C1045
U2328	G2234	A2162	G2087	A2163	C1914	C1822	C1752	G1648	C1556	G1459	A1372	U1294	G1197	U1108	A1046
G2330	G2235	C2164	A2088	A2165	U1915	G1826	A1763	G1649	C1557	U1460	G1374	C1295	U1198	G1110	G1047
G2331	G2235	C2165	U2092	A2013	A1916	G1827	A1764	A1652	C1558	C1461	U1375	G1296	U1199	A1111	A1048
G2332	G2238	U2166	G2093	A2014	A1918	G1828	A1765	G1653	U1559	C1462	U1376	G1300	U1203	U1112	C1049
G2333	G2239	U2167	A2094	A2015	A1919	G1829	G1796	C1656	G1560		A1378	G1301	U1204	U1113	A1050
U2334	U2244	G2168	A2095	U2016	A1920	C1836	A1757	C1657	U1561	U1466	U1379	A1301	A1204	G1114	C1053
A2335	U2244	A2169	C2096	U2017	U1923	G1842	A1758	C1658	U1562	U1467	G1380	C1305	A1205	G1115	A1054
A2336	U2244	A2170	C2096	A2020	U1923	G1842	A1759	C1659	U1563		A1383	C1306	C1207	C1117	
G2337	C2248	A2171	U2099	C2021	C1924	G1843	C1761	G1663	C1564	G1475	A1384	G1311	C1208	U1118	A1057
C2342	G2250	A2172	G2100	U2022		G1843	A1762		C1565		A1385	U1312	C1211	U1119	U1056
U2343	G2251	A2173	A2101	C2023	A1927	G1847	G1763	A1668	A1566	G1482	A1386	U1313	C1212	G1120	G1059
U2344	G2251	C2174	C2102	G2024	A1928	G1848	C1764	A1669	G1567	G1483	A1387	C1314	G1212	G1121	U1061
G2345	C2254	C2175	C2025	U2026	G1930	G1849	A1764	C1670	G1568	U1496	A1392	C1315	G1215	G1122	G1062
A2346	C2254	C2176	U2105	U2026	G1930	A1853	U1769		A1569		A1393	C1316	G1216	G1123	C1063
G2347	C2258	C2177	U2106	G2029	C1934	A1854	G1770	G1674	C1574	A1490	A1394	U1317	C1221	G1124	G1064
C2350	U2259	C2178	G2107	A2030	G1935	U1855	C1771	C1675	U1578	G1491	U1395	U1318	C1222	A1127	U1065
C2351	C2260	C2179	A2108	A2031	A1936	U1856	A1772				A1396	U1319	G1223	U1130	U1066
C2354	C2264	A2184	U2109	G2032	A1937	U1857	A1773	A1679	U1584	A1494	U1397	C1320	G1224	G1131	G1067
G2357	U2265	G2186	G2032	A2033	A1938	G1857	C1774	U1680	C1585	A1495	U1398	G1321	G1225	U1132	G1068
A2358	A2267	U2187	U2111	A2033	A1938	G1860	U1775	G1681	A1586		C1399	A1322	A1226	U1133	A1069
G2359	C2273	U2188	G2112	U2039	U1940	G1861	U1776	G1682	G1587	A1504	U1400	C1323			A1070
G2360	C2273	U2189	U2113	G2040	C1941	U1865	G1776			A1505	U1401	G1324	U1231	C1135	G1071
G2361	C2273	G2115	C2043	U1943	U1943	G1869	A1779	A1689	C1592	U1506	U1402	G1325	U1232	C1072	C1072
G2362	C2273	A2116	C2044	U1944	U1944	A1870	U1781	A1690	A1593	A1508	U1403	U1326	C1233	G1139	A1073
G2363	C2273	A2117	G2045	U1945	U1945	A1871	U1782	U1693	U1594	A1509	U1404	G1331	G1236	A1142	G1074
G2364	C2273	U2118	U1946	U1946	U1946	A1872	A1783	C1694	C1595		U1405	G1332	A1237	A1143	C1075
G2365	C2283	U2119	C2047	C1947	C1947	G1873	A1784	G1695	U1602		C1414	G1333	A1237		C1076
A2377	C2284	U2120	G2052	U1954	U1954	C1874	A1785	G1696	A1603	U1513	U1415	G1334	A1244	G1149	A1077
C2380	C2286	G2124	A2053	U1955	U1955	U1880	A1786	G1697	G1604	A1514	G1416	U1340	A1244	U1150	C1078
C2381	A2287	G2125	A2054	A1956	U1956	U1881	A1787	A1698	C1605	A1419	A1247	G1341	A1247	C1150	C1079
C2382	C2287	U2126	C2055	U1956	U1956	U1882	C1788	G1699	G1606	G1516	A1248	G1342	G1248	G1151	A1080
C2383	U2291	U2292	G2056	G1964	G1964	U1883	A1791	G1707	C1607	G1517	G1421	G1343	U1249	C1152	U1081
U2384	U2292	U2293	C2056	C1965	C1965	U1884	A1791		A1608		G1422	U1344	G1250	C1153	U1082
A2391	U2293	A2295	A2060	A1966	A1966	U1885	C1795	U1714	C1611	A1522	G1423	U1345	A1253	G1154	U1083
C2392	C2300	C2206	A2061	C1967	C1967	U1886	U1796	G1715	C1612	U1523	G1424	C1348	A1254	A1155	A1085
U2393	G2304	C2207	A2062	U1970	U1971	U1887	G1797	U1716	G1613	G1524	A1427	C1349	U1255	G1157	A1086
U2394	U2305	C2208	C2066	U1971	U1972	U1888	U1798	U1720	G1619		C1428	C1350	U1256	G1162	G1087
C2395	U2305	G2209	C2067	G1972	G1972	U1889	G1799	G1721	G1620	G1529	C1429	U1351	G1257		A1088
U2396	U2305	U2210	G2067	C1973	C1973	C1893	A1801	G1724	G1622	U1530	G1432	U1352	A1264	G1171	A1089
U2397	U2305	U2211	G2068	C1974	C1974	C1894	A1802	U1725	G1623	C1531	A1433	G1353	A1265	G1172	A1090
U2398	U2305	U2212	U2069	A1978	A1978	C1895	A1803	U1726	U1624	U1534	A1434	G1354	G1266	U1173	C1092
U2402	U2310	C2214	G2069	A1978	A1978	U1896	C1804	C1727	G1627	C1536	G1437	G1355	U1267	U1174	G1093
C2403	U2311	U2220	U1982	U1982	U1982	G1897	C1728	U1728	G1627	U1537	U1438	G1360	A1266	U1175	U1094
U2404	U2312	C2073	G1983	G1983	G1983	G1897	C1729	G1729	G1627	U1537	U1438	G1361	A1267	U1176	A1095
G2405	C2313	U2074	A1900	A1900	A1900	U1898	A1807	U1729	G1631	C1541	U1443	G1362	A1269	G1177	A1096
A2406	A2314	U2075	A1901	A1901	A1901	U1899	A1808	C1730	G1631	U1542	U1444	C1363	C1270	U1178	U1097
A2407	U2273	C2146	C1902	C1902	C1902	A1800	A1809	G1731	A1634	U1543	G1445	G1364	C1271	G1179	A1098
U2408	U2320	A2147	G1906	G1906	G1906	U1801	A1810	G1732	A1634	U1544	C1446	A1365	A1272	U1180	
G2409	U2321	G2148	G1907	G1907	G1907	U1812	U1812	G1733	C1638	A1545	C1447	A1366	A1273	U1181	U1101
U2411	U2324	G2157	C1907	C1907	C1907	U1813	U1813	A1735	C1644	G1546	G1448	A1367	A1274	G1182	C1102
A2412	C2325	A2080	U1997	U1997	U1997	C1816	C1816	U1736	C1644	C1547	G1449	A1368	A1275	U1183	C1103
		G2159	A1998	A1998	A1998	U1911	G1817	G1737	G1645	A1549	C1454	G1369	G1288	U1188	U1105



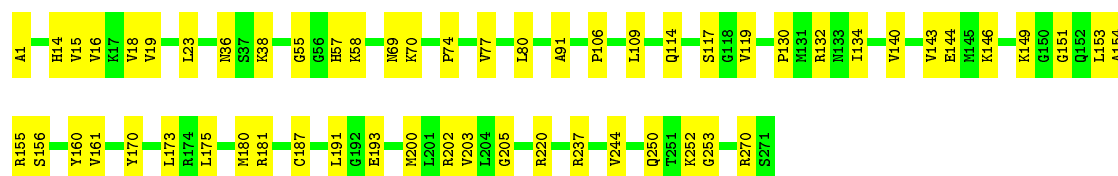
- Molecule 2: 5S ribosomal RNA

Chain B: 52% 32% 15%



- Molecule 3: 50S ribosomal protein L2

Chain C: 79% 21%



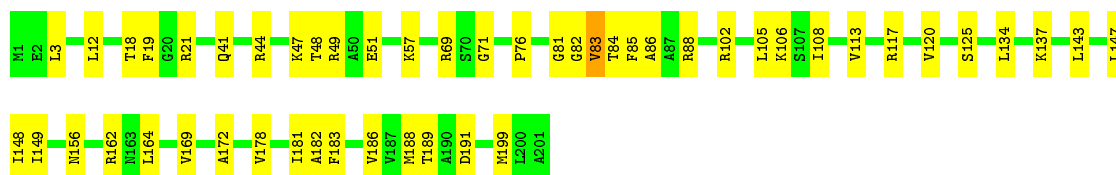
- Molecule 4: 50S ribosomal protein L3

Chain D: 86% 14%



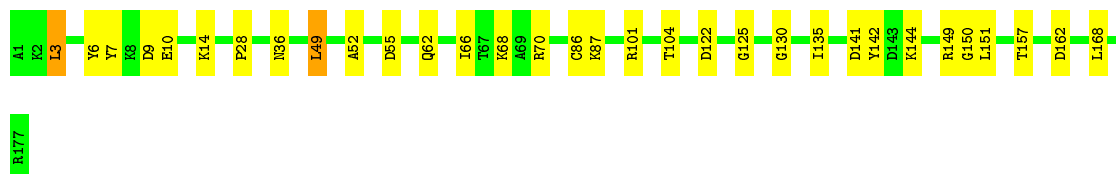
- Molecule 5: 50S ribosomal protein L4

Chain E: 75% 24%



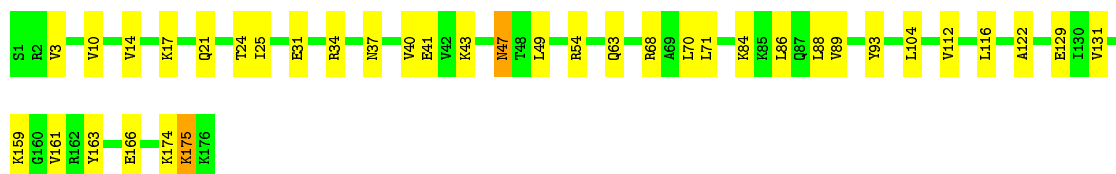
- Molecule 6: 50S ribosomal protein L5

Chain F: 82% 17%



- Molecule 7: 50S ribosomal protein L6

Chain G: 79% 20%



- Molecule 8: 50S ribosomal protein L9

Chain H: 80% 19%



- Molecule 9: 50S ribosomal protein L11

Chain I: 80% 20%



- Molecule 10: 50S ribosomal protein L13

Chain J: 82% 18%

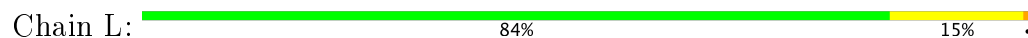


- Molecule 11: 50S ribosomal protein L14

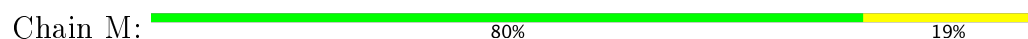
Chain K: 81% 19%



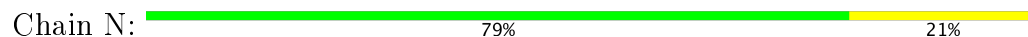
- Molecule 12: 50S ribosomal protein L15



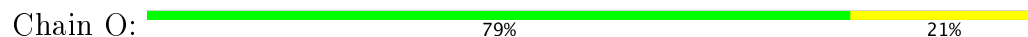
- Molecule 13: 50S ribosomal protein L16



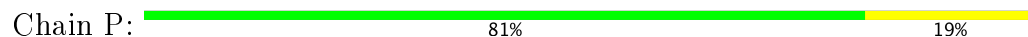
- Molecule 14: 50S ribosomal protein L17



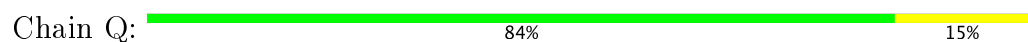
- Molecule 15: 50S ribosomal protein L18



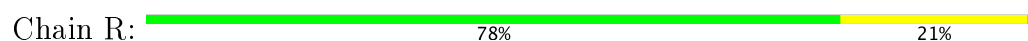
- Molecule 16: 50S ribosomal protein L19



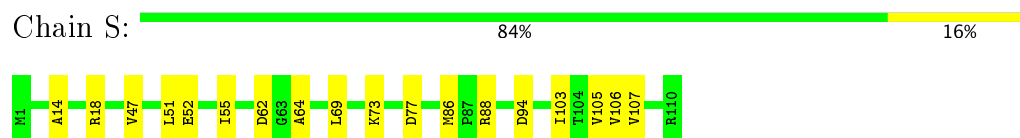
- Molecule 17: 50S ribosomal protein L20



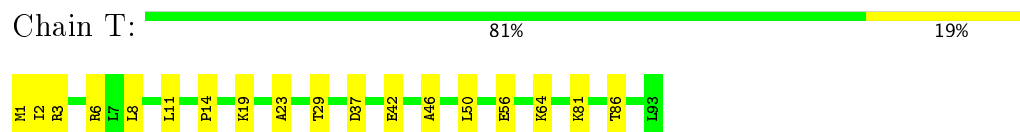
- Molecule 18: 50S ribosomal protein L21



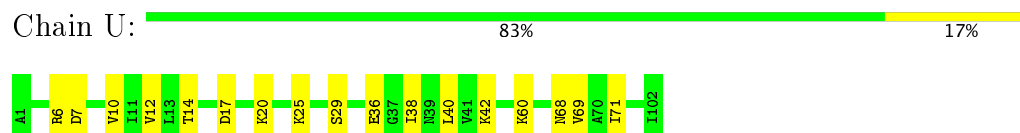
- Molecule 19: 50S ribosomal protein L22



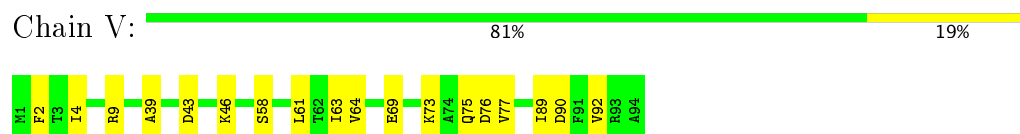
- Molecule 20: 50S ribosomal protein L23



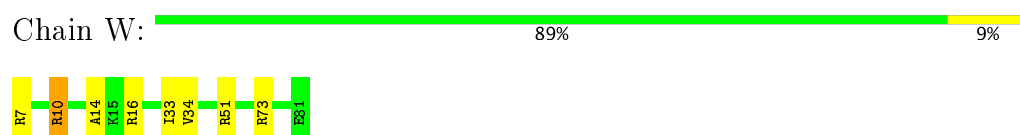
- Molecule 21: 50S ribosomal protein L24



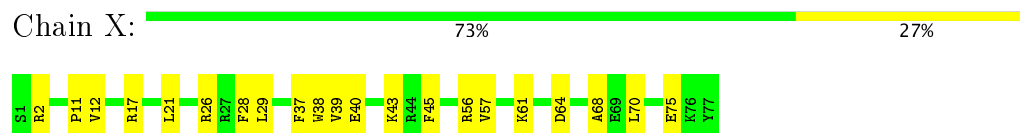
- Molecule 22: 50S ribosomal protein L25



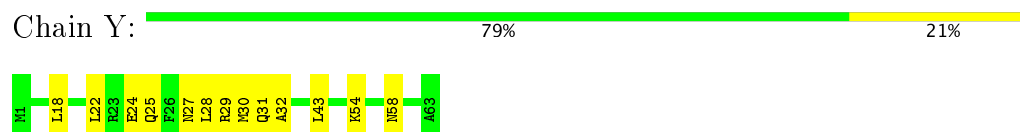
- Molecule 23: 50S ribosomal protein L27




- Molecule 24: 50S ribosomal protein L28



- Molecule 25: 50S ribosomal protein L29




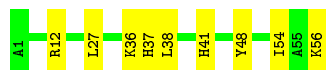
- Molecule 26: 50S ribosomal protein L30

Chain Z:  81% 19%




- Molecule 27: 50S ribosomal protein L32

Chain 0:  84% 16%



- Molecule 28: 50S ribosomal protein L33

Chain 1:  84% 16%



- Molecule 29: 50S ribosomal protein L34

Chain 2:  74% 26%




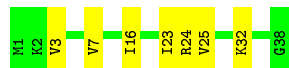
- Molecule 30: 50S ribosomal protein L35

Chain 3:  72% 27% .



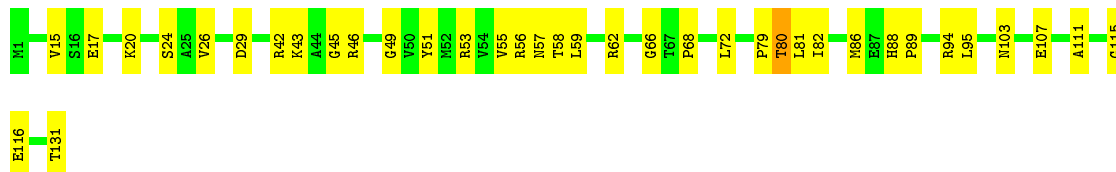
- Molecule 31: 50S ribosomal protein L36

Chain 4:  82% 18%

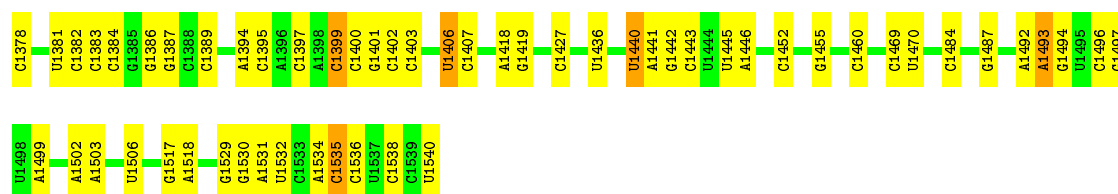


- Molecule 32: 50S ribosomal protein L10

Chain 5:  72% 27% .



- Molecule 33: 50S ribosomal protein L31



- Molecule 36: 30S ribosomal protein S2

Chain b:  97%



- Molecule 37: 30S ribosomal protein S3

Chain c:  97%



- Molecule 38: 30S ribosomal protein S4

Chain d:  97%



- Molecule 39: 30S ribosomal protein S5

Chain e:  98%



- Molecule 40: 30S ribosomal protein S6

Chain f:  96%



- Molecule 41: 30S ribosomal protein S7

Chain g:  99%



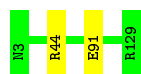
- Molecule 42: 30S ribosomal protein S8

Chain h:  97% .



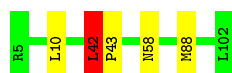
- Molecule 43: 30S ribosomal protein S9

Chain i:  98% .



- Molecule 44: 30S ribosomal protein S10

Chain j:  95% . .



- Molecule 45: 30S ribosomal protein S11

Chain k:  98% .



- Molecule 46: 30S ribosomal protein S12

Chain l:  98% .



- Molecule 47: 30S ribosomal protein S13

Chain m:  96% .



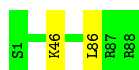
- Molecule 48: 30S ribosomal protein S14

Chain n:  100%

There are no outlier residues recorded for this chain.

- Molecule 49: 30S ribosomal protein S15

Chain o:  98% .



- Molecule 50: 30S ribosomal protein S16

Chain p: 99%



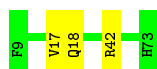
- Molecule 51: 30S ribosomal protein S17

Chain q: 100%

There are no outlier residues recorded for this chain.

- Molecule 52: 30S ribosomal protein S18

Chain r: 95% 5%



- Molecule 53: 30S ribosomal protein S19

Chain s: 100%

There are no outlier residues recorded for this chain.

- Molecule 54: 30S ribosomal protein S20

Chain t: 100%

There are no outlier residues recorded for this chain.

- Molecule 55: 30S ribosomal protein S21

Chain u: 95% 5%



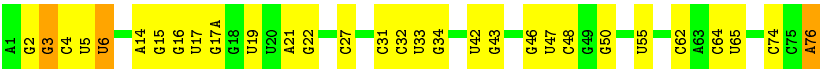
- Molecule 56: Peptide chain release factor RF1

Chain v: 95%

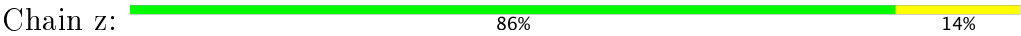


- Molecule 57: P-site Ile-tRNA

Chain x: 61% 35%



● Molecule 58: Apidaecin



4 Experimental information

Property	Value	Source
Reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	36826	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	28	Depositor
Minimum defocus (nm)	Not provided	Depositor
Maximum defocus (nm)	Not provided	Depositor
Magnification	Not provided	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 2$	RMSZ	$\# Z > 2$
1	A	1.25	33/69734 (0.0%)	1.36	809/108788 (0.7%)
10	J	0.57	0/1152	0.63	0/1551
11	K	0.59	0/947	0.76	0/1268
12	L	0.62	1/1054 (0.1%)	0.79	0/1403
13	M	0.62	0/1093	0.71	1/1460 (0.1%)
14	N	0.58	0/973	0.74	0/1301
15	O	0.56	0/902	0.67	0/1209
16	P	0.60	0/929	0.68	1/1242 (0.1%)
17	Q	0.72	0/960	0.66	0/1278
18	R	0.58	0/829	0.72	0/1107
19	S	0.58	0/864	0.70	0/1156
2	B	1.04	1/2876 (0.0%)	1.47	56/4483 (1.2%)
20	T	0.53	0/744	0.65	0/994
21	U	0.47	0/787	0.66	0/1051
22	V	0.55	0/766	0.65	0/1025
23	W	0.65	0/582	0.63	0/769
24	X	0.53	0/635	0.65	0/848
25	Y	0.41	0/510	0.66	0/677
26	Z	0.53	0/453	0.65	0/605
27	0	0.57	0/450	0.65	0/599
28	1	0.55	0/416	0.66	0/554
29	2	0.62	0/380	0.74	0/498
3	C	0.62	0/2121	0.69	0/2852
30	3	0.63	0/513	0.78	1/676 (0.1%)
31	4	0.65	0/303	0.59	0/397
32	5	0.39	0/1001	0.81	1/1350 (0.1%)
33	6	0.40	0/531	0.63	0/709
34	7	1.17	0/166	1.09	0/256
35	a	1.17	5/36967 (0.0%)	1.33	366/57666 (0.6%)
36	b	0.44	0/1735	0.71	0/2338
37	c	0.54	0/1651	0.79	2/2225 (0.1%)
38	d	0.51	0/1665	0.75	3/2227 (0.1%)
39	e	0.59	0/1154	0.76	1/1554 (0.1%)
4	D	0.63	0/1586	0.69	1/2134 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >2	RMSZ	# Z >2
40	f	0.48	0/835	0.81	2/1128 (0.2%)
41	g	0.46	0/1195	0.68	0/1602
42	h	0.54	0/989	0.78	2/1326 (0.2%)
43	i	0.53	0/1034	0.70	0/1375
44	j	0.50	0/796	0.93	3/1077 (0.3%)
45	k	0.51	0/885	0.69	0/1195
46	l	0.63	0/969	0.77	2/1300 (0.2%)
47	m	0.49	0/892	0.74	0/1193
48	n	0.52	0/811	0.63	0/1081
49	o	0.48	0/722	0.68	1/964 (0.1%)
5	E	0.61	1/1571 (0.1%)	0.68	1/2113 (0.0%)
50	p	0.54	0/659	0.71	0/884
51	q	0.57	0/657	0.73	0/881
52	r	0.53	0/511	0.69	0/689
53	s	0.52	0/652	0.69	0/877
54	t	0.48	0/671	0.66	0/888
55	u	0.43	0/500	0.82	0/668
56	v	0.53	0/1910	0.75	2/2573 (0.1%)
57	x	1.03	0/1841	1.38	26/2869 (0.9%)
58	z	0.40	0/127	0.81	0/175
6	F	0.51	0/1434	0.74	3/1926 (0.2%)
7	G	0.47	0/1343	0.65	0/1816
8	H	0.36	0/1122	0.60	1/1515 (0.1%)
9	I	0.35	0/1046	0.67	0/1410
All	All	1.06	41/160601 (0.0%)	1.21	1285/239775 (0.5%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
56	v	0	1

All (41) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1	G	OP3-P	-11.16	1.47	1.61
35	a	2	A	OP3-P	-10.97	1.48	1.61
2	B	1	U	OP3-P	-10.32	1.48	1.61
1	A	1142	A	N9-C4	-7.34	1.33	1.37
5	E	85	PHE	CA-CB	-7.07	1.38	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	L	60	ARG	C-N	-6.93	1.18	1.34
1	A	783	A	N9-C4	-6.72	1.33	1.37
1	A	2604	U	N3-C4	-6.34	1.32	1.38
1	A	526	A	N9-C4	-6.33	1.34	1.37
1	A	2052	A	N7-C5	-6.31	1.35	1.39
1	A	528	A	N9-C4	-6.27	1.34	1.37
1	A	2589	A	N9-C4	-5.97	1.34	1.37
35	a	1306	A	N7-C5	-5.82	1.35	1.39
1	A	1253	A	N9-C4	-5.82	1.34	1.37
1	A	1783	A	N9-C4	-5.70	1.34	1.37
1	A	2052	A	N9-C4	-5.63	1.34	1.37
1	A	241	A	N9-C4	-5.60	1.34	1.37
1	A	1912	A	N7-C5	-5.54	1.35	1.39
1	A	1994	C	N3-C4	-5.51	1.30	1.33
35	a	28	A	N9-C4	-5.41	1.34	1.37
1	A	1264	A	N9-C4	-5.39	1.34	1.37
1	A	1605	C	N1-C6	-5.39	1.33	1.37
1	A	1791	A	N9-C4	-5.37	1.34	1.37
1	A	565	C	N1-C6	-5.35	1.33	1.37
1	A	1954	G	N9-C8	-5.33	1.34	1.37
1	A	1679	A	N9-C4	-5.32	1.34	1.37
1	A	804	A	N9-C4	-5.28	1.34	1.37
1	A	673	C	N3-C4	-5.27	1.30	1.33
1	A	2407	A	N7-C5	-5.22	1.36	1.39
1	A	2443	C	N1-C6	-5.22	1.34	1.37
1	A	198	C	C4-C5	-5.21	1.38	1.43
1	A	2542	A	N9-C4	-5.20	1.34	1.37
1	A	1791	A	N7-C5	-5.18	1.36	1.39
1	A	1086	A	N9-C4	-5.17	1.34	1.37
35	a	805	C	N1-C6	-5.17	1.34	1.37
1	A	2516	A	N7-C5	-5.15	1.36	1.39
1	A	265	A	N9-C4	-5.13	1.34	1.37
1	A	1964	G	N9-C4	-5.13	1.33	1.38
35	a	800	G	N7-C5	-5.11	1.36	1.39
1	A	2267	A	C6-N1	-5.10	1.31	1.35
1	A	2572	A	N9-C4	-5.03	1.34	1.37

All (1285) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	j	42	LEU	C-N-CD	-15.77	85.92	120.60
37	c	96	VAL	C-N-CD	-15.69	86.08	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	a	516	U	N3-C2-O2	-13.84	112.52	122.20
1	A	1917	U	N3-C2-O2	-13.13	113.01	122.20
1	A	2072	C	C6-N1-C2	-13.04	115.08	120.30
1	A	2072	C	C5-C6-N1	12.75	127.38	121.00
2	B	36	C	C6-N1-C2	-11.58	115.67	120.30
1	A	2506	U	N1-C2-O2	11.15	130.60	122.80
1	A	1101	U	N3-C2-O2	-10.91	114.56	122.20
1	A	2590	A	C6-N1-C2	-10.87	112.08	118.60
1	A	2506	U	N3-C2-O2	-10.79	114.65	122.20
35	a	1306	A	C8-N9-C4	-10.77	101.49	105.80
1	A	998	C	C5-C6-N1	10.63	126.31	121.00
1	A	998	C	C6-N1-C2	-10.55	116.08	120.30
1	A	2580	U	N3-C2-O2	-10.26	115.02	122.20
1	A	1092	C	N1-C2-O2	10.23	125.04	118.90
2	B	26	C	N1-C2-O2	10.21	125.03	118.90
1	A	550	C	C2-N1-C1'	10.19	130.01	118.80
35	a	516	U	N1-C2-O2	10.12	129.89	122.80
1	A	1349	C	C6-N1-C2	-10.11	116.26	120.30
1	A	2504	U	N3-C2-O2	-10.09	115.14	122.20
1	A	2342	C	C6-N1-C2	-10.04	116.28	120.30
1	A	2506	U	C2-N1-C1'	10.04	129.75	117.70
1	A	1104	C	C6-N1-C2	-9.98	116.31	120.30
1	A	2457	U	N3-C2-O2	-9.86	115.30	122.20
35	a	58	C	C6-N1-C2	-9.86	116.36	120.30
35	a	1306	A	N7-C8-N9	9.84	118.72	113.80
1	A	234	U	N3-C2-O2	-9.79	115.34	122.20
1	A	1804	C	C6-N1-C2	-9.77	116.39	120.30
1	A	1314	C	C2-N1-C1'	9.75	129.53	118.80
1	A	1914	C	N1-C2-O2	9.72	124.73	118.90
2	B	30	C	N1-C2-O2	9.70	124.72	118.90
1	A	1313	U	N3-C2-O2	-9.69	115.42	122.20
1	A	405	U	C2-N1-C1'	9.68	129.31	117.70
1	A	1914	C	C2-N1-C1'	9.66	129.42	118.80
1	A	405	U	N1-C2-O2	9.62	129.53	122.80
1	A	2326	C	C6-N1-C2	-9.62	116.45	120.30
1	A	2646	C	C5-C6-N1	9.61	125.81	121.00
1	A	2604	U	C5-C4-O4	9.60	131.66	125.90
1	A	1104	C	N1-C2-O2	9.54	124.63	118.90
1	A	898	C	C5-C6-N1	9.52	125.76	121.00
1	A	1313	U	C2-N1-C1'	9.52	129.12	117.70
2	B	4	C	C5-C6-N1	9.50	125.75	121.00
35	a	891	U	N3-C2-O2	-9.31	115.68	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	36	C	N1-C2-O2	9.29	124.48	118.90
1	A	2504	U	C2-N1-C1'	9.25	128.80	117.70
35	a	972	C	C6-N1-C2	-9.24	116.60	120.30
1	A	1362	C	C6-N1-C2	-9.23	116.61	120.30
1	A	1079	C	C6-N1-C2	-9.22	116.61	120.30
1	A	1917	U	N1-C2-O2	9.21	129.25	122.80
1	A	2474	U	N1-C2-O2	9.20	129.24	122.80
35	a	1037	C	N1-C2-O2	9.11	124.36	118.90
2	B	36	C	C5-C6-N1	9.08	125.54	121.00
1	A	1104	C	N3-C2-O2	-9.03	115.58	121.90
35	a	58	C	N1-C2-O2	9.03	124.31	118.90
1	A	2605	U	N3-C2-O2	-8.99	115.91	122.20
2	B	12	C	C2-N1-C1'	8.99	128.69	118.80
1	A	2072	C	C2-N1-C1'	8.95	128.65	118.80
57	x	32	C	N1-C2-O2	8.95	124.27	118.90
1	A	1101	U	N1-C2-O2	8.93	129.05	122.80
1	A	1313	U	N1-C2-O2	8.91	129.04	122.80
1	A	2063	C	C2-N1-C1'	8.88	128.57	118.80
35	a	422	C	O5'-P-OP2	-8.87	97.71	105.70
1	A	854	C	N3-C2-O2	-8.84	115.71	121.90
1	A	1914	C	N3-C2-O2	-8.82	115.72	121.90
35	a	1109	C	C6-N1-C2	-8.82	116.77	120.30
1	A	2456	C	C5-C6-N1	8.81	125.41	121.00
1	A	1092	C	N3-C2-O2	-8.80	115.74	121.90
1	A	758	C	C6-N1-C2	-8.80	116.78	120.30
1	A	2605	U	C2-N1-C1'	8.79	128.25	117.70
35	a	83	C	C6-N1-C2	-8.79	116.79	120.30
35	a	528	C	C6-N1-C2	-8.72	116.81	120.30
35	a	1098	C	C6-N1-C2	-8.71	116.82	120.30
2	B	30	C	N3-C2-O2	-8.68	115.83	121.90
35	a	58	C	C2-N1-C1'	8.68	128.35	118.80
1	A	1362	C	C5-C6-N1	8.65	125.32	121.00
1	A	550	C	C5-C6-N1	8.65	125.32	121.00
1	A	1911	U	N3-C2-O2	-8.64	116.15	122.20
1	A	1531	C	N1-C2-O2	8.63	124.08	118.90
1	A	1348	C	N1-C2-O2	8.63	124.08	118.90
1	A	2504	U	N1-C2-O2	8.62	128.84	122.80
1	A	2473	U	C2-N1-C1'	8.61	128.03	117.70
1	A	413	C	C5-C6-N1	8.59	125.30	121.00
1	A	1437	C	C5-C6-N1	8.59	125.29	121.00
1	A	2354	C	C6-N1-C2	-8.58	116.87	120.30
57	x	6	U	C2-N1-C1'	8.54	127.95	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	955	U	N3-C2-O2	-8.53	116.23	122.20
1	A	2354	C	C5-C6-N1	8.53	125.27	121.00
35	a	528	C	C5-C6-N1	8.50	125.25	121.00
1	A	1092	C	C2-N1-C1'	8.49	128.14	118.80
35	a	826	C	C6-N1-C2	-8.45	116.92	120.30
35	a	470	C	C6-N1-C2	-8.44	116.92	120.30
35	a	1120	C	N1-C2-O2	8.42	123.95	118.90
35	a	35	G	N3-C4-N9	8.42	131.05	126.00
2	B	26	C	N3-C2-O2	-8.37	116.04	121.90
35	a	826	C	C5-C6-N1	8.37	125.18	121.00
35	a	35	G	N3-C4-C5	-8.36	124.42	128.60
1	A	1611	C	C6-N1-C2	-8.36	116.96	120.30
1	A	2656	U	N3-C2-O2	-8.32	116.37	122.20
1	A	405	U	N3-C2-O2	-8.32	116.38	122.20
1	A	2590	A	C5-C6-N1	8.30	121.85	117.70
35	a	1203	C	C6-N1-C2	-8.30	116.98	120.30
35	a	679	C	C5-C6-N1	8.28	125.14	121.00
1	A	1104	C	C5-C6-N1	8.23	125.11	121.00
1	A	2605	U	N1-C2-O2	8.21	128.55	122.80
57	x	32	C	N3-C2-O2	-8.20	116.16	121.90
1	A	2063	C	N1-C2-O2	8.19	123.81	118.90
35	a	891	U	N1-C2-O2	8.19	128.53	122.80
35	a	439	U	N3-C2-O2	-8.16	116.48	122.20
1	A	2326	C	C5-C6-N1	8.16	125.08	121.00
1	A	2616	C	C6-N1-C2	-8.15	117.04	120.30
35	a	528	C	N1-C2-O2	8.15	123.79	118.90
1	A	1656	C	C5-C6-N1	8.14	125.07	121.00
1	A	1941	C	N1-C2-O2	8.14	123.78	118.90
1	A	847	U	N3-C2-O2	-8.13	116.51	122.20
1	A	901	C	N1-C2-O2	8.13	123.78	118.90
1	A	924	G	N3-C4-N9	-8.13	121.12	126.00
1	A	2720	U	N3-C2-O2	-8.11	116.52	122.20
2	B	4	C	C6-N1-C2	-8.10	117.06	120.30
2	B	36	C	N3-C2-O2	-8.10	116.23	121.90
1	A	1956	U	N1-C2-O2	8.09	128.46	122.80
1	A	2473	U	N3-C2-O2	-8.08	116.54	122.20
1	A	2192	U	C2-N1-C1'	8.06	127.38	117.70
1	A	2604	U	C2-N1-C1'	8.06	127.38	117.70
1	A	1314	C	C5-C6-N1	8.04	125.02	121.00
1	A	912	C	C6-N1-C2	-8.03	117.09	120.30
2	B	4	C	C2-N1-C1'	8.02	127.62	118.80
1	A	135	U	N1-C2-O2	8.01	128.41	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	a	358	U	C5-C6-N1	8.00	126.70	122.70
1	A	2580	U	N1-C2-O2	8.00	128.40	122.80
1	A	1917	U	C2-N1-C1'	7.99	127.29	117.70
1	A	955	U	C2-N1-C1'	7.94	127.23	117.70
1	A	1531	C	N3-C2-O2	-7.92	116.36	121.90
35	a	58	C	N3-C2-O2	-7.88	116.38	121.90
1	A	1092	C	C6-N1-C2	-7.88	117.15	120.30
2	B	35	C	N1-C2-O2	7.88	123.62	118.90
2	B	37	C	N1-C2-O2	7.86	123.62	118.90
1	A	1578	U	N3-C2-O2	-7.85	116.70	122.20
1	A	1314	C	C6-N1-C2	-7.83	117.17	120.30
1	A	2456	C	C6-N1-C2	-7.82	117.17	120.30
1	A	1804	C	C5-C6-N1	7.81	124.91	121.00
1	A	2473	U	N1-C2-O2	7.81	128.26	122.80
1	A	2161	C	N1-C2-O2	7.79	123.57	118.90
35	a	83	C	C5-C6-N1	7.78	124.89	121.00
1	A	2395	C	C6-N1-C2	-7.77	117.19	120.30
1	A	284	U	N3-C2-O2	-7.77	116.76	122.20
1	A	373	U	C2-N1-C1'	7.76	127.01	117.70
2	B	26	C	C2-N1-C1'	7.76	127.33	118.80
35	a	439	U	N1-C2-O2	7.76	128.23	122.80
1	A	1044	C	N1-C2-O2	7.74	123.54	118.90
35	a	488	C	C6-N1-C2	-7.71	117.22	120.30
1	A	783	A	C5-N7-C8	-7.68	100.06	103.90
1	A	343	C	C6-N1-C2	-7.67	117.23	120.30
1	A	284	U	N1-C2-O2	7.66	128.16	122.80
1	A	2474	U	C5-C6-N1	7.66	126.53	122.70
1	A	1180	U	N3-C2-O2	-7.65	116.85	122.20
1	A	2474	U	C2-N1-C1'	7.65	126.88	117.70
1	A	2656	U	N1-C2-O2	7.64	128.15	122.80
1	A	2666	C	C6-N1-C2	-7.61	117.26	120.30
1	A	284	U	C2-N1-C1'	7.60	126.82	117.70
1	A	2646	C	C6-N1-C2	-7.58	117.27	120.30
56	v	209	LEU	CA-CB-CG	7.58	132.74	115.30
35	a	35	G	C4-N9-C1'	7.58	136.35	126.50
42	h	58	LEU	CA-CB-CG	7.58	132.73	115.30
1	A	2666	C	N1-C2-O2	7.57	123.44	118.90
35	a	528	C	C2-N1-C1'	7.57	127.12	118.80
1	A	459	U	N3-C2-O2	-7.56	116.91	122.20
1	A	2329	U	C5-C6-N1	7.56	126.48	122.70
35	a	1027	C	C5-C6-N1	7.56	124.78	121.00
35	a	1086	U	N1-C2-O2	7.55	128.08	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2192	U	N3-C4-O4	7.54	124.67	119.40
1	A	235	U	N3-C2-O2	-7.51	116.95	122.20
1	A	601	C	C6-N1-C2	-7.50	117.30	120.30
35	a	110	C	N1-C2-O2	7.50	123.40	118.90
35	a	1037	C	N3-C2-O2	-7.48	116.67	121.90
35	a	58	C	C5-C6-N1	7.47	124.74	121.00
37	c	81	GLU	N-CA-C	7.45	131.11	111.00
1	A	143	C	C2-N1-C1'	7.44	126.98	118.80
1	A	475	C	C5-C6-N1	7.44	124.72	121.00
1	A	2457	U	C2-N1-C1'	7.43	126.62	117.70
35	a	529	G	C5-C6-O6	-7.43	124.14	128.60
1	A	2342	C	C5-C6-N1	7.43	124.72	121.00
1	A	2666	C	C2-N1-C1'	7.43	126.98	118.80
1	A	2064	C	C6-N1-C2	-7.42	117.33	120.30
39	e	95	MET	C-N-CA	7.42	140.25	121.70
1	A	2043	C	C2-N1-C1'	7.40	126.94	118.80
1	A	158	U	N3-C2-O2	-7.38	117.03	122.20
35	a	36	C	C5-C6-N1	7.38	124.69	121.00
2	B	3	C	P-O3'-C3'	7.38	128.55	119.70
1	A	2580	U	C2-N1-C1'	7.37	126.54	117.70
1	A	2457	U	N1-C2-O2	7.36	127.95	122.80
2	B	36	C	C2-N1-C1'	7.35	126.88	118.80
35	a	469	C	N1-C2-O2	7.33	123.30	118.90
1	A	2889	C	C6-N1-C2	-7.32	117.37	120.30
1	A	1180	U	N1-C2-O2	7.31	127.92	122.80
1	A	413	C	C6-N1-C2	-7.30	117.38	120.30
1	A	2063	C	N3-C2-O2	-7.30	116.79	121.90
35	a	1071	C	C6-N1-C2	-7.29	117.39	120.30
1	A	1956	U	N3-C2-O2	-7.29	117.10	122.20
1	A	2507	C	C5-C6-N1	7.28	124.64	121.00
1	A	2025	C	C5-C6-N1	7.27	124.64	121.00
1	A	2794	C	N3-C2-O2	-7.27	116.81	121.90
1	A	2248	C	C2-N1-C1'	7.26	126.79	118.80
1	A	2616	C	C5-C6-N1	7.25	124.62	121.00
1	A	1437	C	C2-N1-C1'	7.25	126.77	118.80
38	d	158	LEU	CA-CB-CG	7.22	131.91	115.30
1	A	373	U	N3-C2-O2	-7.22	117.14	122.20
1	A	924	G	N9-C4-C5	7.21	108.28	105.40
35	a	611	C	N1-C2-O2	7.21	123.22	118.90
1	A	2611	C	C6-N1-C2	-7.21	117.42	120.30
57	x	31	C	C2-N1-C1'	7.21	126.72	118.80
35	a	221	C	C2-N1-C1'	7.20	126.72	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
57	x	3	G	P-O3'-C3'	7.19	128.33	119.70
30	3	61	LEU	CA-CB-CG	7.17	131.80	115.30
1	A	623	C	C5-C6-N1	7.16	124.58	121.00
35	a	1203	C	N3-C2-O2	-7.16	116.89	121.90
1	A	1071	G	C4-N9-C1'	-7.15	117.20	126.50
2	B	12	C	O4'-C1'-N1	7.15	113.92	108.20
1	A	859	G	P-O3'-C3'	7.15	128.28	119.70
1	A	2636	C	N1-C2-O2	7.12	123.17	118.90
1	A	1348	C	N3-C2-O2	-7.12	116.92	121.90
1	A	1578	U	N1-C2-O2	7.11	127.78	122.80
1	A	783	A	C4-C5-N7	7.11	114.25	110.70
35	a	1120	C	N3-C2-O2	-7.10	116.93	121.90
1	A	425	G	C4-C5-N7	7.10	113.64	110.80
1	A	624	C	C6-N1-C2	-7.09	117.46	120.30
1	A	1658	C	C5-C6-N1	7.09	124.55	121.00
1	A	2442	C	C6-N1-C2	-7.09	117.47	120.30
1	A	510	C	C2-N1-C1'	7.08	126.59	118.80
35	a	341	C	C5-C6-N1	7.08	124.54	121.00
1	A	2260	C	C6-N1-C2	-7.07	117.47	120.30
1	A	1716	U	C5-C6-N1	7.07	126.24	122.70
35	a	979	C	N1-C2-O2	7.07	123.14	118.90
35	a	1314	C	C5-C6-N1	7.07	124.53	121.00
1	A	640	C	C6-N1-C2	-7.05	117.48	120.30
1	A	2006	C	C6-N1-C2	-7.05	117.48	120.30
1	A	82	U	N1-C2-O2	7.05	127.73	122.80
1	A	1178	C	C2-N1-C1'	7.04	126.55	118.80
35	a	674	G	N7-C8-N9	7.04	116.62	113.10
1	A	2214	C	N1-C2-O2	7.04	123.12	118.90
35	a	516	U	C5-C4-O4	7.04	130.12	125.90
2	B	35	C	N3-C2-O2	-7.03	116.98	121.90
1	A	1081	U	C2-N1-C1'	7.03	126.14	117.70
1	A	550	C	C6-N1-C2	-7.03	117.49	120.30
1	A	854	C	C6-N1-C2	-7.03	117.49	120.30
35	a	1406	U	N1-C2-O2	7.02	127.72	122.80
1	A	550	C	C6-N1-C1'	-7.01	112.39	120.80
1	A	1044	C	N3-C2-O2	-7.01	116.99	121.90
1	A	1771	C	C5-C6-N1	7.01	124.50	121.00
1	A	1924	C	C6-N1-C2	-7.01	117.50	120.30
1	A	1760	C	C5-C6-N1	7.01	124.50	121.00
35	a	35	G	C8-N9-C1'	-7.01	117.89	127.00
1	A	339	U	C5-C6-N1	7.00	126.20	122.70
1	A	2178	C	C6-N1-C2	-7.00	117.50	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	a	1535	C	C6-N1-C2	-7.00	117.50	120.30
1	A	1343	G	C8-N9-C1'	-6.99	117.92	127.00
1	A	1006	C	C6-N1-C2	-6.98	117.51	120.30
1	A	2474	U	N3-C2-O2	-6.98	117.31	122.20
1	A	1267	U	N1-C2-O2	6.98	127.69	122.80
35	a	737	C	C5-C6-N1	6.98	124.49	121.00
57	x	2	G	P-O3'-C3'	6.96	128.06	119.70
1	A	867	C	N1-C2-O2	6.96	123.07	118.90
1	A	158	U	N1-C2-O2	6.95	127.67	122.80
1	A	1437	C	C6-N1-C2	-6.95	117.52	120.30
1	A	991	C	C6-N1-C2	-6.95	117.52	120.30
1	A	623	C	C6-N1-C2	-6.95	117.52	120.30
1	A	1349	C	C2-N1-C1'	6.95	126.44	118.80
1	A	2192	U	N1-C2-O2	6.95	127.66	122.80
35	a	503	C	C6-N1-C2	-6.95	117.52	120.30
1	A	2515	C	C5-C6-N1	6.94	124.47	121.00
2	B	12	C	C6-N1-C1'	-6.94	112.47	120.80
1	A	2063	C	C6-N1-C2	-6.94	117.52	120.30
2	B	12	C	N1-C2-O2	6.94	123.06	118.90
1	A	1917	U	C5-C4-O4	6.94	130.06	125.90
35	a	436	C	N1-C2-O2	6.92	123.06	118.90
35	a	1518	A	N7-C8-N9	6.92	117.26	113.80
1	A	1005	C	C6-N1-C2	-6.92	117.53	120.30
1	A	1233	C	C6-N1-C2	-6.92	117.53	120.30
2	B	26	C	C6-N1-C2	-6.91	117.53	120.30
1	A	82	U	N3-C2-O2	-6.91	117.36	122.20
1	A	747	C	N1-C2-O2	6.90	123.04	118.90
57	x	32	C	C6-N1-C2	-6.90	117.54	120.30
1	A	2075	U	N3-C4-O4	6.89	124.22	119.40
35	a	679	C	C6-N1-C2	-6.89	117.54	120.30
1	A	1022	G	P-O3'-C3'	6.89	127.96	119.70
35	a	207	C	C2-N1-C1'	6.88	126.36	118.80
1	A	2683	C	N1-C2-O2	6.86	123.02	118.90
35	a	1460	C	C6-N1-C2	-6.86	117.56	120.30
1	A	2424	C	N1-C2-O2	6.85	123.01	118.90
35	a	826	C	C2-N1-C1'	6.85	126.34	118.80
35	a	436	C	N3-C2-O2	-6.85	117.10	121.90
1	A	2192	U	N3-C2-O2	-6.85	117.40	122.20
1	A	373	U	N1-C2-O2	6.84	127.59	122.80
1	A	1130	U	P-O3'-C3'	6.84	127.91	119.70
1	A	372	G	P-O3'-C3'	6.84	127.90	119.70
1	A	1071	G	N3-C4-N9	-6.84	121.90	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	a	1158	C	C2-N1-C1'	6.84	126.32	118.80
1	A	234	U	N1-C2-O2	6.83	127.58	122.80
1	A	343	C	C5-C6-N1	6.83	124.41	121.00
1	A	1343	G	C4-N9-C1'	6.83	135.37	126.50
35	a	472	U	N3-C2-O2	-6.82	117.43	122.20
1	A	948	C	C6-N1-C2	-6.82	117.57	120.30
35	a	516	U	C2-N1-C1'	6.81	125.88	117.70
13	M	70	ASP	CB-CG-OD1	6.80	124.42	118.30
35	a	1001	C	C5-C6-N1	6.79	124.40	121.00
1	A	2840	C	C6-N1-C2	-6.79	117.58	120.30
35	a	1086	U	N3-C2-O2	-6.79	117.45	122.20
1	A	858	G	P-O3'-C3'	6.79	127.85	119.70
35	a	1382	C	C6-N1-C2	-6.78	117.59	120.30
1	A	2254	C	N1-C2-O2	6.78	122.97	118.90
35	a	979	C	N3-C2-O2	-6.78	117.16	121.90
1	A	640	C	C5-C6-N1	6.77	124.39	121.00
1	A	2066	C	C6-N1-C2	-6.77	117.59	120.30
2	B	37	C	N3-C2-O2	-6.77	117.16	121.90
1	A	2815	C	C6-N1-C2	-6.76	117.59	120.30
35	a	1300	G	P-O3'-C3'	6.76	127.81	119.70
1	A	1443	U	C5-C6-N1	6.76	126.08	122.70
1	A	1020	A	P-O3'-C3'	6.75	127.80	119.70
1	A	1761	C	C5-C6-N1	6.75	124.37	121.00
35	a	470	C	C5-C6-N1	6.74	124.37	121.00
1	A	1053	C	C6-N1-C2	-6.74	117.61	120.30
1	A	2592	G	N3-C4-N9	6.74	130.04	126.00
35	a	1202	U	N3-C2-O2	-6.74	117.48	122.20
1	A	237	C	C6-N1-C2	-6.72	117.61	120.30
1	A	193	U	N3-C2-O2	-6.71	117.50	122.20
35	a	551	U	C5-C6-N1	6.71	126.05	122.70
1	A	2515	C	C6-N1-C2	-6.71	117.62	120.30
1	A	528	A	C2-N3-C4	-6.69	107.26	110.60
1	A	1104	C	C2-N1-C1'	6.69	126.15	118.80
1	A	2504	U	C6-N1-C1'	-6.69	111.84	121.20
35	a	1406	U	N3-C2-O2	-6.68	117.52	122.20
2	B	70	C	C6-N1-C2	-6.68	117.63	120.30
35	a	317	U	C5-C6-N1	6.67	126.04	122.70
35	a	467	U	N1-C2-O2	6.67	127.47	122.80
1	A	1294	U	N1-C2-O2	6.67	127.47	122.80
35	a	972	C	C5-C6-N1	6.67	124.33	121.00
1	A	2192	U	C5-C4-O4	-6.67	121.90	125.90
16	P	113	LEU	CA-CB-CG	6.67	130.63	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	a	341	C	C6-N1-C2	-6.67	117.63	120.30
1	A	2511	U	C5-C6-N1	6.66	126.03	122.70
1	A	1771	C	C6-N1-C2	-6.66	117.64	120.30
1	A	2794	C	N1-C2-O2	6.64	122.89	118.90
1	A	2889	C	C5-C6-N1	6.64	124.32	121.00
1	A	1130	U	N3-C4-O4	6.63	124.04	119.40
35	a	1518	A	C8-N9-C4	-6.63	103.15	105.80
1	A	1914	C	C6-N1-C2	-6.63	117.65	120.30
1	A	2443	C	N1-C2-O2	6.63	122.88	118.90
1	A	2806	C	C5-C6-N1	6.62	124.31	121.00
35	a	132	C	C6-N1-C2	-6.62	117.65	120.30
35	a	1001	C	C6-N1-C2	-6.62	117.65	120.30
1	A	2473	U	C5-C6-N1	6.62	126.01	122.70
1	A	157	C	C5-C6-N1	6.61	124.31	121.00
35	a	272	C	C6-N1-C2	-6.61	117.66	120.30
1	A	1914	C	C6-N1-C1'	-6.60	112.88	120.80
1	A	1941	C	N3-C2-O2	-6.60	117.28	121.90
1	A	1964	G	N3-C4-N9	-6.60	122.04	126.00
35	a	1030	U	N1-C2-O2	6.59	127.42	122.80
1	A	585	G	N3-C4-C5	-6.59	125.30	128.60
1	A	1940	U	P-O3'-C3'	6.59	127.61	119.70
35	a	960	U	P-O3'-C3'	6.59	127.61	119.70
1	A	1993	U	N3-C2-O2	-6.58	117.59	122.20
1	A	2872	A	C8-N9-C4	-6.58	103.17	105.80
35	a	471	U	C5-C6-N1	6.58	125.99	122.70
35	a	623	C	C6-N1-C2	-6.58	117.67	120.30
1	A	243	U	N1-C2-O2	6.57	127.40	122.80
35	a	1172	C	C5-C6-N1	6.57	124.28	121.00
1	A	2161	C	C2-N1-C1'	6.57	126.03	118.80
1	A	2805	C	C6-N1-C2	-6.57	117.67	120.30
35	a	132	C	C2-N1-C1'	6.57	126.02	118.80
35	a	1158	C	N1-C2-O2	6.57	122.84	118.90
35	a	1203	C	C2-N1-C1'	6.56	126.02	118.80
35	a	219	U	N1-C2-O2	6.56	127.39	122.80
35	a	103	U	N3-C2-O2	-6.55	117.61	122.20
1	A	2666	C	N3-C2-O2	-6.55	117.31	121.90
1	A	373	U	C5-C6-N1	6.55	125.97	122.70
1	A	1313	U	C6-N1-C1'	-6.55	112.03	121.20
1	A	1378	A	P-O3'-C3'	6.55	127.56	119.70
1	A	1446	C	C6-N1-C2	-6.54	117.68	120.30
35	a	1027	C	C6-N1-C2	-6.54	117.68	120.30
35	a	556	C	C5-C6-N1	6.54	124.27	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2076	U	N1-C2-O2	6.53	127.37	122.80
35	a	1008	U	N3-C2-O2	-6.53	117.63	122.20
1	A	1611	C	C5-C6-N1	6.53	124.27	121.00
1	A	2822	G	C4-C5-N7	6.53	113.41	110.80
1	A	2724	U	N3-C2-O2	-6.53	117.63	122.20
35	a	1059	C	C6-N1-C2	-6.53	117.69	120.30
1	A	898	C	C6-N1-C2	-6.52	117.69	120.30
35	a	1427	C	C6-N1-C2	-6.52	117.69	120.30
35	a	792	A	O4'-C1'-N9	6.52	113.42	108.20
1	A	1541	C	C6-N1-C2	-6.52	117.69	120.30
1	A	2720	U	N1-C2-O2	6.52	127.36	122.80
1	A	1345	C	C6-N1-C2	-6.51	117.69	120.30
35	a	643	C	C6-N1-C2	-6.51	117.70	120.30
35	a	737	C	C6-N1-C2	-6.51	117.69	120.30
35	a	469	C	N3-C2-O2	-6.51	117.34	121.90
1	A	2752	C	N1-C2-O2	6.50	122.80	118.90
35	a	1098	C	C5-C6-N1	6.50	124.25	121.00
1	A	67	U	C5-C4-O4	-6.50	122.00	125.90
1	A	11	C	N1-C2-O2	6.50	122.80	118.90
1	A	992	C	C6-N1-C2	-6.50	117.70	120.30
1	A	1340	U	N3-C2-O2	-6.50	117.65	122.20
1	A	2103	C	C5-C6-N1	6.50	124.25	121.00
35	a	744	C	C6-N1-C2	-6.50	117.70	120.30
35	a	1297	G	P-O3'-C3'	6.49	127.49	119.70
1	A	2192	U	C5-C6-N1	6.49	125.94	122.70
1	A	1135	C	N1-C2-O2	6.49	122.79	118.90
1	A	2129	C	C5-C6-N1	6.48	124.24	121.00
35	a	1317	C	N3-C2-O2	-6.48	117.37	121.90
1	A	1005	C	C2-N1-C1'	6.46	125.91	118.80
1	A	198	C	C5-C6-N1	6.46	124.23	121.00
1	A	1379	U	N3-C2-O2	-6.46	117.68	122.20
35	a	1403	C	C6-N1-C2	-6.46	117.72	120.30
1	A	2424	C	C6-N1-C2	-6.45	117.72	120.30
35	a	1109	C	C2-N1-C1'	6.45	125.90	118.80
1	A	1752	C	C5-C6-N1	6.45	124.22	121.00
57	x	64	C	C6-N1-C2	-6.44	117.72	120.30
1	A	544	C	N3-C2-O2	-6.44	117.39	121.90
35	a	739	C	C6-N1-C2	-6.44	117.72	120.30
35	a	529	G	N1-C6-O6	6.43	123.76	119.90
1	A	2137	U	N1-C2-O2	6.43	127.30	122.80
1	A	305	C	C6-N1-C2	-6.43	117.73	120.30
1	A	82	U	C2-N1-C1'	6.42	125.41	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	3	C	OP1-P-O3'	6.42	119.33	105.20
1	A	1340	U	C2-N1-C1'	6.42	125.41	117.70
1	A	158	U	C2-N1-C1'	6.41	125.39	117.70
35	a	931	C	C2-N1-C1'	6.41	125.85	118.80
1	A	1836	C	C5-C6-N1	6.41	124.20	121.00
57	x	27	C	C6-N1-C2	-6.41	117.74	120.30
35	a	456	A	N1-C6-N6	6.41	122.44	118.60
1	A	157	C	C6-N1-C2	-6.40	117.74	120.30
35	a	1314	C	C6-N1-C2	-6.40	117.74	120.30
1	A	135	U	C2-N1-C1'	6.40	125.38	117.70
35	a	1201	A	P-O3'-C3'	6.39	127.37	119.70
35	a	931	C	C5-C6-N1	6.39	124.20	121.00
1	A	1370	C	C6-N1-C2	-6.39	117.74	120.30
1	A	746	U	N1-C2-O2	6.39	127.27	122.80
35	a	1375	A	C8-N9-C4	-6.39	103.25	105.80
1	A	1314	C	N1-C2-O2	6.39	122.73	118.90
1	A	2292	U	C5-C6-N1	6.38	125.89	122.70
1	A	669	G	C4-N9-C1'	6.38	134.79	126.50
1	A	2137	U	N3-C2-O2	-6.38	117.74	122.20
38	d	4	LEU	CA-CB-CG	6.38	129.97	115.30
1	A	510	C	N1-C2-O2	6.37	122.72	118.90
1	A	1911	U	C2-N1-C1'	6.37	125.35	117.70
35	a	472	U	N1-C2-O2	6.37	127.26	122.80
35	a	110	C	N3-C2-O2	-6.36	117.45	121.90
1	A	2834	G	C8-N9-C4	-6.36	103.86	106.40
1	A	1319	C	C6-N1-C2	-6.36	117.76	120.30
1	A	2065	C	C5-C6-N1	6.36	124.18	121.00
35	a	25	C	C5-C6-N1	6.35	124.18	121.00
1	A	901	C	N3-C2-O2	-6.35	117.45	121.90
2	B	77	U	N1-C2-O2	6.35	127.24	122.80
35	a	1158	C	N3-C2-O2	-6.35	117.46	121.90
1	A	2161	C	C5-C6-N1	6.34	124.17	121.00
1	A	1092	C	C5-C6-N1	6.34	124.17	121.00
35	a	439	U	C5-C6-N1	6.34	125.87	122.70
1	A	2043	C	N1-C2-O2	6.34	122.70	118.90
1	A	1716	U	C2-N1-C1'	6.34	125.31	117.70
35	a	1190	G	P-O3'-C3'	6.33	127.30	119.70
35	a	476	U	N3-C4-O4	-6.33	114.97	119.40
1	A	1314	C	C6-N1-C1'	-6.33	113.21	120.80
1	A	867	C	N3-C2-O2	-6.33	117.47	121.90
35	a	455	G	N1-C6-O6	-6.33	116.10	119.90
35	a	486	U	N3-C2-O2	-6.32	117.77	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1920	C	C6-N1-C2	-6.32	117.77	120.30
1	A	405	U	C6-N1-C1'	-6.32	112.35	121.20
1	A	854	C	N1-C2-N3	6.32	123.62	119.20
1	A	2649	C	N1-C2-O2	6.32	122.69	118.90
1	A	1081	U	N1-C2-O2	6.31	127.22	122.80
1	A	1379	U	O5'-P-OP2	-6.31	100.02	105.70
1	A	2104	C	C6-N1-C2	-6.31	117.78	120.30
1	A	737	C	C6-N1-C2	-6.31	117.78	120.30
1	A	2075	U	C5-C4-O4	-6.30	122.12	125.90
1	A	974	G	C4-N9-C1'	6.30	134.69	126.50
2	B	89	U	OP1-P-OP2	-6.30	110.14	119.60
1	A	353	C	N1-C2-O2	6.30	122.68	118.90
1	A	859	G	OP2-P-O3'	6.30	119.06	105.20
2	B	77	U	N3-C2-O2	-6.30	117.79	122.20
35	a	529	G	C6-C5-N7	-6.30	126.62	130.40
1	A	2342	C	N3-C2-O2	-6.30	117.49	121.90
35	a	1043	G	N3-C2-N2	-6.30	115.49	119.90
35	a	1182	G	P-O3'-C3'	6.30	127.26	119.70
35	a	1132	C	C6-N1-C2	-6.29	117.78	120.30
1	A	1071	G	N3-C4-C5	6.28	131.74	128.60
1	A	2394	C	N1-C2-O2	6.28	122.67	118.90
35	a	1249	C	C6-N1-C2	-6.28	117.79	120.30
1	A	2044	C	C6-N1-C2	-6.27	117.79	120.30
1	A	2124	G	C4-N9-C1'	6.27	134.65	126.50
1	A	2137	U	C2-N1-C1'	6.27	125.22	117.70
35	a	467	U	N3-C2-O2	-6.27	117.81	122.20
35	a	754	C	C2-N1-C1'	6.27	125.69	118.80
1	A	405	U	C5-C6-N1	6.27	125.83	122.70
1	A	208	C	C5-C6-N1	6.26	124.13	121.00
1	A	1360	G	N3-C4-N9	6.25	129.75	126.00
35	a	735	C	C6-N1-C2	-6.25	117.80	120.30
1	A	1855	U	C5-C6-N1	6.25	125.82	122.70
35	a	219	U	N3-C2-O2	-6.24	117.83	122.20
1	A	974	G	C6-C5-N7	-6.24	126.66	130.40
35	a	1118	U	N3-C2-O2	-6.24	117.83	122.20
1	A	632	A	N7-C8-N9	6.24	116.92	113.80
1	A	1294	U	N3-C2-O2	-6.23	117.84	122.20
1	A	2008	C	C6-N1-C2	-6.22	117.81	120.30
1	A	2043	C	C6-N1-C2	-6.22	117.81	120.30
35	a	1317	C	N1-C2-O2	6.22	122.63	118.90
1	A	1005	C	C5-C6-N1	6.21	124.11	121.00
1	A	1142	A	N3-C4-C5	6.21	131.15	126.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1656	C	C6-N1-C2	-6.21	117.82	120.30
35	a	169	C	N1-C2-O2	6.21	122.63	118.90
35	a	379	C	C5-C6-N1	6.21	124.10	121.00
1	A	1414	C	C2-N1-C1'	6.20	125.62	118.80
35	a	1347	G	P-O3'-C3'	6.20	127.14	119.70
35	a	478	A	C8-N9-C4	-6.19	103.32	105.80
35	a	1436	U	C5-C6-N1	6.18	125.79	122.70
1	A	2552	U	C2-N1-C1'	6.18	125.12	117.70
35	a	1132	C	C5-C6-N1	6.18	124.09	121.00
1	A	1349	C	N3-C4-C5	-6.18	119.43	121.90
35	a	514	C	C5-C6-N1	6.18	124.09	121.00
1	A	2605	U	C6-N1-C1'	-6.17	112.56	121.20
1	A	242	G	P-O3'-C3'	6.17	127.10	119.70
35	a	37	U	N3-C2-O2	-6.16	117.89	122.20
35	a	1109	C	N1-C2-O2	6.16	122.59	118.90
35	a	472	U	C2-N1-C1'	6.16	125.09	117.70
1	A	746	U	N3-C2-O2	-6.16	117.89	122.20
35	a	438	U	P-O3'-C3'	6.16	127.09	119.70
1	A	2047	C	C5-C6-N1	6.15	124.08	121.00
1	A	2666	C	C5-C6-N1	6.15	124.08	121.00
2	B	3	C	C6-N1-C2	-6.15	117.84	120.30
35	a	1030	U	N3-C2-O2	-6.15	117.90	122.20
1	A	1071	G	C8-N9-C1'	6.15	134.99	127.00
1	A	1060	U	N1-C2-O2	6.14	127.10	122.80
1	A	1323	C	N1-C2-O2	6.14	122.58	118.90
35	a	528	C	N3-C2-O2	-6.14	117.60	121.90
1	A	2822	G	C6-C5-N7	-6.14	126.72	130.40
1	A	1658	C	C6-N1-C2	-6.14	117.85	120.30
1	A	2678	C	C5-C6-N1	6.13	124.07	121.00
2	B	110	C	C6-N1-C2	-6.13	117.85	120.30
35	a	899	C	C6-N1-C2	-6.13	117.85	120.30
35	a	924	C	C6-N1-C2	-6.13	117.85	120.30
1	A	948	C	C5-C6-N1	6.13	124.06	121.00
1	A	2552	U	N3-C2-O2	-6.12	117.92	122.20
35	a	1348	U	N1-C2-O2	6.12	127.09	122.80
35	a	358	U	C6-N1-C2	-6.12	117.33	121.00
2	B	52	A	P-O3'-C3'	6.11	127.03	119.70
1	A	607	U	N3-C2-O2	-6.11	117.92	122.20
1	A	955	U	N1-C2-O2	6.11	127.08	122.80
1	A	2591	C	C6-N1-C2	-6.11	117.86	120.30
1	A	2558	C	C6-N1-C2	-6.11	117.86	120.30
35	a	157	U	N3-C2-O2	-6.11	117.93	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	f	74	LEU	CB-CG-CD1	-6.10	100.63	111.00
1	A	2493	U	C5-C4-O4	-6.09	122.25	125.90
1	A	2506	U	C6-N1-C1'	-6.09	112.67	121.20
1	A	2678	C	C6-N1-C2	-6.09	117.86	120.30
35	a	280	C	P-O3'-C3'	6.09	127.01	119.70
1	A	1398	C	C2-N1-C1'	6.09	125.49	118.80
35	a	87	C	C2-N1-C1'	6.09	125.50	118.80
35	a	436	C	C6-N1-C2	-6.08	117.87	120.30
1	A	2254	C	N3-C2-O2	-6.08	117.64	121.90
1	A	2026	U	C5-C6-N1	6.08	125.74	122.70
1	A	2103	C	C6-N1-C2	-6.08	117.87	120.30
1	A	2506	U	C5-C6-N1	6.08	125.74	122.70
1	A	459	U	N1-C2-O2	6.07	127.05	122.80
35	a	611	C	C6-N1-C2	-6.07	117.87	120.30
1	A	2566	A	P-O3'-C3'	6.07	126.98	119.70
35	a	826	C	N1-C2-O2	6.07	122.54	118.90
1	A	2464	G	N3-C4-N9	6.07	129.64	126.00
40	f	13	ASP	CB-CG-OD1	6.07	123.76	118.30
1	A	838	C	C2-N1-C1'	6.06	125.47	118.80
1	A	1180	U	C2-N1-C1'	6.06	124.97	117.70
1	A	1760	C	C6-N1-C2	-6.06	117.88	120.30
1	A	1795	C	C5-C6-N1	6.06	124.03	121.00
1	A	1911	U	N1-C2-O2	6.06	127.04	122.80
35	a	674	G	C8-N9-C4	-6.06	103.98	106.40
35	a	955	U	N3-C2-O2	-6.06	117.96	122.20
1	A	2267	A	N1-C6-N6	-6.05	114.97	118.60
1	A	243	U	C2-N1-C1'	6.05	124.96	117.70
1	A	2185	U	C6-N1-C2	-6.04	117.38	121.00
35	a	207	C	N1-C2-O2	6.04	122.52	118.90
35	a	1138	G	C4-N9-C1'	6.04	134.35	126.50
1	A	1993	U	C5-C6-N1	6.03	125.72	122.70
57	x	31	C	C5-C6-N1	6.03	124.02	121.00
57	x	31	C	C6-N1-C2	-6.03	117.89	120.30
35	a	800	G	C6-C5-N7	-6.03	126.78	130.40
35	a	931	C	C6-N1-C2	-6.03	117.89	120.30
1	A	1208	C	C2-N1-C1'	6.03	125.43	118.80
35	a	87	C	N1-C2-O2	6.03	122.52	118.90
35	a	858	G	C4-N9-C1'	6.03	134.33	126.50
1	A	1345	C	N3-C2-O2	-6.02	117.68	121.90
1	A	550	C	N3-C4-N4	6.02	122.22	118.00
35	a	611	C	C5-C6-N1	6.02	124.01	121.00
35	a	107	G	N1-C6-O6	-6.02	116.29	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	a	1172	C	C6-N1-C2	-6.02	117.89	120.30
1	A	1752	C	C6-N1-C2	-6.01	117.89	120.30
35	a	738	C	C6-N1-C2	-6.01	117.89	120.30
35	a	1086	U	C2-N1-C1'	6.01	124.91	117.70
35	a	284	C	C5-C6-N1	6.00	124.00	121.00
35	a	624	C	C6-N1-C2	-5.99	117.91	120.30
1	A	2044	C	C5-C6-N1	5.99	123.99	121.00
2	B	47	C	C6-N1-C2	-5.99	117.91	120.30
35	a	1460	C	C5-C6-N1	5.99	123.99	121.00
1	A	192	C	N1-C2-O2	5.98	122.49	118.90
35	a	841	C	N1-C2-O2	5.98	122.49	118.90
35	a	406	G	C5-C6-O6	-5.98	125.01	128.60
1	A	151	C	C5-C6-N1	5.98	123.99	121.00
35	a	358	U	C2-N1-C1'	5.98	124.88	117.70
1	A	776	G	C4-N9-C1'	5.97	134.26	126.50
1	A	806	C	C6-N1-C2	-5.97	117.91	120.30
1	A	1142	A	C2-N3-C4	-5.97	107.61	110.60
1	A	2752	C	C5-C6-N1	5.97	123.99	121.00
1	A	1221	C	C2-N1-C1'	5.97	125.36	118.80
1	A	717	C	N1-C2-O2	5.96	122.48	118.90
1	A	1414	C	N1-C2-O2	5.96	122.48	118.90
1	A	2354	C	C2-N1-C1'	5.96	125.36	118.80
35	a	735	C	C5-C6-N1	5.96	123.98	121.00
1	A	2473	U	C6-N1-C2	-5.96	117.43	121.00
35	a	948	C	C5-C6-N1	5.96	123.98	121.00
35	a	1348	U	C2-N1-C1'	5.95	124.84	117.70
35	a	674	G	N3-C4-C5	-5.95	125.62	128.60
1	A	1574	C	C5-C6-N1	5.95	123.97	121.00
1	A	236	C	C6-N1-C2	-5.95	117.92	120.30
35	a	516	U	N3-C4-O4	-5.94	115.24	119.40
35	a	961	U	C5-C6-N1	5.94	125.67	122.70
1	A	2832	U	N3-C2-O2	-5.94	118.04	122.20
35	a	295	C	C5-C6-N1	5.94	123.97	121.00
1	A	543	G	C5-C6-O6	-5.94	125.04	128.60
1	A	624	C	C5-C6-N1	5.94	123.97	121.00
1	A	2078	C	C5-C6-N1	5.94	123.97	121.00
35	a	948	C	C6-N1-C2	-5.94	117.92	120.30
35	a	1333	A	C2-N3-C4	5.94	113.57	110.60
35	a	1538	C	C6-N1-C2	-5.94	117.92	120.30
1	A	1437	C	N1-C2-O2	5.93	122.46	118.90
35	a	674	G	C4-N9-C1'	5.93	134.22	126.50
35	a	896	C	C5-C6-N1	5.93	123.97	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1414	C	C5-C6-N1	5.93	123.97	121.00
1	A	2636	C	N3-C2-O2	-5.93	117.75	121.90
35	a	1109	C	N3-C2-O2	-5.93	117.75	121.90
35	a	1440	U	C2-N1-C1'	5.93	124.82	117.70
46	l	22	ALA	N-CA-C	-5.93	94.98	111.00
35	a	333	U	C5-C4-O4	-5.92	122.34	125.90
1	A	2393	U	N3-C2-O2	-5.92	118.05	122.20
1	A	353	C	C6-N1-C2	-5.92	117.93	120.30
1	A	1198	U	N3-C2-O2	-5.92	118.06	122.20
35	a	69	G	C4-N9-C1'	5.92	134.19	126.50
1	A	1902	C	C5-C6-N1	5.92	123.96	121.00
35	a	1518	A	O4'-C1'-N9	5.92	112.93	108.20
1	A	955	U	O4'-C1'-N1	5.91	112.93	108.20
2	B	4	C	N1-C2-O2	5.91	122.45	118.90
1	A	517	C	C6-N1-C2	-5.91	117.94	120.30
1	A	475	C	C6-N1-C2	-5.91	117.94	120.30
1	A	1409	U	N3-C2-O2	-5.90	118.07	122.20
1	A	1887	C	C5-C6-N1	5.90	123.95	121.00
1	A	1319	C	C5-C6-N1	5.89	123.95	121.00
35	a	379	C	C6-N1-C2	-5.89	117.94	120.30
35	a	1306	A	C5-N7-C8	-5.89	100.95	103.90
1	A	2072	C	N1-C2-O2	5.89	122.43	118.90
1	A	2872	A	N7-C8-N9	5.88	116.74	113.80
35	a	1496	C	C6-N1-C2	-5.88	117.95	120.30
35	a	1225	A	C4-N9-C1'	5.88	136.88	126.30
35	a	611	C	N3-C2-O2	-5.88	117.79	121.90
57	x	55	U	C2-N1-C1'	5.87	124.75	117.70
1	A	1714	U	C5-C6-N1	5.87	125.64	122.70
1	A	2244	U	N3-C4-O4	5.87	123.51	119.40
57	x	3	G	C4-C5-N7	5.87	113.15	110.80
1	A	1675	C	N1-C2-O2	5.87	122.42	118.90
1	A	817	C	C6-N1-C2	-5.87	117.95	120.30
1	A	1178	C	N1-C2-O2	5.87	122.42	118.90
1	A	2576	G	C2-N3-C4	5.86	114.83	111.90
1	A	2646	C	C4-C5-C6	-5.86	114.47	117.40
2	B	17	C	C6-N1-C2	-5.86	117.96	120.30
1	A	458	G	P-O3'-C3'	5.86	126.73	119.70
1	A	2832	U	N1-C2-O2	5.86	126.90	122.80
35	a	1294	G	N3-C4-N9	5.86	129.51	126.00
1	A	2477	U	C5-C6-N1	5.85	125.63	122.70
1	A	392	U	N3-C2-O2	-5.85	118.10	122.20
1	A	549	G	C8-N9-C4	-5.85	104.06	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	a	1493	A	O4'-C1'-N9	5.85	112.88	108.20
35	a	486	U	N1-C2-O2	5.85	126.89	122.80
46	l	43	LYS	N-CA-C	5.85	126.79	111.00
35	a	916	U	C5-C6-N1	5.85	125.62	122.70
1	A	1103	A	OP1-P-O3'	5.84	118.06	105.20
1	A	898	C	C2-N3-C4	5.84	122.82	119.90
1	A	222	A	O4'-C1'-N9	-5.84	103.53	108.20
1	A	2655	G	OP2-P-O3'	5.84	118.05	105.20
1	A	1326	U	N1-C2-O2	5.84	126.89	122.80
35	a	290	C	C5-C6-N1	5.84	123.92	121.00
1	A	1894	C	N1-C2-O2	5.84	122.40	118.90
35	a	989	U	N3-C2-O2	-5.84	118.11	122.20
1	A	227	A	P-O3'-C3'	5.83	126.70	119.70
35	a	991	U	C2-N1-C1'	5.83	124.70	117.70
35	a	1183	U	OP1-P-O3'	5.83	118.03	105.20
35	a	563	A	C4-N9-C1'	5.83	136.79	126.30
1	A	1267	U	C5-C6-N1	5.82	125.61	122.70
1	A	2588	G	C4-C5-N7	5.82	113.13	110.80
1	A	459	U	C2-N1-C1'	5.82	124.68	117.70
1	A	1130	U	C5-C4-O4	-5.82	122.41	125.90
1	A	654	A	C4-N9-C1'	5.81	136.76	126.30
1	A	2063	C	C6-N1-C1'	-5.81	113.83	120.80
1	A	358	U	C5-C6-N1	5.81	125.60	122.70
2	B	88	C	OP1-P-O3'	5.81	117.97	105.20
1	A	1208	C	C6-N1-C2	-5.80	117.98	120.30
1	A	2805	C	N1-C2-O2	5.80	122.38	118.90
1	A	235	U	N1-C2-O2	5.80	126.86	122.80
1	A	999	U	N3-C2-O2	-5.80	118.14	122.20
1	A	550	C	C5-C4-N4	-5.79	116.15	120.20
1	A	34	U	N1-C2-O2	5.79	126.85	122.80
1	A	1049	C	N1-C2-O2	5.79	122.37	118.90
1	A	198	C	C2-N1-C1'	5.79	125.17	118.80
1	A	860	U	C5-C6-N1	5.79	125.59	122.70
1	A	2105	U	C2-N1-C1'	5.79	124.64	117.70
35	a	284	C	C6-N1-C2	-5.78	117.99	120.30
35	a	1383	C	N1-C2-O2	5.78	122.37	118.90
1	A	1053	C	C5-C6-N1	5.77	123.89	121.00
1	A	2822	G	C5-C6-O6	-5.77	125.14	128.60
57	x	55	U	N3-C2-O2	-5.77	118.16	122.20
32	5	59	LEU	CA-CB-CG	5.76	128.56	115.30
1	A	2063	C	C5-C6-N1	5.76	123.88	121.00
1	A	2494	G	C5-C6-O6	-5.76	125.14	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2395	C	C5-C6-N1	5.76	123.88	121.00
35	a	931	C	N1-C2-O2	5.76	122.36	118.90
1	A	898	C	N1-C2-O2	5.75	122.35	118.90
35	a	11	G	N3-C4-N9	5.75	129.45	126.00
35	a	439	U	C2-N1-C1'	5.75	124.61	117.70
1	A	1788	C	C5-C6-N1	5.75	123.88	121.00
2	B	31	C	C6-N1-C2	-5.75	118.00	120.30
1	A	731	C	C6-N1-C2	-5.75	118.00	120.30
1	A	39	G	C4-N9-C1'	5.74	133.96	126.50
1	A	1326	U	N3-C2-O2	-5.74	118.18	122.20
1	A	2762	C	C6-N1-C2	-5.74	118.00	120.30
1	A	2827	C	C5-C6-N1	5.74	123.87	121.00
1	A	267	C	C5-C6-N1	5.74	123.87	121.00
1	A	2424	C	C5-C6-N1	5.73	123.86	121.00
1	A	135	U	N3-C2-O2	-5.73	118.19	122.20
35	a	470	C	C2-N1-C1'	5.72	125.09	118.80
1	A	1177	G	C6-C5-N7	-5.72	126.97	130.40
1	A	2161	C	C6-N1-C2	-5.72	118.01	120.30
35	a	1427	C	C5-C6-N1	5.72	123.86	121.00
1	A	114	U	C2-N1-C1'	5.71	124.55	117.70
1	A	2506	U	C6-N1-C2	-5.71	117.57	121.00
35	a	69	G	C8-N9-C1'	-5.71	119.58	127.00
35	a	1253	G	N3-C4-N9	5.70	129.42	126.00
1	A	898	C	C2-N1-C1'	5.70	125.07	118.80
1	A	2464	G	C4-N9-C1'	5.70	133.91	126.50
35	a	1120	C	C6-N1-C2	-5.69	118.02	120.30
2	B	35	C	C6-N1-C2	-5.69	118.02	120.30
35	a	132	C	N1-C2-O2	5.69	122.31	118.90
35	a	1208	C	C6-N1-C2	-5.69	118.03	120.30
1	A	486	C	C6-N1-C2	-5.68	118.03	120.30
1	A	912	C	C2-N1-C1'	5.68	125.05	118.80
35	a	317	U	C6-N1-C2	-5.68	117.59	121.00
1	A	2616	C	N1-C2-O2	5.68	122.31	118.90
35	a	1469	C	N1-C2-O2	5.67	122.31	118.90
1	A	2105	U	N3-C2-O2	-5.67	118.23	122.20
1	A	2228	G	C6-C5-N7	-5.67	127.00	130.40
5	E	81	GLY	N-CA-C	-5.66	98.94	113.10
35	a	1382	C	C2-N1-C1'	5.66	125.03	118.80
1	A	2772	C	C5-C6-N1	5.66	123.83	121.00
44	j	10	LEU	CA-CB-CG	5.66	128.32	115.30
1	A	1352	U	N3-C2-O2	-5.66	118.24	122.20
1	A	1993	U	N1-C2-O2	5.66	126.76	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	985	C	N1-C2-O2	5.65	122.29	118.90
35	a	954	G	N3-C4-C5	-5.65	125.77	128.60
1	A	867	C	C6-N1-C2	-5.65	118.04	120.30
1	A	550	C	N1-C2-O2	5.65	122.29	118.90
1	A	2667	C	C6-N1-C2	-5.64	118.04	120.30
1	A	2135	A	C2-N3-C4	5.64	113.42	110.60
1	A	1994	C	C6-N1-C2	-5.63	118.05	120.30
35	a	11	G	C4-N9-C1'	5.63	133.82	126.50
1	A	141	G	N3-C4-C5	-5.63	125.78	128.60
1	A	67	U	N3-C4-O4	5.63	123.34	119.40
57	x	6	U	N1-C2-O2	5.63	126.74	122.80
1	A	1561	C	N1-C2-O2	5.63	122.28	118.90
1	A	2650	U	C5-C6-N1	5.63	125.51	122.70
35	a	90	C	C6-N1-C2	-5.63	118.05	120.30
57	x	32	C	C2-N1-C1'	5.63	124.99	118.80
1	A	1331	G	N1-C6-O6	-5.62	116.53	119.90
35	a	610	U	N3-C2-O2	-5.62	118.27	122.20
1	A	1923	U	C5-C6-N1	5.62	125.51	122.70
35	a	1203	C	N1-C2-O2	5.62	122.27	118.90
1	A	34	U	N3-C2-O2	-5.61	118.27	122.20
1	A	271	G	O4'-C1'-N9	5.61	112.69	108.20
57	x	55	U	N1-C2-O2	5.61	126.73	122.80
1	A	1964	G	N3-C4-C5	5.61	131.40	128.60
35	a	960	U	N3-C2-O2	-5.61	118.27	122.20
1	A	206	U	C2-N1-C1'	5.61	124.43	117.70
1	A	2464	G	C8-N9-C1'	-5.61	119.71	127.00
35	a	643	C	C5-C6-N1	5.61	123.80	121.00
35	a	1348	U	N3-C2-O2	-5.61	118.28	122.20
1	A	1982	U	C5-C6-N1	5.60	125.50	122.70
2	B	47	C	C5-C6-N1	5.60	123.80	121.00
35	a	175	C	N1-C2-O2	5.60	122.26	118.90
35	a	529	G	C4-C5-N7	5.60	113.04	110.80
35	a	758	C	C6-N1-C2	-5.60	118.06	120.30
1	A	998	C	N3-C4-N4	5.60	121.92	118.00
1	A	2615	U	C2-N1-C1'	5.60	124.42	117.70
2	B	91	C	C6-N1-C2	-5.60	118.06	120.30
1	A	2074	U	O5'-P-OP2	-5.59	100.67	105.70
1	A	1934	C	C5-C6-N1	5.59	123.80	121.00
1	A	193	U	N1-C2-O2	5.59	126.72	122.80
1	A	2185	U	N3-C2-O2	-5.59	118.29	122.20
1	A	1716	U	C6-N1-C2	-5.59	117.65	121.00
1	A	11	C	N3-C2-O2	-5.58	117.99	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2076	U	N3-C2-O2	-5.58	118.29	122.20
1	A	2185	U	C5-C6-N1	5.58	125.49	122.70
1	A	1669	A	C2-N3-C4	5.58	113.39	110.60
1	A	31	C	C5-C6-N1	5.58	123.79	121.00
2	B	26	C	C5-C6-N1	5.57	123.79	121.00
35	a	277	C	C6-N1-C2	-5.57	118.07	120.30
1	A	2825	G	C4-N9-C1'	5.57	133.74	126.50
35	a	611	C	C2-N1-C1'	5.57	124.93	118.80
1	A	143	C	N1-C2-O2	5.57	122.24	118.90
35	a	598	U	N3-C2-O2	-5.57	118.30	122.20
1	A	93	G	C6-C5-N7	-5.57	127.06	130.40
1	A	278	A	C4-N9-C1'	5.57	136.32	126.30
1	A	991	C	C5-C6-N1	5.57	123.78	121.00
1	A	2178	C	N3-C2-O2	-5.57	118.00	121.90
1	A	62	U	C2-N1-C1'	5.56	124.38	117.70
1	A	484	C	N1-C2-O2	5.56	122.23	118.90
1	A	1343	G	N3-C4-N9	5.56	129.33	126.00
1	A	277	G	N3-C4-C5	-5.55	125.82	128.60
1	A	1065	U	N3-C2-O2	-5.55	118.31	122.20
1	A	1911	U	C6-N1-C2	-5.55	117.67	121.00
1	A	1333	G	N3-C4-N9	5.55	129.33	126.00
1	A	2480	C	C6-N1-C2	-5.55	118.08	120.30
35	a	1109	C	C5-C6-N1	5.55	123.77	121.00
1	A	11	C	C6-N1-C2	-5.54	118.08	120.30
1	A	93	G	C4-N9-C1'	5.54	133.70	126.50
57	x	6	U	C6-N1-C1'	-5.54	113.45	121.20
35	a	458	U	N3-C2-O2	-5.53	118.33	122.20
1	A	510	C	C5-C6-N1	5.53	123.77	121.00
1	A	581	C	C5-C6-N1	5.53	123.77	121.00
1	A	912	C	N3-C4-C5	-5.53	119.69	121.90
1	A	1880	U	N1-C2-O2	5.53	126.67	122.80
1	A	759	G	N9-C4-C5	-5.53	103.19	105.40
1	A	2161	C	N3-C2-O2	-5.53	118.03	121.90
1	A	2739	U	N1-C2-O2	5.53	126.67	122.80
1	A	208	C	C6-N1-C2	-5.52	118.09	120.30
1	A	2047	C	C6-N1-C2	-5.52	118.09	120.30
35	a	272	C	C5-C6-N1	5.52	123.76	121.00
1	A	417	C	C2-N1-C1'	5.52	124.87	118.80
1	A	801	G	C4-N9-C1'	-5.52	119.33	126.50
1	A	1081	U	C5-C6-N1	5.52	125.46	122.70
2	B	12	C	C5-C6-N1	5.52	123.76	121.00
35	a	169	C	N3-C2-O2	-5.52	118.04	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	a	532	A	C5-C6-N6	-5.52	119.29	123.70
35	a	858	G	C8-N9-C1'	-5.51	119.83	127.00
35	a	995	C	N3-C2-O2	-5.51	118.04	121.90
2	B	79	G	C4-N9-C1'	5.51	133.67	126.50
1	A	1663	G	OP2-P-O3'	5.51	117.33	105.20
35	a	1126	U	N3-C2-O2	-5.51	118.34	122.20
1	A	669	G	C8-N9-C1'	-5.51	119.84	127.00
4	D	201	LEU	CB-CG-CD1	-5.50	101.64	111.00
1	A	1101	U	C6-N1-C2	-5.50	117.70	121.00
35	a	1202	U	N1-C2-O2	5.50	126.65	122.80
1	A	237	C	C5-C6-N1	5.49	123.75	121.00
1	A	847	U	N1-C2-O2	5.49	126.64	122.80
35	a	738	C	C5-C6-N1	5.49	123.75	121.00
1	A	1946	U	C5-C6-N1	5.48	125.44	122.70
1	A	2424	C	N3-C2-O2	-5.48	118.06	121.90
1	A	2805	C	C5-C6-N1	5.48	123.74	121.00
35	a	1158	C	C6-N1-C1'	-5.48	114.22	120.80
1	A	1135	C	C2-N1-C1'	5.48	124.83	118.80
1	A	2752	C	C6-N1-C2	-5.48	118.11	120.30
1	A	2076	U	C2-N1-C1'	5.48	124.28	117.70
1	A	2006	C	C2-N1-C1'	5.48	124.83	118.80
1	A	373	U	C6-N1-C2	-5.47	117.72	121.00
1	A	1190	G	C4-C5-N7	5.47	112.99	110.80
35	a	899	C	N1-C2-O2	5.47	122.18	118.90
1	A	39	G	C8-N9-C1'	-5.47	119.89	127.00
57	x	43	G	N3-C2-N2	-5.47	116.07	119.90
1	A	2611	C	C5-C6-N1	5.47	123.73	121.00
1	A	2465	C	C6-N1-C2	-5.47	118.11	120.30
2	B	37	C	C6-N1-C2	-5.47	118.11	120.30
35	a	342	C	C6-N1-C2	-5.47	118.11	120.30
35	a	1230	C	C6-N1-C2	-5.47	118.11	120.30
1	A	509	C	C6-N1-C2	-5.46	118.11	120.30
1	A	915	C	C2-N1-C1'	5.46	124.81	118.80
1	A	2755	C	C2-N1-C1'	5.46	124.81	118.80
35	a	439	U	C6-N1-C2	-5.46	117.72	121.00
1	A	759	G	N3-C4-N9	5.46	129.28	126.00
1	A	1917	U	C6-N1-C2	-5.46	117.72	121.00
1	A	897	C	N1-C2-O2	5.46	122.18	118.90
35	a	233	C	C6-N1-C2	-5.46	118.12	120.30
35	a	1460	C	N1-C2-O2	5.46	122.18	118.90
57	x	76	A	C4-C5-C6	-5.46	114.27	117.00
1	A	912	C	C5-C6-N1	5.46	123.73	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1379	U	N1-C2-O2	5.45	126.62	122.80
1	A	1993	U	C2-N1-C1'	5.45	124.24	117.70
1	A	985	C	C6-N1-C2	-5.45	118.12	120.30
1	A	2016	U	C6-N1-C2	-5.45	117.73	121.00
1	A	2064	C	C2-N1-C1'	5.45	124.79	118.80
1	A	1350	C	C6-N1-C2	-5.45	118.12	120.30
1	A	1967	C	N1-C2-O2	5.45	122.17	118.90
1	A	2300	C	C2-N1-C1'	5.45	124.79	118.80
1	A	1222	U	N3-C2-O2	-5.44	118.39	122.20
1	A	1896	G	N3-C2-N2	-5.44	116.09	119.90
1	A	200	U	N1-C2-O2	5.44	126.61	122.80
1	A	2200	C	C6-N1-C2	-5.44	118.12	120.30
1	A	1956	U	C2-N1-C1'	5.44	124.22	117.70
1	A	2902	C	N1-C2-O2	5.44	122.16	118.90
1	A	1267	U	C2-N1-C1'	5.43	124.22	117.70
1	A	2755	C	C6-N1-C2	-5.43	118.13	120.30
35	a	687	A	C8-N9-C4	-5.43	103.63	105.80
35	a	1375	A	N7-C8-N9	5.43	116.52	113.80
35	a	1470	U	N1-C2-O2	5.43	126.60	122.80
1	A	848	C	C2-N1-C1'	5.43	124.77	118.80
1	A	2178	C	N1-C2-O2	5.43	122.16	118.90
35	a	1008	U	N1-C2-O2	5.43	126.60	122.80
44	j	88	MET	C-N-CA	5.43	135.27	121.70
2	B	105	G	N9-C4-C5	-5.43	103.23	105.40
1	A	392	U	N1-C2-O2	5.42	126.60	122.80
35	a	697	U	N3-C2-O2	-5.42	118.40	122.20
1	A	2068	U	C5-C6-N1	5.42	125.41	122.70
1	A	860	U	N1-C2-O2	5.42	126.59	122.80
1	A	2822	G	N1-C6-O6	5.42	123.15	119.90
1	A	421	C	N1-C2-O2	5.42	122.15	118.90
1	A	2195	U	N3-C2-O2	-5.42	118.41	122.20
1	A	2840	C	C5-C6-N1	5.42	123.71	121.00
38	d	158	LEU	CB-CG-CD1	-5.42	101.79	111.00
1	A	585	G	N3-C4-N9	5.41	129.25	126.00
1	A	2616	C	C2-N1-C1'	5.41	124.75	118.80
35	a	429	U	OP1-P-O3'	5.41	117.11	105.20
1	A	974	G	C4-C5-N7	5.41	112.96	110.80
35	a	839	C	N3-C2-O2	-5.41	118.11	121.90
42	h	66	GLN	C-N-CA	5.41	133.66	122.30
1	A	1340	U	N1-C2-O2	5.41	126.59	122.80
35	a	397	A	C2-N3-C4	5.41	113.30	110.60
35	a	571	U	C5-C6-N1	5.41	125.40	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1892	C	C5-C6-N1	5.40	123.70	121.00
1	A	343	C	C2-N1-C1'	5.40	124.74	118.80
1	A	206	U	N3-C2-O2	-5.40	118.42	122.20
1	A	1314	C	C2-N3-C4	5.40	122.60	119.90
1	A	2511	U	C6-N1-C2	-5.40	117.76	121.00
35	a	150	U	N3-C2-O2	-5.40	118.42	122.20
1	A	2025	C	C6-N1-C2	-5.40	118.14	120.30
1	A	1459	G	N3-C4-N9	-5.40	122.76	126.00
1	A	2558	C	C5-C6-N1	5.40	123.70	121.00
35	a	839	C	N1-C2-O2	5.39	122.14	118.90
57	x	3	G	C6-C5-N7	-5.39	127.16	130.40
35	a	1118	U	O5'-P-OP1	-5.39	100.85	105.70
1	A	2124	G	N3-C4-C5	-5.39	125.91	128.60
1	A	2192	U	C6-N1-C2	-5.39	117.77	121.00
35	a	1382	C	C5-C6-N1	5.39	123.69	121.00
35	a	754	C	N1-C2-O2	5.39	122.13	118.90
35	a	1294	G	N3-C4-C5	-5.39	125.91	128.60
1	A	437	U	N3-C2-O2	-5.39	118.43	122.20
1	A	1730	C	C6-N1-C2	-5.39	118.14	120.30
35	a	1086	U	C5-C6-N1	5.38	125.39	122.70
1	A	1088	A	N7-C8-N9	5.38	116.49	113.80
1	A	1378	A	OP1-P-O3'	5.38	117.03	105.20
1	A	2286	G	N3-C4-C5	5.38	131.29	128.60
1	A	2592	G	N3-C4-C5	-5.38	125.91	128.60
35	a	879	C	C5-C6-N1	5.38	123.69	121.00
35	a	1407	C	C6-N1-C2	-5.38	118.15	120.30
57	x	6	U	C5-C6-N1	5.38	125.39	122.70
35	a	556	C	C6-N1-C2	-5.37	118.15	120.30
35	a	1367	C	C6-N1-C2	-5.37	118.15	120.30
2	B	66	A	P-O3'-C3'	5.37	126.14	119.70
1	A	1982	U	C6-N1-C2	-5.37	117.78	121.00
1	A	1624	U	N3-C2-O2	-5.37	118.44	122.20
1	A	356	G	N3-C4-N9	5.36	129.22	126.00
1	A	93	G	C4-C5-N7	5.36	112.94	110.80
1	A	2072	C	C2-N3-C4	5.36	122.58	119.90
35	a	998	C	N3-C2-O2	-5.36	118.15	121.90
1	A	34	U	C2-N1-C1'	5.36	124.13	117.70
35	a	1326	U	N1-C2-O2	5.36	126.55	122.80
1	A	2507	C	C6-N1-C2	-5.36	118.16	120.30
2	B	4	C	C2-N3-C4	5.36	122.58	119.90
35	a	563	A	C8-N9-C1'	-5.35	118.06	127.70
1	A	692	C	C6-N1-C2	-5.35	118.16	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2380	C	C6-N1-C2	-5.35	118.16	120.30
1	A	2043	C	N3-C2-O2	-5.34	118.16	121.90
1	A	2806	C	C6-N1-C2	-5.34	118.16	120.30
1	A	206	U	N1-C2-O2	5.34	126.54	122.80
2	B	105	G	C4-C5-N7	5.34	112.94	110.80
56	v	214	LEU	CA-CB-CG	5.34	127.58	115.30
1	A	243	U	N3-C2-O2	-5.34	118.46	122.20
1	A	1199	U	C5-C6-N1	5.33	125.37	122.70
1	A	1915	U	N3-C2-O2	-5.33	118.47	122.20
35	a	91	U	C2-N1-C1'	5.33	124.10	117.70
35	a	175	C	N3-C2-O2	-5.33	118.17	121.90
1	A	1924	C	C5-C6-N1	5.33	123.67	121.00
2	B	38	C	N3-C2-O2	-5.33	118.17	121.90
35	a	1322	C	C6-N1-C2	5.33	122.43	120.30
1	A	1044	C	C6-N1-C2	-5.32	118.17	120.30
35	a	529	G	N3-C4-N9	5.32	129.19	126.00
1	A	860	U	C2-N1-C1'	5.32	124.09	117.70
35	a	1460	C	C2-N1-C1'	5.32	124.65	118.80
1	A	2006	C	C5-C6-N1	5.32	123.66	121.00
1	A	2096	C	C6-N1-C2	-5.32	118.17	120.30
1	A	2457	U	C6-N1-C2	-5.32	117.81	121.00
35	a	623	C	C5-C6-N1	5.32	123.66	121.00
1	A	1049	C	N3-C4-C5	-5.32	119.77	121.90
1	A	2248	C	C6-N1-C1'	-5.32	114.42	120.80
1	A	2393	U	N1-C2-O2	5.32	126.52	122.80
35	a	1037	C	C2-N1-C1'	5.32	124.65	118.80
1	A	485	C	N1-C2-O2	5.32	122.09	118.90
1	A	1760	C	N1-C2-O2	5.32	122.09	118.90
1	A	2124	G	N3-C4-N9	5.32	129.19	126.00
35	a	1399	C	P-O3'-C3'	5.32	126.08	119.70
1	A	1205	A	C8-N9-C4	5.31	107.93	105.80
1	A	1438	U	N1-C2-O2	5.31	126.52	122.80
1	A	2755	C	N1-C2-O2	5.31	122.09	118.90
1	A	1915	U	N1-C2-O2	5.31	126.52	122.80
1	A	2604	U	O4'-C1'-N1	5.31	112.45	108.20
1	A	140	C	N1-C2-O2	5.31	122.08	118.90
1	A	484	C	C2-N1-C1'	5.31	124.64	118.80
1	A	1157	G	C4-C5-N7	5.31	112.92	110.80
1	A	2300	C	C5-C6-N1	5.31	123.65	121.00
35	a	998	C	N1-C2-O2	5.31	122.08	118.90
35	a	1440	U	N1-C2-O2	5.31	126.52	122.80
1	A	192	C	N3-C2-O2	-5.31	118.19	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	323	C	O4'-C1'-N1	5.31	112.44	108.20
1	A	832	U	C6-N1-C2	-5.30	117.82	121.00
1	A	985	C	C5-C6-N1	5.30	123.65	121.00
1	A	2695	U	C5-C6-N1	5.30	125.35	122.70
1	A	2214	C	N3-C2-O2	-5.30	118.19	121.90
35	a	207	C	C5-C6-N1	5.30	123.65	121.00
35	a	740	U	N3-C2-O2	-5.30	118.49	122.20
1	A	2416	C	C6-N1-C2	-5.30	118.18	120.30
1	A	196	A	O4'-C1'-N9	5.29	112.43	108.20
1	A	198	C	C6-N1-C2	-5.29	118.18	120.30
1	A	1270	C	C6-N1-C2	-5.29	118.19	120.30
1	A	2881	U	C5-C6-N1	5.29	125.34	122.70
35	a	1007	U	C2-N1-C1'	5.29	124.04	117.70
35	a	800	G	C8-N9-C4	-5.28	104.29	106.40
1	A	1005	C	N1-C2-O2	5.28	122.07	118.90
1	A	1486	U	N3-C2-O2	-5.28	118.51	122.20
1	A	2214	C	C5-C6-N1	5.28	123.64	121.00
1	A	1783	A	N3-C4-N9	-5.28	123.18	127.40
35	a	995	C	C6-N1-C2	-5.28	118.19	120.30
1	A	267	C	C2-N1-C1'	5.27	124.60	118.80
35	a	13	U	C5-C4-O4	-5.27	122.73	125.90
1	A	1941	C	C2-N1-C1'	5.27	124.60	118.80
1	A	801	G	C8-N9-C1'	5.27	133.85	127.00
1	A	1414	C	C6-N1-C2	-5.27	118.19	120.30
1	A	2579	C	C6-N1-C2	-5.27	118.19	120.30
35	a	358	U	N1-C2-O2	5.26	126.48	122.80
1	A	937	C	C6-N1-C2	-5.26	118.20	120.30
1	A	999	U	N1-C2-O2	5.26	126.48	122.80
35	a	811	C	C6-N1-C2	-5.26	118.20	120.30
35	a	1071	C	C5-C6-N1	5.26	123.63	121.00
1	A	2248	C	N1-C2-O2	5.26	122.05	118.90
35	a	1126	U	N1-C2-O2	5.25	126.47	122.80
1	A	638	G	C4-N9-C1'	5.25	133.32	126.50
1	A	1079	C	C5-C6-N1	5.25	123.62	121.00
1	A	1574	C	C6-N1-C2	-5.25	118.20	120.30
1	A	1796	U	N3-C2-O2	-5.25	118.53	122.20
1	A	2398	U	N3-C2-O2	-5.25	118.53	122.20
35	a	1112	C	C5-C6-N1	5.25	123.62	121.00
1	A	1151	A	N9-C4-C5	-5.25	103.70	105.80
2	B	78	A	O5'-P-OP1	-5.25	100.98	105.70
35	a	580	C	N1-C2-O2	5.25	122.05	118.90
57	x	74	C	C5-C6-N1	5.25	123.62	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	396	G	N3-C4-N9	5.24	129.14	126.00
1	A	1177	G	N7-C8-N9	5.24	115.72	113.10
1	A	1675	C	N3-C2-O2	-5.24	118.23	121.90
1	A	1726	C	N1-C2-O2	5.24	122.05	118.90
1	A	1288	G	C4-N9-C1'	5.24	133.31	126.50
1	A	1343	G	C6-C5-N7	-5.24	127.26	130.40
1	A	1894	C	N3-C2-O2	-5.24	118.23	121.90
1	A	2655	G	P-O3'-C3'	5.24	125.98	119.70
1	A	512	G	O4'-C1'-N9	5.24	112.39	108.20
1	A	1349	C	N3-C2-O2	-5.23	118.24	121.90
1	A	540	C	C6-N1-C2	-5.23	118.21	120.30
1	A	520	G	C8-N9-C4	-5.23	104.31	106.40
1	A	1318	U	C5-C6-N1	5.23	125.31	122.70
1	A	2752	C	C2-N1-C1'	5.23	124.55	118.80
35	a	1138	G	N3-C4-C5	-5.22	125.99	128.60
1	A	151	C	C6-N1-C2	-5.22	118.21	120.30
1	A	1333	G	C8-N9-C1'	-5.22	120.22	127.00
1	A	1668	A	C2-N3-C4	5.22	113.21	110.60
1	A	1081	U	N3-C2-O2	-5.21	118.55	122.20
1	A	1446	C	C5-C6-N1	5.21	123.61	121.00
35	a	657	U	N3-C2-O2	-5.21	118.55	122.20
1	A	2078	C	C6-N1-C2	-5.21	118.22	120.30
1	A	1301	A	C4-N9-C1'	5.21	135.67	126.30
1	A	1363	C	C6-N1-C2	-5.21	118.22	120.30
35	a	813	U	N3-C2-O2	-5.21	118.56	122.20
1	A	1065	U	N1-C2-O2	5.21	126.44	122.80
35	a	998	C	C6-N1-C2	-5.21	118.22	120.30
1	A	747	C	N3-C2-O2	-5.20	118.26	121.90
35	a	871	U	P-O3'-C3'	5.20	125.94	119.70
35	a	962	C	C6-N1-C2	-5.20	118.22	120.30
35	a	1129	C	C2-N1-C1'	5.20	124.52	118.80
35	a	302	G	N3-C4-C5	-5.20	126.00	128.60
1	A	1669	A	C4-N9-C1'	5.20	135.66	126.30
1	A	2329	U	N3-C4-O4	5.20	123.04	119.40
1	A	2704	C	N1-C2-O2	5.20	122.02	118.90
6	F	49	LEU	CA-CB-CG	5.19	127.24	115.30
35	a	960	U	N1-C2-O2	5.19	126.43	122.80
35	a	1518	A	C5-N7-C8	-5.19	101.31	103.90
1	A	1188	U	N3-C2-O2	-5.19	118.57	122.20
49	o	86	LEU	CA-CB-CG	5.18	127.22	115.30
1	A	1370	C	C5-C6-N1	5.18	123.59	121.00
1	A	733	G	N1-C6-O6	-5.17	116.80	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1343	G	N9-C4-C5	-5.17	103.33	105.40
1	A	1402	U	C5-C6-N1	5.17	125.29	122.70
2	B	88	C	P-O3'-C3'	5.17	125.91	119.70
35	a	480	U	O4'-C1'-N1	5.17	112.34	108.20
1	A	2591	C	C5-C6-N1	5.17	123.59	121.00
35	a	35	G	C2-N3-C4	5.17	114.49	111.90
8	H	97	ARG	N-CA-C	5.17	124.96	111.00
57	x	33	U	N3-C2-O2	-5.17	118.58	122.20
1	A	2104	C	C5-C6-N1	5.17	123.58	121.00
1	A	1653	G	N1-C6-O6	5.17	123.00	119.90
1	A	2683	C	N3-C2-O2	-5.17	118.28	121.90
35	a	79	G	C4-N9-C1'	5.17	133.22	126.50
1	A	2436	G	C6-N1-C2	-5.17	122.00	125.10
35	a	190	A	N7-C8-N9	5.17	116.38	113.80
1	A	62	U	O4'-C1'-N1	5.16	112.33	108.20
35	a	799	G	N3-C4-C5	-5.16	126.02	128.60
1	A	790	U	C5-C6-N1	-5.16	120.12	122.70
1	A	143	C	C6-N1-C1'	-5.16	114.61	120.80
35	a	11	G	C6-C5-N7	-5.16	127.30	130.40
35	a	1095	U	N3-C2-O2	-5.16	118.59	122.20
35	a	1532	U	C5-C6-N1	5.16	125.28	122.70
2	B	36	C	C2-N3-C4	5.16	122.48	119.90
1	A	234	U	C2-N1-C1'	5.15	123.88	117.70
1	A	510	C	C6-N1-C1'	-5.15	114.62	120.80
1	A	717	C	C6-N1-C2	-5.15	118.24	120.30
1	A	1513	U	N3-C2-O2	-5.15	118.59	122.20
1	A	1716	U	N3-C2-O2	-5.15	118.59	122.20
35	a	837	U	N3-C2-O2	-5.15	118.59	122.20
1	A	425	G	C6-C5-N7	-5.15	127.31	130.40
1	A	2329	U	C6-N1-C2	-5.15	117.91	121.00
1	A	2615	U	N1-C2-O2	5.15	126.40	122.80
1	A	694	U	C5-C6-N1	5.15	125.27	122.70
35	a	956	U	N3-C2-O2	-5.15	118.60	122.20
1	A	1157	G	N9-C4-C5	-5.14	103.34	105.40
1	A	2248	C	C5-C6-N1	5.14	123.57	121.00
35	a	1138	G	N3-C4-N9	5.14	129.09	126.00
35	a	1232	U	C5-C6-N1	5.14	125.27	122.70
35	a	1314	C	C2-N1-C1'	5.14	124.46	118.80
35	a	1382	C	N1-C2-O2	5.14	121.99	118.90
1	A	315	G	N3-C4-N9	5.14	129.09	126.00
1	A	1188	U	N1-C2-O2	5.14	126.40	122.80
1	A	2380	C	C5-C6-N1	5.14	123.57	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	a	299	G	C8-N9-C4	-5.14	104.34	106.40
1	A	1818	U	C2-N1-C1'	5.14	123.87	117.70
1	A	2065	C	C6-N1-C2	-5.14	118.24	120.30
1	A	484	C	C5-C6-N1	5.14	123.57	121.00
35	a	18	C	C5-C6-N1	5.14	123.57	121.00
35	a	522	C	N3-C4-C5	5.14	123.95	121.90
35	a	805	C	N1-C2-O2	5.14	121.98	118.90
1	A	680	C	C5-C6-N1	5.13	123.57	121.00
1	A	1531	C	C6-N1-C2	-5.13	118.25	120.30
1	A	269	C	C6-N1-C2	-5.13	118.25	120.30
1	A	2627	G	N9-C4-C5	5.13	107.45	105.40
1	A	1092	C	C6-N1-C1'	-5.13	114.64	120.80
1	A	2250	G	C4-C5-N7	5.13	112.85	110.80
35	a	961	U	N1-C2-O2	5.13	126.39	122.80
1	A	2179	C	N1-C2-O2	5.12	121.97	118.90
1	A	1822	C	C6-N1-C2	-5.12	118.25	120.30
35	a	221	C	C5-C6-N1	5.12	123.56	121.00
35	a	312	C	N3-C2-O2	-5.12	118.31	121.90
1	A	584	C	C5-C6-N1	5.12	123.56	121.00
1	A	2592	G	C8-N9-C1'	-5.12	120.34	127.00
1	A	2067	G	N9-C4-C5	-5.12	103.35	105.40
1	A	2105	U	N1-C2-O2	5.12	126.38	122.80
2	B	19	C	C5-C6-N1	5.12	123.56	121.00
1	A	93	G	C8-N9-C1'	-5.12	120.35	127.00
1	A	2206	C	C6-N1-C2	-5.12	118.25	120.30
1	A	1295	C	C6-N1-C2	-5.12	118.25	120.30
1	A	215	G	OP1-P-O3'	5.11	116.44	105.20
1	A	1974	C	C5-C6-N1	5.11	123.56	121.00
1	A	2124	G	C8-N9-C1'	-5.11	120.36	127.00
35	a	620	C	N1-C2-O2	5.11	121.97	118.90
35	a	1230	C	C5-C6-N1	5.11	123.56	121.00
1	A	672	C	C5-C6-N1	5.11	123.55	121.00
35	a	961	U	C2-N1-C1'	5.11	123.83	117.70
1	A	137	U	N3-C2-O2	-5.10	118.63	122.20
35	a	1328	C	C6-N1-C2	-5.10	118.26	120.30
1	A	2695	U	C6-N1-C2	-5.10	117.94	121.00
2	B	37	C	C2-N1-C1'	5.10	124.41	118.80
57	x	3	G	N7-C8-N9	5.10	115.65	113.10
1	A	1256	G	C4-C5-N7	5.10	112.84	110.80
1	A	2174	C	C6-N1-C2	-5.10	118.26	120.30
1	A	2592	G	C4-N9-C1'	5.10	133.13	126.50
1	A	1459	G	C8-N9-C1'	5.10	133.63	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1644	C	C6-N1-C2	-5.10	118.26	120.30
1	A	1682	G	N3-C4-N9	5.10	129.06	126.00
35	a	752	G	C4-N9-C1'	5.10	133.13	126.50
35	a	1303	C	C2-N1-C1'	5.10	124.41	118.80
1	A	692	C	C5-C6-N1	5.10	123.55	121.00
1	A	801	G	N3-C4-N9	-5.10	122.94	126.00
1	A	1130	U	C2-N1-C1'	5.09	123.81	117.70
1	A	1348	C	C2-N1-C1'	5.09	124.41	118.80
1	A	2337	G	C6-N1-C2	-5.09	122.04	125.10
1	A	496	G	N9-C4-C5	-5.09	103.36	105.40
1	A	632	A	C8-N9-C4	-5.09	103.76	105.80
35	a	514	C	N1-C2-O2	5.09	121.95	118.90
1	A	353	C	N3-C2-O2	-5.09	118.34	121.90
1	A	1142	A	N3-C4-N9	-5.09	123.33	127.40
1	A	1848	A	N7-C8-N9	5.09	116.34	113.80
35	a	488	C	C2-N1-C1'	5.09	124.40	118.80
1	A	356	G	N3-C4-C5	-5.09	126.06	128.60
1	A	158	U	C5-C6-N1	5.09	125.24	122.70
1	A	395	U	N1-C2-O2	5.09	126.36	122.80
1	A	654	A	C8-N9-C1'	-5.09	118.54	127.70
1	A	584	C	N1-C2-O2	5.08	121.95	118.90
6	F	151	LEU	CA-CB-CG	5.08	126.99	115.30
1	A	157	C	C2-N1-C1'	5.08	124.39	118.80
35	a	689	C	C5-C6-N1	5.08	123.54	121.00
1	A	1947	C	C5-C6-N1	5.08	123.54	121.00
1	A	1956	U	C5-C6-N1	5.08	125.24	122.70
35	a	899	C	N3-C2-O2	-5.08	118.34	121.90
35	a	1389	C	C5-C6-N1	5.08	123.54	121.00
1	A	2438	U	C5-C6-N1	5.08	125.24	122.70
35	a	11	G	C8-N9-C1'	-5.08	120.40	127.00
35	a	637	C	C5-C6-N1	5.08	123.54	121.00
1	A	1108	U	C5-C6-N1	5.07	125.24	122.70
1	A	2043	C	C5-C6-N1	5.07	123.54	121.00
1	A	2550	G	C6-C5-N7	-5.07	127.36	130.40
1	A	2825	G	C8-N9-C1'	-5.07	120.41	127.00
35	a	1262	C	N3-C2-O2	-5.07	118.35	121.90
35	a	1262	C	N1-C2-O2	5.07	121.94	118.90
35	a	1348	U	C5-C6-N1	5.07	125.23	122.70
1	A	867	C	C2-N1-C1'	5.07	124.38	118.80
2	B	17	C	C5-C6-N1	5.07	123.53	121.00
35	a	136	C	C2-N1-C1'	5.07	124.37	118.80
35	a	516	U	C6-N1-C2	-5.07	117.96	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	481	G	C8-N9-C4	5.07	108.43	106.40
1	A	974	G	C8-N9-C1'	-5.07	120.41	127.00
1	A	2581	G	C2-N3-C4	5.07	114.43	111.90
1	A	1178	C	N3-C2-O2	-5.06	118.36	121.90
1	A	2214	C	C6-N1-C2	-5.06	118.28	120.30
1	A	2509	G	C4-C5-N7	5.06	112.82	110.80
35	a	1107	C	C6-N1-C2	-5.06	118.28	120.30
1	A	242	G	OP2-P-O3'	5.06	116.32	105.20
6	F	3	LEU	CA-CB-CG	5.06	126.93	115.30
1	A	1333	G	C6-C5-N7	-5.05	127.37	130.40
1	A	2462	C	C5-C6-N1	5.05	123.53	121.00
1	A	2329	U	C2-N1-C1'	5.05	123.76	117.70
1	A	740	C	C5-C6-N1	5.05	123.53	121.00
1	A	2085	U	N3-C2-O2	-5.05	118.66	122.20
35	a	752	G	N3-C4-N9	5.05	129.03	126.00
1	A	417	C	N1-C2-O2	5.05	121.93	118.90
35	a	1253	G	N3-C4-C5	-5.05	126.08	128.60
1	A	304	U	C2-N1-C1'	5.04	123.75	117.70
1	A	370	G	N3-C2-N2	-5.04	116.37	119.90
1	A	2707	U	C5-C6-N1	5.04	125.22	122.70
35	a	333	U	C2-N1-C1'	5.04	123.75	117.70
1	A	1333	G	C4-N9-C1'	5.04	133.05	126.50
1	A	1774	C	N3-C2-O2	-5.04	118.37	121.90
1	A	2762	C	C2-N1-C1'	5.04	124.35	118.80
35	a	96	U	N1-C2-O2	5.04	126.33	122.80
57	x	3	G	C5-N7-C8	-5.04	101.78	104.30
1	A	2254	C	C6-N1-C2	-5.04	118.28	120.30
1	A	335	C	C6-N1-C2	-5.04	118.29	120.30
1	A	2724	U	C5-C4-O4	5.04	128.92	125.90
1	A	2820	A	OP1-P-O3'	5.04	116.28	105.20
35	a	1179	A	N7-C8-N9	5.04	116.32	113.80
1	A	1060	U	N3-C2-O2	-5.03	118.68	122.20
1	A	1897	G	C6-C5-N7	-5.03	127.38	130.40
1	A	2831	G	N1-C6-O6	-5.03	116.88	119.90
35	a	752	G	N3-C4-C5	-5.03	126.08	128.60
1	A	1157	G	N3-C4-N9	5.03	129.02	126.00
1	A	1912	A	N9-C4-C5	5.03	107.81	105.80
1	A	2656	U	C6-N1-C2	-5.03	117.98	121.00
1	A	814	C	C6-N1-C2	-5.03	118.29	120.30
1	A	1233	C	C5-C6-N1	5.03	123.51	121.00
1	A	1874	C	C5-C6-N1	5.03	123.51	121.00
35	a	221	C	C6-N1-C2	-5.03	118.29	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1360	G	N3-C4-C5	-5.02	126.09	128.60
1	A	2503	A	C2-N3-C4	5.02	113.11	110.60
1	A	555	G	P-O3'-C3'	5.02	125.72	119.70
35	a	1294	G	C4-N9-C1'	5.02	133.03	126.50
35	a	1351	U	C5-C6-N1	5.02	125.21	122.70
1	A	496	G	N3-C4-N9	5.02	129.01	126.00
1	A	1231	U	N3-C2-O2	-5.01	118.69	122.20
2	B	44	G	C4-C5-N7	-5.01	108.79	110.80
1	A	1563	U	C5-C6-N1	5.01	125.21	122.70
1	A	1343	G	C4-C5-N7	5.01	112.81	110.80
1	A	2574	G	C6-C5-N7	-5.01	127.39	130.40
2	B	30	C	C6-N1-C2	-5.01	118.30	120.30
35	a	11	G	N3-C4-C5	-5.01	126.10	128.60
35	a	419	C	C5-C6-N1	5.01	123.50	121.00
35	a	523	A	N1-C6-N6	5.01	121.61	118.60
1	A	650	C	C6-N1-C2	-5.01	118.30	120.30
35	a	219	U	C2-N1-C1'	5.01	123.71	117.70
35	a	610	U	N1-C2-O2	5.01	126.31	122.80
1	A	1455	G	C8-N9-C1'	-5.00	120.49	127.00
1	A	2765	A	C2-N3-C4	5.00	113.10	110.60
1	A	528	A	N3-C4-N9	-5.00	123.40	127.40
1	A	1198	U	C6-N1-C2	-5.00	118.00	121.00
35	a	532	A	N1-C6-N6	5.00	121.60	118.60

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
56	v	303	ARG	Sidechain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	62262	0	31312	463	0
2	B	2572	0	1302	16	0
3	C	2082	0	2157	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	D	1565	0	1616	22	0
5	E	1552	0	1619	37	0
6	F	1410	0	1447	23	0
7	G	1323	0	1374	22	0
8	H	1111	0	1148	19	0
9	I	1032	0	1088	14	0
10	J	1129	0	1162	21	0
11	K	938	0	1012	17	0
12	L	1045	0	1116	17	0
13	M	1074	0	1157	19	0
14	N	960	0	1000	15	0
15	O	892	0	923	17	0
16	P	917	0	965	20	0
17	Q	947	0	1022	17	0
18	R	816	0	839	20	0
19	S	857	0	922	12	0
20	T	738	0	807	12	0
21	U	779	0	834	13	0
22	V	753	0	780	10	0
23	W	575	0	592	5	0
24	X	625	0	655	11	0
25	Y	509	0	543	14	0
26	Z	449	0	491	7	0
27	0	444	0	461	6	0
28	1	409	0	440	5	0
29	2	377	0	418	9	0
30	3	504	0	574	13	0
31	4	302	0	343	5	0
32	5	988	0	1025	29	0
33	6	522	0	522	8	0
34	7	149	0	76	3	0
35	a	33016	0	16617	0	0
36	b	1704	0	1732	0	0
37	c	1624	0	1699	0	0
38	d	1643	0	1710	0	0
39	e	1141	0	1170	0	0
40	f	817	0	808	0	0
41	g	1181	0	1240	0	0
42	h	979	0	1034	0	0
43	i	1022	0	1070	0	0
44	j	786	0	828	0	0
45	k	869	0	878	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	l	955	0	1018	0	0
47	m	883	0	944	0	0
48	n	799	0	841	0	0
49	o	714	0	737	0	0
50	p	649	0	666	0	0
51	q	648	0	691	0	0
52	r	504	0	501	0	0
53	s	637	0	665	0	0
54	t	665	0	714	0	0
55	u	495	0	486	0	0
56	v	1880	0	1841	0	0
57	x	1647	0	831	0	0
58	z	120	0	128	0	0
All	All	147985	0	100591	828	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 7.

All (828) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2312:U:O2	6:F:36:ASN:ND2	1.78	1.16
1:A:280:U:H2'	1:A:281:C:H6	1.11	1.14
1:A:1432:G:O5'	16:P:105:LYS:HG2	54.54	1.07
1:A:306:U:H3	1:A:310:A:N6	1.57	1.02
1:A:280:U:H2'	1:A:281:C:C6	1.96	1.01
1:A:306:U:H3	1:A:310:A:H62	0.99	0.94
11:K:88:ASN:HB3	11:K:91:SER:O	1.70	0.92
1:A:1432:G:O5'	16:P:105:LYS:CG	54.12	0.92
1:A:1724:G:H1	1:A:1736:U:H3	0.99	0.91
1:A:2492:U:H4'	1:A:2573:C:N4	1.85	0.90
1:A:572:A:H61	1:A:2029:G:H21	1.25	0.85
6:F:10:GLU:O	6:F:14:LYS:HB2	1.78	0.84
32:5:79:PRO:O	32:5:80:THR:O	1.96	0.83
1:A:1108:U:H2'	1:A:1109:C:C6	2.16	0.81
25:Y:54:LYS:O	25:Y:58:ASN:HB2	1.81	0.79
1:A:1422:G:H5'	11:K:48:PRO:HG3	99.53	0.77
3:C:173:LEU:O	3:C:180:MET:HA	1.85	0.77
1:A:2304:G:H22	1:A:2312:U:H3	1.33	0.76
1:A:672:C:H4'	5:E:84:THR:HG21	1.69	0.75
1:A:6:A:N3	10:J:135:GLN:NE2	2.36	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:301:G:N2	1:A:316:C:O2	2.15	0.73
5:E:83:VAL:HG12	5:E:86:ALA:HB2	1.70	0.72
18:R:54:VAL:HG12	18:R:55:ASP:N	2.06	0.71
7:G:25:ILE:O	7:G:31:GLU:HA	1.91	0.71
10:J:98:GLU:O	10:J:102:GLU:HB2	1.90	0.71
1:A:2492:U:H4'	1:A:2573:C:H41	1.53	0.70
1:A:112:U:H5'	25:Y:58:ASN:HD21	1.57	0.69
1:A:1071:G:N2	1:A:1090:A:N7	2.40	0.69
10:J:95:ARG:HG2	10:J:96:ARG:HG2	1.75	0.69
18:R:4:VAL:HA	18:R:12:HIS:O	1.91	0.69
1:A:2106:U:H1'	1:A:2184:A:H61	1.58	0.68
1:A:2682:A:H61	1:A:2728:U:H1'	1.57	0.68
1:A:279:A:H61	1:A:361:G:H1'	1.58	0.68
5:E:83:VAL:CG1	5:E:86:ALA:HB2	2.24	0.68
1:A:926:G:N1	34:7:25:A:OP2	124.86	0.68
1:A:572:A:H61	1:A:2029:G:N2	1.91	0.68
13:M:41:LEU:O	13:M:93:VAL:HA	1.94	0.67
5:E:76:PRO:HA	5:E:82:GLY:HA2	1.74	0.67
24:X:37:PHE:O	24:X:45:PHE:HA	1.94	0.67
27:0:54:ILE:HG13	27:0:56:LYS:HB3	1.76	0.67
32:5:81:LEU:C	32:5:81:LEU:HD23	2.16	0.67
1:A:796:C:OP1	5:E:57:LYS:NZ	2.28	0.67
1:A:563:A:N3	17:Q:36:GLN:NE2	2.43	0.66
6:F:104:THR:HA	33:6:38:SER:HB3	1.76	0.66
1:A:2475:C:H42	1:A:2529:G:H22	1.43	0.66
19:S:73:LYS:HB3	19:S:106:VAL:HB	1.77	0.66
7:G:163:TYR:HB2	7:G:166:GLU:HB2	1.78	0.66
3:C:74:PRO:HB3	3:C:114:GLN:HE21	1.61	0.66
1:A:2305:U:H5'	6:F:130:GLY:HA3	1.78	0.66
10:J:31:GLU:HG2	10:J:142:ILE:HG12	1.77	0.65
1:A:1432:G:C5'	16:P:105:LYS:HG2	53.66	0.65
1:A:2514:U:H2'	1:A:2515:C:C6	2.30	0.65
1:A:1401:G:H2'	1:A:1402:U:C6	2.30	0.65
1:A:517:C:OP1	27:0:12:ARG:NH2	2.30	0.65
1:A:1721:G:O2'	1:A:1739:A:N6	2.30	0.65
22:V:75:GLN:HB2	22:V:92:VAL:HG23	1.79	0.65
32:5:56:ARG:NH1	32:5:81:LEU:HD11	2.13	0.64
21:U:14:THR:OG1	21:U:68:ASN:ND2	2.31	0.64
1:A:1107:G:H2'	1:A:1108:U:C6	2.33	0.64
1:A:2469:A:O2'	13:M:55:ARG:NH2	2.31	0.63
1:A:2321:U:C2'	1:A:2321:U:O2	2.44	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:121:GLU:HG2	11:K:122:VAL:HG23	1.80	0.63
1:A:269:C:H2'	1:A:270:A:H8	2.67	0.62
12:L:95:LEU:HD22	12:L:100:ILE:HD11	1.80	0.62
1:A:1779:U:H5''	1:A:1780:A:H5''	1.81	0.62
1:A:2095:A:OP1	8:H:11:ASN:ND2	2.32	0.62
30:3:41:ARG:HG2	30:3:44:ARG:HH12	1.64	0.62
13:M:66:ARG:NH1	13:M:104:GLU:OE2	2.30	0.62
1:A:2492:U:C4'	1:A:2573:C:N4	2.62	0.62
15:O:94:ARG:NH2	15:O:97:PHE:O	2.32	0.62
1:A:1843:C:O2'	3:C:253:GLY:O	2.17	0.62
1:A:269:C:H2'	1:A:270:A:C8	3.41	0.62
1:A:1030:C:OP2	13:M:127:LYS:NZ	2.32	0.62
1:A:2492:U:C5'	1:A:2573:C:N4	2.63	0.62
5:E:83:VAL:HG12	5:E:83:VAL:O	1.99	0.62
1:A:313:G:H2'	1:A:314:C:C6	2.35	0.61
12:L:62:PRO:HB2	30:3:29:ARG:HH11	1.65	0.61
14:N:10:LEU:O	14:N:12:ARG:NH2	2.33	0.61
1:A:1065:U:O4	1:A:1073:A:N6	2.33	0.61
10:J:17:VAL:HG23	10:J:137:PRO:HB2	1.83	0.61
1:A:2321:U:H2'	1:A:2321:U:O2	2.00	0.61
1:A:33:C:N4	1:A:446:G:O2'	2.33	0.61
5:E:18:THR:HA	5:E:106:LYS:HE3	1.81	0.61
18:R:27:ILE:O	18:R:66:HIS:NE2	2.29	0.61
12:L:57:LEU:HD22	30:3:53:ASP:HB3	1.83	0.61
3:C:151:GLY:O	3:C:155:ARG:NH1	2.33	0.60
16:P:63:ILE:HA	16:P:68:GLY:HA2	1.83	0.60
1:A:572:A:N6	1:A:2029:G:H21	1.96	0.60
1:A:2683:C:OP1	16:P:50:ARG:NH2	2.33	0.60
15:O:14:ALA:O	15:O:18:LEU:HB2	2.01	0.60
1:A:926:G:N2	34:7:25:A:OP2	126.13	0.60
21:U:6:ARG:NH2	21:U:25:LYS:O	2.34	0.60
1:A:1365:A:OP1	24:X:2:ARG:NH1	2.33	0.60
1:A:2572:A:N6	4:D:150:GLN:OE1	2.34	0.60
1:A:621:A:OP2	12:L:99:ASN:ND2	2.34	0.60
20:T:46:ALA:O	20:T:50:LEU:HB2	2.00	0.60
1:A:243:U:OP1	30:3:7:ARG:NH1	2.35	0.60
1:A:2469:A:N6	1:A:2481:G:O2'	2.35	0.60
1:A:2514:U:H2'	1:A:2515:C:H6	1.65	0.60
1:A:1462:C:HO2'	1:A:2702:G:HO2'	1.48	0.60
15:O:7:ARG:NH1	15:O:95:SER:O	2.34	0.60
6:F:49:LEU:HA	6:F:52:ALA:HB3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:5:81:LEU:HD23	32:5:82:ILE:N	2.17	0.60
1:A:1060:U:H3	1:A:1088:A:H8	1.47	0.60
5:E:47:LYS:HB2	5:E:51:GLU:HB2	1.84	0.59
12:L:100:ILE:HG13	12:L:101:ILE:HG23	1.84	0.59
26:Z:15:ARG:HE	26:Z:52:PHE:HE2	1.50	0.59
1:A:1394:U:H4'	1:A:1603:A:H4'	1.84	0.59
1:A:2032:G:N2	4:D:151:THR:OG1	2.35	0.59
1:A:1112:G:H2'	1:A:1113:U:C6	2.37	0.59
1:A:993:G:H2'	1:A:995:C:H41	13.51	0.59
5:E:149:ILE:HG23	5:E:188:MET:HG2	1.84	0.59
22:V:64:VAL:HG22	22:V:69:GLU:HG2	1.84	0.59
1:A:1048:A:OP2	1:A:1110:G:N2	2.36	0.59
1:A:2115:G:N2	1:A:2118:U:OP2	2.36	0.59
5:E:148:ILE:HB	5:E:169:VAL:HG22	1.83	0.59
32:5:26:VAL:HG22	32:5:115:GLY:H	1.68	0.59
1:A:2788:C:O2'	1:A:2809:A:N3	2.33	0.59
1:A:1826:G:O2'	1:A:1971:U:OP2	2.21	0.59
1:A:2515:C:O2	1:A:2516:A:C8	2.56	0.59
1:A:788:A:OP1	1:A:791:C:N4	2.31	0.59
1:A:1011:G:OP2	17:Q:69:ARG:NH1	2.36	0.59
13:M:40:ARG:HD2	13:M:93:VAL:HG21	1.85	0.59
1:A:1340:U:OP1	20:T:19:LYS:NZ	2.35	0.59
1:A:2492:U:H5''	1:A:2573:C:C5	2.38	0.58
1:A:563:A:OP2	18:R:79:ARG:NH2	2.36	0.58
1:A:13:A:O2'	1:A:15:G:N7	2.32	0.58
1:A:1779:U:OP2	1:A:1784:A:N6	2.37	0.58
1:A:1422:G:H5'	11:K:48:PRO:CG	100.35	0.58
1:A:1454:C:N4	14:N:73:ASN:OD1	2.37	0.58
1:A:280:U:C2	1:A:281:C:C5	2.91	0.58
22:V:2:PHE:HB3	22:V:61:LEU:HG	1.84	0.58
20:T:14:PRO:HD3	25:Y:30:MET:HG3	1.85	0.58
7:G:41:GLU:OE2	7:G:43:LYS:NZ	2.36	0.58
1:A:544:C:H3'	1:A:545:U:C6	2.38	0.58
8:H:14:SER:OG	8:H:17:ASP:OD2	2.22	0.58
1:A:1607:C:N4	1:A:1622:G:OP2	2.36	0.58
25:Y:25:GLN:O	25:Y:29:ARG:HB2	2.03	0.58
1:A:1796:U:H2'	1:A:1797:G:H8	1.69	0.58
1:A:28:A:O2'	1:A:296:U:OP1	50.12	0.57
16:P:51:ASN:O	16:P:52:ARG:NH1	2.35	0.57
1:A:465:G:OP1	29:2:12:ARG:NH1	2.36	0.57
1:A:249:C:O2'	12:L:63:LYS:NZ	2.32	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2655:G:N2	1:A:2665:A:OP2	2.37	0.57
30:3:31:ILE:O	30:3:35:LYS:NZ	2.33	0.57
33:6:14:ALA:HA	33:6:32:LEU:HB3	1.86	0.57
1:A:458:G:O2'	1:A:469:G:N1	2.37	0.57
1:A:1248:G:OP1	5:E:44:ARG:NH1	2.37	0.57
9:I:38:CYS:SG	9:I:39:LYS:NZ	2.74	0.57
10:J:4:PHE:HB3	17:Q:63:ARG:HH12	1.69	0.57
1:A:2849:U:OP1	16:P:92:ARG:NH2	2.37	0.57
19:S:62:ASP:OD1	19:S:62:ASP:N	2.36	0.57
1:A:1162:G:H21	18:R:91:GLN:HE22	1.52	0.57
1:A:1266:G:N2	1:A:1269:A:OP2	14.10	0.57
1:A:2522:U:O2'	1:A:2647:U:OP1	2.21	0.57
1:A:1998:A:HO2'	1:A:2724:U:HO2'	1.52	0.57
1:A:1084:A:OP2	32:5:53:ARG:NH1	2.36	0.57
1:A:1682:G:OP2	1:A:1699:G:N2	2.36	0.57
4:D:20:VAL:HG23	11:K:72:PRO:HB2	1.87	0.57
1:A:2539:C:H5'	31:4:3:VAL:HG21	1.87	0.56
1:A:1035:U:H3	1:A:1120:G:H1	1.53	0.56
1:A:1733:G:H2'	1:A:1734:G:C8	2.39	0.56
1:A:72:U:O4	25:Y:58:ASN:ND2	2.37	0.56
1:A:1869:G:N2	1:A:1872:A:OP2	2.38	0.56
1:A:2581:G:N2	1:A:2581:G:OP2	2.37	0.56
1:A:686:U:O2'	29:2:4:THR:O	2.23	0.56
1:A:1378:A:O2'	1:A:1380:G:OP2	2.24	0.56
3:C:143:VAL:HB	3:C:153:LEU:HB2	1.86	0.56
1:A:771:G:OP2	29:2:11:LYS:NZ	2.36	0.56
8:H:43:ASN:O	8:H:47:PHE:HB2	2.06	0.56
1:A:144:A:H4'	20:T:2:ILE:HD11	1.88	0.56
1:A:2075:U:HO2'	1:A:2596:U:H3	1.52	0.56
6:F:66:ILE:O	6:F:68:LYS:NZ	2.38	0.56
13:M:50:ARG:HD3	13:M:65:ILE:HD11	1.88	0.56
20:T:6:ARG:NH1	20:T:42:GLU:OE1	2.39	0.56
25:Y:24:GLU:H	25:Y:27:ASN:HD22	1.54	0.56
4:D:113:SER:OG	4:D:114:LYS:N	2.39	0.56
1:A:279:A:N1	1:A:361:G:O2'	2.36	0.56
2:B:43:C:OP1	33:6:6:HIS:NE2	2.37	0.56
21:U:17:ASP:HB3	21:U:20:LYS:HB2	1.88	0.56
1:A:340:A:O2'	5:E:162:ARG:NH1	2.39	0.56
1:A:704:G:O2'	1:A:727:A:N6	2.38	0.56
8:H:126:GLY:H	8:H:146:VAL:HB	1.70	0.56
19:S:88:ARG:NH2	19:S:94:ASP:OD2	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2204:G:H4'	3:C:149:LYS:HD3	1.88	0.55
4:D:46:ARG:NH2	4:D:89:GLU:OE1	2.39	0.55
7:G:89:VAL:O	7:G:159:LYS:HA	2.05	0.55
13:M:53:MET:HB2	13:M:120:ALA:HB2	1.86	0.55
1:A:1153:C:OP1	17:Q:91:ARG:NH2	2.39	0.55
15:O:6:ALA:O	15:O:10:ARG:HB2	2.06	0.55
32:5:42:ARG:O	32:5:46:ARG:HB2	2.05	0.55
1:A:1059:G:H1	1:A:1079:C:H42	1.54	0.55
7:G:93:TYR:OH	7:G:159:LYS:NZ	2.39	0.55
19:S:52:GLU:HA	19:S:55:ILE:HD12	1.89	0.55
1:A:1724:G:O6	1:A:1736:U:O4	2.24	0.55
1:A:2636:C:O2'	4:D:45:TYR:OH	2.25	0.55
1:A:910:A:N3	1:A:2264:C:O2'	2.37	0.55
9:I:78:LEU:O	9:I:81:LYS:NZ	2.30	0.55
18:R:49:ILE:HG22	18:R:54:VAL:H	1.71	0.55
1:A:1296:G:OP1	1:A:2709:G:O2'	2.22	0.55
1:A:2099:U:O2	1:A:2191:A:N6	2.39	0.55
1:A:2780:G:N1	10:J:102:GLU:OE2	2.40	0.55
1:A:674:G:H2'	1:A:675:A:H8	4.46	0.55
8:H:55:GLU:HA	8:H:58:LEU:HD12	1.87	0.55
1:A:2780:G:OP2	10:J:120:ARG:NE	2.40	0.55
1:A:1009:A:N3	1:A:1153:C:O2'	2.38	0.55
9:I:72:THR:HB	9:I:115:ASP:HB2	1.89	0.55
1:A:2365:G:N7	30:3:38:LYS:NZ	2.50	0.55
21:U:25:LYS:HE2	21:U:36:GLU:HB3	1.89	0.55
32:5:103:ASN:HA	32:5:107:GLU:HB3	1.88	0.54
1:A:1638:C:O2	1:A:2698:U:O2'	2.25	0.54
1:A:636:G:HO2'	1:A:638:G:HO2'	1.50	0.54
29:2:31:LEU:O	29:2:35:ARG:NH1	2.41	0.54
1:A:546:U:O2	1:A:548:G:N1	2.39	0.54
6:F:125:GLY:O	6:F:157:THR:OG1	2.22	0.54
29:2:12:ARG:HE	29:2:44:VAL:HG21	1.72	0.54
1:A:2134:A:O2'	1:A:2159:G:N3	2.40	0.54
1:A:736:C:H2'	1:A:737:C:H6	2.09	0.54
1:A:1039:A:H61	1:A:1116:G:H1	1.54	0.54
1:A:2405:G:O2'	1:A:2412:A:N6	2.40	0.54
21:U:10:VAL:HG12	21:U:71:ILE:HG22	1.90	0.54
1:A:2769:U:H5'	10:J:95:ARG:HH22	1.73	0.54
1:A:306:U:N3	1:A:310:A:N6	2.40	0.54
3:C:244:VAL:HG12	3:C:250:GLN:HA	1.89	0.54
28:I:10:LEU:HA	28:I:49:LYS:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:546:U:O2	1:A:548:G:C6	2.61	0.54
1:A:820:A:H4'	1:A:836:G:H22	1.72	0.54
1:A:842:U:O2'	1:A:845:A:OP1	13.41	0.54
2:B:34:A:C2	2:B:44:G:C6	2.96	0.54
1:A:572:A:OP2	18:R:79:ARG:NH1	2.40	0.54
4:D:35:THR:HG22	4:D:73:VAL:HG21	1.90	0.54
1:A:159:G:O2'	1:A:167:A:N6	2.40	0.53
1:A:2831:G:OP2	4:D:59:ARG:NH1	2.37	0.53
9:I:33:ASN:HB2	9:I:64:ARG:HH22	1.73	0.53
30:3:8:GLY:O	30:3:12:ARG:NH2	2.39	0.53
1:A:1032:A:H1'	31:4:23:ILE:HD13	1.90	0.53
1:A:1900:A:H1'	1:A:1970:A:H2'	1.89	0.53
1:A:577:G:O2'	1:A:1254:A:OP1	2.26	0.53
18:R:54:VAL:HG12	18:R:55:ASP:H	1.73	0.53
1:A:2475:C:H42	1:A:2529:G:N2	2.06	0.53
1:A:714:U:N3	1:A:717:C:OP2	2.38	0.53
14:N:96:ARG:O	14:N:113:ILE:HA	2.09	0.53
23:W:33:ILE:HG22	23:W:34:VAL:HG23	1.90	0.53
3:C:70:LYS:O	3:C:117:SER:OG	2.26	0.53
8:H:66:ASN:O	8:H:70:GLU:CB	2.57	0.53
9:I:87:SER:OG	9:I:88:GLY:N	2.40	0.53
6:F:10:GLU:O	6:F:14:LYS:CB	2.55	0.53
14:N:103:ARG:HB2	14:N:110:MET:HE3	1.91	0.53
1:A:1432:G:P	16:P:105:LYS:HG2	54.53	0.53
28:1:10:LEU:HB2	28:1:20:TYR:O	2.08	0.53
32:5:57:ASN:HB2	32:5:62:ARG:HD3	1.90	0.53
1:A:265:A:O2'	1:A:428:A:N6	2.42	0.53
1:A:86:G:OP2	21:U:29:SER:OG	2.23	0.53
2:B:30:C:OP1	15:O:3:LYS:NZ	2.39	0.53
1:A:1901:A:H4'	3:C:252:LYS:HD3	1.91	0.53
1:A:768:G:N2	1:A:1379:U:O2'	2.40	0.53
1:A:1432:G:O5'	16:P:105:LYS:HG3	53.49	0.53
1:A:2204:G:OP2	3:C:146:LYS:NZ	2.35	0.53
1:A:647:G:N2	1:A:2350:C:O2'	2.36	0.53
1:A:2537:U:H2'	1:A:2538:C:H6	1.74	0.53
1:A:370:G:O2'	1:A:424:G:OP1	2.26	0.53
11:K:21:CYS:HA	11:K:41:ILE:HG22	1.91	0.53
21:U:6:ARG:NH2	21:U:7:ASP:OD1	2.41	0.53
24:X:11:PRO:HB3	24:X:29:LEU:HD23	1.91	0.53
30:3:23:HIS:ND1	30:3:24:LYS:O	2.33	0.53
1:A:33:C:O2	1:A:447:A:N6	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:33:LEU:HD13	13:M:117:PHE:HB3	1.91	0.53
21:U:14:THR:HG1	21:U:68:ASN:ND2	2.06	0.53
1:A:1681:G:N2	1:A:1763:G:OP2	2.39	0.52
1:A:2116:G:O6	1:A:2165:C:N4	2.37	0.52
1:A:546:U:OP2	1:A:546:U:H6	1.92	0.52
1:A:1386:C:H2'	1:A:1387:A:H8	1.74	0.52
1:A:2285:C:OP2	28:1:5:ARG:NH1	2.42	0.52
6:F:101:ARG:NH2	33:6:25:ARG:O	2.42	0.52
1:A:948:C:O2	1:A:984:A:O2'	2.24	0.52
18:R:60:LYS:HE2	18:R:100:GLY:HA3	1.92	0.52
1:A:993:G:H1'	18:R:91:GLN:HE21	1.75	0.52
5:E:117:ARG:NH2	5:E:183:PHE:O	2.41	0.52
1:A:1223:G:OP1	18:R:68:ARG:NH2	2.43	0.52
1:A:1796:U:H2'	1:A:1797:G:C8	2.45	0.52
1:A:1818:U:H5'	3:C:156:SER:HB2	1.92	0.52
5:E:125:SER:O	5:E:137:LYS:NZ	2.43	0.52
10:J:46:PRO:HD3	17:Q:59:LEU:HD13	1.91	0.52
4:D:13:ARG:NH1	16:P:74:GLN:OE1	2.35	0.52
22:V:77:VAL:HG23	22:V:89:ILE:HG12	1.91	0.52
1:A:2064:C:O2'	1:A:2251:G:N2	2.36	0.52
1:A:2139:U:H2'	1:A:2140:G:H8	1.74	0.52
12:L:133:ALA:O	12:L:137:ALA:CB	2.58	0.52
1:A:1084:A:H4'	32:5:55:VAL:HG12	1.92	0.52
1:A:490:C:H2'	1:A:491:G:H8	8.37	0.52
1:A:861:A:N3	2:B:79:G:O2'	2.40	0.52
5:E:149:ILE:HD11	5:E:172:ALA:HA	1.90	0.52
18:R:54:VAL:CG1	18:R:55:ASP:H	2.20	0.52
1:A:1419:A:H61	1:A:1494:A:H61	1.56	0.52
1:A:1529:G:O6	1:A:1542:U:O2	2.26	0.52
16:P:38:ARG:NH2	16:P:39:LEU:O	2.43	0.52
16:P:87:ARG:HH12	16:P:109:ILE:HD11	1.74	0.52
1:A:1534:U:HO2'	1:A:1537:G:H1	1.58	0.51
1:A:2773:C:OP1	4:D:169:ARG:NE	2.42	0.51
12:L:133:ALA:O	12:L:137:ALA:HB2	2.09	0.51
1:A:397:U:H2'	1:A:398:C:C6	2.45	0.51
1:A:61:C:H5''	25:Y:43:LEU:HD22	1.93	0.51
10:J:13:ARG:NH1	10:J:49:ASP:O	2.38	0.51
1:A:65:U:O2'	1:A:456:C:O2	2.20	0.51
6:F:55:ASP:OD2	6:F:149:ARG:NE	2.43	0.51
6:F:162:ASP:N	6:F:162:ASP:OD1	2.42	0.51
1:A:2031:A:O2'	1:A:2454:G:N2	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1891:G:HO2'	1:A:2235:G:HO2'	1.53	0.51
7:G:174:LYS:O	7:G:175:LYS:HB2	2.11	0.51
1:A:2478:A:H5'	31:4:32:LYS:HE3	1.93	0.51
32:5:51:TYR:HE2	32:5:89:PRO:HD3	1.75	0.51
5:E:3:LEU:HD13	5:E:120:VAL:HG21	1.93	0.51
14:N:43:GLU:OE2	14:N:46:ARG:NH2	2.41	0.51
11:K:3:GLN:HB3	11:K:32:TYR:HB3	1.92	0.51
15:O:40:ILE:HG12	15:O:47:VAL:HG12	1.91	0.51
1:A:1788:C:OP1	3:C:220:ARG:NH2	2.42	0.51
1:A:2087:G:H2'	1:A:2088:A:H8	1.75	0.51
1:A:545:U:OP2	1:A:545:U:H6	1.94	0.51
30:3:31:ILE:HG22	30:3:31:ILE:O	2.11	0.51
1:A:1475:G:O2'	1:A:1732:C:N4	2.44	0.51
1:A:1619:G:O2'	29:2:1:MET:N	2.44	0.51
1:A:569:U:O2'	1:A:983:A:N1	2.38	0.51
11:K:87:LEU:HD13	11:K:92:GLU:HB3	1.92	0.51
24:X:70:LEU:HD22	24:X:75:GLU:HB2	1.92	0.51
1:A:1548:A:H2'	1:A:1549:A:C8	2.46	0.51
1:A:1860:G:H1	1:A:1882:U:H3	1.57	0.51
14:N:49:GLU:OE2	14:N:94:TYR:N	2.41	0.51
1:A:994:C:OP1	17:Q:52:ARG:NH2	2.43	0.51
1:A:1445:G:O6	1:A:1466:U:O2	2.29	0.51
1:A:155:A:H2'	1:A:156:A:C8	2.45	0.51
1:A:2364:C:OP1	23:W:51:ARG:NH1	2.40	0.50
7:G:21:GLN:NE2	7:G:37:ASN:O	2.44	0.50
1:A:1801:A:N6	1:A:2201:G:O2'	2.41	0.50
1:A:2515:C:C2	1:A:2516:A:C8	2.99	0.50
1:A:2685:G:H1	1:A:2724:U:H3	1.57	0.50
4:D:45:TYR:OH	4:D:81:GLU:OE2	2.28	0.50
1:A:2540:C:O2'	1:A:2740:A:N3	2.36	0.50
1:A:2758:A:H1'	7:G:63:GLN:HE22	1.76	0.50
1:A:2848:G:O2'	1:A:2868:A:N6	2.45	0.50
2:B:81:G:O6	2:B:95:U:O2	2.30	0.50
7:G:17:LYS:HB3	7:G:24:THR:HB	1.94	0.50
10:J:36:LEU:HD22	10:J:121:LYS:HB2	1.92	0.50
1:A:309:A:N3	1:A:329:G:O2'	2.43	0.50
18:R:14:VAL:HG23	18:R:18:GLN:HE21	1.76	0.50
20:T:1:MET:HG3	20:T:3:ARG:H	1.76	0.50
24:X:17:ARG:HH11	24:X:21:LEU:HD22	1.77	0.50
1:A:2475:C:N4	1:A:2529:G:H22	2.10	0.50
28:1:8:ILE:HD13	28:1:24:LYS:HB2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2537:U:H2'	1:A:2538:C:C6	2.47	0.50
1:A:2258:C:O2'	1:A:2427:C:OP2	2.29	0.50
7:G:86:LEU:O	7:G:129:GLU:HA	2.12	0.50
11:K:92:GLU:O	11:K:93:GLN:C	2.49	0.50
12:L:61:LEU:HD23	30:3:26:ALA:HB2	1.92	0.50
1:A:851:C:O2'	26:Z:42:ALA:O	2.30	0.50
1:A:29:U:O2	1:A:1215:G:O2'	2.30	0.50
1:A:1517:G:H1'	1:A:1919:A:O3'	100.46	0.50
1:A:281:C:O2	1:A:281:C:H2'	2.11	0.50
1:A:436:C:C2	1:A:437:U:C5	3.00	0.50
22:V:43:ASP:OD2	22:V:46:LYS:N	2.41	0.50
1:A:1108:U:H2'	1:A:1109:C:H6	1.69	0.50
32:5:56:ARG:HH11	32:5:81:LEU:HD11	1.76	0.49
1:A:1724:G:N2	1:A:1736:U:O2	2.34	0.49
1:A:2515:C:C2	1:A:2516:A:N7	2.79	0.49
1:A:2548:U:O2	11:K:23:LYS:NZ	2.40	0.49
1:A:2839:G:O2'	14:N:49:GLU:OE1	2.30	0.49
1:A:1223:G:N2	1:A:1226:A:OP2	2.41	0.49
1:A:2899:A:H5'	10:J:136:GLN:HE22	1.77	0.49
1:A:2564:A:OP1	1:A:2648:G:O2'	2.29	0.49
5:E:83:VAL:CG1	5:E:86:ALA:CB	2.91	0.49
2:B:37:C:O2	15:O:100:HIS:NE2	2.46	0.49
1:A:1028:A:N3	1:A:2486:C:O2'	2.39	0.49
1:A:2822:G:H5''	4:D:164:GLN:HE22	1.78	0.49
22:V:9:ARG:HD3	22:V:39:ALA:HB1	1.95	0.49
1:A:2515:C:H2'	1:A:2516:A:H8	1.76	0.49
1:A:2572:A:H5''	1:A:2574:G:H4'	1.95	0.49
3:C:106:PRO:HG2	3:C:109:LEU:HB2	1.95	0.49
1:A:910:A:H62	13:M:12:MET:HA	1.77	0.49
17:Q:108:LEU:HA	18:R:48:LYS:HE3	1.93	0.49
1:A:140:C:H42	1:A:1595:C:H4'	1.77	0.49
1:A:1798:U:OP2	3:C:270:ARG:NH2	2.41	0.49
1:A:2688:G:N1	1:A:2720:U:OP2	2.35	0.49
1:A:2796:U:O2	1:A:2799:A:C2	2.64	0.49
3:C:144:GLU:HB2	3:C:187:CYS:HB3	1.94	0.49
5:E:3:LEU:HB2	5:E:12:LEU:HB3	1.93	0.49
1:A:1936:A:H2	1:A:1943:U:H3	1.60	0.49
28:1:7:LYS:HA	28:1:23:THR:HA	1.95	0.49
1:A:304:U:H3	1:A:313:G:H1	1.61	0.49
32:5:15:VAL:HG22	32:5:66:GLY:HA3	1.94	0.49
1:A:2220:U:H2'	1:A:2221:G:H8	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:299:A:N1	1:A:322:A:O2'	2.39	0.49
11:K:114:LYS:HE3	11:K:118:LEU:HD11	1.95	0.49
8:H:113:SER:O	8:H:116:ARG:NH1	2.42	0.48
26:Z:11:SER:OG	26:Z:12:ALA:N	2.46	0.48
32:5:42:ARG:O	32:5:46:ARG:CB	2.61	0.48
33:6:15:SER:O	33:6:34:LEU:N	2.45	0.48
1:A:2533:U:OP1	1:A:2665:A:O2'	2.28	0.48
20:T:56:GLU:N	20:T:86:THR:O	2.45	0.48
22:V:58:SER:O	22:V:73:LYS:NZ	2.35	0.48
1:A:1032:A:H2	1:A:1122:G:H22	1.61	0.48
19:S:47:VAL:HG23	19:S:103:ILE:HG21	1.95	0.48
1:A:238:C:O2'	1:A:608:A:N3	2.40	0.48
3:C:77:VAL:HG21	3:C:109:LEU:HD11	1.95	0.48
3:C:15:VAL:HG22	3:C:205:GLY:HA3	1.94	0.48
1:A:2298:A:OP1	6:F:70:ARG:NH2	2.45	0.48
14:N:73:ASN:HA	14:N:76:VAL:HG12	1.96	0.48
1:A:736:C:H2'	1:A:737:C:C6	2.69	0.48
5:E:147:LEU:HB3	5:E:186:VAL:HG13	1.96	0.48
1:A:1807:G:N2	1:A:1810:A:OP2	2.44	0.48
1:A:514:A:N3	1:A:581:C:O2'	2.37	0.48
8:H:125:THR:HG23	8:H:146:VAL:HG12	1.96	0.48
1:A:2492:U:H5''	1:A:2573:C:C4	2.49	0.48
3:C:18:VAL:HB	3:C:202:ARG:HH21	1.78	0.48
5:E:178:VAL:O	5:E:182:ALA:CB	2.62	0.48
6:F:28:PRO:HB2	6:F:168:LEU:HD22	1.95	0.48
12:L:128:THR:OG1	12:L:129:LYS:N	2.45	0.48
1:A:2469:A:H4'	13:M:55:ARG:HD3	1.96	0.48
19:S:77:ASP:N	19:S:77:ASP:OD1	2.46	0.48
21:U:40:LEU:HA	21:U:60:LYS:O	2.14	0.48
25:Y:27:ASN:O	25:Y:31:GLN:CB	2.61	0.48
1:A:1865:U:OP1	1:A:2409:G:N2	2.46	0.48
1:A:534:U:O2	1:A:559:G:O6	2.32	0.48
8:H:30:LEU:HB3	8:H:36:ALA:HB3	1.96	0.48
21:U:17:ASP:HB2	21:U:38:ILE:HG23	1.95	0.48
1:A:1530:G:N2	1:A:1541:C:O2	2.34	0.48
1:A:251:A:OP1	12:L:58:TYR:OH	2.26	0.48
1:A:299:A:N3	1:A:319:G:O2'	2.39	0.48
3:C:119:VAL:HG12	3:C:130:PRO:HG2	1.96	0.48
8:H:94:ILE:HB	8:H:122:LEU:HB2	1.95	0.48
15:O:108:ASP:OD1	15:O:111:ARG:NH1	2.45	0.48
22:V:4:ILE:HB	22:V:63:ILE:HG12	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2324:U:H5''	1:A:2325:G:H5''	1.96	0.47
1:A:839:U:H2'	1:A:840:C:C6	2.48	0.47
6:F:9:ASP:N	6:F:9:ASP:OD1	2.43	0.47
9:I:32:VAL:HG21	9:I:60:VAL:HG21	1.96	0.47
1:A:1432:G:P	16:P:105:LYS:CG	54.13	0.47
1:A:2101:A:H2'	1:A:2102:G:H8	1.78	0.47
1:A:280:U:C2	1:A:281:C:C6	3.02	0.47
1:A:1117:C:H2'	1:A:1118:C:H6	1.79	0.47
1:A:2786:U:H2'	1:A:2787:C:C6	2.49	0.47
13:M:61:GLY:HA2	13:M:107:GLY:HA3	1.95	0.47
32:5:20:LYS:O	32:5:88:HIS:ND1	2.39	0.47
4:D:148:GLN:HB2	4:D:152:PRO:HG2	1.96	0.47
24:X:57:VAL:O	24:X:61:LYS:N	2.43	0.47
1:A:1106:G:H2'	1:A:1107:G:H8	1.79	0.47
1:A:1203:U:H5'	12:L:3:LEU:HD23	1.96	0.47
1:A:2101:A:H2'	1:A:2102:G:C8	2.50	0.47
32:5:94:ARG:HD3	32:5:131:THR:HA	1.96	0.47
1:A:2897:U:H2'	1:A:2898:U:C6	2.50	0.47
11:K:12:ASP:HA	11:K:99:ILE:HA	1.97	0.47
17:Q:46:TYR:OH	17:Q:50:ARG:NH2	2.47	0.47
1:A:519:U:H2'	1:A:520:G:H8	1.80	0.47
1:A:631:A:N3	1:A:2415:G:O2'	2.41	0.47
1:A:639:U:H2'	1:A:640:C:C6	2.50	0.47
1:A:1769:U:H3	1:A:1983:G:H1	1.63	0.47
1:A:2576:G:O2'	1:A:2579:C:OP2	2.23	0.47
1:A:372:G:N2	1:A:401:A:OP2	2.43	0.47
8:H:66:ASN:O	8:H:70:GLU:HB2	2.15	0.47
9:I:134:SER:OG	9:I:135:MET:SD	2.67	0.47
13:M:35:ALA:HA	13:M:128:THR:HG22	1.96	0.47
25:Y:27:ASN:O	25:Y:31:GLN:HB3	2.14	0.47
1:A:1483:G:O6	1:A:1506:U:O2	2.31	0.47
3:C:106:PRO:HD2	3:C:109:LEU:HD22	1.96	0.47
15:O:33:ARG:HG2	15:O:34:HIS:CD2	2.50	0.47
32:5:24:SER:HB2	32:5:116:GLU:H	1.80	0.47
33:6:26:SER:OG	33:6:27:THR:N	2.47	0.47
1:A:1070:A:N7	1:A:1096:A:O2'	2.41	0.47
26:Z:8:GLN:HB2	26:Z:28:LEU:HD13	1.96	0.47
1:A:281:C:H2'	1:A:282:A:H8	1.79	0.47
3:C:38:LYS:NZ	3:C:55:GLY:O	2.37	0.47
19:S:69:LEU:HG	19:S:107:VAL:HG22	1.96	0.47
1:A:419:U:H2'	1:A:420:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:77:VAL:HG21	3:C:109:LEU:HD21	1.97	0.46
10:J:45:THR:HB	10:J:48:VAL:HB	1.97	0.46
14:N:99:LYS:HB3	27:0:41:HIS:CD2	2.50	0.46
24:X:39:VAL:O	24:X:43:LYS:N	2.48	0.46
1:A:1047:G:P	32:5:62:ARG:HH21	2.38	0.46
1:A:2075:U:O2'	1:A:2596:U:N3	2.44	0.46
3:C:57:HIS:ND1	3:C:58:LYS:O	2.44	0.46
1:A:630:G:O2'	1:A:632:A:N6	2.38	0.46
4:D:179:ARG:HB3	4:D:188:LEU:HD12	1.98	0.46
1:A:1602:U:OP2	20:T:64:LYS:NZ	2.47	0.46
3:C:153:LEU:HD13	3:C:175:LEU:HD21	1.97	0.46
7:G:104:LEU:HB2	7:G:112:VAL:HB	1.97	0.46
9:I:33:ASN:HB3	9:I:36:GLU:HG2	1.97	0.46
2:B:111:U:H2'	2:B:112:G:C8	2.51	0.46
5:E:102:ARG:NH1	5:E:199:MET:O	2.43	0.46
20:T:37:ASP:O	20:T:81:LYS:NZ	2.41	0.46
1:A:1509:A:H2'	1:A:1510:G:C8	2.51	0.46
1:A:1509:A:H2'	1:A:1510:G:H8	1.81	0.46
1:A:2723:C:OP1	4:D:114:LYS:NZ	2.38	0.46
1:A:442:G:O4'	5:E:41:GLN:NE2	2.49	0.46
1:A:776:G:N2	1:A:802:A:OP2	23.76	0.46
5:E:83:VAL:CG1	5:E:86:ALA:HA	2.46	0.46
8:H:7:ASP:HB2	8:H:35:LYS:HD2	1.98	0.46
11:K:71:ARG:HB2	11:K:75:SER:HB2	1.96	0.46
12:L:88:GLY:O	12:L:121:THR:N	2.48	0.46
18:R:76:LYS:HD2	18:R:85:LYS:HE2	1.97	0.46
29:2:24:THR:HG23	29:2:27:GLY:H	1.79	0.46
1:A:2492:U:H5''	1:A:2573:C:N4	2.31	0.46
1:A:2861:U:H2'	1:A:2862:G:H8	1.80	0.46
1:A:410:G:H21	1:A:432:A:H62	42.31	0.46
5:E:105:LEU:HD23	5:E:108:ILE:HD11	1.97	0.46
1:A:1124:G:H5''	10:J:37:ARG:HG3	41.58	0.46
1:A:2881:U:O2'	14:N:95:THR:O	2.26	0.46
15:O:93:ASP:OD2	15:O:95:SER:OG	2.25	0.46
32:5:24:SER:OG	32:5:86:MET:SD	2.74	0.46
1:A:2110:G:H22	1:A:2179:C:H42	1.64	0.46
1:A:926:G:H2'	1:A:927:A:C8	2.50	0.46
6:F:3:LEU:HA	6:F:6:TYR:HB3	1.98	0.46
8:H:65:ALA:O	8:H:69:ALA:HB3	2.16	0.46
9:I:117:THR:HA	32:5:42:ARG:HH21	1.81	0.46
14:N:77:ALA:O	14:N:81:ASN:ND2	2.43	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1495:A:N3	1:A:1578:U:O2'	2.41	0.46
1:A:2099:U:H2'	1:A:2100:G:C8	2.50	0.46
1:A:2718:G:O2'	1:A:2847:U:OP1	2.29	0.46
1:A:828:U:H2'	1:A:829:A:C8	2.51	0.46
1:A:6:A:H1'	10:J:135:GLN:HE22	1.81	0.46
1:A:2377:A:O2'	15:O:117:PHE:O	2.32	0.46
1:A:399:U:H5''	24:X:56:ARG:HH12	1.81	0.46
1:A:2902:C:H3'	1:A:2903:U:C5	2.51	0.45
1:A:820:A:N3	1:A:943:A:O2'	2.45	0.45
6:F:7:TYR:OH	6:F:28:PRO:O	2.32	0.45
1:A:528:A:H5''	10:J:113:PRO:HG3	1.98	0.45
27:O:37:HIS:ND1	27:O:38:LEU:O	2.49	0.45
1:A:1115:G:H2'	1:A:1116:G:H8	1.81	0.45
1:A:1342:A:O2'	1:A:1344:U:OP2	2.28	0.45
1:A:2032:G:O6	1:A:2453:A:O2'	2.32	0.45
1:A:2474:U:H5''	1:A:2475:C:H5	1.81	0.45
1:A:641:U:O4	1:A:647:G:O6	2.34	0.45
1:A:1754:A:O3'	16:P:102:ARG:NH2	2.50	0.45
16:P:88:ARG:NH1	16:P:114:ASN:OD1	2.50	0.45
1:A:2492:U:C4'	1:A:2573:C:H41	2.24	0.45
11:K:92:GLU:HA	11:K:92:GLU:OE1	2.16	0.45
1:A:1076:C:H2'	1:A:1077:A:C8	2.51	0.45
1:A:1668:A:N3	1:A:1670:C:N4	2.64	0.45
1:A:1755:A:N6	1:A:2694:G:O2'	2.49	0.45
1:A:2233:U:H2'	1:A:2234:G:C8	2.51	0.45
1:A:466:A:N1	1:A:795:C:O2'	2.39	0.45
3:C:153:LEU:HD11	3:C:181:ARG:HH21	1.81	0.45
6:F:135:ILE:HG21	6:F:142:TYR:HD1	1.81	0.45
1:A:1017:G:H2'	1:A:1018:U:H6	1.81	0.45
1:A:1802:A:H2'	1:A:1803:A:C8	2.52	0.45
1:A:1062:G:H2'	1:A:1063:G:C4	2.52	0.45
1:A:1087:G:N2	1:A:1089:A:N1	2.65	0.45
1:A:1372:U:H2'	1:A:1373:A:H8	1.81	0.45
1:A:2126:A:H2'	1:A:2162:G:H21	1.81	0.45
1:A:2484:G:OP1	13:M:44:ARG:NH2	2.38	0.45
1:A:718:A:H3'	1:A:719:C:H6	1.82	0.45
2:B:64:G:H2'	2:B:65:U:C6	2.52	0.45
3:C:23:LEU:HD23	3:C:80:LEU:HB3	1.99	0.45
24:X:64:ASP:O	24:X:68:ALA:HB2	2.16	0.45
30:3:60:CYS:SG	30:3:61:LEU:N	2.90	0.45
1:A:1549:A:H2'	1:A:1550:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2419:U:OP1	30:3:40:LYS:NZ	2.50	0.45
1:A:2595:G:N2	1:A:2598:A:OP2	2.37	0.45
1:A:436:C:N3	1:A:437:U:C5	2.85	0.45
1:A:698:C:O2'	1:A:734:A:N6	2.41	0.45
1:A:302:C:H2'	1:A:303:G:H8	1.82	0.45
1:A:585:G:N7	17:Q:5:ARG:NH1	2.64	0.45
1:A:605:G:N3	1:A:657:U:O2'	2.50	0.45
3:C:160:TYR:HB3	3:C:193:GLU:HG2	1.99	0.45
8:H:47:PHE:HA	8:H:51:ARG:HB2	1.99	0.45
15:O:7:ARG:HH12	15:O:95:SER:HB3	1.81	0.45
1:A:1087:G:H22	1:A:1102:C:H42	1.63	0.45
1:A:2291:U:H2'	1:A:2292:U:C6	2.52	0.45
1:A:2492:U:C5'	1:A:2573:C:C4	3.00	0.45
26:Z:23:LEU:HD22	26:Z:28:LEU:HD12	1.98	0.45
1:A:987:C:O2'	1:A:1000:A:N3	2.43	0.45
1:A:1112:G:H2'	1:A:1113:U:H6	1.81	0.45
1:A:1965:C:H5''	1:A:1966:A:H2'	1.97	0.45
1:A:2637:U:OP1	4:D:83:ARG:NH2	2.50	0.45
1:A:839:U:H2'	1:A:840:C:H6	1.80	0.45
3:C:154:ALA:HB2	3:C:161:VAL:HG23	1.99	0.45
7:G:10:VAL:O	7:G:47:ASN:ND2	2.50	0.45
21:U:12:VAL:HG22	21:U:69:VAL:HG12	1.98	0.45
6:F:66:ILE:HG22	6:F:86:CYS:HB3	1.99	0.44
23:W:14:ALA:O	23:W:16:ARG:NH1	2.47	0.44
1:A:926:G:C2	34:7:25:A:OP2	125.98	0.44
1:A:674:G:H2'	1:A:675:A:C8	4.86	0.44
1:A:674:G:H5''	5:E:71:GLY:N	2.32	0.44
1:A:713:G:O2'	1:A:718:A:N6	2.50	0.44
1:A:906:U:O2'	13:M:66:ARG:NH2	2.50	0.44
21:U:10:VAL:HA	21:U:71:ILE:HA	1.99	0.44
1:A:2458:G:O2'	1:A:2460:U:O4	2.32	0.44
1:A:2820:A:OP2	1:A:2821:A:N6	2.37	0.44
5:E:83:VAL:CG1	5:E:86:ALA:CA	2.96	0.44
1:A:1794:A:H2'	1:A:1795:C:C6	2.52	0.44
1:A:1613:G:H4'	29:2:3:ARG:HD3	1.99	0.44
31:4:16:ILE:HA	31:4:24:ARG:O	2.18	0.44
32:5:45:GLY:HA2	32:5:49:GLY:HA2	1.99	0.44
1:A:2190:G:H2'	1:A:2191:A:H8	1.82	0.44
1:A:962:G:H2'	1:A:963:U:C6	2.52	0.44
6:F:122:ASP:N	6:F:122:ASP:OD1	2.44	0.44
19:S:14:ALA:O	19:S:18:ARG:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:534:U:H2'	1:A:535:G:C8	2.52	0.44
1:A:546:U:C6	1:A:546:U:OP2	2.70	0.44
1:A:172:A:H2'	1:A:173:A:C8	2.53	0.44
1:A:2515:C:N3	1:A:2516:A:N7	2.65	0.44
1:A:1183:U:H5''	26:Z:30:ARG:HH12	1.83	0.44
1:A:2883:A:OP1	27:O:48:TYR:OH	2.36	0.43
1:A:1829:A:N3	3:C:14:HIS:NE2	2.62	0.43
1:A:1998:A:O2'	1:A:2724:U:O2'	2.26	0.43
1:A:2590:A:H5''	3:C:237:ARG:HE	1.83	0.43
4:D:46:ARG:HH21	4:D:84:LEU:HD13	1.82	0.43
9:I:112:LYS:HE3	9:I:128:ILE:HG21	2.00	0.43
10:J:3:THR:OG1	10:J:4:PHE:N	2.51	0.43
1:A:1753:G:H5''	16:P:92:ARG:HD3	2.00	0.43
29:2:34:ARG:HB2	29:2:42:LEU:HD12	1.98	0.43
1:A:1419:A:N6	1:A:1421:G:N3	2.66	0.43
1:A:1799:G:N2	1:A:1818:U:O2'	2.51	0.43
1:A:1857:G:O2'	1:A:1885:A:N6	2.51	0.43
1:A:279:A:H2'	1:A:280:U:C6	2.53	0.43
1:A:2818:U:H2'	1:A:2819:G:C8	2.53	0.43
1:A:936:A:H2'	1:A:937:C:C6	2.53	0.43
8:H:66:ASN:O	8:H:70:GLU:HB3	2.19	0.43
14:N:56:LYS:NZ	14:N:87:PHE:O	2.38	0.43
32:5:81:LEU:C	32:5:81:LEU:CD2	2.86	0.43
1:A:1385:A:O2'	1:A:1396:U:O2	2.35	0.43
1:A:153:U:H2'	1:A:154:U:C6	2.54	0.43
1:A:284:U:H3	1:A:356:G:H1	1.65	0.43
1:A:1972:G:OP2	3:C:237:ARG:NH1	2.52	0.43
5:E:83:VAL:HG12	5:E:86:ALA:CB	2.45	0.43
1:A:1000:A:OP2	1:A:1154:G:N1	2.31	0.43
1:A:752:A:H62	1:A:2609:U:H3	1.67	0.43
1:A:1316:U:H2'	1:A:1317:G:H8	1.83	0.43
1:A:1689:A:H2'	1:A:1690:A:C8	2.53	0.43
1:A:962:G:H21	1:A:2250:G:H1	1.66	0.43
3:C:77:VAL:HG13	3:C:91:ALA:HB1	2.01	0.43
5:E:178:VAL:O	5:E:182:ALA:HB3	2.18	0.43
7:G:37:ASN:HB3	7:G:40:VAL:HG23	2.01	0.43
1:A:1521:G:H3'	1:A:1522:A:H2'	2.01	0.43
1:A:2233:U:H2'	1:A:2234:G:H8	1.84	0.43
1:A:2328:A:H2'	1:A:2329:U:C6	2.53	0.43
1:A:481:G:O2'	1:A:506:G:N2	2.51	0.43
1:A:708:G:H2'	1:A:709:U:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:95:LEU:HD11	12:L:125:LEU:HD21	2.01	0.43
16:P:88:ARG:HB3	16:P:112:ARG:HD3	2.00	0.43
1:A:1275:A:N1	1:A:1295:C:O2'	2.47	0.43
1:A:2087:G:H2'	1:A:2088:A:C8	2.53	0.43
5:E:189:THR:HG22	5:E:191:ASP:H	1.84	0.43
7:G:116:LEU:HD11	7:G:122:ALA:HB2	2.00	0.43
9:I:42:ASN:HA	9:I:45:THR:HB	2.01	0.43
10:J:98:GLU:O	10:J:102:GLU:CB	2.61	0.43
13:M:34:LYS:HE3	13:M:131:VAL:HG11	2.00	0.43
1:A:1068:G:H21	1:A:1096:A:H5'	1.83	0.43
7:G:14:VAL:HG13	7:G:25:ILE:HG23	2.01	0.43
7:G:49:LEU:HD13	7:G:71:LEU:HD23	2.01	0.43
8:H:65:ALA:HA	8:H:68:ARG:HB2	2.01	0.43
14:N:98:LEU:O	14:N:111:ALA:HA	2.19	0.43
22:V:75:GLN:HG3	22:V:76:ASP:HB2	2.01	0.43
1:A:1386:C:H2'	1:A:1387:A:C8	2.52	0.43
1:A:2223:G:OP1	3:C:170:TYR:OH	2.34	0.43
1:A:2431:U:O2'	1:A:2433:A:N7	2.38	0.43
1:A:2305:U:N3	6:F:150:GLY:O	2.52	0.43
10:J:14:ASP:OD2	10:J:138:GLN:NE2	2.45	0.43
12:L:30:THR:O	12:L:33:ARG:HG2	2.18	0.43
15:O:4:LYS:HE3	15:O:7:ARG:HH21	1.84	0.43
1:A:1156:A:C8	17:Q:50:ARG:HG2	2.54	0.43
24:X:12:VAL:O	24:X:28:PHE:HB2	2.19	0.43
32:5:26:VAL:H	32:5:115:GLY:HA2	1.84	0.43
1:A:1127:A:N7	1:A:2488:G:O2'	2.44	0.43
1:A:152:A:N6	1:A:170:U:C2	13.48	0.43
1:A:2468:A:HO2'	1:A:2469:A:H8	1.64	0.43
1:A:2748:A:H5'	7:G:3:VAL:HG21	2.00	0.43
1:A:499:U:H5''	21:U:42:LYS:HD2	2.01	0.43
1:A:580:U:H2'	1:A:581:C:C6	2.54	0.43
1:A:632:A:H2'	1:A:633:A:C8	2.54	0.43
2:B:9:G:OP2	15:O:15:ARG:NH1	2.52	0.43
20:T:23:ALA:HB1	20:T:29:THR:HB	2.01	0.43
24:X:38:TRP:NE1	24:X:40:GLU:OE1	2.51	0.43
1:A:1117:C:C2	1:A:1118:C:C5	3.08	0.42
1:A:1355:G:H2'	1:A:1356:G:H8	2.14	0.42
1:A:2185:U:H2'	1:A:2186:G:H8	1.83	0.42
25:Y:54:LYS:O	25:Y:58:ASN:CB	2.59	0.42
1:A:2102:G:H1	1:A:2187:U:H3	1.67	0.42
1:A:2405:G:O2'	1:A:2411:A:N6	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:488:G:H22	1:A:491:G:H5''	1.83	0.42
1:A:664:G:O2'	1:A:940:G:OP1	2.29	0.42
14:N:34:ILE:O	14:N:112:TYR:HA	2.19	0.42
1:A:2013:A:H2	19:S:88:ARG:HH12	1.67	0.42
1:A:2208:C:H2'	1:A:2209:G:C8	2.54	0.42
1:A:2220:U:H2'	1:A:2221:G:C8	2.54	0.42
1:A:673:C:OP1	5:E:49:ARG:NH2	2.49	0.42
3:C:200:MET:HE2	3:C:200:MET:HB3	1.76	0.42
18:R:49:ILE:HB	18:R:51:VAL:O	2.19	0.42
32:5:68:PRO:HA	32:5:72:LEU:HG	2.01	0.42
1:A:1801:A:H5''	1:A:2203:U:H2'	2.00	0.42
1:A:40:U:H2'	1:A:41:C:C6	2.55	0.42
2:B:111:U:H2'	2:B:112:G:H8	1.84	0.42
2:B:93:C:N3	2:B:94:A:N7	2.67	0.42
5:E:181:ILE:HG23	12:L:2:ARG:HB2	2.02	0.42
27:0:27:LEU:HD23	27:0:36:LYS:HB3	2.01	0.42
1:A:1853:A:H2'	1:A:1854:A:C8	2.54	0.42
1:A:240:C:H3'	1:A:241:A:H2'	2.01	0.42
1:A:2754:U:O2'	1:A:2756:U:OP2	2.36	0.42
1:A:721:A:H2'	1:A:722:A:C8	2.55	0.42
2:B:31:C:H1'	2:B:53:A:H61	1.84	0.42
2:B:37:C:N3	2:B:48:U:O2'	2.40	0.42
11:K:80:ASP:OD2	16:P:61:ARG:NH2	2.51	0.42
1:A:1197:G:H2'	1:A:1198:U:H6	1.85	0.42
1:A:1292:G:H2'	1:A:1293:C:C6	2.68	0.42
1:A:160:A:N3	1:A:2208:C:O2'	2.50	0.42
1:A:2311:A:O2'	1:A:2312:U:C6	2.67	0.42
1:A:2333:A:OP1	23:W:73:ARG:NH1	2.38	0.42
1:A:956:G:N2	1:A:960:A:OP2	2.50	0.42
2:B:95:U:H2'	2:B:96:G:C8	2.55	0.42
3:C:134:ILE:HD13	3:C:140:VAL:HG11	1.99	0.42
1:A:2718:G:H4'	16:P:95:LYS:HB2	2.00	0.42
1:A:156:A:H2'	1:A:157:C:O4'	2.19	0.42
1:A:1733:G:H2'	1:A:1734:G:H8	1.84	0.42
1:A:430:A:OP2	4:D:7:LYS:HD3	127.57	0.42
1:A:859:G:H1'	1:A:860:U:H5	1.85	0.42
7:G:88:LEU:HG	7:G:161:VAL:HG22	2.00	0.42
15:O:67:ASN:OD1	15:O:67:ASN:N	2.52	0.42
32:5:17:GLU:HB3	32:5:88:HIS:HE1	1.83	0.42
1:A:2039:U:H2'	1:A:2040:G:C8	2.55	0.42
3:C:140:VAL:HG12	3:C:191:LEU:HD23	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:97:ARG:HE	8:H:112:LYS:HD2	1.85	0.42
19:S:86:MET:HB3	19:S:94:ASP:HB2	2.02	0.42
1:A:281:C:O2	1:A:281:C:C2'	2.66	0.42
4:D:101:PHE:HD1	4:D:104:VAL:HG21	1.85	0.42
1:A:1106:G:H2'	1:A:1107:G:C8	2.55	0.42
1:A:2127:G:H2'	1:A:2128:G:C8	2.54	0.42
1:A:582:A:H2'	1:A:583:G:H8	1.85	0.42
8:H:78:VAL:HB	8:H:144:VAL:HG22	2.01	0.42
19:S:51:LEU:HD13	19:S:105:VAL:HG11	2.02	0.42
1:A:1462:C:O2'	1:A:2702:G:O2'	2.25	0.41
1:A:184:C:H2'	1:A:185:G:C8	2.55	0.41
7:G:41:GLU:HB2	7:G:54:ARG:HB2	2.01	0.41
17:Q:112:ALA:O	17:Q:116:LEU:CB	2.67	0.41
17:Q:82:LEU:HD23	17:Q:82:LEU:HA	1.68	0.41
1:A:1306:C:N4	1:A:1607:C:OP2	2.53	0.41
1:A:2162:G:H2'	1:A:2163:A:H8	1.85	0.41
1:A:964:C:O2'	1:A:2273:A:N3	2.43	0.41
1:A:2557:G:H2'	1:A:2558:C:C6	2.55	0.41
1:A:580:U:H2'	1:A:581:C:H6	1.85	0.41
1:A:598:U:H2'	1:A:599:A:H8	1.84	0.41
1:A:689:A:N3	1:A:779:U:O2'	2.46	0.41
1:A:958:U:OP1	13:M:40:ARG:NH1	2.53	0.41
7:G:70:LEU:HD23	7:G:70:LEU:HA	1.90	0.41
1:A:2484:G:O2'	13:M:123:LYS:O	2.36	0.41
22:V:76:ASP:HB3	22:V:90:ASP:HB2	2.01	0.41
1:A:2157:G:O2'	1:A:2158:A:O4'	2.30	0.41
1:A:2314:A:OP1	6:F:87:LYS:NZ	2.48	0.41
1:A:2483:C:N3	13:M:123:LYS:NZ	2.61	0.41
1:A:936:A:H2'	1:A:937:C:H6	1.85	0.41
1:A:2675:A:H5''	11:K:31:ARG:HH11	1.86	0.41
6:F:62:GLN:HB2	33:6:6:HIS:CE1	2.54	0.41
1:A:1445:G:O6	1:A:1466:U:C2	2.74	0.41
1:A:1720:U:H2'	1:A:1721:G:O4'	2.20	0.41
1:A:1847:G:O2'	1:A:1848:A:H8	2.04	0.41
5:E:143:LEU:HD23	5:E:143:LEU:HA	2.13	0.41
15:O:53:THR:HB	15:O:65:THR:HB	2.01	0.41
30:3:15:LYS:HD2	30:3:19:GLY:HA2	2.01	0.41
1:A:414:C:H2'	1:A:415:A:C8	2.54	0.41
1:A:78:U:H2'	1:A:79:C:C6	2.54	0.41
7:G:34:ARG:HE	7:G:70:LEU:HD13	1.85	0.41
9:I:52:LEU:HD23	9:I:54:ILE:HD11	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:77:VAL:HA	9:I:80:LYS:HE2	2.01	0.41
17:Q:93:ILE:HD12	18:R:13:ARG:HB2	2.01	0.41
25:Y:28:LEU:O	25:Y:32:ALA:HB2	2.19	0.41
32:5:58:THR:HG21	32:5:82:ILE:H	1.85	0.41
1:A:1000:A:H2'	1:A:1001:A:C8	2.56	0.41
1:A:2623:G:H4'	1:A:2825:G:C8	2.56	0.41
10:J:24:THR:HB	10:J:27:ARG:HB2	2.01	0.41
18:R:2:TYR:HA	18:R:14:VAL:O	2.20	0.41
1:A:1162:G:N2	18:R:91:GLN:HE22	2.17	0.41
23:W:7:ARG:O	23:W:10:ARG:NH1	2.54	0.41
31:4:7:VAL:HB	31:4:25:VAL:HG23	2.02	0.41
32:5:43:LYS:HD2	32:5:95:LEU:HD22	2.03	0.41
1:A:2902:C:H3'	1:A:2903:U:C6	2.56	0.41
1:A:490:C:H2'	1:A:491:G:C8	9.12	0.41
16:P:21:PRO:HD3	16:P:49:ILE:HD12	2.02	0.41
20:T:8:LEU:HD11	25:Y:22:LEU:HD12	2.02	0.41
1:A:1447:C:H2'	1:A:1448:G:C8	2.56	0.41
1:A:2189:U:H2'	1:A:2190:G:C8	2.55	0.41
1:A:588:U:H2'	1:A:589:U:C6	2.56	0.41
3:C:146:LYS:HB2	3:C:149:LYS:HB2	2.03	0.41
4:D:71:ALA:HB3	4:D:73:VAL:HG22	2.03	0.41
5:E:83:VAL:HG11	5:E:86:ALA:HB2	2.02	0.41
1:A:560:C:O2'	17:Q:47:ARG:NH2	2.54	0.41
1:A:1017:G:H2'	1:A:1018:U:C6	2.56	0.41
1:A:1631:G:N2	1:A:1634:A:OP2	2.45	0.41
1:A:2116:G:H1	1:A:2171:A:H61	1.68	0.41
1:A:519:U:H2'	1:A:520:G:C8	2.55	0.41
1:A:2445:G:P	5:E:69:ARG:HH22	2.44	0.41
7:G:84:LYS:O	7:G:131:VAL:HA	2.21	0.41
26:Z:16:LEU:HB2	26:Z:19:HIS:HD2	1.86	0.41
1:A:184:C:H2'	1:A:185:G:H8	1.84	0.41
1:A:2590:A:H2'	1:A:2591:C:H6	1.85	0.41
1:A:873:C:H2'	1:A:874:G:H8	1.86	0.41
5:E:134:LEU:HD23	5:E:164:LEU:HD22	2.03	0.41
20:T:11:LEU:O	25:Y:29:ARG:NH1	2.39	0.41
32:5:26:VAL:HG23	32:5:111:ALA:HB3	2.03	0.41
1:A:1697:G:H4'	1:A:1978:A:H5''	2.02	0.41
1:A:2106:U:H1'	1:A:2184:A:N6	2.30	0.41
1:A:83:A:O2'	1:A:103:A:N6	2.53	0.41
4:D:97:SER:OG	4:D:98:VAL:N	2.53	0.41
25:Y:18:LEU:HG	25:Y:22:LEU:HD13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:5:29:ASP:HB2	32:5:56:ARG:HH22	1.87	0.40
2:B:49:C:H2'	2:B:50:A:H8	1.86	0.40
5:E:48:THR:HG23	5:E:88:ARG:HH12	1.87	0.40
13:M:42:THR:N	13:M:45:GLN:OE1	2.37	0.40
17:Q:40:LYS:HD2	17:Q:44:TYR:CZ	2.55	0.40
18:R:77:PHE:CD1	18:R:84:ARG:HB3	2.57	0.40
1:A:1045:C:O4'	1:A:1111:A:N6	2.54	0.40
1:A:1226:A:H5''	17:Q:15:LYS:NZ	2.36	0.40
1:A:2291:U:OP1	1:A:2380:C:O2'	2.27	0.40
1:A:962:G:H2'	1:A:963:U:H6	1.85	0.40
5:E:19:PHE:CE2	5:E:113:VAL:HG21	2.56	0.40
2:B:7:G:O2'	15:O:38:GLN:NE2	2.54	0.40
1:A:2127:G:H2'	1:A:2128:G:H8	1.87	0.40
1:A:360:U:O4	1:A:361:G:N2	2.54	0.40
9:I:57:VAL:HG12	9:I:59:THR:H	1.86	0.40
33:6:58:ASP:OD1	33:6:58:ASP:N	2.55	0.40
1:A:2823:A:OP1	4:D:118:PHE:HB2	2.21	0.40
1:A:532:A:H4'	1:A:533:G:C8	2.56	0.40
1:A:672:C:OP2	12:L:42:SER:OG	2.29	0.40
3:C:16:VAL:HB	3:C:203:VAL:HG22	2.03	0.40
3:C:1:ALA:N	3:C:19:VAL:O	2.55	0.40
6:F:141:ASP:HB3	6:F:144:LYS:H	1.86	0.40
11:K:12:ASP:HB3	11:K:99:ILE:HG12	2.04	0.40
14:N:117:ASP:HB3	14:N:118:ARG:H	1.64	0.40
19:S:69:LEU:HD12	19:S:69:LEU:HA	1.91	0.40
1:A:583:G:OP1	17:Q:10:ARG:NH1	2.55	0.40
1:A:5:A:H2'	1:A:6:A:C8	2.57	0.40
3:C:69:ASN:N	3:C:69:ASN:OD1	2.54	0.40
8:H:5:LEU:HD22	8:H:13:GLY:HA3	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	C	269/271 (99%)	242 (90%)	27 (10%)	0	100	100
4	D	207/209 (99%)	182 (88%)	25 (12%)	0	100	100
5	E	199/201 (99%)	182 (92%)	16 (8%)	1 (0%)	32	71
6	F	175/177 (99%)	159 (91%)	16 (9%)	0	100	100
7	G	174/176 (99%)	159 (91%)	14 (8%)	1 (1%)	28	68
8	H	147/149 (99%)	127 (86%)	20 (14%)	0	100	100
9	I	139/141 (99%)	114 (82%)	25 (18%)	0	100	100
10	J	140/142 (99%)	129 (92%)	11 (8%)	0	100	100
11	K	120/122 (98%)	103 (86%)	16 (13%)	1 (1%)	22	62
12	L	141/143 (99%)	117 (83%)	23 (16%)	1 (1%)	25	65
13	M	134/136 (98%)	124 (92%)	8 (6%)	2 (2%)	12	49
14	N	118/120 (98%)	105 (89%)	13 (11%)	0	100	100
15	O	114/116 (98%)	104 (91%)	10 (9%)	0	100	100
16	P	112/114 (98%)	102 (91%)	10 (9%)	0	100	100
17	Q	115/117 (98%)	113 (98%)	2 (2%)	0	100	100
18	R	101/103 (98%)	87 (86%)	13 (13%)	1 (1%)	18	59
19	S	108/110 (98%)	101 (94%)	6 (6%)	1 (1%)	20	61
20	T	91/93 (98%)	82 (90%)	9 (10%)	0	100	100
21	U	100/102 (98%)	84 (84%)	16 (16%)	0	100	100
22	V	92/94 (98%)	86 (94%)	6 (6%)	0	100	100
23	W	73/75 (97%)	66 (90%)	7 (10%)	0	100	100
24	X	75/77 (97%)	68 (91%)	7 (9%)	0	100	100
25	Y	61/63 (97%)	58 (95%)	3 (5%)	0	100	100
26	Z	56/58 (97%)	51 (91%)	5 (9%)	0	100	100
27	0	54/56 (96%)	51 (94%)	3 (6%)	0	100	100
28	1	48/50 (96%)	44 (92%)	4 (8%)	0	100	100
29	2	44/46 (96%)	43 (98%)	1 (2%)	0	100	100
30	3	62/64 (97%)	54 (87%)	8 (13%)	0	100	100
31	4	36/38 (95%)	31 (86%)	5 (14%)	0	100	100
32	5	129/131 (98%)	101 (78%)	27 (21%)	1 (1%)	22	62
33	6	64/66 (97%)	53 (83%)	11 (17%)	0	100	100
36	b	216/218 (99%)	177 (82%)	37 (17%)	2 (1%)	20	61

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	c	204/206 (99%)	183 (90%)	18 (9%)	3 (2%)	12	49
38	d	203/205 (99%)	180 (89%)	23 (11%)	0	100	100
39	e	155/157 (99%)	136 (88%)	19 (12%)	0	100	100
40	f	98/100 (98%)	82 (84%)	15 (15%)	1 (1%)	18	59
41	g	149/151 (99%)	134 (90%)	14 (9%)	1 (1%)	25	65
42	h	127/129 (98%)	119 (94%)	7 (6%)	1 (1%)	22	62
43	i	125/127 (98%)	105 (84%)	19 (15%)	1 (1%)	22	62
44	j	96/98 (98%)	79 (82%)	15 (16%)	2 (2%)	8	43
45	k	114/116 (98%)	91 (80%)	23 (20%)	0	100	100
46	l	121/123 (98%)	94 (78%)	26 (22%)	1 (1%)	22	62
47	m	112/114 (98%)	98 (88%)	13 (12%)	1 (1%)	20	61
48	n	99/101 (98%)	88 (89%)	11 (11%)	0	100	100
49	o	86/88 (98%)	77 (90%)	8 (9%)	1 (1%)	15	54
50	p	80/82 (98%)	69 (86%)	11 (14%)	0	100	100
51	q	78/80 (98%)	62 (80%)	16 (20%)	0	100	100
52	r	63/65 (97%)	50 (79%)	11 (18%)	2 (3%)	5	34
53	s	77/79 (98%)	69 (90%)	8 (10%)	0	100	100
54	t	83/85 (98%)	80 (96%)	3 (4%)	0	100	100
55	u	63/65 (97%)	43 (68%)	17 (27%)	3 (5%)	2	23
56	v	240/242 (99%)	213 (89%)	24 (10%)	3 (1%)	14	53
58	z	12/14 (86%)	10 (83%)	1 (8%)	1 (8%)	1	10
All	All	6099/6205 (98%)	5361 (88%)	706 (12%)	32 (0%)	37	71

All (32) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	G	175	LYS
18	R	54	VAL
32	5	80	THR
36	b	19	THR
37	c	96	VAL
37	c	97	PRO
49	o	46	LYS
55	u	36	PHE
56	v	323	ASN

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Mol	Chain	Res	Type
12	L	128	THR
36	b	18	GLN
40	f	96	VAL
44	j	42	LEU
58	z	16	PRO
11	K	111	LYS
52	r	17	VAL
52	r	18	GLN
55	u	33	ARG
56	v	329	LEU
42	h	67	GLY
44	j	43	PRO
56	v	307	ASN
13	M	70	ASP
19	S	64	ALA
41	g	129	ASN
47	m	104	ASN
43	i	91	GLU
55	u	7	GLU
37	c	80	GLY
5	E	83	VAL
13	M	69	PRO
46	l	21	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	216/216 (100%)	214 (99%)	2 (1%)	82	92
4	D	164/164 (100%)	162 (99%)	2 (1%)	75	89
5	E	165/165 (100%)	163 (99%)	2 (1%)	75	89
6	F	148/148 (100%)	148 (100%)	0	100	100
7	G	137/137 (100%)	135 (98%)	2 (2%)	70	87
8	H	114/114 (100%)	114 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	I	109/109 (100%)	107 (98%)	2 (2%)	64	85
10	J	116/116 (100%)	116 (100%)	0	100	100
11	K	103/103 (100%)	103 (100%)	0	100	100
12	L	102/102 (100%)	101 (99%)	1 (1%)	80	91
13	M	109/109 (100%)	108 (99%)	1 (1%)	82	92
14	N	100/100 (100%)	99 (99%)	1 (1%)	80	91
15	O	86/86 (100%)	86 (100%)	0	100	100
16	P	99/99 (100%)	98 (99%)	1 (1%)	80	91
17	Q	89/89 (100%)	88 (99%)	1 (1%)	78	90
18	R	84/84 (100%)	83 (99%)	1 (1%)	75	89
19	S	93/93 (100%)	93 (100%)	0	100	100
20	T	80/80 (100%)	80 (100%)	0	100	100
21	U	83/83 (100%)	83 (100%)	0	100	100
22	V	78/78 (100%)	78 (100%)	0	100	100
23	W	57/57 (100%)	56 (98%)	1 (2%)	64	85
24	X	67/67 (100%)	66 (98%)	1 (2%)	70	87
25	Y	55/55 (100%)	55 (100%)	0	100	100
26	Z	48/48 (100%)	48 (100%)	0	100	100
27	0	47/47 (100%)	47 (100%)	0	100	100
28	1	45/45 (100%)	45 (100%)	0	100	100
29	2	38/38 (100%)	38 (100%)	0	100	100
30	3	51/51 (100%)	51 (100%)	0	100	100
31	4	34/34 (100%)	34 (100%)	0	100	100
32	5	100/100 (100%)	100 (100%)	0	100	100
33	6	59/59 (100%)	59 (100%)	0	100	100
36	b	180/180 (100%)	176 (98%)	4 (2%)	57	83
37	c	170/170 (100%)	167 (98%)	3 (2%)	64	85
38	d	172/172 (100%)	167 (97%)	5 (3%)	48	78
39	e	114/119 (96%)	112 (98%)	2 (2%)	64	85
40	f	87/87 (100%)	86 (99%)	1 (1%)	78	90
41	g	124/124 (100%)	124 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
42	h	104/104 (100%)	103 (99%)	1 (1%)	80	91
43	i	105/105 (100%)	104 (99%)	1 (1%)	80	91
44	j	86/86 (100%)	84 (98%)	2 (2%)	56	82
45	k	89/89 (100%)	87 (98%)	2 (2%)	57	83
46	l	103/103 (100%)	103 (100%)	0	100	100
47	m	92/92 (100%)	89 (97%)	3 (3%)	43	76
48	n	79/83 (95%)	79 (100%)	0	100	100
49	o	76/76 (100%)	76 (100%)	0	100	100
50	p	65/65 (100%)	64 (98%)	1 (2%)	70	87
51	q	74/74 (100%)	74 (100%)	0	100	100
52	r	48/56 (86%)	47 (98%)	1 (2%)	59	83
53	s	70/70 (100%)	70 (100%)	0	100	100
54	t	65/65 (100%)	65 (100%)	0	100	100
55	u	44/55 (80%)	44 (100%)	0	100	100
56	v	195/195 (100%)	189 (97%)	6 (3%)	45	77
58	z	14/14 (100%)	13 (93%)	1 (7%)	17	54
All	All	5032/5060 (99%)	4981 (99%)	51 (1%)	81	91

All (51) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	36	ASN
3	C	132	ARG
4	D	33	ARG
4	D	169	ARG
5	E	21	ARG
5	E	156	ASN
7	G	47	ASN
7	G	68	ARG
9	I	18	ASN
9	I	126	ARG
12	L	27	LEU
13	M	6	ARG
14	N	2	ARG
16	P	72	VAL
17	Q	108	LEU

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Mol	Chain	Res	Type
18	R	43	ASN
23	W	10	ARG
24	X	26	ARG
36	b	23	ASN
36	b	35	ASN
36	b	87	ASP
36	b	202	ASN
37	c	24	ASN
37	c	64	ARG
37	c	163	ARG
38	d	7	LYS
38	d	80	ARG
38	d	177	MET
38	d	183	ARG
38	d	190	LEU
39	e	69	ASN
39	e	130	THR
40	f	53	LYS
42	h	79	ARG
43	i	44	ARG
44	j	42	LEU
44	j	58	ASN
45	k	12	ARG
45	k	124	LYS
47	m	3	ILE
47	m	7	ASN
47	m	91	ARG
50	p	5	ARG
52	r	42	ARG
56	v	133	ARG
56	v	316	ARG
56	v	321	ARG
56	v	322	ILE
56	v	323	ASN
56	v	340	LEU
58	z	18	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (63) such sidechains are listed below:

Mol	Chain	Res	Type
3	C	36	ASN
3	C	114	GLN

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Mol	Chain	Res	Type
4	D	164	GLN
5	E	156	ASN
7	G	47	ASN
7	G	63	GLN
7	G	110	HIS
7	G	138	GLN
8	H	66	ASN
10	J	47	HIS
10	J	135	GLN
10	J	136	GLN
13	M	13	HIS
15	O	38	GLN
18	R	6	GLN
18	R	18	GLN
18	R	43	ASN
18	R	89	HIS
18	R	91	GLN
19	S	7	HIS
19	S	57	ASN
20	T	15	HIS
21	U	68	ASN
23	W	8	ASN
25	Y	27	ASN
25	Y	58	ASN
26	Z	19	HIS
27	0	41	HIS
30	3	42	HIS
31	4	35	GLN
33	6	41	HIS
36	b	18	GLN
36	b	23	ASN
36	b	35	ASN
36	b	119	GLN
36	b	121	GLN
36	b	202	ASN
37	c	24	ASN
37	c	189	HIS
38	d	151	GLN
39	e	69	ASN
39	e	82	HIS
39	e	131	ASN
40	f	11	HIS

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Mol	Chain	Res	Type
40	f	55	HIS
41	g	67	ASN
41	g	121	ASN
41	g	147	ASN
42	h	3	GLN
42	h	66	GLN
43	i	4	GLN
43	i	125	GLN
44	j	56	HIS
46	l	58	ASN
47	m	7	ASN
47	m	99	GLN
48	n	43	ASN
50	p	63	GLN
51	q	30	HIS
52	r	51	GLN
53	s	68	HIS
56	v	258	GLN
56	v	323	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2898/2903 (99%)	681 (23%)	27 (0%)
2	B	119/120 (99%)	30 (25%)	5 (4%)
34	7	6/7 (85%)	4 (66%)	0
35	a	1538/1539 (99%)	345 (22%)	0
57	x	76/77 (98%)	21 (27%)	0
All	All	4637/4646 (99%)	1081 (23%)	32 (0%)

All (1081) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	2	G
1	A	10	A
1	A	12	U
1	A	14	A
1	A	23	G
1	A	28	A
1	A	34	U
1	A	35	G

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Mol	Chain	Res	Type
1	A	46	G
1	A	50	U
1	A	51	G
1	A	53	A
1	A	60	G
1	A	63	A
1	A	71	A
1	A	74	A
1	A	75	G
1	A	78	U
1	A	86	G
1	A	93	G
1	A	101	A
1	A	118	A
1	A	119	A
1	A	120	U
1	A	125	A
1	A	139	U
1	A	140	C
1	A	141	G
1	A	142	A
1	A	143	C
1	A	149	A
1	A	158	U
1	A	162	U
1	A	163	C
1	A	172	A
1	A	182	A
1	A	185	G
1	A	188	G
1	A	196	A
1	A	199	A
1	A	215	G
1	A	216	A
1	A	219	A
1	A	221	A
1	A	222	A
1	A	226	A
1	A	227	A
1	A	228	C
1	A	233	A
1	A	242	G

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Mol	Chain	Res	Type
1	A	243	U
1	A	248	G
1	A	249	C
1	A	250	G
1	A	255	A
1	A	265	A
1	A	266	G
1	A	267	C
1	A	275	C
1	A	276	U
1	A	277	G
1	A	289	G
1	A	294	A
1	A	302	C
1	A	310	A
1	A	311	A
1	A	312	G
1	A	322	A
1	A	323	C
1	A	329	G
1	A	330	A
1	A	335	C
1	A	345	A
1	A	349	U
1	A	353	C
1	A	356	G
1	A	361	G
1	A	362	A
1	A	367	G
1	A	371	A
1	A	372	G
1	A	373	U
1	A	384	A
1	A	386	G
1	A	387	U
1	A	391	A
1	A	396	G
1	A	401	A
1	A	404	A
1	A	405	U
1	A	406	G
1	A	411	G

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Mol	Chain	Res	Type
1	A	421	C
1	A	424	G
1	A	425	G
1	A	428	A
1	A	436	C
1	A	448	U
1	A	452	G
1	A	456	C
1	A	457	A
1	A	458	G
1	A	473	G
1	A	480	A
1	A	481	G
1	A	483	A
1	A	490	C
1	A	491	G
1	A	504	A
1	A	505	A
1	A	506	G
1	A	508	A
1	A	509	C
1	A	518	G
1	A	529	A
1	A	531	C
1	A	532	A
1	A	533	G
1	A	543	G
1	A	545	U
1	A	546	U
1	A	547	A
1	A	550	C
1	A	556	A
1	A	563	A
1	A	572	A
1	A	573	U
1	A	575	A
1	A	584	C
1	A	588	U
1	A	603	A
1	A	609	A
1	A	614	A
1	A	615	U

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Mol	Chain	Res	Type
1	A	616	A
1	A	621	A
1	A	622	G
1	A	627	A
1	A	631	A
1	A	634	C
1	A	636	G
1	A	637	A
1	A	644	A
1	A	645	C
1	A	646	U
1	A	651	G
1	A	654	A
1	A	655	A
1	A	659	G
1	A	668	A
1	A	670	A
1	A	686	U
1	A	687	C
1	A	695	G
1	A	704	G
1	A	711	G
1	A	715	A
1	A	717	C
1	A	730	A
1	A	734	A
1	A	746	U
1	A	747	C
1	A	748	G
1	A	749	A
1	A	750	A
1	A	752	A
1	A	754	U
1	A	762	U
1	A	764	A
1	A	765	C
1	A	772	C
1	A	775	G
1	A	776	G
1	A	782	A
1	A	784	G
1	A	785	G

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Mol	Chain	Res	Type
1	A	800	A
1	A	801	G
1	A	802	A
1	A	805	G
1	A	812	C
1	A	819	A
1	A	822	G
1	A	827	U
1	A	828	U
1	A	829	A
1	A	831	G
1	A	845	A
1	A	846	U
1	A	847	U
1	A	856	G
1	A	857	G
1	A	858	G
1	A	859	G
1	A	860	U
1	A	869	G
1	A	877	A
1	A	878	A
1	A	879	G
1	A	881	G
1	A	883	G
1	A	885	C
1	A	891	G
1	A	892	A
1	A	896	A
1	A	897	C
1	A	902	C
1	A	904	G
1	A	907	G
1	A	910	A
1	A	915	C
1	A	927	A
1	A	931	U
1	A	932	U
1	A	933	A
1	A	941	A
1	A	945	A
1	A	946	C

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Mol	Chain	Res	Type
1	A	957	C
1	A	958	U
1	A	961	C
1	A	973	A
1	A	974	G
1	A	980	A
1	A	983	A
1	A	984	A
1	A	989	G
1	A	990	A
1	A	995	C
1	A	996	A
1	A	999	U
1	A	1005	C
1	A	1012	U
1	A	1013	C
1	A	1021	A
1	A	1022	G
1	A	1023	U
1	A	1025	G
1	A	1026	G
1	A	1033	U
1	A	1040	A
1	A	1045	C
1	A	1046	A
1	A	1047	G
1	A	1050	A
1	A	1053	C
1	A	1054	A
1	A	1057	A
1	A	1059	G
1	A	1060	U
1	A	1061	U
1	A	1062	G
1	A	1065	U
1	A	1066	U
1	A	1068	G
1	A	1069	A
1	A	1071	G
1	A	1072	C
1	A	1073	A
1	A	1075	C

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Mol	Chain	Res	Type
1	A	1076	C
1	A	1078	U
1	A	1079	C
1	A	1083	U
1	A	1084	A
1	A	1088	A
1	A	1089	A
1	A	1090	A
1	A	1092	C
1	A	1093	G
1	A	1095	A
1	A	1097	U
1	A	1098	A
1	A	1101	U
1	A	1102	C
1	A	1104	C
1	A	1111	A
1	A	1112	G
1	A	1119	U
1	A	1130	U
1	A	1131	G
1	A	1132	U
1	A	1135	C
1	A	1139	G
1	A	1142	A
1	A	1143	A
1	A	1149	G
1	A	1151	A
1	A	1155	A
1	A	1171	G
1	A	1173	U
1	A	1174	U
1	A	1175	A
1	A	1176	U
1	A	1177	G
1	A	1178	C
1	A	1180	U
1	A	1181	U
1	A	1183	U
1	A	1206	G
1	A	1211	C
1	A	1212	G

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Mol	Chain	Res	Type
1	A	1224	U
1	A	1236	G
1	A	1237	A
1	A	1244	A
1	A	1247	A
1	A	1248	G
1	A	1250	G
1	A	1253	A
1	A	1256	G
1	A	1257	C
1	A	1265	A
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1275	A
1	A	1300	G
1	A	1301	A
1	A	1305	C
1	A	1306	C
1	A	1311	G
1	A	1321	A
1	A	1325	U
1	A	1326	U
1	A	1332	G
1	A	1341	G
1	A	1345	C
1	A	1360	G
1	A	1365	A
1	A	1366	A
1	A	1368	G
1	A	1375	U
1	A	1378	A
1	A	1379	U
1	A	1383	A
1	A	1387	A
1	A	1392	A
1	A	1395	A
1	A	1416	G
1	A	1419	A
1	A	1420	A
1	A	1421	G
1	A	1424	G

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Mol	Chain	Res	Type
1	A	1427	A
1	A	1428	C
1	A	1434	A
1	A	1437	C
1	A	1454	C
1	A	1455	G
1	A	1458	U
1	A	1460	U
1	A	1461	C
1	A	1467	U
1	A	1475	G
1	A	1482	G
1	A	1490	A
1	A	1491	G
1	A	1494	A
1	A	1504	A
1	A	1506	U
1	A	1507	C
1	A	1509	A
1	A	1515	A
1	A	1523	U
1	A	1524	G
1	A	1529	G
1	A	1530	G
1	A	1534	U
1	A	1535	A
1	A	1536	C
1	A	1537	G
1	A	1545	A
1	A	1546	G
1	A	1555	G
1	A	1556	C
1	A	1558	C
1	A	1559	U
1	A	1560	G
1	A	1565	C
1	A	1566	A
1	A	1567	G
1	A	1569	A
1	A	1584	U
1	A	1585	C
1	A	1586	A

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Mol	Chain	Res	Type
1	A	1587	G
1	A	1592	C
1	A	1593	A
1	A	1608	A
1	A	1611	C
1	A	1627	G
1	A	1634	A
1	A	1646	C
1	A	1647	U
1	A	1648	U
1	A	1649	G
1	A	1652	A
1	A	1669	A
1	A	1674	G
1	A	1675	C
1	A	1682	G
1	A	1693	U
1	A	1694	C
1	A	1695	G
1	A	1698	A
1	A	1699	G
1	A	1707	G
1	A	1715	G
1	A	1727	C
1	A	1729	U
1	A	1730	C
1	A	1731	G
1	A	1732	C
1	A	1738	G
1	A	1757	A
1	A	1758	U
1	A	1764	C
1	A	1769	U
1	A	1773	A
1	A	1776	G
1	A	1781	U
1	A	1786	A
1	A	1800	C
1	A	1801	A
1	A	1802	A
1	A	1807	G
1	A	1808	A

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Mol	Chain	Res	Type
1	A	1811	G
1	A	1812	U
1	A	1816	C
1	A	1826	G
1	A	1828	G
1	A	1829	A
1	A	1842	G
1	A	1857	G
1	A	1869	G
1	A	1871	A
1	A	1884	G
1	A	1888	G
1	A	1897	G
1	A	1900	A
1	A	1901	A
1	A	1906	G
1	A	1907	G
1	A	1912	A
1	A	1919	A
1	A	1927	A
1	A	1929	G
1	A	1930	G
1	A	1937	A
1	A	1938	A
1	A	1940	U
1	A	1941	C
1	A	1942	C
1	A	1945	G
1	A	1955	U
1	A	1966	A
1	A	1967	C
1	A	1970	A
1	A	1971	U
1	A	1972	G
1	A	1991	U
1	A	1992	G
1	A	1993	U
1	A	1997	C
1	A	2015	A
1	A	2020	A
1	A	2022	U
1	A	2023	C

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Mol	Chain	Res	Type
1	A	2031	A
1	A	2033	A
1	A	2043	C
1	A	2044	C
1	A	2046	G
1	A	2052	A
1	A	2053	G
1	A	2055	C
1	A	2056	G
1	A	2060	A
1	A	2061	G
1	A	2069	G
1	A	2072	C
1	A	2080	A
1	A	2092	U
1	A	2093	G
1	A	2096	C
1	A	2100	G
1	A	2104	C
1	A	2105	U
1	A	2106	U
1	A	2108	A
1	A	2110	G
1	A	2111	U
1	A	2112	G
1	A	2113	U
1	A	2115	G
1	A	2117	A
1	A	2118	U
1	A	2119	A
1	A	2123	G
1	A	2125	G
1	A	2127	G
1	A	2128	G
1	A	2131	U
1	A	2132	U
1	A	2133	G
1	A	2137	U
1	A	2138	G
1	A	2139	U
1	A	2145	C
1	A	2146	C

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Mol	Chain	Res	Type
1	A	2147	A
1	A	2148	G
1	A	2157	G
1	A	2162	G
1	A	2164	C
1	A	2167	U
1	A	2168	G
1	A	2169	A
1	A	2170	A
1	A	2172	U
1	A	2173	A
1	A	2174	C
1	A	2175	C
1	A	2176	A
1	A	2178	C
1	A	2179	C
1	A	2189	U
1	A	2192	U
1	A	2198	A
1	A	2203	U
1	A	2204	G
1	A	2210	U
1	A	2212	A
1	A	2213	U
1	A	2225	A
1	A	2226	C
1	A	2228	G
1	A	2229	U
1	A	2238	G
1	A	2239	G
1	A	2250	G
1	A	2251	G
1	A	2266	A
1	A	2279	G
1	A	2283	C
1	A	2286	G
1	A	2287	A
1	A	2305	U
1	A	2308	G
1	A	2309	A
1	A	2320	U
1	A	2325	G

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Mol	Chain	Res	Type
1	A	2326	C
1	A	2327	A
1	A	2331	G
1	A	2333	A
1	A	2334	U
1	A	2335	A
1	A	2344	U
1	A	2345	G
1	A	2350	C
1	A	2354	C
1	A	2357	G
1	A	2358	A
1	A	2359	C
1	A	2361	G
1	A	2377	A
1	A	2383	G
1	A	2385	C
1	A	2391	G
1	A	2392	A
1	A	2402	U
1	A	2403	C
1	A	2405	G
1	A	2406	A
1	A	2407	A
1	A	2419	U
1	A	2422	C
1	A	2423	U
1	A	2424	C
1	A	2425	A
1	A	2426	A
1	A	2428	G
1	A	2429	G
1	A	2430	A
1	A	2434	A
1	A	2435	A
1	A	2440	C
1	A	2441	U
1	A	2445	G
1	A	2448	A
1	A	2464	G
1	A	2470	G
1	A	2475	C

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Mol	Chain	Res	Type
1	A	2476	A
1	A	2488	G
1	A	2494	G
1	A	2502	G
1	A	2503	A
1	A	2504	U
1	A	2505	G
1	A	2506	U
1	A	2518	A
1	A	2520	C
1	A	2529	G
1	A	2534	A
1	A	2535	G
1	A	2547	A
1	A	2554	U
1	A	2564	A
1	A	2567	G
1	A	2569	G
1	A	2572	A
1	A	2573	C
1	A	2574	G
1	A	2582	G
1	A	2585	U
1	A	2602	A
1	A	2608	G
1	A	2609	U
1	A	2613	U
1	A	2614	A
1	A	2629	U
1	A	2646	C
1	A	2655	G
1	A	2661	G
1	A	2663	G
1	A	2668	G
1	A	2689	U
1	A	2690	U
1	A	2707	U
1	A	2714	G
1	A	2718	G
1	A	2724	U
1	A	2726	A
1	A	2727	A

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Mol	Chain	Res	Type
1	A	2732	G
1	A	2733	A
1	A	2744	G
1	A	2748	A
1	A	2750	A
1	A	2752	C
1	A	2761	A
1	A	2762	C
1	A	2764	A
1	A	2765	A
1	A	2778	A
1	A	2779	U
1	A	2780	G
1	A	2791	G
1	A	2792	A
1	A	2794	C
1	A	2796	U
1	A	2797	U
1	A	2798	U
1	A	2799	A
1	A	2800	A
1	A	2801	G
1	A	2808	G
1	A	2809	A
1	A	2811	G
1	A	2818	U
1	A	2820	A
1	A	2833	U
1	A	2836	U
1	A	2849	U
1	A	2851	A
1	A	2861	U
1	A	2866	U
1	A	2867	G
1	A	2868	A
1	A	2873	A
1	A	2880	C
1	A	2884	U
1	A	2887	A
1	A	2891	U
1	A	2894	G
1	A	2902	C

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Mol	Chain	Res	Type
1	A	2903	U
2	B	4	C
2	B	9	G
2	B	12	C
2	B	13	G
2	B	15	A
2	B	19	C
2	B	21	G
2	B	24	G
2	B	30	C
2	B	34	A
2	B	35	C
2	B	42	C
2	B	44	G
2	B	45	A
2	B	53	A
2	B	59	A
2	B	66	A
2	B	67	G
2	B	68	C
2	B	69	G
2	B	88	C
2	B	89	U
2	B	90	C
2	B	91	C
2	B	105	G
2	B	108	A
2	B	109	A
2	B	112	G
2	B	118	C
2	B	120	A
34	7	27	C
34	7	29	A
34	7	30	G
34	7	31	A
35	a	5	U
35	a	6	G
35	a	7	A
35	a	9	G
35	a	22	G
35	a	27	G
35	a	31	G

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Mol	Chain	Res	Type
35	a	32	A
35	a	39	G
35	a	47	C
35	a	48	C
35	a	49	U
35	a	50	A
35	a	51	A
35	a	58	C
35	a	59	A
35	a	69	G
35	a	71	A
35	a	73	C
35	a	78	A
35	a	79	G
35	a	80	A
35	a	81	A
35	a	82	G
35	a	86	G
35	a	87	C
35	a	88	U
35	a	89	U
35	a	92	U
35	a	95	C
35	a	96	U
35	a	121	U
35	a	130	A
35	a	132	C
35	a	134	G
35	a	149	A
35	a	154	U
35	a	163	C
35	a	164	G
35	a	173	U
35	a	174	A
35	a	181	A
35	a	183	C
35	a	184	G
35	a	197	A
35	a	199	A
35	a	200	G
35	a	205	A
35	a	207	C

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Mol	Chain	Res	Type
35	a	209	U
35	a	210	C
35	a	212	G
35	a	215	C
35	a	219	U
35	a	226	G
35	a	240	G
35	a	245	U
35	a	247	G
35	a	251	G
35	a	257	G
35	a	263	A
35	a	266	G
35	a	267	C
35	a	268	U
35	a	281	G
35	a	282	A
35	a	289	G
35	a	306	A
35	a	327	A
35	a	328	C
35	a	345	C
35	a	346	G
35	a	347	G
35	a	350	G
35	a	352	C
35	a	353	A
35	a	354	G
35	a	358	U
35	a	367	U
35	a	368	U
35	a	369	G
35	a	372	C
35	a	376	G
35	a	382	A
35	a	385	C
35	a	388	G
35	a	392	C
35	a	397	A
35	a	406	G
35	a	411	A
35	a	412	A

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Mol	Chain	Res	Type
35	a	413	G
35	a	414	A
35	a	422	C
35	a	424	G
35	a	427	U
35	a	428	G
35	a	429	U
35	a	430	A
35	a	435	A
35	a	438	U
35	a	439	U
35	a	442	G
35	a	451	A
35	a	452	A
35	a	460	A
35	a	462	G
35	a	467	U
35	a	468	A
35	a	473	U
35	a	477	C
35	a	479	U
35	a	480	U
35	a	482	A
35	a	484	G
35	a	486	U
35	a	487	A
35	a	489	C
35	a	492	C
35	a	495	A
35	a	496	A
35	a	497	G
35	a	508	U
35	a	509	A
35	a	511	C
35	a	516	U
35	a	518	C
35	a	519	C
35	a	521	G
35	a	524	G
35	a	527	G
35	a	528	C
35	a	531	U

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Mol	Chain	Res	Type
35	a	532	A
35	a	533	A
35	a	547	A
35	a	561	U
35	a	562	U
35	a	564	C
35	a	572	A
35	a	573	A
35	a	575	G
35	a	576	C
35	a	577	G
35	a	596	A
35	a	607	A
35	a	632	U
35	a	633	G
35	a	639	G
35	a	642	A
35	a	652	U
35	a	665	A
35	a	695	A
35	a	703	G
35	a	713	G
35	a	714	G
35	a	718	A
35	a	721	G
35	a	724	G
35	a	731	G
35	a	733	G
35	a	748	G
35	a	753	A
35	a	754	C
35	a	755	G
35	a	766	A
35	a	777	A
35	a	792	A
35	a	793	U
35	a	814	A
35	a	817	C
35	a	820	U
35	a	826	C
35	a	836	G
35	a	843	U

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Mol	Chain	Res	Type
35	a	844	G
35	a	845	A
35	a	846	G
35	a	851	G
35	a	871	U
35	a	873	A
35	a	876	C
35	a	884	U
35	a	885	G
35	a	887	G
35	a	889	A
35	a	890	G
35	a	902	G
35	a	916	U
35	a	926	G
35	a	931	C
35	a	934	C
35	a	935	A
35	a	939	G
35	a	942	G
35	a	960	U
35	a	961	U
35	a	966	G
35	a	968	A
35	a	969	A
35	a	974	A
35	a	975	A
35	a	976	G
35	a	977	A
35	a	983	A
35	a	989	U
35	a	992	U
35	a	993	G
35	a	994	A
35	a	999	C
35	a	1004	A
35	a	1005	A
35	a	1013	G
35	a	1020	G
35	a	1026	G
35	a	1027	C
35	a	1028	C

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Mol	Chain	Res	Type
35	a	1030	U
35	a	1031	C
35	a	1033	G
35	a	1034	G
35	a	1036	A
35	a	1042	A
35	a	1053	G
35	a	1056	U
35	a	1064	G
35	a	1065	U
35	a	1085	U
35	a	1089	G
35	a	1094	G
35	a	1095	U
35	a	1101	A
35	a	1104	G
35	a	1129	C
35	a	1130	A
35	a	1132	C
35	a	1136	C
35	a	1137	C
35	a	1138	G
35	a	1139	G
35	a	1140	C
35	a	1143	G
35	a	1146	A
35	a	1151	A
35	a	1152	A
35	a	1158	C
35	a	1159	U
35	a	1168	U
35	a	1171	A
35	a	1183	U
35	a	1184	G
35	a	1191	A
35	a	1196	A
35	a	1197	A
35	a	1200	C
35	a	1201	A
35	a	1202	U
35	a	1212	U
35	a	1213	A

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Mol	Chain	Res	Type
35	a	1225	A
35	a	1226	C
35	a	1227	A
35	a	1228	C
35	a	1236	A
35	a	1238	A
35	a	1240	U
35	a	1241	G
35	a	1256	A
35	a	1258	G
35	a	1260	G
35	a	1261	A
35	a	1262	C
35	a	1278	G
35	a	1280	A
35	a	1281	C
35	a	1282	C
35	a	1287	A
35	a	1289	A
35	a	1291	U
35	a	1294	G
35	a	1298	U
35	a	1300	G
35	a	1301	U
35	a	1302	C
35	a	1309	G
35	a	1311	A
35	a	1312	G
35	a	1315	U
35	a	1317	C
35	a	1320	C
35	a	1322	C
35	a	1323	G
35	a	1334	G
35	a	1335	U
35	a	1336	C
35	a	1340	A
35	a	1346	A
35	a	1347	G
35	a	1348	U
35	a	1353	G
35	a	1363	A

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Mol	Chain	Res	Type
35	a	1364	U
35	a	1368	A
35	a	1370	G
35	a	1378	C
35	a	1381	U
35	a	1384	C
35	a	1386	G
35	a	1387	G
35	a	1394	A
35	a	1395	C
35	a	1397	C
35	a	1399	C
35	a	1400	C
35	a	1401	G
35	a	1402	C
35	a	1406	U
35	a	1418	A
35	a	1419	G
35	a	1440	U
35	a	1441	A
35	a	1442	G
35	a	1443	C
35	a	1445	U
35	a	1446	A
35	a	1452	C
35	a	1455	G
35	a	1484	C
35	a	1487	G
35	a	1492	A
35	a	1493	A
35	a	1494	G
35	a	1497	G
35	a	1499	A
35	a	1502	A
35	a	1503	A
35	a	1506	U
35	a	1517	G
35	a	1529	G
35	a	1530	G
35	a	1531	A
35	a	1534	A
35	a	1535	C

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Mol	Chain	Res	Type
35	a	1536	C
35	a	1540	U
57	x	3	G
57	x	4	C
57	x	5	U
57	x	6	U
57	x	14	A
57	x	15	G
57	x	16	G
57	x	17	U
57	x	17(A)	G
57	x	19	U
57	x	21	A
57	x	22	G
57	x	34	G
57	x	42	U
57	x	46	G
57	x	47	U
57	x	48	C
57	x	50	G
57	x	62	C
57	x	65	U
57	x	76	A

All (32) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	86	G
1	A	227	A
1	A	242	G
1	A	372	G
1	A	490	C
1	A	549	G
1	A	555	G
1	A	846	U
1	A	858	G
1	A	859	G
1	A	931	U
1	A	1020	A
1	A	1022	G
1	A	1130	U
1	A	1182	G

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Mol	Chain	Res	Type
1	A	1190	G
1	A	1300	G
1	A	1378	A
1	A	1399	C
1	A	1565	C
1	A	1566	A
1	A	1913	A
1	A	1940	U
1	A	2326	C
1	A	2347	C
1	A	2566	A
1	A	2808	G
2	B	3	C
2	B	12	C
2	B	52	A
2	B	66	A
2	B	88	C

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
12	L	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	L	60:ARG	C	61:LEU	N	1.18