



Full wwPDB EM Validation Report ⓘ

Mar 20, 2026 – 04:48 AM UTC

PDB ID : 6TPQ / pdb_00006tpq
EMDB ID : EMD-10543
Title : RNase M5 bound to 50S ribosome with precursor 5S rRNA
Authors : Oerum, S.; Dendooven, T.; Gilet, L.; Catala, M.; Degut, C.; Trinquier, A.; Barraud, P.; Luisi, B.; Condon, C.; Tisne, C.
Deposited on : 2019-12-13
Resolution : 3.07 Å(reported)
Based on initial model : 3J3V

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : **NOT EXECUTED**
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

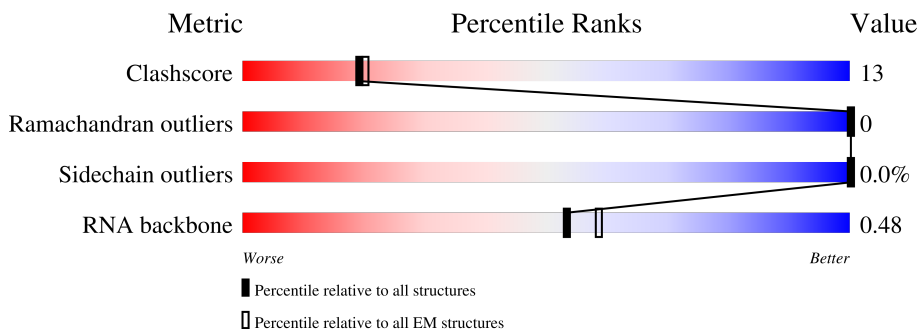
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.07 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.



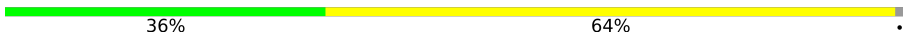
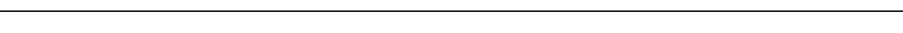
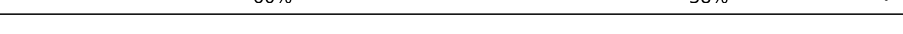
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	229148	23984
Ramachandran outliers	224038	23583
Sidechain outliers	223484	23102
RNA backbone	8273	3508

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

Mol	Chain	Length	Quality of chain
1	A	187	19% 18% 63%
1	B	187	52% 45% .
2	V	123	37% 49% 14%
3	b	166	23% 51% 26%
4	U	2924	53% 35% 11%
5	W	277	75% 24% .
6	X	209	80% 19% .

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Mol	Chain	Length	Quality of chain
7	Y	207	
8	Z	179	
9	a	179	
10	c	145	
11	d	122	
12	e	146	
13	f	144	
14	g	120	
15	h	120	
16	i	115	
17	j	119	
18	k	102	
19	l	113	
20	m	95	
21	n	103	
22	o	94	
23	p	59	
24	q	49	
25	r	44	
26	s	66	
27	t	37	
28	u	62	
29	v	66	
30	w	59	

2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 91728 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Ribonuclease M5.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	183	Total	C	N	O	S	0	0
			1425	887	269	266	3		
1	A	69	Total	C	N	O	S	0	0
			548	343	108	95	2		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	58	ALA	ASP	engineered mutation	UNP A0A087LGV4
A	58	ALA	ASP	engineered mutation	UNP A0A087LGV4

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	V	123	Total	C	N	O	P	0	0
			2628	1172	473	860	123		

- Molecule 3 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	b	123	Total	C	N	O	S	0	0
			955	602	163	189	1		

- Molecule 4 is a RNA chain called pre-23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	U	2924	Total	C	N	O	P	0	0
			62790	28012	11594	20260	2924		

- Molecule 5 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	W	275	Total	C	N	O	S	0	0
			2111	1312	416	377	6		

- Molecule 6 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	X	207	Total	C	N	O	S	0	0
			1575	988	290	292	5		

- Molecule 7 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	Y	205	Total	C	N	O	S	0	0
			1561	980	289	290	2		

- Molecule 8 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	Z	178	Total	C	N	O	S	0	0
			1404	893	245	259	7		

- Molecule 9 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	a	175	Total	C	N	O	S	0	0
			1342	835	248	257	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	c	142	Total	C	N	O	S	0	0
			1124	710	206	203	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
11	d	122	Total	C	N	O	S	0	0
			921	571	173	173	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
12	e	146	Total	C	N	O	S	0	0
			1082	671	207	202	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
13	f	138	Total	C	N	O	S	0	0
			1097	703	208	181	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
14	g	119	Total	C	N	O	S	0	0
			954	583	186	181	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
15	h	120	Total	C	N	O	S	0	0
			913	564	176	172	1		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
16	i	114	Total	C	N	O	0	0
			937	595	184	158		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
17	j	117	Total	C	N	O	S	0	0
			940	591	189	156	4		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
18	k	101	Total	C	N	O	0	0
			787	501	139	147		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
19	l	109	Total	C	N	O	S	0	0
			842	525	164	150	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
20	m	93	Total	C	N	O	S	0	0
			752	472	137	139	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
21	n	101	Total	C	N	O	S	0	0
			762	478	142	138	4		

- Molecule 22 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	o	82	Total	C	N	O	S	0	0
			630	390	123	117			

- Molecule 23 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	p	54	Total	C	N	O	S	0	0
			426	262	86	71	7		

- Molecule 24 is a protein called 50S ribosomal protein L33 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	q	48	Total	C	N	O	S	0	0
			401	244	80	73	4		

- Molecule 25 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	r	44	Total	C	N	O	S	0	0
			368	222	89	55	2		

- Molecule 26 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	s	64	Total	C	N	O	S	0	0
			512	321	107	82	2		

- Molecule 27 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	t	36	Total	C	N	O	S	0	0
			289	181	59	45	4		

- Molecule 28 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	u	58	Total	C	N	O	S	0	0
			444	275	92	75	2		

- Molecule 29 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	v	65	Total	C	N	O	S	0	0
			530	328	102	98	2		

- Molecule 30 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	w	58	Total	C	N	O	S	0	0
			456	281	89	85	1		

- Molecule 31 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
31	V	1	Total	Mg	0
			1	1	
31	U	214	Total	Mg	0
			214	214	
31	W	2	Total	Mg	0
			2	2	
31	e	1	Total	Mg	0
			1	1	
31	u	1	Total	Mg	0
			1	1	

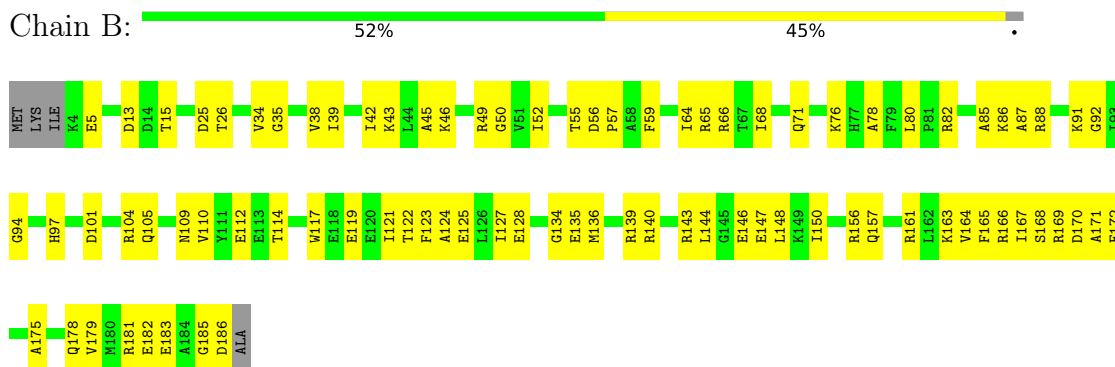
- Molecule 32 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
32	p	1	Total 1	Zn 1	0
32	q	1	Total 1	Zn 1	0
32	t	1	Total 1	Zn 1	0

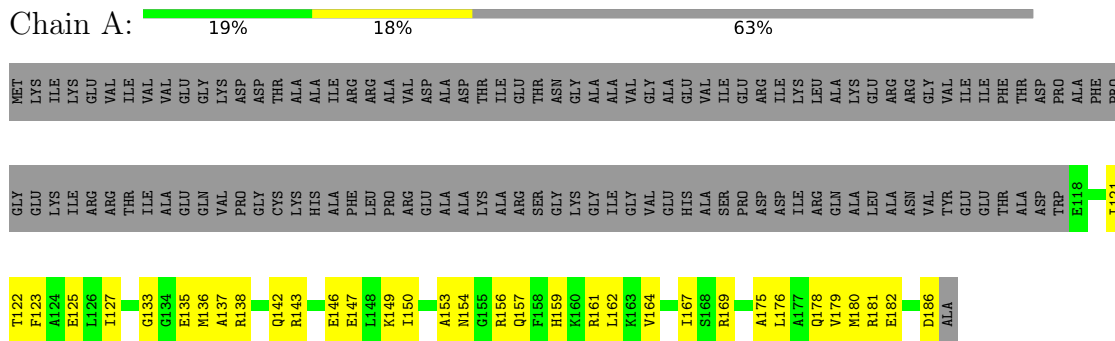
3 Residue-property plots

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

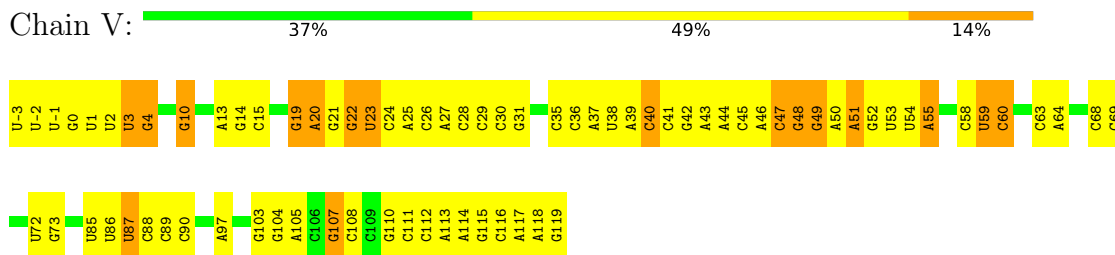
• Molecule 1: Ribonuclease M5



• Molecule 1: Ribonuclease M5



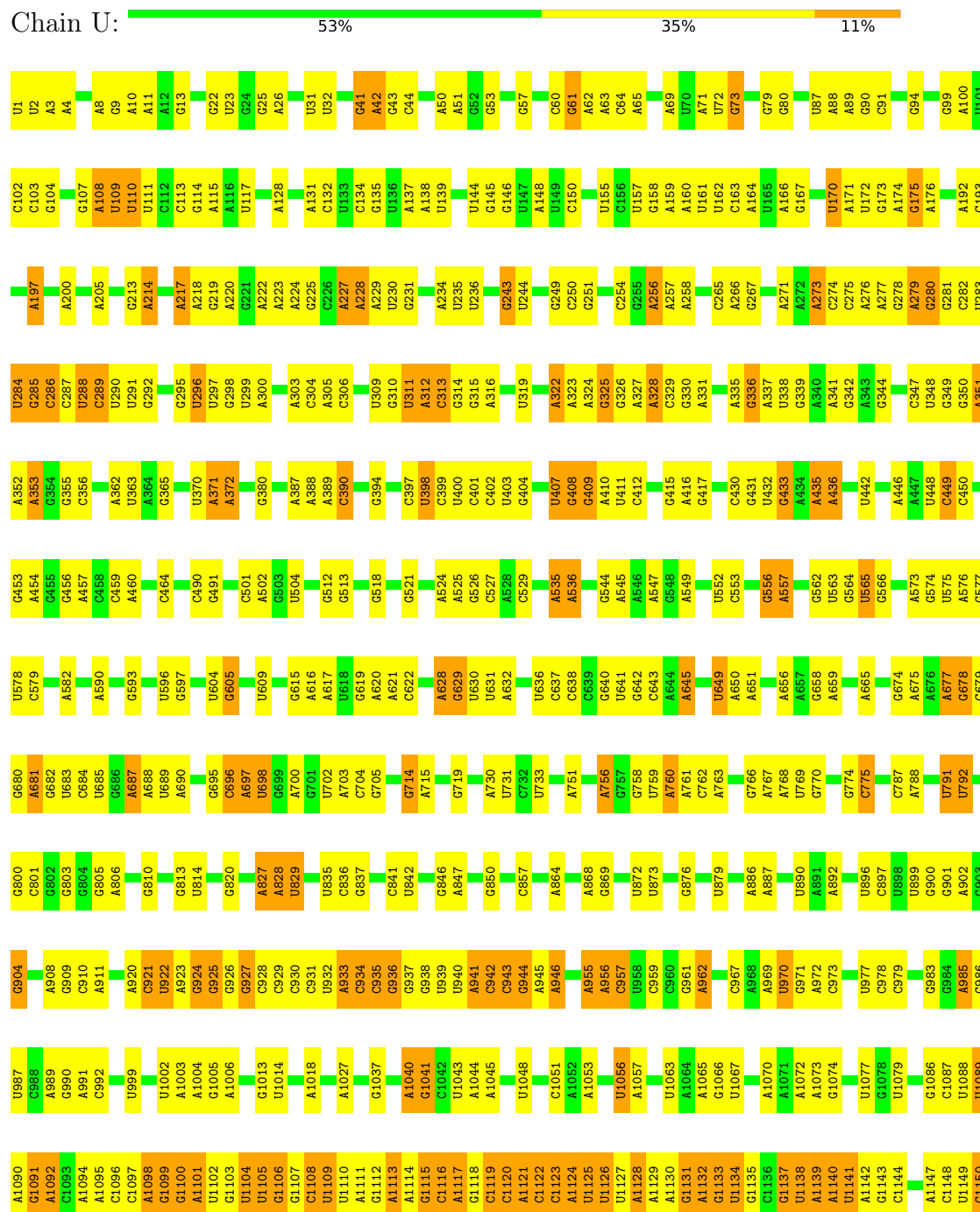
• Molecule 2: pre-5S rRNA



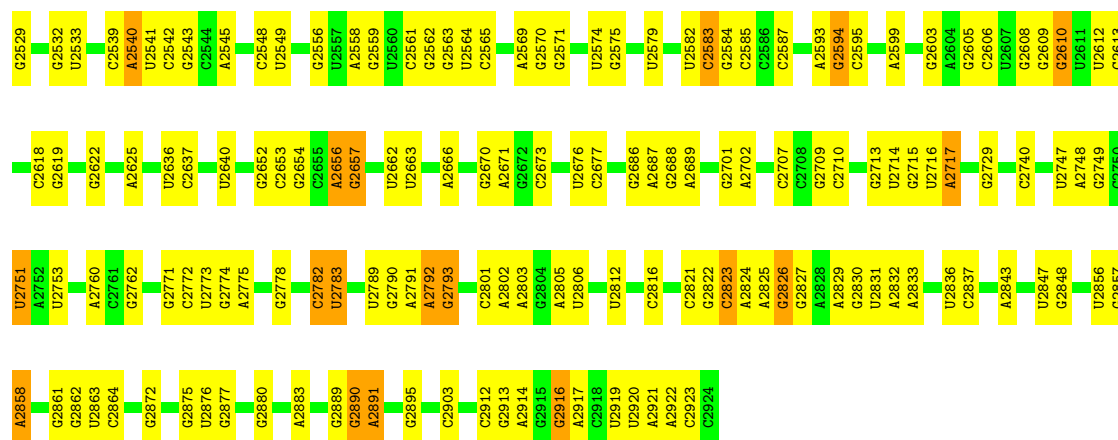
• Molecule 3: 50S ribosomal protein L10



- Molecule 4: pre-23S rRNA

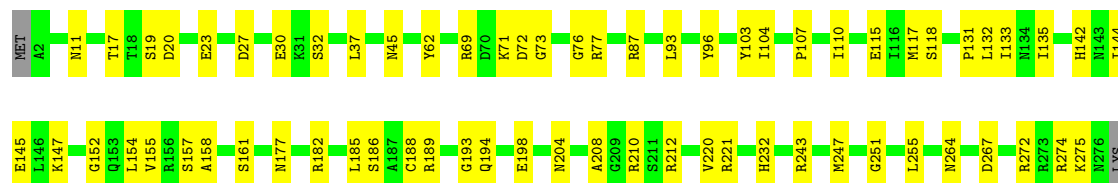


G2437	A2338	C2282	G2165	A1979	C1895	A1810	A1720	C1605	A1534	G1470	U1366	G1274	G1151
G2442	C2340	C2234	G2166	U1982	G1896	A1811	A1721	A1606	C1537	G1471	U1367	G1275	U1152
A2445	U2342	G2242	G2167	C1988	A1898	A1812	U1722	U1608	U1538	G1472	C1368	A1276	G1153
C2449	G2344	G2243	G2169	C1989	G1900	C1815	C1727	A1612	A1540	A1474	A1373	A1475	A1154
U2450	G2346	C2245	G2170	C1990	C1901	C1817	C1728	U1615	U1541	G1475	G1374	A1476	A1155
C2451	A2347	A2250	C2173	C1992	A1904	A1818	A1732	A1616	C1542	G1477	G1375	U1281	U1156
A2452	G2348	G2251	G2174	A1993	C1909	U1821	A1733	A1617	G1544	U1481	G1376	G1286	G1158
A2463	A2349	A2252	A2098	G1995	G1910	C1822	A1743	A1618	U1545	U1482	U1377	U1287	A1159
G2454	G2350	C2253	U2177	A1996	A1911	C1824	A1744	U1624	U1546	A1483	U1378	U1161	U1171
G2455	U2351	A2254	U2178	A1997	A1912	U1825	A1744	U1624	U1547	U1486	C1382	A1172	A1172
G2456	U2351	U2103	U2179	A1998	U1913	G1826	G1750	G1628	C1548	U1487	U1389	U1288	U1176
A2457	A2354	G2259	G2180	A1999	U1913	C1827	A1733	A1629	C1549	U1488	U1390	G1286	U1177
A2466	A2355	U2119	G2181	A1999	U1913	G1827	A1733	A1629	C1550	A1489	A1391	G1294	C1178
C2467	G2356	G2210	U2182	A2008	A1917	G1828	C1753	G1630	U1551	G1490	G1394	C1295	C1179
C2468	G2357	A2121	G2183	A2008	A1917	A1829	U1754	U1632	A1553	G1491	C1394	U1301	G1192
C2469	A2360	A2122	G2184	C2017	A1926	U1835	G1755	G1633	A1554	G1492	G1395	G1302	G1193
C2470	G2361	U2123	A2185	U2018	A1927	A1836	U1756	G1649	G1556	G1493	A1402	A1303	C1184
G2471	A2362	G2124	G2186	G2019	A1928	A1837	U1757	C1650	C1557	G1494	U1402	U1304	U1185
G2472	G2363	U2125	G2187	U2020	U1928	A1837	U1757	C1650	C1557	G1495	U1416	G1310	A1186
A2475	A2364	U2126	C2188	G2039	G1934	G1838	U1762	A1651	U1558	U1496	U1416	G1309	U1185
A2476	G2365	U2127	A2189	G2039	G1934	G1839	G1763	A1652	G1559	U1497	A1421	A1311	A1192
C2479	G2372	G2128	U2190	A2024	C1935	A1843	C1764	A1653	A1560	U1498	A1422	A1312	A1193
A2480	A2373	U2129	G2191	G2036	C1936	A1844	A1766	C1660	U1563	U1499	A1422	G1313	A1195
G2481	G2374	A2130	G2192	G2037	U1937	G1844	U1767	C1660	G1564	G1501	A1424	G1314	A1196
G2482	C2374	C2131	G2193	G2037	U1938	G1844	C1768	A1665	U1565	A1502	A1431	G1315	C1197
G2483	G2375	U2132	U2194	G2038	A1939	U1947	C1768	A1665	G1566	G1503	U1432	G1316	G1198
C2486	G2376	U2133	G2195	G2039	C1940	A1856	A1772	G1671	U1567	U1504	A1433	G1317	G1207
U2489	G2377	U2135	G2196	G2048	U1941	A1856	G1773	G1672	U1568	U1505	U1437	G1318	G1211
C2493	G2383	U2136	G2197	U2049	U1942	C1860	G1773	G1673	G1569	C1506	C1436	G1320	U1212
C2494	U2384	G2137	U2198	A2050	U1943	A1864	G1775	A1674	G1570	G1509	U1437	U1325	U1213
A2497	A2388	A2141	U2202	C2052	A1945	C1865	G1776	A1677	C1571	G1510	U1438	U1330	C1214
A2498	G2392	G2142	A2203	U2053	A1946	C1865	C1778	A1683	C1575	U1511	C1442	U1331	U1215
C2499	G2392	G2143	C2204	G2056	G1949	U1868	C1779	A1683	C1575	C1512	C1443	A1337	C1217
U2500	A2396	A2144	C2205	A2057	U1950	G1869	G1780	A1684	A1577	C1513	A1443	A1338	A1218
C2501	G2397	U2145	C2057	A2058	C1951	C1870	C1781	A1688	A1578	A1514	C1447	U1339	A1220
C2502	G2398	U2146	C2059	A2059	C1952	U1871	A1782	G1688	A1579	A1515	C1448	U1339	A1219
A2503	G2404	G2147	A2060	U2061	U1953	G1873	G1783	A1689	U1580	C1517	U1449	U1339	A1219
C2504	A2405	G2148	A2061	A2062	A1954	C1874	U1788	C1691	A1581	A1518	C1450	A1345	U1240
G2505	U2407	U2149	G2062	G2063	G1956	A1875	G1789	G1692	U1582	G1519	C1452	G1346	A1241
G2508	C2408	G2150	C2063	A2064	G1957	G1876	G1790	A1693	U1583	U1520	C1453	G1347	A1242
C2509	G2409	G2151	G2064	A2065	G1957	G1877	G1791	G1694	U1584	A1521	A1454	U1348	G1243
C2510	G2410	G2152	G2065	G2065	G1962	U1878	G1796	A1695	U1585	G1523	U1455	U1350	G1244
G2511	G2411	A2153	C2070	C2071	A1963	U1879	G1796	U1700	A1586	G1524	U1456	U1353	G1245
G2514	C2412	C2155	C2074	G2075	A1964	A1880	A1806	C1701	G1587	G1525	U1457	G1354	U1249
A2515	U2418	G2156	G2076	G2076	A1965	A1881	C1801	A1707	G1589	U1526	U1457	A1355	G1250
U2520	G2431	U2158	A2078	G2079	U1970	G1885	G1803	G1710	U1590	G1528	U1459	G1356	U1249
G2522	G2432	G2160	G2079	G2079	U1973	U1891	U1806	G1718	U1594	G1529	A1463	G1357	C1254
C2433	G2433	A2161	C2082	C2083	C1974	A1893	A1807	C1718	U1598	A1530	U1464	G1362	A1263
		A2162	C2082	C2083	C1974	G1894	C1809	A1719	G1598	U1533	G1465	U1363	



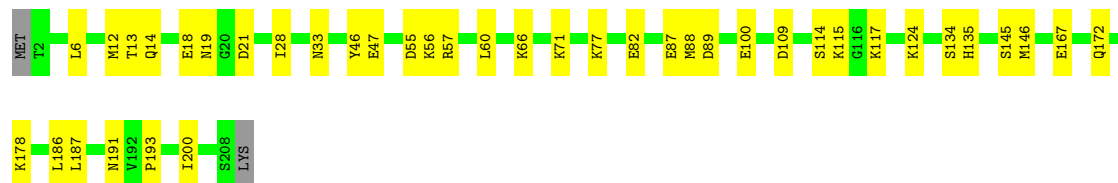
• Molecule 5: 50S ribosomal protein L2

Chain W: 75% 24% .



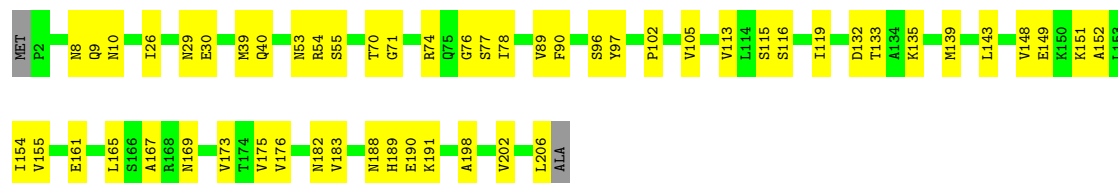
• Molecule 6: 50S ribosomal protein L3

Chain X: 80% 19% .



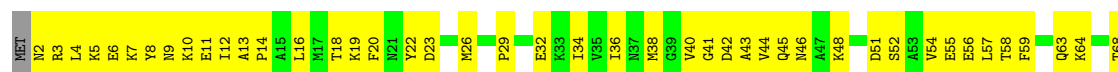
• Molecule 7: 50S ribosomal protein L4

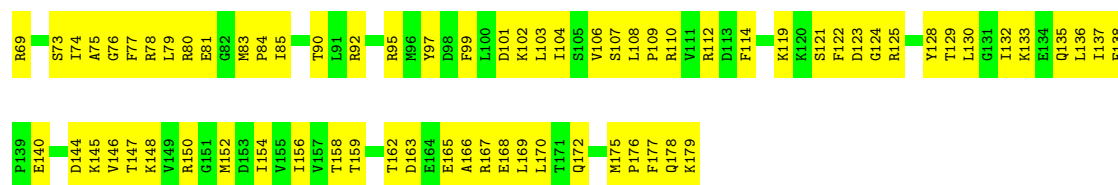
Chain Y: 73% 26% .



• Molecule 8: 50S ribosomal protein L5

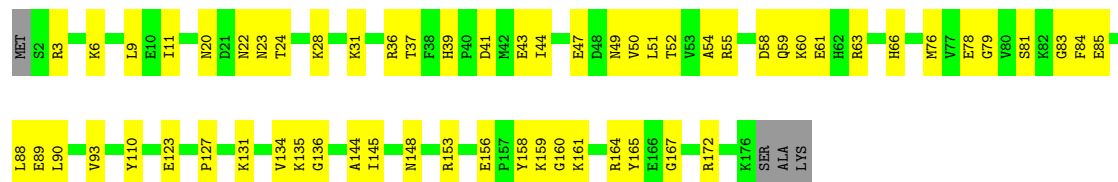
Chain Z: 36% 64% .





• Molecule 9: 50S ribosomal protein L6

Chain a: 64% 34% .



• Molecule 10: 50S ribosomal protein L13

Chain c: 79% 19% .



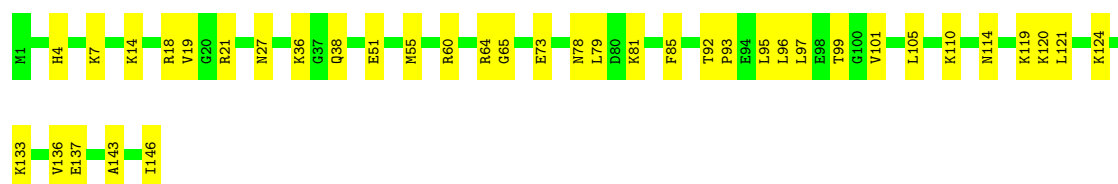
• Molecule 11: 50S ribosomal protein L14

Chain d: 72% 28%



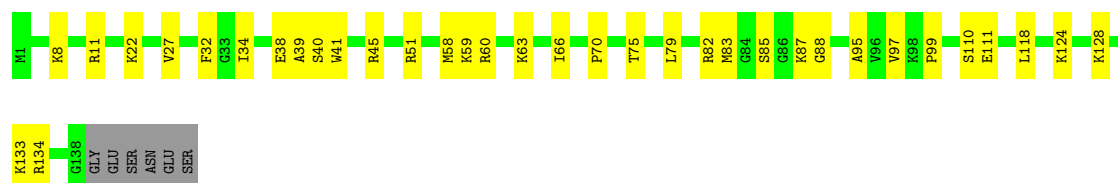
• Molecule 12: 50S ribosomal protein L15

Chain e: 74% 26%



• Molecule 13: 50S ribosomal protein L16

Chain f: 72% 24% .



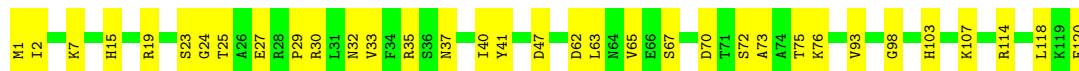
- Molecule 14: 50S ribosomal protein L17

Chain g:  78% 22%



- Molecule 15: 50S ribosomal protein L18

Chain h:  72% 28%



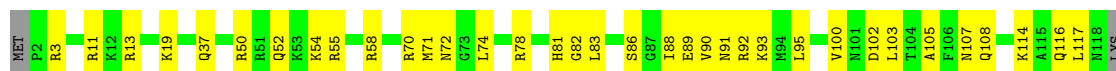
- Molecule 16: 50S ribosomal protein L19

Chain i:  65% 34%



- Molecule 17: 50S ribosomal protein L20

Chain j:  69% 29%



- Molecule 18: 50S ribosomal protein L21

Chain k:  66% 33%



- Molecule 19: 50S ribosomal protein L22

Chain l:  86% 11%

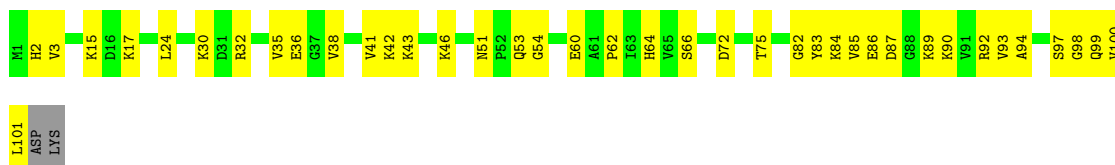


- Molecule 20: 50S ribosomal protein L23

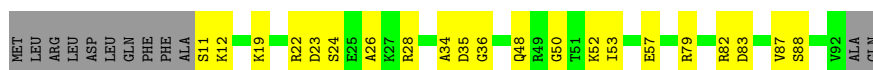
Chain m:  78% 20%



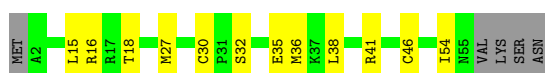
- Molecule 21: 50S ribosomal protein L24



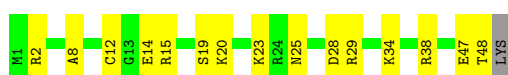
- Molecule 22: 50S ribosomal protein L27



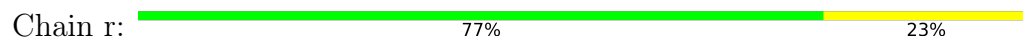
- Molecule 23: 50S ribosomal protein L32



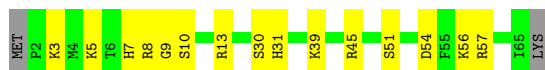
- Molecule 24: 50S ribosomal protein L33 1



- Molecule 25: 50S ribosomal protein L34



- Molecule 26: 50S ribosomal protein L35



- Molecule 27: 50S ribosomal protein L36

Chain t:  68% 30% .



- Molecule 28: 50S ribosomal protein L28

Chain u:  73% 21% 6%



- Molecule 29: 50S ribosomal protein L29

Chain v:  70% 29% .



- Molecule 30: 50S ribosomal protein L30

Chain w:  71% 27% .



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	92799	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	23.94	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.19	0/554	0.40	0/736
1	B	0.16	0/1444	0.39	0/1939
2	V	0.29	0/2938	0.31	0/4579
3	b	0.17	0/963	0.48	1/1298 (0.1%)
4	U	0.41	0/70333	0.35	0/109728
5	W	0.38	0/2148	0.41	0/2881
6	X	0.39	0/1597	0.40	0/2140
7	Y	0.38	0/1580	0.42	0/2132
8	Z	0.22	0/1423	0.45	0/1910
9	a	0.25	0/1360	0.37	0/1832
10	c	0.43	0/1147	0.45	0/1542
11	d	0.38	0/928	0.43	0/1245
12	e	0.39	0/1094	0.47	0/1457
13	f	0.35	0/1120	0.40	0/1496
14	g	0.39	0/961	0.43	0/1284
15	h	0.27	0/922	0.40	0/1236
16	i	0.37	0/950	0.43	0/1269
17	j	0.49	0/952	0.49	0/1266
18	k	0.40	0/798	0.44	0/1070
19	l	0.42	0/851	0.41	0/1146
20	m	0.38	0/759	0.40	0/1011
21	n	0.33	0/772	0.41	0/1032
22	o	0.40	0/638	0.45	0/847
23	p	0.41	0/433	0.42	0/574
24	q	0.33	0/406	0.39	0/540
25	r	0.47	0/371	0.53	0/483
26	s	0.39	0/519	0.41	0/680
27	t	0.35	0/292	0.34	0/383
28	u	0.32	0/448	0.39	0/596
29	v	0.32	0/531	0.42	0/707
30	w	0.39	0/458	0.41	0/613
All	All	0.39	0/99690	0.36	1/149652 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	b	50	VAL	N-CA-C	-5.13	108.27	113.20

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	548	0	550	24	0
1	B	1425	0	1435	70	0
2	V	2628	0	1328	74	0
3	b	955	0	990	90	0
4	U	62790	0	31595	1120	0
5	W	2111	0	2200	51	0
6	X	1575	0	1642	30	0
7	Y	1561	0	1647	39	0
8	Z	1404	0	1467	119	0
9	a	1342	0	1388	39	0
10	c	1124	0	1162	22	0
11	d	921	0	977	25	0
12	e	1082	0	1132	29	0
13	f	1097	0	1165	28	0
14	g	954	0	983	20	0
15	h	913	0	947	25	0
16	i	937	0	1008	29	0
17	j	940	0	1005	35	0
18	k	787	0	826	25	0
19	l	842	0	899	9	0
20	m	752	0	802	14	0
21	n	762	0	821	30	0
22	o	630	0	644	18	0
23	p	426	0	442	9	0
24	q	401	0	410	11	0
25	r	368	0	410	8	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	s	512	0	564	14	0
27	t	289	0	327	9	0
28	u	444	0	487	9	0
29	v	530	0	568	17	0
30	w	456	0	491	13	0
31	U	214	0	0	0	0
31	V	1	0	0	0	0
31	W	2	0	0	0	0
31	e	1	0	0	0	0
31	u	1	0	0	0	0
32	p	1	0	0	0	0
32	q	1	0	0	0	0
32	t	1	0	0	0	0
All	All	91728	0	60312	1892	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 13.

All (1892) 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)
4:U:1137:G:H21	4:U:1142:A:N6	1.26	1.32
4:U:1137:G:N2	4:U:1142:A:H62	1.32	1.25
4:U:970:U:HO2'	4:U:971:G:H8	1.12	0.95
4:U:325:G:H1	4:U:398:U:H3	0.98	0.93
14:g:120:VAL:HG13	14:g:120:VAL:OXT	1.67	0.92
11:d:104:ARG:HB2	11:d:122:ILE:O	1.74	0.88
3:b:33:LEU:HA	4:U:1099:G:H4'	1.55	0.88
4:U:1514:A:H62	4:U:1566:G:H8	1.23	0.87
4:U:1578:A:N1	4:U:1583:A:N6	2.22	0.86
4:U:2127:G:N2	4:U:2216:U:O2	2.06	0.86
4:U:2132:A:N1	4:U:2212:G:C6	2.45	0.85
1:B:82:ARG:HB3	1:B:146:GLU:HB3	1.59	0.84
4:U:1578:A:H3'	4:U:1579:A:H4'	1.60	0.84
10:c:78:HIS:ND1	10:c:79:THR:O	2.10	0.83
1:B:181:ARG:HB3	1:B:186:ASP:HB2	1.61	0.83
4:U:628:A:H5'	7:Y:89:VAL:HG11	1.60	0.83
18:k:14:VAL:HG23	18:k:97:ILE:HD13	1.60	0.82
8:Z:19:LYS:NZ	8:Z:168:GLU:OE2	2.13	0.81
21:n:64:HIS:HD2	21:n:66:SER:H	1.28	0.81
4:U:2131:C:N4	4:U:2132:A:N6	2.29	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:b:11:VAL:O	3:b:66:GLN:NE2	2.14	0.81
4:U:285:G:OP2	4:U:286:C:N4	2.15	0.80
4:U:924:G:N7	4:U:925:G:N2	2.30	0.80
4:U:529:C:OP2	21:n:46:LYS:NZ	2.15	0.80
4:U:1527:G:C2	4:U:1551:A:N1	2.50	0.80
22:o:19:LYS:O	22:o:22:ARG:NH1	2.15	0.80
4:U:2325:A:H62	4:U:2345:G:H8	1.28	0.79
16:i:106:LEU:HB3	16:i:113:ILE:HG13	1.65	0.79
4:U:2208:G:N2	4:U:2209:G:C2	2.51	0.78
4:U:1529:G:H2'	4:U:1530:A:H8	1.48	0.78
4:U:1576:G:H2'	4:U:1584:G:H22	1.46	0.78
4:U:1938:U:O2	4:U:1946:A:N6	2.16	0.77
8:Z:162:THR:OG1	8:Z:165:GLU:OE1	2.01	0.77
3:b:36:SER:HB2	3:b:107:GLU:HB3	1.67	0.77
4:U:1108:C:O2	4:U:1119:C:N4	2.18	0.77
3:b:53:LYS:H	3:b:85:SER:HA	1.48	0.77
4:U:628:A:H62	4:U:1289:A:H2	1.33	0.76
4:U:2701:G:H4'	11:d:30:ARG:HD3	1.67	0.76
3:b:4:ALA:O	3:b:8:LYS:NZ	2.18	0.76
4:U:1120:C:H3'	4:U:1121:A:H5'	1.66	0.76
4:U:1114:A:OP1	4:U:1122:C:N4	2.15	0.76
1:B:82:ARG:NH2	1:B:143:ARG:O	2.19	0.76
4:U:1527:G:N1	4:U:1551:A:N6	2.33	0.76
4:U:1345:A:H62	4:U:1649:G:H8	1.34	0.75
4:U:759:U:N3	4:U:762:C:OP2	2.18	0.75
8:Z:107:SER:HA	8:Z:110:ARG:HB2	1.69	0.75
1:A:162:LEU:HD22	1:A:167:ILE:HD11	1.69	0.75
4:U:2167:G:N2	4:U:2179:U:O2'	2.19	0.75
7:Y:139:MET:HG2	7:Y:167:ALA:HB2	1.67	0.75
15:h:24:GLY:N	15:h:47:ASP:OD2	2.19	0.75
4:U:1527:G:N2	4:U:1551:A:N1	2.35	0.74
4:U:1527:G:H1	4:U:1551:A:N6	1.86	0.74
4:U:1707:A:H61	4:U:2023:C:H42	1.35	0.74
3:b:26:ILE:HD11	3:b:82:ILE:HG23	1.70	0.74
2:V:29:C:O2'	2:V:51:A:N1	2.21	0.74
7:Y:40:GLN:HE22	7:Y:182:ASN:HD22	1.36	0.74
4:U:680:G:N7	12:e:110:LYS:NZ	2.35	0.73
2:V:117:A:H2'	2:V:118:A:H8	1.52	0.73
4:U:2123:U:O4	4:U:2220:C:N3	2.21	0.73
30:w:58:GLU:CD	30:w:59:GLN:O	2.32	0.73
4:U:908:A:OP2	13:f:22:LYS:NZ	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:Z:177:PHE:HB2	8:Z:179:LYS:HE3	1.70	0.73
4:U:1885:G:O2'	4:U:1911:A:N6	2.22	0.73
4:U:1529:G:H2'	4:U:1530:A:C8	2.23	0.72
4:U:892:A:H62	4:U:977:U:H3	1.36	0.72
4:U:1489:A:N6	4:U:1510:G:H1	1.87	0.72
4:U:1128:A:O2'	4:U:1129:A:N7	2.22	0.72
4:U:277:A:H2'	4:U:278:G:C8	2.23	0.72
4:U:2751:U:OP2	6:X:117:LYS:NZ	2.21	0.72
4:U:1515:A:H61	4:U:1565:U:H3	1.35	0.72
4:U:325:G:N2	4:U:398:U:O2	2.17	0.72
4:U:1106:G:N1	4:U:1122:C:O2'	2.21	0.72
2:V:112:C:H2'	2:V:113:A:H8	1.55	0.72
4:U:2334:G:H5'	4:U:2335:G:C4	2.25	0.72
16:i:37:GLU:HG2	16:i:39:ASN:HD22	1.53	0.71
2:V:54:U:H4'	2:V:55:A:H5'	1.72	0.71
4:U:312:A:O2'	4:U:314:G:N7	2.23	0.71
4:U:1037:G:OP1	17:j:50:ARG:NH1	2.24	0.71
4:U:1112:G:H22	4:U:1139:A:H62	1.35	0.71
4:U:2037:G:H5''	19:l:42:ALA:HB2	1.73	0.71
4:U:1442:C:H2'	4:U:1443:A:H8	1.55	0.71
8:Z:44:VAL:HG23	8:Z:46:ASN:H	1.55	0.71
3:b:29:ASP:H	3:b:81:ALA:HB1	1.56	0.70
4:U:2182:U:H5''	4:U:2184:G:H21	1.57	0.70
4:U:942:C:H2'	4:U:944:G:C8	2.25	0.70
4:U:1112:G:C6	4:U:1140:A:H1'	2.26	0.70
3:b:34:ASN:HA	3:b:37:GLU:HB2	1.73	0.70
4:U:1555:G:H2'	4:U:1556:G:C8	2.26	0.70
4:U:1583:A:H2'	4:U:1584:G:H4'	1.73	0.70
8:Z:138:PHE:HD2	8:Z:140:GLU:HB2	1.56	0.70
8:Z:135:GLN:NE2	8:Z:148:LYS:O	2.25	0.70
4:U:277:A:H2'	4:U:278:G:H8	1.56	0.70
4:U:2334:G:H1	8:Z:43:ALA:HB1	1.56	0.70
8:Z:145:LYS:HG2	8:Z:147:THR:H	1.55	0.69
13:f:58:MET:O	13:f:60:ARG:NH1	2.25	0.69
3:b:61:ARG:HA	3:b:64:VAL:HG22	1.73	0.69
7:Y:152:ALA:O	7:Y:189:HIS:ND1	2.24	0.69
4:U:999:U:OP1	13:f:87:LYS:NZ	2.26	0.69
4:U:1578:A:C5	4:U:1579:A:H1'	2.27	0.69
4:U:1513:C:H2'	4:U:1514:A:H8	1.57	0.69
4:U:1885:G:H2'	4:U:1910:G:H22	1.58	0.69
4:U:923:A:OP2	4:U:925:G:N1	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1302:G:OP1	23:p:16:ARG:NH2	2.19	0.69
4:U:1580:U:N3	4:U:1583:A:O5'	2.25	0.69
4:U:1941:C:N4	4:U:1989:C:OP1	2.26	0.69
4:U:1962:G:N1	4:U:1989:C:O2'	2.25	0.68
4:U:2231:C:OP1	5:W:147:LYS:NZ	2.23	0.68
11:d:122:ILE:OXT	11:d:122:ILE:HG22	1.91	0.68
16:i:36:VAL:HG22	16:i:38:GLY:H	1.57	0.68
4:U:1041:G:P	17:j:92:ARG:HD2	2.34	0.68
5:W:73:GLY:H	5:W:117:MET:HE1	1.58	0.68
4:U:1074:G:OP2	13:f:128:LYS:NZ	2.26	0.68
4:U:2608:G:OP2	4:U:2608:G:N2	2.22	0.68
9:a:84:PHE:O	9:a:135:LYS:NZ	2.22	0.68
4:U:1494:G:H1	4:U:1505:U:H3	0.75	0.68
22:o:26:ALA:O	22:o:28:ARG:NH2	2.26	0.68
4:U:1130:A:O2'	4:U:1131:G:N7	2.27	0.68
4:U:1927:A:H1'	4:U:1997:A:H2'	1.74	0.68
4:U:730:A:H8	4:U:733:U:H3	1.42	0.67
4:U:957:C:OP1	13:f:8:LYS:NZ	2.24	0.67
4:U:1494:G:N2	4:U:1505:U:O2	2.21	0.67
4:U:2273:G:H2'	4:U:2274:A:H8	1.59	0.67
21:n:51:ASN:OD1	21:n:54:GLY:N	2.28	0.67
2:V:49:G:H2'	2:V:50:A:C8	2.29	0.67
4:U:2127:G:H1	4:U:2216:U:H3	0.75	0.67
3:b:7:THR:HG23	3:b:8:LYS:HD3	1.76	0.67
3:b:31:ARG:NH1	4:U:1097:C:O2'	2.27	0.67
9:a:58:ASP:O	9:a:59:GLN:NE2	2.25	0.67
8:Z:132:ILE:HD11	8:Z:154:ILE:HG22	1.76	0.67
24:q:29:ARG:NH2	24:q:47:GLU:O	2.27	0.67
4:U:150:C:O2	4:U:175:G:N2	2.18	0.67
2:V:113:A:H2'	2:V:114:A:H8	1.60	0.67
4:U:983:G:OP2	26:s:56:LYS:NZ	2.26	0.67
4:U:1516:G:H2'	4:U:1517:C:C6	2.30	0.67
5:W:132:LEU:HD23	5:W:135:ILE:HD12	1.76	0.67
4:U:2533:U:H3	4:U:2610:G:H1	1.43	0.67
3:b:19:LEU:HD21	3:b:69:LEU:HD22	1.76	0.67
2:V:117:A:H2'	2:V:118:A:C8	2.30	0.67
4:U:2149:U:H3	4:U:2203:A:H61	1.41	0.67
4:U:2187:G:H2'	4:U:2188:C:C6	2.30	0.66
4:U:2920:U:O2'	10:c:135:ALA:O	2.13	0.66
20:m:91:GLU:OE1	20:m:93:PHE:N	2.27	0.66
2:V:29:C:H1'	2:V:51:A:H61	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:W:142:HIS:ND1	5:W:193:GLY:O	2.27	0.66
14:g:78:ASP:HB3	14:g:81:GLN:HE21	1.59	0.66
2:V:10:G:O2'	22:o:82:ARG:NH1	2.29	0.66
4:U:1243:G:O2'	4:U:1244:G:H5''	1.95	0.66
29:v:4:ASN:HA	29:v:7:ARG:HH21	1.61	0.66
8:Z:44:VAL:O	8:Z:45:GLN:HG3	1.95	0.66
1:B:114:THR:HG21	1:B:166:ARG:H	1.61	0.66
18:k:15:GLU:OE2	18:k:16:GLU:N	2.29	0.66
3:b:41:LEU:HD21	3:b:54:VAL:HG11	1.76	0.66
4:U:605:G:H21	17:j:37:GLN:HE22	1.44	0.66
4:U:2156:C:O2'	4:U:2159:G:O6	2.13	0.66
18:k:41:VAL:HB	18:k:46:VAL:HB	1.78	0.66
3:b:23:LYS:NZ	3:b:116:LYS:O	2.26	0.66
4:U:1549:C:H2'	4:U:1550:C:C6	2.31	0.65
3:b:110:ALA:HA	3:b:113:ILE:HD12	1.79	0.65
4:U:1549:C:C4	4:U:1550:C:N4	2.64	0.65
4:U:2338:A:O2'	4:U:2339:U:O4'	2.13	0.65
4:U:2451:C:O2'	4:U:2452:A:OP1	2.14	0.65
6:X:134:SER:OG	6:X:135:HIS:N	2.30	0.65
4:U:1580:U:C6	4:U:1582:U:H1'	2.31	0.65
4:U:2332:U:HO2'	4:U:2334:G:HO2'	1.45	0.65
4:U:2445:A:OP1	26:s:45:ARG:NH1	2.29	0.65
9:a:144:ALA:O	9:a:148:ASN:ND2	2.30	0.65
4:U:1242:A:H8	12:e:4:HIS:HB3	1.61	0.65
4:U:1884:G:N2	4:U:1913:U:O4	2.29	0.65
1:A:153:ALA:HB1	1:A:157:GLN:HB2	1.78	0.65
4:U:61:G:H2'	4:U:62:A:H8	1.62	0.65
12:e:55:MET:O	12:e:60:ARG:NH1	2.30	0.65
4:U:1134:U:H2'	4:U:1135:G:C8	2.32	0.65
22:o:23:ASP:OD1	22:o:24:SER:N	2.30	0.65
4:U:1040:A:O2'	17:j:92:ARG:NE	2.30	0.65
4:U:2216:U:H2'	4:U:2217:G:H8	1.61	0.65
4:U:1899:A:O2'	4:U:1900:G:O4'	2.15	0.64
4:U:2418:G:O2'	4:U:2456:G:N2	2.30	0.64
12:e:19:VAL:HG23	12:e:27:ASN:HB3	1.79	0.64
4:U:1281:U:O3'	12:e:7:LYS:NZ	2.29	0.64
13:f:82:ARG:NE	22:o:11:SER:O	2.30	0.64
4:U:1243:G:O2'	4:U:1244:G:N3	2.25	0.64
4:U:1104:U:O2	4:U:1123:C:N4	2.30	0.64
6:X:100:GLU:OE1	6:X:100:GLU:N	2.29	0.64
16:i:53:ARG:NE	16:i:60:GLU:OE2	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:2406:G:H2'	4:U:2407:U:C6	2.31	0.64
1:B:57:PRO:HG3	1:B:85:ALA:HB1	1.80	0.64
2:V:3:U:H2'	2:V:4:G:H8	1.63	0.64
10:c:136:GLN:N	10:c:136:GLN:OE1	2.30	0.64
14:g:120:VAL:OXT	14:g:120:VAL:CG1	2.40	0.64
4:U:909:G:H2'	4:U:910:C:H6	1.62	0.64
4:U:2340:C:H2'	4:U:2341:A:H8	1.63	0.64
16:i:13:LYS:HA	16:i:16:LEU:HG	1.79	0.64
4:U:243:G:N2	4:U:256:A:OP2	2.25	0.64
4:U:904:G:O2'	4:U:961:G:O6	2.16	0.64
4:U:922:U:C4	4:U:944:G:H1'	2.32	0.64
4:U:2129:U:N3	4:U:2215:U:O2	2.15	0.64
4:U:2354:A:H2'	4:U:2355:A:C8	2.33	0.64
9:a:39:HIS:HE1	9:a:41:ASP:HB3	1.63	0.64
2:V:39:A:H62	8:Z:69:ARG:HH22	1.44	0.64
4:U:338:U:OP1	21:n:90:LYS:NZ	2.31	0.64
4:U:2880:G:N2	4:U:2883:A:OP2	2.31	0.64
3:b:22:SER:HG	3:b:118:SER:HG	1.42	0.64
8:Z:169:LEU:O	8:Z:172:GLN:NE2	2.31	0.64
2:V:112:C:H2'	2:V:113:A:C8	2.33	0.63
14:g:78:ASP:OD1	14:g:79:ALA:N	2.31	0.63
4:U:631:U:H2'	4:U:632:A:H8	1.62	0.63
4:U:1219:A:H2'	4:U:1220:A:H8	1.63	0.63
4:U:1530:A:H2'	4:U:1531:A:C8	2.32	0.63
4:U:2355:A:H2'	4:U:2356:A:C8	2.33	0.63
8:Z:46:ASN:HA	8:Z:48:LYS:HZ3	1.62	0.63
9:a:43:GLU:HB3	9:a:54:ALA:HB3	1.80	0.63
4:U:924:G:N2	4:U:944:G:OP2	2.31	0.63
4:U:2151:G:N7	4:U:2152:G:N2	2.47	0.63
4:U:2188:C:OP1	4:U:2191:C:N4	2.31	0.63
4:U:2341:A:H2'	4:U:2342:U:C6	2.33	0.63
4:U:2132:A:N1	4:U:2212:G:O6	2.30	0.63
4:U:2564:U:H2'	4:U:2565:C:H6	1.63	0.63
7:Y:53:ASN:OD1	7:Y:54:ARG:N	2.32	0.63
1:B:66:ARG:NH2	2:V:21:G:O3'	2.31	0.63
8:Z:54:VAL:O	8:Z:58:THR:HG23	1.99	0.63
4:U:1780:G:N2	4:U:1783:G:OP2	2.32	0.63
14:g:93:GLU:O	14:g:95:GLN:NE2	2.31	0.63
4:U:73:G:OP1	29:v:44:ARG:NH1	2.29	0.62
4:U:787:C:H2'	4:U:788:A:H8	1.64	0.62
4:U:1572:G:N1	4:U:1590:A:OP2	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1772:A:H3'	4:U:1773:G:H8	1.64	0.62
6:X:19:ASN:ND2	6:X:21:ASP:OD2	2.32	0.62
19:l:31:GLU:OE1	19:l:31:GLU:N	2.32	0.62
4:U:433:G:N3	4:U:435:A:N6	2.46	0.62
11:d:17:ARG:HH21	11:d:45:GLN:HB3	1.64	0.62
3:b:33:LEU:O	3:b:37:GLU:N	2.32	0.62
4:U:939:U:H2'	4:U:940:U:O4'	1.98	0.62
4:U:1127:U:O2	4:U:1128:A:O2'	2.16	0.62
7:Y:8:ASN:ND2	7:Y:10:ASN:OD1	2.32	0.62
9:a:20:ASN:OD1	9:a:24:THR:OG1	2.17	0.62
4:U:161:U:O2	4:U:163:C:N4	2.31	0.62
4:U:1216:U:O2'	4:U:1217:C:O5'	2.16	0.62
17:j:88:ILE:HB	18:k:51:PRO:HD3	1.81	0.62
2:V:113:A:H2'	2:V:114:A:C8	2.34	0.62
1:B:178:GLN:NE2	1:B:182:GLU:OE2	2.33	0.62
4:U:347:C:H2'	4:U:348:U:C6	2.34	0.62
4:U:1899:A:O2'	4:U:1900:G:O5'	2.16	0.62
4:U:2131:C:C4	4:U:2132:A:N6	2.67	0.62
1:B:105:GLN:O	1:B:109:ASN:ND2	2.33	0.62
4:U:2166:G:N2	4:U:2168:A:N1	2.46	0.62
4:U:2479:C:H2'	4:U:2480:A:H8	1.65	0.62
9:a:85:GLU:HB3	9:a:135:LYS:HD2	1.80	0.62
3:b:7:THR:OG1	4:U:1090:A:N3	2.31	0.62
4:U:25:G:N2	4:U:556:G:O2'	2.33	0.62
4:U:244:U:OP2	26:s:8:ARG:NH2	2.33	0.62
4:U:2392:G:N7	26:s:39:LYS:NZ	2.48	0.62
16:i:90:VAL:HG12	16:i:91:ARG:HG3	1.81	0.62
16:i:107:ARG:HH11	16:i:108:GLY:H	1.46	0.62
28:u:37:ARG:NH2	28:u:60:GLU:O	2.33	0.62
3:b:27:ILE:HA	3:b:113:ILE:HG12	1.82	0.61
4:U:901:G:H2'	4:U:902:A:C8	2.35	0.61
4:U:1286:G:C5	17:j:3:ARG:HB2	2.35	0.61
4:U:2036:G:OP1	19:l:41:ARG:NH2	2.34	0.61
4:U:2156:C:H2'	4:U:2186:G:H22	1.64	0.61
4:U:696:C:H3'	4:U:697:A:C8	2.34	0.61
4:U:1880:A:H2'	4:U:1881:A:C8	2.35	0.61
4:U:2312:C:OP2	24:q:2:ARG:NH2	2.28	0.61
12:e:85:PHE:O	12:e:119:LYS:NZ	2.28	0.61
4:U:304:C:H2'	4:U:305:A:C8	2.36	0.61
4:U:909:G:H2'	4:U:910:C:C6	2.36	0.61
4:U:1527:G:O2'	4:U:1528:G:O4'	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:2058:A:N3	4:U:2482:G:O2'	2.33	0.61
4:U:2330:G:O2'	8:Z:121:SER:O	2.18	0.61
27:t:11:CYS:HB3	27:t:32:HIS:CE1	2.36	0.61
4:U:1109:U:O2	4:U:1117:A:N6	2.33	0.61
4:U:2792:A:OP2	4:U:2793:G:N2	2.34	0.61
4:U:2823:C:H3'	4:U:2824:A:H8	1.64	0.61
8:Z:74:ILE:H	8:Z:80:ARG:HG3	1.66	0.61
9:a:123:GLU:N	9:a:123:GLU:OE1	2.31	0.61
17:j:103:LEU:O	17:j:107:ASN:ND2	2.33	0.61
3:b:45:LEU:HA	3:b:49:ASN:HA	1.82	0.61
4:U:2273:G:H2'	4:U:2274:A:C8	2.35	0.61
8:Z:56:GLU:HA	8:Z:59:PHE:CE1	2.36	0.61
8:Z:74:ILE:N	8:Z:80:ARG:HE	1.98	0.61
17:j:82:GLY:O	17:j:86:SER:N	2.34	0.61
4:U:1531:A:H2'	4:U:1532:A:C8	2.36	0.61
4:U:1575:C:H3'	4:U:1576:G:H8	1.65	0.61
4:U:1509:C:H2'	4:U:1510:G:C8	2.36	0.60
4:U:1671:G:H2'	4:U:1672:G:H8	1.65	0.60
4:U:2139:A:N6	4:U:2147:G:OP1	2.33	0.60
29:v:23:GLU:OE2	29:v:27:ASN:ND2	2.34	0.60
4:U:2564:U:H2'	4:U:2565:C:C6	2.36	0.60
3:b:23:LYS:HD3	3:b:118:SER:HB2	1.82	0.60
4:U:972:A:H2'	4:U:973:C:C6	2.35	0.60
4:U:1577:A:OP2	4:U:1584:G:N1	2.35	0.60
4:U:2774:G:N1	4:U:2783:U:OP1	2.34	0.60
5:W:232:HIS:HE1	5:W:247:MET:H	1.48	0.60
16:i:17:ARG:NH1	16:i:81:THR:O	2.34	0.60
4:U:697:A:H2'	4:U:698:U:C4	2.36	0.60
4:U:1120:C:C5	4:U:1122:C:H4'	2.36	0.60
4:U:1218:G:H2'	4:U:1219:A:H8	1.66	0.60
4:U:1219:A:H2'	4:U:1220:A:C8	2.37	0.60
4:U:1138:U:H1'	4:U:1141:U:H5	1.66	0.60
1:B:38:VAL:O	1:B:42:ILE:HG12	2.02	0.60
4:U:150:C:N3	4:U:175:G:N1	2.38	0.60
4:U:1442:C:H2'	4:U:1443:A:C8	2.36	0.60
4:U:2342:U:H5''	15:h:2:ILE:HG22	1.83	0.60
5:W:161:SER:HB3	5:W:194:GLN:HG3	1.84	0.60
1:B:181:ARG:O	1:B:186:ASP:N	2.33	0.60
4:U:87:U:H3'	4:U:88:A:C8	2.36	0.60
4:U:1290:G:OP2	17:j:13:ARG:NH2	2.34	0.60
15:h:73:ALA:HA	15:h:76:LYS:HE2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:401:C:H2'	4:U:402:C:C6	2.36	0.60
4:U:1551:A:H1'	4:U:1552:U:H5'	1.84	0.60
4:U:2098:A:H2'	4:U:2099:G:H8	1.66	0.60
4:U:1051:C:OP1	10:c:38:ARG:NH1	2.34	0.60
4:U:2128:G:O2'	4:U:2129:U:O5'	2.18	0.60
1:B:55:THR:H	1:B:65:ARG:HH21	1.50	0.60
3:b:29:ASP:HB2	3:b:82:ILE:H	1.66	0.60
16:i:17:ARG:NH2	16:i:84:ILE:O	2.28	0.60
17:j:86:SER:HA	17:j:116:GLN:HG2	1.83	0.60
1:B:76:LYS:HA	1:B:112:GLU:HB3	1.84	0.59
12:e:64:ARG:HG3	12:e:65:GLY:H	1.66	0.59
4:U:1277:C:H2'	4:U:1278:G:C8	2.36	0.59
4:U:1543:C:H2'	4:U:1544:G:H8	1.66	0.59
4:U:1357:G:N2	4:U:1368:C:H41	2.00	0.59
8:Z:144:ASP:N	8:Z:144:ASP:OD1	2.35	0.59
4:U:304:C:H2'	4:U:305:A:H8	1.66	0.59
4:U:1091:G:H4'	4:U:1092:A:H5'	1.84	0.59
4:U:1880:A:H2'	4:U:1881:A:H8	1.67	0.59
4:U:2829:A:H2'	4:U:2830:G:H8	1.68	0.59
8:Z:104:ILE:HA	8:Z:108:LEU:HD13	1.85	0.59
1:B:178:GLN:OE1	1:B:181:ARG:NH2	2.36	0.59
2:V:1:U:H2'	2:V:2:U:C6	2.37	0.59
3:b:100:ALA:O	3:b:104:GLU:HB3	2.03	0.59
4:U:696:C:H3'	4:U:697:A:H8	1.68	0.59
30:w:58:GLU:OE1	30:w:59:GLN:O	2.20	0.59
4:U:1114:A:H5'	4:U:1115:G:H5''	1.83	0.59
9:a:3:ARG:HG2	9:a:6:LYS:HG2	1.85	0.59
1:B:169:ARG:NH1	1:B:170:ASP:OD1	2.35	0.59
4:U:1254:C:OP1	17:j:11:ARG:NH1	2.36	0.59
3:b:29:ASP:HB2	3:b:82:ILE:N	2.17	0.59
4:U:1125:U:O2'	4:U:1126:U:O5'	2.19	0.59
4:U:1530:A:H2'	4:U:1531:A:H8	1.68	0.59
4:U:1672:G:H2'	4:U:1673:A:C8	2.37	0.59
4:U:2161:A:N6	4:U:2185:A:N3	2.51	0.59
6:X:47:GLU:HB3	6:X:88:MET:SD	2.43	0.59
4:U:1106:G:N2	4:U:1107:G:O6	2.35	0.59
18:k:99:LYS:NZ	18:k:101:ASN:OD1	2.34	0.59
4:U:1123:C:H2'	4:U:1124:A:H8	1.66	0.59
4:U:1707:A:H61	4:U:2023:C:N4	2.01	0.59
9:a:47:GLU:HB3	9:a:50:VAL:HB	1.85	0.59
4:U:286:C:H2'	4:U:287:C:C6	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1131:G:H2'	4:U:1133:G:H4'	1.83	0.58
4:U:1218:G:H2'	4:U:1219:A:C8	2.38	0.58
4:U:2186:G:O2'	4:U:2187:G:OP1	2.19	0.58
2:V:3:U:H2'	2:V:4:G:C8	2.38	0.58
4:U:362:A:N3	7:Y:169:ASN:ND2	2.50	0.58
4:U:2166:G:H1	4:U:2168:A:H61	1.49	0.58
9:a:135:LYS:NZ	9:a:136:GLY:O	2.36	0.58
11:d:90:ASP:OD1	11:d:91:LYS:N	2.34	0.58
2:V:10:G:OP2	22:o:79:ARG:NH2	2.33	0.58
2:V:118:A:H2'	2:V:119:G:C8	2.39	0.58
4:U:1545:U:H2'	4:U:1546:U:C6	2.38	0.58
4:U:1576:G:H2'	4:U:1584:G:N2	2.16	0.58
3:b:95:VAL:HA	3:b:98:ASP:HB2	1.84	0.58
4:U:2216:U:H2'	4:U:2217:G:C8	2.37	0.58
15:h:72:SER:O	15:h:75:THR:OG1	2.17	0.58
5:W:77:ARG:NH2	5:W:115:GLU:OE2	2.36	0.58
13:f:11:ARG:NH1	13:f:88:GLY:O	2.37	0.58
13:f:38:GLU:N	13:f:38:GLU:OE1	2.37	0.58
18:k:2:TYR:HD2	18:k:13:LYS:HD2	1.67	0.58
3:b:98:ASP:HA	3:b:101:LYS:HE3	1.85	0.58
4:U:828:A:H2'	4:U:829:U:H4'	1.86	0.58
4:U:978:C:H2'	4:U:979:C:H6	1.68	0.58
4:U:1494:G:O6	4:U:1505:U:O4	2.22	0.58
7:Y:132:ASP:OD1	7:Y:133:THR:N	2.35	0.58
12:e:136:VAL:HG11	12:e:143:ALA:HB2	1.85	0.58
17:j:95:LEU:HD13	18:k:4:ILE:HD13	1.86	0.58
29:v:9:LEU:N	29:v:13:GLU:OE2	2.32	0.58
1:B:135:GLU:HA	2:V:52:G:H5'	1.84	0.58
4:U:805:G:H2'	4:U:806:A:O4'	2.03	0.58
4:U:1515:A:H2'	4:U:1516:G:C8	2.39	0.58
4:U:2259:C:OP2	28:u:27:ARG:NH2	2.35	0.58
6:X:55:ASP:HA	6:X:77:LYS:HA	1.86	0.58
4:U:291:U:H2'	4:U:292:G:H8	1.68	0.58
4:U:1288:G:N7	12:e:18:ARG:NH2	2.52	0.58
4:U:2098:A:H2'	4:U:2099:G:C8	2.39	0.58
4:U:2836:U:H2'	4:U:2837:C:H6	1.67	0.58
6:X:87:GLU:OE1	6:X:89:ASP:N	2.34	0.58
11:d:12:ASP:N	11:d:12:ASP:OD1	2.34	0.58
20:m:19:ASP:O	20:m:22:THR:HG22	2.04	0.58
22:o:83:ASP:N	22:o:83:ASP:OD1	2.36	0.58
2:V:2:U:H2'	2:V:3:U:C6	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:Z:12:ILE:HG23	8:Z:16:LEU:HD23	1.86	0.57
13:f:34:ILE:HG23	13:f:118:LEU:HD13	1.85	0.57
3:b:103:HIS:ND1	3:b:108:ILE:O	2.37	0.57
4:U:2670:G:H2'	4:U:2671:A:H8	1.69	0.57
8:Z:45:GLN:HE22	8:Z:79:LEU:HB2	1.69	0.57
11:d:64:ARG:NE	11:d:81:GLU:OE2	2.37	0.57
16:i:10:ASP:OD1	16:i:11:ILE:N	2.38	0.57
3:b:123:VAL:HG13	3:b:124:LYS:HG3	1.86	0.57
4:U:1120:C:N3	4:U:1122:C:O2'	2.37	0.57
4:U:257:A:H2'	4:U:258:A:H8	1.69	0.57
4:U:1552:U:O2	4:U:1553:A:N6	2.37	0.57
4:U:2177:U:N3	4:U:2199:U:O2	2.27	0.57
8:Z:11:GLU:HG3	8:Z:12:ILE:HG12	1.86	0.57
1:B:82:ARG:HH12	1:B:143:ARG:HE	1.52	0.57
4:U:291:U:H2'	4:U:292:G:C8	2.40	0.57
4:U:1806:U:O2	4:U:1810:A:N6	2.37	0.57
4:U:1817:C:H2'	4:U:1818:A:C8	2.40	0.57
4:U:1963:A:H2	4:U:1970:U:H3	1.52	0.57
4:U:2829:A:H2'	4:U:2830:G:C8	2.39	0.57
4:U:525:A:OP2	21:n:43:LYS:NZ	2.34	0.57
4:U:1525:C:O2'	4:U:1526:U:O5'	2.23	0.57
4:U:1527:G:OP2	4:U:1553:A:N6	2.37	0.57
9:a:9:LEU:HB2	9:a:51:LEU:HB2	1.86	0.57
2:V:-1:U:H2'	2:V:0:G:H8	1.70	0.57
4:U:1185:U:H4'	4:U:1186:A:O4'	2.04	0.57
4:U:1579:A:C8	4:U:1580:U:H5	2.22	0.57
4:U:2127:G:O6	4:U:2216:U:O4	2.23	0.57
12:e:146:ILE:OXT	12:e:146:ILE:HG22	2.02	0.57
1:A:136:MET:N	1:A:136:MET:SD	2.78	0.57
10:c:32:GLU:OE1	10:c:32:GLU:N	2.35	0.57
1:A:142:GLN:NE2	4:U:2221:U:OP1	2.31	0.57
4:U:1315:G:H2'	4:U:1316:G:H8	1.70	0.57
5:W:145:GLU:HG3	5:W:188:CYS:HB3	1.87	0.57
4:U:2:U:H2'	4:U:3:A:H8	1.70	0.56
4:U:351:A:N7	4:U:372:A:N6	2.53	0.56
4:U:2318:U:H2'	4:U:2319:U:C6	2.40	0.56
1:A:138:ARG:NH1	4:U:2220:C:O2'	2.38	0.56
7:Y:151:LYS:HB3	7:Y:190:GLU:H	1.69	0.56
1:B:39:ILE:HG22	1:B:43:LYS:HE3	1.86	0.56
1:A:150:ILE:O	1:A:161:ARG:NH1	2.35	0.56
4:U:271:A:OP2	4:U:295:G:N1	2.33	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1325:U:H5	4:U:1363:U:H3	1.53	0.56
4:U:1424:A:H5'	4:U:1513:C:H1'	1.86	0.56
4:U:1629:A:H4'	4:U:1630:G:H4'	1.86	0.56
6:X:167:GLU:OE1	6:X:167:GLU:N	2.38	0.56
8:Z:40:VAL:HG13	8:Z:43:ALA:HB2	1.86	0.56
10:c:53:ASP:N	10:c:53:ASP:OD1	2.38	0.56
4:U:411:U:H2'	4:U:412:C:H6	1.71	0.56
4:U:459:C:H2'	4:U:460:A:H8	1.71	0.56
4:U:1825:U:OP2	5:W:274:ARG:NH2	2.38	0.56
6:X:145:SER:OG	6:X:146:MET:N	2.39	0.56
4:U:2334:G:H4'	4:U:2335:G:H5''	1.86	0.56
4:U:687:A:N6	4:U:2396:A:O2'	2.38	0.56
4:U:1113:A:H4'	4:U:1114:A:H5''	1.86	0.56
4:U:1121:A:N1	4:U:1123:C:H4'	2.21	0.56
4:U:1541:U:H5''	4:U:1542:C:H5	1.71	0.56
4:U:1683:A:H2'	4:U:1684:A:H8	1.70	0.56
14:g:93:GLU:OE1	14:g:93:GLU:N	2.38	0.56
17:j:108:GLN:HE21	18:k:45:ASN:HD21	1.52	0.56
3:b:21:GLU:OE2	3:b:24:SER:OG	2.24	0.56
4:U:2406:G:H2'	4:U:2407:U:H6	1.69	0.56
4:U:2165:C:H2'	4:U:2166:G:C8	2.40	0.56
4:U:2707:C:H5'	6:X:193:PRO:HA	1.88	0.56
4:U:1105:U:H1'	4:U:1132:A:H62	1.71	0.56
4:U:2103:U:OP2	4:U:2265:G:N2	2.34	0.56
4:U:2168:A:H62	4:U:2178:U:H3	1.52	0.56
4:U:2186:G:HO2'	4:U:2187:G:P	2.28	0.56
4:U:2715:G:N1	4:U:2747:U:OP2	2.25	0.56
7:Y:77:SER:OG	7:Y:78:ILE:N	2.38	0.56
10:c:126:TYR:HH	10:c:133:HIS:HE2	1.52	0.56
3:b:59:MET:HE2	4:U:1091:G:C8	2.42	0.55
4:U:109:U:O2'	4:U:110:U:OP1	2.22	0.55
4:U:276:A:H2'	4:U:277:A:H8	1.70	0.55
4:U:1079:U:OP1	9:a:60:LYS:NZ	2.32	0.55
4:U:1112:G:N2	4:U:1139:A:H62	2.04	0.55
4:U:1123:C:C2	4:U:1124:A:C8	2.95	0.55
4:U:2333:U:O4'	8:Z:133:LYS:NZ	2.38	0.55
19:l:11:ARG:HH21	19:l:98:LYS:HD2	1.70	0.55
3:b:61:ARG:NE	3:b:65:GLU:OE1	2.39	0.55
3:b:123:VAL:HG22	3:b:124:LYS:H	1.71	0.55
4:U:3:A:H2'	4:U:4:A:H8	1.72	0.55
4:U:285:G:H3'	4:U:286:C:C5	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1041:G:H4'	17:j:92:ARG:NH1	2.21	0.55
4:U:1829:A:H2'	4:U:1830:A:C8	2.42	0.55
4:U:2372:G:OP2	24:q:34:LYS:NZ	2.37	0.55
7:Y:148:VAL:HG12	7:Y:191:LYS:HD2	1.88	0.55
4:U:276:A:H2'	4:U:277:A:C8	2.41	0.55
4:U:1137:G:N2	4:U:1142:A:N6	2.11	0.55
4:U:1476:G:H2'	4:U:1477:G:C8	2.41	0.55
14:g:72:ASN:ND2	14:g:74:GLU:OE2	2.35	0.55
4:U:322:A:H2'	4:U:323:A:O4'	2.06	0.55
4:U:1056:U:OP2	17:j:70:ARG:NH2	2.39	0.55
4:U:1764:C:H2'	4:U:1765:A:O4'	2.06	0.55
8:Z:36:ILE:HD11	8:Z:152:MET:HG2	1.88	0.55
11:d:80:ASP:N	11:d:80:ASP:OD1	2.39	0.55
12:e:92:THR:HG23	12:e:95:LEU:H	1.72	0.55
15:h:32:ASN:OD1	15:h:33:VAL:N	2.40	0.55
16:i:37:GLU:OE2	16:i:40:ARG:N	2.27	0.55
2:V:38:U:N3	2:V:42:G:OP2	2.40	0.55
4:U:80:G:H22	4:U:102:C:N4	2.05	0.55
4:U:578:U:H2'	4:U:579:C:C6	2.41	0.55
4:U:971:G:H2'	4:U:972:A:H8	1.71	0.55
4:U:1527:G:OP1	4:U:1552:U:N3	2.26	0.55
4:U:2208:G:H22	4:U:2209:G:N2	2.04	0.55
9:a:85:GLU:HB2	9:a:134:VAL:O	2.07	0.55
18:k:48:VAL:HG22	18:k:53:VAL:HB	1.87	0.55
20:m:40:LYS:HG3	20:m:51:VAL:HG11	1.89	0.55
4:U:287:C:O2'	4:U:288:U:H6	1.89	0.55
4:U:312:A:H3'	4:U:313:C:C6	2.42	0.55
4:U:969:A:O2'	4:U:970:U:H5'	2.06	0.55
4:U:1459:A:H61	4:U:1628:G:H1'	1.72	0.55
4:U:2332:U:O3'	8:Z:133:LYS:NZ	2.38	0.55
11:d:65:THR:OG1	11:d:67:SER:O	2.15	0.55
4:U:3:A:H2'	4:U:4:A:C8	2.42	0.55
4:U:1044:A:H2'	4:U:1045:A:C8	2.41	0.55
4:U:1137:G:C2	4:U:1143:G:C6	2.94	0.55
4:U:1377:U:OP2	20:m:59:TYR:OH	2.25	0.55
4:U:1816:A:OP2	5:W:221:ARG:NH2	2.40	0.55
4:U:2120:G:N3	4:U:2225:A:N6	2.54	0.55
4:U:2161:A:H2'	4:U:2162:A:C5	2.41	0.55
4:U:2342:U:H2'	4:U:2343:U:C6	2.42	0.55
4:U:2687:A:H2'	4:U:2688:G:O4'	2.06	0.55
4:U:1149:U:H2'	4:U:1150:G:C8	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:2346:C:H4'	4:U:2347:A:H5'	1.88	0.55
11:d:111:PHE:HB3	11:d:114:ILE:HD12	1.88	0.55
20:m:32:VAL:HG23	20:m:33:ARG:HG3	1.89	0.55
21:n:24:LEU:HG	21:n:36:GLU:HB3	1.89	0.55
4:U:1578:A:C6	4:U:1579:A:H1'	2.41	0.55
4:U:1817:C:H2'	4:U:1818:A:N7	2.22	0.55
4:U:2663:U:O2'	6:X:46:TYR:OH	2.25	0.55
8:Z:6:GLU:OE1	8:Z:6:GLU:N	2.38	0.55
2:V:35:C:O2	2:V:46:A:O2'	2.24	0.55
3:b:15:ILE:HG12	3:b:66:GLN:NE2	2.22	0.55
4:U:2139:A:N3	4:U:2196:G:N1	2.55	0.55
8:Z:175:MET:HB2	8:Z:177:PHE:CZ	2.42	0.55
4:U:137:A:O2'	4:U:1447:C:OP1	2.19	0.54
4:U:920:A:OP2	4:U:921:C:N4	2.40	0.54
21:n:100:VAL:HG22	21:n:101:LEU:HG	1.88	0.54
4:U:1781:C:H5	16:i:97:ARG:HH21	1.56	0.54
5:W:72:ASP:OD1	5:W:72:ASP:N	2.39	0.54
12:e:99:THR:HG23	12:e:101:VAL:HG13	1.89	0.54
21:n:85:VAL:HG21	21:n:93:VAL:HG21	1.89	0.54
1:B:181:ARG:O	1:B:185:GLY:N	2.41	0.54
3:b:15:ILE:HA	3:b:18:LYS:HG2	1.89	0.54
4:U:935:C:H3'	4:U:936:G:H8	1.70	0.54
4:U:1463:A:H2'	4:U:1465:G:N7	2.23	0.54
4:U:1763:G:N2	4:U:1766:A:OP2	2.40	0.54
4:U:1875:A:H2'	4:U:1876:G:O4'	2.07	0.54
4:U:1934:G:O6	4:U:1951:C:N4	2.40	0.54
9:a:156:GLU:OE1	9:a:159:LYS:N	2.32	0.54
12:e:73:GLU:OE1	12:e:73:GLU:N	2.40	0.54
15:h:29:PRO:HD2	15:h:93:VAL:HG12	1.90	0.54
24:q:28:ASP:OD1	24:q:28:ASP:N	2.40	0.54
3:b:28:VAL:HG21	3:b:109:LYS:HE2	1.87	0.54
4:U:284:U:H3'	4:U:285:G:H8	1.72	0.54
4:U:409:G:H21	4:U:410:A:N6	2.05	0.54
4:U:2124:G:H2'	4:U:2125:U:C6	2.42	0.54
8:Z:36:ILE:HB	8:Z:154:ILE:HD13	1.90	0.54
10:c:20:ASP:OD1	10:c:59:ASN:ND2	2.40	0.54
14:g:9:THR:HB	14:g:12:GLN:HG3	1.90	0.54
3:b:24:SER:C	3:b:116:LYS:HB2	2.32	0.54
4:U:1089:U:O2	4:U:1091:G:N1	2.41	0.54
4:U:2060:A:O2'	4:U:2062:G:OP2	2.19	0.54
9:a:61:GLU:OE1	9:a:61:GLU:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:h:35:ARG:HA	15:h:40:ILE:HD12	1.90	0.54
4:U:1149:U:H2'	4:U:1150:G:H8	1.72	0.54
4:U:1516:G:N2	4:U:1564:G:H1	2.04	0.54
23:p:35:GLU:N	23:p:35:GLU:OE1	2.41	0.54
2:V:30:C:C2	2:V:49:G:C2	2.95	0.54
3:b:77:THR:HB	3:b:82:ILE:HD11	1.90	0.54
4:U:219:G:H22	4:U:236:U:H4'	1.72	0.54
4:U:314:G:H2'	4:U:315:G:H8	1.72	0.54
5:W:243:ARG:NE	5:W:247:MET:SD	2.80	0.54
7:Y:40:GLN:HE22	7:Y:182:ASN:ND2	2.05	0.54
8:Z:9:ASN:HB2	8:Z:10:LYS:NZ	2.22	0.54
4:U:1513:C:H2'	4:U:1514:A:C8	2.40	0.54
4:U:1576:G:H3'	4:U:1584:G:H1	1.73	0.54
4:U:1692:G:O2'	14:g:110:ASP:OD2	2.24	0.54
4:U:2653:C:H2'	4:U:2654:G:H8	1.72	0.54
10:c:134:GLU:N	10:c:134:GLU:OE2	2.41	0.54
2:V:43:A:H5''	8:Z:92:ARG:HD2	1.90	0.54
4:U:1900:G:H2'	4:U:1901:C:C6	2.42	0.54
4:U:2162:A:N7	4:U:2185:A:H4'	2.23	0.54
4:U:2863:U:H2'	4:U:2864:C:C6	2.43	0.54
9:a:59:GLN:O	9:a:63:ARG:NE	2.32	0.54
18:k:56:ALA:HB2	18:k:102:ALA:O	2.08	0.54
1:B:156:ARG:NH1	2:V:55:A:OP1	2.37	0.54
4:U:1847:U:OP1	5:W:177:ASN:ND2	2.33	0.54
4:U:2431:C:H2'	4:U:2432:G:O4'	2.08	0.54
1:B:15:THR:HG23	1:B:26:THR:HG21	1.90	0.53
4:U:1:U:H2'	4:U:2:U:C6	2.43	0.53
4:U:41:G:O2'	4:U:42:A:OP1	2.26	0.53
4:U:400:U:H2'	4:U:401:C:C6	2.44	0.53
4:U:1290:G:H1	17:j:37:GLN:HE21	1.55	0.53
4:U:1458:G:H1'	4:U:1629:A:N6	2.22	0.53
8:Z:13:ALA:HB3	8:Z:14:PRO:HD3	1.90	0.53
8:Z:165:GLU:OE1	8:Z:165:GLU:N	2.41	0.53
9:a:78:GLU:O	9:a:81:SER:OG	2.21	0.53
24:q:19:SER:OG	24:q:20:LYS:N	2.42	0.53
3:b:117:VAL:HG13	3:b:119:THR:O	2.09	0.53
4:U:1104:U:OP2	4:U:1106:G:O2'	2.26	0.53
5:W:19:SER:OG	5:W:20:ASP:N	2.41	0.53
3:b:34:ASN:HB3	4:U:1100:G:H5'	1.90	0.53
3:b:43:LYS:O	3:b:46:ARG:HG2	2.08	0.53
4:U:411:U:H2'	4:U:412:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1119:C:H2'	4:U:1120:C:H4'	1.91	0.53
4:U:1617:A:H2'	4:U:1618:A:C8	2.43	0.53
8:Z:7:LYS:O	8:Z:11:GLU:HG2	2.08	0.53
9:a:145:ILE:HA	9:a:148:ASN:HD22	1.73	0.53
15:h:103:HIS:O	15:h:107:LYS:HB3	2.08	0.53
4:U:970:U:C2	4:U:971:G:C8	2.97	0.53
4:U:2540:A:H2'	4:U:2541:U:C6	2.44	0.53
1:B:175:ALA:O	1:B:179:VAL:HG23	2.08	0.53
3:b:54:VAL:HG21	4:U:1127:U:H4'	1.89	0.53
4:U:281:G:H2'	4:U:282:C:O4'	2.08	0.53
4:U:1063:U:OP1	4:U:1079:U:O2'	2.24	0.53
4:U:1515:A:C6	4:U:1516:G:C6	2.96	0.53
4:U:1839:G:H1'	5:W:45:ASN:HD22	1.74	0.53
4:U:2812:U:O3'	6:X:71:LYS:NZ	2.42	0.53
5:W:23:GLU:OE1	5:W:23:GLU:N	2.42	0.53
8:Z:6:GLU:O	8:Z:10:LYS:HG2	2.09	0.53
16:i:117:ARG:HD3	16:i:118:ARG:O	2.09	0.53
4:U:192:A:H2'	4:U:193:C:C6	2.43	0.53
4:U:631:U:H2'	4:U:632:A:C8	2.43	0.53
4:U:922:U:O2	4:U:945:A:N6	2.24	0.53
4:U:1818:A:C2	4:U:1856:A:H4'	2.44	0.53
4:U:2141:A:N1	4:U:2195:G:N2	2.39	0.53
5:W:144:ILE:HB	5:W:154:LEU:HB2	1.91	0.53
8:Z:42:ASP:C	8:Z:44:VAL:H	2.15	0.53
8:Z:80:ARG:O	8:Z:80:ARG:HG2	2.09	0.53
3:b:21:GLU:HG3	3:b:23:LYS:O	2.09	0.53
4:U:279:A:O2'	4:U:280:G:H5'	2.09	0.53
4:U:787:C:H2'	4:U:788:A:C8	2.44	0.53
4:U:1207:G:OP1	18:k:24:LYS:NZ	2.39	0.53
4:U:1578:A:H2'	4:U:1580:U:OP1	2.08	0.53
4:U:1936:C:H2'	4:U:1937:G:H8	1.74	0.53
1:B:157:GLN:O	1:B:157:GLN:NE2	2.41	0.53
4:U:629:G:OP2	12:e:21:ARG:NH1	2.29	0.53
4:U:674:G:N2	4:U:677:A:OP2	2.38	0.53
4:U:1120:C:H3'	4:U:1121:A:C5'	2.38	0.53
4:U:1481:A:H2'	4:U:1482:U:H6	1.74	0.53
4:U:1723:U:N3	4:U:1791:G:OP2	2.41	0.53
4:U:2208:G:N1	4:U:2209:G:C6	2.77	0.53
3:b:31:ARG:N	4:U:1098:A:O2'	2.42	0.53
3:b:62:ARG:HG2	3:b:63:ALA:N	2.23	0.53
4:U:969:A:H2'	4:U:970:U:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1576:G:O6	4:U:1584:G:O2'	2.24	0.53
4:U:1944:U:O2'	4:U:1990:C:OP1	2.19	0.53
4:U:2822:G:N2	4:U:2825:A:OP2	2.39	0.53
7:Y:113:VAL:HG21	7:Y:183:VAL:HG23	1.90	0.53
15:h:19:ARG:HE	15:h:30:ARG:CZ	2.21	0.53
18:k:40:PHE:H	18:k:48:VAL:CG2	2.22	0.53
4:U:197:A:H2	12:e:38:GLN:HE22	1.56	0.53
4:U:760:A:H2'	4:U:761:A:C5	2.44	0.53
13:f:40:SER:OG	13:f:41:TRP:N	2.42	0.53
24:q:29:ARG:HH21	24:q:48:THR:HA	1.74	0.53
4:U:2132:A:C2	4:U:2212:G:C6	2.98	0.52
4:U:2318:U:H2'	4:U:2319:U:H6	1.74	0.52
6:X:28:ILE:HD13	6:X:200:ILE:HG21	1.90	0.52
10:c:26:LEU:HD13	10:c:63:ILE:HG21	1.90	0.52
4:U:1436:C:H2'	4:U:1437:U:C6	2.44	0.52
4:U:1577:A:H62	4:U:1585:U:H3	1.57	0.52
4:U:2126:U:O2	4:U:2217:G:O6	2.27	0.52
10:c:10:SER:O	10:c:10:SER:OG	2.26	0.52
4:U:280:G:C2	4:U:288:U:C2	2.97	0.52
4:U:363:U:OP1	7:Y:135:LYS:NZ	2.42	0.52
4:U:407:U:H2'	4:U:408:G:C8	2.45	0.52
4:U:921:C:O2'	4:U:922:U:O5'	2.26	0.52
4:U:2333:U:H2'	4:U:2334:G:H21	1.75	0.52
4:U:2479:C:H2'	4:U:2480:A:C8	2.44	0.52
11:d:71:ARG:HH12	11:d:104:ARG:HD3	1.73	0.52
17:j:83:LEU:HD22	17:j:89:GLU:HG3	1.90	0.52
1:B:65:ARG:NH2	1:B:78:ALA:O	2.41	0.52
1:B:121:ILE:HB	1:B:163:LYS:HD3	1.91	0.52
4:U:696:C:O2	4:U:696:C:H2'	2.09	0.52
4:U:1472:C:O2'	4:U:1615:A:OP2	2.21	0.52
4:U:1877:G:H2'	4:U:1878:U:C6	2.44	0.52
4:U:2418:G:N1	4:U:2451:C:O2'	2.41	0.52
7:Y:154:ILE:HB	7:Y:175:VAL:HG12	1.90	0.52
10:c:21:ALA:HB1	10:c:63:ILE:HD11	1.92	0.52
1:B:34:VAL:HG11	1:B:68:ILE:HD11	1.92	0.52
1:B:114:THR:HG1	1:B:117:TRP:CD1	2.27	0.52
4:U:1153:C:O2'	4:U:1154:G:O4'	2.28	0.52
4:U:1674:G:N2	4:U:1677:A:OP2	2.38	0.52
4:U:2153:A:N6	4:U:2189:A:O2'	2.38	0.52
4:U:2192:G:OP2	4:U:2198:A:N6	2.43	0.52
7:Y:29:ASN:OD1	7:Y:30:GLU:N	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:144:U:H2'	4:U:145:G:H8	1.74	0.52
4:U:896:U:H2'	4:U:897:C:H6	1.75	0.52
4:U:2663:U:HO2'	6:X:46:TYR:HH	1.57	0.52
8:Z:69:ARG:HA	8:Z:84:PRO:HA	1.92	0.52
21:n:35:VAL:HG13	21:n:38:VAL:HB	1.92	0.52
3:b:22:SER:O	3:b:118:SER:HA	2.08	0.52
3:b:103:HIS:CE1	3:b:108:ILE:HB	2.44	0.52
4:U:940:U:H5''	4:U:941:A:O4'	2.10	0.52
4:U:1094:A:H3'	4:U:1095:A:H8	1.75	0.52
4:U:1121:A:OP2	4:U:1121:A:H4'	2.10	0.52
16:i:30:ARG:NE	16:i:88:GLU:OE1	2.36	0.52
20:m:31:ASP:OD1	20:m:32:VAL:N	2.43	0.52
28:u:40:VAL:HG22	28:u:41:ASN:ND2	2.23	0.52
4:U:678:G:H2'	4:U:679:C:C6	2.44	0.52
4:U:1579:A:H8	4:U:1580:U:H5	1.58	0.52
4:U:1827:C:P	5:W:182:ARG:HH12	2.33	0.52
4:U:2457:A:N3	4:U:2457:A:H2'	2.25	0.52
8:Z:110:ARG:HH21	8:Z:136:LEU:HD23	1.75	0.52
13:f:70:PRO:HA	13:f:95:ALA:HB2	1.90	0.52
13:f:79:LEU:HD23	13:f:79:LEU:H	1.74	0.52
21:n:2:HIS:O	21:n:92:ARG:NH2	2.42	0.52
22:o:22:ARG:H	22:o:22:ARG:HD3	1.75	0.52
4:U:57:G:O2'	4:U:72:U:OP2	2.26	0.52
4:U:1123:C:H2'	4:U:1124:A:C8	2.44	0.52
4:U:1491:C:H2'	4:U:1492:G:C8	2.45	0.52
8:Z:135:GLN:O	8:Z:145:LYS:NZ	2.41	0.52
9:a:89:GLU:OE2	9:a:90:LEU:N	2.43	0.52
21:n:53:GLN:N	21:n:53:GLN:OE1	2.43	0.52
21:n:87:ASP:N	21:n:87:ASP:OD1	2.42	0.52
29:v:1:MET:HE3	29:v:4:ASN:HD22	1.75	0.52
4:U:254:C:OP2	26:s:5:LYS:NZ	2.34	0.52
4:U:435:A:O2'	4:U:436:A:H8	1.92	0.52
4:U:1752:U:H2'	4:U:1753:C:C6	2.45	0.52
4:U:2772:C:H2'	4:U:2773:U:C6	2.44	0.52
5:W:198:GLU:OE1	5:W:198:GLU:N	2.25	0.52
8:Z:119:LYS:HG2	8:Z:167:ARG:HG2	1.92	0.52
4:U:397:C:H2'	4:U:398:U:O4'	2.09	0.51
4:U:1104:U:H3	4:U:1123:C:H42	1.57	0.51
4:U:1130:A:H5''	4:U:1131:G:H5'	1.91	0.51
4:U:1586:A:C6	4:U:1587:G:C4	2.97	0.51
4:U:1900:G:H2'	4:U:1901:C:H6	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:2863:U:H2'	4:U:2864:C:H6	1.74	0.51
28:u:40:VAL:HG22	28:u:41:ASN:HD22	1.75	0.51
4:U:683:U:H2'	4:U:684:C:C6	2.45	0.51
4:U:935:C:H3'	4:U:936:G:C8	2.45	0.51
4:U:1250:G:O2'	4:U:1274:G:N2	2.29	0.51
4:U:2194:U:H5''	4:U:2195:G:O4'	2.10	0.51
4:U:2355:A:H2'	4:U:2356:A:H8	1.74	0.51
4:U:2357:G:H21	22:o:50:GLY:HA2	1.75	0.51
4:U:2921:A:H2'	4:U:2922:A:C8	2.46	0.51
8:Z:32:GLU:N	8:Z:32:GLU:OE1	2.43	0.51
1:B:46:LYS:HA	1:B:50:GLY:HA2	1.92	0.51
4:U:459:C:H2'	4:U:460:A:C8	2.45	0.51
4:U:1617:A:H2'	4:U:1618:A:H8	1.75	0.51
4:U:2622:G:N2	4:U:2625:A:OP2	2.42	0.51
4:U:192:A:H2'	4:U:193:C:H6	1.75	0.51
4:U:325:G:O6	4:U:398:U:O4	2.27	0.51
4:U:978:C:H2'	4:U:979:C:C6	2.46	0.51
4:U:2167:G:P	4:U:2171:G:H1	2.33	0.51
1:A:154:ASN:CG	1:A:157:GLN:HG2	2.35	0.51
4:U:290:U:H2'	4:U:291:U:C6	2.45	0.51
4:U:972:A:H2'	4:U:973:C:H6	1.76	0.51
4:U:1115:G:N3	4:U:1133:G:O2'	2.36	0.51
4:U:1489:A:N6	4:U:1510:G:N1	2.58	0.51
4:U:1873:G:H2'	4:U:1874:A:C8	2.45	0.51
4:U:1895:C:C2	4:U:1896:G:H1'	2.45	0.51
4:U:2153:A:H4'	4:U:2154:G:H5'	1.92	0.51
14:g:100:ARG:HH21	14:g:120:VAL:HG23	1.75	0.51
18:k:28:GLU:OE1	18:k:28:GLU:N	2.44	0.51
2:V:37:A:H2'	2:V:38:U:C6	2.44	0.51
4:U:1552:U:H4'	4:U:1553:A:C8	2.45	0.51
4:U:1556:G:H2'	4:U:1557:C:C6	2.45	0.51
4:U:2091:C:H2'	4:U:2092:C:C6	2.46	0.51
2:V:40:C:H2'	2:V:41:C:C6	2.45	0.51
4:U:1216:U:HO2'	4:U:1217:C:P	2.32	0.51
4:U:1474:C:H2'	4:U:1475:A:H8	1.76	0.51
4:U:1571:C:H2'	4:U:1572:G:O4'	2.11	0.51
4:U:1578:A:N7	4:U:1579:A:H1'	2.26	0.51
4:U:1583:A:C2'	4:U:1584:G:H4'	2.40	0.51
4:U:1823:U:H2'	4:U:1824:C:C6	2.46	0.51
17:j:74:LEU:HD11	17:j:114:LYS:HB2	1.93	0.51
4:U:1101:A:H62	4:U:1131:G:P	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1314:A:H2'	4:U:1315:G:C8	2.46	0.51
4:U:2372:G:N3	4:U:2408:C:H2'	2.26	0.51
1:A:138:ARG:NH2	4:U:2221:U:O2'	2.44	0.51
4:U:2347:A:H5''	4:U:2348:G:C8	2.45	0.51
8:Z:44:VAL:HA	8:Z:77:PHE:HE2	1.75	0.51
26:s:9:GLY:O	26:s:13:ARG:NH1	2.43	0.51
1:B:114:THR:HG21	1:B:166:ARG:HB2	1.91	0.50
4:U:456:G:OP2	4:U:2433:C:O2'	2.29	0.50
21:n:86:GLU:OE1	21:n:90:LYS:N	2.43	0.50
21:n:87:ASP:O	21:n:89:LYS:NZ	2.44	0.50
2:V:48:G:HO2'	2:V:49:G:H8	1.58	0.50
2:V:118:A:H2'	2:V:119:G:H8	1.75	0.50
1:A:161:ARG:HA	1:A:164:VAL:HG12	1.93	0.50
4:U:2091:C:H2'	4:U:2092:C:H6	1.76	0.50
4:U:2217:G:O2'	4:U:2218:A:H5'	2.10	0.50
14:g:22:THR:HG22	14:g:66:ILE:HG23	1.94	0.50
21:n:72:ASP:OD2	21:n:75:THR:N	2.29	0.50
1:B:64:ILE:O	1:B:68:ILE:HG12	2.11	0.50
3:b:34:ASN:HB3	4:U:1100:G:C5'	2.41	0.50
4:U:8:A:N1	4:U:9:G:N2	2.59	0.50
8:Z:124:GLY:O	8:Z:163:ASP:N	2.44	0.50
16:i:27:ASP:OD1	16:i:27:ASP:N	2.41	0.50
25:r:8:ASN:OD1	25:r:9:ASN:N	2.45	0.50
3:b:81:ALA:HA	4:U:1151:G:H4'	1.93	0.50
4:U:1337:A:H4'	4:U:1338:A:O5'	2.10	0.50
8:Z:9:ASN:HB2	8:Z:10:LYS:HZ2	1.76	0.50
12:e:51:GLU:OE2	26:s:57:ARG:NH2	2.44	0.50
1:B:167:ILE:HG21	1:B:172:PHE:CZ	2.46	0.50
3:b:27:ILE:HB	3:b:83:ALA:HB3	1.93	0.50
4:U:175:G:H2'	4:U:176:A:C8	2.47	0.50
4:U:719:G:H5''	7:Y:76:GLY:H	1.77	0.50
4:U:1086:G:C6	4:U:1158:G:C5	2.99	0.50
4:U:1357:G:N2	4:U:1368:C:N4	2.59	0.50
5:W:157:SER:OG	5:W:158:ALA:N	2.45	0.50
4:U:1263:A:OP1	18:k:70:LYS:NZ	2.34	0.50
4:U:513:G:OP2	25:r:37:LYS:NZ	2.42	0.50
4:U:1086:G:H2'	4:U:1087:C:H6	1.77	0.50
4:U:1452:C:H2'	4:U:1453:C:C2	2.47	0.50
1:B:66:ARG:HH12	2:V:22:G:P	2.34	0.50
4:U:1051:C:OP1	10:c:40:LYS:NZ	2.42	0.50
4:U:1456:U:H1'	4:U:1458:G:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1483:A:N1	4:U:1598:G:H8	2.10	0.50
4:U:1563:U:H2'	4:U:1564:G:C8	2.47	0.50
8:Z:123:ASP:OD2	8:Z:125:ARG:NH1	2.45	0.50
20:m:3:ASP:OD1	20:m:5:ARG:N	2.42	0.50
4:U:985:A:H2'	4:U:986:G:C8	2.47	0.50
4:U:2008:A:H2'	4:U:2008:A:N3	2.27	0.50
1:B:179:VAL:HA	1:B:182:GLU:CD	2.37	0.49
4:U:80:G:H22	4:U:102:C:H42	1.59	0.49
4:U:257:A:H2'	4:U:258:A:C8	2.46	0.49
4:U:714:G:H2'	4:U:714:G:N3	2.27	0.49
4:U:1577:A:N6	4:U:1585:U:H3	2.10	0.49
4:U:1897:U:H3	4:U:1899:A:H62	1.61	0.49
8:Z:122:PHE:CE1	8:Z:128:TYR:HD2	2.30	0.49
10:c:30:SER:HA	10:c:33:VAL:HG22	1.94	0.49
13:f:82:ARG:HH21	22:o:11:SER:N	2.10	0.49
18:k:50:ASN:OD1	18:k:50:ASN:N	2.44	0.49
2:V:-1:U:H2'	2:V:0:G:C8	2.46	0.49
1:A:146:GLU:O	1:A:149:LYS:NZ	2.38	0.49
4:U:637:C:H2'	4:U:638:C:H6	1.77	0.49
4:U:1240:U:H2'	4:U:1241:A:H8	1.77	0.49
4:U:1505:U:H2'	4:U:1506:C:C6	2.47	0.49
4:U:1569:G:C2'	4:U:1570:G:H5'	2.42	0.49
4:U:1700:U:H2'	4:U:1701:C:H6	1.76	0.49
6:X:6:LEU:H	6:X:33:ASN:HD21	1.60	0.49
6:X:13:THR:OG1	6:X:14:GLN:N	2.45	0.49
30:w:58:GLU:OE2	30:w:59:GLN:O	2.31	0.49
2:V:2:U:H2'	2:V:3:U:H6	1.77	0.49
4:U:288:U:C2	4:U:289:C:C5	3.00	0.49
4:U:2161:A:H2'	4:U:2162:A:C4	2.47	0.49
30:w:29:LYS:H	30:w:33:GLN:HE21	1.59	0.49
1:B:168:SER:OG	1:B:171:ALA:HB3	2.12	0.49
3:b:28:VAL:HG11	3:b:109:LYS:HG3	1.94	0.49
3:b:91:ALA:O	3:b:93:ALA:N	2.39	0.49
4:U:314:G:H2'	4:U:315:G:C8	2.47	0.49
4:U:766:G:H2'	4:U:767:A:H8	1.77	0.49
4:U:1063:U:H3	4:U:1186:A:H62	1.61	0.49
4:U:1318:G:H2'	4:U:1319:U:C6	2.47	0.49
4:U:1554:A:H2'	4:U:1555:G:H8	1.77	0.49
8:Z:166:ALA:O	8:Z:170:LEU:HG	2.13	0.49
9:a:39:HIS:CE1	9:a:41:ASP:HB3	2.45	0.49
10:c:115:LEU:HG	10:c:119:MET:HE3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:g:22:THR:HG21	14:g:67:ARG:H	1.77	0.49
3:b:8:LYS:HA	3:b:11:VAL:HG12	1.94	0.49
4:U:521:G:N1	4:U:524:A:OP2	2.41	0.49
4:U:696:C:C4	4:U:697:A:C5	3.00	0.49
4:U:1137:G:N2	4:U:1142:A:C5	2.80	0.49
4:U:1553:A:O2'	4:U:1554:A:H8	1.95	0.49
4:U:1554:A:H2'	4:U:1555:G:C8	2.48	0.49
4:U:1835:U:HO2'	4:U:1836:A:P	2.35	0.49
4:U:791:U:O2'	4:U:792:U:OP2	2.25	0.49
4:U:926:G:N2	4:U:944:G:OP1	2.45	0.49
4:U:991:A:H2'	4:U:992:C:C6	2.48	0.49
1:B:119:GLU:O	1:B:163:LYS:NZ	2.39	0.49
2:V:59:U:H2'	2:V:60:C:C6	2.48	0.49
1:A:135:GLU:OE1	1:A:138:ARG:NH1	2.46	0.49
3:b:53:LYS:HB2	3:b:84:PHE:HB3	1.95	0.49
4:U:1212:U:H2'	4:U:1213:U:H6	1.77	0.49
4:U:1489:A:H62	4:U:1510:G:H1	1.57	0.49
8:Z:4:LEU:HD13	8:Z:101:ASP:CG	2.38	0.49
8:Z:63:GLN:OE1	8:Z:95:ARG:NH1	2.45	0.49
14:g:32:THR:OG1	14:g:33:THR:N	2.46	0.49
16:i:67:ILE:HD11	16:i:107:ARG:HB2	1.95	0.49
22:o:48:GLN:OE1	22:o:52:LYS:N	2.40	0.49
2:V:111:C:H2'	2:V:112:C:H6	1.78	0.49
4:U:683:U:H2'	4:U:684:C:H6	1.78	0.49
4:U:1124:A:C4	4:U:1125:U:C5	3.01	0.49
7:Y:96:SER:OG	7:Y:97:TYR:N	2.45	0.49
8:Z:135:GLN:HE22	8:Z:150:ARG:H	1.59	0.49
20:m:22:THR:HG23	20:m:23:GLU:OE2	2.13	0.49
30:w:29:LYS:H	30:w:33:GLN:NE2	2.11	0.49
3:b:34:ASN:N	4:U:1099:G:O2'	2.45	0.49
3:b:106:LEU:HG	3:b:107:GLU:H	1.78	0.49
4:U:1182:G:N3	10:c:109:MET:HE2	2.27	0.49
4:U:1394:C:H2'	4:U:1395:G:O4'	2.12	0.49
4:U:1577:A:C5	4:U:1578:A:C6	3.01	0.49
4:U:1616:A:H2'	4:U:1617:A:C8	2.47	0.49
8:Z:4:LEU:HB2	8:Z:8:TYR:CZ	2.48	0.49
8:Z:106:VAL:HG21	8:Z:138:PHE:HD1	1.77	0.49
21:n:3:VAL:HA	21:n:92:ARG:HH22	1.78	0.49
29:v:9:LEU:HB3	29:v:13:GLU:CD	2.38	0.49
1:B:148:LEU:HD22	1:B:172:PHE:CE1	2.47	0.49
4:U:1752:U:H2'	4:U:1753:C:H6	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1865:C:N4	4:U:1926:A:OP2	2.28	0.49
4:U:2280:G:O6	22:o:12:LYS:HB2	2.12	0.49
4:U:1353:U:H2'	4:U:1354:G:H8	1.77	0.48
4:U:1452:C:H2'	4:U:1453:C:O2	2.13	0.48
4:U:1577:A:C5	4:U:1578:A:C5	3.01	0.48
4:U:2132:A:C2	4:U:2212:G:N1	2.81	0.48
4:U:2243:G:O2'	4:U:2244:G:H8	1.96	0.48
4:U:2337:A:O2'	4:U:2338:A:H5''	2.13	0.48
7:Y:152:ALA:HB3	7:Y:173:VAL:HG22	1.95	0.48
18:k:78:PRO:O	18:k:79:LYS:HG3	2.13	0.48
2:V:116:C:H2'	2:V:117:A:C8	2.48	0.48
3:b:103:HIS:HE1	3:b:108:ILE:HB	1.78	0.48
4:U:330:G:H2'	4:U:331:A:H8	1.78	0.48
4:U:1090:A:H3'	4:U:1091:G:H5'	1.94	0.48
4:U:1525:C:O2'	4:U:1526:U:O4'	2.27	0.48
4:U:1993:A:N3	4:U:2619:G:O2'	2.41	0.48
8:Z:38:MET:HB2	8:Z:57:LEU:HD11	1.94	0.48
15:h:65:VAL:HG11	15:h:76:LYS:HE3	1.95	0.48
23:p:32:SER:OG	23:p:46:CYS:SG	2.65	0.48
4:U:213:G:H2'	4:U:214:A:O4'	2.14	0.48
4:U:217:A:H2'	4:U:218:A:H8	1.78	0.48
4:U:943:C:H4'	4:U:944:G:H5'	1.94	0.48
4:U:1137:G:H21	4:U:1142:A:H62	0.56	0.48
4:U:1160:C:H2'	4:U:1161:U:H6	1.78	0.48
4:U:1523:G:H2'	4:U:1524:G:C8	2.48	0.48
4:U:2138:U:O2'	4:U:2140:C:OP1	2.29	0.48
8:Z:68:THR:OG1	8:Z:85:ILE:O	2.31	0.48
8:Z:81:GLU:H	8:Z:83:MET:HE2	1.79	0.48
8:Z:110:ARG:O	8:Z:112:ARG:NH2	2.47	0.48
18:k:62:VAL:HA	18:k:95:VAL:HG12	1.95	0.48
3:b:44:GLN:O	3:b:48:ALA:N	2.46	0.48
3:b:48:ALA:HB3	3:b:52:PHE:HE1	1.77	0.48
4:U:2:U:H2'	4:U:3:A:C8	2.47	0.48
4:U:1129:A:N7	4:U:1130:A:N6	2.62	0.48
4:U:1683:A:H2'	4:U:1684:A:C8	2.47	0.48
4:U:2832:A:H2'	4:U:2833:A:C8	2.49	0.48
4:U:2921:A:H2'	4:U:2922:A:H8	1.79	0.48
8:Z:52:SER:HA	8:Z:55:GLU:CD	2.39	0.48
15:h:25:THR:HG23	15:h:27:GLU:H	1.78	0.48
21:n:60:GLU:N	21:n:60:GLU:OE1	2.46	0.48
22:o:35:ASP:OD1	22:o:36:GLY:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:q:8:ALA:HA	24:q:15:ARG:HA	1.95	0.48
27:t:27:CYS:SG	27:t:28:GLU:N	2.87	0.48
4:U:1109:U:C2	4:U:1110:U:H5	2.31	0.48
4:U:1450:C:H2'	4:U:1451:A:C8	2.49	0.48
4:U:1766:A:H2'	4:U:1767:G:O4'	2.13	0.48
4:U:2662:U:O2'	6:X:82:GLU:OE1	2.23	0.48
8:Z:46:ASN:C	8:Z:48:LYS:HG3	2.38	0.48
4:U:401:C:H2'	4:U:402:C:H6	1.79	0.48
4:U:695:G:C2	4:U:696:C:H5	2.31	0.48
4:U:971:G:H2'	4:U:972:A:C8	2.48	0.48
4:U:1575:C:H3'	4:U:1576:G:C8	2.47	0.48
4:U:1941:C:H2'	4:U:1988:C:O2'	2.13	0.48
4:U:2128:G:H2'	4:U:2129:U:C6	2.48	0.48
3:b:37:GLU:CD	4:U:1129:A:H61	2.21	0.48
4:U:330:G:H2'	4:U:331:A:C8	2.49	0.48
4:U:2146:A:H61	4:U:2193:G:H1'	1.78	0.48
4:U:2211:U:C4	4:U:2212:G:O6	2.66	0.48
4:U:2233:G:H2'	4:U:2234:C:C6	2.49	0.48
4:U:2505:A:OP2	27:t:2:LYS:NZ	2.41	0.48
10:c:25:THR:HB	10:c:28:ARG:HB2	1.96	0.48
10:c:48:HIS:CD2	10:c:49:VAL:HG23	2.48	0.48
4:U:289:C:H2'	4:U:290:U:C6	2.49	0.48
4:U:504:U:H5''	25:r:40:LYS:HE3	1.95	0.48
4:U:2652:G:H2'	4:U:2653:C:C6	2.48	0.48
17:j:105:ALA:HB1	18:k:40:PHE:HZ	1.79	0.48
4:U:704:C:H2'	4:U:705:G:H8	1.78	0.48
4:U:1072:A:H2'	4:U:1073:A:C8	2.49	0.48
4:U:1105:U:C4	4:U:1115:G:H5'	2.49	0.48
4:U:1451:A:H2'	4:U:1452:C:C6	2.48	0.48
4:U:1516:G:O2'	4:U:1517:C:OP1	2.31	0.48
4:U:1546:U:H2'	4:U:1547:U:C6	2.48	0.48
4:U:2139:A:O2'	4:U:2194:U:O4	2.28	0.48
4:U:2143:G:H3'	4:U:2144:A:C8	2.49	0.48
4:U:2216:U:C2	4:U:2217:G:C8	3.01	0.48
8:Z:2:ASN:ND2	8:Z:6:GLU:OE2	2.47	0.48
12:e:78:ASN:ND2	12:e:114:ASN:HB3	2.28	0.48
16:i:107:ARG:HG2	16:i:108:GLY:N	2.28	0.48
1:B:5:GLU:HG3	1:B:49:ARG:O	2.14	0.48
1:B:59:PHE:HA	2:V:23:U:O4	2.14	0.48
4:U:337:A:H2'	4:U:338:U:C6	2.49	0.48
4:U:642:G:H2'	4:U:643:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:682:G:H2'	4:U:683:U:C6	2.48	0.48
4:U:1094:A:H1'	4:U:2778:G:N2	2.28	0.48
4:U:1105:U:H1'	4:U:1132:A:N6	2.29	0.48
4:U:1152:U:H2'	4:U:1153:C:C6	2.48	0.48
4:U:1215:U:O2'	4:U:1216:U:H5''	2.14	0.48
4:U:1315:G:H2'	4:U:1316:G:C8	2.48	0.48
4:U:1982:U:O4	4:U:2583:C:N4	2.47	0.48
4:U:2124:G:H2'	4:U:2125:U:H6	1.79	0.48
4:U:2789:U:H2'	4:U:2790:G:O4'	2.14	0.48
10:c:43:PRO:HB2	17:j:100:VAL:HG11	1.94	0.48
13:f:51:ARG:HG3	13:f:66:ILE:HD11	1.96	0.48
4:U:158:G:O2'	4:U:166:A:N6	2.47	0.47
4:U:295:G:H2'	4:U:296:U:C6	2.49	0.47
4:U:1330:U:H2'	4:U:1331:C:C6	2.49	0.47
4:U:1437:U:H2'	4:U:1438:G:C8	2.50	0.47
4:U:1588:C:H2'	4:U:1589:G:O4'	2.14	0.47
4:U:2218:A:H2'	4:U:2219:C:C6	2.48	0.47
4:U:2826:G:H2'	4:U:2827:G:H8	1.79	0.47
11:d:105:GLU:OE1	11:d:105:GLU:N	2.47	0.47
16:i:28:THR:HA	16:i:48:GLY:O	2.14	0.47
28:u:19:SER:OG	28:u:21:ALA:O	2.32	0.47
3:b:6:GLU:HA	3:b:9:LYS:HD3	1.95	0.47
4:U:1:U:H2'	4:U:2:U:H6	1.77	0.47
4:U:841:C:H2'	4:U:842:U:C6	2.49	0.47
4:U:944:G:O3'	4:U:945:A:H8	1.97	0.47
4:U:1474:C:H2'	4:U:1475:A:C8	2.49	0.47
4:U:1806:U:H5	4:U:1811:A:N7	2.12	0.47
4:U:2138:U:O4'	4:U:2145:U:O2'	2.29	0.47
4:U:335:A:O2'	4:U:336:G:O4'	2.32	0.47
4:U:1481:A:H2'	4:U:1482:U:C6	2.48	0.47
4:U:1897:U:H1'	4:U:1898:A:N7	2.30	0.47
15:h:62:ASP:OD1	15:h:63:LEU:N	2.38	0.47
4:U:1721:A:H2'	4:U:1722:A:H8	1.80	0.47
4:U:2713:G:H2'	4:U:2714:U:C6	2.49	0.47
7:Y:116:SER:HA	7:Y:119:ILE:HD12	1.96	0.47
3:b:80:ASN:OD1	3:b:81:ALA:N	2.48	0.47
4:U:1515:A:N6	4:U:1565:U:H3	2.08	0.47
4:U:1869:G:H2'	4:U:1870:C:C6	2.49	0.47
2:V:72:U:H2'	2:V:73:G:O4'	2.15	0.47
2:V:116:C:H2'	2:V:117:A:H8	1.78	0.47
4:U:448:U:H5''	4:U:449:C:OP1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:2142:G:OP2	4:U:2144:A:H5''	2.15	0.47
8:Z:3:ARG:HG2	8:Z:7:LYS:HZ3	1.79	0.47
10:c:115:LEU:O	10:c:119:MET:HG3	2.15	0.47
1:B:82:ARG:HH21	1:B:147:GLU:N	2.13	0.47
1:B:139:ARG:O	1:B:143:ARG:HG2	2.14	0.47
1:A:133:GLY:O	1:A:137:ALA:HB3	2.15	0.47
4:U:197:A:H62	4:U:876:G:H21	1.61	0.47
4:U:630:U:H2'	4:U:631:U:C6	2.50	0.47
4:U:970:U:O2'	4:U:971:G:H5''	2.14	0.47
4:U:1212:U:H2'	4:U:1213:U:C6	2.49	0.47
4:U:1423:C:H2'	4:U:1424:A:C8	2.50	0.47
4:U:1516:G:N2	4:U:1564:G:H22	2.13	0.47
4:U:1942:U:C4	4:U:1988:C:C2	3.03	0.47
4:U:2341:A:H2'	4:U:2342:U:H6	1.76	0.47
4:U:2676:U:H2'	4:U:2677:C:C6	2.50	0.47
8:Z:119:LYS:HE2	8:Z:167:ARG:HA	1.96	0.47
9:a:11:ILE:H	9:a:49:ASN:CG	2.22	0.47
25:r:43:SER:OG	25:r:44:ALA:N	2.44	0.47
27:t:3:VAL:HG13	27:t:37:GLY:O	2.15	0.47
4:U:8:A:C6	4:U:9:G:C2	3.03	0.47
4:U:621:A:H2'	4:U:622:C:C6	2.50	0.47
4:U:1580:U:H3'	4:U:1580:U:OP2	2.15	0.47
6:X:18:GLU:OE1	6:X:18:GLU:N	2.44	0.47
29:v:58:ARG:NH1	29:v:61:GLU:OE1	2.48	0.47
2:V:3:U:O2'	2:V:4:G:OP1	2.30	0.47
4:U:327:A:H2'	4:U:328:A:C8	2.50	0.47
4:U:609:U:O3'	12:e:36:LYS:NZ	2.48	0.47
4:U:955:A:O2'	4:U:956:A:O5'	2.25	0.47
4:U:1053:A:N3	4:U:1197:C:O2'	2.47	0.47
4:U:1869:G:H2'	4:U:1870:C:H6	1.80	0.47
4:U:1891:U:OP1	4:U:2437:G:O2'	2.27	0.47
4:U:2541:U:H2'	4:U:2542:C:C6	2.50	0.47
4:U:2709:G:C2	4:U:2710:C:C6	3.03	0.47
4:U:2861:G:C4	4:U:2862:G:C8	3.03	0.47
4:U:2872:G:O6	16:i:24:ARG:NH1	2.47	0.47
5:W:76:GLY:HA2	5:W:96:TYR:HA	1.97	0.47
9:a:36:ARG:HB2	9:a:76:MET:HE1	1.97	0.47
13:f:63:LYS:HE3	13:f:63:LYS:HB2	1.80	0.47
17:j:71:MET:O	17:j:72:ASN:ND2	2.47	0.47
2:V:26:C:OP1	15:h:41:TYR:OH	2.25	0.47
2:V:115:G:H2'	2:V:116:C:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:b:27:ILE:O	3:b:83:ALA:N	2.46	0.47
4:U:41:G:HO2'	4:U:42:A:P	2.38	0.47
4:U:57:G:H1'	4:U:71:A:H2'	1.97	0.47
4:U:88:A:H1'	4:U:89:A:C2	2.50	0.47
4:U:1578:A:C6	4:U:1583:A:N6	2.82	0.47
4:U:2131:C:N4	4:U:2132:A:H61	2.09	0.47
4:U:2197:G:H2'	4:U:2198:A:H4'	1.96	0.47
16:i:112:ARG:HB3	16:i:114:LYS:NZ	2.30	0.47
20:m:31:ASP:OD1	20:m:33:ARG:N	2.47	0.47
2:V:22:G:H1'	2:V:25:A:N6	2.30	0.46
2:V:107:G:H2'	2:V:108:C:H6	1.80	0.46
3:b:99:PHE:CE1	3:b:113:ILE:HD13	2.50	0.46
4:U:1286:G:C2	17:j:3:ARG:HD2	2.49	0.46
4:U:2858:A:OP1	6:X:57:ARG:NH1	2.48	0.46
6:X:186:LEU:HA	6:X:186:LEU:HD23	1.73	0.46
8:Z:45:GLN:NE2	8:Z:79:LEU:HB2	2.29	0.46
4:U:309:U:O2'	4:U:310:G:O4'	2.30	0.46
4:U:1114:A:C6	4:U:1141:U:H1'	2.51	0.46
4:U:1138:U:O2'	4:U:1140:A:N7	2.39	0.46
4:U:1509:C:H2'	4:U:1510:G:H8	1.78	0.46
4:U:2210:C:O2'	4:U:2211:U:O4'	2.17	0.46
4:U:2314:A:C5	4:U:2316:G:C8	3.03	0.46
4:U:2505:A:H5'	27:t:31:LYS:HE3	1.97	0.46
21:n:30:LYS:HE3	21:n:30:LYS:HB2	1.67	0.46
2:V:19:G:O2'	2:V:20:A:OP1	2.31	0.46
2:V:59:U:H2'	2:V:60:C:H6	1.80	0.46
4:U:650:A:H2'	4:U:651:A:C8	2.50	0.46
4:U:697:A:H3'	4:U:698:U:H2'	1.96	0.46
4:U:730:A:H8	4:U:733:U:N3	2.12	0.46
4:U:1528:G:H2'	4:U:1529:G:C8	2.51	0.46
4:U:1835:U:O2'	4:U:1836:A:OP1	2.29	0.46
4:U:2082:C:H5'	4:U:2083:G:H5''	1.96	0.46
8:Z:102:LYS:O	8:Z:106:VAL:HG22	2.15	0.46
1:B:94:GLY:H	1:B:97:HIS:CD2	2.34	0.46
4:U:1436:C:H2'	4:U:1437:U:H6	1.79	0.46
4:U:1451:A:H2'	4:U:1452:C:H6	1.80	0.46
4:U:1788:U:H3	4:U:1789:A:N6	2.14	0.46
4:U:2451:C:HO2'	4:U:2452:A:P	2.39	0.46
4:U:2514:G:H2'	4:U:2515:A:H8	1.79	0.46
5:W:212:ARG:HA	5:W:212:ARG:HD2	1.59	0.46
9:a:31:LYS:HE3	9:a:31:LYS:HB3	1.72	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:q:14:GLU:OE2	24:q:38:ARG:NE	2.48	0.46
29:v:10:THR:OG1	29:v:11:THR:N	2.49	0.46
1:A:142:GLN:HE22	4:U:2221:U:P	2.38	0.46
4:U:329:C:H2'	4:U:330:G:H8	1.80	0.46
4:U:756:A:C6	4:U:766:G:C6	3.04	0.46
4:U:930:C:C2	4:U:937:G:C2	3.03	0.46
4:U:2296:A:C4	4:U:2297:G:C8	3.04	0.46
4:U:2563:G:H2'	4:U:2564:U:C6	2.51	0.46
17:j:92:ARG:HD3	17:j:92:ARG:HA	1.51	0.46
1:B:101:ASP:OD1	1:B:104:ARG:NH1	2.37	0.46
3:b:15:ILE:HG12	3:b:66:GLN:HE22	1.81	0.46
4:U:107:G:H5'	4:U:108:A:OP2	2.15	0.46
4:U:435:A:O2'	4:U:436:A:P	2.73	0.46
4:U:924:G:N1	4:U:944:G:O5'	2.48	0.46
4:U:1129:A:C8	4:U:1130:A:C5	3.03	0.46
4:U:1436:C:HO2'	4:U:1437:U:P	2.38	0.46
4:U:2160:G:H2'	4:U:2184:G:C4	2.50	0.46
4:U:2242:G:O2'	4:U:2243:G:H5'	2.15	0.46
8:Z:99:PHE:HA	8:Z:102:LYS:HG2	1.97	0.46
21:n:94:ALA:O	21:n:98:GLY:HA3	2.14	0.46
29:v:64:ALA:O	29:v:65:ASN:ND2	2.49	0.46
1:B:91:LYS:HB3	1:B:97:HIS:CG	2.51	0.46
3:b:34:ASN:HB3	4:U:1100:G:O5'	2.15	0.46
4:U:175:G:H2'	4:U:176:A:H8	1.80	0.46
4:U:938:G:C6	4:U:939:U:C4	3.04	0.46
4:U:1550:C:H2'	4:U:1551:A:C8	2.49	0.46
4:U:2333:U:H2'	4:U:2334:G:N2	2.30	0.46
4:U:2824:A:H2'	4:U:2825:A:C8	2.51	0.46
4:U:2876:U:H2'	4:U:2877:G:H8	1.81	0.46
8:Z:104:ILE:HG21	8:Z:175:MET:HE1	1.96	0.46
13:f:59:LYS:HA	13:f:60:ARG:CZ	2.46	0.46
26:s:7:HIS:ND1	26:s:10:SER:OG	2.33	0.46
1:B:148:LEU:HD13	1:B:172:PHE:CE2	2.50	0.46
4:U:288:U:HO2'	4:U:289:C:H6	1.60	0.46
4:U:535:A:HO2'	4:U:536:A:P	2.39	0.46
4:U:1587:G:H2'	4:U:1588:C:H6	1.80	0.46
4:U:1710:G:O2'	4:U:2018:U:O4	2.27	0.46
4:U:1951:C:H2'	4:U:1952:C:C6	2.51	0.46
4:U:2676:U:H2'	4:U:2677:C:H6	1.81	0.46
5:W:27:ASP:N	5:W:27:ASP:OD1	2.45	0.46
6:X:56:LYS:HD3	6:X:60:LEU:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Y:89:VAL:HG13	7:Y:90:PHE:N	2.31	0.46
23:p:15:LEU:O	23:p:18:THR:HG23	2.16	0.46
3:b:20:LYS:HZ3	3:b:88:ASP:C	2.24	0.46
4:U:157:U:H2'	4:U:158:G:O4'	2.16	0.46
4:U:283:U:H2'	4:U:285:G:C6	2.51	0.46
4:U:305:A:C6	4:U:306:C:C4	3.04	0.46
4:U:926:G:O6	4:U:942:C:O2'	2.32	0.46
4:U:1108:C:H2'	4:U:1109:U:C2	2.51	0.46
4:U:1160:C:H2'	4:U:1161:U:C6	2.51	0.46
4:U:1211:G:H2'	4:U:1212:U:C6	2.50	0.46
4:U:2039:G:OP1	19:l:11:ARG:NH2	2.49	0.46
4:U:2548:C:H2'	4:U:2549:U:C6	2.51	0.46
4:U:2653:C:H2'	4:U:2654:G:C8	2.51	0.46
9:a:22:ASN:HB2	9:a:24:THR:HG23	1.98	0.46
24:q:12:CYS:SG	24:q:14:GLU:HG2	2.55	0.46
1:A:149:LYS:O	5:W:272:ARG:NH2	2.36	0.46
4:U:227:A:H1'	4:U:228:A:OP1	2.15	0.46
4:U:645:A:O2'	12:e:81:LYS:NZ	2.49	0.46
4:U:1086:G:H2'	4:U:1087:C:C6	2.51	0.46
4:U:1195:A:H4'	17:j:81:HIS:ND1	2.30	0.46
4:U:1197:C:H2'	4:U:1198:G:O4'	2.16	0.46
4:U:1211:G:H2'	4:U:1212:U:H6	1.81	0.46
4:U:1452:C:C2	4:U:1453:C:N3	2.84	0.46
4:U:1897:U:H1'	4:U:1898:A:C8	2.50	0.46
4:U:2317:G:H2'	4:U:2318:U:C6	2.51	0.46
8:Z:4:LEU:HG	8:Z:5:LYS:N	2.31	0.46
1:B:144:LEU:O	1:B:148:LEU:HG	2.16	0.45
3:b:102:ASN:O	3:b:106:LEU:HB3	2.17	0.45
4:U:89:A:H2'	4:U:90:G:O4'	2.15	0.45
4:U:512:G:OP2	25:r:34:ARG:HD3	2.15	0.45
4:U:896:U:H2'	4:U:897:C:C6	2.51	0.45
4:U:930:C:H3'	4:U:931:C:O4'	2.15	0.45
4:U:1013:G:H2'	4:U:1014:U:C6	2.51	0.45
4:U:1130:A:H3'	4:U:1130:A:N3	2.31	0.45
4:U:1313:G:OP2	4:U:1688:G:O2'	2.20	0.45
4:U:1489:A:H62	4:U:1510:G:N2	2.13	0.45
4:U:1943:A:H5'	4:U:1990:C:C4	2.51	0.45
4:U:2823:C:H3'	4:U:2824:A:C8	2.49	0.45
11:d:117:LEU:HD23	11:d:117:LEU:HA	1.80	0.45
21:n:64:HIS:CD2	21:n:66:SER:H	2.20	0.45
1:A:182:GLU:HA	1:A:186:ASP:H	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:315:G:H2'	4:U:316:A:C8	2.51	0.45
4:U:636:U:H2'	4:U:637:C:C6	2.51	0.45
4:U:930:C:C5	4:U:931:C:H1'	2.51	0.45
4:U:1302:G:O5'	4:U:1302:G:H8	1.99	0.45
4:U:1707:A:N6	4:U:2023:C:H42	2.09	0.45
4:U:2279:G:O6	22:o:11:SER:OG	2.20	0.45
6:X:109:ASP:OD1	6:X:172:GLN:HA	2.17	0.45
17:j:78:ARG:NH2	17:j:117:LEU:HD21	2.31	0.45
1:B:86:LYS:HB2	1:B:88:ARG:NH2	2.31	0.45
3:b:33:LEU:HB2	3:b:36:SER:HB3	1.98	0.45
3:b:62:ARG:NH2	3:b:82:ILE:HG21	2.30	0.45
4:U:371:A:H61	21:n:15:LYS:HG3	1.81	0.45
4:U:1105:U:C5	4:U:1115:G:H5'	2.51	0.45
4:U:1137:G:N2	4:U:1142:A:C6	2.75	0.45
4:U:1527:G:C6	4:U:1528:G:C6	3.04	0.45
4:U:2135:U:H2'	4:U:2136:U:H5	1.80	0.45
7:Y:70:THR:OG1	7:Y:71:GLY:N	2.50	0.45
13:f:27:VAL:HG13	13:f:134:ARG:HA	1.98	0.45
17:j:50:ARG:O	17:j:54:LYS:NZ	2.49	0.45
4:U:273:A:H5'	4:U:274:C:OP2	2.17	0.45
4:U:684:C:H2'	4:U:685:U:C6	2.51	0.45
4:U:813:G:H2'	4:U:814:U:H6	1.82	0.45
4:U:1516:G:H22	4:U:1564:G:H1	1.61	0.45
4:U:2157:U:H4'	4:U:2161:A:N1	2.30	0.45
4:U:2343:U:H2'	4:U:2344:C:C6	2.51	0.45
18:k:28:GLU:OE2	18:k:31:GLU:HB2	2.17	0.45
3:b:10:VAL:HA	3:b:13:GLU:HB2	1.98	0.45
4:U:79:G:C2	4:U:103:C:C2	3.05	0.45
4:U:649:U:H5	4:U:665:A:N7	2.15	0.45
4:U:933:A:H2'	4:U:934:C:H6	1.82	0.45
4:U:942:C:H5'	4:U:944:G:C6	2.51	0.45
4:U:1241:A:C6	4:U:1242:A:C6	3.05	0.45
4:U:1517:C:C4	4:U:1518:A:N1	2.84	0.45
4:U:1550:C:H2'	4:U:1551:A:C5	2.52	0.45
4:U:1727:C:H2'	4:U:1728:C:H6	1.81	0.45
4:U:1860:C:O2'	4:U:1996:A:N1	2.39	0.45
4:U:2130:A:H2'	4:U:2131:C:C6	2.51	0.45
4:U:2325:A:N6	4:U:2345:G:H8	2.06	0.45
4:U:2520:U:C4	4:U:2521:G:C8	3.05	0.45
4:U:2890:G:O2'	4:U:2891:A:H8	1.99	0.45
11:d:64:ARG:NH1	11:d:101:PRO:O	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:l:8:ARG:HG2	19:l:102:HIS:HD2	1.82	0.45
2:V:-3:U:H2'	2:V:-2:U:C6	2.52	0.45
2:V:40:C:H2'	2:V:41:C:H6	1.82	0.45
4:U:171:A:H2'	4:U:172:U:C6	2.52	0.45
4:U:229:A:O2'	4:U:230:U:O5'	2.33	0.45
4:U:930:C:H41	4:U:932:U:H2'	1.82	0.45
4:U:1580:U:O2'	4:U:1581:A:H5''	2.16	0.45
4:U:1720:A:H2'	4:U:1721:A:H8	1.82	0.45
4:U:1943:A:H2	4:U:1945:A:C8	2.34	0.45
4:U:2174:A:N7	4:U:2175:G:N1	2.65	0.45
7:Y:39:MET:HE3	7:Y:39:MET:HB3	1.91	0.45
11:d:113:LYS:O	11:d:116:SER:OG	2.27	0.45
30:w:5:GLU:N	30:w:5:GLU:OE2	2.49	0.45
2:V:87:U:O2'	4:U:1002:U:O2	2.31	0.45
3:b:56:LYS:HG2	4:U:1128:A:C6	2.51	0.45
3:b:62:ARG:HE	3:b:84:PHE:HZ	1.65	0.45
4:U:760:A:H2'	4:U:761:A:C4	2.52	0.45
4:U:926:G:H3'	4:U:927:G:C8	2.52	0.45
4:U:1577:A:C5	4:U:1586:A:C2	3.05	0.45
4:U:1650:C:N4	4:U:1665:A:OP2	2.44	0.45
4:U:1936:C:H2'	4:U:1937:G:C8	2.50	0.45
4:U:2657:G:C5	4:U:2916:G:C6	3.05	0.45
5:W:247:MET:HE2	5:W:251:GLY:HA2	1.99	0.45
8:Z:135:GLN:HE22	8:Z:150:ARG:N	2.15	0.45
11:d:30:ARG:HA	11:d:30:ARG:HD2	1.83	0.45
19:l:10:VAL:HG11	19:l:46:ILE:HG21	1.99	0.45
22:o:53:ILE:HG21	22:o:87:VAL:HG23	1.99	0.45
1:B:13:ASP:OD1	1:B:13:ASP:N	2.50	0.45
1:A:178:GLN:HA	1:A:181:ARG:HE	1.82	0.45
3:b:35:VAL:O	3:b:39:THR:HG23	2.17	0.45
4:U:702:U:H2'	4:U:703:A:C8	2.52	0.45
4:U:1241:A:H2'	4:U:1242:A:N3	2.32	0.45
4:U:1816:A:H2'	4:U:1817:C:O4'	2.17	0.45
4:U:1944:U:H4'	4:U:1990:C:C5'	2.47	0.45
4:U:2137:G:H4'	4:U:2138:U:OP2	2.16	0.45
8:Z:4:LEU:HD12	8:Z:8:TYR:HE2	1.82	0.45
11:d:88:ARG:C	11:d:90:ASP:H	2.24	0.45
4:U:758:G:N2	4:U:762:C:OP2	2.50	0.45
4:U:1113:A:N1	4:U:1139:A:H2'	2.32	0.45
4:U:1215:U:O3'	4:U:1216:U:H6	2.00	0.45
4:U:1454:A:C8	4:U:1455:U:C4	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1456:U:O2'	4:U:1457:U:OP2	2.32	0.45
4:U:1527:G:N2	4:U:1551:A:C2	2.84	0.45
4:U:1954:A:H8	4:U:1954:A:OP1	2.00	0.45
4:U:2336:A:N6	4:U:2337:A:N7	2.65	0.45
4:U:2511:G:P	13:f:45:ARG:HH21	2.40	0.45
7:Y:8:ASN:OD1	7:Y:9:GLN:N	2.50	0.45
8:Z:123:ASP:HB3	15:h:1:MET:HE1	1.98	0.45
4:U:276:A:C6	4:U:292:G:C6	3.05	0.45
4:U:535:A:O2'	4:U:536:A:OP1	2.29	0.45
4:U:1373:A:H2'	4:U:1374:G:O4'	2.17	0.45
4:U:1447:C:H3'	4:U:1448:C:H5''	1.98	0.45
4:U:1632:U:H2'	4:U:1633:G:H8	1.82	0.45
4:U:1823:U:H2'	4:U:1824:C:H6	1.81	0.45
4:U:1936:C:N3	4:U:1949:G:N1	2.65	0.45
4:U:2510:C:N3	13:f:124:LYS:HE3	2.32	0.45
8:Z:114:PHE:O	8:Z:176:PRO:HB3	2.17	0.45
8:Z:137:ILE:HG12	8:Z:152:MET:HE1	1.99	0.45
9:a:127:PRO:HD2	9:a:131:LYS:O	2.17	0.45
9:a:156:GLU:OE2	9:a:158:TYR:N	2.39	0.45
16:i:105:GLU:O	16:i:109:LYS:NZ	2.45	0.45
28:u:35:LYS:HE3	28:u:35:LYS:HB2	1.76	0.45
3:b:11:VAL:HG23	3:b:62:ARG:HA	1.99	0.44
3:b:42:ARG:NH2	4:U:1126:U:O4'	2.50	0.44
3:b:54:VAL:HA	3:b:56:LYS:NZ	2.32	0.44
4:U:289:C:H2'	4:U:290:U:H6	1.82	0.44
4:U:310:G:H2'	4:U:311:U:O4'	2.16	0.44
4:U:311:U:H5'	4:U:312:A:OP1	2.18	0.44
4:U:868:A:H2'	4:U:869:G:H8	1.81	0.44
4:U:1141:U:H3'	4:U:1142:A:H8	1.82	0.44
4:U:1243:G:H1'	4:U:1244:G:OP1	2.17	0.44
4:U:1277:C:H2'	4:U:1278:G:H8	1.81	0.44
4:U:1528:G:N7	4:U:1529:G:N7	2.66	0.44
4:U:2470:C:H2'	4:U:2471:G:H8	1.82	0.44
4:U:2717:A:N6	14:g:39:GLU:OE2	2.42	0.44
5:W:69:ARG:O	5:W:189:ARG:NH1	2.50	0.44
8:Z:29:PRO:HA	8:Z:159:THR:HG23	1.99	0.44
13:f:82:ARG:HE	22:o:11:SER:C	2.24	0.44
2:V:26:C:H2'	2:V:27:A:O4'	2.17	0.44
3:b:15:ILE:N	3:b:66:GLN:HE22	2.15	0.44
4:U:90:G:H2'	4:U:91:C:C6	2.52	0.44
4:U:936:G:H2'	4:U:937:G:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1390:A:H2'	4:U:1391:A:C8	2.52	0.44
4:U:1454:A:O2'	4:U:1629:A:N1	2.46	0.44
4:U:1545:U:H2'	4:U:1546:U:H6	1.80	0.44
4:U:2313:A:OP1	24:q:25:ASN:ND2	2.50	0.44
6:X:66:LYS:HE2	6:X:66:LYS:HB3	1.74	0.44
13:f:110:SER:OG	13:f:111:GLU:N	2.49	0.44
17:j:89:GLU:OE2	18:k:49:GLY:HA2	2.16	0.44
23:p:38:LEU:HG	23:p:41:ARG:HD2	1.98	0.44
3:b:15:ILE:HG23	3:b:19:LEU:HD23	1.99	0.44
4:U:640:G:H2'	4:U:641:U:C6	2.53	0.44
4:U:1216:U:C2	4:U:1218:G:N2	2.86	0.44
4:U:1815:C:C2	4:U:1816:A:C8	3.05	0.44
4:U:2203:A:H2'	4:U:2203:A:N3	2.31	0.44
4:U:2286:G:C8	4:U:2454:C:C4	3.06	0.44
5:W:69:ARG:HD2	5:W:104:ILE:HD12	1.98	0.44
8:Z:11:GLU:HG3	8:Z:12:ILE:N	2.32	0.44
15:h:19:ARG:HH21	15:h:30:ARG:NE	2.16	0.44
15:h:93:VAL:HG22	15:h:118:LEU:HD12	1.98	0.44
15:h:114:ARG:NH1	15:h:120:PHE:O	2.50	0.44
29:v:28:LEU:HA	29:v:28:LEU:HD23	1.84	0.44
2:V:58:C:H2'	2:V:59:U:C6	2.52	0.44
2:V:89:C:H2'	2:V:90:C:H6	1.82	0.44
4:U:243:G:OP2	26:s:3:LYS:NZ	2.35	0.44
4:U:352:A:O2'	4:U:353:A:OP2	2.35	0.44
4:U:936:G:H2'	4:U:937:G:C8	2.52	0.44
4:U:1242:A:O2'	4:U:1243:G:H5'	2.17	0.44
4:U:1301:U:H2'	4:U:1302:G:C8	2.52	0.44
4:U:1330:U:H2'	4:U:1331:C:H6	1.81	0.44
4:U:1540:A:H2'	4:U:1542:C:C4	2.52	0.44
4:U:1586:A:C2	4:U:1587:G:H1'	2.51	0.44
4:U:1955:A:OP2	4:U:1955:A:H8	2.01	0.44
4:U:2670:G:C4	4:U:2671:A:C8	3.04	0.44
18:k:98:GLU:OE1	18:k:98:GLU:N	2.51	0.44
29:v:5:GLU:OE1	29:v:5:GLU:N	2.46	0.44
30:w:3:LYS:NZ	30:w:38:GLU:OE1	2.37	0.44
4:U:287:C:O2'	4:U:288:U:H5'	2.18	0.44
4:U:352:A:OP1	21:n:17:LYS:NZ	2.33	0.44
4:U:637:C:H2'	4:U:638:C:C6	2.53	0.44
4:U:945:A:N3	4:U:946:A:H1'	2.32	0.44
4:U:1091:G:O2'	4:U:1092:A:O5'	2.32	0.44
4:U:1106:G:N7	4:U:1123:C:C4	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1973:U:H2'	4:U:1974:C:H6	1.81	0.44
4:U:2331:G:O2'	8:Z:129:THR:OG1	2.27	0.44
5:W:154:LEU:O	5:W:155:VAL:C	2.61	0.44
6:X:55:ASP:N	6:X:55:ASP:OD1	2.47	0.44
7:Y:155:VAL:HA	7:Y:176:VAL:O	2.18	0.44
16:i:74:GLU:N	16:i:74:GLU:OE2	2.50	0.44
16:i:107:ARG:H	16:i:107:ARG:HD3	1.82	0.44
29:v:4:ASN:HA	29:v:7:ARG:NH2	2.29	0.44
2:V:115:G:H2'	2:V:116:C:H6	1.82	0.44
1:A:175:ALA:O	1:A:179:VAL:HG13	2.17	0.44
4:U:338:U:OP1	21:n:83:TYR:HD2	2.00	0.44
4:U:1356:G:H2'	4:U:1357:G:C8	2.52	0.44
4:U:2167:G:N2	4:U:2180:G:N7	2.66	0.44
4:U:2383:C:H2'	4:U:2384:U:O4'	2.18	0.44
4:U:2912:C:H2'	4:U:2913:G:O4'	2.17	0.44
5:W:118:SER:O	5:W:118:SER:OG	2.24	0.44
13:f:75:THR:HG21	13:f:87:LYS:HE3	1.99	0.44
20:m:11:PRO:HD3	29:v:30:PHE:CE1	2.52	0.44
21:n:97:SER:O	21:n:99:GLN:NE2	2.51	0.44
2:V:27:A:H5''	15:h:37:ASN:ND2	2.33	0.44
2:V:110:G:H2'	2:V:111:C:C6	2.52	0.44
4:U:681:A:H5''	12:e:114:ASN:HB2	2.00	0.44
4:U:2153:A:C5	4:U:2189:A:H1'	2.53	0.44
4:U:2208:G:N2	4:U:2209:G:N2	2.64	0.44
6:X:114:SER:OG	6:X:115:LYS:N	2.51	0.44
8:Z:20:PHE:HB3	8:Z:22:TYR:CE1	2.53	0.44
8:Z:74:ILE:O	8:Z:80:ARG:NE	2.50	0.44
21:n:82:GLY:N	21:n:93:VAL:O	2.51	0.44
4:U:88:A:H1'	4:U:89:A:H2	1.82	0.44
4:U:329:C:H2'	4:U:330:G:C8	2.53	0.44
4:U:846:G:OP1	7:Y:55:SER:OG	2.34	0.44
4:U:901:G:H2'	4:U:902:A:H8	1.80	0.44
4:U:1213:U:H2'	4:U:1214:C:H6	1.83	0.44
4:U:1564:G:C5	4:U:1565:U:C5	3.05	0.44
4:U:1817:C:O2'	5:W:208:ALA:HB2	2.18	0.44
4:U:2056:G:N1	4:U:2060:A:OP2	2.42	0.44
4:U:2138:U:H5''	4:U:2139:A:N7	2.33	0.44
4:U:2191:C:H3'	4:U:2198:A:N6	2.33	0.44
4:U:2656:A:C6	4:U:2917:A:C4	3.06	0.44
26:s:51:SER:OG	26:s:54:ASP:OD2	2.36	0.44
1:B:25:ASP:HB2	1:B:49:ARG:HH12	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:791:U:O2'	4:U:792:U:P	2.76	0.44
12:e:133:LYS:O	12:e:137:GLU:HG2	2.18	0.44
14:g:50:LEU:HD23	14:g:50:LEU:HA	1.79	0.44
16:i:10:ASP:HA	16:i:13:LYS:HG2	1.99	0.44
4:U:22:G:H2'	4:U:23:U:C6	2.53	0.43
4:U:166:A:H3'	4:U:167:G:H8	1.83	0.43
4:U:305:A:N1	4:U:408:G:C6	2.86	0.43
4:U:682:G:H2'	4:U:683:U:H6	1.83	0.43
4:U:1495:G:H4'	4:U:1496:U:O4'	2.17	0.43
4:U:1520:U:O2	4:U:1520:U:H2'	2.17	0.43
4:U:1543:C:C2	4:U:1544:G:C8	3.07	0.43
4:U:1581:A:N3	4:U:1581:A:H2'	2.33	0.43
4:U:1762:U:H2'	4:U:1763:G:O4'	2.18	0.43
4:U:1827:C:OP2	5:W:182:ARG:NH1	2.44	0.43
4:U:2376:G:OP1	26:s:45:ARG:NH2	2.51	0.43
5:W:73:GLY:N	5:W:117:MET:HE1	2.31	0.43
5:W:145:GLU:HB3	5:W:152:GLY:HA2	2.00	0.43
7:Y:143:LEU:HD22	7:Y:148:VAL:HG21	1.99	0.43
7:Y:188:ASN:OD1	7:Y:189:HIS:N	2.50	0.43
12:e:79:LEU:HD23	12:e:79:LEU:HA	1.72	0.43
16:i:62:PHE:CD1	16:i:79:VAL:HG12	2.53	0.43
3:b:21:GLU:CB	3:b:88:ASP:HA	2.48	0.43
4:U:138:A:H2'	4:U:139:U:H6	1.82	0.43
4:U:435:A:O2'	4:U:436:A:O5'	2.34	0.43
4:U:695:G:N3	4:U:696:C:H5	2.16	0.43
4:U:879:U:H5'	26:s:57:ARG:NH1	2.33	0.43
4:U:1041:G:OP1	17:j:92:ARG:HD2	2.17	0.43
4:U:1091:G:H2'	4:U:1154:G:H22	1.83	0.43
4:U:1105:U:O2'	4:U:1108:C:N4	2.52	0.43
4:U:1150:G:C2	4:U:1151:G:C8	3.06	0.43
4:U:2017:C:H2'	4:U:2018:U:C6	2.53	0.43
4:U:2167:G:OP2	4:U:2171:G:N1	2.39	0.43
4:U:2244:G:H2'	4:U:2245:C:C6	2.54	0.43
4:U:2253:C:C2	4:U:2254:A:C8	3.06	0.43
5:W:264:ASN:HB3	5:W:267:ASP:OD1	2.18	0.43
8:Z:46:ASN:HA	8:Z:48:LYS:NZ	2.29	0.43
12:e:14:LYS:HB3	12:e:14:LYS:HE2	1.75	0.43
14:g:17:LEU:HD23	14:g:17:LEU:HA	1.81	0.43
27:t:31:LYS:HB3	27:t:31:LYS:HE2	1.79	0.43
1:B:52:ILE:HG21	1:B:110:VAL:HG22	2.00	0.43
3:b:8:LYS:O	3:b:12:VAL:HG22	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:453:G:H2'	4:U:454:A:H8	1.83	0.43
4:U:901:G:C2	4:U:902:A:C5	3.06	0.43
4:U:1120:C:C2	4:U:1122:C:H1'	2.53	0.43
4:U:2334:G:H5'	4:U:2335:G:C5	2.53	0.43
8:Z:36:ILE:HA	8:Z:154:ILE:HA	1.99	0.43
11:d:109:ASN:OD1	11:d:110:ASN:N	2.44	0.43
20:m:11:PRO:HD3	29:v:30:PHE:CD1	2.54	0.43
23:p:30:CYS:SG	23:p:32:SER:OG	2.70	0.43
1:B:52:ILE:HG12	1:B:76:LYS:HB2	1.99	0.43
1:A:123:PHE:HB2	1:A:156:ARG:HH12	1.83	0.43
4:U:286:C:H2'	4:U:287:C:O4'	2.18	0.43
4:U:928:C:H42	4:U:939:U:H3	1.64	0.43
4:U:1147:A:H3'	4:U:1148:C:C6	2.54	0.43
4:U:1580:U:C5	4:U:1582:U:H1'	2.54	0.43
4:U:2127:G:C6	4:U:2217:G:C6	3.05	0.43
8:Z:41:GLY:C	8:Z:43:ALA:H	2.27	0.43
8:Z:77:PHE:O	8:Z:78:ARG:NE	2.52	0.43
8:Z:106:VAL:HG21	8:Z:138:PHE:CD1	2.53	0.43
13:f:32:PHE:HA	13:f:133:LYS:HA	1.99	0.43
29:v:5:GLU:HA	29:v:8:ASP:HB2	2.00	0.43
2:V:45:C:P	15:h:7:LYS:HD2	2.58	0.43
4:U:220:A:N3	4:U:235:U:O2'	2.42	0.43
4:U:564:G:H2'	4:U:565:U:O4'	2.18	0.43
4:U:1091:G:H2'	4:U:1154:G:N2	2.34	0.43
4:U:1112:G:N1	4:U:1140:A:H1'	2.32	0.43
4:U:1979:A:N3	4:U:2587:C:O2'	2.49	0.43
4:U:2121:A:H2'	4:U:2122:A:C8	2.53	0.43
4:U:2129:U:H5''	4:U:2130:A:OP1	2.18	0.43
4:U:2211:U:H2'	4:U:2212:G:C8	2.53	0.43
4:U:2337:A:C8	8:Z:75:ALA:HB3	2.52	0.43
21:n:89:LYS:HA	21:n:89:LYS:HD3	1.84	0.43
1:A:143:ARG:O	1:A:147:GLU:HG2	2.17	0.43
4:U:109:U:HO2'	4:U:110:U:P	2.42	0.43
4:U:348:U:H2'	4:U:349:G:O4'	2.19	0.43
4:U:879:U:H5'	26:s:57:ARG:HH11	1.83	0.43
4:U:886:A:H2'	4:U:887:A:H8	1.82	0.43
4:U:967:C:O2'	22:o:34:ALA:HB2	2.19	0.43
4:U:1578:A:H2'	4:U:1580:U:P	2.58	0.43
4:U:1935:C:H2'	4:U:1936:C:C6	2.53	0.43
4:U:2128:G:N1	4:U:2216:U:C2	2.87	0.43
18:k:16:GLU:OE2	18:k:100:ILE:N	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:q:23:LYS:HE2	24:q:23:LYS:HB3	1.76	0.43
1:B:35:GLY:O	1:B:39:ILE:HG12	2.18	0.43
1:B:119:GLU:C	1:B:163:LYS:HZ2	2.25	0.43
1:B:156:ARG:HD2	8:Z:23:ASP:HB2	1.99	0.43
4:U:104:G:H4'	4:U:335:A:H5''	2.01	0.43
4:U:348:U:O2'	4:U:1249:U:OP1	2.36	0.43
4:U:1106:G:N2	4:U:1107:G:C6	2.86	0.43
4:U:1844:G:P	5:W:87:ARG:HH22	2.42	0.43
4:U:2092:C:H2'	4:U:2093:C:H6	1.84	0.43
4:U:2138:U:H5''	4:U:2139:A:C5	2.54	0.43
4:U:2142:G:H1'	4:U:2193:G:H4'	2.00	0.43
4:U:2148:G:O6	4:U:2150:A:N6	2.52	0.43
4:U:2539:C:H2'	4:U:2540:A:O4'	2.19	0.43
4:U:2862:G:C4	4:U:2863:U:C5	3.07	0.43
5:W:17:THR:HG22	5:W:204:ASN:HB3	2.01	0.43
5:W:93:LEU:HD13	5:W:103:TYR:CE1	2.53	0.43
8:Z:165:GLU:HA	8:Z:168:GLU:OE1	2.18	0.43
4:U:303:A:H2'	4:U:304:C:H5'	2.01	0.43
4:U:556:G:O2'	4:U:557:A:P	2.77	0.43
4:U:1004:A:C8	4:U:1006:A:C8	3.07	0.43
4:U:1098:A:C6	4:U:1099:G:C5	3.06	0.43
4:U:1450:C:H2'	4:U:1451:A:H8	1.82	0.43
4:U:2204:C:H2'	4:U:2205:C:C6	2.54	0.43
4:U:2499:G:C5	4:U:2502:C:C4	3.07	0.43
4:U:2594:G:H2'	4:U:2595:C:C6	2.54	0.43
4:U:2603:G:O2'	4:U:2606:C:OP2	2.29	0.43
4:U:2875:G:H2'	4:U:2876:U:C6	2.54	0.43
6:X:178:LYS:HB3	6:X:187:LEU:HD12	2.00	0.43
8:Z:106:VAL:O	8:Z:110:ARG:N	2.50	0.43
2:V:40:C:O2	8:Z:90:THR:OG1	2.31	0.43
4:U:682:G:C5	4:U:695:G:C2	3.06	0.43
4:U:695:G:C2	4:U:696:C:C5	3.07	0.43
4:U:1151:G:C2	4:U:1152:U:C5	3.07	0.43
4:U:1363:U:HO2'	4:U:2037:G:HO2'	1.67	0.43
4:U:1469:G:H2'	4:U:1470:G:C8	2.54	0.43
4:U:1689:A:O2'	4:U:1690:U:P	2.77	0.43
4:U:2064:A:H2'	4:U:2065:G:C8	2.53	0.43
8:Z:132:ILE:HB	8:Z:152:MET:O	2.19	0.43
8:Z:145:LYS:HE2	8:Z:147:THR:HA	2.00	0.43
8:Z:146:VAL:HG12	8:Z:148:LYS:NZ	2.34	0.43
18:k:40:PHE:H	18:k:48:VAL:HG23	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:s:30:SER:OG	26:s:31:HIS:ND1	2.39	0.43
1:B:87:ALA:O	1:B:92:GLY:HA2	2.19	0.43
4:U:110:U:H5''	4:U:111:U:OP1	2.19	0.43
4:U:144:U:H2'	4:U:145:G:C8	2.52	0.43
4:U:544:G:N1	4:U:547:A:OP2	2.51	0.43
4:U:562:G:H2'	4:U:563:U:C6	2.54	0.43
4:U:768:A:H2'	4:U:769:U:C6	2.54	0.43
4:U:1106:G:H5''	4:U:1132:A:H61	1.84	0.43
4:U:1215:U:H1'	4:U:1216:U:H3'	2.00	0.43
4:U:1241:A:C4	4:U:1242:A:C2	3.07	0.43
4:U:1483:A:N1	4:U:1598:G:C8	2.87	0.43
4:U:1553:A:C4	4:U:1554:A:C8	3.07	0.43
4:U:1801:C:H1'	5:W:11:ASN:HD22	1.82	0.43
4:U:2052:C:H2'	4:U:2053:U:C6	2.54	0.43
4:U:2334:G:N2	4:U:2334:G:OP1	2.51	0.43
4:U:2574:U:O2'	4:U:2575:G:H5''	2.18	0.43
5:W:133:ILE:HG13	5:W:186:SER:O	2.19	0.43
9:a:23:ASN:HD22	9:a:44:ILE:HG22	1.84	0.43
13:f:133:LYS:HB3	13:f:133:LYS:HE2	1.73	0.43
2:V:47:C:H2'	2:V:48:G:C8	2.54	0.42
4:U:453:G:H2'	4:U:454:A:C8	2.54	0.42
4:U:1314:A:H2'	4:U:1315:G:H8	1.83	0.42
4:U:1694:G:H2'	4:U:1695:A:H8	1.84	0.42
4:U:1694:G:H2'	4:U:1695:A:C8	2.54	0.42
4:U:1815:C:H2'	4:U:1816:A:H8	1.83	0.42
4:U:1868:U:C2	4:U:1869:G:C8	3.07	0.42
4:U:2344:C:H2'	4:U:2345:G:O4'	2.19	0.42
4:U:2356:A:H2'	4:U:2357:G:C8	2.54	0.42
4:U:2542:C:H2'	4:U:2543:G:H8	1.84	0.42
8:Z:135:GLN:NE2	8:Z:150:ARG:H	2.17	0.42
9:a:28:LYS:HD2	9:a:28:LYS:HA	1.89	0.42
11:d:25:LEU:HD11	11:d:59:LYS:NZ	2.34	0.42
15:h:72:SER:HB2	15:h:76:LYS:NZ	2.34	0.42
2:V:38:U:O2'	2:V:41:C:OP2	2.26	0.42
2:V:39:A:H62	8:Z:69:ARG:NH2	2.11	0.42
4:U:904:G:N2	4:U:962:A:OP2	2.45	0.42
4:U:1121:A:H2'	4:U:1121:A:N3	2.33	0.42
4:U:1516:G:H2'	4:U:1517:C:H6	1.81	0.42
4:U:1527:G:N1	4:U:1551:A:C6	2.87	0.42
4:U:1580:U:C4	4:U:1583:A:C5	3.07	0.42
4:U:2493:C:H2'	4:U:2494:C:H6	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:c:26:LEU:HD12	10:c:26:LEU:HA	1.83	0.42
2:V:104:G:H2'	2:V:105:A:O4'	2.19	0.42
3:b:18:LYS:HG3	3:b:19:LEU:HD22	2.01	0.42
4:U:774:G:H5'	4:U:775:C:H5''	2.00	0.42
4:U:1732:A:H2'	4:U:1733:A:C8	2.55	0.42
4:U:2558:A:C6	4:U:2559:G:C5	3.07	0.42
4:U:2688:G:H2'	4:U:2689:A:C8	2.54	0.42
4:U:2822:G:O2'	4:U:2825:A:N6	2.52	0.42
7:Y:155:VAL:HG12	7:Y:176:VAL:HG23	2.02	0.42
8:Z:56:GLU:HA	8:Z:59:PHE:CZ	2.55	0.42
8:Z:178:GLN:N	8:Z:178:GLN:OE1	2.52	0.42
13:f:38:GLU:HA	13:f:99:PRO:HG3	2.02	0.42
15:h:120:PHE:O	15:h:120:PHE:CD2	2.73	0.42
30:w:39:ASP:O	30:w:40:ASN:ND2	2.52	0.42
3:b:53:LYS:N	3:b:85:SER:HA	2.24	0.42
4:U:275:C:H2'	4:U:276:A:H8	1.84	0.42
4:U:389:A:H2'	4:U:390:C:C6	2.54	0.42
4:U:1092:A:C8	4:U:1155:A:C6	3.07	0.42
4:U:1120:C:C4	4:U:1122:C:H4'	2.53	0.42
4:U:1576:G:C4	4:U:1584:G:C2	3.07	0.42
4:U:1864:C:O2'	4:U:1954:A:N3	2.47	0.42
4:U:2337:A:N7	8:Z:76:GLY:N	2.66	0.42
4:U:2772:C:H2'	4:U:2773:U:H6	1.84	0.42
8:Z:132:ILE:HB	8:Z:152:MET:H	1.85	0.42
9:a:52:THR:OG1	9:a:52:THR:O	2.38	0.42
9:a:93:VAL:HG13	9:a:161:LYS:HE3	2.01	0.42
11:d:68:GLY:HA3	11:d:77:ILE:O	2.18	0.42
17:j:19:LYS:HD3	17:j:19:LYS:HA	1.67	0.42
17:j:95:LEU:HD23	17:j:95:LEU:HA	1.86	0.42
17:j:102:ASP:OD1	17:j:102:ASP:N	2.52	0.42
30:w:50:VAL:HG23	30:w:50:VAL:O	2.20	0.42
30:w:52:HIS:CE1	30:w:53:LEU:HD13	2.55	0.42
1:B:56:ASP:OD2	1:B:94:GLY:HA2	2.18	0.42
1:B:165:PHE:O	1:B:167:ILE:HD12	2.18	0.42
1:B:179:VAL:O	1:B:183:GLU:HG3	2.19	0.42
3:b:57:ASN:HA	4:U:1150:G:O5'	2.19	0.42
4:U:827:A:N7	5:W:220:VAL:HG21	2.34	0.42
4:U:924:G:C8	4:U:925:G:N2	2.85	0.42
4:U:1511:U:H2'	4:U:1512:C:C6	2.54	0.42
4:U:1529:G:C4	4:U:1530:A:C8	3.07	0.42
4:U:1755:G:O4'	4:U:1757:U:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:1973:U:H2'	4:U:1974:C:C6	2.55	0.42
4:U:2217:G:C6	4:U:2218:A:C6	3.07	0.42
4:U:2584:G:H2'	4:U:2585:C:C6	2.54	0.42
4:U:2825:A:N6	4:U:2826:G:N3	2.68	0.42
5:W:255:LEU:HD23	5:W:255:LEU:HA	1.79	0.42
5:W:275:LYS:HD3	5:W:275:LYS:HA	1.78	0.42
17:j:88:ILE:HG22	17:j:90:VAL:HG22	2.01	0.42
27:t:6:SER:O	27:t:6:SER:OG	2.32	0.42
30:w:17:GLU:O	30:w:21:VAL:HG23	2.18	0.42
1:B:122:THR:HB	1:B:125:GLU:CD	2.45	0.42
1:B:150:ILE:O	1:B:161:ARG:NH2	2.53	0.42
2:V:107:G:H2'	2:V:108:C:C6	2.54	0.42
1:A:122:THR:HG23	1:A:125:GLU:H	1.84	0.42
3:b:74:ASP:OD1	3:b:77:THR:OG1	2.35	0.42
4:U:138:A:H2'	4:U:139:U:C6	2.54	0.42
4:U:1065:A:H62	4:U:1185:U:H3	1.67	0.42
4:U:1087:C:H2'	4:U:1088:U:H6	1.85	0.42
4:U:1453:C:H1'	4:U:1454:A:N3	2.35	0.42
4:U:1765:A:H2'	4:U:1766:A:C8	2.54	0.42
4:U:2148:G:N7	4:U:2150:A:N6	2.68	0.42
4:U:2364:G:C2	4:U:2365:G:C8	3.07	0.42
4:U:2875:G:H2'	4:U:2876:U:H6	1.84	0.42
4:U:2922:A:H2'	4:U:2923:C:O2	2.19	0.42
7:Y:26:ILE:HG22	7:Y:115:SER:OG	2.19	0.42
8:Z:106:VAL:C	8:Z:109:PRO:HD2	2.45	0.42
9:a:164:ARG:HG2	9:a:165:TYR:O	2.19	0.42
14:g:73:GLU:HG2	14:g:74:GLU:N	2.35	0.42
1:B:80:LEU:HB3	1:B:85:ALA:HB2	2.01	0.42
2:V:47:C:H2'	2:V:48:G:H8	1.85	0.42
1:A:121:ILE:HD11	1:A:169:ARG:HA	2.00	0.42
3:b:58:THR:HG21	3:b:84:PHE:HE2	1.84	0.42
4:U:573:A:C2	4:U:2050:A:C8	3.08	0.42
4:U:1454:A:C2	4:U:1631:G:C2	3.08	0.42
4:U:1528:G:C8	4:U:1529:G:N7	2.88	0.42
4:U:1767:G:H2'	4:U:1768:C:H6	1.84	0.42
4:U:1829:A:H2'	4:U:1830:A:H8	1.84	0.42
4:U:1870:C:H2'	4:U:1871:U:C6	2.55	0.42
4:U:2488:C:H2'	4:U:2489:U:C6	2.55	0.42
4:U:2801:C:H2'	4:U:2802:A:O4'	2.20	0.42
4:U:2872:G:H1'	4:U:2889:G:H21	1.84	0.42
5:W:30:GLU:CD	5:W:32:SER:H	2.26	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:Z:26:MET:HE2	8:Z:26:MET:HB3	1.77	0.42
8:Z:32:GLU:OE1	8:Z:158:THR:HA	2.19	0.42
8:Z:78:ARG:HA	8:Z:80:ARG:NH1	2.35	0.42
13:f:85:SER:O	13:f:85:SER:OG	2.34	0.42
16:i:16:LEU:HA	16:i:16:LEU:HD23	1.77	0.42
20:m:50:LYS:O	20:m:84:THR:HG22	2.20	0.42
28:u:38:ILE:HD11	28:u:58:LYS:HD2	2.00	0.42
4:U:408:G:C2	4:U:409:G:N2	2.87	0.42
4:U:696:C:C4	4:U:697:A:C6	3.08	0.42
4:U:1123:C:H5	4:U:1132:A:N3	2.18	0.42
4:U:1349:U:H4'	4:U:1350:U:O5'	2.20	0.42
4:U:1754:U:H2'	4:U:1755:G:N2	2.34	0.42
4:U:1943:A:H2'	4:U:1945:A:OP2	2.20	0.42
5:W:107:PRO:HD2	5:W:110:ILE:HD13	2.00	0.42
5:W:185:LEU:HD23	5:W:185:LEU:HA	1.76	0.42
7:Y:135:LYS:HA	7:Y:135:LYS:HD2	1.68	0.42
12:e:120:LYS:HB3	12:e:120:LYS:HE3	1.82	0.42
20:m:88:LYS:HE3	20:m:88:LYS:HB2	1.77	0.42
2:V:48:G:O2'	2:V:49:G:O4'	2.37	0.42
1:A:156:ARG:HH11	1:A:159:HIS:CG	2.38	0.42
4:U:621:A:H2'	4:U:622:C:H6	1.85	0.42
4:U:899:U:H2'	4:U:900:G:H8	1.85	0.42
4:U:1112:G:C5	4:U:1140:A:H1'	2.55	0.42
4:U:1565:U:H3'	4:U:1566:G:H21	1.84	0.42
4:U:1612:A:OP1	5:W:210:ARG:NH2	2.38	0.42
7:Y:198:ALA:O	7:Y:202:VAL:HG12	2.20	0.42
8:Z:19:LYS:HB3	8:Z:19:LYS:HE3	1.85	0.42
11:d:88:ARG:NH2	11:d:92:SER:OG	2.51	0.42
12:e:93:PRO:HD3	12:e:124:LYS:O	2.20	0.42
13:f:83:MET:HE2	13:f:83:MET:HB3	1.80	0.42
25:r:3:ARG:HD3	25:r:3:ARG:HA	1.83	0.42
4:U:400:U:H2'	4:U:401:C:H6	1.85	0.42
4:U:945:A:H2'	4:U:946:A:O4'	2.20	0.42
4:U:1120:C:H5'	4:U:1121:A:OP2	2.19	0.42
4:U:1320:G:H1'	4:U:1366:U:C5	2.55	0.42
4:U:1554:A:O2'	4:U:1555:G:OP1	2.36	0.42
4:U:1579:A:H2'	4:U:1582:U:O2	2.20	0.42
4:U:1732:A:H2'	4:U:1733:A:H8	1.85	0.42
4:U:1777:G:O2'	4:U:1778:C:OP1	2.33	0.42
4:U:2132:A:H8	4:U:2132:A:OP2	2.03	0.42
4:U:2350:G:H2'	4:U:2351:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:o:57:GLU:OE2	22:o:88:SER:HB3	2.20	0.42
23:p:38:LEU:H	23:p:38:LEU:HD23	1.85	0.42
25:r:31:LEU:HA	25:r:31:LEU:HD23	1.79	0.42
1:B:135:GLU:HG2	1:B:139:ARG:HD3	2.01	0.41
2:V:30:C:N3	2:V:49:G:N1	2.67	0.41
4:U:1245:G:C2	4:U:1278:G:C2	3.07	0.41
4:U:1458:G:H1'	4:U:1629:A:H61	1.85	0.41
4:U:1491:C:H2'	4:U:1492:G:H8	1.85	0.41
4:U:1530:A:C4	4:U:1531:A:C8	3.07	0.41
4:U:1672:G:C6	4:U:1673:A:N6	2.88	0.41
4:U:1765:A:H2'	4:U:1766:A:O4'	2.20	0.41
4:U:1839:G:H1'	5:W:45:ASN:ND2	2.35	0.41
4:U:2074:C:H2'	4:U:2075:G:H8	1.84	0.41
4:U:2149:U:H3'	4:U:2150:A:H8	1.85	0.41
4:U:2472:G:OP1	7:Y:74:ARG:NH2	2.44	0.41
4:U:2701:G:H2'	4:U:2702:A:C8	2.54	0.41
5:W:17:THR:HG22	5:W:204:ASN:H	1.85	0.41
12:e:96:LEU:HD22	12:e:101:VAL:HG21	2.02	0.41
30:w:18:ASP:OD1	30:w:19:GLN:N	2.53	0.41
2:V:35:C:H2'	2:V:36:C:O4'	2.20	0.41
2:V:116:C:C2	2:V:117:A:C8	3.07	0.41
3:b:11:VAL:HG21	3:b:65:GLU:HB2	2.02	0.41
4:U:170:U:H2'	4:U:171:A:H8	1.85	0.41
4:U:276:A:N6	4:U:292:G:O6	2.53	0.41
4:U:338:U:H2'	4:U:339:G:O4'	2.20	0.41
4:U:986:G:C4	4:U:987:U:C5	3.09	0.41
4:U:1493:C:N4	4:U:1506:C:H42	2.18	0.41
4:U:1555:G:C6	4:U:1556:G:C6	3.09	0.41
4:U:1576:G:N3	4:U:1584:G:N2	2.68	0.41
4:U:1777:G:HO2'	4:U:1778:C:P	2.41	0.41
7:Y:102:PRO:HB2	7:Y:105:VAL:HG23	2.02	0.41
11:d:32:THR:OG1	11:d:33:ALA:N	2.53	0.41
12:e:97:LEU:HD22	12:e:105:LEU:HD13	2.01	0.41
23:p:27:MET:HB3	23:p:36:MET:HE3	2.03	0.41
1:B:136:MET:HB2	1:B:140:ARG:NE	2.35	0.41
4:U:283:U:O2'	4:U:284:U:H5	2.02	0.41
4:U:886:A:H2'	4:U:887:A:C8	2.54	0.41
4:U:2376:G:C6	4:U:2396:A:C6	3.09	0.41
4:U:2747:U:C2	4:U:2748:A:C8	3.08	0.41
7:Y:165:LEU:HD23	7:Y:165:LEU:HA	1.84	0.41
9:a:55:ARG:HB2	9:a:66:HIS:CG	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:a:88:LEU:HD23	9:a:88:LEU:HA	1.91	0.41
11:d:66:LYS:O	11:d:78:SER:OG	2.36	0.41
14:g:102:MET:SD	23:p:54:ILE:HG12	2.60	0.41
15:h:15:HIS:ND1	15:h:98:GLY:O	2.49	0.41
18:k:21:TYR:CE1	18:k:94:LYS:HB2	2.55	0.41
19:l:28:GLN:HB2	19:l:31:GLU:CD	2.46	0.41
2:V:111:C:H2'	2:V:112:C:C6	2.56	0.41
4:U:50:A:H2'	4:U:51:A:C8	2.56	0.41
4:U:751:A:H61	4:U:770:G:H1'	1.86	0.41
4:U:800:G:H2'	4:U:801:C:C6	2.55	0.41
4:U:1141:U:H2'	4:U:1142:A:O4'	2.21	0.41
4:U:1347:G:N2	4:U:1350:U:C4	2.88	0.41
4:U:1454:A:N3	4:U:1630:G:N2	2.67	0.41
4:U:1563:U:C2	4:U:1564:G:C8	3.08	0.41
4:U:1671:G:H2'	4:U:1672:G:C8	2.50	0.41
4:U:2188:C:C4	4:U:2189:A:N7	2.89	0.41
4:U:2206:C:H2'	4:U:2207:U:C6	2.55	0.41
4:U:2335:G:N2	4:U:2337:A:H2'	2.36	0.41
4:U:2355:A:H8	4:U:2355:A:OP2	2.03	0.41
4:U:2570:G:H2'	4:U:2571:G:C8	2.55	0.41
8:Z:6:GLU:O	8:Z:10:LYS:NZ	2.31	0.41
8:Z:128:TYR:HE1	8:Z:130:LEU:HD12	1.85	0.41
28:u:18:ARG:HD2	28:u:22:MET:HE3	2.01	0.41
29:v:4:ASN:HA	29:v:7:ARG:HE	1.85	0.41
2:V:43:A:C4	2:V:44:A:C8	3.09	0.41
4:U:134:C:H2'	4:U:135:G:H8	1.85	0.41
4:U:287:C:O2'	4:U:288:U:OP2	2.30	0.41
4:U:399:C:H2'	4:U:400:U:C6	2.56	0.41
4:U:678:G:H2'	4:U:679:C:H6	1.86	0.41
4:U:1570:G:OP2	4:U:1570:G:H2'	2.20	0.41
8:Z:34:ILE:HB	8:Z:156:ILE:HD13	2.03	0.41
8:Z:73:SER:C	8:Z:80:ARG:HE	2.28	0.41
9:a:165:TYR:O	9:a:167:GLY:N	2.54	0.41
14:g:107:ARG:HG2	14:g:108:ARG:H	1.86	0.41
21:n:41:VAL:HG22	21:n:42:LYS:O	2.21	0.41
21:n:93:VAL:HA	21:n:99:GLN:O	2.20	0.41
29:v:10:THR:HA	29:v:60:ARG:NH1	2.35	0.41
1:A:176:LEU:O	1:A:180:MET:HG2	2.20	0.41
4:U:278:G:H2'	4:U:279:A:C8	2.56	0.41
4:U:280:G:C6	4:U:281:G:C6	3.09	0.41
4:U:675:A:N3	4:U:2442:G:O2'	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:688:A:C2	4:U:690:A:C4	3.09	0.41
4:U:1091:G:HO2'	4:U:1092:A:C5'	2.32	0.41
4:U:1423:C:H2'	4:U:1424:A:H8	1.85	0.41
4:U:1449:U:H2'	4:U:1450:C:H6	1.85	0.41
4:U:1721:A:C4	4:U:1722:A:C8	3.08	0.41
4:U:2782:C:H3'	27:t:19:ARG:NH2	2.35	0.41
5:W:37:LEU:HD13	5:W:62:TYR:HB2	2.02	0.41
5:W:71:LYS:HB3	5:W:71:LYS:HE3	1.82	0.41
14:g:90:ARG:HD2	14:g:91:TYR:CE1	2.55	0.41
15:h:23:SER:OG	15:h:47:ASP:OD2	2.26	0.41
15:h:27:GLU:C	15:h:29:PRO:HD3	2.45	0.41
25:r:25:LYS:HE3	25:r:25:LYS:HB3	1.77	0.41
2:V:68:C:H2'	2:V:69:C:H6	1.85	0.41
3:b:40:GLU:HG2	3:b:107:GLU:HG3	2.02	0.41
3:b:62:ARG:HH22	3:b:82:ILE:HG13	1.85	0.41
4:U:696:C:C2	4:U:697:A:C8	3.09	0.41
4:U:703:A:H2'	4:U:704:C:C6	2.56	0.41
4:U:942:C:C5	4:U:944:G:C2	3.09	0.41
4:U:971:G:C4	4:U:972:A:C8	3.09	0.41
4:U:1216:U:H1'	4:U:1217:C:C4	2.55	0.41
4:U:1577:A:N6	4:U:1586:A:C4	2.88	0.41
4:U:1583:A:C6	4:U:1585:U:C2	3.08	0.41
4:U:2533:U:O4	4:U:2610:G:O6	2.38	0.41
4:U:2670:G:H2'	4:U:2671:A:C8	2.52	0.41
7:Y:143:LEU:HD23	7:Y:143:LEU:HA	1.88	0.41
8:Z:58:THR:HG22	8:Z:64:LYS:HA	2.02	0.41
12:e:124:LYS:HE2	12:e:124:LYS:HB3	1.83	0.41
16:i:62:PHE:HD1	16:i:79:VAL:HG12	1.85	0.41
18:k:32:THR:HA	18:k:61:LYS:HA	2.02	0.41
30:w:52:HIS:CD2	30:w:52:HIS:H	2.38	0.41
4:U:131:A:H2'	4:U:132:C:C6	2.56	0.41
4:U:145:G:H2'	4:U:146:G:H8	1.86	0.41
4:U:159:A:C6	4:U:160:A:C6	3.08	0.41
4:U:1105:U:O2'	4:U:1106:G:OP2	2.31	0.41
4:U:1115:G:H1'	4:U:1116:C:C5	2.56	0.41
4:U:1877:G:H2'	4:U:1878:U:H6	1.84	0.41
4:U:2157:U:H4'	4:U:2161:A:C2	2.56	0.41
4:U:2618:C:H2'	4:U:2619:G:H8	1.86	0.41
8:Z:103:LEU:HG	8:Z:107:SER:OG	2.20	0.41
8:Z:163:ASP:O	8:Z:167:ARG:HG3	2.21	0.41
12:e:120:LYS:C	12:e:121:LEU:HD22	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:j:52:GLN:O	17:j:55:ARG:HG2	2.20	0.41
1:B:5:GLU:OE2	1:B:5:GLU:N	2.53	0.41
1:B:82:ARG:NH1	1:B:143:ARG:HH21	2.19	0.41
1:B:134:GLY:C	1:B:136:MET:H	2.29	0.41
2:V:31:G:C6	2:V:48:G:C6	3.09	0.41
4:U:619:G:H2'	4:U:620:A:C8	2.55	0.41
4:U:658:G:H2'	4:U:659:A:C8	2.56	0.41
4:U:922:U:O2'	4:U:924:G:N7	2.54	0.41
4:U:923:A:H2	4:U:945:A:C6	2.39	0.41
4:U:1087:C:H2'	4:U:1088:U:C6	2.56	0.41
4:U:1126:U:H2'	4:U:1127:U:C6	2.56	0.41
4:U:1241:A:C5	4:U:1242:A:N1	2.89	0.41
4:U:1422:A:H1'	4:U:1423:C:C6	2.56	0.41
4:U:1489:A:H62	4:U:1510:G:H22	1.68	0.41
4:U:1527:G:HO2'	4:U:1528:G:C4'	2.29	0.41
4:U:1587:G:H2'	4:U:1588:C:C6	2.56	0.41
4:U:1593:U:H2'	4:U:1594:U:C6	2.56	0.41
4:U:1917:A:H2	4:U:2262:G:H1'	1.85	0.41
4:U:2048:G:H2'	4:U:2048:G:N3	2.36	0.41
4:U:2123:U:O4	4:U:2220:C:C4	2.74	0.41
4:U:2154:G:O2'	4:U:2155:C:O4'	2.38	0.41
4:U:2174:A:N7	4:U:2175:G:C2	2.89	0.41
4:U:2208:G:C2	4:U:2209:G:C2	3.09	0.41
4:U:2233:G:H2'	4:U:2234:C:H6	1.86	0.41
4:U:2656:A:N6	4:U:2917:A:N3	2.69	0.41
8:Z:14:PRO:O	8:Z:18:THR:HG22	2.20	0.41
8:Z:34:ILE:HD11	8:Z:154:ILE:HD11	2.03	0.41
11:d:101:PRO:HD2	16:i:71:VAL:CG1	2.51	0.41
13:f:39:ALA:HA	13:f:97:VAL:O	2.21	0.41
16:i:51:ILE:HD13	16:i:51:ILE:HA	1.87	0.41
1:B:45:ALA:O	1:B:50:GLY:N	2.41	0.41
1:B:161:ARG:HA	1:B:164:VAL:HG12	2.02	0.41
3:b:23:LYS:HG2	3:b:92:PRO:HD3	2.03	0.41
4:U:63:A:H2'	4:U:64:C:H6	1.86	0.41
4:U:271:A:OP2	4:U:295:G:N2	2.53	0.41
4:U:490:C:H2'	4:U:491:G:O4'	2.20	0.41
4:U:803:G:H21	4:U:2008:A:N6	2.19	0.41
4:U:1569:G:H2'	4:U:1570:G:H5'	2.03	0.41
4:U:1821:U:H2'	4:U:1822:C:C6	2.56	0.41
4:U:1939:A:H62	4:U:1945:A:H1'	1.86	0.41
4:U:2217:G:C2'	4:U:2218:A:H5'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:2563:G:H2'	4:U:2564:U:H6	1.85	0.41
4:U:2822:G:C2	4:U:2826:G:C6	3.09	0.41
9:a:110:TYR:CZ	9:a:153:ARG:HD3	2.56	0.41
11:d:9:LYS:HE2	11:d:9:LYS:HB2	1.90	0.41
15:h:67:SER:OG	15:h:70:ASP:OD1	2.36	0.41
17:j:58:ARG:NH2	17:j:93:LYS:HE2	2.36	0.41
2:V:41:C:H4'	8:Z:95:ARG:NH2	2.36	0.40
3:b:43:LYS:HE2	3:b:102:ASN:CG	2.47	0.40
4:U:8:A:C6	4:U:2656:A:C5	3.10	0.40
4:U:113:C:H2'	4:U:114:G:O4'	2.21	0.40
4:U:930:C:C2	4:U:937:G:N2	2.89	0.40
4:U:1454:A:H8	4:U:1455:U:C4	2.40	0.40
4:U:1579:A:H8	4:U:1580:U:C5	2.38	0.40
4:U:1909:C:H2'	4:U:1910:G:O4'	2.21	0.40
4:U:1942:U:C5	4:U:1988:C:H2'	2.56	0.40
4:U:2158:U:P	4:U:2161:A:H61	2.44	0.40
4:U:2356:A:H2'	4:U:2357:G:H8	1.86	0.40
8:Z:104:ILE:HA	8:Z:108:LEU:HD22	2.03	0.40
8:Z:165:GLU:O	8:Z:168:GLU:HG2	2.21	0.40
20:m:14:THR:OG1	20:m:15:GLU:N	2.54	0.40
1:B:68:ILE:HA	1:B:71:GLN:HB2	2.03	0.40
2:V:46:A:H2'	2:V:47:C:C6	2.57	0.40
4:U:8:A:C6	4:U:9:G:N2	2.89	0.40
4:U:64:C:C2	4:U:65:A:C8	3.09	0.40
4:U:442:U:OP2	28:u:10:LYS:NZ	2.45	0.40
4:U:596:U:H2'	4:U:597:G:O4'	2.21	0.40
4:U:1750:G:C5	4:U:1783:G:C6	3.09	0.40
4:U:2327:A:H2'	4:U:2328:A:C8	2.57	0.40
4:U:2521:G:C2	4:U:2522:G:C8	3.09	0.40
6:X:6:LEU:H	6:X:33:ASN:ND2	2.18	0.40
6:X:12:MET:HE2	6:X:12:MET:HB3	1.81	0.40
17:j:91:ASN:N	17:j:91:ASN:HD22	2.20	0.40
1:B:101:ASP:O	1:B:105:GLN:HG2	2.20	0.40
2:V:53:U:H1'	8:Z:26:MET:SD	2.61	0.40
1:A:123:PHE:O	1:A:127:ILE:HG12	2.20	0.40
6:X:124:LYS:HE3	6:X:124:LYS:HB2	1.96	0.40
8:Z:51:ASP:O	8:Z:54:VAL:HG22	2.21	0.40
27:t:19:ARG:HD2	27:t:24:MET:SD	2.61	0.40
1:B:123:PHE:O	1:B:127:ILE:HG23	2.21	0.40
1:B:124:ALA:O	1:B:128:GLU:HG2	2.21	0.40
4:U:108:A:C6	4:U:109:U:C4	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:350:G:C2	4:U:545:A:N7	2.90	0.40
4:U:1518:A:C5	4:U:1519:G:N1	2.90	0.40
4:U:1567:A:H5'	4:U:1569:G:H1'	2.02	0.40
4:U:1772:A:H3'	4:U:1773:G:C8	2.50	0.40
4:U:2127:G:N1	4:U:2216:U:N3	2.24	0.40
4:U:2274:A:H2'	4:U:2275:C:H6	1.86	0.40
4:U:2862:G:H2'	4:U:2863:U:H6	1.86	0.40
5:W:131:PRO:HA	5:W:189:ARG:HA	2.02	0.40
6:X:191:ASN:OD1	6:X:191:ASN:N	2.54	0.40
7:Y:10:ASN:OD1	7:Y:10:ASN:N	2.54	0.40
7:Y:161:GLU:N	7:Y:161:GLU:OE1	2.54	0.40
9:a:23:ASN:O	9:a:37:THR:HA	2.21	0.40
4:U:290:U:H2'	4:U:291:U:H6	1.85	0.40
4:U:355:G:H2'	4:U:356:C:C6	2.56	0.40
4:U:1095:A:H2'	4:U:1096:C:C6	2.57	0.40
4:U:1213:U:H2'	4:U:1214:C:C6	2.56	0.40
4:U:1528:G:C5	4:U:1529:G:N7	2.89	0.40
4:U:1607:C:H2'	4:U:1608:U:C6	2.56	0.40
7:Y:149:GLU:OE1	7:Y:149:GLU:N	2.55	0.40
8:Z:4:LEU:HD21	8:Z:97:TYR:HB3	2.02	0.40
8:Z:128:TYR:HD1	8:Z:156:ILE:HG22	1.85	0.40
9:a:79:GLY:O	9:a:83:GLY:N	2.53	0.40
9:a:160:GLY:H	9:a:172:ARG:NH1	2.20	0.40
10:c:63:ILE:HG13	10:c:102:LEU:HD11	2.03	0.40
19:l:80:PRO:O	19:l:100:THR:OG1	2.27	0.40
21:n:32:ARG:HB3	21:n:62:PRO:HB2	2.04	0.40
21:n:84:LYS:O	21:n:86:GLU:HG2	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	67/187 (36%)	63 (94%)	4 (6%)	0	100	100
1	B	181/187 (97%)	169 (93%)	12 (7%)	0	100	100
3	b	121/166 (73%)	97 (80%)	24 (20%)	0	100	100
5	W	273/277 (99%)	242 (89%)	31 (11%)	0	100	100
6	X	205/209 (98%)	183 (89%)	22 (11%)	0	100	100
7	Y	203/207 (98%)	178 (88%)	25 (12%)	0	100	100
8	Z	176/179 (98%)	149 (85%)	27 (15%)	0	100	100
9	a	173/179 (97%)	151 (87%)	22 (13%)	0	100	100
10	c	140/145 (97%)	131 (94%)	9 (6%)	0	100	100
11	d	120/122 (98%)	110 (92%)	10 (8%)	0	100	100
12	e	144/146 (99%)	129 (90%)	15 (10%)	0	100	100
13	f	136/144 (94%)	129 (95%)	7 (5%)	0	100	100
14	g	117/120 (98%)	105 (90%)	12 (10%)	0	100	100
15	h	118/120 (98%)	108 (92%)	10 (8%)	0	100	100
16	i	112/115 (97%)	105 (94%)	7 (6%)	0	100	100
17	j	115/119 (97%)	109 (95%)	6 (5%)	0	100	100
18	k	99/102 (97%)	83 (84%)	16 (16%)	0	100	100
19	l	107/113 (95%)	105 (98%)	2 (2%)	0	100	100
20	m	91/95 (96%)	84 (92%)	7 (8%)	0	100	100
21	n	99/103 (96%)	90 (91%)	9 (9%)	0	100	100
22	o	80/94 (85%)	73 (91%)	7 (9%)	0	100	100
23	p	52/59 (88%)	47 (90%)	5 (10%)	0	100	100
24	q	46/49 (94%)	42 (91%)	4 (9%)	0	100	100
25	r	42/44 (96%)	40 (95%)	2 (5%)	0	100	100
26	s	62/66 (94%)	58 (94%)	4 (6%)	0	100	100
27	t	34/37 (92%)	33 (97%)	1 (3%)	0	100	100
28	u	56/62 (90%)	50 (89%)	6 (11%)	0	100	100
29	v	63/66 (96%)	56 (89%)	7 (11%)	0	100	100
30	w	56/59 (95%)	55 (98%)	1 (2%)	0	100	100
All	All	3288/3571 (92%)	2974 (90%)	314 (10%)	0	100	100

There are no Ramachandran outliers to report.

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	
1	A	50/143 (35%)	50 (100%)	0	100	100
1	B	139/143 (97%)	139 (100%)	0	100	100
3	b	105/138 (76%)	105 (100%)	0	100	100
5	W	223/225 (99%)	223 (100%)	0	100	100
6	X	168/170 (99%)	168 (100%)	0	100	100
7	Y	169/170 (99%)	168 (99%)	1 (1%)	78	81
8	Z	153/154 (99%)	153 (100%)	0	100	100
9	a	148/151 (98%)	148 (100%)	0	100	100
10	c	120/123 (98%)	120 (100%)	0	100	100
11	d	101/101 (100%)	101 (100%)	0	100	100
12	e	110/110 (100%)	110 (100%)	0	100	100
13	f	111/116 (96%)	111 (100%)	0	100	100
14	g	99/100 (99%)	99 (100%)	0	100	100
15	h	93/93 (100%)	93 (100%)	0	100	100
16	i	99/100 (99%)	99 (100%)	0	100	100
17	j	96/98 (98%)	96 (100%)	0	100	100
18	k	83/84 (99%)	83 (100%)	0	100	100
19	l	90/93 (97%)	90 (100%)	0	100	100
20	m	84/85 (99%)	84 (100%)	0	100	100
21	n	85/87 (98%)	85 (100%)	0	100	100
22	o	64/74 (86%)	64 (100%)	0	100	100
23	p	48/53 (91%)	48 (100%)	0	100	100
24	q	46/47 (98%)	46 (100%)	0	100	100
25	r	39/39 (100%)	39 (100%)	0	100	100
26	s	54/56 (96%)	54 (100%)	0	100	100
27	t	34/35 (97%)	34 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
28	u	47/50 (94%)	47 (100%)	0	100	100
29	v	56/57 (98%)	56 (100%)	0	100	100
30	w	52/53 (98%)	52 (100%)	0	100	100
All	All	2766/2948 (94%)	2765 (100%)	1 (0%)	100	100

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	Y	206	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (50) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	159	HIS
5	W	11	ASN
5	W	58	HIS
5	W	86	ASN
5	W	90	ASN
5	W	230	HIS
5	W	232	HIS
6	X	33	ASN
6	X	135	HIS
6	X	173	ASN
7	Y	40	GLN
8	Z	45	GLN
8	Z	46	ASN
8	Z	135	GLN
8	Z	161	ASN
9	a	22	ASN
9	a	62	HIS
9	a	148	ASN
10	c	81	HIS
10	c	124	ASN
12	e	78	ASN
12	e	126	ASN
13	f	13	HIS
13	f	123	HIS
14	g	76	ASN
14	g	81	GLN
16	i	39	ASN

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Mol	Chain	Res	Type
16	i	80	HIS
17	j	37	GLN
17	j	72	ASN
17	j	91	ASN
17	j	108	GLN
17	j	118	ASN
19	l	97	ASN
19	l	102	HIS
20	m	55	ASN
21	n	64	HIS
22	o	37	GLN
23	p	40	HIS
24	q	4	ASN
24	q	16	ASN
24	q	25	ASN
24	q	45	HIS
28	u	41	ASN
29	v	4	ASN
29	v	16	GLN
29	v	65	ASN
30	w	33	GLN
30	w	37	HIS
30	w	40	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	V	122/123 (99%)	27 (22%)	4 (3%)
4	U	2923/2924 (99%)	607 (20%)	41 (1%)
All	All	3045/3047 (99%)	634 (20%)	45 (1%)

All (634) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	V	4	G
2	V	10	G
2	V	13	A
2	V	14	G
2	V	15	C
2	V	19	G
2	V	20	A

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Mol	Chain	Res	Type
2	V	22	G
2	V	23	U
2	V	24	C
2	V	28	C
2	V	40	C
2	V	47	C
2	V	48	G
2	V	49	G
2	V	51	A
2	V	55	A
2	V	60	C
2	V	63	C
2	V	64	A
2	V	85	U
2	V	86	U
2	V	87	U
2	V	88	C
2	V	97	A
2	V	103	G
2	V	107	G
4	U	11	A
4	U	13	G
4	U	26	A
4	U	31	U
4	U	32	U
4	U	41	G
4	U	42	A
4	U	43	G
4	U	44	C
4	U	53	G
4	U	60	C
4	U	61	G
4	U	69	A
4	U	73	G
4	U	94	G
4	U	99	G
4	U	100	A
4	U	108	A
4	U	109	U
4	U	110	U
4	U	115	A
4	U	117	U

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Mol	Chain	Res	Type
4	U	128	A
4	U	148	A
4	U	155	U
4	U	162	U
4	U	164	A
4	U	170	U
4	U	173	G
4	U	174	A
4	U	175	G
4	U	197	A
4	U	200	A
4	U	205	A
4	U	214	A
4	U	217	A
4	U	222	A
4	U	223	A
4	U	224	A
4	U	225	G
4	U	228	A
4	U	231	G
4	U	234	A
4	U	243	G
4	U	249	G
4	U	251	G
4	U	256	A
4	U	266	A
4	U	267	G
4	U	273	A
4	U	279	A
4	U	280	G
4	U	284	U
4	U	285	G
4	U	286	C
4	U	288	U
4	U	289	C
4	U	296	U
4	U	297	U
4	U	298	G
4	U	299	U
4	U	300	A
4	U	311	U
4	U	312	A

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Mol	Chain	Res	Type
4	U	313	C
4	U	319	U
4	U	322	A
4	U	324	A
4	U	325	G
4	U	326	G
4	U	328	A
4	U	336	G
4	U	341	A
4	U	342	G
4	U	344	G
4	U	351	A
4	U	353	A
4	U	365	G
4	U	370	U
4	U	371	A
4	U	372	A
4	U	380	G
4	U	387	A
4	U	388	A
4	U	390	C
4	U	394	G
4	U	398	U
4	U	403	U
4	U	404	G
4	U	407	U
4	U	409	G
4	U	415	G
4	U	416	A
4	U	417	G
4	U	430	C
4	U	431	G
4	U	432	U
4	U	433	G
4	U	436	A
4	U	446	A
4	U	449	C
4	U	450	C
4	U	457	A
4	U	464	C
4	U	501	C
4	U	502	A

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Mol	Chain	Res	Type
4	U	518	G
4	U	526	G
4	U	527	C
4	U	535	A
4	U	536	A
4	U	549	A
4	U	552	U
4	U	553	C
4	U	557	A
4	U	565	U
4	U	566	G
4	U	574	G
4	U	575	U
4	U	576	A
4	U	577	G
4	U	582	A
4	U	590	A
4	U	593	G
4	U	604	U
4	U	605	G
4	U	615	G
4	U	616	A
4	U	617	A
4	U	628	A
4	U	629	G
4	U	645	A
4	U	649	U
4	U	656	A
4	U	677	A
4	U	678	G
4	U	681	A
4	U	687	A
4	U	689	U
4	U	696	C
4	U	697	A
4	U	698	U
4	U	700	A
4	U	714	G
4	U	715	A
4	U	731	U
4	U	756	A
4	U	760	A

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Mol	Chain	Res	Type
4	U	763	A
4	U	775	C
4	U	792	U
4	U	810	G
4	U	820	G
4	U	827	A
4	U	828	A
4	U	829	U
4	U	835	U
4	U	836	C
4	U	837	G
4	U	847	A
4	U	850	G
4	U	857	C
4	U	864	A
4	U	872	U
4	U	873	U
4	U	890	U
4	U	904	G
4	U	911	A
4	U	921	C
4	U	922	U
4	U	924	G
4	U	925	G
4	U	927	G
4	U	929	C
4	U	933	A
4	U	934	C
4	U	935	C
4	U	936	G
4	U	941	A
4	U	942	C
4	U	943	C
4	U	944	G
4	U	946	A
4	U	955	A
4	U	956	A
4	U	957	C
4	U	959	C
4	U	962	A
4	U	970	U
4	U	985	A

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Mol	Chain	Res	Type
4	U	989	A
4	U	990	G
4	U	1003	A
4	U	1005	G
4	U	1018	A
4	U	1027	A
4	U	1040	A
4	U	1041	G
4	U	1043	U
4	U	1048	U
4	U	1056	U
4	U	1057	A
4	U	1066	G
4	U	1067	U
4	U	1070	A
4	U	1077	U
4	U	1089	U
4	U	1091	G
4	U	1092	A
4	U	1098	A
4	U	1099	G
4	U	1100	G
4	U	1101	A
4	U	1102	U
4	U	1103	G
4	U	1104	U
4	U	1105	U
4	U	1106	G
4	U	1108	C
4	U	1109	U
4	U	1111	A
4	U	1113	A
4	U	1116	C
4	U	1117	A
4	U	1118	G
4	U	1119	C
4	U	1120	C
4	U	1121	A
4	U	1122	C
4	U	1123	C
4	U	1124	A
4	U	1125	U

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Mol	Chain	Res	Type
4	U	1126	U
4	U	1128	A
4	U	1131	G
4	U	1132	A
4	U	1133	G
4	U	1134	U
4	U	1137	G
4	U	1138	U
4	U	1139	A
4	U	1140	A
4	U	1141	U
4	U	1144	C
4	U	1150	G
4	U	1152	U
4	U	1155	A
4	U	1156	G
4	U	1158	G
4	U	1171	A
4	U	1172	A
4	U	1176	U
4	U	1177	A
4	U	1178	C
4	U	1179	C
4	U	1183	G
4	U	1186	A
4	U	1192	A
4	U	1207	G
4	U	1215	U
4	U	1216	U
4	U	1217	C
4	U	1218	G
4	U	1220	A
4	U	1244	G
4	U	1245	G
4	U	1248	G
4	U	1276	G
4	U	1291	A
4	U	1294	G
4	U	1295	C
4	U	1303	A
4	U	1309	G
4	U	1310	A

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Mol	Chain	Res	Type
4	U	1312	A
4	U	1313	G
4	U	1337	A
4	U	1338	A
4	U	1339	U
4	U	1349	U
4	U	1350	U
4	U	1362	C
4	U	1375	G
4	U	1378	U
4	U	1382	C
4	U	1389	U
4	U	1402	A
4	U	1416	U
4	U	1421	A
4	U	1422	A
4	U	1431	U
4	U	1432	A
4	U	1433	U
4	U	1437	U
4	U	1447	C
4	U	1448	C
4	U	1453	C
4	U	1454	A
4	U	1456	U
4	U	1457	U
4	U	1458	G
4	U	1463	A
4	U	1464	U
4	U	1471	A
4	U	1472	C
4	U	1486	G
4	U	1488	A
4	U	1493	C
4	U	1494	G
4	U	1496	U
4	U	1497	A
4	U	1498	U
4	U	1499	U
4	U	1501	G
4	U	1502	A
4	U	1503	U

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Mol	Chain	Res	Type
4	U	1504	A
4	U	1505	U
4	U	1511	U
4	U	1517	C
4	U	1522	A
4	U	1526	U
4	U	1527	G
4	U	1529	G
4	U	1531	A
4	U	1533	U
4	U	1534	A
4	U	1537	C
4	U	1538	A
4	U	1541	U
4	U	1551	A
4	U	1552	U
4	U	1554	A
4	U	1555	G
4	U	1558	U
4	U	1559	G
4	U	1560	A
4	U	1568	U
4	U	1569	G
4	U	1570	G
4	U	1571	C
4	U	1577	A
4	U	1579	A
4	U	1580	U
4	U	1581	A
4	U	1582	U
4	U	1584	G
4	U	1585	U
4	U	1594	U
4	U	1605	C
4	U	1612	A
4	U	1615	A
4	U	1624	U
4	U	1629	A
4	U	1630	G
4	U	1650	C
4	U	1651	A
4	U	1653	A

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Mol	Chain	Res	Type
4	U	1660	C
4	U	1665	A
4	U	1690	U
4	U	1691	C
4	U	1717	G
4	U	1718	C
4	U	1743	A
4	U	1744	A
4	U	1755	G
4	U	1756	U
4	U	1772	A
4	U	1775	G
4	U	1776	A
4	U	1777	G
4	U	1778	C
4	U	1779	C
4	U	1790	G
4	U	1791	G
4	U	1796	G
4	U	1800	A
4	U	1803	G
4	U	1808	G
4	U	1812	A
4	U	1827	C
4	U	1828	G
4	U	1829	A
4	U	1835	U
4	U	1836	A
4	U	1837	A
4	U	1843	A
4	U	1844	G
4	U	1856	A
4	U	1874	A
4	U	1885	G
4	U	1893	A
4	U	1896	G
4	U	1897	U
4	U	1899	A
4	U	1900	G
4	U	1904	A
4	U	1910	G
4	U	1911	A

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Mol	Chain	Res	Type
4	U	1916	A
4	U	1917	A
4	U	1926	A
4	U	1928	A
4	U	1933	G
4	U	1942	U
4	U	1943	A
4	U	1944	U
4	U	1945	A
4	U	1951	C
4	U	1954	A
4	U	1955	A
4	U	1956	G
4	U	1957	G
4	U	1963	A
4	U	1964	A
4	U	1965	A
4	U	1967	U
4	U	1982	U
4	U	1990	C
4	U	1992	C
4	U	1994	C
4	U	1997	A
4	U	1998	A
4	U	1999	G
4	U	2018	U
4	U	2019	G
4	U	2020	U
4	U	2023	C
4	U	2024	A
4	U	2048	G
4	U	2050	A
4	U	2058	A
4	U	2060	A
4	U	2070	C
4	U	2078	A
4	U	2079	G
4	U	2082	C
4	U	2087	A
4	U	2088	G
4	U	2089	A
4	U	2096	G

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Mol	Chain	Res	Type
4	U	2119	U
4	U	2120	G
4	U	2123	U
4	U	2127	G
4	U	2129	U
4	U	2130	A
4	U	2132	A
4	U	2135	U
4	U	2136	U
4	U	2137	G
4	U	2138	U
4	U	2139	A
4	U	2140	C
4	U	2141	A
4	U	2144	A
4	U	2145	U
4	U	2147	G
4	U	2149	U
4	U	2150	A
4	U	2151	G
4	U	2152	G
4	U	2153	A
4	U	2154	G
4	U	2160	G
4	U	2161	A
4	U	2162	A
4	U	2167	G
4	U	2169	G
4	U	2173	C
4	U	2174	A
4	U	2177	U
4	U	2178	U
4	U	2180	G
4	U	2181	G
4	U	2184	G
4	U	2186	G
4	U	2187	G
4	U	2188	C
4	U	2191	C
4	U	2192	G
4	U	2193	G
4	U	2194	U

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Mol	Chain	Res	Type
4	U	2195	G
4	U	2196	G
4	U	2197	G
4	U	2198	A
4	U	2202	U
4	U	2208	G
4	U	2209	G
4	U	2210	C
4	U	2215	U
4	U	2216	U
4	U	2218	A
4	U	2220	C
4	U	2230	G
4	U	2231	C
4	U	2244	G
4	U	2250	A
4	U	2252	A
4	U	2265	G
4	U	2266	G
4	U	2306	G
4	U	2310	C
4	U	2314	A
4	U	2331	G
4	U	2332	U
4	U	2335	G
4	U	2336	A
4	U	2337	A
4	U	2338	A
4	U	2343	U
4	U	2345	G
4	U	2347	A
4	U	2349	A
4	U	2355	A
4	U	2360	A
4	U	2361	C
4	U	2362	A
4	U	2372	G
4	U	2374	C
4	U	2377	C
4	U	2388	A
4	U	2398	G
4	U	2404	A

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Mol	Chain	Res	Type
4	U	2410	G
4	U	2412	C
4	U	2433	C
4	U	2449	C
4	U	2450	U
4	U	2451	C
4	U	2452	A
4	U	2456	G
4	U	2457	A
4	U	2466	A
4	U	2468	C
4	U	2475	A
4	U	2497	G
4	U	2501	C
4	U	2503	A
4	U	2505	A
4	U	2508	G
4	U	2511	G
4	U	2529	G
4	U	2532	G
4	U	2540	A
4	U	2545	A
4	U	2556	G
4	U	2561	C
4	U	2562	G
4	U	2569	A
4	U	2579	U
4	U	2582	U
4	U	2583	C
4	U	2593	A
4	U	2594	G
4	U	2599	A
4	U	2605	G
4	U	2609	G
4	U	2610	G
4	U	2612	U
4	U	2613	C
4	U	2636	U
4	U	2637	C
4	U	2640	U
4	U	2656	A
4	U	2657	G

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Mol	Chain	Res	Type
4	U	2666	A
4	U	2673	C
4	U	2686	G
4	U	2716	U
4	U	2717	A
4	U	2729	G
4	U	2740	C
4	U	2749	G
4	U	2751	U
4	U	2753	U
4	U	2760	A
4	U	2762	G
4	U	2771	G
4	U	2775	A
4	U	2783	U
4	U	2791	A
4	U	2792	A
4	U	2793	G
4	U	2803	A
4	U	2805	A
4	U	2806	U
4	U	2816	C
4	U	2821	C
4	U	2823	C
4	U	2826	G
4	U	2831	U
4	U	2843	A
4	U	2847	U
4	U	2848	G
4	U	2856	U
4	U	2857	G
4	U	2858	A
4	U	2890	G
4	U	2891	A
4	U	2895	G
4	U	2903	C
4	U	2914	A
4	U	2916	G
4	U	2919	U

All (45) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	V	3	U
2	V	19	G
2	V	47	C
2	V	59	U
4	U	10	A
4	U	41	G
4	U	108	A
4	U	109	U
4	U	173	G
4	U	227	A
4	U	250	C
4	U	265	C
4	U	403	U
4	U	408	G
4	U	435	A
4	U	526	G
4	U	535	A
4	U	556	G
4	U	791	U
4	U	835	U
4	U	921	C
4	U	1091	G
4	U	1115	G
4	U	1122	C
4	U	1133	G
4	U	1154	G
4	U	1216	U
4	U	1243	G
4	U	1337	A
4	U	1349	U
4	U	1436	C
4	U	1456	U
4	U	1516	G
4	U	1554	A
4	U	1579	A
4	U	1593	U
4	U	1628	G
4	U	1689	A
4	U	1777	G
4	U	1811	A
4	U	1835	U
4	U	2161	A
4	U	2186	G

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Mol	Chain	Res	Type
4	U	2782	C
4	U	2890	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 222 ligands modelled in this entry, 222 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-10543. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal standard-deviation projections (False-color)

This section was not generated.

6.5 Orthogonal surface views

This section was not generated.

6.6 Mask visualisation

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

7 Map analysis ⓘ

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

7.1 Map-value distribution ⓘ

This section was not generated.

7.2 Volume estimate versus contour level ⓘ

This section was not generated.

7.3 Rotationally averaged power spectrum ⓘ

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation

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

9 Map-model fit

This section was not generated.