



# Full wwPDB X-ray Structure Validation Report

Sep 24, 2014 – 11:20 PM EDT

PDB ID : 4TOX  
Title : Crystal structure of the E. coli ribosome bound to flopristin. This file contains the 50S subunit of the second 70S ribosome with flopristin bound.  
Authors : Noeske, J.; Huang, J.; Olivier, N.B.; Giacobbe, R.A.; Zambrowski, M.; Cate, J.H.D.  
Deposited on : 2014-06-06  
Resolution : 2.90 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

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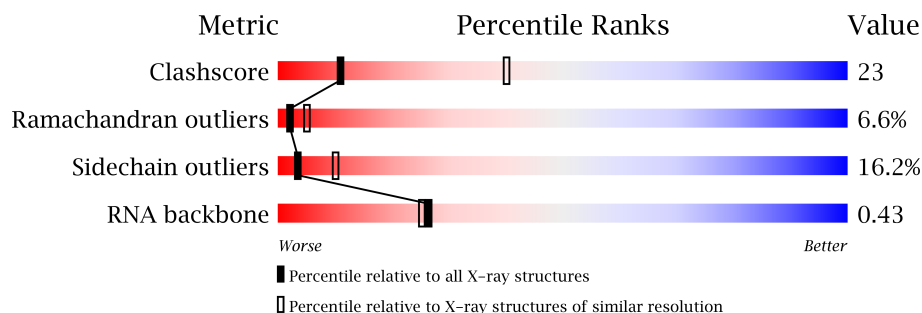
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.16 November 2013  
Xtriage (Phenix) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
Percentile statistics : 21963  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : stable23489

# 1 Overall quality at a glance

The reported resolution of this entry is 2.90 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	79885	1326 (2.90-2.90)
Ramachandran outliers	78287	1290 (2.90-2.90)
Sidechain outliers	78261	1292 (2.90-2.90)
RNA backbone	1838	1055 (3.40-2.40)


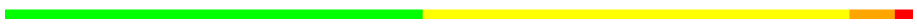


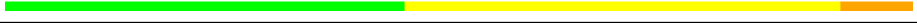




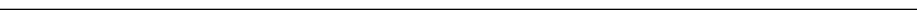
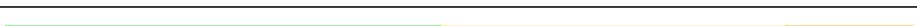

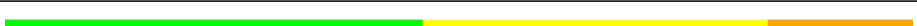

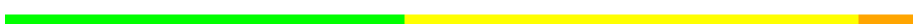
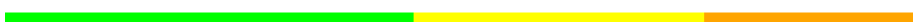

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2903	
2	B	119	
3	C	271	
4	D	209	
5	E	201	
6	F	177	
7	G	176	
8	H	149	
9	I	141	
10	J	142	
11	K	122	
12	L	143	
13	M	136	
14	N	120	

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Mol	Chain	Length	Quality of chain
15	O	116	
16	P	114	
17	Q	117	
18	R	103	
19	S	110	
20	T	93	
21	U	102	
22	V	94	
23	W	76	
24	X	77	
25	Y	63	
26	Z	58	
27	0	56	
28	1	50	
29	2	46	
30	3	64	
31	4	38	

## 2 Entry composition

There are 35 unique types of molecules in this entry. The entry contains 91704 atoms, of which 0 are hydrogen and 0 are deuterium.

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 rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2897	Total	C	N	O	P	0	0	0
			62195	27745	11446	20107	2897			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	271	Total	C	N	O	S	0	0	0
			2083	1288	423	365	7			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	177	Total	C	N	O	S	0	0	0
			1411	899	249	257	6			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	149	Total	C	N	O	S	0	0	0
			1110	699	197	213	1			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	122	Total	C	N	O	S	0	0	0
			939	587	180	166	6			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	120	Total	C	N	O	S	0	0	0
			961	593	196	167	5			

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	93	Total	C	N	O	S	0	0	0
			739	466	139	132	2			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	U	102	Total	C	N	O			
			780	492	146	142	0	0	0

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	W	75	Total	C	N	O	S			
			569	353	113	102	1	0	0	0

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
28	1	50	Total	C	N	O	0	0	0
			410	263	75	72			

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

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

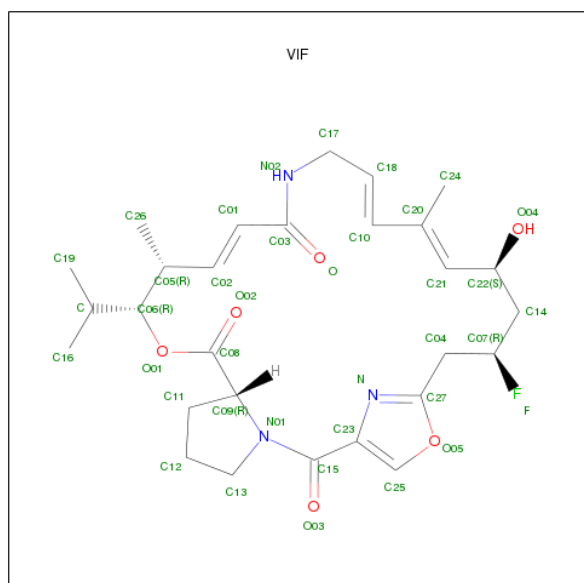
- Molecule 30 is a protein called 50S ribosomal protein L35.

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

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

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

- Molecule 32 is Flopristin (three-letter code: VIF) (formula:  $C_{28}H_{38}FN_3O_6$ ).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
32	A	1	Total	C	F	N	O	0	0
			38	28	1	3	6		

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	B	3	Total 3	Mg 3	0	0
33	A	166	Total 166	Mg 166	0	0
33	Q	1	Total 1	Mg 1	0	0
33	2	1	Total 1	Mg 1	0	0

- Molecule 34 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	4	1	Total 1	Zn 1	0	0

- Molecule 35 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	A	613	Total 613	O 613	0	0
35	B	13	Total 13	O 13	0	0
35	C	9	Total 9	O 9	0	0
35	D	4	Total 4	O 4	0	0
35	E	2	Total 2	O 2	0	0
35	J	1	Total 1	O 1	0	0
35	L	3	Total 3	O 3	0	0
35	N	1	Total 1	O 1	0	0
35	T	2	Total 2	O 2	0	0
35	V	1	Total 1	O 1	0	0
35	0	1	Total 1	O 1	0	0
35	2	3	Total 3	O 3	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	3	2	Total	O	0	0
			2	2		
35	4	1	Total	O	0	0
			1	1		

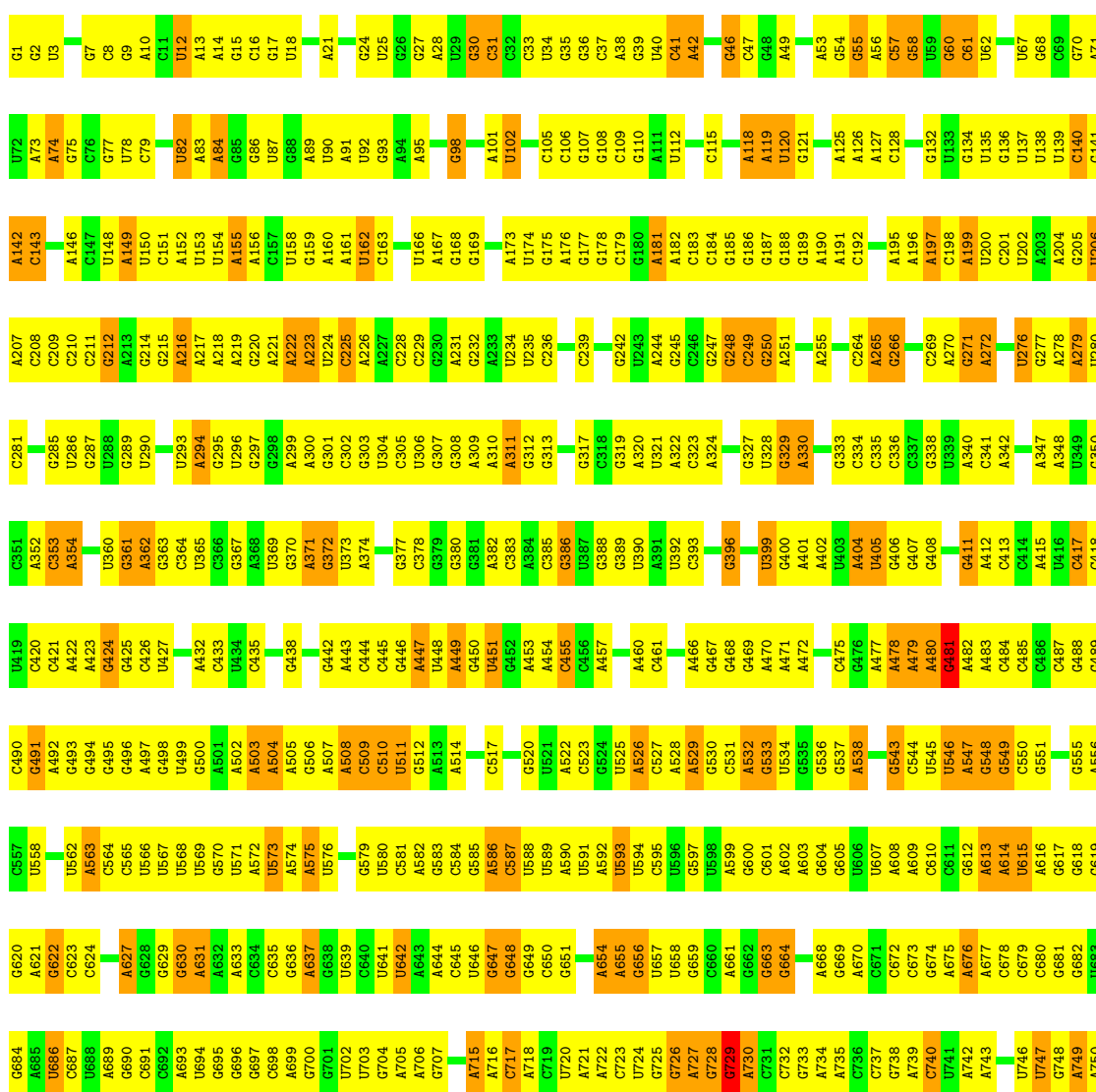
### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). 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.

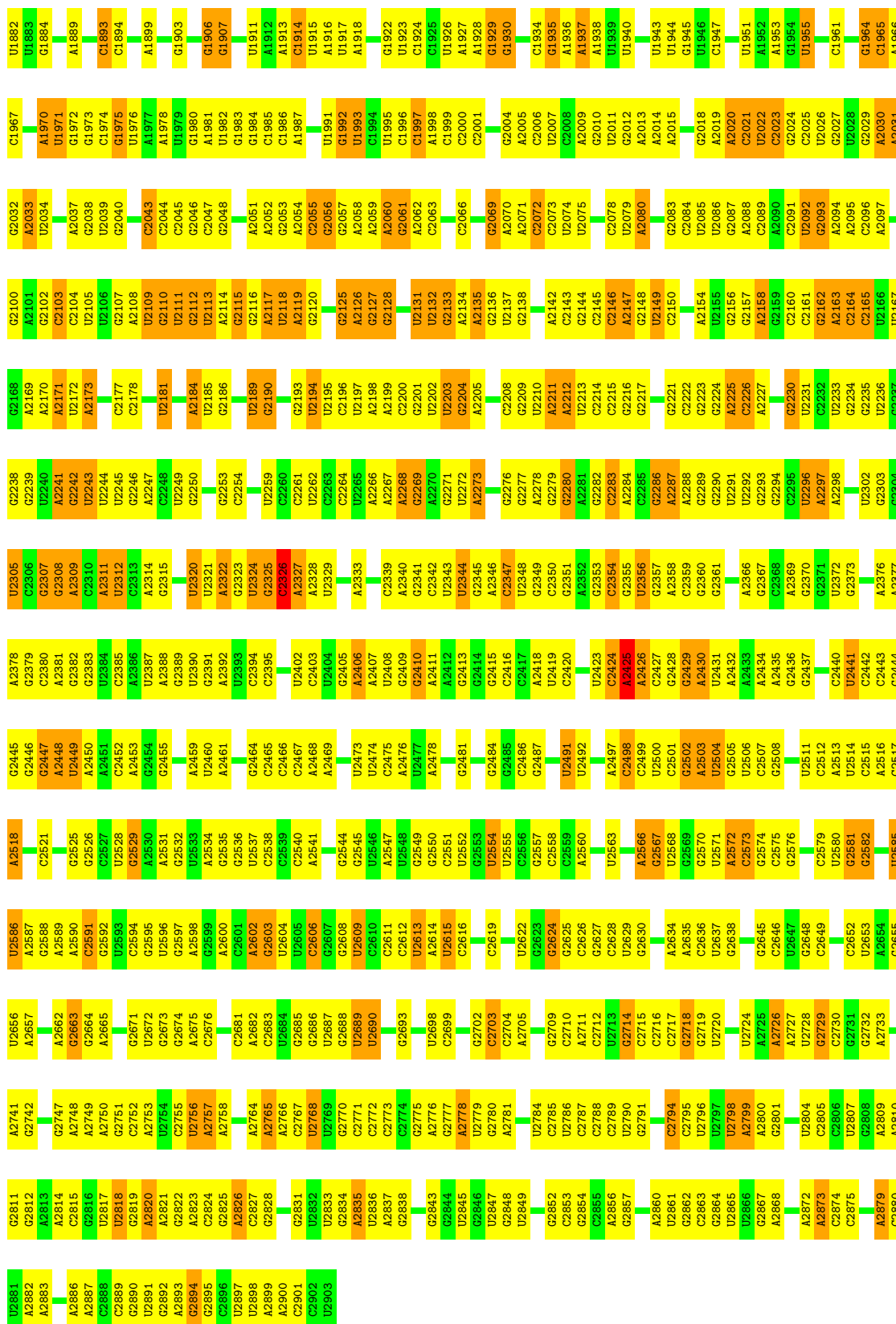
Note EDS was not executed.

#### • Molecule 1: 23S rRNA

Chain A:



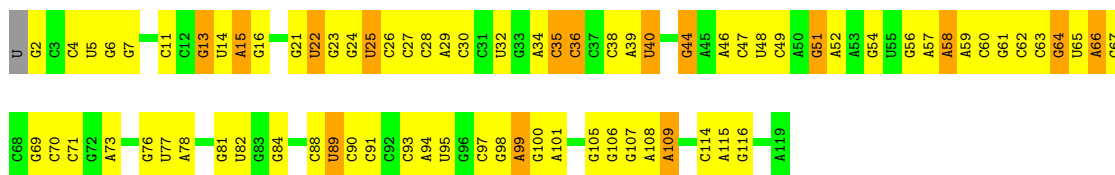
A1810	G1743	C1670	A1598	A1528	A1453	A1378	C1314	G1250	C1172	G1099	G1031	G966	A892	G818	A751
G1811	A1744	U1671	U1599	G1529	C1454	U1379	C1315	C1251	U1173	C1100	A1032	G969	C893	A819	A752
<b>U1812</b>	A1745	<b>A1672</b>	C1600	G1530	G1455	G1380	U1316	G1252	<b>U1174</b>	<b>U1101</b>	U1033	G969	U894	A820	A753
G1813	A1746	G1601	G1531	G1456	G1381	G1361	G1317	A1253	A1175	C1102	U1034	G971	U895	A821	U754
G1814	U1747	<b>G1674</b>	U1602	U1457	U1382	U1318	C1319	A1254	U1176	A1103	U1035	G971	A896	G822	U755
A1815	C1675	C1533	C1533	C1532	U1458	A1363	C1319	U1255	G1177	C1104	G1041	A972	C897	U756	A756
C1816	C1604	U1534	U1534	U1534	C1462	A1384	C1320	G1256	C1178	U1105	G1041	A973	C898	G757	C758
U1817	U1751	A1676	C1605	A1535	C1463	A1385	C1321	C1257	G1179	G1106	G1045	G974	C902	U827	U759
G1818	G1752	A1677	C1606	A1536	C1464	C1386	U1258	U1258	U1180	G1107	A1046	A975	C903	U828	A761
A1819	G1753	A1679	G1537	G1464	G1387	A1387	G1259	U1259	U1181	U1108	A1047	G976	C904	A829	G761
U1820	A1754	C1608	G1538	G1465	G1387	A1387	G1259	U1259	U1182	U1109	G1047	G977	C905	G830	G762
A1821	G1755	G1681	A1609	U1539	C1466	U1390	U1326	A1262	U1183	G1110	A1050	A980	A905	G831	G763
G1822	A1756	G1682	A1610	G1540	U1468	U1391	U1327	A1263	U1184	A1111	U1051	A981	A906	U832	A764
<b>G1823</b>	A1757	U1683	G1613	C1541	A1469	A1392	A1328	A1264	G1186	G1112	G1051	A982	A907	U833	C765
G1826	U1758	U1688	G1613	C1542	A1470	A1393	U1329	A1265	U1187	U1113	C1052	A983	A908	U834	U766
U1827	C1760	A1689	A1616	A1544	G1471	U1394	C1330	G1266	U1188	G1115	C1053	A984	A910	G768	U767
G1828	C1761	C1691	A1618	A1545	G1472	U1395	G1331	U1267	G1192	U1057	G1056	C985	A911	U769	U770
<b>A1829</b>	G1764	G1692	G1619	C1547	U1477	U1397	G1332	A1268	G1193	C986	G1057	C986	A912	C837	G771
<b>G1830</b>	U1765	U1693	G1620	A1548	A1478	C1404	G1335	G1270	A1194	U1119	U1058	C987	U913	A844	C772
G1831	G1766	C1694	U1621	A1549	G1479	U1405	A1336	G1271	G1195	G1120	G1059	C988	G914	A845	G775
C1832	G1767	G1695	G1622	C1550	U1481	U1408	G1337	A1272	C1196	U1060	U1061	C989	C915	U846	G776
G1833	G1767	G1695	G1622	C1550	U1481	U1408	G1337	A1272	C1196	U1060	U1061	C989	C915	U847	G777
A1834	G1767	G1695	G1622	C1550	U1481	U1408	G1337	A1272	C1196	U1060	U1061	C989	C915	U848	G778
G1835	A1773	A1698	G1623	A1551	G1482	U1409	G1338	A1274	U1198	G1125	G1062	G993	C922	A849	U779
C1836	C1774	G1702	U1624	A1552	G1482	U1409	G1338	A1274	U1198	G1125	G1062	G993	C922	U850	G780
G1837	U1775	G1703	C1625	A1553	U1484	G1410	U1340	A1276	C1200	A1126	C1064	C994	A927	C851	A781
G1838	G1776	G1703	U1625	A1554	U1484	U1411	G1341	A1277	C1201	A1127	U1065	C995	A928	G856	A782
G1839	G1777	G1703	U1626	C1555	U1484	U1412	G1342	A1277	C1201	A1127	U1065	C995	A928	G857	A783
<b>C1843</b>	U1778	A1705	A1637	C1556	G1491	A1413	U1344	G1281	C1207	C998	G1068	C997	U931	G858	G784
G1846	U1779	C1706	C1638	U1562	G1492	U1415	U1345	U1285	C1208	U1132	A1069	U909	A933	G859	G785
A1847	U1780	G1707	C1639	U1563	C1493	G1416	C1350	A1286	G1210	A1133	A1070	A1000	U934	C786	C786
G1848	U1781	C1708	U1640	C1564	C1494	A1417	C1351	A1287	G1211	A1134	A1001	A1001	A936	G864	C787
U1849	U1782	U1709	A1641	C1565	A1495	G1418	U1352	A1288	G1212	C1135	A1072	G1002	A937	C865	A788
G1850	A1783	G1710	U1642	A1566	A1496	A1419	U1352	C1289	G1212	G1136	A1073	G1003	C937	A866	A789
A1854	A1784	G1710	C1644	G1567	U1497	A1420	A1353	C1290	C1221	G1137	G1074	U1004	G938	C867	U790
U1855	U1785	A1713	G1645	G1568	C1498	G1421	A1354	C1291	U1222	G1138	G1075	C1005	G939	U868	C791
U1856	A1786	U1714	C1646	A1569	C1499	G1422	G1355	C1291	U1222	G1139	C1076	C1006	G940	U869	C792
G1857	U1786	G1715	U1647	U1570	G1500	G1423	G1356	G1292	U1223	C1140	A1077	A1009	A941	G869	A792
U1858	A1789	U1716	U1648	A1571	G1501	G1423	C1357	C1293	U1224	U1141	U1078	A1010	A943	U871	A793
U1859	G1790	U1716	G1649	U1572	A1502	A1503	G1358	U1294	G1225	A1142	A1079	G1011	A944	C873	C795
G1862	G1791	G1721	A1651	U1576	A1504	A1504	A1359	C1295	A1226	A1143	A1080	G1012	C944	G874	C796
<b>G1863</b>	G1792	C1793	A1652	C1577	A1504	G1428	G1360	C1296	C1229	U1144	U1081	C1013	C946	C875	G797
U1864	A1794	C1726	G1653	U1578	A1509	G1429	C1362	C1298	A1230	A1147	U1083	A1014	C947	G875	G799
U1865	C1795	C1727	C1582	C1581	G1510	G1430	C1363	C1299	U1231	U1148	A1084	G1015	C948	A878	A802
A1866	U1796	U1729	A1655	C1582	G1510	A1431	G1364	G1300	G1232	G1149	A1085	G1016	C949	A879	A803
G1867	G1797	C1730	C1656	G1514	G1514	A1433	A1365	A1301	C1233	C1152	G1087	U1019	C951	G880	G805
<b>C1868</b>	U1798	G1731	U1584	A1515	G1516	A1434	A1366	A1302	U1234	C1153	A1088	A1020	C952	G881	C806
G1869	G1799	C1732	C1585	G1516	G1516	G1435	A1367	G1303	G1235	C1154	A1089	A1021	G953	G882	G806
C1870	C1800	G1733	A1586	G1519	G1519	C1437	G1368	C1305	A1236	A1156	A1090	G1022	G954	G883	G807
A1871	A1801	G1734	G1661	U1520	G1520	U1438	G1369	C1306	A1237	C1157	G1091	G1023	U955	U884	U810
A1872	A1802	A1735	U1662	U1521	G1521	A1439	C1370	C1307	G1238	A1158	C1092	G1024	G956	C885	U811
<b>G1873</b>	A1803	U1736	G1663	G1521	G1521	A1439	C1371	A1307	G1239	G1162	C1093	G1025	C957	U884	U812
C1874	C1804	G1737	A1664	A1522	U1522	A1439	U1372	U1308	U1240	G1163	U1094	G1026	C958	A	U813
G1875	A1805	G1738	U1594	G1524	G1524	G1445	U1373	G1309	A1241	C1167	U1095	A1027	C959	C	C814
A1876	C1806	A1739	U1594	G1524	G1524	G1445	U1373	G1309	A1241	C1167	U1095	A1027	C959	C	C815
G1877	C1807	G1740	U1595	G1525	C1525	G1450	U1374	G1310	A1247	G1168	A1096	A1028	C960	C	C816
U1880	A1808	C1741	C1526	C1526	C1526	G1451	U1376	G1311	A1248	G1169	U1097	A1029	C961	G	C817
C1881	A1809	U1742	A1669	A1597	G1527	G1452	G1377	U1313	U1249	G1171	A1098	C1030			



- Molecule 2: 5S rRNA

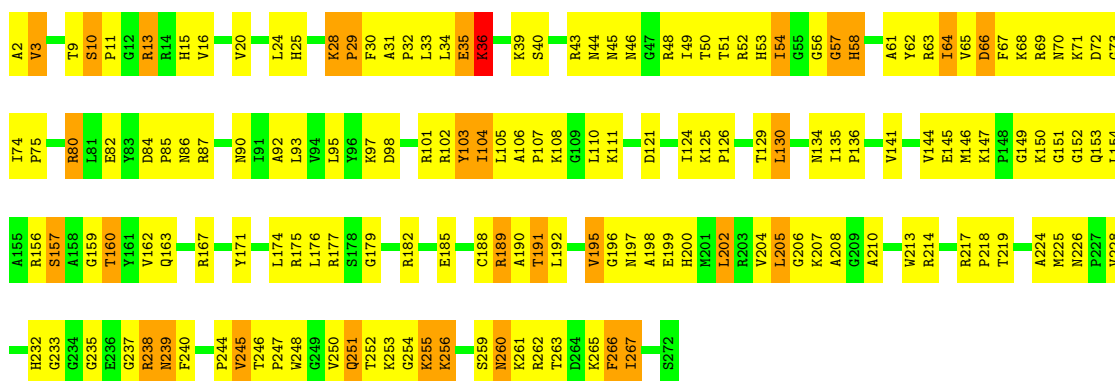
Chain B:





• Molecule 3: 50S ribosomal protein L2

Chain C:



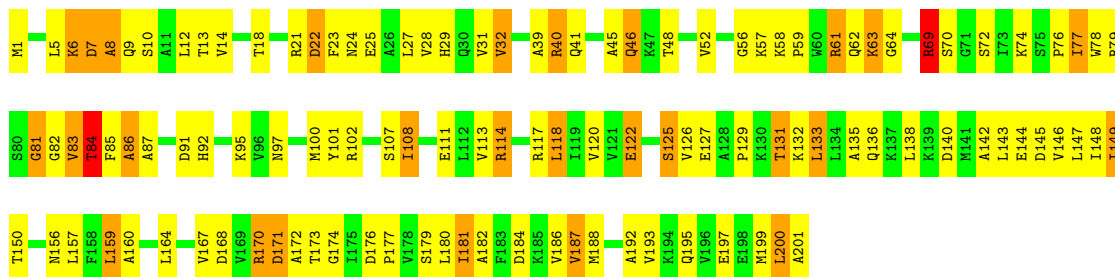
• Molecule 4: 50S ribosomal protein L3

Chain D:



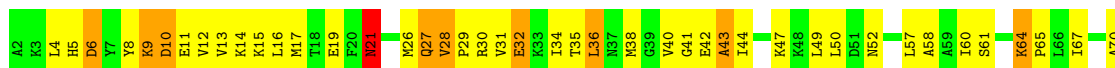
• Molecule 5: 50S ribosomal protein L4

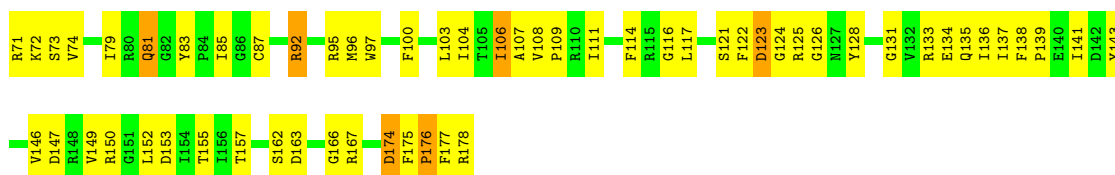
Chain E:



• Molecule 6: 50S ribosomal protein L5

Chain F:





• Molecule 7: 50S ribosomal protein L6

Chain G:



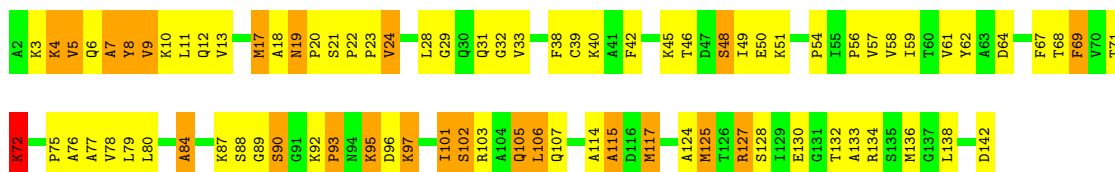
• Molecule 8: 50S ribosomal protein L9

Chain H:



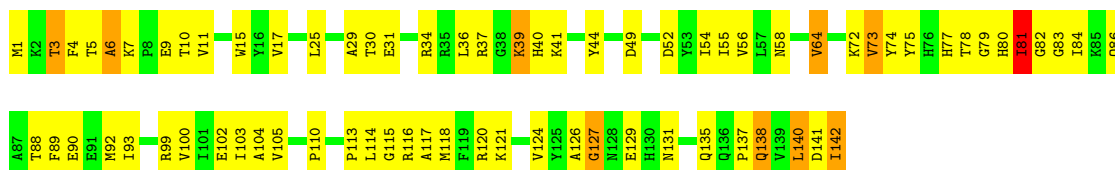
• Molecule 9: 50S ribosomal protein L11

Chain I:



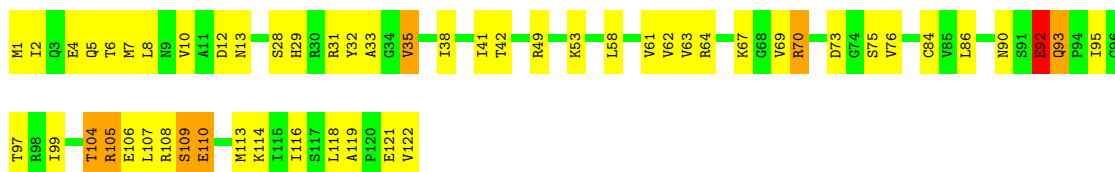
• Molecule 10: 50S ribosomal protein L13

Chain J:



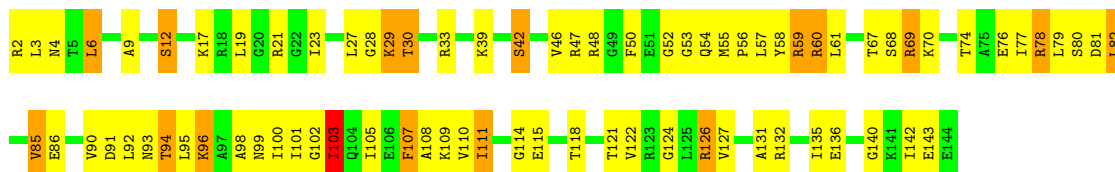
• Molecule 11: 50S ribosomal protein L14

Chain K:



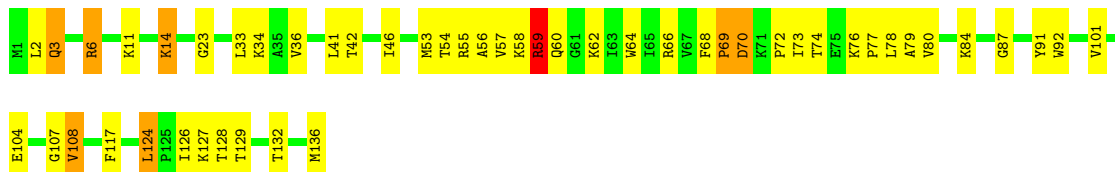
• Molecule 12: 50S ribosomal protein L15

Chain L:



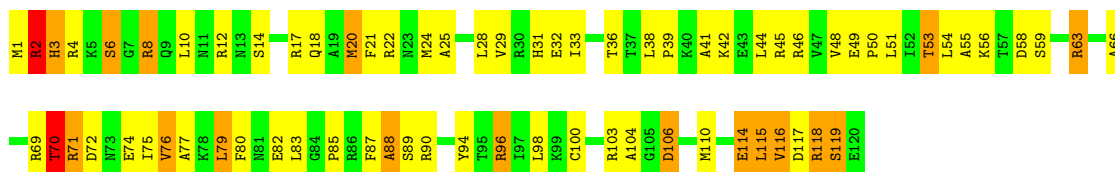
• Molecule 13: 50S ribosomal protein L16

Chain M:



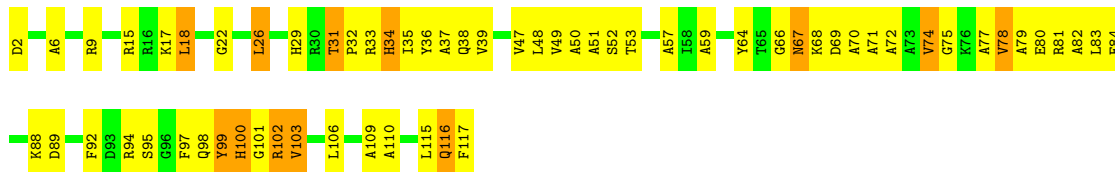
• Molecule 14: 50S ribosomal protein L17

Chain N:



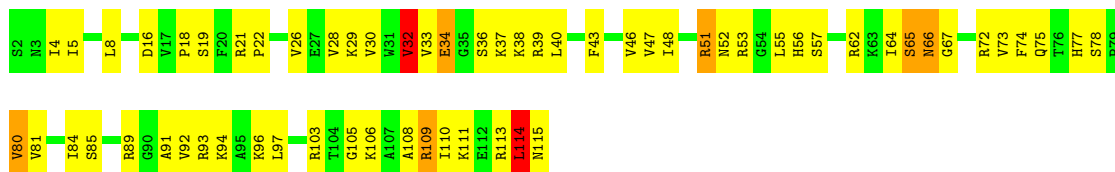
• Molecule 15: 50S ribosomal protein L18

Chain O:



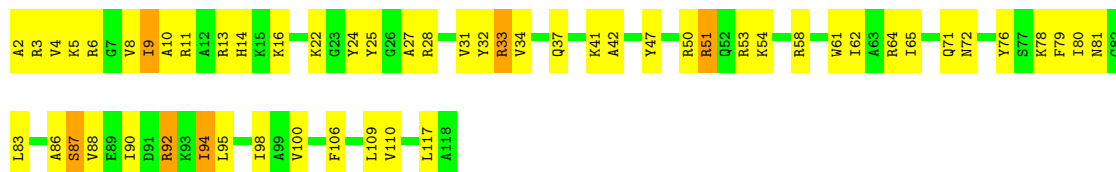
• Molecule 16: 50S ribosomal protein L19

Chain P:



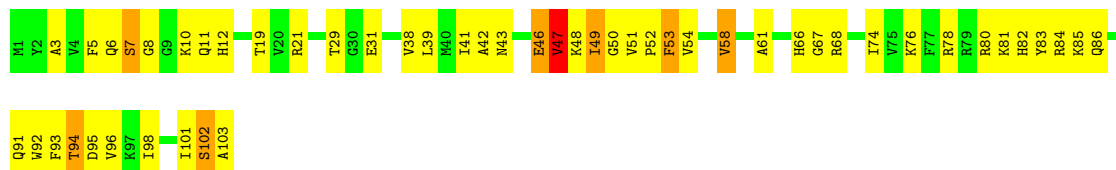
- Molecule 17: 50S ribosomal protein L20

Chain Q: 



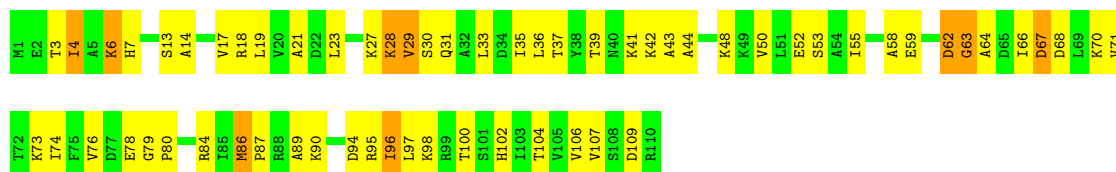
- Molecule 18: 50S ribosomal protein L21

Chain R: 



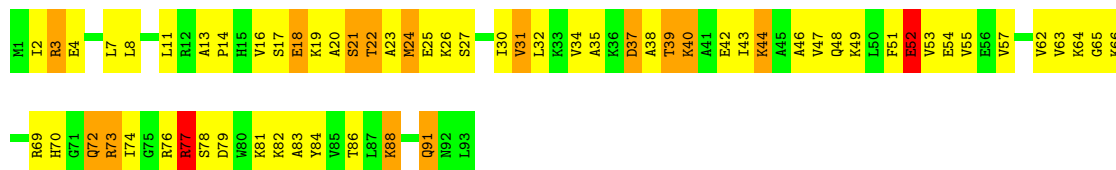
- Molecule 19: 50S ribosomal protein L22

Chain S: 



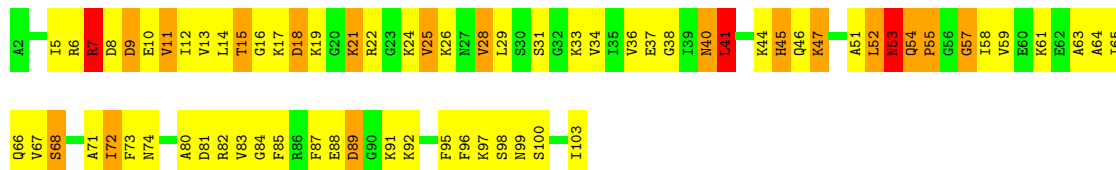
- Molecule 20: 50S ribosomal protein L23

Chain T: 



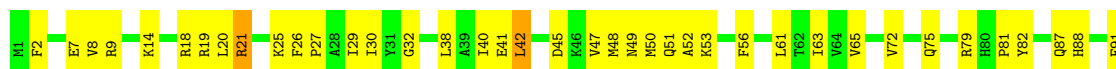
- Molecule 21: 50S ribosomal protein L24

Chain U: 



- Molecule 22: 50S ribosomal protein L25

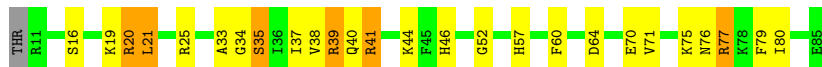
Chain V: 





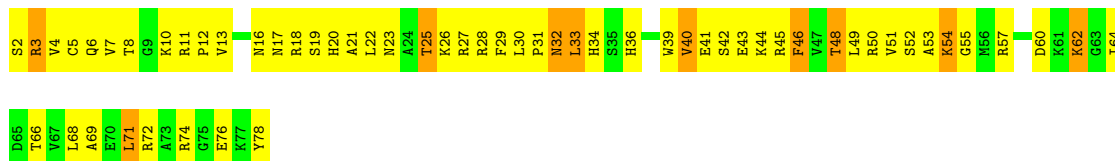
- Molecule 23: 50S ribosomal protein L27

Chain W:



- Molecule 24: 50S ribosomal protein L28

Chain X:



- Molecule 25: 50S ribosomal protein L29

Chain Y:



- Molecule 26: 50S ribosomal protein L30

Chain Z:



- Molecule 27: 50S ribosomal protein L32

Chain 0:



- Molecule 28: 50S ribosomal protein L33

Chain 1:



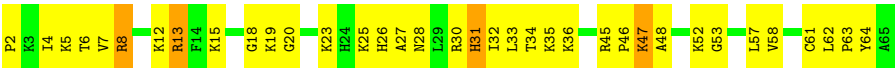
- Molecule 29: 50S ribosomal protein L34

Chain 2:



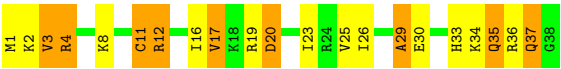
- Molecule 30: 50S ribosomal protein L35

Chain 3: 



- Molecule 31: 50S ribosomal protein L36

Chain 4: 



## 4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section will therefore be incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	211.79Å 433.06Å 623.86Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	69.33 – 2.90	Depositor
% Data completeness (in resolution range)	87.4 (69.33-2.90)	Depositor
$R_{merge}$	0.12	Depositor
$R_{sym}$	(Not available)	Depositor
Refinement program	PHENIX (phenix.refine: 1.8.1_1168)	Depositor
R, $R_{free}$	0.235 , 0.279	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	91704	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	84.0	wwPDB-VP

## 5 Model quality

### 5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z  > 5$	RMSZ	$\# Z  > 5$
1	A	0.40	0/69659	0.90	13/108672 (0.0%)
2	B	0.35	0/2828	0.85	0/4410
3	C	0.34	0/2122	0.60	0/2852
4	D	0.33	0/1586	0.57	0/2134
5	E	0.35	0/1571	0.59	0/2113
6	F	0.32	0/1435	0.52	0/1926
7	G	0.32	0/1343	0.53	0/1816
8	H	0.35	0/1121	0.56	0/1515
9	I	0.37	0/1046	0.61	0/1410
10	J	0.32	0/1152	0.59	0/1551
11	K	0.34	0/948	0.56	0/1268
12	L	0.34	0/1054	0.61	0/1403
13	M	0.31	0/1093	0.54	0/1460
14	N	0.35	0/974	0.58	0/1301
15	O	0.30	0/902	0.51	0/1209
16	P	0.35	0/929	0.58	0/1242
17	Q	0.33	0/960	0.53	0/1278
18	R	0.34	0/829	0.58	0/1107
19	S	0.34	0/864	0.59	0/1156
20	T	0.35	0/745	0.60	0/994
21	U	0.37	0/788	0.59	0/1051
22	V	0.30	0/766	0.50	0/1025
23	W	0.31	0/576	0.49	0/762
24	X	0.34	0/635	0.60	0/848
25	Y	0.34	0/510	0.58	0/677
26	Z	0.31	0/453	0.55	0/605
27	0	0.35	0/450	0.61	0/599
28	1	0.34	0/417	0.56	0/554
29	2	0.36	0/380	0.59	0/498
30	3	0.31	0/513	0.54	0/676
31	4	0.46	0/303	0.64	0/397
All	All	0.38	0/98952	0.83	13/148509 (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
4	D	0	1

There are no bond length outliers.

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	783	A	N1-C6-N6	6.63	122.58	118.60
1	A	729	G	O4'-C1'-N9	5.87	112.89	108.20
1	A	2447	G	C4-N9-C1'	-5.83	118.92	126.50
1	A	481	G	O4'-C1'-N9	5.74	112.79	108.20
1	A	2425	A	P-O3'-C3'	5.58	126.39	119.70
1	A	2447	G	C8-N9-C1'	5.55	134.21	127.00
1	A	143	C	N3-C4-C5	5.41	124.06	121.90
1	A	1314	C	C2-N1-C1'	5.37	124.71	118.80
1	A	2591	C	C6-N1-C2	-5.37	118.15	120.30
1	A	776	G	C4-N9-C1'	5.36	133.47	126.50
1	A	776	G	C8-N9-C1'	-5.31	120.10	127.00
1	A	1666	G	C4-N9-C1'	-5.18	119.77	126.50
1	A	2326	C	C6-N1-C2	-5.08	118.27	120.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	D	151	THR	Peptide

## 5.2 Close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	62195	0	31280	2083	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	2529	0	1281	64	0
3	C	2083	0	2154	140	0
4	D	1565	0	1616	85	0
5	E	1552	0	1619	108	0
6	F	1411	0	1444	53	0
7	G	1323	0	1371	62	0
8	H	1110	0	1148	93	0
9	I	1032	0	1085	76	0
10	J	1129	0	1162	55	0
11	K	939	0	1012	35	0
12	L	1045	0	1117	71	0
13	M	1074	0	1157	31	0
14	N	961	0	1000	69	0
15	O	892	0	923	48	0
16	P	917	0	962	49	0
17	Q	947	0	1019	56	0
18	R	816	0	839	52	0
19	S	857	0	922	43	0
20	T	739	0	807	54	0
21	U	780	0	831	71	0
22	V	753	0	780	24	0
23	W	569	0	581	20	0
24	X	625	0	652	67	0
25	Y	509	0	543	45	0
26	Z	449	0	488	16	0
27	0	444	0	458	26	0
28	1	410	0	440	19	0
29	2	377	0	418	28	0
30	3	504	0	572	31	0
31	4	302	0	342	21	0
32	A	38	0	0	4	0
33	2	1	0	0	0	0
33	A	166	0	0	0	0
33	B	3	0	0	0	0
33	Q	1	0	0	0	0
34	4	1	0	0	0	0
35	0	1	0	0	0	0
35	2	3	0	0	0	0
35	3	2	0	0	0	0
35	4	1	0	0	0	0
35	A	613	0	0	87	0
35	B	13	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
35	C	9	0	0	1	0
35	D	4	0	0	2	0
35	E	2	0	0	0	0
35	J	1	0	0	0	0
35	L	3	0	0	1	0
35	N	1	0	0	0	0
35	T	2	0	0	0	0
35	V	1	0	0	0	0
All	All	91704	0	60023	3361	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 23.

All (3361) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2711:A:OP2	35:A:3548:HOH:O	1.68	1.11
1:A:192:C:OP1	35:A:3738:HOH:O	1.69	1.08
1:A:1395:A:OP2	35:A:3403:HOH:O	1.72	1.07
4:D:151:THR:O	4:D:153:GLY:N	1.88	1.06
1:A:756:A:N7	35:A:3301:HOH:O	1.90	1.04
1:A:2588:G:OP1	35:A:3314:HOH:O	1.77	1.03
1:A:2262:U:OP1	23:W:41:ARG:NH2	1.95	1.00
1:A:370:G:N7	35:A:3560:HOH:O	1.92	0.99
1:A:1371:G:N7	35:A:3399:HOH:O	1.95	0.99
1:A:973:A:OP2	18:R:81:LYS:NZ	1.95	0.98
1:A:1010:A:OP2	35:A:3780:HOH:O	1.81	0.97
1:A:1006:C:OP2	35:A:3781:HOH:O	1.83	0.97
1:A:1823:G:N7	35:A:3654:HOH:O	1.96	0.97
8:H:40:THR:O	8:H:42:LYS:N	1.98	0.96
1:A:58:G:OP1	20:T:78:SER:OG	1.82	0.96
6:F:122:PHE:O	6:F:124:GLY:N	2.01	0.94
1:A:2004:G:OP2	35:A:3803:HOH:O	1.85	0.94
1:A:602:A:O2'	1:A:604:G:O2'	1.83	0.94
1:A:450:G:O6	35:A:3240:HOH:O	1.86	0.92
1:A:528:A:OP1	35:A:3244:HOH:O	1.87	0.91
8:H:83:LYS:HG3	8:H:149:GLU:CG	2.02	0.90
1:A:527:C:OP1	35:A:3245:HOH:O	1.90	0.89
1:A:2134:A:N6	1:A:2157:G:O2'	2.04	0.89
1:A:1602:U:O4	35:A:3713:HOH:O	1.88	0.89
1:A:2627:G:O2'	1:A:2781:A:N1	2.07	0.88
1:A:761:A:OP2	35:A:3295:HOH:O	1.92	0.87
8:H:83:LYS:HG3	8:H:149:GLU:HG2	1.56	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:161:A:H3'	1:A:162:U:H5''	1.57	0.86
1:A:1378:A:O2'	1:A:1380:G:N7	2.07	0.86
1:A:2006:C:OP1	35:A:3379:HOH:O	1.92	0.86
14:N:90:ARG:CZ	14:N:116:VAL:HG11	2.06	0.86
1:A:249:C:O5'	1:A:2394:C:O2'	1.94	0.85
2:B:28:C:OP1	15:O:36:TYR:OH	1.94	0.85
1:A:2271:G:O6	35:A:3509:HOH:O	1.94	0.85
1:A:310:A:O2'	1:A:311:A:OP2	1.94	0.85
1:A:1817:G:OP1	3:C:62:TYR:OH	1.92	0.85
1:A:2164:C:H2'	1:A:2165:C:C6	2.12	0.85
1:A:1266:G:O2'	1:A:2012:G:O6	1.95	0.85
29:2:43:THR:O	29:2:44:VAL:HB	1.77	0.84
14:N:87:PHE:O	14:N:89:SER:N	2.11	0.84
8:H:82:SER:O	8:H:84:ALA:N	2.10	0.83
1:A:618:G:O6	35:A:3291:HOH:O	1.96	0.83
1:A:2010:G:N7	35:A:3371:HOH:O	2.10	0.83
1:A:1827:U:O2'	1:A:1970:A:N3	2.11	0.83
1:A:732:C:OP2	35:A:3298:HOH:O	1.95	0.82
8:H:94:ILE:HB	8:H:122:LEU:HD12	1.60	0.82
13:M:66:ARG:NH1	13:M:104:GLU:OE1	2.11	0.82
1:A:866:A:O4'	1:A:914:G:N2	2.13	0.82
1:A:250:G:OP2	30:3:13:ARG:NH1	2.13	0.81
1:A:1325:U:OP1	1:A:1647:U:O2'	1.99	0.81
1:A:1847:A:HO2'	1:A:1848:A:H8	1.29	0.81
1:A:587:C:N3	12:L:33:ARG:NH2	2.28	0.81
7:G:170:ARG:NH1	31:4:29:ALA:O	2.14	0.81
1:A:822:G:OP2	35:A:3347:HOH:O	1.98	0.81
5:E:58:LYS:NZ	5:E:70:SER:O	2.12	0.81
1:A:1340:U:C5	1:A:1603:A:C8	2.69	0.80
18:R:8:GLY:O	18:R:10:LYS:NZ	2.15	0.80
7:G:158:LYS:O	7:G:160:LYS:N	2.15	0.80
5:E:76:PRO:HA	5:E:82:GLY:HA2	1.63	0.80
1:A:422:A:OP2	35:A:3561:HOH:O	1.98	0.79
1:A:2243:U:OP1	35:A:3738:HOH:O	1.99	0.79
1:A:1001:A:OP2	35:A:3732:HOH:O	2.01	0.79
3:C:157:SER:O	3:C:160:THR:OG1	1.99	0.79
1:A:2162:G:H4'	1:A:2163:A:OP1	1.83	0.79
1:A:668:A:N6	1:A:670:A:O2'	2.16	0.79
1:A:1315:C:O2'	1:A:1392:A:N3	2.16	0.78
1:A:1619:G:N7	35:A:3644:HOH:O	2.17	0.78
1:A:1342:A:OP2	35:A:3713:HOH:O	1.99	0.78
1:A:1823:G:C8	35:A:3654:HOH:O	2.34	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1009:A:N3	1:A:1153:C:O2'	2.15	0.78
1:A:613:A:OP2	1:A:614:A:N7	2.17	0.78
1:A:444:C:OP1	5:E:40:ARG:NH1	2.17	0.78
1:A:53:A:C8	1:A:54:G:C8	2.71	0.78
1:A:1607:C:N4	1:A:1622:G:N7	2.32	0.77
1:A:1019:U:O2	1:A:1142:A:N6	2.17	0.77
1:A:1265:A:OP1	35:A:3747:HOH:O	2.00	0.77
8:H:124:THR:OG1	8:H:125:THR:N	2.17	0.77
1:A:582:A:OP2	35:A:3283:HOH:O	2.02	0.77
1:A:2551:C:OP2	35:A:3720:HOH:O	2.02	0.77
1:A:27:G:O2'	1:A:28:A:OP2	2.03	0.77
1:A:1335:C:N4	35:A:3392:HOH:O	2.17	0.77
1:A:1359:A:C8	1:A:1373:A:C2	2.73	0.77
7:G:11:VAL:O	7:G:48:ASN:ND2	2.18	0.77
1:A:2575:C:OP2	35:A:3709:HOH:O	2.03	0.76
1:A:46:G:C2	1:A:47:C:C5	2.73	0.76
1:A:1258:U:H2'	1:A:1259:G:C8	2.20	0.76
8:H:1:MET:SD	8:H:27:ARG:NH1	2.58	0.76
1:A:1344:U:O2'	1:A:1345:C:OP2	2.03	0.76
1:A:2171:A:O2'	1:A:2173:A:OP1	2.02	0.76
1:A:618:G:N7	35:A:3289:HOH:O	2.18	0.76
8:H:53:GLU:O	8:H:55:GLU:N	2.19	0.76
1:A:1377:G:OP2	35:A:3394:HOH:O	2.04	0.76
1:A:2057:G:OP2	35:A:3486:HOH:O	2.03	0.76
8:H:45:GLU:O	8:H:49:ALA:N	2.19	0.76
1:A:1248:G:C4	17:Q:3:ARG:HG3	2.20	0.75
1:A:1154:G:OP2	17:Q:58:ARG:NH1	2.19	0.75
1:A:118:A:C8	1:A:119:A:C8	2.73	0.75
1:A:2209:G:C2	1:A:2216:G:C2	2.73	0.75
14:N:20:MET:HG3	14:N:21:PHE:N	2.02	0.75
1:A:447:A:H5'	1:A:449:A:C5	2.21	0.75
1:A:1289:C:O2'	1:A:1330:C:H4'	1.87	0.75
1:A:1091:G:O2'	1:A:1092:C:OP2	2.04	0.74
1:A:1476:U:H1'	1:A:1732:C:C2	2.20	0.74
2:B:29:A:O2'	2:B:58:A:N1	2.19	0.74
1:A:2286:G:H4'	1:A:2287:A:O5'	1.87	0.74
2:B:48:U:H4'	15:O:100:HIS:CD2	2.22	0.74
4:D:33:ARG:NH2	4:D:74:GLU:O	2.21	0.74
1:A:1315:C:OP2	35:A:3762:HOH:O	2.06	0.74
1:A:2125:G:N1	1:A:2171:A:OP1	2.20	0.73
1:A:1060:U:H4'	1:A:1061:U:H5'	1.70	0.73
1:A:1378:A:O2'	35:A:3753:HOH:O	2.06	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1428:C:O2'	1:A:1569:A:OP2	2.02	0.73
1:A:2284:A:O2'	1:A:2288:A:N1	2.19	0.73
11:K:70:ARG:HD3	11:K:76:VAL:HB	1.69	0.73
1:A:2269:G:OP1	35:A:3508:HOH:O	2.06	0.73
8:H:32:PRO:HB3	24:X:39:TRP:HB3	1.71	0.73
1:A:2720:U:OP1	16:P:53:ARG:NH2	2.22	0.73
20:T:17:SER:O	20:T:19:LYS:N	2.22	0.73
1:A:1450:G:C6	1:A:1451:C:N4	2.57	0.72
1:A:488:G:N2	1:A:493:G:O6	2.22	0.72
1:A:1435:G:C2'	1:A:1436:G:H5'	2.19	0.72
1:A:826:U:O2'	12:L:53:GLY:HA3	1.89	0.72
1:A:1167:C:H2'	1:A:1168:G:H5'	1.70	0.72
1:A:2268:A:OP1	35:A:3508:HOH:O	2.07	0.72
4:D:148:GLN:N	4:D:148:GLN:OE1	2.23	0.72
8:H:31:VAL:HB	8:H:32:PRO:CD	2.20	0.72
20:T:54:GLU:HB3	20:T:88:LYS:HG3	1.72	0.72
1:A:1097:U:C5	1:A:1098:A:H1'	2.25	0.71
18:R:58:VAL:HG13	18:R:102:SER:HB2	1.72	0.71
21:U:38:GLY:HA2	21:U:41:LEU:HD21	1.71	0.71
3:C:70:ASN:O	3:C:72:ASP:N	2.23	0.71
1:A:2843:G:N2	1:A:2875:C:C2	2.58	0.71
2:B:7:G:H5'	15:O:29:HIS:CE1	2.25	0.71
1:A:846:U:O2'	1:A:847:U:O5'	2.08	0.71
1:A:564:C:O4'	17:Q:37:GLN:NE2	2.23	0.71
1:A:2750:A:O2'	1:A:2752:C:N4	2.24	0.71
1:A:1153:C:P	35:A:3360:HOH:O	2.48	0.70
27:O:55:ILE:HG22	27:O:56:ALA:N	2.06	0.70
1:A:1935:G:H1'	1:A:1964:G:N2	2.06	0.70
1:A:488:G:C2	1:A:493:G:O6	2.45	0.70
21:U:7:ARG:O	21:U:25:VAL:HB	1.92	0.70
1:A:2143:C:H2'	1:A:2144:G:O4'	1.92	0.70
3:C:45:ASN:OD1	3:C:46:ASN:N	2.25	0.70
10:J:80:HIS:O	10:J:82:GLY:N	2.25	0.70
1:A:1187:G:N7	35:A:3578:HOH:O	2.24	0.70
1:A:1738:G:O2'	1:A:1739:A:O5'	2.09	0.70
1:A:2226:C:H2'	1:A:2227:A:O4'	1.90	0.70
1:A:1317:G:H2'	1:A:1318:U:O4'	1.91	0.70
1:A:197:A:H62	1:A:2430:A:H2'	1.56	0.69
1:A:2507:C:OP1	35:A:3710:HOH:O	2.08	0.69
1:A:469:G:O6	29:2:37:LYS:HE2	1.92	0.69
9:I:69:PHE:CD1	9:I:69:PHE:N	2.60	0.69
1:A:2575:C:OP1	35:A:3711:HOH:O	2.10	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:21:ARG:O	5:E:114:ARG:NH2	2.24	0.69
24:X:27:ARG:NE	24:X:28:ARG:O	2.25	0.69
4:D:151:THR:HG22	4:D:152:PRO:CD	2.22	0.69
1:A:1682:G:H2'	1:A:1683:U:C6	2.28	0.69
1:A:1638:C:H4'	1:A:2710:C:O2	1.93	0.69
1:A:733:G:OP2	35:A:3296:HOH:O	2.10	0.69
1:A:777:G:C2	1:A:778:G:C8	2.81	0.69
8:H:27:ARG:HE	24:X:60:ASP:CG	1.96	0.69
1:A:1010:A:N7	35:A:3778:HOH:O	2.26	0.68
1:A:479:A:H4'	1:A:480:A:OP1	1.93	0.68
1:A:21:A:C2	1:A:520:G:C2	2.80	0.68
12:L:77:ILE:HG23	12:L:81:ASP:OD2	1.93	0.68
1:A:2261:C:C2	1:A:2280:G:N2	2.62	0.68
4:D:12:THR:OG1	4:D:13:ARG:N	2.23	0.68
2:B:57:A:H1'	6:F:27:GLN:HA	1.75	0.68
1:A:834:G:H1'	1:A:2358:A:N3	2.08	0.68
14:N:76:VAL:HA	14:N:79:LEU:HD12	1.76	0.68
17:Q:79:PHE:CZ	17:Q:83:LEU:HD11	2.28	0.68
1:A:764:A:N1	1:A:1789:A:O2'	2.27	0.68
1:A:485:C:C2	1:A:496:G:N2	2.62	0.68
4:D:140:HIS:NE2	35:D:302:HOH:O	2.13	0.68
1:A:1411:U:H2'	1:A:1412:U:O4'	1.93	0.68
1:A:1060:U:O4'	1:A:1062:G:H5'	1.94	0.67
1:A:686:U:OP2	35:A:3718:HOH:O	2.11	0.67
1:A:724:U:H2'	1:A:725:G:O4'	1.94	0.67
1:A:948:C:O2	1:A:984:A:O2'	2.11	0.67
3:C:16:VAL:HG22	3:C:206:GLY:HA3	1.76	0.67
18:R:81:LYS:N	18:R:81:LYS:HD3	2.10	0.67
14:N:117:ASP:O	14:N:118:ARG:HB2	1.94	0.67
1:A:1469:A:H2'	1:A:1470:A:C8	2.30	0.67
1:A:1380:G:OP2	35:A:3753:HOH:O	2.12	0.67
1:A:1809:A:C6	1:A:1810:A:C6	2.83	0.67
1:A:1826:G:C5	1:A:1827:U:C5	2.82	0.67
3:C:69:ARG:HD3	3:C:104:ILE:HG21	1.74	0.67
3:C:30:PHE:CE2	3:C:32:PRO:HG2	2.29	0.67
1:A:1645:G:OP1	1:A:1646:C:H5'	1.95	0.67
6:F:32:GLU:OE1	6:F:92:ARG:NH1	2.28	0.67
1:A:1096:A:H2'	1:A:1097:U:O4'	1.95	0.66
1:A:2838:G:OP1	35:A:3806:HOH:O	2.13	0.66
20:T:14:PRO:HD2	25:Y:33:ALA:HB1	1.76	0.66
1:A:1395:A:O2'	1:A:1397:U:C6	2.48	0.66
1:A:2757:A:N1	7:G:67:THR:HG21	2.10	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:W:21:LEU:HA	23:W:39:ARG:HB2	1.77	0.66
1:A:1139:G:N2	1:A:1140:C:C2	2.63	0.66
18:R:49:ILE:HG22	18:R:54:VAL:N	2.10	0.66
1:A:46:G:C2	1:A:47:C:C6	2.84	0.66
1:A:187:G:C2	1:A:210:C:C2	2.83	0.66
1:A:2163:A:OP1	1:A:2171:A:C8	2.49	0.66
1:A:2690:U:C4	1:A:2873:A:N1	2.63	0.66
1:A:617:G:O6	35:A:3286:HOH:O	2.09	0.66
1:A:1973:G:C6	1:A:1974:C:C4	2.84	0.66
6:F:111:ILE:HB	6:F:114:PHE:HB2	1.78	0.66
1:A:1871:A:O2'	1:A:1872:A:N7	2.29	0.66
1:A:2125:G:H5'	1:A:2126:A:OP2	1.96	0.66
2:B:84:G:N2	2:B:93:C:C2	2.64	0.66
1:A:1429:G:N7	3:C:28:LYS:NZ	2.44	0.65
1:A:269:C:N3	1:A:270:A:C8	2.63	0.65
1:A:748:G:C8	19:S:89:ALA:HB1	2.31	0.65
16:P:29:LYS:HB3	16:P:40:LEU:HD21	1.78	0.65
17:Q:47:TYR:CZ	17:Q:51:ARG:CZ	2.79	0.65
1:A:1274:A:N3	1:A:1297:C:H1'	2.11	0.65
1:A:2346:A:H3'	1:A:2347:C:C5'	2.26	0.65
1:A:24:G:C5	1:A:25:U:C5	2.85	0.65
1:A:247:G:H4'	1:A:386:G:C5	2.31	0.65
1:A:996:A:C2	1:A:997:G:C8	2.83	0.65
3:C:210:ALA:HA	3:C:213:TRP:CE2	2.30	0.65
15:O:92:PHE:HB2	15:O:117:PHE:CD1	2.31	0.65
31:4:30:GLU:HB3	31:4:33:HIS:CD2	2.31	0.65
1:A:2344:U:H4'	1:A:2345:G:OP1	1.96	0.65
1:A:990:A:N1	18:R:78:ARG:NH1	2.44	0.65
3:C:62:TYR:CE1	3:C:63:ARG:O	2.49	0.65
1:A:2225:A:H4'	1:A:2226:C:O5'	1.96	0.65
1:A:514:A:N3	1:A:581:C:O2'	2.23	0.65
2:B:34:A:N6	2:B:44:G:O2'	2.30	0.65
1:A:1693:U:O4	1:A:1976:U:O2'	2.12	0.65
1:A:352:A:H2'	1:A:353:C:O4'	1.96	0.65
3:C:61:ALA:O	3:C:63:ARG:NH2	2.30	0.65
9:I:69:PHE:N	9:I:69:PHE:HD1	1.94	0.65
12:L:29:LYS:O	12:L:30:THR:OG1	2.12	0.65
1:A:2136:G:N1	1:A:2156:G:H1'	2.12	0.65
1:A:1427:A:N6	1:A:1571:A:OP2	2.29	0.65
1:A:1477:A:N6	1:A:1514:G:O2'	2.30	0.65
1:A:2291:U:H2'	1:A:2292:U:C6	2.32	0.65
11:K:76:VAL:HG12	16:P:73:VAL:CG2	2.26	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1809:A:H2'	1:A:1810:A:C8	2.32	0.64
1:A:204:A:H5'	1:A:206:U:O4'	1.96	0.64
1:A:2681:C:C2	1:A:2724:U:O4	2.50	0.64
19:S:41:LYS:O	19:S:44:ALA:N	2.30	0.64
19:S:73:LYS:HB2	19:S:106:VAL:HB	1.80	0.64
1:A:1992:G:N2	1:A:1996:C:O2'	2.30	0.64
1:A:2346:A:H3'	1:A:2347:C:H5'	1.77	0.64
1:A:247:G:H4'	1:A:386:G:C4	2.33	0.64
1:A:2063:C:H2'	1:A:2063:C:O2	1.97	0.64
1:A:2127:G:H4'	1:A:2128:G:OP1	1.96	0.64
1:A:1251:C:OP2	17:Q:6:ARG:NH2	2.30	0.64
23:W:52:GLY:HA3	23:W:60:PHE:CZ	2.32	0.64
1:A:1127:A:C2'	1:A:1128:G:H5''	2.27	0.64
1:A:2436:G:C2	1:A:2437:G:C8	2.85	0.64
7:G:159:GLY:O	7:G:163:ARG:NH1	2.30	0.64
1:A:118:A:N3	1:A:178:G:H1'	2.13	0.64
1:A:1530:G:N2	1:A:1542:U:O2	2.31	0.64
1:A:370:G:C6	1:A:424:G:N7	2.66	0.64
1:A:1359:A:C8	1:A:1373:A:N1	2.66	0.64
1:A:151:C:H2'	1:A:152:A:C8	2.32	0.64
1:A:1570:A:H2'	1:A:1571:A:C8	2.32	0.64
1:A:2282:G:N3	1:A:2425:A:N6	2.46	0.64
1:A:192:C:O2'	1:A:802:A:N3	2.29	0.64
21:U:9:ASP:OD2	21:U:10:GLU:N	2.31	0.64
1:A:1339:G:O4'	1:A:1393:A:C2	2.51	0.64
1:A:1774:C:O2	3:C:11:PRO:HB2	1.97	0.64
10:J:142:ILE:OXT	10:J:142:ILE:HG23	1.96	0.64
25:Y:56:LEU:O	25:Y:57:LEU:CB	2.46	0.64
1:A:1141:U:H4'	1:A:1142:A:O4'	1.97	0.64
1:A:1181:U:H2'	1:A:1182:G:C8	2.33	0.64
3:C:147:LYS:HB2	3:C:150:LYS:HB2	1.80	0.64
8:H:117:LEU:CD1	8:H:130:VAL:HG22	2.28	0.64
24:X:33:LEU:O	24:X:34:HIS:CG	2.51	0.64
1:A:526:A:N6	1:A:2626:C:H4'	2.13	0.64
1:A:1300:G:O6	1:A:1626:A:O2'	2.11	0.63
1:A:1651:G:C6	1:A:1652:A:C5	2.87	0.63
1:A:2788:C:H2'	1:A:2789:C:C6	2.33	0.63
1:A:1178:C:H2'	1:A:1179:G:C8	2.33	0.63
1:A:563:A:C4	1:A:2018:G:C2	2.86	0.63
1:A:717:C:N4	1:A:718:A:C2	2.67	0.63
1:A:1187:G:H5''	18:R:83:TYR:CE2	2.33	0.63
1:A:2328:A:H2'	1:A:2329:U:C6	2.33	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:197:A:N6	1:A:2430:A:H2'	2.12	0.63
1:A:616:A:H4'	5:E:101:TYR:CZ	2.34	0.63
16:P:39:ARG:HG3	16:P:40:LEU:H	1.64	0.63
1:A:12:U:H2'	1:A:12:U:O2	1.98	0.63
1:A:2211:A:H1'	1:A:2212:A:OP1	1.99	0.63
1:A:2311:A:O2'	1:A:2312:U:P	2.56	0.63
1:A:310:A:H5''	21:U:15:THR:HG22	1.80	0.63
28:1:10:LYS:O	28:1:51:GLU:HG2	1.98	0.63
1:A:420:C:H2'	1:A:421:C:H6	1.64	0.63
1:A:753:A:C2	1:A:754:U:C2	2.86	0.63
3:C:93:LEU:HD13	3:C:103:TYR:CE1	2.34	0.63
25:Y:9:LYS:HB3	25:Y:12:GLU:HG2	1.80	0.63
1:A:2135:A:C2	1:A:2136:G:H1'	2.34	0.63
1:A:2308:G:H5''	1:A:2309:A:OP2	1.98	0.63
1:A:2428:G:H5''	1:A:2429:G:OP1	1.99	0.63
1:A:528:A:C2	1:A:2043:C:H4'	2.33	0.63
1:A:1789:A:H5''	3:C:219:THR:O	1.99	0.63
8:H:117:LEU:HG	8:H:120:GLY:O	1.98	0.63
15:O:100:HIS:CD2	15:O:101:GLY:N	2.66	0.63
1:A:152:A:C2	1:A:175:G:C2	2.87	0.63
1:A:945:A:C8	1:A:2448:A:C2	2.86	0.63
1:A:306:U:O2	1:A:312:G:N2	2.31	0.63
16:P:22:PRO:HA	16:P:47:VAL:HG12	1.79	0.63
1:A:1320:C:N4	1:A:1333:G:C6	2.67	0.62
1:A:2499:C:N4	1:A:2500:U:O4	2.32	0.62
1:A:305:C:H1'	1:A:313:G:N2	2.14	0.62
1:A:594:U:H2'	1:A:595:C:C6	2.34	0.62
1:A:2349:G:OP1	30:3:45:ARG:NH2	2.32	0.62
1:A:1805:A:C2	1:A:1813:G:C2	2.87	0.62
1:A:1805:A:N3	1:A:1813:G:C2	2.67	0.62
1:A:1649:G:C6	1:A:2009:A:C6	2.86	0.62
1:A:1153:C:H5'	17:Q:62:ILE:HD13	1.80	0.62
2:B:81:G:C5	2:B:82:U:C5	2.88	0.62
12:L:81:ASP:O	12:L:82:LEU:HB3	1.98	0.62
1:A:2689:U:H4'	1:A:2690:U:OP2	1.99	0.62
1:A:811:U:O2	1:A:1251:C:C5	2.52	0.62
3:C:24:LEU:HD21	3:C:90:ASN:ND2	2.13	0.62
7:G:70:ALA:O	7:G:74:SER:OG	2.10	0.62
1:A:228:C:H4'	1:A:229:C:H5''	1.82	0.62
1:A:2899:A:H2'	1:A:2900:A:C8	2.34	0.62
17:Q:58:ARG:NH2	17:Q:92:ARG:CZ	2.62	0.62
19:S:28:LYS:O	19:S:30:SER:N	2.33	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1182:G:H2'	1:A:1183:U:O4'	1.99	0.62
1:A:503:A:C4	1:A:506:G:N7	2.68	0.62
1:A:642:U:O2'	1:A:644:A:N7	2.25	0.62
1:A:674:G:H1'	5:E:69:ARG:HD3	1.82	0.62
12:L:85:VAL:O	12:L:86:GLU:HB3	1.98	0.62
1:A:1027:A:C6	1:A:1126:A:N3	2.67	0.62
1:A:1064:C:N3	1:A:1074:G:N2	2.48	0.62
1:A:301:G:H1'	1:A:302:C:C6	2.35	0.62
1:A:983:A:N6	1:A:984:A:C2	2.68	0.62
20:T:64:LYS:HD2	20:T:79:ASP:OD1	2.00	0.62
1:A:1197:G:H2'	1:A:1198:U:C6	2.35	0.62
1:A:2164:C:H2'	1:A:2165:C:H6	1.59	0.62
1:A:1045:C:H1'	1:A:1047:G:C6	2.35	0.62
1:A:1187:G:OP1	18:R:85:LYS:HE3	2.00	0.62
1:A:1515:A:O2'	1:A:1556:C:O2'	2.09	0.62
1:A:2093:G:O2'	1:A:2094:A:H5'	2.00	0.62
1:A:185:G:C6	1:A:212:G:C2	2.88	0.62
1:A:910:A:N3	1:A:2264:C:O2'	2.32	0.62
4:D:104:VAL:O	4:D:105:LYS:CB	2.47	0.62
17:Q:27:ALA:HB1	17:Q:31:VAL:HB	1.82	0.62
1:A:2091:C:H3'	1:A:2092:U:H5''	1.82	0.61
1:A:377:G:C6	1:A:378:C:C4	2.88	0.61
1:A:67:U:C2	1:A:68:G:C8	2.88	0.61
2:B:22:U:O4	35:B:302:HOH:O	2.12	0.61
1:A:2636:C:H2'	1:A:2637:U:C6	2.36	0.61
29:2:15:SER:OG	29:2:16:HIS:CE1	2.53	0.61
1:A:1094:U:H2'	1:A:1096:A:OP2	1.99	0.61
1:A:1607:C:O2	1:A:1621:U:C5	2.52	0.61
1:A:2005:A:OP1	35:A:3383:HOH:O	2.16	0.61
1:A:2812:G:N2	1:A:2889:C:C2	2.69	0.61
1:A:2889:C:H2'	1:A:2890:G:C8	2.35	0.61
1:A:297:G:H5''	21:U:85:PHE:HB2	1.82	0.61
2:B:25:U:C4	2:B:26:C:C4	2.88	0.61
8:H:32:PRO:O	8:H:33:GLN:CB	2.48	0.61
1:A:2250:G:OP1	13:M:84:LYS:NZ	2.33	0.61
1:A:400:G:N7	24:X:57:ARG:NH1	2.47	0.61
26:Z:14:ILE:HG22	26:Z:15:GLY:N	2.16	0.61
14:N:98:LEU:HD13	27:O:54:VAL:HG21	1.82	0.61
1:A:1394:U:H4'	1:A:1603:A:H4'	1.82	0.61
1:A:2112:G:N3	1:A:2112:G:H2'	2.16	0.61
1:A:2283:C:C2	1:A:2389:G:C2	2.88	0.61
1:A:2874:C:H2'	1:A:2875:C:C6	2.36	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1355:G:C2	1:A:1356:G:C8	2.88	0.61
1:A:1435:G:H2'	1:A:1436:G:H5'	1.82	0.61
1:A:2343:U:O2'	1:A:2373:G:O2'	2.11	0.61
1:A:593:U:H2'	1:A:594:U:C6	2.36	0.61
15:O:33:ARG:O	15:O:34:HIS:HB2	2.01	0.61
18:R:42:ALA:HA	18:R:46:GLU:HA	1.83	0.61
25:Y:28:LEU:CD1	25:Y:46:VAL:HG21	2.31	0.61
28:1:4:GLY:O	28:1:6:ARG:N	2.25	0.61
1:A:2537:U:H2'	1:A:2538:C:C6	2.36	0.61
1:A:30:G:C6	1:A:31:C:N3	2.69	0.61
1:A:783:A:O2'	1:A:1779:U:O2	2.16	0.61
1:A:485:C:N3	1:A:496:G:C2	2.68	0.61
1:A:536:G:N2	1:A:558:U:C2	2.68	0.61
3:C:2:ALA:HA	3:C:199:GLU:OE2	2.00	0.61
1:A:1027:A:N7	1:A:1126:A:C2	2.67	0.61
1:A:1599:U:C4	1:A:1600:C:N4	2.68	0.61
1:A:373:U:C2	1:A:374:A:C8	2.88	0.61
1:A:1801:A:C5	3:C:262:ARG:NH2	2.68	0.61
1:A:1599:U:O4	1:A:1600:C:N4	2.34	0.61
1:A:482:A:N6	1:A:506:G:O2'	2.33	0.61
1:A:565:C:H4'	1:A:1253:A:N6	2.16	0.61
8:H:83:LYS:H	8:H:149:GLU:HG2	1.64	0.61
1:A:2209:G:N2	1:A:2216:G:N3	2.48	0.61
5:E:131:THR:HA	5:E:160:ALA:HB1	1.83	0.61
5:E:52:VAL:HG21	5:E:81:GLY:HA2	1.83	0.61
1:A:1806:C:C5	1:A:1807:G:C8	2.89	0.60
1:A:2038:G:H2'	1:A:2039:U:O4'	1.99	0.60
1:A:235:U:C4	1:A:236:C:C5	2.89	0.60
4:D:78:GLY:HA3	4:D:80:TRP:CH2	2.35	0.60
1:A:2817:U:O2	1:A:2836:U:H1'	2.00	0.60
28:1:38:LYS:HB2	28:1:49:TYR:CD2	2.36	0.60
1:A:1317:G:C2	1:A:1336:A:C2	2.88	0.60
1:A:1779:U:H5	1:A:1784:A:N7	1.99	0.60
1:A:195:A:C6	1:A:198:C:C5	2.89	0.60
1:A:1663:G:C6	1:A:1992:G:N7	2.68	0.60
3:C:237:GLY:O	3:C:239:ASN:N	2.34	0.60
14:N:1:MET:O	14:N:3:HIS:N	2.34	0.60
19:S:7:HIS:HB2	19:S:50:VAL:HG21	1.81	0.60
1:A:2138:G:N2	1:A:2154:A:H1'	2.16	0.60
1:A:2212:A:C2	1:A:2214:C:C4	2.89	0.60
1:A:749:A:C5	1:A:750:A:N7	2.70	0.60
1:A:938:G:C2	1:A:939:G:N7	2.69	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1199:U:H2'	1:A:1200:C:C6	2.37	0.60
1:A:2199:A:C6	1:A:2200:C:C2	2.89	0.60
1:A:2815:C:HO2'	27:0:41:HIS:HD1	1.47	0.60
1:A:2819:G:OP1	35:A:3808:HOH:O	2.16	0.60
1:A:856:G:N2	1:A:922:C:C2	2.70	0.60
1:A:2019:A:H4'	17:Q:34:VAL:HG21	1.83	0.60
1:A:2033:A:OP2	35:A:3476:HOH:O	2.16	0.60
1:A:2420:C:OP1	30:3:34:THR:HB	2.01	0.60
1:A:2474:U:H5''	1:A:2475:C:OP2	2.02	0.60
1:A:247:G:N7	1:A:249:C:C2	2.69	0.60
1:A:1993:U:H4'	4:D:133:THR:CG2	2.32	0.60
1:A:1995:U:OP1	35:A:3810:HOH:O	2.17	0.60
1:A:60:G:O2'	1:A:62:U:OP2	2.14	0.60
20:T:34:VAL:HG21	20:T:43:ILE:HD11	1.84	0.60
1:A:1847:A:O2'	1:A:1848:A:H8	1.84	0.60
18:R:39:LEU:HA	18:R:49:ILE:HG21	1.83	0.60
21:U:11:VAL:HG12	21:U:72:ILE:HA	1.82	0.60
25:Y:11:VAL:O	25:Y:15:ASN:ND2	2.34	0.60
27:0:55:ILE:O	27:0:56:ALA:HB3	2.01	0.60
1:A:2004:G:P	35:A:3803:HOH:O	2.55	0.60
1:A:2502:G:H5'	1:A:2503:A:H5''	1.83	0.60
1:A:2552:U:C2	1:A:2554:U:H5'	2.37	0.60
3:C:247:PRO:HG2	3:C:248:TRP:CZ3	2.36	0.60
21:U:44:LYS:O	21:U:58:ILE:HA	2.01	0.60
27:0:55:ILE:O	27:0:56:ALA:CB	2.50	0.60
1:A:13:A:N1	1:A:525:U:H2'	2.17	0.60
1:A:1373:A:H2'	1:A:1374:G:O4'	2.01	0.59
1:A:1856:U:O4	1:A:1857:G:C6	2.55	0.59
1:A:2262:U:N3	1:A:2279:G:C2	2.70	0.59
8:H:126:GLY:O	8:H:146:VAL:HG23	2.00	0.59
8:H:126:GLY:O	8:H:146:VAL:N	2.35	0.59
1:A:2845:U:H5''	16:P:52:ASN:O	2.02	0.59
1:A:1805:A:N3	1:A:1813:G:N2	2.50	0.59
1:A:2311:A:C2	6:F:79:ILE:HG21	2.37	0.59
20:T:44:LYS:HE3	20:T:55:VAL:HB	1.84	0.59
1:A:1019:U:OP1	1:A:1035:U:O2'	2.10	0.59
1:A:1584:U:H3'	1:A:1584:U:O2	2.03	0.59
1:A:2415:G:C6	1:A:2416:C:C4	2.90	0.59
1:A:753:A:H2'	1:A:754:U:C6	2.37	0.59
10:J:110:PRO:O	10:J:115:GLY:HA3	2.02	0.59
17:Q:47:TYR:OH	17:Q:51:ARG:NH1	2.34	0.59
19:S:33:LEU:HD21	19:S:52:GLU:CG	2.32	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:186:G:C2	1:A:211:C:C2	2.90	0.59
1:A:219:A:N6	1:A:220:G:C6	2.70	0.59
18:R:47:VAL:O	18:R:47:VAL:CG1	2.49	0.59
1:A:132:G:N2	1:A:148:U:C2	2.70	0.59
1:A:1529:G:C6	1:A:1543:G:N2	2.70	0.59
1:A:2272:U:H5''	1:A:2273:A:OP1	2.03	0.59
1:A:2873:A:H4'	35:A:3807:HOH:O	2.03	0.59
6:F:10:ASP:OD2	6:F:11:GLU:HG3	2.02	0.59
1:A:1109:C:C4	1:A:1110:G:C6	2.90	0.59
1:A:1173:U:O2'	1:A:1176:U:O2	2.12	0.59
1:A:142:A:H2'	1:A:143:C:C6	2.37	0.59
3:C:67:PHE:HB3	3:C:151:GLY:O	2.02	0.59
6:F:131:GLY:HA2	6:F:153:ASP:HA	1.84	0.59
1:A:2079:U:H2'	1:A:2080:A:O4'	2.03	0.59
1:A:2146:C:H5''	1:A:2147:A:OP1	2.02	0.59
1:A:2464:G:H2'	1:A:2465:C:O4'	2.02	0.59
9:I:39:CYS:HA	9:I:42:PHE:HB3	1.83	0.59
9:I:6:GLN:O	9:I:7:ALA:CB	2.51	0.59
12:L:77:ILE:O	12:L:110:VAL:O	2.20	0.59
1:A:1432:G:H2'	1:A:1433:A:C8	2.38	0.59
1:A:2199:A:C4	1:A:2225:A:C2	2.90	0.59
1:A:2415:G:C2	1:A:2416:C:C2	2.91	0.59
1:A:279:A:C2	1:A:362:A:H4'	2.38	0.59
4:D:151:THR:O	4:D:152:PRO:C	2.39	0.59
16:P:65:SER:O	16:P:67:GLY:N	2.36	0.59
1:A:1638:C:O2	1:A:2698:U:O2'	2.08	0.59
1:A:2345:G:C6	1:A:2347:C:N4	2.71	0.59
1:A:2585:U:HO2'	1:A:2586:U:P	2.26	0.59
2:B:58:A:H2'	2:B:59:A:O4'	2.03	0.59
1:A:1823:G:O6	35:A:3658:HOH:O	2.16	0.59
1:A:2819:G:H2'	1:A:2821:A:N7	2.18	0.59
1:A:590:A:C6	1:A:591:U:C4	2.90	0.59
1:A:608:A:H2'	1:A:609:A:C8	2.37	0.59
3:C:226:ASN:ND2	35:C:304:HOH:O	2.24	0.59
3:C:43:ARG:NH2	3:C:49:ILE:HD11	2.18	0.59
1:A:2032:G:H1'	4:D:150:GLN:NE2	2.18	0.58
1:A:248:G:H5'	1:A:250:G:N7	2.18	0.58
1:A:720:U:H2'	1:A:721:A:C8	2.38	0.58
1:A:2531:A:H5'	7:G:157:TYR:CZ	2.38	0.58
12:L:59:ARG:CZ	12:L:59:ARG:HB3	2.33	0.58
1:A:1911:U:H2'	1:A:1918:A:C2	2.39	0.58
1:A:771:G:C2	1:A:772:C:C6	2.91	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:34:GLY:O	8:H:35:LYS:CB	2.51	0.58
10:J:31:GLU:HG3	10:J:142:ILE:HD11	1.85	0.58
1:A:297:G:H5''	21:U:85:PHE:CB	2.34	0.58
1:A:2031:A:C6	1:A:2498:C:H1'	2.38	0.58
1:A:388:G:N7	1:A:390:U:H2'	2.18	0.58
1:A:792:A:H1'	1:A:2072:C:O2'	2.03	0.58
3:C:15:HIS:O	3:C:204:VAL:HG21	2.03	0.58
18:R:61:ALA:HB2	18:R:98:ILE:HD13	1.85	0.58
1:A:1366:A:C4	1:A:1367:A:C8	2.91	0.58
1:A:2234:G:C6	1:A:2235:G:N7	2.72	0.58
1:A:655:A:H4'	1:A:656:G:OP1	2.03	0.58
1:A:533:G:H5'	17:Q:24:TYR:CE2	2.39	0.58
19:S:84:ARG:HB2	19:S:96:ILE:HG12	1.85	0.58
1:A:1439:A:N7	1:A:1552:A:H2	2.01	0.58
1:A:35:G:H1'	1:A:454:A:C4	2.39	0.58
1:A:607:U:O4	1:A:619:G:H2'	2.03	0.58
3:C:34:LEU:O	3:C:35:GLU:HB3	2.04	0.58
4:D:14:ILE:HG12	4:D:24:VAL:HG21	1.86	0.58
5:E:108:ILE:HD13	5:E:181:ILE:HG12	1.86	0.58
16:P:92:VAL:HG21	16:P:97:LEU:HD11	1.84	0.58
1:A:2683:C:OP1	16:P:56:HIS:HB3	2.03	0.58
4:D:151:THR:HG22	4:D:152:PRO:N	2.18	0.58
25:Y:9:LYS:N	25:Y:12:GLU:HG3	2.19	0.58
1:A:1056:G:N1	1:A:1102:C:OP2	2.36	0.58
1:A:1809:A:N6	1:A:1810:A:C6	2.72	0.58
1:A:186:G:N2	1:A:211:C:C2	2.71	0.58
1:A:301:G:C2	1:A:302:C:C2	2.91	0.58
1:A:21:A:C2	1:A:520:G:N3	2.71	0.58
1:A:776:G:C8	1:A:793:A:C4	2.91	0.58
1:A:575:A:C2	1:A:576:U:C6	2.92	0.58
10:J:34:ARG:O	10:J:39:LYS:HB2	2.02	0.58
14:N:118:ARG:O	14:N:119:SER:CB	2.52	0.58
1:A:1682:G:C2	1:A:1757:A:O4'	2.57	0.58
1:A:24:G:C6	1:A:25:U:C4	2.92	0.58
4:D:30:GLU:HG2	4:D:185:ASN:ND2	2.19	0.58
1:A:1606:C:C2'	1:A:1607:C:OP2	2.51	0.58
1:A:1809:A:C5	1:A:1810:A:C5	2.92	0.58
1:A:2468:A:C2	1:A:2481:G:C2	2.92	0.58
7:G:24:ILE:HD11	7:G:43:VAL:HG11	1.85	0.58
10:J:84:ILE:HG13	10:J:84:ILE:O	2.04	0.58
17:Q:47:TYR:CZ	17:Q:51:ARG:NH1	2.72	0.58
1:A:328:U:O3'	21:U:66:GLN:HG3	2.04	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:X:41:GLU:O	24:X:44:LYS:HD2	2.04	0.58
1:A:1776:G:N2	1:A:1789:A:H1'	2.19	0.57
1:A:2297:A:N1	1:A:2321:U:C5	2.71	0.57
1:A:503:A:N3	1:A:506:G:C8	2.72	0.57
1:A:574:A:P	35:A:3263:HOH:O	2.62	0.57
17:Q:76:TYR:CZ	17:Q:80:ILE:HG13	2.39	0.57
1:A:1808:A:N1	24:X:28:ARG:HD2	2.19	0.57
1:A:813:U:H1'	1:A:1226:A:N3	2.18	0.57
1:A:1692:U:O2'	1:A:1693:U:H2'	2.03	0.57
1:A:2594:C:N4	1:A:2595:G:O6	2.37	0.57
1:A:563:A:C6	1:A:2018:G:C4	2.92	0.57
1:A:649:G:H2'	1:A:650:C:C6	2.39	0.57
17:Q:86:ALA:O	17:Q:87:SER:CB	2.52	0.57
20:T:73:ARG:NH1	20:T:74:ILE:O	2.36	0.57
1:A:78:U:OP2	25:Y:2:LYS:CD	2.52	0.57
1:A:102:U:C2	25:Y:2:LYS:HE2	2.39	0.57
1:A:1445:G:N2	1:A:1547:C:C2	2.73	0.57
1:A:1654:A:P	14:N:1:MET:HA	2.43	0.57
8:H:108:VAL:O	8:H:110:VAL:N	2.36	0.57
21:U:34:VAL:HG22	21:U:65:ILE:O	2.04	0.57
1:A:1167:C:C2'	1:A:1168:G:H5'	2.34	0.57
1:A:1177:G:H2'	1:A:1178:C:O4'	2.03	0.57
1:A:1854:A:O4'	1:A:2233:U:H4'	2.05	0.57
1:A:537:G:N1	1:A:555:G:C2	2.72	0.57
11:K:105:ARG:NH1	16:P:34:GLU:HG3	2.19	0.57
14:N:103:ARG:HB2	14:N:110:MET:HE3	1.85	0.57
24:X:2:SER:O	24:X:4:VAL:N	2.37	0.57
1:A:1773:A:N3	1:A:1978:A:C2	2.73	0.57
1:A:2296:U:H4'	1:A:2297:A:OP1	2.02	0.57
2:B:106:G:H2'	2:B:107:G:O4'	2.04	0.57
8:H:62:LEU:HD13	8:H:62:LEU:C	2.25	0.57
25:Y:11:VAL:HA	25:Y:14:LEU:HB2	1.87	0.57
1:A:118:A:H1'	1:A:178:G:O4'	2.05	0.57
1:A:1676:A:H2'	1:A:1677:A:O4'	2.04	0.57
1:A:2004:G:C5	1:A:2005:A:C8	2.92	0.57
1:A:2056:G:C2	1:A:2057:G:C8	2.92	0.57
1:A:2836:U:H2'	1:A:2837:A:C8	2.39	0.57
1:A:2790:U:H5'	1:A:2893:A:N7	2.20	0.57
1:A:301:G:C6	1:A:317:G:C6	2.93	0.57
4:D:12:THR:HG21	16:P:5:ILE:HG23	1.86	0.57
1:A:224:U:C4	1:A:225:C:C5	2.93	0.57
1:A:2585:U:O2'	1:A:2586:U:O5'	2.21	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:35:THR:O	4:D:36:GLN:HB2	2.05	0.57
7:G:89:LEU:HB2	7:G:129:THR:HG22	1.85	0.57
1:A:1231:U:H2'	1:A:1232:G:C8	2.40	0.57
1:A:1308:A:N6	1:A:1309:G:C2	2.73	0.57
1:A:320:A:H2'	5:E:131:THR:HG21	1.87	0.57
8:H:117:LEU:HB3	8:H:120:GLY:O	2.05	0.57
9:I:5:VAL:HA	9:I:8:TYR:CE1	2.40	0.57
15:O:79:ALA:HA	15:O:115:LEU:HD22	1.86	0.57
1:A:1428:C:C4	1:A:1569:A:H5''	2.40	0.57
1:A:161:A:C3'	1:A:162:U:H5''	2.34	0.57
1:A:2308:G:C5'	1:A:2309:A:OP2	2.53	0.57
1:A:697:G:C2	1:A:766:U:O2	2.58	0.57
2:B:81:G:C6	2:B:82:U:C4	2.93	0.57
16:P:91:ALA:HB2	16:P:113:ARG:HA	1.87	0.57
25:Y:41:HIS:O	25:Y:45:GLN:HG2	2.04	0.57
1:A:2615:U:C2	27:O:4:GLN:HA	2.40	0.57
1:A:1606:C:O2'	1:A:1607:C:OP2	2.23	0.57
1:A:2093:G:C6	1:A:2225:A:C8	2.93	0.57
1:A:2115:G:O2'	1:A:2117:A:N6	2.38	0.57
1:A:897:C:H2'	1:A:898:C:C6	2.40	0.57
1:A:981:A:N1	1:A:2027:G:O2'	2.32	0.57
10:J:64:VAL:HG11	10:J:89:PHE:CZ	2.40	0.57
1:A:2704:C:H2'	1:A:2705:A:O4'	2.04	0.56
1:A:341:C:H2'	1:A:342:A:C8	2.40	0.56
1:A:55:G:C2	1:A:56:A:C8	2.93	0.56
1:A:674:G:H1'	5:E:69:ARG:CD	2.35	0.56
3:C:68:LYS:HG2	3:C:151:GLY:HA2	1.86	0.56
9:I:20:PRO:HB2	9:I:23:PRO:HD2	1.86	0.56
1:A:2469:A:O2'	13:M:55:ARG:NH2	2.38	0.56
1:A:1428:C:C5	1:A:1569:A:H5''	2.40	0.56
1:A:1581:G:C5	1:A:1582:C:C4	2.93	0.56
1:A:2345:G:H5'	1:A:2347:C:O4'	2.05	0.56
1:A:584:C:N4	35:A:3282:HOH:O	2.38	0.56
1:A:729:G:OP2	3:C:207:LYS:NZ	2.36	0.56
1:A:956:G:O6	13:M:14:LYS:NZ	2.38	0.56
1:A:1666:G:O3'	11:K:6:THR:HG23	2.04	0.56
1:A:2131:U:H5'	1:A:2132:U:H5''	1.88	0.56
1:A:377:G:C5	1:A:378:C:C5	2.94	0.56
1:A:420:C:H2'	1:A:421:C:C6	2.40	0.56
1:A:483:A:H1'	21:U:45:HIS:HB2	1.87	0.56
3:C:31:ALA:HB3	3:C:32:PRO:HD3	1.87	0.56
3:C:87:ARG:NH1	3:C:87:ARG:HB3	2.20	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:126:GLY:HA2	6:F:163:ASP:HA	1.87	0.56
12:L:77:ILE:HD11	12:L:101:ILE:HG21	1.86	0.56
15:O:53:THR:O	15:O:59:ALA:HB2	2.05	0.56
22:V:14:LYS:HD3	22:V:18:ARG:NH2	2.20	0.56
1:A:1682:G:N3	1:A:1757:A:H1'	2.20	0.56
1:A:1826:G:C6	1:A:1827:U:C4	2.94	0.56
1:A:1831:G:N2	1:A:1975:G:C4	2.74	0.56
1:A:1973:G:C5	1:A:1974:C:C4	2.94	0.56
1:A:2514:U:H2'	1:A:2515:C:C6	2.40	0.56
1:A:987:C:H2'	1:A:988:A:O4'	2.05	0.56
5:E:48:THR:O	5:E:52:VAL:HG23	2.05	0.56
1:A:1206:G:C6	1:A:1207:C:C4	2.93	0.56
1:A:781:A:H2'	1:A:1777:U:O2'	2.06	0.56
1:A:2503:A:H8	32:A:3001:VIF:C10	2.18	0.56
1:A:2571:U:C4	1:A:2574:G:C8	2.93	0.56
1:A:2898:U:H2'	1:A:2899:A:C8	2.41	0.56
1:A:893:C:H2'	1:A:894:U:O4'	2.04	0.56
1:A:1654:A:O2'	4:D:118:PHE:O	2.20	0.56
8:H:21:VAL:HG22	8:H:22:LYS:N	2.19	0.56
30:3:4:ILE:HG21	30:3:63:PRO:HG3	1.88	0.56
1:A:1855:U:C5	1:A:1856:U:C5	2.93	0.56
7:G:19:ILE:O	7:G:21:GLY:N	2.39	0.56
8:H:83:LYS:N	8:H:149:GLU:HG2	2.20	0.56
9:I:6:GLN:O	9:I:7:ALA:HB2	2.06	0.56
18:R:81:LYS:N	18:R:81:LYS:CD	2.69	0.56
26:Z:3:LYS:O	26:Z:4:THR:O	2.23	0.56
1:A:2311:A:O2'	1:A:2312:U:OP1	2.21	0.56
3:C:10:SER:O	3:C:13:ARG:HB3	2.05	0.56
3:C:121:ASP:OD1	3:C:121:ASP:N	2.35	0.56
1:A:1965:C:OP1	1:A:1966:A:C2'	2.54	0.56
1:A:2550:G:O6	1:A:2551:C:N4	2.38	0.56
1:A:777:G:N7	1:A:793:A:H2	2.02	0.56
1:A:1820:U:OP1	3:C:177:ARG:HG2	2.06	0.56
6:F:5:HIS:HB2	6:F:97:TRP:CG	2.41	0.56
10:J:64:VAL:CG1	10:J:89:PHE:CZ	2.89	0.56
22:V:41:GLU:C	22:V:42:LEU:HD23	2.26	0.56
1:A:1009:A:O2'	1:A:1153:C:H4'	2.06	0.56
1:A:1773:A:N7	1:A:1829:A:H1'	2.21	0.56
1:A:197:A:N3	1:A:197:A:H2'	2.21	0.56
1:A:2521:C:C2	1:A:2545:G:N2	2.74	0.56
1:A:2552:U:C2	1:A:2554:U:C5'	2.89	0.56
1:A:411:G:OP2	1:A:2406:A:O2'	2.19	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:747:U:C5	1:A:2613:U:C5	2.93	0.56
5:E:5:LEU:O	5:E:7:ASP:N	2.38	0.56
9:I:57:VAL:HG22	9:I:58:VAL:N	2.21	0.56
31:4:16:ILE:HD13	31:4:25:VAL:HG22	1.86	0.56
1:A:1152:C:H3'	35:A:3360:HOH:O	2.05	0.56
1:A:1206:G:C5	1:A:1207:C:C5	2.94	0.56
1:A:1297:C:O2'	1:A:1302:A:N1	2.36	0.56
1:A:1359:A:C2	1:A:1360:G:H1'	2.41	0.56
1:A:569:U:H5''	1:A:821:A:C2	2.41	0.56
1:A:607:U:H5	1:A:619:G:C4	2.24	0.56
17:Q:94:ILE:HD13	18:R:11:GLN:HB2	1.87	0.56
29:2:16:HIS:HB3	29:2:21:ARG:NH1	2.21	0.56
1:A:242:G:H5''	30:3:64:TYR:CZ	2.40	0.56
1:A:1312:U:C2	1:A:1603:A:C2	2.94	0.56
1:A:2831:G:OP1	4:D:56:LYS:NZ	2.35	0.56
1:A:491:G:C6	1:A:492:A:C6	2.93	0.56
1:A:547:A:H3'	1:A:548:G:H5'	1.88	0.56
1:A:635:C:O2'	1:A:639:U:H5''	2.05	0.56
7:G:133:LEU:HD12	7:G:133:LEU:O	2.05	0.56
11:K:118:LEU:O	11:K:119:ALA:HB3	2.05	0.56
29:2:18:PHE:O	29:2:19:ARG:C	2.44	0.55
1:A:1179:G:C5	1:A:1180:U:H1'	2.40	0.55
1:A:1272:A:C5	1:A:1618:A:H1'	2.42	0.55
1:A:511:U:O4	1:A:512:G:N1	2.38	0.55
2:B:14:U:C2'	2:B:14:U:O2	2.54	0.55
7:G:27:LYS:HG3	7:G:27:LYS:O	2.06	0.55
1:A:1651:G:N2	1:A:2007:U:O2	2.39	0.55
1:A:1826:G:O2'	1:A:1971:U:OP2	2.24	0.55
11:K:92:GLU:O	11:K:93:GLN:HB2	2.05	0.55
1:A:1415:U:H2'	1:A:1416:G:H4'	1.89	0.55
1:A:153:U:H2'	1:A:154:U:C6	2.42	0.55
1:A:188:G:C6	1:A:189:G:C4	2.95	0.55
1:A:2164:C:H2'	1:A:2165:C:C5	2.42	0.55
1:A:2611:C:OP2	35:A:3538:HOH:O	2.17	0.55
1:A:279:A:N6	1:A:361:G:O2'	2.38	0.55
1:A:42:A:C2	1:A:438:G:C2	2.94	0.55
1:A:547:A:H3'	1:A:548:G:C5'	2.34	0.55
1:A:674:G:C1'	5:E:69:ARG:HD3	2.37	0.55
19:S:33:LEU:HD21	19:S:52:GLU:HG3	1.88	0.55
30:3:31:HIS:ND1	30:3:32:ILE:HG13	2.20	0.55
3:C:145:GLU:HG2	3:C:152:GLY:N	2.22	0.55
5:E:149:ILE:HG23	5:E:188:MET:HG2	1.89	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1087:G:N1	1:A:1089:A:C2	2.75	0.55
1:A:1644:C:H2'	1:A:1644:C:O2	2.06	0.55
1:A:1670:C:C5	1:A:1671:U:C4	2.94	0.55
1:A:847:U:O2	1:A:934:U:H1'	2.06	0.55
13:M:70:ASP:OD1	13:M:70:ASP:C	2.44	0.55
21:U:14:LEU:HD11	21:U:71:ALA:HB2	1.89	0.55
26:Z:52:SER:HA	26:Z:55:VAL:HG22	1.89	0.55
1:A:1469:A:C2	1:A:1470:A:C5	2.94	0.55
1:A:1649:G:N1	1:A:2009:A:C6	2.75	0.55
1:A:2184:A:H2'	1:A:2185:U:C6	2.42	0.55
20:T:44:LYS:O	20:T:48:GLN:HG2	2.07	0.55
1:A:1083:U:O2	1:A:1086:A:N1	2.40	0.55
1:A:1943:U:H4'	1:A:1944:U:OP1	2.07	0.55
1:A:2043:C:OP1	1:A:2777:G:O2'	2.21	0.55
1:A:2195:U:C2	1:A:2196:C:C6	2.95	0.55
1:A:2249:U:N3	1:A:2253:G:OP2	2.39	0.55
1:A:2571:U:N3	1:A:2574:G:C8	2.74	0.55
1:A:450:G:N1	1:A:454:A:OP2	2.31	0.55
1:A:728:G:C2	1:A:730:A:C4	2.95	0.55
3:C:33:LEU:HA	3:C:64:ILE:HD12	1.89	0.55
25:Y:1:MET:O	25:Y:5:GLU:HG3	2.07	0.55
30:3:34:THR:HG23	30:3:35:LYS:N	2.22	0.55
1:A:1344:U:O2'	1:A:1345:C:P	2.65	0.55
1:A:1607:C:H4'	1:A:1608:A:O5'	2.06	0.55
1:A:2346:A:H4'	1:A:2347:C:OP2	2.07	0.55
1:A:689:A:H2'	1:A:690:G:C8	2.42	0.55
1:A:2796:U:C4	1:A:2798:U:C4	2.95	0.55
1:A:636:G:N1	12:L:76:GLU:OE2	2.38	0.55
3:C:92:ALA:HB3	3:C:104:ILE:HD12	1.88	0.55
10:J:41:LYS:NZ	10:J:52:ASP:OD2	2.39	0.55
12:L:61:LEU:O	30:3:13:ARG:HD3	2.07	0.55
14:N:75:ILE:O	14:N:79:LEU:HD12	2.06	0.55
14:N:83:LEU:CD2	14:N:115:LEU:HD13	2.37	0.55
17:Q:98:ILE:HG22	17:Q:106:PHE:HB2	1.89	0.55
1:A:1343:G:H1'	1:A:1597:A:C4	2.42	0.55
1:A:1409:U:C5	35:A:3622:HOH:O	2.54	0.55
1:A:53:A:C2	1:A:179:C:H4'	2.42	0.55
1:A:219:A:C6	1:A:220:G:C6	2.95	0.55
1:A:1783:A:C6	1:A:2587:A:C2	2.95	0.55
1:A:92:U:H2'	1:A:93:G:O4'	2.06	0.55
2:B:62:C:H2'	2:B:63:C:C6	2.41	0.55
5:E:143:LEU:HB3	5:E:146:VAL:HG11	1.90	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:140:LEU:HD12	10:J:141:ASP:N	2.22	0.55
2:B:48:U:H4'	15:O:100:HIS:NE2	2.21	0.55
19:S:95:ARG:O	19:S:95:ARG:CG	2.54	0.55
20:T:21:SER:O	20:T:24:MET:N	2.40	0.55
1:A:183:C:H1'	1:A:433:C:H1'	1.89	0.54
1:A:2133:G:C2	1:A:2158:A:N6	2.75	0.54
1:A:537:G:OP1	1:A:995:C:N4	2.41	0.54
2:B:29:A:OP2	15:O:32:PRO:HD2	2.07	0.54
18:R:68:ARG:HD3	18:R:92:TRP:CE2	2.43	0.54
20:T:47:VAL:HG12	20:T:47:VAL:O	2.07	0.54
1:A:1319:C:O2'	1:A:1320:C:H5'	2.07	0.54
1:A:1965:C:OP1	1:A:1966:A:H2'	2.06	0.54
1:A:2810:A:C8	1:A:2811:G:C8	2.95	0.54
19:S:107:VAL:O	19:S:107:VAL:HG13	2.06	0.54
21:U:96:PHE:CZ	21:U:103:ILE:HG12	2.43	0.54
1:A:1716:U:C5	1:A:1743:G:C2	2.95	0.54
1:A:1838:C:H4'	1:A:1839:G:C8	2.42	0.54
1:A:2133:G:N2	1:A:2158:A:C6	2.75	0.54
1:A:699:A:H2'	1:A:700:G:H5'	1.89	0.54
10:J:7:LYS:O	10:J:11:VAL:CG2	2.55	0.54
1:A:1240:U:O2'	1:A:1241:A:O5'	2.26	0.54
1:A:2359:C:N4	1:A:2360:G:C6	2.75	0.54
1:A:324:A:N6	1:A:338:G:O2'	2.40	0.54
1:A:491:G:C6	1:A:492:A:C5	2.96	0.54
1:A:740:C:H5'	1:A:1784:A:H3'	1.88	0.54
1:A:983:A:C6	1:A:984:A:C2	2.95	0.54
2:B:64:G:H2'	2:B:65:U:C6	2.42	0.54
5:E:179:SER:HA	5:E:182:ALA:HB3	1.88	0.54
9:I:101:ILE:O	9:I:102:SER:HB3	2.08	0.54
17:Q:72:ASN:HB3	17:Q:110:VAL:HG11	1.89	0.54
18:R:39:LEU:O	18:R:49:ILE:HG23	2.07	0.54
21:U:12:ILE:HG13	21:U:21:LYS:O	2.08	0.54
1:A:126:A:N7	1:A:127:A:N1	2.55	0.54
1:A:1581:G:C6	1:A:1582:C:C4	2.95	0.54
1:A:187:G:C2	1:A:210:C:O2	2.61	0.54
1:A:2676:C:OP1	11:K:31:ARG:NH2	2.41	0.54
4:D:133:THR:HG23	4:D:134:HIS:N	2.23	0.54
6:F:34:ILE:HA	6:F:155:THR:O	2.07	0.54
15:O:33:ARG:O	15:O:34:HIS:CB	2.55	0.54
18:R:21:ARG:CZ	18:R:93:PHE:CE1	2.90	0.54
29:2:44:VAL:O	29:2:45:SER:OG	2.20	0.54
1:A:1544:A:N6	1:A:1545:A:C6	2.75	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1827:U:O4'	1:A:1970:A:O2'	2.25	0.54
1:A:1833:C:C4	1:A:1834:U:C4	2.96	0.54
1:A:2293:G:H2'	1:A:2294:G:O4'	2.07	0.54
1:A:2449:U:H4'	1:A:2450:A:OP1	2.08	0.54
1:A:327:G:H2'	1:A:328:U:O4'	2.08	0.54
1:A:108:G:O2'	1:A:347:A:N3	2.37	0.54
3:C:82:GLU:OE1	3:C:103:TYR:OH	2.24	0.54
1:A:1248:G:N7	5:E:46:GLN:NE2	2.55	0.54
6:F:43:ALA:O	6:F:47:LYS:HD2	2.08	0.54
9:I:90:SER:HB3	9:I:93:PRO:HG3	1.90	0.54
1:A:297:G:OP1	21:U:92:LYS:HD3	2.07	0.54
22:V:21:ARG:HA	22:V:25:LYS:O	2.06	0.54
1:A:14:A:C6	1:A:526:A:C2	2.95	0.54
1:A:224:U:OP2	1:A:408:G:N2	2.40	0.54
1:A:572:A:H5''	1:A:573:U:OP2	2.07	0.54
7:G:140:VAL:O	7:G:144:VAL:HG23	2.06	0.54
15:O:97:PHE:CB	15:O:103:VAL:HG11	2.37	0.54
18:R:101:ILE:O	18:R:103:ALA:N	2.41	0.54
1:A:1027:A:C6	1:A:1126:A:C4	2.96	0.54
1:A:1032:A:H4'	31:4:16:ILE:HD12	1.89	0.54
1:A:105:C:H2'	1:A:106:C:C6	2.43	0.54
1:A:2200:C:O2	1:A:2226:C:N4	2.41	0.54
1:A:846:U:HO2'	1:A:847:U:P	2.31	0.54
1:A:847:U:H2'	1:A:847:U:O2	2.06	0.54
1:A:936:A:C2	1:A:937:C:C2	2.96	0.54
15:O:50:ALA:O	15:O:81:ARG:NH2	2.41	0.54
1:A:218:A:N7	35:A:3223:HOH:O	2.33	0.54
1:A:247:G:C8	1:A:249:C:C6	2.96	0.54
1:A:776:G:N7	1:A:793:A:C4	2.76	0.54
7:G:98:VAL:CG2	7:G:125:CYS:SG	2.96	0.54
9:I:22:PRO:HB2	9:I:23:PRO:HD3	1.89	0.54
13:M:42:THR:O	13:M:46:ILE:HG13	2.08	0.54
1:A:1069:A:N1	1:A:1073:A:N7	2.56	0.54
1:A:1087:G:C4	1:A:1089:A:H1'	2.43	0.54
1:A:276:U:O2'	1:A:278:A:N7	2.41	0.54
1:A:607:U:O4	1:A:620:G:H5'	2.08	0.54
5:E:52:VAL:HG11	5:E:81:GLY:HA3	1.88	0.54
8:H:79:THR:HA	8:H:145:ASN:HB2	1.89	0.54
16:P:22:PRO:HA	16:P:47:VAL:CG1	2.37	0.54
1:A:1356:G:N2	1:A:1357:C:H1'	2.23	0.53
1:A:187:G:O2'	1:A:1365:A:N3	2.34	0.53
1:A:2259:U:H1'	1:A:2427:C:C2	2.43	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:228:C:C5'	1:A:229:C:C6	2.91	0.53
8:H:32:PRO:O	8:H:33:GLN:HB2	2.08	0.53
25:Y:21:LEU:HA	25:Y:25:GLN:HB3	1.90	0.53
1:A:1075:C:H2'	1:A:1076:C:C6	2.43	0.53
1:A:2189:U:H2'	1:A:2190:G:H5''	1.90	0.53
1:A:2467:C:N4	1:A:2468:A:C6	2.76	0.53
1:A:2491:U:H5''	1:A:2570:G:H5''	1.89	0.53
1:A:78:U:OP2	25:Y:2:LYS:HD2	2.09	0.53
1:A:396:G:H1'	24:X:29:PHE:HB3	1.89	0.53
1:A:1045:C:O2	1:A:1047:G:N1	2.41	0.53
1:A:1525:A:C6	1:A:1526:C:C4	2.97	0.53
1:A:1796:U:H2'	1:A:1797:G:C8	2.43	0.53
1:A:2550:G:C6	1:A:2551:C:C4	2.97	0.53
3:C:51:THR:CG2	3:C:54:ILE:HD11	2.38	0.53
1:A:1993:U:H4'	4:D:133:THR:HG21	1.91	0.53
5:E:52:VAL:HG21	5:E:81:GLY:CA	2.37	0.53
6:F:135:GLN:OE1	6:F:135:GLN:N	2.41	0.53
7:G:176:LYS:O	7:G:177:LYS:HB2	2.09	0.53
9:I:21:SER:HB3	9:I:22:PRO:HD3	1.89	0.53
14:N:54:LEU:HD23	14:N:66:ALA:HB2	1.90	0.53
1:A:2019:A:H4'	17:Q:34:VAL:CG2	2.37	0.53
21:U:16:GLY:O	21:U:17:LYS:HB2	2.07	0.53
25:Y:45:GLN:O	25:Y:47:ARG:N	2.41	0.53
1:A:1422:G:C6	1:A:1423:G:C5	2.96	0.53
1:A:2043:C:H1'	1:A:2779:U:O4	2.08	0.53
1:A:2581:G:H1'	1:A:2582:G:N7	2.23	0.53
1:A:1783:A:H5'	1:A:2608:G:H4'	1.90	0.53
1:A:2652:C:C4	1:A:2653:U:C4	2.97	0.53
1:A:329:G:O4'	1:A:477:A:H1'	2.08	0.53
1:A:995:C:N3	10:J:3:THR:N	2.55	0.53
10:J:5:THR:HG22	10:J:6:ALA:O	2.09	0.53
10:J:78:THR:OG1	10:J:80:HIS:HB2	2.08	0.53
15:O:15:ARG:O	15:O:18:LEU:HB2	2.09	0.53
18:R:19:THR:CG2	18:R:95:ASP:HB3	2.39	0.53
20:T:62:VAL:HG12	20:T:63:VAL:N	2.24	0.53
8:H:27:ARG:HE	24:X:60:ASP:CB	2.20	0.53
28:1:50:LYS:O	28:1:51:GLU:HB3	2.07	0.53
1:A:1028:A:N6	1:A:1125:G:H2'	2.24	0.53
1:A:1866:A:N7	1:A:1867:G:C8	2.76	0.53
1:A:2321:U:H5'	1:A:2322:A:OP2	2.07	0.53
1:A:451:U:H2'	1:A:453:A:N7	2.24	0.53
4:D:7:LYS:HD3	4:D:198:GLY:HA2	1.91	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:103:VAL:HA	8:H:106:ALA:HB3	1.89	0.53
18:R:47:VAL:O	18:R:47:VAL:HG12	2.09	0.53
1:A:160:A:C6	1:A:161:A:C6	2.96	0.53
1:A:18:U:O4	35:A:3205:HOH:O	2.14	0.53
1:A:2133:G:N3	1:A:2158:A:N1	2.57	0.53
1:A:2244:U:C5	1:A:2245:U:C4	2.97	0.53
1:A:35:G:N2	1:A:450:G:H1'	2.23	0.53
1:A:770:G:H1'	1:A:1379:U:C4	2.44	0.53
3:C:262:ARG:HG2	3:C:263:THR:HG23	1.90	0.53
5:E:181:ILE:HD13	12:L:2:ARG:NH2	2.24	0.53
1:A:1031:G:H5''	31:4:8:LYS:HE3	1.89	0.53
1:A:1258:U:H2'	1:A:1259:G:H8	1.68	0.53
1:A:1364:G:H5''	24:X:3:ARG:NH1	2.23	0.53
1:A:2070:A:C2	1:A:2442:C:C2	2.97	0.53
1:A:1073:A:O2'	1:A:2474:U:H5'	2.08	0.53
1:A:2648:G:C4	1:A:2673:G:C2	2.97	0.53
1:A:56:A:C2	1:A:57:C:C2	2.96	0.53
8:H:37:VAL:CG2	8:H:38:PRO:HD2	2.39	0.53
9:I:29:GLY:HA2	9:I:33:VAL:HB	1.91	0.53
12:L:77:ILE:CD1	12:L:108:ALA:HB1	2.38	0.53
1:A:242:G:H5''	30:3:64:TYR:CE2	2.44	0.53
1:A:1544:A:C6	1:A:1545:A:C6	2.97	0.53
1:A:1831:G:C5	1:A:1832:C:C4	2.97	0.53
1:A:2196:C:O2'	1:A:2197:U:H5'	2.09	0.53
1:A:2001:C:H4'	1:A:2689:U:H2'	1.91	0.53
1:A:811:U:C2	1:A:1251:C:C5	2.96	0.53
8:H:31:VAL:HB	8:H:32:PRO:HD3	1.89	0.53
8:H:2:GLN:O	8:H:3:VAL:HG22	2.09	0.53
12:L:58:TYR:O	30:3:13:ARG:HD3	2.08	0.53
14:N:87:PHE:CZ	14:N:94:TYR:HB3	2.44	0.53
16:P:39:ARG:CG	16:P:40:LEU:H	2.21	0.53
1:A:1068:G:H2'	1:A:1068:G:N3	2.24	0.53
1:A:2127:G:C2	1:A:2162:G:C8	2.97	0.53
1:A:532:A:H2'	1:A:532:A:N3	2.24	0.53
3:C:57:GLY:O	3:C:58:HIS:O	2.26	0.53
23:W:21:LEU:HD22	23:W:39:ARG:HB3	1.90	0.53
1:A:1125:G:C6	1:A:1126:A:N6	2.76	0.53
1:A:1855:U:C5	1:A:1856:U:C4	2.97	0.53
3:C:145:GLU:HA	3:C:152:GLY:HA2	1.90	0.53
5:E:193:VAL:O	5:E:197:GLU:HB2	2.09	0.53
8:H:31:VAL:CB	8:H:32:PRO:CD	2.86	0.53
8:H:40:THR:O	8:H:41:LYS:C	2.48	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:54:GLU:CB	20:T:88:LYS:HG3	2.39	0.53
21:U:88:GLU:O	21:U:89:ASP:CB	2.56	0.53
1:A:811:U:O2	1:A:1251:C:C6	2.61	0.52
1:A:2013:A:N1	1:A:2014:A:C2	2.78	0.52
1:A:1782:U:O4'	1:A:2609:U:C2	2.62	0.52
1:A:40:U:H2'	1:A:41:C:C6	2.45	0.52
1:A:500:G:N2	1:A:502:A:C8	2.77	0.52
1:A:734:A:C8	1:A:735:A:C8	2.98	0.52
3:C:68:LYS:HD3	3:C:149:GLY:O	2.09	0.52
4:D:13:ARG:HD2	4:D:15:PHE:CE1	2.44	0.52
4:D:78:GLY:C	4:D:80:TRP:CZ3	2.82	0.52
5:E:143:LEU:HB3	5:E:146:VAL:CG1	2.39	0.52
8:H:34:GLY:O	8:H:35:LYS:HB2	2.09	0.52
9:I:42:PHE:O	9:I:46:THR:OG1	2.27	0.52
9:I:97:LYS:HD2	9:I:97:LYS:N	2.24	0.52
10:J:17:VAL:HG22	10:J:55:ILE:HB	1.91	0.52
15:O:39:VAL:N	15:O:49:VAL:O	2.41	0.52
18:R:49:ILE:HD12	18:R:52:PRO:HA	1.91	0.52
20:T:13:ALA:O	20:T:32:LEU:HB2	2.08	0.52
29:2:11:LYS:O	29:2:15:SER:N	2.42	0.52
31:4:19:ARG:O	31:4:20:ASP:HB2	2.08	0.52
1:A:119:A:H4'	1:A:120:U:O5'	2.09	0.52
1:A:1605:C:O2	1:A:1610:A:O2'	2.25	0.52
1:A:2341:G:C5	1:A:2342:C:C4	2.98	0.52
1:A:277:G:H1'	1:A:361:G:O6	2.10	0.52
1:A:370:G:O2'	1:A:423:A:H3'	2.10	0.52
3:C:171:TYR:CD2	3:C:185:GLU:HA	2.44	0.52
13:M:56:ALA:C	13:M:58:LYS:H	2.11	0.52
18:R:68:ARG:HD3	18:R:92:TRP:CZ2	2.44	0.52
1:A:651:G:P	30:3:19:LYS:HG3	2.49	0.52
1:A:987:C:O2'	1:A:1000:A:N3	2.41	0.52
1:A:1984:G:C6	1:A:1985:C:C4	2.97	0.52
1:A:2110:G:C6	1:A:2120:G:C8	2.98	0.52
1:A:624:C:O2'	1:A:657:U:H5''	2.09	0.52
1:A:873:C:N3	1:A:905:A:C2	2.78	0.52
3:C:80:ARG:NE	3:C:82:GLU:OE2	2.41	0.52
11:K:58:LEU:HD11	11:K:86:LEU:HB3	1.91	0.52
13:M:54:THR:HA	13:M:57:VAL:HG22	1.91	0.52
14:N:55:ALA:HA	14:N:80:PHE:CE1	2.44	0.52
1:A:973:A:O4'	1:A:1188:U:C6	2.62	0.52
1:A:1917:U:H2'	1:A:1918:A:H5'	1.92	0.52
1:A:489:G:C2	1:A:491:G:H1'	2.45	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:71:C:C2	2:B:106:G:C2	2.97	0.52
4:D:157:LYS:HD2	10:J:79:GLY:O	2.10	0.52
4:D:78:GLY:CA	4:D:80:TRP:CH2	2.92	0.52
7:G:91:GLY:O	7:G:92:VAL:O	2.27	0.52
17:Q:72:ASN:CB	17:Q:110:VAL:HG11	2.40	0.52
24:X:40:VAL:CG2	24:X:43:GLU:HB2	2.39	0.52
1:A:957:C:C4	1:A:2459:A:H1'	2.45	0.52
3:C:141:VAL:HG11	3:C:190:ALA:HB1	1.91	0.52
7:G:80:THR:HG22	7:G:81:GLU:N	2.24	0.52
8:H:72:ILE:O	8:H:72:ILE:HG22	2.09	0.52
20:T:51:PHE:O	20:T:53:VAL:N	2.43	0.52
1:A:1856:U:C4	1:A:1857:G:C6	2.98	0.52
1:A:2326:C:H1'	1:A:2327:A:OP1	2.09	0.52
1:A:1638:C:H5''	1:A:2710:C:O2'	2.10	0.52
1:A:2852:G:H2'	1:A:2853:C:O4'	2.10	0.52
7:G:84:THR:OG1	7:G:134:LYS:HG2	2.08	0.52
8:H:23:ALA:O	8:H:27:ARG:N	2.38	0.52
8:H:34:GLY:O	8:H:35:LYS:HD2	2.10	0.52
12:L:29:LYS:HG3	12:L:30:THR:HG23	1.92	0.52
12:L:50:PHE:CZ	12:L:52:GLY:O	2.63	0.52
25:Y:18:LEU:O	25:Y:22:LEU:CB	2.56	0.52
26:Z:41:THR:HG23	26:Z:44:ILE:HG12	1.92	0.52
28:1:15:ALA:O	28:1:17:THR:N	2.43	0.52
30:3:32:ILE:O	30:3:32:ILE:HG22	2.10	0.52
1:A:830:G:C2	1:A:2448:A:N7	2.78	0.52
1:A:2473:U:H2'	1:A:2473:U:O2	2.09	0.52
1:A:686:U:H2'	1:A:788:A:C2	2.43	0.52
1:A:704:G:H1'	1:A:726:G:H22	1.75	0.52
3:C:101:ARG:O	3:C:102:ARG:HG3	2.10	0.52
1:A:107:G:O3'	1:A:293:U:O2'	2.12	0.52
1:A:1231:U:H2'	1:A:1232:G:H8	1.75	0.52
1:A:1355:G:C6	1:A:1356:G:N7	2.78	0.52
1:A:1738:G:HO2'	1:A:1739:A:P	2.32	0.52
1:A:2499:C:C4	1:A:2500:U:O4	2.63	0.52
1:A:2549:G:C2	1:A:2560:A:C2	2.98	0.52
1:A:2557:G:H2'	1:A:2558:C:C6	2.45	0.52
1:A:2747:G:O6	1:A:2755:C:H5''	2.10	0.52
1:A:39:G:C6	1:A:40:U:C4	2.98	0.52
1:A:661:A:H1'	12:L:12:SER:O	2.09	0.52
1:A:748:G:O6	1:A:751:A:H5'	2.09	0.52
1:A:696:G:C2	1:A:767:U:O2	2.63	0.52
1:A:833:A:H2'	1:A:834:G:C8	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:993:G:H1'	18:R:91:GLN:OE1	2.10	0.52
3:C:107:PRO:HD2	3:C:110:LEU:HD22	1.92	0.52
6:F:5:HIS:O	6:F:9:LYS:HG3	2.10	0.52
21:U:74:ASN:HA	21:U:96:PHE:CZ	2.45	0.52
1:A:1020:A:C2	1:A:1141:U:C2	2.98	0.52
1:A:289:G:C2	1:A:352:A:C2	2.98	0.52
4:D:123:LYS:HD3	4:D:165:MET:SD	2.49	0.52
6:F:106:ILE:HG12	6:F:107:ALA:N	2.25	0.52
8:H:25:TYR:CZ	8:H:30:LEU:HD21	2.45	0.52
16:P:48:ILE:HD13	16:P:62:ARG:HB2	1.92	0.52
20:T:72:GLN:O	20:T:73:ARG:O	2.28	0.52
29:2:18:PHE:O	29:2:21:ARG:N	2.43	0.52
30:3:27:ALA:O	30:3:28:ASN:HB2	2.10	0.52
1:A:1340:U:H4'	1:A:1341:G:OP2	2.09	0.52
1:A:1566:A:N1	3:C:213:TRP:CE3	2.78	0.52
1:A:729:G:H2'	1:A:1775:U:H1'	1.92	0.52
1:A:1881:C:H2'	1:A:1882:U:O4'	2.10	0.52
1:A:2111:U:C5	1:A:2145:C:H2'	2.45	0.52
1:A:2133:G:C2	1:A:2158:A:C6	2.98	0.52
1:A:2311:A:HO2'	1:A:2312:U:P	2.30	0.52
1:A:2297:A:C8	1:A:2320:U:C4	2.98	0.52
1:A:2554:U:H2'	1:A:2555:U:C6	2.45	0.52
1:A:271:G:H4'	1:A:272:A:OP1	2.09	0.52
1:A:36:G:C2'	1:A:450:G:HO2'	2.23	0.52
5:E:83:VAL:CG1	5:E:86:ALA:HA	2.40	0.52
14:N:46:ARG:O	14:N:50:PRO:HG2	2.10	0.52
15:O:97:PHE:HB2	15:O:103:VAL:HG11	1.92	0.52
18:R:29:THR:HG22	18:R:29:THR:O	2.09	0.52
19:S:41:LYS:O	19:S:42:LYS:C	2.48	0.52
25:Y:1:MET:HA	25:Y:4:LYS:HD3	1.92	0.52
1:A:1551:A:N6	35:A:3632:HOH:O	2.42	0.51
1:A:158:U:H2'	1:A:159:G:H5'	1.92	0.51
1:A:1647:U:H3'	1:A:1647:U:OP2	2.10	0.51
1:A:270:A:C2	1:A:369:U:H4'	2.45	0.51
1:A:2712:C:OP1	1:A:2714:G:H4'	2.10	0.51
1:A:2:G:C6	1:A:3:U:C4	2.97	0.51
6:F:73:SER:HB2	6:F:81:GLN:HB3	1.92	0.51
9:I:8:TYR:CD1	9:I:8:TYR:O	2.63	0.51
10:J:5:THR:C	10:J:6:ALA:O	2.48	0.51
1:A:621:A:OP2	12:L:99:ASN:ND2	2.41	0.51
19:S:7:HIS:HB2	19:S:50:VAL:CG2	2.39	0.51
24:X:28:ARG:NH1	24:X:30:LEU:HD21	2.25	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:X:54:LYS:O	24:X:57:ARG:N	2.43	0.51
29:2:44:VAL:O	29:2:45:SER:CB	2.58	0.51
1:A:1351:C:H2'	1:A:1352:U:C1'	2.41	0.51
1:A:200:U:C4	1:A:248:G:C2	2.98	0.51
1:A:214:G:H1'	1:A:217:A:H5'	1.92	0.51
1:A:2199:A:C5	1:A:2225:A:C6	2.98	0.51
1:A:228:C:H5''	1:A:229:C:C6	2.46	0.51
1:A:2518:A:P	35:A:3533:HOH:O	2.67	0.51
1:A:30:G:C5	1:A:31:C:C4	2.99	0.51
1:A:792:A:N3	1:A:2072:C:O2'	2.32	0.51
7:G:113:VAL:HG11	7:G:151:TYR:CE2	2.46	0.51
12:L:90:VAL:HB	12:L:122:VAL:HA	1.92	0.51
13:M:59:ARG:HD3	13:M:59:ARG:O	2.10	0.51
20:T:38:ALA:O	20:T:39:THR:HB	2.11	0.51
20:T:64:LYS:HA	20:T:79:ASP:OD1	2.11	0.51
1:A:1335:C:H2'	1:A:1336:A:C8	2.45	0.51
1:A:1709:U:H2'	1:A:1710:G:C8	2.45	0.51
1:A:2013:A:N6	1:A:2014:A:N1	2.58	0.51
1:A:570:G:C4	1:A:2030:A:N7	2.79	0.51
1:A:2074:U:H2'	1:A:2075:U:C6	2.46	0.51
1:A:2134:A:OP2	1:A:2157:G:N2	2.41	0.51
1:A:2148:G:C2	1:A:2149:U:C4	2.99	0.51
1:A:2061:G:H5''	1:A:2503:A:C2	2.46	0.51
1:A:2622:U:O2'	1:A:2825:G:N7	2.43	0.51
1:A:1998:A:OP2	4:D:141:ARG:NH2	2.43	0.51
12:L:55:MET:SD	12:L:59:ARG:NH2	2.84	0.51
15:O:35:ILE:HG23	15:O:35:ILE:O	2.11	0.51
1:A:579:G:N2	1:A:1262:A:C4	2.78	0.51
1:A:1316:U:C2	1:A:1337:G:N2	2.78	0.51
1:A:756:A:H2'	1:A:757:G:O4'	2.10	0.51
1:A:77:G:OP1	25:Y:52:ARG:HD3	2.11	0.51
2:B:115:A:H2'	2:B:116:G:C8	2.45	0.51
3:C:35:GLU:O	3:C:36:LYS:O	2.29	0.51
5:E:52:VAL:HB	5:E:74:LYS:HD3	1.92	0.51
8:H:121:VAL:O	8:H:122:LEU:HB2	2.11	0.51
1:A:2882:A:H5'	14:N:96:ARG:HB2	1.92	0.51
1:A:1376:C:H3'	35:A:3398:HOH:O	2.10	0.51
1:A:1668:A:O4'	1:A:1669:A:C2	2.64	0.51
1:A:1680:U:H2'	1:A:1681:G:O4'	2.11	0.51
1:A:1869:G:N2	1:A:1871:A:O2'	2.43	0.51
1:A:1965:C:OP1	1:A:1966:A:O2'	2.28	0.51
1:A:571:U:C4	1:A:2030:A:C6	2.99	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2058:A:N6	1:A:2059:A:N6	2.58	0.51
1:A:675:A:C6	1:A:676:A:C6	2.99	0.51
1:A:706:A:C2	1:A:707:G:H1'	2.45	0.51
1:A:931:U:H4'	1:A:932:U:OP2	2.10	0.51
6:F:134:GLU:HG3	6:F:136:ILE:HD12	1.91	0.51
1:A:1082:U:OP1	9:I:124:ALA:HB2	2.10	0.51
9:I:58:VAL:HG12	9:I:59:ILE:N	2.26	0.51
9:I:76:ALA:HB3	9:I:132:THR:HG21	1.91	0.51
10:J:15:TRP:O	10:J:137:PRO:HA	2.10	0.51
5:E:181:ILE:HG23	12:L:2:ARG:CZ	2.41	0.51
16:P:113:ARG:O	16:P:114:LEU:HD23	2.11	0.51
1:A:155:A:H2'	1:A:156:A:C8	2.45	0.51
1:A:1677:A:H5''	35:A:3436:HOH:O	2.11	0.51
1:A:1914:C:C5	1:A:1915:U:C2	2.99	0.51
1:A:1936:A:H2	1:A:1943:U:H3	1.56	0.51
1:A:2354:C:O2'	23:W:35:SER:HA	2.10	0.51
14:N:72:ASP:HB3	14:N:75:ILE:HB	1.92	0.51
20:T:17:SER:O	20:T:18:GLU:C	2.49	0.51
20:T:14:PRO:HA	20:T:32:LEU:HB3	1.93	0.51
20:T:72:GLN:O	20:T:73:ARG:C	2.48	0.51
31:4:11:CYS:SG	31:4:12:ARG:N	2.83	0.51
1:A:1917:U:C2'	1:A:1918:A:H5'	2.40	0.51
1:A:2142:A:C6	1:A:2143:C:C4	2.98	0.51
1:A:2478:A:C8	1:A:2529:G:C5	2.99	0.51
1:A:2794:C:H2'	1:A:2795:C:O4'	2.11	0.51
1:A:478:A:C6	1:A:480:A:C6	2.99	0.51
1:A:868:U:C4	1:A:869:G:N7	2.79	0.51
1:A:1097:U:O2	9:I:9:VAL:HG11	2.11	0.51
10:J:9:GLU:O	10:J:10:THR:CG2	2.59	0.51
15:O:33:ARG:HG2	15:O:34:HIS:CD2	2.45	0.51
1:A:1483:G:C6	1:A:1484:U:C4	2.98	0.51
1:A:1567:G:H2'	3:C:85:PRO:HG3	1.93	0.51
1:A:2282:G:C2	1:A:2425:A:C6	2.98	0.51
1:A:404:A:C1'	1:A:405:U:OP2	2.59	0.51
1:A:587:C:OP2	12:L:21:ARG:NH1	2.44	0.51
1:A:769:U:N3	1:A:770:G:N7	2.59	0.51
1:A:674:G:H1'	5:E:69:ARG:NE	2.25	0.51
8:H:53:GLU:O	8:H:54:LEU:C	2.49	0.51
13:M:11:LYS:HE3	13:M:87:GLY:O	2.11	0.51
16:P:51:ARG:O	16:P:57:SER:HA	2.11	0.51
1:A:1439:A:N7	1:A:1552:A:C2	2.79	0.51
1:A:1651:G:C2	1:A:2007:U:O2	2.63	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1997:C:P	4:D:129:THR:HG1	2.34	0.51
16:P:32:VAL:O	16:P:38:LYS:HA	2.11	0.51
19:S:37:THR:OG1	19:S:48:LYS:NZ	2.32	0.51
1:A:1073:A:H2'	1:A:1074:G:H5'	1.93	0.51
1:A:1027:A:C5	1:A:1126:A:C2	2.99	0.51
1:A:1323:C:N4	1:A:1324:G:O6	2.44	0.51
1:A:1737:G:C6	1:A:1738:G:N1	2.79	0.51
1:A:752:A:N1	1:A:1781:U:H1'	2.26	0.51
1:A:2056:G:OP1	35:A:3667:HOH:O	2.19	0.51
1:A:582:A:OP1	17:Q:14:HIS:ND1	2.43	0.51
1:A:686:U:H6	1:A:788:A:N1	2.09	0.51
1:A:818:G:O2'	1:A:819:A:O4'	2.28	0.51
3:C:129:THR:C	3:C:130:LEU:HD23	2.32	0.51
3:C:260:ASN:OD1	3:C:263:THR:N	2.42	0.51
3:C:266:PHE:CD1	3:C:266:PHE:N	2.78	0.51
6:F:117:LEU:O	6:F:177:PHE:HA	2.11	0.51
8:H:26:ALA:HA	8:H:30:LEU:HB2	1.92	0.51
9:I:18:ALA:O	9:I:19:ASN:CB	2.59	0.51
11:K:2:ILE:HB	11:K:33:ALA:O	2.11	0.51
18:R:3:ALA:HB2	18:R:101:ILE:HG23	1.93	0.51
1:A:1636:U:H2'	1:A:1637:A:C8	2.45	0.50
1:A:1739:A:H2'	1:A:1740:G:O5'	2.11	0.50
1:A:1682:G:N2	1:A:1757:A:O4'	2.44	0.50
1:A:1951:U:H2'	1:A:1953:A:OP2	2.11	0.50
1:A:2024:G:OP2	1:A:2034:U:H4'	2.11	0.50
1:A:2223:G:H2'	1:A:2224:G:H5'	1.93	0.50
1:A:1938:A:C6	1:A:2590:A:H1'	2.45	0.50
1:A:483:A:C8	1:A:484:C:C5	2.99	0.50
2:B:14:U:O2'	2:B:14:U:O2	2.27	0.50
5:E:170:ARG:HG3	5:E:174:GLY:O	2.10	0.50
7:G:89:LEU:HD12	7:G:162:VAL:HG22	1.93	0.50
17:Q:32:TYR:C	17:Q:32:TYR:CD2	2.84	0.50
17:Q:65:ILE:HD11	17:Q:95:LEU:HB2	1.93	0.50
18:R:49:ILE:O	18:R:49:ILE:HG13	2.11	0.50
28:1:47:VAL:HG12	28:1:48:ILE:N	2.26	0.50
1:A:1062:G:C2	1:A:1063:G:N1	2.80	0.50
1:A:1063:G:O2'	9:I:89:GLY:HA3	2.12	0.50
1:A:1799:G:N2	1:A:1818:U:O2'	2.42	0.50
1:A:2341:G:C2	1:A:2342:C:C2	2.99	0.50
1:A:2351:G:H1'	1:A:2367:G:N2	2.26	0.50
1:A:2822:G:H2'	1:A:2823:A:H5''	1.93	0.50
1:A:2857:G:N2	1:A:2860:A:OP2	2.36	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:699:A:C2'	1:A:700:G:H5'	2.40	0.50
8:H:5:LEU:HA	8:H:36:ALA:HA	1.92	0.50
9:I:71:THR:C	9:I:72:LYS:HD3	2.31	0.50
12:L:79:LEU:HB3	12:L:114:GLY:O	2.11	0.50
22:V:9:ARG:HG3	22:V:41:GLU:HB3	1.93	0.50
1:A:1417:C:N4	1:A:1418:G:C6	2.79	0.50
1:A:1866:A:C8	1:A:1867:G:C8	2.99	0.50
1:A:2244:U:C5	1:A:2245:U:C5	2.98	0.50
1:A:2382:G:OP1	1:A:2382:G:H3'	2.11	0.50
1:A:2767:C:C2'	1:A:2768:U:H5'	2.41	0.50
1:A:2823:A:C5	1:A:2824:C:C5	3.00	0.50
1:A:2886:A:C2	1:A:2887:A:H1'	2.46	0.50
1:A:335:C:H6	1:A:335:C:O5'	1.94	0.50
1:A:447:A:H5'	1:A:449:A:C4	2.46	0.50
1:A:453:A:H4'	1:A:472:A:N6	2.26	0.50
1:A:690:G:H1'	1:A:779:U:O3'	2.12	0.50
3:C:147:LYS:HG3	3:C:150:LYS:HD2	1.93	0.50
6:F:58:ALA:HB2	6:F:65:PRO:HD3	1.93	0.50
8:H:127:GLU:HG3	8:H:145:ASN:HA	1.93	0.50
10:J:56:VAL:HB	10:J:124:VAL:HG12	1.94	0.50
22:V:63:ILE:HD12	22:V:72:VAL:HG21	1.93	0.50
1:A:2080:A:OP1	24:X:20:HIS:HB2	2.11	0.50
1:A:1127:A:H2'	1:A:1128:G:H5''	1.94	0.50
1:A:2466:C:OP1	31:4:4:ARG:HB2	2.12	0.50
1:A:310:A:C5	1:A:330:A:C6	2.99	0.50
1:A:591:U:C2	1:A:592:A:C8	2.99	0.50
1:A:851:C:O2'	26:Z:43:ALA:O	2.28	0.50
3:C:31:ALA:HB3	3:C:32:PRO:CD	2.41	0.50
5:E:12:LEU:HD23	5:E:13:THR:N	2.26	0.50
7:G:115:HIS:HE1	7:G:144:VAL:HG13	1.77	0.50
1:A:636:G:C6	12:L:111:ILE:HD11	2.46	0.50
21:U:13:VAL:HB	21:U:18:ASP:O	2.11	0.50
1:A:396:G:C1'	24:X:29:PHE:HB3	2.42	0.50
26:Z:6:LYS:HB2	26:Z:58:GLU:HG3	1.93	0.50
1:A:1073:A:H4'	1:A:2474:U:H4'	1.94	0.50
1:A:1179:G:C6	1:A:1180:U:H1'	2.47	0.50
1:A:1248:G:N3	17:Q:3:ARG:HG3	2.26	0.50
1:A:786:C:H5''	1:A:1780:A:N7	2.26	0.50
1:A:1856:U:O4	1:A:1857:G:N1	2.44	0.50
1:A:222:A:H3'	1:A:421:C:H5'	1.93	0.50
1:A:2853:C:H2'	1:A:2854:G:C8	2.46	0.50
1:A:310:A:HO2'	1:A:311:A:P	2.28	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:5:U:C2	2:B:116:G:N2	2.79	0.50
3:C:238:ARG:O	3:C:239:ASN:O	2.30	0.50
4:D:12:THR:CG2	16:P:5:ILE:HG23	2.41	0.50
12:L:102:GLY:N	35:L:202:HOH:O	2.43	0.50
12:L:111:ILE:N	12:L:111:ILE:HD12	2.26	0.50
12:L:93:ASN:OD1	12:L:94:THR:N	2.44	0.50
16:P:18:PRO:HG3	16:P:84:ILE:O	2.12	0.50
21:U:54:GLN:N	21:U:55:PRO:HD3	2.27	0.50
23:W:38:VAL:HG21	23:W:80:ILE:CD1	2.42	0.50
24:X:12:PRO:HB3	24:X:28:ARG:NH2	2.27	0.50
1:A:1525:A:H2'	1:A:1526:C:O4'	2.12	0.50
1:A:1906:G:OP1	1:A:1930:G:C8	2.65	0.50
1:A:2103:C:H2'	1:A:2104:C:C6	2.46	0.50
1:A:2147:A:N7	1:A:2148:G:C5	2.79	0.50
1:A:2209:G:N2	1:A:2216:G:C4	2.79	0.50
1:A:2216:G:H2'	1:A:2217:G:C8	2.47	0.50
1:A:2326:C:C1'	1:A:2327:A:OP1	2.59	0.50
1:A:2506:U:O2	1:A:2506:U:H2'	2.10	0.50
4:D:176:ASP:HB2	4:D:190:LYS:HB3	1.92	0.50
7:G:138:LYS:O	7:G:141:ILE:HG13	2.12	0.50
10:J:77:HIS:HA	10:J:83:GLY:O	2.12	0.50
14:N:29:VAL:HG13	14:N:83:LEU:HD11	1.94	0.50
14:N:66:ALA:O	14:N:70:THR:HG23	2.12	0.50
19:S:73:LYS:CB	19:S:106:VAL:HB	2.41	0.50
22:V:20:LEU:HD22	22:V:27:PRO:HD3	1.93	0.50
23:W:34:GLY:O	23:W:35:SER:C	2.50	0.50
1:A:1240:U:HO2'	1:A:1241:A:P	2.34	0.50
1:A:2053:G:H2'	1:A:2054:A:O4'	2.11	0.50
1:A:844:A:C2	1:A:845:A:N7	2.80	0.50
5:E:1:MET:CG	5:E:14:VAL:HG23	2.42	0.50
5:E:28:VAL:O	5:E:32:VAL:HG23	2.12	0.50
5:E:5:LEU:O	5:E:6:LYS:C	2.49	0.50
12:L:92:LEU:CD2	12:L:124:GLY:HA3	2.42	0.50
21:U:74:ASN:ND2	21:U:96:PHE:CG	2.79	0.50
1:A:1109:C:H5''	1:A:1110:G:OP2	2.12	0.50
1:A:1247:A:O3'	17:Q:2:ALA:HB3	2.11	0.50
1:A:2104:C:H2'	1:A:2105:U:O4'	2.12	0.50
1:A:2261:C:H5''	23:W:19:LYS:HZ3	1.76	0.50
1:A:2323:G:C6	1:A:2324:U:C4	3.00	0.50
1:A:2391:G:OP2	30:3:35:LYS:NZ	2.35	0.50
1:A:307:G:N2	1:A:310:A:C8	2.80	0.50
1:A:362:A:C4	1:A:363:G:C8	3.00	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:396:G:OP1	24:X:13:VAL:HG11	2.11	0.50
1:A:457:A:N1	1:A:470:A:H5''	2.26	0.50
1:A:555:G:O2'	1:A:556:A:OP2	2.29	0.50
1:A:699:A:N6	1:A:733:G:O2'	2.44	0.50
3:C:260:ASN:O	3:C:261:LYS:HB2	2.12	0.50
5:E:148:ILE:HG12	5:E:168:ASP:O	2.12	0.50
7:G:98:VAL:HG22	7:G:125:CYS:SG	2.52	0.50
8:H:44:ILE:O	8:H:48:GLU:HB2	2.12	0.50
16:P:46:VAL:HG12	16:P:47:VAL:N	2.26	0.50
1:A:2012:G:OP1	19:S:98:LYS:HG2	2.11	0.50
1:A:1491:G:C6	1:A:1500:G:C2	3.00	0.50
1:A:1593:A:H2'	1:A:1594:U:O4'	2.12	0.50
1:A:2165:C:O2	1:A:2165:C:H2'	2.11	0.50
1:A:443:A:C8	5:E:40:ARG:HD3	2.47	0.50
1:A:654:A:H3'	1:A:654:A:N3	2.27	0.50
1:A:715:A:N6	1:A:716:A:C6	2.79	0.50
1:A:810:U:C4	12:L:30:THR:HA	2.46	0.50
1:A:2637:U:H5''	4:D:83:ARG:NH2	2.26	0.50
18:R:82:HIS:O	18:R:82:HIS:CG	2.65	0.50
20:T:82:LYS:HG2	20:T:83:ALA:N	2.27	0.50
25:Y:35:GLY:C	25:Y:36:GLN:HG3	2.33	0.50
1:A:1045:C:C3'	1:A:1046:A:H5'	2.41	0.49
1:A:1323:C:C4	1:A:1324:G:N7	2.80	0.49
1:A:1581:G:C5	1:A:1582:C:C5	3.00	0.49
1:A:1651:G:N2	1:A:2007:U:C2	2.80	0.49
1:A:1738:G:O2'	1:A:1739:A:P	2.69	0.49
1:A:222:A:H3'	1:A:421:C:C5'	2.41	0.49
1:A:223:A:N1	1:A:407:G:O2'	2.36	0.49
1:A:2847:U:H2'	1:A:2848:G:H5'	1.94	0.49
1:A:406:G:H2'	1:A:407:G:O4'	2.11	0.49
1:A:734:A:C5	1:A:735:A:C8	3.00	0.49
3:C:51:THR:O	3:C:54:ILE:HG13	2.12	0.49
5:E:113:VAL:HG23	5:E:118:LEU:HD23	1.93	0.49
11:K:10:VAL:CG1	11:K:12:ASP:OD1	2.59	0.49
14:N:74:GLU:O	14:N:77:ALA:HB3	2.12	0.49
20:T:51:PHE:O	20:T:53:VAL:HG22	2.12	0.49
1:A:1016:G:C2	1:A:1147:A:C2	3.00	0.49
1:A:1438:U:O2	1:A:1555:G:N2	2.45	0.49
1:A:2128:G:N3	1:A:2173:A:O2'	2.46	0.49
1:A:2199:A:C4	1:A:2225:A:N1	2.81	0.49
1:A:769:U:C4	1:A:770:G:N7	2.81	0.49
2:B:48:U:H2'	2:B:49:C:C6	2.47	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1566:A:C2	3:C:213:TRP:CE3	3.00	0.49
3:C:53:HIS:NE2	3:C:219:THR:HG23	2.27	0.49
8:H:81:ALA:C	8:H:149:GLU:HB3	2.33	0.49
20:T:2:ILE:HG23	20:T:3:ARG:C	2.32	0.49
21:U:33:LYS:HE2	21:U:66:GLN:CD	2.32	0.49
2:B:76:G:OP1	22:V:9:ARG:NH2	2.45	0.49
23:W:71:VAL:HG13	23:W:76:ASN:O	2.12	0.49
24:X:3:ARG:HG2	24:X:33:LEU:HD22	1.94	0.49
26:Z:10:THR:HG22	26:Z:54:MET:C	2.33	0.49
29:2:44:VAL:HG13	29:2:45:SER:N	2.28	0.49
1:A:1140:C:O4'	1:A:1143:A:C2	2.65	0.49
1:A:1196:C:H1'	1:A:1226:A:C4	2.47	0.49
1:A:1370:C:H2'	1:A:1371:G:O4'	2.12	0.49
1:A:1456:G:C5	1:A:1457:U:C5	3.00	0.49
1:A:1479:G:H2'	1:A:1480:C:O4'	2.12	0.49
1:A:1998:A:H2'	1:A:1999:C:O4'	2.11	0.49
1:A:2757:A:N1	7:G:67:THR:CG2	2.74	0.49
1:A:289:G:H2'	1:A:290:U:O4'	2.12	0.49
1:A:308:G:C6	1:A:309:A:C6	3.01	0.49
1:A:445:C:O2'	1:A:449:A:N3	2.45	0.49
1:A:549:G:N3	1:A:549:G:O4'	2.44	0.49
1:A:771:G:C6	1:A:772:C:C5	3.01	0.49
1:A:82:U:H5'	1:A:296:U:H5''	1.94	0.49
1:A:982:C:H5''	1:A:983:A:P	2.52	0.49
3:C:159:GLY:N	3:C:195:VAL:HG22	2.28	0.49
5:E:149:ILE:CG2	5:E:188:MET:HG2	2.42	0.49
5:E:22:ASP:N	5:E:22:ASP:OD2	2.45	0.49
5:E:97:ASN:HB2	5:E:100:MET:HB2	1.92	0.49
8:H:5:LEU:HD11	8:H:13:GLY:HA2	1.93	0.49
11:K:38:ILE:HD13	11:K:61:VAL:HB	1.93	0.49
20:T:35:ALA:HB3	20:T:38:ALA:HB2	1.94	0.49
1:A:1476:U:H1'	1:A:1732:C:O2	2.12	0.49
1:A:1663:G:C6	1:A:1992:G:C8	3.00	0.49
1:A:2037:A:N6	1:A:2038:G:O6	2.46	0.49
1:A:2066:C:H5''	35:A:3505:HOH:O	2.13	0.49
1:A:2131:U:H5'	1:A:2132:U:C5'	2.42	0.49
1:A:2376:A:H2'	1:A:2377:A:O4'	2.12	0.49
1:A:2612:C:H5''	1:A:2613:U:OP1	2.13	0.49
1:A:347:A:C2	1:A:348:A:C4	3.01	0.49
1:A:404:A:C4'	1:A:405:U:OP2	2.61	0.49
1:A:604:G:N1	1:A:605:G:C5	2.80	0.49
1:A:2094:A:OP1	8:H:22:LYS:HG3	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1530:G:N2	1:A:1542:U:C2	2.80	0.49
1:A:1688:U:C4	1:A:1698:A:C2	3.00	0.49
1:A:2372:U:H2'	1:A:2373:G:C8	2.48	0.49
1:A:2627:G:N2	1:A:2777:G:OP2	2.45	0.49
1:A:585:G:H2'	1:A:586:A:N7	2.27	0.49
1:A:813:U:H2'	1:A:814:C:C6	2.46	0.49
1:A:945:A:C5	1:A:2448:A:C2	3.00	0.49
2:B:38:C:H2'	2:B:39:A:O4'	2.12	0.49
3:C:146:MET:SD	3:C:154:LEU:HD21	2.53	0.49
4:D:104:VAL:O	4:D:105:LYS:HB3	2.12	0.49
4:D:3:GLY:HA3	4:D:204:LYS:HG2	1.93	0.49
1:A:121:G:O5'	1:A:121:G:H8	1.95	0.49
1:A:1408:G:N2	1:A:1595:C:H1'	2.27	0.49
1:A:1638:C:O2'	1:A:2698:U:O2	2.30	0.49
1:A:1645:G:H4'	1:A:1646:C:C6	2.48	0.49
1:A:2144:G:C2	1:A:2146:C:O2	2.65	0.49
1:A:2415:G:C5	1:A:2416:C:C4	3.01	0.49
1:A:2511:U:C5	1:A:2512:C:C5	3.01	0.49
1:A:2834:G:H2'	1:A:2879:A:N6	2.27	0.49
1:A:749:A:C4	1:A:750:A:C8	3.01	0.49
1:A:798:G:H2'	1:A:799:G:C8	2.47	0.49
2:B:25:U:H2'	2:B:26:C:O4'	2.12	0.49
1:A:2314:A:O4'	6:F:155:THR:HG21	2.13	0.49
17:Q:47:TYR:CE1	17:Q:51:ARG:NH2	2.80	0.49
1:A:1534:U:O2'	1:A:1537:G:O6	2.29	0.49
1:A:200:U:C4	1:A:248:G:N2	2.81	0.49
1:A:2020:A:C2	1:A:2022:U:O4'	2.65	0.49
1:A:2134:A:H62	1:A:2157:G:H1'	1.77	0.49
1:A:2351:G:O2'	1:A:2366:A:N6	2.39	0.49
1:A:953:G:O2'	1:A:954:G:H5'	2.13	0.49
7:G:11:VAL:O	7:G:48:ASN:CG	2.51	0.49
8:H:112:LYS:CG	8:H:113:SER:N	2.76	0.49
9:I:33:VAL:HG22	9:I:67:PHE:CE2	2.48	0.49
11:K:63:VAL:O	11:K:64:ARG:CG	2.61	0.49
11:K:63:VAL:O	11:K:64:ARG:HG2	2.12	0.49
1:A:833:A:P	12:L:39:LYS:HE2	2.53	0.49
1:A:2211:A:C1'	1:A:2212:A:OP1	2.61	0.49
1:A:2341:G:C6	1:A:2342:C:C4	3.01	0.49
1:A:469:G:O6	29:2:37:LYS:CE	2.60	0.49
1:A:70:G:H5''	1:A:112:U:O2	2.13	0.49
1:A:2811:G:OP1	4:D:62:LYS:N	2.45	0.49
1:A:319:G:OP2	5:E:132:LYS:HE2	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1060:U:H5	9:I:132:THR:HG23	1.78	0.49
21:U:18:ASP:HB3	21:U:21:LYS:HG3	1.94	0.49
1:A:242:G:N7	30:3:5:LYS:HG2	2.28	0.49
1:A:2702:G:C6	1:A:2703:C:C4	3.01	0.49
1:A:574:A:H4'	1:A:575:A:C5'	2.43	0.49
3:C:130:LEU:HD12	3:C:134:ASN:HB2	1.95	0.49
4:D:101:PHE:O	4:D:104:VAL:HG22	2.12	0.49
8:H:21:VAL:CG2	8:H:22:LYS:N	2.76	0.49
9:I:51:LYS:N	9:I:51:LYS:HD3	2.28	0.49
1:A:2780:G:O6	10:J:102:GLU:OE2	2.31	0.49
14:N:116:VAL:HG13	14:N:116:VAL:O	2.12	0.49
27:0:53:LYS:HE3	27:0:56:ALA:HA	1.95	0.49
30:3:33:LEU:HA	30:3:36:LYS:HD2	1.93	0.49
1:A:1095:A:H2'	1:A:1096:A:N9	2.27	0.49
1:A:1053:C:C2	1:A:1107:G:C2	3.01	0.49
1:A:1379:U:OP1	1:A:1379:U:C6	2.65	0.49
1:A:1677:A:N6	1:A:1678:A:C6	2.81	0.49
1:A:1739:A:C2'	1:A:1740:G:O5'	2.61	0.49
1:A:2054:A:C2	1:A:2616:C:C2	3.01	0.49
1:A:2060:A:O4'	1:A:2502:G:H1'	2.13	0.49
1:A:2282:G:C4	1:A:2425:A:N6	2.81	0.49
1:A:2540:C:H2'	1:A:2541:A:H8	1.77	0.49
1:A:2784:U:O4	1:A:2785:C:N4	2.46	0.49
3:C:160:THR:O	3:C:195:VAL:HG13	2.12	0.49
1:A:1805:A:H5''	3:C:248:TRP:CE2	2.48	0.49
8:H:72:ILE:O	8:H:141:LYS:O	2.30	0.49
9:I:33:VAL:HG22	9:I:67:PHE:CD2	2.47	0.49
16:P:39:ARG:HG3	16:P:40:LEU:N	2.27	0.49
21:U:96:PHE:CE1	21:U:103:ILE:CG1	2.96	0.49
1:A:2392:A:OP2	30:3:31:HIS:CE1	2.66	0.48
1:A:1180:U:H5'	1:A:1181:U:OP2	2.14	0.48
1:A:1265:A:C8	1:A:1267:U:N3	2.81	0.48
1:A:1343:G:N2	1:A:1405:U:C2	2.81	0.48
1:A:1601:G:C5	1:A:1602:U:C4	3.00	0.48
1:A:1753:G:N1	1:A:1756:G:C2	2.81	0.48
1:A:1760:C:H3'	1:A:1761:C:H6	1.77	0.48
1:A:415:A:C2	1:A:2409:G:C2	3.01	0.48
1:A:2573:C:OP1	1:A:2574:G:H5''	2.13	0.48
1:A:2693:G:N2	1:A:2717:C:C2	2.81	0.48
1:A:2732:G:O2'	1:A:2733:A:H5'	2.13	0.48
1:A:276:U:H2'	1:A:276:U:O2	2.12	0.48
1:A:279:A:H61	1:A:361:G:H1'	1.78	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:362:A:N3	1:A:362:A:H2'	2.28	0.48
1:A:599:A:N3	1:A:659:G:C2	2.81	0.48
1:A:682:G:H2'	1:A:682:G:N3	2.27	0.48
1:A:704:G:H1'	1:A:726:G:N2	2.28	0.48
3:C:9:THR:O	3:C:10:SER:CB	2.60	0.48
1:A:782:A:O2'	3:C:224:ALA:O	2.28	0.48
4:D:52:THR:O	4:D:77:ARG:HG2	2.13	0.48
9:I:10:LYS:HB2	9:I:56:PRO:HB3	1.95	0.48
9:I:28:LEU:HD13	9:I:38:PHE:CD2	2.47	0.48
12:L:28:GLY:O	12:L:29:LYS:HB3	2.12	0.48
1:A:2469:A:H4'	13:M:55:ARG:HD3	1.95	0.48
13:M:76:LYS:HE3	13:M:80:VAL:HG12	1.95	0.48
15:O:92:PHE:HB2	15:O:117:PHE:CE1	2.47	0.48
29:2:35:ARG:O	29:2:38:GLY:N	2.45	0.48
1:A:158:U:C2'	1:A:159:G:H5'	2.43	0.48
1:A:2185:U:H2'	1:A:2186:G:C8	2.48	0.48
1:A:382:A:N1	1:A:383:C:C2	2.81	0.48
1:A:479:A:N3	1:A:481:G:H5''	2.27	0.48
1:A:537:G:C6	1:A:555:G:C2	3.00	0.48
1:A:705:A:C2	1:A:727:A:O4'	2.67	0.48
5:E:45:ALA:HA	5:E:87:ALA:O	2.12	0.48
5:E:5:LEU:HD23	5:E:122:GLU:HG2	1.94	0.48
1:A:1060:U:C5	9:I:132:THR:HG23	2.48	0.48
11:K:76:VAL:CG1	16:P:73:VAL:HG22	2.43	0.48
11:K:99:ILE:HD13	11:K:118:LEU:HD12	1.94	0.48
15:O:72:ALA:HA	15:O:109:ALA:CB	2.43	0.48
24:X:17:ASN:HB2	24:X:25:THR:HB	1.95	0.48
1:A:1317:G:N2	1:A:1336:A:N3	2.61	0.48
1:A:1525:A:C5	1:A:1526:C:C4	3.01	0.48
1:A:1813:G:H2'	1:A:1814:G:O4'	2.12	0.48
1:A:2267:A:H5''	1:A:2268:A:H5'	1.95	0.48
1:A:582:A:N7	35:A:3285:HOH:O	2.35	0.48
1:A:583:G:C5	1:A:584:C:C5	3.01	0.48
2:B:35:C:C2'	2:B:36:C:O5'	2.61	0.48
1:A:2683:C:H4'	4:D:13:ARG:NH1	2.28	0.48
1:A:319:G:OP2	5:E:132:LYS:CE	2.61	0.48
6:F:122:PHE:O	6:F:123:ASP:C	2.50	0.48
1:A:1138:G:O2'	10:J:104:ALA:O	2.30	0.48
1:A:7:G:H4'	10:J:15:TRP:CH2	2.48	0.48
11:K:28:SER:O	11:K:29:HIS:HB2	2.13	0.48
14:N:114:GLU:OE2	14:N:118:ARG:CD	2.61	0.48
17:Q:58:ARG:NH2	17:Q:92:ARG:NH1	2.61	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:66:ILE:N	19:S:66:ILE:HD13	2.28	0.48
21:U:47:LYS:HB2	21:U:47:LYS:HE2	1.52	0.48
21:U:6:ARG:O	21:U:7:ARG:O	2.30	0.48
24:X:31:PRO:HB2	24:X:33:LEU:HD13	1.94	0.48
1:A:1058:U:H2'	1:A:1059:G:C8	2.48	0.48
1:A:1090:A:N6	1:A:1091:G:O6	2.46	0.48
1:A:1586:A:N6	1:A:1587:G:C2	2.81	0.48
1:A:1846:G:H5''	1:A:1847:A:OP2	2.12	0.48
1:A:2037:A:C6	1:A:2038:G:C6	3.01	0.48
1:A:2405:G:N2	1:A:2411:A:C8	2.81	0.48
1:A:2873:A:O4'	14:N:6:SER:HB2	2.13	0.48
1:A:784:G:N1	3:C:228:VAL:HG21	2.28	0.48
3:C:141:VAL:O	3:C:162:VAL:N	2.43	0.48
1:A:1277:G:H5'	14:N:20:MET:CE	2.43	0.48
14:N:51:LEU:HD23	14:N:51:LEU:N	2.27	0.48
23:W:33:ALA:N	23:W:64:ASP:OD2	2.46	0.48
26:Z:7:ILE:HD11	26:Z:48:ILE:HD11	1.96	0.48
1:A:1351:C:H2'	1:A:1352:U:O4'	2.13	0.48
1:A:1338:G:O2'	1:A:1393:A:N1	2.37	0.48
1:A:1567:G:OP1	3:C:85:PRO:HB3	2.13	0.48
1:A:1647:U:H3'	1:A:1647:U:P	2.54	0.48
1:A:1864:U:H2'	1:A:1865:U:H5'	1.94	0.48
1:A:1983:G:O2'	1:A:2606:C:H5'	2.13	0.48
1:A:2353:G:H2'	1:A:2354:C:O4'	2.13	0.48
1:A:27:G:N2	1:A:512:G:H1'	2.29	0.48
1:A:471:A:OP1	5:E:79:ARG:NH1	2.46	0.48
1:A:532:A:N7	1:A:2021:C:H2'	2.28	0.48
1:A:546:U:O2	1:A:546:U:H3'	2.13	0.48
1:A:737:C:C2	1:A:738:G:C8	3.02	0.48
1:A:664:G:H4'	1:A:941:A:OP1	2.13	0.48
5:E:145:ASP:HB3	5:E:184:ASP:HB2	1.96	0.48
1:A:2305:U:C4	6:F:152:LEU:HA	2.48	0.48
11:K:113:MET:SD	11:K:116:ILE:HD11	2.54	0.48
15:O:2:ASP:O	15:O:6:ALA:HB2	2.14	0.48
15:O:80:GLU:HA	15:O:83:LEU:HD12	1.96	0.48
4:D:179:ARG:NH1	16:P:8:LEU:HD21	2.29	0.48
20:T:39:THR:HG23	20:T:42:GLU:H	1.78	0.48
25:Y:18:LEU:O	25:Y:22:LEU:HB2	2.13	0.48
25:Y:23:ARG:NE	25:Y:23:ARG:HA	2.27	0.48
28:1:26:ASN:HB3	28:1:29:THR:OG1	2.13	0.48
1:A:1027:A:N6	1:A:1126:A:N3	2.61	0.48
1:A:1062:G:H2'	1:A:1063:G:C4	2.49	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:532:A:N1	1:A:2020:A:H1'	2.29	0.48
1:A:2131:U:C4'	1:A:2133:G:H1'	2.44	0.48
1:A:2563:U:H1'	1:A:2566:A:C6	2.49	0.48
1:A:703:U:C5	1:A:704:G:C6	3.01	0.48
1:A:769:U:C2	1:A:770:G:C8	3.01	0.48
1:A:783:A:H8	1:A:784:G:H4'	1.78	0.48
1:A:1820:U:OP1	3:C:177:ARG:CG	2.60	0.48
3:C:84:ASP:OD1	3:C:86:ASN:ND2	2.44	0.48
4:D:150:GLN:C	4:D:151:THR:O	2.50	0.48
5:E:5:LEU:HD13	5:E:10:SER:O	2.14	0.48
7:G:4:VAL:HG12	7:G:69:ARG:HG2	1.94	0.48
8:H:127:GLU:HG3	8:H:144:VAL:O	2.13	0.48
1:A:1076:C:H1'	9:I:93:PRO:HG2	1.95	0.48
12:L:110:VAL:HG21	12:L:127:VAL:HG22	1.95	0.48
20:T:39:THR:HA	20:T:81:LYS:HZ3	1.79	0.48
22:V:30:ILE:HD11	22:V:63:ILE:CD1	2.44	0.48
26:Z:47:MET:O	26:Z:51:VAL:HG22	2.14	0.48
30:3:52:LYS:O	30:3:53:GLY:C	2.51	0.48
31:4:12:ARG:NH1	31:4:12:ARG:HB2	2.28	0.48
1:A:1087:G:H2'	1:A:1088:A:H5'	1.96	0.48
1:A:1544:A:N6	1:A:1545:A:N1	2.61	0.48
1:A:1821:A:H2'	1:A:1822:C:O4'	2.14	0.48
1:A:204:A:O4'	1:A:206:U:C6	2.67	0.48
1:A:2766:A:N3	1:A:2766:A:H2'	2.29	0.48
1:A:300:A:O5'	21:U:82:ARG:NH1	2.46	0.48
1:A:327:G:N2	21:U:68:SER:HB2	2.29	0.48
1:A:374:A:C2	1:A:401:A:C4	3.01	0.48
1:A:681:G:C4	1:A:682:G:C8	3.02	0.48
8:H:117:LEU:HD11	8:H:130:VAL:HG22	1.95	0.48
10:J:9:GLU:O	10:J:10:THR:HG22	2.13	0.48
11:K:121:GLU:O	11:K:122:VAL:O	2.32	0.48
14:N:117:ASP:O	14:N:118:ARG:CB	2.60	0.48
27:0:44:THR:C	27:0:46:ASP:H	2.17	0.48
1:A:1313:U:H4'	1:A:1332:G:H4'	1.96	0.48
1:A:1470:A:H2'	1:A:1471:G:O5'	2.13	0.48
1:A:1708:C:H2'	1:A:1709:U:C6	2.49	0.48
1:A:24:G:N2	1:A:517:C:C2	2.82	0.48
1:A:448:U:H4'	1:A:449:A:OP2	2.13	0.48
1:A:14:A:N1	1:A:526:A:C2	2.81	0.48
1:A:629:G:O6	1:A:630:G:C6	2.66	0.48
1:A:830:G:C4	1:A:2448:A:C5	3.02	0.48
3:C:141:VAL:HG13	3:C:191:THR:O	2.14	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:162:VAL:HG12	3:C:163:GLN:N	2.27	0.48
4:D:112:THR:O	4:D:195:GLY:HA2	2.14	0.48
6:F:6:ASP:HA	6:F:9:LYS:HD2	1.96	0.48
7:G:17:VAL:HG12	7:G:19:ILE:HD11	1.95	0.48
14:N:69:ARG:O	14:N:71:ARG:N	2.38	0.48
19:S:58:ALA:O	19:S:62:ASP:O	2.31	0.48
21:U:96:PHE:CE1	21:U:103:ILE:HG13	2.48	0.48
1:A:1070:A:H2'	1:A:1097:U:OP1	2.14	0.48
1:A:1341:G:C2	20:T:84:TYR:CD2	3.01	0.48
1:A:2080:A:O5'	24:X:19:SER:HB2	2.14	0.48
1:A:536:G:H2'	1:A:537:G:O4'	2.14	0.48
1:A:627:A:O2'	12:L:76:GLU:OE1	2.32	0.48
1:A:947:A:HO2'	1:A:984:A:H2	1.59	0.48
3:C:3:VAL:HG11	3:C:202:LEU:HD23	1.95	0.48
5:E:23:PHE:CD1	5:E:111:GLU:HG3	2.49	0.48
7:G:38:ASN:HB3	7:G:41:VAL:HG23	1.96	0.48
7:G:39:ASP:HB3	7:G:58:TYR:OH	2.14	0.48
9:I:7:ALA:O	9:I:59:ILE:HB	2.14	0.48
11:K:105:ARG:HG2	11:K:122:VAL:HG12	1.96	0.48
1:A:1198:U:O2	17:Q:4:VAL:HG11	2.13	0.48
1:A:1062:G:N1	1:A:1077:A:C2	2.82	0.48
1:A:1308:A:H2'	1:A:1309:G:O4'	2.13	0.48
1:A:1361:G:C2	1:A:1362:C:C6	3.02	0.48
1:A:1775:U:H2'	1:A:1776:G:O5'	2.13	0.48
1:A:225:C:H2'	1:A:226:A:O4'	2.13	0.48
1:A:2387:U:H1'	23:W:41:ARG:CD	2.44	0.48
1:A:2491:U:C5'	1:A:2570:G:H5''	2.43	0.48
1:A:2615:U:H1'	27:O:4:GLN:HB3	1.96	0.48
1:A:937:C:C4	1:A:938:G:N7	2.82	0.48
2:B:84:G:C2	2:B:93:C:C2	3.02	0.48
4:D:142:VAL:HB	4:D:143:PRO:HD2	1.96	0.48
4:D:39:ASP:OD1	4:D:40:LEU:N	2.47	0.48
5:E:146:VAL:HG22	5:E:167:VAL:HG22	1.94	0.48
14:N:38:LEU:HB3	14:N:39:PRO:HD3	1.96	0.48
14:N:85:PRO:HA	14:N:88:ALA:HB2	1.95	0.48
29:2:10:LEU:O	29:2:14:ARG:HG3	2.14	0.47
1:A:121:G:H4'	1:A:149:A:H5'	1.95	0.47
1:A:1229:C:C2	1:A:1230:A:C8	3.02	0.47
1:A:1285:A:N6	1:A:1329:U:C6	2.82	0.47
1:A:1826:G:C4	1:A:1827:U:C6	3.02	0.47
1:A:1870:C:C3'	1:A:1871:A:H5'	2.44	0.47
1:A:1893:C:C5	1:A:1894:C:C5	3.02	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2142:A:C2	1:A:2150:C:N3	2.82	0.47
1:A:883:G:N2	1:A:894:U:O2	2.47	0.47
12:L:68:SER:O	12:L:69:ARG:CB	2.61	0.47
13:M:62:LYS:HD3	13:M:64:TRP:CZ2	2.49	0.47
20:T:2:ILE:HG23	20:T:4:GLU:N	2.29	0.47
20:T:20:ALA:HA	20:T:31:VAL:HG21	1.96	0.47
25:Y:60:LYS:O	25:Y:61:ALA:C	2.52	0.47
30:3:7:VAL:HB	30:3:61:CYS:HB3	1.95	0.47
1:A:1014:A:C2	1:A:1149:G:C2	3.02	0.47
1:A:1515:A:H5'	1:A:1516:G:OP2	2.15	0.47
1:A:1754:A:C6	1:A:1755:A:C6	3.02	0.47
1:A:2114:A:H2'	1:A:2114:A:N3	2.29	0.47
1:A:2111:U:H5	1:A:2145:C:H2'	1.78	0.47
1:A:2491:U:H5'	1:A:2570:G:H5'	1.96	0.47
1:A:1662:U:O2	1:A:2687:U:H4'	2.13	0.47
1:A:2886:A:C2	27:0:29:SER:HB3	2.49	0.47
1:A:67:U:H2'	1:A:68:G:O4'	2.14	0.47
1:A:742:A:H2'	1:A:743:A:C8	2.49	0.47
3:C:39:LYS:HE3	3:C:56:GLY:O	2.14	0.47
3:C:29:PRO:HG3	3:C:63:ARG:CZ	2.43	0.47
4:D:172:VAL:CG2	4:D:194:PRO:HD3	2.44	0.47
8:H:83:LYS:CG	8:H:149:GLU:CG	2.86	0.47
13:M:107:GLY:C	13:M:108:VAL:HG22	2.35	0.47
13:M:78:LEU:O	13:M:79:ALA:HB3	2.14	0.47
15:O:99:TYR:CD1	15:O:99:TYR:O	2.67	0.47
16:P:52:ASN:O	16:P:53:ARG:HD3	2.14	0.47
18:R:52:PRO:O	18:R:53:PHE:CB	2.62	0.47
25:Y:56:LEU:O	25:Y:57:LEU:HB3	2.14	0.47
1:A:1475:G:HO2'	1:A:1476:U:P	2.38	0.47
1:A:1833:C:C4	1:A:1834:U:C5	3.02	0.47
1:A:2160:C:H2'	1:A:2161:C:O4'	2.14	0.47
1:A:2253:G:C5	1:A:2254:C:C5	3.02	0.47
1:A:510:C:C4	1:A:511:U:C4	3.02	0.47
1:A:79:C:O2	1:A:108:G:C2	2.68	0.47
1:A:961:C:C4	1:A:2031:A:C4	3.01	0.47
3:C:34:LEU:O	3:C:35:GLU:CB	2.62	0.47
5:E:197:GLU:O	5:E:201:ALA:HB2	2.15	0.47
7:G:10:VAL:HG13	7:G:10:VAL:O	2.14	0.47
1:A:17:G:H4'	17:Q:25:TYR:CE1	2.48	0.47
25:Y:9:LYS:H	25:Y:12:GLU:HG3	1.78	0.47
1:A:1437:C:C4	1:A:1438:U:C4	3.03	0.47
1:A:1609:A:H5''	35:A:3645:HOH:O	2.13	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1668:A:H4'	1:A:1669:A:O5'	2.14	0.47
1:A:1649:G:O6	1:A:2009:A:N6	2.47	0.47
1:A:221:A:C8	1:A:266:G:O6	2.68	0.47
1:A:2799:A:C6	1:A:2801:G:C5	3.03	0.47
1:A:612:G:O2'	1:A:613:A:C8	2.67	0.47
1:A:659:G:H4'	5:E:95:LYS:HD3	1.95	0.47
2:B:66:A:N6	2:B:107:G:H2'	2.30	0.47
7:G:93:GLY:HA2	7:G:95:ARG:NH2	2.29	0.47
8:H:5:LEU:HD13	8:H:13:GLY:HA3	1.96	0.47
8:H:32:PRO:HB3	24:X:39:TRP:CB	2.43	0.47
8:H:62:LEU:HD22	8:H:62:LEU:O	2.14	0.47
17:Q:61:TRP:HB3	17:Q:92:ARG:O	2.15	0.47
24:X:33:LEU:O	24:X:34:HIS:ND1	2.47	0.47
25:Y:28:LEU:HD23	25:Y:37:LEU:HD11	1.96	0.47
28:1:8:LYS:HG3	28:1:24:THR:HG22	1.95	0.47
1:A:1254:A:C6	5:E:77:ILE:HD12	2.49	0.47
1:A:135:U:H2'	1:A:136:G:C8	2.49	0.47
1:A:1469:A:N1	1:A:1470:A:C6	2.82	0.47
1:A:1351:C:O2'	1:A:1571:A:H1'	2.14	0.47
1:A:2084:C:C4	1:A:2085:U:C4	3.02	0.47
1:A:2109:U:H1'	1:A:2181:U:O2	2.15	0.47
1:A:2280:G:O2'	1:A:2388:A:N1	2.42	0.47
1:A:2061:G:H2'	1:A:2501:C:O2'	2.15	0.47
1:A:301:G:C5	1:A:317:G:C6	3.02	0.47
1:A:309:A:H4'	21:U:16:GLY:HA2	1.97	0.47
1:A:389:G:C8	1:A:2413:G:H4'	2.48	0.47
1:A:216:A:C8	1:A:432:A:C6	3.02	0.47
1:A:548:G:H4'	1:A:549:G:C2	2.50	0.47
1:A:597:G:C2	1:A:661:A:C2	3.03	0.47
13:M:72:PRO:HB3	13:M:92:TRP:CZ3	2.49	0.47
17:Q:50:ARG:NH2	18:R:74:ILE:HG13	2.29	0.47
19:S:84:ARG:HB2	19:S:96:ILE:CG1	2.44	0.47
21:U:7:ARG:HG3	21:U:8:ASP:H	1.79	0.47
24:X:71:LEU:HA	24:X:74:ARG:HG2	1.96	0.47
1:A:1468:U:H2'	1:A:1522:A:N6	2.30	0.47
1:A:1652:A:OP1	14:N:8:ARG:NH2	2.43	0.47
1:A:195:A:C5	1:A:198:C:C5	3.03	0.47
1:A:2013:A:N1	1:A:2014:A:N3	2.63	0.47
1:A:2033:A:P	35:A:3476:HOH:O	2.73	0.47
1:A:2131:U:H4'	1:A:2133:G:C1'	2.45	0.47
1:A:2131:U:O4'	1:A:2133:G:H1'	2.15	0.47
1:A:2214:C:C2	1:A:2215:C:C6	3.03	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:404:A:H1'	1:A:405:U:OP2	2.15	0.47
18:R:29:THR:CG2	18:R:29:THR:O	2.63	0.47
18:R:66:HIS:CD2	18:R:94:THR:CG2	2.97	0.47
24:X:71:LEU:HB2	24:X:76:GLU:HB2	1.95	0.47
1:A:1304:A:C6	1:A:1305:C:C4	3.02	0.47
1:A:1529:G:O6	1:A:1543:G:C2	2.68	0.47
1:A:207:A:C2	1:A:208:C:H1'	2.50	0.47
1:A:2282:G:C2	1:A:2425:A:N6	2.83	0.47
1:A:2843:G:C2	1:A:2875:C:N3	2.82	0.47
1:A:974:G:H1'	1:A:975:A:C8	2.50	0.47
2:B:94:A:H2'	2:B:95:U:O4'	2.15	0.47
3:C:160:THR:N	3:C:195:VAL:HG13	2.30	0.47
1:A:1993:U:H4'	4:D:133:THR:HG22	1.95	0.47
12:L:92:LEU:HD21	12:L:124:GLY:HA3	1.96	0.47
17:Q:47:TYR:CE2	17:Q:51:ARG:CZ	2.98	0.47
19:S:39:THR:HG22	19:S:39:THR:O	2.15	0.47
21:U:34:VAL:O	21:U:64:ALA:HA	2.14	0.47
21:U:83:VAL:HG12	21:U:84:GLY:N	2.30	0.47
22:V:87:GLN:O	22:V:88:HIS:HB2	2.14	0.47
1:A:190:A:H2'	1:A:191:A:O4'	2.15	0.47
1:A:2195:U:N3	1:A:2196:C:C5	2.82	0.47
1:A:2729:G:H2'	1:A:2730:C:O4'	2.15	0.47
1:A:352:A:H2'	1:A:353:C:C6	2.50	0.47
1:A:228:C:N4	1:A:417:C:O2	2.44	0.47
1:A:53:A:N7	1:A:54:G:C8	2.82	0.47
1:A:848:C:H2'	1:A:849:A:H8	1.79	0.47
12:L:105:ILE:CG2	12:L:107:PHE:O	2.63	0.47
12:L:110:VAL:HG12	12:L:131:ALA:HB1	1.97	0.47
20:T:11:LEU:HG	20:T:46:ALA:HB1	1.97	0.47
24:X:13:VAL:O	24:X:13:VAL:HG23	2.14	0.47
1:A:1462:C:N3	1:A:1463:C:C5	2.83	0.47
1:A:1605:C:H2'	1:A:1606:C:H5'	1.96	0.47
1:A:1791:A:C8	1:A:1792:G:C8	3.03	0.47
1:A:806:C:O2'	1:A:2445:G:H4'	2.15	0.47
1:A:2540:C:H2'	1:A:2541:A:C8	2.50	0.47
1:A:2596:U:C5	1:A:2597:G:C5	3.03	0.47
1:A:2798:U:H4'	1:A:2799:A:H5'	1.96	0.47
1:A:46:G:N1	1:A:47:C:C4	2.83	0.47
1:A:46:G:N1	1:A:47:C:C5	2.83	0.47
1:A:630:G:C3'	1:A:631:A:H5''	2.45	0.47
1:A:836:G:H2'	1:A:837:C:C6	2.50	0.47
2:B:71:C:C2	2:B:106:G:N2	2.83	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:2:ILE:HA	20:T:3:ARG:CB	2.45	0.47
25:Y:31:GLN:HG2	25:Y:37:LEU:HB2	1.97	0.47
1:A:1050:A:C2	1:A:2751:G:C4	3.03	0.47
1:A:1178:C:H2'	1:A:1179:G:N7	2.30	0.47
1:A:1255:U:C2'	1:A:1256:G:OP1	2.63	0.47
1:A:137:U:H2'	1:A:140:C:C2	2.49	0.47
1:A:1422:G:N2	1:A:1577:C:H1'	2.30	0.47
1:A:167:A:C2	1:A:168:G:H1'	2.50	0.47
1:A:17:G:H4'	17:Q:25:TYR:HE1	1.80	0.47
1:A:1934:C:H4'	1:A:1974:C:O3'	2.15	0.47
1:A:2000:C:O2'	1:A:2688:G:H5''	2.14	0.47
1:A:2053:G:H5'	4:D:149:ASN:O	2.15	0.47
1:A:2408:U:H2'	1:A:2409:G:C8	2.50	0.47
1:A:2392:A:C8	1:A:2429:G:C2	3.03	0.47
1:A:2821:A:OP2	4:D:115:GLY:N	2.48	0.47
1:A:508:A:C3'	1:A:509:C:H5'	2.45	0.47
1:A:588:U:H1'	5:E:85:PHE:CD1	2.49	0.47
1:A:607:U:H5	1:A:619:G:C5	2.32	0.47
1:A:669:G:C2'	1:A:669:G:N3	2.78	0.47
1:A:672:C:N4	1:A:673:C:N4	2.63	0.47
1:A:749:A:C6	1:A:750:A:N7	2.83	0.47
1:A:818:G:C2'	1:A:819:A:H5''	2.44	0.47
5:E:97:ASN:HB2	5:E:100:MET:SD	2.55	0.47
5:E:195:GLN:O	5:E:199:MET:HB2	2.15	0.47
5:E:61:ARG:HD2	5:E:63:LYS:O	2.15	0.47
11:K:35:VAL:HG22	11:K:69:VAL:HG12	1.96	0.47
11:K:4:GLU:C	11:K:5:GLN:HG2	2.35	0.47
1:A:1029:A:N7	1:A:1030:C:C2	2.83	0.47
1:A:1060:U:O4'	1:A:1062:G:C5'	2.61	0.47
1:A:1154:G:P	17:Q:58:ARG:HH11	2.38	0.47
1:A:1603:A:OP2	1:A:1604:C:OP2	2.33	0.47
1:A:1736:U:H2'	1:A:1737:G:O4'	2.15	0.47
1:A:2024:G:N2	1:A:2040:G:H1'	2.29	0.47
1:A:208:C:H2'	1:A:209:C:C6	2.50	0.47
1:A:642:U:H5'	1:A:2349:G:O3'	2.15	0.47
1:A:2389:G:H5''	1:A:2390:U:H5'	1.97	0.47
1:A:2849:U:H4'	1:A:2868:A:C2	2.50	0.47
1:A:2800:A:C2	1:A:2895:G:H1'	2.49	0.47
1:A:392:U:H2'	1:A:393:C:C6	2.50	0.47
4:D:121:THR:HG21	4:D:143:PRO:HB3	1.96	0.47
21:U:28:VAL:HB	21:U:34:VAL:HG12	1.97	0.47
1:A:1364:G:C8	24:X:2:SER:CA	2.98	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1366:A:C2	1:A:1367:A:H1'	2.50	0.46
1:A:1599:U:C4	1:A:1600:C:C4	3.03	0.46
1:A:1665:A:C6	1:A:1666:G:C5	3.03	0.46
1:A:1831:G:C2	1:A:1975:G:C4	3.03	0.46
1:A:2058:A:C6	1:A:2059:A:N6	2.83	0.46
1:A:2267:A:H5''	1:A:2268:A:C5'	2.46	0.46
1:A:2339:C:H2'	1:A:2340:A:C8	2.51	0.46
1:A:249:C:P	1:A:2394:C:HO2'	2.37	0.46
1:A:323:C:H6	1:A:1205:A:N1	2.13	0.46
1:A:512:G:OP1	1:A:1234:U:O2'	2.31	0.46
1:A:53:A:C8	1:A:54:G:N7	2.82	0.46
1:A:822:G:C6	1:A:836:G:C2	3.02	0.46
1:A:866:A:O4'	1:A:914:G:C2	2.68	0.46
1:A:2772:C:H5'	4:D:173:GLN:NE2	2.30	0.46
4:D:62:LYS:HB2	4:D:63:PRO:HD3	1.97	0.46
12:L:56:PRO:HD2	12:L:59:ARG:HB2	1.97	0.46
15:O:51:ALA:HB3	15:O:78:VAL:HG22	1.97	0.46
1:A:1197:G:H2'	1:A:1198:U:H6	1.78	0.46
1:A:1364:G:N3	1:A:1368:G:C2	2.83	0.46
1:A:1370:C:H2'	1:A:1371:G:C8	2.50	0.46
1:A:1607:C:O2	1:A:1621:U:C6	2.68	0.46
1:A:1766:G:C6	1:A:1987:A:C6	3.03	0.46
1:A:204:A:C8	1:A:206:U:C2	3.03	0.46
1:A:1801:A:C4	1:A:2203:U:C5	3.03	0.46
1:A:2087:G:C2	1:A:2233:U:O2	2.68	0.46
1:A:2499:C:C4	1:A:2500:U:C4	3.04	0.46
1:A:2528:U:O2'	1:A:2529:G:H3'	2.14	0.46
1:A:2784:U:C4	1:A:2785:C:N4	2.83	0.46
1:A:630:G:N2	1:A:633:A:OP2	2.38	0.46
1:A:783:A:C8	1:A:784:G:H4'	2.50	0.46
1:A:789:A:N1	35:A:3312:HOH:O	2.36	0.46
1:A:933:A:H5'	1:A:934:U:OP2	2.14	0.46
3:C:254:GLY:O	3:C:255:LYS:CB	2.62	0.46
6:F:15:LYS:O	6:F:19:GLU:HG3	2.15	0.46
10:J:39:LYS:NZ	10:J:44:TYR:CZ	2.84	0.46
10:J:73:VAL:HB	10:J:75:TYR:CE2	2.50	0.46
11:K:107:LEU:O	11:K:109:SER:N	2.48	0.46
16:P:16:ASP:N	16:P:16:ASP:OD2	2.48	0.46
19:S:14:ALA:HB1	19:S:18:ARG:CZ	2.45	0.46
21:U:5:ILE:HG22	21:U:6:ARG:N	2.30	0.46
21:U:7:ARG:CG	21:U:8:ASP:N	2.78	0.46
22:V:42:LEU:HD12	22:V:47:VAL:HG21	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:Y:51:ALA:O	25:Y:55:THR:OG1	2.32	0.46
29:2:34:ARG:HB2	29:2:42:LEU:CD1	2.45	0.46
1:A:1061:U:O2	1:A:1061:U:H2'	2.15	0.46
1:A:1331:G:O2'	1:A:1332:G:H5'	2.16	0.46
1:A:1835:G:N7	35:A:3468:HOH:O	2.35	0.46
1:A:235:U:C2	1:A:236:C:C6	3.03	0.46
1:A:2531:A:C4	1:A:2532:G:C8	3.03	0.46
1:A:600:G:C5	1:A:601:C:C4	3.04	0.46
1:A:699:A:H2'	1:A:700:G:O4'	2.14	0.46
5:E:148:ILE:HG21	5:E:157:LEU:HD21	1.98	0.46
8:H:41:LYS:O	8:H:44:ILE:HG12	2.15	0.46
9:I:89:GLY:HA2	9:I:136:MET:HE3	1.96	0.46
21:U:34:VAL:HG13	21:U:67:VAL:HG23	1.98	0.46
1:A:1364:G:N7	24:X:2:SER:N	2.64	0.46
1:A:1494:A:H2'	1:A:1495:A:C8	2.50	0.46
1:A:2057:G:H2'	1:A:2058:A:O4'	2.15	0.46
1:A:2250:G:O5'	1:A:2250:G:H8	1.98	0.46
1:A:2297:A:N1	1:A:2321:U:H5	2.11	0.46
1:A:2516:A:O2'	1:A:2517:C:H5'	2.16	0.46
1:A:2862:G:N2	1:A:2863:C:C2	2.83	0.46
1:A:454:A:H4'	1:A:455:C:OP2	2.15	0.46
1:A:750:A:H5''	1:A:751:A:OP2	2.15	0.46
1:A:845:A:H5'	1:A:846:U:OP2	2.15	0.46
1:A:874:G:C2	1:A:904:G:C2	3.03	0.46
1:A:972:A:N1	1:A:973:A:N6	2.63	0.46
2:B:89:U:O2	2:B:89:U:O4'	2.34	0.46
3:C:159:GLY:H	3:C:195:VAL:HG22	1.81	0.46
3:C:176:LEU:O	3:C:179:GLY:N	2.45	0.46
7:G:45:HIS:HA	7:G:50:LEU:HD23	1.97	0.46
9:I:10:LYS:HB3	9:I:56:PRO:HB2	1.96	0.46
25:Y:17:GLU:OE1	25:Y:53:VAL:HB	2.15	0.46
1:A:1802:A:C6	1:A:1803:A:C6	3.04	0.46
1:A:181:A:H1'	1:A:435:C:O4'	2.15	0.46
1:A:185:G:N1	1:A:212:G:C2	2.84	0.46
1:A:1916:A:H2'	1:A:1917:U:O4'	2.16	0.46
1:A:1767:G:C2	1:A:1986:C:C2	3.04	0.46
1:A:205:G:O2'	1:A:206:U:P	2.73	0.46
1:A:2204:G:C2	1:A:2205:A:C8	3.03	0.46
1:A:1662:U:O2'	1:A:2687:U:H5''	2.16	0.46
1:A:627:A:C6	1:A:637:A:C8	3.03	0.46
1:A:909:A:C6	1:A:912:C:C2	3.03	0.46
8:H:34:GLY:O	8:H:35:LYS:CG	2.64	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:2:LEU:O	13:M:3:GLN:CB	2.63	0.46
18:R:102:SER:O	18:R:103:ALA:O	2.34	0.46
22:V:51:GLN:HA	22:V:56:PHE:CB	2.46	0.46
27:0:10:ARG:HG2	27:0:11:SER:N	2.30	0.46
1:A:1019:U:O2'	1:A:1021:A:N7	2.37	0.46
1:A:1027:A:C5	1:A:1126:A:N3	2.84	0.46
1:A:1097:U:H3'	1:A:1098:A:O4'	2.16	0.46
1:A:1293:C:H2'	1:A:1294:U:O5'	2.15	0.46
1:A:1309:G:H4'	29:2:7:PRO:HB2	1.96	0.46
1:A:1529:G:C6	1:A:1543:G:C2	3.03	0.46
1:A:1428:C:C5	1:A:1569:A:C5'	2.98	0.46
1:A:1682:G:C2	1:A:1757:A:C1'	2.98	0.46
1:A:1831:G:C6	1:A:1832:C:C4	3.03	0.46
1:A:2113:U:C2	1:A:2114:A:C8	3.03	0.46
1:A:2244:U:H2'	1:A:2245:U:O4'	2.15	0.46
1:A:364:C:H2'	1:A:365:U:O4'	2.15	0.46
1:A:487:C:C2	1:A:494:G:N2	2.83	0.46
1:A:621:A:H2'	1:A:622:G:O4'	2.16	0.46
1:A:657:U:C2	1:A:658:U:C5	3.03	0.46
1:A:7:G:H2'	1:A:8:C:O4'	2.15	0.46
3:C:135:ILE:O	3:C:167:ARG:NH2	2.49	0.46
1:A:673:C:OP1	5:E:76:PRO:HG3	2.15	0.46
6:F:13:VAL:O	6:F:17:MET:HG2	2.16	0.46
6:F:58:ALA:O	6:F:61:SER:O	2.34	0.46
12:L:82:LEU:HD23	12:L:82:LEU:C	2.35	0.46
12:L:96:LYS:HD3	12:L:103:ILE:HA	1.98	0.46
16:P:103:ARG:HB3	16:P:108:ALA:HB2	1.98	0.46
18:R:19:THR:HA	18:R:96:VAL:O	2.16	0.46
21:U:26:LYS:HG2	21:U:37:GLU:HB3	1.98	0.46
27:0:13:ARG:HD2	27:0:17:ARG:NH2	2.30	0.46
29:2:10:LEU:HD11	29:2:14:ARG:CZ	2.46	0.46
1:A:1288:G:C4	1:A:1327:A:C2	3.04	0.46
1:A:1502:A:C2	1:A:1503:A:C4	3.03	0.46
1:A:1649:G:C6	1:A:2009:A:N6	2.84	0.46
1:A:1753:G:C2	1:A:1756:G:C2	3.04	0.46
1:A:206:U:H2'	1:A:207:A:H8	1.80	0.46
1:A:2125:G:C5'	1:A:2126:A:OP2	2.62	0.46
1:A:2377:A:O2'	1:A:2378:A:H5'	2.15	0.46
1:A:2504:U:C5	32:A:3001:VIF:C14	2.99	0.46
1:A:2603:G:C6	1:A:2604:U:C4	3.03	0.46
1:A:2718:G:C6	1:A:2719:G:C4	3.04	0.46
1:A:2854:G:C2	1:A:2864:G:C2	3.04	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:749:A:C5	1:A:750:A:C8	3.04	0.46
1:A:961:C:C2	1:A:2031:A:C6	3.04	0.46
2:B:114:C:C2	2:B:115:A:C8	3.04	0.46
2:B:49:C:OP1	15:O:101:GLY:HA3	2.16	0.46
8:H:60:GLU:HA	8:H:60:GLU:OE2	2.15	0.46
16:P:28:VAL:HG12	16:P:30:VAL:HG23	1.97	0.46
19:S:70:LYS:O	19:S:107:VAL:HG23	2.16	0.46
21:U:7:ARG:HD2	21:U:8:ASP:OD2	2.16	0.46
1:A:1095:A:C6	1:A:1096:A:C2	3.04	0.46
1:A:1285:A:C6	1:A:1329:U:C5	3.04	0.46
1:A:2096:C:H2'	1:A:2097:A:C8	2.51	0.46
1:A:2061:G:C8	1:A:2501:C:H4'	2.50	0.46
1:A:445:C:H2'	1:A:446:G:C8	2.51	0.46
3:C:210:ALA:HA	3:C:213:TRP:NE1	2.29	0.46
4:D:114:LYS:HE2	4:D:196:ALA:HA	1.96	0.46
5:E:170:ARG:HG3	5:E:174:GLY:C	2.35	0.46
17:Q:47:TYR:C	17:Q:47:TYR:CD2	2.89	0.46
17:Q:76:TYR:CE2	17:Q:80:ILE:HG13	2.51	0.46
18:R:80:ARG:HB3	18:R:81:LYS:HD3	1.98	0.46
20:T:62:VAL:CG1	20:T:63:VAL:N	2.79	0.46
21:U:74:ASN:ND2	21:U:96:PHE:CD1	2.84	0.46
1:A:1269:A:C6	1:A:1270:C:N4	2.83	0.46
1:A:1351:C:O3'	1:A:1571:A:O2'	2.30	0.46
1:A:2004:G:C4	1:A:2005:A:C8	3.04	0.46
1:A:2563:U:C2	1:A:2566:A:N7	2.84	0.46
1:A:2648:G:H2'	1:A:2649:C:O4'	2.16	0.46
1:A:2834:G:H2'	1:A:2879:A:H61	1.80	0.46
1:A:33:C:O2	1:A:447:A:N6	2.49	0.46
1:A:532:A:H2'	17:Q:28:ARG:NH1	2.31	0.46
1:A:589:U:H2'	1:A:590:A:C8	2.51	0.46
1:A:777:G:N3	1:A:778:G:C8	2.84	0.46
3:C:53:HIS:O	3:C:217:ARG:N	2.35	0.46
5:E:29:HIS:HA	5:E:32:VAL:HG23	1.98	0.46
12:L:94:THR:O	12:L:98:ALA:N	2.48	0.46
21:U:82:ARG:O	21:U:97:LYS:HG2	2.16	0.46
24:X:69:ALA:O	24:X:72:ARG:HB3	2.16	0.46
27:O:13:ARG:HG2	27:O:17:ARG:NE	2.31	0.46
28:1:15:ALA:C	28:1:17:THR:H	2.19	0.46
1:A:1345:C:H5'	1:A:1396:U:C5	2.51	0.46
1:A:1437:C:N4	1:A:1438:U:O4	2.49	0.46
1:A:1829:A:O2'	3:C:15:HIS:CD2	2.69	0.46
1:A:184:C:H2'	1:A:185:G:C8	2.50	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2516:A:C6	1:A:2517:C:N4	2.84	0.46
1:A:2585:U:O2'	1:A:2586:U:C5'	2.64	0.46
1:A:279:A:N6	1:A:361:G:C2'	2.79	0.46
1:A:2824:C:N4	1:A:2825:G:C5	2.84	0.46
1:A:310:A:C6	1:A:330:A:C6	3.03	0.46
1:A:734:A:N7	1:A:735:A:N7	2.63	0.46
1:A:86:G:C2	1:A:87:U:C5	3.04	0.46
3:C:232:HIS:NE2	3:C:244:PRO:HA	2.31	0.46
4:D:148:GLN:HB2	4:D:152:PRO:HG2	1.98	0.46
5:E:171:ASP:CG	5:E:172:ALA:N	2.69	0.46
9:I:61:VAL:HG22	9:I:67:PHE:HB3	1.98	0.46
10:J:74:TYR:CD1	10:J:92:MET:HG3	2.50	0.46
11:K:6:THR:O	11:K:8:LEU:HD12	2.15	0.46
12:L:23:ILE:HD12	18:R:84:ARG:NE	2.31	0.46
15:O:98:GLN:O	15:O:100:HIS:N	2.47	0.46
22:V:7:GLU:HB2	22:V:41:GLU:OE2	2.16	0.46
29:2:31:LEU:HD21	29:2:43:THR:CG2	2.46	0.45
1:A:1675:C:N3	4:D:133:THR:HG21	2.31	0.45
1:A:1679:A:N6	35:A:3439:HOH:O	2.49	0.45
1:A:188:G:O6	1:A:189:G:C2	2.69	0.45
1:A:1944:U:C2	1:A:1955:U:O4'	2.70	0.45
1:A:2100:G:C6	1:A:2190:G:C5	3.05	0.45
1:A:2199:A:O4'	8:H:28:ASN:ND2	2.49	0.45
1:A:219:A:N6	1:A:220:G:N1	2.63	0.45
1:A:2466:C:OP1	31:4:4:ARG:CB	2.64	0.45
1:A:2468:A:N3	1:A:2481:G:C2	2.84	0.45
1:A:2506:U:O2	1:A:2506:U:C2'	2.64	0.45
1:A:1953:A:N1	1:A:2550:G:H5'	2.31	0.45
1:A:2615:U:O2	1:A:2615:U:H2'	2.16	0.45
1:A:2765:A:H3'	1:A:2765:A:N3	2.32	0.45
1:A:627:A:OP1	12:L:78:ARG:NH1	2.44	0.45
1:A:751:A:C6	1:A:789:A:C6	3.04	0.45
1:A:871:U:C2	1:A:907:G:C6	3.04	0.45
3:C:66:ASP:OD2	3:C:102:ARG:HD3	2.15	0.45
1:A:600:G:C5'	5:E:27:LEU:HD22	2.45	0.45
7:G:94:TYR:CD2	7:G:107:LEU:HA	2.50	0.45
10:J:30:THR:HG22	10:J:31:GLU:N	2.30	0.45
12:L:77:ILE:HD13	12:L:108:ALA:HB1	1.98	0.45
20:T:69:ARG:HA	20:T:74:ILE:HG22	1.98	0.45
24:X:39:TRP:HB2	24:X:46:PHE:CE2	2.51	0.45
1:A:1225:G:C6	1:A:1226:A:N6	2.84	0.45
1:A:1333:G:C2	1:A:1334:G:C8	3.04	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1731:G:C5	1:A:1733:G:C8	3.04	0.45
1:A:1760:C:H2'	1:A:1761:C:O4'	2.15	0.45
1:A:1855:U:C4	1:A:1856:U:C4	3.05	0.45
1:A:2209:G:N2	1:A:2216:G:C2	2.85	0.45
1:A:966:G:H4'	1:A:2272:U:O2	2.15	0.45
1:A:969:G:H2'	1:A:970:U:C6	2.51	0.45
1:A:729:G:C6	3:C:207:LYS:HB2	2.51	0.45
5:E:149:ILE:CG1	5:E:188:MET:HE3	2.47	0.45
5:E:24:ASN:O	5:E:28:VAL:HG23	2.16	0.45
6:F:9:LYS:O	6:F:13:VAL:CG2	2.64	0.45
7:G:61:GLY:O	7:G:64:GLN:HB2	2.16	0.45
8:H:83:LYS:HG3	8:H:149:GLU:HG3	1.94	0.45
8:H:86:ASP:C	8:H:88:GLY:H	2.19	0.45
9:I:45:LYS:HA	9:I:48:SER:HB3	1.99	0.45
9:I:46:THR:HG22	9:I:51:LYS:HG3	1.99	0.45
10:J:88:THR:O	10:J:92:MET:N	2.45	0.45
1:A:1045:C:H4'	1:A:1046:A:H5'	1.98	0.45
1:A:1452:G:C6	1:A:2702:G:N2	2.84	0.45
1:A:2127:G:N3	1:A:2162:G:N7	2.64	0.45
1:A:2418:A:H2'	1:A:2419:U:O4'	2.16	0.45
1:A:242:G:C5'	30:3:64:TYR:CZ	2.99	0.45
1:A:2576:G:O2'	1:A:2579:C:OP2	2.20	0.45
1:A:352:A:C5	1:A:353:C:C4	3.04	0.45
1:A:370:G:C6	1:A:424:G:C5	3.03	0.45
1:A:60:G:C4	1:A:74:A:C2	3.04	0.45
1:A:715:A:C6	1:A:716:A:C5	3.04	0.45
1:A:78:U:H2'	1:A:79:C:O4'	2.16	0.45
7:G:118:PRO:O	7:G:119:ALA:C	2.54	0.45
16:P:33:VAL:HG12	16:P:33:VAL:O	2.15	0.45
18:R:76:LYS:HB2	18:R:85:LYS:HB2	1.97	0.45
19:S:89:ALA:O	19:S:90:LYS:HB2	2.15	0.45
1:A:189:G:P	24:X:26:LYS:HE2	2.56	0.45
24:X:68:LEU:HD22	24:X:78:TYR:CZ	2.52	0.45
1:A:1351:C:C2	1:A:1381:G:C2	3.04	0.45
1:A:1596:A:C6	1:A:1597:A:C6	3.04	0.45
1:A:1809:A:N6	1:A:1810:A:N1	2.65	0.45
1:A:1663:G:O6	1:A:1992:G:C8	2.69	0.45
1:A:2144:G:N3	1:A:2146:C:O2	2.50	0.45
1:A:527:C:H2'	1:A:2779:U:O2	2.16	0.45
1:A:2835:A:C2	1:A:2879:A:N7	2.85	0.45
1:A:38:A:C2	1:A:442:G:C6	3.04	0.45
1:A:479:A:H1'	1:A:481:G:H5'	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:622:G:H2'	1:A:623:C:C6	2.50	0.45
1:A:675:A:C6	1:A:676:A:N1	2.85	0.45
1:A:914:G:H5'	1:A:915:C:OP2	2.16	0.45
3:C:267:ILE:HG22	3:C:267:ILE:O	2.16	0.45
4:D:33:ARG:HB3	4:D:95:SER:OG	2.15	0.45
5:E:125:SER:OG	5:E:126:VAL:N	2.48	0.45
6:F:108:VAL:HG11	6:F:176:PRO:HG2	1.99	0.45
6:F:136:ILE:HG22	6:F:136:ILE:O	2.16	0.45
8:H:112:LYS:HG2	8:H:113:SER:N	2.32	0.45
12:L:132:ARG:O	12:L:136:GLU:HG3	2.17	0.45
12:L:70:LYS:O	12:L:74:THR:HG23	2.17	0.45
15:O:33:ARG:O	15:O:34:HIS:CD2	2.70	0.45
15:O:49:VAL:HG21	15:O:82:ALA:HA	1.98	0.45
20:T:26:LYS:HG2	20:T:26:LYS:O	2.16	0.45
24:X:13:VAL:HG22	24:X:29:PHE:HB2	1.98	0.45
24:X:25:THR:O	24:X:25:THR:HG22	2.15	0.45
1:A:1252:G:N3	17:Q:33:ARG:HG2	2.32	0.45
1:A:1343:G:C6	1:A:1344:U:O4	2.69	0.45
1:A:140:C:O2	1:A:140:C:O4'	2.34	0.45
1:A:1709:U:H2'	1:A:1710:G:H8	1.82	0.45
1:A:1806:C:C5	1:A:1807:G:N7	2.84	0.45
1:A:231:A:N6	1:A:232:G:C2	2.84	0.45
1:A:511:U:C2'	1:A:512:G:H5'	2.46	0.45
1:A:538:A:C2	1:A:556:A:C4	3.04	0.45
1:A:681:G:C2	1:A:682:G:C8	3.04	0.45
1:A:864:G:C6	1:A:865:C:N4	2.85	0.45
2:B:78:A:C6	2:B:99:A:C8	3.05	0.45
3:C:87:ARG:HB3	3:C:87:ARG:CZ	2.47	0.45
9:I:57:VAL:CG2	9:I:71:THR:HB	2.46	0.45
10:J:7:LYS:O	10:J:11:VAL:HG23	2.15	0.45
11:K:13:ASN:OD1	11:K:97:THR:N	2.45	0.45
11:K:7:MET:C	11:K:8:LEU:HD12	2.37	0.45
17:Q:65:ILE:HD11	17:Q:92:ARG:HA	1.98	0.45
19:S:27:LYS:O	19:S:71:VAL:HG23	2.17	0.45
23:W:21:LEU:HD11	23:W:41:ARG:HG2	1.97	0.45
24:X:7:VAL:HG12	24:X:8:THR:N	2.31	0.45
1:A:1276:A:N1	1:A:1295:C:C2	2.85	0.45
1:A:1332:G:C6	1:A:1609:A:C5	3.05	0.45
1:A:173:A:H2'	1:A:174:U:C6	2.51	0.45
1:A:2056:G:N3	1:A:2056:G:H2'	2.31	0.45
1:A:2091:C:C3'	1:A:2092:U:H5''	2.45	0.45
1:A:2291:U:H2'	1:A:2292:U:H6	1.80	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2298:A:C2	1:A:2321:U:C5	3.05	0.45
1:A:2728:U:O2'	1:A:2729:G:C5'	2.65	0.45
1:A:2814:A:C6	1:A:2815:C:C4	3.05	0.45
1:A:308:G:H2'	1:A:309:A:O4'	2.17	0.45
1:A:37:C:H2'	1:A:38:A:C8	2.51	0.45
1:A:494:G:H4'	19:S:6:LYS:HG3	1.99	0.45
1:A:600:G:H2'	1:A:601:C:C6	2.52	0.45
3:C:144:VAL:HB	3:C:154:LEU:HB2	1.98	0.45
5:E:56:GLY:O	5:E:57:LYS:C	2.54	0.45
6:F:28:VAL:HG22	6:F:29:PRO:HD2	1.98	0.45
7:G:111:HIS:O	7:G:111:HIS:ND1	2.49	0.45
8:H:34:GLY:O	8:H:35:LYS:CD	2.65	0.45
8:H:93:SER:HB3	8:H:123:ARG:HG3	1.99	0.45
13:M:66:ARG:HB2	13:M:101:VAL:O	2.15	0.45
19:S:17:VAL:HG12	19:S:76:VAL:HG21	1.97	0.45
21:U:72:ILE:HD11	21:U:83:VAL:HG23	1.98	0.45
30:3:26:HIS:NE2	30:3:48:ALA:HB2	2.32	0.45
31:4:25:VAL:HB	31:4:35:GLN:HG3	1.98	0.45
1:A:106:C:H2'	1:A:106:C:O2	2.15	0.45
1:A:132:G:N2	1:A:148:U:O2	2.50	0.45
1:A:1532:A:C2	1:A:1540:G:C6	3.05	0.45
1:A:1814:G:C6	1:A:1815:A:N6	2.84	0.45
1:A:1973:G:C6	1:A:1974:C:N4	2.84	0.45
1:A:185:G:C6	1:A:212:G:N1	2.85	0.45
1:A:500:G:C2	1:A:502:A:C8	3.04	0.45
1:A:818:G:H2'	1:A:819:A:H5''	1.98	0.45
1:A:993:G:C6	1:A:1162:G:C6	3.04	0.45
3:C:204:VAL:O	3:C:206:GLY:N	2.49	0.45
5:E:182:ALA:HB2	12:L:3:LEU:HD22	1.99	0.45
8:H:147:VAL:HG12	8:H:148:ALA:N	2.32	0.45
9:I:80:LEU:HD11	9:I:133:ALA:CB	2.46	0.45
16:P:106:LYS:HA	16:P:109:ARG:CD	2.46	0.45
18:R:5:PHE:O	18:R:11:GLN:HA	2.16	0.45
27:0:40:ARG:O	27:0:41:HIS:HB2	2.15	0.45
29:2:31:LEU:HD21	29:2:43:THR:HG22	1.99	0.45
30:3:15:LYS:HD3	30:3:23:LYS:HE2	1.99	0.45
1:A:1309:G:OP1	29:2:9:VAL:N	2.47	0.45
1:A:1565:C:C5	1:A:1567:G:C6	3.05	0.45
1:A:1568:G:N7	3:C:28:LYS:HE3	2.32	0.45
1:A:1604:C:O2'	1:A:1610:A:N1	2.43	0.45
1:A:1907:G:C6	1:A:1924:C:N3	2.85	0.45
1:A:2156:G:C6	1:A:2157:G:C2	3.05	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2069:G:N2	1:A:2443:C:C2	2.85	0.45
1:A:2627:G:C6	1:A:2628:C:C4	3.05	0.45
1:A:269:C:H2'	1:A:269:C:O2	2.17	0.45
1:A:2824:C:C4	1:A:2825:G:C5	3.05	0.45
1:A:320:A:H4'	1:A:322:A:N7	2.30	0.45
1:A:592:A:C2	1:A:593:U:C2	3.05	0.45
1:A:875:G:N2	1:A:903:C:C2	2.85	0.45
1:A:949:G:C6	1:A:950:G:N7	2.85	0.45
1:A:959:A:H2'	1:A:960:A:C8	2.51	0.45
2:B:32:U:C2	2:B:51:G:N2	2.84	0.45
5:E:1:MET:HG2	5:E:14:VAL:HG23	1.99	0.45
1:A:2302:U:O2'	6:F:123:ASP:O	2.35	0.45
8:H:5:LEU:CD1	8:H:13:GLY:CA	2.95	0.45
8:H:15:LEU:N	8:H:15:LEU:HD22	2.32	0.45
8:H:39:ALA:O	8:H:41:LYS:N	2.47	0.45
9:I:101:ILE:O	9:I:102:SER:CB	2.64	0.45
1:A:7:G:H4'	10:J:15:TRP:CZ2	2.52	0.45
14:N:83:LEU:HD22	14:N:115:LEU:HD13	1.98	0.45
14:N:118:ARG:O	14:N:119:SER:HB2	2.17	0.45
31:4:3:VAL:CG2	31:4:3:VAL:O	2.65	0.45
1:A:1114:C:H2'	1:A:1115:G:C8	2.52	0.45
1:A:1287:A:C2'	1:A:1288:G:H5'	2.47	0.45
1:A:1669:A:O4'	11:K:5:GLN:HG3	2.17	0.45
1:A:1740:G:H2'	1:A:1741:C:C6	2.52	0.45
1:A:1809:A:C6	1:A:1810:A:C5	3.05	0.45
1:A:1817:G:O2'	1:A:1818:U:H5'	2.16	0.45
1:A:1833:C:N4	1:A:1834:U:O4	2.50	0.45
1:A:1858:A:C2	1:A:1859:U:C2	3.05	0.45
1:A:1773:A:C2	1:A:1978:A:C2	3.05	0.45
1:A:2199:A:C5	1:A:2225:A:N1	2.84	0.45
1:A:2699:C:O2	1:A:2709:G:C2	2.70	0.45
1:A:2771:C:H2'	1:A:2772:C:C6	2.52	0.45
1:A:2784:U:C4	1:A:2785:C:C4	3.05	0.45
1:A:2804:U:H2'	1:A:2805:C:C6	2.52	0.45
1:A:319:G:H2'	1:A:320:A:O4'	2.17	0.45
1:A:482:A:O2'	1:A:497:A:N1	2.39	0.45
6:F:70:ALA:O	6:F:72:LYS:N	2.50	0.45
8:H:31:VAL:CG1	8:H:32:PRO:HD3	2.47	0.45
10:J:36:LEU:HG	10:J:54:ILE:HD12	1.99	0.45
1:A:538:A:H5''	10:J:7:LYS:HE3	1.97	0.45
12:L:110:VAL:CG2	12:L:127:VAL:HG22	2.47	0.45
14:N:18:GLN:HG2	14:N:18:GLN:O	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:45:ARG:O	14:N:49:GLU:HG3	2.16	0.45
15:O:26:LEU:HD23	15:O:117:PHE:CE2	2.51	0.45
17:Q:88:VAL:CG1	17:Q:90:ILE:HG13	2.47	0.45
19:S:66:ILE:O	19:S:68:ASP:N	2.49	0.45
1:A:1430:G:H2'	1:A:1431:A:O4'	2.17	0.45
1:A:134:G:C2	1:A:146:A:C2	3.05	0.45
1:A:1604:C:C5'	35:A:3404:HOH:O	2.64	0.45
1:A:1654:A:OP2	14:N:1:MET:HA	2.17	0.45
1:A:168:G:C2	1:A:169:G:C8	3.06	0.45
1:A:2114:A:C5	1:A:2167:U:H4'	2.52	0.45
1:A:2264:C:O2	1:A:2277:G:C2	2.69	0.45
1:A:235:U:N3	1:A:236:C:C5	2.85	0.45
1:A:2624:G:H1'	27:O:19:HIS:HE1	1.82	0.45
1:A:27:G:HO2'	1:A:28:A:P	2.34	0.45
1:A:310:A:O2'	1:A:311:A:P	2.72	0.45
1:A:372:G:P	24:X:62:LYS:HZ2	2.40	0.45
1:A:498:G:C6	1:A:499:U:C4	3.05	0.45
3:C:125:LYS:HB2	3:C:126:PRO:HD2	1.99	0.45
5:E:187:VAL:O	5:E:187:VAL:CG1	2.65	0.45
7:G:158:LYS:O	7:G:159:GLY:C	2.56	0.45
7:G:98:VAL:HG21	7:G:124:GLU:HA	1.99	0.45
11:K:76:VAL:HG12	16:P:73:VAL:HG22	1.98	0.45
12:L:54:GLN:HG2	12:L:55:MET:N	2.32	0.45
16:P:75:GLN:O	16:P:78:SER:HB3	2.16	0.45
19:S:33:LEU:HD21	19:S:52:GLU:HG2	1.99	0.45
20:T:51:PHE:C	20:T:52:GLU:HG2	2.37	0.45
1:A:1358:G:H1'	1:A:1374:G:N2	2.31	0.44
1:A:1607:C:N4	1:A:1622:G:C5	2.85	0.44
1:A:1644:C:C2'	1:A:1644:C:O2	2.65	0.44
1:A:1805:A:C4	1:A:1813:G:N2	2.85	0.44
1:A:2029:G:C2	1:A:2033:A:N7	2.85	0.44
1:A:2111:U:O2	1:A:2118:U:H1'	2.17	0.44
1:A:2453:A:O5'	1:A:2453:A:H8	2.00	0.44
1:A:265:A:H4'	1:A:266:G:OP1	2.17	0.44
1:A:468:G:H2'	1:A:469:G:O4'	2.16	0.44
1:A:522:A:H2'	1:A:523:C:O4'	2.17	0.44
1:A:609:A:H2'	1:A:610:C:O4'	2.17	0.44
8:H:1:MET:CE	8:H:27:ARG:NH1	2.80	0.44
10:J:6:ALA:O	10:J:7:LYS:HG3	2.17	0.44
12:L:68:SER:O	12:L:69:ARG:HB2	2.17	0.44
1:A:1248:G:O2'	17:Q:3:ARG:HA	2.17	0.44
1:A:973:A:P	18:R:81:LYS:NZ	2.88	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:79:GLY:HA2	19:S:102:HIS:NE2	2.32	0.44
20:T:38:ALA:O	20:T:39:THR:CB	2.65	0.44
1:A:483:A:C8	21:U:45:HIS:CD2	3.05	0.44
23:W:19:LYS:O	23:W:21:LEU:HD23	2.17	0.44
24:X:52:SER:OG	24:X:55:GLY:N	2.44	0.44
1:A:1343:G:C5	1:A:1344:U:O4	2.70	0.44
1:A:1355:G:O2'	1:A:1356:G:H5'	2.17	0.44
1:A:1462:C:C2	1:A:1463:C:C5	3.05	0.44
1:A:1668:A:C2	1:A:1670:C:N3	2.85	0.44
1:A:1773:A:C2'	1:A:1774:C:H5'	2.48	0.44
1:A:1889:A:N3	1:A:2086:U:O2'	2.44	0.44
1:A:2014:A:H2	1:A:2613:U:C2	2.36	0.44
1:A:2093:G:C2	1:A:2094:A:C5	3.05	0.44
2:B:76:G:H2'	2:B:77:U:O4'	2.17	0.44
3:C:108:LYS:HA	3:C:196:GLY:HA2	1.99	0.44
4:D:112:THR:HG22	4:D:112:THR:O	2.17	0.44
1:A:2636:C:H4'	4:D:81:GLU:CD	2.37	0.44
9:I:75:PRO:HG2	9:I:78:VAL:HG22	2.00	0.44
11:K:62:VAL:HA	11:K:84:CYS:HB3	1.98	0.44
2:B:52:A:C5	15:O:33:ARG:NH2	2.85	0.44
19:S:80:PRO:HD2	19:S:100:THR:OG1	2.17	0.44
1:A:1338:G:H4'	20:T:18:GLU:OE2	2.17	0.44
23:W:70:GLU:O	23:W:79:PHE:N	2.45	0.44
26:Z:10:THR:HG22	26:Z:54:MET:HA	1.99	0.44
1:A:1269:A:H2'	1:A:1270:C:C6	2.52	0.44
1:A:1366:A:C2	1:A:1367:A:N9	2.85	0.44
1:A:1671:U:O2	1:A:1673:G:C8	2.70	0.44
1:A:176:A:C5	1:A:177:G:C6	3.05	0.44
1:A:2038:G:N7	1:A:2039:U:C5	2.86	0.44
1:A:2235:G:C5	1:A:2236:U:C5	3.06	0.44
1:A:2443:C:H2'	1:A:2444:G:O4'	2.17	0.44
1:A:2597:G:O2'	1:A:2598:A:H5'	2.18	0.44
1:A:2718:G:O2'	16:P:96:LYS:HG3	2.18	0.44
1:A:775:G:O6	1:A:787:C:H2'	2.17	0.44
2:B:60:C:N3	2:B:61:G:N7	2.65	0.44
1:A:2591:C:P	3:C:238:ARG:HG3	2.56	0.44
3:C:72:ASP:O	3:C:74:ILE:N	2.45	0.44
4:D:149:ASN:OD1	4:D:150:GLN:N	2.50	0.44
5:E:52:VAL:CG2	5:E:81:GLY:HA2	2.47	0.44
6:F:36:LEU:HD13	6:F:36:LEU:N	2.32	0.44
1:A:2747:G:O2'	7:G:67:THR:HG22	2.16	0.44
9:I:80:LEU:HD23	9:I:84:ALA:HB2	2.00	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:21:ARG:HB3	16:P:22:PRO:HD2	1.99	0.44
18:R:81:LYS:O	18:R:82:HIS:C	2.54	0.44
24:X:49:LEU:O	24:X:51:VAL:HG13	2.17	0.44
29:2:34:ARG:CB	29:2:42:LEU:HD13	2.48	0.44
1:A:1082:U:OP1	9:I:124:ALA:CB	2.65	0.44
1:A:1095:A:C5	1:A:1096:A:C2	3.05	0.44
1:A:109:C:C2	1:A:110:G:C8	3.06	0.44
1:A:1364:G:C8	24:X:2:SER:N	2.86	0.44
1:A:1797:G:O3'	3:C:256:LYS:HA	2.18	0.44
1:A:2015:A:C5	27:0:3:VAL:HG21	2.52	0.44
1:A:563:A:C2	1:A:2018:G:N3	2.85	0.44
1:A:2059:A:H4'	5:E:64:GLY:O	2.18	0.44
1:A:2440:C:N3	1:A:2441:U:H1'	2.32	0.44
1:A:2544:G:H2'	1:A:2545:G:C8	2.52	0.44
1:A:2554:U:H2'	1:A:2555:U:H6	1.82	0.44
1:A:2563:U:H1'	1:A:2566:A:N6	2.33	0.44
1:A:2776:A:C6	1:A:2778:A:C6	3.05	0.44
1:A:2807:U:O2	1:A:2892:G:C2	2.70	0.44
1:A:2503:A:C8	32:A:3001:VIF:C10	2.99	0.44
1:A:380:G:O3'	24:X:16:ASN:HB2	2.17	0.44
1:A:543:G:C2	1:A:551:G:C5	3.06	0.44
1:A:934:U:H2'	1:A:935:C:C6	2.52	0.44
1:A:982:C:H5''	1:A:983:A:OP2	2.17	0.44
2:B:13:G:H1	2:B:69:G:HO2'	1.64	0.44
2:B:70:C:H2'	2:B:71:C:C6	2.52	0.44
1:A:1790:C:O2'	3:C:208:ALA:HB2	2.18	0.44
5:E:25:GLU:CD	12:L:6:LEU:HA	2.38	0.44
1:A:1248:G:C5	5:E:46:GLN:NE2	2.86	0.44
6:F:38:MET:HB2	6:F:57:LEU:HD11	1.99	0.44
6:F:60:ILE:HG23	6:F:138:PHE:CE1	2.53	0.44
9:I:103:ARG:HB3	9:I:142:ASP:OD2	2.18	0.44
5:E:117:ARG:NH1	12:L:2:ARG:HD3	2.33	0.44
14:N:2:ARG:O	14:N:3:HIS:C	2.56	0.44
15:O:18:LEU:O	15:O:22:GLY:N	2.50	0.44
15:O:67:ASN:O	15:O:69:ASP:N	2.50	0.44
23:W:46:HIS:NE2	23:W:77:ARG:HD3	2.32	0.44
26:Z:5:ILE:HD11	26:Z:57:VAL:HG21	1.99	0.44
28:1:23:THR:OG1	28:1:24:THR:N	2.50	0.44
28:1:9:ILE:HB	28:1:52:ALA:HA	1.99	0.44
31:4:36:ARG:O	31:4:37:GLN:C	2.56	0.44
1:A:1596:A:N6	1:A:1597:A:C6	2.86	0.44
1:A:1726:C:H2'	1:A:1727:C:H6	1.82	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1806:C:N4	1:A:1807:G:C5	2.86	0.44
1:A:2117:A:N1	1:A:2171:A:N1	2.65	0.44
1:A:2264:C:C2	1:A:2277:G:N2	2.86	0.44
1:A:2799:A:N6	1:A:2801:G:C6	2.86	0.44
1:A:2854:G:N2	1:A:2864:G:C4	2.86	0.44
1:A:822:G:C6	1:A:836:G:N1	2.85	0.44
3:C:197:ASN:OD1	3:C:200:HIS:HB2	2.17	0.44
1:A:2303:G:O4'	6:F:123:ASP:HA	2.18	0.44
8:H:25:TYR:O	8:H:29:PHE:HB3	2.18	0.44
19:S:29:VAL:CG1	19:S:55:ILE:HD11	2.47	0.44
24:X:21:ALA:O	24:X:22:LEU:HB2	2.17	0.44
28:1:25:LYS:HE2	28:1:30:LYS:O	2.17	0.44
1:A:1052:C:C2'	1:A:1053:C:H5'	2.48	0.44
1:A:980:A:C4	1:A:1136:G:O4'	2.71	0.44
1:A:1152:C:C3'	35:A:3360:HOH:O	2.63	0.44
1:A:1290:C:N3	1:A:1291:C:C5	2.85	0.44
1:A:1277:G:N1	1:A:1294:U:C2	2.85	0.44
1:A:13:A:H4'	1:A:14:A:OP1	2.16	0.44
1:A:1422:G:H2'	1:A:1423:G:O4'	2.17	0.44
1:A:1651:G:H5''	14:N:10:LEU:HD23	1.99	0.44
1:A:1862:G:C2	1:A:1881:C:C2	3.05	0.44
1:A:2025:C:H2'	1:A:2026:U:C6	2.52	0.44
1:A:2345:G:H4'	1:A:2346:A:H5''	1.99	0.44
1:A:2619:C:H4'	4:D:156:PHE:O	2.17	0.44
1:A:301:G:C2	1:A:302:C:N3	2.86	0.44
1:A:466:A:N1	1:A:795:C:O2'	2.48	0.44
1:A:609:A:N7	1:A:610:C:C2	2.85	0.44
1:A:977:G:N7	35:A:3586:HOH:O	2.36	0.44
1:A:8:C:O2'	1:A:9:G:H5'	2.17	0.44
3:C:75:PRO:HB2	3:C:97:LYS:CG	2.48	0.44
1:A:2820:A:C8	4:D:196:ALA:CB	3.01	0.44
5:E:129:PRO:HG3	5:E:156:ASN:OD1	2.18	0.44
1:A:319:G:P	5:E:132:LYS:HE3	2.58	0.44
8:H:37:VAL:HG22	8:H:38:PRO:HD2	1.98	0.44
13:M:68:PHE:O	13:M:69:PRO:O	2.36	0.44
14:N:2:ARG:HG3	14:N:3:HIS:N	2.33	0.44
14:N:54:LEU:CD2	14:N:66:ALA:HB2	2.48	0.44
1:A:2014:A:H5'	19:S:94:ASP:OD1	2.18	0.44
21:U:36:VAL:O	21:U:37:GLU:C	2.56	0.44
21:U:44:LYS:O	21:U:59:VAL:N	2.51	0.44
24:X:31:PRO:O	24:X:33:LEU:N	2.51	0.44
1:A:1045:C:C4'	1:A:1046:A:H5'	2.48	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1096:A:C6	1:A:1097:U:C5	3.06	0.44
1:A:1045:C:H41	1:A:1111:A:H2'	1.81	0.44
1:A:1470:A:C2'	1:A:1471:G:O5'	2.66	0.44
1:A:1480:C:C4	1:A:1481:U:C4	3.06	0.44
1:A:1588:G:H3'	1:A:1589:U:C6	2.53	0.44
1:A:1702:G:C6	1:A:1703:G:C5	3.05	0.44
1:A:2054:A:OP1	1:A:2055:C:O2'	2.30	0.44
1:A:2213:U:H4'	1:A:2214:C:OP2	2.17	0.44
1:A:2230:G:H2'	1:A:2231:U:C6	2.51	0.44
1:A:2325:G:C6	1:A:2326:C:N4	2.86	0.44
1:A:2425:A:H4'	1:A:2426:A:O5'	2.18	0.44
1:A:2430:A:P	35:A:3344:HOH:O	2.76	0.44
1:A:2835:A:H4'	1:A:2836:U:OP1	2.18	0.44
1:A:2897:U:H2'	1:A:2898:U:C6	2.52	0.44
1:A:54:G:C6	1:A:55:G:N7	2.86	0.44
1:A:543:G:C2	1:A:551:G:C4	3.06	0.44
1:A:630:G:H3'	1:A:631:A:C5'	2.48	0.44
1:A:78:U:OP2	25:Y:2:LYS:HD3	2.16	0.44
4:D:168:GLU:O	4:D:170:VAL:HG22	2.18	0.44
6:F:108:VAL:N	6:F:109:PRO:CD	2.81	0.44
6:F:143:TYR:O	6:F:146:VAL:HG22	2.18	0.44
1:A:2749:A:OP1	7:G:2:SER:HB3	2.18	0.44
8:H:127:GLU:CG	8:H:144:VAL:O	2.65	0.44
10:J:29:ALA:HA	10:J:105:VAL:HG22	1.98	0.44
10:J:80:HIS:O	10:J:81:ILE:C	2.56	0.44
1:A:633:A:H5''	12:L:70:LYS:HD3	1.99	0.44
14:N:24:MET:HE3	14:N:44:LEU:HD22	2.00	0.44
16:P:43:PHE:CD2	16:P:72:ARG:HD3	2.53	0.44
18:R:61:ALA:HB2	18:R:98:ILE:HA	2.00	0.44
21:U:53:ASN:OD1	21:U:53:ASN:N	2.50	0.44
22:V:30:ILE:HD11	22:V:63:ILE:HD12	1.99	0.44
1:A:1056:G:C6	1:A:1102:C:OP2	2.71	0.44
1:A:1128:G:C4	1:A:1129:A:C2	3.06	0.44
1:A:118:A:C8	1:A:119:A:N7	2.85	0.44
1:A:1257:C:N4	1:A:1258:U:O4	2.51	0.44
1:A:1286:A:N6	1:A:1329:U:O2'	2.40	0.44
1:A:1437:C:N3	1:A:1438:U:C4	2.86	0.44
1:A:1691:C:C4	1:A:1692:U:C4	3.06	0.44
1:A:758:C:O2'	1:A:1981:A:N3	2.38	0.44
1:A:747:U:O2	1:A:2014:A:H1'	2.18	0.44
1:A:2024:G:C2	1:A:2040:G:N3	2.86	0.44
1:A:2602:A:H4'	1:A:2603:G:H5'	1.99	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:481:G:C4	1:A:507:A:C2	3.06	0.44
1:A:693:A:H2'	1:A:694:U:O4'	2.17	0.44
1:A:696:G:N1	1:A:767:U:C2	2.86	0.44
1:A:798:G:C2	1:A:799:G:C5	3.06	0.44
5:E:40:ARG:NH2	5:E:92:HIS:CD2	2.86	0.44
6:F:42:GLU:HB2	6:F:49:LEU:HD23	1.99	0.44
7:G:89:LEU:N	7:G:89:LEU:HD13	2.32	0.44
1:A:244:A:H5''	12:L:67:THR:HG21	1.99	0.44
13:M:58:LYS:O	13:M:60:GLN:N	2.46	0.44
15:O:70:ALA:O	15:O:74:VAL:HB	2.17	0.44
15:O:80:GLU:O	15:O:84:GLU:HG3	2.17	0.44
20:T:37:ASP:OD2	20:T:38:ALA:N	2.51	0.44
20:T:91:GLN:NE2	20:T:91:GLN:O	2.48	0.44
21:U:72:ILE:HG12	21:U:83:VAL:HG23	2.00	0.44
1:A:1034:G:C6	1:A:1035:U:N3	2.86	0.44
1:A:1262:A:N3	1:A:1262:A:H2'	2.33	0.44
1:A:1435:G:O2'	1:A:1436:G:H5'	2.18	0.44
1:A:1490:A:N3	1:A:1490:A:H2'	2.32	0.44
1:A:1668:A:C4	1:A:1674:G:N7	2.86	0.44
1:A:1721:G:H2'	1:A:1738:G:H22	1.83	0.44
1:A:1651:G:C2	1:A:2007:U:C2	3.06	0.44
1:A:2043:C:C2	1:A:2044:C:C5	3.06	0.44
1:A:2247:A:H3'	35:A:3504:HOH:O	2.17	0.44
1:A:2491:U:H5'	1:A:2570:G:C5'	2.48	0.44
1:A:279:A:N6	1:A:361:G:H1'	2.33	0.44
1:A:301:G:N3	1:A:302:C:C2	2.86	0.44
1:A:450:G:H2'	1:A:451:U:H5''	2.00	0.44
1:A:478:A:C2	1:A:480:A:C4	3.06	0.44
1:A:534:U:H5'	17:Q:42:ALA:HB1	1.99	0.44
1:A:545:U:O2	1:A:545:U:O5'	2.35	0.44
1:A:568:U:H2'	1:A:570:G:OP2	2.18	0.44
1:A:630:G:H5''	1:A:631:A:OP2	2.17	0.44
1:A:945:A:N7	1:A:2448:A:C2	2.86	0.44
3:C:35:GLU:HG3	3:C:35:GLU:O	2.18	0.44
3:C:74:ILE:HG22	3:C:75:PRO:O	2.18	0.44
9:I:57:VAL:HG21	9:I:69:PHE:HB2	2.00	0.44
16:P:4:ILE:O	16:P:8:LEU:HB2	2.17	0.44
20:T:65:GLY:O	20:T:66:LYS:C	2.56	0.44
21:U:57:GLY:O	21:U:59:VAL:HG23	2.18	0.44
21:U:7:ARG:CG	21:U:8:ASP:H	2.29	0.44
25:Y:9:LYS:HG2	25:Y:10:SER:N	2.33	0.44
1:A:1361:G:C6	1:A:1362:C:C5	3.06	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1361:G:C5	1:A:1362:C:C5	3.06	0.43
1:A:1581:G:C4	1:A:1582:C:C5	3.06	0.43
1:A:1655:A:C6	1:A:1656:C:C2	3.05	0.43
1:A:2222:C:H2'	1:A:2223:G:O5'	2.18	0.43
1:A:2298:A:C4	1:A:2321:U:C5	3.06	0.43
1:A:2323:G:C5	1:A:2324:U:C5	3.06	0.43
1:A:2741:A:H2'	1:A:2742:G:O4'	2.18	0.43
1:A:562:U:H2'	1:A:572:A:O4'	2.18	0.43
1:A:563:A:C6	1:A:564:C:N3	2.85	0.43
1:A:630:G:C5'	1:A:631:A:OP2	2.66	0.43
1:A:699:A:H2'	1:A:700:G:C5'	2.47	0.43
4:D:172:VAL:HG23	4:D:194:PRO:HD3	1.99	0.43
5:E:131:THR:O	5:E:135:ALA:N	2.50	0.43
5:E:140:ASP:C	5:E:142:ALA:H	2.21	0.43
5:E:147:LEU:HB3	5:E:186:VAL:HG22	2.00	0.43
1:A:1064:C:O4'	9:I:90:SER:HB2	2.18	0.43
16:P:53:ARG:CB	16:P:56:HIS:HB2	2.48	0.43
17:Q:27:ALA:HB1	17:Q:31:VAL:CG2	2.48	0.43
17:Q:71:GLN:HA	17:Q:71:GLN:OE1	2.17	0.43
23:W:40:GLN:OE1	23:W:44:LYS:N	2.51	0.43
1:A:1070:A:C2	1:A:1097:U:O2'	2.70	0.43
1:A:1801:A:C4	3:C:262:ARG:NH2	2.85	0.43
1:A:1936:A:OP1	1:A:1937:A:H5'	2.18	0.43
1:A:2100:G:C5	1:A:2190:G:C6	3.06	0.43
1:A:2298:A:C4	1:A:2321:U:H5	2.36	0.43
1:A:199:A:N6	1:A:2434:A:C5	2.87	0.43
1:A:2497:A:N3	1:A:2498:C:N4	2.66	0.43
1:A:2551:C:H2'	1:A:2552:U:C6	2.52	0.43
1:A:2602:A:H4'	1:A:2603:G:C5'	2.48	0.43
1:A:2873:A:H1'	14:N:4:ARG:O	2.18	0.43
1:A:2893:A:O4'	1:A:2894:G:C2	2.71	0.43
1:A:293:U:C5'	1:A:294:A:OP2	2.66	0.43
1:A:303:G:H2'	1:A:304:U:C6	2.53	0.43
1:A:334:C:OP1	1:A:335:C:N4	2.51	0.43
1:A:232:G:N1	1:A:420:C:OP1	2.46	0.43
1:A:971:G:H2'	1:A:972:A:O4'	2.18	0.43
5:E:8:ALA:O	5:E:9:GLN:HB2	2.17	0.43
9:I:127:ARG:HA	9:I:130:GLU:HB2	1.98	0.43
9:I:80:LEU:HD23	9:I:84:ALA:CB	2.48	0.43
10:J:7:LYS:O	10:J:11:VAL:HG22	2.18	0.43
12:L:23:ILE:HG12	18:R:82:HIS:CD2	2.53	0.43
12:L:56:PRO:O	12:L:60:ARG:HB3	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:25:GLU:HG2	12:L:6:LEU:HD23	2.00	0.43
14:N:103:ARG:CB	14:N:110:MET:HE3	2.48	0.43
14:N:31:HIS:O	14:N:33:ILE:HG22	2.18	0.43
15:O:110:ALA:HB3	15:O:117:PHE:HE2	1.84	0.43
1:A:2718:G:O3'	16:P:96:LYS:HG3	2.18	0.43
1:A:1208:C:C4	1:A:1209:U:C5	3.06	0.43
1:A:1224:U:C4	1:A:1225:G:C6	3.07	0.43
1:A:1309:G:H2'	1:A:1310:G:O4'	2.19	0.43
1:A:1361:G:C5	1:A:1371:G:N2	2.86	0.43
1:A:1362:C:C2'	1:A:1363:C:H5'	2.48	0.43
1:A:150:U:H2'	1:A:151:C:C6	2.54	0.43
1:A:1562:U:H2'	1:A:1563:U:O4'	2.19	0.43
1:A:1303:G:H1'	1:A:1641:A:N1	2.33	0.43
1:A:2024:G:C4	1:A:2040:G:N2	2.87	0.43
1:A:2118:U:H5'	1:A:2119:A:OP1	2.18	0.43
1:A:223:A:C5	1:A:422:A:C8	3.05	0.43
1:A:2514:U:H2'	1:A:2515:C:H6	1.83	0.43
1:A:2581:G:C1'	1:A:2582:G:N7	2.81	0.43
1:A:495:G:H4'	19:S:4:ILE:O	2.18	0.43
1:A:510:C:C2'	1:A:511:U:H5'	2.48	0.43
1:A:947:A:O2'	1:A:984:A:H2	2.01	0.43
1:A:952:G:C6	1:A:966:G:N1	2.87	0.43
9:I:49:ILE:O	9:I:50:GLU:HB2	2.18	0.43
13:M:56:ALA:C	13:M:58:LYS:N	2.70	0.43
14:N:103:ARG:NE	14:N:110:MET:CE	2.81	0.43
14:N:38:LEU:HD11	14:N:42:LYS:HE3	2.00	0.43
15:O:31:THR:HG22	15:O:33:ARG:O	2.18	0.43
1:A:1338:G:O2'	1:A:1392:A:N6	2.51	0.43
1:A:1645:G:H5''	1:A:1646:C:O4'	2.17	0.43
1:A:1679:A:H2'	1:A:1680:U:C6	2.53	0.43
1:A:2011:U:H2'	1:A:2012:G:O4'	2.18	0.43
1:A:2283:C:H2'	1:A:2284:A:O4'	2.19	0.43
1:A:2307:G:N2	1:A:2312:U:C2	2.86	0.43
1:A:533:G:H2'	1:A:534:U:C6	2.53	0.43
1:A:784:G:C6	1:A:792:A:C4	3.07	0.43
1:A:89:A:C2	1:A:90:U:C2	3.06	0.43
3:C:207:LYS:HE2	3:C:213:TRP:CH2	2.54	0.43
4:D:140:HIS:CD2	35:D:302:HOH:O	2.66	0.43
1:A:2787:C:O4'	4:D:63:PRO:HA	2.19	0.43
5:E:1:MET:HG3	5:E:14:VAL:CG2	2.49	0.43
8:H:31:VAL:CB	8:H:32:PRO:HD3	2.47	0.43
12:L:122:VAL:HB	12:L:142:ILE:HG12	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:59:SER:O	14:N:63:ARG:HB2	2.19	0.43
17:Q:78:LYS:HE2	17:Q:117:LEU:HD21	1.99	0.43
18:R:41:ILE:HD13	18:R:103:ALA:HA	1.99	0.43
21:U:44:LYS:CG	21:U:45:HIS:N	2.81	0.43
21:U:53:ASN:C	21:U:55:PRO:HD3	2.39	0.43
21:U:40:ASN:HB3	21:U:63:ALA:HB3	2.00	0.43
21:U:5:ILE:HD13	21:U:67:VAL:HG13	2.01	0.43
1:A:1142:A:C2	1:A:1144:A:C1'	3.01	0.43
1:A:1310:G:N2	1:A:1605:C:C2	2.87	0.43
1:A:1606:C:O2'	1:A:1607:C:P	2.76	0.43
1:A:2201:G:H2'	1:A:2202:U:C6	2.54	0.43
1:A:2726:A:HO2'	1:A:2727:A:C5'	2.31	0.43
1:A:622:G:OP2	35:A:3294:HOH:O	2.21	0.43
2:B:46:A:C5	2:B:47:C:C5	3.07	0.43
7:G:129:THR:O	7:G:130:GLU:HG2	2.19	0.43
10:J:142:ILE:OXT	10:J:142:ILE:CG2	2.66	0.43
21:U:82:ARG:O	21:U:97:LYS:CG	2.66	0.43
30:3:34:THR:CG2	30:3:35:LYS:N	2.81	0.43
1:A:1062:G:C5	1:A:1088:A:H2'	2.54	0.43
1:A:1262:A:C6	1:A:1263:U:N3	2.86	0.43
1:A:1264:A:N7	1:A:1265:A:C5	2.86	0.43
1:A:1356:G:C2	1:A:1357:C:C2	3.07	0.43
1:A:1492:G:C2	1:A:1499:C:O2	2.72	0.43
1:A:1497:U:C2	1:A:1578:U:OP1	2.71	0.43
1:A:49:A:N6	1:A:177:G:C4	2.86	0.43
1:A:1973:G:C5	1:A:1974:C:C5	3.06	0.43
1:A:1999:C:O2	1:A:2687:U:O2'	2.31	0.43
1:A:2078:C:N4	1:A:2079:U:O4	2.51	0.43
1:A:2127:G:O2'	1:A:2173:A:C2	2.71	0.43
1:A:223:A:H2'	1:A:408:G:N3	2.33	0.43
1:A:374:A:N6	1:A:400:G:O2'	2.48	0.43
1:A:266:G:N2	1:A:427:U:H1'	2.34	0.43
1:A:528:A:N1	1:A:2043:C:O5'	2.51	0.43
1:A:982:C:H4'	1:A:983:A:OP1	2.19	0.43
2:B:78:A:C5	2:B:99:A:C8	3.06	0.43
3:C:265:LYS:HD3	3:C:265:LYS:O	2.19	0.43
4:D:151:THR:HG22	4:D:152:PRO:HD3	1.99	0.43
4:D:55:LYS:NZ	4:D:77:ARG:O	2.51	0.43
12:L:81:ASP:O	12:L:82:LEU:CB	2.66	0.43
25:Y:1:MET:N	25:Y:4:LYS:HD3	2.33	0.43
28:1:26:ASN:O	28:1:27:LYS:C	2.57	0.43
1:A:1047:G:N2	1:A:1110:G:O2'	2.52	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1290:C:C2	1:A:1291:C:C6	3.06	0.43
1:A:1350:C:N3	1:A:1382:G:C2	2.86	0.43
1:A:1364:G:C8	24:X:2:SER:HA	2.54	0.43
1:A:136:G:H1	1:A:143:C:H42	1.67	0.43
1:A:1802:A:C2	1:A:1803:A:C2	3.06	0.43
1:A:1801:A:C5	1:A:2203:U:C5	3.06	0.43
1:A:2286:G:H5''	1:A:2287:A:OP1	2.18	0.43
1:A:2345:G:C4	1:A:2347:C:C5	3.06	0.43
1:A:2550:G:C5	1:A:2551:C:C5	3.06	0.43
1:A:269:C:N4	1:A:270:A:N7	2.67	0.43
1:A:503:A:C2	1:A:506:G:C4	3.07	0.43
1:A:717:C:N4	1:A:718:A:N3	2.67	0.43
1:A:738:G:C6	1:A:739:A:C6	3.07	0.43
12:L:90:VAL:N	12:L:121:THR:O	2.51	0.43
2:B:27:C:OP1	15:O:34:HIS:NE2	2.51	0.43
15:O:38:GLN:HA	15:O:50:ALA:HA	2.01	0.43
15:O:71:ALA:O	15:O:75:GLY:N	2.51	0.43
21:U:61:LYS:HA	21:U:61:LYS:HD2	1.87	0.43
25:Y:48:ARG:O	25:Y:51:ALA:HB3	2.19	0.43
1:A:2015:A:C6	27:O:3:VAL:HG23	2.54	0.43
1:A:1034:G:C6	1:A:1035:U:C4	3.06	0.43
1:A:1599:U:P	20:T:40:LYS:HD2	2.59	0.43
1:A:1659:G:C6	1:A:1660:G:C5	3.07	0.43
1:A:1869:G:C3'	1:A:1870:C:H5'	2.49	0.43
1:A:2147:A:H2'	1:A:2148:G:O4'	2.19	0.43
1:A:2262:U:C2	1:A:2279:G:N2	2.86	0.43
1:A:2298:A:N3	1:A:2321:U:C5	2.87	0.43
1:A:2544:G:H5'	1:A:2645:G:C2	2.53	0.43
1:A:2591:C:C2	1:A:2592:G:C8	3.07	0.43
1:A:2638:G:O2'	1:A:2775:G:N2	2.38	0.43
1:A:1662:U:O2	1:A:2687:U:C5'	2.67	0.43
1:A:1998:A:H4'	1:A:2724:U:O2'	2.19	0.43
1:A:2772:C:H2'	1:A:2773:C:H6	1.84	0.43
1:A:60:G:C5	1:A:62:U:C4	3.07	0.43
1:A:684:G:C2	1:A:794:A:C2	3.07	0.43
1:A:740:C:N4	1:A:758:C:O2	2.52	0.43
1:A:792:A:C3'	1:A:793:A:H5'	2.47	0.43
1:A:815:C:H2'	1:A:816:C:C6	2.53	0.43
3:C:225:MET:O	3:C:233:GLY:HA2	2.19	0.43
3:C:36:LYS:O	3:C:36:LYS:CG	2.66	0.43
4:D:13:ARG:HD2	4:D:15:PHE:CZ	2.54	0.43
7:G:158:LYS:C	7:G:160:LYS:N	2.72	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:28:LEU:C	9:I:28:LEU:HD12	2.38	0.43
9:I:8:TYR:HD2	9:I:58:VAL:HG13	1.84	0.43
10:J:117:ALA:HA	10:J:120:ARG:HD2	2.00	0.43
1:A:1651:G:H4'	14:N:39:PRO:HG2	1.99	0.43
1:A:1153:C:OP1	17:Q:92:ARG:NH1	2.52	0.43
18:R:66:HIS:CD2	18:R:94:THR:HG22	2.53	0.43
1:A:1338:G:H4'	20:T:18:GLU:OE1	2.18	0.43
1:A:396:G:O3'	24:X:30:LEU:O	2.35	0.43
1:A:1659:G:C6	1:A:1660:G:N7	2.87	0.43
1:A:1794:A:H2'	1:A:1795:C:C6	2.54	0.43
1:A:200:U:O4	1:A:248:G:C2	2.72	0.43
1:A:2104:C:C2	1:A:2186:G:N2	2.87	0.43
1:A:2799:A:O2'	1:A:2800:A:H5''	2.19	0.43
1:A:399:U:C4	1:A:400:G:C6	3.07	0.43
1:A:53:A:N7	1:A:54:G:N7	2.67	0.43
1:A:593:U:C2	1:A:594:U:C5	3.06	0.43
1:A:673:C:OP1	5:E:76:PRO:CG	2.67	0.43
1:A:985:C:C2	1:A:986:C:C5	3.07	0.43
2:B:15:A:H1'	2:B:109:A:N7	2.33	0.43
3:C:124:ILE:HD13	3:C:136:PRO:HD3	2.00	0.43
1:A:321:U:C1'	5:E:159:LEU:HD23	2.49	0.43
5:E:83:VAL:HG11	5:E:86:ALA:HA	2.00	0.43
6:F:40:VAL:O	6:F:42:GLU:N	2.51	0.43
8:H:82:SER:O	8:H:83:LYS:C	2.57	0.43
9:I:8:TYR:HB3	9:I:59:ILE:O	2.18	0.43
10:J:114:LEU:O	10:J:118:MET:HG2	2.19	0.43
10:J:4:PHE:HB3	17:Q:64:ARG:NH1	2.34	0.43
18:R:41:ILE:O	18:R:47:VAL:N	2.52	0.43
20:T:23:ALA:O	20:T:27:SER:HB3	2.19	0.43
22:V:20:LEU:O	22:V:25:LYS:HB2	2.18	0.43
25:Y:28:LEU:CD2	25:Y:37:LEU:HD11	2.49	0.43
27:O:17:ARG:HA	27:O:20:ASP:OD1	2.19	0.43
1:A:1113:U:H2'	1:A:1114:C:C6	2.54	0.43
1:A:120:U:O4	1:A:177:G:C8	2.72	0.43
1:A:1223:G:N2	1:A:1226:A:OP2	2.47	0.43
1:A:1566:A:C2	3:C:213:TRP:CD2	3.07	0.43
1:A:1705:A:C5	1:A:1706:C:C4	3.07	0.43
1:A:1798:U:O2'	1:A:1802:A:N3	2.45	0.43
1:A:182:A:H2'	1:A:183:C:C6	2.54	0.43
1:A:740:C:C5	1:A:1981:A:C2	3.07	0.43
1:A:571:U:C4	1:A:2030:A:N1	2.87	0.43
1:A:188:G:C2	1:A:209:C:N3	2.87	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2597:G:C2	1:A:2598:A:C2	3.07	0.43
1:A:2662:A:H2'	1:A:2663:G:O4'	2.19	0.43
1:A:2663:G:H2'	1:A:2664:G:O4'	2.18	0.43
1:A:1452:G:C6	1:A:2702:G:C2	3.07	0.43
1:A:2796:U:O4	1:A:2798:U:C4	2.72	0.43
1:A:327:G:H21	21:U:68:SER:HB2	1.84	0.43
5:E:150:THR:C	5:E:192:ALA:HB2	2.39	0.43
8:H:62:LEU:HD13	8:H:63:ALA:N	2.34	0.43
14:N:12:ARG:O	14:N:17:ARG:NH2	2.47	0.43
14:N:28:LEU:O	14:N:32:GLU:HA	2.19	0.43
16:P:106:LYS:HA	16:P:109:ARG:HD3	2.00	0.43
16:P:43:PHE:CE2	16:P:72:ARG:HD3	2.54	0.43
17:Q:106:PHE:HA	17:Q:109:LEU:HD12	2.01	0.43
18:R:67:GLY:C	18:R:93:PHE:CE2	2.92	0.43
21:U:95:PHE:CG	21:U:95:PHE:O	2.72	0.43
22:V:38:LEU:HB3	22:V:40:ILE:HD11	2.01	0.43
30:3:8:ARG:O	30:3:12:LYS:HG3	2.19	0.42
31:4:16:ILE:HG22	31:4:17:VAL:N	2.34	0.42
1:A:1009:A:C6	1:A:1010:A:N1	2.87	0.42
1:A:1081:U:O3'	9:I:124:ALA:HB1	2.19	0.42
1:A:1494:A:H2'	1:A:1495:A:O4'	2.19	0.42
1:A:1351:C:O2'	1:A:1571:A:N3	2.43	0.42
1:A:1594:U:H2'	1:A:1595:C:C6	2.53	0.42
1:A:1751:U:H2'	1:A:1752:C:C6	2.54	0.42
1:A:1819:A:H4'	1:A:1820:U:H5''	2.01	0.42
1:A:1858:A:C2	1:A:1859:U:H1'	2.54	0.42
1:A:1936:A:C8	1:A:1945:G:C6	3.07	0.42
1:A:1984:G:C5	1:A:1985:C:C5	3.07	0.42
1:A:1:G:C2	1:A:2:G:C4	3.07	0.42
1:A:186:G:C2	1:A:211:C:O2	2.72	0.42
1:A:858:G:C4	1:A:2268:A:C2	3.07	0.42
1:A:2378:A:N7	1:A:2379:G:H1'	2.34	0.42
1:A:2478:A:C8	1:A:2529:G:N7	2.87	0.42
1:A:2552:U:O2	1:A:2554:U:H5'	2.18	0.42
1:A:579:G:C2	1:A:1262:A:C5	3.07	0.42
1:A:56:A:C2	1:A:57:C:O2	2.72	0.42
1:A:798:G:H2'	1:A:799:G:H8	1.83	0.42
3:C:159:GLY:HA3	3:C:198:ALA:HA	2.00	0.42
1:A:1997:C:P	4:D:129:THR:OG1	2.77	0.42
6:F:17:MET:O	6:F:21:ASN:HA	2.19	0.42
7:G:129:THR:C	7:G:130:GLU:HG2	2.40	0.42
9:I:103:ARG:O	9:I:107:GLN:HB2	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:76:ALA:HA	9:I:79:LEU:HB2	2.01	0.42
11:K:105:ARG:CZ	16:P:34:GLU:HG3	2.49	0.42
12:L:77:ILE:CG2	12:L:81:ASP:OD2	2.66	0.42
13:M:73:ILE:HG13	13:M:91:TYR:CE2	2.54	0.42
14:N:103:ARG:CD	14:N:110:MET:HE3	2.48	0.42
13:M:34:LYS:HD3	22:V:82:TYR:HA	2.01	0.42
1:A:125:A:H3'	29:2:19:ARG:HG3	2.01	0.42
30:3:58:VAL:HG12	30:3:62:LEU:HD12	2.01	0.42
31:4:33:HIS:N	31:4:33:HIS:CD2	2.87	0.42
1:A:1469:A:C2	1:A:1470:A:C6	3.07	0.42
1:A:1604:C:H5''	35:A:3404:HOH:O	2.19	0.42
1:A:1695:G:N3	1:A:1695:G:H3'	2.33	0.42
1:A:404:A:O4'	1:A:405:U:OP2	2.37	0.42
1:A:413:C:N4	35:A:3564:HOH:O	2.52	0.42
1:A:567:U:H2'	1:A:568:U:O5'	2.19	0.42
1:A:580:U:O2'	1:A:581:C:H5'	2.19	0.42
1:A:669:G:H2'	1:A:670:A:N7	2.34	0.42
1:A:756:A:C5	1:A:757:G:C8	3.08	0.42
2:B:2:G:N3	2:B:2:G:H2'	2.33	0.42
3:C:160:THR:H	3:C:195:VAL:HG13	1.84	0.42
3:C:202:LEU:HD12	3:C:202:LEU:HA	1.80	0.42
4:D:45:TYR:HB2	4:D:83:ARG:NH1	2.34	0.42
10:J:64:VAL:HG11	10:J:89:PHE:CE2	2.55	0.42
14:N:90:ARG:NH1	14:N:116:VAL:HG11	2.34	0.42
19:S:59:GLU:OE1	19:S:66:ILE:HD11	2.18	0.42
21:U:22:ARG:CZ	21:U:73:PHE:CE2	3.02	0.42
21:U:44:LYS:HG2	21:U:45:HIS:N	2.34	0.42
21:U:72:ILE:HD13	21:U:96:PHE:CE2	2.54	0.42
21:U:82:ARG:HB2	21:U:97:LYS:HG3	2.01	0.42
24:X:33:LEU:HD23	24:X:50:ARG:CZ	2.48	0.42
24:X:32:ASN:ND2	24:X:53:ALA:HB2	2.34	0.42
30:3:45:ARG:N	30:3:46:PRO:HD2	2.33	0.42
1:A:1115:G:C2	1:A:1116:G:C5	3.08	0.42
1:A:1265:A:C8	1:A:1267:U:C2	3.06	0.42
1:A:1464:G:C4	1:A:1465:G:C8	3.07	0.42
1:A:2033:A:H4'	1:A:2034:U:OP1	2.18	0.42
1:A:2047:C:O2'	1:A:2048:G:H5'	2.19	0.42
1:A:2147:A:C8	1:A:2148:G:C8	3.07	0.42
1:A:2221:G:C2'	1:A:2222:C:H5'	2.49	0.42
1:A:2266:A:C2	1:A:2272:U:C5	3.07	0.42
1:A:2322:A:C5	1:A:2323:G:C8	3.07	0.42
1:A:446:G:H4'	1:A:447:A:OP1	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:958:U:OP2	13:M:14:LYS:HD2	2.20	0.42
1:A:95:A:H4'	25:Y:38:GLN:O	2.19	0.42
3:C:145:GLU:HB2	3:C:188:CYS:HB3	2.01	0.42
4:D:99:GLU:HG2	4:D:182:ALA:HB2	2.01	0.42
7:G:87:LEU:CD2	7:G:148:LEU:HB2	2.48	0.42
8:H:127:GLU:HA	8:H:144:VAL:O	2.19	0.42
9:I:77:ALA:HA	9:I:80:LEU:HD12	2.01	0.42
10:J:81:ILE:HG12	10:J:82:GLY:N	2.34	0.42
14:N:49:GLU:N	14:N:50:PRO:HD2	2.35	0.42
16:P:8:LEU:O	16:P:8:LEU:HD23	2.19	0.42
18:R:3:ALA:HB2	18:R:101:ILE:CG2	2.49	0.42
18:R:47:VAL:CG1	18:R:54:VAL:HG21	2.50	0.42
25:Y:56:LEU:O	25:Y:57:LEU:HB2	2.16	0.42
30:3:47:LYS:HD3	30:3:47:LYS:HA	1.79	0.42
1:A:1050:A:O2'	1:A:2752:C:H1'	2.18	0.42
1:A:1230:A:H2'	1:A:1231:U:C6	2.55	0.42
1:A:1362:C:H2'	1:A:1363:C:C5'	2.50	0.42
1:A:1669:A:C1'	11:K:5:GLN:HG3	2.50	0.42
1:A:2045:C:C2'	1:A:2046:G:O5'	2.68	0.42
1:A:2204:G:N3	1:A:2205:A:C8	2.88	0.42
1:A:2294:G:OP2	15:O:94:ARG:NH1	2.52	0.42
1:A:2341:G:C6	1:A:2342:C:N4	2.88	0.42
1:A:2712:C:C2	1:A:2715:C:OP1	2.73	0.42
1:A:301:G:N2	1:A:302:C:O2	2.53	0.42
1:A:305:C:C2	1:A:313:G:N1	2.87	0.42
1:A:848:C:H2'	1:A:849:A:C8	2.54	0.42
3:C:246:THR:C	3:C:248:TRP:H	2.22	0.42
5:E:177:PRO:O	5:E:181:ILE:HG13	2.20	0.42
5:E:83:VAL:HG12	5:E:86:ALA:HA	2.02	0.42
8:H:72:ILE:O	8:H:72:ILE:CG2	2.67	0.42
14:N:36:THR:HG23	14:N:41:ALA:HB2	2.02	0.42
24:X:54:LYS:O	24:X:57:ARG:HB2	2.19	0.42
25:Y:46:VAL:O	25:Y:50:VAL:HG23	2.19	0.42
1:A:1120:G:C6	1:A:1121:C:C4	3.07	0.42
1:A:126:A:C5	1:A:127:A:C2	3.07	0.42
1:A:1669:A:N3	1:A:1669:A:H3'	2.35	0.42
1:A:2127:G:H2'	1:A:2128:G:C8	2.54	0.42
1:A:2136:G:C2	1:A:2156:G:H1'	2.54	0.42
1:A:2297:A:C2	1:A:2298:A:C8	3.07	0.42
1:A:2563:U:C1'	1:A:2566:A:N6	2.82	0.42
1:A:2581:G:H8	1:A:2582:G:O6	2.02	0.42
1:A:2655:G:O2'	1:A:2656:U:P	2.78	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2741:A:H2'	1:A:2742:G:H5'	2.02	0.42
1:A:2776:A:C5	1:A:2778:A:C6	3.07	0.42
1:A:2819:G:H5''	35:A:3808:HOH:O	2.19	0.42
1:A:1750:G:O2'	1:A:2860:A:N1	2.45	0.42
1:A:2864:G:H2'	1:A:2865:U:O4'	2.19	0.42
1:A:377:G:C6	1:A:378:C:C5	3.07	0.42
1:A:371:A:N6	1:A:402:A:OP2	2.45	0.42
1:A:693:A:C5	1:A:694:U:C5	3.07	0.42
1:A:816:C:C2	1:A:1192:G:C2	3.08	0.42
1:A:832:U:H2'	1:A:833:A:C8	2.55	0.42
1:A:971:G:OP2	1:A:974:G:N2	2.52	0.42
2:B:29:A:H2'	2:B:30:C:C6	2.55	0.42
5:E:77:ILE:O	5:E:77:ILE:CG1	2.67	0.42
8:H:121:VAL:O	8:H:122:LEU:CB	2.67	0.42
13:M:136:MET:O	22:V:79:ARG:NH2	2.53	0.42
13:M:58:LYS:C	13:M:60:GLN:H	2.23	0.42
14:N:46:ARG:O	14:N:50:PRO:CG	2.68	0.42
17:Q:9:ILE:HD12	17:Q:9:ILE:O	2.20	0.42
22:V:63:ILE:HD11	22:V:91:PHE:CD1	2.54	0.42
24:X:36:HIS:O	24:X:48:THR:HA	2.20	0.42
25:Y:11:VAL:O	25:Y:15:ASN:CG	2.58	0.42
1:A:1230:A:C2	1:A:1231:U:C2	3.07	0.42
1:A:1584:U:C3'	1:A:1584:U:O2	2.68	0.42
1:A:16:C:O3'	27:O:11:SER:OG	2.38	0.42
1:A:201:C:C4	1:A:202:U:C5	3.08	0.42
1:A:187:G:N2	1:A:210:C:C2	2.88	0.42
1:A:2208:C:C2	1:A:2217:G:N2	2.88	0.42
1:A:2448:A:HO2'	1:A:2449:U:H5	1.67	0.42
1:A:2461:A:H1'	1:A:2492:U:C2	2.53	0.42
1:A:2671:G:C2	1:A:2672:U:C2	3.08	0.42
1:A:2685:G:C4	1:A:2686:G:C8	3.07	0.42
1:A:353:C:H3'	1:A:354:A:C8	2.55	0.42
1:A:485:C:C2	1:A:496:G:C2	3.08	0.42
1:A:792:A:H3'	1:A:793:A:H5'	1.99	0.42
1:A:845:A:H3'	1:A:845:A:N3	2.33	0.42
2:B:84:G:N2	2:B:93:C:O2	2.52	0.42
4:D:179:ARG:HB2	4:D:188:LEU:HD12	2.02	0.42
7:G:8:PRO:HG3	7:G:51:THR:HG22	2.02	0.42
8:H:69:ALA:HB2	8:H:138:VAL:HG12	2.02	0.42
8:H:31:VAL:HG12	8:H:32:PRO:HD3	2.02	0.42
9:I:62:TYR:C	9:I:64:ASP:H	2.23	0.42
10:J:135:GLN:CD	10:J:135:GLN:N	2.73	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:122:VAL:HG11	12:L:127:VAL:HG21	2.00	0.42
16:P:53:ARG:HB2	16:P:56:HIS:HB2	2.02	0.42
19:S:43:ALA:O	19:S:44:ALA:C	2.57	0.42
22:V:48:MET:O	22:V:51:GLN:NE2	2.50	0.42
24:X:13:VAL:CG2	24:X:13:VAL:O	2.67	0.42
8:H:32:PRO:CB	24:X:39:TRP:HB3	2.46	0.42
31:4:30:GLU:CB	31:4:33:HIS:CD2	3.02	0.42
1:A:1096:A:H2'	1:A:1097:U:H5''	2.01	0.42
1:A:56:A:C2	1:A:115:C:C2	3.07	0.42
1:A:1239:G:C6	1:A:1240:U:C4	3.07	0.42
1:A:1344:U:HO2'	1:A:1345:C:P	2.37	0.42
1:A:1526:C:N4	1:A:1527:G:C6	2.87	0.42
1:A:1566:A:H5'	3:C:214:ARG:CZ	2.50	0.42
1:A:1651:G:O6	1:A:1652:A:C6	2.72	0.42
1:A:1370:C:O4'	1:A:1810:A:H2	2.02	0.42
1:A:2037:A:C6	1:A:2038:G:C5	3.08	0.42
1:A:2287:A:C8	1:A:2289:G:C8	3.08	0.42
1:A:2436:G:N3	1:A:2437:G:C8	2.88	0.42
1:A:250:G:H2'	1:A:251:A:C8	2.55	0.42
1:A:306:U:C5	1:A:307:G:C5	3.08	0.42
1:A:310:A:C6	1:A:330:A:C5	3.08	0.42
1:A:629:G:H4'	1:A:650:C:O2	2.19	0.42
1:A:687:C:C2	1:A:788:A:O4'	2.73	0.42
1:A:706:A:C4	1:A:707:G:C8	3.07	0.42
1:A:734:A:C4	1:A:735:A:C8	3.08	0.42
3:C:65:VAL:HB	3:C:67:PHE:CE1	2.54	0.42
5:E:108:ILE:O	5:E:108:ILE:HD12	2.19	0.42
6:F:12:VAL:O	6:F:16:LEU:HG	2.18	0.42
1:A:2531:A:C5'	7:G:157:TYR:CZ	3.03	0.42
10:J:126:ALA:O	10:J:127:GLY:O	2.37	0.42
14:N:103:ARG:NE	14:N:110:MET:HE3	2.35	0.42
21:U:51:ALA:O	21:U:52:LEU:HB2	2.20	0.42
1:A:2091:C:O2	24:X:34:HIS:CE1	2.73	0.42
24:X:68:LEU:HD22	24:X:78:TYR:CE1	2.54	0.42
24:X:5:CYS:O	24:X:7:VAL:N	2.53	0.42
1:A:126:A:OP2	29:2:19:ARG:HG3	2.20	0.42
31:4:30:GLU:CG	31:4:33:HIS:CD2	3.03	0.42
1:A:1087:G:C6	1:A:1089:A:C2	3.07	0.42
1:A:1384:A:O2'	1:A:1404:C:O2	2.35	0.42
1:A:2193:G:H2'	1:A:2194:U:C6	2.55	0.42
1:A:2452:C:C2	32:A:3001:VIF:O05	2.73	0.42
1:A:2657:A:H1'	1:A:2665:A:N6	2.35	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:511:U:H2'	1:A:512:G:H5'	2.01	0.42
1:A:581:C:OP1	17:Q:33:ARG:HB2	2.20	0.42
1:A:60:G:H1'	1:A:61:C:OP1	2.19	0.42
1:A:681:G:C2	1:A:682:G:N9	2.88	0.42
3:C:126:PRO:HA	3:C:192:LEU:O	2.20	0.42
7:G:64:GLN:O	7:G:67:THR:OG1	2.37	0.42
8:H:31:VAL:HB	8:H:32:PRO:HD2	2.00	0.42
9:I:133:ALA:C	9:I:138:LEU:HD12	2.40	0.42
10:J:49:ASP:OD1	10:J:121:LYS:HD3	2.20	0.42
12:L:135:ILE:HG22	12:L:140:GLY:HA2	2.02	0.42
5:E:181:ILE:HG23	12:L:2:ARG:NH1	2.35	0.42
14:N:17:ARG:O	14:N:21:PHE:HB2	2.19	0.42
2:B:51:G:N7	15:O:64:TYR:HE2	2.18	0.42
19:S:62:ASP:O	19:S:63:GLY:C	2.57	0.42
1:A:309:A:H5'	21:U:17:LYS:HG2	2.00	0.42
8:H:27:ARG:NE	24:X:60:ASP:CG	2.71	0.42
1:A:1121:C:N3	1:A:1122:G:C8	2.87	0.42
1:A:1250:G:C5'	17:Q:6:ARG:HD2	2.50	0.42
1:A:1438:U:C2	1:A:1555:G:N2	2.87	0.42
1:A:160:A:H2'	1:A:161:A:C8	2.55	0.42
1:A:1713:A:C5	1:A:1716:U:H1'	2.55	0.42
1:A:1791:A:H5'	3:C:207:LYS:O	2.20	0.42
1:A:1874:C:H3'	1:A:1875:G:C8	2.55	0.42
1:A:1998:A:O3'	1:A:2724:U:H4'	2.19	0.42
1:A:2055:C:H5'	1:A:2056:G:OP1	2.20	0.42
1:A:189:G:C5	1:A:205:G:C2	3.08	0.42
1:A:2142:A:N6	1:A:2143:C:N4	2.68	0.42
1:A:2291:U:H5''	1:A:2380:C:O2	2.20	0.42
1:A:244:A:H2'	1:A:245:G:O4'	2.20	0.42
1:A:2634:A:C2	1:A:2635:A:C4	3.08	0.42
1:A:2826:A:C5	1:A:2827:C:C5	3.07	0.42
1:A:319:G:C4	1:A:333:G:N2	2.88	0.42
1:A:370:G:C8	35:A:3559:HOH:O	2.69	0.42
1:A:468:G:C2'	1:A:469:G:H5'	2.50	0.42
1:A:503:A:C2	1:A:506:G:C5	3.08	0.42
1:A:677:A:O2'	1:A:2071:A:H5'	2.19	0.42
1:A:787:C:C5	1:A:791:C:C4	3.08	0.42
3:C:36:LYS:O	3:C:36:LYS:HG3	2.19	0.42
4:D:4:LEU:HG	4:D:32:ASN:OD1	2.20	0.42
4:D:51:THR:OG1	4:D:76:GLY:HA3	2.20	0.42
5:E:23:PHE:CE1	5:E:28:VAL:HG21	2.55	0.42
6:F:64:LYS:HG2	6:F:64:LYS:O	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:89:PHE:CE2	10:J:100:VAL:HG11	2.55	0.42
15:O:36:TYR:HD2	15:O:52:SER:HB2	1.85	0.42
19:S:18:ARG:HA	19:S:21:ALA:HB3	2.01	0.42
1:A:2624:G:H1'	27:O:19:HIS:CE1	2.55	0.42
1:A:2815:C:O2'	27:O:41:HIS:ND1	2.41	0.42
28:1:10:LYS:O	28:1:51:GLU:CG	2.66	0.42
1:A:1071:G:O2'	1:A:1072:C:C5'	2.68	0.42
1:A:1379:U:O2	1:A:1379:U:H2'	2.20	0.42
1:A:1581:G:C5	1:A:1582:C:N4	2.88	0.42
1:A:1640:A:H2'	1:A:1641:A:C8	2.54	0.42
1:A:1665:A:H2'	1:A:1666:G:O4'	2.20	0.42
1:A:1745:A:C4	1:A:1746:A:C8	3.08	0.42
1:A:2212:A:C2	1:A:2214:C:N4	2.88	0.42
1:A:2536:G:C6	1:A:2537:U:N3	2.88	0.42
1:A:2683:C:OP1	16:P:56:HIS:CB	2.68	0.42
1:A:328:U:H4'	21:U:66:GLN:NE2	2.35	0.42
1:A:363:G:H2'	1:A:364:C:C6	2.55	0.42
1:A:503:A:H4'	1:A:504:A:O5'	2.20	0.42
1:A:60:G:HO2'	1:A:62:U:P	2.38	0.42
1:A:609:A:C6	1:A:610:C:O2	2.73	0.42
1:A:957:C:C4	1:A:2459:A:C1'	3.03	0.42
3:C:244:PRO:O	3:C:245:VAL:HG13	2.20	0.42
3:C:72:ASP:O	3:C:74:ILE:HD12	2.19	0.42
5:E:181:ILE:HB	12:L:3:LEU:HD13	2.01	0.42
6:F:85:ILE:O	6:F:85:ILE:HG23	2.18	0.42
8:H:53:GLU:C	8:H:55:GLU:N	2.72	0.42
1:A:2428:G:C2	12:L:54:GLN:OE1	2.73	0.42
14:N:58:ASP:O	14:N:59:SER:HB3	2.18	0.42
14:N:71:ARG:HH21	14:N:71:ARG:CG	2.32	0.42
16:P:28:VAL:HG21	16:P:74:PHE:CE2	2.55	0.42
20:T:21:SER:O	20:T:23:ALA:N	2.52	0.42
20:T:64:LYS:HB3	20:T:76:ARG:NH2	2.35	0.42
30:3:31:HIS:O	30:3:36:LYS:NZ	2.52	0.41
1:A:1002:G:C5	1:A:1003:G:C8	3.08	0.41
1:A:1324:G:H1'	1:A:1616:A:N6	2.35	0.41
1:A:1623:G:C2	1:A:1624:U:C6	3.08	0.41
1:A:192:C:H5'	1:A:678:C:H1'	2.02	0.41
1:A:1940:U:C2	1:A:1965:C:OP2	2.73	0.41
1:A:201:C:C5	1:A:202:U:C5	3.08	0.41
1:A:2314:A:C2	1:A:2315:G:C5	3.08	0.41
1:A:2321:U:H3'	1:A:2322:A:H5'	2.01	0.41
1:A:2549:G:N3	1:A:2560:A:C2	2.87	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2767:C:H2'	1:A:2768:U:H5'	2.01	0.41
1:A:2819:G:N3	1:A:2828:G:C2	2.88	0.41
1:A:335:C:H2'	1:A:336:C:H6	1.83	0.41
1:A:360:U:C4	1:A:361:G:C6	3.08	0.41
1:A:529:A:H4'	1:A:530:G:OP1	2.19	0.41
1:A:604:G:C6	1:A:605:G:C6	3.08	0.41
1:A:668:A:H3'	1:A:669:G:H5''	2.02	0.41
1:A:788:A:OP1	1:A:791:C:N4	2.47	0.41
1:A:776:G:C8	1:A:793:A:C5	3.08	0.41
1:A:846:U:O2'	1:A:847:U:P	2.77	0.41
2:B:60:C:C2	2:B:61:G:C8	3.08	0.41
2:B:97:C:C4	2:B:98:G:C8	3.08	0.41
3:C:147:LYS:HB2	3:C:150:LYS:CB	2.47	0.41
3:C:75:PRO:HB2	3:C:97:LYS:HG3	2.02	0.41
6:F:8:TYR:OH	6:F:30:ARG:HB3	2.19	0.41
9:I:4:LYS:HD2	9:I:5:VAL:H	1.85	0.41
10:J:138:GLN:HG3	10:J:138:GLN:O	2.20	0.41
12:L:121:THR:HG22	12:L:121:THR:O	2.19	0.41
12:L:68:SER:O	12:L:69:ARG:HG3	2.19	0.41
13:M:2:LEU:N	13:M:2:LEU:HD12	2.35	0.41
19:S:63:GLY:O	19:S:64:ALA:HB3	2.20	0.41
20:T:2:ILE:HA	20:T:3:ARG:HB2	2.02	0.41
1:A:2091:C:H1'	24:X:34:HIS:CD2	2.54	0.41
25:Y:9:LYS:O	25:Y:12:GLU:HB2	2.19	0.41
1:A:1076:C:H2'	1:A:1077:A:O4'	2.19	0.41
1:A:1083:U:H2'	1:A:1085:A:OP2	2.20	0.41
1:A:1091:G:N3	1:A:1092:C:C5	2.88	0.41
1:A:1299:G:H5'	1:A:1301:A:O4'	2.20	0.41
1:A:1360:G:C2	1:A:1361:G:H1'	2.55	0.41
1:A:1364:G:OP2	24:X:50:ARG:NH2	2.52	0.41
1:A:1475:G:O2'	1:A:1476:U:P	2.78	0.41
1:A:2078:C:H1'	1:A:2434:A:H1'	2.03	0.41
1:A:2103:C:C2	1:A:2104:C:C5	3.08	0.41
1:A:2323:G:H2'	1:A:2324:U:C6	2.54	0.41
1:A:239:C:H2'	1:A:239:C:O2	2.21	0.41
1:A:2788:C:H2'	1:A:2789:C:H6	1.84	0.41
1:A:228:C:O2	1:A:418:C:H4'	2.19	0.41
1:A:467:G:H4'	1:A:796:C:O2'	2.19	0.41
1:A:529:A:C6	1:A:2023:C:C2	3.08	0.41
2:B:100:G:H2'	2:B:101:A:O4'	2.19	0.41
2:B:65:U:C4	2:B:108:A:C4	3.08	0.41
4:D:104:VAL:O	4:D:105:LYS:HB2	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:32:ASN:N	4:D:96:ILE:O	2.52	0.41
6:F:100:PHE:O	6:F:104:ILE:HG12	2.20	0.41
8:H:135:HIS:CG	8:H:136:SER:N	2.89	0.41
8:H:41:LYS:HE2	8:H:44:ILE:CD1	2.50	0.41
9:I:101:ILE:HG22	9:I:102:SER:N	2.35	0.41
9:I:75:PRO:HG2	9:I:78:VAL:CG2	2.50	0.41
9:I:92:LYS:HB3	9:I:95:LYS:HE3	2.01	0.41
14:N:106:ASP:OD1	14:N:106:ASP:C	2.59	0.41
16:P:51:ARG:HG2	16:P:51:ARG:O	2.19	0.41
23:W:75:LYS:HD2	23:W:77:ARG:CZ	2.51	0.41
1:A:2230:G:O3'	24:X:30:LEU:HB2	2.20	0.41
24:X:40:VAL:CG2	24:X:45:ARG:O	2.68	0.41
25:Y:28:LEU:HD12	25:Y:46:VAL:HG21	2.03	0.41
1:A:788:A:H1'	29:2:4:THR:CG2	2.50	0.41
1:A:1096:A:N1	1:A:1097:U:C5	2.88	0.41
1:A:1211:C:H5''	1:A:1212:G:C8	2.55	0.41
1:A:1365:A:C5	1:A:1366:A:N7	2.88	0.41
1:A:1456:G:C4	1:A:1457:U:C6	3.09	0.41
1:A:1664:A:C8	1:A:1664:A:OP2	2.73	0.41
1:A:2133:G:N3	1:A:2158:A:C6	2.88	0.41
1:A:2346:A:C3'	1:A:2347:C:C5'	2.97	0.41
1:A:2512:C:H2'	1:A:2513:A:O4'	2.20	0.41
1:A:2563:U:O4'	1:A:2566:A:N6	2.53	0.41
1:A:2645:G:OP2	1:A:2645:G:N2	2.46	0.41
1:A:371:A:H61	1:A:401:A:H3'	1.85	0.41
1:A:404:A:H1'	1:A:405:U:P	2.60	0.41
1:A:770:G:O4'	1:A:1379:U:C5	2.73	0.41
1:A:870:U:H5''	13:M:6:ARG:O	2.20	0.41
3:C:189:ARG:O	3:C:190:ALA:HB2	2.21	0.41
4:D:15:PHE:HA	4:D:20:VAL:O	2.21	0.41
1:A:2786:U:O2'	4:D:63:PRO:O	2.34	0.41
5:E:108:ILE:HD11	5:E:180:LEU:CB	2.50	0.41
7:G:41:VAL:HG23	7:G:64:GLN:HB3	2.02	0.41
9:I:57:VAL:CG2	9:I:58:VAL:N	2.83	0.41
13:M:36:VAL:HG22	13:M:129:THR:HB	2.02	0.41
14:N:12:ARG:CZ	14:N:20:MET:HE3	2.51	0.41
14:N:25:ALA:HA	14:N:48:VAL:HG22	2.02	0.41
21:U:33:LYS:HB3	21:U:64:ALA:HB1	2.03	0.41
21:U:83:VAL:CG1	21:U:84:GLY:N	2.83	0.41
26:Z:13:ALA:HB2	26:Z:24:LEU:CD1	2.50	0.41
1:A:1313:U:H2'	1:A:1313:U:O2	2.20	0.41
1:A:1364:G:H2'	1:A:1365:A:H5'	2.02	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1366:A:C2	1:A:1367:A:C1'	3.03	0.41
1:A:1350:C:C2	1:A:1382:G:C2	3.08	0.41
1:A:1384:A:H1'	1:A:1405:U:H1'	2.03	0.41
1:A:1577:C:H2'	1:A:1578:U:O4'	2.20	0.41
1:A:16:C:H4'	27:O:11:SER:OG	2.20	0.41
1:A:1831:G:H2'	1:A:1832:C:C6	2.55	0.41
1:A:1926:U:H1'	1:A:1929:G:C6	2.56	0.41
1:A:1786:A:H1'	1:A:1938:A:N6	2.35	0.41
1:A:2246:G:H2'	1:A:2247:A:O4'	2.20	0.41
1:A:2276:G:C2'	1:A:2277:G:O5'	2.68	0.41
1:A:2286:G:H5'	1:A:2287:A:O4'	2.20	0.41
1:A:2355:G:OP1	23:W:25:ARG:NH2	2.53	0.41
1:A:2290:G:H4'	1:A:2381:A:O2'	2.20	0.41
1:A:247:G:N7	1:A:249:C:N1	2.67	0.41
1:A:2586:U:H2'	1:A:2586:U:O2	2.20	0.41
1:A:475:C:N3	1:A:481:G:C6	2.89	0.41
1:A:937:C:H2'	1:A:938:G:O4'	2.21	0.41
1:A:976:G:O6	1:A:988:A:C2	2.73	0.41
2:B:40:U:N3	2:B:44:G:OP2	2.46	0.41
3:C:154:LEU:HD13	3:C:176:LEU:HD21	2.03	0.41
3:C:252:THR:HG22	3:C:253:LYS:N	2.36	0.41
1:A:1567:G:O2'	3:C:63:ARG:NH1	2.54	0.41
1:A:2572:A:N7	4:D:150:GLN:HB3	2.36	0.41
1:A:2444:G:P	5:E:63:LYS:HD2	2.60	0.41
6:F:40:VAL:HG11	6:F:50:LEU:HD13	2.01	0.41
7:G:176:LYS:O	7:G:177:LYS:CB	2.68	0.41
8:H:2:GLN:O	8:H:3:VAL:O	2.38	0.41
14:N:69:ARG:C	14:N:70:THR:HG23	2.40	0.41
20:T:22:THR:HA	20:T:25:GLU:CG	2.51	0.41
1:A:2347:C:O2'	28:1:39:PHE:HB3	2.20	0.41
31:4:1:MET:HB2	31:4:34:LYS:O	2.21	0.41
1:A:1231:U:O5'	1:A:1231:U:H6	2.04	0.41
1:A:1257:C:C4	1:A:1258:U:C4	3.08	0.41
1:A:1332:G:H2'	1:A:1332:G:N3	2.36	0.41
1:A:1336:A:H2'	1:A:1337:G:C8	2.54	0.41
1:A:1362:C:H2'	1:A:1363:C:H5'	2.02	0.41
1:A:1475:G:H4'	1:A:1732:C:C5	2.55	0.41
1:A:1562:U:C4	1:A:1563:U:C4	3.09	0.41
1:A:1570:A:C6	1:A:1571:A:C6	3.08	0.41
1:A:1731:G:C6	1:A:1733:G:C5	3.08	0.41
1:A:2241:A:H2'	1:A:2242:G:C8	2.55	0.41
1:A:2410:G:C6	1:A:2411:A:C4	3.09	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:526:A:C6	1:A:2626:C:H4'	2.55	0.41
1:A:2752:C:C5	1:A:2753:A:N7	2.89	0.41
2:B:4:C:H2'	2:B:5:U:O4'	2.21	0.41
3:C:95:LEU:HD13	3:C:101:ARG:CZ	2.51	0.41
5:E:59:PRO:HB2	5:E:70:SER:OG	2.20	0.41
6:F:121:SER:O	6:F:128:TYR:HA	2.21	0.41
6:F:42:GLU:O	6:F:44:ILE:N	2.53	0.41
9:I:117:MET:SD	9:I:125:MET:HG2	2.60	0.41
9:I:46:THR:CG2	9:I:51:LYS:HG3	2.51	0.41
9:I:80:LEU:HD22	9:I:138:LEU:HD11	2.02	0.41
14:N:79:LEU:O	14:N:80:PHE:HB2	2.20	0.41
15:O:66:GLY:HA2	15:O:102:ARG:NH2	2.36	0.41
15:O:37:ALA:HB2	15:O:106:LEU:HD11	2.02	0.41
2:B:94:A:OP1	22:V:19:ARG:HD3	2.20	0.41
1:A:2432:A:N1	24:X:21:ALA:HA	2.35	0.41
1:A:2284:A:OP1	28:1:4:GLY:O	2.39	0.41
1:A:1234:U:H2'	1:A:1235:G:O4'	2.21	0.41
1:A:1240:U:HO2'	1:A:1241:A:C5'	2.33	0.41
1:A:1359:A:N7	1:A:1373:A:C2	2.89	0.41
1:A:1585:C:C5	1:A:1586:A:C5	3.08	0.41
1:A:1707:G:C5	1:A:1708:C:C4	3.09	0.41
1:A:1790:C:C5	1:A:1828:G:C2	3.08	0.41
1:A:1843:C:H4'	3:C:251:GLN:OE1	2.21	0.41
1:A:2118:U:O4	1:A:2149:U:H1'	2.20	0.41
1:A:2235:G:C4	1:A:2236:U:C6	3.08	0.41
1:A:2242:G:C5	1:A:2243:U:C5	3.08	0.41
1:A:2323:G:H2'	1:A:2324:U:O4'	2.21	0.41
1:A:333:G:C5	1:A:334:C:C5	3.09	0.41
1:A:425:G:C2	1:A:426:C:C2	3.09	0.41
1:A:491:G:O6	1:A:492:A:C6	2.74	0.41
1:A:60:G:H3'	1:A:60:G:P	2.61	0.41
1:A:672:C:H4'	5:E:84:THR:CG2	2.51	0.41
1:A:995:C:O2	10:J:3:THR:OG1	2.27	0.41
2:B:6:G:C2	2:B:115:A:C2	3.09	0.41
5:E:126:VAL:HG22	5:E:133:LEU:HD22	2.03	0.41
6:F:134:GLU:HB3	6:F:137:ILE:HG23	2.02	0.41
6:F:31:VAL:HG22	6:F:96:MET:SD	2.60	0.41
7:G:60:ASP:O	7:G:61:GLY:C	2.59	0.41
8:H:40:THR:OG1	8:H:43:ASN:ND2	2.53	0.41
9:I:105:GLN:O	9:I:106:LEU:CB	2.68	0.41
9:I:105:GLN:O	9:I:106:LEU:HG	2.21	0.41
9:I:80:LEU:HD11	9:I:133:ALA:HB2	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:57:LEU:HD12	12:L:60:ARG:HD2	2.03	0.41
14:N:8:ARG:HB3	14:N:10:LEU:HG	2.03	0.41
24:X:13:VAL:CG2	24:X:29:PHE:HB2	2.50	0.41
1:A:1290:C:C4	1:A:1291:C:C5	3.09	0.41
1:A:1352:U:H5	35:A:3395:HOH:O	2.04	0.41
1:A:1410:G:C2	1:A:1593:A:C6	3.09	0.41
1:A:1525:A:C6	1:A:1526:C:N3	2.88	0.41
1:A:1581:G:C6	1:A:1582:C:N4	2.89	0.41
1:A:1652:A:C2	1:A:2006:C:O2	2.74	0.41
1:A:2044:C:N3	1:A:2045:C:C5	2.88	0.41
1:A:2199:A:N7	1:A:2225:A:C6	2.89	0.41
1:A:2215:C:H2'	1:A:2216:G:C8	2.56	0.41
1:A:2789:C:H5'	1:A:2809:A:H1'	2.01	0.41
1:A:352:A:C6	1:A:353:C:N3	2.89	0.41
1:A:475:C:O5'	1:A:475:C:H6	2.04	0.41
1:A:527:C:OP2	1:A:2779:U:N3	2.51	0.41
1:A:833:A:H2'	1:A:834:G:H8	1.86	0.41
1:A:892:A:H2'	1:A:892:A:N3	2.35	0.41
1:A:942:G:C2'	1:A:943:A:H5'	2.51	0.41
5:E:136:GLN:O	5:E:138:LEU:N	2.53	0.41
6:F:166:GLY:O	6:F:167:ARG:C	2.59	0.41
7:G:123:ALA:HB2	7:G:133:LEU:HB3	2.03	0.41
9:I:54:PRO:O	9:I:75:PRO:HD2	2.19	0.41
18:R:6:GLN:O	18:R:7:SER:HB2	2.20	0.41
26:Z:38:ARG:HA	26:Z:38:ARG:HD3	1.86	0.41
30:3:25:LYS:HG2	30:3:26:HIS:N	2.36	0.41
1:A:1109:C:C4	1:A:1110:G:O6	2.74	0.41
1:A:1273:U:H4'	1:A:1275:A:P	2.60	0.41
1:A:1434:A:H2'	1:A:1435:G:C8	2.56	0.41
1:A:1519:G:N3	1:A:1519:G:H2'	2.36	0.41
1:A:167:A:H2'	1:A:168:G:O4'	2.21	0.41
1:A:1683:U:H6	1:A:1683:U:O5'	2.02	0.41
1:A:1746:A:H2'	1:A:1747:U:C6	2.56	0.41
1:A:197:A:H62	1:A:2430:A:C2'	2.28	0.41
1:A:2038:G:C5	1:A:2039:U:C5	3.09	0.41
1:A:2039:U:H2'	1:A:2040:G:C8	2.56	0.41
1:A:2045:C:H2'	1:A:2046:G:O5'	2.20	0.41
1:A:2051:A:C2	1:A:2052:A:N6	2.89	0.41
1:A:2131:U:H1'	1:A:2158:A:H61	1.86	0.41
1:A:2222:C:N3	1:A:2223:G:C8	2.89	0.41
1:A:2345:G:C5	1:A:2347:C:C4	3.09	0.41
1:A:2624:G:H2'	1:A:2625:G:O4'	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:279:A:H61	1:A:361:G:C2'	2.33	0.41
1:A:618:G:C2	1:A:619:G:H1'	2.55	0.41
1:A:67:U:C4	1:A:68:G:N7	2.89	0.41
1:A:691:C:H5'	3:C:217:ARG:HD2	2.03	0.41
1:A:783:A:C4	1:A:785:G:H1'	2.56	0.41
1:A:83:A:H5''	1:A:84:A:OP1	2.21	0.41
1:A:950:G:C2	1:A:951:C:C2	3.08	0.41
1:A:995:C:N3	10:J:3:THR:HB	2.36	0.41
4:D:22:ILE:HG22	4:D:24:VAL:HG13	2.02	0.41
5:E:170:ARG:NH1	5:E:176:ASP:OD1	2.53	0.41
5:E:59:PRO:HG2	5:E:70:SER:HB2	2.02	0.41
6:F:106:ILE:HD11	6:F:139:PRO:HG2	2.02	0.41
7:G:139:GLN:C	7:G:139:GLN:CD	2.80	0.41
7:G:91:GLY:HA3	7:G:160:LYS:CG	2.50	0.41
7:G:9:VAL:O	7:G:49:THR:HA	2.21	0.41
14:N:55:ALA:CB	14:N:79:LEU:HB3	2.50	0.41
15:O:31:THR:HG23	15:O:32:PRO:HD2	2.02	0.41
16:P:89:ARG:NH1	16:P:115:ASN:OXT	2.53	0.41
17:Q:9:ILE:HG13	17:Q:10:ALA:N	2.33	0.41
19:S:44:ALA:O	19:S:48:LYS:HB3	2.21	0.41
1:A:487:C:H1'	19:S:53:SER:OG	2.21	0.41
22:V:75:GLN:HB2	22:V:92:VAL:HG23	2.03	0.41
26:Z:52:SER:HA	26:Z:55:VAL:CG2	2.51	0.41
1:A:2286:G:OP1	28:1:30:LYS:HE3	2.20	0.41
1:A:684:G:P	29:2:16:HIS:HD1	2.40	0.41
29:2:43:THR:OG1	29:2:44:VAL:N	2.54	0.41
1:A:1125:G:H4'	31:4:37:GLN:NE2	2.36	0.41
1:A:976:G:H5'	1:A:1156:A:C6	2.56	0.41
1:A:1301:A:N3	1:A:1301:A:H2'	2.36	0.41
1:A:1500:G:C6	1:A:1501:G:C5	3.08	0.41
1:A:1838:C:C5	1:A:1899:A:C5	3.09	0.41
1:A:1906:G:C2	1:A:1907:G:C8	3.09	0.41
1:A:1926:U:H2'	1:A:1928:A:N7	2.35	0.41
1:A:2199:A:C6	1:A:2200:C:N3	2.89	0.41
1:A:2261:C:C2	1:A:2280:G:C2	3.09	0.41
1:A:2297:A:N7	1:A:2320:U:C4	2.89	0.41
1:A:648:G:H1'	1:A:2351:G:OP1	2.21	0.41
1:A:2391:G:H1'	1:A:2424:C:H41	1.86	0.41
1:A:2460:U:H2'	1:A:2461:A:O4'	2.21	0.41
1:A:2540:C:C2	1:A:2541:A:C8	3.09	0.41
1:A:2567:G:H2'	1:A:2568:U:C6	2.56	0.41
1:A:2648:G:H2'	1:A:2649:C:C6	2.56	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2688:G:C8	1:A:2719:G:C6	3.08	0.41
1:A:2794:C:H2'	1:A:2794:C:O2	2.21	0.41
1:A:2899:A:H2'	1:A:2900:A:H8	1.85	0.41
1:A:295:G:C2	1:A:296:U:C6	3.09	0.41
1:A:566:U:O4	18:R:80:ARG:HD3	2.20	0.41
1:A:697:G:C6	1:A:698:C:N4	2.89	0.41
1:A:952:G:C2	1:A:966:G:C2	3.09	0.41
3:C:25:HIS:HB2	3:C:80:ARG:HG3	2.02	0.41
1:A:1805:A:O2'	3:C:50:THR:HA	2.21	0.41
6:F:136:ILE:HA	6:F:141:ILE:HG21	2.03	0.41
7:G:85:LYS:HG3	7:G:141:ILE:HD12	2.02	0.41
7:G:156:PRO:O	7:G:171:THR:HG22	2.20	0.41
8:H:130:VAL:CG1	8:H:131:SER:N	2.82	0.41
9:I:32:GLY:HA3	9:I:61:VAL:HG11	2.02	0.41
14:N:55:ALA:HB1	14:N:80:PHE:N	2.36	0.41
17:Q:81:ASN:ND2	17:Q:117:LEU:HD11	2.35	0.41
20:T:23:ALA:O	20:T:27:SER:N	2.50	0.41
1:A:308:G:H4'	21:U:17:LYS:NZ	2.36	0.41
21:U:71:ALA:HB3	21:U:80:ALA:HB1	2.03	0.41
25:Y:50:VAL:O	25:Y:54:LYS:HG3	2.21	0.41
26:Z:7:ILE:CG2	26:Z:8:THR:N	2.83	0.41
28:1:9:ILE:HD11	28:1:11:LEU:HD21	2.02	0.41
1:A:2526:G:O2'	31:4:34:LYS:HE2	2.20	0.41
1:A:1187:G:OP1	18:R:85:LYS:CE	2.66	0.41
1:A:1193:G:C2	1:A:1194:A:C4	3.09	0.41
1:A:1582:C:H2'	1:A:1583:A:H1'	2.03	0.41
1:A:2134:A:C8	1:A:2158:A:N3	2.89	0.41
1:A:2223:G:C2'	1:A:2224:G:H5'	2.51	0.41
1:A:2355:G:C6	1:A:2356:U:N3	2.89	0.41
1:A:2283:C:C4	1:A:2389:G:C4	3.09	0.41
1:A:2395:C:O5'	1:A:2395:C:H6	2.03	0.41
1:A:2508:G:N2	1:A:2582:G:C6	2.89	0.41
1:A:2818:U:H2'	1:A:2819:G:C8	2.55	0.41
1:A:340:A:H2'	1:A:341:C:O4'	2.20	0.41
1:A:460:A:H2'	1:A:461:C:O4'	2.21	0.41
1:A:567:U:C2'	1:A:568:U:O5'	2.68	0.41
1:A:595:C:O2	1:A:663:G:C2	2.74	0.41
1:A:905:A:H2'	1:A:906:U:H5'	2.01	0.41
3:C:182:ARG:NH1	3:C:266:PHE:HB2	2.36	0.41
3:C:92:ALA:HB2	3:C:106:ALA:HB2	2.02	0.41
4:D:1:MET:SD	4:D:100:LEU:HD11	2.61	0.41
5:E:31:VAL:O	5:E:31:VAL:HG12	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:137:ASP:HB3	7:G:140:VAL:HG23	2.03	0.41
7:G:148:LEU:HA	7:G:151:TYR:HD1	1.86	0.41
8:H:1:MET:HB3	8:H:21:VAL:O	2.20	0.41
9:I:57:VAL:HB	9:I:71:THR:HB	2.03	0.41
10:J:140:LEU:C	10:J:140:LEU:HD12	2.41	0.41
17:Q:79:PHE:CE2	17:Q:110:VAL:HG22	2.56	0.41
19:S:28:LYS:HD3	19:S:31:GLN:OE1	2.20	0.41
21:U:72:ILE:H	21:U:72:ILE:HG13	1.75	0.41
24:X:69:ALA:HA	24:X:72:ARG:HB3	2.03	0.41
24:X:69:ALA:O	24:X:72:ARG:N	2.54	0.41
25:Y:45:GLN:O	25:Y:46:VAL:C	2.59	0.41
1:A:1308:A:C6	1:A:1309:G:C2	3.09	0.41
1:A:1464:G:H2'	1:A:1465:G:C8	2.56	0.41
1:A:1270:C:O2'	1:A:1648:U:OP2	2.37	0.41
1:A:1659:G:C5	1:A:1660:G:C8	3.09	0.41
1:A:1667:G:H5''	11:K:5:GLN:O	2.21	0.41
1:A:1782:U:O2	1:A:2608:G:O2'	2.19	0.41
1:A:2210:U:H4'	1:A:2211:A:H5'	2.02	0.41
1:A:2531:A:H4'	7:G:157:TYR:CD1	2.56	0.41
1:A:2674:G:H2'	1:A:2675:A:C8	2.56	0.41
1:A:2784:U:C4	1:A:2785:C:C5	3.09	0.41
1:A:449:A:C5	1:A:450:G:C8	3.09	0.41
2:B:11:C:H6	2:B:11:C:O5'	2.03	0.41
3:C:141:VAL:CG1	3:C:190:ALA:HB1	2.51	0.41
4:D:173:GLN:O	4:D:175:LEU:N	2.54	0.41
5:E:61:ARG:O	5:E:62:GLN:C	2.60	0.41
9:I:17:MET:SD	9:I:23:PRO:HG2	2.61	0.41
15:O:17:LYS:HD3	15:O:17:LYS:HA	1.88	0.41
17:Q:47:TYR:CZ	17:Q:51:ARG:NH2	2.89	0.41
19:S:59:GLU:HA	19:S:64:ALA:HA	2.03	0.41
19:S:86:MET:HA	19:S:87:PRO:HD3	1.93	0.41
20:T:21:SER:O	20:T:22:THR:C	2.59	0.41
20:T:8:LEU:HD21	25:Y:22:LEU:HA	2.03	0.41
21:U:24:LYS:N	21:U:37:GLU:HG2	2.35	0.41
22:V:32:GLY:O	22:V:93:ARG:HD3	2.21	0.41
23:W:37:ILE:HG21	23:W:80:ILE:HG21	2.03	0.41
1:A:1549:A:C6	1:A:1550:C:N3	2.89	0.40
1:A:1668:A:N3	1:A:1674:G:C8	2.89	0.40
1:A:1801:A:OP2	3:C:153:GLN:NE2	2.48	0.40
1:A:2109:U:H4'	1:A:2110:G:OP1	2.19	0.40
1:A:218:A:C2	1:A:219:A:C4	3.09	0.40
1:A:219:A:N3	1:A:234:U:O2'	2.47	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2211:A:N3	1:A:2211:A:H5''	2.36	0.40
1:A:223:A:C4	1:A:422:A:C8	3.09	0.40
1:A:2340:A:H2'	1:A:2341:G:C8	2.56	0.40
1:A:2370:G:H4'	28:1:44:ARG:NH1	2.36	0.40
1:A:286:U:H2'	1:A:287:G:C8	2.56	0.40
1:A:353:C:H3'	1:A:354:A:H8	1.86	0.40
1:A:615:U:O4	5:E:39:ALA:HB2	2.21	0.40
1:A:679:C:H2'	1:A:680:C:H6	1.85	0.40
2:B:15:A:H1'	2:B:109:A:C5	2.57	0.40
2:B:23:G:N2	2:B:61:G:C4	2.89	0.40
2:B:66:A:H61	2:B:107:G:H2'	1.86	0.40
4:D:193:VAL:HB	4:D:194:PRO:CD	2.51	0.40
5:E:48:THR:HG22	5:E:86:ALA:HB3	2.02	0.40
7:G:131:ILE:HG22	7:G:132:VAL:N	2.36	0.40
10:J:99:ARG:HB3	10:J:103:ILE:HD12	2.03	0.40
13:M:41:LEU:HD21	13:M:124:LEU:HD13	2.02	0.40
15:O:100:HIS:CG	15:O:101:GLY:N	2.87	0.40
17:Q:90:ILE:HG22	17:Q:95:LEU:HG	2.04	0.40
20:T:48:GLN:O	20:T:52:GLU:HA	2.22	0.40
27:O:26:THR:O	27:O:28:LEU:HD12	2.21	0.40
29:2:1:MET:O	29:2:2:LYS:C	2.60	0.40
29:2:9:VAL:O	29:2:13:ASN:ND2	2.43	0.40
1:A:591:U:HO2'	30:3:2:PRO:N	2.19	0.40
31:4:12:ARG:HB2	31:4:12:ARG:CZ	2.51	0.40
1:A:1087:G:N9	1:A:1089:A:H1'	2.36	0.40
1:A:1121:C:C2	1:A:1122:G:C8	3.09	0.40
1:A:1280:G:C6	1:A:1281:G:C5	3.09	0.40
1:A:1353:A:C4	1:A:1378:A:C6	3.10	0.40
1:A:1439:A:C2	1:A:1553:A:C5	3.08	0.40
1:A:1601:G:C6	1:A:1602:U:C4	3.09	0.40
1:A:1838:C:C5	1:A:1899:A:C6	3.09	0.40
1:A:2290:G:N2	1:A:2343:U:H1'	2.36	0.40
1:A:2444:G:OP2	5:E:63:LYS:HD2	2.20	0.40
1:A:2571:U:C4	1:A:2574:G:H8	2.37	0.40
1:A:722:A:H2'	1:A:723:C:O4'	2.20	0.40
5:E:118:LEU:HD11	5:E:188:MET:HG3	2.03	0.40
8:H:96:THR:O	8:H:98:ASP:N	2.54	0.40
10:J:58:ASN:HA	10:J:126:ALA:O	2.21	0.40
12:L:58:TYR:O	30:3:13:ARG:CD	2.69	0.40
13:M:33:LEU:HB2	13:M:117:PHE:CD2	2.57	0.40
20:T:76:ARG:O	20:T:77:ARG:O	2.40	0.40
24:X:41:GLU:O	24:X:42:SER:C	2.58	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:105:C:H2'	1:A:106:C:H6	1.84	0.40
1:A:1127:A:C3'	1:A:1128:G:H5''	2.50	0.40
1:A:1306:C:C2	1:A:1307:A:C8	3.09	0.40
1:A:1385:A:H1'	1:A:1386:C:C6	2.56	0.40
1:A:1453:A:C2	14:N:77:ALA:HB2	2.56	0.40
1:A:1509:A:HO2'	1:A:1510:G:P	2.44	0.40
1:A:2135:A:H4'	1:A:2160:C:H4'	2.04	0.40
1:A:2196:C:N3	1:A:2197:U:C4	2.89	0.40
1:A:2261:C:N3	1:A:2280:G:C2	2.90	0.40
1:A:2369:A:H2'	1:A:2370:G:O4'	2.21	0.40
1:A:2054:A:C2	1:A:2616:C:O2	2.74	0.40
1:A:2685:G:C2	1:A:2686:G:C8	3.10	0.40
1:A:2688:G:N7	1:A:2719:G:C6	2.89	0.40
1:A:2756:U:H1'	1:A:2757:A:H5''	2.02	0.40
1:A:2862:G:C2	1:A:2863:C:C2	3.09	0.40
1:A:319:G:C5	1:A:333:G:C2	3.09	0.40
1:A:371:A:N6	1:A:401:A:H3'	2.36	0.40
1:A:46:G:N3	1:A:47:C:C6	2.90	0.40
1:A:681:G:N3	1:A:682:G:C8	2.89	0.40
1:A:777:G:N7	1:A:793:A:C2	2.86	0.40
1:A:948:C:H2'	1:A:949:G:C8	2.57	0.40
1:A:950:G:H2'	1:A:951:C:O4'	2.22	0.40
3:C:29:PRO:HB2	3:C:30:PHE:H	1.78	0.40
4:D:133:THR:HG23	4:D:134:HIS:H	1.84	0.40
4:D:31:ALA:HB1	4:D:96:ILE:O	2.21	0.40
11:K:1:MET:HG2	11:K:32:TYR:CD1	2.56	0.40
11:K:73:ASP:OD2	11:K:75:SER:OG	2.38	0.40
14:N:53:THR:HA	14:N:56:LYS:CG	2.52	0.40
11:K:76:VAL:CG1	16:P:73:VAL:CG2	2.97	0.40
18:R:52:PRO:O	18:R:53:PHE:CG	2.74	0.40
22:V:9:ARG:CG	22:V:41:GLU:HB3	2.51	0.40
24:X:12:PRO:HB3	24:X:28:ARG:HH21	1.85	0.40
27:0:12:LYS:HA	27:0:12:LYS:HD2	1.94	0.40
27:0:55:ILE:CG2	27:0:56:ALA:N	2.76	0.40
29:2:25:LYS:O	29:2:25:LYS:HG3	2.21	0.40
1:A:1057:A:C2	1:A:1082:U:N3	2.90	0.40
1:A:1463:C:H2'	1:A:1464:G:O4'	2.21	0.40
1:A:1483:G:H2'	1:A:1483:G:N3	2.37	0.40
1:A:1520:U:O4	1:A:1521:G:C6	2.74	0.40
1:A:1609:A:O2'	1:A:1610:A:H5'	2.22	0.40
1:A:1773:A:H2'	1:A:1774:C:H5'	2.03	0.40
1:A:1980:G:O2'	1:A:1982:U:OP2	2.35	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2088:A:C6	1:A:2089:C:N4	2.90	0.40
1:A:2189:U:C2'	1:A:2190:G:H5''	2.51	0.40
1:A:231:A:N6	1:A:232:G:N1	2.70	0.40
1:A:2347:C:H2'	1:A:2348:U:C6	2.56	0.40
1:A:2389:G:C5'	1:A:2390:U:H5'	2.50	0.40
1:A:2066:C:C2	1:A:2445:G:N2	2.90	0.40
1:A:2486:C:N3	1:A:2487:G:C8	2.90	0.40
1:A:2856:A:C6	1:A:2857:G:C5	3.09	0.40
1:A:295:G:H2'	1:A:295:G:N3	2.37	0.40
1:A:647:G:C5	1:A:648:G:C5	3.09	0.40
1:A:686:U:H2'	1:A:788:A:N1	2.36	0.40
1:A:775:G:C2	1:A:794:A:C8	3.10	0.40
1:A:84:A:C2	1:A:98:G:N3	2.89	0.40
1:A:942:G:H2'	1:A:943:A:H5'	2.03	0.40
2:B:34:A:H2'	2:B:35:C:OP2	2.21	0.40
1:A:1806:C:O2	3:C:44:ASN:ND2	2.55	0.40
4:D:103:ASP:O	4:D:104:VAL:C	2.59	0.40
5:E:52:VAL:O	5:E:74:LYS:HD3	2.21	0.40
1:A:2529:G:H4'	7:G:175:LYS:HG3	2.02	0.40
9:I:114:ALA:O	9:I:115:ALA:HB2	2.22	0.40
9:I:80:LEU:HD13	9:I:136:MET:SD	2.62	0.40
9:I:54:PRO:O	9:I:75:PRO:CD	2.69	0.40
12:L:109:LYS:CG	12:L:126:ARG:HB3	2.51	0.40
18:R:46:GLU:CD	18:R:46:GLU:C	2.79	0.40
21:U:87:PHE:HA	21:U:91:LYS:O	2.21	0.40
22:V:49:ASN:O	22:V:52:ALA:HB3	2.21	0.40
24:X:10:LYS:HE3	24:X:54:LYS:HD2	2.02	0.40
24:X:42:SER:OG	24:X:43:GLU:N	2.54	0.40
25:Y:1:MET:CA	25:Y:4:LYS:HD3	2.52	0.40
25:Y:7:ARG:HG3	25:Y:7:ARG:O	2.21	0.40
26:Z:31:ARG:HG2	26:Z:34:HIS:HB2	2.03	0.40
1:A:1034:G:C5	1:A:1035:U:C5	3.10	0.40
1:A:1063:G:H2'	1:A:1064:C:O4'	2.21	0.40
1:A:1067:A:C2	1:A:1068:G:N7	2.89	0.40
1:A:1082:U:H5''	1:A:1083:U:OP2	2.22	0.40
1:A:1344:U:O5'	1:A:1344:U:H6	2.04	0.40
1:A:1526:C:H2'	1:A:1527:G:O4'	2.22	0.40
1:A:1922:G:H2'	1:A:1923:U:O4'	2.21	0.40
1:A:1997:C:OP2	4:D:129:THR:OG1	2.36	0.40
1:A:2046:G:OP1	27:O:12:LYS:NZ	2.54	0.40
1:A:2728:U:O2'	1:A:2729:G:H5'	2.22	0.40
1:A:301:G:N2	1:A:302:C:C2	2.89	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:478:A:C2	1:A:480:A:C5	3.10	0.40
1:A:491:G:C2	1:A:492:A:C4	3.10	0.40
1:A:927:A:H2'	1:A:928:A:C8	2.56	0.40
2:B:21:G:N2	2:B:63:C:C2	2.89	0.40
3:C:31:ALA:O	3:C:33:LEU:N	2.53	0.40
4:D:51:THR:HB	4:D:79:LEU:HD23	2.04	0.40
5:E:147:LEU:HB3	5:E:186:VAL:HG13	2.02	0.40
10:J:113:PRO:HA	10:J:116:ARG:NH2	2.36	0.40
11:K:104:THR:HB	11:K:106:GLU:OE1	2.21	0.40
2:B:51:G:C8	15:O:64:TYR:HE2	2.39	0.40
16:P:55:LEU:HA	16:P:77:HIS:CD2	2.56	0.40
19:S:36:LEU:HD13	19:S:48:LYS:HB2	2.04	0.40
20:T:22:THR:HA	20:T:25:GLU:HG2	2.03	0.40
23:W:57:HIS:CD2	23:W:57:HIS:N	2.90	0.40
25:Y:45:GLN:O	25:Y:48:ARG:N	2.54	0.40
25:Y:20:ASN:CB	25:Y:50:VAL:HG22	2.51	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	
3	C	269/271 (99%)	200 (74%)	49 (18%)	20 (7%)	2	4
4	D	207/209 (99%)	165 (80%)	33 (16%)	9 (4%)	4	15
5	E	199/201 (99%)	146 (73%)	40 (20%)	13 (6%)	2	5
6	F	175/177 (99%)	136 (78%)	26 (15%)	13 (7%)	2	4
7	G	174/176 (99%)	129 (74%)	30 (17%)	15 (9%)	1	3
8	H	147/149 (99%)	100 (68%)	32 (22%)	15 (10%)	1	2
9	I	139/141 (99%)	75 (54%)	49 (35%)	15 (11%)	1	2
10	J	140/142 (99%)	123 (88%)	12 (9%)	5 (4%)	5	22

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	K	120/122 (98%)	97 (81%)	16 (13%)	7 (6%)	3	7
12	L	141/143 (99%)	104 (74%)	27 (19%)	10 (7%)	2	4
13	M	134/136 (98%)	111 (83%)	17 (13%)	6 (4%)	4	14
14	N	118/120 (98%)	91 (77%)	19 (16%)	8 (7%)	2	5
15	O	114/116 (98%)	97 (85%)	11 (10%)	6 (5%)	3	9
16	P	112/114 (98%)	89 (80%)	16 (14%)	7 (6%)	2	6
17	Q	115/117 (98%)	104 (90%)	10 (9%)	1 (1%)	25	66
18	R	101/103 (98%)	80 (79%)	14 (14%)	7 (7%)	2	4
19	S	108/110 (98%)	88 (82%)	13 (12%)	7 (6%)	2	5
20	T	91/93 (98%)	65 (71%)	14 (15%)	12 (13%)	0	1
21	U	100/102 (98%)	70 (70%)	19 (19%)	11 (11%)	1	2
22	V	92/94 (98%)	76 (83%)	14 (15%)	2 (2%)	10	37
23	W	73/76 (96%)	59 (81%)	11 (15%)	3 (4%)	4	17
24	X	75/77 (97%)	57 (76%)	14 (19%)	4 (5%)	3	9
25	Y	61/63 (97%)	42 (69%)	14 (23%)	5 (8%)	1	3
26	Z	56/58 (97%)	53 (95%)	1 (2%)	2 (4%)	5	22
27	0	54/56 (96%)	38 (70%)	12 (22%)	4 (7%)	2	4
28	1	48/50 (96%)	40 (83%)	5 (10%)	3 (6%)	2	6
29	2	44/46 (96%)	36 (82%)	6 (14%)	2 (4%)	4	14
30	3	62/64 (97%)	49 (79%)	10 (16%)	3 (5%)	4	12
31	4	36/38 (95%)	28 (78%)	4 (11%)	4 (11%)	1	2
All	All	3305/3364 (98%)	2548 (77%)	538 (16%)	219 (7%)	2	5

All (219) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	10	SER
3	C	29	PRO
3	C	35	GLU
3	C	36	LYS
3	C	58	HIS
3	C	71	LYS
3	C	239	ASN
3	C	255	LYS
4	D	104	VAL

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Mol	Chain	Res	Type
4	D	151	THR
4	D	152	PRO
4	D	174	SER
5	E	6	LYS
5	E	86	ALA
5	E	122	GLU
6	F	9	LYS
6	F	123	ASP
6	F	176	PRO
7	G	61	GLY
7	G	92	VAL
7	G	119	ALA
7	G	159	GLY
8	H	3	VAL
8	H	10	ALA
8	H	33	GLN
8	H	35	LYS
8	H	41	LYS
8	H	53	GLU
8	H	54	LEU
8	H	83	LYS
8	H	109	GLU
9	I	7	ALA
9	I	19	ASN
9	I	93	PRO
9	I	102	SER
10	J	81	ILE
11	K	92	GLU
11	K	108	ARG
13	M	3	GLN
13	M	69	PRO
14	N	2	ARG
14	N	88	ALA
14	N	104	ALA
14	N	119	SER
15	O	34	HIS
15	O	116	GLN
16	P	66	ASN
18	R	31	GLU
18	R	102	SER
19	S	28	LYS
19	S	29	VAL

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Mol	Chain	Res	Type
19	S	62	ASP
20	T	18	GLU
20	T	39	THR
20	T	52	GLU
20	T	73	ARG
20	T	77	ARG
20	T	88	LYS
21	U	7	ARG
21	U	19	LYS
21	U	53	ASN
21	U	55	PRO
21	U	89	ASP
24	X	3	ARG
24	X	62	LYS
25	Y	61	ALA
26	Z	4	THR
26	Z	14	ILE
27	0	56	ALA
28	1	5	ILE
29	2	44	VAL
29	2	45	SER
3	C	218	PRO
3	C	240	PHE
3	C	251	GLN
4	D	105	LYS
5	E	7	ASP
5	E	8	ALA
5	E	61	ARG
5	E	69	ARG
5	E	81	GLY
5	E	84	THR
5	E	144	GLU
6	F	21	ASN
6	F	71	ARG
6	F	103	LEU
6	F	150	ARG
7	G	20	ASN
8	H	31	VAL
8	H	77	THR
8	H	118	PRO
9	I	72	LYS
9	I	88	SER

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Mol	Chain	Res	Type
9	I	90	SER
9	I	106	LEU
9	I	115	ALA
10	J	6	ALA
10	J	25	LEU
10	J	127	GLY
11	K	35	VAL
11	K	105	ARG
12	L	9	ALA
12	L	17	LYS
12	L	111	ILE
14	N	3	HIS
14	N	106	ASP
16	P	80	VAL
16	P	94	LYS
16	P	105	GLY
17	Q	87	SER
18	R	7	SER
18	R	50	GLY
19	S	63	GLY
20	T	21	SER
20	T	72	GLN
21	U	57	GLY
22	V	65	VAL
25	Y	57	LEU
28	1	16	GLY
31	4	20	ASP
3	C	13	ARG
3	C	205	LEU
3	C	238	ARG
4	D	36	GLN
4	D	43	ASP
5	E	18	THR
6	F	27	GLN
6	F	43	ALA
6	F	174	ASP
7	G	8	PRO
7	G	46	ALA
7	G	175	LYS
8	H	16	GLY
8	H	40	THR
9	I	101	ILE

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Mol	Chain	Res	Type
11	K	109	SER
12	L	4	ASN
12	L	115	GLU
13	M	59	ARG
14	N	70	THR
14	N	118	ARG
15	O	68	LYS
15	O	99	TYR
16	P	111	LYS
16	P	114	LEU
20	T	22	THR
20	T	37	ASP
20	T	40	LYS
21	U	9	ASP
21	U	98	SER
23	W	21	LEU
23	W	35	SER
24	X	6	GLN
24	X	32	ASN
25	Y	37	LEU
27	0	55	ILE
31	4	29	ALA
5	E	200	LEU
6	F	116	GLY
7	G	17	VAL
7	G	47	ASP
7	G	80	THR
8	H	9	VAL
9	I	9	VAL
9	I	84	ALA
11	K	93	GLN
11	K	110	GLU
15	O	57	ALA
19	S	67	ASP
20	T	24	MET
23	W	20	ARG
27	0	26	THR
30	3	18	GLY
3	C	66	ASP
3	C	260	ASN
5	E	72	SER
10	J	93	ILE

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Mol	Chain	Res	Type
12	L	30	THR
12	L	42	SER
12	L	69	ARG
15	O	77	ALA
18	R	53	PHE
25	Y	55	THR
30	3	57	LEU
31	4	23	ILE
31	4	37	GLN
3	C	57	GLY
6	F	41	GLY
6	F	175	PHE
7	G	154	PRO
9	I	5	VAL
9	I	13	VAL
12	L	29	LYS
13	M	53	MET
21	U	41	LEU
21	U	52	LEU
25	Y	36	GLN
28	1	27	LYS
13	M	23	GLY
13	M	77	PRO
19	S	35	ILE
19	S	74	ILE
3	C	73	GLY
3	C	245	VAL
4	D	120	GLY
7	G	4	VAL
12	L	103	ILE
18	R	47	VAL
27	0	43	ILE
3	C	235	GLY
9	I	24	VAL
21	U	25	VAL
7	G	12	PRO
7	G	79	VAL
16	P	32	VAL
18	R	49	ILE
22	V	81	PRO
30	3	20	GLY
4	D	2	ILE

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	
3	C	216/216 (100%)	185 (86%)	31 (14%)	5	13
4	D	164/164 (100%)	148 (90%)	16 (10%)	12	34
5	E	165/165 (100%)	134 (81%)	31 (19%)	2	7
6	F	148/148 (100%)	120 (81%)	28 (19%)	2	7
7	G	137/137 (100%)	123 (90%)	14 (10%)	11	31
8	H	114/114 (100%)	88 (77%)	26 (23%)	1	3
9	I	109/109 (100%)	86 (79%)	23 (21%)	1	5
10	J	116/116 (100%)	100 (86%)	16 (14%)	5	14
11	K	103/103 (100%)	91 (88%)	12 (12%)	8	22
12	L	102/102 (100%)	78 (76%)	24 (24%)	1	3
13	M	109/109 (100%)	98 (90%)	11 (10%)	11	32
14	N	100/100 (100%)	82 (82%)	18 (18%)	2	7
15	O	86/86 (100%)	70 (81%)	16 (19%)	2	7
16	P	99/99 (100%)	82 (83%)	17 (17%)	3	8
17	Q	89/89 (100%)	74 (83%)	15 (17%)	3	9
18	R	84/84 (100%)	74 (88%)	10 (12%)	8	21
19	S	93/93 (100%)	80 (86%)	13 (14%)	5	14
20	T	80/80 (100%)	67 (84%)	13 (16%)	3	10
21	U	83/83 (100%)	63 (76%)	20 (24%)	1	3
22	V	78/78 (100%)	68 (87%)	10 (13%)	6	18
23	W	56/58 (97%)	51 (91%)	5 (9%)	14	40
24	X	67/67 (100%)	55 (82%)	12 (18%)	2	7
25	Y	55/55 (100%)	43 (78%)	12 (22%)	1	4
26	Z	48/48 (100%)	37 (77%)	11 (23%)	1	3
27	0	47/47 (100%)	41 (87%)	6 (13%)	6	18
28	1	45/45 (100%)	37 (82%)	8 (18%)	2	7
29	2	38/38 (100%)	31 (82%)	7 (18%)	2	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
30	3	51/51 (100%)	45 (88%)	6 (12%)	8 22
31	4	34/34 (100%)	26 (76%)	8 (24%)	1 3
All	All	2716/2718 (100%)	2277 (84%)	439 (16%)	3 10

All (439) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	3	VAL
3	C	20	VAL
3	C	28	LYS
3	C	36	LYS
3	C	40	SER
3	C	48	ARG
3	C	52	ARG
3	C	54	ILE
3	C	64	ILE
3	C	80	ARG
3	C	98	ASP
3	C	103	TYR
3	C	104	ILE
3	C	105	LEU
3	C	111	LYS
3	C	130	LEU
3	C	156	ARG
3	C	157	SER
3	C	160	THR
3	C	174	LEU
3	C	175	ARG
3	C	189	ARG
3	C	191	THR
3	C	195	VAL
3	C	202	LEU
3	C	205	LEU
3	C	250	VAL
3	C	256	LYS
3	C	259	SER
3	C	266	PHE
3	C	267	ILE
4	D	1	MET
4	D	4	LEU
4	D	12	THR

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Mol	Chain	Res	Type
4	D	28	GLU
4	D	33	ARG
4	D	86	GLU
4	D	91	THR
4	D	95	SER
4	D	100	LEU
4	D	104	VAL
4	D	150	GLN
4	D	154	LYS
4	D	170	VAL
4	D	172	VAL
4	D	189	VAL
4	D	200	ASP
5	E	22	ASP
5	E	32	VAL
5	E	40	ARG
5	E	41	GLN
5	E	46	GLN
5	E	63	LYS
5	E	69	ARG
5	E	77	ILE
5	E	78	TRP
5	E	83	VAL
5	E	84	THR
5	E	91	ASP
5	E	102	ARG
5	E	107	SER
5	E	108	ILE
5	E	114	ARG
5	E	118	LEU
5	E	120	VAL
5	E	125	SER
5	E	127	GLU
5	E	131	THR
5	E	133	LEU
5	E	149	ILE
5	E	159	LEU
5	E	164	LEU
5	E	170	ARG
5	E	171	ASP
5	E	173	THR
5	E	181	ILE

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Mol	Chain	Res	Type
5	E	187	VAL
5	E	200	LEU
6	F	4	LEU
6	F	6	ASP
6	F	10	ASP
6	F	14	LYS
6	F	21	ASN
6	F	26	MET
6	F	28	VAL
6	F	32	GLU
6	F	35	THR
6	F	36	LEU
6	F	52	ASN
6	F	64	LYS
6	F	67	ILE
6	F	74	VAL
6	F	81	GLN
6	F	83	TYR
6	F	87	CYS
6	F	92	ARG
6	F	95	ARG
6	F	106	ILE
6	F	125	ARG
6	F	133	ARG
6	F	147	ASP
6	F	149	VAL
6	F	157	THR
6	F	162	SER
6	F	174	ASP
6	F	178	ARG
7	G	11	VAL
7	G	29	LYS
7	G	30	ASN
7	G	42	GLU
7	G	44	LYS
7	G	48	ASN
7	G	51	THR
7	G	89	LEU
7	G	95	ARG
7	G	127	THR
7	G	129	THR
7	G	141	ILE

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Mol	Chain	Res	Type
7	G	152	ARG
7	G	155	GLU
8	H	7	ASP
8	H	12	LEU
8	H	41	LYS
8	H	42	LYS
8	H	48	GLU
8	H	50	ARG
8	H	53	GLU
8	H	54	LEU
8	H	57	LYS
8	H	62	LEU
8	H	77	THR
8	H	78	VAL
8	H	87	GLU
8	H	89	LYS
8	H	94	ILE
8	H	109	GLU
8	H	114	GLU
8	H	116	ARG
8	H	117	LEU
8	H	119	ASN
8	H	121	VAL
8	H	124	THR
8	H	125	THR
8	H	129	GLU
8	H	142	VAL
8	H	149	GLU
9	I	3	LYS
9	I	4	LYS
9	I	8	TYR
9	I	11	LEU
9	I	12	GLN
9	I	17	MET
9	I	24	VAL
9	I	31	GLN
9	I	40	LYS
9	I	48	SER
9	I	68	THR
9	I	69	PHE
9	I	72	LYS
9	I	87	LYS

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Mol	Chain	Res	Type
9	I	95	LYS
9	I	96	ASP
9	I	97	LYS
9	I	105	GLN
9	I	117	MET
9	I	125	MET
9	I	127	ARG
9	I	128	SER
9	I	134	ARG
10	J	1	MET
10	J	3	THR
10	J	37	ARG
10	J	39	LYS
10	J	40	HIS
10	J	64	VAL
10	J	72	LYS
10	J	73	VAL
10	J	81	ILE
10	J	86	GLN
10	J	90	GLU
10	J	129	GLU
10	J	131	ASN
10	J	138	GLN
10	J	140	LEU
10	J	142	ILE
11	K	41	ILE
11	K	42	THR
11	K	49	ARG
11	K	53	LYS
11	K	67	LYS
11	K	70	ARG
11	K	90	ASN
11	K	92	GLU
11	K	95	ILE
11	K	104	THR
11	K	110	GLU
11	K	114	LYS
12	L	6	LEU
12	L	12	SER
12	L	19	LEU
12	L	27	LEU
12	L	42	SER

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Mol	Chain	Res	Type
12	L	46	VAL
12	L	47	ARG
12	L	48	ARG
12	L	59	ARG
12	L	60	ARG
12	L	78	ARG
12	L	80	SER
12	L	82	LEU
12	L	85	VAL
12	L	91	ASP
12	L	94	THR
12	L	95	LEU
12	L	96	LYS
12	L	100	ILE
12	L	103	ILE
12	L	107	PHE
12	L	118	THR
12	L	126	ARG
12	L	143	GLU
13	M	6	ARG
13	M	14	LYS
13	M	59	ARG
13	M	70	ASP
13	M	74	THR
13	M	108	VAL
13	M	124	LEU
13	M	126	ILE
13	M	127	LYS
13	M	128	THR
13	M	132	THR
14	N	2	ARG
14	N	6	SER
14	N	8	ARG
14	N	14	SER
14	N	20	MET
14	N	22	ARG
14	N	53	THR
14	N	63	ARG
14	N	70	THR
14	N	71	ARG
14	N	76	VAL
14	N	79	LEU

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Mol	Chain	Res	Type
14	N	82	GLU
14	N	96	ARG
14	N	100	CYS
14	N	114	GLU
14	N	115	LEU
14	N	116	VAL
15	O	9	ARG
15	O	18	LEU
15	O	26	LEU
15	O	31	THR
15	O	47	VAL
15	O	48	LEU
15	O	67	ASN
15	O	74	VAL
15	O	78	VAL
15	O	88	LYS
15	O	89	ASP
15	O	95	SER
15	O	100	HIS
15	O	102	ARG
15	O	103	VAL
15	O	116	GLN
16	P	19	SER
16	P	26	VAL
16	P	32	VAL
16	P	34	GLU
16	P	36	SER
16	P	37	LYS
16	P	51	ARG
16	P	64	ILE
16	P	65	SER
16	P	66	ASN
16	P	80	VAL
16	P	81	VAL
16	P	85	SER
16	P	93	ARG
16	P	109	ARG
16	P	110	ILE
16	P	114	LEU
17	Q	5	LYS
17	Q	8	VAL
17	Q	9	ILE

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Mol	Chain	Res	Type
17	Q	11	ARG
17	Q	13	ARG
17	Q	16	LYS
17	Q	22	LYS
17	Q	33	ARG
17	Q	41	LYS
17	Q	51	ARG
17	Q	53	ARG
17	Q	54	LYS
17	Q	92	ARG
17	Q	94	ILE
17	Q	100	VAL
18	R	12	HIS
18	R	38	VAL
18	R	43	ASN
18	R	46	GLU
18	R	47	VAL
18	R	48	LYS
18	R	51	VAL
18	R	58	VAL
18	R	86	GLN
18	R	94	THR
19	S	3	THR
19	S	4	ILE
19	S	6	LYS
19	S	13	SER
19	S	19	LEU
19	S	23	LEU
19	S	67	ASP
19	S	78	GLU
19	S	86	MET
19	S	96	ILE
19	S	97	LEU
19	S	104	THR
19	S	109	ASP
20	T	3	ARG
20	T	7	LEU
20	T	16	VAL
20	T	30	ILE
20	T	31	VAL
20	T	44	LYS
20	T	49	LYS

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Mol	Chain	Res	Type
20	T	52	GLU
20	T	57	VAL
20	T	70	HIS
20	T	77	ARG
20	T	86	THR
20	T	91	GLN
21	U	7	ARG
21	U	11	VAL
21	U	15	THR
21	U	18	ASP
21	U	21	LYS
21	U	28	VAL
21	U	29	LEU
21	U	31	SER
21	U	40	ASN
21	U	41	LEU
21	U	45	HIS
21	U	46	GLN
21	U	47	LYS
21	U	53	ASN
21	U	54	GLN
21	U	68	SER
21	U	72	ILE
21	U	81	ASP
21	U	99	ASN
21	U	100	SER
22	V	2	PHE
22	V	8	VAL
22	V	21	ARG
22	V	26	PHE
22	V	29	ILE
22	V	42	LEU
22	V	45	ASP
22	V	50	MET
22	V	53	LYS
22	V	61	LEU
23	W	16	SER
23	W	20	ARG
23	W	39	ARG
23	W	41	ARG
23	W	77	ARG
24	X	11	ARG

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Mol	Chain	Res	Type
24	X	18	ARG
24	X	23	ASN
24	X	25	THR
24	X	33	LEU
24	X	40	VAL
24	X	46	PHE
24	X	48	THR
24	X	54	LYS
24	X	64	ILE
24	X	66	THR
24	X	71	LEU
25	Y	2	LYS
25	Y	6	LEU
25	Y	8	GLU
25	Y	13	GLU
25	Y	16	THR
25	Y	29	ARG
25	Y	37	LEU
25	Y	38	GLN
25	Y	39	GLN
25	Y	49	ASP
25	Y	56	LEU
25	Y	58	ASN
26	Z	3	LYS
26	Z	10	THR
26	Z	11	ARG
26	Z	16	ARG
26	Z	25	LEU
26	Z	31	ARG
26	Z	36	VAL
26	Z	41	THR
26	Z	45	ARG
26	Z	57	VAL
26	Z	58	GLU
27	0	23	THR
27	0	25	VAL
27	0	28	LEU
27	0	37	LYS
27	0	46	ASP
27	0	52	ARG
28	1	6	ARG
28	1	9	ILE

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Mol	Chain	Res	Type
28	1	10	LYS
28	1	12	VAL
28	1	25	LYS
28	1	26	ASN
28	1	30	LYS
28	1	38	LYS
29	2	1	MET
29	2	4	THR
29	2	10	LEU
29	2	24	THR
29	2	41	ARG
29	2	44	VAL
29	2	46	LYS
30	3	6	THR
30	3	8	ARG
30	3	13	ARG
30	3	30	ARG
30	3	31	HIS
30	3	47	LYS
31	4	2	LYS
31	4	3	VAL
31	4	4	ARG
31	4	11	CYS
31	4	12	ARG
31	4	17	VAL
31	4	26	ILE
31	4	35	GLN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
3	C	134	ASN
4	D	150	GLN
6	F	63	GLN
7	G	115	HIS
7	G	139	GLN
7	G	143	GLN
8	H	128	HIS
12	L	35	HIS
17	Q	37	GLN
18	R	89	HIS
19	S	7	HIS

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Mol	Chain	Res	Type
21	U	74	ASN
25	Y	41	HIS
28	1	19	HIS
28	1	26	ASN
30	3	31	HIS

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2895/2903 (99%)	637 (22%)	29 (1%)
2	B	117/119 (98%)	25 (21%)	0
All	All	3012/3022 (99%)	662 (21%)	29 (0%)

All (662) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	10	A
1	A	12	U
1	A	15	G
1	A	30	G
1	A	31	C
1	A	34	U
1	A	41	C
1	A	42	A
1	A	46	G
1	A	55	G
1	A	57	C
1	A	58	G
1	A	61	C
1	A	71	A
1	A	73	A
1	A	74	A
1	A	75	G
1	A	82	U
1	A	84	A
1	A	91	A
1	A	98	G
1	A	101	A
1	A	102	U
1	A	118	A
1	A	119	A

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Mol	Chain	Res	Type
1	A	120	U
1	A	128	C
1	A	138	U
1	A	139	U
1	A	140	C
1	A	141	G
1	A	142	A
1	A	149	A
1	A	155	A
1	A	162	U
1	A	163	C
1	A	166	U
1	A	181	A
1	A	196	A
1	A	197	A
1	A	199	A
1	A	206	U
1	A	212	G
1	A	215	G
1	A	216	A
1	A	222	A
1	A	223	A
1	A	225	C
1	A	248	G
1	A	249	C
1	A	250	G
1	A	255	A
1	A	264	C
1	A	265	A
1	A	266	G
1	A	271	G
1	A	272	A
1	A	276	U
1	A	279	A
1	A	280	U
1	A	281	C
1	A	285	G
1	A	294	A
1	A	299	A
1	A	311	A
1	A	329	G
1	A	330	A

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Mol	Chain	Res	Type
1	A	350	G
1	A	353	C
1	A	354	A
1	A	361	G
1	A	362	A
1	A	367	G
1	A	371	A
1	A	372	G
1	A	385	C
1	A	386	G
1	A	396	G
1	A	399	U
1	A	405	U
1	A	411	G
1	A	412	A
1	A	417	C
1	A	424	G
1	A	447	A
1	A	449	A
1	A	451	U
1	A	455	C
1	A	478	A
1	A	479	A
1	A	480	A
1	A	481	G
1	A	490	C
1	A	491	G
1	A	504	A
1	A	505	A
1	A	508	A
1	A	509	C
1	A	510	C
1	A	511	U
1	A	526	A
1	A	529	A
1	A	531	C
1	A	532	A
1	A	533	G
1	A	538	A
1	A	543	G
1	A	544	C
1	A	546	U

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Mol	Chain	Res	Type
1	A	547	A
1	A	548	G
1	A	549	G
1	A	550	C
1	A	563	A
1	A	573	U
1	A	575	A
1	A	586	A
1	A	587	C
1	A	593	U
1	A	603	A
1	A	613	A
1	A	615	U
1	A	622	G
1	A	627	A
1	A	630	G
1	A	631	A
1	A	637	A
1	A	641	U
1	A	642	U
1	A	645	C
1	A	646	U
1	A	647	G
1	A	648	G
1	A	654	A
1	A	655	A
1	A	656	G
1	A	663	G
1	A	664	G
1	A	676	A
1	A	686	U
1	A	695	G
1	A	702	U
1	A	715	A
1	A	717	C
1	A	726	G
1	A	727	A
1	A	728	G
1	A	729	G
1	A	730	A
1	A	740	C
1	A	746	U

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Mol	Chain	Res	Type
1	A	747	U
1	A	749	A
1	A	751	A
1	A	752	A
1	A	755	U
1	A	764	A
1	A	771	G
1	A	775	G
1	A	776	G
1	A	782	A
1	A	784	G
1	A	785	G
1	A	802	A
1	A	805	G
1	A	812	C
1	A	819	A
1	A	820	A
1	A	827	U
1	A	828	U
1	A	829	A
1	A	830	G
1	A	845	A
1	A	846	U
1	A	847	U
1	A	858	G
1	A	859	G
1	A	878	A
1	A	880	G
1	A	881	G
1	A	882	G
1	A	885	C
1	A	896	A
1	A	897	C
1	A	902	C
1	A	910	A
1	A	914	G
1	A	915	C
1	A	931	U
1	A	932	U
1	A	934	U
1	A	941	A
1	A	946	C

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Mol	Chain	Res	Type
1	A	953	G
1	A	961	C
1	A	974	G
1	A	982	C
1	A	983	A
1	A	995	C
1	A	996	A
1	A	997	G
1	A	998	C
1	A	1005	C
1	A	1012	U
1	A	1013	C
1	A	1022	G
1	A	1023	U
1	A	1025	G
1	A	1026	G
1	A	1033	U
1	A	1041	G
1	A	1046	A
1	A	1047	G
1	A	1053	C
1	A	1058	U
1	A	1060	U
1	A	1061	U
1	A	1062	G
1	A	1065	U
1	A	1066	U
1	A	1067	A
1	A	1068	G
1	A	1070	A
1	A	1071	G
1	A	1072	C
1	A	1074	G
1	A	1075	C
1	A	1077	A
1	A	1079	C
1	A	1082	U
1	A	1088	A
1	A	1089	A
1	A	1090	A
1	A	1092	C
1	A	1094	U

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Mol	Chain	Res	Type
1	A	1097	U
1	A	1098	A
1	A	1100	C
1	A	1104	C
1	A	1105	U
1	A	1110	G
1	A	1111	A
1	A	1112	G
1	A	1119	U
1	A	1122	G
1	A	1128	G
1	A	1132	U
1	A	1133	A
1	A	1135	C
1	A	1136	G
1	A	1139	G
1	A	1141	U
1	A	1142	A
1	A	1153	C
1	A	1155	A
1	A	1156	A
1	A	1168	G
1	A	1171	G
1	A	1172	C
1	A	1173	U
1	A	1175	A
1	A	1176	U
1	A	1178	C
1	A	1179	G
1	A	1180	U
1	A	1186	G
1	A	1197	G
1	A	1205	A
1	A	1208	C
1	A	1212	G
1	A	1221	C
1	A	1230	A
1	A	1231	U
1	A	1232	G
1	A	1236	G
1	A	1238	G
1	A	1241	A

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Mol	Chain	Res	Type
1	A	1253	A
1	A	1255	U
1	A	1256	G
1	A	1257	C
1	A	1262	A
1	A	1264	A
1	A	1266	G
1	A	1269	A
1	A	1271	G
1	A	1272	A
1	A	1275	A
1	A	1276	A
1	A	1300	G
1	A	1301	A
1	A	1305	C
1	A	1318	U
1	A	1325	U
1	A	1345	C
1	A	1352	U
1	A	1355	G
1	A	1359	A
1	A	1365	A
1	A	1376	C
1	A	1378	A
1	A	1379	U
1	A	1380	G
1	A	1383	A
1	A	1386	C
1	A	1387	A
1	A	1390	U
1	A	1391	U
1	A	1395	A
1	A	1411	U
1	A	1414	C
1	A	1416	G
1	A	1419	A
1	A	1420	A
1	A	1423	G
1	A	1426	G
1	A	1428	C
1	A	1434	A
1	A	1436	G

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Mol	Chain	Res	Type
1	A	1452	G
1	A	1455	G
1	A	1456	G
1	A	1458	U
1	A	1462	C
1	A	1471	G
1	A	1478	G
1	A	1482	G
1	A	1493	C
1	A	1495	A
1	A	1504	A
1	A	1509	A
1	A	1510	G
1	A	1515	A
1	A	1523	U
1	A	1527	G
1	A	1530	G
1	A	1531	C
1	A	1533	C
1	A	1534	U
1	A	1535	A
1	A	1536	C
1	A	1537	G
1	A	1538	G
1	A	1565	C
1	A	1566	A
1	A	1569	A
1	A	1576	U
1	A	1578	U
1	A	1581	G
1	A	1582	C
1	A	1583	A
1	A	1584	U
1	A	1585	C
1	A	1603	A
1	A	1604	C
1	A	1606	C
1	A	1607	C
1	A	1608	A
1	A	1610	A
1	A	1613	G
1	A	1616	A

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Mol	Chain	Res	Type
1	A	1623	G
1	A	1625	C
1	A	1639	C
1	A	1646	C
1	A	1647	U
1	A	1648	U
1	A	1649	G
1	A	1651	G
1	A	1660	G
1	A	1664	A
1	A	1665	A
1	A	1674	G
1	A	1690	A
1	A	1694	C
1	A	1705	A
1	A	1714	U
1	A	1715	G
1	A	1728	C
1	A	1729	U
1	A	1730	C
1	A	1731	G
1	A	1732	C
1	A	1735	A
1	A	1738	G
1	A	1739	A
1	A	1740	G
1	A	1744	A
1	A	1756	G
1	A	1758	U
1	A	1764	C
1	A	1773	A
1	A	1774	C
1	A	1776	G
1	A	1782	U
1	A	1800	C
1	A	1801	A
1	A	1802	A
1	A	1808	A
1	A	1811	G
1	A	1816	C
1	A	1823	G
1	A	1829	A

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Mol	Chain	Res	Type
1	A	1847	A
1	A	1848	A
1	A	1858	A
1	A	1859	U
1	A	1869	G
1	A	1870	C
1	A	1871	A
1	A	1874	C
1	A	1876	A
1	A	1880	U
1	A	1884	G
1	A	1893	C
1	A	1903	G
1	A	1906	G
1	A	1907	G
1	A	1913	A
1	A	1914	C
1	A	1927	A
1	A	1929	G
1	A	1930	G
1	A	1935	G
1	A	1937	A
1	A	1947	C
1	A	1955	U
1	A	1961	C
1	A	1964	G
1	A	1965	C
1	A	1967	C
1	A	1970	A
1	A	1971	U
1	A	1972	G
1	A	1975	G
1	A	1991	U
1	A	1992	G
1	A	1993	U
1	A	1997	C
1	A	2020	A
1	A	2021	C
1	A	2022	U
1	A	2023	C
1	A	2030	A
1	A	2031	A

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Mol	Chain	Res	Type
1	A	2033	A
1	A	2043	C
1	A	2055	C
1	A	2056	G
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2069	G
1	A	2072	C
1	A	2073	C
1	A	2080	A
1	A	2083	G
1	A	2092	U
1	A	2093	G
1	A	2095	A
1	A	2102	G
1	A	2103	C
1	A	2107	G
1	A	2108	A
1	A	2110	G
1	A	2111	U
1	A	2112	G
1	A	2113	U
1	A	2115	G
1	A	2116	G
1	A	2117	A
1	A	2118	U
1	A	2119	A
1	A	2125	G
1	A	2126	A
1	A	2127	G
1	A	2128	G
1	A	2131	U
1	A	2132	U
1	A	2133	G
1	A	2135	A
1	A	2137	U
1	A	2146	C
1	A	2147	A
1	A	2149	U
1	A	2158	A
1	A	2162	G

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Mol	Chain	Res	Type
1	A	2163	A
1	A	2164	C
1	A	2165	C
1	A	2169	A
1	A	2170	A
1	A	2171	A
1	A	2172	U
1	A	2173	A
1	A	2177	C
1	A	2178	C
1	A	2181	U
1	A	2184	A
1	A	2189	U
1	A	2190	G
1	A	2194	U
1	A	2198	A
1	A	2203	U
1	A	2204	G
1	A	2211	A
1	A	2212	A
1	A	2225	A
1	A	2226	C
1	A	2230	G
1	A	2238	G
1	A	2239	G
1	A	2241	A
1	A	2242	G
1	A	2243	U
1	A	2268	A
1	A	2269	G
1	A	2273	A
1	A	2278	A
1	A	2280	G
1	A	2283	C
1	A	2287	A
1	A	2297	A
1	A	2305	U
1	A	2307	G
1	A	2308	G
1	A	2309	A
1	A	2311	A
1	A	2312	U

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Mol	Chain	Res	Type
1	A	2320	U
1	A	2322	A
1	A	2324	U
1	A	2325	G
1	A	2327	A
1	A	2333	A
1	A	2344	U
1	A	2347	C
1	A	2350	C
1	A	2354	C
1	A	2356	U
1	A	2357	G
1	A	2361	G
1	A	2383	G
1	A	2385	C
1	A	2402	U
1	A	2403	C
1	A	2406	A
1	A	2407	A
1	A	2410	G
1	A	2423	U
1	A	2424	C
1	A	2425	A
1	A	2426	A
1	A	2429	G
1	A	2430	A
1	A	2431	U
1	A	2435	A
1	A	2441	U
1	A	2446	G
1	A	2447	G
1	A	2448	A
1	A	2449	U
1	A	2455	G
1	A	2476	A
1	A	2484	G
1	A	2491	U
1	A	2498	C
1	A	2502	G
1	A	2503	A
1	A	2504	U
1	A	2505	G

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Mol	Chain	Res	Type
1	A	2518	A
1	A	2525	G
1	A	2529	G
1	A	2534	A
1	A	2535	G
1	A	2547	A
1	A	2554	U
1	A	2566	A
1	A	2567	G
1	A	2572	A
1	A	2573	C
1	A	2580	U
1	A	2581	G
1	A	2582	G
1	A	2585	U
1	A	2586	U
1	A	2589	A
1	A	2600	A
1	A	2602	A
1	A	2603	G
1	A	2606	C
1	A	2609	U
1	A	2613	U
1	A	2614	A
1	A	2615	U
1	A	2624	G
1	A	2629	U
1	A	2630	G
1	A	2646	C
1	A	2663	G
1	A	2682	A
1	A	2689	U
1	A	2690	U
1	A	2703	C
1	A	2714	G
1	A	2716	C
1	A	2718	G
1	A	2726	A
1	A	2729	G
1	A	2748	A
1	A	2757	A
1	A	2758	A

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Mol	Chain	Res	Type
1	A	2764	A
1	A	2765	A
1	A	2768	U
1	A	2770	G
1	A	2778	A
1	A	2791	G
1	A	2794	C
1	A	2798	U
1	A	2799	A
1	A	2818	U
1	A	2820	A
1	A	2826	A
1	A	2833	U
1	A	2835	A
1	A	2861	U
1	A	2867	G
1	A	2872	A
1	A	2873	A
1	A	2879	A
1	A	2880	C
1	A	2883	A
1	A	2891	U
1	A	2894	G
1	A	2901	C
2	B	13	G
2	B	15	A
2	B	16	G
2	B	22	U
2	B	24	G
2	B	25	U
2	B	35	C
2	B	36	C
2	B	40	U
2	B	44	G
2	B	51	G
2	B	54	G
2	B	56	G
2	B	58	A
2	B	64	G
2	B	66	A
2	B	67	G
2	B	73	A

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Mol	Chain	Res	Type
2	B	88	C
2	B	89	U
2	B	90	C
2	B	91	C
2	B	99	A
2	B	105	G
2	B	109	A

All (29) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	60	G
1	A	271	G
1	A	404	A
1	A	479	A
1	A	503	A
1	A	614	A
1	A	846	U
1	A	982	C
1	A	1240	U
1	A	1275	A
1	A	1344	U
1	A	1378	A
1	A	1606	C
1	A	1738	G
1	A	2109	U
1	A	2127	G
1	A	2146	C
1	A	2162	G
1	A	2211	A
1	A	2225	A
1	A	2286	G
1	A	2296	U
1	A	2308	G
1	A	2311	A
1	A	2326	C
1	A	2425	A
1	A	2585	U
1	A	2602	A
1	A	2756	U

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

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

## 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 5.6 Ligand geometry ⓘ

Of 173 ligands modelled in this entry, 172 are monoatomic - leaving 1 for Mogul analysis.

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	$\# Z  > 2$
32	VIF	A	3001	-	40,40,40	2.40	12 (30%)	53,55,55	2.59	21 (39%)

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
32	VIF	A	3001	-	-	0/46/58/58	0/1/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	A	3001	VIF	C15-N01	6.00	1.44	1.35
32	A	3001	VIF	F-C07	-5.94	1.25	1.40
32	A	3001	VIF	C03-N02	4.41	1.40	1.34
32	A	3001	VIF	C11-C09	-4.24	1.43	1.53
32	A	3001	VIF	O01-C06	-4.11	1.38	1.44
32	A	3001	VIF	O01-C08	-4.04	1.25	1.34
32	A	3001	VIF	O04-C22	-3.91	1.35	1.44
32	A	3001	VIF	C09-N01	-3.05	1.40	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	A	3001	VIF	C04-C07	-2.52	1.47	1.53
32	A	3001	VIF	C13-N01	-2.42	1.43	1.47
32	A	3001	VIF	C23-N	-2.35	1.30	1.37
32	A	3001	VIF	C26-C05	-2.23	1.46	1.53

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	A	3001	VIF	C02-C01-C03	-9.85	103.77	121.88
32	A	3001	VIF	C17-N02-C03	-5.25	115.49	121.82
32	A	3001	VIF	C06-O01-C08	4.62	125.80	117.98
32	A	3001	VIF	C18-C10-C20	-4.54	119.09	125.94
32	A	3001	VIF	C23-N-C27	-4.52	104.88	107.50
32	A	3001	VIF	C14-C07-C04	-3.91	107.70	113.89
32	A	3001	VIF	O-C03-N02	-3.90	117.31	122.54
32	A	3001	VIF	O01-C08-C09	3.65	118.88	110.46
32	A	3001	VIF	C17-C18-C10	-3.59	113.05	125.83
32	A	3001	VIF	C22-C21-C20	-3.45	122.76	127.17
32	A	3001	VIF	C25-O05-C27	3.13	104.24	103.54
32	A	3001	VIF	O05-C25-C23	-3.10	107.71	110.06
32	A	3001	VIF	C26-C05-C02	-2.87	103.11	110.05
32	A	3001	VIF	C19-C-C16	-2.72	102.97	110.66
32	A	3001	VIF	C01-C03-N02	2.71	120.64	114.71
32	A	3001	VIF	C10-C20-C21	-2.63	110.95	119.60
32	A	3001	VIF	F-C07-C14	-2.51	104.82	109.10
32	A	3001	VIF	C26-C05-C06	2.35	115.56	111.05
32	A	3001	VIF	C24-C20-C10	2.25	121.72	118.09
32	A	3001	VIF	O01-C06-C05	2.20	110.83	107.08
32	A	3001	VIF	O01-C08-O02	-2.16	119.53	123.85

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 5.7 Other polymers ⓘ

There are no such residues in this entry.

## 5.8 Polymer linkage issues

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 will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

### 6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

### 6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

### 6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.