



Full wwPDB X-ray Structure Validation Report ⓘ

Nov 7, 2023 – 07:07 PM EST

PDB ID : 1SM1
Title : COMPLEX OF THE LARGE RIBOSOMAL SUBUNIT FROM DEINOCOCCUS RADIODURANS WITH QUINUPRISTIN AND DALFOPRISTIN
Authors : Harms, J.M.; Schluenzen, F.; Fucini, P.; Bartels, H.; Yonath, A.
Deposited on : 2004-03-08
Resolution : 3.42 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp>

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:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

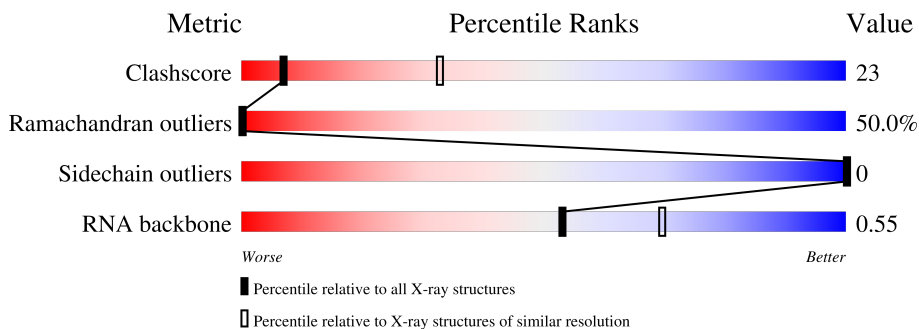
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.42 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)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1572 (3.50-3.34)
Ramachandran outliers	138981	1534 (3.50-3.34)
Sidechain outliers	138945	1535 (3.50-3.34)
RNA backbone	3102	1012 (3.88-2.96)


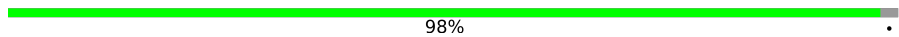
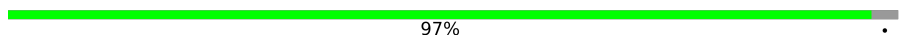
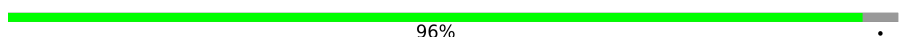






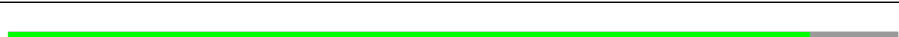


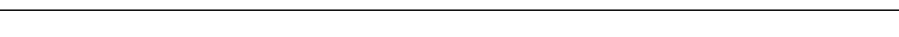
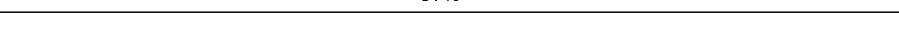
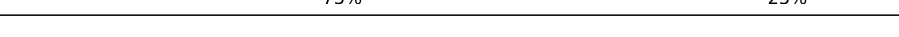
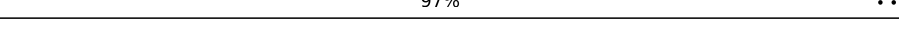
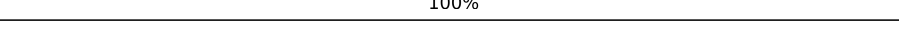
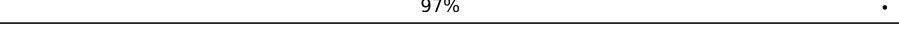
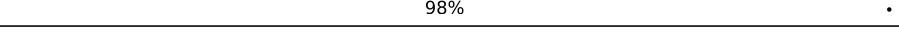
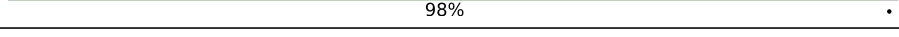

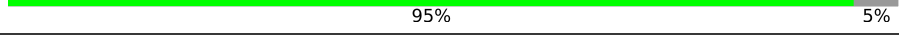
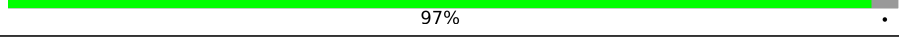
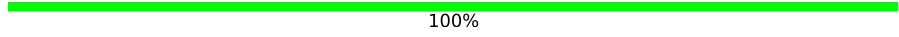
The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. 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 $\leq 5\%$

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2880	29% (green), 53% (yellow), 13% (orange), 5% (red), 2% (grey)
2	1	82	65% (green), 35% (grey)
3	2	47	98% (green), 2% (grey)
4	3	66	95% (green), 5% (grey)
5	4	37	95% (green), 5% (grey)
6	5	8	25% (green), 50% (yellow), 12% (orange), 12% (red)


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Mol	Chain	Length	Quality of chain
7	9	124	 36% 54% 5% 5%
8	A	275	 98%
9	B	211	 97%
10	C	205	 96%
11	D	180	 99%
12	E	212	 83% 17%
13	F	146	 36% 64%
14	G	144	 99%
15	H	174	 82% 18%
16	I	134	 99%
17	J	156	 90% 10%
18	K	142	 87% 13%
19	L	116	 97%
20	M	114	 97%
21	N	166	 75% 25%
22	O	118	 97%
23	P	100	 100%
24	Q	134	 97%
25	R	95	 98%
26	S	115	 98%
27	T	253	 88% 12%
28	U	91	 95% 5%
29	W	67	 97%
30	X	55	 100%
31	Y	73	 100%

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Mol	Chain	Length	Quality of chain
32	Z	60	 95%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
33	DOL	0	2882	X	-	-	-
6	DBB	5	3	-	-	X	-

2 Entry composition [i](#)

There are 33 unique types of molecules in this entry. The entry contains 65418 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	0	2766	59359	26479	10949	19166	2765	0	0	0

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace	
2	1	53	Total 53	C 53	0	0	53

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace	
3	2	46	Total 46	C 46	0	0	46

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace	
4	3	63	Total 63	C 63	0	0	63

- Molecule 5 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace	
5	4	35	Total 35	C 35	0	0	35

- Molecule 6 is a protein called QUINUPRISTIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	5	8	73	53	9	10	1	0	0	0

- Molecule 7 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
7	9	118	2516	1124	464	811	117	0	0	0

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
			Total	C			
8	A	270	270	270	0	0	270

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
			Total	C			
9	B	205	205	205	0	0	205

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
			Total	C			
10	C	197	197	197	0	0	197

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
			Total	C			
11	D	178	178	178	0	0	178

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
			Total	C			
12	E	177	177	177	0	0	177

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L9.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
			Total	C			
13	F	52	52	52	0	0	52

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
14	G	143	Total C 143 143	0	0	143

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
15	H	143	Total C 143 143	0	0	143

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
16	I	132	Total C 132 132	0	0	132

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
17	J	141	Total C 141 141	0	0	141

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
18	K	124	Total C 124 124	0	0	124

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
19	L	114	Total C 114 114	0	0	114

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
20	M	111	Total C 111 111	8	0	111

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
21	N	125	Total C 125 125	0	0	125

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
22	O	117	Total C 117 117	16	0	117

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
23	P	100	Total C 100 100	0	0	100

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
24	Q	130	Total C 130 130	0	0	130

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
25	R	93	Total C 93 93	0	0	93

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
26	S	113	Total C 113 113	0	0	113

- Molecule 27 is a protein called GENERAL STRESS PROTEIN CTC.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
27	T	223	Total C 223 223	43	0	223

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
28	U	86	Total C 86 86	0	0	86

- Molecule 29 is a protein called 50S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
29	W	65	Total C 65 65	0	0	65

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
30	X	55	Total C 55 55	4	0	55

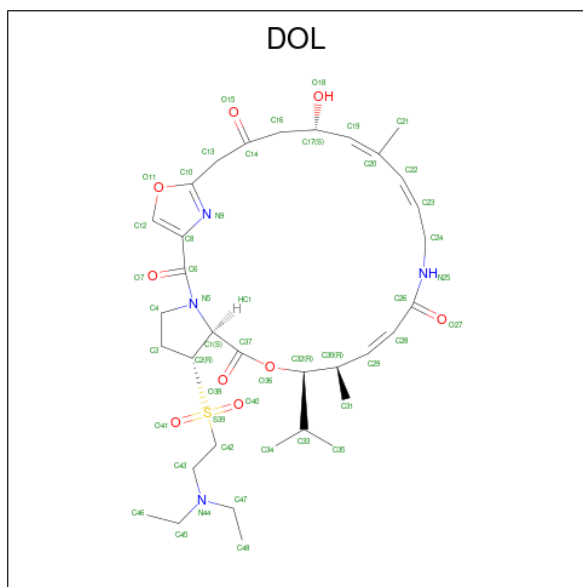
- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L31.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
31	Y	73	Total C 73 73	0	0	73

- Molecule 32 is a protein called 50S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
32	Z	58	Total C 58 58	0	0	58

- Molecule 33 is 5-(2-DIETHYLAMINO-ETHANESULFONYL)-21-HYDROXY-10-ISOPROPYL-11,19-DIMETHYL-9,26-DIOXA-3,15,28-TRIAZA-TRICYCLO[23.2.1.00,255]OCTACOSA-1(27),12,17,19,25(28)-PENTAENE-2,8,14,23-TETRAONE (three-letter code: DOL) (formula: C₃₄H₅₀N₄O₉S).



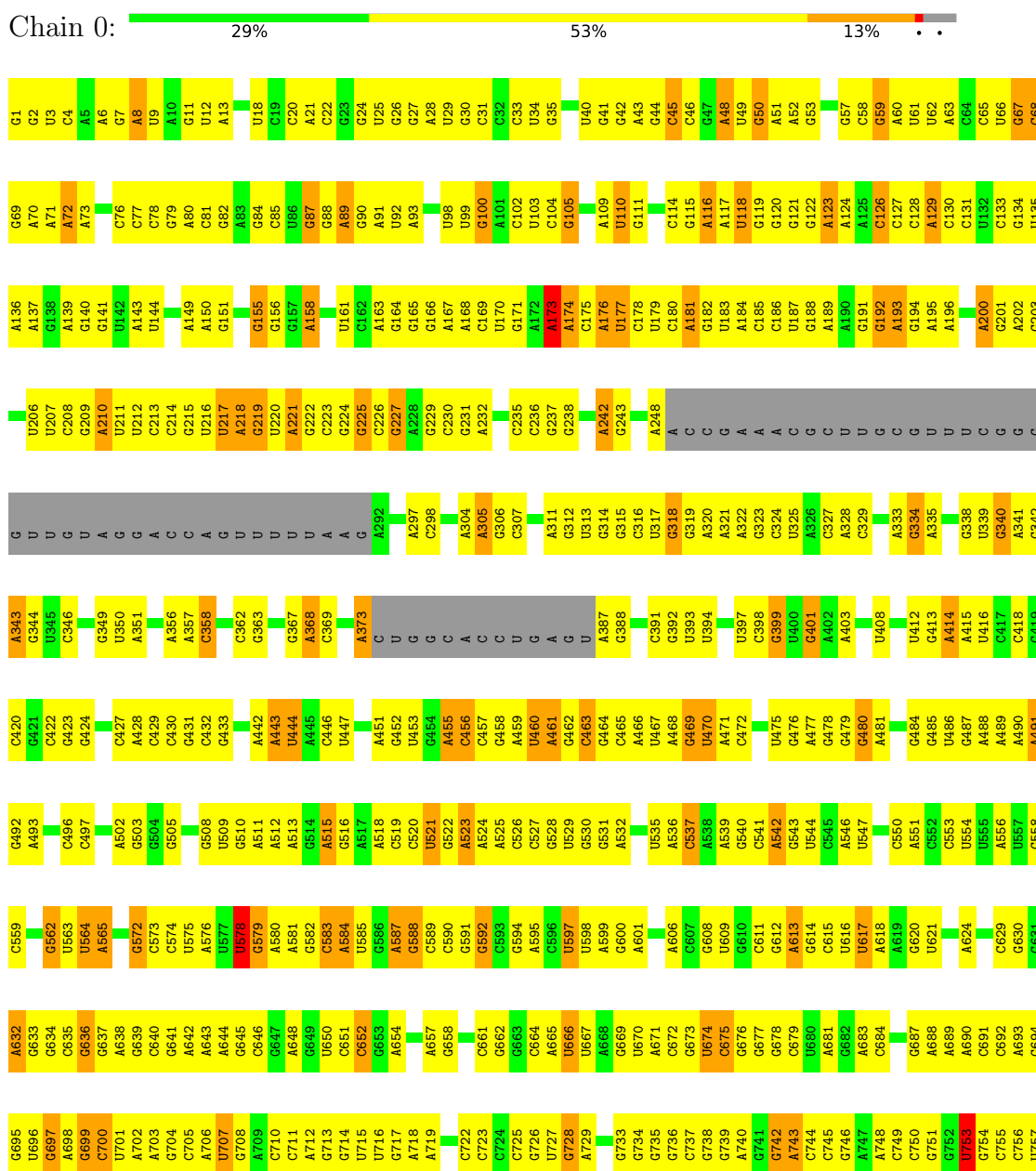
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	S		
33	0	1	48	34	4	9	1	0	0

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.

Note EDS was not executed.

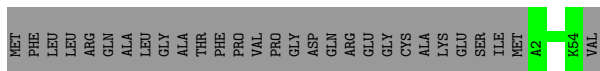
- Molecule 1: 23S RIBOSOMAL RNA



U1770	C1698	U1637	G1398	G1331	A1267	U1199	C1018	G987	G	U821	G758
A1771	A1699	G1638	C1399	G1332	U1286	G1200	A1126	G988	G	G822	C759
C1772	U1639	C1472	C1400	C1333	U1289	G1201	G1131	C959	C	U823	U760
A1773	C1702	U1473	G1401	A1334	C1270	U1202	U1023	U960	C	U824	G761
A1774	C1640	A1474	U1403	G1338	C1271	G1203	G1133	G961	C	C825	A762
A1775	G1642	U1475	G1402	U1339	A1272	G1204	A1025	C962	C	U826	A763
U1776	A1643	G1476	U1406	U1340	C1273	G1205	U1026	C963	C	C827	A764
C1777	C1708	G1479	A1407	G1341	A1274	G1206	C1027	A964	U	C828	A765
U1778	U1709	U1480	A1408	U1342	U1275	G1207	G1028	G965	A	C829	A766
C1779	U1645	U1481	U1409	C1343	U1276	A1208	C1029	A966	C	G830	G771
A1782	U1647	U1482	U1410	C1344	A1277	G1209	U1030	A967	C	C831	A832
G1783	C1648	G1483	G1414	C1345	U1278	U1212	C1031	C968	A	A833	G772
C1784	A1649	U1484	G1417	C1346	A1280	U1213	G1033	A970	C	A834	A774
A1785	A1714	U1485	C1417	C1347	U1281	G1214	A1040	A971	U	U835	U775
C1786	G1715	U1486	C1418	C1348	A1282	A1215	G1035	C972	U	G836	G776
U1787	A1573	C1487	U1426	C1349	C1283	G1218	U1036	U973	A	A837	A777
G1788	A1574	U1488	G1427	A1352	C1284	U1219	U1037	U974	C	A838	G778
C1789	A1575	U1489	G1428	G1352	A1285	G1218	U1038	C975	C	U839	U779
A1790	A1576	U1490	G1429	A1353	U1286	G1222	A1039	C976	U	U840	U780
U1791	A1577	A1493	A1429	A1354	U1287	G1223	A1040	G977	U	G841	G781
C1792	A1578	G1496	G1430	A1355	A1288	G1224	G1041	U978	C	A842	U782
A1793	A1579	G1497	U1431	A1356	A1289	A1224	U1044	G980	C	G843	G783
U1794	A1580	U1500	U1432	U1357	A1290	G1225	U1045	G981	C	U844	U784
C1795	A1581	U1501	A1433	U1358	G1291	A1226	G1046	C982	C	U845	U785
A1796	A1582	U1502	U1434	U1359	A1292	A1227	U1047	C983	C	A846	U786
U1797	A1583	U1503	U1435	G1360	U1293	G1228	G1047	G984	U	C847	A787
C1798	A1584	G1504	A1436	U1361	A1294	C1229	A984	A984	U	A848	G788
A1799	A1585	U1505	A1437	C1362	A1299	G1230	C1052	G985	U	U852	U789
U1800	A1586	U1506	A1438	C1363	U1300	A1231	G1053	A986	C	G853	A790
C1801	A1587	U1507	G1439	U1364	A1301	U1232	C1054	G987	C	C854	G791
A1802	A1588	U1508	U1441	U1365	U1302	A1233	A1055	G988	C	G855	U792
U1803	A1589	U1509	A1442	U1366	U1303	U1234	U1056	G989	C	G856	G793
C1804	A1604	A1510	C1443	U1367	U1304	C1235	U1057	A991	U	U857	A794
U1805	A1605	U1511	G1444	G1368	A1305	G1241	G1058	A992	C	A858	U795
A1806	A1606	A1512	U1445	U1369	U1306	G1242	A1059	C993	C	G859	A796
C1807	A1613	U1513	U1446	G1370	U1307	A1243	G1066	A994	C	U860	G797
U1808	C1614	U1514	U1447	A1372	C1308	G1243	U1067	A995	C	C861	U800
A1809	C1615	U1515	A1448	G1373	G1309	U1244	G1068	C997	C	A865	A801
U1810	C1616	A1516	C1449	G1374	C1310	U1247	A1069	C998	C	U866	A802
C1811	U1617	G1520	G1450	U1375	A1311	G1248	G1073	C999	C	G867	C803
U1812	C1618	G1521	A1451	C1380	U1313	G1249	G1074	A1000	C	U868	C804
A1813	A1619	C1524	U1453	G1381	A1314	A1250	A1081	A1001	C	C869	G805
C1816	C1620	G1524	U1454	U1382	A1315	G1251	U1082	A1002	C	C870	A806
U1817	C1621	G1527	C1455	C1383	A1316	C1252	G1086	A1003	C	U871	C808
C1818	G1622	U1527	C1456	U1384	G1317	G1253	A1087	A1004	C	U872	C809
U1819	C1623	C1528	A1457	C1385	A1318	G1254	U1088	A1005	C	A873	U810
A1820	A1625	U1529	A1458	C1386	C1319	A1255	C1090	C1006	C	G874	G811
C1821	A1626	U1530	U1459	U1387	A1320	C1256	C1091	A1007	C	U875	A812
U1822	C1627	G1541	G1460	C1388	A1321	U1257	C1092	A1008	C	G876	G813
G1823	C1628	U1542	C1461	U1389	G1322	G1258	U1093	C1009	C	A877	A814
C1824	C1629	G1543	C1462	C1390	G1323	A1259	A1094	C1009	C	G877	G815
U1825	A1630	A1544	A1463	G1391	G1324	G1260	U1095	C1010	C	U878	U816
C1826	C1631	U1544	A1464	U1392	U1325	G1261	A1099	A1011	C	A879	A817
A1827	A1632	U1548	G1465	G1393	U1326	U1262	G1123	A1012	C	G883	A818
U1828	C1632	C1549	U1466	U1394	C1327	G1263	U1124	A1013	C	U884	U819
C1829	C1633	U1549	U1467	G1395	C1328	C1264	G1125	A1014	C	C889	G820
U1830	A1634	C1549	U1468	A1396	U1329	G1265	U1126	G954	C	U890	U820
C1831	C1634	U1549	A1468	C1396	U1329	G1265	U1126	U954	C	A891	
A1832	A1635	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1833	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1834	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1835	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1836	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1837	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1838	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1839	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1840	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1841	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1842	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1843	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1844	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1845	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1846	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1847	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1848	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1849	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1850	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1851	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1852	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1853	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1854	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1855	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1856	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1857	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1858	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1859	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1860	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1861	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1862	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1863	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1864	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1865	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1866	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1867	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1868	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1869	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1870	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1871	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1872	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1873	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1874	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1875	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1876	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1877	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1878	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1879	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1880	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1881	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1882	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1883	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1884	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1885	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
A1886	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1887	C1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
C1888	A1636	U1549	A1468	C1396	U1329	G1265	U1126	U954	C		
U1889	C1636	U1549	A1468	C139							

- Molecule 2: 50S RIBOSOMAL PROTEIN L33

Chain 1:  65% 35%



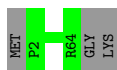
- Molecule 3: 50S RIBOSOMAL PROTEIN L34

Chain 2:  98%



- Molecule 4: 50S RIBOSOMAL PROTEIN L35

Chain 3:  95% 5%



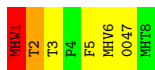
- Molecule 5: 50S RIBOSOMAL PROTEIN L36

Chain 4:  95% 5%

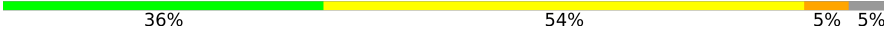


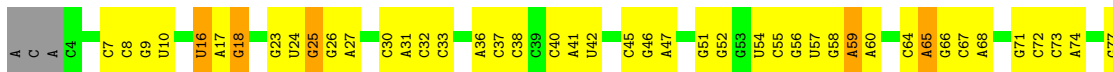
- Molecule 6: QUINUPRISTIN

Chain 5:  25% 50% 12% 12%



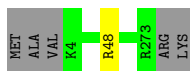
- Molecule 7: 5S RIBOSOMAL RNA

Chain 9:  36% 54% 5% 5%



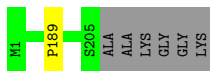
- Molecule 8: 50S RIBOSOMAL PROTEIN L2

Chain A:  98%



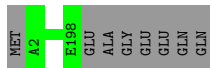
- Molecule 9: 50S RIBOSOMAL PROTEIN L3

Chain B:  97%



- Molecule 10: 50S RIBOSOMAL PROTEIN L4

Chain C:  96%





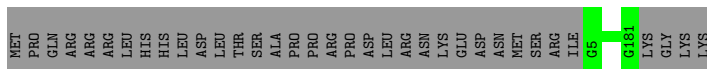
- Molecule 11: 50S RIBOSOMAL PROTEIN L5

Chain D:  99%



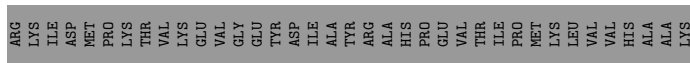
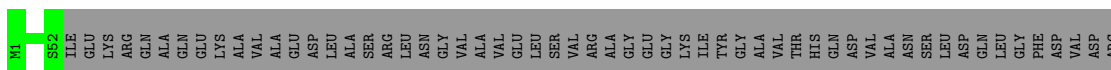
- Molecule 12: 50S RIBOSOMAL PROTEIN L6

Chain E:  83%  17%



- Molecule 13: 50S RIBOSOMAL PROTEIN L9

Chain F:  36%  64%





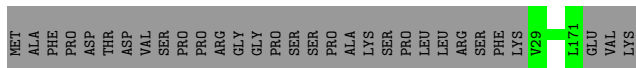
- Molecule 14: 50S RIBOSOMAL PROTEIN L11

Chain G:  99%



- Molecule 15: 50S RIBOSOMAL PROTEIN L13

Chain H:  82%  18%




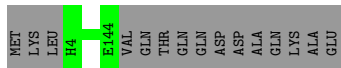
- Molecule 16: 50S RIBOSOMAL PROTEIN L14

Chain I:  99%




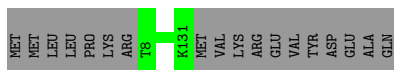
- Molecule 17: 50S RIBOSOMAL PROTEIN L15

Chain J:  90%



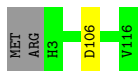
- Molecule 18: 50S RIBOSOMAL PROTEIN L16

Chain K:  87%



- Molecule 19: 50S RIBOSOMAL PROTEIN L17

Chain L:  97%



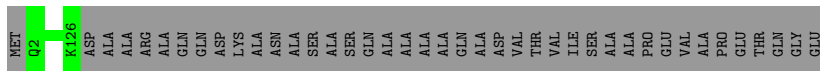
- Molecule 20: 50S RIBOSOMAL PROTEIN L18

Chain M:  97%



- Molecule 21: 50S RIBOSOMAL PROTEIN L19

Chain N:  75%



- Molecule 22: 50S RIBOSOMAL PROTEIN L20

Chain O:  97%



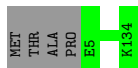
- Molecule 23: 50S RIBOSOMAL PROTEIN L21

Chain P: 100%

There are no outlier residues recorded for this chain.

- Molecule 24: 50S RIBOSOMAL PROTEIN L22

Chain Q: 97%



- Molecule 25: 50S RIBOSOMAL PROTEIN L23

Chain R: 98%



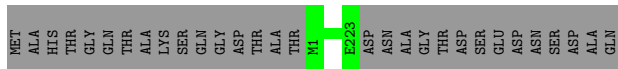
- Molecule 26: 50S RIBOSOMAL PROTEIN L24

Chain S: 98%



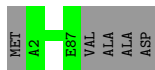
- Molecule 27: GENERAL STRESS PROTEIN CTC

Chain T: 88% 12%



- Molecule 28: 50S RIBOSOMAL PROTEIN L27

Chain U: 95% 5%



- Molecule 29: 50S RIBOSOMAL PROTEIN L29

Chain W: 97%



- Molecule 30: 50S RIBOSOMAL PROTEIN L30

Chain X: 100%

There are no outlier residues recorded for this chain.

- Molecule 31: 50S RIBOSOMAL PROTEIN L31

Chain Y:  100%

There are no outlier residues recorded for this chain.

- Molecule 32: 50S RIBOSOMAL PROTEIN L32

Chain Z:  95% ..



4 Data and refinement statistics

Xtrriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	168.50Å 406.00Å 693.00Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.42	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.42)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.16	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.278 , 0.348	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	65418	wwPDB-VP
Average B, all atoms (Å ²)	80.0	wwPDB-VP

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: 004, MHU, MHW, DOL, MHV, MHT, DBB

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	0	0.70	16/66467 (0.0%)	0.74	12/103673 (0.0%)
6	5	0.85	0/13	0.67	0/15
7	9	0.50	0/2813	0.65	0/4384
All	All	0.70	16/69293 (0.0%)	0.73	12/108072 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	0	0	146
6	5	1	1
7	9	0	1
All	All	1	148

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	1962	C	N1-C2	-7.46	1.32	1.40
1	0	2255	G	C5-C6	-7.28	1.35	1.42
1	0	2789	U	N1-C2	6.94	1.44	1.38
1	0	868	U	N1-C2	6.93	1.44	1.38
1	0	806	A	C5-C6	6.88	1.47	1.41
1	0	564	U	N1-C2	6.81	1.44	1.38
1	0	2557	G	C5-C6	-6.47	1.35	1.42
1	0	2039	G	C5-C6	-6.38	1.35	1.42
1	0	1141	U	N1-C2	6.17	1.44	1.38
1	0	1201	G	C5-C6	-6.08	1.36	1.42
1	0	1629	G	C5-C6	-6.06	1.36	1.42
1	0	578	U	C4-O4	-5.88	1.19	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	530	G	C5-C6	-5.76	1.36	1.42
1	0	578	U	C4-C5	-5.35	1.38	1.43
1	0	823	U	C4-O4	5.15	1.27	1.23
1	0	833	A	C5-C6	-5.02	1.36	1.41

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	994	A	N9-C1'-C2'	-6.36	105.00	112.00
1	0	800	U	OP2-P-O3'	6.27	119.00	105.20
1	0	2056	C	N1-C1'-C2'	-6.04	105.36	112.00
1	0	1686	A	C5'-C4'-O4'	5.86	116.13	109.10
1	0	1938	U	C2'-C3'-O3'	5.75	122.90	113.70
1	0	173	A	C2'-C3'-O3'	5.37	122.30	113.70
1	0	1820	G	C2'-C3'-O3'	5.37	122.30	113.70
1	0	801	A	O5'-P-OP2	-5.26	100.97	105.70
1	0	823	U	N1-C1'-C2'	5.21	120.78	114.00
1	0	1927	U	O5'-P-OP1	-5.17	101.05	105.70
1	0	173	A	OP1-P-O3'	5.13	116.48	105.20
1	0	2044	G	N9-C1'-C2'	5.03	120.54	114.00

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
6	5	8	MHT	C3

All (148) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1004	A	Sidechain
1	0	1133	G	Sidechain
1	0	1139	A	Sidechain
1	0	1141	U	Sidechain
1	0	1146	G	Sidechain
1	0	1197	U	Sidechain
1	0	1199	U	Sidechain
1	0	1201	G	Sidechain
1	0	1209	G	Sidechain
1	0	1222	G	Sidechain
1	0	1226	A	Sidechain
1	0	1232	U	Sidechain
1	0	1253	C	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1257	U	Sidechain
1	0	126	C	Sidechain
1	0	1262	U	Sidechain
1	0	1263	G	Sidechain
1	0	1268	U	Sidechain
1	0	1269	G	Sidechain
1	0	1277	G	Sidechain
1	0	1280	U	Sidechain
1	0	1301	U	Sidechain
1	0	1326	U	Sidechain
1	0	1341	G	Sidechain
1	0	1467	U	Sidechain
1	0	1470	G	Sidechain
1	0	1629	G	Sidechain
1	0	1631	C	Sidechain
1	0	1637	U	Sidechain
1	0	1658	A	Sidechain
1	0	1664	G	Sidechain
1	0	1666	G	Sidechain
1	0	1680	U	Sidechain
1	0	1685	A	Sidechain
1	0	1706	A	Sidechain
1	0	1709	U	Sidechain
1	0	1710	U	Sidechain
1	0	1712	G	Sidechain
1	0	1720	G	Sidechain
1	0	174	A	Sidechain
1	0	1761	G	Sidechain
1	0	1922	U	Sidechain
1	0	1923	U	Sidechain
1	0	1947	G	Sidechain
1	0	1974	U	Sidechain
1	0	1977	C	Sidechain
1	0	1978	U	Sidechain
1	0	1980	A	Sidechain
1	0	1983	G	Sidechain
1	0	1989	C	Sidechain
1	0	1990	U	Sidechain
1	0	1996	A	Sidechain
1	0	2000	U	Sidechain
1	0	2003	A	Sidechain
1	0	2033	C	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2038	C	Sidechain
1	0	2039	G	Sidechain
1	0	2044	G	Sidechain
1	0	2047	C	Sidechain
1	0	2050	G	Sidechain
1	0	2059	U	Sidechain
1	0	211	U	Sidechain
1	0	217	U	Sidechain
1	0	2241	U	Sidechain
1	0	2253	A	Sidechain
1	0	2255	G	Sidechain
1	0	2366	U	Sidechain
1	0	2369	U	Sidechain
1	0	2398	U	Sidechain
1	0	2428	U	Sidechain
1	0	2431	C	Sidechain
1	0	2432	A	Sidechain
1	0	2441	U	Sidechain
1	0	2479	U	Sidechain
1	0	2492	G	Sidechain
1	0	2512	A	Sidechain
1	0	2516	U	Sidechain
1	0	2526	U	Sidechain
1	0	2541	U	Sidechain
1	0	2549	G	Sidechain
1	0	2556	A	Sidechain
1	0	2566	A	Sidechain
1	0	2570	C	Sidechain
1	0	2572	U	Sidechain
1	0	2581	A	Sidechain
1	0	2592	U	Sidechain
1	0	2594	U	Sidechain
1	0	2599	U	Sidechain
1	0	2606	G	Sidechain
1	0	2614	A	Sidechain
1	0	2626	U	Sidechain
1	0	2629	U	Sidechain
1	0	2666	U	Sidechain
1	0	2677	U	Sidechain
1	0	2681	A	Sidechain
1	0	2687	G	Sidechain
1	0	2704	U	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2786	G	Sidechain
1	0	2799	C	Sidechain
1	0	2822	U	Sidechain
1	0	2830	U	Sidechain
1	0	2840	U	Sidechain
1	0	2872	U	Sidechain
1	0	33	C	Sidechain
1	0	444	U	Sidechain
1	0	470	U	Sidechain
1	0	480	G	Sidechain
1	0	521	U	Sidechain
1	0	535	U	Sidechain
1	0	562	G	Sidechain
1	0	565	A	Sidechain
1	0	578	U	Sidechain
1	0	579	G	Sidechain
1	0	587	A	Sidechain
1	0	588	G	Sidechain
1	0	592	G	Sidechain
1	0	597	U	Sidechain
1	0	674	U	Sidechain
1	0	675	C	Sidechain
1	0	707	U	Sidechain
1	0	743	A	Sidechain
1	0	753	U	Sidechain
1	0	759	C	Sidechain
1	0	760	U	Sidechain
1	0	773	G	Sidechain
1	0	777	A	Sidechain
1	0	780	U	Sidechain
1	0	790	A	Sidechain
1	0	794	A	Sidechain
1	0	8	A	Sidechain
1	0	800	U	Sidechain
1	0	804	C	Sidechain
1	0	818	G	Sidechain
1	0	820	U	Sidechain
1	0	823	U	Sidechain
1	0	839	U	Sidechain
1	0	845	U	Sidechain
1	0	847	C	Sidechain
1	0	864	C	Sidechain

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Mol	Chain	Res	Type	Group
1	0	871	U	Sidechain
1	0	917	U	Sidechain
1	0	957	G	Sidechain
1	0	960	U	Sidechain
1	0	983	G	Sidechain
1	0	993	C	Sidechain
1	0	994	A	Sidechain
6	5	1	MHW	Peptide
7	9	94	G	Sidechain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59359	0	29917	2138	0
2	1	53	0	0	0	0
3	2	46	0	0	0	0
4	3	63	0	0	0	0
5	4	35	0	0	0	0
6	5	73	0	64	6	0
7	9	2516	0	1286	66	0
8	A	270	0	0	1	0
9	B	205	0	0	1	0
10	C	197	0	0	0	0
11	D	178	0	0	0	0
12	E	177	0	0	0	0
13	F	52	0	0	0	0
14	G	143	0	0	0	0
15	H	143	0	0	0	0
16	I	132	0	0	0	0
17	J	141	0	0	0	0
18	K	124	0	0	0	0
19	L	114	0	0	1	0
20	M	111	0	0	0	0
21	N	125	0	0	0	0
22	O	117	0	0	2	0
23	P	100	0	0	0	0
24	Q	130	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	R	93	0	0	0	0
26	S	113	0	0	0	0
27	T	223	0	0	0	0
28	U	86	0	0	0	0
29	W	65	0	0	0	0
30	X	55	0	0	0	0
31	Y	73	0	0	0	0
32	Z	58	0	0	2	0
33	0	48	0	47	16	0
All	All	65418	0	31314	2213	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 23.

All (2213) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1463:A:H1'	1:0:1543:G:H22	1.05	1.14
1:0:128:C:H2'	1:0:129:A:H5''	1.19	1.10
1:0:1656:U:H2'	1:0:1657:A:H5''	1.34	1.10
1:0:940:G:H3'	1:0:941:U:H5''	1.23	1.09
1:0:2607:C:H3'	1:0:2608:A:H5'	1.10	1.08
1:0:2548:G:H2'	1:0:2549:G:H5''	1.37	1.07
1:0:1572:C:H2'	1:0:1573:G:H5''	1.31	1.06
1:0:1747:G:H4'	1:0:1749:G:H1'	1.39	1.05
1:0:170:U:H2'	1:0:171:G:H8	1.20	1.04
1:0:58:C:H3'	1:0:59:G:H5''	1.39	1.03
1:0:104:C:H2'	1:0:105:G:H5''	1.36	1.03
1:0:1312:G:H5''	1:0:1313:U:H5'	1.04	1.02
1:0:1055:A:H4'	1:0:1058:G:H4'	1.41	1.01
1:0:1953:A:H1'	1:0:1955:G:H1'	1.39	1.00
1:0:1312:G:C5'	1:0:1313:U:H5'	1.91	0.99
1:0:2548:G:C2'	1:0:2549:G:H5''	1.92	0.99
1:0:1749:G:O6	1:0:2674:C:H4'	1.65	0.97
1:0:1289:A:H62	1:0:1662:G:H1	1.13	0.96
1:0:1312:G:H5''	1:0:1313:U:C5'	1.94	0.96
1:0:1250:A:O2'	1:0:1251:G:H4'	1.65	0.96
1:0:1888:C:H5''	1:0:1889:G:H5''	1.45	0.95
1:0:587:A:H2	1:0:1266:G:H21	1.14	0.95
1:0:2607:C:H3'	1:0:2608:A:C5'	1.96	0.94
1:0:579:G:H2'	1:0:2013:A:N6	1.82	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:763:A:C2	1:0:766:A:H1'	2.02	0.94
1:0:1018:C:H1'	1:0:1147:G:N2	1.83	0.93
1:0:2783:U:H2'	1:0:2784:A:H4'	1.47	0.93
1:0:128:C:C2'	1:0:129:A:H5''	1.98	0.93
1:0:708:G:H1	1:0:780:U:H3	1.13	0.92
1:0:2809:A:N6	1:0:2854:G:H1'	1.83	0.92
1:0:1921:A:H2'	1:0:1922:U:H5''	1.51	0.92
1:0:1791:C:H2'	1:0:1792:C:H5''	1.51	0.92
1:0:1572:C:C2'	1:0:1573:G:H5''	1.99	0.92
1:0:1621:C:H2'	1:0:1622:G:O4'	1.72	0.90
1:0:867:G:H2'	1:0:868:U:H6	1.36	0.90
1:0:940:G:C3'	1:0:941:U:H5''	2.02	0.89
1:0:1242:A:H2'	1:0:1243:G:H8	1.37	0.89
1:0:2561:G:H8	1:0:2561:G:OP1	1.55	0.88
1:0:2012:A:N7	1:0:2014:A:H5'	1.87	0.88
1:0:1938:U:C2'	1:0:1939:U:H5'	2.03	0.88
1:0:1989:C:O5'	1:0:1989:C:H6	1.57	0.88
1:0:1408:A:H1'	1:0:1410:U:H5	1.38	0.87
1:0:1252:C:C2'	1:0:1253:C:H5''	2.04	0.87
1:0:1656:U:C2'	1:0:1657:A:H5''	2.04	0.87
1:0:941:U:H2'	1:0:942:U:O4'	1.75	0.87
1:0:176:A:H5''	1:0:177:U:H5	1.40	0.86
1:0:929:A:H3'	1:0:930:A:H5''	1.56	0.86
1:0:1818:G:H2'	1:0:1819:U:C6	2.09	0.86
1:0:1463:A:H1'	1:0:1543:G:N2	1.90	0.85
1:0:942:U:O2'	1:0:943:U:H5'	1.76	0.85
1:0:579:G:H2'	1:0:2013:A:H62	1.38	0.85
1:0:918:A:H2'	1:0:919:U:H5''	1.56	0.85
1:0:805:G:H2'	1:0:2419:C:N3	1.91	0.85
1:0:1715:A:H1'	1:0:1717:A:O4'	1.76	0.84
1:0:2526:U:C5	1:0:2545:A:N7	2.45	0.84
1:0:1791:C:H1'	1:0:1793:A:H5'	1.56	0.84
1:0:1458:A:H3'	1:0:1459:U:C5'	2.07	0.84
1:0:2033:C:H2'	1:0:2034:A:O4'	1.78	0.84
1:0:703:A:H2'	1:0:704:G:H8	1.42	0.83
1:0:392:G:H22	1:0:408:U:H3	1.23	0.83
1:0:796:A:H2	1:0:1770:U:O4'	1.62	0.83
1:0:2691:C:H3'	1:0:2692:A:H5''	1.58	0.83
1:0:951:G:H2'	1:0:952:A:H5''	1.59	0.83
1:0:170:U:H2'	1:0:171:G:C8	2.12	0.83
1:0:2447:G:O2'	1:0:2448:A:H5''	1.78	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1917:C:H2'	1:0:1918:G:O4'	1.79	0.83
1:0:2595:C:H2'	1:0:2596:C:C6	2.13	0.83
1:0:1455:C:H2'	1:0:1456:C:H6	1.44	0.82
1:0:871:U:O2	1:0:2247:A:H2'	1.78	0.82
1:0:1252:C:H2'	1:0:1253:C:H5''	1.62	0.82
1:0:2633:A:H4'	1:0:2634:G:H4'	1.59	0.82
1:0:1971:C:H2'	1:0:1972:G:H8	1.43	0.82
1:0:1938:U:H2'	1:0:1939:U:H5'	1.60	0.82
1:0:2319:G:H2'	1:0:2320:G:C8	2.15	0.82
1:0:2409:A:H2'	1:0:2410:U:H5'	1.61	0.81
1:0:2713:A:H2'	1:0:2714:A:H8	1.45	0.81
1:0:2503:G:H2'	1:0:2504:G:H5''	1.63	0.81
1:0:976:C:H5'	1:0:2252:A:H1'	1.62	0.81
1:0:1908:C:H2'	1:0:1909:U:H4'	1.61	0.81
1:0:109:A:H3'	1:0:110:U:H5''	1.63	0.80
1:0:1971:C:H2'	1:0:1972:G:C8	2.15	0.80
1:0:2433:G:O2'	1:0:2434:G:H5'	1.81	0.80
1:0:2841:U:O2	1:0:2843:A:H1'	1.81	0.80
1:0:1018:C:H1'	1:0:1147:G:H22	1.44	0.80
1:0:1289:A:O2'	1:0:1290:A:H5'	1.82	0.80
1:0:2594:U:H6	1:0:2594:U:H5'	1.46	0.80
1:0:2607:C:C3'	1:0:2608:A:H5'	2.05	0.80
1:0:2721:A:H62	1:0:2743:G:H21	1.30	0.80
1:0:1242:A:H2'	1:0:1243:G:C8	2.17	0.80
1:0:727:U:H2'	1:0:728:G:H5''	1.61	0.80
1:0:1414:G:H21	1:0:1484:G:H21	1.28	0.79
1:0:1692:C:O2'	1:0:1693:A:H5'	1.82	0.79
1:0:104:C:C2'	1:0:105:G:H5''	2.13	0.79
1:0:1692:C:C2'	1:0:1693:A:H5'	2.13	0.79
1:0:357:A:H3'	1:0:358:C:H5'	1.63	0.79
1:0:2548:G:H2'	1:0:2549:G:C5'	2.12	0.79
1:0:1964:A:H3'	1:0:1965:U:H5'	1.66	0.78
1:0:2058:U:H3'	1:0:2217:G:N1	1.98	0.78
1:0:2839:G:H2'	1:0:2840:U:O4'	1.83	0.78
1:0:2431:C:O2'	1:0:2432:A:H5'	1.83	0.78
1:0:317:U:H3'	1:0:318:G:H5''	1.64	0.78
1:0:195:A:H61	1:0:212:U:H4'	1.49	0.78
1:0:317:U:H3	1:0:321:A:N6	1.81	0.78
33:0:2882:DOL:H463	33:0:2882:DOL:H421	1.66	0.78
1:0:195:A:H2'	1:0:196:A:O4'	1.84	0.77
1:0:1924:C:H2'	1:0:1925:C:O4'	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2257:A:O2'	1:0:2258:G:H5'	1.84	0.77
1:0:1804:U:H2'	1:0:1805:G:H8	1.48	0.77
1:0:175:C:H1'	1:0:2413:A:H61	1.49	0.77
1:0:573:C:H2'	1:0:574:C:O4'	1.85	0.77
1:0:1922:U:O2	1:0:2571:G:H5'	1.85	0.77
1:0:317:U:H3	1:0:321:A:H62	1.33	0.77
1:0:455:A:H4'	1:0:1214:C:O2'	1.83	0.77
1:0:1964:A:C3'	1:0:1965:U:H5'	2.16	0.76
7:9:92:G:H2'	7:9:93:G:H5'	1.66	0.76
1:0:24:G:H2'	1:0:25:U:C6	2.21	0.76
1:0:2642:G:H2'	1:0:2643:G:O4'	1.84	0.76
1:0:216:U:H2'	1:0:217:U:O4'	1.85	0.76
1:0:2270:U:O2'	1:0:2353:G:H1'	1.84	0.76
1:0:2230:G:H1'	1:0:2429:A:O4'	1.85	0.76
1:0:2788:C:O2'	1:0:2789:U:H5'	1.85	0.76
1:0:590:C:H2'	1:0:591:G:H8	1.50	0.76
1:0:601:A:H61	1:0:633:G:N2	1.83	0.76
1:0:706:A:H2'	1:0:707:U:C6	2.20	0.76
1:0:753:U:H2'	1:0:754:G:H5'	1.66	0.75
1:0:1944:C:H2'	1:0:1945:C:O4'	1.86	0.75
1:0:88:G:H3'	1:0:89:A:H5''	1.69	0.75
1:0:940:G:H3'	1:0:941:U:C5'	2.09	0.75
1:0:703:A:H2'	1:0:704:G:C8	2.20	0.75
1:0:1458:A:H3'	1:0:1459:U:H5''	1.67	0.75
1:0:2468:G:H2'	1:0:2469:G:O4'	1.87	0.75
1:0:1640:C:H2'	1:0:1641:C:H6	1.52	0.75
1:0:2199:C:H2'	1:0:2200:G:C8	2.22	0.75
1:0:2523:G:O2'	1:0:2524:G:H5'	1.87	0.74
1:0:1818:G:H2'	1:0:1819:U:H6	1.49	0.74
1:0:2658:A:H2'	1:0:2659:C:H6	1.52	0.74
1:0:688:A:O2'	1:0:2422:C:H4'	1.87	0.74
1:0:2505:G:H5'	1:0:2722:C:O2'	1.86	0.74
1:0:2822:U:H2'	1:0:2823:G:H5'	1.69	0.74
1:0:867:G:H2'	1:0:868:U:C6	2.20	0.74
1:0:2484:G:H4'	33:0:2882:DOL:O15	1.86	0.74
1:0:2811:G:H2'	1:0:2812:A:C8	2.23	0.74
1:0:608:G:O2'	1:0:609:U:H5'	1.87	0.73
1:0:1254:G:H2'	1:0:1255:A:H8	1.51	0.73
1:0:1619:A:H2	1:0:1620:C:C5	2.07	0.73
1:0:1763:G:H2'	1:0:1764:A:H4'	1.70	0.73
1:0:1953:A:H1'	1:0:1955:G:C1'	2.16	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1974:U:H2'	1:0:1975:G:H5''	1.70	0.73
1:0:831:G:C2'	1:0:832:A:H5''	2.18	0.73
7:9:88:C:H2'	7:9:89:G:H8	1.52	0.73
1:0:161:U:H5'	1:0:193:A:H2	1.53	0.73
1:0:2058:U:H3'	1:0:2217:G:H1	1.54	0.73
1:0:2498:U:H2'	1:0:2520:A:N1	2.03	0.73
1:0:2464:G:O2'	1:0:2465:G:H5'	1.89	0.73
1:0:2691:C:H3'	1:0:2692:A:C5'	2.19	0.73
7:9:7:C:H2'	7:9:8:C:H6	1.54	0.73
1:0:304:A:H2'	1:0:305:A:H5''	1.69	0.73
1:0:1392:U:H2'	1:0:1393:G:H5'	1.70	0.73
1:0:2557:G:H2'	1:0:2558:C:C6	2.24	0.73
1:0:2872:U:H2'	1:0:2873:G:C8	2.23	0.73
7:9:45:C:H3'	7:9:46:G:H5'	1.70	0.73
1:0:2660:C:O2'	1:0:2661:G:H5'	1.89	0.73
1:0:688:A:H1'	1:0:2422:C:O2'	1.88	0.72
1:0:1086:C:H2'	1:0:1087:C:H5''	1.69	0.72
33:0:2882:DOL:H463	33:0:2882:DOL:C42	2.19	0.72
1:0:572:G:H1	1:0:587:A:H61	1.36	0.72
1:0:1014:G:N2	1:0:1015:U:C2	2.57	0.72
1:0:1198:C:H5''	1:0:1199:U:H4'	1.72	0.72
1:0:2678:C:O2'	1:0:2679:G:H5'	1.89	0.72
1:0:1922:U:H1'	1:0:2570:C:O2'	1.89	0.72
1:0:1401:G:O2'	1:0:1541:G:H5'	1.89	0.72
1:0:1745:C:O2	1:0:2697:G:H4'	1.90	0.72
1:0:1981:A:H4'	1:0:2704:U:O2'	1.88	0.72
1:0:2436:U:O2'	1:0:2437:G:H5'	1.89	0.72
1:0:1054:C:H2'	1:0:1055:A:H5'	1.71	0.72
1:0:1976:U:H2'	1:0:1977:C:H5'	1.71	0.72
33:0:2882:DOL:H313	6:5:3:DBB:HG1	1.72	0.72
1:0:753:U:H2'	1:0:754:G:C5'	2.20	0.72
1:0:2680:U:H3'	1:0:2681:A:H5'	1.72	0.72
1:0:2755:A:O2'	1:0:2756:A:H5'	1.89	0.72
1:0:1914:U:H3	1:0:1952:A:H62	1.37	0.71
1:0:215:G:O2'	1:0:617:U:H1'	1.89	0.71
1:0:1353:A:H4'	1:0:1410:U:H3	1.55	0.71
1:0:79:G:H2'	1:0:80:A:C8	2.24	0.71
1:0:1288:A:H2'	1:0:1289:A:O4'	1.90	0.71
1:0:236:C:H2'	1:0:237:G:H8	1.56	0.71
1:0:2818:G:N2	1:0:2850:U:C2	2.58	0.71
1:0:776:G:O2'	1:0:778:G:H5''	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:930:A:H5'	1:0:931:G:C8	2.26	0.71
1:0:1007:A:H2'	1:0:1008:G:H8	1.55	0.71
1:0:2217:G:H5''	1:0:2218:G:N7	2.05	0.71
1:0:2480:C:H5''	1:0:2482:A:H5'	1.71	0.71
1:0:2499:C:H41	1:0:2521:A:H2	1.38	0.71
1:0:587:A:H2	1:0:1266:G:N2	1.87	0.71
1:0:1747:G:C4'	1:0:1749:G:H1'	2.18	0.71
1:0:798:G:O2'	1:0:1770:U:H4'	1.91	0.71
1:0:1455:C:H2'	1:0:1456:C:C6	2.24	0.71
1:0:2475:C:H2'	1:0:2476:A:H5'	1.72	0.71
33:0:2882:DOL:H421	33:0:2882:DOL:C46	2.21	0.71
1:0:248:A:H62	1:0:373:A:H2'	1.56	0.71
1:0:2516:U:H2'	1:0:2517:C:C6	2.26	0.71
1:0:45:C:H2'	1:0:46:C:C6	2.26	0.70
1:0:2199:C:H2'	1:0:2200:G:H8	1.55	0.70
1:0:1715:A:H1'	1:0:1717:A:C4'	2.21	0.70
1:0:2510:A:H61	1:0:2641:A:H61	1.39	0.70
1:0:2823:G:H5''	1:0:2824:C:OP1	1.91	0.70
1:0:933:G:O2'	1:0:934:G:H5'	1.91	0.70
1:0:1391:A:H2'	1:0:1392:U:H5	1.54	0.70
1:0:2055:G:H2'	1:0:2056:C:O4'	1.90	0.70
1:0:464:G:H2'	1:0:465:C:C6	2.27	0.70
1:0:1692:C:H2'	1:0:1693:A:H5'	1.74	0.70
1:0:2713:A:H2'	1:0:2714:A:C8	2.27	0.70
1:0:2818:G:O2'	1:0:2819:G:H5'	1.91	0.70
1:0:1321:A:H62	1:0:1622:G:H21	1.35	0.70
1:0:515:A:H2'	1:0:516:G:H5'	1.73	0.70
1:0:984:A:H2'	1:0:1200:G:N2	2.06	0.70
1:0:1284:G:H2'	1:0:1633:C:H4'	1.73	0.70
1:0:1823:G:C6	1:0:1824:C:N4	2.60	0.70
7:9:64:C:C3'	7:9:65:A:H5''	2.22	0.70
1:0:1345:G:N2	1:0:1625:A:H2'	2.07	0.70
1:0:158:A:H2	1:0:447:U:H4'	1.56	0.70
1:0:563:U:H2'	1:0:564:U:O4'	1.92	0.69
33:0:2882:DOL:H313	6:5:3:DBB:CG	2.22	0.69
1:0:1975:G:N2	1:0:1978:U:H5	1.89	0.69
1:0:221:A:H62	1:0:231:G:H21	1.40	0.69
1:0:857:U:H2'	1:0:858:G:H5'	1.74	0.69
1:0:1277:G:N7	1:0:1278:A:N7	2.41	0.69
1:0:1450:G:H1'	1:0:1493:A:N3	2.07	0.69
1:0:2437:G:C6	1:0:2469:G:H2'	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2657:G:O2'	1:0:2658:A:H5'	1.92	0.69
1:0:942:U:H2'	1:0:943:U:O4'	1.93	0.69
1:0:1643:A:H1'	1:0:1657:A:C2	2.28	0.69
7:9:64:C:H3'	7:9:65:A:H5''	1.75	0.69
1:0:706:A:H2'	1:0:707:U:H6	1.57	0.69
1:0:2319:G:H2'	1:0:2320:G:H8	1.56	0.69
1:0:2407:G:H5''	1:0:2408:G:OP1	1.93	0.69
1:0:2811:G:H2'	1:0:2812:A:H8	1.57	0.69
1:0:788:G:H5''	1:0:790:A:H1'	1.75	0.69
1:0:1066:G:H2'	1:0:1067:G:H4'	1.73	0.69
1:0:1293:A:O2'	1:0:1294:G:H5'	1.93	0.69
1:0:1560:A:H2'	1:0:1561:A:O4'	1.92	0.69
1:0:2532:G:H21	1:0:2561:G:N2	1.90	0.69
1:0:1016:C:C6	1:0:1154:A:H1'	2.28	0.69
1:0:2532:G:H21	1:0:2561:G:H21	1.40	0.69
1:0:2613:A:H2'	1:0:2614:A:H8	1.57	0.69
1:0:176:A:H5''	1:0:177:U:C5	2.27	0.69
1:0:542:A:OP2	1:0:2003:A:H1'	1.92	0.69
1:0:931:G:H5''	7:9:83:C:O2'	1.92	0.69
1:0:1001:A:H4'	1:0:1168:G:OP2	1.93	0.69
1:0:44:G:H21	1:0:192:G:H21	1.39	0.68
1:0:1299:A:H2'	1:0:1301:U:OP2	1.93	0.68
1:0:2570:C:H2'	1:0:2571:G:C8	2.27	0.68
1:0:763:A:H2	1:0:766:A:H1'	1.54	0.68
1:0:1664:G:H4'	1:0:1665:C:OP1	1.92	0.68
1:0:161:U:H5'	1:0:193:A:C2	2.28	0.68
1:0:191:G:O2'	1:0:192:G:H5'	1.92	0.68
1:0:590:C:H2'	1:0:591:G:C8	2.28	0.68
1:0:1618:U:O5'	1:0:1618:U:H6	1.76	0.68
1:0:651:C:H2'	1:0:652:C:H5''	1.76	0.68
1:0:788:G:N2	1:0:801:A:OP2	2.26	0.68
1:0:763:A:H2'	1:0:764:A:H5''	1.76	0.68
1:0:2299:A:H5'	1:0:2300:G:C5	2.29	0.68
1:0:2474:G:C6	1:0:2475:C:C4	2.81	0.68
1:0:2652:G:H2'	1:0:2653:A:H8	1.59	0.68
7:9:24:U:H2'	7:9:25:G:H5''	1.75	0.68
1:0:831:G:H2'	1:0:832:A:H5''	1.75	0.68
1:0:1947:G:H2'	1:0:1950:C:OP1	1.94	0.68
1:0:2261:G:H4'	1:0:2262:C:OP2	1.94	0.67
7:9:7:C:H2'	7:9:8:C:C6	2.29	0.67
1:0:581:A:C2	1:0:582:G:H1'	2.30	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:749:C:H2'	1:0:750:C:C6	2.29	0.67
1:0:1200:G:C2'	1:0:1201:G:H5'	2.25	0.67
1:0:2672:U:H2'	1:0:2673:G:H8	1.57	0.67
1:0:2872:U:H2'	1:0:2873:G:H8	1.59	0.67
1:0:785:U:H5'	1:0:1368:G:O2'	1.94	0.67
1:0:2052:G:O2'	1:0:2053:G:H5'	1.94	0.67
1:0:2802:C:H2'	1:0:2803:C:H6	1.59	0.67
1:0:58:C:H3'	1:0:59:G:C5'	2.20	0.67
1:0:652:C:N4	1:0:657:A:H61	1.92	0.67
1:0:1807:A:O2'	1:0:1808:C:H4'	1.94	0.67
1:0:2835:A:H8	1:0:2835:A:O5'	1.75	0.67
1:0:1800:A:H2'	1:0:1802:A:C6	2.29	0.67
1:0:1854:G:H1	1:0:1863:U:H3	1.43	0.67
1:0:2727:G:H22	1:0:2735:C:H5''	1.58	0.67
1:0:1486:A:H2'	1:0:1487:C:C6	2.30	0.67
1:0:1572:C:H2'	1:0:1573:G:C5'	2.17	0.67
1:0:1655:C:H4'	1:0:2689:C:O2	1.95	0.67
1:0:2409:A:C2'	1:0:2410:U:H5'	2.25	0.67
1:0:456:C:O2'	1:0:457:C:H5'	1.94	0.67
1:0:1572:C:C3'	1:0:1573:G:H5''	2.24	0.67
1:0:2076:G:H2'	1:0:2077:G:H8	1.58	0.67
1:0:2548:G:O2'	1:0:2549:G:H5''	1.94	0.67
1:0:1141:U:O2'	1:0:1142:G:P	2.52	0.67
1:0:1921:A:C2'	1:0:1922:U:H5''	2.25	0.67
1:0:1937:G:N3	1:0:2530:C:H5'	2.09	0.67
1:0:2397:A:H2'	1:0:2398:U:O4'	1.94	0.67
1:0:70:A:OP1	1:0:111:G:H4'	1.94	0.67
1:0:313:U:H2'	1:0:314:G:C8	2.29	0.67
1:0:452:G:H2'	1:0:453:U:O4'	1.95	0.67
1:0:1785:A:H4'	1:0:1883:A:C2	2.29	0.67
1:0:2451:G:H2'	1:0:2508:G:N2	2.10	0.67
1:0:1319:C:H2'	1:0:1320:A:H8	1.58	0.66
1:0:1640:C:H2'	1:0:1641:C:C6	2.29	0.66
1:0:1272:G:H2'	1:0:1273:G:C8	2.31	0.66
1:0:1558:C:H2'	1:0:1559:G:H5'	1.78	0.66
7:9:23:G:H2'	7:9:24:U:H6	1.60	0.66
1:0:852:U:H2'	1:0:853:C:H6	1.61	0.66
1:0:918:A:H2'	1:0:919:U:C5'	2.25	0.66
1:0:1437:A:H2'	1:0:1438:G:H8	1.60	0.66
1:0:2463:G:O2'	1:0:2464:G:H5'	1.95	0.66
1:0:173:A:H61	1:0:844:G:H21	1.43	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:342:G:H2'	1:0:343:A:H5'	1.77	0.66
1:0:1029:C:H3'	1:0:1030:U:H5''	1.78	0.66
1:0:2684:A:C8	1:0:2685:A:C8	2.84	0.66
7:9:8:C:O2'	7:9:9:G:H5'	1.96	0.66
1:0:643:A:H2'	1:0:644:A:H8	1.59	0.66
1:0:672:C:O2'	1:0:673:G:H5'	1.95	0.66
1:0:2324:G:N3	1:0:2326:C:H5	1.93	0.66
1:0:2847:G:O2'	1:0:2848:A:H5'	1.94	0.66
1:0:464:G:H2'	1:0:465:C:H6	1.58	0.66
1:0:757:U:C2'	1:0:758:G:H5'	2.26	0.66
1:0:1333:G:N2	1:0:1344:C:N4	2.44	0.66
1:0:215:G:HO2'	1:0:617:U:H1'	1.60	0.66
1:0:1408:A:H1'	1:0:1410:U:C5	2.26	0.66
1:0:1619:A:C2	1:0:1620:C:C5	2.83	0.66
1:0:2194:A:H2'	1:0:2195:C:H5''	1.78	0.66
1:0:2401:A:O2'	1:0:2403:C:H5''	1.95	0.66
1:0:2475:C:C2'	1:0:2476:A:H5'	2.26	0.66
1:0:2666:U:C4	1:0:2667:C:N4	2.64	0.66
1:0:3:U:H2'	1:0:4:C:C6	2.31	0.66
1:0:797:A:H4'	1:0:798:G:C8	2.30	0.66
1:0:815:A:H2'	1:0:816:U:C6	2.30	0.66
1:0:951:G:C2'	1:0:952:A:H5''	2.24	0.66
1:0:1254:G:H2'	1:0:1255:A:C8	2.31	0.66
1:0:1449:C:O2'	1:0:1450:G:H5'	1.96	0.66
1:0:2809:A:H61	1:0:2854:G:H1'	1.58	0.66
1:0:367:G:H2'	1:0:368:A:H5''	1.78	0.66
1:0:584:A:O2'	1:0:585:U:H5'	1.96	0.66
1:0:1345:G:H22	1:0:1625:A:H2'	1.60	0.66
1:0:1699:A:C5	1:0:1748:U:H1'	2.31	0.66
1:0:1976:U:C2'	1:0:1977:C:H5'	2.26	0.66
1:0:163:A:H2'	1:0:164:G:H8	1.61	0.66
1:0:1312:G:H8	1:0:1312:G:O5'	1.79	0.66
1:0:1679:U:H3'	1:0:1680:U:H5''	1.78	0.66
1:0:1938:U:O2'	1:0:1939:U:H5'	1.96	0.66
1:0:2787:A:O2'	1:0:2788:C:H5'	1.96	0.66
1:0:1528:C:H2'	1:0:1529:C:H5''	1.77	0.65
1:0:2491:C:C3'	1:0:2492:G:H5''	2.26	0.65
1:0:109:A:C3'	1:0:110:U:H5''	2.25	0.65
1:0:1007:A:H2'	1:0:1008:G:C8	2.31	0.65
1:0:2053:G:C2	1:0:2054:A:C4	2.83	0.65
1:0:2324:G:H4'	1:0:2326:C:H5''	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:81:C:H2'	1:0:82:G:O4'	1.96	0.65
1:0:859:U:H4'	1:0:860:U:H5	1.60	0.65
1:0:2266:A:H2'	1:0:2268:G:C8	2.31	0.65
1:0:875:G:H2'	1:0:876:A:O4'	1.96	0.65
1:0:687:G:O2'	1:0:688:A:H5'	1.96	0.65
1:0:776:G:H2'	1:0:777:A:H5''	1.79	0.65
1:0:1911:A:H2'	1:0:1912:G:H5'	1.79	0.65
1:0:1227:A:H62	1:0:1248:G:H21	1.45	0.65
1:0:1690:U:H2'	1:0:1691:G:H5'	1.79	0.65
1:0:2006:G:C2	1:0:2024:U:O2	2.49	0.65
1:0:2787:A:H2'	1:0:2788:C:H6	1.61	0.65
1:0:2279:G:H2'	1:0:2280:A:H8	1.61	0.65
1:0:2437:G:N1	1:0:2469:G:H2'	2.12	0.65
1:0:2503:G:C2'	1:0:2504:G:H5''	2.27	0.65
1:0:2555:G:H3'	1:0:2555:G:OP1	1.97	0.65
1:0:652:C:H42	1:0:657:A:H61	1.45	0.64
1:0:1380:C:H2'	1:0:1381:G:H5'	1.80	0.64
1:0:521:U:C5	1:0:522:G:N3	2.65	0.64
1:0:1800:A:H2'	1:0:1802:A:N6	2.12	0.64
1:0:1727:C:H4'	1:0:2833:C:O2	1.97	0.64
1:0:2446:C:H2'	1:0:2447:G:O4'	1.97	0.64
1:0:2593:A:H8	1:0:2593:A:H3'	1.62	0.64
1:0:1970:G:O2'	1:0:1971:C:H5'	1.97	0.64
1:0:2327:U:O5'	1:0:2327:U:H6	1.79	0.64
1:0:840:U:H4'	1:0:841:G:C2	2.32	0.64
1:0:128:C:H2'	1:0:129:A:C5'	2.12	0.64
1:0:1489:C:H3'	1:0:1490:U:H5'	1.78	0.64
1:0:26:G:C6	1:0:27:G:N1	2.66	0.64
1:0:643:A:H2'	1:0:644:A:C8	2.33	0.64
1:0:1272:G:O2'	1:0:1273:G:H5'	1.98	0.64
1:0:1352:G:H2'	1:0:1353:A:C8	2.32	0.64
1:0:2213:G:H2'	1:0:2214:G:C8	2.33	0.64
1:0:1273:G:H2'	1:0:1274:C:C6	2.33	0.64
1:0:1678:G:C4	1:0:1983:G:N2	2.66	0.64
1:0:1941:C:O2'	1:0:1942:G:H5'	1.98	0.64
1:0:614:G:H2'	1:0:615:C:C6	2.33	0.63
1:0:1041:G:O2'	1:0:2445:C:H4'	1.98	0.63
1:0:1398:G:H2'	1:0:1399:C:C6	2.32	0.63
1:0:2273:C:H2'	1:0:2274:C:C6	2.33	0.63
1:0:874:A:H62	1:0:928:G:H21	1.46	0.63
1:0:964:A:H2'	1:0:965:G:C8	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:9:64:C:H2'	7:9:65:A:H5''	1.80	0.63
1:0:579:G:O2'	1:0:580:A:H5'	1.99	0.63
1:0:1073:G:H2'	1:0:1074:G:H5''	1.80	0.63
1:0:188:G:O2'	1:0:189:A:H5'	1.98	0.63
1:0:521:U:H5	1:0:522:G:N3	1.96	0.63
1:0:1016:C:H5''	1:0:1023:U:P	2.39	0.63
1:0:1437:A:H2'	1:0:1438:G:C8	2.33	0.63
1:0:2059:U:P	1:0:2217:G:H1	2.21	0.63
1:0:1028:G:H2'	1:0:1029:C:H6	1.63	0.63
1:0:2825:A:H62	1:0:2841:U:H3	1.46	0.63
1:0:68:C:O2'	1:0:69:G:H5'	1.98	0.63
1:0:357:A:H3'	1:0:358:C:C5'	2.26	0.63
1:0:755:C:O2'	1:0:756:C:H5'	1.99	0.63
1:0:820:U:H2'	1:0:821:A:C8	2.34	0.63
1:0:1881:U:H2'	1:0:1882:G:H5'	1.79	0.63
1:0:2310:G:H2'	1:0:2311:U:H5'	1.81	0.63
1:0:536:A:O2'	1:0:2026:C:H1'	1.98	0.63
1:0:1271:C:O2'	1:0:1272:G:H5'	1.99	0.63
1:0:1496:G:H1	1:0:1527:G:H1	1.47	0.63
1:0:1969:G:H2'	1:0:1970:G:H8	1.63	0.63
1:0:2185:U:H2'	1:0:2186:G:C8	2.33	0.63
1:0:542:A:H2'	1:0:543:G:H5'	1.81	0.63
1:0:984:A:O2'	1:0:1201:G:H1'	1.99	0.63
1:0:1175:A:H8	1:0:1175:A:O5'	1.82	0.63
1:0:1685:A:N6	1:0:1691:G:N3	2.47	0.63
1:0:1724:C:H2'	1:0:1725:C:C6	2.33	0.63
1:0:2059:U:H2'	1:0:2060:A:H5''	1.81	0.63
1:0:207:U:H2'	1:0:208:C:C6	2.34	0.62
1:0:722:C:H2'	1:0:723:C:C6	2.34	0.62
1:0:1466:C:O2'	1:0:1467:U:H5'	1.98	0.62
1:0:2627:G:H2'	1:0:2628:C:O4'	1.99	0.62
1:0:88:G:H3'	1:0:89:A:C5'	2.28	0.62
1:0:629:C:C2'	1:0:630:G:H5'	2.30	0.62
1:0:962:C:H2'	1:0:963:G:H8	1.64	0.62
1:0:2250:G:O2'	1:0:2251:U:H5'	1.99	0.62
1:0:1182:U:H3'	1:0:1183:C:H5''	1.82	0.62
1:0:1196:G:H2'	1:0:1197:U:H5'	1.80	0.62
1:0:1198:C:C5'	1:0:1199:U:H4'	2.29	0.62
1:0:2634:G:H2'	1:0:2643:G:C6	2.35	0.62
1:0:2809:A:H62	1:0:2854:G:H1'	1.63	0.62
1:0:697:G:O2'	1:0:698:A:H5'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1436:G:H1'	1:0:1508:G:H21	1.63	0.62
7:9:111:C:H5''	7:9:112:A:H5''	1.81	0.62
1:0:2308:A:H2'	1:0:2309:G:C8	2.34	0.62
1:0:12:U:H2'	1:0:13:A:O4'	2.00	0.62
1:0:831:G:H21	1:0:1203:A:H62	1.47	0.62
1:0:1457:A:O2'	1:0:1458:A:H5'	1.99	0.62
1:0:2634:G:H2'	1:0:2643:G:O6	1.99	0.62
1:0:181:A:H5'	1:0:183:U:H1'	1.82	0.62
1:0:513:A:H4'	1:0:515:A:OP1	1.99	0.62
1:0:1014:G:O2'	1:0:1015:U:H5'	2.00	0.62
1:0:1197:U:H2'	1:0:1198:C:O4'	2.00	0.62
1:0:1989:C:H1'	1:0:2798:A:O2'	1.98	0.62
1:0:2405:A:H8	1:0:2405:A:OP1	1.82	0.62
1:0:2502:G:H2'	1:0:2503:G:H8	1.64	0.62
1:0:1200:G:O2'	1:0:1201:G:H5'	1.99	0.61
1:0:2046:C:H42	1:0:2429:A:H61	1.48	0.61
1:0:1466:C:H2'	1:0:1467:U:O4'	1.99	0.61
1:0:1826:U:O2'	1:0:1952:A:H2'	2.00	0.61
1:0:1938:U:O2'	1:0:1939:U:C5'	2.48	0.61
1:0:2313:G:H3'	1:0:2314:A:H5'	1.80	0.61
1:0:2515:G:H2'	1:0:2516:U:C6	2.34	0.61
1:0:999:A:H4'	1:0:1166:A:N1	2.16	0.61
1:0:1289:A:N7	1:0:1662:G:N2	2.48	0.61
1:0:1791:C:H2'	1:0:1792:C:C5'	2.29	0.61
1:0:1996:A:O2'	1:0:1997:A:H5'	1.99	0.61
1:0:2425:G:O2'	1:0:2426:G:H5'	1.99	0.61
1:0:2524:G:O2'	1:0:2525:U:H5'	2.01	0.61
1:0:2622:G:H2'	1:0:2623:A:C8	2.35	0.61
1:0:2861:A:H2'	1:0:2862:G:H8	1.66	0.61
1:0:2604:G:H8	1:0:2604:G:H5''	1.64	0.61
1:0:2624:G:H4'	1:0:2712:G:H2'	1.82	0.61
1:0:225:G:H5'	1:0:226:C:H5'	1.83	0.61
1:0:693:A:H2'	1:0:694:G:H8	1.64	0.61
1:0:956:A:C2	1:0:2427:A:O2'	2.54	0.61
1:0:2476:A:HO2'	1:0:2477:C:H5	1.48	0.61
1:0:2664:G:O2'	1:0:2665:G:H5'	2.01	0.61
7:9:23:G:H2'	7:9:24:U:C6	2.35	0.61
1:0:2633:A:H61	1:0:2646:C:H42	1.48	0.61
1:0:79:G:H2'	1:0:80:A:H8	1.66	0.61
1:0:222:G:O2'	1:0:223:C:H5'	2.00	0.61
1:0:616:U:H2'	1:0:617:U:H5''	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:675:C:H2'	1:0:676:G:C8	2.36	0.61
1:0:964:A:H2'	1:0:965:G:H8	1.64	0.61
1:0:1004:A:H2'	1:0:1005:U:H5''	1.82	0.61
1:0:1226:A:N1	1:0:1250:A:H1'	2.16	0.61
1:0:1683:G:H2'	1:0:1684:G:H5'	1.82	0.61
1:0:2321:C:H2'	1:0:2322:U:O4'	2.01	0.61
1:0:701:U:H2'	1:0:702:A:O4'	2.01	0.61
1:0:734:G:H2'	1:0:735:G:H8	1.66	0.61
1:0:946:U:H2'	1:0:947:C:H6	1.66	0.61
1:0:21:A:O2'	1:0:22:C:H5'	2.00	0.61
1:0:820:U:H2'	1:0:821:A:H8	1.64	0.61
1:0:830:C:O2'	1:0:852:U:H5''	2.00	0.61
1:0:1699:A:N7	1:0:1748:U:H1'	2.15	0.61
1:0:1719:G:H2'	1:0:1720:G:H8	1.66	0.61
1:0:2598:C:O2'	1:0:2599:U:H5'	2.01	0.61
1:0:45:C:H2'	1:0:46:C:H6	1.66	0.60
1:0:675:C:H2'	1:0:676:G:H8	1.66	0.60
1:0:765:C:C5	1:0:1772:C:H1'	2.36	0.60
1:0:790:A:C2	1:0:791:G:C4	2.89	0.60
1:0:2008:C:O5'	1:0:2008:C:H6	1.84	0.60
1:0:2026:C:N3	1:0:2757:G:N2	2.48	0.60
1:0:2198:U:C3'	1:0:2199:C:H5''	2.31	0.60
1:0:2701:A:O2'	1:0:2702:G:H5'	2.01	0.60
7:9:88:C:H2'	7:9:89:G:C8	2.35	0.60
1:0:455:A:H5'	1:0:1215:A:H5'	1.84	0.60
1:0:959:C:O2'	1:0:960:U:H5'	2.00	0.60
1:0:2593:A:H3'	1:0:2593:A:C8	2.35	0.60
1:0:2736:U:O2'	1:0:2737:A:H5'	2.01	0.60
1:0:718:A:O2'	1:0:719:A:H5'	2.01	0.60
1:0:2096:U:H2'	1:0:2097:A:H5''	1.81	0.60
1:0:2672:U:H2'	1:0:2673:G:C8	2.36	0.60
1:0:35:G:O4'	1:0:466:A:H1'	2.01	0.60
1:0:1707:A:H2'	1:0:1708:C:H5'	1.84	0.60
1:0:2476:A:H5''	1:0:2477:C:OP1	2.02	0.60
33:0:2882:DOL:H313	6:5:3:DBB:HB3	1.84	0.60
1:0:706:A:O2'	1:0:707:U:H5'	2.01	0.60
1:0:773:G:H2'	1:0:774:A:H5'	1.82	0.60
1:0:833:A:H8	1:0:833:A:O5'	1.84	0.60
1:0:1223:G:C2	1:0:1250:A:N6	2.69	0.60
1:0:1235:C:O2	1:0:1241:G:N2	2.34	0.60
1:0:1665:C:O2'	1:0:1666:G:H5'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2012:A:C5	1:0:2014:A:H5'	2.36	0.60
1:0:2431:C:HO2'	1:0:2432:A:H5'	1.64	0.60
1:0:2438:A:N3	1:0:2438:A:H2'	2.16	0.60
1:0:2717:G:H2'	1:0:2718:A:C8	2.37	0.60
1:0:717:G:H21	1:0:739:G:H2'	1.67	0.60
1:0:788:G:H2'	1:0:807:A:C5	2.37	0.60
1:0:1391:A:H2'	1:0:1392:U:C5	2.36	0.60
1:0:2825:A:H2'	1:0:2826:C:H6	1.65	0.60
1:0:633:G:O2'	1:0:634:G:H5'	2.01	0.60
1:0:2235:G:O2'	1:0:2236:U:H5'	2.01	0.60
1:0:2466:G:O2'	1:0:2467:A:H5'	2.02	0.60
1:0:674:U:H2'	1:0:675:C:C6	2.36	0.59
1:0:2198:U:H3'	1:0:2199:C:H5''	1.82	0.59
1:0:2605:C:H2'	1:0:2606:G:C8	2.36	0.59
1:0:2822:U:C2'	1:0:2823:G:H5'	2.31	0.59
1:0:798:G:H2'	1:0:798:G:N3	2.17	0.59
1:0:839:U:H2'	1:0:841:G:O4'	2.02	0.59
1:0:991:A:N7	1:0:1146:G:H5''	2.17	0.59
1:0:2245:A:H4'	1:0:2246:A:C5	2.37	0.59
1:0:2843:A:O2'	1:0:2844:G:H5'	2.01	0.59
1:0:2749:A:O2'	1:0:2750:G:H5'	2.02	0.59
1:0:133:C:H2'	1:0:134:G:O4'	2.03	0.59
1:0:2658:A:H2'	1:0:2659:C:C6	2.35	0.59
1:0:2678:C:O2	1:0:2688:G:N2	2.36	0.59
1:0:225:G:C5'	1:0:226:C:H5'	2.33	0.59
1:0:1966:C:H4'	1:0:2585:C:H4'	1.84	0.59
1:0:2057:U:O2'	1:0:2576:G:H1'	2.02	0.59
1:0:2487:G:C2	1:0:2561:G:O6	2.56	0.59
1:0:2498:U:OP1	1:0:2498:U:H3'	2.02	0.59
1:0:2640:G:H2'	1:0:2641:A:C8	2.38	0.59
1:0:210:A:N6	1:0:442:A:H61	2.00	0.59
1:0:575:U:H2'	1:0:576:A:C8	2.38	0.59
1:0:689:A:H2'	1:0:690:A:H5'	1.85	0.59
1:0:2678:C:C2	1:0:2688:G:N2	2.71	0.59
1:0:2814:G:O2'	1:0:2815:C:H5'	2.02	0.59
1:0:693:A:H2'	1:0:694:G:C8	2.38	0.59
1:0:870:C:H2'	1:0:871:U:C6	2.38	0.59
1:0:1920:A:H2'	1:0:1921:A:C8	2.38	0.59
1:0:2757:G:OP2	1:0:2761:A:O2'	2.21	0.59
1:0:1141:U:H5''	1:0:2494:C:O2'	2.02	0.59
1:0:1352:G:H2'	1:0:1353:A:H8	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1773:C:N4	1:0:2566:A:H2	2.00	0.59
1:0:1982:C:H4'	1:0:2703:C:O2	2.03	0.59
1:0:2033:C:C2'	1:0:2034:A:O4'	2.50	0.59
1:0:1321:A:H62	1:0:1622:G:N2	2.00	0.59
1:0:1997:A:H2'	1:0:1998:A:C8	2.38	0.59
1:0:2245:A:H4'	1:0:2246:A:N7	2.18	0.59
1:0:2509:A:H2'	1:0:2510:A:H5''	1.83	0.59
1:0:2782:G:H3'	1:0:2783:U:H5''	1.84	0.59
33:0:2882:DOL:H313	6:5:3:DBB:CB	2.32	0.59
1:0:24:G:H2'	1:0:25:U:H6	1.64	0.59
1:0:311:A:H2	1:0:334:G:H21	1.51	0.59
1:0:789:G:H2'	1:0:789:G:N3	2.18	0.59
1:0:1198:C:H5''	1:0:1199:U:C4'	2.33	0.59
1:0:1332:G:O2'	1:0:1333:G:H5'	2.03	0.59
1:0:1765:C:O5'	1:0:1765:C:H6	1.85	0.59
1:0:2769:C:H2'	1:0:2770:A:H5'	1.85	0.59
1:0:2827:G:H2'	1:0:2828:C:C6	2.37	0.59
1:0:202:A:H2'	1:0:203:G:O4'	2.03	0.58
1:0:698:A:H61	1:0:786:U:H3'	1.68	0.58
1:0:1300:A:H62	19:L:106:ASP:CA	2.15	0.58
1:0:1304:U:O2'	1:0:1305:C:H5'	2.03	0.58
1:0:1672:A:H2'	1:0:1673:C:O4'	2.03	0.58
1:0:523:A:O2'	1:0:1230:C:OP1	2.21	0.58
1:0:822:G:O2'	1:0:823:U:H5'	2.02	0.58
1:0:2201:G:H2'	1:0:2202:G:H8	1.68	0.58
1:0:852:U:H2'	1:0:853:C:C6	2.37	0.58
1:0:305:A:H2'	1:0:306:G:O4'	2.03	0.58
1:0:564:U:H2'	1:0:565:A:C8	2.39	0.58
1:0:918:A:C2'	1:0:919:U:H5''	2.30	0.58
1:0:1686:A:N3	1:0:1686:A:H2'	2.18	0.58
1:0:1920:A:C2	1:0:1922:U:C5	2.91	0.58
1:0:2491:C:H3'	1:0:2492:G:H5''	1.84	0.58
1:0:2832:G:N2	1:0:2835:A:OP2	2.36	0.58
1:0:1514:C:H5'	1:0:1593:C:H4'	1.86	0.58
1:0:1952:A:H1'	1:0:1955:G:H21	1.67	0.58
1:0:2822:U:H2'	1:0:2823:G:C5'	2.33	0.58
1:0:1235:C:C2	1:0:1241:G:N2	2.72	0.58
1:0:1804:U:H2'	1:0:1805:G:C8	2.35	0.58
1:0:431:G:H2'	1:0:432:C:C6	2.39	0.58
1:0:859:U:H4'	1:0:860:U:C5	2.39	0.58
1:0:867:G:O2'	1:0:868:U:H5'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:412:U:H2'	1:0:413:G:H5'	1.85	0.58
1:0:753:U:C2'	1:0:754:G:H5'	2.33	0.58
1:0:1353:A:H4'	1:0:1410:U:N3	2.17	0.58
1:0:1778:U:H2'	1:0:1779:C:O4'	2.04	0.58
1:0:2611:A:C2	1:0:2767:C:N3	2.71	0.58
1:0:493:A:N3	1:0:516:G:C2	2.72	0.58
1:0:613:A:H2'	1:0:614:G:C8	2.38	0.58
1:0:1764:A:C5	1:0:1821:A:H1'	2.39	0.58
1:0:2610:G:O2'	1:0:2785:A:C2	2.56	0.58
1:0:92:U:H2'	1:0:93:A:C8	2.38	0.58
1:0:118:U:H4'	1:0:120:G:OP2	2.03	0.58
1:0:1066:G:H3'	1:0:1067:G:H5''	1.84	0.58
1:0:1339:U:O2'	1:0:1993:G:H1'	2.03	0.58
1:0:847:C:H41	1:0:955:G:H21	1.51	0.57
1:0:951:G:C3'	1:0:952:A:H5''	2.34	0.57
1:0:2318:U:H2'	1:0:2319:G:C8	2.39	0.57
1:0:788:G:N2	1:0:801:A:P	2.78	0.57
1:0:800:U:H3'	1:0:804:C:H41	1.68	0.57
1:0:2058:U:H2'	1:0:2217:G:O6	2.04	0.57
1:0:788:G:H21	1:0:801:A:P	2.27	0.57
1:0:2038:C:H2'	1:0:2483:U:O4'	2.03	0.57
1:0:2500:C:H4'	1:0:2544:A:O4'	2.03	0.57
1:0:2691:C:H41	1:0:2693:U:H5	1.50	0.57
1:0:2830:U:H2'	1:0:2831:A:C8	2.39	0.57
1:0:2836:U:H2'	1:0:2837:G:H8	1.69	0.57
1:0:712:A:H4'	1:0:1651:U:C4	2.38	0.57
1:0:103:U:H2'	1:0:104:C:C6	2.39	0.57
1:0:187:U:H1'	1:0:1379:A:N3	2.20	0.57
1:0:717:G:N2	1:0:739:G:H2'	2.19	0.57
1:0:749:C:O2'	1:0:750:C:H5'	2.04	0.57
1:0:870:C:H2'	1:0:871:U:H6	1.69	0.57
1:0:1881:U:C2'	1:0:1882:G:H5'	2.34	0.57
1:0:2081:U:H2'	1:0:2082:C:H5''	1.85	0.57
1:0:2299:A:H5''	1:0:2300:G:C4	2.39	0.57
1:0:2397:A:O2'	1:0:2398:U:H5'	2.04	0.57
1:0:2802:C:H2'	1:0:2803:C:C6	2.40	0.57
1:0:632:A:C2'	1:0:633:G:H5'	2.34	0.57
1:0:773:G:C2'	1:0:774:A:H5'	2.34	0.57
1:0:815:A:H2'	1:0:816:U:H6	1.69	0.57
1:0:1883:A:H1'	1:0:1953:A:H62	1.69	0.57
1:0:318:G:H21	1:0:341:A:H62	1.51	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:874:A:H62	1:0:928:G:N2	2.02	0.57
1:0:1052:C:H2'	1:0:1053:G:C8	2.40	0.57
1:0:1621:C:C4'	1:0:1626:A:H62	2.17	0.57
1:0:1947:G:H3'	1:0:1947:G:OP1	2.03	0.57
1:0:2510:A:H61	1:0:2641:A:N6	2.03	0.57
1:0:580:A:C2	1:0:582:G:N7	2.73	0.57
1:0:620:G:O2'	1:0:621:U:H5'	2.05	0.57
1:0:738:G:H2'	1:0:739:G:O4'	2.05	0.57
1:0:2493:U:H2'	1:0:2494:C:C6	2.40	0.57
1:0:2687:G:O2'	1:0:2688:G:H5'	2.04	0.57
1:0:2785:A:O2'	1:0:2786:G:H5'	2.05	0.57
1:0:2861:A:O2'	1:0:2862:G:H5'	2.05	0.57
1:0:1679:U:H2'	1:0:1680:U:C4'	2.35	0.57
1:0:2661:G:C2'	1:0:2662:C:H5'	2.34	0.57
1:0:428:A:H2'	1:0:429:C:C6	2.40	0.57
1:0:944:A:H2'	1:0:945:G:O4'	2.05	0.57
1:0:977:G:H1'	1:0:2246:A:C5	2.40	0.57
1:0:1016:C:H2'	1:0:1017:C:H6	1.70	0.57
1:0:1598:C:H2'	1:0:1599:G:O4'	2.05	0.57
1:0:1920:A:C2	1:0:1922:U:H5	2.22	0.57
1:0:1950:C:H2'	1:0:1951:G:O4'	2.05	0.57
1:0:2425:G:H2'	1:0:2480:C:C5	2.40	0.57
1:0:181:A:H5'	1:0:183:U:C1'	2.35	0.56
1:0:327:C:O2'	1:0:328:A:H5'	2.05	0.56
1:0:524:A:O2'	1:0:525:A:H5'	2.05	0.56
1:0:582:G:H2'	1:0:583:C:H3'	1.86	0.56
1:0:876:A:O2'	1:0:877:G:H5'	2.05	0.56
1:0:1821:A:H3'	1:0:1822:C:H6	1.70	0.56
1:0:2027:C:H2'	1:0:2028:C:H6	1.70	0.56
1:0:2054:A:H2'	1:0:2055:G:H8	1.70	0.56
1:0:2277:A:H2'	1:0:2278:A:O4'	2.05	0.56
7:9:73:C:H2'	7:9:74:A:O4'	2.05	0.56
1:0:629:C:H2'	1:0:630:G:H5'	1.87	0.56
1:0:1028:G:H2'	1:0:1029:C:C6	2.40	0.56
1:0:1125:G:H2'	1:0:1126:A:H8	1.70	0.56
1:0:1399:C:O2'	1:0:1400:A:H5'	2.05	0.56
1:0:25:U:H3	1:0:525:A:N6	2.03	0.56
1:0:44:G:N2	1:0:192:G:H21	2.03	0.56
1:0:315:G:H2'	1:0:316:C:C6	2.40	0.56
1:0:515:A:C2'	1:0:516:G:H5'	2.36	0.56
1:0:597:U:H2'	1:0:598:U:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:640:C:H2'	1:0:641:G:C8	2.40	0.56
1:0:742:G:C4	1:0:1766:U:O2	2.58	0.56
1:0:757:U:O2'	1:0:758:G:H5'	2.05	0.56
1:0:826:U:H2'	1:0:827:C:C6	2.39	0.56
1:0:1199:U:H3'	1:0:1200:G:H5''	1.88	0.56
1:0:1645:U:O2'	1:0:2677:U:H5''	2.04	0.56
1:0:1888:C:H5''	1:0:1889:G:C5'	2.30	0.56
1:0:2213:G:H2'	1:0:2214:G:H8	1.68	0.56
1:0:2490:U:O5'	1:0:2490:U:H6	1.88	0.56
1:0:2654:A:C2	1:0:2655:C:C2	2.93	0.56
1:0:2766:U:H2'	1:0:2767:C:C6	2.41	0.56
1:0:611:C:H2'	1:0:612:G:H5'	1.88	0.56
1:0:1141:U:O2'	1:0:1142:G:OP1	2.24	0.56
1:0:1621:C:C4'	1:0:1626:A:N6	2.68	0.56
1:0:1688:U:HO2'	1:0:1690:U:H5	1.53	0.56
1:0:1726:C:H6	1:0:1726:C:O5'	1.88	0.56
1:0:69:G:H5''	1:0:70:A:O5'	2.06	0.56
1:0:1268:U:H5'	1:0:1269:G:H5''	1.87	0.56
1:0:1668:G:C2	1:0:1990:U:C2	2.93	0.56
1:0:18:U:O2'	1:0:563:U:H5''	2.06	0.56
1:0:1789:U:C4	1:0:1811:A:H2	2.24	0.56
1:0:1825:C:O2'	1:0:1826:U:H5'	2.06	0.56
1:0:2032:G:O2'	1:0:2033:C:H5'	2.05	0.56
1:0:831:G:H21	1:0:1203:A:N6	2.03	0.56
1:0:1125:G:H2'	1:0:1126:A:C8	2.41	0.56
1:0:1252:C:O2'	1:0:1253:C:H5''	2.05	0.56
1:0:1284:G:C2'	1:0:1633:C:H4'	2.36	0.56
1:0:1787:U:H2'	1:0:1788:C:C6	2.40	0.56
1:0:30:G:O2'	1:0:31:C:H5'	2.05	0.56
1:0:104:C:H2'	1:0:105:G:C5'	2.24	0.56
1:0:804:C:O2	1:0:804:C:H2'	2.05	0.56
1:0:822:G:C2'	1:0:823:U:H5'	2.36	0.56
1:0:1429:A:O2'	1:0:1430:G:H4'	2.05	0.56
1:0:1911:A:C2'	1:0:1912:G:H5'	2.35	0.56
1:0:2474:G:C5	1:0:2475:C:C4	2.94	0.56
1:0:825:C:O2'	1:0:826:U:H5'	2.05	0.56
1:0:1183:C:H2'	1:0:1184:G:C8	2.41	0.56
1:0:1260:A:C6	1:0:1262:U:H1'	2.41	0.56
1:0:1724:C:H2'	1:0:1725:C:H6	1.70	0.56
1:0:2257:A:C2'	1:0:2258:G:H5'	2.36	0.56
1:0:44:G:H21	1:0:192:G:N2	2.03	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:962:C:H2'	1:0:963:G:C8	2.41	0.55
1:0:1277:G:C8	1:0:1278:A:N7	2.74	0.55
1:0:1301:U:H3	1:0:1339:U:H3	1.54	0.55
1:0:1666:G:H2'	1:0:1667:A:H8	1.71	0.55
1:0:1697:U:O4	1:0:1755:G:OP2	2.24	0.55
1:0:2520:A:H8	1:0:2520:A:O5'	1.89	0.55
1:0:1046:U:H2'	1:0:1047:G:C8	2.42	0.55
1:0:1975:G:H1'	1:0:1977:C:H5	1.70	0.55
1:0:2433:G:C2'	1:0:2434:G:H5'	2.36	0.55
1:0:28:A:C2	1:0:523:A:C8	2.95	0.55
1:0:665:A:H3'	1:0:666:U:C5'	2.37	0.55
1:0:947:C:H2'	1:0:948:C:C6	2.42	0.55
1:0:1373:G:H2'	1:0:1374:G:H5'	1.88	0.55
1:0:1644:G:O2'	1:0:1645:U:H5'	2.06	0.55
1:0:1999:U:H2'	1:0:2000:U:O4'	2.07	0.55
1:0:2046:C:OP1	1:0:2046:C:H3'	2.06	0.55
1:0:2321:C:O2'	1:0:2353:G:H5''	2.06	0.55
1:0:2368:G:H5''	1:0:2369:U:O4'	2.06	0.55
7:9:64:C:C2'	7:9:65:A:H5''	2.35	0.55
1:0:783:G:H1'	1:0:1391:A:C2	2.41	0.55
1:0:1474:A:H3'	1:0:1474:A:N3	2.21	0.55
1:0:2052:G:C2'	1:0:2053:G:H5'	2.36	0.55
1:0:2474:G:H2'	1:0:2475:C:O4'	2.07	0.55
1:0:2561:G:OP1	1:0:2561:G:C8	2.48	0.55
1:0:2782:G:H3'	1:0:2783:U:C5'	2.36	0.55
7:9:30:C:H2'	7:9:31:A:C8	2.41	0.55
7:9:31:A:H2'	7:9:32:C:H6	1.72	0.55
1:0:451:A:H2'	1:0:452:G:C8	2.41	0.55
1:0:651:C:C2'	1:0:652:C:H5''	2.36	0.55
1:0:964:A:H1'	1:0:2245:A:OP2	2.07	0.55
1:0:977:G:H5'	1:0:2251:U:O2	2.05	0.55
1:0:1480:G:H2'	1:0:1481:U:H5'	1.88	0.55
1:0:1783:G:O2'	1:0:1784:C:H5'	2.07	0.55
1:0:2308:A:H2'	1:0:2309:G:H8	1.70	0.55
7:9:24:U:C2'	7:9:25:G:H5''	2.36	0.55
1:0:674:U:H2'	1:0:675:C:H6	1.72	0.55
1:0:714:G:O2'	1:0:715:U:H5'	2.06	0.55
1:0:742:G:H2'	1:0:742:G:N3	2.22	0.55
1:0:1469:U:OP2	1:0:1471:G:N7	2.40	0.55
1:0:1643:A:C2	1:0:1644:G:C8	2.95	0.55
1:0:1474:A:H2'	1:0:1475:U:H5''	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2038:C:H2'	1:0:2483:U:C4'	2.36	0.55
1:0:2560:G:C4	1:0:2589:C:N4	2.67	0.55
7:9:18:G:N2	7:9:71:G:H1'	2.21	0.55
1:0:362:C:H2'	1:0:363:G:H4'	1.89	0.55
1:0:412:U:C2'	1:0:413:G:H5'	2.36	0.55
1:0:521:U:OP2	1:0:522:G:C5	2.60	0.55
1:0:1346:C:H6	1:0:1346:C:O5'	1.89	0.55
1:0:940:G:H8	1:0:940:G:O5'	1.90	0.55
1:0:1653:C:H2'	1:0:1654:A:C8	2.42	0.55
1:0:1974:U:C2'	1:0:1975:G:H5''	2.37	0.55
1:0:2054:A:H2'	1:0:2055:G:C8	2.41	0.55
1:0:2491:C:H2'	1:0:2492:G:H5''	1.88	0.55
1:0:2843:A:H2'	1:0:2844:G:O4'	2.07	0.55
1:0:207:U:H2'	1:0:208:C:H6	1.70	0.54
1:0:214:C:H2'	1:0:215:G:H8	1.72	0.54
1:0:710:C:H2'	1:0:711:C:H6	1.72	0.54
1:0:979:A:H2'	1:0:980:G:C8	2.42	0.54
1:0:1018:C:C1'	1:0:1147:G:H22	2.17	0.54
1:0:1921:A:H2'	1:0:1922:U:C5'	2.33	0.54
1:0:2310:G:N2	1:0:2364:C:N3	2.54	0.54
1:0:2592:U:H2'	1:0:2593:A:H5'	1.88	0.54
7:9:36:A:H1'	7:9:51:G:N2	2.22	0.54
1:0:98:U:OP1	1:0:100:G:H4'	2.06	0.54
1:0:644:A:H2'	1:0:645:G:H5'	1.88	0.54
1:0:998:C:H2'	1:0:999:A:O4'	2.07	0.54
1:0:1695:U:O2'	1:0:1696:C:H5'	2.07	0.54
1:0:2661:G:O2'	1:0:2662:C:H5'	2.07	0.54
1:0:2817:A:C2	1:0:2851:G:C2	2.96	0.54
1:0:883:A:H2'	1:0:884:C:O4'	2.08	0.54
1:0:1175:A:H2'	1:0:1176:U:C6	2.42	0.54
1:0:1654:A:H4'	1:0:2690:A:O2'	2.06	0.54
1:0:1768:U:O2'	1:0:1769:U:H5'	2.08	0.54
1:0:2217:G:H3'	1:0:2217:G:N3	2.22	0.54
1:0:1363:C:O2'	1:0:1364:C:H5'	2.08	0.54
1:0:2034:A:N6	1:0:2593:A:N7	2.56	0.54
1:0:2177:U:H2'	1:0:2178:U:C6	2.42	0.54
1:0:2756:A:C6	1:0:2762:G:H1'	2.42	0.54
1:0:2787:A:H2'	1:0:2788:C:C6	2.41	0.54
1:0:357:A:C3'	1:0:358:C:H5'	2.36	0.54
1:0:811:G:O2'	1:0:812:G:H5'	2.07	0.54
1:0:2526:U:C6	1:0:2545:A:N7	2.76	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:462:G:H2'	1:0:463:C:H5'	1.89	0.54
1:0:475:U:H1'	1:0:699:G:O6	2.06	0.54
1:0:695:G:O2'	1:0:696:U:H5'	2.08	0.54
1:0:2037:A:N6	1:0:2039:G:H1'	2.23	0.54
1:0:1141:U:H4'	1:0:2494:C:H4'	1.89	0.54
1:0:1279:G:HO2'	1:0:1995:G:H1	1.56	0.54
1:0:1288:A:H62	1:0:1309:G:C4'	2.20	0.54
1:0:1661:C:O2'	1:0:1662:G:H5'	2.07	0.54
1:0:1782:A:C2	1:0:1821:A:H4'	2.43	0.54
1:0:1992:G:O2'	1:0:1993:G:H5'	2.08	0.54
1:0:2279:G:H2'	1:0:2280:A:C8	2.43	0.54
1:0:2436:U:H2'	1:0:2437:G:O4'	2.08	0.54
1:0:30:G:N2	1:0:521:U:H1'	2.22	0.54
1:0:1247:U:H2'	1:0:1248:G:O4'	2.07	0.54
1:0:1317:G:O2'	1:0:1318:A:H5'	2.08	0.54
1:0:1502:G:H2'	1:0:1503:G:H8	1.72	0.54
1:0:2007:G:O2'	1:0:2008:C:H5'	2.08	0.54
1:0:2198:U:H2'	1:0:2199:C:H5''	1.89	0.54
1:0:2212:U:H2'	1:0:2213:G:C8	2.43	0.54
1:0:2396:C:H6	1:0:2396:C:H5'	1.73	0.54
1:0:2739:G:O5'	1:0:2739:G:H8	1.90	0.54
1:0:617:U:H2'	1:0:618:A:O4'	2.08	0.54
1:0:639:G:H2'	1:0:640:C:C6	2.43	0.54
1:0:780:U:H2'	1:0:781:G:C8	2.43	0.54
1:0:1408:A:C1'	1:0:1410:U:H5	2.15	0.54
1:0:1624:A:O2'	1:0:1625:A:H5''	2.08	0.54
1:0:1636:G:H2'	1:0:1637:U:H6	1.72	0.54
1:0:1764:A:OP1	1:0:1820:G:H3'	2.08	0.54
1:0:2220:A:O2'	1:0:2221:G:H5'	2.07	0.54
1:0:543:G:H2'	1:0:544:U:C6	2.43	0.53
1:0:713:G:O6	1:0:746:G:C2	2.61	0.53
1:0:796:A:C2	1:0:1770:U:O4'	2.53	0.53
1:0:1617:G:H2'	1:0:1618:U:H5'	1.90	0.53
1:0:2320:G:H2'	1:0:2321:C:O4'	2.08	0.53
1:0:2709:C:N4	1:0:2710:C:N4	2.56	0.53
1:0:2725:C:H2'	1:0:2726:U:C6	2.43	0.53
1:0:716:U:H2'	1:0:717:G:O4'	2.08	0.53
1:0:749:C:H2'	1:0:750:C:H6	1.73	0.53
1:0:977:G:H1'	1:0:2246:A:C4	2.43	0.53
1:0:1086:C:C2'	1:0:1087:C:H5''	2.38	0.53
1:0:1586:A:H2'	1:0:1587:A:C8	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1778:U:H2'	1:0:1779:C:C6	2.42	0.53
1:0:2038:C:N4	1:0:2479:U:H4'	2.24	0.53
1:0:2222:U:H2'	1:0:2223:U:C6	2.43	0.53
1:0:2549:G:O2'	1:0:2550:C:H5'	2.08	0.53
1:0:2812:A:H2'	1:0:2813:G:H8	1.73	0.53
1:0:236:C:H2'	1:0:237:G:C8	2.39	0.53
1:0:1715:A:C8	1:0:1717:A:H1'	2.42	0.53
1:0:2038:C:H41	1:0:2479:U:H4'	1.73	0.53
1:0:2425:G:H2'	1:0:2480:C:H41	1.73	0.53
1:0:632:A:H2'	1:0:633:G:H5'	1.91	0.53
1:0:984:A:C2'	1:0:1200:G:N2	2.72	0.53
1:0:2593:A:C8	1:0:2593:A:C3'	2.92	0.53
33:0:2882:DOL:C42	33:0:2882:DOL:C46	2.83	0.53
1:0:103:U:H2'	1:0:104:C:H6	1.72	0.53
1:0:459:A:H62	1:0:484:G:H1'	1.73	0.53
1:0:1621:C:O2'	1:0:1622:G:H5'	2.08	0.53
1:0:1861:G:O2'	1:0:1862:C:H5'	2.09	0.53
1:0:2713:A:O2'	1:0:2714:A:H5'	2.07	0.53
1:0:2862:G:O2'	1:0:2863:U:H5'	2.08	0.53
1:0:591:G:H2'	1:0:592:G:H8	1.73	0.53
1:0:1226:A:C6	1:0:1250:A:H1'	2.43	0.53
1:0:2225:G:H2'	1:0:2226:A:H8	1.73	0.53
1:0:2621:G:O2'	1:0:2622:G:H5'	2.09	0.53
1:0:181:A:O4'	1:0:183:U:C2	2.61	0.53
1:0:1010:U:O2'	1:0:1011:A:H5'	2.09	0.53
1:0:1046:U:H2'	1:0:1047:G:H8	1.73	0.53
1:0:1489:C:H3'	1:0:1490:U:C5'	2.38	0.53
1:0:1541:G:N2	1:0:1562:G:H22	2.06	0.53
1:0:2246:A:H2'	1:0:2246:A:N3	2.24	0.53
1:0:2595:C:H2'	1:0:2596:C:H6	1.69	0.53
1:0:2785:A:H62	1:0:2865:G:H21	1.57	0.53
1:0:484:G:O2'	1:0:485:G:H5'	2.09	0.53
1:0:512:A:N6	1:0:515:A:C6	2.76	0.53
1:0:616:U:H5	1:0:630:G:C4	2.27	0.53
1:0:1543:G:H2'	1:0:1544:A:O4'	2.09	0.53
1:0:1989:C:O2'	1:0:1990:U:H5'	2.09	0.53
1:0:2491:C:C2'	1:0:2492:G:H5''	2.38	0.53
1:0:2628:C:H2'	1:0:2629:U:H6	1.73	0.53
1:0:2811:G:C6	1:0:2812:A:N6	2.77	0.53
1:0:2830:U:H2'	1:0:2831:A:H8	1.73	0.53
1:0:446:C:H2'	1:0:447:U:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1040:A:H2'	1:0:1041:G:H5'	1.90	0.53
1:0:2051:U:H3	1:0:2409:A:H61	1.57	0.53
1:0:2785:A:H2'	1:0:2786:G:C8	2.44	0.53
7:9:67:C:H2'	7:9:68:A:H5'	1.91	0.53
1:0:225:G:H3'	1:0:226:C:H5'	1.90	0.53
1:0:242:A:H2'	1:0:243:G:H4'	1.89	0.53
1:0:313:U:H2'	1:0:314:G:H8	1.72	0.53
1:0:320:A:H2	1:0:340:G:HO2'	1.53	0.53
1:0:525:A:C2'	1:0:526:C:H5'	2.38	0.53
1:0:1039:A:H61	1:0:1136:G:H2'	1.74	0.53
1:0:1196:G:C2'	1:0:1197:U:H5'	2.38	0.53
1:0:1649:A:N6	1:0:1650:A:N1	2.56	0.53
1:0:2007:G:H2'	1:0:2008:C:C6	2.44	0.53
1:0:2717:G:H2'	1:0:2718:A:H8	1.73	0.53
1:0:2810:A:H5''	1:0:2811:G:OP1	2.08	0.53
1:0:701:U:O2'	1:0:702:A:H5'	2.09	0.52
1:0:980:G:C2	1:0:981:C:O2	2.62	0.52
1:0:1662:G:O5'	1:0:1662:G:H8	1.91	0.52
1:0:2266:A:N6	1:0:2323:U:H1'	2.25	0.52
1:0:2615:U:H2'	1:0:2616:U:C6	2.43	0.52
1:0:2691:C:C3'	1:0:2692:A:H5''	2.35	0.52
1:0:2827:G:C5	1:0:2828:C:C4	2.96	0.52
1:0:591:G:H2'	1:0:592:G:C8	2.43	0.52
1:0:763:A:H2	1:0:766:A:C1'	2.19	0.52
1:0:2076:G:H2'	1:0:2077:G:C8	2.42	0.52
1:0:2829:A:H2'	1:0:2830:U:O4'	2.10	0.52
7:9:65:A:O2'	7:9:66:G:H5'	2.09	0.52
1:0:225:G:H3'	1:0:226:C:C5'	2.39	0.52
1:0:508:G:H2'	1:0:509:U:C6	2.43	0.52
1:0:984:A:H2'	1:0:1200:G:H22	1.74	0.52
1:0:2437:G:O6	1:0:2469:G:H2'	2.08	0.52
1:0:2502:G:H2'	1:0:2503:G:C8	2.43	0.52
1:0:2689:C:N4	1:0:2690:A:N6	2.57	0.52
1:0:733:G:H2'	1:0:734:G:H8	1.74	0.52
1:0:755:C:H2'	1:0:756:C:C6	2.43	0.52
1:0:2095:G:H2'	1:0:2096:U:H5''	1.91	0.52
1:0:2240:C:H2'	1:0:2241:U:H5''	1.91	0.52
1:0:2322:U:H2'	1:0:2323:U:H5'	1.90	0.52
1:0:1621:C:O4'	1:0:1626:A:N6	2.42	0.52
1:0:2797:G:O5'	1:0:2797:G:H8	1.92	0.52
7:9:51:G:H2'	7:9:52:G:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:639:G:O2'	1:0:640:C:H5'	2.09	0.52
1:0:772:G:O2'	1:0:773:G:H5'	2.10	0.52
1:0:807:A:O2'	1:0:808:C:H5'	2.09	0.52
1:0:1218:C:H2'	1:0:1219:C:C6	2.44	0.52
1:0:2534:U:C5	1:0:2535:C:C4	2.98	0.52
1:0:2748:C:H2'	1:0:2749:A:C8	2.44	0.52
1:0:819:C:C2	1:0:820:U:C5	2.98	0.52
1:0:1886:G:H2'	1:0:1887:G:H8	1.75	0.52
1:0:2587:G:H8	1:0:2587:G:O5'	1.93	0.52
1:0:2859:U:C5	1:0:2860:C:C4	2.97	0.52
7:9:92:G:C2'	7:9:93:G:H5'	2.36	0.52
1:0:65:C:H2'	1:0:66:U:O4'	2.10	0.52
1:0:639:G:H2'	1:0:640:C:H6	1.74	0.52
1:0:953:G:C5	1:0:954:U:C4	2.98	0.52
1:0:1001:A:H4'	1:0:1168:G:P	2.50	0.52
1:0:1141:U:H3	1:0:2008:C:H5''	1.74	0.52
1:0:1242:A:O2'	1:0:1243:G:H5'	2.10	0.52
1:0:1687:C:C4	1:0:1688:U:C2	2.98	0.52
1:0:2016:A:N6	1:0:2019:C:C2	2.77	0.52
1:0:2039:G:P	1:0:2483:U:H5''	2.50	0.52
1:0:1002:C:N4	1:0:1003:C:N4	2.57	0.52
1:0:1825:C:C2'	1:0:1826:U:H5'	2.40	0.52
1:0:2249:U:O2'	1:0:2250:G:H5'	2.10	0.52
1:0:2611:A:H2'	1:0:2612:G:H8	1.75	0.52
1:0:2661:G:H2'	1:0:2662:C:H5'	1.91	0.52
1:0:702:A:N6	1:0:703:A:C5	2.78	0.52
1:0:725:C:H2'	1:0:726:G:C8	2.45	0.52
1:0:818:G:O2'	1:0:844:G:H4'	2.10	0.52
1:0:1013:G:C6	1:0:1165:G:N2	2.78	0.52
1:0:1471:G:C6	1:0:1472:C:C4	2.98	0.52
1:0:1615:C:H2'	1:0:1616:C:C6	2.44	0.52
1:0:1679:U:C3'	1:0:1680:U:H5''	2.40	0.52
1:0:2030:U:H2'	1:0:2031:A:H8	1.75	0.52
1:0:2299:A:C5'	1:0:2300:G:C4	2.92	0.52
1:0:2394:G:H2'	1:0:2395:C:C6	2.45	0.52
1:0:2602:G:O2'	1:0:2603:G:H5'	2.09	0.52
7:9:24:U:C3'	7:9:25:G:H5''	2.40	0.52
7:9:117:G:H2'	7:9:118:G:C8	2.45	0.52
1:0:460:U:H3	1:0:592:G:H1'	1.75	0.51
1:0:757:U:H2'	1:0:758:G:H5'	1.92	0.51
1:0:2058:U:H4'	1:0:2575:U:O2	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2071:G:N2	1:0:2211:U:H1'	2.25	0.51
1:0:2181:A:H2'	1:0:2182:A:H5'	1.91	0.51
7:9:79:U:H3	7:9:103:A:H62	1.58	0.51
1:0:67:G:H21	1:0:72:A:H2'	1.75	0.51
1:0:167:A:C2	1:0:184:A:C2	2.98	0.51
1:0:1196:G:H2'	1:0:1197:U:C5'	2.40	0.51
1:0:1445:A:H2'	1:0:1446:U:O4'	2.10	0.51
1:0:2712:G:H3'	1:0:2713:A:H5'	1.93	0.51
1:0:2769:C:H2'	1:0:2867:G:H22	1.75	0.51
1:0:193:A:N6	1:0:444:U:O2	2.43	0.51
1:0:930:A:OP1	1:0:930:A:H4'	2.10	0.51
1:0:1793:A:H62	1:0:1806:G:H2'	1.76	0.51
1:0:2262:C:C5	1:0:2263:C:C5	2.99	0.51
1:0:2570:C:H2'	1:0:2571:G:H8	1.71	0.51
1:0:2846:G:H2'	1:0:2847:G:H5''	1.92	0.51
1:0:217:U:N3	1:0:218:A:N6	2.58	0.51
1:0:342:G:H2'	1:0:343:A:C5'	2.40	0.51
1:0:644:A:C2'	1:0:645:G:H5'	2.41	0.51
1:0:722:C:H2'	1:0:723:C:H6	1.71	0.51
1:0:807:A:C6	1:0:808:C:C4	2.99	0.51
1:0:1174:G:O2'	1:0:1175:A:H5'	2.11	0.51
1:0:1697:U:O2	1:0:1754:G:C8	2.63	0.51
1:0:1887:G:O2'	1:0:1911:A:H2	1.93	0.51
1:0:1956:G:H8	1:0:1956:G:H5'	1.75	0.51
1:0:2276:C:O2'	1:0:2277:A:H5'	2.09	0.51
1:0:2324:G:O2'	1:0:2325:A:H5''	2.11	0.51
1:0:594:G:H2'	1:0:595:A:C8	2.45	0.51
1:0:763:A:C2	1:0:766:A:C1'	2.87	0.51
1:0:1241:G:O2'	1:0:1242:A:H5'	2.10	0.51
1:0:2324:G:N3	1:0:2326:C:C5	2.76	0.51
1:0:2549:G:H2'	1:0:2550:C:C5'	2.40	0.51
1:0:187:U:H2'	1:0:188:G:C8	2.46	0.51
1:0:562:G:C6	1:0:563:U:N3	2.79	0.51
1:0:580:A:N3	1:0:582:G:N7	2.59	0.51
1:0:594:G:N2	1:0:1269:G:C6	2.79	0.51
1:0:791:G:N2	1:0:800:U:C2	2.78	0.51
1:0:956:A:N1	1:0:2427:A:O2'	2.41	0.51
1:0:1212:U:H2'	1:0:1213:U:C6	2.46	0.51
1:0:1697:U:O2	1:0:1755:G:H4'	2.11	0.51
1:0:1764:A:H2'	1:0:1765:C:H5'	1.92	0.51
1:0:1976:U:H2'	1:0:1977:C:C5'	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2426:G:O6	1:0:2479:U:H2'	2.11	0.51
1:0:2825:A:H2'	1:0:2826:C:C6	2.45	0.51
1:0:334:G:N3	1:0:344:G:H1'	2.25	0.51
1:0:710:C:H2'	1:0:711:C:C6	2.46	0.51
1:0:414:A:H2'	1:0:415:A:O4'	2.10	0.51
1:0:734:G:H2'	1:0:735:G:C8	2.45	0.51
1:0:946:U:H2'	1:0:947:C:C6	2.44	0.51
1:0:1010:U:H2'	1:0:1011:A:C8	2.46	0.51
1:0:2222:U:H2'	1:0:2223:U:H6	1.74	0.51
1:0:2549:G:C2'	1:0:2550:C:H5'	2.40	0.51
1:0:2677:U:H2'	1:0:2678:C:C6	2.46	0.51
1:0:367:G:C3'	1:0:368:A:H5''	2.41	0.51
1:0:502:A:H2'	1:0:503:G:O4'	2.11	0.51
1:0:589:C:N4	1:0:590:C:N4	2.59	0.51
1:0:778:G:O2'	1:0:779:U:H5'	2.11	0.51
1:0:1200:G:H2'	1:0:1201:G:H5'	1.93	0.51
1:0:1669:A:H2'	1:0:1670:G:H4'	1.93	0.51
1:0:2610:G:HO2'	1:0:2785:A:H2	1.50	0.51
1:0:80:A:O2'	1:0:81:C:H5'	2.10	0.51
1:0:847:C:H2'	1:0:848:A:O4'	2.11	0.51
1:0:1355:A:O4'	1:0:1410:U:H4'	2.10	0.51
1:0:1831:G:C2'	1:0:1832:G:H5'	2.41	0.51
1:0:1831:G:H2'	1:0:1832:G:H5'	1.93	0.51
1:0:2225:G:H2'	1:0:2226:A:C8	2.45	0.51
1:0:2243:C:H2'	1:0:2244:C:O4'	2.11	0.51
1:0:2340:C:C2'	1:0:2341:G:H5'	2.41	0.51
1:0:2721:A:H62	1:0:2743:G:N2	2.05	0.51
1:0:129:A:H2'	1:0:130:C:C6	2.46	0.50
1:0:691:C:O2'	1:0:692:C:H5'	2.11	0.50
1:0:1213:U:H2'	1:0:1214:C:C6	2.46	0.50
1:0:1403:U:O5'	1:0:1403:U:H6	1.93	0.50
1:0:1453:A:H2'	1:0:1454:U:H5'	1.94	0.50
1:0:1695:U:C2'	1:0:1696:C:H5'	2.40	0.50
1:0:2437:G:H1	1:0:2469:G:H2'	1.76	0.50
1:0:2628:C:H2'	1:0:2629:U:C6	2.46	0.50
1:0:2811:G:O6	1:0:2812:A:N6	2.44	0.50
1:0:323:G:H5''	1:0:342:G:O6	2.11	0.50
1:0:367:G:C2'	1:0:368:A:H5''	2.40	0.50
1:0:509:U:H2'	1:0:510:G:O4'	2.12	0.50
1:0:780:U:H2'	1:0:781:G:H8	1.76	0.50
1:0:1282:A:N6	1:0:1995:G:N2	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2337:A:C6	1:0:2338:C:N3	2.79	0.50
1:0:2766:U:O2'	1:0:2767:C:H5'	2.12	0.50
1:0:2783:U:H2'	1:0:2784:A:C4'	2.33	0.50
7:9:56:G:H2'	7:9:57:U:C6	2.47	0.50
1:0:475:U:H1'	1:0:699:G:C6	2.46	0.50
1:0:814:G:H3'	1:0:815:A:H5'	1.94	0.50
1:0:1398:G:H2'	1:0:1399:C:H6	1.75	0.50
1:0:1577:G:H8	1:0:1577:G:O5'	1.93	0.50
1:0:1621:C:C5	1:0:1622:G:C5	3.00	0.50
1:0:1746:A:H61	1:0:2674:C:C4'	2.24	0.50
1:0:1984:A:H1'	1:0:2668:U:C4	2.46	0.50
1:0:2491:C:H2'	1:0:2492:G:C4'	2.42	0.50
1:0:2645:C:O5'	1:0:2645:C:H6	1.95	0.50
7:9:106:U:O2'	7:9:107:C:H5'	2.12	0.50
1:0:168:A:H2'	1:0:169:C:C6	2.47	0.50
1:0:427:C:H2'	1:0:428:A:C8	2.47	0.50
1:0:578:U:H1'	1:0:958:G:O4'	2.12	0.50
1:0:985:G:N3	1:0:985:G:H3'	2.27	0.50
1:0:1380:C:C2'	1:0:1381:G:H5'	2.42	0.50
1:0:2026:C:H2'	1:0:2027:C:C6	2.47	0.50
1:0:2061:C:C4	1:0:2062:U:C5	3.00	0.50
1:0:2080:U:H2'	1:0:2081:U:C6	2.47	0.50
1:0:2185:U:H2'	1:0:2186:G:H8	1.73	0.50
1:0:2355:A:H2'	1:0:2356:A:O4'	2.11	0.50
1:0:2825:A:O2'	1:0:2826:C:H5'	2.11	0.50
7:9:37:C:H2'	7:9:38:C:H5'	1.94	0.50
1:0:139:A:H2'	1:0:140:G:C8	2.47	0.50
1:0:789:G:H1'	1:0:806:A:C8	2.46	0.50
1:0:824:U:H5''	1:0:1264:C:C2	2.47	0.50
1:0:883:A:O2'	1:0:884:C:H5'	2.11	0.50
1:0:946:U:C2	1:0:947:C:C5	2.99	0.50
1:0:997:C:N4	1:0:998:C:N4	2.59	0.50
1:0:1462:C:H1'	1:0:1561:A:H1'	1.94	0.50
1:0:1677:C:H2'	1:0:1678:G:H8	1.77	0.50
1:0:1698:C:H2'	1:0:1753:A:N3	2.26	0.50
1:0:1967:U:O2'	1:0:1968:G:H5'	2.12	0.50
1:0:1975:G:H2'	1:0:1980:A:N6	2.27	0.50
1:0:50:G:H2'	1:0:117:A:H2	1.75	0.50
1:0:175:C:H42	1:0:225:G:H1	1.60	0.50
1:0:180:C:N3	1:0:181:A:N6	2.58	0.50
1:0:218:A:H1'	1:0:220:U:C2	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:497:C:C2	1:0:505:G:C2	3.00	0.50
1:0:658:G:H4'	1:0:2331:A:H5'	1.94	0.50
1:0:661:C:O2'	1:0:662:G:H5'	2.12	0.50
1:0:951:G:H2'	1:0:952:A:C5'	2.38	0.50
1:0:1234:C:O2'	1:0:1235:C:H5'	2.11	0.50
1:0:1333:G:O2'	1:0:1334:A:H8	1.95	0.50
1:0:1392:U:C2'	1:0:1393:G:H5'	2.41	0.50
1:0:1459:U:O2	1:0:1476:G:OP2	2.30	0.50
1:0:1469:U:H5'	1:0:1470:G:N7	2.26	0.50
1:0:2542:U:C6	1:0:2544:A:OP2	2.65	0.50
1:0:2608:A:O2'	1:0:2609:G:H5'	2.11	0.50
1:0:2801:A:C2'	1:0:2802:C:H5'	2.41	0.50
1:0:2838:U:O2'	1:0:2839:G:H5'	2.10	0.50
1:0:343:A:H62	1:0:346:C:H5	1.59	0.50
1:0:531:G:H2'	1:0:532:A:C8	2.47	0.50
1:0:821:A:O2'	1:0:1267:A:H4'	2.11	0.50
1:0:1322:G:H2'	1:0:1323:G:C8	2.47	0.50
1:0:1356:G:H1'	1:0:1613:G:C2	2.46	0.50
1:0:1621:C:H4'	1:0:1626:A:N6	2.27	0.50
1:0:1755:G:C6	1:0:1972:G:C6	3.00	0.50
1:0:1816:G:O2'	1:0:1817:U:H5'	2.12	0.50
1:0:1947:G:O2'	1:0:1950:C:OP2	2.26	0.50
1:0:2426:G:N2	1:0:2430:A:H62	2.10	0.50
1:0:2559:U:H3'	1:0:2560:G:C4'	2.41	0.50
1:0:67:G:N2	1:0:72:A:H2'	2.26	0.50
1:0:224:G:N7	1:0:226:C:O2	2.45	0.50
1:0:601:A:H61	1:0:633:G:H21	1.59	0.50
1:0:689:A:C2'	1:0:690:A:H5'	2.41	0.50
1:0:792:U:H2'	1:0:793:G:O4'	2.11	0.50
1:0:961:G:C6	1:0:962:C:C4	3.00	0.50
1:0:1054:C:C2'	1:0:1055:A:H5'	2.41	0.50
1:0:1182:U:C3'	1:0:1183:C:H5''	2.41	0.50
1:0:1435:G:H22	1:0:1512:A:H2	1.59	0.50
1:0:1587:A:H2'	1:0:1588:A:C8	2.47	0.50
1:0:1949:A:H1'	1:0:2572:U:H4'	1.93	0.50
1:0:2445:C:N4	1:0:2446:C:H41	2.09	0.50
1:0:525:A:H2'	1:0:526:C:H5'	1.93	0.49
1:0:635:C:H3'	1:0:636:G:H5''	1.93	0.49
1:0:979:A:H2'	1:0:980:G:H8	1.77	0.49
1:0:1141:U:HO2'	1:0:1142:G:P	2.31	0.49
1:0:1479:G:H2'	1:0:1480:G:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1711:C:O5'	1:0:1711:C:H6	1.95	0.49
1:0:2806:G:H1'	1:0:2858:A:H2'	1.93	0.49
1:0:26:G:H2'	1:0:27:G:O4'	2.12	0.49
1:0:180:C:C4	1:0:181:A:C5	3.01	0.49
1:0:587:A:C2	1:0:1266:G:N2	2.75	0.49
1:0:1256:C:H2'	1:0:1257:U:O4'	2.12	0.49
1:0:2240:C:HO2'	1:0:2306:A:H2	1.59	0.49
1:0:2652:G:H2'	1:0:2653:A:C8	2.45	0.49
7:9:33:C:O5'	7:9:33:C:H6	1.95	0.49
1:0:1:G:H2'	1:0:2:G:C8	2.47	0.49
1:0:215:G:H2'	1:0:216:U:O4'	2.12	0.49
1:0:468:A:O2'	1:0:469:G:H4'	2.12	0.49
1:0:788:G:C5'	1:0:790:A:H1'	2.40	0.49
1:0:1323:G:H2'	1:0:1324:G:H4'	1.94	0.49
1:0:1358:C:H2'	1:0:1359:G:C5'	2.41	0.49
1:0:1479:G:H21	1:0:1543:G:N2	2.09	0.49
1:0:2235:G:N2	1:0:2254:C:C4	2.79	0.49
1:0:2418:A:H2	1:0:2564:U:H5'	1.77	0.49
1:0:2748:C:H2'	1:0:2749:A:H8	1.76	0.49
7:9:42:U:H3	7:9:45:C:H5	1.59	0.49
1:0:57:G:N2	1:0:72:A:N7	2.60	0.49
1:0:1284:G:C4	1:0:1633:C:H5'	2.48	0.49
1:0:1757:C:O2'	1:0:1758:C:H5'	2.12	0.49
1:0:1958:G:H2'	1:0:1959:U:O4'	2.12	0.49
1:0:2560:G:H2'	1:0:2561:G:C8	2.47	0.49
1:0:324:C:O2'	1:0:325:U:H5'	2.11	0.49
1:0:460:U:C2'	1:0:461:A:OP1	2.61	0.49
1:0:490:A:O2'	1:0:491:A:H5'	2.12	0.49
1:0:675:C:O2'	1:0:676:G:H5'	2.12	0.49
1:0:701:U:H2'	1:0:702:A:H8	1.78	0.49
1:0:981:C:OP1	1:0:1000:G:N2	2.45	0.49
1:0:1010:U:H2'	1:0:1011:A:H8	1.77	0.49
1:0:1528:C:C2'	1:0:1529:C:H5''	2.42	0.49
1:0:1773:C:C4	1:0:2566:A:H2	2.31	0.49
1:0:1793:A:H2'	1:0:1794:A:C8	2.47	0.49
1:0:2633:A:H5'	1:0:2635:U:O4'	2.12	0.49
7:9:31:A:H2'	7:9:32:C:C6	2.48	0.49
7:9:42:U:N3	7:9:45:C:H5	2.10	0.49
1:0:66:U:O2	1:0:67:G:N7	2.45	0.49
1:0:166:G:H21	1:0:184:A:H62	1.60	0.49
1:0:217:U:H1'	1:0:235:C:H42	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:478:G:O2'	1:0:479:G:H5'	2.13	0.49
1:0:652:C:H42	1:0:657:A:N6	2.10	0.49
1:0:874:A:N6	1:0:928:G:H21	2.10	0.49
1:0:1558:C:C2'	1:0:1559:G:H5'	2.42	0.49
1:0:2034:A:N6	1:0:2593:A:H62	2.09	0.49
1:0:2079:A:H2'	1:0:2080:U:C6	2.47	0.49
1:0:2498:U:H5''	1:0:2499:C:OP1	2.12	0.49
1:0:2499:C:C2	1:0:2546:G:C8	3.00	0.49
1:0:2550:C:C5	1:0:2553:G:O4'	2.65	0.49
1:0:2824:C:H6	1:0:2824:C:O5'	1.95	0.49
7:9:80:A:H2'	7:9:81:C:O4'	2.11	0.49
1:0:171:G:C2	1:0:179:U:N3	2.80	0.49
1:0:807:A:H2'	1:0:808:C:C6	2.48	0.49
1:0:1159:U:H2'	1:0:1160:C:C6	2.47	0.49
1:0:2380:U:H2'	1:0:2381:A:H5'	1.94	0.49
1:0:2443:C:O2'	1:0:2444:C:H5'	2.13	0.49
1:0:2445:C:C4	1:0:2446:C:N4	2.80	0.49
1:0:2796:A:H8	1:0:2796:A:OP1	1.96	0.49
1:0:2836:U:H2'	1:0:2837:G:C8	2.46	0.49
1:0:443:A:O2'	1:0:444:U:H5'	2.13	0.49
1:0:947:C:N3	1:0:948:C:C4	2.80	0.49
1:0:1139:A:H1'	1:0:2496:C:H5'	1.94	0.49
1:0:1162:A:H2'	1:0:1163:C:H6	1.77	0.49
1:0:2071:G:H22	1:0:2211:U:H1'	1.77	0.49
1:0:2198:U:C2'	1:0:2199:C:H5''	2.43	0.49
1:0:2240:C:H2'	1:0:2241:U:C5'	2.43	0.49
1:0:2377:U:H2'	1:0:2378:G:C8	2.48	0.49
1:0:2617:G:N2	1:0:2755:A:H2'	2.28	0.49
1:0:2642:G:O2'	1:0:2643:G:H5'	2.12	0.49
1:0:931:G:H2'	1:0:932:G:O4'	2.13	0.49
1:0:1809:G:P	1:0:1809:G:H8	2.36	0.49
1:0:2223:U:H2'	1:0:2224:U:O4'	2.13	0.49
1:0:2543:A:H5'	1:0:2627:G:H4'	1.94	0.49
1:0:597:U:N3	1:0:683:A:O2'	2.44	0.49
1:0:1147:G:C4'	1:0:2022:C:H5'	2.43	0.49
1:0:1263:G:O2'	1:0:1264:C:P	2.71	0.49
1:0:1364:C:C2	1:0:1394:G:C2	3.01	0.49
1:0:1696:C:H2'	1:0:1697:U:C6	2.48	0.49
1:0:2717:G:O2'	1:0:2718:A:H5'	2.13	0.49
7:9:36:A:H2'	7:9:46:G:O6	2.13	0.49
1:0:177:U:H2'	1:0:178:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:677:G:C1'	1:0:951:G:H5''	2.43	0.48
1:0:1142:G:O6	1:0:2008:C:H1'	2.12	0.48
1:0:1145:C:C5	1:0:1147:G:OP2	2.66	0.48
1:0:1272:G:O2'	1:0:1273:G:C5'	2.61	0.48
1:0:1340:C:C5	1:0:1341:G:N7	2.80	0.48
1:0:1548:U:H2'	1:0:1549:C:C6	2.48	0.48
1:0:1998:A:C2	32:Z:6:VAL:CA	2.96	0.48
1:0:2611:A:H2'	1:0:2612:G:C8	2.47	0.48
1:0:2768:C:H2'	1:0:2769:C:H4'	1.95	0.48
1:0:2847:G:C6	1:0:2848:A:N6	2.81	0.48
1:0:166:G:N2	1:0:185:C:N4	2.61	0.48
1:0:210:A:H62	1:0:442:A:H61	1.61	0.48
1:0:322:A:H1'	1:0:343:A:C5	2.49	0.48
1:0:864:C:O2'	1:0:865:A:H5'	2.13	0.48
1:0:2093:G:H2'	1:0:2094:C:C6	2.48	0.48
1:0:2474:G:C5	1:0:2475:C:C5	3.01	0.48
1:0:2745:A:H2'	1:0:2745:A:N3	2.29	0.48
1:0:2788:C:O2'	1:0:2789:U:C5'	2.58	0.48
7:9:77:G:O2'	7:9:78:A:H5'	2.13	0.48
1:0:173:A:H2'	1:0:173:A:N3	2.28	0.48
1:0:546:A:H2'	1:0:547:U:C6	2.48	0.48
1:0:633:G:H2'	1:0:634:G:O4'	2.13	0.48
1:0:1500:U:H3	1:0:1520:G:H22	1.60	0.48
1:0:1754:G:OP1	1:0:1754:G:H4'	2.13	0.48
1:0:2051:U:H3	1:0:2409:A:N6	2.10	0.48
1:0:2425:G:H2'	1:0:2480:C:N4	2.29	0.48
1:0:2821:G:H2'	1:0:2822:U:C6	2.48	0.48
7:9:102:A:H2'	7:9:103:A:H8	1.78	0.48
1:0:401:G:N3	1:0:403:A:N7	2.62	0.48
1:0:563:U:H6	1:0:563:U:O5'	1.95	0.48
1:0:599:A:H2'	1:0:600:G:H8	1.78	0.48
1:0:1187:A:H2'	1:0:1188:A:C8	2.48	0.48
1:0:1272:G:H2'	1:0:1273:G:H8	1.75	0.48
1:0:1720:G:N1	1:0:1721:G:C5	2.82	0.48
1:0:1755:G:C6	1:0:1972:G:N1	2.81	0.48
1:0:1994:U:O5'	1:0:1994:U:H6	1.96	0.48
1:0:2027:C:H2'	1:0:2028:C:C6	2.47	0.48
1:0:2403:C:H5'	1:0:2404:A:OP1	2.13	0.48
1:0:2594:U:H5'	1:0:2594:U:C6	2.37	0.48
1:0:2856:U:C4	1:0:2857:C:N4	2.82	0.48
1:0:68:C:N3	1:0:69:G:C5	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:338:G:O2'	1:0:339:U:H5'	2.13	0.48
1:0:701:U:H2'	1:0:702:A:C8	2.49	0.48
1:0:1791:C:C1'	1:0:1793:A:H5'	2.36	0.48
1:0:1807:A:H1'	1:0:1809:G:H1'	1.95	0.48
1:0:2209:G:C5	1:0:2210:C:C5	3.01	0.48
1:0:2470:U:C2'	1:0:2471:U:O5'	2.61	0.48
1:0:2559:U:C2'	1:0:2560:G:OP1	2.62	0.48
7:9:85:G:O2'	7:9:86:A:H5'	2.12	0.48
1:0:612:G:O3'	1:0:613:A:H4'	2.13	0.48
1:0:674:U:O2'	1:0:675:C:H5'	2.13	0.48
1:0:835:U:O2'	1:0:836:G:H5'	2.13	0.48
1:0:2812:A:H2'	1:0:2813:G:C8	2.49	0.48
33:0:2882:DOL:H463	33:0:2882:DOL:HC33	1.95	0.48
1:0:328:A:O2'	1:0:329:C:H5'	2.14	0.48
1:0:699:G:H2'	1:0:699:G:N3	2.29	0.48
1:0:992:A:H2	1:0:2010:G:N3	2.11	0.48
1:0:1253:C:H2'	1:0:1254:G:H5'	1.96	0.48
1:0:2024:U:O5'	1:0:2024:U:H6	1.96	0.48
1:0:2193:C:H2'	1:0:2194:A:O4'	2.12	0.48
1:0:2448:A:H2'	1:0:2449:G:H5'	1.96	0.48
1:0:2470:U:H2'	1:0:2471:U:O5'	2.14	0.48
1:0:242:A:C2'	1:0:243:G:H4'	2.44	0.48
1:0:459:A:N7	1:0:484:G:N9	2.62	0.48
1:0:537:C:C2	1:0:2759:U:O2'	2.64	0.48
1:0:573:C:N4	1:0:582:G:OP1	2.47	0.48
1:0:1339:U:C5'	1:0:1994:U:H1'	2.44	0.48
1:0:2560:G:N9	1:0:2589:C:N4	2.62	0.48
1:0:2624:G:OP1	1:0:2712:G:N2	2.46	0.48
1:0:2702:G:H2'	1:0:2703:C:C6	2.48	0.48
1:0:155:G:O2'	1:0:156:G:H5'	2.14	0.48
1:0:645:G:H2'	1:0:646:C:C6	2.49	0.48
1:0:665:A:H3'	1:0:666:U:H5'	1.95	0.48
1:0:690:A:O2'	1:0:691:C:H5'	2.14	0.48
1:0:712:A:C8	1:0:713:G:C8	3.02	0.48
1:0:1283:C:H5''	1:0:1284:G:O5'	2.14	0.48
1:0:1641:C:N4	1:0:1642:G:C2	2.82	0.48
1:0:2034:A:H2'	1:0:2035:G:C8	2.49	0.48
1:0:692:C:H2'	1:0:693:A:H8	1.79	0.48
1:0:727:U:C2'	1:0:728:G:H5''	2.39	0.48
1:0:773:G:H4'	1:0:1767:G:OP1	2.13	0.48
1:0:1331:G:C6	1:0:1332:G:C6	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1645:U:H2'	1:0:1646:G:C8	2.49	0.48
1:0:1666:G:O2'	1:0:1667:A:H5'	2.14	0.48
1:0:1692:C:H2'	1:0:1693:A:C5'	2.43	0.48
1:0:2555:G:H5'	1:0:2558:C:H41	1.79	0.48
1:0:306:G:O2'	1:0:307:C:H5'	2.14	0.47
1:0:1202:U:H2'	1:0:1203:A:H8	1.79	0.47
1:0:1348:C:H2'	1:0:1349:A:C8	2.49	0.47
1:0:2268:G:H5'	1:0:2363:G:O2'	2.14	0.47
1:0:2429:A:O2'	1:0:2430:A:H5'	2.13	0.47
1:0:2785:A:H2'	1:0:2786:G:O4'	2.14	0.47
1:0:2792:C:C2	1:0:2805:G:N2	2.82	0.47
1:0:349:G:H2'	1:0:350:U:C6	2.49	0.47
1:0:428:A:H2'	1:0:429:C:H6	1.79	0.47
1:0:698:A:C1'	1:0:700:C:H41	2.26	0.47
1:0:704:G:O2'	1:0:705:C:H5'	2.14	0.47
1:0:1660:G:H2'	1:0:1661:C:O4'	2.14	0.47
1:0:1666:G:O2'	1:0:1667:A:C5'	2.62	0.47
1:0:2569:A:O2'	1:0:2570:C:H5'	2.13	0.47
1:0:2667:C:H2'	1:0:2699:G:N2	2.29	0.47
1:0:2788:C:H2'	1:0:2789:U:H6	1.79	0.47
1:0:632:A:H3'	1:0:632:A:N3	2.29	0.47
1:0:858:G:H5''	1:0:859:U:H5'	1.96	0.47
1:0:929:A:H3'	1:0:930:A:C5'	2.36	0.47
1:0:1683:G:C2'	1:0:1684:G:H5'	2.43	0.47
1:0:2014:A:C2	1:0:2435:C:H5'	2.49	0.47
1:0:2276:C:H1'	1:0:2301:A:N3	2.29	0.47
1:0:476:G:H2'	1:0:477:A:C8	2.49	0.47
1:0:550:C:O2'	1:0:551:A:H5'	2.14	0.47
1:0:728:G:H2'	1:0:729:A:O4'	2.13	0.47
1:0:958:G:H2'	1:0:959:C:H6	1.78	0.47
1:0:1502:G:O2'	1:0:1503:G:H5'	2.14	0.47
1:0:1671:A:O4'	1:0:2798:A:H5'	2.15	0.47
1:0:1722:G:O2'	1:0:1723:U:H5'	2.15	0.47
1:0:1797:C:H2'	1:0:1798:G:O4'	2.13	0.47
1:0:1905:G:H2'	1:0:1906:U:C6	2.49	0.47
1:0:2238:G:H8	1:0:2238:G:OP1	1.97	0.47
1:0:2268:G:H2'	1:0:2269:G:C8	2.50	0.47
1:0:2468:G:H2'	1:0:2469:G:C5'	2.43	0.47
1:0:2658:A:O2'	9:B:189:PRO:CA	2.63	0.47
1:0:30:G:N1	1:0:521:U:O2	2.48	0.47
1:0:163:A:H2'	1:0:164:G:C8	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:368:A:H2'	1:0:369:C:O4'	2.15	0.47
1:0:658:G:H1'	1:0:2330:G:OP1	2.14	0.47
1:0:929:A:HO2'	7:9:101:A:HO2'	1.59	0.47
1:0:1031:C:H4'	1:0:1032:A:C8	2.50	0.47
1:0:1314:A:N7	1:0:1316:G:N7	2.62	0.47
1:0:1341:G:N2	1:0:1343:C:O2	2.47	0.47
1:0:1676:U:O2'	1:0:1677:C:H5'	2.14	0.47
1:0:1712:G:N2	1:0:1713:G:C4	2.82	0.47
1:0:1985:G:O2'	1:0:1986:G:H5'	2.14	0.47
1:0:2240:C:C2'	1:0:2241:U:H5''	2.44	0.47
1:0:2313:G:C3'	1:0:2314:A:H5'	2.44	0.47
1:0:2335:U:O2'	1:0:2336:G:H5'	2.15	0.47
1:0:2371:A:C2	1:0:2408:G:C6	3.02	0.47
1:0:2593:A:H2'	1:0:2594:U:H5'	1.95	0.47
7:9:9:G:H2'	7:9:10:U:O4'	2.14	0.47
1:0:333:A:H1'	1:0:351:A:C1'	2.44	0.47
1:0:1141:U:O5'	1:0:1141:U:H6	1.97	0.47
1:0:1299:A:C5	1:0:1342:U:O4	2.67	0.47
1:0:1370:U:O2'	1:0:1371:G:H5'	2.15	0.47
1:0:1789:U:C4	1:0:1811:A:C2	3.03	0.47
1:0:2231:G:O2'	1:0:2232:G:H5'	2.14	0.47
1:0:2245:A:O3'	1:0:2246:A:C8	2.67	0.47
1:0:43:A:O2'	1:0:44:G:H5'	2.15	0.47
1:0:80:A:H2'	1:0:81:C:O4'	2.15	0.47
1:0:217:U:H3	1:0:218:A:N6	2.13	0.47
1:0:415:A:H2'	1:0:416:U:H5'	1.97	0.47
1:0:459:A:C2	1:0:466:A:C8	3.02	0.47
1:0:588:G:C2	1:0:1275:A:C6	3.03	0.47
1:0:595:A:N6	1:0:1264:C:H41	2.12	0.47
1:0:762:A:H61	1:0:766:A:H2	1.63	0.47
1:0:889:C:O2'	1:0:890:U:H5'	2.15	0.47
1:0:916:U:N3	1:0:917:U:C4	2.83	0.47
1:0:985:G:N3	1:0:985:G:H5''	2.30	0.47
1:0:1348:C:H2'	1:0:1349:A:H8	1.78	0.47
1:0:1386:A:H2'	1:0:1387:G:O4'	2.14	0.47
1:0:1596:A:H2'	1:0:1597:A:O4'	2.15	0.47
1:0:1683:G:N7	1:0:1684:G:N2	2.62	0.47
1:0:1981:A:O2'	1:0:1982:C:H5'	2.14	0.47
1:0:2006:G:N2	1:0:2024:U:O2	2.47	0.47
1:0:2034:A:C2	1:0:2035:G:O6	2.68	0.47
1:0:2039:G:OP2	1:0:2483:U:H5''	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2194:A:C2'	1:0:2195:C:H5''	2.44	0.47
1:0:2262:C:C4	1:0:2368:G:C2	3.03	0.47
1:0:2610:G:O2'	1:0:2785:A:H2	1.96	0.47
1:0:2624:G:H4'	1:0:2712:G:C2'	2.44	0.47
1:0:2633:A:H5''	1:0:2634:G:OP1	2.14	0.47
1:0:579:G:N2	1:0:2013:A:O4'	2.48	0.47
1:0:761:G:C2	1:0:763:A:N6	2.82	0.47
1:0:958:G:H2'	1:0:959:C:C6	2.50	0.47
1:0:2181:A:C2'	1:0:2182:A:H5'	2.44	0.47
1:0:2565:C:N3	6:5:2:THR:HB	2.29	0.47
1:0:158:A:C2	1:0:447:U:H4'	2.44	0.47
1:0:974:U:O2'	1:0:975:C:H5'	2.15	0.47
1:0:1002:C:C6	1:0:1198:C:N3	2.83	0.47
1:0:1073:G:C3'	1:0:1074:G:H5''	2.45	0.47
1:0:1333:G:HO2'	1:0:1334:A:H8	1.63	0.47
1:0:1782:A:N6	1:0:1820:G:H2'	2.30	0.47
1:0:2019:C:N3	1:0:2020:G:N7	2.63	0.47
1:0:2408:G:H3'	1:0:2409:A:C5'	2.45	0.47
1:0:2559:U:H3'	1:0:2560:G:H4'	1.96	0.47
1:0:469:G:H2'	1:0:480:G:C6	2.50	0.47
1:0:520:C:O2	1:0:520:C:H2'	2.13	0.47
1:0:528:G:O2'	1:0:529:U:H5'	2.15	0.47
1:0:669:G:H2'	1:0:670:U:C6	2.50	0.47
1:0:1004:A:C2'	1:0:1005:U:H5''	2.44	0.47
1:0:1273:G:H2'	1:0:1274:C:H6	1.78	0.47
1:0:1736:C:H2'	1:0:1737:G:C8	2.50	0.47
1:0:1939:U:O2	1:0:1968:G:H4'	2.15	0.47
1:0:2038:C:N4	1:0:2479:U:C4'	2.78	0.47
1:0:2331:A:C5	1:0:2345:A:N1	2.83	0.47
1:0:2497:A:N6	1:0:2547:C:H1'	2.30	0.47
1:0:2664:G:C2'	1:0:2665:G:H5'	2.44	0.47
7:9:7:C:O2'	7:9:8:C:H5'	2.15	0.47
1:0:115:G:C2	1:0:117:A:N6	2.83	0.46
1:0:140:G:H2'	1:0:141:G:C8	2.50	0.46
1:0:333:A:O2'	1:0:350:U:H2'	2.15	0.46
1:0:1269:G:C6	1:0:1270:C:C4	3.03	0.46
1:0:1690:U:C2'	1:0:1691:G:H5'	2.44	0.46
1:0:2394:G:H2'	1:0:2395:C:H6	1.79	0.46
1:0:2688:G:O2'	1:0:2689:C:H5'	2.14	0.46
1:0:2815:C:H2'	1:0:2816:C:O4'	2.15	0.46
33:0:2882:DOL:C46	33:0:2882:DOL:HC33	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:119:G:H1'	1:0:129:A:C2	2.50	0.46
1:0:841:G:H2'	1:0:842:A:C8	2.50	0.46
1:0:1073:G:C2'	1:0:1074:G:H5''	2.44	0.46
1:0:1202:U:C2	1:0:1203:A:C8	3.03	0.46
1:0:1407:G:O2'	1:0:1408:A:H5'	2.15	0.46
1:0:2550:C:C6	1:0:2553:G:O4'	2.68	0.46
1:0:2564:U:H3'	1:0:2565:C:H5''	1.98	0.46
1:0:200:A:H2	1:0:420:C:HO2'	1.59	0.46
1:0:597:U:H3	1:0:683:A:C2'	2.28	0.46
1:0:613:A:H2'	1:0:614:G:H8	1.79	0.46
1:0:617:U:O2'	1:0:618:A:H5'	2.16	0.46
1:0:1008:G:O2'	1:0:1009:C:H5'	2.13	0.46
1:0:1385:C:C2	1:0:1386:A:C8	3.03	0.46
1:0:1666:G:H2'	1:0:1667:A:C8	2.49	0.46
1:0:1764:A:H2	1:0:1960:A:N1	2.14	0.46
1:0:1816:G:H2'	1:0:1817:U:C6	2.50	0.46
1:0:1860:A:H2'	1:0:1861:G:O4'	2.16	0.46
1:0:2322:U:C2'	1:0:2323:U:H5'	2.46	0.46
1:0:2340:C:H2'	1:0:2341:G:O4'	2.15	0.46
1:0:2611:A:C2	1:0:2767:C:C2	3.03	0.46
1:0:12:U:H3	1:0:536:A:H62	1.63	0.46
1:0:43:A:H8	1:0:43:A:O5'	1.97	0.46
1:0:712:A:N7	1:0:713:G:C5	2.83	0.46
1:0:813:A:H2'	1:0:813:A:N3	2.30	0.46
1:0:835:U:OP2	1:0:957:G:OP2	2.34	0.46
1:0:1311:C:H4'	1:0:1315:A:C6	2.50	0.46
1:0:1328:C:H4'	1:0:1406:A:C4'	2.45	0.46
1:0:1460:G:O2'	1:0:1461:C:H5'	2.15	0.46
1:0:1646:G:C4'	1:0:2677:U:OP1	2.64	0.46
1:0:1652:G:C2	1:0:1653:C:C2	3.04	0.46
1:0:1720:G:O2'	1:0:1721:G:H5'	2.16	0.46
1:0:1969:G:H2'	1:0:1970:G:C8	2.47	0.46
1:0:2006:G:H2'	1:0:2007:G:C8	2.50	0.46
1:0:2217:G:N3	1:0:2217:G:C2'	2.79	0.46
1:0:2503:G:C3'	1:0:2504:G:H5''	2.46	0.46
1:0:2544:A:H2'	1:0:2545:A:O4'	2.15	0.46
1:0:20:C:O2'	1:0:21:A:H5'	2.15	0.46
1:0:460:U:H2'	1:0:461:A:OP1	2.15	0.46
1:0:736:G:O2'	1:0:737:C:H5'	2.15	0.46
1:0:977:G:O2'	1:0:978:U:H5'	2.15	0.46
1:0:1016:C:H6	1:0:1154:A:H1'	1.75	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1482:U:O2	1:0:1541:G:N2	2.49	0.46
1:0:1865:C:H2'	1:0:1866:G:O4'	2.15	0.46
1:0:2058:U:H1'	1:0:2576:G:H21	1.81	0.46
1:0:2560:G:H2'	1:0:2561:G:N7	2.30	0.46
7:9:16:U:O2'	7:9:110:U:H1'	2.16	0.46
1:0:170:U:O2'	1:0:171:G:H5'	2.16	0.46
1:0:468:A:H1'	1:0:470:U:C2	2.51	0.46
1:0:856:A:H2'	1:0:857:U:O4'	2.16	0.46
1:0:859:U:H2'	1:0:860:U:OP2	2.15	0.46
1:0:997:C:N4	1:0:998:C:H41	2.13	0.46
1:0:1312:G:O4'	1:0:1314:A:H2	1.99	0.46
1:0:1453:A:C2'	1:0:1454:U:H5'	2.46	0.46
1:0:1679:U:H2'	1:0:1680:U:O4'	2.16	0.46
1:0:2063:A:C2	1:0:2064:U:C2	3.04	0.46
1:0:2495:G:C2	1:0:2548:G:C2	3.04	0.46
1:0:2541:U:H2'	1:0:2542:U:O4'	2.15	0.46
1:0:2627:G:O2'	1:0:2628:C:H5'	2.16	0.46
1:0:2791:C:O2'	1:0:2792:C:H5'	2.15	0.46
1:0:34:U:H2'	1:0:35:G:H5'	1.98	0.46
1:0:693:A:O2'	1:0:694:G:H5'	2.15	0.46
1:0:953:G:H2'	1:0:954:U:C6	2.51	0.46
1:0:987:G:H2'	1:0:988:G:H8	1.81	0.46
1:0:1686:A:O2'	1:0:2528:G:OP1	2.27	0.46
1:0:1837:G:O2'	1:0:1838:G:H5'	2.15	0.46
1:0:1947:G:OP1	1:0:1947:G:H8	1.99	0.46
1:0:2427:A:O5'	1:0:2477:C:OP2	2.34	0.46
1:0:2495:G:H2'	1:0:2496:C:O4'	2.15	0.46
1:0:2586:G:H8	1:0:2586:G:O5'	1.99	0.46
1:0:2762:G:C2	1:0:2763:U:C2	3.03	0.46
1:0:2764:U:O2'	1:0:2765:C:H5'	2.16	0.46
1:0:8:A:H2'	1:0:9:U:C6	2.51	0.46
1:0:62:U:H2'	1:0:63:A:C8	2.51	0.46
1:0:526:C:H1'	1:0:1274:C:O2'	2.16	0.46
1:0:1199:U:O5'	1:0:1200:G:H5'	2.16	0.46
1:0:1509:A:O2'	1:0:1510:A:H5'	2.16	0.46
1:0:2468:G:C2'	1:0:2469:G:H5'	2.46	0.46
1:0:2510:A:N6	1:0:2641:A:H61	2.09	0.46
1:0:2658:A:C5	1:0:2659:C:C5	3.04	0.46
33:0:2882:DOL:C46	33:0:2882:DOL:H311	2.45	0.46
1:0:6:A:H2'	1:0:7:G:C8	2.50	0.46
1:0:201:G:H2'	1:0:202:A:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:733:G:H2'	1:0:734:G:C8	2.51	0.46
1:0:941:U:O2'	1:0:942:U:H5'	2.15	0.46
1:0:1225:G:H2'	1:0:1249:G:N2	2.31	0.46
1:0:1343:C:H2'	1:0:1344:C:H6	1.80	0.46
1:0:1665:C:H2'	1:0:1666:G:H8	1.80	0.46
1:0:1970:G:C2	1:0:1971:C:C2	3.03	0.46
1:0:2046:C:H1'	33:0:2882:DOL:HC32	1.97	0.46
1:0:2740:C:O2'	1:0:2741:G:H5'	2.16	0.46
1:0:136:A:N6	1:0:137:A:C2	2.84	0.46
1:0:193:A:N7	1:0:444:U:C4	2.84	0.46
1:0:391:C:H2'	1:0:392:G:C8	2.51	0.46
1:0:692:C:H2'	1:0:693:A:C8	2.51	0.46
1:0:742:G:C1'	1:0:777:A:OP1	2.64	0.46
1:0:1178:C:O2'	1:0:1179:A:H5'	2.16	0.46
1:0:1206:G:O2'	1:0:1207:G:H5'	2.16	0.46
1:0:1319:C:H2'	1:0:1320:A:C8	2.46	0.46
1:0:1359:G:O2'	1:0:1360:G:H5'	2.16	0.46
1:0:2006:G:O2'	1:0:2007:G:H5'	2.15	0.46
1:0:2230:G:O4'	1:0:2429:A:H5'	2.16	0.46
1:0:2549:G:H2'	1:0:2550:C:H5'	1.97	0.46
7:9:65:A:H2'	7:9:66:G:O4'	2.16	0.46
1:0:3:U:H2'	1:0:4:C:H6	1.77	0.45
1:0:67:G:C4	1:0:73:A:H8	2.34	0.45
1:0:165:G:H2'	1:0:166:G:O4'	2.16	0.45
1:0:459:A:N3	1:0:466:A:C8	2.85	0.45
1:0:587:A:H2'	1:0:588:G:H5''	1.98	0.45
1:0:936:A:H2'	1:0:937:C:O4'	2.16	0.45
1:0:976:C:C5'	1:0:2252:A:H1'	2.41	0.45
1:0:1159:U:H2'	1:0:1160:C:H6	1.81	0.45
1:0:1448:A:H2'	1:0:1449:C:C6	2.51	0.45
1:0:1635:G:C2'	1:0:1636:G:H5'	2.46	0.45
1:0:1635:G:O2'	1:0:1636:G:H5'	2.15	0.45
1:0:1749:G:O6	1:0:2674:C:C4'	2.51	0.45
1:0:1936:A:H2'	1:0:1937:G:H5'	1.98	0.45
1:0:2012:A:C8	1:0:2014:A:OP1	2.69	0.45
1:0:2015:G:O2'	1:0:2016:A:OP1	2.25	0.45
1:0:2333:A:C6	1:0:2343:C:N4	2.84	0.45
1:0:2498:U:H2'	1:0:2520:A:C6	2.50	0.45
1:0:477:A:H2'	1:0:478:G:H5'	1.99	0.45
1:0:800:U:H3'	1:0:804:C:N4	2.31	0.45
1:0:931:G:N2	1:0:932:G:H1'	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:935:C:O2'	1:0:936:A:H5'	2.16	0.45
1:0:966:A:N6	1:0:967:G:C2	2.84	0.45
1:0:1313:U:P	1:0:1313:U:H6	2.39	0.45
1:0:1856:U:OP1	1:0:2389:G:O2'	2.34	0.45
1:0:2475:C:C3'	1:0:2476:A:H5'	2.46	0.45
1:0:2559:U:O2'	1:0:2560:G:OP1	2.28	0.45
1:0:2589:C:H5''	1:0:2590:U:H5''	1.97	0.45
1:0:41:G:O2'	1:0:42:G:H5'	2.16	0.45
1:0:126:C:H2'	1:0:127:C:C6	2.52	0.45
1:0:218:A:O2'	1:0:219:G:H4'	2.16	0.45
1:0:297:A:H2'	1:0:298:C:C6	2.52	0.45
1:0:319:G:H1'	1:0:511:A:O4'	2.16	0.45
1:0:393:U:H2'	1:0:394:U:C6	2.51	0.45
1:0:594:G:H1'	1:0:1267:A:H61	1.82	0.45
1:0:636:G:H2'	1:0:637:G:H5'	1.98	0.45
1:0:791:G:H2'	1:0:792:U:O4'	2.16	0.45
1:0:1329:U:H2'	1:0:1330:G:H8	1.81	0.45
1:0:1470:G:C6	1:0:2684:A:C2	3.04	0.45
1:0:1749:G:O6	1:0:2674:C:O3'	2.33	0.45
1:0:2499:C:N4	1:0:2521:A:H2	2.11	0.45
1:0:2563:U:N3	33:0:2882:DOL:H471	2.30	0.45
1:0:59:G:N2	1:0:87:G:N7	2.65	0.45
1:0:651:C:C3'	1:0:652:C:H5''	2.45	0.45
1:0:783:G:H1'	1:0:1391:A:H2	1.81	0.45
1:0:931:G:C2	1:0:932:G:H1'	2.52	0.45
1:0:947:C:O2'	1:0:948:C:H5'	2.16	0.45
1:0:1794:A:C2'	1:0:1795:C:H5'	2.46	0.45
1:0:2820:C:H2'	1:0:2821:G:C8	2.51	0.45
1:0:167:A:C2	1:0:184:A:H2	2.34	0.45
1:0:195:A:H3'	1:0:196:A:C8	2.52	0.45
1:0:327:C:C2'	1:0:328:A:H5'	2.47	0.45
1:0:471:A:H2'	1:0:472:C:H5'	1.97	0.45
1:0:526:C:H2'	1:0:527:C:C6	2.52	0.45
1:0:822:G:H2'	1:0:823:U:O4'	2.17	0.45
1:0:860:U:H3	1:0:945:G:N2	2.14	0.45
1:0:873:U:H3'	1:0:874:A:C5'	2.45	0.45
1:0:883:A:H2'	1:0:884:C:C6	2.51	0.45
1:0:1436:G:H21	1:0:1514:C:H1'	1.82	0.45
1:0:1974:U:C3'	1:0:1975:G:C5'	2.94	0.45
1:0:1980:A:O2'	1:0:1981:A:H5'	2.17	0.45
1:0:2026:C:C4	1:0:2757:G:N3	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2506:C:H2'	1:0:2507:U:C6	2.52	0.45
1:0:914:C:O2'	1:0:915:C:H5'	2.17	0.45
1:0:1228:G:C6	1:0:1229:C:C4	3.04	0.45
1:0:1243:G:C6	1:0:1244:U:C4	3.04	0.45
1:0:1467:U:O2'	1:0:2681:A:N7	2.50	0.45
1:0:1502:G:H2'	1:0:1503:G:C8	2.51	0.45
1:0:1563:U:H2'	1:0:1564:U:C6	2.52	0.45
1:0:173:A:C2	1:0:818:G:N2	2.84	0.45
1:0:839:U:OP1	1:0:2408:G:OP2	2.35	0.45
1:0:980:G:C2	1:0:981:C:C2	3.05	0.45
1:0:1068:A:H2'	1:0:1069:G:C8	2.52	0.45
1:0:1131:G:C6	1:0:1132:C:N4	2.85	0.45
1:0:1282:A:C6	1:0:1283:C:N4	2.85	0.45
1:0:1329:U:N3	1:0:1330:G:N7	2.64	0.45
1:0:1459:U:C2	1:0:1476:G:OP2	2.70	0.45
1:0:1686:A:N3	1:0:1686:A:C2'	2.80	0.45
1:0:1961:A:O2'	1:0:1962:C:H5'	2.16	0.45
1:0:2325:A:O4'	1:0:2362:G:H1'	2.16	0.45
1:0:2875:C:H2'	1:0:2876:C:C6	2.51	0.45
1:0:562:G:C6	1:0:563:U:C2	3.05	0.45
1:0:829:C:H2'	1:0:830:C:C6	2.51	0.45
1:0:1248:G:C6	1:0:1249:G:N1	2.85	0.45
1:0:1652:G:H8	1:0:1652:G:OP1	2.00	0.45
1:0:1677:C:N3	1:0:1984:A:N1	2.65	0.45
1:0:1884:A:O2'	1:0:1885:C:H5'	2.16	0.45
1:0:2502:G:C1'	1:0:2745:A:N7	2.79	0.45
1:0:2702:G:C5	1:0:2703:C:C4	3.04	0.45
1:0:2817:A:C2	1:0:2851:G:C4	3.05	0.45
1:0:26:G:C5	1:0:27:G:C6	3.05	0.45
1:0:40:U:H2'	1:0:41:G:C8	2.51	0.45
1:0:455:A:H5'	1:0:1215:A:C5'	2.47	0.45
1:0:763:A:H5''	1:0:1631:C:H41	1.82	0.45
1:0:830:C:H2'	1:0:831:G:O4'	2.17	0.45
1:0:831:G:O2'	1:0:832:A:H5''	2.17	0.45
1:0:931:G:O2'	1:0:932:G:H5'	2.17	0.45
1:0:1144:U:H6	1:0:1144:U:O5'	2.00	0.45
1:0:1280:U:H3	1:0:1996:A:N6	2.14	0.45
1:0:1322:G:C6	1:0:1323:G:C6	3.05	0.45
1:0:1566:G:O2'	1:0:1567:A:H5'	2.17	0.45
1:0:1586:A:H2'	1:0:1587:A:H8	1.82	0.45
1:0:1811:A:H1'	1:0:1813:A:C5	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2093:G:H2'	1:0:2094:C:H6	1.81	0.45
1:0:2817:A:C2	1:0:2851:G:N3	2.85	0.45
1:0:168:A:OP2	1:0:181:A:N1	2.50	0.45
1:0:214:C:H2'	1:0:215:G:C8	2.52	0.45
1:0:977:G:H4'	1:0:2246:A:C2	2.52	0.45
1:0:1713:G:O6	1:0:1714:A:C6	2.70	0.45
1:0:2030:U:H2'	1:0:2031:A:C8	2.52	0.45
1:0:2105:U:H2'	1:0:2106:G:C8	2.52	0.45
1:0:2694:G:C6	1:0:2695:C:C4	3.05	0.45
1:0:2756:A:N6	1:0:2762:G:N3	2.65	0.45
1:0:2786:G:O2'	1:0:2787:A:H5'	2.18	0.45
1:0:2861:A:H2'	1:0:2862:G:C8	2.49	0.45
1:0:180:C:O5'	1:0:180:C:H6	2.00	0.44
1:0:334:G:C2	1:0:344:G:H1'	2.52	0.44
1:0:1131:G:C6	1:0:1132:C:C4	3.05	0.44
1:0:1352:G:N2	1:0:1619:A:C8	2.85	0.44
1:0:2053:G:N2	1:0:2054:A:N3	2.64	0.44
1:0:2093:G:HO2'	1:0:2094:C:P	2.40	0.44
1:0:2268:G:H2'	1:0:2269:G:H8	1.81	0.44
1:0:2542:U:H2'	1:0:2544:A:OP2	2.17	0.44
1:0:2764:U:H2'	1:0:2765:C:C6	2.52	0.44
6:5:1:MHW:C	6:5:3:DBB:N	2.79	0.44
7:9:30:C:H2'	7:9:31:A:H8	1.81	0.44
7:9:113:G:H2'	7:9:114:C:C6	2.52	0.44
1:0:123:A:H3'	1:0:124:A:C5'	2.47	0.44
1:0:525:A:H2'	1:0:526:C:C5'	2.47	0.44
1:0:805:G:H4'	1:0:806:A:OP2	2.18	0.44
1:0:980:G:N2	1:0:981:C:O2	2.50	0.44
1:0:1644:G:C2	1:0:1645:U:C2	3.06	0.44
1:0:1944:C:O2'	1:0:1945:C:H5'	2.17	0.44
1:0:1972:G:C2'	1:0:1973:C:H5'	2.46	0.44
1:0:2324:G:C4	1:0:2326:C:C5	3.05	0.44
1:0:2331:A:C6	1:0:2345:A:C2	3.05	0.44
1:0:2502:G:C4	1:0:2745:A:N6	2.85	0.44
1:0:2655:C:O2'	1:0:2656:G:H5'	2.17	0.44
7:9:45:C:H3'	7:9:46:G:C5'	2.45	0.44
7:9:117:G:H2'	7:9:118:G:H8	1.82	0.44
1:0:401:G:H2'	1:0:403:A:N7	2.33	0.44
1:0:736:G:H2'	1:0:737:C:O4'	2.17	0.44
1:0:1091:C:O2'	1:0:1092:U:H5'	2.17	0.44
1:0:1340:C:N4	1:0:1341:G:C6	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1504:G:H1	1:0:1516:A:H61	1.65	0.44
1:0:1614:C:H2'	1:0:1615:C:C6	2.52	0.44
1:0:1655:C:H5''	1:0:2689:C:O2'	2.17	0.44
1:0:1682:A:H61	1:0:1977:C:H42	1.66	0.44
1:0:1715:A:O2'	1:0:1716:G:H3'	2.17	0.44
1:0:1763:G:H2'	1:0:1764:A:C4'	2.41	0.44
1:0:1811:A:O2'	1:0:1813:A:N7	2.46	0.44
1:0:1936:A:C2'	1:0:1937:G:H5'	2.47	0.44
1:0:2173:G:H2'	1:0:2174:G:O4'	2.17	0.44
1:0:2184:C:H2'	1:0:2185:U:C6	2.52	0.44
1:0:2491:C:H2'	1:0:2492:G:C5'	2.47	0.44
1:0:2661:G:H2'	1:0:2662:C:C5'	2.48	0.44
1:0:48:A:H2	1:0:118:U:O4	2.00	0.44
1:0:180:C:C4	1:0:181:A:C6	3.05	0.44
1:0:356:A:H2'	1:0:357:A:C8	2.52	0.44
1:0:775:U:N3	1:0:1446:U:OP1	2.47	0.44
1:0:800:U:C6	1:0:804:C:N4	2.85	0.44
1:0:805:G:C5	1:0:2419:C:H1'	2.52	0.44
1:0:1793:A:C8	1:0:1806:G:N2	2.85	0.44
1:0:2019:C:C2	1:0:2020:G:N7	2.85	0.44
1:0:488:A:H2'	1:0:489:A:C8	2.53	0.44
1:0:531:G:O2'	1:0:532:A:H5'	2.16	0.44
1:0:646:C:O2'	1:0:650:U:H5''	2.18	0.44
1:0:703:A:C2	1:0:704:G:C5	3.06	0.44
1:0:748:A:C6	1:0:749:C:O2	2.71	0.44
1:0:992:A:H1'	1:0:2020:G:H1'	2.00	0.44
1:0:1355:A:C1'	1:0:1410:U:H4'	2.47	0.44
1:0:1883:A:H1'	1:0:1953:A:N6	2.32	0.44
1:0:1956:G:H2'	1:0:1957:C:O4'	2.17	0.44
1:0:2033:C:C4	1:0:2034:A:C2	3.05	0.44
1:0:2033:C:N3	1:0:2034:A:C2	2.86	0.44
1:0:2407:G:H4'	1:0:2408:G:C8	2.53	0.44
1:0:2523:G:H2'	1:0:2524:G:H8	1.83	0.44
1:0:2649:A:O2'	1:0:2650:G:H5'	2.18	0.44
1:0:635:C:H2'	1:0:636:G:H5''	1.98	0.44
1:0:642:A:N1	1:0:643:A:C2	2.86	0.44
1:0:796:A:H2'	1:0:797:A:H5'	2.00	0.44
1:0:929:A:C2	1:0:930:A:H1'	2.52	0.44
1:0:1671:A:N1	1:0:2031:A:O2'	2.51	0.44
1:0:1821:A:H3'	1:0:1822:C:C6	2.51	0.44
1:0:1998:A:H2	32:Z:6:VAL:CA	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2494:C:H2'	1:0:2495:G:C8	2.53	0.44
1:0:2534:U:C4	1:0:2535:C:C2	3.05	0.44
1:0:2613:A:H2'	1:0:2614:A:C8	2.45	0.44
1:0:2618:A:N7	1:0:2758:A:C6	2.86	0.44
1:0:443:A:H3'	1:0:443:A:OP2	2.18	0.44
1:0:1068:A:H2'	1:0:1069:G:H8	1.81	0.44
1:0:1625:A:HO2'	1:0:1632:A:C4'	2.30	0.44
1:0:2225:G:H2'	1:0:2226:A:O4'	2.17	0.44
1:0:2714:A:H2'	1:0:2715:C:O4'	2.18	0.44
1:0:2817:A:N1	1:0:2851:G:C6	2.86	0.44
1:0:2855:C:O2'	1:0:2856:U:H5'	2.17	0.44
1:0:2856:U:C4	1:0:2857:C:C4	3.05	0.44
1:0:213:C:H42	1:0:238:G:H22	1.66	0.44
1:0:597:U:H2'	1:0:598:U:H6	1.81	0.44
1:0:599:A:H2'	1:0:600:G:C8	2.53	0.44
1:0:635:C:C3'	1:0:636:G:H5''	2.48	0.44
1:0:702:A:N6	1:0:703:A:C6	2.86	0.44
1:0:876:A:H4'	7:9:103:A:N3	2.33	0.44
1:0:1381:G:O2'	1:0:1382:G:H5'	2.18	0.44
1:0:2196:U:H2'	1:0:2197:U:C6	2.52	0.44
1:0:2768:C:O5'	1:0:2768:C:H6	2.01	0.44
1:0:2817:A:C6	1:0:2851:G:C6	3.06	0.44
1:0:114:C:H2'	1:0:115:G:O4'	2.18	0.44
1:0:575:U:O2'	1:0:576:A:H5'	2.17	0.44
1:0:708:G:H1'	1:0:1392:U:O2	2.17	0.44
1:0:818:G:N1	1:0:2051:U:OP1	2.51	0.44
1:0:1010:U:O2'	1:0:1011:A:C5'	2.66	0.44
1:0:1289:A:N6	1:0:1662:G:H1	1.97	0.44
1:0:1325:U:H5''	1:0:1326:U:C4	2.53	0.44
1:0:1342:U:OP2	1:0:1343:C:N4	2.51	0.44
1:0:1358:C:H2'	1:0:1359:G:H5'	1.99	0.44
1:0:1358:C:H2'	1:0:1359:G:H5''	2.00	0.44
1:0:1715:A:H1'	1:0:1717:A:H4'	2.00	0.44
1:0:1722:G:H2'	1:0:1723:U:C6	2.53	0.44
1:0:2445:C:H2'	1:0:2446:C:C6	2.53	0.44
1:0:2451:G:H2'	1:0:2508:G:H21	1.81	0.44
1:0:2594:U:H2'	1:0:2595:C:O4'	2.18	0.44
1:0:717:G:O2'	1:0:740:A:N6	2.51	0.43
1:0:867:G:H2'	1:0:868:U:O4'	2.17	0.43
1:0:1200:G:H2'	1:0:1201:G:O4'	2.18	0.43
1:0:1379:A:C8	1:0:1380:C:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1480:G:C2'	1:0:1481:U:H5'	2.48	0.43
1:0:1529:C:H2'	1:0:1530:U:O4'	2.18	0.43
1:0:2318:U:H2'	1:0:2319:G:H8	1.81	0.43
1:0:2658:A:O2'	1:0:2659:C:H5'	2.18	0.43
1:0:2785:A:N6	1:0:2865:G:H21	2.14	0.43
1:0:181:A:H4'	1:0:183:U:C6	2.53	0.43
1:0:614:G:H2'	1:0:615:C:H6	1.82	0.43
1:0:706:A:H2'	1:0:707:U:O4'	2.18	0.43
1:0:742:G:H4'	1:0:776:G:H5'	1.99	0.43
1:0:952:A:O2'	1:0:1204:G:H4'	2.17	0.43
1:0:1142:G:O6	1:0:2008:C:C1'	2.66	0.43
1:0:1328:C:H4'	1:0:1406:A:O4'	2.18	0.43
1:0:1621:C:C2'	1:0:1622:G:O4'	2.56	0.43
1:0:1794:A:H2'	1:0:1795:C:O4'	2.18	0.43
1:0:2307:A:H2'	1:0:2308:A:C8	2.53	0.43
1:0:2333:A:N1	1:0:2343:C:C4	2.86	0.43
1:0:2610:G:H5'	1:0:2866:A:H1'	2.00	0.43
1:0:2813:G:O6	1:0:2814:G:C6	2.71	0.43
1:0:40:U:H2'	1:0:41:G:H8	1.83	0.43
1:0:223:C:H4'	1:0:398:C:H1'	2.00	0.43
1:0:1215:A:N3	1:0:1258:G:C2	2.86	0.43
1:0:1668:G:C2	1:0:1990:U:O2	2.71	0.43
1:0:1697:U:C2	1:0:1755:G:H4'	2.53	0.43
1:0:1707:A:C2'	1:0:1708:C:H5'	2.47	0.43
1:0:2006:G:H2'	1:0:2007:G:H8	1.83	0.43
1:0:2015:G:O2'	1:0:2016:A:H5'	2.18	0.43
1:0:2185:U:H3	1:0:2200:G:H1	1.67	0.43
1:0:2414:A:H2'	1:0:2415:G:H5''	2.00	0.43
1:0:2493:U:H2'	1:0:2494:C:H6	1.83	0.43
1:0:2566:A:H61	1:0:2587:G:H1'	1.84	0.43
7:9:42:U:C2	7:9:45:C:H5	2.36	0.43
1:0:588:G:C4	1:0:1275:A:N1	2.87	0.43
1:0:640:C:H2'	1:0:641:G:H8	1.81	0.43
1:0:677:G:H1'	1:0:951:G:H5''	2.00	0.43
1:0:695:G:N2	1:0:809:C:O2	2.52	0.43
1:0:799:C:H2'	1:0:800:U:C6	2.54	0.43
1:0:1528:C:C3'	1:0:1529:C:H5''	2.48	0.43
1:0:1774:A:O5'	1:0:1774:A:H8	2.00	0.43
1:0:1807:A:C1'	1:0:1809:G:H1'	2.48	0.43
1:0:1973:C:O5'	1:0:1973:C:H6	2.01	0.43
1:0:2067:U:H2'	1:0:2068:C:C6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2480:C:C5'	1:0:2482:A:H5'	2.43	0.43
1:0:2859:U:C4	1:0:2860:C:C2	3.06	0.43
1:0:343:A:N6	1:0:346:C:C5	2.85	0.43
1:0:422:C:H2'	1:0:423:G:C8	2.53	0.43
1:0:459:A:N7	1:0:484:G:C4	2.86	0.43
1:0:485:G:O6	1:0:520:C:C4	2.72	0.43
1:0:742:G:H1'	1:0:777:A:OP1	2.18	0.43
1:0:953:G:C6	1:0:954:U:N3	2.87	0.43
1:0:1172:U:H2'	1:0:1173:G:H8	1.83	0.43
1:0:1417:C:O2'	1:0:1418:C:H5'	2.18	0.43
1:0:1463:A:C1'	1:0:1543:G:H22	1.98	0.43
1:0:1469:U:OP2	1:0:1472:C:N4	2.50	0.43
1:0:2564:U:H3'	1:0:2565:C:C5'	2.49	0.43
1:0:2573:C:O5'	1:0:2573:C:H6	2.01	0.43
1:0:2800:C:O5'	1:0:2800:C:H6	2.01	0.43
7:9:31:A:C4	7:9:58:G:N2	2.87	0.43
1:0:230:C:H2'	1:0:231:G:O4'	2.19	0.43
1:0:802:A:H8	1:0:802:A:O5'	2.00	0.43
1:0:1312:G:O4'	1:0:1314:A:C2	2.72	0.43
1:0:1639:U:H2'	1:0:1640:C:H6	1.83	0.43
1:0:1665:C:C2	1:0:1666:G:C8	3.07	0.43
1:0:1677:C:N4	1:0:1984:A:H61	2.16	0.43
1:0:1751:A:H4'	1:0:2691:C:OP1	2.19	0.43
1:0:2106:G:H2'	1:0:2107:G:C8	2.53	0.43
1:0:2241:U:H5'	1:0:2241:U:H6	1.83	0.43
1:0:2271:C:P	1:0:2353:G:H21	2.42	0.43
1:0:2597:G:C2	1:0:2598:C:C2	3.06	0.43
1:0:2785:A:H62	1:0:2865:G:N2	2.15	0.43
1:0:150:A:C2'	1:0:151:G:H5'	2.48	0.43
1:0:1636:G:C5	1:0:1637:U:C5	3.06	0.43
1:0:1802:A:O2'	1:0:1803:G:H5'	2.19	0.43
1:0:1928:G:C2	1:0:1929:U:C2	3.07	0.43
1:0:1953:A:C1'	1:0:1955:G:H1'	2.30	0.43
1:0:2329:C:O2'	1:0:2330:G:H5'	2.18	0.43
1:0:2490:U:H2'	1:0:2491:C:H6	1.84	0.43
1:0:317:U:H3'	1:0:318:G:C5'	2.41	0.43
1:0:457:C:O2'	1:0:458:G:H5'	2.19	0.43
1:0:575:U:C4	1:0:576:A:C6	3.07	0.43
1:0:588:G:H2'	1:0:589:C:C6	2.53	0.43
1:0:702:A:C6	1:0:703:A:C5	3.07	0.43
1:0:787:A:H2'	1:0:788:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:958:G:C2	1:0:982:C:C2	3.07	0.43
1:0:1640:C:C2	1:0:1641:C:C5	3.07	0.43
1:0:2230:G:C1'	1:0:2429:A:O4'	2.62	0.43
1:0:2543:A:C6	1:0:2626:U:H4'	2.54	0.43
1:0:2555:G:OP1	1:0:2555:G:C3'	2.66	0.43
1:0:2636:A:H62	1:0:2643:G:H21	1.67	0.43
1:0:2769:C:H2'	1:0:2867:G:N2	2.34	0.43
1:0:2788:C:HO2'	1:0:2789:U:H5'	1.80	0.43
1:0:2813:G:C6	1:0:2814:G:C5	3.07	0.43
1:0:139:A:H2'	1:0:140:G:H8	1.84	0.43
1:0:343:A:N6	1:0:346:C:H5	2.17	0.43
1:0:646:C:O2	1:0:650:U:H4'	2.18	0.43
1:0:786:U:H4'	8:A:48:ARG:CA	2.49	0.43
1:0:1267:A:OP2	1:0:1269:G:H5''	2.18	0.43
1:0:1300:A:C2	1:0:1301:U:C2	3.06	0.43
1:0:1460:G:C6	1:0:1461:C:C4	3.07	0.43
1:0:1686:A:H2'	1:0:1687:C:H5'	2.00	0.43
1:0:1773:C:O5'	1:0:1773:C:H6	2.00	0.43
1:0:2432:A:H4'	1:0:2551:A:O3'	2.19	0.43
1:0:2442:C:C2	1:0:2467:A:C2	3.07	0.43
1:0:2474:G:C6	1:0:2475:C:N3	2.87	0.43
1:0:2564:U:H3	1:0:2568:A:H62	1.65	0.43
1:0:2645:C:OP2	1:0:2646:C:N4	2.51	0.43
1:0:2709:C:C4	1:0:2710:C:C4	3.06	0.43
1:0:165:G:N2	1:0:186:C:C2	2.87	0.43
1:0:521:U:C5	1:0:522:G:C4	3.06	0.43
1:0:562:G:H2'	1:0:563:U:O4'	2.18	0.43
1:0:681:A:C4	1:0:683:A:N7	2.87	0.43
1:0:1016:C:H2'	1:0:1017:C:C6	2.53	0.43
1:0:1147:G:O4'	1:0:2022:C:H5'	2.19	0.43
1:0:1306:U:H2'	1:0:1307:U:O5'	2.19	0.43
1:0:1339:U:O5'	1:0:1339:U:H6	2.02	0.43
1:0:1679:U:C4	1:0:1680:U:C6	3.06	0.43
1:0:1793:A:N6	1:0:1806:G:H2'	2.34	0.43
1:0:1975:G:H2'	1:0:1980:A:H62	1.81	0.43
1:0:2005:U:O5'	1:0:2005:U:H6	2.01	0.43
1:0:2378:G:O2'	1:0:2379:G:H5'	2.19	0.43
1:0:2686:C:O2'	1:0:2687:G:H5'	2.19	0.43
7:9:37:C:C2'	7:9:38:C:H5'	2.48	0.43
1:0:367:G:H3'	1:0:368:A:H5''	2.01	0.42
1:0:542:A:OP2	1:0:2003:A:C1'	2.65	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1312:G:C4'	1:0:1313:U:H5'	2.45	0.42
1:0:1414:G:N2	1:0:1484:G:H21	2.05	0.42
1:0:1974:U:H3'	1:0:1975:G:C5'	2.49	0.42
1:0:2082:C:C4	1:0:2174:G:N2	2.87	0.42
1:0:2422:C:O2'	1:0:2423:G:H5'	2.19	0.42
1:0:2563:U:C4	33:0:2882:DOL:H471	2.53	0.42
1:0:2663:U:C4	1:0:2664:G:N7	2.87	0.42
1:0:446:C:H2'	1:0:447:U:O4'	2.19	0.42
1:0:471:A:C2	1:0:481:A:C5	3.07	0.42
1:0:575:U:H2'	1:0:576:A:O4'	2.19	0.42
1:0:742:G:O4'	1:0:777:A:OP1	2.37	0.42
1:0:1281:A:N6	1:0:1282:A:C6	2.88	0.42
1:0:1379:A:C5	1:0:1380:C:C4	3.06	0.42
1:0:1888:C:C5'	1:0:1889:G:H5''	2.32	0.42
1:0:2022:C:N4	1:0:2023:C:N4	2.68	0.42
1:0:2727:G:O5'	1:0:2727:G:H8	2.02	0.42
1:0:2816:C:C2	1:0:2852:G:N2	2.87	0.42
1:0:2858:A:H3'	1:0:2859:U:H5'	2.01	0.42
1:0:25:U:H3	1:0:525:A:H61	1.66	0.42
1:0:180:C:C4	1:0:181:A:N7	2.87	0.42
1:0:180:C:N4	1:0:181:A:C6	2.86	0.42
1:0:304:A:C2'	1:0:305:A:H5''	2.45	0.42
1:0:643:A:O2'	1:0:644:A:H5'	2.19	0.42
1:0:867:G:C8	1:0:868:U:C5	3.07	0.42
1:0:1778:U:H2'	1:0:1779:C:H6	1.83	0.42
1:0:1787:U:H2'	1:0:1788:C:H6	1.84	0.42
1:0:1791:C:O2'	1:0:1793:A:H5'	2.18	0.42
1:0:1931:G:N2	1:0:1942:G:C4	2.87	0.42
1:0:2468:G:O2'	1:0:2469:G:H5'	2.19	0.42
1:0:2818:G:C2	1:0:2850:U:C2	3.06	0.42
1:0:576:A:H2	1:0:580:A:H62	1.67	0.42
1:0:594:G:H2'	1:0:595:A:N7	2.34	0.42
1:0:717:G:H1'	1:0:740:A:H62	1.84	0.42
1:0:771:C:H2'	1:0:772:G:H8	1.83	0.42
1:0:954:U:H6	1:0:954:U:O5'	2.01	0.42
1:0:1025:A:H2'	1:0:1026:U:C6	2.53	0.42
1:0:1309:G:H2'	1:0:1310:C:C6	2.55	0.42
1:0:1401:G:HO2'	1:0:1541:G:H5'	1.79	0.42
1:0:2169:A:O2'	1:0:2170:C:H5'	2.19	0.42
1:0:2357:A:H2'	1:0:2358:C:H5'	2.01	0.42
1:0:2677:U:H2'	1:0:2678:C:H6	1.81	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:51:A:N6	1:0:116:A:N7	2.67	0.42
1:0:52:A:C2'	1:0:53:G:H5'	2.49	0.42
1:0:221:A:H62	1:0:231:G:N2	2.14	0.42
1:0:575:U:O4	1:0:576:A:C6	2.73	0.42
1:0:575:U:O4	1:0:576:A:N6	2.53	0.42
1:0:1367:A:H62	1:0:1390:G:H21	1.68	0.42
1:0:2570:C:N4	1:0:2571:G:O6	2.52	0.42
1:0:2700:U:O5'	1:0:2700:U:H6	2.03	0.42
7:9:71:G:N2	7:9:72:C:H1'	2.35	0.42
1:0:225:G:C3'	1:0:226:C:H5'	2.50	0.42
1:0:340:G:C4	1:0:488:A:C2	3.07	0.42
1:0:696:U:O5'	1:0:696:U:H6	2.02	0.42
1:0:839:U:C5	1:0:841:G:H1'	2.54	0.42
1:0:940:G:C3'	1:0:941:U:C5'	2.83	0.42
1:0:1012:A:H2'	1:0:1013:G:O4'	2.20	0.42
1:0:1327:C:O5'	1:0:1327:C:H6	2.02	0.42
1:0:1624:A:C2'	1:0:1625:A:H5''	2.49	0.42
1:0:1744:G:N1	1:0:1747:G:C6	2.88	0.42
1:0:1956:G:O2'	1:0:1957:C:H5'	2.19	0.42
1:0:2006:G:H5'	1:0:2596:C:H4'	2.02	0.42
1:0:2219:U:C6	1:0:2219:U:H3'	2.55	0.42
1:0:2249:U:C2'	1:0:2250:G:H5'	2.50	0.42
1:0:2447:G:C2'	1:0:2448:A:H5''	2.50	0.42
1:0:2751:C:H2'	1:0:2752:C:C6	2.55	0.42
1:0:24:G:C4	1:0:25:U:C5	3.07	0.42
1:0:102:C:H2'	1:0:103:U:O4'	2.20	0.42
1:0:140:G:O2'	1:0:141:G:H5'	2.19	0.42
1:0:149:A:O2'	1:0:150:A:H5'	2.20	0.42
1:0:224:G:HO2'	1:0:399:G:H1	1.68	0.42
1:0:664:C:H2'	1:0:665:A:C8	2.54	0.42
1:0:778:G:H2'	1:0:779:U:C6	2.55	0.42
1:0:943:U:H6	1:0:943:U:O5'	2.03	0.42
1:0:999:A:H1'	1:0:1166:A:H2	1.85	0.42
1:0:2817:A:N1	1:0:2851:G:C5	2.87	0.42
7:9:9:G:C2	7:9:117:G:C2	3.07	0.42
7:9:108:G:O2'	7:9:109:G:H5'	2.20	0.42
1:0:24:G:H2'	1:0:25:U:C5	2.53	0.42
1:0:80:A:H2'	1:0:81:C:C6	2.55	0.42
1:0:525:A:O2'	1:0:526:C:H5'	2.19	0.42
1:0:573:C:C4	1:0:574:C:C5	3.07	0.42
1:0:745:C:H2'	1:0:746:G:H5'	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:938:G:C2	1:0:939:C:C4	3.07	0.42
1:0:1287:A:N1	1:0:1661:C:O2'	2.41	0.42
1:0:2394:G:H2'	1:0:2395:C:O4'	2.19	0.42
1:0:2818:G:C2'	1:0:2819:G:H5'	2.49	0.42
1:0:59:G:N7	1:0:61:U:H5	2.18	0.42
1:0:616:U:H5	1:0:630:G:C5	2.38	0.42
1:0:688:A:HO2'	1:0:2422:C:H4'	1.82	0.42
1:0:763:A:H5''	1:0:1631:C:N4	2.35	0.42
1:0:1198:C:O5'	1:0:1199:U:H4'	2.20	0.42
1:0:1319:C:O2'	1:0:1320:A:H5'	2.20	0.42
1:0:1339:U:H5''	1:0:1994:U:H1'	2.01	0.42
1:0:1730:G:H2'	1:0:1731:C:C6	2.55	0.42
1:0:2699:G:H2'	1:0:2700:U:H5	1.85	0.42
1:0:2714:A:O2'	1:0:2715:C:H5'	2.20	0.42
1:0:339:U:H3'	1:0:340:G:C5'	2.50	0.42
1:0:387:A:H2'	1:0:388:G:O4'	2.19	0.42
1:0:940:G:N7	1:0:941:U:C6	2.88	0.42
1:0:942:U:C2'	1:0:943:U:H5'	2.48	0.42
1:0:1223:G:H1'	1:0:1225:G:O4'	2.19	0.42
1:0:1333:G:N2	1:0:1344:C:H41	2.18	0.42
1:0:1628:C:C2	1:0:1636:G:N2	2.88	0.42
1:0:1775:A:P	1:0:1775:A:C8	3.13	0.42
1:0:2499:C:C2'	1:0:2500:C:O5'	2.68	0.42
1:0:2586:G:C6	1:0:2587:G:C6	3.08	0.42
1:0:2813:G:C6	1:0:2814:G:C6	3.08	0.42
7:9:26:G:C4	7:9:58:G:C6	3.08	0.42
7:9:77:G:H1	7:9:105:G:H22	1.68	0.42
1:0:140:G:H2'	1:0:141:G:H8	1.84	0.41
1:0:177:U:O5'	1:0:177:U:H6	2.03	0.41
1:0:191:G:O2'	1:0:194:G:OP1	2.38	0.41
1:0:581:A:N3	1:0:581:A:H2'	2.35	0.41
1:0:615:C:H1'	1:0:671:A:H4'	2.01	0.41
1:0:762:A:C8	1:0:1634:A:N6	2.88	0.41
1:0:960:U:H2'	1:0:961:G:H8	1.84	0.41
1:0:1333:G:O6	1:0:1342:U:H5'	2.19	0.41
1:0:1343:C:H2'	1:0:1344:C:C6	2.54	0.41
1:0:1358:C:C2'	1:0:1359:G:H5''	2.49	0.41
1:0:1389:C:H2'	1:0:1390:G:O4'	2.20	0.41
1:0:1619:A:C2	1:0:1620:C:C6	3.08	0.41
1:0:1677:C:H2'	1:0:1678:G:C8	2.55	0.41
1:0:1953:A:H2'	1:0:1954:A:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2239:C:O2'	1:0:2240:C:H5'	2.19	0.41
1:0:2629:U:O2'	1:0:2630:C:H5'	2.20	0.41
1:0:69:G:H5''	1:0:70:A:P	2.60	0.41
1:0:226:C:H4'	1:0:227:G:C8	2.55	0.41
1:0:692:C:O2'	1:0:693:A:H5'	2.19	0.41
1:0:742:G:N3	1:0:742:G:C2'	2.83	0.41
1:0:860:U:N3	1:0:945:G:N2	2.68	0.41
1:0:1248:G:N1	1:0:1249:G:N2	2.68	0.41
1:0:1279:G:O2'	1:0:1995:G:N1	2.53	0.41
1:0:1284:G:C5	1:0:1633:C:H5'	2.55	0.41
1:0:1288:A:O2'	1:0:1289:A:H5'	2.20	0.41
1:0:1364:C:H2'	1:0:1365:U:C6	2.54	0.41
1:0:1396:C:O5'	1:0:1396:C:H6	2.03	0.41
1:0:1455:C:O2'	1:0:1644:G:H5''	2.20	0.41
1:0:1463:A:H2'	1:0:1464:A:C8	2.55	0.41
1:0:1666:G:C6	1:0:1992:G:O6	2.74	0.41
1:0:1982:C:O2'	1:0:1983:G:H5'	2.21	0.41
1:0:2266:A:N6	1:0:2323:U:C1'	2.83	0.41
1:0:429:C:H2'	1:0:430:C:C6	2.54	0.41
1:0:1352:G:N2	1:0:1619:A:H1'	2.35	0.41
1:0:1511:A:H2'	1:0:1512:A:O4'	2.20	0.41
1:0:1901:A:H2'	1:0:1902:A:O4'	2.20	0.41
1:0:1981:A:H2'	1:0:1982:C:C6	2.55	0.41
1:0:2840:U:C4	1:0:2841:U:C5	3.08	0.41
1:0:11:G:O2'	1:0:12:U:H5'	2.20	0.41
1:0:476:G:N2	1:0:697:G:N2	2.68	0.41
1:0:600:G:H2'	1:0:601:A:OP1	2.19	0.41
1:0:854:G:H2'	1:0:855:G:C8	2.56	0.41
1:0:1034:U:H2'	1:0:1035:G:H5'	2.02	0.41
1:0:1073:G:H2'	1:0:1074:G:C5'	2.49	0.41
1:0:1281:A:C2	1:0:1996:A:C2	3.08	0.41
1:0:1291:G:H2'	1:0:1292:A:H8	1.85	0.41
1:0:1987:G:H2'	1:0:1988:A:H5'	2.01	0.41
1:0:2058:U:O2	1:0:2414:A:C2	2.73	0.41
1:0:2299:A:C5'	1:0:2300:G:C5	3.03	0.41
1:0:2431:C:O2'	1:0:2432:A:C5'	2.63	0.41
1:0:543:G:H2'	1:0:544:U:H6	1.84	0.41
1:0:597:U:H3	1:0:683:A:HO2'	1.61	0.41
1:0:692:C:N4	1:0:693:A:H62	2.18	0.41
1:0:695:G:N2	1:0:809:C:C2	2.88	0.41
1:0:738:G:O5'	1:0:738:G:H8	2.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:839:U:H5'	1:0:2407:G:H2'	2.00	0.41
1:0:864:C:H3'	1:0:864:C:H6	1.86	0.41
1:0:1223:G:N3	1:0:1250:A:N6	2.69	0.41
1:0:1393:G:O5'	1:0:1393:G:H8	2.03	0.41
1:0:1431:U:H2'	1:0:1432:G:O4'	2.21	0.41
1:0:1543:G:H8	1:0:1543:G:O5'	2.04	0.41
1:0:1820:G:HO2'	1:0:1821:A:P	2.44	0.41
1:0:1869:A:H2'	1:0:1870:U:O4'	2.20	0.41
1:0:2426:G:N7	1:0:2479:U:C6	2.88	0.41
1:0:2591:C:O2'	1:0:2592:U:H5'	2.21	0.41
7:9:88:C:H2'	7:9:89:G:O4'	2.21	0.41
1:0:50:G:H2'	1:0:117:A:C2	2.56	0.41
1:0:84:G:O2'	1:0:85:C:H5'	2.21	0.41
1:0:130:C:H2'	1:0:131:C:C6	2.55	0.41
1:0:143:A:H2'	1:0:144:U:O4'	2.20	0.41
1:0:238:G:O4'	1:0:618:A:H2	2.03	0.41
1:0:443:A:H3'	1:0:443:A:P	2.60	0.41
1:0:713:G:H2'	1:0:714:G:O4'	2.21	0.41
1:0:774:A:H8	1:0:774:A:O5'	2.03	0.41
1:0:1125:G:O2'	1:0:1126:A:H5'	2.21	0.41
1:0:1253:C:H2'	1:0:1254:G:C5'	2.51	0.41
1:0:1656:U:H2'	1:0:1657:A:C5'	2.26	0.41
1:0:1702:C:C2	1:0:1721:G:C2	3.09	0.41
1:0:1760:G:O2'	1:0:1761:G:H5'	2.20	0.41
1:0:1798:G:O5'	1:0:1798:G:H8	2.04	0.41
1:0:2379:G:H2'	1:0:2380:U:O4'	2.20	0.41
1:0:2466:G:H2'	1:0:2467:A:H8	1.85	0.41
1:0:2597:G:O2'	1:0:2598:C:H5'	2.21	0.41
1:0:2800:C:C2'	1:0:2801:A:H5'	2.51	0.41
1:0:2829:A:C2	1:0:2839:G:C2	3.08	0.41
1:0:29:U:H5''	22:O:7:GLY:CA	2.50	0.41
1:0:232:A:H1'	1:0:397:U:C6	2.55	0.41
1:0:242:A:H2'	1:0:243:G:C4'	2.50	0.41
1:0:496:C:O2'	1:0:497:C:H5'	2.21	0.41
1:0:525:A:C8	1:0:526:C:C6	3.09	0.41
1:0:936:A:O2'	1:0:937:C:H5'	2.21	0.41
1:0:1333:G:C6	1:0:1342:U:H5'	2.55	0.41
1:0:1566:G:H2'	1:0:1567:A:H8	1.85	0.41
1:0:1761:G:O5'	1:0:1761:G:H8	2.02	0.41
1:0:1919:A:H5''	1:0:1920:A:O5'	2.21	0.41
1:0:1972:G:H2'	1:0:1973:C:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1993:G:H2'	1:0:1994:U:C6	2.55	0.41
1:0:2058:U:C5	1:0:2217:G:C4	3.09	0.41
1:0:2091:C:H2'	1:0:2092:U:O4'	2.21	0.41
1:0:2158:C:H2'	1:0:2159:A:C8	2.55	0.41
1:0:2201:G:H2'	1:0:2202:G:C8	2.51	0.41
1:0:2218:G:H8	1:0:2218:G:O5'	2.03	0.41
1:0:2769:C:HO2'	1:0:2784:A:H2	1.67	0.41
7:9:77:G:H1	7:9:105:G:N2	2.19	0.41
1:0:200:A:H1'	1:0:433:G:H21	1.86	0.41
1:0:218:A:H8	1:0:218:A:OP1	2.03	0.41
1:0:616:U:H5''	1:0:630:G:O6	2.21	0.41
1:0:845:U:OP2	1:0:955:G:O6	2.39	0.41
1:0:1181:C:H2'	1:0:1182:U:H5''	2.02	0.41
1:0:1280:U:O2'	1:0:1281:A:H5'	2.20	0.41
1:0:1333:G:N2	1:0:1346:C:C2	2.89	0.41
1:0:1445:A:H2'	1:0:1446:U:H6	1.85	0.41
1:0:1604:A:H2'	1:0:1605:A:O4'	2.21	0.41
1:0:2164:G:H2'	1:0:2165:A:C8	2.56	0.41
1:0:2817:A:O2'	1:0:2818:G:H5'	2.21	0.41
7:9:59:A:H2'	7:9:60:A:H5'	2.02	0.41
7:9:118:G:O2'	7:9:119:G:H5'	2.21	0.41
1:0:9:U:H3	1:0:2608:A:H62	1.69	0.41
1:0:165:G:O6	1:0:166:G:C2	2.73	0.41
1:0:401:G:C2'	1:0:403:A:N7	2.84	0.41
1:0:475:U:H1'	1:0:699:G:N1	2.35	0.41
1:0:575:U:C4	1:0:576:A:C5	3.09	0.41
1:0:606:A:C2	1:0:675:C:C2	3.08	0.41
1:0:789:G:N3	1:0:806:A:N7	2.69	0.41
1:0:837:U:H2'	1:0:838:A:O4'	2.21	0.41
1:0:873:U:C3'	1:0:874:A:H5'	2.51	0.41
1:0:1027:C:H42	1:0:1158:A:N6	2.19	0.41
1:0:1151:U:H5''	1:0:1153:A:OP1	2.20	0.41
1:0:1200:G:H2'	1:0:1201:G:C5'	2.51	0.41
1:0:1286:U:O3'	1:0:1288:A:OP1	2.39	0.41
1:0:1307:U:H2'	1:0:1308:C:O4'	2.21	0.41
1:0:1312:G:H4'	1:0:1314:A:N3	2.36	0.41
1:0:1313:U:O2'	1:0:1314:A:O5'	2.30	0.41
1:0:1383:C:H2'	1:0:1384:G:H8	1.86	0.41
1:0:1794:A:H2'	1:0:1795:C:H5'	2.03	0.41
1:0:1984:A:O2'	1:0:1985:G:H5'	2.21	0.41
1:0:2015:G:O6	1:0:2038:C:O2	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2333:A:N1	1:0:2343:C:N4	2.69	0.41
1:0:2340:C:H2'	1:0:2341:G:H5'	2.03	0.41
1:0:2430:A:C5	33:0:2882:DOL:HC12	2.56	0.41
1:0:2505:G:H5'	1:0:2722:C:HO2'	1.84	0.41
1:0:2814:G:H2'	1:0:2815:C:C6	2.56	0.41
7:9:40:C:H2'	7:9:41:A:H5'	2.03	0.41
1:0:77:C:H2'	1:0:78:C:C6	2.55	0.41
1:0:121:G:H2'	1:0:122:G:O4'	2.21	0.41
1:0:422:C:H2'	1:0:423:G:H8	1.86	0.41
1:0:583:C:O2'	1:0:584:A:P	2.79	0.41
1:0:750:C:H2'	1:0:751:G:O4'	2.21	0.41
1:0:1232:U:H6	1:0:1232:U:O5'	2.04	0.41
1:0:2271:C:N4	1:0:2272:A:N6	2.69	0.41
1:0:2651:U:O2'	1:0:2652:G:H5'	2.21	0.41
1:0:2668:U:P	1:0:2699:G:H22	2.43	0.41
1:0:2679:G:C2	1:0:2687:G:C2	3.08	0.41
1:0:2696:A:O2'	1:0:2697:G:H5'	2.21	0.41
1:0:24:G:C6	1:0:25:U:O4	2.74	0.40
1:0:356:A:H2'	1:0:357:A:H8	1.86	0.40
1:0:488:A:H8	1:0:488:A:O5'	2.04	0.40
1:0:589:C:C4	1:0:590:C:N4	2.89	0.40
1:0:742:G:OP2	1:0:776:G:OP2	2.38	0.40
1:0:938:G:N2	1:0:939:C:C4	2.90	0.40
1:0:1624:A:H2'	1:0:1625:A:H5'	2.03	0.40
1:0:1949:A:H1'	1:0:2572:U:C5'	2.51	0.40
1:0:1984:A:H2'	1:0:1985:G:H8	1.85	0.40
1:0:2516:U:O5'	1:0:2516:U:H6	2.05	0.40
1:0:2578:G:H2'	1:0:2579:A:O4'	2.21	0.40
1:0:2676:G:C5	1:0:2677:U:C4	3.10	0.40
1:0:2808:U:H3'	1:0:2809:A:H5'	2.03	0.40
7:9:23:G:C6	7:9:24:U:C4	3.09	0.40
1:0:92:U:H2'	1:0:93:A:H8	1.83	0.40
1:0:797:A:H4'	1:0:798:G:H8	1.79	0.40
1:0:1013:G:C6	1:0:1014:G:C5	3.09	0.40
1:0:1287:A:H1'	1:0:1310:C:O2'	2.21	0.40
1:0:1486:A:H2'	1:0:1487:C:H6	1.82	0.40
1:0:1672:A:C2	1:0:2032:G:H5''	2.56	0.40
1:0:1702:C:C2	1:0:1721:G:N2	2.89	0.40
1:0:2036:G:O2'	1:0:2037:A:H5'	2.21	0.40
1:0:2518:C:N3	1:0:2519:C:C4	2.89	0.40
1:0:2695:C:H2'	1:0:2696:A:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:180:C:C4	1:0:181:A:N6	2.89	0.40
1:0:208:C:H2'	1:0:209:G:H5'	2.03	0.40
1:0:322:A:N6	1:0:339:U:H3	2.19	0.40
1:0:333:A:H2'	1:0:350:U:O2	2.20	0.40
1:0:744:C:C2	1:0:745:C:C5	3.09	0.40
1:0:788:G:N2	1:0:800:U:O3'	2.54	0.40
1:0:953:G:H8	1:0:953:G:O5'	2.04	0.40
1:0:1016:C:N4	1:0:1149:G:N2	2.69	0.40
1:0:1426:U:H2'	1:0:1427:G:O4'	2.21	0.40
1:0:1446:U:H2'	1:0:1447:U:C6	2.56	0.40
1:0:1587:A:H2'	1:0:1588:A:H8	1.86	0.40
1:0:2219:U:C6	1:0:2219:U:C3'	3.05	0.40
1:0:2238:G:OP1	1:0:2238:G:C8	2.74	0.40
1:0:2293:G:O2'	1:0:2294:U:H5'	2.21	0.40
1:0:2369:U:H2'	1:0:2370:G:C8	2.56	0.40
1:0:2376:G:H2'	1:0:2377:U:C6	2.56	0.40
1:0:2391:A:H2'	1:0:2392:G:O4'	2.22	0.40
1:0:2490:U:H2'	1:0:2491:C:C6	2.57	0.40
1:0:2579:A:C5	1:0:2580:C:C5	3.09	0.40
1:0:2800:C:H2'	1:0:2801:A:H5'	2.03	0.40
1:0:213:C:N4	1:0:238:G:H22	2.19	0.40
1:0:324:C:H2'	1:0:325:U:O4'	2.22	0.40
1:0:540:G:N2	1:0:2005:U:H5''	2.36	0.40
1:0:543:G:OP1	22:O:24:PHE:CA	2.69	0.40
1:0:814:G:H8	1:0:814:G:O5'	2.05	0.40
1:0:831:G:O2'	1:0:832:A:C4'	2.70	0.40
1:0:852:U:O2'	1:0:853:C:H5'	2.21	0.40
1:0:976:C:O2'	1:0:977:G:H5'	2.22	0.40
1:0:991:A:C8	1:0:1146:G:H5''	2.56	0.40
1:0:1005:U:H3	1:0:1007:A:H62	1.68	0.40
1:0:1223:G:H1'	1:0:1225:G:C1'	2.51	0.40
1:0:1347:C:H6	1:0:1347:C:O5'	2.05	0.40
1:0:1887:G:O2'	1:0:1888:C:H5'	2.22	0.40
1:0:1916:G:O5'	1:0:1916:G:H8	2.05	0.40
1:0:1928:G:H2'	1:0:1929:U:C6	2.57	0.40
1:0:2019:C:H2'	1:0:2020:G:H8	1.86	0.40
1:0:2391:A:N6	1:0:2392:G:C2	2.89	0.40
1:0:2538:C:O2'	1:0:2539:C:H5'	2.21	0.40
1:0:2753:C:N4	1:0:2754:C:N4	2.69	0.40
1:0:2762:G:N2	1:0:2763:U:H1'	2.37	0.40
1:0:51:A:OP2	1:0:117:A:N1	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:168:A:O2'	1:0:169:C:H5'	2.21	0.40
1:0:678:G:H2'	1:0:679:C:H6	1.85	0.40
1:0:827:C:O2'	1:0:828:C:H5'	2.21	0.40
1:0:933:G:HO2'	1:0:934:G:H5'	1.83	0.40
1:0:1339:U:C4	1:0:1340:C:N4	2.89	0.40
1:0:1624:A:N6	1:0:1627:C:H1'	2.37	0.40
1:0:1864:G:H2'	1:0:1865:C:C6	2.56	0.40
1:0:2026:C:N3	1:0:2757:G:C2	2.90	0.40
1:0:2039:G:P	1:0:2483:U:C5'	3.09	0.40
1:0:2040:A:C2'	1:0:2041:A:H5'	2.51	0.40
1:0:2054:A:H8	1:0:2054:A:O5'	2.04	0.40
1:0:2218:G:C6	1:0:2219:U:N3	2.90	0.40
1:0:2218:G:C2	1:0:2219:U:C2	3.10	0.40
1:0:2605:C:N4	1:0:2606:G:O6	2.55	0.40
1:0:2700:U:C2'	1:0:2701:A:H5'	2.52	0.40
7:9:36:A:H1'	7:9:51:G:H22	1.86	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 X-ray entries followed by that with respect to entries of similar resolution.

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
6	5	2/8 (25%)	1 (50%)	0	1 (50%)	0 0

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	5	2	THR

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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
6	5	2/2 (100%)	2 (100%)	0	100 100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880 (95%)	433 (15%)	19 (0%)
7	9	117/124 (94%)	12 (10%)	0
All	All	2874/3004 (95%)	445 (15%)	19 (0%)

All (445) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	45	C
1	0	48	A
1	0	49	U
1	0	50	G
1	0	59	G
1	0	60	A
1	0	67	G
1	0	68	C
1	0	71	A
1	0	72	A
1	0	76	C
1	0	87	G
1	0	89	A
1	0	90	G
1	0	91	A
1	0	99	U
1	0	100	G

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Mol	Chain	Res	Type
1	0	105	G
1	0	110	U
1	0	116	A
1	0	118	U
1	0	123	A
1	0	129	A
1	0	135	U
1	0	155	G
1	0	158	A
1	0	173	A
1	0	174	A
1	0	176	A
1	0	177	U
1	0	181	A
1	0	182	G
1	0	193	A
1	0	200	A
1	0	206	U
1	0	210	A
1	0	218	A
1	0	219	G
1	0	221	A
1	0	225	G
1	0	227	G
1	0	229	G
1	0	242	A
1	0	305	A
1	0	312	G
1	0	318	G
1	0	334	G
1	0	335	A
1	0	340	G
1	0	343	A
1	0	358	C
1	0	368	A
1	0	373	A
1	0	399	G
1	0	401	G
1	0	414	A
1	0	418	C
1	0	424	G
1	0	443	A

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Mol	Chain	Res	Type
1	0	455	A
1	0	456	C
1	0	460	U
1	0	461	A
1	0	463	C
1	0	467	U
1	0	469	G
1	0	486	U
1	0	487	G
1	0	491	A
1	0	492	G
1	0	515	A
1	0	518	A
1	0	519	C
1	0	523	A
1	0	537	C
1	0	539	A
1	0	541	C
1	0	542	A
1	0	553	C
1	0	554	U
1	0	556	A
1	0	558	G
1	0	559	C
1	0	572	G
1	0	584	A
1	0	613	A
1	0	617	U
1	0	624	A
1	0	632	A
1	0	636	G
1	0	638	A
1	0	648	A
1	0	652	C
1	0	654	A
1	0	666	U
1	0	667	U
1	0	684	C
1	0	697	G
1	0	699	G
1	0	700	C
1	0	728	G

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Mol	Chain	Res	Type
1	0	742	G
1	0	743	A
1	0	753	U
1	0	760	U
1	0	761	G
1	0	778	G
1	0	789	G
1	0	794	A
1	0	795	A
1	0	796	A
1	0	797	A
1	0	798	G
1	0	806	A
1	0	813	A
1	0	815	A
1	0	818	G
1	0	819	C
1	0	825	C
1	0	832	A
1	0	840	U
1	0	841	G
1	0	844	G
1	0	860	U
1	0	873	U
1	0	874	A
1	0	919	U
1	0	922	A
1	0	926	C
1	0	930	A
1	0	931	G
1	0	941	U
1	0	944	A
1	0	952	A
1	0	955	G
1	0	957	G
1	0	968	C
1	0	969	U
1	0	970	A
1	0	972	C
1	0	973	U
1	0	984	A
1	0	994	A

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Mol	Chain	Res	Type
1	0	996	C
1	0	1000	G
1	0	1005	U
1	0	1006	C
1	0	1022	A
1	0	1023	U
1	0	1024	G
1	0	1030	U
1	0	1032	A
1	0	1033	G
1	0	1036	G
1	0	1037	U
1	0	1044	U
1	0	1055	A
1	0	1056	U
1	0	1057	A
1	0	1059	A
1	0	1067	G
1	0	1073	G
1	0	1074	G
1	0	1081	A
1	0	1082	G
1	0	1087	C
1	0	1090	C
1	0	1099	A
1	0	1123	G
1	0	1137	A
1	0	1138	A
1	0	1142	G
1	0	1145	C
1	0	1146	G
1	0	1152	C
1	0	1155	G
1	0	1167	A
1	0	1182	U
1	0	1183	C
1	0	1185	C
1	0	1199	U
1	0	1200	G
1	0	1233	A
1	0	1250	A
1	0	1253	C

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Mol	Chain	Res	Type
1	0	1262	U
1	0	1264	C
1	0	1266	G
1	0	1267	A
1	0	1268	U
1	0	1269	G
1	0	1271	C
1	0	1278	A
1	0	1279	G
1	0	1284	G
1	0	1285	A
1	0	1288	A
1	0	1313	U
1	0	1314	A
1	0	1324	G
1	0	1327	C
1	0	1334	A
1	0	1338	G
1	0	1342	U
1	0	1343	C
1	0	1346	C
1	0	1355	A
1	0	1356	G
1	0	1359	G
1	0	1391	A
1	0	1392	U
1	0	1398	G
1	0	1433	A
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1475	U
1	0	1482	U
1	0	1490	U
1	0	1505	U
1	0	1508	G
1	0	1509	A
1	0	1513	U

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Mol	Chain	Res	Type
1	0	1524	C
1	0	1529	C
1	0	1552	C
1	0	1571	G
1	0	1573	G
1	0	1574	A
1	0	1583	A
1	0	1585	A
1	0	1618	U
1	0	1623	C
1	0	1624	A
1	0	1625	A
1	0	1626	A
1	0	1635	G
1	0	1648	C
1	0	1651	U
1	0	1652	G
1	0	1657	A
1	0	1664	G
1	0	1665	C
1	0	1671	A
1	0	1680	U
1	0	1681	A
1	0	1685	A
1	0	1686	A
1	0	1691	G
1	0	1712	G
1	0	1717	A
1	0	1724	C
1	0	1748	U
1	0	1749	G
1	0	1750	A
1	0	1754	G
1	0	1755	G
1	0	1764	A
1	0	1771	A
1	0	1773	C
1	0	1775	A
1	0	1778	U
1	0	1793	A
1	0	1800	A
1	0	1801	C

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Mol	Chain	Res	Type
1	0	1802	A
1	0	1807	A
1	0	1808	C
1	0	1821	A
1	0	1831	G
1	0	1884	A
1	0	1889	G
1	0	1909	U
1	0	1920	A
1	0	1922	U
1	0	1924	C
1	0	1926	U
1	0	1927	U
1	0	1928	G
1	0	1938	U
1	0	1939	U
1	0	1949	A
1	0	1950	C
1	0	1953	A
1	0	1954	A
1	0	1955	G
1	0	1956	G
1	0	1964	A
1	0	1966	C
1	0	1976	U
1	0	1979	C
1	0	1980	A
1	0	2004	U
1	0	2015	G
1	0	2016	A
1	0	2019	C
1	0	2038	C
1	0	2044	G
1	0	2045	A
1	0	2047	C
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2063	A
1	0	2076	G
1	0	2082	C
1	0	2094	C

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Mol	Chain	Res	Type
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2192	U
1	0	2195	C
1	0	2199	C
1	0	2218	G
1	0	2229	G
1	0	2241	U
1	0	2245	A
1	0	2246	A
1	0	2247	A
1	0	2255	G
1	0	2262	C
1	0	2267	A
1	0	2268	G
1	0	2285	U
1	0	2286	G
1	0	2287	G
1	0	2288	A
1	0	2298	U
1	0	2299	A
1	0	2300	G
1	0	2301	A
1	0	2306	A
1	0	2314	A
1	0	2316	G
1	0	2325	A
1	0	2326	C
1	0	2362	G
1	0	2364	C
1	0	2378	G
1	0	2385	U
1	0	2396	C
1	0	2403	C
1	0	2405	A
1	0	2406	C
1	0	2407	G

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Mol	Chain	Res	Type
1	0	2408	G
1	0	2409	A
1	0	2414	A
1	0	2415	G
1	0	2419	C
1	0	2420	C
1	0	2427	A
1	0	2428	U
1	0	2448	A
1	0	2455	A
1	0	2470	U
1	0	2471	U
1	0	2477	C
1	0	2481	G
1	0	2482	A
1	0	2483	U
1	0	2484	G
1	0	2485	U
1	0	2492	G
1	0	2499	C
1	0	2500	C
1	0	2504	G
1	0	2522	G
1	0	2545	A
1	0	2546	G
1	0	2549	G
1	0	2559	U
1	0	2560	G
1	0	2561	G
1	0	2564	U
1	0	2565	C
1	0	2578	G
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2589	C
1	0	2590	U
1	0	2591	C
1	0	2593	A
1	0	2594	U
1	0	2608	A
1	0	2609	G

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Mol	Chain	Res	Type
1	0	2625	U
1	0	2632	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2668	U
1	0	2670	C
1	0	2681	A
1	0	2692	A
1	0	2693	U
1	0	2700	U
1	0	2707	G
1	0	2712	G
1	0	2713	A
1	0	2728	A
1	0	2730	A
1	0	2732	C
1	0	2737	A
1	0	2745	A
1	0	2760	G
1	0	2761	A
1	0	2770	A
1	0	2771	C
1	0	2783	U
1	0	2784	A
1	0	2785	A
1	0	2795	A
1	0	2807	U
1	0	2808	U
1	0	2809	A
1	0	2811	G
1	0	2823	G
1	0	2841	U
1	0	2842	C
1	0	2847	G
1	0	2849	C
1	0	2854	G
1	0	2859	U
7	9	16	U
7	9	17	A
7	9	18	G
7	9	25	G

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Mol	Chain	Res	Type
7	9	27	A
7	9	47	A
7	9	54	U
7	9	55	C
7	9	59	A
7	9	65	A
7	9	84	G
7	9	112	A

All (19) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	173	A
1	0	192	G
1	0	583	C
1	0	805	G
1	0	1141	U
1	0	1249	G
1	0	1263	G
1	0	1313	U
1	0	1354	A
1	0	1634	A
1	0	1664	G
1	0	1685	A
1	0	1820	G
1	0	1938	U
1	0	2015	G
1	0	2093	G
1	0	2261	G
1	0	2377	U
1	0	2404	A

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

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

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

RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	004	5	7	6	9,10,11	1.69	2 (22%)	9,12,14	1.27	1 (11%)
6	MHW	5	1	6	9,9,10	0.76	0	10,11,13	1.56	1 (10%)
6	MHV	5	6	6	7,9,10	0.67	0	7,11,13	1.68	2 (28%)
6	MHU	5	5	6	14,15,16	1.14	1 (7%)	18,19,21	1.11	1 (5%)
6	DBB	5	3	6	4,5,6	0.58	0	1,5,7	0.06	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	004	5	7	6	-	2/4/6/8	0/1/1/1
6	MHW	5	1	6	-	2/2/2/4	0/1/1/1
6	MHV	5	6	6	-	0/1/12/14	0/1/1/1
6	MHU	5	5	6	-	2/9/12/14	0/1/1/1
6	DBB	5	3	6	-	1/3/4/6	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	5	7	004	CB-CA	3.12	1.55	1.52
6	5	7	004	CG2-CB	-2.70	1.34	1.39
6	5	5	MHU	CZ1-NZ	-2.59	1.39	1.45

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	5	1	MHW	O-C-CA	-4.20	120.24	124.22
6	5	6	MHV	CE-CD2-CG	3.22	117.29	111.89
6	5	5	MHU	O-C-CA	-2.83	117.37	124.78
6	5	7	004	CG2-CB-CA	2.31	124.38	120.65
6	5	6	MHV	CB-CA-N	-2.02	108.33	112.50

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	5	1	MHW	O-C-CA-N
6	5	1	MHW	O-C-CA-CB
6	5	3	DBB	O-C-CA-CB
6	5	5	MHU	N-CA-CB-CG
6	5	5	MHU	C-CA-CB-CG
6	5	7	004	C-CA-CB-CG1
6	5	7	004	C-CA-CB-CG2

There are no ring outliers.

2 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	5	1	MHW	1	0
6	5	3	DBB	5	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
33	DOL	0	2882	-	43,50,50	4.58	11 (25%)	51,70,70	3.94	18 (35%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
33	DOL	0	2882	-	2/2/14/20	20/58/77/77	0/2/3/3

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	0	2882	DOL	O40-S39	18.61	1.77	1.44
33	0	2882	DOL	O41-S39	18.41	1.76	1.44
33	0	2882	DOL	C28-C29	-8.71	1.11	1.32
33	0	2882	DOL	C1-C37	4.83	1.62	1.52
33	0	2882	DOL	C8-C6	-4.51	1.42	1.50
33	0	2882	DOL	C28-C26	4.51	1.57	1.48
33	0	2882	DOL	C30-C29	3.66	1.60	1.51
33	0	2882	DOL	C1-N5	3.56	1.50	1.46
33	0	2882	DOL	O36-C32	3.15	1.49	1.44
33	0	2882	DOL	C30-C32	2.73	1.61	1.54
33	0	2882	DOL	C22-C23	2.59	1.38	1.32

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	0	2882	DOL	C4-N5-C1	-14.71	94.37	112.45
33	0	2882	DOL	O18-C17-C16	13.82	145.78	109.73
33	0	2882	DOL	C28-C26-N25	-9.38	97.30	114.97
33	0	2882	DOL	O40-S39-O41	-7.23	109.95	118.19
33	0	2882	DOL	O27-C26-C28	6.58	138.02	123.03
33	0	2882	DOL	C23-C22-C20	-4.90	118.48	125.89
33	0	2882	DOL	O36-C32-C30	4.73	115.00	107.09
33	0	2882	DOL	C30-C29-C28	4.73	139.36	126.44
33	0	2882	DOL	C3-C4-N5	4.61	108.08	103.33
33	0	2882	DOL	C16-C17-C19	-3.78	103.99	111.10
33	0	2882	DOL	O15-C14-C13	-3.36	115.75	120.77
33	0	2882	DOL	O36-C32-C33	-3.08	101.99	107.31
33	0	2882	DOL	C4-N5-C6	-2.80	114.60	125.48
33	0	2882	DOL	O7-C6-N5	-2.78	117.08	121.59
33	0	2882	DOL	C3-C2-C1	-2.71	98.63	103.13
33	0	2882	DOL	C1-N5-C6	-2.32	112.43	120.88
33	0	2882	DOL	C31-C30-C32	-2.27	106.90	111.11
33	0	2882	DOL	C43-N44-C45	2.14	120.88	111.69

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
33	0	2882	DOL	C17
33	0	2882	DOL	C2

All (20) torsion outliers are listed below:

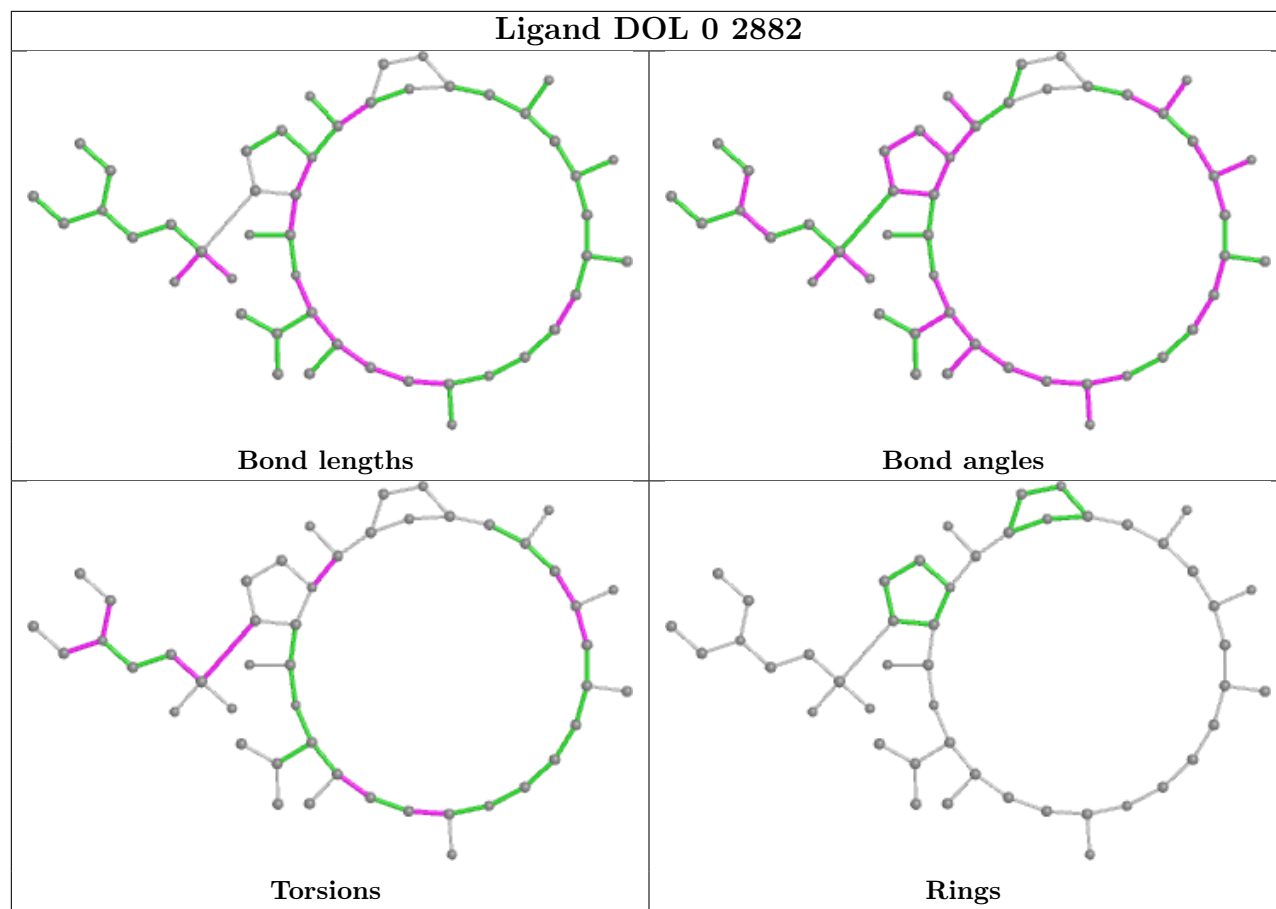
Mol	Chain	Res	Type	Atoms
33	0	2882	DOL	O7-C6-N5-C1
33	0	2882	DOL	C8-C6-N5-C1
33	0	2882	DOL	C1-C2-S39-O41
33	0	2882	DOL	C1-C2-S39-O40
33	0	2882	DOL	C1-C2-S39-C42
33	0	2882	DOL	C43-C42-S39-C2
33	0	2882	DOL	C43-C42-S39-O41
33	0	2882	DOL	C43-C42-S39-O40
33	0	2882	DOL	C14-C16-C17-C19
33	0	2882	DOL	N25-C26-C28-C29
33	0	2882	DOL	O27-C26-C28-C29
33	0	2882	DOL	C48-C47-N44-C43
33	0	2882	DOL	C3-C2-S39-O41
33	0	2882	DOL	C46-C45-N44-C47
33	0	2882	DOL	C3-C2-S39-O40
33	0	2882	DOL	C3-C2-S39-C42
33	0	2882	DOL	C28-C29-C30-C31
33	0	2882	DOL	O18-C17-C19-C20
33	0	2882	DOL	C8-C6-N5-C4
33	0	2882	DOL	O7-C6-N5-C4

There are no ring outliers.

1 monomer is involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
33	0	2882	DOL	16	0

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



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

EDS was not executed - this section is therefore empty.

6.2 Non-standard residues in protein, DNA, RNA chains

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.