



# Full wwPDB X-ray Structure Validation Report ⓘ

May 29, 2020 – 03:18 am BST

PDB ID : 2ZJR  
Title : Refined native structure of the large ribosomal subunit (50S) from *Deinococcus radiodurans*  
Authors : Harms, J.M.; Wilson, D.N.; Schlutzen, F.; Connell, S.R.; Stachelhaus, T.; Zaborowska, Z.; Spahn, C.M.T.; Fucini, P.  
Deposited on : 2008-03-08  
Resolution : 2.91 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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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
Xtriage (Phenix)	:	1.13
EDS	:	2.11
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.11

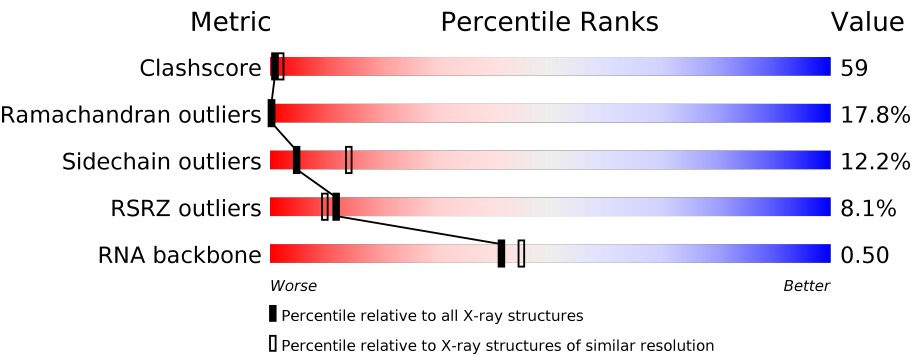
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.91 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	2531 (2.94-2.90)
Ramachandran outliers	138981	2462 (2.94-2.90)
Sidechain outliers	138945	2464 (2.94-2.90)
RSRZ outliers	127900	2248 (2.94-2.90)
RNA backbone	3102	1001 (3.18-2.66)

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 respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	X	2880	<div><div>4%</div><div>16%46%20%10%7%</div></div>
2	Y	123	<div><div>2%</div><div>23%59%15%</div></div>
3	A	274	<div><div>7%</div><div>16%54%16%12%</div></div>
4	B	211	<div><div></div><div>29%52%12%</div></div>
5	C	205	<div><div>5%</div><div>11%56%25%</div></div>
6	D	180	<div><div>7%</div><div>11%69%16%</div></div>

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Mol	Chain	Length	Quality of chain
7	E	185	
8	F	144	
9	G	174	
10	H	134	
11	I	156	
12	J	142	
13	K	116	
14	L	114	
15	M	166	
16	N	118	
17	O	100	
18	P	134	
19	Q	95	
20	R	115	
21	S	237	
22	T	91	
23	U	81	
24	V	67	
25	W	55	
26	Z	60	
27	1	55	
28	2	47	
29	3	66	
30	4	37	

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

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
31	MG	X	2884	-	-	-	X
31	MG	X	2908	-	-	-	X
31	MG	Y	124	-	-	-	X

## 2 Entry composition

There are 31 unique types of molecules in this entry. The entry contains 83819 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	X	2686	Total	C	N	O	P	0	0	0
			57651	25718	10642	18606	2685			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	Y	122	Total	C	N	O	P	0	0	0
			2598	1161	476	840	121			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	240	Total	C	N	O	S	0	0	0
			1826	1137	366	321	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	B	205	Total	C	N	O	S	0	0	0
			1539	965	295	271	8			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	C	197	Total	C	N	O	S	0	0	0
			1506	935	287	282	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	D	177	Total	C	N	O	S	0	0	0
			1400	892	247	254	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	E	171	Total	C	N	O	S	0	0	0
			1286	812	237	236	1			

- Molecule 8 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	F	71	Total	C	N	O	S	0	0	0
			503	310	91	99	3			

- Molecule 9 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	G	142	Total	C	N	O	S	0	0	0
			1114	704	209	198	3			

- Molecule 10 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	H	134	Total	C	N	O	S	0	0	0
			997	614	198	180	5			

- Molecule 11 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	I	141	Total	C	N	O	S	0	0	0
			1067	655	216	196				

- Molecule 12 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	J	136	Total	C	N	O	S	0	0	0
			1090	696	202	185	7			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	INITIATING METHIONINE	UNP Q9RXJ5

- Molecule 13 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	K	113	Total	C	N	O	S	0	0	0
			878	541	178	157	2			

- Molecule 14 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	L	104	Total	C	N	O		0	0	0
			779	476	161	142				

- Molecule 15 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	M	108	Total	C	N	O		0	0	0
			871	543	172	156				

- Molecule 16 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	N	117	Total	C	N	O	S	0	0	0
			978	608	210	159	1			

- Molecule 17 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	O	94	Total	C	N	O		0	0	0
			741	465	139	137				

- Molecule 18 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	P	127	Total	C	N	O	S	0	0	0
			1014	639	199	174	2			

- Molecule 19 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	Q	93	Total	C	N	O	S	0	0	0
			726	458	136	130	2			

- Molecule 20 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	R	110	Total	C	N	O	S	0	0	0
			825	513	160	151	1			

- Molecule 21 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	S	175	Total	C	N	O	S	0	0	0
			1345	849	236	254	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	T	84	Total	C	N	O	S	0	0	0
			625	393	122	109	1			

- Molecule 23 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	U	72	Total	C	N	O	S	0	0	0
			552	341	116	95				

- Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	V	66	Total	C	N	O	S	0	0	0
			533	327	107	96	3			

- Molecule 25 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	W	55	Total	C	N	O	S	0	0	0
			424	264	82	76	2			

- Molecule 26 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	58	Total	C	N	O	S	0	0	0
			457	281	94	77	5			

- Molecule 27 is a protein called 50S ribosomal protein L33.



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
27	1	53	Total C 53 53	0	0	53

- Molecule 28 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
28	2	46	Total C 46 46	0	0	46

- Molecule 29 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
29	3	63	Total C 63 63	0	0	63

- Molecule 30 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
30	4	37	Total C N O S 297 179 66 47 5	0	0	0

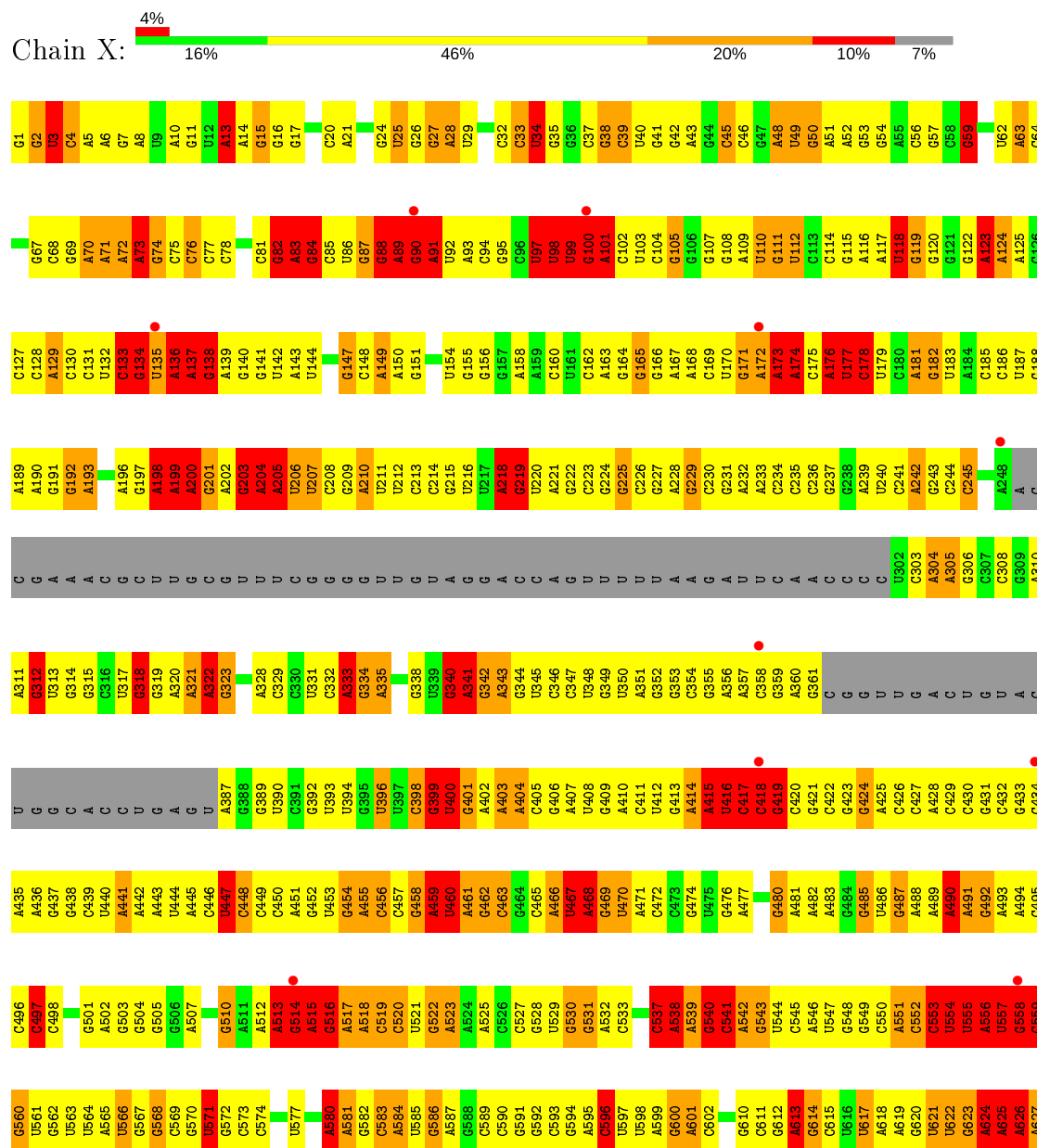
- Molecule 31 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
31	X	30	Total Mg 30 30	0	0
31	Y	5	Total Mg 5 5	0	0

### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry 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 ( $\text{RSRZ} > 2$ ). 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.

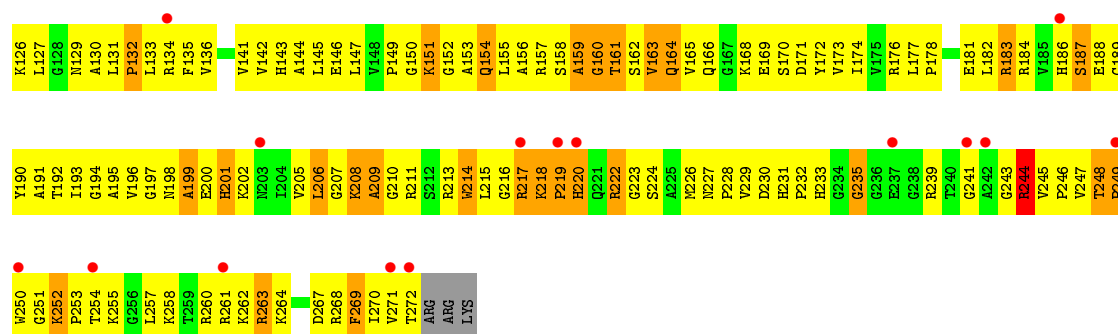
- Molecule 1: ribosomal 23S RNA



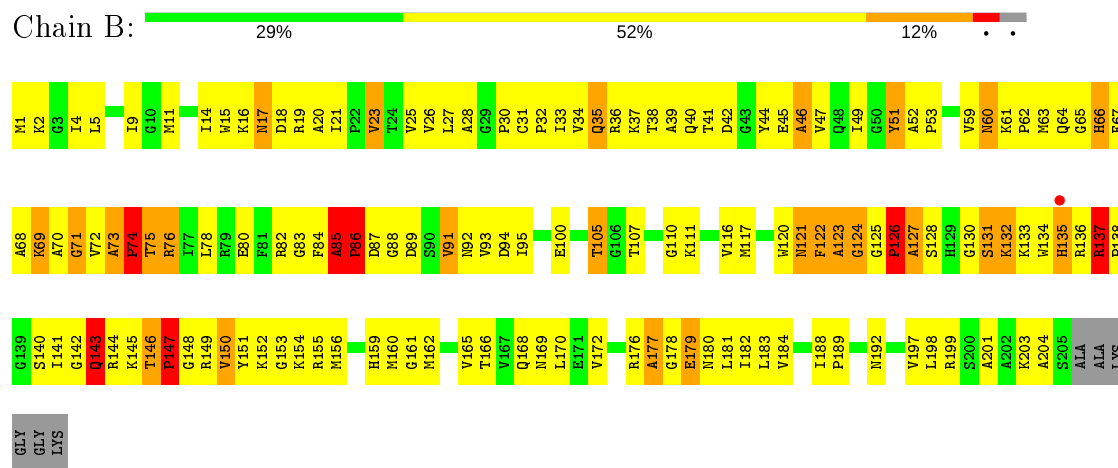
C1456	G1390	G1251	U1124	C1064	A1004	U941	C580	A815	G751	A689	A628
A1391	A1320	C1252	G1125	A1065	U1005	U942	U881	U816	G752	A690	A631
U1459	A1321	G1189	A1126	C1066	C1006	U943	A882	A817	U753	A691	A632
G1460	G1322	C1254	C1127	G1067	A1007	A944	A883	G818	G754	C692	A633
C1461	G1323	G1191	G1128	A1068	C1008	U945	C884	C819	C755	A693	G634
A1397	G1324	A1192	G1129	G1069	U1009	U946	A885	U820	G756	G694	G635
A1463	U1325	G1193	U1130	G1070	U1010	C947	A886	A821	U757	G695	C636
A1464	U1326	U1194	G1131	U1071	A1011	U948	G887	G822	G758	G696	G637
G1402	G1261	U1195	G1132	U1072	A1012	G951	G888	U823	C759	G697	A638
U1403	U1262	G1196	G1133	G1073	G1013	A952	U890	U824	U760	A698	A639
C1466	U1328	U1197	G1134	G1074	G1014	U953	A891	C825	G761	G699	G639
A1468	U1329	C1198	G1135	C1075	U1015	U954	G	U826	A762	C700	C640
U1469	G1330	U1199	G1136	U1076	C1016	G955	G	C827	A763	U701	G641
A1406	G1265	G1200	A1137	U1077	C1017	A956	G	C828	A764	A702	A642
G1407	G1266	G1201	A1138	A1078	C1018	A957	G	C829	C765	A703	A643
A1408	U1267	U1202	A1139	G1079	U1019	A958	G	C830	A766	G704	A644
A1434	U1268	A1203	A1140	A1080	A1020	U959	G	C831	G767	C705	G645
U1411	G1335	G1204	U1141	A1081	A1021	C959	C	A832	U768	A706	G646
A1474	G1336	G1205	G1142	G1082	A1022	U960	C	A833	C769	U707	G647
U1475	G1337	G1206	A1143	C1083	U1023	G963	U	A834	U770	G708	A648
C1476	G1273	G1207	A1144	A1084	G1024	A964	A	U835	C771	A709	A649
C1477	U1274	G1207	C1145	G1085	A1025	U965	C	G836	C772	C710	U650
U1482	A1275	G1211	G1146	C1086	U1026	G966	C	U837	G773	C711	C651
G1483	U1276	U1212	G1147	G1087	C1027	A967	A	A838	A774	A712	G652
A1484	G1277	U1213	G1148	C1088	G1028	G967	C	U839	U775	G713	G653
U1485	G1278	G1214	G1149	C1089	C1029	C968	C	U840	G776	G714	A654
C1486	U1280	A1215	C1150	C1090	U1030	U969	U	G941	A777	U715	A655
A1487	A1281	G1218	U1151	C1091	C1031	A970	U	A842	G778	U716	G656
C1488	A1282	C1219	C1152	U1092	A1032	A971	A	G843	U779	G717	A657
G1489	C1283	G1220	A1153	U1093	G1033	G972	C	G844	U780	A718	G658
U1490	A1284	G1221	A1154	C1094	U1034	U973	C	U845	G781	A719	G659
C1491	U1285	G1222	G1155	A1095	G1035	U974	A911	A846	U782	A720	G660
A1492	U1286	G1223	U1156	C1096	G1036	G977	A912	C947	G783	C721	C661
A1493	U1287	A1224	G1157	G1098	U1037	U978	C914	A848	G784	C722	G662
G1494	A1288	G1225	A1162	A1099	A1039	G980	C915	U852	A787	C723	G663
U1495	U1289	A1226	C1163	G1100	A1040	G981	A918	U857	G788	C724	C664
G1496	A1293	G1227	C1164	U1101	G1041	G982	U919	G858	A790	G725	A665
C1497	G1294	G1228	G1165	G1102	G1042	G983	G920	U859	G791	U727	U666
U1498	U1295	C1229	A1166	C1103	A1043	A984	A921	U860	U792	G728	A668
C1500	G1296	G1230	A1167	G1104	U1044	G985	A922	G861	G793	A729	G669
U1501	A1297	A1231	G1168	U1105	G1045	U986	A923	A862	A794	C730	U670
G1502	G1298	U1232	C1169	C1106	U1046	G987	C924	C863	A795	A731	A671
A1503	A1299	A1233	U1170	A1107	G1047	U988	U925	C864	A796	G732	C672
G1504	U1300	C1234	A1171	U1108	U1048	G989	C926	C865	A797	G733	G673
U1505	U1301	C1235	U1172	A1109	C1049	G990	C927	U866	G798	G734	U674
C1506	G1302	G1236	G1173	G1110	G1050	A991	G928	G867	A801	G735	C675
A1507	U1303	G1237	G1174	C1111	U1051	G992	G929	U868	A802	G736	G676
G1508	U1304	A1238	A1175	U1112	C1052	A993	A929	G869	C803	C737	G677
U1509	G1304	U1239	U1176	C1113	G1053	C993	A930	C870	C804	G738	G678
A1510	G1309	G1240	U1177	C1114	C1054	A994	G931	U871	G805	G739	C679
A1511	C1310	G1241	C1178	C1115	A1055	A995	G932	A874	A740	U680	A681
U1512	G1311	A1242	A1179	U1116	U1056	C996	G933	U872	A806	G741	G682
G1513	G1312	G1243	A1180	G1117	A1057	C997	G934	U873	A807	G742	A683
U1514	U1313	G1244	C1181	G1118	C1058	A998	C935	A874	A743	A743	C684
C1515	A1314	G1246	U1182	U1119	A1059	A999	A936	G875	U810	C744	U685
A1516	A1315	U1247	C1183	C1120	C1060	G1000	C937	A876	G811	C745	C686
C1517	G1316	G1248	G1184	G1121	A1061	U1001	G938	G877	G812	G746	U687
U1518	G1317	G1249	C1185	A1122	C1062	C1002	C939	C878	A813	A747	A688
G1519	C1388	A1250	G1186	G1123	C1063	C1003	G940	A879	G814		

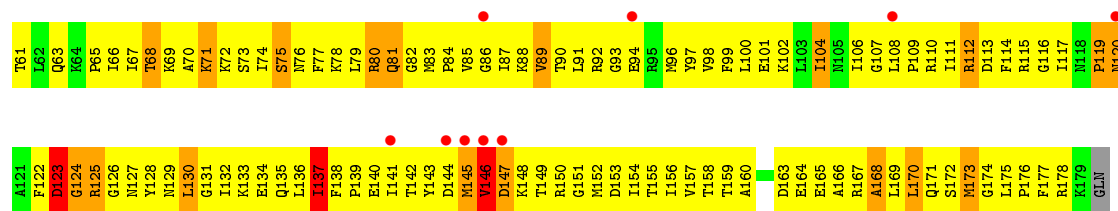
U2342	A2278	G2217	C	G2035	G1975	A1910	G1849	A1785	A1718	C1655	A1585	G1520
C2343	G2279	G2218	C	G2036	U1976	A1911	G1850	C1786	G1719	U1656	A1586	U1521
G2344	U2219	U2219	C	A2037	C1977	G1912	A1851	U1787	G1722	A1657	A1587	A1522
A2345	C2281	C2220	C	C2038	U1978	G1913	G1852	C1788	U1723	G1658	A1588	A1523
G2350	G2282	G2221	C	G2039	A1980	U1914	G1853	G1790	U1724	G1659	A1589	A1524
G2351	U2223	U2222	C	A2040	C1979	A1915	G1854	G1791	C1725	G1660	A1590	A1525
A2352	U2284	U2224	U	A2041	A1981	G1916	G1855	C1792	C1726	C1661	U1594	U1526
G2353	G2285	G2225	G	A2042	C1982	C1917	U1856	A1793	G1727	G1662	A1595	G1527
G2354	U2286	U2226	U	A2043	G1983	G1918	G1857	C1795	U1728	C1663	U1596	U1528
G2355	G2287	G2227	G	G2044	A1984	A1919	A1858	A1728	G1664	G1664	A1597	U1529
G2356	A2288	C2227	G	A2045	G1985	A1920	A1859	C1729	A1728	C1665	U1597	U1530
A2357	A2289	U2228	G	C2046	G1986	A1921	A1860	G1730	A1729	G1666	C1598	C1531
A2358	A2290	G2229	A	C2047	G1987	U1922	G1861	A1687	G1731	A1667	A1599	A1532
U2359	A2291	G2230	G	C2048	A1988	U1923	C1862	A1800	G1732	G1668	U1600	G1533
C2360	C2231	G2232	C	C2049	C1989	C1924	U1863	C1801	U1733	A1669	U1601	G1536
G2361	U2292	U2233	C	G2050	U1990	C1925	G1864	A1802	C1734	G1670	A1602	U1537
G2362	U2293	G2234	U	U2051	C1991	U1926	C1865	U1804	G1735	A1671	A1603	A1538
G2363	U2294	G2235	G	G2052	G1992	U1927	G1866	U1805	C1736	A1672	U1539	U1539
G2364	G2297	G2236	C	C2053	U1993	G1928	A1867	G1806	G1737	C1673	C1606	A1540
G2365	U2298	U2237	C	A2054	U1994	U1929	A1868	A1807	U1738	C1674	A1607	U1541
U2366	A2299	G2238	A	G2055	G1995	U1930	A1869	C1808	G1741	C1675	U1608	U1542
U2367	G2300	G2239	A	C2056	A1996	G1933	U1870	G1809	G1742	U1676	G1609	G1543
A2368	A2301	C2239	A	A2057	A1997	U1934	A1871	U1810	C1743	C1677	A1610	U1544
G2369	G2302	U2240	U	U2058	A1998	A1935	A1872	A1811	G1744	U1678	U1611	A1547
G2370	G2303	U2241	C	C2060	U1999	U1936	A1873	A1812	C1745	U1679	U1612	U1548
A2371	G2304	G2242	G	G2061	U2000	A1937	G1874	A1813	U1746	U1680	G1613	U1549
A2372	C2305	G2243	G	U2062	G2001	U1938	C1875	G1814	A1747	A1681	G1614	C1550
C2373	A2306	C2244	G	U2063	A2002	U1939	A1876	G1815	U1748	G1682	C1615	U1551
G2374	A2307	A2245	U	U2064	U2003	C1940	C1877	G1816	U1750	A1685	C1620	C1552
G2375	A2308	A2246	C	A2065	U2004	U1949	G1886	A1817	A1751	A1686	G1621	G1553
U2376	G2309	A2247	U	U2066	U2005	C1950	G1887	U1818	G1752	C1687	G1622	A1555
G2378	G2310	A2248	U	U2067	G2006	C1944	U1888	U1819	A1753	U1688	C1623	A1556
U2379	U2311	U2251	U	C2068	G2007	U1945	G1889	G1820	G1754	U1689	A1624	G1557
U2380	G2312	A2252	G	U2069	C2008	G1946	A1883	A1821	G1755	U1690	A1625	U1558
A2381	G2313	A2253	G	G2070	U2009	U1947	C1884	G1822	C1756	G1691	A1626	U1559
A2315	A2314	A2254	G	G2071	G2010	C1948	G1885	G1823	G1757	C1692	C1627	A1560
G2382	A2315	G2255	U	C2072	U2011	A1949	G1886	A1824	U1766	A1699	C1628	A1561
C2383	G2316	G2256	C	A2073	A2012	C1950	G1887	U1825	G1767	A1699	A1630	U1562
U2384	U2317	G2257	C	U2074	A2013	G1951	C1888	U1826	U1770	C1633	U1564	A1569
U2385	G2319	A2257	G	U2075	A2014	A1952	G	U1827	G1763	C1634	C1570	G1570
U2386	G2320	G2258	U	G2076	G2015	A1953	C	C1830	A1764	G1698	A1634	G1571
U2387	G2321	G2259	U	U2077	A2016	A1954	C	G1831	C1765	U1705	G1635	G1572
U2322	U2322	G2260	G	A2078	U2017	G1955	C	G1832	U1766	A1706	G1636	G1573
G2323	G2323	G2261	G	U2080	G2018	C1956	U	U1833	G1773	A1707	U1637	A1574
G2324	C2262	C2262	A	U2081	C2019	C1957	A	G1834	A1774	C1708	G1642	C1575
G2325	C2263	C2263	G	G2082	G2020	G1958	C	C1835	A1775	U1709	A1643	C1576
G2326	C2264	C2264	C	G2083	G2021	U1959	A	C1836	U1776	U1710	G1577	G1577
G2327	A2265	A2265	C	G2084	C2022	U1960	C	C1837	A1777	G1644	U1645	U1578
G2328	A2266	A2266	A	A2085	C2023	G1963	U	G1838	C1773	G1712	G1579	G1579
G2329	A2267	A2267	C	U2086	U2024	A1964	A	A1839	A1774	A1714	C1648	C1580
U2330	G2268	G2268	C	U2087	A2025	U1965	U	A1840	A1775	A1715	U1651	C1581
A2331	G2269	G2269	G	C2088	C2026	G1966	A	A1776	U1776	G1716	A1562	A1582
G2332	U2270	U2270	G	C2089	C2027	U1967	A	A1777	U1777	A1716	U1652	A1583
A2401	C2271	C2271	U	C2090	C2028	G1968	C	G1841	U1778	U1717	G1652	G1584
U2402	A2272	A2272	G	U2090	G2029	G1969	G	G1842	C1779	G1712	U1652	G1584
C2403	C2273	C2273	C	C	U2030	G1970	G	C1843	A1780	G1713	C1648	C1580
A2404	C2274	C2274	A	U	A2031	C1971	U	A1845	C1781	A1714	U1651	C1581
A2405	U2275	U2275	A	C	G2032	G1972	C	A1846	A1782	A1715	U1652	A1582
C2406	C2276	C2276	U	C	C2033	C1973	C	G1847	G1783	G1716	A1562	A1583
G2407	A2277	A2277	A	U	A2034	U1974	U1909	U1848	C1784	A1717	G1652	G1584



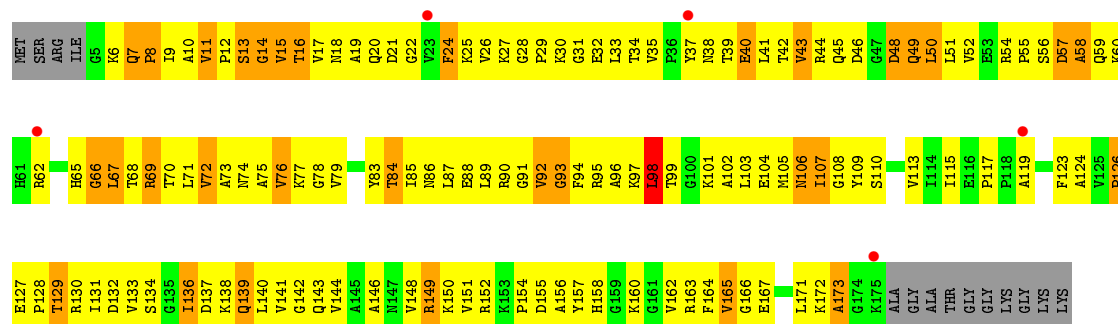
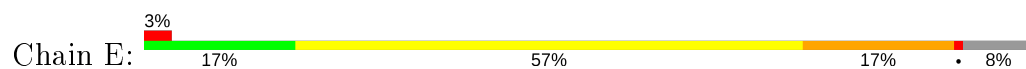


• Molecule 4: 50S ribosomal protein L3

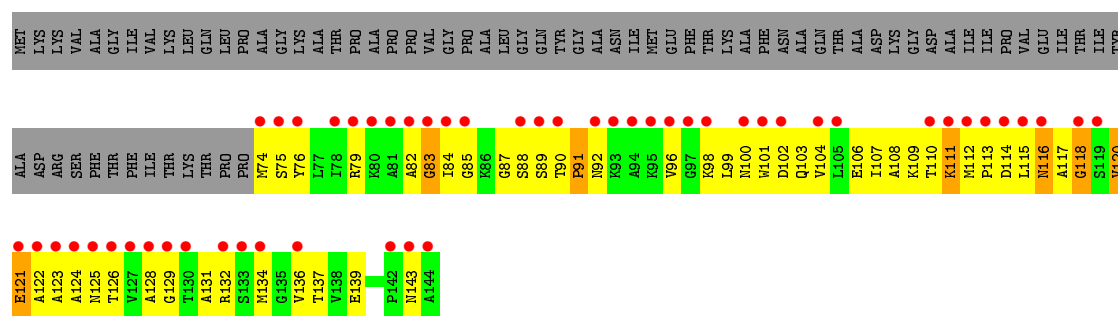




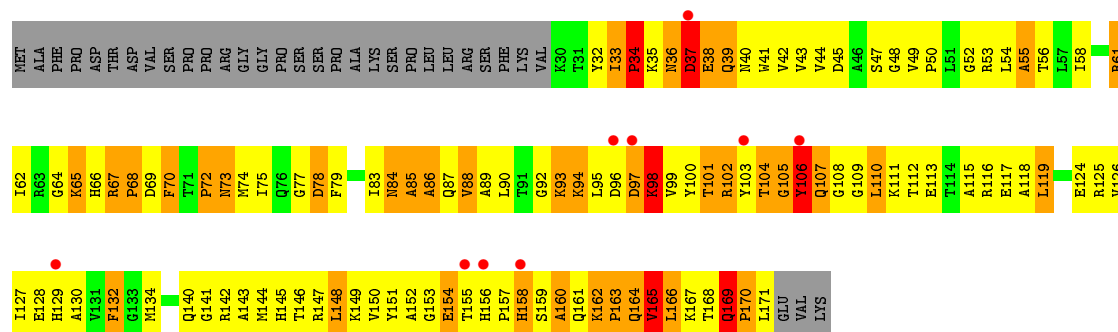
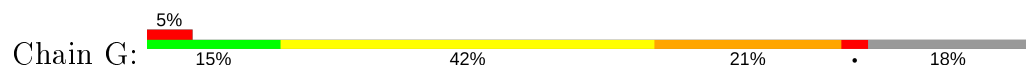
• Molecule 7: 50S ribosomal protein L6



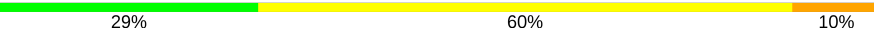
• Molecule 8: 50S ribosomal protein L11

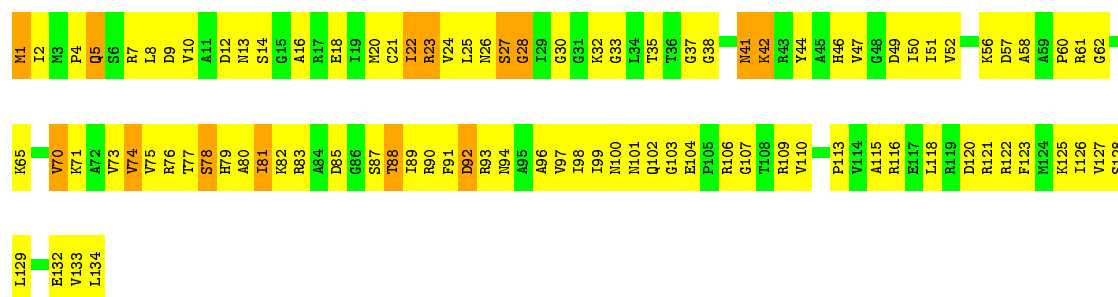


• Molecule 9: 50S ribosomal protein L13




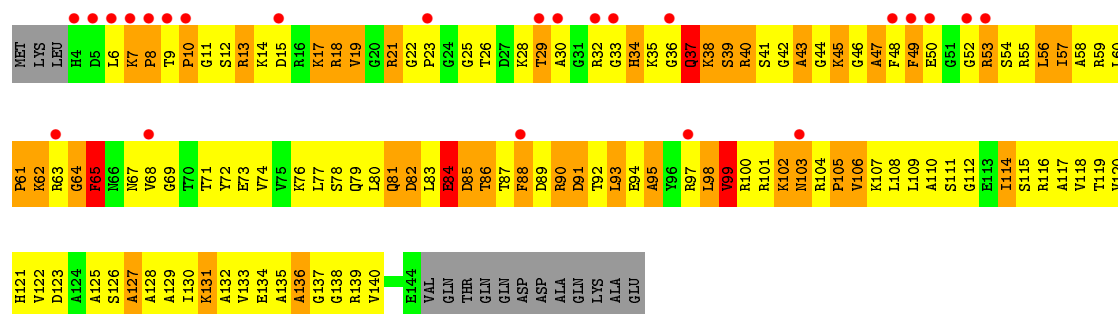
• Molecule 10: 50S ribosomal protein L14

Chain H: 



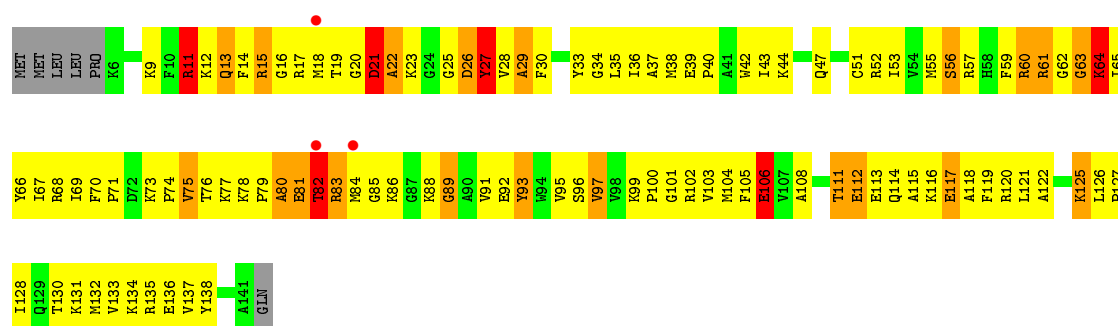
• Molecule 11: 50S ribosomal protein L15

Chain I: 



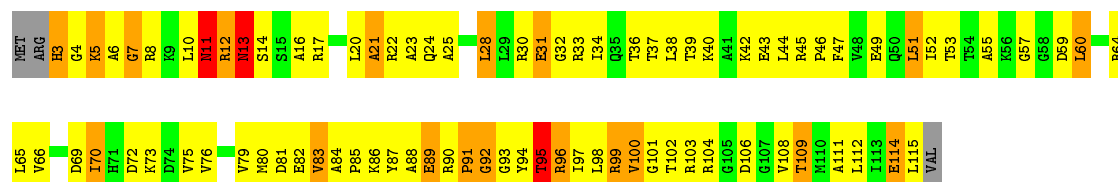
• Molecule 12: 50S ribosomal protein L16

Chain J: 



• Molecule 13: 50S ribosomal protein L17

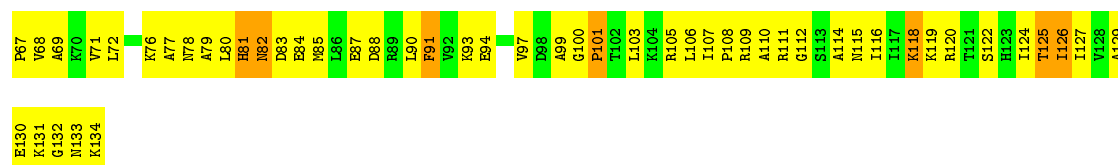
Chain K: 



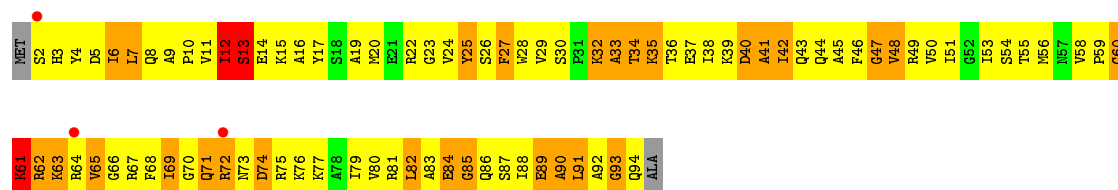
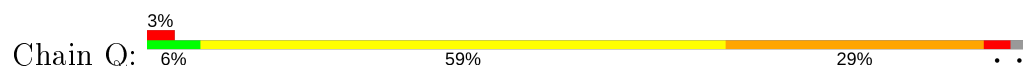
• Molecule 14: 50S ribosomal protein L18



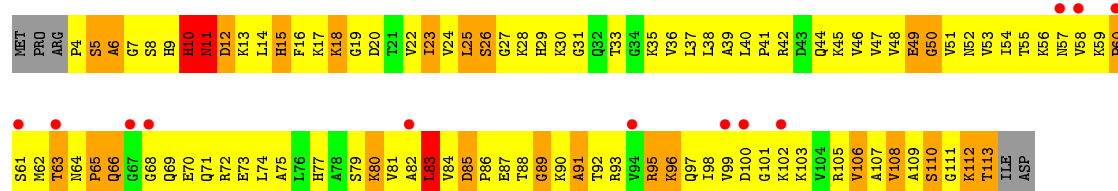
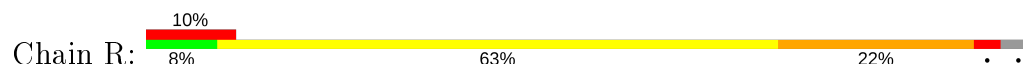




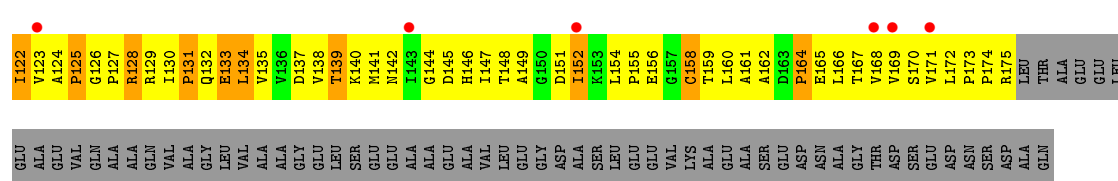
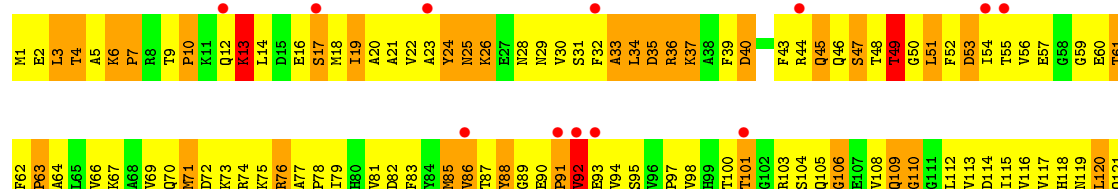
• Molecule 19: 50S ribosomal protein L23



• Molecule 20: 50S ribosomal protein L24

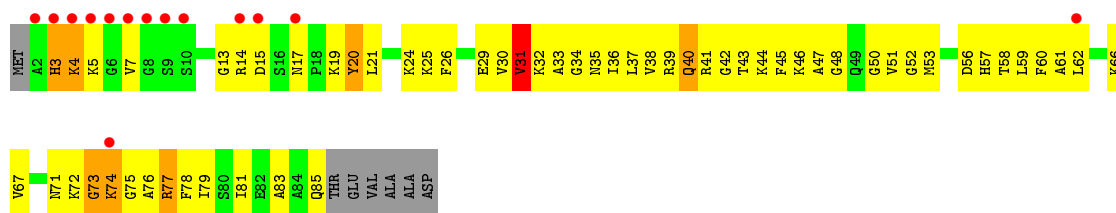


• Molecule 21: 50S ribosomal protein L25

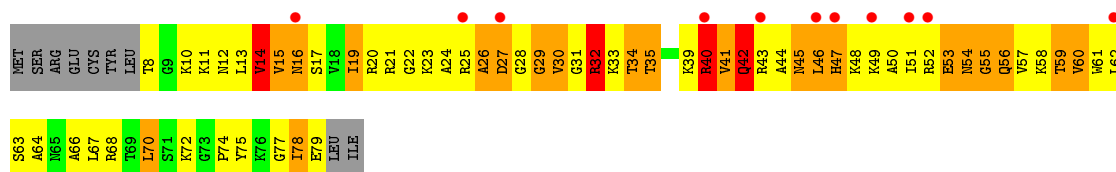


• Molecule 22: 50S ribosomal protein L27

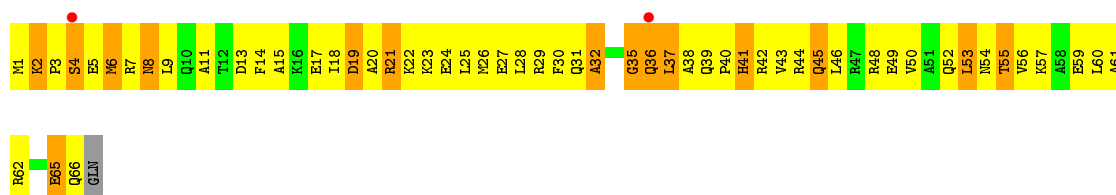
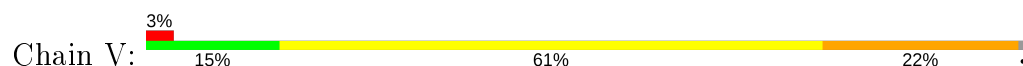




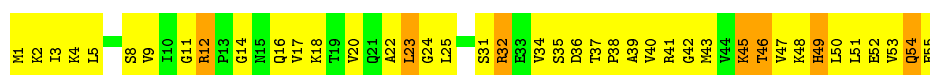
• Molecule 23: 50S ribosomal protein L28



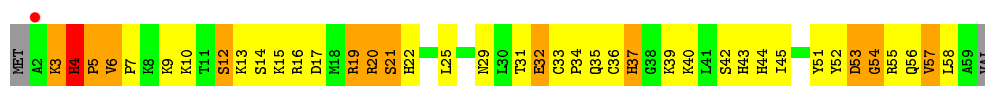
• Molecule 24: 50S ribosomal protein L29



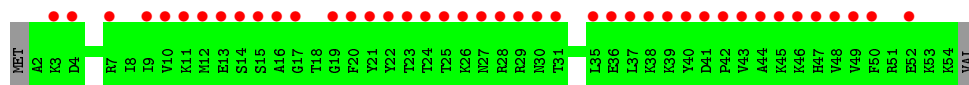
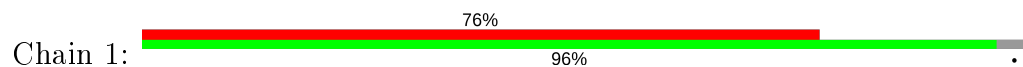
• Molecule 25: 50S ribosomal protein L30



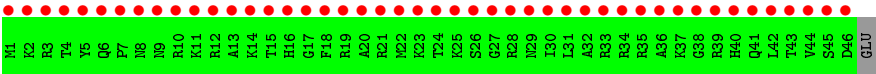
• Molecule 26: 50S ribosomal protein L32



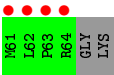
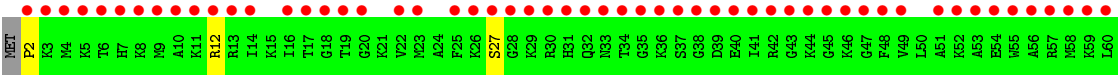
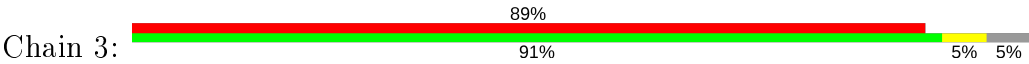
• Molecule 27: 50S ribosomal protein L33



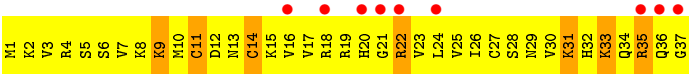
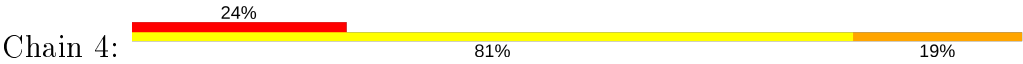
• Molecule 28: 50S ribosomal protein L34



• Molecule 29: 50S ribosomal protein L35



• Molecule 30: 50S ribosomal protein L36



## 4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	169.90 Å   408.90 Å   694.50 Å 90.00°   90.00°   90.00°	Depositor
Resolution (Å)	29.90 – 2.91 29.92 – 2.91	Depositor EDS
% Data completeness (in resolution range)	94.1 (29.90-2.91) 94.1 (29.92-2.91)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.56 (at 2.90 Å)	Xtriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.277   ,   0.311 0.265   ,   (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	52.9	Xtriage
Anisotropy	0.101	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.17 , 45.7	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.43$ , $\langle L^2 \rangle = 0.26$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.87	EDS
Total number of atoms	83819	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	43.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.87% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 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	X	0.90	156/64561 (0.2%)	1.15	809/100708 (0.8%)
2	Y	0.50	0/2904	0.73	0/4525
3	A	0.50	0/1862	0.82	0/2510
4	B	0.70	0/1567	0.99	6/2105 (0.3%)
5	C	0.60	0/1529	0.87	0/2070
6	D	0.47	0/1419	0.70	0/1903
7	E	0.46	0/1308	0.76	0/1771
8	F	0.65	0/508	1.11	2/683 (0.3%)
9	G	0.59	0/1138	0.92	2/1539 (0.1%)
10	H	0.72	0/1007	0.93	1/1352 (0.1%)
11	I	0.60	0/1081	0.89	0/1448
12	J	0.59	0/1113	0.86	1/1486 (0.1%)
13	K	0.83	0/886	1.04	1/1188 (0.1%)
14	L	0.48	0/785	0.82	1/1048 (0.1%)
15	M	0.72	0/884	1.15	6/1186 (0.5%)
16	N	0.54	0/994	0.80	0/1323
17	O	0.54	0/750	0.83	0/1000
18	P	0.73	0/1027	0.90	0/1373
19	Q	0.58	0/737	0.88	3/988 (0.3%)
20	R	0.48	0/835	0.84	0/1121
21	S	0.48	0/1370	0.71	0/1862
22	T	0.52	0/633	0.77	0/838
23	U	0.51	0/556	0.87	0/741
24	V	0.44	0/537	0.67	0/714
25	W	0.51	0/426	0.83	0/568
26	Z	0.68	0/469	0.95	1/629 (0.2%)
30	4	0.45	0/298	0.65	0/390
All	All	0.82	156/91184 (0.2%)	1.08	833/137069 (0.6%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected

by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	X	0	225
2	Y	0	4
9	G	0	1
16	N	0	1
19	Q	0	1
All	All	0	232

All (156) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	1123	G	C3'-O3'	14.43	1.62	1.42
1	X	1123	G	C4'-C3'	13.55	1.68	1.53
1	X	2322	U	C3'-O3'	12.22	1.59	1.42
1	X	1187	A	C2'-C1'	11.44	1.66	1.53
1	X	100	G	C3'-O3'	10.61	1.57	1.42
1	X	1187	A	C3'-C2'	10.05	1.64	1.52
1	X	417	C	C3'-O3'	9.87	1.55	1.42
1	X	2189	A	C2'-C1'	9.71	1.64	1.53
1	X	100	G	C2'-C1'	9.68	1.64	1.53
1	X	1187	A	C3'-O3'	9.54	1.55	1.42
1	X	1856	U	C4'-C3'	-9.30	1.43	1.53
1	X	82	G	C2'-C1'	9.15	1.63	1.53
1	X	2297	G	C3'-O3'	8.98	1.54	1.42
1	X	2190	A	P-O5'	8.86	1.68	1.59
1	X	667	U	C3'-O3'	-8.83	1.29	1.42
1	X	1056	U	C4'-C3'	8.79	1.62	1.53
1	X	890	U	C3'-O3'	8.71	1.54	1.42
1	X	2189	A	O3'-P	8.65	1.71	1.61
1	X	1856	U	O3'-P	-8.64	1.50	1.61
1	X	1278	A	C8-N7	-8.62	1.25	1.31
1	X	1056	U	P-O5'	8.52	1.68	1.59
1	X	2297	G	C2'-C1'	8.49	1.62	1.53
1	X	89	A	C3'-O3'	8.47	1.54	1.42
1	X	1278	A	C3'-O3'	8.44	1.53	1.42
1	X	1123	G	O3'-P	8.32	1.71	1.61
1	X	415	A	C2'-C1'	8.17	1.62	1.53
1	X	1855	G	O3'-P	-8.11	1.51	1.61
1	X	2298	U	C2'-C1'	8.10	1.62	1.53
1	X	666	U	C3'-O3'	8.06	1.53	1.42
1	X	2322	U	C4'-C3'	7.94	1.61	1.53
1	X	1036	G	C3'-O3'	7.89	1.53	1.42

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	2189	A	C3'-O3'	7.82	1.53	1.42
1	X	667	U	O3'-P	-7.79	1.51	1.61
1	X	2402	U	O3'-P	-7.71	1.51	1.61
1	X	1124	U	C4'-C3'	-7.71	1.44	1.53
1	X	725	C	C3'-O3'	-7.64	1.31	1.42
1	X	100	G	C3'-C2'	7.60	1.61	1.52
1	X	2322	U	O3'-P	7.56	1.70	1.61
1	X	1860	A	O3'-P	-7.56	1.52	1.61
1	X	1070	G	O3'-P	-7.44	1.52	1.61
1	X	2189	A	N9-C4	7.31	1.42	1.37
1	X	417	C	C3'-C2'	7.26	1.60	1.52
1	X	2190	A	C4'-C3'	7.24	1.61	1.53
1	X	1871	G	O3'-P	-7.21	1.52	1.61
1	X	415	A	C3'-O3'	7.17	1.52	1.42
1	X	101	A	C5'-C4'	7.17	1.59	1.51
1	X	2591	C	C3'-O3'	7.12	1.52	1.42
1	X	725	C	O3'-P	-7.09	1.52	1.61
1	X	1849	G	C2'-C1'	7.09	1.61	1.53
1	X	82	G	C3'-O3'	6.98	1.51	1.42
1	X	1187	A	N7-C5	-6.97	1.35	1.39
1	X	81	C	O3'-P	-6.96	1.52	1.61
1	X	1859	A	O3'-P	-6.91	1.52	1.61
1	X	2323	U	P-O5'	6.86	1.66	1.59
1	X	890	U	C2'-C1'	6.84	1.60	1.53
1	X	204	A	C3'-O3'	6.83	1.51	1.42
1	X	1056	U	C5'-C4'	6.82	1.59	1.51
1	X	82	G	C3'-C2'	6.82	1.60	1.52
1	X	796	A	C5-C6	-6.78	1.34	1.41
1	X	666	U	O3'-P	6.74	1.69	1.61
1	X	1858	C	C4'-C3'	-6.73	1.45	1.53
1	X	723	C	N1-C2	-6.71	1.33	1.40
1	X	417	C	C2'-C1'	6.69	1.60	1.53
1	X	1063	C	N1-C2	-6.65	1.33	1.40
1	X	2322	U	P-O5'	6.55	1.66	1.59
1	X	725	C	N1-C2	-6.55	1.33	1.40
1	X	84	G	O3'-P	-6.54	1.53	1.61
1	X	1849	G	C3'-O3'	6.53	1.51	1.42
1	X	2409	A	O3'-P	-6.48	1.53	1.61
1	X	2322	U	O5'-C5'	6.46	1.54	1.44
1	X	625	A	C4'-C3'	6.43	1.60	1.53
1	X	513	A	C2'-C1'	6.40	1.60	1.53
1	X	1849	G	C3'-C2'	6.40	1.59	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	891	A	P-O5'	-6.39	1.53	1.59
1	X	664	C	N1-C2	-6.37	1.33	1.40
1	X	1187	A	C1'-N9	6.35	1.58	1.48
1	X	1121	G	O3'-P	-6.33	1.53	1.61
1	X	2298	U	C3'-O3'	6.31	1.50	1.42
1	X	2403	C	N1-C2	-6.26	1.33	1.40
1	X	1858	C	N1-C2	-6.25	1.33	1.40
1	X	2297	G	C1'-N9	6.24	1.58	1.48
1	X	1664	G	C2-N2	-6.22	1.28	1.34
1	X	462	G	C6-O6	6.21	1.29	1.24
1	X	664	C	C2'-C1'	-6.16	1.46	1.53
1	X	2199	C	N1-C2	-6.10	1.34	1.40
1	X	1375	C	N1-C2	-6.08	1.34	1.40
1	X	514	G	C4'-C3'	-6.03	1.46	1.53
1	X	1031	C	N1-C2	-5.99	1.34	1.40
1	X	513	A	C3'-O3'	5.98	1.50	1.42
1	X	88	G	C4'-C3'	-5.97	1.46	1.52
1	X	557	U	C2'-C1'	5.97	1.59	1.53
1	X	1688	U	C4-O4	5.96	1.28	1.23
1	X	1052	C	N1-C2	-5.93	1.34	1.40
1	X	1190	C	N1-C2	-5.91	1.34	1.40
1	X	1123	G	O5'-C5'	5.90	1.53	1.44
1	X	1857	G	O3'-P	-5.90	1.54	1.61
1	X	1734	C	N1-C2	-5.87	1.34	1.40
1	X	1190	C	O3'-P	-5.87	1.54	1.61
1	X	1123	G	C2'-C1'	5.86	1.59	1.53
1	X	89	A	C2'-C1'	5.80	1.59	1.53
1	X	101	A	O5'-C5'	5.79	1.53	1.44
1	X	1853	C	N1-C2	-5.79	1.34	1.40
1	X	1119	U	P-O5'	5.78	1.65	1.59
1	X	556	A	N7-C5	-5.75	1.35	1.39
1	X	1018	C	C4'-C3'	-5.74	1.46	1.52
1	X	515	A	O3'-P	-5.74	1.54	1.61
1	X	2322	U	C2'-C1'	5.72	1.59	1.53
1	X	724	C	N1-C2	-5.72	1.34	1.40
1	X	1847	G	O3'-P	-5.72	1.54	1.61
1	X	100	G	P-O5'	5.71	1.65	1.59
1	X	134	G	C3'-O3'	5.68	1.50	1.42
1	X	1869	A	C5'-C4'	-5.68	1.44	1.51
1	X	1280	U	O3'-P	-5.60	1.54	1.61
1	X	666	U	C2'-C1'	5.59	1.59	1.53
1	X	1862	C	C2'-C1'	-5.54	1.47	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	728	G	C2'-C1'	5.45	1.59	1.53
1	X	728	G	P-O5'	5.43	1.65	1.59
1	X	2195	C	N1-C2	-5.43	1.34	1.40
1	X	2190	A	O5'-C5'	5.43	1.53	1.44
1	X	557	U	C1'-N1	5.42	1.56	1.48
1	X	1120	C	N1-C2	-5.42	1.34	1.40
1	X	552	C	N1-C2	-5.39	1.34	1.40
1	X	2190	A	C5'-C4'	5.38	1.57	1.51
1	X	1680	U	N1-C2	-5.36	1.33	1.38
1	X	137	A	O3'-P	-5.36	1.54	1.61
1	X	1860	A	C4'-C3'	-5.34	1.47	1.52
1	X	1288	A	C5-C6	-5.33	1.36	1.41
1	X	1124	U	O3'-P	-5.32	1.54	1.61
1	X	725	C	C2'-C1'	-5.29	1.47	1.53
1	X	1118	G	C2'-C1'	-5.29	1.47	1.53
1	X	175	C	N1-C2	-5.29	1.34	1.40
1	X	1859	A	C3'-C2'	-5.29	1.47	1.52
1	X	586	G	C5-C6	-5.28	1.37	1.42
1	X	204	A	O3'-P	5.27	1.67	1.61
1	X	890	U	P-O5'	5.27	1.65	1.59
1	X	497	C	N1-C2	-5.27	1.34	1.40
1	X	2592	U	C4-C5	5.26	1.48	1.43
1	X	82	G	O3'-P	5.25	1.67	1.61
1	X	1865	C	O3'-P	-5.24	1.54	1.61
1	X	1750	A	C5-C6	-5.21	1.36	1.41
1	X	557	U	C3'-O3'	5.18	1.49	1.42
1	X	664	C	C3'-C2'	-5.17	1.47	1.52
1	X	2553	G	C5-C6	-5.16	1.37	1.42
1	X	133	C	N1-C2	-5.13	1.35	1.40
1	X	730	C	N1-C2	-5.12	1.35	1.40
1	X	176	A	C4'-C3'	-5.07	1.47	1.52
1	X	1868	A	O3'-P	-5.07	1.55	1.61
1	X	171	G	C3'-O3'	5.06	1.49	1.42
1	X	723	C	C3'-O3'	5.05	1.49	1.42
1	X	1851	A	C3'-O3'	5.04	1.49	1.42
1	X	1869	A	P-O5'	-5.04	1.54	1.59
1	X	1373	G	C3'-C2'	5.02	1.58	1.52
1	X	2406	C	N1-C2	-5.01	1.35	1.40
1	X	2297	G	N9-C4	5.01	1.42	1.38
1	X	2604	G	C5-C6	-5.00	1.37	1.42
1	X	2197	U	C4'-C3'	-5.00	1.47	1.52

All (833) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1055	A	N9-C1'-C2'	-29.46	75.70	114.00
1	X	513	A	N9-C1'-C2'	24.54	145.90	114.00
1	X	2297	G	N9-C1'-C2'	21.75	142.27	114.00
1	X	557	U	N1-C1'-C2'	19.63	139.52	114.00
1	X	2298	U	N1-C1'-C2'	19.50	139.35	114.00
1	X	204	A	N9-C1'-C2'	19.36	139.17	114.00
1	X	1187	A	C8-N9-C4	-19.12	98.15	105.80
1	X	2297	G	C8-N9-C4	-18.92	98.83	106.40
1	X	82	G	N9-C1'-C2'	18.51	138.06	114.00
15	M	28	ARG	C-N-CD	-17.97	81.06	120.60
1	X	417	C	N1-C1'-C2'	17.64	136.93	114.00
1	X	2401	A	N9-C1'-C2'	17.43	136.66	114.00
1	X	2592	U	O4'-C1'-N1	17.30	122.04	108.20
1	X	176	A	N9-C1'-C2'	16.94	136.03	114.00
1	X	2418	A	N9-C1'-C2'	16.78	135.81	114.00
1	X	890	U	P-O3'-C3'	16.62	139.65	119.70
1	X	1123	G	P-O3'-C3'	16.43	139.42	119.70
1	X	83	A	N9-C1'-C2'	16.23	135.10	114.00
1	X	1856	U	P-O3'-C3'	-15.68	100.89	119.70
1	X	2189	A	P-O3'-C3'	15.48	138.28	119.70
1	X	2322	U	P-O3'-C3'	15.29	138.05	119.70
1	X	1854	G	P-O3'-C3'	-15.22	101.44	119.70
1	X	664	C	C6-N1-C2	15.10	126.34	120.30
1	X	1861	G	P-O3'-C3'	-15.03	101.66	119.70
1	X	1278	A	N9-C1'-C2'	14.75	133.18	114.00
1	X	1187	A	N9-C4-C5	14.32	111.53	105.80
1	X	100	G	O3'-P-O5'	14.19	130.97	104.00
1	X	1056	U	O4'-C4'-C3'	-14.04	89.96	104.00
1	X	558	G	C3'-C2'-C1'	-13.91	90.37	101.50
1	X	2195	C	N1-C1'-C2'	-13.67	96.23	114.00
1	X	626	A	P-O3'-C3'	13.55	135.96	119.70
1	X	1187	A	N9-C1'-C2'	13.44	131.48	114.00
1	X	1872	A	P-O3'-C3'	-13.33	103.70	119.70
1	X	514	G	N9-C1'-C2'	13.30	131.29	114.00
1	X	173	A	N9-C1'-C2'	12.98	130.88	114.00
1	X	2402	U	O4'-C1'-N1	-12.94	97.85	108.20
1	X	667	U	C3'-C2'-C1'	-12.91	91.17	101.50
1	X	417	C	P-O3'-C3'	12.81	135.07	119.70
1	X	204	A	P-O3'-C3'	12.69	134.93	119.70
1	X	556	A	N9-C1'-C2'	12.68	130.48	114.00
1	X	2324	G	O4'-C1'-N9	-12.60	98.12	108.20
1	X	2297	G	C3'-C2'-C1'	12.57	111.55	101.50
1	X	1869	A	P-O5'-C5'	-12.55	100.82	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	89	A	P-O3'-C3'	12.51	134.72	119.70
1	X	417	C	OP2-P-O3'	12.48	132.65	105.20
1	X	82	G	C3'-C2'-C1'	12.42	111.44	101.50
1	X	1278	A	P-O3'-C3'	12.41	134.60	119.70
1	X	731	A	P-O3'-C3'	12.40	134.58	119.70
1	X	1857	G	P-O3'-C3'	-12.39	104.83	119.70
1	X	2324	G	N9-C1'-C2'	12.27	129.94	114.00
1	X	890	U	N1-C1'-C2'	12.21	129.87	114.00
1	X	2197	U	C3'-C2'-C1'	-12.20	91.74	101.50
1	X	100	G	P-O3'-C3'	-12.01	105.29	119.70
1	X	199	A	C4'-C3'-C2'	11.98	114.58	102.60
1	X	415	A	P-O3'-C3'	11.89	133.97	119.70
1	X	1060	C	C6-N1-C2	11.85	125.04	120.30
1	X	2591	C	N1-C1'-C2'	11.71	129.23	114.00
1	X	82	G	C8-N9-C4	-11.61	101.76	106.40
1	X	557	U	C6-N1-C2	-11.61	114.03	121.00
1	X	1052	C	C6-N1-C2	11.50	124.90	120.30
1	X	1859	A	P-O3'-C3'	-11.34	106.09	119.70
1	X	99	U	P-O3'-C3'	11.25	133.20	119.70
1	X	1288	A	N9-C1'-C2'	11.10	128.43	114.00
1	X	1056	U	O4'-C1'-N1	11.09	117.07	108.20
1	X	1036	G	P-O3'-C3'	11.05	132.96	119.70
1	X	1632	A	N9-C1'-C2'	10.98	128.27	114.00
1	X	417	C	C3'-C2'-C1'	10.98	110.28	101.50
1	X	1142	G	N9-C1'-C2'	10.96	128.25	114.00
1	X	554	U	C6-N1-C2	10.90	127.54	121.00
1	X	556	A	P-O3'-C3'	10.78	132.64	119.70
1	X	666	U	P-O3'-C3'	10.78	132.64	119.70
1	X	2854	G	N9-C1'-C2'	10.77	128.00	114.00
1	X	1853	C	P-O3'-C3'	-10.76	106.79	119.70
1	X	2322	U	N1-C1'-C2'	10.76	127.99	114.00
1	X	132	U	P-O3'-C3'	10.73	132.57	119.70
1	X	2297	G	N7-C8-N9	10.70	118.45	113.10
1	X	1353	A	N9-C1'-C2'	10.66	127.86	114.00
1	X	2592	U	C2-N1-C1'	-10.66	104.91	117.70
1	X	667	U	P-O3'-C3'	10.63	132.45	119.70
1	X	2323	U	P-O3'-C3'	10.61	132.43	119.70
1	X	557	U	C3'-C2'-C1'	10.54	109.93	101.50
1	X	2593	A	N9-C1'-C2'	10.53	127.69	114.00
1	X	2402	U	C4'-C3'-O3'	-10.46	87.43	109.40
1	X	2402	U	C4'-C3'-C2'	10.43	113.03	102.60
1	X	1055	A	P-O3'-C3'	10.17	131.91	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1186	G	N9-C1'-C2'	-10.02	100.97	114.00
1	X	134	G	P-O3'-C3'	9.97	131.66	119.70
1	X	89	A	N9-C1'-C2'	9.94	126.92	114.00
1	X	1119	U	O4'-C1'-N1	-9.89	100.28	108.20
1	X	173	A	P-O3'-C3'	9.86	131.53	119.70
1	X	2592	U	C1'-O4'-C4'	-9.86	102.01	109.90
1	X	88	G	P-O3'-C3'	-9.86	107.87	119.70
1	X	1853	C	C6-N1-C2	9.81	124.23	120.30
1	X	731	A	N9-C1'-C2'	9.81	126.75	114.00
1	X	199	A	O4'-C4'-C3'	-9.79	94.21	104.00
1	X	177	U	O4'-C1'-N1	-9.75	100.40	108.20
1	X	667	U	O4'-C4'-C3'	-9.68	94.32	104.00
1	X	172	A	O4'-C1'-N9	9.60	115.88	108.20
1	X	683	A	N9-C1'-C2'	9.57	126.44	114.00
1	X	417	C	OP1-P-O3'	-9.53	84.25	105.20
1	X	1285	A	N9-C1'-C2'	9.47	126.31	114.00
1	X	667	U	O3'-P-O5'	9.32	121.70	104.00
1	X	2297	G	P-O3'-C3'	9.30	130.86	119.70
1	X	82	G	N9-C4-C5	9.27	109.11	105.40
1	X	82	G	P-O3'-C3'	9.22	130.76	119.70
1	X	199	A	C2'-C3'-O3'	-9.20	89.27	109.50
1	X	580	A	N9-C1'-C2'	9.18	125.94	114.00
4	B	85	ALA	C-N-CD	-9.18	100.42	120.60
1	X	2428	U	N1-C1'-C2'	9.17	125.92	114.00
1	X	2298	U	P-O3'-C3'	9.15	130.68	119.70
1	X	2190	A	N9-C1'-C2'	-9.12	101.97	112.00
1	X	136	A	P-O3'-C3'	-9.11	108.77	119.70
1	X	1265	G	N9-C1'-C2'	9.08	125.81	114.00
1	X	890	U	C2'-C3'-O3'	8.87	129.01	109.50
1	X	2409	A	C2'-C3'-O3'	8.87	129.01	109.50
1	X	89	A	C3'-C2'-C1'	8.86	108.58	101.50
1	X	83	A	C3'-C2'-C1'	8.83	108.56	101.50
1	X	1921	A	N9-C1'-C2'	8.73	125.35	114.00
1	X	1852	G	P-O3'-C3'	-8.72	109.24	119.70
1	X	1167	A	N9-C1'-C2'	8.70	125.31	114.00
1	X	1266	G	N9-C1'-C2'	8.69	125.30	114.00
1	X	558	G	C8-N9-C4	-8.68	102.93	106.40
1	X	204	A	O4'-C1'-N9	-8.68	101.26	108.20
1	X	2297	G	N9-C4-C5	8.66	108.86	105.40
1	X	513	A	O4'-C1'-N9	-8.65	101.28	108.20
1	X	1187	A	C3'-C2'-C1'	8.64	108.41	101.50
1	X	87	G	P-O3'-C3'	-8.61	109.37	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1862	C	P-O3'-C3'	-8.57	109.42	119.70
1	X	1123	G	C4'-C3'-C2'	-8.56	94.04	102.60
1	X	1121	G	C4'-C3'-C2'	8.55	111.15	102.60
1	X	98	U	O4'-C1'-N1	-8.47	101.42	108.20
1	X	198	A	P-O3'-C3'	8.46	129.86	119.70
1	X	729	A	P-O3'-C3'	-8.46	109.55	119.70
1	X	82	G	O4'-C4'-C3'	8.38	112.81	106.10
1	X	2034	A	N9-C1'-C2'	8.37	124.88	114.00
1	X	204	A	C3'-C2'-C1'	8.35	108.18	101.50
1	X	557	U	C5-C6-N1	8.34	126.87	122.70
1	X	199	A	C4'-C3'-O3'	-8.30	91.98	109.40
1	X	1187	A	C4'-C3'-C2'	-8.26	94.34	102.60
1	X	2418	A	P-O3'-C3'	8.24	129.59	119.70
1	X	2594	U	O5'-P-OP2	-8.23	98.29	105.70
1	X	513	A	C3'-C2'-C1'	8.20	108.06	101.50
8	F	118	GLY	N-CA-C	-8.18	92.65	113.10
1	X	2591	C	P-O3'-C3'	8.18	129.51	119.70
1	X	1120	C	N1-C1'-C2'	8.14	124.58	114.00
1	X	1631	C	N1-C1'-C2'	8.12	124.56	114.00
1	X	728	G	N9-C1'-C2'	8.11	124.55	114.00
1	X	1975	G	C2'-C3'-O3'	8.09	127.30	109.50
1	X	554	U	N1-C2-N3	-8.08	110.05	114.90
1	X	968	C	N1-C1'-C2'	8.01	124.41	114.00
1	X	1734	C	P-O3'-C3'	-8.00	110.10	119.70
1	X	1862	C	O4'-C4'-C3'	-7.96	96.04	104.00
1	X	2592	U	C5-C6-N1	-7.93	118.73	122.70
1	X	2298	U	C3'-C2'-C1'	7.90	107.82	101.50
1	X	664	C	O4'-C4'-C3'	-7.87	96.13	104.00
1	X	667	U	C5'-C4'-O4'	7.87	118.55	109.10
1	X	1849	G	C4'-C3'-C2'	-7.85	94.75	102.60
1	X	1139	A	N9-C1'-C2'	7.85	124.20	114.00
1	X	1264	C	N1-C1'-C2'	7.85	124.20	114.00
1	X	667	U	C2'-C3'-O3'	7.84	126.75	109.50
1	X	490	A	N9-C1'-C2'	7.83	124.19	114.00
1	X	732	G	O4'-C1'-N9	-7.79	101.97	108.20
1	X	1055	A	C3'-C2'-C1'	-7.77	95.28	101.50
1	X	555	U	C3'-C2'-C1'	-7.76	95.29	101.50
1	X	137	A	O4'-C1'-N9	-7.76	101.99	108.20
1	X	2322	U	C5'-C4'-O4'	-7.75	99.80	109.10
1	X	984	A	N9-C1'-C2'	7.73	124.05	114.00
1	X	555	U	O4'-C4'-C3'	-7.72	96.28	104.00
1	X	2313	G	N9-C1'-C2'	7.72	124.04	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1867	A	O4'-C1'-N9	-7.71	102.03	108.20
1	X	596	C	N1-C1'-C2'	7.70	124.01	114.00
1	X	1869	A	OP1-P-OP2	-7.67	108.09	119.60
1	X	1342	U	N1-C1'-C2'	7.67	123.97	114.00
1	X	1187	A	P-O3'-C3'	7.64	128.87	119.70
1	X	2323	U	C5'-C4'-O4'	-7.62	99.96	109.10
1	X	1862	C	C4'-C3'-C2'	7.61	110.21	102.60
1	X	1337	G	N9-C1'-C2'	7.58	123.86	114.00
1	X	2297	G	C1'-O4'-C4'	7.58	115.96	109.90
1	X	1664	G	N9-C1'-C2'	7.56	123.83	114.00
1	X	1582	A	N9-C1'-C2'	7.54	123.80	114.00
1	X	554	U	N1-C2-O2	7.53	128.07	122.80
1	X	100	G	C4'-C3'-C2'	-7.53	95.07	102.60
1	X	198	A	O4'-C1'-N9	7.48	114.19	108.20
1	X	2189	A	C2'-C3'-O3'	7.48	125.96	109.50
1	X	171	G	P-O3'-C3'	7.44	128.63	119.70
1	X	1373	G	C4'-C3'-C2'	-7.43	95.17	102.60
1	X	2824	C	N1-C1'-C2'	7.43	123.66	114.00
1	X	2187	A	P-O3'-C3'	7.41	128.59	119.70
1	X	1922	U	O4'-C1'-N1	-7.40	102.28	108.20
15	M	28	ARG	C-N-CA	7.39	153.03	122.00
1	X	2195	C	C6-N1-C2	7.39	123.25	120.30
1	X	400	U	N1-C1'-C2'	7.39	123.60	114.00
1	X	203	G	O4'-C1'-N9	-7.37	102.30	108.20
1	X	1855	G	OP1-P-OP2	-7.36	108.55	119.60
1	X	818	G	N9-C1'-C2'	7.36	123.56	114.00
1	X	667	U	N1-C1'-C2'	-7.34	103.92	112.00
1	X	2795	A	N9-C1'-C2'	7.33	123.53	114.00
1	X	2196	U	P-O3'-C3'	7.32	128.48	119.70
1	X	2198	U	P-O5'-C5'	-7.32	109.19	120.90
1	X	1855	G	P-O3'-C3'	-7.31	110.92	119.70
1	X	459	A	N9-C1'-C2'	7.31	123.50	114.00
1	X	1847	G	P-O3'-C3'	7.30	128.46	119.70
1	X	1185	C	C6-N1-C2	7.29	123.22	120.30
1	X	1854	G	OP1-P-OP2	-7.29	108.67	119.60
1	X	98	U	OP1-P-OP2	-7.27	108.69	119.60
1	X	2297	G	O4'-C1'-C2'	-7.27	98.53	105.80
1	X	724	C	P-O3'-C3'	7.27	128.42	119.70
1	X	626	A	OP1-P-OP2	-7.26	108.71	119.60
1	X	101	A	OP1-P-OP2	-7.24	108.73	119.60
1	X	2323	U	OP1-P-OP2	-7.23	108.75	119.60
1	X	1120	C	C6-N1-C2	7.23	123.19	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	728	G	C8-N9-C4	-7.21	103.52	106.40
1	X	199	A	N9-C1'-C2'	7.20	123.36	114.00
1	X	1858	C	C6-N1-C2	7.20	123.18	120.30
1	X	415	A	N9-C1'-C2'	7.20	123.36	114.00
1	X	2593	A	P-O3'-C3'	7.20	128.33	119.70
1	X	1374	G	OP1-P-OP2	-7.18	108.83	119.60
1	X	133	C	P-O5'-C5'	-7.18	109.42	120.90
1	X	1865	C	P-O3'-C3'	-7.16	111.10	119.70
1	X	1119	U	OP1-P-OP2	-7.16	108.86	119.60
1	X	1031	C	OP1-P-OP2	-7.16	108.86	119.60
1	X	1061	A	OP1-P-OP2	-7.15	108.87	119.60
1	X	664	C	C1'-O4'-C4'	7.15	115.62	109.90
1	X	1771	A	N9-C1'-C2'	7.15	123.30	114.00
1	X	1734	C	OP1-P-OP2	-7.14	108.89	119.60
1	X	1153	A	C2'-C3'-O3'	7.13	125.19	109.50
1	X	623	G	OP1-P-OP2	-7.13	108.91	119.60
1	X	1117	G	OP1-P-OP2	-7.12	108.93	119.60
1	X	555	U	OP1-P-OP2	-7.11	108.94	119.60
1	X	1126	A	OP1-P-OP2	-7.09	108.97	119.60
1	X	983	G	C2'-C3'-O3'	7.08	125.08	109.50
1	X	2188	A	P-O3'-C3'	-7.08	111.20	119.70
1	X	1850	G	C8-N9-C4	-7.07	103.57	106.40
1	X	1121	G	O4'-C1'-N9	-7.07	102.55	108.20
1	X	1357	U	N1-C1'-C2'	7.07	123.19	114.00
1	X	205	A	OP1-P-OP2	-7.05	109.03	119.60
8	F	83	GLY	C-N-CA	-7.05	104.08	121.70
1	X	2197	U	OP1-P-OP2	-7.04	109.04	119.60
1	X	99	U	C2'-C3'-O3'	7.04	124.98	109.50
1	X	628	A	OP1-P-OP2	-7.04	109.05	119.60
1	X	418	C	C6-N1-C2	7.03	123.11	120.30
1	X	723	C	O4'-C1'-N1	-7.03	102.58	108.20
1	X	89	A	OP1-P-OP2	-7.02	109.07	119.60
1	X	1581	C	N1-C1'-C2'	7.02	123.13	114.00
1	X	2402	U	C6-N1-C2	7.02	125.21	121.00
1	X	667	U	OP1-P-OP2	-7.01	109.08	119.60
1	X	801	A	N9-C1'-C2'	7.01	123.11	114.00
1	X	1142	G	O4'-C1'-N9	7.00	113.80	108.20
1	X	2299	A	O4'-C1'-N9	7.00	113.80	108.20
1	X	419	G	OP1-P-OP2	-7.00	109.11	119.60
1	X	1732	U	OP1-P-OP2	-6.99	109.11	119.60
1	X	1864	G	P-O3'-C3'	-6.99	111.31	119.70
1	X	516	G	N9-C1'-C2'	6.99	123.08	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2298	U	C2'-C3'-O3'	6.97	124.86	113.70
1	X	556	A	C3'-C2'-C1'	6.97	107.08	101.50
1	X	2299	A	OP1-P-OP2	-6.97	109.14	119.60
1	X	515	A	OP1-P-OP2	-6.96	109.16	119.60
1	X	805	G	N9-C1'-C2'	6.96	123.05	114.00
1	X	1856	U	C4'-C3'-C2'	6.96	109.56	102.60
1	X	2325	A	OP1-P-OP2	-6.95	109.17	119.60
1	X	1864	G	OP1-P-OP2	-6.95	109.18	119.60
1	X	134	G	OP1-P-OP2	-6.93	109.20	119.60
1	X	2419	C	OP1-P-OP2	-6.93	109.20	119.60
1	X	1279	G	P-O3'-C3'	6.93	128.01	119.70
1	X	417	C	O4'-C4'-C3'	6.92	111.64	106.10
1	X	1921	A	OP1-P-OP2	-6.92	109.22	119.60
1	X	203	G	OP1-P-OP2	-6.92	109.22	119.60
1	X	1278	A	C1'-O4'-C4'	-6.92	104.36	109.90
1	X	2560	G	N9-C1'-C2'	6.91	122.99	114.00
1	X	417	C	O4'-C1'-C2'	-6.91	98.89	105.80
1	X	1281	A	OP1-P-OP2	-6.90	109.25	119.60
1	X	1118	G	O4'-C1'-N9	-6.90	102.68	108.20
1	X	135	U	OP1-P-OP2	-6.89	109.26	119.60
1	X	2189	A	C4'-C3'-C2'	-6.89	95.71	102.60
1	X	2408	G	O4'-C1'-N9	-6.89	102.69	108.20
1	X	99	U	OP1-P-OP2	-6.88	109.28	119.60
1	X	1060	C	OP1-P-OP2	-6.87	109.29	119.60
1	X	1066	G	OP1-P-OP2	-6.86	109.31	119.60
1	X	1189	G	OP1-P-OP2	-6.86	109.32	119.60
1	X	729	A	N9-C4-C5	-6.84	103.06	105.80
1	X	1122	A	OP1-P-OP2	-6.84	109.34	119.60
1	X	780	U	N1-C1'-C2'	-6.84	104.48	112.00
1	X	1583	A	N9-C1'-C2'	6.84	122.89	114.00
1	X	101	A	O5'-C5'-C4'	6.83	124.68	111.70
1	X	734	G	OP1-P-OP2	-6.83	109.36	119.60
1	X	1807	A	N9-C1'-C2'	6.83	122.88	114.00
1	X	82	G	OP1-P-OP2	-6.82	109.36	119.60
1	X	1184	G	P-O3'-C3'	6.82	127.88	119.70
1	X	118	U	N1-C1'-C2'	6.81	122.85	114.00
1	X	1867	A	P-O3'-C3'	6.81	127.87	119.70
1	X	91	A	OP1-P-OP2	-6.80	109.40	119.60
1	X	1864	G	O4'-C1'-N9	-6.80	102.76	108.20
1	X	2323	U	C4'-C3'-O3'	6.77	126.55	113.00
1	X	1314	A	N9-C1'-C2'	6.77	122.80	114.00
1	X	2482	A	O4'-C1'-N9	6.76	113.61	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	625	A	OP1-P-OP2	-6.76	109.46	119.60
1	X	1856	U	OP1-P-OP2	-6.75	109.47	119.60
1	X	172	A	OP1-P-OP2	-6.75	109.48	119.60
1	X	1030	U	OP1-P-OP2	-6.75	109.48	119.60
1	X	558	G	O4'-C1'-N9	6.75	113.60	108.20
1	X	2326	C	OP1-P-OP2	-6.75	109.48	119.60
1	X	557	U	N3-C4-O4	6.73	124.11	119.40
1	X	1020	A	OP1-P-OP2	-6.72	109.52	119.60
1	X	1118	G	C4'-C3'-C2'	6.72	109.32	102.60
1	X	1052	C	N1-C2-O2	6.72	122.93	118.90
1	X	2496	C	N1-C1'-C2'	6.72	122.73	114.00
1	X	1186	G	C8-N9-C4	-6.71	103.71	106.40
1	X	1187	A	C2'-C3'-O3'	6.71	124.44	113.70
1	X	1860	A	OP1-P-OP2	-6.71	109.53	119.60
1	X	890	U	O4'-C1'-N1	-6.71	102.83	108.20
1	X	728	G	OP1-P-OP2	-6.71	109.53	119.60
1	X	804	C	N1-C1'-C2'	6.71	122.72	114.00
1	X	418	C	N1-C1'-C2'	6.70	122.71	114.00
1	X	1863	U	OP1-P-OP2	-6.70	109.54	119.60
1	X	2196	U	OP1-P-OP2	-6.70	109.55	119.60
1	X	2408	G	OP1-P-OP2	-6.70	109.56	119.60
1	X	173	A	OP1-P-OP2	-6.69	109.57	119.60
1	X	2195	C	O4'-C1'-C2'	6.68	113.61	107.60
1	X	514	G	OP1-P-OP2	-6.68	109.58	119.60
1	X	554	U	OP1-P-OP2	-6.68	109.58	119.60
1	X	1848	U	OP1-P-OP2	-6.67	109.59	119.60
1	X	1866	G	OP1-P-OP2	-6.67	109.59	119.60
1	X	2403	C	OP1-P-OP2	-6.67	109.59	119.60
1	X	664	C	OP1-P-OP2	-6.67	109.59	119.60
1	X	891	A	P-O5'-C5'	-6.67	110.22	120.90
1	X	2075	U	N1-C1'-C2'	6.67	122.67	114.00
1	X	731	A	OP1-P-OP2	-6.67	109.60	119.60
1	X	665	A	OP1-P-OP2	-6.66	109.60	119.60
1	X	2617	G	N9-C1'-C2'	6.66	122.66	114.00
1	X	1716	G	N9-C1'-C2'	6.66	122.66	114.00
1	X	1050	G	OP1-P-OP2	-6.66	109.61	119.60
1	X	2322	U	OP1-P-OP2	-6.65	109.62	119.60
1	X	2297	G	OP1-P-OP2	-6.65	109.62	119.60
1	X	2187	A	OP1-P-OP2	-6.65	109.63	119.60
1	X	552	C	OP1-P-OP2	-6.64	109.64	119.60
1	X	1852	G	O4'-C4'-C3'	-6.64	97.36	104.00
1	X	557	U	OP1-P-OP2	-6.64	109.64	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1723	U	C2'-C3'-O3'	6.64	124.32	113.70
1	X	2608	A	N9-C1'-C2'	6.63	122.62	114.00
1	X	1123	G	C5'-C4'-C3'	6.63	126.61	116.00
1	X	133	C	C6-N1-C2	6.63	122.95	120.30
1	X	1062	G	OP1-P-OP2	-6.63	109.66	119.60
1	X	201	G	OP1-P-OP2	-6.62	109.66	119.60
1	X	627	A	OP1-P-OP2	-6.62	109.67	119.60
1	X	2482	A	N9-C1'-C2'	6.62	122.61	114.00
1	X	138	G	OP1-P-OP2	-6.62	109.67	119.60
1	X	1190	C	OP1-P-OP2	-6.61	109.69	119.60
1	X	622	U	OP1-P-OP2	-6.60	109.70	119.60
1	X	2229	G	N9-C1'-C2'	6.60	122.58	114.00
1	X	515	A	C4'-C3'-C2'	6.60	109.20	102.60
1	X	174	A	OP1-P-OP2	-6.59	109.71	119.60
1	X	1186	G	C3'-C2'-C1'	-6.59	96.23	101.50
1	X	2591	C	OP1-P-OP2	-6.59	109.72	119.60
1	X	178	C	OP1-P-OP2	-6.59	109.72	119.60
1	X	2418	A	C3'-C2'-C1'	6.58	106.77	101.50
1	X	1049	C	C6-N1-C2	6.58	122.93	120.30
1	X	1186	G	O4'-C4'-C3'	-6.58	97.42	104.00
1	X	1045	G	OP1-P-OP2	-6.58	109.73	119.60
1	X	1737	G	OP1-P-OP2	-6.58	109.74	119.60
1	X	2191	A	OP1-P-OP2	-6.56	109.75	119.60
1	X	2196	U	C3'-C2'-C1'	6.56	106.75	101.50
1	X	2593	A	OP1-P-OP2	-6.56	109.75	119.60
1	X	1056	U	OP1-P-OP2	-6.56	109.76	119.60
1	X	2188	A	OP1-P-OP2	-6.56	109.76	119.60
1	X	666	U	C4'-C3'-C2'	-6.55	96.05	102.60
1	X	199	A	OP1-P-OP2	-6.55	109.78	119.60
1	X	541	C	OP2-P-O3'	6.54	119.60	105.20
1	X	1059	A	OP1-P-OP2	-6.54	109.79	119.60
1	X	2322	U	O4'-C1'-N1	-6.54	102.97	108.20
1	X	416	U	OP1-P-OP2	-6.53	109.81	119.60
1	X	1047	G	OP1-P-OP2	-6.53	109.81	119.60
1	X	171	G	N9-C1'-C2'	6.53	122.48	114.00
1	X	1118	G	O4'-C4'-C3'	-6.52	97.48	104.00
1	X	2322	U	C5'-C4'-C3'	6.52	126.43	116.00
1	X	204	A	OP1-P-OP2	-6.51	109.83	119.60
1	X	1280	U	OP1-P-OP2	-6.51	109.83	119.60
1	X	729	A	OP1-P-OP2	-6.51	109.83	119.60
1	X	199	A	C8-N9-C4	6.51	108.40	105.80
1	X	724	C	OP1-P-OP2	-6.51	109.84	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	B	147	PRO	N-CA-C	-6.51	95.19	112.10
1	X	624	A	OP1-P-OP2	-6.50	109.84	119.60
1	X	1868	A	OP1-P-OP2	-6.50	109.84	119.60
1	X	1124	U	OP1-P-OP2	-6.49	109.86	119.60
1	X	514	G	C5'-C4'-C3'	-6.49	105.62	116.00
1	X	2401	A	OP1-P-OP2	-6.49	109.87	119.60
1	X	2592	U	C6-N1-C1'	6.48	130.28	121.20
1	X	1064	C	OP1-P-OP2	-6.48	109.88	119.60
1	X	1185	C	OP1-P-OP2	-6.48	109.88	119.60
1	X	1561	A	C2'-C3'-O3'	6.48	124.07	113.70
1	X	1866	G	P-O3'-C3'	6.48	127.48	119.70
1	X	1947	G	N9-C1'-C2'	6.48	122.42	114.00
1	X	727	U	OP1-P-OP2	-6.47	109.89	119.60
1	X	1730	G	OP1-P-OP2	-6.47	109.90	119.60
1	X	1853	C	OP1-P-OP2	-6.47	109.90	119.60
1	X	1872	A	OP1-P-OP2	-6.47	109.90	119.60
1	X	664	C	P-O3'-C3'	6.46	127.46	119.70
1	X	1123	G	OP1-P-OP2	-6.46	109.91	119.60
1	X	2324	G	OP1-P-OP2	-6.46	109.91	119.60
1	X	2323	U	O5'-C5'-C4'	-6.45	99.44	111.70
1	X	1055	A	C4'-C3'-O3'	6.45	125.90	113.00
1	X	84	G	OP1-P-OP2	-6.45	109.93	119.60
1	X	218	A	N9-C1'-C2'	6.44	122.37	114.00
1	X	1250	A	N9-C1'-C2'	6.43	122.36	114.00
1	X	179	U	OP1-P-OP2	-6.43	109.95	119.60
1	X	516	G	OP1-P-OP2	-6.43	109.96	119.60
1	X	557	U	P-O3'-C3'	6.42	127.41	119.70
1	X	1278	A	N9-C4-C5	-6.42	103.23	105.80
1	X	1873	A	OP1-P-OP2	-6.42	109.97	119.60
9	G	119	LEU	CA-CB-CG	-6.41	100.55	115.30
1	X	514	G	O4'-C1'-N9	-6.41	103.08	108.20
1	X	732	G	OP1-P-OP2	-6.41	109.99	119.60
1	X	1185	C	N1-C1'-C2'	-6.41	104.95	112.00
1	X	1849	G	C8-N9-C4	-6.40	103.84	106.40
1	X	1279	G	OP1-P-OP2	-6.40	110.00	119.60
1	X	1467	U	O4'-C1'-N1	-6.40	103.08	108.20
1	X	1120	C	OP1-P-OP2	-6.40	110.00	119.60
1	X	1019	U	O4'-C1'-N1	-6.39	103.09	108.20
1	X	1123	G	C5'-C4'-O4'	-6.39	101.44	109.10
1	X	1051	U	OP1-P-OP2	-6.38	110.03	119.60
1	X	133	C	OP1-P-OP2	-6.38	110.03	119.60
1	X	1063	C	OP1-P-OP2	-6.38	110.03	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1874	G	OP1-P-OP2	-6.38	110.04	119.60
1	X	824	U	N1-C1'-C2'	6.37	122.28	114.00
1	X	1851	A	OP1-P-OP2	-6.37	110.04	119.60
1	X	1068	A	OP1-P-OP2	-6.37	110.05	119.60
1	X	1052	C	P-O5'-C5'	-6.36	110.72	120.90
1	X	1057	A	O4'-C1'-N9	6.36	113.29	108.20
1	X	1070	G	OP1-P-OP2	-6.36	110.06	119.60
1	X	1865	C	OP1-P-OP2	-6.36	110.07	119.60
1	X	73	A	N9-C1'-C2'	6.35	122.26	114.00
1	X	176	A	OP1-P-OP2	-6.35	110.07	119.60
1	X	621	U	OP1-P-OP2	-6.35	110.08	119.60
1	X	1052	C	OP1-P-OP2	-6.35	110.08	119.60
1	X	1772	C	N1-C1'-C2'	6.34	122.24	114.00
12	J	85	GLY	N-CA-C	-6.33	97.27	113.10
1	X	175	C	OP1-P-OP2	-6.33	110.11	119.60
1	X	1852	G	OP1-P-OP2	-6.33	110.11	119.60
1	X	1373	G	OP1-P-OP2	-6.32	110.12	119.60
1	X	1188	A	OP1-P-OP2	-6.32	110.13	119.60
1	X	1873	A	N9-C1'-C2'	-6.31	105.06	112.00
1	X	1664	G	O5'-P-OP1	-6.31	100.02	105.70
1	X	2190	A	OP1-P-OP2	-6.31	110.14	119.60
1	X	1859	A	OP1-P-OP2	-6.31	110.14	119.60
1	X	516	G	P-O3'-C3'	6.31	127.27	119.70
1	X	97	U	P-O5'-C5'	-6.30	110.81	120.90
1	X	1043	A	OP1-P-OP2	-6.30	110.15	119.60
1	X	725	C	OP1-P-OP2	-6.30	110.15	119.60
1	X	1862	C	OP1-P-OP2	-6.30	110.15	119.60
1	X	1475	U	N1-C1'-C2'	6.30	122.19	114.00
1	X	1850	G	OP1-P-OP2	-6.30	110.16	119.60
1	X	804	C	C4'-C3'-O3'	-6.29	96.18	109.40
1	X	1046	U	OP1-P-OP2	-6.29	110.16	119.60
1	X	1124	U	C3'-C2'-C1'	-6.29	96.47	101.50
1	X	198	A	OP1-P-OP2	-6.29	110.17	119.60
1	X	1187	A	N7-C8-N9	6.28	116.94	113.80
1	X	1923	U	OP1-P-OP2	-6.28	110.17	119.60
1	X	1861	G	OP1-P-OP2	-6.28	110.18	119.60
1	X	2402	U	C3'-C2'-C1'	-6.28	96.47	101.50
1	X	1979	C	N1-C1'-C2'	6.28	122.16	114.00
1	X	1372	A	OP1-P-OP2	-6.27	110.19	119.60
1	X	628	A	O4'-C1'-N9	-6.27	103.18	108.20
1	X	1057	A	N9-C1'-C2'	-6.27	105.10	112.00
1	X	1121	G	OP1-P-OP2	-6.27	110.19	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2326	C	O4'-C1'-N1	6.27	113.22	108.20
1	X	2404	A	OP1-P-OP2	-6.27	110.19	119.60
1	X	1049	C	OP1-P-OP2	-6.26	110.20	119.60
1	X	513	A	C8-N9-C4	-6.26	103.30	105.80
1	X	88	G	OP1-P-OP2	-6.26	110.21	119.60
1	X	1849	G	OP1-P-OP2	-6.26	110.21	119.60
15	M	29	PRO	CA-N-CD	-6.25	102.75	111.50
1	X	417	C	P-O5'-C5'	-6.25	110.90	120.90
1	X	2323	U	N1-C1'-C2'	-6.25	105.12	112.00
1	X	1865	C	O4'-C4'-C3'	-6.25	97.75	104.00
1	X	2195	C	OP1-P-OP2	-6.25	110.23	119.60
1	X	2192	U	OP1-P-OP2	-6.24	110.23	119.60
1	X	1867	A	OP1-P-OP2	-6.24	110.24	119.60
1	X	1032	A	OP1-P-OP2	-6.24	110.25	119.60
1	X	1963	G	N9-C1'-C2'	6.23	122.10	114.00
1	X	1775	A	C2'-C3'-O3'	6.23	123.67	113.70
1	X	1036	G	OP1-P-OP2	-6.23	110.26	119.60
1	X	1187	A	O4'-C1'-C2'	-6.23	99.57	105.80
1	X	1975	G	N9-C1'-C2'	6.21	122.08	114.00
1	X	171	G	OP1-P-OP2	-6.21	110.29	119.60
1	X	1118	G	OP1-P-OP2	-6.20	110.30	119.60
1	X	1125	G	OP1-P-OP2	-6.20	110.30	119.60
1	X	1056	U	N1-C2-N3	6.20	118.62	114.90
1	X	2409	A	OP1-P-OP2	-6.19	110.31	119.60
1	X	1184	G	OP1-P-OP2	-6.19	110.31	119.60
1	X	100	G	OP1-P-OP2	-6.19	110.31	119.60
1	X	1120	C	P-O3'-C3'	6.19	127.13	119.70
1	X	558	G	OP1-P-OP2	-6.19	110.32	119.60
1	X	1849	G	O4'-C4'-C3'	6.19	111.05	106.10
1	X	137	A	OP1-P-OP2	-6.18	110.33	119.60
1	X	1054	C	OP1-P-OP2	-6.18	110.32	119.60
1	X	1044	U	OP1-P-OP2	-6.18	110.33	119.60
1	X	890	U	OP1-P-OP2	-6.18	110.33	119.60
1	X	1070	G	P-O3'-C3'	6.18	127.11	119.70
1	X	2592	U	C6-N1-C2	6.17	124.70	121.00
1	X	97	U	OP1-P-OP2	-6.17	110.34	119.60
1	X	1375	C	OP1-P-OP2	-6.17	110.34	119.60
1	X	2406	C	OP1-P-OP2	-6.17	110.34	119.60
4	B	137	ARG	N-CA-C	-6.17	94.34	111.00
1	X	2592	U	OP1-P-OP2	-6.17	110.34	119.60
1	X	560	G	OP1-P-OP2	-6.17	110.35	119.60
1	X	955	G	N9-C1'-C2'	6.17	122.02	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1067	G	OP1-P-OP2	-6.17	110.35	119.60
1	X	2476	A	N9-C1'-C2'	6.16	122.01	114.00
1	X	559	C	OP1-P-OP2	-6.16	110.36	119.60
1	X	2201	G	OP1-P-OP2	-6.16	110.36	119.60
1	X	1037	U	OP1-P-OP2	-6.16	110.37	119.60
1	X	2190	A	C4'-C3'-O3'	6.16	125.31	113.00
1	X	1618	U	N1-C1'-C2'	6.15	122.00	114.00
1	X	83	A	OP1-P-OP2	-6.15	110.38	119.60
1	X	551	A	OP1-P-OP2	-6.14	110.38	119.60
1	X	417	C	OP1-P-OP2	-6.14	110.39	119.60
1	X	1858	C	OP1-P-OP2	-6.14	110.39	119.60
1	X	1123	G	C4'-C3'-O3'	6.14	125.27	113.00
1	X	1872	A	O4'-C4'-C3'	-6.14	97.86	104.00
1	X	2591	C	C3'-C2'-C1'	6.13	106.41	101.50
1	X	90	G	OP1-P-OP2	-6.13	110.40	119.60
1	X	2298	U	OP1-P-OP2	-6.13	110.40	119.60
1	X	580	A	C4'-C3'-O3'	-6.12	96.54	109.40
1	X	468	A	N9-C1'-C2'	6.12	121.96	114.00
1	X	1190	C	P-O3'-C3'	6.12	127.05	119.70
1	X	1057	A	OP1-P-OP2	-6.12	110.42	119.60
1	X	2324	G	P-O3'-C3'	6.12	127.04	119.70
1	X	418	C	OP1-P-OP2	-6.11	110.43	119.60
1	X	1065	A	OP1-P-OP2	-6.11	110.44	119.60
1	X	2592	U	O4'-C4'-C3'	-6.10	97.90	104.00
1	X	1919	A	N9-C1'-C2'	6.09	121.92	114.00
1	X	985	G	N9-C1'-C2'	6.09	121.92	114.00
1	X	1733	U	OP1-P-OP2	-6.09	110.46	119.60
1	X	2015	G	N9-C1'-C2'	6.09	121.91	114.00
1	X	1922	U	OP1-P-OP2	-6.09	110.47	119.60
1	X	69	G	N9-C1'-C2'	6.08	121.91	114.00
1	X	2769	C	O4'-C1'-N1	6.08	113.06	108.20
1	X	723	C	N1-C1'-C2'	6.07	121.90	114.00
1	X	1056	U	C5'-C4'-C3'	6.07	125.72	116.00
1	X	415	A	OP1-P-OP2	-6.07	110.49	119.60
1	X	1735	G	OP1-P-OP2	-6.07	110.50	119.60
1	X	1119	U	C3'-C2'-C1'	-6.06	96.65	101.50
1	X	747	A	C5'-C4'-C3'	6.06	125.70	116.00
1	X	2189	A	OP1-P-OP2	-6.06	110.51	119.60
1	X	219	G	N9-C1'-C2'	6.06	121.88	114.00
1	X	733	G	OP1-P-OP2	-6.06	110.51	119.60
1	X	663	G	OP1-P-OP2	-6.05	110.52	119.60
1	X	1124	U	P-O3'-C3'	-6.05	112.44	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	728	G	P-O3'-C3'	6.05	126.96	119.70
1	X	557	U	O4'-C1'-N1	-6.05	103.36	108.20
1	X	891	A	OP1-P-OP2	-6.04	110.53	119.60
1	X	1624	A	N9-C1'-C2'	6.04	121.85	114.00
1	X	173	A	O4'-C1'-N9	6.04	113.03	108.20
1	X	1058	G	OP1-P-OP2	-6.03	110.55	119.60
1	X	199	A	P-O3'-C3'	6.03	126.94	119.70
1	X	2194	A	OP1-P-OP2	-6.03	110.56	119.60
1	X	666	U	OP1-P-OP2	-6.03	110.56	119.60
1	X	2418	A	C8-N9-C4	6.03	108.21	105.80
1	X	1863	U	P-O3'-C3'	-6.02	112.47	119.70
1	X	2401	A	P-O3'-C3'	6.02	126.92	119.70
1	X	626	A	N9-C1'-C2'	6.01	121.82	114.00
1	X	1278	A	C4-N9-C1'	6.01	137.12	126.30
1	X	2188	A	C4'-C3'-C2'	6.00	108.61	102.60
1	X	556	A	OP1-P-OP2	-6.00	110.61	119.60
1	X	1288	A	C5'-C4'-C3'	6.00	125.59	116.00
1	X	537	C	N1-C1'-C2'	5.99	121.79	114.00
1	X	202	A	OP1-P-OP2	-5.99	110.61	119.60
1	X	1048	U	OP1-P-OP2	-5.97	110.64	119.60
1	X	1860	A	C4'-C3'-C2'	5.97	108.57	102.60
1	X	2402	U	O4'-C4'-C3'	-5.97	98.03	104.00
1	X	312	G	N9-C1'-C2'	5.96	121.75	114.00
1	X	1398	G	N9-C1'-C2'	5.96	121.75	114.00
1	X	1731	C	OP1-P-OP2	-5.96	110.67	119.60
1	X	1187	A	O4'-C4'-C3'	5.96	110.86	106.10
1	X	2417	U	OP1-P-OP2	-5.96	110.67	119.60
1	X	2823	G	N9-C1'-C2'	5.96	121.74	114.00
1	X	177	U	OP1-P-OP2	-5.95	110.67	119.60
1	X	561	U	OP1-P-OP2	-5.95	110.67	119.60
1	X	2189	A	O3'-P-O5'	5.95	115.31	104.00
1	X	2193	C	OP1-P-OP2	-5.95	110.68	119.60
1	X	100	G	N9-C1'-C2'	5.94	121.73	114.00
1	X	1866	G	C8-N9-C4	-5.93	104.03	106.40
1	X	2186	G	OP1-P-OP2	-5.93	110.70	119.60
1	X	200	A	OP1-P-OP2	-5.93	110.71	119.60
1	X	666	U	N1-C1'-C2'	5.92	121.69	114.00
1	X	2198	U	N1-C1'-C2'	5.92	121.69	114.00
1	X	97	U	P-O3'-C3'	5.91	126.80	119.70
1	X	135	U	C3'-C2'-C1'	-5.91	96.77	101.50
1	X	1121	G	O4'-C4'-C3'	-5.91	98.09	104.00
1	X	2705	A	N9-C1'-C2'	5.91	121.68	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2405	A	OP1-P-OP2	-5.91	110.74	119.60
1	X	415	A	O4'-C1'-N9	-5.90	103.48	108.20
1	X	1736	C	OP1-P-OP2	-5.90	110.75	119.60
1	X	2190	A	C3'-C2'-C1'	-5.90	96.78	101.50
1	X	1866	G	O4'-C1'-N9	-5.89	103.49	108.20
1	X	1278	A	C2'-C3'-O3'	5.89	123.12	113.70
1	X	1186	G	N9-C4-C5	5.88	107.75	105.40
19	Q	61	LYS	N-CA-C	5.88	126.89	111.00
1	X	1018	C	OP1-P-OP2	-5.88	110.78	119.60
1	X	2668	U	O4'-C1'-N1	5.88	112.90	108.20
1	X	553	C	OP1-P-OP2	-5.88	110.78	119.60
1	X	1187	A	OP1-P-OP2	-5.88	110.79	119.60
1	X	2198	U	OP1-P-OP2	-5.87	110.79	119.60
1	X	1710	U	N1-C1'-C2'	5.87	121.63	114.00
1	X	730	C	OP1-P-OP2	-5.87	110.80	119.60
1	X	513	A	OP1-P-OP2	-5.87	110.80	119.60
1	X	1053	G	OP1-P-OP2	-5.87	110.80	119.60
1	X	203	G	C3'-C2'-C1'	-5.87	96.81	101.50
1	X	2297	G	N3-C4-C5	-5.86	125.67	128.60
1	X	723	C	C5-C6-N1	5.85	123.93	121.00
1	X	83	A	P-O3'-C3'	5.85	126.72	119.70
1	X	1186	G	OP1-P-OP2	-5.85	110.83	119.60
1	X	1278	A	N7-C8-N9	5.84	116.72	113.80
1	X	200	A	C4'-C3'-C2'	5.83	108.43	102.60
1	X	136	A	O4'-C4'-C3'	-5.83	98.17	104.00
1	X	173	A	O4'-C4'-C3'	-5.82	98.18	104.00
1	X	2418	A	OP1-P-OP2	-5.82	110.87	119.60
1	X	1069	G	OP1-P-OP2	-5.81	110.88	119.60
19	Q	60	GLY	N-CA-C	5.81	127.63	113.10
1	X	1038	U	OP1-P-OP2	-5.81	110.89	119.60
1	X	1055	A	OP1-P-OP2	-5.81	110.89	119.60
1	X	1121	G	C3'-C2'-C1'	-5.80	96.86	101.50
1	X	2551	A	N9-C1'-C2'	5.80	121.54	114.00
13	K	95	THR	N-CA-C	-5.80	95.34	111.00
1	X	1927	U	N1-C1'-C2'	5.79	121.53	114.00
1	X	2199	C	OP1-P-OP2	-5.79	110.92	119.60
1	X	1187	A	C4-C5-N7	-5.78	107.81	110.70
1	X	725	C	O4'-C4'-C3'	-5.78	98.22	104.00
1	X	723	C	OP1-P-OP2	-5.76	110.95	119.60
1	X	1851	A	P-O3'-C3'	5.76	126.61	119.70
1	X	83	A	C1'-O4'-C4'	5.75	114.50	109.90
1	X	731	A	OP2-P-O3'	5.75	117.85	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1865	C	O4'-C1'-N1	5.75	112.80	108.20
1	X	1019	U	OP1-P-OP2	-5.75	110.98	119.60
1	X	1734	C	C5-C6-N1	5.75	123.87	121.00
1	X	417	C	C4'-C3'-C2'	-5.74	96.86	102.60
1	X	1288	A	O4'-C4'-C3'	-5.72	98.28	104.00
1	X	2322	U	C3'-C2'-C1'	5.72	106.08	101.50
1	X	727	U	P-O3'-C3'	5.72	126.57	119.70
1	X	2854	G	C4'-C3'-O3'	-5.72	97.39	109.40
1	X	555	U	N1-C1'-C2'	-5.72	105.71	112.00
1	X	172	A	N3-C4-N9	-5.71	122.83	127.40
1	X	101	A	P-O5'-C5'	-5.71	111.76	120.90
1	X	1123	G	O4'-C4'-C3'	5.71	110.67	106.10
1	X	664	C	N1-C2-O2	5.70	122.32	118.90
1	X	557	U	O4'-C1'-C2'	-5.69	100.11	105.80
1	X	2322	U	C4'-C3'-O3'	5.69	124.38	113.00
1	X	806	A	N9-C1'-C2'	5.69	121.39	114.00
1	X	399	G	N9-C1'-C2'	5.69	121.39	114.00
10	H	28	GLY	N-CA-C	5.68	127.31	113.10
1	X	838	A	OP1-P-O3'	5.68	117.69	105.20
1	X	1852	G	C4'-C3'-C2'	5.68	108.28	102.60
1	X	728	G	N3-C4-C5	-5.67	125.77	128.60
1	X	1736	C	C6-N1-C2	5.67	122.57	120.30
1	X	2427	A	N9-C1'-C2'	5.66	121.36	114.00
1	X	2756	A	OP2-P-O3'	5.66	117.65	105.20
1	X	2410	U	OP1-P-OP2	-5.65	111.13	119.60
15	M	3	THR	N-CA-C	-5.65	95.75	111.00
1	X	172	A	O4'-C4'-C3'	-5.64	98.36	104.00
1	X	557	U	N3-C4-C5	-5.64	111.21	114.60
1	X	841	G	N9-C1'-C2'	5.64	121.34	114.00
1	X	1853	C	O4'-C4'-C3'	-5.64	98.36	104.00
1	X	1854	G	O3'-P-O5'	5.63	114.70	104.00
1	X	731	A	C2'-C3'-O3'	5.63	122.71	113.70
1	X	1849	G	O4'-C1'-N9	-5.62	103.70	108.20
1	X	1333	G	O4'-C1'-N9	5.62	112.69	108.20
1	X	100	G	O4'-C4'-C3'	5.61	110.59	106.10
1	X	2469	G	N9-C1'-C2'	5.60	121.28	114.00
1	X	123	A	N9-C1'-C2'	5.60	121.28	114.00
1	X	513	A	C1'-O4'-C4'	5.60	114.38	109.90
1	X	728	G	C2'-C3'-O3'	5.59	122.65	113.70
1	X	134	G	P-O5'-C5'	-5.58	111.96	120.90
1	X	417	C	C1'-O4'-C4'	5.58	114.37	109.90
1	X	789	G	N9-C1'-C2'	5.58	121.25	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1854	G	C5'-C4'-C3'	5.57	124.92	116.00
1	X	2693	U	N1-C1'-C2'	5.57	121.24	114.00
1	X	2254	C	N1-C1'-C2'	5.57	121.24	114.00
1	X	2190	A	O5'-C5'-C4'	5.57	122.28	111.70
26	Z	54	GLY	N-CA-C	-5.57	99.18	113.10
1	X	2418	A	N9-C4-C5	-5.57	103.57	105.80
1	X	513	A	O4'-C1'-C2'	-5.56	100.24	105.80
1	X	555	U	P-O3'-C3'	5.56	126.38	119.70
1	X	664	C	C4'-C3'-O3'	5.56	124.13	113.00
1	X	2402	U	OP1-P-OP2	-5.56	111.26	119.60
1	X	1281	A	P-O5'-C5'	-5.55	112.02	120.90
1	X	2200	G	OP1-P-OP2	-5.54	111.29	119.60
1	X	729	A	C4'-C3'-C2'	5.54	108.14	102.60
1	X	1194	U	C2'-C3'-O3'	5.54	122.56	113.70
1	X	1868	A	P-O3'-C3'	5.54	126.34	119.70
1	X	1669	A	C5'-C4'-O4'	-5.53	102.46	109.10
9	G	94	LYS	N-CA-C	-5.53	96.08	111.00
1	X	2663	U	C5'-C4'-C3'	-5.52	107.16	116.00
1	X	2756	A	N9-C1'-C2'	5.51	121.17	114.00
1	X	688	A	C5'-C4'-C3'	5.50	124.79	116.00
1	X	513	A	P-O3'-C3'	5.49	126.29	119.70
1	X	1020	A	O4'-C1'-N9	-5.49	103.81	108.20
1	X	1698	C	C5'-C4'-O4'	-5.49	102.51	109.10
1	X	2403	C	C5-C6-N1	5.49	123.74	121.00
1	X	1280	U	C4'-C3'-C2'	5.47	108.08	102.60
1	X	729	A	O4'-C4'-C3'	-5.47	98.53	104.00
1	X	2190	A	P-O5'-C5'	5.47	129.65	120.90
1	X	613	A	N9-C1'-C2'	5.47	121.11	114.00
1	X	2469	G	C5'-C4'-O4'	-5.47	102.54	109.10
1	X	1410	U	N1-C1'-C2'	5.46	121.10	114.00
14	L	65	THR	N-CA-C	-5.46	96.27	111.00
1	X	1858	C	C4'-C3'-C2'	5.45	108.05	102.60
1	X	3	U	C2'-C3'-O3'	5.44	122.40	113.70
1	X	1278	A	C8-N9-C1'	-5.44	117.92	127.70
1	X	515	A	C3'-C2'-C1'	-5.43	97.16	101.50
1	X	1052	C	O4'-C1'-N1	-5.43	103.86	108.20
1	X	665	A	C5'-C4'-O4'	-5.42	102.60	109.10
1	X	1854	G	C4'-C3'-O3'	5.42	123.84	113.00
1	X	1861	G	P-O5'-C5'	-5.42	112.23	120.90
1	X	723	C	C4-C5-C6	-5.41	114.69	117.40
1	X	2229	G	C4'-C3'-O3'	-5.41	98.03	109.40
1	X	1378	A	C5'-C4'-C3'	5.41	124.65	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2695	C	OP2-P-O3'	5.41	117.10	105.20
1	X	1862	C	C1'-O4'-C4'	5.40	114.22	109.90
1	X	1333	G	N9-C1'-C2'	5.39	121.00	114.00
1	X	1857	G	OP1-P-OP2	-5.39	111.52	119.60
1	X	724	C	C6-N1-C2	5.38	122.45	120.30
1	X	2363	G	N9-C1'-C2'	5.38	120.99	114.00
1	X	2188	A	N9-C1'-C2'	-5.37	106.09	112.00
1	X	1152	C	N1-C1'-C2'	5.37	120.98	114.00
1	X	101	A	C5'-C4'-O4'	5.36	115.54	109.10
1	X	728	G	N9-C4-C5	5.36	107.55	105.40
1	X	878	C	N1-C1'-C2'	5.36	120.97	114.00
1	X	765	C	OP2-P-O3'	5.36	117.00	105.20
1	X	2480	C	N1-C1'-C2'	5.35	120.96	114.00
1	X	1278	A	OP1-P-OP2	-5.35	111.57	119.60
1	X	2521	A	N9-C1'-C2'	5.35	120.95	114.00
1	X	1060	C	C5-C6-N1	-5.34	118.33	121.00
1	X	2608	A	C2'-C3'-O3'	5.34	122.25	113.70
1	X	1118	G	C3'-C2'-C1'	-5.33	97.23	101.50
1	X	416	U	N1-C1'-C2'	5.33	120.92	114.00
1	X	557	U	N1-C2-N3	5.33	118.09	114.90
4	B	146	THR	C-N-CD	-5.32	108.90	120.60
1	X	1263	G	N9-C1'-C2'	5.32	120.91	114.00
1	X	135	U	O4'-C4'-C3'	-5.31	98.69	104.00
1	X	664	C	C4'-C3'-C2'	5.31	107.91	102.60
1	X	797	A	N9-C1'-C2'	5.31	120.90	114.00
1	X	1301	U	O4'-C1'-N1	5.30	112.44	108.20
1	X	1866	G	N7-C8-N9	5.30	115.75	113.10
1	X	1665	C	O5'-P-OP2	-5.29	100.94	105.70
1	X	171	G	O4'-C1'-N9	-5.28	103.97	108.20
1	X	2196	U	N1-C1'-C2'	-5.28	106.19	112.00
4	B	85	ALA	N-CA-C	5.28	125.26	111.00
1	X	2498	U	OP1-P-O3'	5.28	116.82	105.20
1	X	2297	G	C4'-C3'-C2'	-5.27	97.33	102.60
1	X	136	A	C4'-C3'-O3'	5.27	123.53	113.00
1	X	804	C	C2'-C3'-O3'	5.27	122.13	113.70
1	X	2405	A	P-O3'-C3'	5.27	126.02	119.70
1	X	2848	A	N9-C1'-C2'	5.27	120.85	114.00
1	X	2800	C	C5'-C4'-C3'	-5.26	107.58	116.00
1	X	538	A	C2'-C3'-O3'	5.26	122.12	113.70
1	X	557	U	C1'-O4'-C4'	5.26	114.11	109.90
1	X	1632	A	C4'-C3'-O3'	-5.25	98.37	109.40
1	X	2191	A	O4'-C1'-N9	-5.25	104.00	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2408	G	C4'-C3'-C2'	5.25	107.85	102.60
1	X	1121	G	C2'-C3'-O3'	-5.24	97.97	109.50
1	X	2193	C	C6-N1-C2	5.24	122.39	120.30
1	X	664	C	C5'-C4'-O4'	-5.22	102.84	109.10
1	X	172	A	N9-C4-C5	5.21	107.88	105.80
1	X	59	G	N9-C1'-C2'	5.21	120.77	114.00
1	X	1064	C	C6-N1-C2	5.21	122.38	120.30
1	X	751	G	C2'-C3'-O3'	5.20	122.03	113.70
1	X	1288	A	C8-N9-C1'	-5.20	118.34	127.70
1	X	969	U	OP2-P-O3'	5.20	116.64	105.20
1	X	1995	G	O5'-P-OP2	-5.20	101.02	105.70
1	X	1963	G	C2'-C3'-O3'	5.19	122.00	113.70
1	X	97	U	O4'-C1'-N1	-5.18	104.06	108.20
1	X	1120	C	C4-C5-C6	-5.18	114.81	117.40
1	X	1684	G	C4'-C3'-O3'	-5.18	98.53	109.40
4	B	51	TYR	N-CA-C	5.18	124.98	111.00
1	X	552	C	C6-N1-C2	5.17	122.37	120.30
1	X	1125	G	N9-C1'-C2'	-5.17	106.31	112.00
1	X	777	A	C2'-C3'-O3'	5.17	121.98	113.70
1	X	1224	A	N9-C1'-C2'	5.17	120.72	114.00
1	X	1121	G	C4'-C3'-O3'	-5.16	98.57	109.40
1	X	82	G	C1'-O4'-C4'	5.16	114.02	109.90
1	X	558	G	C4'-C3'-O3'	5.16	123.31	113.00
1	X	34	U	N1-C1'-C2'	5.15	120.70	114.00
1	X	1187	A	P-O5'-C5'	-5.15	112.66	120.90
1	X	2299	A	P-O3'-C3'	5.15	125.88	119.70
1	X	81	C	P-O3'-C3'	5.15	125.88	119.70
1	X	1278	A	O4'-C1'-N9	5.15	112.32	108.20
1	X	1855	G	O3'-P-O5'	5.14	113.77	104.00
1	X	558	G	N9-C4-C5	5.14	107.46	105.40
1	X	1000	G	N9-C1'-C2'	5.13	120.68	114.00
1	X	1288	A	C4-N9-C1'	5.13	135.53	126.30
1	X	2188	A	O4'-C4'-C3'	-5.13	98.87	104.00
1	X	2758	A	O4'-C1'-N9	5.13	112.30	108.20
1	X	1373	G	C8-N9-C4	-5.11	104.36	106.40
1	X	2191	A	N9-C1'-C2'	5.11	120.65	114.00
1	X	2324	G	P-O5'-C5'	-5.11	112.72	120.90
1	X	2841	U	C2'-C3'-O3'	5.11	121.88	113.70
1	X	135	U	O3'-P-O5'	-5.11	94.30	104.00
1	X	1342	U	C4'-C3'-O3'	-5.11	98.67	109.40
19	Q	32	LYS	N-CA-C	-5.11	97.21	111.00
1	X	1735	G	C4'-C3'-C2'	5.11	107.70	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2426	G	O4'-C1'-N9	5.11	112.28	108.20
1	X	82	G	N3-C4-C5	-5.10	126.05	128.60
1	X	1684	G	N9-C1'-C2'	5.09	120.62	114.00
1	X	460	U	N1-C1'-C2'	5.09	120.62	114.00
1	X	202	A	P-O3'-C3'	5.09	125.81	119.70
1	X	1679	U	O4'-C4'-C3'	-5.09	98.91	104.00
1	X	1441	A	N9-C1'-C2'	5.09	120.61	114.00
15	M	30	GLY	N-CA-C	-5.08	100.39	113.10
1	X	1071	U	N1-C1'-C2'	5.08	120.60	114.00
1	X	731	A	O4'-C4'-C3'	5.08	110.16	106.10
1	X	729	A	C8-N9-C4	5.07	107.83	105.80
1	X	558	G	N7-C8-N9	5.06	115.63	113.10
1	X	796	A	N9-C1'-C2'	-5.05	106.44	112.00
1	X	2402	U	C2'-C3'-O3'	-5.05	98.40	109.50
1	X	203	G	N9-C1'-C2'	-5.04	106.45	112.00
1	X	1054	C	N3-C4-C5	-5.04	119.88	121.90
1	X	1820	G	N9-C1'-C2'	5.04	120.56	114.00
1	X	1734	C	C4-C5-C6	-5.04	114.88	117.40
1	X	333	A	N9-C1'-C2'	5.04	120.55	114.00
1	X	666	U	O4'-C4'-C3'	5.04	110.13	106.10
1	X	2810	A	OP1-P-O3'	5.04	116.28	105.20
1	X	90	G	P-O3'-C3'	5.03	125.74	119.70
1	X	667	U	OP1-P-O3'	-5.03	94.13	105.20
1	X	2810	A	N9-C1'-C2'	5.03	120.54	114.00
1	X	664	C	N1-C2-N3	-5.03	115.68	119.20
1	X	1141	U	C5'-C4'-C3'	-5.02	107.96	116.00
1	X	419	G	P-O5'-C5'	-5.02	112.87	120.90
1	X	1279	G	C2'-C3'-O3'	5.02	121.73	113.70
1	X	516	G	O4'-C1'-N9	-5.02	104.19	108.20
15	M	13	LEU	CA-CB-CG	-5.02	103.76	115.30
1	X	173	A	C3'-C2'-C1'	5.01	105.51	101.50
1	X	1683	G	N9-C1'-C2'	-5.01	106.49	112.00
1	X	176	A	P-O3'-C3'	5.01	125.71	119.70
1	X	571	U	N1-C1'-C2'	5.00	120.51	114.00

There are no chirality outliers.

All (232) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	G	106	TYR	Sidechain
16	N	32	TYR	Sidechain
19	Q	25	TYR	Sidechain

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Mol	Chain	Res	Type	Group
1	X	100	G	Sidechain
1	X	1000	G	Sidechain
1	X	1012	A	Sidechain
1	X	1030	U	Sidechain
1	X	1054	C	Sidechain
1	X	1056	U	Sidechain
1	X	112	U	Sidechain
1	X	1141	U	Sidechain
1	X	1153	A	Sidechain
1	X	1167	A	Sidechain
1	X	1177	U	Sidechain
1	X	118	U	Sidechain
1	X	1186	G	Sidechain
1	X	1187	A	Sidechain
1	X	1200	G	Sidechain
1	X	1206	G	Sidechain
1	X	1212	U	Sidechain
1	X	1213	U	Sidechain
1	X	1224	A	Sidechain
1	X	123	A	Sidechain
1	X	1237	G	Sidechain
1	X	1250	A	Sidechain
1	X	1251	G	Sidechain
1	X	1265	G	Sidechain
1	X	1267	A	Sidechain
1	X	1276	U	Sidechain
1	X	1278	A	Sidechain
1	X	1282	A	Sidechain
1	X	1284	G	Sidechain
1	X	1285	A	Sidechain
1	X	1296	G	Sidechain
1	X	13	A	Sidechain
1	X	1304	U	Sidechain
1	X	1313	U	Sidechain
1	X	1325	U	Sidechain
1	X	1330	G	Sidechain
1	X	1333	G	Sidechain
1	X	1334	A	Sidechain
1	X	1338	G	Sidechain
1	X	1342	U	Sidechain
1	X	1353	A	Sidechain
1	X	1357	U	Sidechain

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Mol	Chain	Res	Type	Group
1	X	1373	G	Sidechain
1	X	1408	A	Sidechain
1	X	1429	A	Sidechain
1	X	1467	U	Sidechain
1	X	1482	U	Sidechain
1	X	15	G	Sidechain
1	X	1574	A	Sidechain
1	X	1583	A	Sidechain
1	X	1618	U	Sidechain
1	X	1620	C	Sidechain
1	X	1623	C	Sidechain
1	X	1626	A	Sidechain
1	X	1631	C	Sidechain
1	X	1632	A	Sidechain
1	X	1635	G	Sidechain
1	X	165	G	Sidechain
1	X	1662	G	Sidechain
1	X	1664	G	Sidechain
1	X	1671	A	Sidechain
1	X	1676	U	Sidechain
1	X	1677	C	Sidechain
1	X	1683	G	Sidechain
1	X	1689	U	Sidechain
1	X	1692	C	Sidechain
1	X	1697	U	Sidechain
1	X	1698	C	Sidechain
1	X	1710	U	Sidechain
1	X	1716	G	Sidechain
1	X	1717	A	Sidechain
1	X	173	A	Sidechain
1	X	174	A	Sidechain
1	X	1748	U	Sidechain
1	X	1749	G	Sidechain
1	X	1757	C	Sidechain
1	X	1762	C	Sidechain
1	X	1763	G	Sidechain
1	X	1771	A	Sidechain
1	X	1780	A	Sidechain
1	X	1810	U	Sidechain
1	X	1820	G	Sidechain
1	X	1849	G	Sidechain
1	X	1851	A	Sidechain

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Mol	Chain	Res	Type	Group
1	X	1938	U	Sidechain
1	X	1947	G	Sidechain
1	X	1968	G	Sidechain
1	X	1973	C	Sidechain
1	X	1979	C	Sidechain
1	X	1994	U	Sidechain
1	X	1996	A	Sidechain
1	X	1998	A	Sidechain
1	X	2001	G	Sidechain
1	X	2016	A	Sidechain
1	X	2017	U	Sidechain
1	X	2024	U	Sidechain
1	X	2028	C	Sidechain
1	X	2034	A	Sidechain
1	X	2038	C	Sidechain
1	X	2057	U	Sidechain
1	X	2189	A	Sidechain
1	X	2192	U	Sidechain
1	X	2195	C	Sidechain
1	X	2196	U	Sidechain
1	X	2223	U	Sidechain
1	X	2243	C	Sidechain
1	X	2258	G	Sidechain
1	X	2297	G	Sidechain
1	X	2310	G	Sidechain
1	X	2315	A	Sidechain
1	X	2323	U	Sidechain
1	X	2324	G	Sidechain
1	X	2363	G	Sidechain
1	X	2402	U	Sidechain
1	X	2411	A	Sidechain
1	X	2419	C	Sidechain
1	X	2427	A	Sidechain
1	X	2428	U	Sidechain
1	X	2433	G	Sidechain
1	X	2469	G	Sidechain
1	X	2472	U	Sidechain
1	X	2482	A	Sidechain
1	X	2487	G	Sidechain
1	X	2498	U	Sidechain
1	X	2502	G	Sidechain
1	X	2504	G	Sidechain

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Mol	Chain	Res	Type	Group
1	X	2521	A	Sidechain
1	X	2525	U	Sidechain
1	X	2540	A	Sidechain
1	X	2541	U	Sidechain
1	X	2542	U	Sidechain
1	X	2548	G	Sidechain
1	X	2587	G	Sidechain
1	X	2590	U	Sidechain
1	X	2596	C	Sidechain
1	X	2599	U	Sidechain
1	X	2617	G	Sidechain
1	X	2626	U	Sidechain
1	X	2653	A	Sidechain
1	X	2677	U	Sidechain
1	X	2683	C	Sidechain
1	X	2685	A	Sidechain
1	X	2698	G	Sidechain
1	X	2730	A	Sidechain
1	X	2731	G	Sidechain
1	X	2736	U	Sidechain
1	X	2760	G	Sidechain
1	X	2805	G	Sidechain
1	X	2808	U	Sidechain
1	X	2817	A	Sidechain
1	X	2818	G	Sidechain
1	X	2819	G	Sidechain
1	X	2824	C	Sidechain
1	X	2844	G	Sidechain
1	X	2847	G	Sidechain
1	X	2850	U	Sidechain
1	X	2854	G	Sidechain
1	X	2858	A	Sidechain
1	X	2861	A	Sidechain
1	X	318	G	Sidechain
1	X	32	C	Sidechain
1	X	321	A	Sidechain
1	X	322	A	Sidechain
1	X	34	U	Sidechain
1	X	340	G	Sidechain
1	X	341	A	Sidechain
1	X	396	U	Sidechain
1	X	398	C	Sidechain

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Mol	Chain	Res	Type	Group
1	X	399	G	Sidechain
1	X	400	U	Sidechain
1	X	415	A	Sidechain
1	X	447	U	Sidechain
1	X	459	A	Sidechain
1	X	467	U	Sidechain
1	X	474	G	Sidechain
1	X	480	G	Sidechain
1	X	487	G	Sidechain
1	X	490	A	Sidechain
1	X	498	C	Sidechain
1	X	510	G	Sidechain
1	X	518	A	Sidechain
1	X	530	G	Sidechain
1	X	531	G	Sidechain
1	X	538	A	Sidechain
1	X	540	G	Sidechain
1	X	557	U	Sidechain
1	X	566	U	Sidechain
1	X	568	G	Sidechain
1	X	580	A	Sidechain
1	X	59	G	Sidechain
1	X	596	C	Sidechain
1	X	600	G	Sidechain
1	X	617	U	Sidechain
1	X	631	G	Sidechain
1	X	632	A	Sidechain
1	X	637	G	Sidechain
1	X	666	U	Sidechain
1	X	683	A	Sidechain
1	X	685	U	Sidechain
1	X	712	A	Sidechain
1	X	744	C	Sidechain
1	X	767	G	Sidechain
1	X	780	U	Sidechain
1	X	801	A	Sidechain
1	X	804	C	Sidechain
1	X	805	G	Sidechain
1	X	807	A	Sidechain
1	X	813	A	Sidechain
1	X	814	G	Sidechain
1	X	815	A	Sidechain

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Mol	Chain	Res	Type	Group
1	X	824	U	Sidechain
1	X	831	G	Sidechain
1	X	839	U	Sidechain
1	X	873	U	Sidechain
1	X	890	U	Sidechain
1	X	924	C	Sidechain
1	X	951	G	Sidechain
1	X	956	A	Sidechain
1	X	958	G	Sidechain
1	X	968	C	Sidechain
1	X	978	U	Sidechain
1	X	989	G	Sidechain
1	X	991	A	Sidechain
1	X	993	C	Sidechain
1	X	998	C	Sidechain
2	Y	111	C	Sidechain
2	Y	17	A	Sidechain
2	Y	4	C	Sidechain
2	Y	89	G	Sidechain

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	X	57651	0	29047	3656	0
2	Y	2598	0	1328	160	0
3	A	1826	0	1885	387	0
4	B	1539	0	1600	265	0
5	C	1506	0	1525	369	0
6	D	1400	0	1481	377	0
7	E	1286	0	1336	242	0
8	F	503	0	520	94	0
9	G	1114	0	1144	264	0
10	H	997	0	1046	152	0
11	I	1067	0	1103	273	0
12	J	1090	0	1125	254	0
13	K	878	0	930	120	0
14	L	779	0	820	236	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	M	871	0	894	198	0
16	N	978	0	1020	216	0
17	O	741	0	756	192	0
18	P	1014	0	1096	152	0
19	Q	726	0	753	183	0
20	R	825	0	881	263	0
21	S	1345	0	1372	294	0
22	T	625	0	655	97	0
23	U	552	0	604	201	0
24	V	533	0	558	107	0
25	W	424	0	470	67	0
26	Z	457	0	464	67	0
27	1	53	0	0	0	0
28	2	46	0	0	0	0
29	3	63	0	0	3	0
30	4	297	0	330	68	0
31	X	30	0	0	0	0
31	Y	5	0	0	0	0
All	All	83819	0	54743	8176	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 59.

All (8176) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:135:U:H2'	1:X:136:A:C8	1.59	1.37
1:X:2195:C:C5	1:X:2196:U:C5	2.22	1.28
1:X:623:G:N2	1:X:626:A:C2	2.01	1.26
1:X:1053:G:H2'	1:X:1054:C:C6	1.71	1.25
1:X:333:A:H3'	5:C:162:ARG:NH2	1.49	1.24
1:X:2409:A:H3'	1:X:2409:A:N3	1.50	1.24
1:X:1188:A:H8	1:X:1188:A:O5'	1.21	1.22
1:X:2736:U:O2'	1:X:2737:A:H5''	1.39	1.21
1:X:1075:C:C5'	8:F:87:GLY:HA3	1.69	1.21
1:X:1186:G:H2'	1:X:1187:A:N3	1.56	1.20
1:X:82:G:N2	1:X:100:G:H2'	1.58	1.18
1:X:2196:U:H2'	1:X:2197:U:C6	1.77	1.18
4:B:38:THR:HG22	4:B:40:GLN:H	1.02	1.17
12:J:78:LYS:HE2	12:J:81:GLU:HA	1.22	1.16
13:K:79:VAL:HA	13:K:83:VAL:HG13	1.19	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:150:VAL:HG21	4:B:154:LYS:HE2	1.17	1.16
1:X:1508:G:H5'	1:X:1509:A:H5''	1.19	1.15
1:X:2417:U:O2'	1:X:2418:A:H5''	1.45	1.15
1:X:999:A:H5''	25:W:8:SER:HB2	1.26	1.15
23:U:48:LYS:HG2	23:U:49:LYS:H	1.03	1.15
4:B:116:VAL:N	4:B:136:ARG:HE	1.44	1.15
1:X:623:G:N2	1:X:626:A:H2	1.35	1.15
20:R:59:LYS:HD2	20:R:62:MET:HG3	1.29	1.14
1:X:135:U:H5''	1:X:136:A:OP1	1.43	1.14
1:X:98:U:H4'	1:X:99:U:O5'	1.43	1.14
21:S:113:VAL:HA	21:S:171:VAL:HA	1.24	1.14
1:X:135:U:C2'	1:X:136:A:C8	2.31	1.14
1:X:2323:U:H2'	1:X:2323:U:O2	1.45	1.14
3:A:183:ARG:HB3	3:A:183:ARG:HH11	1.05	1.13
6:D:122:PHE:HB3	6:D:129:ASN:HD22	1.03	1.13
9:G:55:ALA:HB1	9:G:134:MET:HE1	1.22	1.13
20:R:108:VAL:HG12	20:R:109:ALA:H	1.08	1.13
1:X:729:A:H2'	1:X:730:C:O4'	1.48	1.13
8:F:112:MET:HG3	8:F:113:PRO:HD3	1.23	1.12
9:G:61:ARG:NE	9:G:65:LYS:HD2	1.63	1.12
1:X:1854:G:H2'	1:X:1855:G:OP2	1.39	1.12
1:X:2194:A:H3'	1:X:2195:C:H5''	1.30	1.12
23:U:32:ARG:NE	23:U:32:ARG:H	1.48	1.12
1:X:135:U:H2'	1:X:136:A:N9	1.65	1.12
7:E:98:LEU:HD12	7:E:99:THR:N	1.63	1.12
1:X:2795:A:H4'	13:K:5:LYS:HE3	1.27	1.12
1:X:98:U:H1'	1:X:100:G:C8	1.84	1.11
10:H:116:ARG:HD2	15:M:38:LYS:HE2	1.28	1.11
12:J:42:TRP:HB3	12:J:95:VAL:HG11	1.33	1.11
21:S:104:SER:HA	21:S:139:THR:HA	1.31	1.11
6:D:12:VAL:HG12	6:D:16:LEU:HD11	1.32	1.10
1:X:1128:G:H3'	1:X:1129:A:H5''	1.19	1.10
1:X:136:A:C5	1:X:137:A:C5	2.39	1.10
1:X:2581:A:H3'	1:X:2582:G:H5''	1.30	1.10
1:X:537:C:H1'	1:X:538:A:C6	1.87	1.10
1:X:128:C:H2'	1:X:129:A:H5''	1.24	1.10
1:X:333:A:H3'	5:C:162:ARG:CZ	1.80	1.10
14:L:15:ARG:HD2	14:L:91:ARG:HH11	1.14	1.10
1:X:558:G:N3	1:X:558:G:H3'	1.67	1.10
19:Q:51:ILE:HD11	19:Q:83:ALA:HA	1.28	1.10
1:X:1466:C:H2'	1:X:1467:U:O4'	1.51	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2170:C:H3'	1:X:2171:U:H5''	1.34	1.09
3:A:252:LYS:H	3:A:252:LYS:HE3	1.16	1.09
4:B:14:ILE:HG12	15:M:20:HIS:HD2	1.16	1.09
1:X:1075:C:H5''	8:F:87:GLY:HA3	1.27	1.09
1:X:635:C:H2'	1:X:636:G:H5''	1.34	1.09
1:X:1711:C:H4'	1:X:1712:G:H5''	1.19	1.09
1:X:304:A:H2'	1:X:305:A:H5''	1.31	1.09
21:S:10:PRO:HG2	21:S:14:LEU:HD11	1.35	1.09
1:X:104:C:H2'	1:X:105:G:H5''	1.30	1.09
26:Z:4:HIS:HB3	26:Z:5:PRO:CD	1.81	1.09
6:D:70:ALA:HB3	6:D:83:MET:H	1.15	1.08
1:X:542:A:C2	1:X:2004:U:H2'	1.87	1.08
1:X:1188:A:C8	1:X:1188:A:O5'	2.03	1.08
15:M:99:VAL:HG22	15:M:100:ARG:H	0.98	1.08
7:E:58:ALA:H	7:E:62:ARG:HG3	1.14	1.08
1:X:1052:C:C3'	1:X:1053:G:H5''	1.83	1.08
4:B:116:VAL:H	4:B:136:ARG:NE	1.52	1.07
10:H:23:ARG:CB	10:H:23:ARG:HH21	1.66	1.07
14:L:40:ALA:HB2	14:L:103:LEU:HD11	1.32	1.07
1:X:664:C:H2'	1:X:665:A:C2	1.89	1.07
15:M:28:ARG:HB2	15:M:29:PRO:HD3	1.32	1.07
11:I:76:LYS:HG3	11:I:111:SER:HB2	1.37	1.07
1:X:687:G:C2'	1:X:688:A:H5'	1.85	1.07
5:C:148:VAL:HB	5:C:167:VAL:HG12	1.30	1.06
1:X:2781:G:H2'	1:X:2782:G:H5''	1.37	1.06
3:A:43:ARG:HH11	3:A:43:ARG:N	1.52	1.06
9:G:33:ILE:HB	9:G:34:PRO:CD	1.85	1.06
10:H:23:ARG:HB3	10:H:23:ARG:HH21	0.96	1.06
15:M:79:ARG:HH11	15:M:79:ARG:HG3	1.09	1.06
1:X:1018:C:H3'	1:X:1019:U:C5'	1.86	1.05
4:B:136:ARG:HG2	4:B:137:ARG:H	1.18	1.05
14:L:33:ARG:CZ	14:L:103:LEU:HB2	1.85	1.05
1:X:2357:A:H4'	14:L:26:ARG:NH1	1.69	1.05
13:K:3:HIS:ND1	13:K:5:LYS:HD2	1.69	1.05
1:X:2807:U:H5'	1:X:2807:U:H6	1.20	1.05
12:J:15:ARG:HD3	12:J:73:LYS:NZ	1.71	1.04
14:L:33:ARG:HH11	14:L:100:VAL:HA	1.21	1.04
24:V:50:VAL:HA	24:V:53:LEU:HD12	1.37	1.04
1:X:2194:A:H2'	1:X:2195:C:O4'	1.56	1.04
21:S:97:PRO:HA	21:S:119:ASN:HA	1.37	1.04
1:X:2617:G:HO2'	1:X:2618:A:H8	1.05	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:88:VAL:HG22	9:G:89:ALA:H	1.15	1.04
1:X:2194:A:C3'	1:X:2195:C:H5''	1.87	1.04
1:X:1056:U:C2'	1:X:1056:U:O2	2.02	1.03
1:X:2496:C:O2'	1:X:2497:A:H3'	1.58	1.03
12:J:34:GLY:HA2	12:J:106:GLU:HA	1.40	1.03
25:W:2:LYS:HB3	25:W:54:GLN:HB3	1.40	1.03
1:X:1052:C:C2'	1:X:1053:G:H5''	1.88	1.03
9:G:103:TYR:HB3	9:G:107:GLN:HE21	1.22	1.03
21:S:4:THR:HB	21:S:57:GLU:HB2	1.32	1.03
1:X:1053:G:H2'	1:X:1054:C:H6	1.02	1.03
13:K:100:VAL:HG12	13:K:101:GLY:H	0.90	1.03
3:A:67:PHE:HB3	3:A:153:ALA:H	1.24	1.03
1:X:2195:C:C4	1:X:2196:U:C4	2.45	1.03
15:M:33:VAL:HG22	15:M:51:GLU:HB2	1.40	1.03
23:U:51:ILE:HG12	23:U:59:THR:HG22	1.37	1.03
1:X:1057:A:N3	1:X:1057:A:H2'	1.69	1.03
1:X:100:G:H4'	1:X:101:A:OP2	1.57	1.03
1:X:2198:U:H2'	1:X:2199:C:O4'	1.58	1.02
1:X:1550:C:H2'	1:X:1553:G:N2	1.73	1.02
12:J:62:GLY:HA3	12:J:64:LYS:HE3	1.40	1.02
1:X:198:A:H5''	1:X:199:A:C5'	1.88	1.02
1:X:2617:G:P	4:B:82:ARG:HH22	1.81	1.02
9:G:132:PHE:CZ	9:G:145:HIS:HB2	1.95	1.02
1:X:1386:A:H5''	1:X:2191:A:N6	1.73	1.02
9:G:110:LEU:N	9:G:110:LEU:HD23	1.75	1.02
1:X:2332:G:H1'	22:T:34:GLY:HA3	1.38	1.02
1:X:347:C:H4'	20:R:15:HIS:CD2	1.95	1.02
2:Y:43:G:H5'	2:Y:44:C:H5'	1.41	1.02
14:L:55:SER:O	14:L:71:VAL:HB	1.59	1.01
6:D:150:ARG:HG2	6:D:151:GLY:H	1.18	1.01
19:Q:12:ILE:HG12	19:Q:13:SER:H	1.23	1.01
1:X:623:G:H3'	1:X:624:A:H5''	1.43	1.01
5:C:48:ARG:HB2	5:C:51:VAL:HG22	1.41	1.01
12:J:15:ARG:HD3	12:J:73:LYS:HZ2	1.24	1.01
1:X:1052:C:H3'	1:X:1053:G:H5''	1.39	1.01
13:K:100:VAL:HG12	13:K:101:GLY:N	1.68	1.01
1:X:134:G:N2	1:X:136:A:H5''	1.74	1.01
11:I:94:GLU:HA	11:I:97:ARG:NE	1.75	1.01
1:X:2447:G:O2'	1:X:2448:A:H5'	1.61	1.01
1:X:98:U:H4'	1:X:99:U:C5'	1.90	1.01
1:X:2769:C:H2'	1:X:2770:A:H8	1.24	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:517:A:H5''	1:X:518:A:H5'	1.39	1.00
17:O:65:ARG:HG2	17:O:87:ARG:HD2	1.43	1.00
21:S:127:PRO:HA	21:S:130:ILE:HD11	1.38	1.00
23:U:29:GLY:C	23:U:31:GLY:H	1.59	1.00
8:F:104:VAL:HA	8:F:107:ILE:HD12	1.39	1.00
21:S:117:VAL:HG22	21:S:168:VAL:HA	1.42	1.00
1:X:198:A:C5'	1:X:199:A:H5'	1.90	1.00
23:U:41:VAL:HG23	23:U:42:GLN:H	1.27	1.00
1:X:135:U:H2'	1:X:136:A:C4	1.96	1.00
17:O:5:ILE:HD11	17:O:8:GLY:O	1.62	1.00
1:X:667:U:H3'	1:X:667:U:C6	1.94	1.00
1:X:1107:A:H3'	1:X:1108:U:H5''	1.42	0.99
21:S:122:ILE:HG22	21:S:160:LEU:HD23	1.43	0.99
17:O:57:GLN:H	17:O:97:GLY:HA3	1.27	0.99
1:X:2769:C:H2'	1:X:2770:A:C8	1.98	0.99
2:Y:59:A:H1'	6:D:27:ALA:HB2	1.44	0.99
9:G:100:TYR:HB2	9:G:116:ARG:NH1	1.76	0.99
10:H:13:ASN:ND2	10:H:109:ARG:HG2	1.77	0.99
7:E:57:ASP:HB3	7:E:62:ARG:HE	1.21	0.99
2:Y:16:U:H1'	2:Y:109:G:H21	1.27	0.99
1:X:317:U:H2'	1:X:318:G:H5''	1.44	0.99
17:O:57:GLN:H	17:O:97:GLY:CA	1.75	0.99
1:X:104:C:C2'	1:X:105:G:H5''	1.93	0.99
1:X:1850:G:N2	1:X:1867:A:N7	2.08	0.99
11:I:108:LEU:HB2	11:I:122:VAL:HG11	1.44	0.98
11:I:45:LYS:HE2	11:I:47:ALA:HB3	1.41	0.98
13:K:13:ASN:HD21	13:K:16:ALA:H	1.00	0.98
1:X:1978:U:H3'	1:X:1979:C:H5''	1.42	0.98
1:X:663:G:H3'	1:X:664:C:H5''	1.43	0.98
6:D:29:PRO:HG2	6:D:165:GLU:HB3	1.46	0.98
1:X:1919:A:H2	1:X:1926:U:N3	1.62	0.98
17:O:36:LYS:HZ2	17:O:54:TYR:HB3	1.28	0.98
1:X:663:G:C3'	1:X:664:C:H5''	1.93	0.98
1:X:731:A:H2'	1:X:732:G:O4'	1.63	0.98
19:Q:10:PRO:HA	19:Q:27:PHE:HB3	1.45	0.98
1:X:2083:G:H1	1:X:2172:U:H3	1.10	0.98
10:H:83:ARG:HH11	15:M:40:ARG:NE	1.61	0.98
1:X:1075:C:H5''	8:F:87:GLY:CA	1.94	0.98
1:X:34:U:HO2'	20:R:4:PRO:N	1.61	0.98
26:Z:51:TYR:CE1	26:Z:55:ARG:HB2	1.99	0.98
6:D:13:ARG:NH1	6:D:14:PRO:HG3	1.79	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:31:CYS:HB3	4:B:49:ILE:HG12	1.45	0.97
10:H:23:ARG:HB3	10:H:23:ARG:NH2	1.78	0.97
9:G:104:THR:OG1	9:G:110:LEU:HB3	1.63	0.97
5:C:28:HIS:CE1	11:I:21:ARG:HH11	1.82	0.97
1:X:666:U:H2'	1:X:667:U:O4'	1.65	0.97
4:B:14:ILE:HG12	15:M:20:HIS:CD2	1.98	0.97
12:J:44:LYS:HB2	12:J:47:GLN:HG3	1.45	0.97
1:X:2075:U:O2'	1:X:2076:G:H5''	1.64	0.97
7:E:87:LEU:HB2	7:E:131:ILE:HB	1.46	0.96
13:K:98:LEU:HD21	26:Z:56:GLN:HG2	1.47	0.96
25:W:4:LYS:CG	25:W:52:GLU:HB3	1.95	0.96
1:X:1056:U:H2'	1:X:1056:U:O2	1.17	0.96
1:X:136:A:C6	1:X:137:A:C5	2.52	0.96
30:4:19:ARG:NH1	30:4:24:LEU:HD22	1.78	0.96
16:N:93:LYS:HD3	17:O:5:ILE:HG22	1.44	0.96
23:U:32:ARG:N	23:U:32:ARG:HE	1.63	0.96
16:N:72:HIS:HD2	16:N:110:VAL:HG21	1.30	0.96
24:V:7:ARG:HD2	24:V:8:ASN:N	1.80	0.96
1:X:2261:G:H4'	1:X:2262:C:OP2	1.64	0.96
6:D:13:ARG:HB3	6:D:14:PRO:HD3	1.45	0.96
19:Q:62:ARG:HH12	19:Q:73:ASN:ND2	1.63	0.96
1:X:2563:U:H2'	1:X:2564:U:H5''	1.46	0.96
6:D:4:LEU:HD12	6:D:5:LYS:H	1.30	0.96
1:X:623:G:C2	1:X:626:A:H2	1.84	0.96
1:X:666:U:H3'	1:X:667:U:H5''	1.48	0.96
1:X:1128:G:H3'	1:X:1129:A:C5'	1.92	0.96
16:N:7:GLY:O	16:N:8:ILE:HG13	1.65	0.96
1:X:1854:G:O2'	1:X:1855:G:H5'	1.66	0.96
4:B:38:THR:HG22	4:B:40:GLN:N	1.81	0.95
12:J:12:LYS:O	12:J:13:GLN:HB2	1.66	0.95
21:S:103:ARG:HD3	21:S:108:VAL:HG23	1.47	0.95
1:X:109:A:H2'	1:X:110:U:H5''	1.46	0.95
6:D:35:VAL:HG23	6:D:155:THR:HB	1.48	0.95
1:X:1052:C:H3'	1:X:1053:G:C5'	1.95	0.95
14:L:33:ARG:HG3	14:L:38:ILE:HB	1.46	0.95
1:X:2484:G:O2'	1:X:2485:U:H5'	1.65	0.95
23:U:51:ILE:HG23	23:U:59:THR:HA	1.45	0.95
1:X:1075:C:H5'	8:F:87:GLY:HA3	1.47	0.95
1:X:1507:A:O4'	3:A:99:ASP:HB3	1.67	0.95
1:X:687:G:H2'	1:X:688:A:H5'	1.45	0.95
15:M:38:LYS:HB3	15:M:46:ARG:HB3	1.48	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1173:G:H4'	17:O:22:VAL:HG22	1.48	0.95
18:P:27:VAL:HG23	18:P:125:THR:HG22	1.47	0.95
1:X:1698:C:O2'	1:X:1753:A:H2'	1.67	0.95
15:M:79:ARG:HG3	15:M:79:ARG:NH1	1.77	0.95
1:X:1854:G:C2'	1:X:1855:G:OP2	2.10	0.94
4:B:131:SER:O	4:B:132:LYS:HG2	1.66	0.94
5:C:3:GLN:HE22	5:C:4:ILE:HG12	1.30	0.94
2:Y:30:C:OP1	14:L:37:HIS:HB3	1.67	0.94
1:X:2043:A:H62	5:C:68:ARG:HH12	0.97	0.94
1:X:623:G:C2	1:X:626:A:C2	2.54	0.94
13:K:98:LEU:CD2	26:Z:56:GLN:HG2	1.96	0.94
4:B:136:ARG:HG2	4:B:137:ARG:N	1.83	0.94
1:X:2404:A:H4'	1:X:2405:A:C5'	1.95	0.94
3:A:270:ILE:HG13	3:A:271:VAL:H	1.30	0.94
11:I:86:THR:H	11:I:116:ARG:NH1	1.65	0.94
15:M:99:VAL:HG22	15:M:100:ARG:N	1.74	0.94
25:W:4:LYS:HG3	25:W:52:GLU:HB3	1.49	0.94
1:X:136:A:N6	1:X:137:A:C6	2.36	0.94
1:X:84:G:OP2	20:R:39:ALA:HB3	1.66	0.94
23:U:31:GLY:HA2	23:U:32:ARG:NH1	1.83	0.94
1:X:95:G:H4'	24:V:41:HIS:ND1	1.82	0.94
1:X:2291:U:OP1	6:D:71:LYS:HB2	1.67	0.94
14:L:10:LYS:O	14:L:14:ARG:HG3	1.68	0.94
1:X:1052:C:H2'	1:X:1053:G:H5''	1.47	0.94
1:X:2516:U:H2'	1:X:2517:C:C6	2.02	0.94
7:E:98:LEU:HD12	7:E:99:THR:H	1.26	0.94
17:O:10:LYS:HG3	17:O:11:GLN:HG2	1.47	0.94
1:X:3:U:H2'	1:X:4:C:C6	2.03	0.94
2:Y:43:G:H5''	6:D:66:ILE:HD11	1.49	0.93
11:I:76:LYS:HE3	11:I:111:SER:HB3	1.49	0.93
19:Q:61:LYS:H	19:Q:72:ARG:HA	1.31	0.93
1:X:1314:A:O2'	1:X:1315:A:H3'	1.69	0.93
13:K:79:VAL:HA	13:K:83:VAL:CG1	1.98	0.93
14:L:38:ILE:HD12	14:L:39:TYR:H	1.34	0.93
1:X:2712:G:H3'	1:X:2713:A:H5'	1.50	0.93
4:B:150:VAL:HG21	4:B:154:LYS:CE	1.99	0.93
15:M:34:ARG:NH2	15:M:88:VAL:HG11	1.84	0.93
1:X:1631:C:H1'	18:P:108:PRO:HG2	1.48	0.93
16:N:82:GLY:HA3	16:N:113:SER:OG	1.67	0.93
5:C:7:ILE:O	5:C:120:VAL:HB	1.68	0.93
6:D:122:PHE:HB3	6:D:129:ASN:ND2	1.83	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:30:ALA:HB3	11:I:34:HIS:CE1	2.03	0.93
21:S:64:ALA:HA	21:S:85:MET:HA	1.47	0.93
1:X:1542:G:N2	1:X:1562:G:H1	1.66	0.93
6:D:171:GLN:HA	6:D:175:LEU:HB3	1.51	0.93
10:H:23:ARG:HH12	10:H:25:LEU:HA	1.32	0.93
1:X:101:A:OP1	1:X:101:A:H8	1.50	0.93
1:X:2043:A:N6	5:C:68:ARG:HH12	1.66	0.93
1:X:558:G:C4	1:X:558:G:H3'	1.98	0.93
1:X:1885:C:H5'	3:A:244:ARG:HD2	1.50	0.93
1:X:82:G:C2	1:X:100:G:H2'	2.04	0.92
1:X:2592:U:O2'	1:X:2592:U:O2	1.84	0.92
1:X:969:U:H5''	12:J:17:ARG:NH1	1.84	0.92
6:D:74:ILE:HG23	6:D:80:ARG:HA	1.48	0.92
1:X:1166:A:H5''	16:N:55:ARG:HD3	1.50	0.92
21:S:122:ILE:HA	21:S:161:ALA:H	1.33	0.92
1:X:1448:A:H61	1:X:1574:A:H61	1.09	0.92
1:X:516:G:O2'	1:X:517:A:H8	1.53	0.92
6:D:111:ILE:HB	6:D:114:PHE:HB2	1.51	0.92
1:X:1850:G:O2'	1:X:1851:A:H8	1.52	0.92
4:B:116:VAL:HG22	4:B:136:ARG:CZ	1.99	0.92
1:X:2691:C:HO2'	1:X:2692:A:H8	0.93	0.92
1:X:558:G:C5'	1:X:558:G:N3	2.33	0.92
30:4:1:MET:HA	30:4:1:MET:HE2	1.52	0.92
9:G:116:ARG:HD2	9:G:119:LEU:HD12	1.51	0.92
11:I:9:THR:O	11:I:13:ARG:HD2	1.70	0.92
20:R:18:LYS:HE2	20:R:19:GLY:N	1.85	0.92
24:V:1:MET:HG3	24:V:2:LYS:HG2	1.51	0.92
8:F:98:LYS:HB2	8:F:137:THR:OG1	1.70	0.92
16:N:66:ASN:HB2	16:N:70:ARG:HH12	1.34	0.92
20:R:90:LYS:HB2	20:R:108:VAL:HG21	1.51	0.92
23:U:48:LYS:HG2	23:U:49:LYS:N	1.83	0.92
1:X:2795:A:C4'	13:K:5:LYS:HE3	1.98	0.92
15:M:99:VAL:CG2	15:M:100:ARG:H	1.83	0.92
6:D:167:ARG:HA	6:D:170:LEU:HD12	1.51	0.91
1:X:2498:U:H4'	1:X:2499:C:OP1	1.69	0.91
21:S:18:MET:HA	21:S:36:ARG:H	1.34	0.91
1:X:1128:G:C3'	1:X:1129:A:H5''	2.00	0.91
7:E:50:LEU:HD23	7:E:51:LEU:H	1.34	0.91
1:X:1053:G:C2'	1:X:1054:C:H6	1.83	0.91
1:X:1095:A:H2'	1:X:1096:A:H5''	1.50	0.91
1:X:1849:G:N3	1:X:1868:A:N6	2.19	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:624:A:H4'	1:X:626:A:N6	1.84	0.91
3:A:44:ASN:HB3	3:A:49:ILE:HA	1.52	0.91
5:C:7:ILE:HG21	5:C:121:ASP:O	1.71	0.91
20:R:108:VAL:HG12	20:R:109:ALA:N	1.85	0.91
1:X:347:C:H4'	20:R:15:HIS:HD2	1.32	0.91
1:X:1118:G:H2'	1:X:1119:U:H5'	1.51	0.91
1:X:693:A:H2'	1:X:694:G:H8	1.36	0.91
14:L:33:ARG:NH1	14:L:103:LEU:HB2	1.85	0.91
20:R:23:ILE:H	20:R:23:ILE:HD12	1.34	0.91
11:I:18:ARG:HB2	11:I:21:ARG:HD3	1.52	0.91
23:U:62:LEU:HD23	23:U:67:LEU:HD12	1.51	0.91
5:C:5:ASN:HA	5:C:118:VAL:HG21	1.52	0.90
1:X:333:A:H5''	5:C:162:ARG:NH1	1.85	0.90
16:N:66:ASN:ND2	16:N:70:ARG:HH12	1.69	0.90
1:X:1091:C:H1'	8:F:126:THR:HA	1.51	0.90
1:X:242:A:H61	1:X:440:U:H2'	1.35	0.90
7:E:30:LYS:HG2	7:E:79:VAL:O	1.71	0.90
12:J:125:LYS:HZ2	12:J:125:LYS:HB3	1.34	0.90
20:R:107:ALA:HB1	20:R:111:GLY:HA2	1.50	0.90
26:Z:4:HIS:HB3	26:Z:5:PRO:HD3	1.53	0.90
3:A:252:LYS:N	3:A:252:LYS:HE3	1.85	0.90
8:F:99:LEU:HB2	8:F:103:GLN:NE2	1.86	0.90
10:H:116:ARG:HH22	15:M:41:GLU:HG2	1.34	0.90
8:F:121:GLU:HA	8:F:124:ALA:HB3	1.50	0.90
1:X:652:C:H42	1:X:657:A:H61	0.94	0.90
24:V:42:ARG:NH1	24:V:45:GLN:HE22	1.69	0.90
5:C:95:LEU:HD23	5:C:96:PRO:HD2	1.51	0.90
1:X:1354:A:HO2'	19:Q:54:SER:HB2	1.37	0.90
1:X:1428:G:H22	1:X:1602:G:C5'	1.85	0.90
1:X:2288:A:H2'	1:X:2289:A:H8	1.34	0.90
6:D:108:LEU:HD11	6:D:117:ILE:HD11	1.54	0.90
1:X:1142:G:H4'	9:G:103:TYR:CE2	2.07	0.90
1:X:84:G:OP2	20:R:18:LYS:HB3	1.71	0.90
1:X:2326:C:H2'	1:X:2327:U:C6	2.06	0.90
5:C:176:ASN:HD21	5:C:178:TYR:HB3	1.35	0.90
21:S:95:SER:HB3	21:S:119:ASN:HD21	1.35	0.90
1:X:954:U:OP2	11:I:38:LYS:NZ	2.05	0.90
18:P:87:GLU:HG3	18:P:88:ASP:OD2	1.72	0.90
30:4:25:VAL:HB	30:4:34:GLN:HB2	1.53	0.90
16:N:66:ASN:HB2	16:N:70:ARG:NH1	1.87	0.90
23:U:14:VAL:HB	23:U:47:HIS:NE2	1.87	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:143:A:H2'	1:X:144:U:C6	2.06	0.90
1:X:460:U:O4	1:X:592:G:H1'	1.72	0.90
13:K:13:ASN:ND2	13:K:16:ALA:H	1.70	0.89
21:S:91:PRO:HD3	21:S:127:PRO:HD3	1.52	0.89
1:X:136:A:C5	1:X:137:A:N7	2.39	0.89
26:Z:12:SER:HB2	26:Z:15:LYS:H	1.35	0.89
3:A:147:LEU:HD21	3:A:155:LEU:HD11	1.53	0.89
23:U:49:LYS:HB2	23:U:61:TRP:HA	1.54	0.89
1:X:136:A:C4	1:X:137:A:C8	2.60	0.89
1:X:1816:G:O2'	3:A:252:LYS:HG2	1.72	0.89
4:B:9:ILE:HD11	4:B:27:LEU:HB2	1.55	0.89
5:C:47:THR:HG23	5:C:85:GLY:H	1.36	0.89
14:L:38:ILE:HD11	14:L:40:ALA:H	1.37	0.89
3:A:271:VAL:HG12	3:A:272:THR:HG23	1.53	0.89
7:E:84:THR:HA	7:E:134:SER:HA	1.55	0.89
12:J:36:ILE:HD12	12:J:133:VAL:HG11	1.52	0.89
1:X:667:U:H3'	1:X:667:U:H6	1.38	0.89
12:J:28:VAL:H	12:J:137:VAL:HG21	1.36	0.89
23:U:27:ASP:HA	23:U:32:ARG:NH2	1.88	0.89
1:X:1573:G:H3'	1:X:1574:A:H5''	1.51	0.89
9:G:61:ARG:HE	9:G:65:LYS:HD2	1.38	0.89
15:M:28:ARG:CB	15:M:29:PRO:HD3	1.93	0.89
18:P:126:ILE:HD12	18:P:127:ILE:N	1.88	0.89
1:X:1859:A:H2'	1:X:1860:A:C8	2.06	0.89
1:X:2306:A:H2'	1:X:2307:A:C8	2.07	0.89
1:X:652:C:N4	1:X:657:A:H61	1.71	0.89
1:X:759:C:H5'	1:X:759:C:H6	1.34	0.89
1:X:1141:U:C4	4:B:147:PRO:HD3	2.08	0.89
1:X:1018:C:H3'	1:X:1019:U:H5''	1.52	0.89
1:X:538:A:N3	1:X:538:A:H3'	1.87	0.89
6:D:5:LYS:O	6:D:8:TYR:HB3	1.71	0.89
14:L:38:ILE:CD1	14:L:39:TYR:H	1.86	0.89
15:M:26:ASP:OD1	15:M:27:PHE:N	2.06	0.89
20:R:98:ILE:HG22	20:R:99:VAL:H	1.35	0.89
1:X:1770:U:H5	1:X:1775:A:N7	1.70	0.89
1:X:198:A:H5''	1:X:199:A:H5'	0.95	0.89
1:X:623:G:C3'	1:X:624:A:H5''	2.03	0.89
4:B:192:ASN:HD22	15:M:9:ARG:HH12	1.16	0.89
5:C:48:ARG:H	5:C:48:ARG:HD2	1.38	0.89
6:D:79:LEU:HA	6:D:80:ARG:CZ	2.03	0.89
1:X:1275:A:C2	26:Z:10:LYS:HE2	2.07	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1441:A:H1'	1:X:1442:C:C5	2.06	0.89
1:X:2195:C:C6	1:X:2196:U:C6	2.61	0.89
1:X:2824:C:OP1	15:M:100:ARG:NH1	2.05	0.89
1:X:543:G:H5'	16:N:24:PHE:CE1	2.07	0.89
1:X:758:G:H2'	1:X:759:C:H5''	1.52	0.89
9:G:116:ARG:HE	9:G:126:VAL:HG13	1.38	0.88
10:H:23:ARG:NH1	10:H:25:LEU:HA	1.88	0.88
20:R:15:HIS:HD1	20:R:16:PHE:HD2	1.15	0.88
1:X:788:G:H5'	1:X:790:A:H1'	1.55	0.88
4:B:154:LYS:HE3	4:B:156:MET:SD	2.13	0.88
1:X:1218:C:C4'	11:I:13:ARG:HH11	1.87	0.88
15:M:46:ARG:HG3	15:M:47:SER:H	1.38	0.88
23:U:31:GLY:HA2	23:U:32:ARG:HH11	1.34	0.88
1:X:516:G:HO2'	1:X:517:A:H8	0.90	0.88
20:R:96:LYS:HG3	20:R:97:GLN:H	1.36	0.88
1:X:759:C:H5'	1:X:759:C:C6	2.08	0.88
8:F:84:ILE:HG12	8:F:96:VAL:CG1	2.03	0.88
4:B:183:LEU:HD21	15:M:16:ILE:HD13	1.54	0.88
1:X:2043:A:H62	5:C:68:ARG:NH1	1.72	0.88
1:X:2371:A:H2	1:X:2403:C:H42	1.20	0.88
1:X:514:G:H4'	1:X:515:A:OP2	1.71	0.88
1:X:752:G:H4'	1:X:753:U:OP1	1.73	0.88
11:I:104:ARG:HB3	11:I:105:PRO:HD2	1.54	0.88
21:S:154:LEU:HD11	21:S:160:LEU:HG	1.56	0.88
1:X:2323:U:C2'	1:X:2323:U:O2	2.21	0.88
1:X:84:G:P	20:R:39:ALA:HB3	2.13	0.88
1:X:999:A:C5'	25:W:8:SER:HB2	2.03	0.88
1:X:128:C:C2'	1:X:129:A:H5''	2.04	0.88
9:G:88:VAL:HG22	9:G:89:ALA:N	1.89	0.88
11:I:18:ARG:HB2	11:I:21:ARG:HB2	1.56	0.88
14:L:64:LYS:N	14:L:64:LYS:HD3	1.88	0.88
16:N:61:TRP:HZ3	16:N:94:VAL:H	1.15	0.88
1:X:514:G:N2	18:P:15:LYS:HA	1.89	0.88
4:B:144:ARG:HG2	4:B:145:LYS:H	1.37	0.88
14:L:33:ARG:NH2	14:L:103:LEU:HB2	1.88	0.88
9:G:154:GLU:C	9:G:157:PRO:HD2	1.95	0.88
14:L:68:ALA:HB1	14:L:102:ALA:CB	2.04	0.88
17:O:12:TYR:O	17:O:13:ARG:HB2	1.74	0.88
1:X:2672:U:H2'	1:X:2673:G:H8	1.38	0.88
1:X:1053:G:H1	1:X:1124:U:H3	1.15	0.88
1:X:48:A:H4'	1:X:49:U:O5'	1.72	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:813:A:H4'	1:X:814:G:O5'	1.73	0.88
4:B:116:VAL:HG22	4:B:136:ARG:NE	1.88	0.87
1:X:2310:G:H4'	22:T:43:THR:H	1.38	0.87
12:J:64:LYS:HD2	12:J:64:LYS:H	1.36	0.87
18:P:45:ILE:HD11	18:P:57:LEU:HG	1.55	0.87
1:X:135:U:H2'	1:X:136:A:C5	2.08	0.87
10:H:110:VAL:HG23	10:H:129:LEU:HB2	1.54	0.87
15:M:79:ARG:HH11	15:M:79:ARG:CG	1.88	0.87
24:V:41:HIS:HD2	24:V:42:ARG:H	1.22	0.87
1:X:1508:G:H5'	1:X:1509:A:C5'	2.03	0.87
10:H:132:GLU:HB2	15:M:73:PHE:HE1	1.39	0.87
1:X:1508:G:C5'	1:X:1509:A:H5''	2.03	0.87
1:X:730:C:H5''	1:X:731:A:OP2	1.75	0.87
3:A:183:ARG:HB3	3:A:183:ARG:NH1	1.90	0.87
1:X:482:A:H2'	1:X:483:A:O4'	1.74	0.87
6:D:74:ILE:HA	6:D:79:LEU:HB3	1.57	0.87
9:G:100:TYR:HB2	9:G:116:ARG:HH11	1.38	0.87
1:X:2823:G:HO2'	1:X:2824:C:H6	0.91	0.87
9:G:148:LEU:HD12	9:G:149:LYS:N	1.88	0.87
16:N:66:ASN:CB	16:N:70:ARG:HH12	1.88	0.87
1:X:1978:U:H5''	1:X:1979:C:C5'	2.04	0.87
6:D:75:SER:HB2	6:D:79:LEU:HD13	1.56	0.87
1:X:2289:A:H2	6:D:79:LEU:HD21	1.37	0.87
19:Q:90:ALA:C	19:Q:92:ALA:H	1.78	0.87
12:J:77:LYS:HG3	12:J:78:LYS:H	1.40	0.86
25:W:45:LYS:HA	25:W:45:LYS:HE3	1.57	0.86
5:C:176:ASN:ND2	5:C:178:TYR:HB3	1.90	0.86
21:S:116:VAL:HG12	21:S:117:VAL:HG13	1.55	0.86
1:X:174:A:H62	1:X:2409:A:H2'	1.39	0.86
12:J:22:ALA:HB2	12:J:100:PRO:O	1.75	0.86
7:E:44:ARG:HH22	7:E:46:ASP:HB2	1.39	0.86
10:H:116:ARG:HH11	15:M:38:LYS:NZ	1.74	0.86
10:H:4:PRO:O	10:H:5:GLN:HB2	1.74	0.86
3:A:182:LEU:HD12	3:A:269:PHE:CD2	2.11	0.86
6:D:13:ARG:CZ	6:D:14:PRO:HG3	2.05	0.86
8:F:129:GLY:HA2	8:F:132:ARG:HB3	1.55	0.86
13:K:100:VAL:CG1	13:K:101:GLY:H	1.80	0.86
19:Q:7:LEU:HD22	19:Q:7:LEU:C	1.96	0.86
1:X:82:G:N2	1:X:100:G:C2'	2.38	0.86
1:X:2781:G:C2'	1:X:2782:G:H5''	2.04	0.86
9:G:164:GLN:O	9:G:165:VAL:HG13	1.76	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:34:ARG:NH1	15:M:81:PHE:HB3	1.91	0.86
4:B:136:ARG:CG	4:B:137:ARG:H	1.87	0.86
1:X:1856:U:C2'	1:X:1857:G:O5'	2.24	0.86
1:X:2699:G:O2'	1:X:2700:U:H5'	1.75	0.86
10:H:75:VAL:HG12	10:H:118:LEU:HD21	1.57	0.86
1:X:1542:G:H22	1:X:1562:G:H1	0.86	0.86
1:X:2074:U:H1'	23:U:48:LYS:HE3	1.56	0.86
11:I:32:ARG:CZ	17:O:81:ARG:NE	2.39	0.85
16:N:66:ASN:HB3	16:N:76:TYR:HB2	1.58	0.85
1:X:1299:A:H2'	1:X:1301:U:OP2	1.76	0.85
1:X:1427:G:H2'	1:X:1428:G:H1'	1.58	0.85
12:J:15:ARG:HD2	12:J:73:LYS:HG3	1.58	0.85
12:J:78:LYS:HG2	12:J:80:ALA:H	1.41	0.85
1:X:1711:C:H4'	1:X:1712:G:C5'	2.06	0.85
1:X:497:C:H6	1:X:497:C:H5'	1.41	0.85
1:X:3:U:H2'	1:X:4:C:H6	1.37	0.85
1:X:635:C:C2'	1:X:636:G:H5''	2.06	0.85
6:D:75:SER:H	6:D:79:LEU:HD22	1.40	0.85
21:S:3:LEU:HD12	21:S:4:THR:N	1.92	0.85
1:X:1067:G:H21	1:X:1114:A:H62	1.23	0.85
1:X:2616:U:H5''	4:B:82:ARG:NH2	1.90	0.85
16:N:81:ASN:O	16:N:84:LYS:HB3	1.75	0.85
21:S:6:LYS:H	21:S:7:PRO:HD3	1.42	0.85
11:I:45:LYS:HD3	11:I:46:GLY:N	1.91	0.85
1:X:1574:A:H2'	1:X:1575:C:H5''	1.57	0.85
1:X:136:A:C6	1:X:137:A:C4	2.64	0.85
1:X:2170:C:H2'	1:X:2171:U:H4'	1.59	0.85
1:X:857:U:H3'	1:X:858:G:H8	1.38	0.85
6:D:60:ILE:HG22	6:D:140:GLU:HB2	1.57	0.85
21:S:141:MET:HG2	21:S:145:ASP:HB3	1.57	0.85
1:X:2033:C:O2'	4:B:141:ILE:HD11	1.75	0.85
22:T:14:ARG:HG3	22:T:15:ASP:OD2	1.76	0.85
1:X:1095:A:C2'	1:X:1096:A:H5''	2.06	0.85
5:C:139:GLN:HA	5:C:139:GLN:HE21	1.39	0.85
5:C:28:HIS:ND1	11:I:17:LYS:HA	1.92	0.85
6:D:106:ILE:HG21	6:D:139:PRO:HB3	1.58	0.85
14:L:85:LYS:HE3	14:L:86:GLN:HE21	1.42	0.85
20:R:108:VAL:CG1	20:R:109:ALA:H	1.87	0.85
20:R:18:LYS:HA	20:R:36:VAL:CG1	2.07	0.85
21:S:36:ARG:HG2	21:S:40:ASP:OD1	1.74	0.85
1:X:135:U:C3'	1:X:136:A:C8	2.60	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:116:VAL:HG13	4:B:136:ARG:HH21	1.41	0.84
9:G:155:THR:HG23	9:G:156:HIS:H	1.42	0.84
9:G:34:PRO:HA	9:G:69:ASP:OD2	1.75	0.84
11:I:98:LEU:O	11:I:99:VAL:HG13	1.76	0.84
1:X:914:C:H2'	1:X:915:C:H6	1.39	0.84
3:A:149:PRO:HD3	3:A:186:HIS:NE2	1.92	0.84
3:A:244:ARG:HB3	3:A:252:LYS:HZ1	1.41	0.84
20:R:40:LEU:HB2	20:R:45:LYS:HB2	1.58	0.84
1:X:1623:C:H4'	1:X:1624:A:O5'	1.74	0.84
1:X:939:C:H5''	1:X:940:G:O5'	1.77	0.84
3:A:164:GLN:HE22	3:A:166:GLN:NE2	1.76	0.84
12:J:62:GLY:HA3	12:J:64:LYS:CE	2.07	0.84
1:X:555:U:H6	1:X:555:U:H3'	1.42	0.84
7:E:126:PRO:HG3	7:E:130:ARG:HD3	1.58	0.84
16:N:50:ARG:C	16:N:52:ASN:H	1.81	0.84
1:X:553:C:H5'	1:X:554:U:OP1	1.76	0.84
30:4:31:LYS:H	30:4:31:LYS:HD2	1.38	0.84
17:O:38:LEU:HD13	17:O:39:PHE:N	1.93	0.84
1:X:1268:U:C2	5:C:66:ASN:HA	2.13	0.84
7:E:43:VAL:HB	7:E:52:VAL:HG13	1.59	0.84
19:Q:69:ILE:CD1	19:Q:70:GLY:H	1.90	0.84
1:X:493:A:H4'	20:R:56:LYS:HE3	1.59	0.84
1:X:2177:U:H2'	1:X:2178:U:C6	2.12	0.84
11:I:11:GLY:H	11:I:14:LYS:HB3	1.41	0.84
16:N:101:ARG:O	16:N:103:PRO:HD3	1.78	0.84
20:R:93:ARG:HH22	20:R:108:VAL:HG13	1.43	0.84
1:X:1268:U:H2'	5:C:66:ASN:HB3	1.57	0.84
1:X:729:A:H3'	1:X:729:A:N3	1.93	0.84
6:D:108:LEU:CD1	6:D:117:ILE:HD11	2.08	0.84
6:D:72:LYS:HA	6:D:81:GLN:C	1.97	0.84
12:J:37:ALA:HA	12:J:130:THR:HG22	1.60	0.84
1:X:109:A:C2'	1:X:110:U:H5''	2.08	0.84
1:X:90:G:OP1	1:X:90:G:H4'	1.77	0.84
30:4:29:ASN:HD21	30:4:31:LYS:HD3	1.42	0.84
5:C:164:VAL:O	5:C:166:TRP:N	2.11	0.84
14:L:28:ARG:HD2	14:L:90:ASP:CG	1.98	0.84
1:X:542:A:N1	1:X:2004:U:H2'	1.93	0.84
2:Y:46:G:H5'	6:D:92:ARG:HH12	1.41	0.83
20:R:97:GLN:HB2	20:R:101:GLY:HA2	1.59	0.83
1:X:1193:G:H2'	1:X:1194:U:H5''	1.57	0.83
1:X:1467:U:H3'	1:X:1468:A:H5'	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2222:U:H2'	1:X:2223:U:C6	2.13	0.83
1:X:2320:G:H2'	1:X:2321:C:H6	1.43	0.83
9:G:61:ARG:HB3	9:G:61:ARG:HH21	1.42	0.83
19:Q:63:LYS:HB3	19:Q:69:ILE:O	1.78	0.83
22:T:71:ASN:HD21	22:T:74:LYS:HD3	1.43	0.83
1:X:1448:A:N6	1:X:1574:A:H61	1.75	0.83
1:X:1770:U:C5	1:X:1775:A:N7	2.45	0.83
3:A:42:GLY:C	3:A:43:ARG:HH11	1.81	0.83
8:F:84:ILE:HG12	8:F:96:VAL:HG11	1.59	0.83
21:S:3:LEU:HD11	21:S:5:ALA:O	1.78	0.83
1:X:1186:G:H5''	1:X:1187:A:OP2	1.76	0.83
19:Q:12:ILE:H	19:Q:12:ILE:HD13	1.43	0.83
1:X:1467:U:H3'	1:X:1467:U:H6	1.42	0.83
1:X:760:U:O2	1:X:1997:A:H1'	1.77	0.83
1:X:2195:C:C6	1:X:2196:U:C5	2.66	0.83
17:O:26:GLN:HG2	17:O:27:GLY:H	1.43	0.83
1:X:13:A:O2'	1:X:15:G:N7	2.12	0.83
1:X:1675:C:OP1	4:B:134:TRP:NE1	2.12	0.83
20:R:25:LEU:CD1	20:R:81:VAL:HG23	2.07	0.83
1:X:1539:U:H2'	1:X:1540:C:H6	1.42	0.83
1:X:2581:A:H3'	1:X:2582:G:C5'	2.08	0.83
1:X:653:G:H2'	1:X:654:A:H5''	1.60	0.83
6:D:97:TYR:HD2	6:D:100:LEU:HD23	1.43	0.83
1:X:558:G:C8	1:X:559:C:C5	2.66	0.83
1:X:954:U:OP2	11:I:38:LYS:HG2	1.78	0.83
7:E:88:GLU:OE2	7:E:90:ARG:HD2	1.78	0.83
16:N:50:ARG:O	16:N:52:ASN:N	2.11	0.83
1:X:1354:A:O2'	19:Q:54:SER:HB2	1.78	0.83
1:X:1922:U:HO2'	1:X:2571:G:C1'	1.92	0.83
1:X:664:C:H2'	1:X:665:A:H2	1.36	0.83
1:X:999:A:H5''	25:W:8:SER:CB	2.08	0.83
5:C:132:ASN:O	5:C:135:SER:HB3	1.79	0.83
22:T:41:ARG:HH11	22:T:41:ARG:HG3	1.44	0.83
1:X:1683:G:O2'	1:X:1684:G:H5'	1.78	0.83
1:X:693:A:H2'	1:X:694:G:C8	2.13	0.83
1:X:76:C:H6	1:X:76:C:H5'	1.42	0.83
16:N:8:ILE:HG22	16:N:11:ARG:NH2	1.94	0.83
1:X:135:U:H2'	1:X:136:A:N7	1.94	0.83
5:C:56:ARG:HA	5:C:71:ASP:OD2	1.79	0.82
1:X:1095:A:C3'	1:X:1096:A:H5''	2.09	0.82
1:X:1193:G:C2'	1:X:1194:U:H5''	2.08	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:623:G:N3	1:X:626:A:C2	2.47	0.82
11:I:13:ARG:HG2	11:I:13:ARG:HH21	1.42	0.82
16:N:66:ASN:HD22	16:N:70:ARG:HH22	1.26	0.82
11:I:32:ARG:NH2	17:O:81:ARG:HE	1.76	0.82
1:X:1113:C:H2'	1:X:1114:A:H8	1.43	0.82
6:D:10:ASP:O	6:D:14:PRO:HD2	1.80	0.82
20:R:93:ARG:HH22	20:R:108:VAL:CG1	1.91	0.82
21:S:3:LEU:HD13	21:S:33:ALA:O	1.80	0.82
1:X:1468:A:H5''	1:X:1472:C:N4	1.93	0.82
1:X:2177:U:H2'	1:X:2178:U:H6	1.44	0.82
12:J:81:GLU:HG2	12:J:82:THR:H	1.43	0.82
1:X:29:U:H4'	16:N:11:ARG:HH22	1.44	0.82
22:T:45:PHE:HA	22:T:77:ARG:HB2	1.62	0.82
1:X:1223:G:H4'	1:X:1224:A:H5''	1.59	0.82
1:X:2725:C:H1'	7:E:143:GLN:HG2	1.61	0.82
1:X:1019:U:O2	1:X:1020:A:N7	2.13	0.82
1:X:2343:C:H4'	22:T:56:ASP:OD1	1.77	0.82
6:D:79:LEU:HA	6:D:80:ARG:NH1	1.95	0.82
1:X:1142:G:H4'	9:G:103:TYR:HE2	1.43	0.82
12:J:28:VAL:HB	12:J:137:VAL:HB	1.58	0.82
12:J:60:ARG:O	12:J:61:ARG:HG3	1.79	0.82
7:E:103:LEU:HD21	7:E:131:ILE:HD13	1.61	0.82
15:M:26:ASP:CG	15:M:27:PHE:N	2.32	0.82
1:X:2015:G:H4'	1:X:2016:A:OP1	1.78	0.82
2:Y:16:U:C1'	2:Y:109:G:H21	1.92	0.82
3:A:95:LEU:HD12	3:A:105:ILE:HD12	1.60	0.82
5:C:148:VAL:O	5:C:167:VAL:HA	1.80	0.82
1:X:34:U:H1'	20:R:4:PRO:N	1.95	0.82
21:S:69:VAL:HG22	21:S:81:VAL:HG13	1.60	0.82
1:X:177:U:O2	1:X:178:C:H1'	1.78	0.82
8:F:84:ILE:CG2	8:F:96:VAL:HG11	2.10	0.82
14:L:63:ASN:HB3	14:L:66:ASP:HB2	1.62	0.82
20:R:93:ARG:HH12	20:R:108:VAL:C	1.82	0.82
20:R:59:LYS:CD	20:R:62:MET:HG3	2.08	0.82
1:X:1086:C:H3'	1:X:1087:C:H5''	1.61	0.82
1:X:1186:G:C5'	1:X:1187:A:OP2	2.27	0.82
3:A:206:LEU:HA	3:A:211:ARG:HD3	1.60	0.81
6:D:65:PRO:HB3	6:D:89:VAL:HG13	1.59	0.81
5:C:24:SER:HB2	11:I:15:ASP:OD1	1.79	0.81
10:H:116:ARG:HH11	15:M:38:LYS:HZ3	1.22	0.81
1:X:1468:A:O5'	1:X:1468:A:C8	2.32	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1468:A:O5'	1:X:1468:A:H8	1.63	0.81
1:X:862:A:H2'	1:X:863:C:H6	1.44	0.81
30:4:22:ARG:HG2	30:4:22:ARG:HH11	1.45	0.81
5:C:5:ASN:HB2	5:C:10:ASN:HA	1.59	0.81
6:D:142:THR:O	6:D:146:VAL:HG13	1.78	0.81
11:I:29:THR:HA	11:I:34:HIS:HB2	1.60	0.81
19:Q:25:TYR:OH	19:Q:87:SER:HA	1.79	0.81
1:X:1069:G:H2'	1:X:1070:G:H5''	1.62	0.81
18:P:36:ARG:CZ	26:Z:20:ARG:NH1	2.43	0.81
3:A:43:ARG:H	3:A:43:ARG:HD2	1.44	0.81
10:H:23:ARG:NH1	10:H:25:LEU:HD23	1.94	0.81
17:O:15:SER:HA	17:O:95:ILE:HB	1.62	0.81
17:O:36:LYS:NZ	17:O:54:TYR:HB3	1.94	0.81
1:X:82:G:H22	1:X:100:G:H2'	1.44	0.81
1:X:1501:C:H2'	1:X:1502:G:O4'	1.81	0.81
1:X:2170:C:H3'	1:X:2171:U:C5'	2.09	0.81
1:X:555:U:C6	1:X:555:U:H3'	2.16	0.81
5:C:187:VAL:HG12	5:C:187:VAL:O	1.79	0.81
1:X:177:U:C5	1:X:225:G:N2	2.48	0.81
1:X:1919:A:H2	1:X:1926:U:H3	1.27	0.81
14:L:30:SER:O	14:L:31:VAL:HG12	1.80	0.81
23:U:19:ILE:HG22	23:U:42:GLN:HG3	1.62	0.81
19:Q:68:PHE:O	19:Q:69:ILE:HD12	1.80	0.81
1:X:1252:C:O2'	1:X:1253:C:H5''	1.81	0.81
6:D:106:ILE:O	6:D:110:ARG:HB2	1.81	0.81
6:D:46:ASP:C	6:D:48:LYS:H	1.82	0.81
12:J:44:LYS:HB2	12:J:47:GLN:CG	2.10	0.81
19:Q:38:ILE:O	19:Q:42:ILE:HG22	1.80	0.81
1:X:1051:U:H2'	1:X:1052:C:C6	2.15	0.81
1:X:2653:A:O2'	10:H:41:ASN:ND2	2.13	0.81
1:X:559:C:H2'	1:X:560:G:O4'	1.80	0.81
1:X:2326:C:H2'	1:X:2327:U:H6	1.44	0.81
1:X:947:C:H2'	1:X:948:C:C6	2.16	0.81
2:Y:12:C:H2'	2:Y:13:C:O4'	1.79	0.81
5:C:3:GLN:NE2	5:C:4:ILE:HG12	1.95	0.81
6:D:35:VAL:HG13	6:D:90:THR:HA	1.62	0.81
24:V:4:SER:HB3	24:V:7:ARG:HH21	1.44	0.81
1:X:1834:G:H2'	1:X:1835:C:C6	2.16	0.81
1:X:2394:G:H3'	11:I:63:ARG:HH11	1.44	0.81
4:B:142:GLY:O	4:B:143:GLN:HG3	1.81	0.81
8:F:117:ALA:HB1	8:F:122:ALA:HB3	1.59	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:76:ARG:O	10:H:94:ASN:HA	1.80	0.81
16:N:8:ILE:HG22	16:N:11:ARG:HH21	1.45	0.81
21:S:19:ILE:HG12	21:S:36:ARG:HA	1.61	0.81
1:X:624:A:H4'	1:X:626:A:C6	2.16	0.81
1:X:717:G:H2'	1:X:739:G:H22	1.43	0.81
7:E:27:LYS:HA	7:E:32:GLU:HA	1.62	0.80
21:S:86:VAL:HG12	21:S:87:THR:H	1.45	0.80
25:W:46:THR:HG22	25:W:47:VAL:HG13	1.63	0.80
6:D:111:ILE:CB	6:D:114:PHE:HB2	2.10	0.80
11:I:39:SER:O	11:I:40:ARG:HB2	1.82	0.80
2:Y:93:G:H5'	12:J:19:THR:HB	1.62	0.80
14:L:16:LYS:HE2	14:L:28:ARG:HH12	1.46	0.80
1:X:169:C:H2'	1:X:170:U:H5'	1.61	0.80
1:X:2807:U:C6	1:X:2807:U:H5'	2.11	0.80
1:X:317:U:C2'	1:X:318:G:H5''	2.10	0.80
4:B:2:LYS:HA	4:B:84:PHE:CD1	2.16	0.80
8:F:120:VAL:O	8:F:121:GLU:C	2.19	0.80
19:Q:62:ARG:NH1	19:Q:73:ASN:HD21	1.80	0.80
21:S:117:VAL:CG2	21:S:168:VAL:HA	2.10	0.80
1:X:1624:A:O2'	1:X:1625:A:H5'	1.80	0.80
1:X:177:U:O2	1:X:178:C:C1'	2.30	0.80
1:X:954:U:H2'	1:X:955:G:H5''	1.63	0.80
6:D:36:VAL:HG22	6:D:154:ILE:HG13	1.62	0.80
21:S:18:MET:SD	21:S:35:ASP:HA	2.22	0.80
23:U:32:ARG:H	23:U:32:ARG:HE	0.83	0.80
13:K:3:HIS:ND1	13:K:5:LYS:CD	2.45	0.80
1:X:514:G:C5	18:P:20:LEU:HD22	2.16	0.80
23:U:29:GLY:C	23:U:31:GLY:N	2.35	0.80
1:X:861:G:H2'	1:X:862:A:H5'	1.64	0.80
2:Y:64:C:H2'	2:Y:65:A:H8	1.46	0.80
14:L:54:ALA:HB3	14:L:75:LEU:HB2	1.64	0.80
23:U:49:LYS:CB	23:U:61:TRP:HA	2.11	0.80
23:U:53:GLU:HB2	23:U:56:GLN:O	1.81	0.80
1:X:2691:C:O2'	1:X:2692:A:H8	1.63	0.80
1:X:421:G:H2'	1:X:422:C:H6	1.45	0.80
1:X:691:C:H2'	1:X:692:C:H6	1.46	0.80
5:C:39:ARG:HE	5:C:91:TYR:HD2	1.29	0.80
1:X:356:A:H2'	1:X:357:A:C8	2.17	0.80
6:D:119:PRO:HG2	6:D:120:ASN:H	1.42	0.80
8:F:98:LYS:NZ	8:F:139:GLU:HB2	1.95	0.80
19:Q:62:ARG:NH1	19:Q:73:ASN:ND2	2.30	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1428:G:H22	1:X:1602:G:H5'	1.43	0.80
1:X:1850:G:HO2'	1:X:1851:A:H8	0.80	0.80
1:X:457:C:O2'	1:X:458:G:H5'	1.82	0.80
7:E:45:GLN:HG3	7:E:49:GLN:O	1.82	0.80
14:L:38:ILE:CD1	14:L:40:ALA:H	1.95	0.80
1:X:1060:C:H2'	1:X:1061:A:H8	1.47	0.80
1:X:135:U:C2'	1:X:136:A:N9	2.40	0.80
3:A:244:ARG:HB3	3:A:252:LYS:NZ	1.96	0.80
7:E:30:LYS:HB2	7:E:79:VAL:HA	1.62	0.80
12:J:15:ARG:CD	12:J:73:LYS:HG3	2.11	0.80
17:O:13:ARG:HG2	17:O:14:VAL:H	1.45	0.80
1:X:871:U:C2'	1:X:2247:A:H2'	2.12	0.80
21:S:71:MET:CB	21:S:78:PRO:HA	2.12	0.79
1:X:1625:A:H1'	1:X:1632:A:O2'	1.81	0.79
5:C:151:VAL:O	5:C:189:ASP:HB3	1.82	0.79
20:R:105:ARG:HH22	20:R:112:LYS:CA	1.95	0.79
22:T:32:LYS:HB2	22:T:35:ASN:ND2	1.97	0.79
1:X:2662:C:H2'	1:X:2663:U:H6	1.47	0.79
7:E:43:VAL:HB	7:E:52:VAL:HA	1.62	0.79
9:G:140:GLN:HG2	9:G:144:MET:HE2	1.62	0.79
14:L:54:ALA:O	14:L:71:VAL:HG23	1.82	0.79
1:X:136:A:N6	1:X:137:A:N1	2.29	0.79
1:X:2409:A:C3'	1:X:2409:A:N3	2.41	0.79
1:X:2756:A:O2'	1:X:2757:G:OP2	2.00	0.79
20:R:105:ARG:HH12	20:R:113:THR:N	1.80	0.79
1:X:1949:A:O2'	1:X:2572:U:H5'	1.82	0.79
5:C:197:GLU:HG2	5:C:198:GLU:HG3	1.65	0.79
9:G:33:ILE:HB	9:G:34:PRO:HD2	1.65	0.79
1:X:1985:G:OP1	13:K:10:LEU:HD13	1.82	0.79
15:M:104:LEU:HA	15:M:106:TYR:CE2	2.17	0.79
15:M:46:ARG:CG	15:M:47:SER:H	1.96	0.79
19:Q:65:VAL:HG12	19:Q:66:GLY:H	1.48	0.79
5:C:146:GLU:HG3	5:C:185:ARG:HH22	1.48	0.79
5:C:27:LEU:O	5:C:31:VAL:HG22	1.82	0.79
7:E:18:ASN:HB3	7:E:20:GLN:HE21	1.48	0.79
21:S:113:VAL:HG22	21:S:171:VAL:HG22	1.63	0.79
23:U:11:LYS:NZ	23:U:75:TYR:HB2	1.98	0.79
1:X:1092:U:H4'	8:F:122:ALA:HA	1.65	0.79
1:X:2850:U:H5'	1:X:2850:U:H6	1.45	0.79
1:X:918:A:H2'	1:X:919:U:H5''	1.62	0.79
4:B:152:LYS:HB2	9:G:106:TYR:HB3	1.62	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:8:PHE:O	18:P:9:ARG:HB2	1.81	0.79
1:X:2265:A:H4'	1:X:2266:A:O5'	1.83	0.79
1:X:1075:C:H4'	8:F:88:SER:N	1.97	0.79
12:J:131:LYS:HD2	21:S:76:ARG:NH2	1.98	0.79
1:X:1922:U:H1'	1:X:2570:C:O2'	1.83	0.79
1:X:2212:U:H2'	1:X:2213:G:C8	2.18	0.79
1:X:2691:C:OP1	1:X:2694:G:H4'	1.83	0.79
10:H:83:ARG:HD2	10:H:89:ILE:HD11	1.63	0.79
1:X:1466:C:C2'	1:X:1467:U:O4'	2.31	0.79
1:X:1474:A:O2'	1:X:1475:U:H5'	1.83	0.79
1:X:2546:G:H2'	1:X:2547:C:H6	1.47	0.79
3:A:252:LYS:H	3:A:252:LYS:CE	1.96	0.78
5:C:130:THR:O	5:C:134:ILE:HG13	1.82	0.78
15:M:27:PHE:C	15:M:28:ARG:HG2	2.03	0.78
1:X:1057:A:C2'	1:X:1057:A:N3	2.45	0.78
1:X:577:U:P	11:I:40:ARG:NH2	2.56	0.78
1:X:665:A:H5'	1:X:665:A:N3	1.99	0.78
2:Y:108:G:O2'	2:Y:109:G:H5'	1.83	0.78
9:G:93:LYS:N	9:G:93:LYS:HD2	1.97	0.78
20:R:18:LYS:HD3	20:R:18:LYS:H	1.48	0.78
1:X:555:U:OP2	1:X:556:A:H2'	1.83	0.78
1:X:558:G:C3'	1:X:558:G:N3	2.45	0.78
1:X:689:A:H8	1:X:2052:G:H21	1.27	0.78
1:X:857:U:H3'	1:X:858:G:C8	2.19	0.78
1:X:1051:U:H2'	1:X:1052:C:H6	1.47	0.78
1:X:1778:U:H2'	1:X:1779:C:H6	1.46	0.78
1:X:2282:G:H4'	6:D:122:PHE:HA	1.63	0.78
30:4:25:VAL:HG21	30:4:34:GLN:HE21	1.49	0.78
6:D:108:LEU:HA	6:D:111:ILE:CD1	2.13	0.78
6:D:135:GLN:HG3	6:D:151:GLY:HA2	1.63	0.78
7:E:43:VAL:HG21	7:E:52:VAL:HG22	1.65	0.78
10:H:28:GLY:O	10:H:35:THR:N	2.15	0.78
14:L:60:LYS:HB2	14:L:63:ASN:O	1.84	0.78
1:X:333:A:H5''	5:C:162:ARG:CZ	2.12	0.78
26:Z:35:GLN:O	26:Z:37:HIS:N	2.16	0.78
3:A:231:HIS:CD2	3:A:233:HIS:H	2.00	0.78
12:J:20:GLY:C	12:J:99:LYS:HE2	2.03	0.78
23:U:70:LEU:HB3	23:U:79:GLU:OE2	1.83	0.78
1:X:1953:A:H5'	1:X:1954:A:OP1	1.83	0.78
1:X:421:G:H2'	1:X:422:C:C6	2.18	0.78
1:X:922:A:H2'	1:X:923:A:C8	2.19	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:19:ILE:HG22	21:S:20:ALA:H	1.48	0.78
1:X:1031:C:H41	1:X:1153:A:N6	1.80	0.78
19:Q:12:ILE:HG12	19:Q:13:SER:N	1.99	0.78
19:Q:29:VAL:HG11	19:Q:38:ILE:HD12	1.65	0.78
23:U:53:GLU:CD	23:U:57:VAL:HA	2.03	0.78
1:X:1121:G:O2'	1:X:1122:A:C8	2.35	0.78
1:X:1788:C:O2'	3:A:257:LEU:HD12	1.83	0.78
1:X:871:U:H2'	1:X:2247:A:H2'	1.63	0.78
3:A:79:VAL:CG1	3:A:113:VAL:HA	2.14	0.78
1:X:1075:C:C5'	8:F:87:GLY:CA	2.54	0.78
21:S:127:PRO:O	21:S:128:ARG:HG2	1.82	0.78
1:X:136:A:N7	1:X:137:A:N7	2.30	0.78
1:X:1781:C:O2'	3:A:209:ALA:HB2	1.83	0.78
1:X:2592:U:H5''	1:X:2593:A:OP2	1.84	0.78
1:X:542:A:H8	16:N:28:ARG:HH21	1.31	0.78
2:Y:46:G:C4'	6:D:92:ARG:HH12	1.97	0.78
6:D:92:ARG:HG3	6:D:92:ARG:HH21	1.49	0.78
13:K:10:LEU:HD23	13:K:17:ARG:CB	2.14	0.78
1:X:2195:C:C5	1:X:2196:U:C4	2.68	0.78
1:X:2286:G:N2	1:X:2290:A:H61	1.81	0.78
1:X:2800:C:H2'	1:X:2801:A:H5'	1.66	0.78
1:X:1791:C:OP1	3:A:263:ARG:HG3	1.84	0.78
22:T:71:ASN:HD22	22:T:77:ARG:NH1	1.80	0.78
6:D:123:ASP:C	6:D:125:ARG:H	1.86	0.77
6:D:150:ARG:HG2	6:D:151:GLY:N	1.96	0.77
3:A:36:ALA:HB1	3:A:62:TYR:O	1.83	0.77
6:D:80:ARG:HD3	6:D:83:MET:HB3	1.67	0.77
13:K:13:ASN:HD22	13:K:13:ASN:C	1.87	0.77
23:U:41:VAL:HG23	23:U:42:GLN:N	2.00	0.77
1:X:1324:G:H2'	1:X:1325:U:C6	2.19	0.77
2:Y:46:G:C5'	6:D:92:ARG:HH12	1.97	0.77
3:A:160:GLY:N	3:A:196:VAL:HG23	1.99	0.77
18:P:27:VAL:CG2	18:P:125:THR:HG22	2.14	0.77
1:X:1186:G:C2'	1:X:1187:A:N3	2.43	0.77
1:X:136:A:C8	1:X:137:A:N7	2.52	0.77
1:X:2275:U:H4'	1:X:2276:C:OP1	1.83	0.77
1:X:303:C:H6	1:X:303:C:O5'	1.66	0.77
30:4:1:MET:CE	30:4:33:LYS:HB3	2.14	0.77
3:A:231:HIS:CE1	3:A:247:VAL:HA	2.20	0.77
5:C:194:GLU:O	5:C:195:ILE:HG12	1.84	0.77
9:G:105:GLY:C	9:G:110:LEU:HD12	2.04	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2256:G:OP2	12:J:86:LYS:HD2	1.83	0.77
16:N:66:ASN:CG	16:N:70:ARG:HH12	1.88	0.77
20:R:93:ARG:NH2	20:R:108:VAL:HG13	1.99	0.77
21:S:123:VAL:N	21:S:161:ALA:HB2	1.99	0.77
1:X:627:A:H2'	1:X:628:A:C8	2.20	0.77
1:X:865:A:H2'	1:X:866:U:H6	1.49	0.77
2:Y:36:A:HO2'	2:Y:37:C:H5	1.32	0.77
1:X:2015:G:H2'	4:B:145:LYS:NZ	1.98	0.77
4:B:152:LYS:HD2	9:G:106:TYR:H	1.49	0.77
1:X:542:A:H2	1:X:2004:U:H2'	1.44	0.77
1:X:2823:G:O2'	1:X:2824:C:H6	1.67	0.77
23:U:51:ILE:CG1	23:U:59:THR:HG22	2.14	0.77
1:X:1016:C:O2'	9:G:56:THR:HG21	1.84	0.77
1:X:1223:G:H4'	1:X:1224:A:C5'	2.14	0.77
1:X:455:A:N7	5:C:39:ARG:HG3	1.99	0.77
6:D:75:SER:HB2	6:D:79:LEU:CD1	2.14	0.77
6:D:74:ILE:HG12	6:D:80:ARG:C	2.05	0.77
8:F:112:MET:CG	8:F:113:PRO:HD3	2.11	0.77
11:I:30:ALA:HB3	11:I:34:HIS:HE1	1.50	0.77
16:N:88:ILE:HA	17:O:49:GLU:HG3	1.64	0.77
23:U:49:LYS:HD3	23:U:61:TRP:CD2	2.20	0.77
1:X:925:U:H4'	1:X:926:C:OP1	1.84	0.77
13:K:7:GLY:O	13:K:8:ARG:HG2	1.84	0.77
19:Q:6:ILE:HG22	19:Q:7:LEU:N	1.98	0.77
20:R:85:ASP:OD1	20:R:86:PRO:HD3	1.84	0.77
1:X:2196:U:C2'	1:X:2197:U:C6	2.65	0.77
30:4:19:ARG:HH11	30:4:24:LEU:HD22	1.45	0.77
5:C:102:LEU:O	5:C:102:LEU:HD23	1.85	0.77
6:D:111:ILE:CG2	6:D:114:PHE:HB2	2.14	0.77
6:D:38:GLU:HB3	6:D:87:ILE:HB	1.66	0.77
9:G:110:LEU:CD2	9:G:110:LEU:N	2.48	0.77
11:I:11:GLY:H	11:I:14:LYS:CB	1.98	0.77
15:M:34:ARG:HH21	15:M:91:VAL:CG2	1.98	0.77
1:X:2229:G:H5'	12:J:84:MET:HG2	1.66	0.77
1:X:33:C:O2'	1:X:34:U:H5"	1.85	0.77
5:C:5:ASN:HA	5:C:118:VAL:CG2	2.15	0.77
7:E:65:HIS:C	7:E:67:LEU:H	1.89	0.77
21:S:141:MET:HA	21:S:145:ASP:OD1	1.83	0.77
24:V:41:HIS:HD2	24:V:42:ARG:N	1.81	0.77
3:A:124:GLU:O	3:A:126:LYS:HG3	1.85	0.76
4:B:154:LYS:CE	4:B:156:MET:SD	2.74	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:31:CYS:HB3	4:B:49:ILE:CG1	2.14	0.76
9:G:107:GLN:HA	9:G:110:LEU:HG	1.65	0.76
1:X:1467:U:C4	1:X:1473:U:N3	2.50	0.76
1:X:2195:C:C4	1:X:2196:U:C5	2.72	0.76
1:X:2775:U:H5'	1:X:2776:U:H5''	1.66	0.76
1:X:417:C:H1'	1:X:419:G:C8	2.20	0.76
5:C:179:ASP:O	5:C:182:ARG:HB3	1.86	0.76
7:E:124:ALA:HB3	7:E:132:ASP:HB3	1.67	0.76
7:E:136:ILE:N	7:E:136:ILE:HD12	2.00	0.76
11:I:89:ASP:OD2	11:I:120:VAL:HA	1.85	0.76
12:J:106:GLU:CD	12:J:106:GLU:N	2.38	0.76
20:R:105:ARG:HH12	20:R:112:LYS:C	1.88	0.76
20:R:90:LYS:CB	20:R:108:VAL:HG21	2.15	0.76
22:T:74:LYS:O	22:T:76:ALA:N	2.18	0.76
24:V:4:SER:HB3	24:V:7:ARG:NH2	1.99	0.76
1:X:1053:G:C2'	1:X:1054:C:C6	2.61	0.76
1:X:2516:U:H2'	1:X:2517:C:H6	1.44	0.76
1:X:492:G:H1'	1:X:516:G:N2	2.01	0.76
15:M:37:THR:HG21	15:M:39:VAL:HG13	1.66	0.76
15:M:33:VAL:HG22	15:M:51:GLU:CB	2.15	0.76
16:N:61:TRP:HZ3	16:N:94:VAL:N	1.82	0.76
1:X:490:A:O2'	1:X:492:G:H5''	1.84	0.76
1:X:717:G:H1'	1:X:740:A:N6	2.00	0.76
18:P:36:ARG:NH2	26:Z:20:ARG:CZ	2.48	0.76
3:A:164:GLN:HE22	3:A:166:GLN:HE21	1.31	0.76
11:I:10:PRO:HA	11:I:14:LYS:HB2	1.68	0.76
1:X:2736:U:H5''	30:4:19:ARG:HA	1.68	0.76
1:X:1996:A:C2	18:P:109:ARG:NH2	2.53	0.76
19:Q:4:TYR:HE1	19:Q:45:ALA:HA	1.50	0.76
24:V:41:HIS:CD2	24:V:42:ARG:N	2.53	0.76
1:X:839:U:H5''	1:X:2408:G:OP2	1.85	0.76
1:X:2873:G:H2'	1:X:2874:A:C8	2.21	0.76
30:4:1:MET:HE1	30:4:33:LYS:HB3	1.68	0.76
3:A:121:PRO:HG2	3:A:122:GLU:OE1	1.85	0.76
7:E:18:ASN:HB2	7:E:25:LYS:HB3	1.67	0.76
19:Q:69:ILE:HD13	19:Q:70:GLY:O	1.85	0.76
23:U:52:ARG:HD2	23:U:79:GLU:HA	1.67	0.76
1:X:1935:A:C4	10:H:22:ILE:HD11	2.21	0.76
3:A:208:LYS:HE3	3:A:208:LYS:HA	1.66	0.76
9:G:70:PHE:HB2	16:N:64:ARG:HG2	1.67	0.76
1:X:1052:C:C3'	1:X:1053:G:C5'	2.57	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1188:A:C8	1:X:1188:A:P	2.78	0.76
1:X:2175:A:H2'	1:X:2176:U:H6	1.51	0.76
1:X:409:G:O2'	1:X:410:A:H5'	1.86	0.76
1:X:652:C:H42	1:X:657:A:N6	1.77	0.76
12:J:27:TYR:HB3	12:J:137:VAL:CG2	2.16	0.76
15:M:17:GLU:HG3	15:M:62:SER:OG	1.84	0.76
23:U:54:ASN:C	23:U:56:GLN:H	1.88	0.76
1:X:2404:A:H1'	1:X:2406:C:C4	2.20	0.76
1:X:2407:G:OP1	1:X:2408:G:OP1	2.04	0.76
3:A:108:PRO:HB3	3:A:143:HIS:HE1	1.49	0.76
9:G:115:ALA:O	9:G:118:ALA:HB3	1.86	0.76
9:G:61:ARG:NH2	9:G:61:ARG:HB3	1.99	0.76
13:K:37:THR:OG1	13:K:40:LYS:HG3	1.86	0.76
15:M:6:LYS:H	15:M:6:LYS:HD2	1.50	0.76
1:X:514:G:O6	18:P:20:LEU:HD13	1.86	0.76
1:X:1849:G:H1'	1:X:1868:A:H61	1.50	0.76
1:X:2625:U:OP2	1:X:2625:U:H6	1.69	0.76
5:C:148:VAL:CB	5:C:167:VAL:HG12	2.15	0.75
15:M:34:ARG:HH11	15:M:81:PHE:HB3	1.50	0.75
23:U:28:GLY:HA3	23:U:32:ARG:HB3	1.67	0.75
1:X:2379:G:O2'	1:X:2380:U:H5'	1.86	0.75
1:X:651:C:H2'	1:X:652:C:H5''	1.68	0.75
5:C:109:ALA:O	5:C:113:GLU:HG3	1.85	0.75
6:D:67:ILE:HG21	6:D:84:PRO:HB3	1.67	0.75
7:E:89:LEU:HD13	7:E:95:ARG:HA	1.66	0.75
14:L:40:ALA:HB1	14:L:75:LEU:HD22	1.68	0.75
21:S:63:PRO:C	21:S:86:VAL:HG23	2.07	0.75
1:X:1122:A:C2	1:X:1123:G:H1'	2.21	0.75
1:X:224:G:H4'	1:X:399:G:C6	2.21	0.75
14:L:33:ARG:CG	14:L:38:ILE:HB	2.16	0.75
1:X:540:G:HO2'	1:X:542:A:H2	1.32	0.75
3:A:125:PRO:HG3	3:A:131:LEU:HD13	1.67	0.75
3:A:77:ALA:HB2	3:A:97:TYR:CD1	2.21	0.75
13:K:24:GLN:HB2	13:K:44:LEU:HD13	1.68	0.75
1:X:427:C:H1'	1:X:1856:U:H1'	1.69	0.75
1:X:617:U:H5	1:X:632:A:C2	2.03	0.75
3:A:183:ARG:CB	3:A:183:ARG:HH11	1.94	0.75
3:A:247:VAL:HG23	3:A:248:THR:HG23	1.68	0.75
5:C:139:GLN:CA	5:C:139:GLN:HE21	1.99	0.75
6:D:29:PRO:HB3	6:D:160:ALA:HA	1.66	0.75
10:H:2:ILE:HD12	10:H:8:LEU:HD21	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:102:ALA:O	15:M:103:LYS:HD2	1.86	0.75
21:S:113:VAL:HG22	21:S:171:VAL:HG13	1.69	0.75
23:U:49:LYS:HB3	23:U:61:TRP:CE3	2.21	0.75
23:U:52:ARG:NH1	23:U:67:LEU:HG	2.01	0.75
1:X:1737:G:H2'	1:X:1738:U:H6	1.50	0.75
1:X:2581:A:H5'	1:X:2582:G:OP2	1.86	0.75
1:X:746:G:O6	1:X:774:A:C8	2.39	0.75
3:A:73:SER:HA	3:A:119:ALA:HB3	1.69	0.75
9:G:84:ASN:O	9:G:86:ALA:N	2.19	0.75
18:P:49:SER:O	18:P:51:GLN:N	2.19	0.75
21:S:19:ILE:CD1	21:S:36:ARG:HA	2.17	0.75
1:X:1526:U:H2'	1:X:1527:G:O4'	1.86	0.75
2:Y:46:G:H4'	6:D:92:ARG:NH1	2.02	0.75
8:F:120:VAL:HG12	8:F:121:GLU:N	2.02	0.75
14:L:33:ARG:NH1	14:L:100:VAL:HA	2.01	0.75
14:L:101:LYS:O	14:L:104:ALA:HB3	1.87	0.75
24:V:32:ALA:HB2	24:V:37:LEU:HD12	1.67	0.75
1:X:1608:U:H2'	1:X:1609:G:H8	1.51	0.75
1:X:1851:A:H62	1:X:1866:G:H21	1.35	0.75
1:X:2329:C:H2'	1:X:2330:G:O4'	1.86	0.75
1:X:2426:G:H4'	1:X:2427:A:O5'	1.87	0.75
1:X:389:G:H2'	1:X:390:U:C6	2.22	0.75
6:D:57:LEU:HA	6:D:60:ILE:HD11	1.67	0.75
13:K:49:GLU:O	13:K:52:ILE:HG12	1.86	0.75
14:L:15:ARG:HD2	14:L:91:ARG:NH1	1.96	0.75
19:Q:69:ILE:HD13	19:Q:70:GLY:H	1.48	0.75
19:Q:81:ARG:HH11	19:Q:81:ARG:HG3	1.50	0.75
21:S:127:PRO:CA	21:S:130:ILE:HD11	2.15	0.75
1:X:82:G:H22	1:X:100:G:C2'	1.96	0.75
1:X:984:A:H1'	1:X:1202:U:C5	2.22	0.75
1:X:149:A:H2'	1:X:150:A:C8	2.21	0.75
1:X:2205:C:H2'	1:X:2206:C:H5'	1.68	0.75
1:X:304:A:C2'	1:X:305:A:H5''	2.12	0.75
17:O:39:PHE:CE2	17:O:51:ALA:HB1	2.21	0.75
21:S:6:LYS:HB2	21:S:31:SER:C	2.06	0.75
24:V:55:THR:O	24:V:59:GLU:HG3	1.87	0.75
25:W:40:VAL:HA	25:W:43:MET:CG	2.16	0.75
1:X:1416:A:H2'	1:X:1417:C:H6	1.52	0.75
1:X:1919:A:C2	1:X:1926:U:N3	2.52	0.75
1:X:1978:U:C3'	1:X:1979:C:H5''	2.16	0.75
1:X:789:G:H4'	1:X:790:A:O5'	1.87	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:77:ALA:HB2	3:A:97:TYR:HD1	1.51	0.74
7:E:154:PRO:HA	7:E:160:LYS:O	1.86	0.74
7:E:28:GLY:HA3	7:E:79:VAL:HB	1.69	0.74
9:G:40:ASN:OD1	9:G:42:VAL:HG23	1.87	0.74
14:L:38:ILE:HG13	14:L:39:TYR:N	2.00	0.74
22:T:4:LYS:C	22:T:5:LYS:HD2	2.07	0.74
1:X:492:G:H1'	1:X:516:G:H21	1.52	0.74
1:X:98:U:H4'	1:X:99:U:H5''	1.68	0.74
30:4:9:LYS:H	30:4:9:LYS:HD2	1.52	0.74
8:F:103:GLN:O	8:F:106:GLU:HG2	1.87	0.74
14:L:36:LYS:HE3	14:L:36:LYS:HA	1.68	0.74
21:S:3:LEU:HD13	21:S:33:ALA:C	2.06	0.74
1:X:1167:A:H61	16:N:48:ARG:HD3	1.49	0.74
1:X:1186:G:H2'	1:X:1187:A:C4	2.22	0.74
1:X:1313:U:H4'	1:X:1314:A:O5'	1.87	0.74
1:X:1563:U:H2'	1:X:1564:U:C6	2.22	0.74
1:X:73:A:H5''	1:X:74:G:O4'	1.88	0.74
8:F:99:LEU:HB2	8:F:103:GLN:HE22	1.49	0.74
1:X:1070:G:O2'	8:F:74:MET:CE	2.35	0.74
12:J:71:PRO:HA	12:J:96:SER:HB2	1.69	0.74
20:R:95:ARG:NH1	20:R:106:VAL:HA	2.02	0.74
1:X:1850:G:N2	1:X:1867:A:C8	2.54	0.74
1:X:591:G:H2'	1:X:592:G:C8	2.23	0.74
3:A:251:GLY:HA3	3:A:255:LYS:NZ	2.02	0.74
7:E:58:ALA:H	7:E:62:ARG:CG	1.96	0.74
11:I:28:LYS:HZ2	11:I:36:GLY:CA	2.00	0.74
1:X:969:U:H5''	12:J:17:ARG:HH11	1.52	0.74
13:K:45:ARG:HG3	13:K:95:THR:HG21	1.69	0.74
21:S:51:LEU:H	21:S:51:LEU:HD23	1.52	0.74
1:X:1094:C:H2'	1:X:1096:A:C5'	2.17	0.74
1:X:2352:A:H2'	1:X:2353:G:C8	2.23	0.74
1:X:618:A:OP1	5:C:94:THR:HG21	1.88	0.74
7:E:95:ARG:HG3	7:E:106:ASN:HB3	1.70	0.74
10:H:23:ARG:HH12	10:H:25:LEU:CA	1.98	0.74
12:J:78:LYS:HA	12:J:88:LYS:HZ3	1.53	0.74
14:L:17:VAL:HG13	14:L:18:ARG:N	2.02	0.74
19:Q:66:GLY:C	19:Q:68:PHE:H	1.90	0.74
19:Q:7:LEU:HD23	24:V:30:PHE:HE2	1.53	0.74
20:R:82:ALA:O	20:R:83:LEU:HD12	1.87	0.74
21:S:13:LYS:HB2	21:S:13:LYS:NZ	2.02	0.74
21:S:94:VAL:HG23	21:S:125:PRO:HG3	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1181:C:H2'	1:X:1182:U:H5''	1.68	0.74
1:X:403:A:H5''	1:X:404:A:OP1	1.88	0.74
1:X:746:G:N7	1:X:774:A:C5	2.55	0.74
1:X:947:C:H2'	1:X:948:C:H6	1.51	0.74
1:X:1782:A:H1'	3:A:208:LYS:HE3	1.68	0.74
1:X:2218:G:O4'	3:A:249:PRO:HG3	1.87	0.74
6:D:33:LYS:HA	6:D:96:MET:SD	2.27	0.74
9:G:33:ILE:HB	9:G:34:PRO:HD3	1.69	0.74
10:H:4:PRO:HA	10:H:21:CYS:O	1.87	0.74
12:J:27:TYR:HB3	12:J:137:VAL:HG21	1.69	0.74
1:X:134:G:H2'	1:X:136:A:OP2	1.88	0.74
1:X:2546:G:H2'	1:X:2547:C:C6	2.23	0.74
3:A:244:ARG:CB	3:A:252:LYS:HZ1	2.00	0.74
3:A:72:LYS:HE2	3:A:97:TYR:CD2	2.23	0.74
6:D:13:ARG:HH21	6:D:17:MET:CE	2.01	0.74
11:I:71:THR:HB	11:I:104:ARG:HD3	1.68	0.74
20:R:16:PHE:HB3	20:R:82:ALA:HB1	1.68	0.74
21:S:23:ALA:HB3	21:S:32:PHE:HE1	1.52	0.74
1:X:1036:G:C4	1:X:1145:C:H1'	2.23	0.74
1:X:1337:G:H1'	1:X:1632:A:N6	2.03	0.74
1:X:648:A:H4'	1:X:649:G:O4'	1.88	0.74
2:Y:19:C:H2'	2:Y:20:A:O4'	1.88	0.74
4:B:162:MET:HA	4:B:162:MET:HE2	1.68	0.74
13:K:10:LEU:HD23	13:K:17:ARG:HB2	1.69	0.74
18:P:87:GLU:HA	18:P:90:LEU:HG	1.69	0.74
3:A:217:ARG:HH21	3:A:218:LYS:HE2	1.52	0.74
1:X:787:A:H5''	3:A:48:ARG:HH22	1.53	0.74
1:X:1584:G:H5''	3:A:61:LEU:HG	1.68	0.74
8:F:120:VAL:O	8:F:122:ALA:N	2.21	0.74
16:N:88:ILE:HG23	17:O:49:GLU:HB2	1.69	0.74
24:V:35:GLY:O	24:V:36:GLN:HB2	1.87	0.74
1:X:1486:A:H2'	1:X:1487:C:C6	2.23	0.74
1:X:1373:G:H22	1:X:2192:U:H3	1.35	0.74
3:A:244:ARG:N	3:A:244:ARG:HD3	2.02	0.74
4:B:72:VAL:HG12	4:B:73:ALA:N	2.02	0.74
6:D:4:LEU:CD1	6:D:5:LYS:H	2.00	0.74
9:G:94:LYS:O	9:G:117:GLU:HB2	1.87	0.74
18:P:40:LEU:CD1	18:P:62:ARG:HH12	2.01	0.74
21:S:113:VAL:HG13	21:S:171:VAL:HG22	1.68	0.74
24:V:2:LYS:CG	24:V:3:PRO:HD3	2.17	0.74
1:X:1734:C:C4	1:X:1735:G:H1'	2.23	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:417:C:N1	1:X:419:G:C8	2.56	0.74
2:Y:42:U:H1'	2:Y:47:A:N6	2.02	0.74
1:X:2218:G:H5'	3:A:249:PRO:HB3	1.69	0.73
23:U:51:ILE:HA	23:U:59:THR:O	1.87	0.73
1:X:1053:G:N2	1:X:1124:U:O2	2.17	0.73
1:X:2036:G:O2'	1:X:2037:A:H5'	1.88	0.73
1:X:1885:C:C5'	3:A:244:ARG:HD2	2.18	0.73
6:D:32:GLU:HB3	6:D:157:VAL:HG12	1.70	0.73
1:X:2356:A:H1'	14:L:89:PHE:CE2	2.22	0.73
17:O:14:VAL:O	17:O:15:SER:HB2	1.86	0.73
17:O:64:GLY:HA3	17:O:90:PHE:CZ	2.23	0.73
20:R:18:LYS:HE2	20:R:18:LYS:C	2.08	0.73
20:R:85:ASP:H	20:R:86:PRO:HD3	1.52	0.73
20:R:93:ARG:HA	20:R:95:ARG:NH2	2.03	0.73
1:X:987:G:H4'	1:X:1167:A:N7	2.02	0.73
1:X:1430:G:H2'	1:X:1431:U:C6	2.23	0.73
6:D:75:SER:N	6:D:79:LEU:HD22	2.03	0.73
9:G:158:HIS:HA	9:G:161:GLN:CD	2.08	0.73
9:G:83:ILE:HG13	9:G:84:ASN:ND2	2.03	0.73
11:I:45:LYS:HE2	11:I:47:ALA:CB	2.15	0.73
15:M:106:TYR:CE1	15:M:107:LEU:CD2	2.71	0.73
15:M:34:ARG:CZ	15:M:88:VAL:HG11	2.18	0.73
17:O:15:SER:OG	17:O:96:LEU:HA	1.88	0.73
1:X:1018:C:C3'	1:X:1019:U:C5'	2.66	0.73
1:X:1125:G:H2'	1:X:1126:A:H8	1.52	0.73
1:X:1841:G:H2'	1:X:1842:G:H5'	1.70	0.73
1:X:2448:A:H2'	1:X:2449:G:O4'	1.88	0.73
16:N:66:ASN:HD22	16:N:70:ARG:NH2	1.86	0.73
25:W:16:GLN:O	25:W:20:VAL:HG23	1.88	0.73
1:X:497:C:C6	1:X:497:C:H5'	2.23	0.73
1:X:674:U:H2'	1:X:675:C:O4'	1.89	0.73
1:X:90:G:OP1	1:X:90:G:C4'	2.36	0.73
4:B:146:THR:HB	4:B:147:PRO:HD2	1.69	0.73
6:D:134:GLU:HG2	6:D:136:LEU:H	1.53	0.73
7:E:105:MET:HB2	7:E:113:VAL:HB	1.70	0.73
7:E:105:MET:HE1	7:E:131:ILE:HD11	1.69	0.73
1:X:2357:A:H61	14:L:18:ARG:CZ	2.02	0.73
16:N:66:ASN:ND2	16:N:70:ARG:NH1	2.37	0.73
17:O:40:VAL:HG12	17:O:45:THR:HA	1.70	0.73
1:X:101:A:OP1	1:X:101:A:C8	2.38	0.73
1:X:2178:U:O2'	1:X:2179:C:H5'	1.87	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2672:U:H2'	1:X:2673:G:C8	2.23	0.73
1:X:862:A:H2'	1:X:863:C:C6	2.22	0.73
1:X:1277:G:OP1	26:Z:19:ARG:NH2	2.21	0.73
3:A:58:HIS:O	3:A:59:LYS:HB3	1.87	0.73
10:H:70:VAL:HG22	10:H:71:LYS:H	1.52	0.73
10:H:132:GLU:HB2	15:M:73:PHE:CE1	2.22	0.73
20:R:24:VAL:HB	20:R:29:HIS:O	1.88	0.73
22:T:31:VAL:HG22	22:T:67:VAL:HG23	1.71	0.73
1:X:2195:C:H2'	1:X:2196:U:O4'	1.89	0.73
1:X:2811:G:H2'	1:X:2812:A:C8	2.23	0.73
2:Y:119:G:H4'	14:L:57:ALA:HB1	1.71	0.73
4:B:120:TRP:CD2	4:B:155:ARG:HD2	2.24	0.73
9:G:36:ASN:C	9:G:38:GLU:H	1.90	0.73
9:G:67:ARG:HB3	9:G:70:PHE:HA	1.70	0.73
12:J:79:PRO:HD3	12:J:88:LYS:HZ2	1.53	0.73
17:O:28:GLU:O	17:O:30:GLY:N	2.21	0.73
1:X:1737:G:H2'	1:X:1738:U:C6	2.23	0.73
1:X:826:U:H2'	1:X:827:C:C6	2.23	0.73
5:C:15:ILE:HG22	5:C:17:LEU:HD13	1.71	0.73
6:D:123:ASP:O	6:D:125:ARG:N	2.22	0.73
9:G:42:VAL:HG13	9:G:166:LEU:O	1.88	0.73
12:J:78:LYS:HE2	12:J:81:GLU:CA	2.11	0.73
15:M:31:ASP:OD2	15:M:31:ASP:N	2.22	0.73
17:O:36:LYS:HD3	17:O:39:PHE:CE2	2.24	0.73
18:P:80:LEU:HD21	18:P:87:GLU:HB3	1.71	0.73
25:W:46:THR:CG2	25:W:47:VAL:HG13	2.19	0.73
1:X:1055:A:C4	1:X:1055:A:H3'	2.21	0.73
1:X:177:U:H3'	1:X:178:C:C6	2.24	0.73
1:X:306:G:N2	1:X:355:G:H1'	2.03	0.73
1:X:554:U:H2'	1:X:554:U:O2	1.87	0.73
1:X:645:G:H2'	1:X:646:C:C6	2.24	0.73
5:C:26:VAL:HA	11:I:18:ARG:HH11	1.52	0.73
11:I:76:LYS:CG	11:I:111:SER:HB2	2.17	0.73
17:O:90:PHE:HD1	17:O:91:THR:N	1.85	0.73
18:P:44:VAL:HG21	18:P:60:ILE:CD1	2.19	0.73
25:W:2:LYS:HB3	25:W:54:GLN:CB	2.15	0.73
1:X:1031:C:O2	1:X:1031:C:H2'	1.87	0.73
1:X:136:A:C6	1:X:137:A:C6	2.77	0.73
1:X:1473:U:OP2	1:X:1473:U:H6	1.71	0.73
1:X:2195:C:N4	1:X:2196:U:C4	2.56	0.73
1:X:2237:C:H4'	1:X:2238:G:OP2	1.87	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2418:A:H4'	1:X:2419:C:O5'	1.86	0.73
3:A:245:VAL:HA	3:A:252:LYS:HE2	1.70	0.73
3:A:70:ARG:HG2	3:A:190:TYR:CE1	2.23	0.73
8:F:112:MET:HA	8:F:115:LEU:HD12	1.71	0.73
9:G:36:ASN:O	9:G:38:GLU:N	2.21	0.73
11:I:86:THR:H	11:I:116:ARG:HH12	1.35	0.73
25:W:36:ASP:CG	25:W:41:ARG:HH12	1.92	0.73
25:W:9:VAL:O	25:W:12:ARG:HB2	1.89	0.73
1:X:1429:A:O2'	1:X:1430:G:H4'	1.89	0.73
1:X:2310:G:C4'	22:T:42:GLY:HA3	2.19	0.73
1:X:333:A:H5'	5:C:162:ARG:HG3	1.69	0.73
3:A:270:ILE:HG13	3:A:271:VAL:N	2.03	0.72
7:E:139:GLN:HB3	7:E:143:GLN:CD	2.09	0.72
20:R:60:PRO:O	20:R:62:MET:N	2.18	0.72
21:S:4:THR:CB	21:S:57:GLU:HB2	2.15	0.72
1:X:1448:A:H61	1:X:1574:A:N6	1.85	0.72
1:X:71:A:N6	1:X:110:U:H4'	2.04	0.72
1:X:774:A:H8	1:X:774:A:H3'	1.54	0.72
6:D:40:LEU:HA	6:D:150:ARG:NH2	2.05	0.72
6:D:39:GLY:HA2	6:D:86:GLY:HA2	1.71	0.72
20:R:107:ALA:CB	20:R:111:GLY:HA2	2.19	0.72
20:R:25:LEU:HD22	20:R:26:SER:HB3	1.72	0.72
1:X:1218:C:C5'	11:I:13:ARG:HH11	2.02	0.72
1:X:537:C:H1'	1:X:538:A:N6	2.03	0.72
3:A:92:ILE:CG2	3:A:104:TYR:HD2	2.02	0.72
5:C:48:ARG:CB	5:C:51:VAL:HG22	2.19	0.72
6:D:97:TYR:CD2	6:D:100:LEU:HD23	2.23	0.72
11:I:76:LYS:HE3	11:I:111:SER:CB	2.19	0.72
23:U:70:LEU:HD22	23:U:79:GLU:HG2	1.70	0.72
24:V:50:VAL:CA	24:V:53:LEU:HD12	2.18	0.72
1:X:1978:U:H5''	1:X:1979:C:H5'	1.71	0.72
1:X:2048:C:O2'	1:X:2049:C:H5'	1.90	0.72
1:X:531:G:H2'	1:X:532:A:H8	1.53	0.72
1:X:98:U:C4'	1:X:99:U:O5'	2.30	0.72
6:D:12:VAL:HG12	6:D:16:LEU:CD1	2.17	0.72
17:O:25:LEU:HB2	17:O:32:LYS:HZ1	1.54	0.72
21:S:10:PRO:O	21:S:13:LYS:HG3	1.87	0.72
23:U:15:VAL:HA	23:U:45:ASN:O	1.90	0.72
1:X:1051:U:H2'	1:X:1052:C:O4'	1.89	0.72
1:X:1117:G:H2'	1:X:1118:G:C8	2.25	0.72
1:X:1124:U:O2'	1:X:1125:G:H5'	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:168:A:O2'	1:X:169:C:H5'	1.89	0.72
1:X:469:G:HO2'	1:X:480:G:H1	1.35	0.72
1:X:558:G:H5''	1:X:558:G:N3	2.03	0.72
1:X:731:A:N3	1:X:731:A:O5'	2.22	0.72
2:Y:112:A:H2'	2:Y:113:G:C8	2.24	0.72
3:A:42:GLY:C	3:A:43:ARG:NH1	2.43	0.72
5:C:39:ARG:HG2	5:C:39:ARG:HH11	1.54	0.72
7:E:58:ALA:N	7:E:62:ARG:HG3	1.99	0.72
4:B:149:ARG:HH12	9:G:106:TYR:HD1	1.37	0.72
1:X:461:A:C4'	16:N:3:ARG:HH21	2.02	0.72
17:O:86:HIS:CD2	17:O:87:ARG:N	2.56	0.72
1:X:1333:G:N2	1:X:1344:C:H41	1.87	0.72
1:X:2311:U:H5'	1:X:2315:A:N6	2.04	0.72
5:C:48:ARG:HB2	5:C:51:VAL:CG2	2.19	0.72
11:I:86:THR:OG1	11:I:118:VAL:HG12	1.90	0.72
13:K:82:GLU:O	13:K:86:LYS:HG3	1.89	0.72
14:L:33:ARG:HH12	14:L:103:LEU:H	1.37	0.72
19:Q:62:ARG:O	19:Q:63:LYS:HB3	1.88	0.72
21:S:13:LYS:HB2	21:S:13:LYS:HZ3	1.53	0.72
1:X:1690:U:H2'	1:X:1691:G:H5'	1.72	0.72
3:A:228:PRO:HD3	3:A:235:GLY:H	1.55	0.72
12:J:11:ARG:NH2	12:J:15:ARG:HH22	1.88	0.72
14:L:68:ALA:HB1	14:L:102:ALA:HB1	1.71	0.72
11:I:32:ARG:NH2	17:O:81:ARG:NE	2.37	0.72
23:U:29:GLY:O	23:U:31:GLY:N	2.22	0.72
1:X:2712:G:H3'	1:X:2713:A:C5'	2.18	0.72
1:X:317:U:H2'	1:X:318:G:C5'	2.18	0.72
1:X:731:A:C2'	1:X:732:G:O4'	2.36	0.72
1:X:98:U:H1'	1:X:100:G:N7	2.04	0.72
3:A:164:GLN:OE1	3:A:176:ARG:HB3	1.88	0.72
7:E:92:VAL:O	7:E:94:PHE:N	2.23	0.72
19:Q:66:GLY:O	19:Q:68:PHE:N	2.22	0.72
23:U:13:LEU:HD12	23:U:14:VAL:H	1.54	0.72
25:W:12:ARG:HH11	25:W:12:ARG:HG2	1.54	0.72
1:X:1072:U:H4'	1:X:1073:G:OP2	1.89	0.72
2:Y:31:A:H2'	2:Y:32:C:C6	2.25	0.72
1:X:1816:G:OP1	3:A:52:ARG:HD3	1.90	0.72
7:E:33:LEU:HD12	7:E:34:THR:H	1.53	0.72
12:J:14:PHE:O	12:J:15:ARG:HG3	1.90	0.72
12:J:60:ARG:HH11	12:J:60:ARG:HG2	1.55	0.72
14:L:87:VAL:HG12	14:L:88:VAL:N	2.04	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:35:LEU:O	17:O:36:LYS:HB2	1.89	0.72
1:X:1857:G:N2	1:X:1860:A:OP2	2.22	0.72
1:X:196:A:H2	1:X:211:U:O2	1.72	0.72
1:X:417:C:C2	1:X:419:G:C5	2.77	0.72
1:X:566:U:O2'	1:X:567:G:H5'	1.90	0.72
3:A:160:GLY:HA2	3:A:196:VAL:O	1.89	0.72
3:A:231:HIS:HD2	3:A:233:HIS:H	1.34	0.72
5:C:3:GLN:HG2	5:C:116:LYS:HD2	1.71	0.72
11:I:88:PHE:O	11:I:93:LEU:HB2	1.90	0.72
16:N:93:LYS:HD2	16:N:93:LYS:O	1.89	0.72
21:S:105:GLN:O	21:S:142:ASN:HA	1.90	0.72
25:W:14:GLY:O	25:W:17:VAL:HB	1.90	0.72
1:X:1736:C:H2'	1:X:1737:G:C8	2.25	0.72
4:B:1:MET:HG3	4:B:83:GLY:O	1.90	0.71
5:C:104:LEU:N	5:C:104:LEU:HD23	2.05	0.71
9:G:170:PRO:O	9:G:171:LEU:HD23	1.90	0.71
9:G:44:VAL:HG12	9:G:45:ASP:N	2.05	0.71
12:J:69:ILE:HG23	12:J:104:MET:HA	1.71	0.71
16:N:61:TRP:CZ3	16:N:94:VAL:N	2.56	0.71
19:Q:91:LEU:N	19:Q:91:LEU:HD22	2.04	0.71
21:S:168:VAL:HG12	21:S:169:VAL:HG13	1.69	0.71
21:S:18:MET:HA	21:S:36:ARG:N	2.05	0.71
21:S:64:ALA:CA	21:S:85:MET:HA	2.19	0.71
1:X:1402:G:H2'	1:X:1403:U:O4'	1.90	0.71
1:X:1705:U:O2	1:X:1717:A:H5''	1.90	0.71
1:X:242:A:H2'	1:X:243:G:O4'	1.90	0.71
1:X:925:U:O2'	1:X:926:C:H5'	1.89	0.71
7:E:126:PRO:HG2	7:E:127:GLU:H	1.54	0.71
14:L:8:ARG:HG3	14:L:9:ARG:H	1.55	0.71
1:X:1034:U:H2'	1:X:1035:G:H5'	1.71	0.71
1:X:2451:G:O6	1:X:2455:A:H4'	1.89	0.71
1:X:788:G:H5'	1:X:790:A:C1'	2.20	0.71
3:A:125:PRO:HG3	3:A:131:LEU:CD1	2.20	0.71
7:E:68:THR:O	7:E:72:VAL:HG23	1.90	0.71
9:G:61:ARG:CZ	9:G:65:LYS:HD2	2.20	0.71
12:J:64:LYS:CD	12:J:64:LYS:H	1.96	0.71
14:L:63:ASN:CB	14:L:66:ASP:HB2	2.19	0.71
16:N:50:ARG:C	16:N:52:ASN:N	2.40	0.71
19:Q:59:PRO:HA	19:Q:74:ASP:OD1	1.90	0.71
1:X:2310:G:H4'	22:T:43:THR:N	2.05	0.71
1:X:1411:C:O2'	1:X:1412:C:H5'	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2668:U:H5'	1:X:2669:C:H5'	1.72	0.71
1:X:514:G:H22	18:P:15:LYS:HA	1.53	0.71
3:A:132:PRO:O	3:A:136:VAL:HG23	1.90	0.71
6:D:41:GLY:HA2	6:D:44:LYS:O	1.90	0.71
19:Q:29:VAL:HG11	19:Q:38:ILE:CD1	2.21	0.71
22:T:3:HIS:HD2	22:T:5:LYS:HD3	1.54	0.71
24:V:14:PHE:CD2	24:V:57:LYS:HB2	2.25	0.71
24:V:14:PHE:HD2	24:V:57:LYS:HB2	1.54	0.71
1:X:2736:U:H4'	1:X:2737:A:OP1	1.89	0.71
1:X:332:C:C1'	5:C:159:ARG:HE	2.03	0.71
1:X:2796:A:H5''	4:B:162:MET:CE	2.19	0.71
6:D:33:LYS:HB2	6:D:91:LEU:O	1.91	0.71
2:Y:30:C:OP1	14:L:37:HIS:CB	2.39	0.71
16:N:39:LEU:HA	16:N:42:ALA:CB	2.20	0.71
18:P:14:ARG:HA	18:P:17:GLN:HG2	1.72	0.71
1:X:1753:A:O5'	1:X:1753:A:H8	1.73	0.71
1:X:1787:U:H2'	1:X:1788:C:C6	2.25	0.71
1:X:2873:G:H21	9:G:162:LYS:NZ	1.88	0.71
5:C:26:VAL:O	5:C:30:VAL:HG23	1.89	0.71
9:G:98:LYS:HB3	9:G:116:ARG:HB2	1.73	0.71
16:N:72:HIS:CD2	16:N:110:VAL:HG21	2.21	0.71
16:N:93:LYS:NZ	17:O:10:LYS:HZ3	1.89	0.71
17:O:66:GLY:O	17:O:87:ARG:HD3	1.90	0.71
17:O:57:GLN:N	17:O:97:GLY:HA3	2.03	0.71
20:R:18:LYS:HA	20:R:36:VAL:HG12	1.72	0.71
21:S:141:MET:HB3	21:S:171:VAL:CG2	2.20	0.71
1:X:2195:C:H2'	1:X:2196:U:C1'	2.21	0.71
1:X:541:C:O2'	1:X:542:A:OP2	2.07	0.71
1:X:729:A:C2'	1:X:730:C:O4'	2.35	0.71
4:B:120:TRP:O	4:B:121:ASN:HB2	1.89	0.71
6:D:143:TYR:HA	6:D:146:VAL:CG2	2.21	0.71
10:H:27:SER:HB3	10:H:50:ILE:H	1.54	0.71
15:M:27:PHE:HB3	15:M:93:ILE:HD12	1.71	0.71
16:N:74:MET:O	16:N:75:ASN:HB3	1.90	0.71
21:S:10:PRO:O	21:S:14:LEU:HG	1.91	0.71
1:X:208:C:C2'	1:X:209:G:H5'	2.20	0.71
1:X:914:C:H2'	1:X:915:C:C6	2.26	0.71
3:A:163:VAL:HG22	3:A:177:LEU:HA	1.72	0.71
1:X:797:A:H5''	3:A:227:ASN:HD21	1.53	0.71
22:T:58:THR:HG22	22:T:59:LEU:H	1.54	0.71
1:X:1122:A:H2	1:X:1123:G:H1'	1.56	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1337:G:OP2	18:P:105:ARG:NH1	2.24	0.71
1:X:1517:C:H2'	1:X:1518:C:H6	1.55	0.71
1:X:2625:U:C6	1:X:2625:U:OP2	2.43	0.71
1:X:514:G:N2	18:P:15:LYS:CA	2.53	0.71
3:A:160:GLY:CA	3:A:196:VAL:HG23	2.21	0.71
6:D:70:ALA:HB3	6:D:83:MET:N	1.99	0.71
7:E:29:PRO:HG2	7:E:79:VAL:O	1.90	0.71
11:I:73:GLU:HG2	11:I:101:ARG:CB	2.21	0.71
10:H:83:ARG:HH11	15:M:40:ARG:CD	2.03	0.71
22:T:38:VAL:HG21	22:T:79:ILE:HD11	1.73	0.71
1:X:1474:A:H4'	1:X:1475:U:O5'	1.90	0.71
1:X:2394:G:OP1	11:I:63:ARG:HD2	1.91	0.71
1:X:2404:A:H4'	1:X:2405:A:H5''	1.70	0.71
6:D:106:ILE:HG23	6:D:110:ARG:HD2	1.72	0.71
12:J:28:VAL:HG21	12:J:135:ARG:HA	1.73	0.71
14:L:38:ILE:CG1	14:L:39:TYR:N	2.54	0.71
1:X:1349:A:H2'	1:X:1350:G:H8	1.56	0.71
1:X:1468:A:H5''	1:X:1472:C:H41	1.54	0.71
1:X:1482:U:H2'	1:X:1483:G:C8	2.26	0.71
1:X:2323:U:P	1:X:2323:U:O4'	2.49	0.71
1:X:2764:U:H2'	1:X:2765:C:H6	1.55	0.71
26:Z:33:CYS:O	26:Z:37:HIS:HA	1.91	0.71
11:I:81:GLN:HE22	11:I:115:SER:HA	1.56	0.70
15:M:46:ARG:HG3	15:M:47:SER:N	2.06	0.70
18:P:94:GLU:HG2	18:P:127:ILE:HB	1.71	0.70
23:U:27:ASP:C	23:U:32:ARG:HD3	2.11	0.70
25:W:3:ILE:O	25:W:31:SER:HB2	1.91	0.70
1:X:10:A:H2'	1:X:11:G:C8	2.26	0.70
1:X:1525:A:H3'	1:X:1526:U:H6	1.55	0.70
1:X:1882:G:H21	1:X:1885:C:H41	1.37	0.70
1:X:2198:U:C2	1:X:2199:C:C6	2.79	0.70
1:X:416:U:O2'	1:X:417:C:H5	1.74	0.70
3:A:206:LEU:CA	3:A:211:ARG:HD3	2.21	0.70
7:E:43:VAL:HG23	7:E:51:LEU:O	1.91	0.70
13:K:3:HIS:CE1	13:K:5:LYS:HD2	2.26	0.70
15:M:34:ARG:HD3	15:M:88:VAL:HG22	1.72	0.70
1:X:685:U:O2'	1:X:686:C:H5'	1.91	0.70
3:A:48:ARG:H	3:A:48:ARG:HD2	1.57	0.70
6:D:92:ARG:NH2	6:D:92:ARG:HG3	2.05	0.70
8:F:90:THR:N	8:F:91:PRO:CD	2.54	0.70
11:I:13:ARG:HH21	11:I:13:ARG:CG	2.05	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:62:LYS:HD3	29:3:12:ARG:CA	2.21	0.70
14:L:21:THR:HG22	14:L:22:ALA:N	2.06	0.70
14:L:68:ALA:O	14:L:71:VAL:HG13	1.91	0.70
14:L:81:GLU:O	14:L:82:LYS:HG2	1.89	0.70
1:X:1539:U:H2'	1:X:1540:C:C6	2.24	0.70
1:X:203:G:O2'	1:X:204:A:H5'	1.91	0.70
1:X:2198:U:H2'	1:X:2199:C:C1'	2.20	0.70
1:X:2691:C:H4'	1:X:2692:A:OP1	1.91	0.70
1:X:865:A:H2'	1:X:866:U:C6	2.26	0.70
1:X:2767:C:H1'	4:B:62:PRO:HG3	1.71	0.70
5:C:137:ALA:HB1	5:C:142:LEU:HB2	1.73	0.70
6:D:166:ALA:O	6:D:170:LEU:HG	1.92	0.70
12:J:35:LEU:HB3	12:J:105:PHE:HB2	1.72	0.70
20:R:59:LYS:HD2	20:R:62:MET:CG	2.16	0.70
1:X:409:G:H1'	23:U:45:ASN:HD22	1.56	0.70
1:X:1218:C:H5'	11:I:13:ARG:HH11	1.56	0.70
1:X:1250:A:HO2'	1:X:1251:G:C4'	2.03	0.70
1:X:2083:G:H2'	1:X:2084:G:C8	2.27	0.70
1:X:2266:A:O2'	1:X:2267:A:H3'	1.90	0.70
1:X:2371:A:H2	1:X:2403:C:N4	1.89	0.70
1:X:2563:U:C2'	1:X:2564:U:H5''	2.20	0.70
1:X:2823:G:O2'	1:X:2824:C:P	2.50	0.70
1:X:554:U:O2	1:X:554:U:C2'	2.38	0.70
9:G:61:ARG:HE	9:G:65:LYS:CD	2.03	0.70
10:H:116:ARG:CD	15:M:38:LYS:HE2	2.17	0.70
15:M:95:GLU:HG3	15:M:95:GLU:O	1.91	0.70
18:P:91:PHE:HD1	18:P:129:ALA:O	1.73	0.70
20:R:80:LYS:HZ1	20:R:82:ALA:HA	1.55	0.70
1:X:1218:C:C1'	11:I:13:ARG:HE	2.04	0.70
1:X:1886:G:H2'	1:X:1887:G:H8	1.55	0.70
1:X:2175:A:H2'	1:X:2176:U:C6	2.27	0.70
1:X:760:U:C6	26:Z:3:LYS:HG3	2.26	0.70
12:J:69:ILE:HG13	12:J:69:ILE:O	1.90	0.70
13:K:31:GLU:O	13:K:33:ARG:N	2.24	0.70
1:X:2273:C:H5'	14:L:95:LYS:CE	2.21	0.70
17:O:28:GLU:C	17:O:30:GLY:H	1.94	0.70
1:X:177:U:H2'	1:X:178:C:O4'	1.90	0.70
1:X:2325:A:HO2'	1:X:2326:C:P	2.15	0.70
26:Z:32:GLU:HG3	26:Z:37:HIS:O	1.92	0.70
6:D:40:LEU:HB3	6:D:150:ARG:NE	2.06	0.70
9:G:49:VAL:HG13	9:G:50:PRO:HD2	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:126:SER:OG	11:I:129:ALA:HB2	1.92	0.70
16:N:66:ASN:HD22	16:N:70:ARG:HH12	1.39	0.70
21:S:87:THR:O	21:S:88:TYR:HB2	1.91	0.70
1:X:1211:G:H2'	1:X:1212:U:H6	1.57	0.70
1:X:2286:G:C6	1:X:2287:G:H1'	2.27	0.70
1:X:540:G:O2'	1:X:542:A:C2	2.43	0.70
1:X:760:U:C1'	26:Z:3:LYS:HE2	2.22	0.70
5:C:176:ASN:O	5:C:180:ILE:HG22	1.92	0.70
5:C:47:THR:HA	5:C:82:VAL:HB	1.73	0.70
10:H:60:PRO:O	10:H:61:ARG:HB2	1.90	0.70
14:L:36:LYS:HB3	14:L:64:LYS:HB2	1.72	0.70
16:N:85:ARG:HH21	16:N:85:ARG:HG3	1.56	0.70
5:C:9:GLN:O	5:C:10:ASN:HB2	1.90	0.70
5:C:150:LEU:HG	5:C:187:VAL:HG11	1.73	0.70
20:R:54:ILE:HA	20:R:70:GLU:O	1.92	0.70
1:X:1324:G:H1'	1:X:1326:U:O4	1.92	0.70
1:X:1909:U:H5	1:X:1911:A:N6	1.88	0.70
1:X:2322:U:H2'	1:X:2323:U:C6	2.26	0.70
1:X:2662:C:H2'	1:X:2663:U:C6	2.26	0.70
1:X:357:A:N7	1:X:358:C:H1'	2.07	0.70
1:X:469:G:O2'	1:X:470:U:OP2	2.09	0.70
1:X:692:C:O2'	1:X:693:A:H5'	1.92	0.70
9:G:148:LEU:HD11	9:G:150:VAL:HG23	1.74	0.70
5:C:26:VAL:HA	11:I:18:ARG:NH1	2.06	0.70
20:R:10:HIS:O	20:R:11:ASN:HB2	1.92	0.70
20:R:85:ASP:H	20:R:86:PRO:CD	2.04	0.70
1:X:2075:U:HO2'	1:X:2076:G:H5''	1.56	0.70
1:X:2764:U:H2'	1:X:2765:C:C6	2.27	0.70
1:X:318:G:H8	1:X:318:G:H5'	1.55	0.70
1:X:564:U:H2'	1:X:565:A:C8	2.27	0.70
1:X:611:C:C4'	5:C:98:GLN:HE22	2.05	0.70
2:Y:16:U:H1'	2:Y:109:G:N2	2.04	0.70
3:A:143:HIS:ND1	3:A:194:GLY:O	2.25	0.69
5:C:24:SER:O	5:C:27:LEU:N	2.24	0.69
12:J:44:LYS:HE3	12:J:93:TYR:HE1	1.57	0.69
13:K:11:ASN:OD1	13:K:17:ARG:CZ	2.41	0.69
16:N:22:LYS:C	16:N:24:PHE:H	1.94	0.69
19:Q:11:VAL:HG22	19:Q:28:TRP:NE1	2.07	0.69
1:X:1490:U:H2'	1:X:1491:C:H6	1.55	0.69
1:X:1569:A:H2'	1:X:1571:G:N7	2.06	0.69
1:X:1432:G:H2'	1:X:1594:U:O4	1.91	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2247:A:H5'	1:X:2248:A:OP2	1.91	0.69
1:X:2286:G:H21	1:X:2290:A:H61	1.39	0.69
1:X:571:U:O2'	1:X:581:A:O4'	2.10	0.69
11:I:68:VAL:O	11:I:68:VAL:HG12	1.93	0.69
15:M:34:ARG:NH1	15:M:88:VAL:HG21	2.07	0.69
21:S:19:ILE:CG1	21:S:36:ARG:HA	2.21	0.69
1:X:2310:G:O4'	22:T:42:GLY:HA3	1.91	0.69
1:X:400:U:O2'	1:X:401:G:H5''	1.91	0.69
1:X:417:C:C2	1:X:419:G:N7	2.60	0.69
2:Y:123:U:OP1	2:Y:123:U:H3'	1.92	0.69
4:B:34:VAL:HG12	4:B:72:VAL:HG21	1.73	0.69
6:D:16:LEU:O	6:D:20:PHE:N	2.24	0.69
6:D:46:ASP:C	6:D:48:LYS:N	2.45	0.69
1:X:674:U:H1'	11:I:22:GLY:HA2	1.74	0.69
21:S:149:ALA:HB3	21:S:164:PRO:HA	1.74	0.69
23:U:28:GLY:N	23:U:32:ARG:HD3	2.07	0.69
24:V:24:GLU:O	24:V:28:LEU:HD23	1.92	0.69
1:X:1090:C:O2'	1:X:1091:C:H5'	1.91	0.69
1:X:2309:G:H2'	1:X:2310:G:H5'	1.74	0.69
6:D:13:ARG:O	6:D:16:LEU:HB2	1.93	0.69
23:U:10:LYS:HE2	23:U:11:LYS:HE3	1.73	0.69
23:U:19:ILE:HA	23:U:42:GLN:HA	1.72	0.69
1:X:1060:C:H2'	1:X:1061:A:C8	2.27	0.69
1:X:1142:G:H1'	9:G:103:TYR:CD2	2.27	0.69
1:X:2320:G:H2'	1:X:2321:C:C6	2.27	0.69
1:X:944:A:O2'	1:X:945:G:H5'	1.93	0.69
11:I:81:GLN:HB3	11:I:114:ILE:HG22	1.73	0.69
16:N:8:ILE:HD13	16:N:12:ARG:CZ	2.22	0.69
17:O:22:VAL:HA	17:O:91:THR:OG1	1.92	0.69
19:Q:39:LYS:HE3	19:Q:50:VAL:HB	1.73	0.69
1:X:2210:C:OP1	23:U:45:ASN:HA	1.92	0.69
1:X:663:G:C2'	1:X:664:C:H5''	2.21	0.69
3:A:73:SER:HB2	3:A:120:GLY:CA	2.22	0.69
12:J:64:LYS:HG2	12:J:108:ALA:O	1.92	0.69
15:M:106:TYR:CE1	15:M:107:LEU:HD23	2.28	0.69
1:X:137:A:C8	1:X:137:A:OP2	2.45	0.69
1:X:1995:G:O5'	1:X:1995:G:H8	1.76	0.69
1:X:219:G:H2'	1:X:231:G:O6	1.93	0.69
1:X:2779:C:H3'	1:X:2779:C:H6	1.57	0.69
1:X:517:A:C5'	1:X:518:A:H5'	2.19	0.69
1:X:1017:C:O2	9:G:134:MET:HG2	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:25:LEU:HD11	10:H:52:VAL:CG2	2.22	0.69
18:P:40:LEU:HD12	18:P:62:ARG:HH12	1.57	0.69
19:Q:4:TYR:CE1	19:Q:45:ALA:HA	2.28	0.69
25:W:4:LYS:HD2	25:W:52:GLU:OE2	1.92	0.69
1:X:1069:G:C2'	1:X:1070:G:H5''	2.22	0.69
1:X:2624:G:H4'	1:X:2712:G:O2'	1.92	0.69
1:X:417:C:C1'	1:X:419:G:C8	2.75	0.69
3:A:126:LYS:O	3:A:193:ILE:HB	1.91	0.69
6:D:30:ARG:O	6:D:158:THR:HB	1.92	0.69
2:Y:46:G:H4'	6:D:92:ARG:HH12	1.58	0.69
12:J:69:ILE:HG21	12:J:104:MET:HG2	1.74	0.69
19:Q:69:ILE:CD1	19:Q:70:GLY:N	2.55	0.69
21:S:23:ALA:HA	21:S:83:PHE:O	1.91	0.69
1:X:1253:C:H5'	1:X:1253:C:H6	1.57	0.69
1:X:1885:C:H2'	1:X:1886:G:H5'	1.73	0.69
1:X:1953:A:H1'	1:X:1955:G:C8	2.28	0.69
1:X:1922:U:O2'	1:X:2571:G:C1'	2.40	0.69
1:X:416:U:O2'	1:X:417:C:C5	2.46	0.69
1:X:841:G:H2'	1:X:842:A:C8	2.28	0.69
3:A:88:ARG:HG2	3:A:90:ALA:HB3	1.75	0.69
6:D:34:ILE:O	6:D:91:LEU:HB2	1.92	0.69
24:V:41:HIS:CD2	24:V:42:ARG:H	2.09	0.69
1:X:1187:A:H5'	1:X:1188:A:OP2	1.92	0.69
1:X:1312:G:H5''	1:X:1313:U:OP1	1.93	0.69
1:X:1778:U:H2'	1:X:1779:C:C6	2.28	0.69
1:X:1922:U:H4'	1:X:1923:U:OP2	1.90	0.69
1:X:2198:U:C4	1:X:2199:C:C5	2.81	0.69
1:X:2245:A:H1'	1:X:2251:U:O4	1.93	0.69
1:X:2640:G:H2'	1:X:2641:A:C8	2.28	0.69
1:X:2728:A:H2'	1:X:2729:A:H8	1.57	0.69
1:X:346:C:H2'	1:X:347:C:H6	1.58	0.69
11:I:28:LYS:HZ2	11:I:37:GLN:H	1.41	0.69
12:J:12:LYS:O	12:J:13:GLN:CB	2.40	0.69
15:M:104:LEU:HA	15:M:106:TYR:CD2	2.28	0.69
20:R:91:ALA:O	20:R:108:VAL:HG22	1.93	0.69
20:R:17:LYS:HB3	20:R:18:LYS:NZ	2.08	0.69
21:S:141:MET:HB3	21:S:171:VAL:HG23	1.75	0.69
1:X:1324:G:H1'	1:X:1326:U:C4	2.28	0.69
1:X:1734:C:C5	1:X:1735:G:H1'	2.28	0.69
1:X:2375:G:H4'	23:U:32:ARG:O	1.92	0.69
1:X:501:G:H2'	1:X:502:A:H8	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:995:A:OP2	1:X:996:C:N4	2.20	0.69
5:C:8:GLY:O	5:C:9:GLN:HB3	1.93	0.69
8:F:111:LYS:O	8:F:115:LEU:HG	1.94	0.69
9:G:132:PHE:CE1	9:G:145:HIS:HB2	2.27	0.69
11:I:130:ILE:HG23	11:I:140:VAL:CG2	2.23	0.69
11:I:32:ARG:CZ	17:O:81:ARG:HE	2.05	0.69
17:O:36:LYS:HZ2	17:O:54:TYR:CB	2.03	0.69
18:P:31:VAL:HG21	18:P:124:ILE:HD12	1.75	0.69
1:X:1386:A:H5''	1:X:2191:A:H62	1.56	0.69
1:X:777:A:H62	1:X:1766:U:H3	1.40	0.69
10:H:41:ASN:O	10:H:42:LYS:HB3	1.93	0.68
11:I:47:ALA:C	11:I:49:PHE:H	1.97	0.68
12:J:15:ARG:HD3	12:J:73:LYS:HZ3	1.56	0.68
1:X:1513:U:H5''	1:X:1514:C:OP2	1.93	0.68
1:X:529:U:H2'	1:X:530:G:H8	1.57	0.68
5:C:172:VAL:O	5:C:172:VAL:HG12	1.93	0.68
10:H:125:LYS:O	10:H:128:SER:HB2	1.93	0.68
20:R:105:ARG:HH22	20:R:112:LYS:HA	1.57	0.68
20:R:90:LYS:CG	20:R:108:VAL:HG21	2.22	0.68
23:U:13:LEU:O	23:U:14:VAL:HG13	1.92	0.68
1:X:1570:C:H5'	1:X:1571:G:OP2	1.92	0.68
1:X:1732:U:H4'	1:X:1733:U:OP2	1.91	0.68
1:X:2055:G:O2'	1:X:2056:C:H5'	1.92	0.68
1:X:2081:U:H3	1:X:2174:G:H1	1.41	0.68
4:B:26:VAL:O	4:B:182:ILE:HG22	1.92	0.68
6:D:65:PRO:HB3	6:D:89:VAL:HG22	1.75	0.68
10:H:13:ASN:HD21	10:H:109:ARG:HG2	1.58	0.68
11:I:32:ARG:NH1	17:O:81:ARG:NH2	2.41	0.68
21:S:120:LEU:HD23	21:S:121:GLN:H	1.59	0.68
21:S:148:THR:HB	21:S:164:PRO:O	1.92	0.68
1:X:1031:C:H41	1:X:1153:A:H61	1.37	0.68
1:X:2240:C:O2'	1:X:2241:U:H5'	1.92	0.68
1:X:2309:G:C2'	1:X:2310:G:H5'	2.23	0.68
1:X:2334:C:H4'	22:T:24:LYS:HD2	1.74	0.68
1:X:503:G:H2'	1:X:504:G:O4'	1.93	0.68
3:A:246:PRO:HD3	3:A:251:GLY:H	1.57	0.68
5:C:56:ARG:HD3	5:C:71:ASP:OD2	1.93	0.68
9:G:44:VAL:HG12	9:G:45:ASP:H	1.58	0.68
11:I:107:LYS:HG2	11:I:109:LEU:HD21	1.75	0.68
17:O:10:LYS:HD2	17:O:37:ALA:HB3	1.76	0.68
1:X:1189:G:H2'	1:X:1190:C:O4'	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1522:C:H2'	1:X:1523:A:C4'	2.23	0.68
1:X:1914:U:H6	1:X:1914:U:H5'	1.58	0.68
1:X:205:A:H2'	1:X:206:U:H5'	1.76	0.68
1:X:871:U:O2'	1:X:2247:A:H2'	1.94	0.68
1:X:98:U:O2	1:X:98:U:H2'	1.92	0.68
5:C:122:GLY:C	5:C:124:ASP:H	1.97	0.68
1:X:333:A:C3'	5:C:162:ARG:CZ	2.66	0.68
11:I:53:ARG:HH21	11:I:53:ARG:HG3	1.58	0.68
17:O:56:VAL:HA	17:O:97:GLY:HA3	1.75	0.68
20:R:93:ARG:NH2	20:R:108:VAL:HA	2.07	0.68
21:S:122:ILE:HD13	21:S:158:CYS:HB3	1.75	0.68
2:Y:106:U:H4'	21:S:67:LYS:NZ	2.08	0.68
1:X:1072:U:O4'	1:X:1081:A:H1'	1.93	0.68
1:X:1231:A:H2'	1:X:1232:U:C6	2.28	0.68
1:X:1505:U:H2'	1:X:1506:C:H5''	1.76	0.68
1:X:1629:G:C6	1:X:1633:C:C5	2.81	0.68
6:D:36:VAL:O	6:D:89:VAL:HG23	1.94	0.68
6:D:70:ALA:CB	6:D:83:MET:H	1.98	0.68
17:O:25:LEU:HB2	17:O:32:LYS:NZ	2.09	0.68
20:R:22:VAL:HG13	20:R:81:VAL:O	1.94	0.68
21:S:34:LEU:HD21	21:S:39:PHE:HD1	1.58	0.68
23:U:54:ASN:O	23:U:56:GLN:N	2.27	0.68
25:W:40:VAL:HA	25:W:43:MET:HG2	1.75	0.68
1:X:623:G:N3	1:X:626:A:N1	2.42	0.68
1:X:687:G:O2'	1:X:688:A:H5'	1.93	0.68
3:A:246:PRO:CD	3:A:251:GLY:H	2.07	0.68
5:C:112:GLN:HE22	5:C:188:ILE:HD11	1.58	0.68
6:D:13:ARG:CB	6:D:14:PRO:HD3	2.23	0.68
19:Q:63:LYS:HE3	19:Q:65:VAL:HA	1.75	0.68
20:R:11:ASN:O	20:R:12:ASP:C	2.31	0.68
1:X:1118:G:H2'	1:X:1119:U:C5'	2.23	0.68
1:X:2009:U:H6	1:X:2009:U:H5''	1.57	0.68
1:X:501:G:H2'	1:X:502:A:C8	2.29	0.68
1:X:558:G:N3	1:X:558:G:O5'	2.27	0.68
1:X:756:C:O2'	1:X:757:U:H5'	1.93	0.68
9:G:105:GLY:O	9:G:110:LEU:HD12	1.94	0.68
9:G:155:THR:HG23	9:G:156:HIS:N	2.08	0.68
21:S:64:ALA:HA	21:S:85:MET:CA	2.20	0.68
21:S:89:GLY:O	21:S:90:GLU:HG2	1.93	0.68
23:U:31:GLY:CA	23:U:32:ARG:HH11	2.05	0.68
1:X:1094:C:H2'	1:X:1096:A:H5'	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1118:G:C2'	1:X:1119:U:H5'	2.23	0.68
1:X:1811:A:H4'	1:X:1812:U:H5''	1.74	0.68
1:X:2259:G:H4'	1:X:2306:A:H5'	1.74	0.68
10:H:104:GLU:HG2	10:H:125:LYS:HD2	1.75	0.68
11:I:29:THR:HA	11:I:34:HIS:CB	2.23	0.68
19:Q:53:ILE:HD13	19:Q:80:VAL:HG12	1.75	0.68
1:X:100:G:HO2'	1:X:101:A:H8	1.40	0.68
1:X:1514:C:O4'	1:X:1593:C:H4'	1.93	0.68
1:X:174:A:N6	1:X:2409:A:H2'	2.07	0.68
1:X:2448:A:H61	1:X:2460:G:H1'	1.58	0.68
1:X:623:G:H2'	1:X:626:A:N1	2.09	0.68
1:X:731:A:O2'	1:X:732:G:H5'	1.93	0.68
30:4:9:LYS:H	30:4:9:LYS:CD	2.06	0.68
3:A:88:ARG:HD3	3:A:106:LEU:HD21	1.76	0.68
6:D:41:GLY:O	6:D:43:SER:N	2.27	0.68
6:D:70:ALA:O	6:D:82:GLY:HA2	1.94	0.68
17:O:26:GLN:CG	17:O:27:GLY:H	2.07	0.68
20:R:105:ARG:NH2	20:R:112:LYS:HA	2.08	0.68
21:S:48:THR:O	21:S:49:THR:HG23	1.93	0.68
22:T:31:VAL:HG11	22:T:37:LEU:HD21	1.76	0.68
23:U:10:LYS:HG2	23:U:11:LYS:HG3	1.74	0.68
23:U:23:LYS:HD2	23:U:35:THR:OG1	1.92	0.68
1:X:1065:A:O2'	1:X:1066:G:H5'	1.93	0.68
1:X:1071:U:H1'	1:X:1073:G:H5'	1.76	0.68
1:X:1073:G:H1'	1:X:1099:A:N7	2.08	0.68
1:X:2065:A:H3'	1:X:2066:G:H8	1.58	0.68
1:X:310:A:H61	5:C:162:ARG:HH22	1.40	0.67
2:Y:46:G:H5'	6:D:92:ARG:NH1	2.08	0.67
10:H:25:LEU:HD11	10:H:52:VAL:HG22	1.76	0.67
11:I:73:GLU:HG2	11:I:101:ARG:HB2	1.75	0.67
1:X:84:G:OP1	20:R:39:ALA:CB	2.42	0.67
23:U:22:GLY:HA3	23:U:39:LYS:CD	2.25	0.67
1:X:1851:A:H62	1:X:1866:G:N2	1.91	0.67
1:X:2507:U:OP1	30:4:31:LYS:HE3	1.94	0.67
1:X:2728:A:H2'	1:X:2729:A:C8	2.29	0.67
1:X:490:A:O2'	1:X:491:A:H5'	1.94	0.67
1:X:558:G:C4	1:X:558:G:C3'	2.74	0.67
2:Y:53:G:N2	2:Y:54:U:H5	1.93	0.67
7:E:54:ARG:HE	7:E:57:ASP:CB	2.07	0.67
8:F:84:ILE:HG21	8:F:96:VAL:HG11	1.75	0.67
23:U:11:LYS:HZ1	23:U:75:TYR:HB2	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1324:G:H1'	1:X:1326:U:C5	2.29	0.67
1:X:1505:U:H3'	1:X:1505:U:H6	1.58	0.67
1:X:192:G:H4'	1:X:193:A:O5'	1.94	0.67
1:X:2352:A:H2'	1:X:2353:G:H8	1.59	0.67
26:Z:45:ILE:HG21	26:Z:57:VAL:HG23	1.75	0.67
7:E:139:GLN:O	7:E:143:GLN:HG3	1.94	0.67
14:L:76:ALA:HB1	14:L:111:GLY:N	2.10	0.67
17:O:66:GLY:O	17:O:87:ARG:NH1	2.27	0.67
1:X:100:G:O2'	1:X:101:A:OP1	2.08	0.67
1:X:1073:G:OP2	1:X:1081:A:H4'	1.93	0.67
1:X:1129:A:OP1	1:X:1129:A:H4'	1.94	0.67
1:X:2266:A:H62	1:X:2323:U:H3	1.42	0.67
1:X:636:G:H8	1:X:636:G:H5'	1.59	0.67
1:X:936:A:O2'	1:X:937:C:H5'	1.95	0.67
30:4:22:ARG:HD2	30:4:37:GLY:HA3	1.76	0.67
5:C:47:THR:OG1	5:C:87:LYS:HD3	1.95	0.67
6:D:123:ASP:C	6:D:125:ARG:N	2.48	0.67
8:F:98:LYS:HG3	8:F:137:THR:O	1.94	0.67
8:F:84:ILE:HG12	8:F:96:VAL:HG12	1.76	0.67
9:G:104:THR:O	9:G:105:GLY:O	2.12	0.67
9:G:67:ARG:HE	9:G:70:PHE:HB3	1.59	0.67
11:I:54:SER:O	11:I:59:ARG:NH2	2.27	0.67
19:Q:11:VAL:H	19:Q:27:PHE:HA	1.60	0.67
21:S:141:MET:SD	21:S:147:ILE:HG12	2.34	0.67
21:S:64:ALA:N	21:S:86:VAL:HG23	2.10	0.67
1:X:1252:C:C2'	1:X:1253:C:H5''	2.24	0.67
1:X:1787:U:H2'	1:X:1788:C:H6	1.57	0.67
1:X:2266:A:C2	1:X:2268:G:H1'	2.29	0.67
1:X:2598:C:O2'	4:B:154:LYS:HE3	1.94	0.67
1:X:27:G:H1'	1:X:523:A:N6	2.10	0.67
1:X:623:G:C2'	1:X:626:A:H61	2.08	0.67
1:X:640:C:H4'	1:X:660:G:H21	1.58	0.67
1:X:756:C:C2'	1:X:757:U:H5'	2.24	0.67
2:Y:36:A:H1'	2:Y:51:G:N2	2.10	0.67
11:I:94:GLU:HB3	11:I:97:ARG:HH11	1.58	0.67
13:K:91:PRO:O	13:K:92:GLY:O	2.12	0.67
23:U:78:ILE:HD13	23:U:79:GLU:N	2.09	0.67
1:X:1167:A:N6	16:N:48:ARG:HD3	2.09	0.67
1:X:1625:A:O2'	1:X:1632:A:H4'	1.94	0.67
1:X:1747:G:H4'	1:X:1749:G:H1'	1.75	0.67
1:X:2071:G:O2'	1:X:2072:C:H5'	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2569:A:H2'	1:X:2570:C:H6	1.59	0.67
1:X:667:U:C6	1:X:667:U:C3'	2.77	0.67
3:A:108:PRO:HB3	3:A:143:HIS:CE1	2.29	0.67
3:A:250:TRP:O	3:A:255:LYS:NZ	2.17	0.67
3:A:251:GLY:HA3	3:A:255:LYS:HD2	1.75	0.67
4:B:154:LYS:HZ1	4:B:156:MET:HE1	1.59	0.67
4:B:75:THR:O	4:B:76:ARG:CB	2.43	0.67
5:C:189:ASP:OD1	5:C:190:ALA:N	2.26	0.67
9:G:106:TYR:O	9:G:110:LEU:HD11	1.94	0.67
12:J:64:LYS:HD2	12:J:64:LYS:N	2.07	0.67
12:J:79:PRO:HD3	12:J:88:LYS:NZ	2.08	0.67
16:N:70:ARG:HH11	16:N:70:ARG:HG3	1.58	0.67
19:Q:92:ALA:C	19:Q:94:GLN:H	1.98	0.67
1:X:1018:C:N4	1:X:1019:U:O4	2.28	0.67
1:X:1076:U:H2'	1:X:1077:U:O4'	1.95	0.67
1:X:1072:U:C1'	1:X:1081:A:H1'	2.23	0.67
1:X:1094:C:C2'	1:X:1096:A:H5'	2.23	0.67
1:X:1522:C:H2'	1:X:1523:A:H4'	1.76	0.67
3:A:244:ARG:C	3:A:252:LYS:NZ	2.48	0.67
4:B:131:SER:O	4:B:132:LYS:CG	2.41	0.67
9:G:62:ILE:O	9:G:77:GLY:HA3	1.95	0.67
1:X:2273:C:H5'	14:L:95:LYS:HE3	1.76	0.67
20:R:36:VAL:O	20:R:37:LEU:HD23	1.95	0.67
3:A:231:HIS:ND1	3:A:247:VAL:HA	2.10	0.67
4:B:154:LYS:NZ	4:B:156:MET:CE	2.58	0.67
5:C:125:ILE:O	5:C:126:ALA:HB3	1.94	0.67
5:C:128:ALA:HB2	5:C:159:ARG:CZ	2.25	0.67
6:D:13:ARG:HB3	6:D:14:PRO:CD	2.23	0.67
13:K:53:THR:HG22	13:K:53:THR:O	1.94	0.67
14:L:11:LEU:HA	14:L:14:ARG:HD2	1.75	0.67
1:X:589:C:H4'	16:N:31:GLN:CD	2.14	0.67
1:X:1070:G:O2'	8:F:74:MET:HE2	1.95	0.67
4:B:131:SER:C	4:B:132:LYS:HG2	2.15	0.67
11:I:47:ALA:HA	11:I:49:PHE:CE2	2.29	0.67
12:J:125:LYS:HZ2	12:J:125:LYS:CB	2.06	0.67
14:L:87:VAL:HG12	14:L:88:VAL:H	1.58	0.67
20:R:100:ASP:C	20:R:102:LYS:H	1.97	0.67
1:X:2023:C:H2'	1:X:2024:U:H6	1.59	0.67
1:X:2288:A:H2'	1:X:2289:A:C8	2.24	0.67
1:X:402:A:C8	1:X:2392:G:H4'	2.30	0.67
1:X:2417:U:O2'	1:X:2418:A:C5'	2.33	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:4:HIS:HB3	26:Z:5:PRO:HD2	1.75	0.67
5:C:153:ASP:C	5:C:154:ASP:OD1	2.33	0.67
7:E:155:ASP:OD2	7:E:158:HIS:N	2.26	0.67
20:R:48:VAL:O	20:R:50:GLY:N	2.28	0.67
20:R:54:ILE:HD13	20:R:71:GLN:HA	1.77	0.67
1:X:1112:U:O2'	1:X:1113:C:H5'	1.95	0.67
1:X:774:A:C8	1:X:774:A:H3'	2.29	0.67
6:D:74:ILE:HG23	6:D:79:LEU:O	1.96	0.66
14:L:64:LYS:H	14:L:64:LYS:HD3	1.57	0.66
17:O:20:ILE:HD11	17:O:23:GLU:OE2	1.95	0.66
1:X:1804:U:H2'	1:X:1805:G:H8	1.60	0.66
1:X:305:A:H2'	1:X:306:G:H5'	1.78	0.66
5:C:166:TRP:H	5:C:166:TRP:HE3	1.40	0.66
6:D:152:MET:CE	6:D:154:ILE:HD11	2.24	0.66
8:F:120:VAL:O	8:F:123:ALA:N	2.28	0.66
9:G:39:GLN:O	9:G:39:GLN:HG3	1.95	0.66
19:Q:43:GLN:OE1	19:Q:49:ARG:HA	1.96	0.66
20:R:18:LYS:HA	20:R:36:VAL:HG11	1.76	0.66
22:T:44:LYS:HE3	22:T:45:PHE:HE1	1.60	0.66
23:U:22:GLY:HA3	23:U:39:LYS:HD2	1.77	0.66
1:X:540:G:O2'	1:X:542:A:H2	1.74	0.66
1:X:860:U:H2'	1:X:860:U:O2	1.94	0.66
1:X:88:G:H3'	1:X:89:A:H5''	1.78	0.66
30:4:25:VAL:CB	30:4:34:GLN:HB2	2.24	0.66
3:A:79:VAL:HG11	3:A:113:VAL:HA	1.78	0.66
5:C:136:TRP:CD1	5:C:137:ALA:N	2.63	0.66
6:D:132:ILE:HG22	6:D:133:LYS:N	2.09	0.66
6:D:88:LYS:HE2	6:D:90:THR:OG1	1.95	0.66
7:E:126:PRO:HD2	7:E:130:ARG:O	1.95	0.66
20:R:60:PRO:C	20:R:62:MET:H	1.98	0.66
1:X:1325:U:O2'	1:X:1327:C:C5	2.48	0.66
1:X:1856:U:H2'	1:X:1857:G:O5'	1.94	0.66
1:X:969:U:C5	12:J:17:ARG:HB2	2.30	0.66
3:A:89:SER:OG	3:A:159:ALA:HB2	1.96	0.66
5:C:129:LYS:C	5:C:131:LYS:H	1.99	0.66
1:X:2293:G:OP1	6:D:88:LYS:HE3	1.96	0.66
21:S:6:LYS:HB2	21:S:31:SER:O	1.96	0.66
1:X:1068:A:C8	1:X:1097:A:H2'	2.30	0.66
1:X:1372:A:H2'	1:X:1373:G:O4'	1.95	0.66
1:X:1473:U:OP2	1:X:1473:U:C6	2.48	0.66
1:X:417:C:C5	1:X:419:G:C4	2.84	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:417:C:C6	1:X:419:G:N9	2.64	0.66
1:X:599:A:H2'	1:X:600:G:C8	2.31	0.66
2:Y:11:G:P	14:L:28:ARG:HH22	2.17	0.66
2:Y:34:C:H2'	2:Y:35:C:C6	2.30	0.66
2:Y:39:C:H5'	2:Y:40:C:OP2	1.96	0.66
2:Y:59:A:C2	6:D:26:MET:HB3	2.30	0.66
9:G:106:TYR:O	9:G:110:LEU:CD1	2.44	0.66
14:L:20:THR:HG21	14:L:23:ALA:HB3	1.76	0.66
14:L:27:LEU:O	14:L:88:VAL:HG23	1.95	0.66
20:R:38:LEU:HB2	20:R:47:VAL:HB	1.76	0.66
1:X:1840:A:H2'	1:X:1841:G:O4'	1.96	0.66
1:X:2034:A:OP1	4:B:137:ARG:NH2	2.29	0.66
1:X:2045:A:H4'	1:X:2046:C:OP1	1.93	0.66
1:X:2080:U:H2'	1:X:2081:U:C6	2.30	0.66
1:X:2294:U:O2'	6:D:125:ARG:HG3	1.96	0.66
3:A:134:ARG:HG3	3:A:135:PHE:CD2	2.31	0.66
4:B:141:ILE:HG23	4:B:154:LYS:HD3	1.77	0.66
5:C:7:ILE:HG22	5:C:120:VAL:O	1.96	0.66
6:D:13:ARG:HA	6:D:16:LEU:HD12	1.78	0.66
8:F:98:LYS:HZ3	8:F:139:GLU:HB2	1.60	0.66
13:K:10:LEU:HD22	13:K:13:ASN:O	1.95	0.66
13:K:73:LYS:O	13:K:76:VAL:HG12	1.96	0.66
14:L:38:ILE:CG1	14:L:39:TYR:H	2.08	0.66
23:U:46:LEU:O	23:U:47:HIS:ND1	2.29	0.66
1:X:2551:A:N7	4:B:145:LYS:HB2	2.10	0.66
1:X:82:G:O2'	1:X:83:A:C8	2.49	0.66
2:Y:3:A:H2'	2:Y:4:C:H5'	1.77	0.66
5:C:97:ARG:O	5:C:101:GLN:HG2	1.96	0.66
9:G:43:VAL:O	9:G:167:LYS:HG3	1.95	0.66
13:K:94:TYR:CZ	13:K:115:LEU:O	2.48	0.66
20:R:25:LEU:HD12	20:R:81:VAL:N	2.10	0.66
21:S:113:VAL:HG22	21:S:171:VAL:CG2	2.25	0.66
22:T:32:LYS:CB	22:T:35:ASN:ND2	2.59	0.66
24:V:2:LYS:HG3	24:V:3:PRO:HD3	1.76	0.66
24:V:41:HIS:HA	24:V:44:ARG:HE	1.61	0.66
25:W:37:THR:C	25:W:41:ARG:HG3	2.16	0.66
1:X:104:C:H2'	1:X:105:G:C5'	2.18	0.66
1:X:1467:U:H3'	1:X:1467:U:C6	2.27	0.66
1:X:1504:G:H2'	1:X:1505:U:C2	2.30	0.66
1:X:219:G:N2	1:X:231:G:H2'	2.11	0.66
1:X:2437:G:O2'	1:X:2438:A:N7	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2800:C:C2'	1:X:2801:A:H5'	2.25	0.66
1:X:415:A:C2'	1:X:416:U:H5'	2.25	0.66
1:X:653:G:C2'	1:X:654:A:H5''	2.25	0.66
3:A:251:GLY:HA3	3:A:255:LYS:CE	2.25	0.66
10:H:97:VAL:HG11	10:H:126:ILE:CD1	2.25	0.66
10:H:9:ASP:OD1	10:H:93:ARG:NH2	2.29	0.66
12:J:106:GLU:OE1	12:J:106:GLU:O	2.14	0.66
13:K:20:LEU:O	13:K:23:ALA:N	2.28	0.66
19:Q:92:ALA:O	19:Q:94:GLN:N	2.29	0.66
20:R:29:HIS:CE1	20:R:51:VAL:HG22	2.30	0.66
24:V:42:ARG:NH1	24:V:45:GLN:NE2	2.43	0.66
1:X:1095:A:H2'	1:X:1096:A:O4'	1.96	0.66
1:X:1626:A:H5''	1:X:1627:C:OP2	1.95	0.66
1:X:427:C:O2	1:X:1856:U:H4'	1.96	0.66
1:X:5:A:O2'	1:X:6:A:H5'	1.95	0.66
1:X:623:G:H21	1:X:626:A:H2	0.79	0.66
1:X:886:A:H1'	12:J:30:PHE:CE1	2.31	0.66
1:X:1506:C:H2'	3:A:99:ASP:OD1	1.95	0.66
7:E:51:LEU:HD12	7:E:52:VAL:H	1.61	0.66
7:E:9:ILE:HD12	7:E:50:LEU:HB3	1.78	0.66
16:N:93:LYS:CE	17:O:10:LYS:HZ3	2.09	0.66
19:Q:39:LYS:O	19:Q:42:ILE:HG23	1.95	0.66
21:S:113:VAL:CG2	21:S:171:VAL:HG22	2.25	0.66
1:X:1253:C:H5'	1:X:1253:C:C6	2.31	0.66
1:X:2628:C:H2'	1:X:2629:U:C6	2.31	0.66
1:X:729:A:OP1	1:X:729:A:C2	2.49	0.66
5:C:158:ARG:O	5:C:160:ALA:N	2.28	0.66
6:D:143:TYR:HA	6:D:146:VAL:HG22	1.78	0.66
1:X:1075:C:O2'	8:F:89:SER:HB3	1.96	0.66
10:H:70:VAL:HG23	10:H:106:ARG:NH1	2.11	0.66
11:I:32:ARG:NH1	17:O:81:ARG:HH21	1.94	0.66
20:R:14:LEU:O	20:R:16:PHE:N	2.27	0.66
25:W:1:MET:O	25:W:34:VAL:HG12	1.96	0.66
1:X:1598:C:H6	1:X:1598:C:O5'	1.78	0.66
1:X:169:C:C2'	1:X:170:U:H5'	2.26	0.66
1:X:2082:C:H2'	1:X:2083:G:H5'	1.77	0.66
1:X:543:G:H5'	16:N:24:PHE:CD1	2.30	0.66
1:X:134:G:N2	1:X:136:A:C5'	2.57	0.65
1:X:1850:G:C2'	1:X:1851:A:H8	2.07	0.65
4:B:154:LYS:HZ1	4:B:156:MET:CE	2.08	0.65
5:C:2:ALA:HA	5:C:13:ARG:HA	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:12:VAL:O	6:D:16:LEU:HG	1.96	0.65
7:E:33:LEU:CD1	7:E:34:THR:H	2.08	0.65
7:E:50:LEU:CD2	7:E:51:LEU:H	2.08	0.65
11:I:11:GLY:O	11:I:14:LYS:N	2.29	0.65
11:I:130:ILE:O	11:I:132:ALA:N	2.26	0.65
12:J:97:VAL:HG23	12:J:97:VAL:O	1.96	0.65
14:L:51:LEU:HD12	14:L:51:LEU:N	2.11	0.65
14:L:63:ASN:HB2	14:L:67:THR:HG23	1.78	0.65
16:N:88:ILE:HG12	17:O:49:GLU:OE1	1.97	0.65
16:N:61:TRP:CZ3	16:N:93:LYS:HA	2.31	0.65
18:P:46:ARG:HG2	18:P:46:ARG:HH11	1.61	0.65
19:Q:16:ALA:O	19:Q:19:ALA:HB3	1.96	0.65
20:R:112:LYS:O	20:R:113:THR:HG23	1.96	0.65
23:U:19:ILE:CG2	23:U:42:GLN:HG3	2.25	0.65
1:X:1812:U:O2	1:X:1812:U:H2'	1.95	0.65
1:X:2426:G:H3'	1:X:2479:U:OP2	1.96	0.65
1:X:242:A:O2'	1:X:243:G:H4'	1.96	0.65
1:X:2556:A:H5''	1:X:2557:G:H5'	1.78	0.65
1:X:2726:U:H2'	1:X:2727:G:H5'	1.77	0.65
1:X:679:C:H2'	1:X:680:U:C6	2.31	0.65
3:A:70:ARG:HH12	3:A:149:PRO:CA	2.09	0.65
7:E:54:ARG:NE	7:E:57:ASP:OD2	2.29	0.65
11:I:38:LYS:HD3	11:I:40:ARG:O	1.96	0.65
15:M:16:ILE:HG22	15:M:16:ILE:O	1.94	0.65
16:N:61:TRP:HZ3	16:N:93:LYS:HA	1.59	0.65
23:U:52:ARG:HD2	23:U:79:GLU:CA	2.26	0.65
1:X:136:A:N7	1:X:137:A:C5	2.64	0.65
1:X:1386:A:H5''	1:X:2191:A:C6	2.32	0.65
1:X:1550:C:H2'	1:X:1553:G:H22	1.57	0.65
1:X:1971:C:O2'	1:X:1972:G:H5'	1.97	0.65
1:X:2706:U:H2'	1:X:2706:U:O2	1.95	0.65
1:X:621:U:H2'	1:X:622:U:C6	2.30	0.65
1:X:994:A:O2'	1:X:995:A:OP1	2.14	0.65
2:Y:64:C:H2'	2:Y:65:A:C8	2.30	0.65
3:A:184:ARG:HH11	3:A:184:ARG:HG2	1.60	0.65
9:G:55:ALA:CB	9:G:134:MET:HE1	2.15	0.65
14:L:15:ARG:CD	14:L:91:ARG:HH11	2.01	0.65
15:M:37:THR:CG2	15:M:39:VAL:HG13	2.26	0.65
16:N:39:LEU:HA	16:N:42:ALA:HB3	1.77	0.65
20:R:93:ARG:NH1	20:R:108:VAL:C	2.49	0.65
21:S:95:SER:HB3	21:S:119:ASN:ND2	2.10	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:123:VAL:HG23	21:S:161:ALA:CB	2.27	0.65
1:X:585:U:H2'	1:X:586:G:C8	2.30	0.65
26:Z:34:PRO:HB2	26:Z:35:GLN:NE2	2.11	0.65
5:C:27:LEU:HD11	5:C:106:MET:HG2	1.79	0.65
6:D:122:PHE:CB	6:D:129:ASN:HD22	1.96	0.65
7:E:97:LYS:O	7:E:98:LEU:HB2	1.95	0.65
11:I:128:ALA:HA	11:I:131:LYS:HB2	1.78	0.65
11:I:13:ARG:HB3	11:I:13:ARG:CZ	2.26	0.65
14:L:42:ILE:CG2	14:L:52:ALA:H	2.10	0.65
1:X:1745:C:OP1	15:M:101:ARG:NH2	2.29	0.65
18:P:9:ARG:O	18:P:10:ASN:HB3	1.96	0.65
22:T:32:LYS:O	22:T:61:ALA:HB3	1.96	0.65
23:U:10:LYS:HG2	23:U:11:LYS:N	2.10	0.65
23:U:28:GLY:HA3	23:U:32:ARG:CA	2.26	0.65
1:X:2310:G:N2	1:X:2364:C:C4	2.64	0.65
3:A:206:LEU:HD22	3:A:211:ARG:HB3	1.78	0.65
5:C:112:GLN:HA	5:C:116:LYS:HB3	1.78	0.65
6:D:39:GLY:HA2	6:D:86:GLY:CA	2.26	0.65
10:H:23:ARG:HH12	10:H:25:LEU:HD23	1.59	0.65
11:I:42:GLY:O	11:I:43:ALA:HB2	1.97	0.65
13:K:87:TYR:CD1	13:K:90:ARG:HD2	2.32	0.65
15:M:34:ARG:HH11	15:M:81:PHE:CB	2.09	0.65
17:O:29:ALA:O	17:O:31:ASP:N	2.30	0.65
20:R:22:VAL:HG11	20:R:80:LYS:CE	2.26	0.65
21:S:30:VAL:HB	21:S:32:PHE:CZ	2.32	0.65
22:T:71:ASN:HB2	22:T:77:ARG:HH11	1.60	0.65
1:X:1033:G:O2'	1:X:1034:U:H5'	1.96	0.65
1:X:1186:G:C4'	1:X:1187:A:OP2	2.44	0.65
1:X:1791:C:H5'	1:X:1792:C:OP1	1.96	0.65
1:X:2015:G:H2'	4:B:145:LYS:HZ1	1.61	0.65
1:X:2440:C:H2'	1:X:2441:U:H6	1.61	0.65
1:X:2475:C:C2'	1:X:2476:A:H5'	2.26	0.65
1:X:2613:A:O2'	1:X:2614:A:H5'	1.96	0.65
1:X:2616:U:H5''	4:B:82:ARG:HH21	1.58	0.65
1:X:760:U:C5	26:Z:3:LYS:HG3	2.31	0.65
1:X:793:G:H21	1:X:796:A:H62	1.44	0.65
3:A:142:VAL:HB	3:A:192:THR:O	1.96	0.65
4:B:136:ARG:O	4:B:137:ARG:HB2	1.97	0.65
4:B:4:ILE:HG23	4:B:5:LEU:N	2.11	0.65
11:I:130:ILE:HG23	11:I:140:VAL:HG21	1.77	0.65
12:J:69:ILE:CG2	12:J:104:MET:HA	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:113:VAL:HA	21:S:171:VAL:CA	2.16	0.65
21:S:100:THR:HG23	21:S:138:VAL:HG21	1.78	0.65
22:T:29:GLU:O	22:T:67:VAL:HG23	1.97	0.65
1:X:1313:U:O2'	1:X:1314:A:P	2.55	0.65
1:X:1524:C:H3'	1:X:1525:A:O4'	1.97	0.65
1:X:2617:G:O2'	1:X:2618:A:H8	1.77	0.65
1:X:2691:C:O2'	1:X:2692:A:P	2.55	0.65
1:X:415:A:C3'	1:X:416:U:H5'	2.27	0.65
1:X:712:A:H2'	1:X:713:G:O4'	1.96	0.65
2:Y:53:G:H21	2:Y:54:U:H5	1.43	0.65
4:B:154:LYS:O	4:B:156:MET:HG3	1.96	0.65
14:L:30:SER:C	14:L:31:VAL:HG12	2.17	0.65
16:N:81:ASN:HD21	16:N:85:ARG:HE	1.43	0.65
17:O:23:GLU:O	17:O:24:SER:HB3	1.95	0.65
18:P:57:LEU:HD13	18:P:69:ALA:HA	1.78	0.65
1:X:1682:A:O2'	1:X:1683:G:H5'	1.97	0.65
1:X:1745:C:P	15:M:101:ARG:HH22	2.20	0.65
1:X:1926:U:H4'	1:X:1927:U:O5'	1.96	0.65
1:X:2447:G:HO2'	1:X:2448:A:H8	1.45	0.65
1:X:428:A:H2'	1:X:429:C:C6	2.31	0.65
1:X:459:A:H4'	1:X:461:A:N7	2.11	0.65
26:Z:58:LEU:H	26:Z:58:LEU:HD12	1.62	0.65
4:B:178:GLY:O	4:B:179:GLU:HG3	1.96	0.65
5:C:122:GLY:HA2	5:C:124:ASP:OD1	1.96	0.65
7:E:54:ARG:NH1	7:E:62:ARG:NE	2.45	0.65
10:H:116:ARG:NH1	15:M:38:LYS:NZ	2.44	0.65
16:N:7:GLY:O	16:N:9:VAL:N	2.30	0.65
21:S:120:LEU:HD23	21:S:121:GLN:N	2.10	0.65
21:S:1:MET:HE1	21:S:52:PHE:HB3	1.77	0.65
21:S:62:PHE:HB3	21:S:85:MET:SD	2.37	0.65
1:X:2205:C:C2'	1:X:2206:C:H5'	2.27	0.65
1:X:2212:U:H2'	1:X:2213:G:H8	1.62	0.65
1:X:596:C:H5'	5:C:84:PHE:CE1	2.32	0.65
1:X:654:A:N3	1:X:654:A:H2'	2.11	0.65
1:X:930:A:O5'	1:X:930:A:H8	1.80	0.65
5:C:117:LEU:HD23	5:C:118:VAL:N	2.12	0.65
10:H:26:ASN:HB3	10:H:38:GLY:H	1.60	0.65
14:L:101:LYS:HG2	14:L:105:ASP:OD2	1.97	0.65
16:N:82:GLY:HA3	16:N:113:SER:HG	1.61	0.65
20:R:100:ASP:C	20:R:102:LYS:N	2.49	0.65
23:U:51:ILE:HG12	23:U:59:THR:CG2	2.23	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:56:VAL:O	24:V:59:GLU:N	2.30	0.65
1:X:1050:G:H2'	1:X:1051:U:H5'	1.78	0.65
1:X:1429:A:H1'	1:X:1603:A:C6	2.32	0.65
1:X:143:A:H2'	1:X:144:U:H6	1.57	0.65
1:X:1459:U:H4'	1:X:1460:G:OP1	1.96	0.65
1:X:1467:U:C3'	1:X:1467:U:C6	2.80	0.65
1:X:648:A:H5'	1:X:649:G:H4'	1.77	0.65
1:X:801:A:O2'	1:X:802:A:P	2.54	0.65
4:B:192:ASN:HD22	15:M:9:ARG:NH1	1.92	0.64
4:B:91:VAL:HB	4:B:93:VAL:HG12	1.77	0.64
6:D:46:ASP:HB2	6:D:49:ALA:HB3	1.78	0.64
6:D:92:ARG:CA	6:D:96:MET:HB2	2.27	0.64
13:K:87:TYR:HE1	13:K:94:TYR:HD2	1.45	0.64
17:O:36:LYS:HD2	17:O:54:TYR:C	2.17	0.64
17:O:90:PHE:CD1	17:O:91:THR:N	2.64	0.64
20:R:25:LEU:HD12	20:R:81:VAL:H	1.62	0.64
20:R:27:GLY:O	20:R:30:LYS:HG2	1.97	0.64
25:W:9:VAL:HG12	25:W:17:VAL:HG22	1.79	0.64
1:X:1288:A:H2'	1:X:1289:A:O4'	1.98	0.64
1:X:1655:C:H4'	1:X:2689:C:O2	1.96	0.64
1:X:1658:A:H2'	1:X:1659:G:O4'	1.96	0.64
1:X:1698:C:O2'	1:X:1753:A:C2'	2.44	0.64
1:X:2809:A:H2'	1:X:2854:G:O6	1.96	0.64
1:X:242:A:N6	1:X:440:U:H2'	2.11	0.64
1:X:487:G:H4'	1:X:512:A:N1	2.12	0.64
30:4:15:LYS:HB2	30:4:26:ILE:HG13	1.78	0.64
1:X:2796:A:H5''	4:B:162:MET:HE1	1.79	0.64
5:C:2:ALA:CB	5:C:13:ARG:HA	2.27	0.64
7:E:139:GLN:C	7:E:143:GLN:HG3	2.18	0.64
15:M:38:LYS:C	15:M:40:ARG:H	2.01	0.64
16:N:59:ARG:O	16:N:63:GLN:HG3	1.97	0.64
21:S:91:PRO:HD3	21:S:127:PRO:CD	2.24	0.64
1:X:233:A:O2'	1:X:234:C:H5'	1.96	0.64
1:X:404:A:H1'	1:X:424:G:H1'	1.78	0.64
1:X:797:A:H5''	3:A:227:ASN:ND2	2.12	0.64
1:X:91:A:H2'	1:X:92:U:C6	2.33	0.64
3:A:141:VAL:HG22	3:A:164:GLN:HB3	1.78	0.64
3:A:43:ARG:NH1	3:A:43:ARG:N	2.37	0.64
5:C:45:THR:HG22	5:C:47:THR:OG1	1.96	0.64
2:Y:45:C:H2'	6:D:92:ARG:NE	2.13	0.64
7:E:44:ARG:HG3	7:E:44:ARG:HH21	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:52:GLY:HA3	11:I:55:ARG:NH1	2.11	0.64
11:I:7:LYS:N	11:I:7:LYS:HD3	2.12	0.64
12:J:36:ILE:HG23	12:J:102:ARG:O	1.97	0.64
14:L:27:LEU:O	14:L:88:VAL:N	2.30	0.64
14:L:16:LYS:HE2	14:L:28:ARG:NH1	2.10	0.64
14:L:40:ALA:HB1	14:L:103:LEU:HD21	1.78	0.64
14:L:60:LYS:HG2	14:L:62:GLY:H	1.62	0.64
1:X:1503:G:H2'	1:X:1504:G:C8	2.32	0.64
1:X:1644:G:H2'	1:X:1645:U:H6	1.61	0.64
1:X:1736:C:H2'	1:X:1737:G:H8	1.61	0.64
1:X:1856:U:O2'	1:X:1857:G:O5'	2.15	0.64
6:D:134:GLU:OE2	6:D:136:LEU:HD12	1.97	0.64
23:U:70:LEU:HD21	23:U:77:GLY:O	1.97	0.64
1:X:1218:C:H5'	11:I:13:ARG:NH1	2.11	0.64
1:X:1805:G:N3	3:A:50:THR:HG21	2.13	0.64
1:X:624:A:C4'	1:X:626:A:C6	2.81	0.64
1:X:673:G:H5'	5:C:93:TYR:CD1	2.33	0.64
1:X:761:G:OP2	18:P:109:ARG:HG3	1.97	0.64
1:X:1836:C:H5'	3:A:254:THR:O	1.98	0.64
7:E:11:VAL:HG21	7:E:50:LEU:HB2	1.80	0.64
9:G:55:ALA:HB1	9:G:134:MET:CE	2.14	0.64
11:I:134:GLU:C	11:I:136:ALA:H	2.01	0.64
17:O:36:LYS:HD2	17:O:55:THR:HA	1.79	0.64
23:U:53:GLU:O	23:U:78:ILE:HG22	1.98	0.64
24:V:2:LYS:HA	24:V:6:MET:CE	2.28	0.64
1:X:1006:C:H4'	1:X:1007:A:OP1	1.96	0.64
1:X:1053:G:C4	1:X:1054:C:C5	2.86	0.64
1:X:1095:A:H2'	1:X:1096:A:C5'	2.26	0.64
1:X:1107:A:H3'	1:X:1108:U:C5'	2.24	0.64
1:X:116:A:N3	1:X:155:G:H1'	2.13	0.64
1:X:2074:U:H3'	1:X:2075:U:H5''	1.79	0.64
1:X:886:A:H4'	12:J:66:TYR:CE2	2.32	0.64
26:Z:42:SER:O	26:Z:43:HIS:HB2	1.95	0.64
3:A:73:SER:HB2	3:A:120:GLY:HA2	1.78	0.64
13:K:91:PRO:O	13:K:92:GLY:C	2.35	0.64
15:M:104:LEU:HB3	15:M:107:LEU:CD1	2.27	0.64
19:Q:81:ARG:HG3	19:Q:81:ARG:NH1	2.11	0.64
19:Q:83:ALA:O	19:Q:85:GLY:N	2.31	0.64
20:R:80:LYS:HE3	20:R:80:LYS:O	1.98	0.64
1:X:1631:C:H1'	18:P:108:PRO:CG	2.24	0.64
1:X:1737:G:O2'	1:X:1738:U:H5'	1.96	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2691:C:O2'	1:X:2692:A:O5'	2.15	0.64
1:X:942:U:O2'	25:W:22:ALA:HA	1.96	0.64
2:Y:17:A:H1'	2:Y:112:A:C8	2.33	0.64
3:A:44:ASN:CB	3:A:49:ILE:HA	2.26	0.64
5:C:117:LEU:HD23	5:C:117:LEU:C	2.17	0.64
5:C:148:VAL:HB	5:C:167:VAL:CG1	2.18	0.64
12:J:69:ILE:HD13	12:J:104:MET:HB3	1.80	0.64
12:J:79:PRO:HD2	12:J:88:LYS:HD2	1.78	0.64
13:K:102:THR:HA	13:K:109:THR:HA	1.79	0.64
19:Q:90:ALA:O	19:Q:92:ALA:N	2.31	0.64
20:R:96:LYS:HG3	20:R:97:GLN:N	2.11	0.64
3:A:67:PHE:HB3	3:A:153:ALA:N	2.06	0.64
4:B:116:VAL:H	4:B:136:ARG:HE	0.71	0.64
5:C:48:ARG:HD2	5:C:48:ARG:N	2.10	0.64
6:D:74:ILE:CA	6:D:79:LEU:HB3	2.27	0.64
11:I:61:PRO:O	11:I:62:LYS:HB2	1.98	0.64
11:I:76:LYS:HB3	11:I:79:GLN:NE2	2.13	0.64
12:J:66:TYR:O	12:J:106:GLU:OE1	2.16	0.64
20:R:25:LEU:C	20:R:25:LEU:HD22	2.18	0.64
1:X:2219:U:O2'	1:X:2220:A:H5'	1.97	0.64
1:X:2617:G:OP2	4:B:82:ARG:NH2	2.31	0.64
1:X:2849:C:H2'	1:X:2850:U:H5'	1.79	0.64
1:X:752:G:C4'	1:X:753:U:OP1	2.44	0.64
3:A:243:GLY:CA	3:A:244:ARG:NH1	2.61	0.64
3:A:54:ILE:O	3:A:54:ILE:HG23	1.98	0.64
4:B:155:ARG:HG3	4:B:155:ARG:HH11	1.61	0.64
4:B:72:VAL:O	4:B:73:ALA:HB2	1.98	0.64
5:C:12:GLY:O	5:C:14:THR:N	2.30	0.64
9:G:52:GLY:O	9:G:55:ALA:HB3	1.97	0.64
9:G:72:PRO:O	9:G:74:MET:N	2.30	0.64
11:I:118:VAL:O	11:I:138:GLY:HA3	1.98	0.64
11:I:72:TYR:HA	11:I:105:PRO:HG2	1.79	0.64
12:J:19:THR:HG22	12:J:20:GLY:N	2.12	0.64
20:R:15:HIS:ND1	20:R:16:PHE:HD2	1.91	0.64
20:R:55:THR:O	20:R:70:GLU:N	2.31	0.64
21:S:4:THR:HB	21:S:57:GLU:CB	2.19	0.64
1:X:1071:U:H1'	1:X:1073:G:C5'	2.28	0.64
1:X:177:U:H3'	1:X:178:C:H6	1.62	0.64
1:X:2070:G:H2'	1:X:2071:G:H8	1.63	0.64
1:X:2301:A:H2'	1:X:2302:G:H8	1.62	0.64
1:X:2604:G:H2'	1:X:2605:C:C6	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:959:C:O2'	1:X:960:U:H5'	1.97	0.64
9:G:102:ARG:NH2	9:G:112:THR:HG21	2.13	0.64
9:G:67:ARG:O	9:G:70:PHE:CE1	2.51	0.64
10:H:23:ARG:HH12	10:H:25:LEU:CG	2.10	0.64
14:L:52:ALA:O	14:L:53:ALA:HB3	1.98	0.64
16:N:66:ASN:HD22	16:N:70:ARG:NH1	1.95	0.64
20:R:105:ARG:HH22	20:R:112:LYS:N	1.96	0.64
21:S:113:VAL:HG22	21:S:171:VAL:CG1	2.28	0.64
1:X:2343:C:O2	22:T:36:ILE:HD11	1.96	0.64
1:X:1551:U:H5'	1:X:1552:C:C5	2.32	0.64
1:X:1608:U:H2'	1:X:1609:G:C8	2.33	0.64
1:X:2046:C:O2	1:X:2430:A:C2	2.51	0.64
1:X:2174:G:H2'	1:X:2175:A:C8	2.32	0.64
1:X:224:G:H4'	1:X:399:G:C5	2.33	0.64
1:X:553:C:C5'	1:X:554:U:OP1	2.45	0.64
1:X:958:G:H2'	1:X:959:C:C6	2.33	0.64
4:B:75:THR:O	4:B:76:ARG:HB3	1.97	0.63
8:F:79:ARG:O	8:F:84:ILE:N	2.31	0.63
9:G:84:ASN:O	9:G:152:ALA:HA	1.97	0.63
21:S:148:THR:HG22	21:S:167:THR:HA	1.80	0.63
23:U:39:LYS:O	23:U:40:ARG:HB2	1.98	0.63
1:X:191:G:O2'	1:X:192:G:H5'	1.98	0.63
1:X:2210:C:H2'	1:X:2211:U:H6	1.61	0.63
1:X:2713:A:O2'	1:X:2714:A:H5'	1.98	0.63
1:X:387:A:N3	1:X:387:A:H2'	2.13	0.63
5:C:187:VAL:CG1	5:C:187:VAL:O	2.46	0.63
7:E:31:GLY:O	7:E:79:VAL:HG12	1.98	0.63
12:J:81:GLU:HG2	12:J:82:THR:N	2.10	0.63
13:K:25:ALA:HB2	13:K:47:PHE:CE2	2.32	0.63
1:X:1007:A:H1'	17:O:6:GLN:HG2	1.80	0.63
1:X:1349:A:H2'	1:X:1350:G:C8	2.33	0.63
1:X:1391:A:O2'	1:X:1392:U:P	2.57	0.63
1:X:1493:A:H2'	1:X:1494:G:O4'	1.98	0.63
1:X:1602:G:H5'	1:X:1603:A:OP2	1.99	0.63
1:X:2564:U:H5'	1:X:2565:C:OP1	1.97	0.63
1:X:797:A:C5	3:A:229:VAL:HG21	2.33	0.63
1:X:954:U:C2'	1:X:955:G:H5''	2.28	0.63
3:A:43:ARG:HH21	3:A:55:GLY:HA2	1.62	0.63
4:B:144:ARG:HG2	4:B:145:LYS:N	2.12	0.63
5:C:128:ALA:O	5:C:130:THR:N	2.30	0.63
1:X:2424:G:OP1	5:C:68:ARG:NH2	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:136:ILE:HD12	7:E:136:ILE:H	1.63	0.63
11:I:45:LYS:HD3	11:I:46:GLY:H	1.60	0.63
11:I:45:LYS:CE	11:I:47:ALA:HB3	2.21	0.63
11:I:93:LEU:O	11:I:97:ARG:HG3	1.97	0.63
16:N:26:GLY:O	16:N:28:ARG:N	2.31	0.63
17:O:12:TYR:O	17:O:13:ARG:CB	2.45	0.63
18:P:44:VAL:HG21	18:P:60:ILE:HD11	1.79	0.63
22:T:21:LEU:CD1	22:T:41:ARG:HG2	2.28	0.63
1:X:109:A:C3'	1:X:110:U:H5''	2.27	0.63
1:X:1553:G:H2'	1:X:1554:G:C8	2.32	0.63
1:X:476:G:H2'	1:X:477:A:C8	2.32	0.63
1:X:615:C:H41	11:I:100:ARG:NH1	1.96	0.63
1:X:888:G:H2'	1:X:889:C:O4'	1.98	0.63
1:X:930:A:H5''	2:Y:100:G:O2'	1.97	0.63
3:A:58:HIS:O	3:A:59:LYS:CB	2.47	0.63
4:B:72:VAL:O	4:B:73:ALA:CB	2.46	0.63
11:I:82:ASP:H	11:I:114:ILE:HG21	1.64	0.63
11:I:92:THR:O	11:I:94:GLU:N	2.32	0.63
12:J:136:GLU:OE1	12:J:136:GLU:HA	1.99	0.63
1:X:2845:C:H5''	13:K:65:LEU:HD11	1.80	0.63
15:M:32:THR:HG22	15:M:33:VAL:H	1.62	0.63
16:N:81:ASN:HD21	16:N:85:ARG:NE	1.96	0.63
21:S:113:VAL:CA	21:S:171:VAL:HA	2.16	0.63
1:X:1416:A:H2'	1:X:1417:C:C6	2.32	0.63
1:X:1734:C:H5''	1:X:1735:G:C8	2.34	0.63
1:X:177:U:H5	1:X:225:G:N2	1.96	0.63
1:X:1949:A:H1'	1:X:2572:U:C5'	2.27	0.63
1:X:2477:C:H6	1:X:2477:C:H5'	1.64	0.63
1:X:322:A:O2'	1:X:343:A:H4'	1.99	0.63
2:Y:50:U:H2'	2:Y:51:G:H8	1.63	0.63
3:A:43:ARG:N	3:A:43:ARG:HD2	2.12	0.63
5:C:122:GLY:C	5:C:124:ASP:N	2.52	0.63
5:C:171:PRO:O	5:C:173:ALA:N	2.32	0.63
6:D:136:LEU:O	6:D:137:ILE:HG23	1.98	0.63
7:E:37:TYR:OH	7:E:72:VAL:HG22	1.99	0.63
8:F:115:LEU:C	8:F:117:ALA:H	2.01	0.63
11:I:58:ALA:O	11:I:59:ARG:HB2	1.96	0.63
12:J:35:LEU:HD23	12:J:105:PHE:HD2	1.62	0.63
12:J:21:ASP:N	12:J:99:LYS:HE2	2.14	0.63
14:L:40:ALA:CB	14:L:103:LEU:HD21	2.28	0.63
15:M:99:VAL:HG21	15:M:104:LEU:CD2	2.29	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:3:ARG:HG2	16:N:3:ARG:HH11	1.63	0.63
18:P:48:LYS:HZ1	18:P:56:LEU:HD11	1.64	0.63
19:Q:51:ILE:CD1	19:Q:83:ALA:HA	2.16	0.63
20:R:11:ASN:HD22	20:R:11:ASN:C	2.02	0.63
23:U:27:ASP:HA	23:U:32:ARG:HH21	1.64	0.63
19:Q:7:LEU:HD23	24:V:30:PHE:CE2	2.33	0.63
25:W:23:LEU:HD21	25:W:43:MET:HB2	1.79	0.63
1:X:1007:A:C2	1:X:1008:G:C8	2.87	0.63
1:X:1804:U:H2'	1:X:1805:G:C8	2.34	0.63
1:X:2023:C:H2'	1:X:2024:U:C6	2.34	0.63
1:X:1949:A:H1'	1:X:2572:U:H5'	1.80	0.63
26:Z:52:TYR:O	26:Z:53:ASP:HB2	1.99	0.63
3:A:186:HIS:O	3:A:188:GLU:N	2.32	0.63
6:D:74:ILE:HG23	6:D:80:ARG:CA	2.28	0.63
9:G:38:GLU:O	9:G:39:GLN:HB3	1.98	0.63
10:H:47:VAL:HA	10:H:74:VAL:HG12	1.80	0.63
14:L:28:ARG:HA	14:L:88:VAL:O	1.99	0.63
1:X:1630:A:N1	18:P:114:ALA:HB2	2.14	0.63
19:Q:84:GLU:O	19:Q:86:GLN:N	2.32	0.63
25:W:41:ARG:HG2	25:W:41:ARG:HH11	1.62	0.63
1:X:1475:U:H4'	1:X:1475:U:OP2	1.99	0.63
1:X:181:A:H2	1:X:182:G:N2	1.95	0.63
1:X:2217:G:H5''	1:X:2218:G:OP1	1.98	0.63
2:Y:37:C:H2'	2:Y:38:C:O4'	1.99	0.63
7:E:43:VAL:CG2	7:E:52:VAL:HG22	2.28	0.63
7:E:98:LEU:CD1	7:E:99:THR:H	2.07	0.63
9:G:148:LEU:HD12	9:G:149:LYS:H	1.61	0.63
12:J:128:ILE:C	12:J:128:ILE:HD12	2.19	0.63
14:L:66:ASP:C	14:L:68:ALA:H	2.02	0.63
16:N:66:ASN:HA	16:N:69:ALA:HB3	1.81	0.63
19:Q:6:ILE:CG2	19:Q:7:LEU:N	2.60	0.63
1:X:1250:A:O2'	1:X:1251:G:O4'	2.12	0.63
1:X:1442:C:O2'	1:X:1443:G:OP1	2.11	0.63
1:X:426:C:H4'	1:X:1863:U:O2'	1.98	0.63
4:B:155:ARG:NH1	4:B:155:ARG:HG3	2.12	0.63
5:C:34:GLN:HE22	5:C:178:TYR:H	1.45	0.63
5:C:197:GLU:HG2	5:C:198:GLU:N	2.14	0.63
6:D:11:GLN:O	6:D:15:ALA:HB3	1.98	0.63
10:H:7:ARG:NH1	10:H:20:MET:CE	2.62	0.63
11:I:76:LYS:HB3	11:I:79:GLN:HG2	1.81	0.63
14:L:107:ALA:C	14:L:109:GLU:H	2.02	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:21:THR:O	14:L:24:SER:HB2	1.97	0.63
15:M:82:PRO:HB2	15:M:85:SER:HB2	1.81	0.63
1:X:1337:G:OP2	18:P:105:ARG:CZ	2.46	0.63
20:R:63:THR:HG22	20:R:64:ASN:ND2	2.14	0.63
2:Y:14:C:H5''	22:T:72:LYS:HD3	1.80	0.63
1:X:1071:U:H4'	1:X:1072:U:O5'	1.99	0.63
1:X:2628:C:H2'	1:X:2629:U:H6	1.63	0.63
1:X:2797:G:H2'	1:X:2798:A:H5''	1.80	0.63
1:X:577:U:OP1	11:I:40:ARG:NH2	2.31	0.63
1:X:592:G:OP2	16:N:10:ARG:NH1	2.28	0.63
1:X:796:A:C8	1:X:797:A:H4'	2.33	0.63
1:X:801:A:O2'	1:X:802:A:OP2	2.15	0.63
3:A:72:LYS:HZ1	3:A:99:ASP:CG	2.02	0.63
11:I:77:LEU:HD22	11:I:110:ALA:HA	1.81	0.63
13:K:20:LEU:HD21	13:K:40:LYS:HD3	1.81	0.63
14:L:52:ALA:O	14:L:53:ALA:CB	2.47	0.63
15:M:104:LEU:O	15:M:105:TYR:C	2.37	0.63
15:M:26:ASP:CG	15:M:27:PHE:H	1.95	0.63
17:O:13:ARG:HE	17:O:95:ILE:HG21	1.64	0.63
1:X:1238:A:H5'	17:O:85:GLY:H	1.64	0.63
20:R:25:LEU:HD11	20:R:81:VAL:HG23	1.79	0.63
21:S:73:LYS:O	21:S:74:ARG:HB2	1.99	0.63
23:U:13:LEU:CD1	23:U:14:VAL:H	2.11	0.63
23:U:52:ARG:HD2	23:U:79:GLU:C	2.19	0.63
23:U:53:GLU:HB3	23:U:58:LYS:N	2.14	0.63
1:X:1313:U:H1'	1:X:1642:G:C2	2.34	0.63
1:X:1728:A:O2'	1:X:1729:C:H5'	1.99	0.63
1:X:1339:U:H5''	1:X:1994:U:H1'	1.80	0.63
1:X:2523:G:O2'	1:X:2524:G:H5'	1.99	0.63
1:X:1922:U:O2'	1:X:2571:G:O4'	2.14	0.63
1:X:872:G:H2'	1:X:928:G:N1	2.13	0.63
1:X:940:G:H4'	1:X:940:G:OP1	1.99	0.63
30:4:1:MET:SD	30:4:35:ARG:CZ	2.87	0.62
4:B:100:GLU:O	4:B:172:VAL:HG23	1.98	0.62
1:X:2033:C:H1'	4:B:156:MET:HE1	1.81	0.62
7:E:37:TYR:CZ	7:E:72:VAL:HG22	2.33	0.62
7:E:57:ASP:HB3	7:E:62:ARG:NE	2.04	0.62
11:I:32:ARG:HD2	17:O:81:ARG:HD2	1.81	0.62
12:J:119:PHE:HD1	12:J:132:MET:SD	2.21	0.62
12:J:34:GLY:HA2	12:J:106:GLU:CA	2.23	0.62
12:J:15:ARG:CD	12:J:73:LYS:HZ2	2.07	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2357:A:C4'	14:L:26:ARG:NH1	2.57	0.62
10:H:116:ARG:NH1	15:M:38:LYS:HD3	2.14	0.62
16:N:24:PHE:HE2	16:N:39:LEU:HD21	1.64	0.62
1:X:514:G:C5	18:P:20:LEU:CD2	2.82	0.62
21:S:131:PRO:CG	21:S:155:PRO:HG3	2.29	0.62
23:U:22:GLY:H	23:U:39:LYS:HB2	1.64	0.62
23:U:27:ASP:CA	23:U:32:ARG:HD3	2.29	0.62
24:V:42:ARG:HG3	24:V:46:LEU:HD11	1.80	0.62
1:X:1452:U:O2'	1:X:1453:A:H5'	1.98	0.62
1:X:1770:U:C2	1:X:1774:A:N7	2.67	0.62
1:X:2302:G:H1	1:X:2311:U:H3	1.47	0.62
1:X:2448:A:N6	1:X:2460:G:H1'	2.14	0.62
1:X:2482:A:H4'	1:X:2483:U:OP1	1.99	0.62
1:X:2736:U:O2'	1:X:2737:A:C5'	2.32	0.62
1:X:623:G:H3'	1:X:624:A:C5'	2.25	0.62
5:C:24:SER:O	5:C:28:HIS:N	2.29	0.62
11:I:28:LYS:NZ	11:I:36:GLY:CA	2.62	0.62
20:R:84:VAL:CG2	20:R:89:GLY:HA2	2.29	0.62
1:X:1730:G:O2'	1:X:1731:C:H5'	1.99	0.62
1:X:2196:U:H2'	1:X:2197:U:N1	2.14	0.62
1:X:689:A:C8	1:X:2422:C:H1'	2.34	0.62
1:X:2617:G:P	4:B:82:ARG:NH2	2.63	0.62
1:X:2634:G:O2'	1:X:2643:G:N1	2.31	0.62
1:X:825:C:O2'	1:X:826:U:H5'	1.98	0.62
10:H:116:ARG:HH22	15:M:41:GLU:CG	2.11	0.62
15:M:27:PHE:O	15:M:28:ARG:HG2	1.99	0.62
17:O:78:VAL:HG13	17:O:78:VAL:O	2.00	0.62
17:O:9:GLY:O	17:O:10:LYS:HB3	1.99	0.62
20:R:24:VAL:O	20:R:30:LYS:HA	1.98	0.62
21:S:106:GLY:N	21:S:109:GLN:HG3	2.14	0.62
21:S:87:THR:HG21	21:S:90:GLU:O	1.99	0.62
23:U:28:GLY:HA3	23:U:32:ARG:CB	2.30	0.62
1:X:1186:G:C6	1:X:1187:A:N1	2.68	0.62
1:X:1913:G:H5''	1:X:1914:U:OP1	1.99	0.62
2:Y:50:U:H2'	2:Y:51:G:C8	2.34	0.62
1:X:2445:C:H5''	30:4:6:SER:HB2	1.82	0.62
3:A:46:ARG:HD3	3:A:47:GLY:N	2.13	0.62
5:C:104:LEU:HD23	5:C:104:LEU:H	1.63	0.62
9:G:41:TRP:O	9:G:165:VAL:HA	1.99	0.62
9:G:79:PHE:CE2	9:G:147:ARG:HG2	2.34	0.62
10:H:99:ILE:HD12	10:H:103:GLY:HA2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:28:LYS:NZ	11:I:36:GLY:HA2	2.14	0.62
19:Q:22:ARG:HG3	19:Q:24:VAL:HG23	1.81	0.62
21:S:113:VAL:CG1	21:S:171:VAL:HG22	2.29	0.62
25:W:40:VAL:HA	25:W:43:MET:HG3	1.80	0.62
1:X:2222:U:H2'	1:X:2223:U:H6	1.59	0.62
2:Y:63:A:O2'	2:Y:64:C:H5'	1.99	0.62
4:B:116:VAL:HG13	4:B:136:ARG:NH2	2.12	0.62
5:C:107:ALA:HB1	5:C:180:ILE:HD13	1.81	0.62
7:E:91:GLY:O	7:E:92:VAL:O	2.17	0.62
11:I:126:SER:O	11:I:129:ALA:HB3	2.00	0.62
1:X:514:G:C6	18:P:20:LEU:HD22	2.34	0.62
22:T:38:VAL:HG21	22:T:79:ILE:CD1	2.30	0.62
22:T:41:ARG:NH1	22:T:41:ARG:HG3	2.12	0.62
1:X:1096:A:H4'	1:X:1097:A:OP1	1.99	0.62
1:X:1102:G:O2'	1:X:1103:C:H5'	2.00	0.62
1:X:1578:U:O2'	1:X:1579:G:H5'	1.99	0.62
1:X:2194:A:H2'	1:X:2195:C:C4'	2.30	0.62
1:X:223:C:O2'	1:X:398:C:H5'	2.00	0.62
1:X:2284:U:H2'	1:X:2285:U:H5''	1.80	0.62
1:X:2619:G:C6	1:X:2755:A:C2	2.88	0.62
1:X:471:A:H2'	1:X:472:C:O4'	1.99	0.62
1:X:623:G:N3	1:X:626:A:H2	1.94	0.62
3:A:206:LEU:C	3:A:211:ARG:HD3	2.18	0.62
4:B:136:ARG:HH11	4:B:136:ARG:HG2	1.64	0.62
5:C:22:VAL:HA	5:C:106:MET:HG3	1.81	0.62
6:D:114:PHE:HZ	6:D:176:PRO:HG3	1.64	0.62
7:E:57:ASP:O	7:E:58:ALA:HB2	1.99	0.62
11:I:63:ARG:O	11:I:64:GLY:C	2.37	0.62
15:M:34:ARG:CZ	15:M:88:VAL:CG1	2.77	0.62
20:R:85:ASP:H	20:R:90:LYS:HD3	1.63	0.62
23:U:23:LYS:HB2	23:U:35:THR:HG23	1.80	0.62
23:U:52:ARG:NH1	23:U:79:GLU:OE1	2.30	0.62
1:X:1683:G:C2'	1:X:1684:G:H5'	2.29	0.62
1:X:1685:A:N6	1:X:1693:A:H61	1.98	0.62
1:X:2779:C:C6	1:X:2779:C:H3'	2.34	0.62
3:A:131:LEU:HG	3:A:131:LEU:O	1.99	0.62
1:X:2201:G:H4'	3:A:186:HIS:CE1	2.34	0.62
6:D:108:LEU:HA	6:D:111:ILE:HD12	1.82	0.62
6:D:70:ALA:C	6:D:72:LYS:H	2.03	0.62
8:F:117:ALA:HB1	8:F:118:GLY:O	2.00	0.62
9:G:67:ARG:O	9:G:70:PHE:CD1	2.53	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:75:VAL:HG12	10:H:118:LEU:CD2	2.27	0.62
12:J:113:GLU:C	12:J:115:ALA:H	2.03	0.62
14:L:40:ALA:HB2	14:L:103:LEU:CD1	2.18	0.62
15:M:28:ARG:HB2	15:M:29:PRO:CD	2.20	0.62
22:T:58:THR:HG22	22:T:59:LEU:N	2.14	0.62
1:X:1147:G:H2'	1:X:1148:G:H8	1.63	0.62
1:X:136:A:N6	1:X:137:A:C2	2.67	0.62
1:X:136:A:C5	1:X:137:A:C8	2.85	0.62
1:X:1610:A:H2'	1:X:1611:U:C6	2.35	0.62
1:X:1938:U:O2'	1:X:1939:U:H5'	2.00	0.62
1:X:2074:U:O5'	1:X:2075:U:H5''	2.00	0.62
1:X:2081:U:H2'	1:X:2082:C:O4'	1.99	0.62
1:X:651:C:C2'	1:X:652:C:H5''	2.28	0.62
3:A:186:HIS:HB2	3:A:188:GLU:HG3	1.82	0.62
5:C:110:SER:HA	5:C:113:GLU:OE1	1.99	0.62
6:D:34:ILE:HD11	6:D:156:ILE:HG12	1.82	0.62
6:D:57:LEU:O	6:D:61:THR:HG23	1.99	0.62
16:N:24:PHE:O	16:N:29:SER:HB3	1.98	0.62
1:X:1064:C:O5'	1:X:1064:C:H6	1.83	0.62
1:X:1113:C:H2'	1:X:1114:A:C8	2.32	0.62
1:X:1201:G:H5''	17:O:80:TYR:CE2	2.34	0.62
1:X:1286:U:C6	1:X:1986:G:H4'	2.35	0.62
1:X:2178:U:H2'	1:X:2179:C:H6	1.64	0.62
1:X:2194:A:C2'	1:X:2195:C:H5''	2.28	0.62
1:X:408:U:O2'	1:X:409:G:C8	2.51	0.62
5:C:129:LYS:O	5:C:130:THR:HB	1.99	0.62
5:C:83:ALA:O	5:C:85:GLY:N	2.33	0.62
7:E:54:ARG:HH11	7:E:62:ARG:NE	1.98	0.62
14:L:29:LEU:HA	14:L:41:GLN:O	1.99	0.62
16:N:93:LYS:HD2	17:O:10:LYS:HZ3	1.65	0.62
16:N:88:ILE:HG22	17:O:48:GLY:O	1.99	0.62
18:P:66:GLU:HB3	18:P:67:PRO:HD3	1.81	0.62
1:X:1194:U:H2'	1:X:1195:U:C6	2.35	0.62
8:F:76:TYR:HD1	8:F:79:ARG:NH2	1.97	0.62
10:H:41:ASN:H	10:H:41:ASN:ND2	1.96	0.62
11:I:18:ARG:CB	11:I:21:ARG:HD3	2.29	0.62
12:J:79:PRO:O	12:J:80:ALA:CB	2.47	0.62
16:N:7:GLY:C	16:N:9:VAL:H	2.03	0.62
1:X:1036:G:O2'	1:X:1037:U:OP2	2.18	0.62
1:X:2184:C:H2'	1:X:2185:U:H6	1.64	0.62
1:X:2490:U:H2'	1:X:2491:C:H6	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:333:A:H5'	5:C:162:ARG:CG	2.30	0.62
1:X:455:A:H2	1:X:1258:G:N3	1.98	0.62
1:X:1275:A:N3	26:Z:10:LYS:HE2	2.15	0.62
6:D:16:LEU:O	6:D:20:PHE:HD1	1.82	0.61
7:E:44:ARG:HH22	7:E:46:ASP:CB	2.12	0.61
11:I:102:LYS:O	11:I:104:ARG:N	2.31	0.61
19:Q:7:LEU:O	19:Q:7:LEU:HD13	1.99	0.61
1:X:1057:A:H5'	1:X:1058:G:OP2	2.00	0.61
1:X:833:A:H1'	1:X:954:U:O2'	2.00	0.61
3:A:124:GLU:O	3:A:129:ASN:ND2	2.33	0.61
1:X:2554:C:O2'	4:B:140:SER:HB2	2.00	0.61
5:C:112:GLN:HA	5:C:116:LYS:HD3	1.83	0.61
5:C:21:GLU:O	5:C:22:VAL:O	2.18	0.61
14:L:83:GLY:C	14:L:84:ILE:HD12	2.19	0.61
16:N:66:ASN:HA	16:N:69:ALA:CB	2.30	0.61
20:R:23:ILE:HD12	20:R:23:ILE:N	2.08	0.61
21:S:21:ALA:HB2	21:S:81:VAL:HB	1.81	0.61
21:S:51:LEU:N	21:S:51:LEU:HD23	2.14	0.61
23:U:53:GLU:OE1	23:U:57:VAL:HG13	1.99	0.61
1:X:1391:A:O2'	1:X:1392:U:C6	2.53	0.61
1:X:1439:G:H2'	1:X:1440:G:C8	2.35	0.61
1:X:1467:U:C3'	1:X:1467:U:H6	2.13	0.61
1:X:1978:U:H5''	1:X:1979:C:H5''	1.80	0.61
1:X:2226:A:H2'	1:X:2227:C:H6	1.65	0.61
1:X:314:G:H2'	1:X:315:G:C8	2.35	0.61
1:X:973:U:H2'	1:X:974:U:H6	1.65	0.61
4:B:85:ALA:CB	4:B:86:PRO:CD	2.78	0.61
6:D:15:ALA:O	6:D:19:GLN:HB2	1.99	0.61
9:G:148:LEU:HD11	9:G:150:VAL:CG2	2.29	0.61
9:G:158:HIS:HA	9:G:161:GLN:NE2	2.15	0.61
11:I:107:LYS:HG3	11:I:108:LEU:N	2.16	0.61
11:I:18:ARG:HD2	11:I:21:ARG:HD2	1.81	0.61
11:I:28:LYS:HZ2	11:I:37:GLN:N	1.97	0.61
14:L:28:ARG:HD2	14:L:90:ASP:OD1	2.00	0.61
16:N:79:PHE:CD2	16:N:80:ILE:HD13	2.35	0.61
18:P:13:GLN:O	18:P:16:GLN:HG3	1.99	0.61
1:X:1124:U:C2'	1:X:1125:G:H5'	2.30	0.61
1:X:1194:U:H6	1:X:1194:U:H5'	1.65	0.61
1:X:1359:G:H8	1:X:1359:G:H5'	1.65	0.61
1:X:1810:U:H5''	3:A:158:SER:HB3	1.81	0.61
1:X:871:U:O2'	1:X:2248:A:H5''	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2405:A:H2'	1:X:2405:A:N3	2.16	0.61
1:X:2779:C:H2'	1:X:2780:A:C1'	2.30	0.61
1:X:403:A:H4'	1:X:404:A:O5'	2.01	0.61
1:X:648:A:H5''	1:X:649:G:OP1	2.00	0.61
3:A:70:ARG:NH2	3:A:189:CYS:HA	2.15	0.61
5:C:104:LEU:H	5:C:104:LEU:CD2	2.13	0.61
1:X:814:G:OP1	5:C:50:GLN:CD	2.38	0.61
6:D:57:LEU:HA	6:D:60:ILE:CD1	2.30	0.61
9:G:162:LYS:N	9:G:163:PRO:CD	2.62	0.61
13:K:11:ASN:OD1	13:K:17:ARG:NH2	2.34	0.61
15:M:104:LEU:HB3	15:M:107:LEU:HD12	1.81	0.61
16:N:4:ALA:O	16:N:5:LYS:O	2.18	0.61
17:O:48:GLY:O	17:O:50:ASP:N	2.28	0.61
21:S:105:GLN:OE1	21:S:140:LYS:HA	2.00	0.61
1:X:2241:U:H5	22:T:17:ASN:ND2	1.97	0.61
1:X:1231:A:H2'	1:X:1232:U:H6	1.64	0.61
1:X:757:U:C2'	1:X:758:G:H5'	2.30	0.61
3:A:145:LEU:HD12	3:A:146:GLU:H	1.65	0.61
3:A:252:LYS:N	3:A:252:LYS:CE	2.58	0.61
4:B:67:PHE:CZ	4:B:75:THR:HG22	2.35	0.61
5:C:136:TRP:CD2	5:C:140:ASN:ND2	2.69	0.61
7:E:94:PHE:CG	7:E:107:ILE:HG22	2.35	0.61
10:H:116:ARG:NH2	15:M:40:ARG:HB2	2.16	0.61
15:M:50:PHE:CZ	15:M:70:LYS:HB3	2.35	0.61
16:N:66:ASN:ND2	16:N:70:ARG:HH22	1.97	0.61
20:R:15:HIS:ND1	20:R:16:PHE:CD2	2.67	0.61
21:S:103:ARG:HD3	21:S:108:VAL:CG2	2.27	0.61
24:V:6:MET:CE	24:V:52:GLN:HB3	2.30	0.61
1:X:1119:U:C2'	1:X:1120:C:O5'	2.48	0.61
1:X:2002:A:N7	26:Z:9:LYS:HE2	2.16	0.61
1:X:2167:A:H2'	1:X:2168:A:C8	2.35	0.61
1:X:2795:A:N1	15:M:2:GLN:N	2.49	0.61
1:X:333:A:H2'	1:X:350:U:O2	1.99	0.61
2:Y:25:G:H2'	2:Y:26:G:N7	2.15	0.61
5:C:177:VAL:O	5:C:180:ILE:HG23	2.01	0.61
8:F:100:ASN:N	8:F:103:GLN:OE1	2.33	0.61
1:X:1091:C:O2	8:F:126:THR:HG23	2.01	0.61
11:I:85:ASP:O	11:I:87:THR:N	2.34	0.61
14:L:54:ALA:N	14:L:75:LEU:HD13	2.16	0.61
17:O:40:VAL:HA	17:O:44:GLN:O	2.01	0.61
20:R:95:ARG:H	20:R:95:ARG:HD2	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1186:G:H4'	1:X:1187:A:OP2	2.01	0.61
1:X:1427:G:H2'	1:X:1428:G:C1'	2.29	0.61
1:X:1547:U:H2'	1:X:1548:U:H6	1.65	0.61
1:X:2307:A:H2'	1:X:2308:A:C8	2.35	0.61
1:X:2870:C:H2'	1:X:2871:U:H6	1.66	0.61
1:X:2870:C:H2'	1:X:2871:U:C6	2.36	0.61
1:X:741:G:O2'	1:X:743:A:H5''	2.00	0.61
30:4:26:ILE:HG13	30:4:26:ILE:O	2.00	0.61
3:A:90:ALA:HA	3:A:198:ASN:HB2	1.81	0.61
3:A:228:PRO:HD3	3:A:235:GLY:N	2.16	0.61
9:G:107:GLN:CA	9:G:110:LEU:HG	2.31	0.61
11:I:81:GLN:O	11:I:83:LEU:N	2.33	0.61
14:L:17:VAL:HG13	14:L:18:ARG:H	1.66	0.61
16:N:29:SER:O	16:N:30:LYS:HD2	2.00	0.61
17:O:57:GLN:N	17:O:97:GLY:CA	2.58	0.61
18:P:9:ARG:HD2	18:P:13:GLN:HG3	1.82	0.61
19:Q:35:LYS:HD3	19:Q:53:ILE:HG23	1.82	0.61
1:X:1142:G:C1'	9:G:103:TYR:CD2	2.84	0.61
1:X:1922:U:O4'	1:X:1922:U:O2	2.18	0.61
1:X:1938:U:O2'	1:X:1939:U:OP1	2.15	0.61
1:X:2261:G:H21	1:X:2369:U:H3	1.49	0.61
1:X:2598:C:H1'	4:B:154:LYS:CE	2.30	0.61
3:A:42:GLY:H	3:A:43:ARG:NH1	1.99	0.61
5:C:122:GLY:O	5:C:124:ASP:N	2.33	0.61
23:U:17:SER:HB2	23:U:44:ALA:HA	1.83	0.61
1:X:2395:C:H2'	1:X:2396:C:C5'	2.31	0.61
1:X:663:G:H2'	1:X:664:C:H5''	1.81	0.61
2:Y:30:C:H2'	2:Y:31:A:C8	2.36	0.61
3:A:59:LYS:HG3	3:A:59:LYS:O	1.99	0.61
4:B:85:ALA:HB3	4:B:86:PRO:CD	2.31	0.61
5:C:166:TRP:N	5:C:166:TRP:HE3	1.97	0.61
6:D:148:LYS:HG3	6:D:149:THR:H	1.66	0.61
7:E:43:VAL:CB	7:E:52:VAL:HA	2.31	0.61
8:F:115:LEU:O	8:F:117:ALA:N	2.34	0.61
17:O:8:GLY:H	17:O:20:ILE:HD13	1.66	0.61
1:X:528:G:H5'	18:P:39:ARG:HH22	1.66	0.61
1:X:1333:G:H8	1:X:1333:G:OP2	1.82	0.61
1:X:1551:U:H5'	1:X:1552:C:C6	2.35	0.61
1:X:2322:U:C3'	1:X:2323:U:C6	2.83	0.61
1:X:416:U:O2'	1:X:419:G:H1'	2.00	0.61
1:X:624:A:C4'	1:X:626:A:N6	2.63	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:640:C:H4'	1:X:660:G:N3	2.16	0.61
2:Y:42:U:H1'	2:Y:47:A:H62	1.66	0.61
1:X:787:A:H5''	3:A:48:ARG:NH2	2.16	0.61
6:D:150:ARG:CG	6:D:151:GLY:H	1.96	0.61
11:I:94:GLU:HA	11:I:97:ARG:HE	1.63	0.61
13:K:25:ALA:HB2	13:K:47:PHE:HE2	1.64	0.61
14:L:14:ARG:O	14:L:17:VAL:HG12	2.01	0.61
14:L:63:ASN:HB3	14:L:67:THR:N	2.15	0.61
15:M:99:VAL:HG21	15:M:104:LEU:HD21	1.81	0.61
16:N:6:THR:O	16:N:9:VAL:HB	2.00	0.61
1:X:1519:G:O2'	1:X:1520:G:H5'	2.01	0.61
1:X:1750:A:C8	1:X:2675:U:H1'	2.36	0.61
1:X:177:U:C2	1:X:178:C:C1'	2.84	0.61
1:X:1854:G:HO2'	1:X:1855:G:H5'	1.65	0.61
1:X:1996:A:H2'	1:X:1997:A:H5'	1.82	0.61
1:X:2266:A:N6	1:X:2323:U:H3	1.98	0.61
1:X:538:A:H2'	1:X:2025:A:H2	1.65	0.61
1:X:84:G:P	20:R:39:ALA:CB	2.88	0.61
6:D:9:ASN:O	6:D:13:ARG:N	2.34	0.60
6:D:13:ARG:HH21	6:D:17:MET:HE1	1.65	0.60
10:H:27:SER:HB3	10:H:50:ILE:N	2.16	0.60
11:I:30:ALA:CB	11:I:34:HIS:CE1	2.81	0.60
13:K:13:ASN:HD21	13:K:16:ALA:N	1.85	0.60
2:Y:106:U:H4'	21:S:67:LYS:HZ3	1.64	0.60
23:U:45:ASN:C	23:U:46:LEU:HD23	2.22	0.60
1:X:2700:U:H6	1:X:2700:U:H5'	1.64	0.60
1:X:93:A:O2'	1:X:94:C:H5'	2.02	0.60
30:4:11:CYS:O	30:4:13:ASN:N	2.34	0.60
3:A:131:LEU:HD21	3:A:193:ILE:HG12	1.82	0.60
3:A:163:VAL:HG21	3:A:177:LEU:HD23	1.82	0.60
3:A:243:GLY:HA2	3:A:244:ARG:NH1	2.17	0.60
3:A:245:VAL:C	3:A:252:LYS:HD3	2.21	0.60
5:C:134:ILE:O	5:C:137:ALA:HB3	2.02	0.60
6:D:108:LEU:HB3	6:D:114:PHE:CZ	2.36	0.60
6:D:68:THR:CG2	6:D:88:LYS:HB2	2.30	0.60
12:J:102:ARG:HH11	12:J:102:ARG:HG3	1.66	0.60
23:U:22:GLY:CA	23:U:39:LYS:HD2	2.31	0.60
23:U:23:LYS:HD2	23:U:35:THR:HG23	1.83	0.60
1:X:1235:C:H2'	1:X:1236:G:C8	2.35	0.60
1:X:1467:U:H6	1:X:1468:A:H5'	1.65	0.60
1:X:1279:G:N2	1:X:1996:A:OP2	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2569:A:H2'	1:X:2570:C:C6	2.36	0.60
1:X:310:A:H61	5:C:162:ARG:NH2	1.99	0.60
3:A:46:ARG:C	3:A:46:ARG:HD3	2.21	0.60
10:H:23:ARG:HH12	10:H:25:LEU:CD2	2.14	0.60
22:T:73:GLY:O	22:T:74:LYS:HB2	2.01	0.60
25:W:23:LEU:HD21	25:W:43:MET:CB	2.31	0.60
1:X:1324:G:H4'	1:X:1325:U:OP1	2.01	0.60
1:X:2294:U:H1'	6:D:123:ASP:OD1	2.01	0.60
2:Y:52:G:N2	2:Y:53:G:H1'	2.16	0.60
3:A:132:PRO:HA	3:A:190:TYR:HA	1.83	0.60
6:D:132:ILE:HB	6:D:152:MET:O	2.01	0.60
7:E:89:LEU:HD11	7:E:96:ALA:CB	2.31	0.60
8:F:108:ALA:HA	8:F:115:LEU:HD11	1.82	0.60
1:X:2873:G:N2	9:G:162:LYS:NZ	2.49	0.60
14:L:33:ARG:HH12	14:L:103:LEU:N	1.98	0.60
10:H:116:ARG:HH11	15:M:38:LYS:CE	2.14	0.60
20:R:23:ILE:HG12	20:R:84:VAL:HG21	1.83	0.60
21:S:6:LYS:N	21:S:7:PRO:HD3	2.16	0.60
1:X:110:U:H5'	1:X:110:U:H6	1.65	0.60
1:X:1573:G:H3'	1:X:1574:A:C5'	2.26	0.60
1:X:2375:G:H1'	23:U:33:LYS:NZ	2.16	0.60
3:A:70:ARG:NH1	3:A:150:GLY:N	2.49	0.60
6:D:175:LEU:HD12	6:D:176:PRO:HD2	1.82	0.60
1:X:637:G:O6	11:I:101:ARG:HD3	2.02	0.60
12:J:66:TYR:HB2	12:J:106:GLU:CD	2.22	0.60
13:K:96:ARG:HD2	13:K:114:GLU:OE2	2.02	0.60
14:L:72:GLY:O	14:L:107:ALA:HB2	2.01	0.60
14:L:37:HIS:CE1	14:L:39:TYR:CZ	2.89	0.60
4:B:192:ASN:ND2	15:M:9:ARG:HH12	1.93	0.60
19:Q:76:LYS:HG2	19:Q:76:LYS:O	2.01	0.60
20:R:98:ILE:C	20:R:100:ASP:H	2.04	0.60
20:R:22:VAL:HG12	20:R:23:ILE:N	2.16	0.60
1:X:163:A:H2'	1:X:164:G:C8	2.35	0.60
1:X:2691:C:H2'	1:X:2692:A:H5''	1.84	0.60
1:X:2710:C:O2'	1:X:2711:G:H5'	2.01	0.60
5:C:195:ILE:HG13	5:C:195:ILE:O	2.02	0.60
6:D:116:GLY:HA2	6:D:176:PRO:HB2	1.84	0.60
6:D:152:MET:HE2	6:D:154:ILE:HD11	1.82	0.60
7:E:171:LEU:N	7:E:171:LEU:HD12	2.16	0.60
7:E:9:ILE:HD12	7:E:51:LEU:N	2.17	0.60
10:H:100:ASN:OD1	10:H:100:ASN:C	2.39	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:37:HIS:CG	14:L:37:HIS:O	2.55	0.60
20:R:80:LYS:HE3	20:R:80:LYS:C	2.21	0.60
23:U:53:GLU:OE2	23:U:57:VAL:HG22	2.02	0.60
1:X:1221:C:H2'	1:X:1222:G:H8	1.67	0.60
1:X:1324:G:H2'	1:X:1325:U:C5	2.37	0.60
1:X:1333:G:N2	1:X:1344:C:N4	2.49	0.60
1:X:196:A:O2'	1:X:197:G:H5'	2.02	0.60
1:X:208:C:N4	1:X:209:G:N2	2.49	0.60
1:X:2198:U:C2'	1:X:2199:C:O4'	2.43	0.60
1:X:2312:A:H4'	1:X:2313:G:O5'	2.01	0.60
1:X:1922:U:C1'	1:X:2570:C:O2'	2.49	0.60
1:X:2811:G:H2'	1:X:2812:A:H8	1.67	0.60
1:X:318:G:C8	1:X:318:G:H5'	2.35	0.60
1:X:510:G:N2	1:X:512:A:H3'	2.16	0.60
1:X:640:C:C4'	1:X:660:G:H21	2.15	0.60
3:A:166:GLN:HB2	3:A:174:ILE:O	2.02	0.60
1:X:1675:C:OP1	4:B:134:TRP:CD1	2.55	0.60
5:C:151:VAL:O	5:C:152:THR:HB	2.00	0.60
5:C:190:ALA:C	5:C:192:ALA:H	2.04	0.60
6:D:34:ILE:HD13	6:D:156:ILE:HA	1.83	0.60
9:G:92:GLY:C	9:G:93:LYS:HD2	2.21	0.60
11:I:14:LYS:O	11:I:14:LYS:HG3	2.01	0.60
12:J:116:LYS:O	12:J:117:GLU:HB2	2.01	0.60
12:J:36:ILE:HD12	12:J:133:VAL:CG1	2.29	0.60
14:L:39:TYR:O	14:L:40:ALA:C	2.40	0.60
16:N:60:LEU:HD13	16:N:60:LEU:C	2.21	0.60
16:N:93:LYS:O	16:N:94:VAL:HG23	2.02	0.60
18:P:17:GLN:HG3	18:P:18:VAL:HG23	1.83	0.60
21:S:123:VAL:H	21:S:161:ALA:N	1.98	0.60
1:X:2795:A:O3'	13:K:3:HIS:HE1	1.85	0.60
1:X:859:U:H1'	1:X:860:U:C4	2.36	0.60
3:A:208:LYS:O	3:A:209:ALA:O	2.20	0.60
5:C:67:ALA:O	5:C:68:ARG:CB	2.50	0.60
6:D:122:PHE:O	6:D:124:GLY:N	2.34	0.60
6:D:65:PRO:CB	6:D:89:VAL:HG22	2.30	0.60
9:G:107:GLN:N	9:G:107:GLN:OE1	2.34	0.60
12:J:56:SER:O	12:J:59:PHE:N	2.35	0.60
12:J:80:ALA:HB1	12:J:81:GLU:OE1	2.02	0.60
18:P:42:VAL:HG12	18:P:42:VAL:O	2.02	0.60
20:R:16:PHE:HD2	20:R:82:ALA:HB2	1.67	0.60
23:U:43:ARG:HG3	23:U:43:ARG:HH21	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:62:LEU:HD23	23:U:67:LEU:CD1	2.30	0.60
1:X:1050:G:H2'	1:X:1051:U:C5'	2.32	0.60
1:X:1561:A:H2'	1:X:1562:G:O4'	2.01	0.60
1:X:2691:C:H5''	1:X:2694:G:H5''	1.84	0.60
1:X:532:A:H2'	1:X:533:C:C6	2.37	0.60
3:A:244:ARG:N	3:A:244:ARG:CD	2.63	0.60
5:C:149:LEU:HD12	5:C:168:SER:O	2.02	0.60
5:C:4:ILE:HG13	5:C:4:ILE:O	2.02	0.60
5:C:47:THR:HA	5:C:82:VAL:O	2.01	0.60
7:E:107:ILE:HD11	7:E:151:VAL:HG12	1.83	0.60
7:E:38:ASN:HB2	7:E:41:LEU:HB2	1.84	0.60
7:E:65:HIS:C	7:E:67:LEU:N	2.55	0.60
11:I:56:LEU:O	11:I:58:ALA:O	2.20	0.60
12:J:52:ARG:HB2	12:J:67:ILE:HD11	1.83	0.60
13:K:83:VAL:HG23	13:K:87:TYR:CE2	2.37	0.60
15:M:34:ARG:NH2	15:M:91:VAL:CG2	2.63	0.60
1:X:29:U:C4'	16:N:11:ARG:HH22	2.11	0.60
16:N:22:LYS:O	16:N:24:PHE:N	2.34	0.60
18:P:87:GLU:HA	18:P:90:LEU:CD1	2.32	0.60
20:R:59:LYS:O	20:R:60:PRO:O	2.19	0.60
21:S:70:GLN:O	21:S:79:ILE:HG22	2.01	0.60
1:X:2411:A:H4'	23:U:25:ARG:NH1	2.16	0.60
1:X:1067:G:N2	1:X:1114:A:H62	1.97	0.60
1:X:1186:G:C5	1:X:1187:A:N1	2.70	0.60
1:X:136:A:H2'	1:X:137:A:H8	1.67	0.60
1:X:1468:A:H8	1:X:1468:A:P	2.24	0.60
1:X:1513:U:OP2	1:X:1514:C:H5	1.83	0.60
1:X:1820:G:O2'	1:X:1821:A:H5'	2.01	0.60
1:X:965:G:N3	1:X:2253:A:C2	2.70	0.60
1:X:2736:U:HO2'	1:X:2737:A:H5''	1.63	0.60
3:A:79:VAL:HG12	3:A:113:VAL:HA	1.81	0.60
4:B:117:MET:HG3	4:B:136:ARG:HG3	1.84	0.60
7:E:44:ARG:HG3	7:E:44:ARG:NH2	2.15	0.60
7:E:84:THR:CA	7:E:134:SER:HA	2.29	0.60
12:J:19:THR:CG2	12:J:20:GLY:N	2.64	0.60
12:J:66:TYR:O	12:J:106:GLU:OE2	2.20	0.60
15:M:32:THR:HG22	15:M:33:VAL:N	2.17	0.60
18:P:103:LEU:HD23	18:P:103:LEU:N	2.15	0.60
18:P:91:PHE:CD1	18:P:129:ALA:O	2.54	0.60
20:R:23:ILE:CG1	20:R:84:VAL:HG21	2.31	0.60
21:S:75:LYS:O	21:S:77:ALA:N	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:42:ARG:HE	24:V:46:LEU:HD21	1.67	0.60
1:X:2725:C:O2'	7:E:143:GLN:CG	2.50	0.60
30:4:10:MET:HE3	30:4:32:HIS:HA	1.82	0.59
3:A:55:GLY:N	3:A:217:ARG:HB2	2.17	0.59
4:B:162:MET:HA	4:B:162:MET:CE	2.28	0.59
4:B:4:ILE:HG21	4:B:28:ALA:HB1	1.84	0.59
6:D:108:LEU:HD23	6:D:111:ILE:HD12	1.83	0.59
9:G:103:TYR:HB3	9:G:107:GLN:NE2	2.05	0.59
9:G:49:VAL:HG21	9:G:170:PRO:HG2	1.83	0.59
9:G:36:ASN:CG	9:G:37:ASP:N	2.56	0.59
11:I:73:GLU:OE1	11:I:73:GLU:N	2.35	0.59
12:J:92:GLU:HG3	12:J:93:TYR:CD2	2.37	0.59
14:L:37:HIS:O	14:L:38:ILE:O	2.19	0.59
14:L:75:LEU:O	14:L:78:ALA:HB3	2.00	0.59
16:N:17:VAL:CG1	16:N:39:LEU:HD12	2.32	0.59
16:N:86:ALA:O	16:N:89:ASP:N	2.35	0.59
19:Q:91:LEU:CD2	19:Q:91:LEU:H	2.15	0.59
23:U:19:ILE:HG22	23:U:41:VAL:O	2.02	0.59
25:W:34:VAL:HG22	25:W:40:VAL:HG11	1.83	0.59
1:X:1690:U:C2'	1:X:1691:G:H5'	2.31	0.59
1:X:2634:G:H2'	1:X:2643:G:O6	2.01	0.59
1:X:427:C:H2'	1:X:428:A:C8	2.37	0.59
1:X:638:A:O2'	1:X:639:G:C8	2.51	0.59
1:X:704:G:O2'	1:X:705:C:H5'	2.02	0.59
1:X:861:G:H1'	1:X:944:A:N3	2.16	0.59
1:X:2445:C:H5''	30:4:6:SER:CB	2.32	0.59
3:A:200:GLU:O	3:A:202:LYS:N	2.35	0.59
4:B:130:GLY:O	4:B:131:SER:CB	2.49	0.59
5:C:46:ARG:O	5:C:47:THR:C	2.40	0.59
6:D:106:ILE:CG2	6:D:139:PRO:HB3	2.31	0.59
6:D:19:GLN:HB3	6:D:20:PHE:CD1	2.37	0.59
7:E:126:PRO:HG2	7:E:127:GLU:N	2.18	0.59
9:G:67:ARG:HB3	9:G:70:PHE:CA	2.31	0.59
10:H:23:ARG:NH1	10:H:25:LEU:CD2	2.65	0.59
11:I:18:ARG:HB2	11:I:21:ARG:CD	2.29	0.59
12:J:62:GLY:O	12:J:64:LYS:N	2.35	0.59
1:X:1744:G:OP1	15:M:100:ARG:HD2	2.02	0.59
20:R:93:ARG:HA	20:R:95:ARG:CZ	2.32	0.59
1:X:1428:G:N2	1:X:1602:G:H5'	2.17	0.59
1:X:1850:G:O2'	1:X:1851:A:O4'	2.18	0.59
1:X:2405:A:H4'	1:X:2406:C:OP2	2.00	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2447:G:O2'	1:X:2448:A:H8	1.85	0.59
1:X:2592:U:C5'	1:X:2593:A:OP2	2.49	0.59
1:X:2873:G:H2'	1:X:2874:A:H8	1.66	0.59
1:X:839:U:OP1	1:X:2408:G:OP2	2.19	0.59
5:C:14:THR:O	5:C:15:ILE:HB	2.02	0.59
5:C:24:SER:O	5:C:25:GLY:C	2.39	0.59
5:C:39:ARG:HG2	5:C:39:ARG:NH1	2.17	0.59
6:D:47:SER:HA	6:D:50:ILE:HD12	1.83	0.59
6:D:92:ARG:N	6:D:96:MET:HB2	2.17	0.59
9:G:169:GLN:HB2	9:G:170:PRO:HD2	1.84	0.59
14:L:91:ARG:HG2	14:L:92:GLY:N	2.18	0.59
1:X:1166:A:C5'	16:N:55:ARG:HD3	2.29	0.59
16:N:79:PHE:HD2	16:N:80:ILE:HD13	1.67	0.59
19:Q:89:GLU:HB2	19:Q:91:LEU:HD23	1.82	0.59
20:R:29:HIS:CG	20:R:51:VAL:HG22	2.37	0.59
20:R:93:ARG:O	20:R:95:ARG:HD2	2.02	0.59
1:X:1173:G:N3	17:O:88:GLN:NE2	2.50	0.59
1:X:1211:G:C4	1:X:1212:U:C5	2.90	0.59
1:X:1355:A:H1'	1:X:1410:U:H4'	1.83	0.59
1:X:2325:A:O2'	1:X:2326:C:OP2	2.20	0.59
1:X:2383:C:H2'	1:X:2384:G:O4'	2.02	0.59
1:X:2871:U:H2'	1:X:2872:U:C6	2.38	0.59
3:A:52:ARG:HB2	3:A:53:PHE:CD2	2.37	0.59
5:C:2:ALA:HA	5:C:13:ARG:CA	2.32	0.59
6:D:81:GLN:HG2	6:D:82:GLY:H	1.67	0.59
12:J:26:ASP:HB3	12:J:68:ARG:HH22	1.67	0.59
12:J:77:LYS:HG3	12:J:78:LYS:N	2.15	0.59
14:L:33:ARG:NH2	14:L:103:LEU:CB	2.65	0.59
15:M:24:LEU:O	15:M:25:PRO:O	2.20	0.59
17:O:65:ARG:HH11	17:O:65:ARG:HG3	1.68	0.59
19:Q:72:ARG:O	19:Q:73:ASN:OD1	2.20	0.59
20:R:80:LYS:O	20:R:80:LYS:CE	2.50	0.59
22:T:31:VAL:HG22	22:T:67:VAL:CG2	2.32	0.59
23:U:25:ARG:O	23:U:32:ARG:HG3	2.02	0.59
1:X:1854:G:C6	1:X:1864:G:C6	2.90	0.59
1:X:2007:G:O2'	1:X:2008:C:H5'	2.03	0.59
1:X:2195:C:N4	1:X:2196:U:O4	2.35	0.59
1:X:2692:A:C5'	1:X:2693:U:OP2	2.50	0.59
1:X:39:C:O2'	1:X:40:U:H5'	2.02	0.59
1:X:944:A:C2'	1:X:945:G:H5'	2.32	0.59
4:B:120:TRP:CE3	4:B:155:ARG:HD2	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:146:THR:O	4:B:147:PRO:C	2.40	0.59
6:D:135:GLN:HA	6:D:138:PHE:CE1	2.37	0.59
1:X:1142:G:C8	9:G:107:GLN:HG2	2.36	0.59
9:G:154:GLU:N	9:G:157:PRO:HG2	2.16	0.59
9:G:159:SER:C	9:G:161:GLN:H	2.05	0.59
14:L:28:ARG:HB2	14:L:90:ASP:HB3	1.84	0.59
20:R:14:LEU:CD1	20:R:39:ALA:HB1	2.32	0.59
1:X:1186:G:C5	1:X:1187:A:C2	2.90	0.59
1:X:1598:C:C2'	1:X:1599:G:H5'	2.32	0.59
1:X:314:G:H2'	1:X:315:G:H8	1.66	0.59
1:X:449:C:H2'	1:X:450:C:H6	1.67	0.59
1:X:469:G:O2'	1:X:470:U:P	2.61	0.59
1:X:734:G:H2'	1:X:735:G:H8	1.66	0.59
1:X:1998:A:N3	26:Z:6:VAL:HG23	2.18	0.59
3:A:43:ARG:HE	3:A:55:GLY:HA2	1.67	0.59
1:X:2764:U:H4'	4:B:42:ASP:OD2	2.02	0.59
5:C:169:VAL:HG12	5:C:170:LEU:N	2.16	0.59
8:F:104:VAL:HA	8:F:107:ILE:CD1	2.26	0.59
9:G:154:GLU:O	9:G:157:PRO:HD2	2.01	0.59
10:H:116:ARG:NH1	15:M:38:LYS:CE	2.66	0.59
17:O:86:HIS:CG	17:O:87:ARG:N	2.70	0.59
21:S:131:PRO:HG3	21:S:155:PRO:HG3	1.82	0.59
21:S:122:ILE:HB	21:S:159:THR:O	2.03	0.59
1:X:1053:G:H2'	1:X:1054:C:O4'	2.02	0.59
1:X:1235:C:H2'	1:X:1236:G:H8	1.67	0.59
1:X:1439:G:H8	1:X:1439:G:O5'	1.86	0.59
1:X:2395:C:C2'	1:X:2396:C:H5''	2.31	0.59
1:X:2484:G:O2'	1:X:2485:U:C5'	2.47	0.59
1:X:2661:G:O6	1:X:2708:U:H1'	2.02	0.59
30:4:22:ARG:HG2	30:4:22:ARG:NH1	2.18	0.59
6:D:16:LEU:CD1	6:D:28:VAL:HG11	2.32	0.59
9:G:116:ARG:NE	9:G:126:VAL:HG13	2.12	0.59
10:H:23:ARG:HH21	10:H:23:ARG:CG	2.15	0.59
2:Y:93:G:OP1	12:J:19:THR:HB	2.01	0.59
14:L:35:SER:C	14:L:36:LYS:HD2	2.22	0.59
15:M:34:ARG:NH1	15:M:66:PHE:CE2	2.71	0.59
20:R:44:GLN:O	20:R:77:HIS:HA	2.03	0.59
22:T:40:GLN:HE21	22:T:57:HIS:HB3	1.67	0.59
24:V:13:ASP:O	24:V:17:GLU:HG2	2.03	0.59
1:X:1599:G:N2	1:X:1600:U:H1'	2.17	0.59
1:X:1698:C:C2'	1:X:1753:A:H2'	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1918:G:N2	1:X:1947:G:O4'	2.35	0.59
1:X:1922:U:O2'	1:X:2571:G:H1'	2.03	0.59
1:X:2036:G:C2'	1:X:2037:A:H5'	2.32	0.59
1:X:2205:C:H2'	1:X:2206:C:C5'	2.31	0.59
1:X:2355:A:H61	14:L:91:ARG:NH2	2.00	0.59
1:X:596:C:C6	1:X:684:C:H1'	2.37	0.59
3:A:42:GLY:H	3:A:43:ARG:HH12	1.51	0.59
3:A:63:ARG:O	3:A:65:ILE:HG13	2.01	0.59
1:X:2551:A:C8	4:B:144:ARG:HD3	2.37	0.59
5:C:158:ARG:C	5:C:160:ALA:H	2.05	0.59
6:D:36:VAL:HG22	6:D:154:ILE:CG1	2.32	0.59
9:G:65:LYS:HE3	9:G:66:HIS:NE2	2.17	0.59
12:J:99:LYS:HE3	12:J:100:PRO:HD2	1.84	0.59
10:H:83:ARG:NH1	15:M:40:ARG:NE	2.43	0.59
23:U:17:SER:CB	23:U:44:ALA:HA	2.33	0.59
23:U:23:LYS:HD2	23:U:35:THR:CG2	2.32	0.59
23:U:52:ARG:HH12	23:U:67:LEU:HD11	1.68	0.59
25:W:9:VAL:CG1	25:W:17:VAL:HG22	2.33	0.59
1:X:1656:U:O2'	1:X:1657:A:H5''	2.02	0.59
1:X:1937:G:O2'	1:X:1939:U:C5	2.54	0.59
1:X:2067:U:H2'	1:X:2068:C:C6	2.37	0.59
1:X:242:A:H61	1:X:440:U:C2'	2.12	0.59
1:X:2824:C:H4'	1:X:2825:A:H5'	1.83	0.59
1:X:332:C:H5''	1:X:333:A:OP2	2.02	0.59
1:X:972:C:H4'	1:X:973:U:OP2	2.03	0.59
4:B:150:VAL:CG2	4:B:154:LYS:HE2	2.11	0.59
4:B:16:LYS:O	4:B:17:ASN:HB2	2.03	0.59
6:D:33:LYS:HG3	6:D:157:VAL:HG21	1.85	0.59
7:E:98:LEU:CD1	7:E:99:THR:N	2.54	0.59
1:X:5:A:H1'	9:G:162:LYS:NZ	2.18	0.59
11:I:78:SER:N	11:I:112:GLY:HA3	2.17	0.59
11:I:116:ARG:HE	11:I:118:VAL:CG1	2.16	0.59
14:L:36:LYS:HE2	14:L:65:THR:HG22	1.83	0.59
14:L:42:ILE:HG22	14:L:52:ALA:H	1.68	0.59
19:Q:89:GLU:CB	19:Q:91:LEU:HD23	2.33	0.59
20:R:93:ARG:C	20:R:95:ARG:CZ	2.71	0.59
21:S:23:ALA:HB3	21:S:32:PHE:CE1	2.36	0.59
23:U:23:LYS:HE3	23:U:26:ALA:HA	1.84	0.59
25:W:46:THR:HG22	25:W:47:VAL:N	2.17	0.59
1:X:1053:G:C5	1:X:1054:C:C5	2.90	0.59
1:X:1067:G:H21	1:X:1114:A:N6	1.98	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:135:U:C5'	1:X:136:A:OP1	2.36	0.59
1:X:2210:C:H2'	1:X:2211:U:C6	2.38	0.59
1:X:730:C:O3'	1:X:731:A:O4'	2.19	0.59
4:B:123:ALA:O	4:B:124:GLY:O	2.21	0.59
6:D:8:TYR:HB2	6:D:173:MET:HE1	1.85	0.59
12:J:79:PRO:CD	12:J:88:LYS:HD2	2.32	0.59
14:L:60:LYS:HG2	14:L:62:GLY:N	2.18	0.59
17:O:79:GLN:HA	17:O:79:GLN:OE1	2.03	0.59
20:R:16:PHE:HB3	20:R:82:ALA:CB	2.32	0.59
21:S:114:ASP:N	21:S:170:SER:O	2.32	0.59
21:S:6:LYS:O	21:S:31:SER:HB3	2.03	0.59
24:V:1:MET:SD	24:V:2:LYS:HE2	2.43	0.59
1:X:1979:C:H6	1:X:1979:C:OP1	1.84	0.59
1:X:2620:G:H5''	9:G:104:THR:CG2	2.33	0.59
1:X:527:C:O2'	1:X:528:G:H5'	2.02	0.59
1:X:82:G:O2'	1:X:83:A:H8	1.86	0.59
26:Z:35:GLN:C	26:Z:37:HIS:H	2.06	0.59
3:A:70:ARG:HG2	3:A:190:TYR:CZ	2.38	0.58
3:A:206:LEU:HD23	3:A:211:ARG:HH11	1.68	0.58
3:A:252:LYS:H	3:A:253:PRO:HD2	1.68	0.58
4:B:110:GLY:O	13:K:3:HIS:CD2	2.56	0.58
4:B:188:ILE:HG23	4:B:189:PRO:HD2	1.85	0.58
5:C:112:GLN:HA	5:C:116:LYS:CD	2.33	0.58
6:D:37:ASN:HA	6:D:87:ILE:O	2.03	0.58
12:J:19:THR:HG23	12:J:99:LYS:HD3	1.85	0.58
12:J:82:THR:O	12:J:83:ARG:HB3	2.03	0.58
13:K:11:ASN:ND2	13:K:12:ARG:HE	2.00	0.58
13:K:36:THR:HG23	13:K:37:THR:O	2.03	0.58
1:X:2355:A:H61	14:L:91:ARG:CZ	2.15	0.58
20:R:82:ALA:O	20:R:83:LEU:O	2.20	0.58
21:S:145:ASP:O	21:S:170:SER:HA	2.03	0.58
22:T:3:HIS:CD2	22:T:5:LYS:HD3	2.36	0.58
1:X:1107:A:C3'	1:X:1108:U:H5''	2.25	0.58
1:X:1741:G:O2'	1:X:1742:G:H5'	2.03	0.58
1:X:2194:A:C3'	1:X:2195:C:C5'	2.71	0.58
1:X:2335:U:OP1	22:T:24:LYS:NZ	2.36	0.58
1:X:2408:G:H5'	1:X:2409:A:OP2	2.03	0.58
1:X:2737:A:N3	1:X:2737:A:H2'	2.18	0.58
1:X:732:G:H8	1:X:732:G:O5'	1.86	0.58
1:X:891:A:C6	1:X:911:A:N6	2.71	0.58
4:B:154:LYS:O	4:B:154:LYS:HG3	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:138:PHE:CZ	6:D:152:MET:SD	2.96	0.58
6:D:16:LEU:HD13	6:D:28:VAL:CG1	2.33	0.58
7:E:96:ALA:HA	7:E:104:GLU:O	2.01	0.58
7:E:172:LYS:O	7:E:173:ALA:HB3	2.03	0.58
13:K:81:ASP:O	13:K:85:PRO:HG2	2.02	0.58
15:M:106:TYR:CE1	15:M:107:LEU:HD21	2.38	0.58
17:O:40:VAL:HG12	17:O:45:THR:CA	2.33	0.58
25:W:22:ALA:C	25:W:24:GLY:H	2.06	0.58
1:X:1547:U:H2'	1:X:1548:U:C6	2.38	0.58
1:X:538:A:C4	1:X:2025:A:C2	2.90	0.58
1:X:341:A:O2'	1:X:342:G:OP1	2.18	0.58
1:X:461:A:H4'	16:N:3:ARG:HH21	1.67	0.58
1:X:742:G:O2'	1:X:776:G:H4'	2.02	0.58
1:X:860:U:C2'	1:X:860:U:O2	2.51	0.58
3:A:183:ARG:HD3	3:A:267:ASP:CG	2.24	0.58
3:A:92:ILE:HG21	3:A:104:TYR:CD2	2.38	0.58
6:D:175:LEU:HG	6:D:177:PHE:CE1	2.38	0.58
11:I:116:ARG:HE	11:I:118:VAL:HG13	1.65	0.58
11:I:52:GLY:HA3	11:I:55:ARG:HH11	1.68	0.58
18:P:35:PRO:O	18:P:39:ARG:CD	2.51	0.58
21:S:69:VAL:HG13	21:S:81:VAL:HG22	1.85	0.58
24:V:3:PRO:C	24:V:5:GLU:H	2.07	0.58
25:W:16:GLN:HG2	25:W:47:VAL:HG12	1.84	0.58
1:X:1088:A:H2'	1:X:1089:C:O4'	2.02	0.58
1:X:1301:U:O2'	1:X:1664:G:N2	2.37	0.58
1:X:1699:A:H5'	1:X:1753:A:O2'	2.04	0.58
1:X:1917:C:C2'	1:X:1918:G:H5'	2.33	0.58
1:X:2208:U:H2'	1:X:2209:G:H8	1.68	0.58
1:X:2229:G:O2'	1:X:2230:G:OP2	2.16	0.58
1:X:2394:G:H2'	1:X:2395:C:C6	2.38	0.58
1:X:504:G:H4'	18:P:27:VAL:HG13	1.83	0.58
1:X:872:G:H2'	1:X:928:G:H1	1.69	0.58
30:4:30:VAL:C	30:4:32:HIS:H	2.04	0.58
30:4:8:LYS:H	30:4:34:GLN:HE22	1.49	0.58
3:A:161:THR:H	3:A:196:VAL:HG22	1.68	0.58
3:A:224:SER:HA	3:A:233:HIS:O	2.03	0.58
4:B:5:LEU:HD13	4:B:49:ILE:HG21	1.86	0.58
6:D:65:PRO:HB3	6:D:89:VAL:CG1	2.30	0.58
7:E:13:SER:O	7:E:15:VAL:N	2.37	0.58
9:G:75:ILE:HG21	9:G:144:MET:HG2	1.86	0.58
11:I:11:GLY:N	11:I:14:LYS:HB3	2.15	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:140:G:H2'	1:X:141:G:C8	2.38	0.58
1:X:1411:C:H2'	1:X:1412:C:H6	1.67	0.58
1:X:1542:G:N2	1:X:1562:G:H22	2.01	0.58
2:Y:44:C:N4	6:D:88:LYS:NZ	2.51	0.58
1:X:2200:G:O2'	3:A:149:PRO:HG2	2.03	0.58
3:A:262:LYS:O	3:A:264:LYS:N	2.36	0.58
5:C:104:LEU:HA	5:C:107:ALA:HB3	1.85	0.58
5:C:166:TRP:CE3	5:C:166:TRP:N	2.71	0.58
5:C:54:THR:CB	5:C:73:SER:HB3	2.33	0.58
12:J:26:ASP:HB3	12:J:68:ARG:NH2	2.18	0.58
1:X:971:A:H61	12:J:83:ARG:HH22	1.49	0.58
13:K:45:ARG:HD3	13:K:97:ILE:HD11	1.85	0.58
4:B:53:PRO:HG2	15:M:6:LYS:NZ	2.19	0.58
16:N:107:LYS:O	16:N:110:VAL:HB	2.03	0.58
18:P:35:PRO:O	18:P:39:ARG:HD2	2.03	0.58
20:R:98:ILE:HG22	20:R:99:VAL:N	2.14	0.58
24:V:1:MET:HG3	24:V:2:LYS:N	2.18	0.58
1:X:1074:G:O2'	1:X:1075:C:H5'	2.04	0.58
1:X:1868:A:H2'	1:X:1869:A:O4'	2.03	0.58
1:X:2229:G:C5'	12:J:84:MET:HG2	2.34	0.58
1:X:2272:A:P	14:L:15:ARG:HH21	2.25	0.58
1:X:2286:G:C5	1:X:2287:G:H1'	2.39	0.58
1:X:2759:U:H4'	1:X:2760:G:H5''	1.84	0.58
1:X:861:G:H2'	1:X:862:A:C5'	2.32	0.58
3:A:252:LYS:HE3	3:A:253:PRO:HD3	1.85	0.58
3:A:68:LYS:HD3	3:A:68:LYS:H	1.69	0.58
5:C:194:GLU:O	5:C:195:ILE:HG23	2.03	0.58
6:D:108:LEU:HD22	6:D:114:PHE:CE1	2.38	0.58
9:G:103:TYR:CZ	9:G:111:LYS:HB2	2.38	0.58
13:K:10:LEU:HA	13:K:17:ARG:HG2	1.86	0.58
13:K:10:LEU:HD23	13:K:17:ARG:HG2	1.85	0.58
21:S:100:THR:OG1	21:S:138:VAL:HG11	2.03	0.58
1:X:1601:U:H4'	1:X:1602:G:OP2	2.02	0.58
1:X:76:C:O2'	1:X:77:C:H5'	2.04	0.58
30:4:17:VAL:HG12	30:4:18:ARG:N	2.18	0.58
3:A:108:PRO:HD2	3:A:111:LEU:HD12	1.84	0.58
3:A:163:VAL:HG23	3:A:178:PRO:HD3	1.86	0.58
3:A:251:GLY:HA3	3:A:255:LYS:CD	2.33	0.58
4:B:121:ASN:O	4:B:122:PHE:C	2.39	0.58
6:D:134:GLU:CD	6:D:136:LEU:HB2	2.24	0.58
6:D:13:ARG:NH2	6:D:17:MET:HE2	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:29:PRO:HG2	6:D:165:GLU:CB	2.30	0.58
7:E:33:LEU:CG	7:E:34:THR:H	2.16	0.58
7:E:92:VAL:HG12	7:E:93:GLY:N	2.18	0.58
1:X:1070:G:O2'	8:F:74:MET:HE1	2.03	0.58
9:G:157:PRO:C	9:G:161:GLN:HE21	2.06	0.58
9:G:88:VAL:CG2	9:G:89:ALA:H	2.00	0.58
21:S:110:GLY:O	21:S:174:PRO:HB3	2.04	0.58
21:S:55:THR:CG2	21:S:59:GLY:HA2	2.34	0.58
21:S:63:PRO:O	21:S:85:MET:SD	2.62	0.58
24:V:11:ALA:O	24:V:14:PHE:HB2	2.04	0.58
24:V:6:MET:HE3	24:V:52:GLN:HB3	1.85	0.58
1:X:739:G:HO2'	1:X:740:A:H8	1.50	0.58
1:X:863:C:H4'	25:W:18:LYS:HB2	1.84	0.58
3:A:163:VAL:CG2	3:A:177:LEU:HD23	2.34	0.58
3:A:186:HIS:C	3:A:188:GLU:H	2.07	0.58
4:B:19:ARG:O	4:B:19:ARG:HG3	2.04	0.58
7:E:59:GLN:O	7:E:60:LYS:C	2.42	0.58
7:E:7:GLN:H	7:E:8:PRO:CD	2.17	0.58
8:F:121:GLU:O	8:F:122:ALA:C	2.42	0.58
9:G:109:GLY:C	9:G:110:LEU:HD23	2.23	0.58
17:O:38:LEU:O	17:O:39:PHE:HB3	2.02	0.58
19:Q:63:LYS:CB	19:Q:69:ILE:O	2.51	0.58
1:X:1324:G:H2'	1:X:1325:U:H6	1.67	0.58
1:X:189:A:O2'	1:X:190:A:H5'	2.03	0.58
1:X:2197:U:H5'	1:X:2198:U:OP1	2.03	0.58
1:X:2560:G:H4'	1:X:2561:G:C8	2.39	0.58
1:X:2787:A:H2'	1:X:2788:C:C6	2.39	0.58
1:X:538:A:H4'	1:X:539:A:OP1	2.04	0.58
4:B:120:TRP:O	4:B:121:ASN:CB	2.50	0.58
4:B:198:LEU:O	4:B:199:ARG:HG3	2.03	0.58
5:C:47:THR:HG23	5:C:85:GLY:N	2.15	0.58
8:F:84:ILE:HG22	8:F:85:GLY:N	2.18	0.58
10:H:13:ASN:HD22	10:H:109:ARG:HG2	1.61	0.58
10:H:7:ARG:HH12	10:H:20:MET:CE	2.15	0.58
11:I:32:ARG:CZ	17:O:81:ARG:CZ	2.82	0.58
12:J:92:GLU:HA	12:J:92:GLU:OE1	2.04	0.58
14:L:102:ALA:O	14:L:104:ALA:N	2.37	0.58
15:M:6:LYS:HD2	15:M:6:LYS:N	2.18	0.58
1:X:1003:C:O2'	17:O:71:ILE:CD1	2.51	0.58
18:P:14:ARG:HA	18:P:17:GLN:CG	2.34	0.58
18:P:49:SER:C	18:P:51:GLN:H	2.06	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:91:LEU:CD2	19:Q:91:LEU:N	2.67	0.58
1:X:1779:C:H5''	3:A:222:ARG:NH1	2.18	0.58
1:X:1808:C:OP1	3:A:39:LYS:HE2	2.04	0.58
1:X:2646:C:H2'	1:X:2647:G:O4'	2.04	0.58
1:X:2673:G:O2'	1:X:2674:C:H5'	2.04	0.58
1:X:623:G:H2'	1:X:626:A:H61	1.67	0.58
1:X:717:G:H2'	1:X:739:G:N2	2.17	0.58
1:X:83:A:H4'	1:X:84:G:O5'	2.03	0.58
1:X:879:A:H2'	1:X:879:A:N3	2.19	0.58
2:Y:44:C:O2	6:D:90:THR:N	2.35	0.58
1:X:1275:A:H2	26:Z:10:LYS:HE2	1.68	0.58
30:4:1:MET:HE2	30:4:33:LYS:HB3	1.86	0.58
4:B:61:LYS:HB3	4:B:62:PRO:HD3	1.85	0.58
6:D:57:LEU:O	6:D:60:ILE:HG12	2.03	0.58
10:H:1:MET:SD	10:H:1:MET:N	2.77	0.58
10:H:28:GLY:HA3	10:H:35:THR:OG1	2.04	0.58
11:I:86:THR:N	11:I:116:ARG:HH12	2.00	0.58
14:L:34:SER:HB2	14:L:94:TYR:OH	2.04	0.58
15:M:102:ALA:C	15:M:103:LYS:HD2	2.24	0.58
19:Q:68:PHE:C	19:Q:69:ILE:HD12	2.24	0.58
20:R:18:LYS:HD3	20:R:18:LYS:N	2.18	0.58
1:X:1031:C:H4'	1:X:1032:A:O5'	2.03	0.58
1:X:1175:A:O2'	1:X:1176:U:H5'	2.03	0.58
1:X:134:G:H21	1:X:136:A:H5''	1.61	0.58
1:X:1873:A:C2'	1:X:1874:G:O5'	2.51	0.58
1:X:1979:C:O2'	1:X:1980:A:C4'	2.52	0.58
1:X:2211:U:O2'	1:X:2212:U:H5'	2.04	0.58
1:X:2569:A:O2'	1:X:2570:C:H5'	2.04	0.58
1:X:2824:C:H1'	1:X:2843:A:C4	2.39	0.58
1:X:2837:G:O2'	1:X:2838:U:H5'	2.02	0.58
6:D:13:ARG:HH21	6:D:17:MET:HE2	1.68	0.57
8:F:118:GLY:O	8:F:122:ALA:HB3	2.04	0.57
1:X:228:A:H5'	11:I:53:ARG:NH2	2.18	0.57
18:P:80:LEU:HD21	18:P:87:GLU:CB	2.34	0.57
19:Q:34:THR:O	19:Q:38:ILE:HG22	2.04	0.57
1:X:2400:G:H21	23:U:33:LYS:NZ	2.02	0.57
25:W:12:ARG:HH11	25:W:12:ARG:CG	2.15	0.57
1:X:1095:A:H3'	1:X:1096:A:H5''	1.84	0.57
1:X:2325:A:O2'	1:X:2326:C:P	2.61	0.57
1:X:2788:C:O2'	1:X:2789:U:H5'	2.04	0.57
1:X:320:A:H1'	1:X:340:G:H2'	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:422:C:O2'	1:X:423:G:H5'	2.03	0.57
1:X:528:G:H2'	1:X:529:U:C6	2.39	0.57
1:X:940:G:O2'	25:W:40:VAL:HG23	2.03	0.57
3:A:92:ILE:HG21	3:A:104:TYR:HD2	1.68	0.57
4:B:134:TRP:O	4:B:135:HIS:C	2.42	0.57
7:E:163:ARG:HD3	7:E:167:GLU:HB3	1.86	0.57
9:G:115:ALA:HB3	9:G:118:ALA:HB2	1.87	0.57
9:G:157:PRO:C	9:G:161:GLN:NE2	2.58	0.57
11:I:17:LYS:O	11:I:18:ARG:HG3	2.04	0.57
12:J:79:PRO:CD	12:J:88:LYS:NZ	2.67	0.57
13:K:25:ALA:CB	13:K:47:PHE:HE2	2.17	0.57
17:O:13:ARG:HG2	17:O:14:VAL:N	2.16	0.57
20:R:70:GLU:OE1	20:R:72:ARG:HD2	2.03	0.57
20:R:93:ARG:CA	20:R:95:ARG:CZ	2.81	0.57
1:X:940:G:OP1	25:W:37:THR:HG21	2.03	0.57
1:X:1153:A:HO2'	1:X:1154:A:H3'	1.69	0.57
1:X:1283:C:H5''	1:X:1284:G:O5'	2.04	0.57
1:X:1339:U:OP2	1:X:1339:U:C6	2.57	0.57
1:X:1979:C:C2'	1:X:1980:A:O4'	2.52	0.57
1:X:2366:U:O2'	22:T:41:ARG:NH2	2.37	0.57
1:X:357:A:H2'	1:X:358:C:H5'	1.86	0.57
1:X:531:G:O2'	1:X:532:A:H5'	2.04	0.57
1:X:558:G:N3	1:X:558:G:C4'	2.65	0.57
2:Y:108:G:C2'	2:Y:109:G:H5'	2.34	0.57
10:H:118:LEU:HD12	10:H:118:LEU:H	1.68	0.57
17:O:13:ARG:CG	17:O:14:VAL:H	2.10	0.57
21:S:94:VAL:HG12	21:S:95:SER:N	2.18	0.57
23:U:11:LYS:O	23:U:12:ASN:HB2	2.04	0.57
1:X:394:U:H5''	23:U:19:ILE:HD11	1.86	0.57
25:W:36:ASP:OD1	25:W:41:ARG:NH1	2.37	0.57
1:X:1211:G:H2'	1:X:1212:U:C6	2.40	0.57
1:X:1706:A:O2'	1:X:1707:A:H5'	2.05	0.57
1:X:1997:A:H2'	1:X:1998:A:C8	2.40	0.57
1:X:583:C:H1'	1:X:2038:C:C6	2.39	0.57
1:X:392:G:N2	1:X:409:G:C4	2.72	0.57
1:X:682:G:N3	1:X:682:G:H2'	2.20	0.57
1:X:972:C:H5'	1:X:973:U:OP2	2.04	0.57
2:Y:20:A:H2'	2:Y:21:C:C6	2.40	0.57
4:B:137:ARG:HG2	4:B:137:ARG:HH21	1.69	0.57
6:D:127:ASN:OD1	6:D:158:THR:N	2.30	0.57
6:D:72:LYS:HA	6:D:81:GLN:O	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:13:ARG:NH2	11:I:13:ARG:CG	2.65	0.57
12:J:79:PRO:O	12:J:80:ALA:HB2	2.03	0.57
17:O:36:LYS:HZ2	17:O:55:THR:N	2.03	0.57
18:P:21:ARG:HH11	18:P:21:ARG:HG3	1.68	0.57
20:R:93:ARG:NH1	20:R:108:VAL:O	2.37	0.57
21:S:34:LEU:HD21	21:S:39:PHE:CD1	2.38	0.57
1:X:1238:A:O2'	1:X:1239:A:H5'	2.04	0.57
1:X:1351:G:O3'	19:Q:13:SER:HB2	2.04	0.57
1:X:1597:A:H2'	1:X:1598:C:C6	2.39	0.57
1:X:1681:A:C2	1:X:2706:U:C2	2.92	0.57
1:X:1813:A:H2'	1:X:1814:G:C8	2.39	0.57
1:X:2034:A:H2'	1:X:2593:A:H61	1.68	0.57
1:X:2082:C:H2'	1:X:2083:G:C5'	2.34	0.57
1:X:213:C:H2'	1:X:214:C:H6	1.68	0.57
1:X:2417:U:C2'	1:X:2418:A:H5''	2.34	0.57
1:X:244:C:H2'	1:X:245:C:O4'	2.05	0.57
1:X:2663:U:C4	1:X:2664:G:N7	2.73	0.57
1:X:417:C:C6	1:X:419:G:C8	2.93	0.57
1:X:691:C:H2'	1:X:692:C:C6	2.34	0.57
2:Y:54:U:H2'	2:Y:55:C:O4'	2.03	0.57
2:Y:5:C:H2'	2:Y:6:C:C6	2.39	0.57
1:X:760:U:H1'	26:Z:3:LYS:HE2	1.87	0.57
5:C:112:GLN:HA	5:C:116:LYS:CG	2.34	0.57
5:C:9:GLN:HE21	5:C:120:VAL:HG21	1.69	0.57
6:D:4:LEU:HD12	6:D:5:LYS:N	2.11	0.57
7:E:17:VAL:HG12	7:E:18:ASN:N	2.19	0.57
10:H:26:ASN:ND2	10:H:26:ASN:O	2.36	0.57
15:M:39:VAL:HA	15:M:45:THR:HA	1.85	0.57
16:N:66:ASN:CB	16:N:76:TYR:HB2	2.33	0.57
21:S:30:VAL:HG12	21:S:31:SER:O	2.04	0.57
21:S:1:MET:HG3	21:S:52:PHE:CD2	2.39	0.57
21:S:91:PRO:O	21:S:92:VAL:HG13	2.04	0.57
22:T:32:LYS:HB2	22:T:35:ASN:HD21	1.69	0.57
1:X:2310:G:H4'	22:T:42:GLY:HA3	1.85	0.57
23:U:22:GLY:N	23:U:39:LYS:HD2	2.19	0.57
1:X:1296:G:H22	1:X:1299:A:H5''	1.68	0.57
1:X:1586:A:H2'	1:X:1587:A:C8	2.39	0.57
1:X:542:A:N6	1:X:2003:A:N3	2.53	0.57
1:X:2165:A:H2'	1:X:2166:G:H8	1.69	0.57
1:X:2170:C:H2'	1:X:2171:U:C4'	2.33	0.57
1:X:2409:A:H2	1:X:2410:U:C5	2.23	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2543:A:C2	1:X:2626:U:H4'	2.39	0.57
1:X:2796:A:H5''	4:B:162:MET:HE3	1.84	0.57
1:X:29:U:H4'	16:N:11:ARG:NH2	2.19	0.57
1:X:759:C:C5'	1:X:759:C:C6	2.85	0.57
1:X:2201:G:H5''	3:A:188:GLU:OE2	2.05	0.57
4:B:9:ILE:HD11	4:B:27:LEU:CB	2.31	0.57
5:C:48:ARG:HB2	5:C:51:VAL:HG13	1.86	0.57
1:X:2725:C:O2'	7:E:143:GLN:HG2	2.04	0.57
8:F:117:ALA:C	8:F:118:GLY:O	2.36	0.57
8:F:132:ARG:HG2	8:F:132:ARG:O	2.05	0.57
9:G:105:GLY:O	9:G:106:TYR:C	2.41	0.57
9:G:42:VAL:HG13	9:G:168:THR:HG23	1.86	0.57
9:G:33:ILE:HD11	9:G:35:LYS:HZ3	1.69	0.57
10:H:133:VAL:HG12	10:H:133:VAL:O	2.03	0.57
12:J:20:GLY:O	12:J:99:LYS:HG2	2.04	0.57
13:K:95:THR:HG22	13:K:95:THR:O	2.05	0.57
1:X:29:U:C4'	16:N:11:ARG:HH12	2.18	0.57
17:O:12:TYR:HB2	17:O:39:PHE:HA	1.86	0.57
20:R:92:THR:C	20:R:95:ARG:HH22	2.07	0.57
21:S:48:THR:HG22	21:S:66:VAL:HB	1.85	0.57
23:U:28:GLY:O	23:U:30:VAL:N	2.37	0.57
1:X:1031:C:O2	1:X:1031:C:C2'	2.53	0.57
1:X:1314:A:H2	1:X:1642:G:N3	2.02	0.57
1:X:1324:G:O2'	1:X:1325:U:O5'	2.23	0.57
1:X:1779:C:H5''	3:A:222:ARG:HH12	1.70	0.57
1:X:1954:A:H5'	1:X:1955:G:H5''	1.87	0.57
1:X:2216:G:O5'	1:X:2216:G:H8	1.86	0.57
1:X:177:U:C5	1:X:225:G:C2	2.92	0.57
1:X:2274:C:H5	14:L:14:ARG:HH12	1.50	0.57
1:X:2777:A:C5	18:P:134:LYS:HB2	2.39	0.57
1:X:497:C:C5'	1:X:497:C:H6	2.16	0.57
1:X:699:G:H4'	1:X:700:C:OP2	2.05	0.57
1:X:871:U:O2'	1:X:2247:A:C2'	2.53	0.57
1:X:988:G:N3	1:X:1012:A:H2	2.02	0.57
4:B:40:GLN:O	4:B:40:GLN:HG2	2.04	0.57
1:X:37:C:H1'	5:C:44:SER:OG	2.04	0.57
7:E:149:ARG:HD3	7:E:164:PHE:HE1	1.69	0.57
8:F:111:LYS:C	8:F:115:LEU:HG	2.25	0.57
18:P:134:LYS:HG2	18:P:134:LYS:OXT	2.04	0.57
18:P:51:GLN:O	18:P:54:GLU:HB2	2.04	0.57
1:X:1542:G:H21	1:X:1562:G:H22	1.51	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:181:A:C2	1:X:182:G:N2	2.73	0.57
1:X:2014:A:O2'	1:X:2015:G:P	2.63	0.57
1:X:2195:C:C2'	1:X:2196:U:O4'	2.52	0.57
1:X:2299:A:N3	1:X:2299:A:H2'	2.19	0.57
1:X:2561:G:H5'	1:X:2561:G:H8	1.68	0.57
1:X:2769:C:C2'	1:X:2770:A:C8	2.83	0.57
1:X:691:C:O2'	1:X:692:C:H5'	2.04	0.57
1:X:796:A:H8	1:X:797:A:H4'	1.68	0.57
1:X:840:U:O2	1:X:2225:G:H4'	2.05	0.57
3:A:97:TYR:HB3	3:A:99:ASP:OD2	2.04	0.57
5:C:112:GLN:CD	5:C:116:LYS:HD3	2.25	0.57
5:C:186:LEU:HD12	5:C:187:VAL:N	2.20	0.57
19:Q:92:ALA:C	19:Q:94:GLN:N	2.58	0.57
20:R:101:GLY:C	20:R:103:LYS:H	2.08	0.57
20:R:93:ARG:C	20:R:95:ARG:NH1	2.58	0.57
21:S:3:LEU:HD21	21:S:32:PHE:CD2	2.39	0.57
24:V:27:GLU:O	24:V:31:GLN:HG3	2.04	0.57
1:X:1287:A:N3	1:X:1310:C:H1'	2.20	0.57
1:X:1644:G:H2'	1:X:1645:U:C6	2.39	0.57
1:X:1735:G:OP2	1:X:1735:G:H8	1.88	0.57
1:X:531:G:H2'	1:X:532:A:C8	2.39	0.57
1:X:547:U:H2'	1:X:548:G:H8	1.68	0.57
1:X:718:A:H62	1:X:739:G:H1'	1.70	0.57
30:4:30:VAL:C	30:4:32:HIS:N	2.57	0.57
4:B:105:THR:HG21	4:B:199:ARG:NH2	2.19	0.57
6:D:46:ASP:O	6:D:50:ILE:HG13	2.04	0.57
11:I:94:GLU:CA	11:I:97:ARG:NE	2.61	0.57
15:M:38:LYS:O	15:M:40:ARG:N	2.37	0.57
20:R:22:VAL:HG21	20:R:80:LYS:NZ	2.19	0.57
21:S:36:ARG:O	21:S:40:ASP:OD2	2.23	0.57
21:S:64:ALA:HA	21:S:86:VAL:N	2.20	0.57
23:U:10:LYS:HE2	23:U:11:LYS:CE	2.34	0.57
1:X:1026:U:O2'	1:X:1027:C:H5'	2.04	0.57
1:X:1873:A:H2'	1:X:1874:G:O5'	2.04	0.57
1:X:1996:A:C2'	1:X:1997:A:H5'	2.34	0.57
1:X:2199:C:C2	1:X:2200:G:C8	2.92	0.57
1:X:537:C:O2'	1:X:538:A:C2	2.58	0.57
1:X:687:G:H2'	1:X:817:A:H61	1.70	0.57
26:Z:20:ARG:C	26:Z:22:HIS:H	2.07	0.57
4:B:136:ARG:NH1	4:B:136:ARG:HG2	2.20	0.57
5:C:83:ALA:O	5:C:84:PHE:C	2.44	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:70:ARG:NH1	16:N:70:ARG:HG3	2.19	0.57
17:O:30:GLY:O	17:O:32:LYS:HG2	2.05	0.57
17:O:38:LEU:HA	17:O:46:VAL:O	2.05	0.57
18:P:49:SER:C	18:P:51:GLN:N	2.57	0.57
20:R:28:LYS:O	20:R:29:HIS:HB2	2.05	0.57
21:S:122:ILE:CA	21:S:161:ALA:H	2.12	0.57
21:S:3:LEU:O	21:S:56:VAL:HA	2.05	0.57
21:S:92:VAL:O	21:S:93:GLU:HG3	2.05	0.57
22:T:5:LYS:HD2	22:T:5:LYS:N	2.19	0.57
23:U:48:LYS:CG	23:U:49:LYS:H	1.91	0.57
1:X:1119:U:H2'	1:X:1120:C:O5'	2.04	0.57
1:X:1141:U:O2'	1:X:1142:G:O5'	2.23	0.57
1:X:1183:C:H2'	1:X:1184:G:C8	2.40	0.57
1:X:1463:A:H2'	1:X:1464:A:C8	2.40	0.57
1:X:2238:G:C6	1:X:2239:C:C4	2.93	0.57
1:X:2274:C:H2'	1:X:2275:U:H6	1.69	0.57
1:X:2444:C:O2'	1:X:2445:C:H5'	2.05	0.57
1:X:2705:A:O2'	1:X:2706:U:P	2.62	0.57
1:X:2807:U:H6	1:X:2807:U:C5'	2.07	0.57
1:X:2824:C:H4'	1:X:2825:A:C5'	2.35	0.57
1:X:312:G:O2'	1:X:313:U:O5'	2.23	0.57
3:A:246:PRO:HD2	3:A:250:TRP:H	1.70	0.56
5:C:95:LEU:CD2	5:C:96:PRO:HD2	2.31	0.56
6:D:67:ILE:O	6:D:69:LYS:N	2.38	0.56
12:J:35:LEU:HD11	12:J:130:THR:OG1	2.05	0.56
9:G:66:HIS:O	16:N:67:ALA:HB1	2.04	0.56
17:O:83:ARG:HH21	17:O:83:ARG:HG2	1.70	0.56
21:S:137:ASP:OD2	21:S:138:VAL:N	2.38	0.56
23:U:52:ARG:CD	23:U:79:GLU:HA	2.34	0.56
1:X:1023:U:HO2'	1:X:1024:G:P	2.27	0.56
1:X:1151:U:H4'	1:X:1153:A:H5'	1.87	0.56
1:X:1339:U:H5	1:X:1664:G:HO2'	1.51	0.56
1:X:136:A:C4	1:X:137:A:N7	2.71	0.56
1:X:1467:U:H3'	1:X:1468:A:C5'	2.33	0.56
1:X:1517:C:H2'	1:X:1518:C:C6	2.38	0.56
1:X:169:C:H2'	1:X:170:U:C5'	2.32	0.56
1:X:177:U:O2	1:X:178:C:O4'	2.23	0.56
1:X:2040:A:O2'	1:X:2041:A:H5'	2.04	0.56
1:X:2725:C:H2'	1:X:2726:U:C6	2.40	0.56
1:X:431:G:H2'	1:X:432:C:C6	2.40	0.56
1:X:539:A:H5'	1:X:540:G:OP1	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:176:ARG:HE	15:M:16:ILE:HG12	1.70	0.56
5:C:73:SER:O	5:C:73:SER:OG	2.19	0.56
6:D:100:LEU:HG	6:D:104:ILE:HD11	1.87	0.56
6:D:119:PRO:CG	6:D:120:ASN:H	2.14	0.56
7:E:127:GLU:C	7:E:129:THR:H	2.09	0.56
7:E:140:LEU:HA	7:E:143:GLN:HB2	1.86	0.56
7:E:43:VAL:HB	7:E:52:VAL:CG1	2.34	0.56
11:I:119:THR:HA	11:I:139:ARG:H	1.70	0.56
18:P:131:LYS:HG2	18:P:132:GLY:N	2.19	0.56
19:Q:8:GLN:O	19:Q:9:ALA:HB2	2.04	0.56
20:R:95:ARG:N	20:R:95:ARG:HD2	2.20	0.56
24:V:38:ALA:C	24:V:40:PRO:HD3	2.26	0.56
1:X:1023:U:H3'	1:X:1023:U:H6	1.70	0.56
1:X:1333:G:H22	1:X:1344:C:N4	2.03	0.56
1:X:2277:A:H2'	1:X:2278:A:O4'	2.05	0.56
1:X:2322:U:H2'	1:X:2323:U:N1	2.20	0.56
1:X:2691:C:C2'	1:X:2692:A:H5''	2.35	0.56
1:X:2780:A:H2'	1:X:2781:G:H8	1.71	0.56
1:X:458:G:OP1	16:N:3:ARG:HD3	2.05	0.56
1:X:645:G:H2'	1:X:646:C:H6	1.67	0.56
1:X:83:A:H61	1:X:100:G:H1'	1.69	0.56
3:A:145:LEU:HD12	3:A:146:GLU:N	2.19	0.56
6:D:8:TYR:CD1	6:D:173:MET:HE2	2.40	0.56
7:E:171:LEU:N	7:E:171:LEU:CD1	2.68	0.56
8:F:76:TYR:HD1	8:F:79:ARG:HH21	1.51	0.56
9:G:47:SER:O	9:G:49:VAL:N	2.37	0.56
12:J:61:ARG:HG2	12:J:61:ARG:HH11	1.68	0.56
12:J:77:LYS:O	12:J:79:PRO:HD3	2.05	0.56
17:O:34:GLU:HB2	17:O:56:VAL:HG23	1.87	0.56
17:O:36:LYS:HD2	17:O:55:THR:CA	2.35	0.56
22:T:44:LYS:HG2	22:T:45:PHE:CD1	2.39	0.56
1:X:1569:A:N1	1:X:1571:G:H1'	2.19	0.56
1:X:2074:U:H3'	1:X:2075:U:C5'	2.33	0.56
1:X:2807:U:HO2'	1:X:2808:U:P	2.29	0.56
1:X:666:U:C3'	1:X:667:U:H5''	2.30	0.56
3:A:217:ARG:NH2	3:A:218:LYS:NZ	2.53	0.56
1:X:2597:G:H21	4:B:150:VAL:HG11	1.70	0.56
5:C:136:TRP:C	5:C:140:ASN:HD22	2.09	0.56
5:C:180:ILE:HG23	5:C:181:LEU:H	1.71	0.56
10:H:116:ARG:HG2	10:H:116:ARG:O	2.05	0.56
11:I:81:GLN:HE22	11:I:115:SER:CA	2.18	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:74:MET:SD	16:N:110:VAL:HG13	2.45	0.56
18:P:103:LEU:HB2	18:P:119:LYS:HB2	1.87	0.56
19:Q:12:ILE:N	19:Q:12:ILE:HD13	2.18	0.56
19:Q:12:ILE:H	19:Q:12:ILE:CD1	2.15	0.56
24:V:14:PHE:O	24:V:18:ILE:HG13	2.04	0.56
1:X:1242:A:O2'	1:X:1243:G:H5'	2.05	0.56
1:X:1525:A:H3'	1:X:1526:U:C6	2.38	0.56
1:X:1681:A:H61	1:X:1979:C:H42	1.53	0.56
1:X:203:G:H4'	1:X:234:C:O2'	2.06	0.56
1:X:2054:A:H2'	1:X:2055:G:H8	1.71	0.56
1:X:2395:C:H2'	1:X:2396:C:H5'	1.87	0.56
1:X:2517:C:O2'	1:X:2518:C:H5'	2.05	0.56
1:X:2821:G:H2'	1:X:2822:U:C6	2.40	0.56
1:X:2782:G:O6	1:X:2867:G:O6	2.23	0.56
1:X:553:C:H2'	1:X:557:U:C5	2.41	0.56
1:X:969:U:C6	12:J:17:ARG:HD2	2.40	0.56
3:A:130:ALA:HA	3:A:191:ALA:O	2.06	0.56
3:A:85:ASP:HB2	3:A:92:ILE:HD12	1.88	0.56
5:C:34:GLN:OE1	5:C:176:ASN:OD1	2.23	0.56
6:D:75:SER:CB	6:D:79:LEU:HD22	2.35	0.56
7:E:9:ILE:HG22	7:E:11:VAL:CG2	2.35	0.56
11:I:30:ALA:H	11:I:34:HIS:CE1	2.23	0.56
12:J:63:GLY:O	12:J:65:ILE:N	2.31	0.56
13:K:100:VAL:CG1	13:K:101:GLY:N	2.45	0.56
16:N:93:LYS:NZ	17:O:10:LYS:NZ	2.53	0.56
20:R:98:ILE:C	20:R:100:ASP:N	2.59	0.56
20:R:90:LYS:HD2	20:R:108:VAL:HG21	1.88	0.56
24:V:42:ARG:NE	24:V:46:LEU:HD21	2.19	0.56
1:X:1459:U:C2	1:X:1475:U:H1'	2.41	0.56
1:X:2024:U:O2'	1:X:2025:A:H5'	2.06	0.56
1:X:2217:G:H5'	1:X:2218:G:N7	2.19	0.56
1:X:2228:U:H5''	1:X:2229:G:OP2	2.06	0.56
1:X:2396:C:H6	1:X:2396:C:H5'	1.70	0.56
1:X:2674:C:O2'	1:X:2675:U:H5'	2.05	0.56
1:X:2827:G:O2'	1:X:2828:C:H5'	2.05	0.56
1:X:429:C:H2'	1:X:430:C:H6	1.69	0.56
1:X:514:G:C2	18:P:15:LYS:HG2	2.40	0.56
1:X:514:G:C4'	1:X:515:A:OP2	2.51	0.56
1:X:589:C:H4'	16:N:31:GLN:OE1	2.04	0.56
3:A:142:VAL:HG12	3:A:193:ILE:HA	1.87	0.56
3:A:182:LEU:HD12	3:A:269:PHE:HD2	1.67	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:52:ALA:O	4:B:75:THR:O	2.24	0.56
1:X:577:U:P	11:I:40:ARG:HH22	2.26	0.56
4:B:25:VAL:HG11	15:M:16:ILE:HD12	1.86	0.56
15:M:5:ILE:CD1	15:M:7:ILE:HB	2.36	0.56
21:S:155:PRO:HG2	21:S:158:CYS:SG	2.46	0.56
21:S:6:LYS:H	21:S:7:PRO:CD	2.16	0.56
23:U:15:VAL:O	23:U:16:ASN:O	2.24	0.56
1:X:1072:U:H1'	1:X:1081:A:H1'	1.86	0.56
1:X:1121:G:O2'	1:X:1122:A:H8	1.86	0.56
1:X:1505:U:H3'	1:X:1505:U:C6	2.40	0.56
1:X:1598:C:H2'	1:X:1599:G:H5'	1.88	0.56
1:X:165:G:H2'	1:X:166:G:H5'	1.87	0.56
1:X:2194:A:H3'	1:X:2195:C:C5'	2.21	0.56
1:X:2235:G:N2	1:X:2254:C:C4	2.73	0.56
1:X:2642:G:H2'	1:X:2643:G:C5'	2.35	0.56
1:X:2796:A:H2'	1:X:2797:G:C8	2.40	0.56
1:X:2876:C:H2'	1:X:2877:A:C8	2.41	0.56
1:X:27:G:N2	1:X:522:G:O2'	2.38	0.56
1:X:568:G:H2'	1:X:569:C:O4'	2.05	0.56
1:X:769:C:O2'	1:X:770:U:H5'	2.06	0.56
3:A:96:HIS:HE1	3:A:100:GLY:CA	2.18	0.56
3:A:96:HIS:HE1	3:A:100:GLY:C	2.09	0.56
4:B:137:ARG:CG	4:B:137:ARG:HH21	2.19	0.56
5:C:102:LEU:HD23	5:C:106:MET:HB2	1.87	0.56
1:X:333:A:C5'	5:C:162:ARG:CZ	2.84	0.56
6:D:111:ILE:HB	6:D:114:PHE:CB	2.28	0.56
7:E:88:GLU:HB3	7:E:163:ARG:HG3	1.88	0.56
12:J:128:ILE:O	12:J:128:ILE:HD12	2.05	0.56
15:M:104:LEU:O	15:M:107:LEU:N	2.25	0.56
10:H:83:ARG:HE	15:M:40:ARG:CZ	2.19	0.56
16:N:91:ASN:C	16:N:93:LYS:H	2.08	0.56
20:R:17:LYS:HB3	20:R:18:LYS:HZ3	1.70	0.56
1:X:2375:G:H1'	23:U:33:LYS:HZ2	1.71	0.56
23:U:75:TYR:C	23:U:77:GLY:H	2.09	0.56
1:X:1053:G:C4	1:X:1054:C:C6	2.93	0.56
1:X:133:C:H2'	1:X:134:G:O5'	2.06	0.56
1:X:1467:U:C6	1:X:1468:A:H5'	2.41	0.56
1:X:1856:U:H3	1:X:1861:G:H1	1.54	0.56
1:X:2490:U:H2'	1:X:2491:C:C6	2.40	0.56
1:X:2027:C:C2	1:X:2604:G:C2	2.93	0.56
1:X:48:A:H1'	1:X:50:G:N3	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:527:C:OP1	26:Z:16:ARG:NH2	2.37	0.56
1:X:760:U:C5	1:X:2592:U:C5	2.93	0.56
4:B:137:ARG:HG2	4:B:137:ARG:NH2	2.21	0.56
4:B:68:ALA:C	4:B:70:ALA:H	2.09	0.56
6:D:111:ILE:HA	6:D:137:ILE:CG2	2.36	0.56
6:D:10:ASP:HA	6:D:14:PRO:HG2	1.87	0.56
6:D:74:ILE:HA	6:D:79:LEU:CB	2.34	0.56
7:E:105:MET:CE	7:E:105:MET:HA	2.36	0.56
12:J:44:LYS:HE3	12:J:93:TYR:CE1	2.40	0.56
1:X:2856:U:H5'	13:K:93:GLY:O	2.06	0.56
14:L:47:ARG:O	14:L:49:GLN:N	2.37	0.56
16:N:86:ALA:C	16:N:88:ILE:N	2.56	0.56
20:R:14:LEU:HD13	20:R:39:ALA:HB1	1.87	0.56
21:S:127:PRO:O	21:S:128:ARG:CG	2.54	0.56
21:S:37:LYS:O	21:S:40:ASP:HB2	2.06	0.56
1:X:2241:U:C5	22:T:17:ASN:ND2	2.73	0.56
1:X:455:A:H1'	1:X:1215:A:O4'	2.05	0.56
1:X:1598:C:H2'	1:X:1599:G:C5'	2.36	0.56
2:Y:3:A:C2'	2:Y:4:C:H5'	2.35	0.56
3:A:252:LYS:HE3	3:A:253:PRO:CD	2.36	0.56
1:X:310:A:N6	5:C:162:ARG:HH22	2.04	0.56
9:G:100:TYR:HB2	9:G:116:ARG:HH12	1.68	0.56
12:J:80:ALA:O	12:J:81:GLU:HB3	2.04	0.56
14:L:15:ARG:HH11	14:L:15:ARG:HA	1.71	0.56
15:M:34:ARG:HH21	15:M:91:VAL:HG23	1.69	0.56
20:R:84:VAL:HA	20:R:90:LYS:HD3	1.88	0.56
1:X:1820:G:O2'	1:X:1821:A:C5'	2.53	0.56
1:X:2326:C:H2'	1:X:2327:U:C5	2.38	0.56
1:X:482:A:O2'	1:X:483:A:H5'	2.05	0.56
1:X:71:A:C6	1:X:110:U:H4'	2.41	0.56
1:X:758:G:C2'	1:X:759:C:H5''	2.30	0.56
1:X:780:U:C6	1:X:780:U:H3'	2.41	0.56
1:X:874:A:H2'	1:X:875:G:O4'	2.06	0.56
30:4:9:LYS:HD2	30:4:9:LYS:N	2.20	0.56
5:C:3:GLN:HB2	5:C:116:LYS:HD2	1.87	0.56
6:D:106:ILE:HG23	6:D:110:ARG:CD	2.35	0.56
11:I:32:ARG:HH21	17:O:81:ARG:HG3	1.71	0.56
19:Q:66:GLY:C	19:Q:68:PHE:N	2.58	0.56
20:R:110:SER:OG	20:R:111:GLY:N	2.39	0.56
1:X:525:A:H2	1:X:1273:G:N3	2.04	0.56
1:X:138:G:O2'	1:X:139:A:H5'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2087:U:H2'	1:X:2088:U:C6	2.41	0.56
1:X:2190:A:H8	1:X:2191:A:OP2	1.89	0.56
1:X:2225:G:C2	1:X:2405:A:H1'	2.40	0.56
1:X:746:G:N7	1:X:774:A:C6	2.74	0.56
2:Y:33:C:O4'	6:D:26:MET:HE1	2.06	0.56
7:E:103:LEU:HB2	7:E:123:PHE:CD2	2.40	0.56
7:E:126:PRO:HG3	7:E:130:ARG:CD	2.31	0.56
7:E:109:TYR:HE1	7:E:152:ARG:NE	2.04	0.56
7:E:54:ARG:HD2	7:E:56:SER:O	2.06	0.56
10:H:28:GLY:O	10:H:35:THR:HG23	2.06	0.56
12:J:116:LYS:HD3	12:J:132:MET:SD	2.46	0.56
16:N:29:SER:OG	16:N:30:LYS:HD3	2.05	0.56
16:N:66:ASN:HD22	16:N:70:ARG:CZ	2.18	0.56
16:N:91:ASN:O	16:N:93:LYS:HG3	2.05	0.56
18:P:49:SER:O	18:P:52:ASP:N	2.39	0.56
20:R:85:ASP:OD1	20:R:90:LYS:HD2	2.06	0.56
21:S:54:ILE:HG22	21:S:54:ILE:O	2.06	0.56
25:W:14:GLY:O	25:W:18:LYS:HG2	2.05	0.56
1:X:1218:C:C4'	11:I:13:ARG:NH1	2.64	0.56
1:X:1234:C:H2'	1:X:1235:C:H6	1.71	0.56
1:X:1973:C:H2'	1:X:1974:U:O4'	2.05	0.56
1:X:2007:G:C2	1:X:2023:C:C2	2.94	0.56
1:X:2404:A:O2'	1:X:2405:A:P	2.63	0.56
1:X:240:U:H2'	1:X:241:C:O4'	2.06	0.56
1:X:2592:U:C2'	1:X:2592:U:O2	2.45	0.56
1:X:401:G:H5'	1:X:402:A:OP2	2.06	0.56
1:X:441:A:H5'	1:X:442:A:OP2	2.05	0.56
1:X:514:G:H22	18:P:15:LYS:CA	2.17	0.56
1:X:558:G:H8	1:X:559:C:C5	2.22	0.56
1:X:663:G:H2'	1:X:664:C:C4'	2.36	0.56
1:X:814:G:H4'	1:X:815:A:OP2	2.06	0.56
1:X:830:C:O2'	1:X:852:U:OP1	2.24	0.56
1:X:984:A:H1'	1:X:1202:U:C6	2.40	0.56
3:A:134:ARG:NH2	3:A:135:PHE:CZ	2.74	0.55
3:A:143:HIS:HD1	3:A:194:GLY:C	2.09	0.55
1:X:1782:A:H4'	3:A:207:GLY:O	2.06	0.55
4:B:144:ARG:CG	4:B:145:LYS:H	2.12	0.55
4:B:15:TRP:NE1	4:B:20:ALA:HB2	2.21	0.55
5:C:3:GLN:CG	5:C:116:LYS:HD2	2.34	0.55
6:D:38:GLU:CB	6:D:87:ILE:HB	2.34	0.55
7:E:65:HIS:O	7:E:67:LEU:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:118:GLY:O	8:F:122:ALA:CB	2.55	0.55
8:F:90:THR:N	8:F:91:PRO:HD3	2.21	0.55
11:I:130:ILE:HA	11:I:140:VAL:HG21	1.87	0.55
14:L:17:VAL:CG1	14:L:18:ARG:N	2.68	0.55
17:O:10:LYS:CG	17:O:11:GLN:HG2	2.29	0.55
18:P:48:LYS:NZ	18:P:56:LEU:HD11	2.20	0.55
23:U:44:ALA:C	23:U:45:ASN:OD1	2.43	0.55
1:X:1105:U:N3	1:X:1107:A:H5''	2.21	0.55
1:X:1327:C:C2	1:X:1352:G:N2	2.74	0.55
1:X:1710:U:H4'	1:X:1711:C:OP2	2.06	0.55
1:X:1979:C:O2'	1:X:1980:A:O4'	2.24	0.55
1:X:2799:C:C4	1:X:2800:C:N3	2.74	0.55
1:X:403:A:OP2	1:X:403:A:H3'	2.05	0.55
1:X:417:C:H4'	1:X:418:C:H5'	1.88	0.55
1:X:558:G:P	1:X:558:G:O4'	2.64	0.55
1:X:649:G:N1	1:X:660:G:N1	2.53	0.55
1:X:757:U:O2'	1:X:758:G:H5'	2.06	0.55
2:Y:4:C:H3'	2:Y:4:C:C6	2.41	0.55
26:Z:31:THR:HG22	26:Z:32:GLU:N	2.21	0.55
5:C:109:ALA:O	5:C:110:SER:C	2.43	0.55
6:D:148:LYS:HG3	6:D:149:THR:N	2.22	0.55
6:D:36:VAL:HA	6:D:153:ASP:O	2.06	0.55
7:E:139:GLN:HB3	7:E:143:GLN:OE1	2.06	0.55
12:J:64:LYS:CG	12:J:108:ALA:O	2.54	0.55
12:J:116:LYS:NZ	12:J:132:MET:HB3	2.22	0.55
15:M:94:VAL:O	15:M:95:GLU:HB3	2.05	0.55
1:X:592:G:P	16:N:10:ARG:HH11	2.29	0.55
18:P:72:LEU:O	18:P:72:LEU:HG	2.04	0.55
19:Q:6:ILE:HG22	19:Q:7:LEU:H	1.71	0.55
12:J:100:PRO:CB	21:S:74:ARG:HG2	2.36	0.55
1:X:1179:A:C2	1:X:1196:G:C2	2.95	0.55
1:X:1293:A:O2'	1:X:1294:G:H5'	2.07	0.55
1:X:162:C:H2'	1:X:163:A:H8	1.72	0.55
1:X:208:C:H2'	1:X:209:G:H5'	1.87	0.55
1:X:2471:U:H2'	1:X:2472:U:C6	2.42	0.55
1:X:2779:C:H2'	1:X:2780:A:C8	2.41	0.55
1:X:2812:A:H2'	1:X:2813:G:H8	1.71	0.55
1:X:2845:C:C2'	1:X:2846:G:H5'	2.36	0.55
1:X:396:U:O4	1:X:398:C:C2	2.59	0.55
3:A:163:VAL:HG12	3:A:163:VAL:O	2.06	0.55
5:C:104:LEU:N	5:C:104:LEU:CD2	2.69	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:193:LEU:HD23	5:C:193:LEU:O	2.05	0.55
5:C:54:THR:HB	5:C:73:SER:HB3	1.87	0.55
6:D:4:LEU:HD21	6:D:173:MET:HE3	1.88	0.55
7:E:33:LEU:HD12	7:E:34:THR:N	2.20	0.55
9:G:42:VAL:HG12	9:G:43:VAL:N	2.21	0.55
15:M:46:ARG:CG	15:M:47:SER:N	2.65	0.55
16:N:39:LEU:HA	16:N:42:ALA:HB2	1.88	0.55
17:O:78:VAL:O	17:O:79:GLN:HB2	2.04	0.55
18:P:66:GLU:O	18:P:67:PRO:C	2.44	0.55
20:R:54:ILE:HG22	20:R:69:GLN:HB3	1.88	0.55
21:S:21:ALA:O	21:S:32:PHE:HB2	2.06	0.55
23:U:52:ARG:HH12	23:U:67:LEU:CG	2.19	0.55
25:W:22:ALA:C	25:W:24:GLY:N	2.60	0.55
1:X:999:A:O2'	1:X:1166:A:H2	1.89	0.55
1:X:1686:A:H5''	1:X:1687:C:OP2	2.05	0.55
1:X:2018:G:O2'	1:X:2019:C:OP1	2.22	0.55
1:X:2309:G:N2	1:X:2365:U:C2	2.74	0.55
1:X:2562:G:C6	1:X:2563:U:C4	2.95	0.55
1:X:456:C:O2'	1:X:457:C:H5'	2.06	0.55
1:X:33:C:N4	1:X:458:G:O2'	2.39	0.55
1:X:555:U:C6	1:X:555:U:C3'	2.85	0.55
1:X:554:U:H5''	1:X:556:A:C2	2.41	0.55
1:X:757:U:H2'	1:X:758:G:H5'	1.88	0.55
2:Y:22:U:H2'	2:Y:23:G:C8	2.41	0.55
3:A:68:LYS:N	3:A:152:GLY:HA2	2.21	0.55
6:D:117:ILE:HD12	6:D:175:LEU:CD1	2.35	0.55
12:J:21:ASP:O	12:J:22:ALA:O	2.24	0.55
4:B:181:LEU:HD13	15:M:16:ILE:HD11	1.88	0.55
18:P:80:LEU:CD2	18:P:87:GLU:HB3	2.37	0.55
1:X:1336:G:OP1	18:P:105:ARG:NH1	2.37	0.55
1:X:1787:U:H4'	3:A:254:THR:H	1.70	0.55
1:X:1998:A:C2	26:Z:6:VAL:HG23	2.41	0.55
1:X:2201:G:H2'	1:X:2202:G:H8	1.70	0.55
1:X:2324:G:N3	1:X:2360:C:H2'	2.22	0.55
1:X:2676:G:C2	1:X:2690:A:C2	2.94	0.55
1:X:529:U:H2'	1:X:530:G:C8	2.39	0.55
2:Y:72:C:O2'	2:Y:73:C:H5'	2.05	0.55
30:4:3:VAL:HA	30:4:35:ARG:O	2.06	0.55
4:B:201:ALA:HB1	4:B:204:ALA:HB2	1.89	0.55
1:X:814:G:OP1	5:C:50:GLN:HB2	2.06	0.55
1:X:2282:G:H1'	6:D:129:ASN:ND2	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:76:TYR:HA	8:F:79:ARG:HE	1.71	0.55
8:F:84:ILE:HG23	8:F:96:VAL:HG11	1.89	0.55
12:J:62:GLY:O	12:J:64:LYS:HG3	2.07	0.55
14:L:38:ILE:HD11	14:L:40:ALA:N	2.17	0.55
15:M:24:LEU:O	15:M:25:PRO:C	2.44	0.55
20:R:14:LEU:C	20:R:16:PHE:H	2.10	0.55
21:S:134:LEU:HD21	21:S:152:ILE:HG21	1.88	0.55
1:X:1882:G:H21	1:X:1885:C:N4	2.03	0.55
1:X:2726:U:H1'	7:E:139:GLN:HE21	1.71	0.55
1:X:313:U:H2'	1:X:314:G:H8	1.72	0.55
1:X:547:U:H2'	1:X:548:G:C8	2.42	0.55
1:X:84:G:N3	1:X:101:A:C2	2.75	0.55
2:Y:36:A:O2'	2:Y:37:C:H5	1.90	0.55
26:Z:34:PRO:HB2	26:Z:35:GLN:HE21	1.70	0.55
4:B:105:THR:HG21	4:B:199:ARG:HH21	1.72	0.55
5:C:48:ARG:C	5:C:50:GLN:N	2.58	0.55
5:C:82:VAL:HG12	5:C:83:ALA:O	2.06	0.55
6:D:128:TYR:O	6:D:156:ILE:HB	2.07	0.55
1:X:2508:G:OP2	7:E:172:LYS:HD3	2.06	0.55
7:E:57:ASP:CB	7:E:62:ARG:HE	2.09	0.55
7:E:89:LEU:HD12	7:E:129:THR:HA	1.88	0.55
10:H:100:ASN:OD1	10:H:102:GLN:N	2.32	0.55
1:X:684:C:C5	11:I:43:ALA:HB1	2.40	0.55
11:I:53:ARG:HD3	11:I:53:ARG:O	2.06	0.55
11:I:76:LYS:HB3	11:I:79:GLN:CG	2.36	0.55
13:K:30:ARG:HG3	13:K:30:ARG:O	2.06	0.55
19:Q:39:LYS:O	19:Q:42:ILE:CG2	2.54	0.55
19:Q:6:ILE:O	19:Q:7:LEU:C	2.44	0.55
23:U:49:LYS:HD3	23:U:61:TRP:CG	2.42	0.55
24:V:42:ARG:CZ	24:V:45:GLN:HE22	2.20	0.55
1:X:104:C:C3'	1:X:105:G:H5''	2.36	0.55
1:X:1058:G:N2	1:X:1121:G:H2'	2.22	0.55
1:X:1573:G:C3'	1:X:1574:A:H5''	2.30	0.55
1:X:174:A:N7	1:X:2409:A:C8	2.75	0.55
1:X:2663:U:C2	1:X:2664:G:C8	2.94	0.55
1:X:463:C:C2	1:X:465:C:C5	2.95	0.55
1:X:583:C:H4'	1:X:584:A:O5'	2.07	0.55
1:X:754:G:C6	1:X:770:U:O2	2.59	0.55
4:B:70:ALA:O	4:B:71:GLY:C	2.45	0.55
5:C:188:ILE:HG21	5:C:194:GLU:OE2	2.07	0.55
5:C:55:GLY:O	5:C:71:ASP:OD2	2.25	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:117:PRO:HD3	7:E:123:PHE:CD1	2.42	0.55
11:I:85:ASP:O	11:I:86:THR:C	2.45	0.55
11:I:94:GLU:HA	11:I:97:ARG:CZ	2.35	0.55
11:I:97:ARG:O	11:I:98:LEU:CB	2.55	0.55
16:N:88:ILE:HA	17:O:49:GLU:CG	2.37	0.55
18:P:71:VAL:HG12	18:P:126:ILE:HG23	1.88	0.55
23:U:22:GLY:N	23:U:39:LYS:HB2	2.22	0.55
1:X:1312:G:H5''	1:X:1313:U:H5''	1.88	0.55
1:X:1466:C:H2'	1:X:1467:U:C1'	2.36	0.55
1:X:1512:A:H2'	1:X:1514:C:C5	2.42	0.55
1:X:1554:G:O2'	1:X:1555:A:H5'	2.07	0.55
1:X:2379:G:C2'	1:X:2380:U:H5'	2.37	0.55
1:X:2641:A:O5'	1:X:2641:A:H8	1.89	0.55
1:X:400:U:HO2'	1:X:401:G:H5''	1.70	0.55
1:X:641:G:H4'	1:X:651:C:O2'	2.06	0.55
4:B:178:GLY:O	4:B:179:GLU:CG	2.54	0.55
6:D:35:VAL:O	6:D:154:ILE:HA	2.07	0.55
6:D:32:GLU:HB3	6:D:157:VAL:CG1	2.36	0.55
9:G:155:THR:CG2	9:G:156:HIS:H	2.16	0.55
12:J:80:ALA:C	12:J:81:GLU:OE1	2.45	0.55
14:L:51:LEU:CD1	14:L:51:LEU:N	2.69	0.55
12:J:61:ARG:NH1	21:S:175:ARG:HB2	2.21	0.55
1:X:2400:G:N2	23:U:33:LYS:HZ2	2.05	0.55
1:X:107:G:N2	1:X:108:G:H1'	2.21	0.55
1:X:1385:C:H1'	1:X:2192:U:C5	2.42	0.55
1:X:197:G:N3	1:X:210:A:H2	2.05	0.55
1:X:2198:U:C6	1:X:2198:U:OP2	2.60	0.55
1:X:322:A:O2'	1:X:343:A:C4'	2.55	0.55
1:X:633:G:O2'	1:X:634:G:H5'	2.07	0.55
1:X:891:A:C6	1:X:911:A:C6	2.94	0.55
1:X:929:A:H2	2:Y:81:C:O2	1.89	0.55
2:Y:68:A:H61	2:Y:110:U:H3'	1.71	0.55
3:A:81:ALA:HA	3:A:113:VAL:HG13	1.89	0.55
4:B:37:LYS:HD2	4:B:42:ASP:OD1	2.07	0.55
5:C:2:ALA:CA	5:C:13:ARG:HA	2.36	0.55
6:D:115:ARG:HB2	6:D:178:ARG:HD2	1.88	0.55
6:D:117:ILE:HG13	6:D:176:PRO:HG2	1.87	0.55
6:D:56:GLU:O	6:D:59:LEU:N	2.39	0.55
12:J:62:GLY:C	12:J:64:LYS:H	2.11	0.55
14:L:83:GLY:O	14:L:84:ILE:HD12	2.06	0.55
20:R:111:GLY:C	20:R:112:LYS:HD2	2.27	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:93:ARG:CA	20:R:95:ARG:NH2	2.70	0.55
21:S:106:GLY:HA2	21:S:109:GLN:OE1	2.07	0.55
23:U:52:ARG:HH12	23:U:67:LEU:CD1	2.18	0.55
25:W:39:ALA:O	25:W:43:MET:HG2	2.06	0.55
1:X:1430:G:H2'	1:X:1431:U:H6	1.71	0.55
1:X:1552:C:H1'	1:X:1553:G:N3	2.22	0.55
1:X:1714:A:N6	1:X:1715:A:C6	2.75	0.55
1:X:2301:A:H2'	1:X:2302:G:C8	2.41	0.55
1:X:174:A:C5	1:X:2409:A:C5	2.95	0.55
1:X:2518:C:H4'	30:4:3:VAL:HG21	1.88	0.55
1:X:2796:A:OP2	13:K:3:HIS:CE1	2.60	0.55
3:A:126:LYS:H	3:A:129:ASN:HD22	1.55	0.55
5:C:111:ARG:NE	5:C:184:ASP:O	2.40	0.55
5:C:53:LYS:O	5:C:54:THR:OG1	2.20	0.55
6:D:40:LEU:HD12	6:D:85:VAL:O	2.07	0.55
7:E:131:ILE:HG22	7:E:132:ASP:N	2.22	0.55
11:I:120:VAL:CG1	11:I:122:VAL:HG13	2.37	0.55
12:J:64:LYS:CB	12:J:108:ALA:HB3	2.37	0.55
18:P:87:GLU:HA	18:P:90:LEU:CG	2.36	0.55
22:T:21:LEU:HD11	22:T:41:ARG:NE	2.22	0.55
23:U:15:VAL:HG23	23:U:16:ASN:N	2.22	0.55
23:U:51:ILE:HG23	23:U:58:LYS:O	2.07	0.55
1:X:1249:G:HO2'	1:X:1250:A:P	2.30	0.55
1:X:1392:U:OP1	1:X:1392:U:H6	1.89	0.55
1:X:1600:U:H5'	1:X:1601:U:OP1	2.07	0.55
1:X:189:A:C2'	1:X:190:A:H5'	2.37	0.55
1:X:977:G:O4'	1:X:2246:A:N6	2.40	0.55
1:X:334:G:C8	5:C:164:VAL:HG13	2.42	0.55
1:X:733:G:C6	1:X:734:G:N7	2.74	0.55
1:X:717:G:C2'	1:X:739:G:H22	2.17	0.55
1:X:739:G:O2'	1:X:740:A:H8	1.90	0.55
2:Y:25:G:H2'	2:Y:26:G:C8	2.42	0.55
2:Y:5:C:H2'	2:Y:6:C:O4'	2.07	0.55
3:A:252:LYS:H	3:A:253:PRO:CD	2.20	0.54
4:B:37:LYS:HD2	4:B:42:ASP:CG	2.28	0.54
5:C:46:ARG:HA	5:C:51:VAL:HG21	1.89	0.54
5:C:95:LEU:HD23	5:C:96:PRO:CD	2.33	0.54
7:E:75:ALA:O	7:E:79:VAL:HG22	2.07	0.54
4:B:152:LYS:CB	9:G:106:TYR:HB3	2.34	0.54
11:I:87:THR:O	11:I:93:LEU:HD13	2.07	0.54
1:X:884:C:OP1	12:J:9:LYS:HG3	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:41:GLU:O	15:M:42:GLY:C	2.44	0.54
16:N:86:ALA:O	16:N:87:ASN:C	2.44	0.54
20:R:62:MET:O	20:R:63:THR:C	2.45	0.54
21:S:48:THR:HG22	21:S:66:VAL:O	2.06	0.54
23:U:49:LYS:NZ	23:U:61:TRP:CZ2	2.72	0.54
1:X:1764:A:H2'	1:X:1765:C:H5'	1.89	0.54
1:X:1872:A:O2'	1:X:1873:A:H5'	2.08	0.54
1:X:2063:A:H2'	1:X:2064:U:C6	2.41	0.54
1:X:914:C:O2'	1:X:915:C:H5'	2.07	0.54
2:Y:25:G:H2'	2:Y:26:G:C5	2.42	0.54
3:A:244:ARG:C	3:A:252:LYS:HZ1	2.11	0.54
4:B:116:VAL:N	4:B:136:ARG:NE	2.30	0.54
10:H:23:ARG:CB	10:H:23:ARG:NH2	2.51	0.54
11:I:134:GLU:O	11:I:136:ALA:N	2.41	0.54
12:J:99:LYS:HG3	12:J:100:PRO:HD2	1.89	0.54
13:K:94:TYR:CE1	13:K:115:LEU:O	2.59	0.54
4:B:192:ASN:HB2	15:M:9:ARG:NH1	2.23	0.54
16:N:14:HIS:CD2	16:N:32:TYR:CD1	2.94	0.54
16:N:93:LYS:CD	17:O:10:LYS:HZ3	2.20	0.54
18:P:39:ARG:HE	18:P:97:VAL:HB	1.72	0.54
21:S:133:GLU:OE2	21:S:135:VAL:HG23	2.07	0.54
21:S:70:GLN:HA	21:S:70:GLN:HE21	1.72	0.54
1:X:135:U:O3'	1:X:136:A:O4'	2.25	0.54
1:X:182:G:O2'	1:X:183:U:OP2	2.25	0.54
1:X:2827:G:C6	1:X:2828:C:N3	2.74	0.54
1:X:466:A:H4'	1:X:467:U:O5'	2.07	0.54
1:X:490:A:O2'	1:X:491:A:C5'	2.54	0.54
1:X:688:A:H5''	5:C:61:GLN:HE22	1.73	0.54
30:4:30:VAL:O	30:4:32:HIS:N	2.40	0.54
3:A:134:ARG:HG3	3:A:135:PHE:N	2.21	0.54
5:C:130:THR:HA	5:C:133:PHE:HB3	1.90	0.54
1:X:333:A:C3'	5:C:162:ARG:NH2	2.44	0.54
5:C:43:ALA:HB1	5:C:86:PRO:O	2.07	0.54
6:D:74:ILE:CG2	6:D:80:ARG:HA	2.28	0.54
6:D:67:ILE:CG2	6:D:84:PRO:HB3	2.38	0.54
9:G:108:GLY:C	9:G:110:LEU:HD23	2.27	0.54
10:H:83:ARG:HH11	15:M:40:ARG:HE	1.49	0.54
11:I:117:ALA:HA	11:I:137:GLY:O	2.08	0.54
13:K:20:LEU:O	13:K:22:ARG:N	2.40	0.54
15:M:3:THR:OG1	15:M:3:THR:O	2.26	0.54
15:M:82:PRO:O	15:M:83:PHE:C	2.44	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:82:GLY:O	16:N:85:ARG:N	2.40	0.54
17:O:65:ARG:HH11	17:O:65:ARG:CG	2.19	0.54
1:X:514:G:N2	18:P:15:LYS:CB	2.70	0.54
20:R:22:VAL:HG11	20:R:80:LYS:HE3	1.88	0.54
20:R:16:PHE:CD2	20:R:82:ALA:HB2	2.42	0.54
1:X:1071:U:H5''	1:X:1072:U:OP1	2.06	0.54
1:X:1021:A:N3	1:X:1164:C:H1'	2.22	0.54
1:X:168:A:H2'	1:X:169:C:C6	2.42	0.54
1:X:1813:A:H2'	1:X:1814:G:H8	1.73	0.54
1:X:2356:A:N3	14:L:89:PHE:CE1	2.75	0.54
1:X:2395:C:O2'	1:X:2396:C:H5''	2.07	0.54
1:X:2437:G:O2'	1:X:2438:A:C8	2.59	0.54
1:X:2610:G:O2'	1:X:2785:A:N1	2.33	0.54
1:X:305:A:C2'	1:X:306:G:H5'	2.36	0.54
3:A:73:SER:HA	3:A:119:ALA:CB	2.37	0.54
4:B:120:TRP:CD1	4:B:155:ARG:HB3	2.43	0.54
4:B:153:GLY:O	4:B:154:LYS:C	2.44	0.54
6:D:150:ARG:CG	6:D:151:GLY:N	2.63	0.54
6:D:153:ASP:C	6:D:154:ILE:HD12	2.27	0.54
11:I:30:ALA:H	11:I:34:HIS:CG	2.26	0.54
12:J:21:ASP:HA	12:J:99:LYS:HG3	1.90	0.54
15:M:33:VAL:CG2	15:M:51:GLU:HB2	2.25	0.54
16:N:14:HIS:CD2	16:N:32:TYR:CE1	2.95	0.54
18:P:36:ARG:NH2	26:Z:20:ARG:NH1	2.53	0.54
20:R:96:LYS:CG	20:R:97:GLN:N	2.70	0.54
23:U:13:LEU:CG	23:U:14:VAL:H	2.21	0.54
23:U:48:LYS:O	23:U:61:TRP:HE3	1.90	0.54
24:V:21:ARG:NH1	24:V:53:LEU:HD11	2.22	0.54
1:X:1118:G:C2'	1:X:1119:U:C5'	2.84	0.54
1:X:1552:C:H4'	1:X:1553:G:OP1	2.07	0.54
1:X:208:C:N4	1:X:209:G:H21	2.06	0.54
1:X:2304:G:H8	1:X:2304:G:OP2	1.89	0.54
1:X:244:C:H3'	1:X:245:C:H5''	1.89	0.54
1:X:490:A:O2'	1:X:491:A:H3'	2.07	0.54
2:Y:112:A:H2'	2:Y:113:G:H8	1.71	0.54
2:Y:112:A:H2'	2:Y:113:G:O4'	2.07	0.54
5:C:7:ILE:CG2	5:C:120:VAL:O	2.55	0.54
6:D:111:ILE:CD1	6:D:137:ILE:HD12	2.37	0.54
6:D:132:ILE:CG2	6:D:133:LYS:N	2.71	0.54
6:D:175:LEU:HG	6:D:177:PHE:HE1	1.72	0.54
1:X:2510:A:H4'	7:E:157:TYR:CE2	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:104:ARG:HB3	11:I:105:PRO:CD	2.34	0.54
1:X:2855:C:O2'	13:K:90:ARG:NH1	2.40	0.54
16:N:105:ALA:O	16:N:108:ALA:N	2.41	0.54
16:N:22:LYS:C	16:N:24:PHE:N	2.61	0.54
17:O:14:VAL:HG12	17:O:14:VAL:O	2.07	0.54
19:Q:7:LEU:HD22	19:Q:8:GLN:N	2.22	0.54
20:R:90:LYS:CD	20:R:108:VAL:HG21	2.38	0.54
21:S:128:ARG:HG3	21:S:129:ARG:N	2.23	0.54
23:U:52:ARG:NH1	23:U:67:LEU:CG	2.71	0.54
24:V:2:LYS:HG2	24:V:3:PRO:HD3	1.88	0.54
1:X:1301:U:C2	1:X:1340:C:O2	2.60	0.54
1:X:134:G:H21	1:X:136:A:H3'	1.72	0.54
1:X:1426:U:C2'	1:X:1427:G:H5'	2.36	0.54
1:X:148:C:H3'	1:X:149:A:C8	2.42	0.54
1:X:1603:A:OP2	1:X:1603:A:H8	1.90	0.54
1:X:1820:G:H4'	1:X:1821:A:OP1	2.06	0.54
1:X:2753:C:H2'	1:X:2754:C:H6	1.72	0.54
1:X:403:A:H3'	1:X:403:A:P	2.47	0.54
1:X:445:A:H2'	1:X:446:C:C6	2.43	0.54
1:X:497:C:C6	1:X:497:C:C3'	2.91	0.54
1:X:513:A:H4'	1:X:515:A:H5'	1.88	0.54
1:X:518:A:H4'	1:X:518:A:OP2	2.08	0.54
1:X:95:G:H4'	24:V:41:HIS:CE1	2.42	0.54
3:A:231:HIS:CG	3:A:232:PRO:HD2	2.43	0.54
6:D:74:ILE:HG12	6:D:80:ARG:CA	2.38	0.54
9:G:125:ARG:HD2	9:G:129:HIS:CE1	2.43	0.54
12:J:63:GLY:C	12:J:65:ILE:H	2.11	0.54
17:O:20:ILE:HG13	17:O:21:ARG:O	2.07	0.54
17:O:36:LYS:HD2	17:O:55:THR:N	2.23	0.54
20:R:90:LYS:HB2	20:R:108:VAL:CG2	2.31	0.54
21:S:64:ALA:HB2	21:S:85:MET:CE	2.38	0.54
1:X:10:A:H2'	1:X:11:G:H8	1.72	0.54
1:X:1745:C:O2'	1:X:1746:A:H5'	2.07	0.54
1:X:2463:G:O2'	1:X:2464:G:H5'	2.08	0.54
1:X:2836:U:O2'	1:X:2837:G:H5'	2.06	0.54
1:X:333:A:H3'	5:C:162:ARG:HH21	1.60	0.54
1:X:459:A:H4'	1:X:461:A:C8	2.43	0.54
1:X:980:G:O3'	25:W:11:GLY:HA2	2.08	0.54
30:4:18:ARG:HD3	30:4:23:VAL:HG22	1.88	0.54
3:A:163:VAL:CG2	3:A:177:LEU:HA	2.37	0.54
4:B:130:GLY:O	4:B:131:SER:OG	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:2:LYS:HA	4:B:84:PHE:CE1	2.43	0.54
6:D:168:ALA:O	6:D:169:LEU:C	2.45	0.54
6:D:167:ARG:O	6:D:170:LEU:HB2	2.08	0.54
9:G:141:GLY:O	9:G:144:MET:HB2	2.08	0.54
13:K:10:LEU:O	13:K:11:ASN:OD1	2.26	0.54
13:K:79:VAL:CA	13:K:83:VAL:HG13	2.13	0.54
15:M:82:PRO:O	15:M:85:SER:N	2.36	0.54
18:P:85:MET:CE	18:P:130:GLU:HG3	2.38	0.54
19:Q:36:THR:O	19:Q:37:GLU:C	2.45	0.54
22:T:40:GLN:NE2	22:T:57:HIS:HB3	2.23	0.54
23:U:70:LEU:HB3	23:U:79:GLU:CD	2.28	0.54
1:X:1005:U:H2'	16:N:54:LYS:NZ	2.23	0.54
1:X:1324:G:O2'	1:X:1325:U:P	2.65	0.54
1:X:177:U:C2	1:X:178:C:H1'	2.42	0.54
1:X:208:C:O2'	1:X:209:G:H5'	2.08	0.54
1:X:2358:C:H2'	1:X:2359:U:C6	2.42	0.54
1:X:56:C:O5'	1:X:56:C:H6	1.90	0.54
2:Y:107:C:H2'	2:Y:108:G:O4'	2.08	0.54
1:X:602:C:H1'	29:3:2:PRO:CA	2.38	0.54
3:A:161:THR:N	3:A:196:VAL:HG22	2.23	0.54
3:A:133:LEU:HB3	3:A:173:VAL:HG21	1.89	0.54
4:B:154:LYS:NZ	4:B:156:MET:SD	2.81	0.54
5:C:125:ILE:O	5:C:126:ALA:CB	2.54	0.54
5:C:31:VAL:HG23	5:C:32:THR:H	1.72	0.54
6:D:7:LYS:HA	6:D:10:ASP:HB2	1.90	0.54
6:D:138:PHE:HB2	6:D:141:ILE:HB	1.89	0.54
9:G:101:THR:CG2	9:G:102:ARG:N	2.71	0.54
9:G:75:ILE:HG13	9:G:75:ILE:O	2.08	0.54
11:I:76:LYS:HD3	11:I:79:GLN:NE2	2.22	0.54
16:N:76:TYR:CZ	16:N:80:ILE:HG13	2.43	0.54
18:P:10:ASN:O	18:P:10:ASN:OD1	2.26	0.54
1:X:1206:G:O2'	1:X:1207:G:H5'	2.08	0.54
1:X:1218:C:O2'	1:X:1219:C:H5'	2.07	0.54
1:X:1486:A:H2'	1:X:1487:C:H6	1.72	0.54
1:X:165:G:C2'	1:X:166:G:H5'	2.37	0.54
1:X:1974:U:H2'	1:X:1975:G:C5'	2.38	0.54
1:X:1990:U:H2'	1:X:1991:C:C6	2.42	0.54
1:X:1996:A:H2	18:P:109:ARG:NH2	2.05	0.54
1:X:2065:A:H2'	1:X:2066:G:O4'	2.08	0.54
1:X:2372:A:H2'	1:X:2373:C:H6	1.72	0.54
1:X:452:G:N2	5:C:40:ARG:HH22	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:566:U:H2'	1:X:567:G:H8	1.73	0.54
1:X:788:G:C5'	1:X:790:A:H1'	2.34	0.54
2:Y:35:C:H2'	2:Y:36:A:O4'	2.07	0.54
2:Y:4:C:C2'	2:Y:5:C:H5'	2.38	0.54
3:A:131:LEU:HD23	3:A:131:LEU:N	2.23	0.54
4:B:169:ASN:OD1	4:B:204:ALA:HB2	2.07	0.54
4:B:92:ASN:HA	4:B:95:ILE:HB	1.90	0.54
5:C:139:GLN:NE2	5:C:139:GLN:CA	2.70	0.54
5:C:67:ALA:O	5:C:68:ARG:HB3	2.08	0.54
6:D:111:ILE:HG22	6:D:114:PHE:HB2	1.87	0.54
6:D:34:ILE:HA	6:D:155:THR:O	2.08	0.54
6:D:4:LEU:HD21	6:D:173:MET:CE	2.38	0.54
6:D:38:GLU:HG2	6:D:57:LEU:HD11	1.90	0.54
4:B:152:LYS:H	9:G:106:TYR:HB3	1.73	0.54
9:G:157:PRO:C	9:G:159:SER:H	2.10	0.54
10:H:47:VAL:HG11	10:H:115:ALA:HB1	1.90	0.54
10:H:7:ARG:NH1	10:H:20:MET:HE3	2.22	0.54
12:J:56:SER:O	12:J:57:ARG:C	2.46	0.54
14:L:90:ASP:CG	14:L:90:ASP:O	2.46	0.54
15:M:38:LYS:C	15:M:40:ARG:N	2.60	0.54
15:M:60:SER:HA	15:M:64:LYS:HD2	1.88	0.54
17:O:10:LYS:HD2	17:O:11:GLN:HE21	1.73	0.54
20:R:14:LEU:HG	20:R:41:PRO:HA	1.89	0.54
22:T:32:LYS:N	22:T:35:ASN:HD22	2.05	0.54
22:T:46:LYS:NZ	22:T:76:ALA:HB2	2.23	0.54
23:U:22:GLY:HA3	23:U:39:LYS:CE	2.38	0.54
23:U:54:ASN:CG	23:U:55:GLY:N	2.62	0.54
1:X:1074:G:C2'	1:X:1075:C:H5'	2.37	0.54
1:X:1166:A:C3'	1:X:1167:A:H5''	2.38	0.54
1:X:1425:G:O2'	1:X:1426:U:H5'	2.08	0.54
1:X:1984:A:H4'	1:X:2668:U:H2'	1.90	0.54
1:X:2065:A:H3'	1:X:2066:G:C8	2.41	0.54
1:X:2293:G:H2'	1:X:2294:U:C6	2.43	0.54
1:X:2313:G:H1'	14:L:13:THR:HB	1.90	0.54
1:X:2492:G:C2	1:X:2493:U:C2	2.96	0.54
1:X:2779:C:H2'	1:X:2780:A:N9	2.23	0.54
1:X:341:A:HO2'	1:X:342:G:P	2.30	0.54
1:X:408:U:O2'	1:X:409:G:H8	1.90	0.54
1:X:27:G:N2	1:X:522:G:HO2'	2.05	0.54
2:Y:27:A:H61	2:Y:55:C:C5'	2.21	0.54
5:C:146:GLU:HG3	5:C:185:ARG:NH2	2.19	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:33:LYS:H	6:D:157:VAL:HB	1.73	0.54
6:D:158:THR:C	6:D:160:ALA:H	2.09	0.54
6:D:67:ILE:O	6:D:69:LYS:HG3	2.08	0.54
7:E:54:ARG:HH11	7:E:62:ARG:CZ	2.20	0.54
13:K:10:LEU:HD23	13:K:17:ARG:CG	2.37	0.54
1:X:1003:C:O2'	17:O:71:ILE:HD11	2.07	0.54
20:R:11:ASN:O	20:R:13:LYS:N	2.41	0.54
20:R:85:ASP:N	20:R:86:PRO:CD	2.71	0.54
21:S:34:LEU:C	21:S:34:LEU:HD12	2.28	0.54
21:S:92:VAL:HG23	21:S:93:GLU:H	1.73	0.54
1:X:1030:U:H4'	1:X:1132:C:O2	2.08	0.54
1:X:2071:G:C2'	1:X:2072:C:H5'	2.38	0.54
1:X:2494:C:N3	1:X:2549:G:C6	2.77	0.54
1:X:2532:G:C2	1:X:2562:G:H1'	2.43	0.54
1:X:496:C:H2'	1:X:497:C:C5'	2.38	0.54
1:X:580:A:C8	1:X:584:A:N6	2.76	0.54
30:4:17:VAL:HG12	30:4:18:ARG:H	1.71	0.53
1:X:38:G:N3	5:C:42:THR:HG22	2.22	0.53
6:D:143:TYR:HA	6:D:146:VAL:HG21	1.89	0.53
7:E:117:PRO:HD3	7:E:123:PHE:CE1	2.43	0.53
7:E:127:GLU:O	7:E:129:THR:N	2.39	0.53
8:F:123:ALA:HA	8:F:126:THR:HB	1.90	0.53
12:J:66:TYR:O	12:J:106:GLU:CD	2.47	0.53
12:J:93:TYR:HD2	12:J:93:TYR:N	2.05	0.53
1:X:1022:A:O5'	16:N:77:SER:HB2	2.08	0.53
1:X:759:C:O2'	18:P:111:ARG:NH1	2.41	0.53
19:Q:91:LEU:HD22	19:Q:91:LEU:H	1.68	0.53
21:S:117:VAL:HG23	21:S:168:VAL:HG13	1.90	0.53
1:X:1623:C:N4	1:X:1637:U:H2'	2.23	0.53
1:X:1674:C:H2'	1:X:1675:C:H6	1.73	0.53
1:X:2264:C:H5'	1:X:2267:A:N6	2.23	0.53
1:X:2294:U:O2	6:D:125:ARG:NH1	2.41	0.53
1:X:805:G:N7	1:X:2419:C:H1'	2.23	0.53
1:X:2561:G:H5'	1:X:2561:G:C8	2.43	0.53
1:X:348:U:H2'	1:X:349:G:O4'	2.09	0.53
1:X:632:A:H2'	1:X:633:G:H5'	1.90	0.53
1:X:954:U:OP2	11:I:38:LYS:CG	2.54	0.53
1:X:982:C:H2'	1:X:983:G:C5'	2.38	0.53
3:A:218:LYS:HD2	3:A:218:LYS:O	2.07	0.53
3:A:46:ARG:CD	3:A:47:GLY:N	2.72	0.53
1:X:2283:G:O3'	6:D:131:GLY:HA3	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:103:TYR:O	9:G:107:GLN:NE2	2.40	0.53
11:I:119:THR:HG23	11:I:139:ARG:HB3	1.91	0.53
16:N:108:ALA:HB1	17:O:47:PHE:CE2	2.43	0.53
16:N:88:ILE:HG23	17:O:49:GLU:CB	2.38	0.53
18:P:40:LEU:HD12	18:P:62:ARG:NH1	2.23	0.53
20:R:58:VAL:O	20:R:60:PRO:HD3	2.08	0.53
21:S:113:VAL:HG13	21:S:171:VAL:CG2	2.36	0.53
12:J:100:PRO:HB3	21:S:74:ARG:HG2	1.89	0.53
24:V:17:GLU:O	24:V:53:LEU:HD13	2.08	0.53
1:X:1504:G:H2'	1:X:1505:U:O2	2.08	0.53
1:X:1517:C:O2'	1:X:1518:C:H5'	2.08	0.53
1:X:1933:G:C8	1:X:1934:U:C5	2.95	0.53
1:X:2181:A:C2'	1:X:2182:A:H5'	2.38	0.53
1:X:2340:C:H2'	1:X:2341:G:H5'	1.89	0.53
1:X:2452:U:H2'	1:X:2452:U:O2	2.07	0.53
1:X:2817:A:H2'	1:X:2818:G:O4'	2.09	0.53
1:X:419:G:O2'	1:X:420:C:H5'	2.08	0.53
1:X:70:A:H5'	1:X:71:A:OP1	2.07	0.53
1:X:738:G:O5'	1:X:738:G:H8	1.91	0.53
3:A:76:ASN:OD1	3:A:118:ASN:HB2	2.08	0.53
4:B:68:ALA:O	4:B:70:ALA:N	2.41	0.53
5:C:69:HIS:CD2	5:C:77:PHE:HZ	2.26	0.53
7:E:150:LYS:C	7:E:152:ARG:N	2.58	0.53
14:L:71:VAL:HA	14:L:74:ALA:HB3	1.91	0.53
17:O:14:VAL:O	17:O:15:SER:CB	2.53	0.53
21:S:18:MET:N	21:S:36:ARG:HB2	2.23	0.53
24:V:45:GLN:O	24:V:46:LEU:C	2.46	0.53
25:W:22:ALA:O	25:W:24:GLY:N	2.41	0.53
1:X:1286:U:H4'	1:X:1288:A:OP2	2.08	0.53
1:X:1317:G:O2'	1:X:1318:A:H5'	2.08	0.53
1:X:1510:A:H2'	1:X:1511:A:C8	2.43	0.53
1:X:172:A:C8	1:X:174:A:OP2	2.61	0.53
1:X:2187:A:H2'	1:X:2188:A:C8	2.44	0.53
1:X:2199:C:O2	1:X:2199:C:H2'	2.06	0.53
1:X:197:G:N2	1:X:242:A:H62	2.07	0.53
1:X:2058:U:H1'	1:X:2576:G:N2	2.23	0.53
1:X:2005:U:H2'	1:X:2595:C:O2'	2.09	0.53
1:X:310:A:O2'	1:X:311:A:H5'	2.07	0.53
1:X:646:C:O2'	1:X:650:U:OP1	2.15	0.53
2:Y:44:C:O2'	6:D:63:GLN:HG2	2.08	0.53
26:Z:45:ILE:HG21	26:Z:57:VAL:CG2	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:75:SER:CB	6:D:79:LEU:HD13	2.34	0.53
7:E:136:ILE:N	7:E:136:ILE:CD1	2.70	0.53
10:H:78:SER:HA	10:H:91:PHE:O	2.08	0.53
15:M:103:LYS:HG3	15:M:105:TYR:CE2	2.43	0.53
15:M:13:LEU:HD12	15:M:13:LEU:N	2.24	0.53
15:M:34:ARG:NH2	15:M:91:VAL:HG21	2.21	0.53
20:R:85:ASP:N	20:R:90:LYS:HD3	2.24	0.53
22:T:46:LYS:NZ	22:T:76:ALA:CB	2.72	0.53
1:X:1193:G:H2'	1:X:1194:U:C5'	2.32	0.53
1:X:1784:C:O2'	1:X:1785:A:H5'	2.09	0.53
1:X:2167:A:H2'	1:X:2168:A:H8	1.72	0.53
1:X:2289:A:H3'	1:X:2290:A:H8	1.72	0.53
1:X:174:A:C8	1:X:2409:A:C8	2.96	0.53
1:X:494:A:C8	20:R:56:LYS:HD2	2.43	0.53
1:X:618:A:C2	1:X:632:A:N7	2.76	0.53
1:X:84:G:OP2	20:R:39:ALA:CB	2.51	0.53
3:A:121:PRO:HB2	3:A:135:PHE:HE1	1.74	0.53
5:C:22:VAL:HG22	5:C:106:MET:O	2.09	0.53
5:C:191:ALA:HA	5:C:194:GLU:HB3	1.91	0.53
6:D:91:LEU:HB3	6:D:96:MET:HA	1.89	0.53
8:F:98:LYS:HB2	8:F:137:THR:HG1	1.71	0.53
12:J:33:TYR:O	12:J:106:GLU:HA	2.07	0.53
12:J:93:TYR:CD2	12:J:93:TYR:N	2.76	0.53
4:B:9:ILE:HG22	15:M:13:LEU:HD11	1.90	0.53
16:N:74:MET:CE	16:N:79:PHE:HA	2.38	0.53
20:R:82:ALA:C	20:R:83:LEU:HG	2.27	0.53
25:W:45:LYS:HE3	25:W:45:LYS:CA	2.36	0.53
1:X:1188:A:HO2'	1:X:1189:G:P	2.31	0.53
1:X:1342:U:H5''	1:X:1343:C:H5	1.73	0.53
1:X:2357:A:H4'	14:L:26:ARG:HH12	1.68	0.53
1:X:2422:C:O2'	1:X:2423:G:H5'	2.08	0.53
1:X:659:G:C6	1:X:660:G:C6	2.96	0.53
1:X:730:C:H5''	1:X:731:A:P	2.49	0.53
1:X:88:G:O5'	1:X:89:A:H5''	2.08	0.53
1:X:918:A:C2'	1:X:919:U:H5''	2.34	0.53
2:Y:46:G:C2	2:Y:50:U:O2	2.62	0.53
3:A:245:VAL:CA	3:A:252:LYS:HE2	2.37	0.53
5:C:117:LEU:HD23	5:C:118:VAL:O	2.09	0.53
6:D:125:ARG:CG	6:D:125:ARG:HH11	2.22	0.53
6:D:148:LYS:CG	6:D:149:THR:H	2.19	0.53
7:E:95:ARG:CZ	7:E:97:LYS:HE2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:90:THR:C	8:F:92:ASN:H	2.12	0.53
1:X:1218:C:O4'	11:I:13:ARG:NE	2.40	0.53
12:J:30:PHE:HB3	12:J:66:TYR:CE2	2.43	0.53
16:N:39:LEU:O	17:O:72:ARG:NH2	2.40	0.53
22:T:50:GLY:C	22:T:62:LEU:HD23	2.29	0.53
25:W:32:ARG:HG3	25:W:32:ARG:O	2.08	0.53
1:X:1004:A:O2'	1:X:1005:U:H5'	2.09	0.53
1:X:2184:C:H2'	1:X:2185:U:C6	2.44	0.53
1:X:2325:A:C2	1:X:2362:G:C6	2.97	0.53
1:X:2424:G:O2'	1:X:2425:G:H5'	2.08	0.53
1:X:2799:C:C4	1:X:2800:C:C4	2.97	0.53
1:X:539:A:N3	1:X:540:G:O6	2.41	0.53
1:X:638:A:H4'	1:X:639:G:H5'	1.90	0.53
26:Z:52:TYR:O	26:Z:53:ASP:CB	2.56	0.53
3:A:134:ARG:NE	3:A:135:PHE:CE2	2.77	0.53
3:A:35:GLU:HG3	3:A:35:GLU:O	2.08	0.53
4:B:25:VAL:HG13	4:B:183:LEU:CD2	2.39	0.53
1:X:1268:U:C2'	5:C:66:ASN:HB3	2.36	0.53
7:E:17:VAL:HG12	7:E:18:ASN:H	1.74	0.53
12:J:39:GLU:HG2	12:J:40:PRO:HD2	1.90	0.53
14:L:26:ARG:HB3	14:L:88:VAL:CG2	2.39	0.53
21:S:113:VAL:CG2	21:S:171:VAL:HG13	2.36	0.53
1:X:1141:U:HO2'	1:X:1142:G:P	2.31	0.53
1:X:1510:A:H2'	1:X:1511:A:H8	1.73	0.53
1:X:2169:A:H2'	1:X:2170:C:C6	2.44	0.53
1:X:2271:C:H2'	1:X:2272:A:H8	1.73	0.53
1:X:2775:U:H5'	1:X:2776:U:C5'	2.36	0.53
1:X:548:G:C2	1:X:549:G:C8	2.97	0.53
1:X:868:U:H3	1:X:934:G:H1	1.56	0.53
1:X:1141:U:C2	4:B:147:PRO:HG3	2.44	0.53
6:D:13:ARG:HG2	6:D:13:ARG:HH21	1.74	0.53
6:D:152:MET:HE3	6:D:154:ILE:HD11	1.88	0.53
6:D:52:LYS:HG2	6:D:147:ASP:OD1	2.08	0.53
10:H:7:ARG:HD3	10:H:18:GLU:CD	2.29	0.53
14:L:76:ALA:HB2	14:L:107:ALA:HA	1.91	0.53
14:L:75:LEU:O	14:L:78:ALA:N	2.41	0.53
15:M:103:LYS:O	15:M:104:LEU:HB2	2.09	0.53
16:N:75:ASN:OD1	16:N:78:THR:HB	2.08	0.53
22:T:71:ASN:HD22	22:T:77:ARG:HH11	1.55	0.53
22:T:59:LEU:HD12	22:T:79:ILE:HD12	1.91	0.53
1:X:1484:G:N2	1:X:1540:C:H1'	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2273:C:H5'	14:L:95:LYS:HD2	1.91	0.53
1:X:2585:C:O2'	1:X:2586:G:H5'	2.09	0.53
1:X:2796:A:H2'	1:X:2797:G:H8	1.74	0.53
1:X:313:U:O2'	1:X:314:G:H5'	2.08	0.53
1:X:544:U:H2'	1:X:545:C:C6	2.44	0.53
2:Y:14:C:H4'	2:Y:17:A:N6	2.23	0.53
3:A:132:PRO:CA	3:A:190:TYR:HA	2.39	0.53
4:B:67:PHE:CZ	4:B:78:LEU:HD11	2.44	0.53
5:C:158:ARG:HD3	5:C:169:VAL:CG1	2.39	0.53
9:G:106:TYR:O	9:G:108:GLY:N	2.35	0.53
9:G:36:ASN:C	9:G:38:GLU:N	2.61	0.53
17:O:40:VAL:CG1	17:O:45:THR:HA	2.38	0.53
19:Q:62:ARG:HH12	19:Q:73:ASN:HD22	1.49	0.53
20:R:16:PHE:HZ	20:R:46:VAL:HG22	1.74	0.53
21:S:123:VAL:CA	21:S:161:ALA:HB2	2.39	0.53
21:S:44:ARG:HD3	21:S:45:GLN:NE2	2.23	0.53
1:X:1002:C:O2	1:X:1175:A:C2	2.62	0.53
1:X:1008:G:H2'	1:X:1009:C:C6	2.43	0.53
1:X:1128:G:C3'	1:X:1129:A:C5'	2.75	0.53
1:X:1183:C:O2'	1:X:1184:G:H5'	2.09	0.53
1:X:1722:G:O2'	1:X:1723:U:H5'	2.09	0.53
1:X:1810:U:OP2	3:A:157:ARG:HD3	2.09	0.53
1:X:1385:C:H1'	1:X:2192:U:C6	2.43	0.53
1:X:2273:C:O5'	14:L:11:LEU:HD21	2.09	0.53
1:X:2034:A:H2'	1:X:2593:A:N6	2.24	0.53
1:X:2725:C:H2'	1:X:2726:U:H6	1.74	0.53
1:X:357:A:C5	1:X:358:C:H1'	2.44	0.53
1:X:417:C:N3	1:X:419:G:C5	2.77	0.53
5:C:112:GLN:CB	5:C:116:LYS:HD3	2.39	0.53
6:D:108:LEU:HD23	6:D:111:ILE:CD1	2.39	0.53
7:E:149:ARG:HD3	7:E:164:PHE:CE1	2.43	0.53
7:E:54:ARG:NH1	7:E:62:ARG:CZ	2.72	0.53
9:G:53:ARG:NH2	9:G:171:LEU:HB2	2.24	0.53
9:G:97:ASP:O	9:G:99:VAL:N	2.42	0.53
1:X:1218:C:H1'	11:I:13:ARG:HE	1.74	0.53
11:I:13:ARG:NH2	11:I:13:ARG:H	2.07	0.53
17:O:10:LYS:HG3	17:O:11:GLN:N	2.22	0.53
18:P:25:PHE:CD2	18:P:25:PHE:C	2.83	0.53
20:R:11:ASN:O	20:R:13:LYS:HG3	2.08	0.53
20:R:29:HIS:ND1	20:R:51:VAL:HG22	2.24	0.53
1:X:864:C:O2'	25:W:42:GLY:HA3	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1144:U:H2'	1:X:1147:G:OP1	2.09	0.53
1:X:1536:G:H2'	1:X:1537:U:C6	2.44	0.53
1:X:1557:G:H2'	1:X:1558:C:H6	1.74	0.53
1:X:1574:A:O2'	1:X:1575:C:H3'	2.09	0.53
1:X:1514:C:H4'	1:X:1593:C:H5'	1.90	0.53
1:X:1313:U:H1'	1:X:1642:G:N2	2.24	0.53
1:X:1656:U:C2'	1:X:1657:A:H5''	2.39	0.53
1:X:1722:G:C2'	1:X:1723:U:H5'	2.39	0.53
1:X:1811:A:O2'	1:X:1812:U:OP2	2.26	0.53
1:X:2187:A:C6	1:X:2188:A:C6	2.97	0.53
1:X:417:C:C4	1:X:419:G:C4	2.97	0.53
1:X:437:G:O2'	1:X:438:G:H5'	2.08	0.53
1:X:773:G:H2'	1:X:774:A:H5'	1.90	0.53
2:Y:15:A:O2'	2:Y:17:A:H5''	2.09	0.53
3:A:72:LYS:HE2	3:A:97:TYR:HD2	1.72	0.52
5:C:158:ARG:C	5:C:160:ALA:N	2.59	0.52
5:C:186:LEU:HD12	5:C:187:VAL:H	1.73	0.52
7:E:18:ASN:C	7:E:20:GLN:H	2.13	0.52
9:G:32:TYR:OH	9:G:35:LYS:NZ	2.41	0.52
10:H:28:GLY:O	10:H:35:THR:OG1	2.27	0.52
11:I:28:LYS:HZ2	11:I:36:GLY:HA2	1.69	0.52
14:L:79:ALA:O	14:L:82:LYS:N	2.42	0.52
21:S:120:LEU:HD21	21:S:162:ALA:CB	2.39	0.52
23:U:62:LEU:HD23	23:U:67:LEU:HB2	1.91	0.52
1:X:1775:A:H4'	1:X:1776:A:O5'	2.09	0.52
1:X:2321:C:O2'	1:X:2353:G:H5''	2.09	0.52
1:X:2642:G:H2'	1:X:2643:G:O5'	2.10	0.52
1:X:521:U:OP2	1:X:522:G:O6	2.27	0.52
1:X:664:C:C2'	1:X:665:A:C2	2.80	0.52
1:X:689:A:C2	1:X:815:A:N6	2.71	0.52
1:X:937:C:H2'	1:X:938:G:O4'	2.07	0.52
5:C:169:VAL:CG1	5:C:170:LEU:N	2.72	0.52
5:C:99:VAL:O	5:C:103:GLY:N	2.41	0.52
6:D:73:SER:O	6:D:80:ARG:O	2.28	0.52
7:E:18:ASN:O	7:E:20:GLN:N	2.38	0.52
7:E:7:GLN:O	7:E:51:LEU:HD13	2.09	0.52
10:H:46:HIS:O	10:H:47:VAL:C	2.47	0.52
15:M:34:ARG:NH1	15:M:66:PHE:HE2	2.06	0.52
16:N:17:VAL:HG13	16:N:39:LEU:HD12	1.90	0.52
18:P:79:ALA:HB1	18:P:85:MET:SD	2.50	0.52
24:V:41:HIS:CB	24:V:44:ARG:HH21	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1228:G:C6	1:X:1229:C:C4	2.97	0.52
1:X:1499:A:O2'	1:X:1500:U:H5'	2.09	0.52
1:X:163:A:H2'	1:X:164:G:H8	1.72	0.52
1:X:2292:C:O2'	1:X:2293:G:H5'	2.08	0.52
1:X:2641:A:H2'	1:X:2642:G:O4'	2.09	0.52
1:X:2699:G:O2'	1:X:2700:U:C5'	2.54	0.52
1:X:2805:G:N3	1:X:2858:A:H2	2.07	0.52
1:X:482:A:C2'	1:X:483:A:H5'	2.39	0.52
1:X:770:U:O2'	1:X:771:C:H5'	2.09	0.52
1:X:773:G:C2'	1:X:774:A:H5'	2.40	0.52
1:X:774:A:C8	1:X:774:A:C3'	2.91	0.52
1:X:89:A:H8	1:X:89:A:OP1	1.91	0.52
3:A:218:LYS:HD2	3:A:219:PRO:O	2.09	0.52
4:B:181:LEU:CD1	15:M:16:ILE:HD11	2.40	0.52
9:G:33:ILE:CB	9:G:34:PRO:CD	2.69	0.52
14:L:106:ALA:O	14:L:109:GLU:HG2	2.08	0.52
15:M:103:LYS:O	15:M:104:LEU:CB	2.56	0.52
20:R:85:ASP:HB3	20:R:90:LYS:NZ	2.24	0.52
1:X:338:G:H4'	20:R:9:HIS:CD2	2.44	0.52
22:T:52:GLY:HA3	22:T:60:PHE:CE2	2.44	0.52
23:U:17:SER:OG	23:U:45:ASN:N	2.42	0.52
1:X:1261:G:O2'	1:X:1262:U:P	2.68	0.52
1:X:1471:G:O2'	1:X:1472:C:H5'	2.09	0.52
1:X:1586:A:H2'	1:X:1587:A:H8	1.75	0.52
1:X:1919:A:C6	1:X:1928:G:C4	2.97	0.52
1:X:218:A:H5'	1:X:220:U:H1'	1.91	0.52
1:X:2306:A:C5	1:X:2367:A:N1	2.78	0.52
1:X:338:G:H4'	20:R:9:HIS:CG	2.45	0.52
1:X:428:A:C5	1:X:429:C:C4	2.98	0.52
1:X:815:A:H2'	1:X:816:U:C6	2.44	0.52
1:X:887:G:O2'	1:X:888:G:H5'	2.09	0.52
1:X:1795:C:OP1	3:A:257:LEU:HD22	2.09	0.52
1:X:2659:C:H5'	4:B:189:PRO:HA	1.90	0.52
4:B:93:VAL:HG13	4:B:93:VAL:O	2.10	0.52
6:D:125:ARG:HG3	6:D:125:ARG:HH11	1.74	0.52
7:E:109:TYR:HE1	7:E:152:ARG:CZ	2.22	0.52
1:X:1142:G:C4'	9:G:103:TYR:CE2	2.86	0.52
10:H:116:ARG:HH21	15:M:40:ARG:HB2	1.73	0.52
11:I:18:ARG:CB	11:I:21:ARG:HB2	2.34	0.52
12:J:82:THR:O	12:J:83:ARG:CB	2.56	0.52
13:K:3:HIS:ND1	13:K:5:LYS:CG	2.71	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:65:SER:HB2	15:M:81:PHE:O	2.10	0.52
17:O:57:GLN:H	17:O:97:GLY:HA2	1.71	0.52
19:Q:33:ALA:O	19:Q:34:THR:C	2.48	0.52
21:S:100:THR:HG23	21:S:138:VAL:CG2	2.39	0.52
21:S:71:MET:HB3	21:S:78:PRO:HA	1.89	0.52
24:V:2:LYS:HA	24:V:6:MET:HE1	1.90	0.52
1:X:1154:A:O2'	1:X:1155:G:OP1	2.23	0.52
1:X:1374:G:O2'	1:X:1375:C:H5'	2.10	0.52
1:X:1391:A:O2'	1:X:1392:U:O5'	2.27	0.52
1:X:1469:U:O5'	1:X:1470:G:OP2	2.26	0.52
1:X:1885:C:C4'	3:A:244:ARG:HD2	2.40	0.52
1:X:1917:C:H2'	1:X:1918:G:H5'	1.91	0.52
1:X:2581:A:C3'	1:X:2582:G:H5''	2.21	0.52
1:X:2698:G:O2'	1:X:2699:G:H5'	2.09	0.52
1:X:648:A:H4'	1:X:649:G:C4'	2.40	0.52
1:X:640:C:H4'	1:X:660:G:N2	2.23	0.52
2:Y:67:C:O2'	2:Y:68:A:H5'	2.10	0.52
3:A:79:VAL:HB	3:A:114:GLY:H	1.73	0.52
4:B:141:ILE:HG22	4:B:150:VAL:HB	1.91	0.52
6:D:12:VAL:HG22	6:D:172:SER:OG	2.10	0.52
9:G:44:VAL:CG1	9:G:45:ASP:N	2.72	0.52
11:I:45:LYS:CD	11:I:46:GLY:H	2.23	0.52
12:J:128:ILE:CD1	12:J:130:THR:HG23	2.39	0.52
16:N:60:LEU:HD13	16:N:60:LEU:O	2.09	0.52
20:R:22:VAL:HG11	20:R:80:LYS:NZ	2.25	0.52
19:Q:10:PRO:HD3	24:V:30:PHE:CD2	2.43	0.52
24:V:7:ARG:HD2	24:V:8:ASN:H	1.71	0.52
1:X:98:U:C4	1:X:100:G:C2	2.97	0.52
1:X:1729:C:H2'	1:X:1730:G:C8	2.45	0.52
1:X:1746:A:C2'	1:X:1747:G:O5'	2.58	0.52
1:X:1827:G:H1'	1:X:1914:U:C2	2.45	0.52
1:X:20:C:O2'	1:X:21:A:H5'	2.09	0.52
1:X:2226:A:H2'	1:X:2227:C:C6	2.44	0.52
1:X:356:A:C2'	1:X:357:A:C8	2.92	0.52
1:X:70:A:OP1	1:X:110:U:H2'	2.10	0.52
1:X:739:G:O2'	1:X:740:A:P	2.67	0.52
5:C:7:ILE:HB	5:C:120:VAL:H	1.75	0.52
5:C:188:ILE:HG21	5:C:194:GLU:CD	2.30	0.52
6:D:94:GLU:O	6:D:98:VAL:HG23	2.10	0.52
7:E:156:ALA:C	7:E:157:TYR:CD1	2.83	0.52
7:E:54:ARG:NE	7:E:62:ARG:HG2	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1075:C:O2'	8:F:89:SER:CB	2.57	0.52
9:G:106:TYR:O	9:G:110:LEU:HG	2.09	0.52
1:X:2357:A:H61	14:L:18:ARG:NH1	2.07	0.52
14:L:72:GLY:HA3	14:L:103:LEU:HA	1.91	0.52
14:L:87:VAL:CG1	14:L:88:VAL:N	2.72	0.52
17:O:39:PHE:CE1	17:O:46:VAL:HB	2.44	0.52
20:R:112:LYS:N	20:R:112:LYS:HD2	2.24	0.52
1:X:871:U:OP1	22:T:44:LYS:CE	2.57	0.52
1:X:1044:U:H4'	1:X:1045:G:OP1	2.08	0.52
1:X:105:G:H5'	1:X:105:G:C8	2.44	0.52
1:X:2787:A:H2'	1:X:2788:C:H6	1.74	0.52
1:X:78:C:O2	1:X:357:A:H2	1.92	0.52
1:X:242:A:N6	1:X:441:A:C8	2.78	0.52
1:X:537:C:O2'	1:X:538:A:OP2	2.27	0.52
1:X:704:G:H2'	1:X:705:C:H6	1.75	0.52
2:Y:18:G:O2'	2:Y:19:C:H5'	2.09	0.52
2:Y:45:C:H5'	2:Y:46:G:OP1	2.10	0.52
3:A:164:GLN:O	3:A:164:GLN:OE1	2.27	0.52
3:A:86:PRO:O	3:A:87:ASN:HB2	2.09	0.52
4:B:75:THR:HG23	4:B:76:ARG:H	1.75	0.52
6:D:138:PHE:HZ	6:D:152:MET:SD	2.33	0.52
1:X:1142:G:C1'	9:G:103:TYR:HD2	2.23	0.52
11:I:54:SER:OG	11:I:59:ARG:NH1	2.43	0.52
12:J:66:TYR:HB2	12:J:106:GLU:OE1	2.09	0.52
16:N:66:ASN:ND2	16:N:70:ARG:NH2	2.57	0.52
21:S:137:ASP:CG	21:S:140:LYS:HE2	2.30	0.52
1:X:1278:A:O2'	1:X:1279:G:O5'	2.20	0.52
1:X:1375:C:C4	1:X:1376:C:C5	2.97	0.52
1:X:1437:A:H2'	1:X:1438:G:H8	1.75	0.52
1:X:150:A:H2'	1:X:151:G:O4'	2.09	0.52
1:X:155:G:O2'	1:X:156:G:H5'	2.09	0.52
1:X:173:A:H61	1:X:844:G:H21	1.56	0.52
1:X:1782:A:H61	1:X:1820:G:H2'	1.73	0.52
1:X:2181:A:H2'	1:X:2182:A:H5'	1.92	0.52
1:X:219:G:O2'	1:X:220:U:OP2	2.26	0.52
1:X:2570:C:OP1	3:A:239:ARG:HD3	2.10	0.52
1:X:2692:A:H5'	1:X:2693:U:OP2	2.10	0.52
1:X:313:U:H2'	1:X:314:G:C8	2.43	0.52
1:X:497:C:C6	1:X:497:C:H3'	2.44	0.52
1:X:717:G:C2'	1:X:739:G:N2	2.72	0.52
30:4:22:ARG:CG	30:4:22:ARG:HH11	2.18	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:11:MET:HA	4:B:23:VAL:O	2.10	0.52
6:D:16:LEU:HD12	6:D:28:VAL:HG11	1.92	0.52
6:D:35:VAL:O	6:D:154:ILE:HG23	2.10	0.52
7:E:83:TYR:OH	7:E:138:LYS:HD2	2.10	0.52
8:F:117:ALA:HB1	8:F:122:ALA:CB	2.34	0.52
1:X:1091:C:C1'	8:F:126:THR:HA	2.34	0.52
12:J:119:PHE:O	12:J:120:ARG:C	2.47	0.52
15:M:99:VAL:C	15:M:100:ARG:HG2	2.29	0.52
16:N:91:ASN:O	16:N:93:LYS:N	2.38	0.52
19:Q:82:LEU:HD11	19:Q:88:ILE:CG2	2.40	0.52
20:R:59:LYS:HB3	20:R:62:MET:HB2	1.90	0.52
24:V:20:ALA:O	24:V:23:LYS:HB3	2.10	0.52
1:X:1322:G:O2'	1:X:1323:G:H5'	2.09	0.52
1:X:1634:A:O2'	1:X:1635:G:H5'	2.09	0.52
1:X:216:U:OP1	1:X:601:A:C8	2.62	0.52
1:X:2284:U:C2'	1:X:2285:U:H5''	2.40	0.52
1:X:612:G:H2'	1:X:668:A:H61	1.75	0.52
1:X:939:C:C5'	1:X:940:G:O5'	2.55	0.52
1:X:946:U:H2'	1:X:947:C:C6	2.44	0.52
5:C:124:ASP:O	5:C:132:ASN:ND2	2.43	0.52
5:C:136:TRP:CG	5:C:140:ASN:ND2	2.78	0.52
6:D:52:LYS:HG3	6:D:147:ASP:HB2	1.92	0.52
11:I:134:GLU:HG2	11:I:138:GLY:O	2.10	0.52
17:O:61:VAL:HB	17:O:92:ALA:HB3	1.92	0.52
16:N:43:ALA:HB3	17:O:74:TYR:HB3	1.91	0.52
1:X:84:G:H5'	20:R:39:ALA:O	2.10	0.52
1:X:34:U:O2'	20:R:4:PRO:N	2.36	0.52
21:S:60:GLU:O	21:S:61:THR:C	2.47	0.52
25:W:16:GLN:OE1	25:W:49:HIS:CE1	2.63	0.52
1:X:1016:C:C5	1:X:1154:A:H1'	2.45	0.52
1:X:1186:G:H2'	1:X:1187:A:C2	2.40	0.52
1:X:1536:G:H2'	1:X:1537:U:H6	1.74	0.52
1:X:2289:A:H3'	1:X:2290:A:C8	2.44	0.52
1:X:589:C:H4'	16:N:31:GLN:NE2	2.25	0.52
1:X:617:U:C5	1:X:632:A:N1	2.78	0.52
1:X:726:G:H2'	1:X:727:U:C6	2.45	0.52
1:X:868:U:H2'	1:X:869:C:C6	2.45	0.52
3:A:181:GLU:O	3:A:182:LEU:HD23	2.10	0.52
3:A:183:ARG:HD3	3:A:267:ASP:OD2	2.10	0.52
5:C:104:LEU:O	5:C:105:ALA:C	2.47	0.52
9:G:69:ASP:C	9:G:70:PHE:CD2	2.84	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2372:A:H5'	11:I:59:ARG:O	2.10	0.52
11:I:73:GLU:HB2	11:I:106:VAL:HA	1.91	0.52
12:J:30:PHE:HB3	12:J:66:TYR:CD2	2.44	0.52
15:M:39:VAL:CG1	15:M:45:THR:HG23	2.40	0.52
1:X:505:G:N3	18:P:82:ASN:ND2	2.55	0.52
20:R:23:ILE:H	20:R:23:ILE:CD1	2.07	0.52
20:R:85:ASP:HB3	20:R:90:LYS:HZ2	1.74	0.52
23:U:14:VAL:CB	23:U:47:HIS:NE2	2.68	0.52
24:V:52:GLN:C	24:V:54:ASN:H	2.12	0.52
1:X:1069:G:C3'	1:X:1070:G:H5''	2.40	0.52
1:X:1078:A:OP1	1:X:1078:A:H3'	2.10	0.52
1:X:1123:G:C6	1:X:1124:U:C4	2.98	0.52
1:X:1142:G:H8	1:X:2008:C:H4'	1.74	0.52
1:X:1149:G:O2'	1:X:1150:C:H5'	2.09	0.52
1:X:1499:A:H2'	1:X:1500:U:O4'	2.09	0.52
1:X:165:G:H1'	1:X:1378:A:C6	2.44	0.52
1:X:1789:U:H4'	1:X:1794:A:O4'	2.10	0.52
1:X:1812:U:C4	3:A:160:GLY:O	2.63	0.52
1:X:2364:C:H2'	1:X:2365:U:C6	2.45	0.52
1:X:1939:U:H1'	1:X:2531:U:OP1	2.10	0.52
1:X:2769:C:C2'	1:X:2770:A:H8	2.10	0.52
1:X:493:A:OP2	1:X:517:A:N6	2.39	0.52
1:X:653:G:C3'	1:X:654:A:H5''	2.39	0.52
1:X:810:U:H2'	1:X:811:G:O4'	2.09	0.52
1:X:863:C:H2'	1:X:864:C:C6	2.44	0.52
1:X:864:C:O2'	1:X:865:A:H5'	2.10	0.52
2:Y:2:C:H6	2:Y:2:C:H3'	1.74	0.52
18:P:36:ARG:NE	26:Z:20:ARG:NH1	2.57	0.52
3:A:72:LYS:HG2	3:A:103:ARG:NH1	2.24	0.51
5:C:109:ALA:O	5:C:112:GLN:N	2.43	0.51
5:C:4:ILE:HB	5:C:10:ASN:OD1	2.10	0.51
11:I:88:PHE:HB3	11:I:93:LEU:HD12	1.90	0.51
12:J:78:LYS:C	12:J:80:ALA:H	2.12	0.51
2:Y:9:G:H5'	14:L:32:TYR:CD2	2.45	0.51
14:L:42:ILE:O	14:L:50:THR:HG23	2.10	0.51
14:L:40:ALA:CB	14:L:75:LEU:HD22	2.38	0.51
15:M:14:ARG:HH22	15:M:18:GLN:NE2	2.08	0.51
16:N:68:GLY:HA2	16:N:71:LEU:HB2	1.91	0.51
16:N:74:MET:HE1	16:N:79:PHE:HA	1.92	0.51
20:R:105:ARG:HH12	20:R:112:LYS:CA	2.23	0.51
21:S:120:LEU:CD2	21:S:121:GLN:N	2.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1505:U:O2	1:X:1506:C:C5	2.63	0.51
1:X:1522:C:H2'	1:X:1523:A:C5'	2.40	0.51
1:X:1978:U:H3'	1:X:1979:C:C5'	2.28	0.51
1:X:2075:U:O2	1:X:2075:U:H2'	2.10	0.51
1:X:2293:G:H2'	1:X:2294:U:H6	1.75	0.51
1:X:361:G:O5'	1:X:361:G:H8	1.93	0.51
1:X:742:G:O6	3:A:208:LYS:HB3	2.10	0.51
1:X:844:G:H5''	11:I:41:SER:HB2	1.92	0.51
1:X:973:U:H2'	1:X:974:U:C6	2.44	0.51
3:A:68:LYS:HD3	3:A:68:LYS:N	2.25	0.51
4:B:38:THR:H	4:B:41:THR:HG1	1.57	0.51
6:D:52:LYS:NZ	6:D:149:THR:HA	2.25	0.51
14:L:66:ASP:C	14:L:68:ALA:N	2.63	0.51
19:Q:11:VAL:N	19:Q:27:PHE:HA	2.22	0.51
19:Q:43:GLN:O	19:Q:47:GLY:N	2.43	0.51
19:Q:51:ILE:HD11	19:Q:83:ALA:CA	2.19	0.51
19:Q:89:GLU:OE1	19:Q:91:LEU:HD23	2.11	0.51
20:R:25:LEU:CD2	20:R:26:SER:HB3	2.39	0.51
1:X:1061:A:N1	1:X:2731:G:C6	2.78	0.51
1:X:136:A:C5	1:X:137:A:C4	2.94	0.51
1:X:147:G:O2'	1:X:149:A:N6	2.43	0.51
1:X:1549:C:H2'	1:X:1550:C:C6	2.45	0.51
1:X:1811:A:H5'	3:A:158:SER:OG	2.10	0.51
1:X:2404:A:H4'	1:X:2405:A:H5'	1.84	0.51
1:X:2404:A:H1'	1:X:2406:C:C5	2.44	0.51
1:X:537:C:H1'	1:X:538:A:N1	2.21	0.51
1:X:732:G:P	1:X:732:G:H8	2.34	0.51
3:A:252:LYS:N	3:A:253:PRO:CD	2.74	0.51
1:X:2661:G:C8	4:B:11:MET:HE2	2.46	0.51
4:B:152:LYS:H	9:G:106:TYR:CB	2.24	0.51
1:X:332:C:H1'	5:C:159:ARG:HE	1.75	0.51
5:C:7:ILE:HB	5:C:120:VAL:N	2.26	0.51
6:D:108:LEU:HD13	6:D:176:PRO:HG3	1.93	0.51
2:Y:59:A:N1	6:D:26:MET:HB3	2.25	0.51
7:E:96:ALA:HB1	7:E:103:LEU:HD11	1.91	0.51
14:L:20:THR:CG2	14:L:23:ALA:HB3	2.39	0.51
21:S:172:LEU:HD22	21:S:173:PRO:HD2	1.93	0.51
21:S:98:VAL:HG11	21:S:168:VAL:CG1	2.40	0.51
22:T:37:LEU:O	22:T:38:VAL:CG2	2.59	0.51
1:X:1075:C:H5'	8:F:87:GLY:CA	2.30	0.51
1:X:1441:A:C1'	1:X:1442:C:C5	2.89	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1455:C:O2'	1:X:1456:C:H5'	2.11	0.51
1:X:1811:A:H4'	1:X:1812:U:C5'	2.40	0.51
1:X:2779:C:C6	1:X:2779:C:C3'	2.91	0.51
1:X:2833:C:O5'	1:X:2833:C:H6	1.93	0.51
1:X:650:U:H2'	1:X:651:C:C6	2.45	0.51
1:X:689:A:H8	1:X:2052:G:N2	2.02	0.51
6:D:169:LEU:O	6:D:170:LEU:C	2.49	0.51
7:E:94:PHE:CD2	7:E:107:ILE:HG22	2.44	0.51
9:G:103:TYR:CZ	9:G:111:LYS:CB	2.93	0.51
9:G:44:VAL:CG1	9:G:45:ASP:H	2.21	0.51
15:M:8:ASN:C	15:M:10:GLY:N	2.63	0.51
16:N:13:ARG:CG	16:N:13:ARG:HH21	2.21	0.51
16:N:66:ASN:CB	16:N:76:TYR:H	2.23	0.51
18:P:66:GLU:O	18:P:69:ALA:N	2.42	0.51
19:Q:63:LYS:HG3	19:Q:64:ARG:N	2.26	0.51
21:S:138:VAL:O	21:S:141:MET:HB2	2.11	0.51
21:S:70:GLN:NE2	21:S:70:GLN:HA	2.26	0.51
22:T:42:GLY:O	22:T:57:HIS:CD2	2.64	0.51
25:W:4:LYS:HG2	25:W:52:GLU:HB3	1.88	0.51
1:X:1151:U:H5''	1:X:1153:A:H5''	1.92	0.51
1:X:1234:C:O2'	1:X:1235:C:H5'	2.10	0.51
1:X:1356:G:H1'	1:X:1613:G:C2	2.46	0.51
1:X:1674:C:H2'	1:X:1675:C:C6	2.45	0.51
1:X:1711:C:H5''	1:X:1712:G:OP1	2.10	0.51
1:X:971:A:C4'	1:X:2436:U:H4'	2.41	0.51
1:X:2043:A:H1'	1:X:2481:G:O4'	2.10	0.51
1:X:2588:U:H5'	1:X:2589:C:OP2	2.11	0.51
1:X:2677:U:H2'	1:X:2678:C:C6	2.45	0.51
1:X:2736:U:O5'	30:4:19:ARG:HG2	2.10	0.51
1:X:27:G:HO2'	1:X:28:A:H8	1.57	0.51
1:X:328:A:H2'	1:X:329:C:H6	1.74	0.51
1:X:33:C:O2'	1:X:34:U:O4'	2.28	0.51
1:X:873:U:C5	1:X:2247:A:C8	2.99	0.51
4:B:88:GLY:O	4:B:89:ASP:OD1	2.29	0.51
5:C:75:PRO:HG3	5:C:83:ALA:HB2	1.91	0.51
6:D:122:PHE:HD2	6:D:129:ASN:H	1.58	0.51
6:D:8:TYR:O	6:D:12:VAL:HG23	2.11	0.51
9:G:156:HIS:N	9:G:157:PRO:CD	2.73	0.51
11:I:45:LYS:CD	11:I:46:GLY:N	2.71	0.51
12:J:106:GLU:N	12:J:106:GLU:OE1	2.44	0.51
14:L:81:GLU:C	14:L:82:LYS:HG2	2.29	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:32:TYR:O	16:N:33:ARG:C	2.49	0.51
16:N:76:TYR:O	16:N:80:ILE:HG12	2.10	0.51
17:O:36:LYS:NZ	17:O:55:THR:N	2.58	0.51
23:U:13:LEU:C	23:U:14:VAL:HG22	2.30	0.51
1:X:98:U:C2	1:X:100:G:C6	2.98	0.51
1:X:1053:G:C2'	1:X:1054:C:O4'	2.59	0.51
1:X:124:A:H2'	1:X:125:A:C8	2.46	0.51
1:X:1354:A:H2'	1:X:1410:U:O2'	2.11	0.51
1:X:1550:C:H2'	1:X:1553:G:H21	1.64	0.51
1:X:1552:C:O2'	1:X:1553:G:O5'	2.28	0.51
1:X:1781:C:OP1	3:A:219:PRO:HB2	2.10	0.51
1:X:1811:A:O2'	1:X:1812:U:P	2.69	0.51
1:X:2272:A:P	14:L:15:ARG:NH2	2.84	0.51
1:X:2311:U:C4'	1:X:2315:A:N6	2.73	0.51
1:X:404:A:C6	1:X:405:C:N3	2.78	0.51
1:X:492:G:O2'	1:X:517:A:N6	2.43	0.51
1:X:972:C:C4'	1:X:973:U:OP2	2.58	0.51
2:Y:10:U:O3'	14:L:28:ARG:NH2	2.34	0.51
2:Y:44:C:H42	6:D:88:LYS:HZ1	1.58	0.51
3:A:252:LYS:N	3:A:253:PRO:HD2	2.25	0.51
5:C:112:GLN:HA	5:C:116:LYS:CB	2.41	0.51
6:D:35:VAL:CG2	6:D:155:THR:HB	2.32	0.51
6:D:175:LEU:CD2	6:D:177:PHE:HE1	2.24	0.51
6:D:65:PRO:HB2	6:D:87:ILE:HG22	1.91	0.51
9:G:106:TYR:O	9:G:110:LEU:CG	2.59	0.51
11:I:105:PRO:O	11:I:106:VAL:CG2	2.59	0.51
11:I:11:GLY:O	11:I:13:ARG:N	2.43	0.51
12:J:40:PRO:HG3	12:J:99:LYS:HZ1	1.75	0.51
14:L:104:ALA:O	14:L:105:ASP:C	2.47	0.51
1:X:2357:A:N6	14:L:18:ARG:CZ	2.72	0.51
14:L:67:THR:O	14:L:70:ALA:HB3	2.11	0.51
14:L:75:LEU:O	14:L:76:ALA:C	2.48	0.51
15:M:44:ARG:HD2	15:M:46:ARG:NH2	2.26	0.51
19:Q:61:LYS:HB2	19:Q:72:ARG:HD3	1.91	0.51
20:R:110:SER:OG	20:R:112:LYS:HE3	2.10	0.51
23:U:11:LYS:HZ3	23:U:75:TYR:HB2	1.74	0.51
1:X:1075:C:H4'	8:F:88:SER:H	1.72	0.51
1:X:1313:U:O2'	1:X:1314:A:OP2	2.29	0.51
1:X:135:U:H3'	1:X:136:A:C8	2.42	0.51
1:X:1407:G:C6	1:X:1408:A:C6	2.98	0.51
1:X:1630:A:C2	18:P:114:ALA:HB2	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1716:G:O3'	1:X:1717:A:H4'	2.11	0.51
1:X:1911:A:H2'	1:X:1912:G:H1'	1.92	0.51
1:X:197:G:H22	1:X:242:A:H62	1.57	0.51
1:X:2186:G:O3'	3:A:151:LYS:HD3	2.10	0.51
1:X:636:G:H2'	1:X:637:G:H5'	1.93	0.51
1:X:663:G:H2'	1:X:664:C:C5'	2.40	0.51
1:X:757:U:H2'	1:X:758:G:C5'	2.40	0.51
1:X:83:A:H2	1:X:97:U:O2	1.94	0.51
26:Z:51:TYR:HE1	26:Z:55:ARG:HD3	1.75	0.51
30:4:29:ASN:ND2	30:4:31:LYS:HD3	2.19	0.51
5:C:129:LYS:C	5:C:131:LYS:N	2.64	0.51
5:C:175:VAL:O	5:C:176:ASN:HB2	2.11	0.51
1:X:2620:G:OP1	9:G:104:THR:HG22	2.11	0.51
9:G:108:GLY:N	9:G:110:LEU:HG	2.26	0.51
9:G:159:SER:O	9:G:161:GLN:N	2.39	0.51
11:I:71:THR:O	11:I:104:ARG:HD3	2.10	0.51
12:J:19:THR:HG21	12:J:99:LYS:HZ2	1.76	0.51
15:M:39:VAL:HG12	15:M:45:THR:HG23	1.93	0.51
16:N:87:ASN:O	16:N:88:ILE:C	2.48	0.51
17:O:35:LEU:O	17:O:36:LYS:CB	2.58	0.51
18:P:62:ARG:HG3	18:P:62:ARG:HH11	1.75	0.51
19:Q:35:LYS:O	19:Q:38:ILE:HG23	2.11	0.51
1:X:2411:A:H4'	23:U:25:ARG:HH12	1.76	0.51
1:X:2496:C:O2'	1:X:2497:A:O5'	2.28	0.51
1:X:2613:A:H2'	1:X:2614:A:H8	1.75	0.51
1:X:488:A:C6	1:X:489:A:C6	2.99	0.51
5:C:45:THR:C	5:C:47:THR:H	2.12	0.51
5:C:74:VAL:O	5:C:76:THR:N	2.44	0.51
11:I:122:VAL:HG21	11:I:125:ALA:HB2	1.93	0.51
14:L:99:ARG:O	14:L:102:ALA:HB3	2.11	0.51
14:L:10:LYS:HB3	14:L:14:ARG:HE	1.75	0.51
15:M:99:VAL:CG2	15:M:100:ARG:N	2.49	0.51
18:P:85:MET:HE2	18:P:130:GLU:HG3	1.93	0.51
19:Q:63:LYS:HD3	19:Q:69:ILE:O	2.11	0.51
20:R:25:LEU:O	20:R:79:SER:O	2.29	0.51
20:R:5:SER:O	20:R:6:ALA:HB3	2.11	0.51
22:T:37:LEU:C	22:T:38:VAL:HG23	2.31	0.51
22:T:44:LYS:HG2	22:T:45:PHE:CE1	2.46	0.51
1:X:1733:U:OP1	1:X:1733:U:O4'	2.29	0.51
1:X:2598:C:H1'	4:B:154:LYS:HE2	1.93	0.51
1:X:485:G:C6	1:X:520:C:N4	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:2:C:H3'	2:Y:2:C:C6	2.46	0.51
2:Y:35:C:O2'	2:Y:36:A:H5'	2.10	0.51
4:B:67:PHE:CE1	4:B:78:LEU:HD21	2.45	0.51
6:D:134:GLU:CG	6:D:136:LEU:HB2	2.40	0.51
7:E:89:LEU:HD11	7:E:96:ALA:HB2	1.92	0.51
14:L:36:LYS:N	14:L:36:LYS:HD2	2.26	0.51
15:M:37:THR:CG2	15:M:39:VAL:H	2.24	0.51
21:S:72:ASP:OD1	21:S:75:LYS:HD2	2.10	0.51
23:U:41:VAL:O	23:U:42:GLN:CB	2.57	0.51
25:W:37:THR:O	25:W:41:ARG:HG3	2.11	0.51
1:X:1093:U:H2'	1:X:1094:C:O4'	2.11	0.51
1:X:1355:A:O2'	1:X:1357:U:OP2	2.23	0.51
1:X:1391:A:O2'	1:X:1392:U:H3'	2.11	0.51
1:X:1561:A:H3'	1:X:1562:G:C8	2.46	0.51
1:X:1909:U:C5	1:X:1911:A:N6	2.76	0.51
1:X:2053:G:C2	1:X:2054:A:C4	2.99	0.51
1:X:2311:U:H5'	1:X:2315:A:H61	1.75	0.51
1:X:2395:C:OP2	11:I:63:ARG:NH1	2.44	0.51
1:X:2855:C:O2	13:K:93:GLY:HA3	2.11	0.51
1:X:649:G:C2	1:X:661:C:C2	2.99	0.51
1:X:717:G:HO2'	1:X:718:A:P	2.33	0.51
7:E:164:PHE:O	7:E:167:GLU:N	2.44	0.51
9:G:33:ILE:O	9:G:69:ASP:CG	2.49	0.51
12:J:15:ARG:HD3	12:J:73:LYS:HG3	1.93	0.51
14:L:87:VAL:CG1	14:L:88:VAL:H	2.23	0.51
16:N:99:ALA:HB2	16:N:106:PHE:CD1	2.46	0.51
17:O:36:LYS:HZ1	17:O:98:ILE:HB	1.75	0.51
19:Q:62:ARG:O	19:Q:70:GLY:HA3	2.11	0.51
21:S:94:VAL:HG23	21:S:125:PRO:CG	2.39	0.51
21:S:43:PHE:CE1	21:S:47:SER:HA	2.46	0.51
23:U:14:VAL:HB	23:U:47:HIS:CE1	2.44	0.51
24:V:39:GLN:HB3	24:V:42:ARG:HB2	1.93	0.51
1:X:2204:A:O2'	1:X:2205:C:OP2	2.22	0.51
1:X:230:C:C2'	1:X:231:G:H5'	2.41	0.51
1:X:244:C:C3'	1:X:245:C:H5''	2.41	0.51
1:X:2038:C:H2'	1:X:2483:U:C4'	2.41	0.51
1:X:2494:C:O2'	1:X:2495:G:H5'	2.11	0.51
1:X:2713:A:N1	4:B:203:LYS:HG2	2.26	0.51
1:X:2725:C:O2'	7:E:143:GLN:HG3	2.11	0.51
1:X:2766:U:O2'	4:B:65:GLY:HA3	2.11	0.51
1:X:209:G:N2	1:X:433:G:OP1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:496:C:C2'	1:X:497:C:H5''	2.41	0.51
1:X:890:U:H6	1:X:890:U:O5'	1.94	0.51
5:C:9:GLN:HG3	5:C:10:ASN:N	2.26	0.50
7:E:57:ASP:O	7:E:58:ALA:CB	2.58	0.50
9:G:105:GLY:CA	9:G:110:LEU:HD12	2.40	0.50
9:G:68:PRO:O	9:G:70:PHE:CE2	2.64	0.50
11:I:94:GLU:CA	11:I:97:ARG:HE	2.24	0.50
1:X:964:A:OP1	12:J:18:MET:SD	2.69	0.50
15:M:104:LEU:O	15:M:106:TYR:N	2.44	0.50
16:N:93:LYS:HZ2	17:O:10:LYS:HZ3	1.57	0.50
1:X:1337:G:OP2	18:P:105:ARG:NH2	2.44	0.50
19:Q:39:LYS:O	19:Q:43:GLN:HG3	2.11	0.50
19:Q:69:ILE:HD12	19:Q:70:GLY:N	2.25	0.50
21:S:71:MET:HE2	21:S:71:MET:H	1.76	0.50
23:U:27:ASP:H	23:U:32:ARG:HH21	1.59	0.50
24:V:21:ARG:C	24:V:23:LYS:H	2.14	0.50
1:X:1188:A:N6	1:X:1189:G:C2	2.79	0.50
1:X:1435:G:O2'	1:X:1436:G:H5'	2.11	0.50
1:X:1766:U:H2'	1:X:1767:G:H5'	1.92	0.50
1:X:1935:A:C6	1:X:1936:A:N1	2.79	0.50
1:X:2275:U:C4'	1:X:2276:C:OP1	2.55	0.50
1:X:2639:A:H2'	1:X:2640:G:O4'	2.11	0.50
1:X:682:G:H5''	1:X:683:A:OP2	2.11	0.50
1:X:765:C:O2'	1:X:766:A:OP2	2.25	0.50
1:X:826:U:C2	1:X:827:C:C5	2.98	0.50
26:Z:19:ARG:O	26:Z:21:SER:N	2.44	0.50
4:B:154:LYS:NZ	4:B:156:MET:HE1	2.23	0.50
4:B:72:VAL:CG1	4:B:73:ALA:N	2.73	0.50
5:C:3:GLN:NE2	5:C:4:ILE:N	2.59	0.50
6:D:42:SER:O	6:D:78:LYS:HD3	2.10	0.50
8:F:84:ILE:HG22	8:F:85:GLY:H	1.76	0.50
10:H:121:ARG:O	10:H:122:ARG:HB2	2.11	0.50
10:H:70:VAL:HG13	10:H:71:LYS:N	2.27	0.50
11:I:53:ARG:HH21	11:I:53:ARG:CG	2.21	0.50
12:J:44:LYS:CB	12:J:47:GLN:HG3	2.32	0.50
1:X:2230:G:OP1	12:J:84:MET:SD	2.70	0.50
14:L:97:HIS:O	14:L:101:LYS:HB2	2.11	0.50
17:O:72:ARG:HA	17:O:82:ARG:O	2.11	0.50
19:Q:82:LEU:HD23	19:Q:82:LEU:N	2.26	0.50
1:X:83:A:OP2	20:R:17:LYS:HE2	2.10	0.50
21:S:63:PRO:O	21:S:86:VAL:N	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:53:GLU:OE2	23:U:57:VAL:HA	2.11	0.50
24:V:41:HIS:HB3	24:V:44:ARG:HH21	1.77	0.50
1:X:940:G:N2	25:W:43:MET:SD	2.85	0.50
1:X:1105:U:C2	1:X:1107:A:H5''	2.47	0.50
1:X:1265:G:O4'	16:N:33:ARG:HD2	2.11	0.50
1:X:1320:A:H2'	1:X:1321:A:O4'	2.11	0.50
1:X:1325:U:O2'	1:X:1327:C:C4	2.63	0.50
1:X:1974:U:H2'	1:X:1975:G:H5''	1.93	0.50
1:X:207:U:N3	1:X:208:C:C4	2.79	0.50
1:X:2175:A:O2'	1:X:2176:U:H5'	2.11	0.50
1:X:2301:A:C4	1:X:2302:G:C8	2.99	0.50
1:X:2311:U:C5'	1:X:2315:A:N6	2.73	0.50
1:X:322:A:C2	1:X:342:G:H3'	2.46	0.50
1:X:623:G:C2'	1:X:624:A:H5''	2.41	0.50
1:X:70:A:H1'	1:X:72:A:N7	2.26	0.50
1:X:717:G:O2'	1:X:718:A:P	2.68	0.50
3:A:258:LYS:NZ	3:A:261:ARG:HH21	2.09	0.50
3:A:88:ARG:O	3:A:89:SER:HB3	2.12	0.50
5:C:153:ASP:OD1	5:C:172:VAL:HA	2.10	0.50
5:C:27:LEU:HD23	5:C:181:LEU:HD22	1.92	0.50
5:C:30:VAL:HG12	5:C:31:VAL:N	2.26	0.50
5:C:30:VAL:O	5:C:31:VAL:C	2.49	0.50
9:G:157:PRO:O	9:G:159:SER:N	2.43	0.50
9:G:61:ARG:HH22	9:G:78:ASP:CG	2.15	0.50
11:I:76:LYS:O	11:I:79:GLN:HG2	2.12	0.50
13:K:97:ILE:HA	13:K:112:LEU:O	2.11	0.50
14:L:17:VAL:CG1	14:L:18:ARG:H	2.24	0.50
19:Q:27:PHE:N	19:Q:27:PHE:CD1	2.79	0.50
20:R:60:PRO:C	20:R:62:MET:N	2.63	0.50
20:R:84:VAL:HA	20:R:90:LYS:CD	2.42	0.50
21:S:13:LYS:HE2	21:S:20:ALA:HB2	1.93	0.50
21:S:6:LYS:HB3	21:S:32:PHE:HA	1.94	0.50
23:U:13:LEU:HG	23:U:14:VAL:N	2.27	0.50
23:U:52:ARG:O	23:U:53:GLU:CB	2.60	0.50
1:X:1031:C:HO2'	1:X:1032:A:P	2.35	0.50
1:X:1125:G:H2'	1:X:1126:A:C8	2.40	0.50
1:X:1142:G:OP1	9:G:107:GLN:O	2.29	0.50
1:X:1249:G:O2'	1:X:1250:A:P	2.70	0.50
1:X:1997:A:C2	1:X:1998:A:C2	2.99	0.50
1:X:2048:C:H2'	1:X:2049:C:H6	1.77	0.50
1:X:2382:C:O2	1:X:2382:C:H2'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2395:C:C2'	1:X:2396:C:C5'	2.89	0.50
1:X:2027:C:C2	1:X:2604:G:N2	2.79	0.50
1:X:596:C:H5'	5:C:84:PHE:HE1	1.76	0.50
1:X:692:C:O2	1:X:693:A:C8	2.64	0.50
1:X:719:A:H2'	1:X:720:A:O4'	2.10	0.50
2:Y:95:U:H2'	2:Y:96:C:C6	2.46	0.50
5:C:144:GLY:HA2	5:C:166:TRP:NE1	2.26	0.50
6:D:54:ALA:O	6:D:55:LYS:C	2.50	0.50
9:G:102:ARG:CZ	9:G:112:THR:HG21	2.40	0.50
9:G:162:LYS:N	9:G:163:PRO:HD2	2.27	0.50
9:G:168:THR:O	9:G:169:GLN:O	2.29	0.50
10:H:30:GLY:O	10:H:33:GLY:O	2.29	0.50
12:J:15:ARG:HD2	12:J:74:PRO:HD2	1.94	0.50
12:J:77:LYS:O	12:J:88:LYS:NZ	2.44	0.50
14:L:102:ALA:O	14:L:103:LEU:C	2.49	0.50
19:Q:20:MET:O	19:Q:23:GLY:N	2.37	0.50
19:Q:20:MET:SD	19:Q:92:ALA:HA	2.51	0.50
22:T:42:GLY:O	22:T:57:HIS:HD2	1.95	0.50
23:U:46:LEU:C	23:U:47:HIS:CG	2.84	0.50
24:V:30:PHE:O	24:V:31:GLN:C	2.49	0.50
1:X:1032:A:O2'	1:X:1134:C:H5''	2.12	0.50
1:X:1151:U:O4	9:G:93:LYS:HE3	2.11	0.50
1:X:2042:A:O2'	5:C:62:LYS:CE	2.59	0.50
1:X:2261:G:H5''	1:X:2262:C:O4'	2.11	0.50
1:X:2265:A:C2	1:X:2325:A:N7	2.79	0.50
1:X:457:C:C2'	1:X:458:G:H5'	2.41	0.50
1:X:648:A:H4'	1:X:649:G:O5'	2.10	0.50
1:X:756:C:H2'	1:X:757:U:H5'	1.92	0.50
2:Y:80:A:H2'	2:Y:81:C:O4'	2.12	0.50
3:A:150:GLY:O	3:A:152:GLY:N	2.45	0.50
4:B:142:GLY:C	4:B:143:GLN:HE21	2.15	0.50
4:B:93:VAL:O	4:B:94:ASP:HB2	2.12	0.50
5:C:179:ASP:HA	5:C:182:ARG:HB3	1.94	0.50
5:C:30:VAL:O	5:C:32:THR:N	2.45	0.50
6:D:46:ASP:O	6:D:48:LYS:N	2.45	0.50
9:G:95:LEU:HD21	9:G:117:GLU:CD	2.31	0.50
12:J:61:ARG:O	12:J:64:LYS:NZ	2.39	0.50
14:L:54:ALA:HB3	14:L:75:LEU:CB	2.36	0.50
17:O:18:ASP:C	17:O:18:ASP:OD1	2.50	0.50
17:O:68:LYS:HD2	17:O:86:HIS:O	2.11	0.50
19:Q:42:ILE:HG23	19:Q:43:GLN:H	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:93:ARG:O	20:R:95:ARG:CZ	2.59	0.50
21:S:128:ARG:NE	21:S:129:ARG:HD3	2.27	0.50
21:S:139:THR:O	21:S:140:LYS:C	2.50	0.50
1:X:1411:C:H2'	1:X:1412:C:C6	2.46	0.50
1:X:1715:A:O2'	1:X:1716:G:H5''	2.12	0.50
1:X:1770:U:O2	1:X:1774:A:C5	2.65	0.50
1:X:1777:A:O2'	1:X:1778:U:OP1	2.25	0.50
1:X:1923:U:O2'	1:X:1924:C:P	2.70	0.50
1:X:216:U:OP1	1:X:601:A:N7	2.44	0.50
1:X:2171:U:H4'	1:X:2171:U:OP1	2.12	0.50
1:X:2014:A:C6	1:X:2477:C:H1'	2.46	0.50
1:X:2498:U:C4'	1:X:2499:C:OP1	2.51	0.50
1:X:1773:C:H2'	1:X:2587:G:O2'	2.11	0.50
1:X:2753:C:O2'	1:X:2754:C:H5'	2.12	0.50
1:X:333:A:C2'	1:X:350:U:O2	2.59	0.50
1:X:358:C:H6	1:X:358:C:O5'	1.94	0.50
1:X:590:C:H2'	1:X:591:G:H8	1.75	0.50
1:X:624:A:N3	1:X:624:A:H5'	2.26	0.50
1:X:729:A:OP1	1:X:729:A:H2	1.95	0.50
2:Y:35:C:C2	2:Y:36:A:C8	2.99	0.50
4:B:116:VAL:HG22	4:B:136:ARG:NH2	2.26	0.50
5:C:136:TRP:HD1	5:C:137:ALA:N	2.09	0.50
5:C:150:LEU:HG	5:C:187:VAL:CG1	2.41	0.50
5:C:43:ALA:HB1	5:C:86:PRO:C	2.32	0.50
1:X:688:A:H5''	5:C:61:GLN:NE2	2.27	0.50
1:X:1268:U:N3	5:C:66:ASN:HA	2.27	0.50
6:D:12:VAL:C	6:D:16:LEU:HG	2.31	0.50
7:E:126:PRO:HG2	7:E:130:ARG:HB3	1.92	0.50
9:G:66:HIS:C	16:N:67:ALA:HB1	2.31	0.50
10:H:116:ARG:HD2	15:M:38:LYS:CE	2.20	0.50
12:J:26:ASP:CB	12:J:68:ARG:HH22	2.24	0.50
14:L:38:ILE:HD12	14:L:39:TYR:N	2.16	0.50
4:B:53:PRO:HG2	15:M:6:LYS:HZ2	1.77	0.50
19:Q:40:ASP:O	19:Q:41:ALA:C	2.49	0.50
20:R:55:THR:HG21	20:R:72:ARG:CZ	2.41	0.50
20:R:85:ASP:C	20:R:87:GLU:H	2.13	0.50
22:T:38:VAL:HG12	22:T:40:GLN:HG2	1.94	0.50
23:U:23:LYS:CB	23:U:35:THR:HG23	2.41	0.50
23:U:46:LEU:HD23	23:U:46:LEU:N	2.27	0.50
1:X:1031:C:O2'	1:X:1032:A:H5''	2.12	0.50
1:X:1164:C:H2'	1:X:1165:G:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1223:G:H5'	1:X:1225:G:O4'	2.11	0.50
1:X:2003:A:O2'	1:X:2004:U:H3'	2.12	0.50
1:X:2198:U:N3	1:X:2199:C:C5	2.79	0.50
1:X:2441:U:H2'	1:X:2442:C:C6	2.47	0.50
1:X:2828:C:H2'	1:X:2829:A:H8	1.76	0.50
1:X:417:C:C6	1:X:419:G:C4	2.99	0.50
1:X:683:A:O2'	1:X:684:C:P	2.68	0.50
1:X:729:A:O2'	1:X:730:C:C4'	2.60	0.50
1:X:737:C:H2'	1:X:738:G:C8	2.46	0.50
1:X:765:C:C4	1:X:1772:C:H1'	2.47	0.50
1:X:804:C:HO2'	1:X:805:G:C5'	2.24	0.50
30:4:1:MET:HA	30:4:1:MET:CE	2.32	0.50
3:A:72:LYS:NZ	3:A:99:ASP:CG	2.65	0.50
4:B:150:VAL:HG21	4:B:154:LYS:CD	2.41	0.50
5:C:130:THR:OG1	5:C:160:ALA:HA	2.11	0.50
5:C:154:ASP:HB2	5:C:157:THR:HG23	1.94	0.50
6:D:12:VAL:O	6:D:13:ARG:C	2.50	0.50
6:D:30:ARG:HH11	6:D:159:THR:HG21	1.76	0.50
6:D:4:LEU:O	6:D:5:LYS:CB	2.60	0.50
6:D:33:LYS:HD2	6:D:90:THR:CG2	2.41	0.50
7:E:51:LEU:HD12	7:E:52:VAL:N	2.27	0.50
8:F:100:ASN:O	8:F:103:GLN:OE1	2.29	0.50
8:F:84:ILE:CG2	8:F:85:GLY:H	2.25	0.50
9:G:84:ASN:HA	9:G:153:GLY:O	2.12	0.50
11:I:47:ALA:O	11:I:49:PHE:N	2.44	0.50
12:J:119:PHE:CD1	12:J:132:MET:SD	3.04	0.50
1:X:2356:A:N3	14:L:89:PHE:CZ	2.79	0.50
14:L:89:PHE:HB2	14:L:91:ARG:HH21	1.76	0.50
15:M:29:PRO:HA	15:M:54:VAL:HB	1.94	0.50
16:N:76:TYR:CE2	16:N:80:ILE:HG13	2.47	0.50
16:N:81:ASN:ND2	16:N:85:ARG:HE	2.10	0.50
17:O:33:VAL:O	17:O:33:VAL:HG23	2.10	0.50
17:O:87:ARG:HG3	17:O:87:ARG:O	2.10	0.50
18:P:27:VAL:HB	18:P:125:THR:HB	1.93	0.50
19:Q:64:ARG:O	19:Q:65:VAL:HG22	2.12	0.50
21:S:123:VAL:N	21:S:161:ALA:CB	2.74	0.50
21:S:100:THR:CG2	21:S:138:VAL:HG21	2.42	0.50
1:X:1134:C:H2'	1:X:1135:C:H6	1.77	0.50
1:X:1253:C:C5'	1:X:1253:C:H6	2.23	0.50
1:X:135:U:H5''	1:X:136:A:P	2.45	0.50
1:X:140:G:H2'	1:X:141:G:H8	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:141:G:H2'	1:X:142:U:O4'	2.12	0.50
1:X:1505:U:H2'	1:X:1506:C:C5'	2.41	0.50
1:X:1841:G:C2'	1:X:1842:G:H5'	2.41	0.50
1:X:2057:U:H5''	1:X:2057:U:H6	1.77	0.50
1:X:2293:G:H4'	6:D:155:THR:HG21	1.94	0.50
1:X:658:G:H1'	1:X:2330:G:OP1	2.11	0.50
1:X:2394:G:H5''	11:I:63:ARG:NE	2.27	0.50
1:X:2395:C:H2'	1:X:2396:C:H5''	1.93	0.50
1:X:2409:A:C4	1:X:2409:A:H3'	2.40	0.50
1:X:2594:U:H2'	1:X:2595:C:H6	1.76	0.50
1:X:1750:A:H4'	1:X:2695:C:O4'	2.12	0.50
1:X:2705:A:O2'	1:X:2706:U:C6	2.65	0.50
1:X:618:A:C4	1:X:632:A:N6	2.80	0.50
1:X:870:C:H1'	22:T:26:PHE:HE2	1.77	0.50
2:Y:44:C:H42	6:D:88:LYS:NZ	2.10	0.50
1:X:1673:C:H5''	4:B:136:ARG:HD3	1.93	0.50
5:C:112:GLN:HB3	5:C:116:LYS:NZ	2.27	0.50
6:D:30:ARG:NH1	6:D:159:THR:HG21	2.27	0.50
8:F:75:SER:O	8:F:79:ARG:HG3	2.12	0.50
9:G:140:GLN:O	9:G:143:ALA:N	2.45	0.50
10:H:23:ARG:CG	10:H:23:ARG:NH2	2.75	0.50
1:X:2464:G:H5''	12:J:47:GLN:NE2	2.27	0.50
12:J:62:GLY:CA	12:J:64:LYS:HE3	2.28	0.50
14:L:78:ALA:O	14:L:79:ALA:C	2.48	0.50
14:L:94:TYR:CD2	14:L:94:TYR:N	2.77	0.50
14:L:33:ARG:O	14:L:99:ARG:CZ	2.59	0.50
17:O:32:LYS:HE3	17:O:60:VAL:CG2	2.42	0.50
18:P:76:LYS:C	18:P:78:ASN:H	2.16	0.50
21:S:3:LEU:HD12	21:S:3:LEU:C	2.32	0.50
23:U:52:ARG:O	23:U:53:GLU:HB3	2.11	0.50
23:U:51:ILE:CG2	23:U:59:THR:HA	2.31	0.50
1:X:1101:U:O2	1:X:1113:C:H1'	2.11	0.50
1:X:1223:G:H4'	1:X:1224:A:O5'	2.11	0.50
1:X:136:A:C5	1:X:137:A:C6	2.97	0.50
1:X:971:A:H4'	1:X:2436:U:H5'	1.92	0.50
1:X:2533:U:H2'	1:X:2534:U:C6	2.47	0.50
1:X:670:U:H2'	1:X:671:A:C8	2.47	0.50
2:Y:58:G:H4'	2:Y:59:A:H8	1.76	0.50
3:A:123:ALA:O	3:A:125:PRO:HD3	2.11	0.50
5:C:26:VAL:CA	11:I:18:ARG:HH11	2.21	0.50
1:X:38:G:N2	5:C:42:THR:HG21	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:27:LYS:HG2	7:E:32:GLU:HB3	1.94	0.50
9:G:103:TYR:CD1	9:G:111:LYS:HA	2.47	0.50
9:G:72:PRO:O	9:G:73:ASN:C	2.49	0.50
9:G:90:LEU:HB2	9:G:94:LYS:HE3	1.93	0.50
11:I:47:ALA:C	11:I:49:PHE:N	2.64	0.50
11:I:74:VAL:HG13	11:I:109:LEU:HD12	1.93	0.50
12:J:35:LEU:HD23	12:J:105:PHE:CD2	2.45	0.50
19:Q:10:PRO:HA	19:Q:27:PHE:CB	2.30	0.50
21:S:123:VAL:HG23	21:S:161:ALA:HB2	1.94	0.50
1:X:1053:G:C5	1:X:1054:C:C4	3.00	0.50
1:X:2372:A:H2'	1:X:2373:C:C6	2.46	0.50
1:X:2825:A:C2	1:X:2826:C:C2	3.00	0.50
1:X:70:A:H1'	1:X:72:A:C5	2.47	0.50
1:X:831:G:H8	1:X:831:G:O5'	1.95	0.50
1:X:865:A:H61	1:X:937:C:H42	1.60	0.50
2:Y:17:A:HO2'	2:Y:112:A:H8	1.56	0.50
3:A:124:GLU:O	3:A:126:LYS:N	2.45	0.49
4:B:68:ALA:C	4:B:70:ALA:N	2.66	0.49
5:C:122:GLY:O	5:C:125:ILE:N	2.42	0.49
5:C:3:GLN:HA	5:C:3:GLN:OE1	2.12	0.49
8:F:84:ILE:CG1	8:F:96:VAL:HG11	2.38	0.49
9:G:54:LEU:HD12	9:G:170:PRO:HG3	1.93	0.49
11:I:7:LYS:O	11:I:7:LYS:HG2	2.12	0.49
14:L:42:ILE:HG22	14:L:52:ALA:N	2.27	0.49
16:N:13:ARG:HG3	16:N:13:ARG:NH2	2.27	0.49
17:O:31:ASP:OD1	17:O:59:GLU:OE2	2.30	0.49
1:X:319:G:OP1	18:P:12:LYS:HE3	2.12	0.49
20:R:17:LYS:HB3	20:R:18:LYS:HZ2	1.76	0.49
20:R:35:LYS:HE3	20:R:37:LEU:HD21	1.94	0.49
20:R:38:LEU:HB2	20:R:47:VAL:CB	2.42	0.49
20:R:74:LEU:HD12	20:R:75:ALA:N	2.27	0.49
20:R:93:ARG:N	20:R:95:ARG:NH2	2.60	0.49
21:S:103:ARG:HH21	21:S:108:VAL:CG2	2.25	0.49
21:S:55:THR:HG23	21:S:59:GLY:HA2	1.93	0.49
21:S:6:LYS:O	21:S:31:SER:CB	2.60	0.49
23:U:21:ARG:HG2	23:U:40:ARG:HG2	1.93	0.49
24:V:1:MET:HG3	24:V:3:PRO:HD3	1.92	0.49
1:X:1074:G:H2'	1:X:1075:C:O4'	2.12	0.49
1:X:1089:C:H5''	1:X:1090:C:OP1	2.12	0.49
1:X:1134:C:O2'	1:X:1135:C:H5'	2.12	0.49
1:X:763:A:OP1	1:X:1631:C:N4	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2322:U:H3'	1:X:2323:U:C6	2.45	0.49
1:X:242:A:C2'	1:X:243:G:H4'	2.42	0.49
1:X:446:C:H2'	1:X:447:U:O4'	2.12	0.49
1:X:745:C:C2'	1:X:746:G:H5'	2.42	0.49
1:X:91:A:H2'	1:X:92:U:H6	1.77	0.49
2:Y:30:C:H2'	2:Y:31:A:H8	1.77	0.49
1:X:1789:U:H5'	3:A:257:LEU:HB2	1.93	0.49
3:A:96:HIS:HE1	3:A:100:GLY:HA2	1.77	0.49
5:C:45:THR:O	5:C:45:THR:HG22	2.11	0.49
5:C:46:ARG:HD2	5:C:51:VAL:CG2	2.42	0.49
6:D:52:LYS:HG2	6:D:147:ASP:CG	2.33	0.49
7:E:24:PHE:CD1	7:E:24:PHE:N	2.80	0.49
7:E:43:VAL:HB	7:E:52:VAL:CA	2.39	0.49
7:E:7:GLN:O	7:E:9:ILE:HG13	2.11	0.49
9:G:32:TYR:CE2	9:G:69:ASP:OD1	2.66	0.49
10:H:76:ARG:HD3	10:H:113:PRO:O	2.12	0.49
1:X:1935:A:N9	10:H:22:ILE:HD11	2.27	0.49
1:X:592:G:P	16:N:10:ARG:NH1	2.85	0.49
16:N:88:ILE:HG22	17:O:48:GLY:C	2.33	0.49
20:R:38:LEU:HB2	20:R:47:VAL:CG2	2.41	0.49
21:S:64:ALA:HB2	21:S:85:MET:HE2	1.93	0.49
1:X:148:C:H3'	1:X:149:A:H8	1.76	0.49
1:X:1842:G:H2'	1:X:1843:U:O4'	2.11	0.49
1:X:1845:A:H2'	1:X:1846:A:C8	2.47	0.49
1:X:2266:A:C2	1:X:2325:A:N7	2.80	0.49
1:X:2270:U:O2'	1:X:2271:C:H5'	2.12	0.49
1:X:2284:U:C3'	1:X:2285:U:H5''	2.43	0.49
1:X:2266:A:N1	1:X:2325:A:N7	2.60	0.49
1:X:2660:C:C2	1:X:2704:U:O4	2.65	0.49
1:X:63:A:O2'	19:Q:70:GLY:HA2	2.12	0.49
2:Y:73:C:H2'	2:Y:74:A:O4'	2.12	0.49
26:Z:43:HIS:C	26:Z:44:HIS:HD2	2.15	0.49
3:A:160:GLY:HA2	3:A:196:VAL:C	2.33	0.49
3:A:59:LYS:O	3:A:60:ARG:O	2.29	0.49
4:B:127:ALA:CB	4:B:135:HIS:HE1	2.25	0.49
1:X:1976:U:H4'	4:B:128:SER:OG	2.12	0.49
4:B:51:TYR:N	4:B:75:THR:OG1	2.44	0.49
6:D:12:VAL:CG1	6:D:16:LEU:HD11	2.23	0.49
6:D:46:ASP:HB2	6:D:49:ALA:CB	2.43	0.49
7:E:62:ARG:O	7:E:65:HIS:HB3	2.12	0.49
7:E:37:TYR:CD2	7:E:68:THR:HG23	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:98:LEU:HD11	7:E:101:LYS:CA	2.41	0.49
9:G:101:THR:HG23	9:G:103:TYR:CD1	2.46	0.49
11:I:100:ARG:O	11:I:100:ARG:HG3	2.12	0.49
11:I:117:ALA:CB	11:I:137:GLY:HA3	2.42	0.49
11:I:119:THR:HG23	11:I:139:ARG:O	2.12	0.49
11:I:95:ALA:O	11:I:98:LEU:N	2.44	0.49
12:J:102:ARG:HG3	12:J:103:VAL:N	2.27	0.49
12:J:55:MET:HG2	12:J:118:ALA:O	2.12	0.49
12:J:83:ARG:HD3	12:J:83:ARG:O	2.12	0.49
1:X:2796:A:OP2	13:K:3:HIS:NE2	2.45	0.49
13:K:72:ASP:CG	13:K:75:VAL:HG23	2.33	0.49
15:M:55:ILE:O	15:M:103:LYS:O	2.29	0.49
15:M:24:LEU:HD12	15:M:83:PHE:CD2	2.47	0.49
16:N:76:TYR:O	16:N:77:SER:C	2.50	0.49
19:Q:19:ALA:O	19:Q:22:ARG:HG2	2.11	0.49
19:Q:26:SER:HB3	19:Q:79:ILE:HG23	1.93	0.49
19:Q:88:ILE:HD12	19:Q:88:ILE:C	2.33	0.49
20:R:22:VAL:HG11	20:R:80:LYS:HZ1	1.77	0.49
19:Q:7:LEU:CD2	24:V:30:PHE:HE2	2.20	0.49
1:X:1015:U:H5''	1:X:1016:C:OP1	2.12	0.49
1:X:135:U:C6	1:X:135:U:H3'	2.47	0.49
1:X:2081:U:H2'	1:X:2082:C:C6	2.47	0.49
1:X:433:G:N2	1:X:434:C:H1'	2.27	0.49
1:X:465:C:O2'	1:X:467:U:H1'	2.11	0.49
1:X:494:A:H2'	1:X:494:A:N3	2.27	0.49
1:X:538:A:N3	1:X:538:A:C3'	2.70	0.49
1:X:678:G:O2'	1:X:679:C:H5'	2.12	0.49
1:X:70:A:H4'	1:X:71:A:H3'	1.93	0.49
1:X:872:G:O2'	1:X:873:U:H6	1.95	0.49
2:Y:4:C:O2'	2:Y:5:C:H5'	2.13	0.49
30:4:4:ARG:O	30:4:36:GLN:HA	2.12	0.49
3:A:67:PHE:CE1	3:A:157:ARG:NH2	2.81	0.49
6:D:151:GLY:O	6:D:152:MET:HB3	2.12	0.49
7:E:24:PHE:CG	7:E:37:TYR:HD1	2.30	0.49
9:G:110:LEU:H	9:G:110:LEU:HD23	1.73	0.49
11:I:32:ARG:HD2	17:O:81:ARG:CD	2.41	0.49
13:K:30:ARG:CG	13:K:30:ARG:O	2.61	0.49
14:L:102:ALA:C	14:L:104:ALA:N	2.62	0.49
15:M:5:ILE:HD12	15:M:5:ILE:O	2.12	0.49
16:N:86:ALA:O	16:N:88:ILE:N	2.45	0.49
18:P:126:ILE:HD12	18:P:127:ILE:H	1.72	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:46:VAL:HG12	20:R:48:VAL:CG2	2.42	0.49
21:S:144:GLY:O	21:S:146:HIS:CD2	2.65	0.49
12:J:23:LYS:HA	21:S:73:LYS:NZ	2.26	0.49
24:V:42:ARG:HG3	24:V:46:LEU:CD1	2.42	0.49
1:X:1274:C:H2'	1:X:1275:A:O5'	2.12	0.49
1:X:1344:C:H2'	1:X:1346:C:C5	2.48	0.49
1:X:1794:A:H2	1:X:1814:G:N3	2.10	0.49
1:X:2219:U:C2	1:X:2220:A:C8	3.01	0.49
1:X:2306:A:H2'	1:X:2307:A:H8	1.73	0.49
1:X:2312:A:O2'	1:X:2313:G:OP2	2.30	0.49
1:X:402:A:H8	1:X:2392:G:H4'	1.76	0.49
1:X:2707:G:H8	1:X:2707:G:H5'	1.78	0.49
1:X:303:C:C6	1:X:303:C:O5'	2.56	0.49
1:X:553:C:C4	1:X:557:U:C2	3.01	0.49
1:X:969:U:O2'	1:X:970:A:OP2	2.22	0.49
2:Y:16:U:C1'	2:Y:109:G:N2	2.70	0.49
3:A:217:ARG:HH21	3:A:218:LYS:CE	2.22	0.49
1:X:1673:C:OP1	4:B:136:ARG:HD3	2.13	0.49
6:D:132:ILE:HG22	6:D:133:LYS:H	1.76	0.49
7:E:54:ARG:HH11	7:E:57:ASP:HB3	1.77	0.49
7:E:7:GLN:OE1	7:E:7:GLN:N	2.45	0.49
7:E:92:VAL:HG12	7:E:93:GLY:H	1.78	0.49
9:G:132:PHE:CE2	9:G:145:HIS:HB2	2.45	0.49
12:J:44:LYS:HB2	12:J:47:GLN:CD	2.32	0.49
12:J:75:VAL:HG23	12:J:93:TYR:O	2.12	0.49
12:J:99:LYS:HD2	12:J:100:PRO:HD3	1.94	0.49
13:K:87:TYR:HD1	13:K:90:ARG:HD2	1.75	0.49
15:M:41:GLU:OE1	15:M:46:ARG:HD2	2.13	0.49
19:Q:53:ILE:HD12	19:Q:54:SER:H	1.78	0.49
20:R:46:VAL:HG12	20:R:48:VAL:HG23	1.94	0.49
21:S:6:LYS:N	21:S:7:PRO:CD	2.74	0.49
23:U:54:ASN:C	23:U:56:GLN:N	2.59	0.49
24:V:45:GLN:O	24:V:48:ARG:N	2.46	0.49
1:X:1062:G:H4'	1:X:2732:C:O2'	2.12	0.49
1:X:1070:G:C5	1:X:1071:U:N3	2.80	0.49
1:X:1253:C:H2'	1:X:1254:G:O5'	2.12	0.49
1:X:1419:G:H2'	1:X:1420:A:O4'	2.12	0.49
1:X:1450:G:O2'	1:X:1451:C:H5'	2.12	0.49
1:X:1937:G:H2'	1:X:1939:U:O4	2.11	0.49
1:X:1142:G:C8	1:X:2008:C:H4'	2.47	0.49
1:X:215:G:H21	1:X:632:A:H8	1.59	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2204:A:H4'	1:X:2205:C:O5'	2.12	0.49
1:X:2267:A:H4'	1:X:2268:G:OP1	2.12	0.49
1:X:2394:G:P	11:I:63:ARG:CZ	3.01	0.49
1:X:2685:A:C2	1:X:2686:C:C2	3.00	0.49
1:X:2807:U:H4'	1:X:2808:U:H5''	1.93	0.49
1:X:338:G:H1'	20:R:10:HIS:CE1	2.47	0.49
1:X:765:C:N4	1:X:1772:C:O2	2.45	0.49
1:X:2722:C:H5''	30:4:35:ARG:NH1	2.27	0.49
3:A:217:ARG:O	3:A:218:LYS:C	2.50	0.49
4:B:45:GLU:O	4:B:46:ALA:HB2	2.13	0.49
4:B:149:ARG:NH1	9:G:106:TYR:CD1	2.67	0.49
10:H:81:ILE:HG13	10:H:82:LYS:N	2.27	0.49
11:I:71:THR:HG21	11:I:104:ARG:NH2	2.28	0.49
16:N:117:ARG:HG3	16:N:117:ARG:NH2	2.27	0.49
17:O:44:GLN:O	17:O:46:VAL:HG23	2.12	0.49
17:O:20:ILE:O	17:O:90:PHE:HB2	2.12	0.49
18:P:67:PRO:O	18:P:71:VAL:HG23	2.11	0.49
23:U:63:SER:O	23:U:66:ALA:HB3	2.13	0.49
1:X:192:G:C4'	1:X:193:A:H4'	2.43	0.49
1:X:417:C:H4'	1:X:418:C:C5'	2.42	0.49
26:Z:13:LYS:O	26:Z:17:ASP:OD2	2.30	0.49
3:A:44:ASN:N	3:A:44:ASN:ND2	2.57	0.49
3:A:89:SER:O	3:A:159:ALA:HB2	2.13	0.49
1:X:37:C:H1'	5:C:44:SER:CB	2.43	0.49
6:D:36:VAL:CG2	6:D:154:ILE:HG13	2.38	0.49
8:F:131:ALA:O	8:F:136:VAL:HB	2.12	0.49
10:H:23:ARG:HH22	10:H:25:LEU:HG	1.76	0.49
11:I:62:LYS:CG	11:I:63:ARG:N	2.75	0.49
11:I:86:THR:C	11:I:88:PHE:H	2.14	0.49
12:J:100:PRO:C	12:J:102:ARG:H	2.16	0.49
13:K:72:ASP:OD2	13:K:72:ASP:C	2.51	0.49
2:Y:116:C:H1'	14:L:48:GLY:O	2.12	0.49
1:X:1005:U:H2'	16:N:54:LYS:HZ1	1.78	0.49
16:N:8:ILE:HD12	16:N:8:ILE:C	2.32	0.49
18:P:66:GLU:O	18:P:69:ALA:HB3	2.13	0.49
22:T:25:LYS:HB2	22:T:37:LEU:CB	2.42	0.49
22:T:58:THR:O	22:T:59:LEU:HD23	2.13	0.49
1:X:1072:U:H1'	1:X:1081:A:C1'	2.43	0.49
1:X:1093:U:H3	1:X:1097:A:H2	1.61	0.49
1:X:1108:U:C2	1:X:1109:A:H1'	2.48	0.49
1:X:1135:C:H2'	1:X:1136:G:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1328:C:H2'	1:X:1329:U:H6	1.78	0.49
1:X:1474:A:C2'	1:X:1475:U:H5'	2.43	0.49
1:X:1858:C:H2'	1:X:1859:A:O4'	2.13	0.49
1:X:2239:C:C2	1:X:2240:C:C5	3.01	0.49
1:X:2456:U:H3	30:4:4:ARG:HH12	1.60	0.49
1:X:2605:C:H6	1:X:2605:C:O5'	1.95	0.49
1:X:334:G:O2'	1:X:335:A:OP2	2.27	0.49
1:X:48:A:H4'	1:X:49:U:C5'	2.41	0.49
1:X:718:A:N6	1:X:739:G:H1'	2.27	0.49
3:A:122:GLU:OE1	3:A:122:GLU:N	2.46	0.49
4:B:151:TYR:HB3	9:G:106:TYR:CD2	2.47	0.49
9:G:64:GLY:CA	9:G:67:ARG:HG3	2.43	0.49
9:G:69:ASP:C	9:G:70:PHE:HD2	2.16	0.49
11:I:6:LEU:C	11:I:7:LYS:HD3	2.33	0.49
12:J:78:LYS:HG2	12:J:80:ALA:N	2.18	0.49
12:J:19:THR:CG2	12:J:99:LYS:NZ	2.75	0.49
13:K:94:TYR:CE2	13:K:115:LEU:O	2.66	0.49
15:M:39:VAL:HG12	15:M:45:THR:CG2	2.42	0.49
21:S:131:PRO:HG2	21:S:155:PRO:HG3	1.94	0.49
22:T:40:GLN:NE2	22:T:57:HIS:O	2.44	0.49
23:U:13:LEU:CG	23:U:14:VAL:N	2.75	0.49
24:V:32:ALA:O	24:V:35:GLY:N	2.37	0.49
1:X:1061:A:O2'	1:X:1062:G:H5'	2.12	0.49
1:X:1322:G:H1'	1:X:1627:C:O2'	2.12	0.49
1:X:1888:C:H4'	1:X:1912:G:C8	2.48	0.49
1:X:2194:A:H2'	1:X:2195:C:H5''	1.95	0.49
1:X:2299:A:N6	1:X:2312:A:H2'	2.28	0.49
1:X:2799:C:N4	1:X:2800:C:N3	2.60	0.49
1:X:303:C:H3'	1:X:304:A:H5''	1.95	0.49
1:X:39:C:H2'	1:X:40:U:C6	2.48	0.49
1:X:415:A:H2'	1:X:416:U:O4'	2.13	0.49
1:X:528:G:H5'	18:P:39:ARG:NH2	2.27	0.49
1:X:777:A:O2'	1:X:778:G:OP1	2.26	0.49
1:X:829:C:N3	1:X:1206:G:C2	2.80	0.49
4:B:111:LYS:HB2	4:B:160:MET:O	2.13	0.49
5:C:150:LEU:HD13	5:C:167:VAL:HB	1.93	0.49
5:C:5:ASN:N	5:C:5:ASN:HD22	2.09	0.49
6:D:92:ARG:CG	6:D:92:ARG:HH21	2.21	0.49
12:J:60:ARG:NH1	12:J:60:ARG:HG2	2.23	0.49
13:K:45:ARG:HG3	13:K:95:THR:CG2	2.41	0.49
13:K:84:ALA:N	13:K:85:PRO:CD	2.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:33:ARG:NH1	14:L:103:LEU:H	2.09	0.49
14:L:8:ARG:CZ	14:L:8:ARG:HB2	2.42	0.49
15:M:99:VAL:O	15:M:100:ARG:HG2	2.12	0.49
15:M:28:ARG:CB	15:M:29:PRO:CD	2.81	0.49
15:M:45:THR:HG22	15:M:45:THR:O	2.12	0.49
20:R:25:LEU:CD1	20:R:25:LEU:H	2.26	0.49
21:S:64:ALA:HA	21:S:86:VAL:H	1.78	0.49
23:U:19:ILE:HG22	23:U:42:GLN:CG	2.38	0.49
1:X:1034:U:C2'	1:X:1035:G:H5'	2.42	0.49
1:X:1126:A:C2	1:X:1127:C:C2	3.00	0.49
1:X:1142:G:H4'	9:G:103:TYR:CD2	2.46	0.49
1:X:1221:C:H2'	1:X:1222:G:C8	2.48	0.49
1:X:1442:C:H2'	1:X:1585:A:OP2	2.13	0.49
1:X:1505:U:C6	1:X:1505:U:C3'	2.96	0.49
1:X:1979:C:O2'	1:X:1980:A:P	2.70	0.49
1:X:1339:U:H5''	1:X:1994:U:C1'	2.42	0.49
1:X:2048:C:H2'	1:X:2049:C:C6	2.47	0.49
1:X:2675:U:H2'	1:X:2676:G:C8	2.48	0.49
1:X:2691:C:O2'	1:X:2692:A:C5'	2.61	0.49
1:X:2849:C:H2'	1:X:2850:U:C5'	2.43	0.49
1:X:346:C:H2'	1:X:347:C:C6	2.43	0.49
1:X:405:C:H2'	1:X:406:G:H8	1.77	0.49
1:X:496:C:H2'	1:X:497:C:H5'	1.94	0.49
2:Y:4:C:C3'	2:Y:4:C:C6	2.96	0.49
4:B:120:TRP:CE2	4:B:155:ARG:HD2	2.48	0.49
5:C:158:ARG:HD3	5:C:169:VAL:HG13	1.95	0.49
5:C:62:LYS:HD3	5:C:62:LYS:C	2.33	0.49
5:C:62:LYS:HD3	5:C:63:GLY:N	2.28	0.49
6:D:132:ILE:CG2	6:D:133:LYS:H	2.26	0.49
6:D:170:LEU:HB3	6:D:175:LEU:CD2	2.43	0.49
7:E:131:ILE:CG2	7:E:132:ASP:N	2.76	0.49
7:E:84:THR:HB	7:E:134:SER:OG	2.13	0.49
12:J:28:VAL:CG2	12:J:135:ARG:HA	2.42	0.49
12:J:80:ALA:CB	12:J:81:GLU:OE1	2.60	0.49
21:S:127:PRO:O	21:S:128:ARG:CB	2.61	0.49
21:S:86:VAL:HG12	21:S:87:THR:N	2.21	0.49
23:U:31:GLY:HA2	23:U:32:ARG:CZ	2.43	0.49
1:X:1102:G:H2'	1:X:1103:C:H6	1.78	0.49
1:X:1561:A:H8	1:X:1561:A:O5'	1.95	0.49
1:X:1670:G:H4'	1:X:1671:A:OP1	2.13	0.49
1:X:1710:U:H5'	1:X:1711:C:H5	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1820:G:O2'	1:X:1821:A:P	2.71	0.49
1:X:2234:G:H2'	1:X:2235:G:O4'	2.13	0.49
1:X:2319:G:O2'	1:X:2320:G:H5'	2.13	0.49
1:X:2780:A:O2'	1:X:2781:G:H5'	2.13	0.49
1:X:2874:A:H2'	1:X:2875:C:C6	2.48	0.49
1:X:687:G:C2'	1:X:688:A:C5'	2.75	0.49
1:X:756:C:H2'	1:X:757:U:C5'	2.43	0.49
1:X:847:C:H2'	1:X:848:A:H8	1.77	0.49
1:X:967:G:O6	12:J:17:ARG:NH2	2.45	0.49
3:A:172:TYR:HA	3:A:186:HIS:HA	1.94	0.48
3:A:68:LYS:CD	3:A:68:LYS:H	2.26	0.48
6:D:9:ASN:O	6:D:14:PRO:HD2	2.12	0.48
7:E:70:THR:O	7:E:74:ASN:ND2	2.46	0.48
8:F:120:VAL:C	8:F:122:ALA:N	2.67	0.48
14:L:70:ALA:O	14:L:74:ALA:HB2	2.12	0.48
17:O:95:ILE:HG22	17:O:96:LEU:N	2.28	0.48
19:Q:49:ARG:HD3	19:Q:83:ALA:HB2	1.94	0.48
1:X:494:A:O2'	20:R:68:GLY:HA2	2.13	0.48
21:S:103:ARG:HH21	21:S:108:VAL:HG22	1.76	0.48
21:S:64:ALA:CB	21:S:85:MET:HA	2.43	0.48
1:X:2344:G:H4'	22:T:60:PHE:CE1	2.48	0.48
23:U:35:THR:O	23:U:35:THR:HG22	2.12	0.48
1:X:1174:G:C2	1:X:1175:A:C5	3.00	0.48
1:X:1448:A:H2'	1:X:1449:C:O4'	2.13	0.48
1:X:1525:A:C5	1:X:1526:U:H1'	2.47	0.48
1:X:1625:A:H1'	1:X:1632:A:H1'	1.93	0.48
1:X:187:U:O2'	1:X:188:G:H5'	2.13	0.48
1:X:1927:U:O2'	1:X:1928:G:OP1	2.29	0.48
1:X:1944:C:H2'	1:X:1945:C:O4'	2.13	0.48
1:X:221:A:H2'	1:X:222:G:O4'	2.12	0.48
1:X:2223:U:H2'	1:X:2224:U:O4'	2.13	0.48
1:X:239:A:H2	1:X:443:A:N3	2.10	0.48
1:X:2763:U:O2'	1:X:2764:U:H5'	2.13	0.48
1:X:2797:G:H2'	1:X:2798:A:C5'	2.43	0.48
1:X:39:C:H2'	1:X:40:U:H6	1.78	0.48
1:X:744:C:N4	1:X:745:C:H41	2.11	0.48
2:Y:27:A:N6	2:Y:56:G:OP2	2.46	0.48
26:Z:31:THR:CG2	26:Z:32:GLU:N	2.76	0.48
3:A:78:LYS:HG2	3:A:116:THR:HG22	1.94	0.48
3:A:70:ARG:NE	3:A:190:TYR:CE2	2.81	0.48
6:D:16:LEU:O	6:D:19:GLN:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:38:GLU:HB3	6:D:87:ILE:CB	2.41	0.48
7:E:103:LEU:HD23	7:E:115:ILE:HD12	1.94	0.48
7:E:85:ILE:N	7:E:133:VAL:O	2.45	0.48
7:E:27:LYS:HG2	7:E:32:GLU:CB	2.43	0.48
9:G:75:ILE:HG21	9:G:144:MET:CG	2.43	0.48
9:G:61:ARG:NH2	9:G:78:ASP:OD2	2.45	0.48
9:G:40:ASN:HB3	9:G:78:ASP:OD1	2.13	0.48
9:G:96:ASP:OD1	9:G:97:ASP:N	2.43	0.48
10:H:118:LEU:HD12	10:H:118:LEU:N	2.28	0.48
11:I:81:GLN:HB3	11:I:114:ILE:CG2	2.42	0.48
11:I:80:LEU:HD21	11:I:89:ASP:OD1	2.13	0.48
14:L:89:PHE:CD1	14:L:89:PHE:N	2.80	0.48
15:M:101:ARG:O	15:M:103:LYS:N	2.46	0.48
15:M:34:ARG:NH2	15:M:88:VAL:CG1	2.68	0.48
19:Q:76:LYS:CG	19:Q:76:LYS:O	2.59	0.48
19:Q:84:GLU:HA	19:Q:84:GLU:OE2	2.13	0.48
20:R:93:ARG:NH2	20:R:108:VAL:CA	2.75	0.48
1:X:1153:A:O2'	1:X:1154:A:H3'	2.13	0.48
1:X:1238:A:C6	1:X:1239:A:N1	2.81	0.48
1:X:824:U:O2	1:X:1263:G:H3'	2.13	0.48
1:X:1372:A:H3'	1:X:1373:G:H8	1.78	0.48
1:X:1685:A:H61	1:X:1693:A:H61	1.59	0.48
1:X:1869:A:H2'	1:X:1870:U:O4'	2.13	0.48
1:X:2273:C:H5'	14:L:95:LYS:CD	2.43	0.48
1:X:2594:U:H2'	1:X:2595:C:C6	2.48	0.48
1:X:2706:U:O2'	1:X:2707:G:P	2.71	0.48
1:X:467:U:HO2'	1:X:468:A:P	2.36	0.48
1:X:4:C:C2	1:X:2874:A:C2	3.01	0.48
1:X:2551:A:C4	4:B:144:ARG:NH1	2.81	0.48
4:B:169:ASN:OD1	4:B:204:ALA:CB	2.61	0.48
7:E:148:VAL:C	7:E:150:LYS:H	2.15	0.48
10:H:60:PRO:O	10:H:61:ARG:CB	2.56	0.48
16:N:21:ALA:CB	16:N:24:PHE:CD2	2.96	0.48
17:O:11:GLN:HA	17:O:38:LEU:O	2.13	0.48
18:P:45:ILE:CD1	18:P:57:LEU:HG	2.35	0.48
21:S:71:MET:HB2	21:S:78:PRO:HA	1.90	0.48
1:X:1147:G:H2'	1:X:1148:G:C8	2.46	0.48
1:X:1151:U:C5'	1:X:1153:A:C5'	2.91	0.48
1:X:1162:A:O2'	1:X:1163:C:H5'	2.13	0.48
1:X:1177:U:H2'	1:X:1178:C:C6	2.48	0.48
1:X:1450:G:C4	1:X:1573:G:N2	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:165:G:H2'	1:X:166:G:C5'	2.42	0.48
1:X:187:U:H2'	1:X:188:G:H8	1.77	0.48
1:X:1982:C:H5''	1:X:2703:C:O2'	2.13	0.48
1:X:2394:G:H2'	1:X:2395:C:H6	1.78	0.48
1:X:2462:C:H2'	1:X:2463:G:O4'	2.13	0.48
1:X:2608:A:O2'	1:X:2609:G:P	2.71	0.48
1:X:2824:C:P	15:M:100:ARG:NH1	2.86	0.48
1:X:584:A:OP2	1:X:2038:C:C5	2.66	0.48
1:X:739:G:O2'	1:X:740:A:O5'	2.32	0.48
1:X:98:U:C2	1:X:100:G:C5	3.02	0.48
2:Y:34:C:H2'	2:Y:35:C:H6	1.74	0.48
2:Y:50:U:O3'	14:L:97:HIS:CD2	2.66	0.48
3:A:251:GLY:CA	3:A:255:LYS:HD2	2.43	0.48
5:C:104:LEU:O	5:C:108:ILE:N	2.43	0.48
1:X:38:G:H21	5:C:42:THR:HG21	1.77	0.48
6:D:150:ARG:HG3	6:D:150:ARG:HH11	1.79	0.48
6:D:158:THR:C	6:D:160:ALA:N	2.67	0.48
6:D:30:ARG:O	6:D:158:THR:CB	2.61	0.48
7:E:54:ARG:HE	7:E:57:ASP:HB3	1.77	0.48
13:K:36:THR:N	13:K:111:ALA:O	2.41	0.48
1:X:2272:A:P	14:L:18:ARG:HH12	2.36	0.48
14:L:21:THR:CG2	14:L:22:ALA:N	2.75	0.48
20:R:95:ARG:O	20:R:96:LYS:HB3	2.13	0.48
21:S:103:ARG:NH2	21:S:108:VAL:HG22	2.27	0.48
21:S:154:LEU:HD11	21:S:160:LEU:CG	2.35	0.48
21:S:24:TYR:HB3	21:S:29:ASN:HA	1.95	0.48
21:S:71:MET:CE	21:S:71:MET:H	2.26	0.48
1:X:1011:A:H2'	1:X:1012:A:O4'	2.14	0.48
1:X:1354:A:C2'	1:X:1410:U:O2'	2.62	0.48
1:X:1423:A:O2'	1:X:1424:U:H5'	2.13	0.48
1:X:1575:C:H4'	1:X:1576:G:OP1	2.12	0.48
1:X:1979:C:H2'	1:X:1980:A:O4'	2.11	0.48
1:X:2873:G:H21	9:G:162:LYS:HZ3	1.58	0.48
1:X:584:A:OP2	1:X:2038:C:H5	1.96	0.48
1:X:939:C:H5''	1:X:940:G:C5'	2.43	0.48
3:A:150:GLY:C	3:A:152:GLY:N	2.67	0.48
4:B:47:VAL:O	4:B:80:GLU:HA	2.13	0.48
5:C:145:THR:O	5:C:145:THR:HG22	2.12	0.48
5:C:163:ASN:ND2	5:C:166:TRP:HB2	2.28	0.48
6:D:111:ILE:HA	6:D:137:ILE:HG21	1.95	0.48
7:E:12:PRO:O	7:E:15:VAL:HG13	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:92:THR:O	11:I:93:LEU:C	2.51	0.48
12:J:113:GLU:C	12:J:115:ALA:N	2.67	0.48
15:M:104:LEU:C	15:M:106:TYR:N	2.64	0.48
15:M:26:ASP:O	15:M:27:PHE:CG	2.67	0.48
15:M:55:ILE:O	15:M:56:ALA:HB2	2.13	0.48
18:P:18:VAL:HG12	18:P:19:LYS:N	2.28	0.48
20:R:29:HIS:CD2	20:R:51:VAL:HG22	2.49	0.48
21:S:17:SER:C	21:S:36:ARG:HB2	2.34	0.48
21:S:3:LEU:HB2	21:S:34:LEU:HB3	1.94	0.48
21:S:71:MET:CA	21:S:78:PRO:HA	2.44	0.48
24:V:24:GLU:HG2	24:V:28:LEU:HD21	1.95	0.48
1:X:1153:A:C4	1:X:1155:G:N7	2.82	0.48
1:X:1404:C:C2	1:X:1406:A:N7	2.82	0.48
1:X:1525:A:H3'	1:X:1526:U:O4'	2.13	0.48
1:X:1701:C:C6	1:X:1701:C:H5''	2.49	0.48
1:X:1807:A:OP2	1:X:1814:G:H5''	2.13	0.48
1:X:1933:G:N7	1:X:1934:U:C5	2.81	0.48
1:X:2058:U:C4	1:X:2217:G:C6	3.02	0.48
1:X:2726:U:C2'	1:X:2727:G:H5'	2.43	0.48
1:X:318:G:N2	1:X:320:A:H3'	2.29	0.48
1:X:828:C:O2'	1:X:829:C:H5'	2.13	0.48
1:X:98:U:H1'	1:X:100:G:C5	2.48	0.48
30:4:15:LYS:O	30:4:26:ILE:HG12	2.13	0.48
3:A:262:LYS:O	3:A:263:ARG:C	2.51	0.48
1:X:2015:G:C4	4:B:145:LYS:HD3	2.48	0.48
4:B:16:LYS:HB2	4:B:21:ILE:CD1	2.44	0.48
6:D:80:ARG:CD	6:D:80:ARG:N	2.76	0.48
7:E:9:ILE:HD12	7:E:50:LEU:C	2.34	0.48
7:E:92:VAL:O	7:E:94:PHE:CD1	2.67	0.48
9:G:103:TYR:CE2	9:G:111:LYS:HB3	2.49	0.48
10:H:25:LEU:CD1	10:H:52:VAL:HG23	2.44	0.48
10:H:25:LEU:HD11	10:H:52:VAL:HG23	1.96	0.48
10:H:28:GLY:CA	10:H:35:THR:OG1	2.62	0.48
10:H:85:ASP:OD2	10:H:87:SER:HB3	2.14	0.48
12:J:112:GLU:O	12:J:115:ALA:HB3	2.13	0.48
12:J:125:LYS:HB3	12:J:125:LYS:NZ	2.06	0.48
12:J:116:LYS:HZ2	12:J:132:MET:HB3	1.78	0.48
12:J:11:ARG:NH2	12:J:15:ARG:NH2	2.57	0.48
12:J:39:GLU:HG2	12:J:40:PRO:CD	2.43	0.48
18:P:13:GLN:HA	18:P:16:GLN:OE1	2.13	0.48
21:S:93:GLU:HA	21:S:125:PRO:HD3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:31:SER:O	21:S:32:PHE:CD2	2.67	0.48
23:U:34:THR:OG1	23:U:35:THR:N	2.41	0.48
1:X:1118:G:C6	1:X:1119:U:C4	3.01	0.48
1:X:1443:G:O2'	1:X:1444:C:H5'	2.13	0.48
1:X:2195:C:C4	1:X:2196:U:N3	2.82	0.48
1:X:2291:U:O2'	1:X:2292:C:H5'	2.14	0.48
1:X:2475:C:H2'	1:X:2476:A:H5'	1.94	0.48
1:X:2759:U:H5''	1:X:2760:G:H5''	1.95	0.48
1:X:2790:C:H2'	1:X:2791:C:C6	2.48	0.48
1:X:422:C:H2'	1:X:423:G:H8	1.79	0.48
1:X:573:C:H2'	1:X:574:C:O4'	2.14	0.48
1:X:597:U:H2'	1:X:598:U:C6	2.49	0.48
1:X:610:G:H2'	1:X:611:C:O4'	2.13	0.48
1:X:716:U:H2'	1:X:717:G:O4'	2.12	0.48
1:X:937:C:O2'	1:X:938:G:H5'	2.13	0.48
30:4:22:ARG:CG	30:4:22:ARG:NH1	2.74	0.48
3:A:131:LEU:HD21	3:A:193:ILE:CG1	2.43	0.48
5:C:73:SER:HA	5:C:80:GLY:HA2	1.95	0.48
6:D:4:LEU:CG	6:D:5:LYS:N	2.76	0.48
9:G:34:PRO:C	9:G:35:LYS:HE2	2.34	0.48
9:G:67:ARG:HA	9:G:68:PRO:HD3	1.73	0.48
9:G:79:PHE:HA	9:G:147:ARG:HB3	1.96	0.48
12:J:125:LYS:H	12:J:125:LYS:HD2	1.78	0.48
14:L:13:THR:O	14:L:17:VAL:HG12	2.14	0.48
14:L:30:SER:C	14:L:31:VAL:CG1	2.82	0.48
16:N:117:ARG:HH21	16:N:117:ARG:HG3	1.77	0.48
21:S:40:ASP:N	21:S:40:ASP:OD2	2.45	0.48
21:S:91:PRO:C	21:S:92:VAL:HG22	2.34	0.48
23:U:22:GLY:HA3	23:U:39:LYS:HE2	1.95	0.48
1:X:1051:U:C2'	1:X:1052:C:O4'	2.59	0.48
1:X:137:A:H8	1:X:137:A:OP2	1.95	0.48
1:X:1404:C:H5'	1:X:1405:A:OP2	2.13	0.48
1:X:1467:U:C6	1:X:1467:U:H5''	2.48	0.48
1:X:1563:U:H2'	1:X:1564:U:H6	1.77	0.48
1:X:2371:A:H2'	1:X:2372:A:O4'	2.12	0.48
1:X:2475:C:O2'	1:X:2476:A:H5'	2.14	0.48
1:X:2485:U:O2	1:X:2485:U:H2'	2.14	0.48
1:X:2642:G:H2'	1:X:2643:G:H5'	1.96	0.48
1:X:2658:A:O2'	1:X:2659:C:H5'	2.13	0.48
1:X:2674:C:H2'	1:X:2675:U:H6	1.78	0.48
1:X:531:G:O2'	1:X:532:A:C5'	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:558:G:H8	1:X:559:C:C4	2.31	0.48
2:Y:56:G:H2'	2:Y:57:U:O4'	2.14	0.48
3:A:49:ILE:HD11	3:A:52:ARG:HA	1.96	0.48
4:B:105:THR:HG23	4:B:197:VAL:HB	1.96	0.48
7:E:85:ILE:HG22	7:E:86:ASN:N	2.29	0.48
7:E:97:LYS:O	7:E:98:LEU:CB	2.59	0.48
10:H:92:ASP:OD2	15:M:69:ARG:NH2	2.45	0.48
14:L:85:LYS:HE3	14:L:86:GLN:NE2	2.21	0.48
14:L:89:PHE:CD1	14:L:91:ARG:NH2	2.82	0.48
1:X:2698:G:H4'	15:M:103:LYS:HG2	1.95	0.48
16:N:93:LYS:O	16:N:94:VAL:CB	2.61	0.48
16:N:93:LYS:CD	17:O:5:ILE:HG22	2.32	0.48
20:R:49:GLU:HA	20:R:73:GLU:OE2	2.14	0.48
21:S:112:LEU:O	21:S:172:LEU:N	2.46	0.48
23:U:17:SER:OG	23:U:44:ALA:HA	2.13	0.48
24:V:60:LEU:O	24:V:62:ARG:N	2.47	0.48
1:X:1064:C:H2'	1:X:1065:A:O4'	2.14	0.48
1:X:1174:G:N2	1:X:1175:A:C4	2.82	0.48
1:X:1218:C:O4'	11:I:13:ARG:NH1	2.44	0.48
1:X:134:G:C2	1:X:136:A:H5''	2.44	0.48
1:X:1873:A:H2'	1:X:1874:G:O4'	2.13	0.48
1:X:1952:A:H1'	1:X:1956:G:O4'	2.13	0.48
1:X:2262:C:C2	1:X:2368:G:C2	3.02	0.48
1:X:2322:U:C2'	1:X:2323:U:C6	2.96	0.48
1:X:2392:G:H2'	1:X:2393:G:O4'	2.13	0.48
1:X:2665:G:C2	1:X:2704:U:O2	2.66	0.48
1:X:2706:U:O2	1:X:2706:U:C2'	2.60	0.48
1:X:2824:C:O2'	1:X:2825:A:P	2.72	0.48
1:X:333:A:O4'	1:X:351:A:H1'	2.14	0.48
1:X:460:U:O2'	5:C:78:VAL:HG13	2.13	0.48
1:X:698:A:C8	1:X:787:A:C6	3.01	0.48
1:X:826:U:H2'	1:X:827:C:H6	1.76	0.48
2:Y:15:A:C2	2:Y:71:G:H2'	2.49	0.48
4:B:16:LYS:HB3	4:B:21:ILE:HD11	1.96	0.48
5:C:108:ILE:O	5:C:109:ALA:C	2.52	0.48
5:C:190:ALA:C	5:C:192:ALA:N	2.67	0.48
5:C:20:PRO:HG2	5:C:21:GLU:H	1.78	0.48
5:C:30:VAL:HG11	5:C:177:VAL:HG21	1.95	0.48
1:X:38:G:H21	5:C:42:THR:CG2	2.27	0.48
5:C:66:ASN:O	5:C:67:ALA:HB2	2.14	0.48
6:D:100:LEU:O	6:D:104:ILE:HG13	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1087:C:OP1	8:F:89:SER:O	2.32	0.48
11:I:64:GLY:O	11:I:65:PHE:CB	2.61	0.48
12:J:15:ARG:HH11	12:J:15:ARG:HG3	1.79	0.48
13:K:12:ARG:HG3	13:K:17:ARG:HD3	1.94	0.48
14:L:43:ILE:HG23	14:L:49:GLN:O	2.14	0.48
4:B:25:VAL:CG1	15:M:16:ILE:HD12	2.43	0.48
16:N:24:PHE:HB2	16:N:29:SER:HB3	1.96	0.48
16:N:88:ILE:HG23	17:O:49:GLU:CG	2.44	0.48
17:O:42:GLY:C	17:O:44:GLN:H	2.17	0.48
18:P:85:MET:HE2	18:P:130:GLU:CG	2.44	0.48
18:P:78:ASN:O	18:P:79:ALA:C	2.52	0.48
19:Q:42:ILE:O	19:Q:42:ILE:HD12	2.14	0.48
19:Q:55:THR:O	19:Q:56:MET:HG2	2.14	0.48
1:X:1354:A:H4'	19:Q:56:MET:HG2	1.95	0.48
19:Q:68:PHE:O	19:Q:69:ILE:C	2.51	0.48
20:R:108:VAL:CG1	20:R:109:ALA:N	2.56	0.48
1:X:338:G:H1'	20:R:10:HIS:HE1	1.79	0.48
20:R:80:LYS:NZ	20:R:82:ALA:HA	2.27	0.48
2:Y:106:U:O3'	21:S:67:LYS:NZ	2.47	0.48
21:S:91:PRO:HG2	21:S:92:VAL:H	1.79	0.48
24:V:65:GLU:O	24:V:66:GLN:HB2	2.13	0.48
1:X:1302:C:H2'	1:X:1303:U:H6	1.78	0.48
1:X:135:U:O2'	1:X:136:A:C1'	2.62	0.48
1:X:1415:C:O2'	1:X:1416:A:H5'	2.14	0.48
1:X:1808:C:C5	3:A:62:TYR:CD2	3.01	0.48
1:X:2442:C:O2'	1:X:2443:C:H5'	2.14	0.48
1:X:24:G:C2	1:X:25:U:C2	3.01	0.48
1:X:2749:A:H2'	1:X:2750:G:O4'	2.14	0.48
1:X:2759:U:H5''	1:X:2760:G:H3'	1.95	0.48
1:X:333:A:H5'	5:C:162:ARG:CD	2.43	0.48
1:X:453:U:H2'	1:X:454:G:C8	2.48	0.48
1:X:48:A:H1'	1:X:50:G:C2	2.48	0.48
1:X:623:G:H2'	1:X:626:A:N6	2.29	0.48
1:X:632:A:H2'	1:X:633:G:C5'	2.43	0.48
1:X:669:G:H2'	1:X:670:U:O4'	2.14	0.48
2:Y:58:G:H4'	2:Y:59:A:H5''	1.95	0.48
1:X:742:G:C6	3:A:208:LYS:HB3	2.49	0.48
3:A:262:LYS:C	3:A:264:LYS:N	2.66	0.48
6:D:166:ALA:C	6:D:170:LEU:HG	2.33	0.48
6:D:13:ARG:CG	6:D:17:MET:HE1	2.44	0.48
6:D:56:GLU:O	6:D:57:LEU:C	2.52	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:80:ARG:N	6:D:80:ARG:HD2	2.28	0.48
9:G:127:ILE:O	9:G:128:GLU:C	2.51	0.48
9:G:69:ASP:O	16:N:64:ARG:NE	2.46	0.48
12:J:64:LYS:HB3	12:J:108:ALA:HB3	1.94	0.48
12:J:113:GLU:O	12:J:115:ALA:N	2.47	0.48
1:X:1745:C:P	15:M:101:ARG:NH2	2.87	0.48
15:M:24:LEU:C	15:M:25:PRO:O	2.51	0.48
18:P:62:ARG:HG3	18:P:62:ARG:NH1	2.29	0.48
19:Q:72:ARG:C	19:Q:73:ASN:OD1	2.53	0.48
21:S:24:TYR:HB2	21:S:29:ASN:OD1	2.14	0.48
21:S:91:PRO:CG	21:S:92:VAL:H	2.27	0.48
1:X:1086:C:H2'	1:X:1086:C:O2	2.13	0.48
1:X:1838:G:H3'	1:X:1839:A:H8	1.79	0.48
1:X:1278:A:H2	1:X:1997:A:H62	1.61	0.48
1:X:2006:G:N2	1:X:2024:U:C2	2.81	0.48
1:X:2235:G:N2	1:X:2254:C:N4	2.61	0.48
1:X:2239:C:H2'	1:X:2240:C:H6	1.77	0.48
1:X:2309:G:H2'	1:X:2310:G:C5'	2.40	0.48
1:X:230:C:O2'	1:X:231:G:H5'	2.13	0.48
1:X:2522:G:H2'	1:X:2523:G:C8	2.48	0.48
1:X:2528:G:C2	1:X:2529:G:N7	2.82	0.48
1:X:2659:C:N4	1:X:2660:C:H41	2.12	0.48
1:X:37:C:H2'	1:X:38:G:C8	2.48	0.48
1:X:412:U:H5	23:U:68:ARG:HH11	1.62	0.48
1:X:857:U:H2'	1:X:858:G:O4'	2.14	0.48
3:A:95:LEU:CD1	3:A:105:ILE:HD12	2.37	0.47
3:A:213:ARG:C	3:A:215:LEU:N	2.68	0.47
4:B:128:SER:O	4:B:130:GLY:N	2.45	0.47
5:C:74:VAL:O	5:C:75:PRO:C	2.52	0.47
6:D:97:TYR:HA	6:D:100:LEU:HB3	1.96	0.47
6:D:34:ILE:HD13	6:D:155:THR:O	2.14	0.47
7:E:33:LEU:CG	7:E:34:THR:N	2.77	0.47
9:G:119:LEU:HD23	9:G:119:LEU:HA	1.48	0.47
9:G:85:ALA:HB3	9:G:152:ALA:HA	1.95	0.47
9:G:42:VAL:HG11	9:G:168:THR:OG1	2.14	0.47
9:G:169:GLN:HB2	9:G:170:PRO:CD	2.43	0.47
9:G:67:ARG:HB3	9:G:70:PHE:CB	2.44	0.47
11:I:72:TYR:CD1	11:I:105:PRO:HG3	2.49	0.47
12:J:117:GLU:O	12:J:121:LEU:HG	2.13	0.47
12:J:55:MET:HB3	12:J:65:ILE:HD13	1.96	0.47
21:S:123:VAL:HG23	21:S:161:ALA:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:3:LEU:HD21	21:S:32:PHE:HB3	1.96	0.47
23:U:41:VAL:O	23:U:42:GLN:HB2	2.14	0.47
1:X:1050:G:C2'	1:X:1051:U:C5'	2.92	0.47
1:X:1084:A:H8	1:X:1084:A:O5'	1.96	0.47
1:X:1135:C:H1'	30:4:36:GLN:NE2	2.28	0.47
1:X:1175:A:C2	1:X:1176:U:C2	3.02	0.47
1:X:1194:U:C5'	1:X:1194:U:H6	2.26	0.47
1:X:1333:G:H22	1:X:1344:C:H41	1.59	0.47
1:X:173:A:N6	1:X:844:G:H21	2.11	0.47
1:X:1855:G:C2	1:X:1863:U:O2	2.67	0.47
1:X:1982:C:H4'	1:X:2703:C:O2	2.14	0.47
1:X:2040:A:H2'	1:X:2041:A:C8	2.49	0.47
1:X:2257:A:C2'	1:X:2258:G:H5'	2.44	0.47
1:X:33:C:C2'	1:X:34:U:H5"	2.44	0.47
1:X:39:C:O2	5:C:40:ARG:NH2	2.47	0.47
1:X:530:G:O2'	1:X:531:G:H5'	2.14	0.47
1:X:537:C:C1'	1:X:538:A:N6	2.75	0.47
3:A:79:VAL:HG12	3:A:113:VAL:HG13	1.96	0.47
3:A:134:ARG:CZ	3:A:135:PHE:CZ	2.97	0.47
3:A:198:ASN:O	3:A:199:ALA:HB3	2.14	0.47
4:B:122:PHE:O	4:B:123:ALA:HB2	2.14	0.47
5:C:3:GLN:NE2	5:C:4:ILE:CG1	2.71	0.47
6:D:34:ILE:HG23	6:D:154:ILE:CG2	2.44	0.47
6:D:65:PRO:HB3	6:D:89:VAL:CG2	2.42	0.47
1:X:2725:C:C1'	7:E:143:GLN:HG2	2.38	0.47
8:F:121:GLU:HA	8:F:124:ALA:CB	2.35	0.47
9:G:101:THR:HG23	9:G:102:ARG:N	2.29	0.47
9:G:155:THR:C	9:G:157:PRO:HD2	2.35	0.47
9:G:155:THR:CG2	9:G:156:HIS:N	2.77	0.47
10:H:80:ALA:HB1	10:H:88:THR:HG23	1.96	0.47
11:I:13:ARG:HG2	11:I:14:LYS:N	2.30	0.47
12:J:136:GLU:HA	12:J:138:TYR:HE2	1.79	0.47
13:K:24:GLN:HB3	13:K:44:LEU:HD22	1.95	0.47
15:M:82:PRO:O	15:M:84:ALA:N	2.47	0.47
1:X:457:C:O3'	16:N:3:ARG:HD3	2.14	0.47
16:N:93:LYS:HD3	17:O:5:ILE:CG2	2.31	0.47
19:Q:11:VAL:HG22	19:Q:28:TRP:CE2	2.49	0.47
19:Q:8:GLN:HE21	19:Q:8:GLN:HA	1.79	0.47
20:R:93:ARG:O	20:R:95:ARG:CD	2.62	0.47
1:X:100:G:O2'	1:X:101:A:P	2.72	0.47
1:X:1235:C:C2	1:X:1241:G:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1287:A:N1	1:X:1661:C:O2'	2.44	0.47
1:X:1885:C:C2'	1:X:1886:G:H5'	2.42	0.47
1:X:2247:A:H5''	1:X:2247:A:C8	2.50	0.47
1:X:2302:G:H21	1:X:2316:G:H5'	1.79	0.47
1:X:2466:G:O2'	1:X:2467:A:H5'	2.14	0.47
1:X:2508:G:O5'	1:X:2509:A:H5''	2.14	0.47
1:X:2633:A:H5''	1:X:2634:G:OP1	2.13	0.47
1:X:555:U:C5	1:X:1233:A:H3'	2.49	0.47
1:X:769:C:C2'	1:X:770:U:H5'	2.45	0.47
3:A:97:TYR:HE2	3:A:103:ARG:HD2	1.78	0.47
1:X:792:U:P	3:A:49:ILE:HG22	2.54	0.47
4:B:183:LEU:HD21	15:M:16:ILE:CD1	2.37	0.47
4:B:9:ILE:CD1	4:B:27:LEU:HB2	2.36	0.47
1:X:2767:C:H4'	4:B:61:LYS:HG2	1.95	0.47
5:C:128:ALA:HB2	5:C:159:ARG:NE	2.28	0.47
6:D:71:LYS:O	6:D:72:LYS:HB2	2.14	0.47
7:E:22:GLY:O	7:E:24:PHE:CD1	2.68	0.47
8:F:112:MET:C	8:F:114:ASP:H	2.18	0.47
9:G:148:LEU:O	9:G:149:LYS:HG2	2.14	0.47
11:I:105:PRO:O	11:I:106:VAL:HG22	2.14	0.47
12:J:19:THR:HG22	12:J:99:LYS:NZ	2.29	0.47
13:K:38:LEU:HD12	13:K:38:LEU:O	2.14	0.47
13:K:60:LEU:HG	13:K:64:ARG:HD2	1.94	0.47
15:M:5:ILE:HD13	15:M:7:ILE:HB	1.96	0.47
18:P:40:LEU:HD13	18:P:62:ARG:HH12	1.75	0.47
19:Q:37:GLU:O	19:Q:40:ASP:HB3	2.14	0.47
20:R:25:LEU:H	20:R:25:LEU:HD13	1.80	0.47
20:R:93:ARG:O	20:R:95:ARG:NE	2.47	0.47
20:R:96:LYS:CG	20:R:97:GLN:H	2.04	0.47
22:T:71:ASN:HD22	22:T:77:ARG:CZ	2.28	0.47
23:U:32:ARG:NE	23:U:32:ARG:N	2.33	0.47
24:V:24:GLU:HG2	24:V:28:LEU:CD2	2.44	0.47
1:X:1068:A:H2'	1:X:1068:A:N3	2.29	0.47
1:X:1187:A:C4'	1:X:1187:A:OP1	2.62	0.47
1:X:1336:G:O2'	1:X:1337:G:H5'	2.14	0.47
1:X:1482:U:C2'	1:X:1483:G:C8	2.95	0.47
1:X:1713:G:C6	1:X:1714:A:C4	3.03	0.47
1:X:2014:A:C5	1:X:2477:C:H1'	2.50	0.47
1:X:2178:U:H2'	1:X:2179:C:C6	2.47	0.47
1:X:2310:G:C5	1:X:2311:U:C4	3.02	0.47
1:X:2394:G:OP1	11:I:63:ARG:CD	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:48:A:H1'	1:X:50:G:C4	2.50	0.47
1:X:533:C:H1'	1:X:563:U:O2'	2.14	0.47
1:X:540:G:O6	1:X:2006:G:OP1	2.32	0.47
1:X:591:G:H2'	1:X:592:G:H8	1.75	0.47
1:X:731:A:H2'	1:X:732:G:C4'	2.44	0.47
1:X:760:U:C4	26:Z:3:LYS:HG3	2.48	0.47
3:A:105:ILE:O	3:A:106:LEU:C	2.52	0.47
4:B:144:ARG:O	4:B:148:GLY:HA2	2.14	0.47
5:C:160:ALA:O	5:C:161:ALA:HB2	2.13	0.47
5:C:189:ASP:O	5:C:190:ALA:C	2.52	0.47
7:E:84:THR:HA	7:E:133:VAL:O	2.15	0.47
9:G:65:LYS:HG2	9:G:66:HIS:N	2.30	0.47
1:X:2257:A:OP1	12:J:14:PHE:HE2	1.97	0.47
17:O:32:LYS:O	17:O:57:GLN:HA	2.15	0.47
20:R:41:PRO:HG2	20:R:42:ARG:H	1.80	0.47
21:S:114:ASP:OD2	21:S:115:ILE:N	2.47	0.47
21:S:146:HIS:N	21:S:146:HIS:CD2	2.81	0.47
21:S:35:ASP:O	21:S:36:ARG:O	2.32	0.47
22:T:53:MET:HG3	22:T:58:THR:O	2.15	0.47
23:U:24:ALA:C	23:U:26:ALA:N	2.68	0.47
1:X:1002:C:H2'	1:X:1003:C:H6	1.77	0.47
1:X:1002:C:C2	1:X:1003:C:C5	3.02	0.47
1:X:1039:A:N6	1:X:1136:G:H2'	2.30	0.47
1:X:1046:U:H3	1:X:1131:G:H1	1.62	0.47
1:X:1482:U:OP2	1:X:1562:G:O2'	2.31	0.47
1:X:1498:G:C4	1:X:1523:A:C2	3.02	0.47
1:X:1515:U:O2'	1:X:1516:A:H5'	2.14	0.47
1:X:1685:A:H4'	1:X:1686:A:O5'	2.15	0.47
1:X:2239:C:N3	1:X:2240:C:C5	2.83	0.47
1:X:2550:C:N4	1:X:2553:G:C8	2.83	0.47
1:X:2652:G:O2'	1:X:2653:A:H5'	2.14	0.47
1:X:564:U:H2'	1:X:565:A:H8	1.76	0.47
1:X:683:A:H4'	1:X:684:C:H5'	1.97	0.47
1:X:75:C:H2'	1:X:76:C:C5'	2.44	0.47
2:Y:22:U:H2'	2:Y:23:G:H8	1.80	0.47
2:Y:53:G:OP2	14:L:64:LYS:NZ	2.47	0.47
30:4:15:LYS:HB2	30:4:26:ILE:CG1	2.43	0.47
3:A:121:PRO:HB2	3:A:135:PHE:CE1	2.48	0.47
3:A:227:ASN:O	3:A:228:PRO:C	2.52	0.47
5:C:144:GLY:CA	5:C:166:TRP:NE1	2.77	0.47
1:X:596:C:H5'	5:C:84:PHE:CD1	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:111:ILE:HD13	6:D:137:ILE:HD12	1.95	0.47
6:D:135:GLN:HG3	6:D:151:GLY:CA	2.38	0.47
6:D:81:GLN:HG2	6:D:82:GLY:N	2.29	0.47
9:G:157:PRO:C	9:G:159:SER:N	2.68	0.47
9:G:96:ASP:CG	9:G:97:ASP:H	2.18	0.47
12:J:19:THR:CG2	12:J:99:LYS:HZ2	2.27	0.47
4:B:110:GLY:O	13:K:3:HIS:NE2	2.47	0.47
1:X:2824:C:P	15:M:100:ARG:HH11	2.38	0.47
15:M:70:LYS:O	15:M:77:VAL:N	2.42	0.47
1:X:562:G:OP1	16:N:22:LYS:NZ	2.48	0.47
17:O:26:GLN:HA	17:O:63:HIS:NE2	2.30	0.47
17:O:5:ILE:HG13	17:O:6:GLN:N	2.28	0.47
20:R:105:ARG:O	20:R:106:VAL:HG13	2.14	0.47
21:S:141:MET:HA	21:S:145:ASP:CB	2.44	0.47
21:S:53:ASP:OD2	21:S:53:ASP:N	2.47	0.47
23:U:63:SER:O	23:U:66:ALA:N	2.39	0.47
1:X:1142:G:O2'	1:X:1143:A:O5'	2.26	0.47
1:X:1186:G:C4	1:X:1187:A:C2	3.03	0.47
1:X:1302:C:H2'	1:X:1303:U:C6	2.49	0.47
1:X:1426:U:H2'	1:X:1427:G:H5'	1.96	0.47
1:X:1732:U:O2'	1:X:1733:U:OP1	2.29	0.47
1:X:1802:A:H2'	1:X:1803:G:O4'	2.14	0.47
1:X:1823:G:H2'	1:X:1824:C:C6	2.49	0.47
1:X:2201:G:H4'	3:A:186:HIS:NE2	2.29	0.47
1:X:2357:A:C5'	14:L:26:ARG:HH12	2.28	0.47
1:X:2044:G:H5''	1:X:2482:A:C2	2.49	0.47
1:X:682:G:C2'	1:X:682:G:N3	2.78	0.47
1:X:759:C:C5'	1:X:759:C:H6	2.15	0.47
1:X:7:G:C2	1:X:8:A:C4	3.03	0.47
1:X:810:U:C6	1:X:810:U:H3'	2.49	0.47
1:X:812:G:C4	1:X:813:A:N7	2.82	0.47
1:X:817:A:H2'	1:X:819:C:C4	2.49	0.47
2:Y:26:G:H2'	2:Y:58:G:O6	2.14	0.47
1:X:1675:C:OP1	4:B:134:TRP:CE2	2.68	0.47
4:B:192:ASN:ND2	15:M:9:ARG:NH1	2.57	0.47
5:C:147:LYS:O	5:C:184:ASP:HB2	2.15	0.47
7:E:37:TYR:CE2	7:E:68:THR:HG23	2.50	0.47
8:F:128:ALA:O	8:F:132:ARG:N	2.48	0.47
1:X:1142:G:O4'	9:G:103:TYR:HD2	1.96	0.47
9:G:35:LYS:O	9:G:36:ASN:HB3	2.15	0.47
11:I:86:THR:N	11:I:116:ARG:NH1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:42:TRP:CB	12:J:95:VAL:HG11	2.23	0.47
13:K:45:ARG:HD3	13:K:97:ILE:CD1	2.45	0.47
1:X:1264:C:H5''	16:N:13:ARG:NE	2.27	0.47
16:N:60:LEU:HD11	16:N:64:ARG:CZ	2.45	0.47
16:N:92:ARG:HH11	16:N:92:ARG:HG3	1.79	0.47
17:O:13:ARG:HD2	17:O:15:SER:H	1.79	0.47
18:P:10:ASN:O	18:P:11:LYS:C	2.52	0.47
21:S:39:PHE:CZ	21:S:81:VAL:HG21	2.50	0.47
23:U:27:ASP:CA	23:U:32:ARG:HH21	2.26	0.47
1:X:2064:U:OP2	23:U:39:LYS:NZ	2.48	0.47
24:V:32:ALA:HA	24:V:37:LEU:HB2	1.96	0.47
24:V:37:LEU:HD21	24:V:40:PRO:HA	1.95	0.47
1:X:1484:G:H2'	1:X:1485:U:O4'	2.14	0.47
1:X:1629:G:C5	1:X:1633:C:C5	3.02	0.47
1:X:1978:U:C5'	1:X:1979:C:H5''	2.45	0.47
1:X:2015:G:C4'	1:X:2016:A:OP1	2.56	0.47
1:X:2313:G:H21	14:L:17:VAL:N	2.13	0.47
1:X:2440:C:H2'	1:X:2441:U:C6	2.45	0.47
1:X:1982:C:OP1	1:X:2704:U:H5'	2.14	0.47
1:X:2817:A:C2	1:X:2851:G:C2	3.02	0.47
1:X:820:U:H2'	1:X:821:A:H8	1.79	0.47
1:X:873:U:C4	1:X:2247:A:C8	3.03	0.47
2:Y:5:C:H2'	2:Y:6:C:H6	1.78	0.47
13:K:98:LEU:HD22	26:Z:56:GLN:HG2	1.92	0.47
3:A:79:VAL:O	3:A:114:GLY:N	2.47	0.47
4:B:37:LYS:HE2	4:B:44:TYR:OH	2.14	0.47
1:X:334:G:H2'	5:C:162:ARG:O	2.15	0.47
8:F:83:GLY:O	8:F:84:ILE:C	2.48	0.47
9:G:36:ASN:CG	9:G:37:ASP:H	2.18	0.47
11:I:130:ILE:HG23	11:I:140:VAL:CB	2.44	0.47
16:N:66:ASN:HB2	16:N:76:TYR:H	1.78	0.47
17:O:64:GLY:HA3	17:O:90:PHE:CE1	2.49	0.47
21:S:16:GLU:O	21:S:18:MET:HG2	2.15	0.47
21:S:2:GLU:O	21:S:3:LEU:C	2.52	0.47
21:S:6:LYS:CB	21:S:31:SER:O	2.63	0.47
23:U:24:ALA:C	23:U:26:ALA:H	2.12	0.47
24:V:21:ARG:O	24:V:24:GLU:N	2.41	0.47
1:X:1004:A:C2'	1:X:1005:U:H5'	2.45	0.47
1:X:1198:C:O5'	1:X:1198:C:H6	1.98	0.47
1:X:1246:G:C5	1:X:1247:U:C5	3.03	0.47
1:X:455:A:C2	1:X:1258:G:N3	2.81	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:708:G:OP1	1:X:1393:G:O2'	2.32	0.47
1:X:2265:A:H4'	1:X:2266:A:C5'	2.45	0.47
1:X:2507:U:O3'	1:X:2508:G:H8	1.98	0.47
1:X:2726:U:H2'	1:X:2727:G:C5'	2.44	0.47
1:X:538:A:H2'	1:X:2025:A:C2	2.47	0.47
2:Y:38:C:H6	2:Y:38:C:OP2	1.97	0.47
1:X:1790:G:H5''	3:A:261:ARG:NH2	2.29	0.47
7:E:102:ALA:HB1	7:E:115:ILE:O	2.15	0.47
9:G:93:LYS:CG	9:G:96:ASP:HB3	2.45	0.47
11:I:56:LEU:O	11:I:57:ILE:C	2.52	0.47
11:I:61:PRO:HG3	29:3:27:SER:CA	2.44	0.47
11:I:71:THR:HB	11:I:104:ARG:CD	2.40	0.47
2:Y:11:G:OP1	14:L:16:LYS:HD3	2.14	0.47
15:M:34:ARG:NH1	15:M:81:PHE:CB	2.67	0.47
16:N:106:PHE:O	16:N:110:VAL:HG23	2.15	0.47
17:O:57:GLN:HE21	17:O:98:ILE:HG13	1.79	0.47
19:Q:32:LYS:O	19:Q:33:ALA:HB2	2.15	0.47
19:Q:5:ASP:OD2	19:Q:5:ASP:N	2.47	0.47
20:R:16:PHE:HZ	20:R:46:VAL:CG2	2.28	0.47
21:S:100:THR:CG2	21:S:101:THR:N	2.78	0.47
23:U:62:LEU:CD2	23:U:67:LEU:HD12	2.34	0.47
23:U:10:LYS:HZ3	23:U:70:LEU:CD1	2.28	0.47
1:X:1031:C:O2'	1:X:1032:A:P	2.73	0.47
1:X:1048:U:H6	1:X:1048:U:O5'	1.98	0.47
1:X:1053:G:C6	1:X:1054:C:C4	3.03	0.47
1:X:2074:U:P	1:X:2075:U:H3'	2.55	0.47
1:X:689:A:H8	1:X:2422:C:H1'	1.78	0.47
1:X:2598:C:C4'	4:B:150:VAL:HG22	2.45	0.47
1:X:2610:G:N3	1:X:2785:A:H2	2.13	0.47
1:X:2738:A:C2'	1:X:2739:G:H5'	2.45	0.47
1:X:2779:C:H2'	1:X:2780:A:O4'	2.14	0.47
1:X:555:U:C5	1:X:1233:A:H2'	2.49	0.47
1:X:827:C:H2'	1:X:828:C:O5'	2.15	0.47
3:A:134:ARG:N	3:A:187:SER:HB2	2.30	0.47
3:A:153:ALA:O	3:A:154:GLN:CG	2.63	0.47
4:B:5:LEU:HB2	4:B:31:CYS:SG	2.55	0.47
5:C:182:ARG:HD3	5:C:183:HIS:CE1	2.50	0.47
5:C:31:VAL:O	5:C:34:GLN:HB2	2.15	0.47
7:E:73:ALA:O	7:E:76:VAL:HB	2.15	0.47
9:G:162:LYS:H	9:G:163:PRO:CD	2.27	0.47
10:H:50:ILE:HG22	10:H:51:ILE:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:80:ALA:HB2	10:H:90:ARG:HD3	1.96	0.47
11:I:86:THR:HG1	11:I:118:VAL:HG12	1.79	0.47
12:J:19:THR:CG2	12:J:20:GLY:H	2.28	0.47
14:L:107:ALA:O	14:L:109:GLU:N	2.46	0.47
2:Y:10:U:O2'	14:L:28:ARG:NH2	2.48	0.47
10:H:89:ILE:HG12	15:M:79:ARG:HD3	1.97	0.47
17:O:33:VAL:HA	17:O:56:VAL:O	2.14	0.47
18:P:100:GLY:O	18:P:101:PRO:O	2.33	0.47
22:T:39:ARG:HG2	22:T:39:ARG:HH11	1.80	0.47
23:U:70:LEU:HD23	23:U:74:PRO:HA	1.96	0.47
1:X:1032:A:H8	1:X:1032:A:H3'	1.80	0.47
1:X:1090:C:H5	1:X:1099:A:OP1	1.98	0.47
1:X:1135:C:H2'	1:X:1136:G:C8	2.49	0.47
1:X:1142:G:O4'	9:G:107:GLN:HG3	2.15	0.47
1:X:1156:U:H2'	1:X:1157:G:H8	1.80	0.47
1:X:1238:A:H5'	17:O:85:GLY:N	2.29	0.47
1:X:1314:A:C2'	1:X:1315:A:H3'	2.45	0.47
1:X:1474:A:H1'	1:X:1475:U:H5'	1.95	0.47
1:X:1496:G:H2'	1:X:1497:C:C6	2.50	0.47
1:X:1548:U:H2'	1:X:1549:C:C6	2.50	0.47
1:X:1407:G:H4'	1:X:1619:A:H4'	1.96	0.47
1:X:1726:C:C2	1:X:1741:G:N2	2.83	0.47
1:X:176:A:H2'	1:X:2412:A:H61	1.79	0.47
1:X:1818:G:C5	1:X:1819:U:C5	3.03	0.47
1:X:2823:G:O2'	1:X:2824:C:O5'	2.32	0.47
1:X:63:A:C2	1:X:64:C:C6	3.02	0.47
26:Z:14:SER:O	26:Z:15:LYS:C	2.53	0.47
3:A:126:LYS:HB2	3:A:129:ASN:ND2	2.30	0.47
1:X:334:G:H5'	5:C:162:ARG:HE	1.79	0.47
6:D:114:PHE:HZ	6:D:176:PRO:CG	2.27	0.47
6:D:8:TYR:O	6:D:12:VAL:HB	2.15	0.47
1:X:2509:A:N7	7:E:172:LYS:HE2	2.30	0.47
7:E:33:LEU:HG	7:E:34:THR:H	1.80	0.47
8:F:79:ARG:HG3	8:F:134:MET:CE	2.45	0.47
10:H:7:ARG:NH1	10:H:20:MET:HE2	2.30	0.47
11:I:134:GLU:C	11:I:136:ALA:N	2.67	0.47
14:L:33:ARG:NH1	14:L:103:LEU:CB	2.69	0.47
19:Q:12:ILE:O	19:Q:13:SER:O	2.33	0.47
19:Q:58:VAL:O	19:Q:74:ASP:HA	2.13	0.47
19:Q:7:LEU:HD22	19:Q:7:LEU:O	2.14	0.47
20:R:105:ARG:CZ	20:R:112:LYS:HA	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:119:G:H2'	1:X:120:G:H8	1.79	0.47
1:X:162:C:H2'	1:X:163:A:C8	2.49	0.47
1:X:1807:A:H1'	1:X:1809:G:C8	2.49	0.47
1:X:1909:U:H5	1:X:1911:A:H62	1.59	0.47
1:X:1979:C:O2'	1:X:1980:A:C5'	2.63	0.47
1:X:2262:C:C5	1:X:2368:G:C4	3.03	0.47
1:X:2669:C:N4	1:X:2693:U:O3'	2.48	0.47
1:X:2859:U:H2'	1:X:2860:C:H5'	1.96	0.47
1:X:404:A:C5	1:X:405:C:C4	3.02	0.47
1:X:994:A:H2'	1:X:995:A:O4'	2.15	0.47
3:A:70:ARG:HH12	3:A:149:PRO:C	2.18	0.47
3:A:150:GLY:C	3:A:152:GLY:H	2.16	0.47
3:A:243:GLY:C	3:A:244:ARG:HD3	2.35	0.47
5:C:48:ARG:HH11	5:C:87:LYS:HG3	1.80	0.47
6:D:126:GLY:O	6:D:160:ALA:HB3	2.14	0.47
6:D:16:LEU:O	6:D:17:MET:C	2.54	0.47
6:D:68:THR:HG23	6:D:88:LYS:HB2	1.97	0.47
7:E:150:LYS:O	7:E:152:ARG:N	2.48	0.47
1:X:2728:A:O2'	7:E:66:GLY:HA3	2.15	0.47
10:H:62:GLY:O	10:H:65:LYS:NZ	2.43	0.47
11:I:71:THR:O	11:I:104:ARG:HB3	2.14	0.47
11:I:76:LYS:HB3	11:I:79:GLN:HE21	1.80	0.47
12:J:76:THR:HG22	12:J:89:GLY:O	2.14	0.47
14:L:60:LYS:HE3	14:L:62:GLY:H	1.80	0.47
18:P:35:PRO:HG2	18:P:99:ALA:HB2	1.96	0.47
20:R:22:VAL:HG21	20:R:80:LYS:HZ2	1.79	0.47
22:T:71:ASN:ND2	22:T:77:ARG:HD3	2.30	0.47
24:V:52:GLN:O	24:V:54:ASN:N	2.48	0.47
1:X:1025:A:O2'	1:X:1026:U:H5'	2.14	0.47
1:X:1099:A:H4'	1:X:1100:G:H8	1.80	0.47
1:X:1142:G:O4'	9:G:107:GLN:CG	2.62	0.47
1:X:1314:A:C8	1:X:1316:G:C8	3.03	0.47
1:X:136:A:N9	1:X:137:A:C8	2.83	0.47
1:X:1598:C:O2'	1:X:1599:G:H5'	2.15	0.47
1:X:1735:G:OP2	1:X:1735:G:C8	2.68	0.47
1:X:2073:A:C5	1:X:2074:U:C4	3.03	0.47
1:X:2174:G:H2'	1:X:2175:A:H8	1.79	0.47
1:X:38:G:HO2'	1:X:39:C:P	2.38	0.47
1:X:467:U:O2	1:X:467:U:C2'	2.63	0.47
1:X:651:C:C3'	1:X:652:C:H5''	2.45	0.47
1:X:801:A:C2'	1:X:802:A:OP2	2.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:118:G:O2'	2:Y:119:G:H5'	2.15	0.47
5:C:101:GLN:C	5:C:103:GLY:N	2.67	0.46
7:E:54:ARG:HE	7:E:57:ASP:CG	2.18	0.46
9:G:158:HIS:N	9:G:161:GLN:NE2	2.62	0.46
11:I:130:ILE:HG23	11:I:140:VAL:HB	1.95	0.46
11:I:72:TYR:CE1	11:I:105:PRO:HG3	2.50	0.46
12:J:125:LYS:NZ	12:J:125:LYS:CB	2.74	0.46
13:K:53:THR:O	13:K:53:THR:CG2	2.60	0.46
1:X:1744:G:OP1	15:M:100:ARG:CD	2.62	0.46
16:N:99:ALA:HA	16:N:106:PHE:HB2	1.96	0.46
17:O:10:LYS:HE3	17:O:11:GLN:HG2	1.96	0.46
18:P:21:ARG:NH1	18:P:21:ARG:HG3	2.28	0.46
19:Q:11:VAL:HG23	19:Q:27:PHE:HA	1.96	0.46
19:Q:28:TRP:CE3	19:Q:75:ARG:HB3	2.49	0.46
21:S:71:MET:HB2	21:S:77:ALA:O	2.15	0.46
21:S:71:MET:N	21:S:71:MET:HE2	2.30	0.46
23:U:49:LYS:HB3	23:U:61:TRP:HE3	1.77	0.46
1:X:1166:A:H2'	1:X:1167:A:H5''	1.97	0.46
1:X:1263:G:O2'	1:X:1264:C:H5'	2.14	0.46
1:X:1358:C:H2'	1:X:1359:G:H5'	1.98	0.46
1:X:167:A:P	1:X:182:G:H22	2.38	0.46
1:X:871:U:H1'	1:X:2248:A:H5'	1.96	0.46
1:X:2372:A:H5''	11:I:61:PRO:HB3	1.97	0.46
1:X:2498:U:C5	1:X:2520:A:C6	3.03	0.46
1:X:2628:C:O2'	1:X:2629:U:H5'	2.14	0.46
1:X:2700:U:C2	1:X:2701:A:C8	3.03	0.46
1:X:2751:C:H2'	1:X:2752:C:C6	2.50	0.46
1:X:344:G:C2	1:X:345:U:C6	3.03	0.46
1:X:640:C:C4	1:X:641:G:N7	2.83	0.46
1:X:692:C:H2'	1:X:693:A:H8	1.79	0.46
1:X:698:A:C2	1:X:702:A:C6	3.03	0.46
1:X:812:G:N1	1:X:813:A:N6	2.63	0.46
2:Y:68:A:N6	2:Y:110:U:H3'	2.30	0.46
26:Z:32:GLU:CG	26:Z:37:HIS:O	2.61	0.46
3:A:147:LEU:CD2	3:A:155:LEU:HD11	2.35	0.46
1:X:1584:G:C5'	3:A:61:LEU:HG	2.41	0.46
4:B:16:LYS:CB	4:B:21:ILE:HD11	2.45	0.46
7:E:10:ALA:O	7:E:12:PRO:HD2	2.15	0.46
7:E:139:GLN:O	7:E:142:GLY:N	2.49	0.46
9:G:147:ARG:O	9:G:149:LYS:HG3	2.15	0.46
12:J:43:ILE:C	12:J:95:VAL:HG13	2.35	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:55:ALA:CB	13:K:79:VAL:HG22	2.45	0.46
19:Q:46:PHE:CD2	19:Q:88:ILE:HD13	2.51	0.46
19:Q:75:ARG:HH11	19:Q:75:ARG:HG3	1.79	0.46
21:S:98:VAL:HG11	21:S:168:VAL:HG11	1.97	0.46
22:T:46:LYS:HB2	22:T:78:PHE:CE2	2.50	0.46
23:U:45:ASN:OD1	23:U:45:ASN:N	2.48	0.46
1:X:412:U:C5	23:U:68:ARG:NH1	2.83	0.46
1:X:1871:G:N3	1:X:1871:G:H3'	2.31	0.46
1:X:2521:A:H5'	1:X:2522:G:OP1	2.15	0.46
1:X:2795:A:O3'	13:K:3:HIS:CE1	2.66	0.46
1:X:2812:A:O2'	1:X:2813:G:H5'	2.15	0.46
1:X:2860:C:H2'	1:X:2861:A:O4'	2.15	0.46
1:X:343:A:H1'	1:X:346:C:N4	2.30	0.46
1:X:359:G:H2'	1:X:360:A:H8	1.79	0.46
1:X:40:U:H2'	1:X:41:G:O4'	2.15	0.46
1:X:451:A:H2'	1:X:452:G:C8	2.50	0.46
1:X:559:C:C2	1:X:560:G:H1'	2.50	0.46
1:X:634:G:H2'	1:X:635:C:H6	1.80	0.46
1:X:649:G:O2'	1:X:650:U:H5'	2.15	0.46
1:X:804:C:O2'	1:X:805:G:C5'	2.63	0.46
1:X:2505:G:C2'	30:4:1:MET:H1	2.28	0.46
5:C:112:GLN:O	5:C:116:LYS:HE2	2.15	0.46
6:D:111:ILE:O	6:D:114:PHE:HB3	2.16	0.46
6:D:29:PRO:HB3	6:D:160:ALA:CA	2.40	0.46
9:G:61:ARG:NE	9:G:65:LYS:CD	2.52	0.46
10:H:70:VAL:HG22	10:H:71:LYS:N	2.25	0.46
1:X:886:A:C4'	12:J:66:TYR:CE2	2.98	0.46
13:K:20:LEU:O	13:K:21:ALA:C	2.54	0.46
1:X:2240:C:OP2	22:T:17:ASN:OD1	2.32	0.46
22:T:46:LYS:HZ2	22:T:76:ALA:CB	2.29	0.46
24:V:39:GLN:O	24:V:40:PRO:C	2.52	0.46
1:X:1066:G:H2'	1:X:1067:G:C8	2.49	0.46
1:X:581:A:C2	1:X:2016:A:C2	3.02	0.46
1:X:2035:G:C2	1:X:2036:G:C8	3.03	0.46
1:X:2170:C:O5'	1:X:2170:C:H6	1.99	0.46
1:X:235:C:N4	1:X:236:C:N3	2.63	0.46
1:X:2497:A:H5''	1:X:2498:U:OP2	2.16	0.46
1:X:2781:G:C3'	1:X:2782:G:H5''	2.46	0.46
1:X:689:A:N1	1:X:815:A:N1	2.63	0.46
1:X:891:A:N1	1:X:911:A:C6	2.83	0.46
3:A:70:ARG:HH12	3:A:149:PRO:HA	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:43:ARG:CZ	3:A:43:ARG:HB3	2.45	0.46
4:B:146:THR:CB	4:B:147:PRO:HD2	2.38	0.46
4:B:66:HIS:O	4:B:69:LYS:HB2	2.16	0.46
6:D:69:LYS:HE2	6:D:84:PRO:HG3	1.97	0.46
7:E:109:TYR:CE1	7:E:152:ARG:CZ	2.98	0.46
7:E:164:PHE:O	7:E:166:GLY:N	2.47	0.46
12:J:79:PRO:HG2	12:J:88:LYS:HD2	1.98	0.46
13:K:69:ASP:O	13:K:70:ILE:HG12	2.15	0.46
14:L:57:ALA:O	14:L:59:LEU:N	2.48	0.46
16:N:13:ARG:CG	16:N:13:ARG:NH2	2.78	0.46
19:Q:73:ASN:HB2	19:Q:75:ARG:HH12	1.81	0.46
21:S:39:PHE:CE1	21:S:81:VAL:HG11	2.50	0.46
23:U:23:LYS:HE3	23:U:26:ALA:CA	2.44	0.46
23:U:27:ASP:HA	23:U:32:ARG:CZ	2.42	0.46
23:U:78:ILE:O	23:U:79:GLU:O	2.34	0.46
1:X:1086:C:C3'	1:X:1087:C:H5''	2.39	0.46
1:X:1228:G:C6	1:X:1229:C:N3	2.84	0.46
1:X:122:G:C2'	1:X:123:A:H5''	2.46	0.46
1:X:1279:G:H1'	1:X:1280:U:H5	1.80	0.46
1:X:1673:C:H2'	1:X:1674:C:H6	1.80	0.46
1:X:1917:C:O2'	1:X:1918:G:H5'	2.15	0.46
1:X:1998:A:H1'	26:Z:3:LYS:HG2	1.98	0.46
1:X:2257:A:H2'	1:X:2258:G:H5'	1.96	0.46
1:X:2334:C:H6	1:X:2334:C:O5'	1.98	0.46
1:X:2340:C:C2'	1:X:2341:G:H5'	2.45	0.46
1:X:2738:A:H2'	1:X:2739:G:H5'	1.97	0.46
1:X:357:A:H3'	1:X:358:C:O4'	2.16	0.46
1:X:834:A:H5''	1:X:835:U:H6	1.81	0.46
1:X:913:A:H2'	1:X:914:C:O5'	2.16	0.46
2:Y:54:U:H4'	2:Y:54:U:OP1	2.16	0.46
2:Y:58:G:H5'	6:D:24:SER:OG	2.16	0.46
3:A:246:PRO:O	3:A:248:THR:O	2.34	0.46
5:C:106:MET:O	5:C:110:SER:OG	2.33	0.46
5:C:145:THR:O	5:C:146:GLU:CD	2.54	0.46
5:C:33:TRP:HB2	5:C:93:TYR:OH	2.15	0.46
9:G:61:ARG:HA	9:G:65:LYS:HB2	1.97	0.46
12:J:40:PRO:HB3	12:J:99:LYS:HZ2	1.80	0.46
12:J:40:PRO:HG3	12:J:99:LYS:NZ	2.31	0.46
14:L:22:ALA:C	14:L:24:SER:N	2.68	0.46
14:L:37:HIS:O	14:L:37:HIS:ND1	2.48	0.46
14:L:29:LEU:HD13	14:L:75:LEU:HD21	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1264:C:H5''	16:N:13:ARG:CZ	2.46	0.46
16:N:11:ARG:HB3	16:N:15:LYS:NZ	2.30	0.46
16:N:93:LYS:C	16:N:94:VAL:HG23	2.36	0.46
17:O:65:ARG:NH1	17:O:65:ARG:CG	2.77	0.46
19:Q:22:ARG:CZ	19:Q:24:VAL:HG21	2.46	0.46
19:Q:22:ARG:NH1	19:Q:24:VAL:HG21	2.31	0.46
19:Q:33:ALA:O	19:Q:34:THR:O	2.34	0.46
20:R:39:ALA:O	20:R:41:PRO:HD3	2.15	0.46
1:X:86:U:P	20:R:42:ARG:HH21	2.38	0.46
20:R:25:LEU:CG	20:R:81:VAL:HG23	2.46	0.46
21:S:71:MET:HA	21:S:78:PRO:HA	1.98	0.46
1:X:2366:U:H1'	22:T:41:ARG:CZ	2.46	0.46
22:T:50:GLY:O	22:T:62:LEU:HD23	2.14	0.46
25:W:1:MET:C	25:W:34:VAL:HG12	2.35	0.46
25:W:45:LYS:CE	25:W:45:LYS:HA	2.34	0.46
1:X:1065:A:C2'	1:X:1066:G:H5'	2.45	0.46
1:X:1186:G:C6	1:X:1187:A:C6	3.03	0.46
1:X:1274:C:C2'	1:X:1275:A:O5'	2.63	0.46
1:X:1505:U:C2	1:X:1506:C:C5	3.04	0.46
1:X:1651:U:H4'	1:X:1652:G:OP2	2.14	0.46
1:X:174:A:C8	1:X:2409:A:N7	2.83	0.46
1:X:1770:U:O4	1:X:1776:A:C6	2.68	0.46
1:X:1845:A:H2'	1:X:1846:A:H8	1.79	0.46
1:X:1937:G:N3	1:X:2530:C:H5''	2.30	0.46
1:X:2085:G:H2'	1:X:2086:U:C6	2.50	0.46
1:X:2356:A:HO2'	14:L:89:PHE:HE2	1.54	0.46
1:X:2399:C:O5'	1:X:2399:C:H6	1.98	0.46
1:X:889:C:H2'	1:X:890:U:C6	2.51	0.46
1:X:946:U:H2'	1:X:947:C:H6	1.79	0.46
2:Y:56:G:O2'	2:Y:57:U:H5'	2.16	0.46
3:A:243:GLY:C	3:A:244:ARG:CZ	2.84	0.46
3:A:92:ILE:CG2	3:A:104:TYR:CD2	2.90	0.46
4:B:127:ALA:HB2	4:B:135:HIS:HE1	1.81	0.46
4:B:67:PHE:CD2	4:B:74:PRO:HA	2.51	0.46
5:C:186:LEU:HG	5:C:188:ILE:CG1	2.45	0.46
7:E:39:THR:C	7:E:41:LEU:N	2.69	0.46
8:F:120:VAL:HG12	8:F:124:ALA:HB2	1.98	0.46
9:G:166:LEU:O	9:G:168:THR:HG23	2.14	0.46
9:G:42:VAL:CG1	9:G:43:VAL:N	2.78	0.46
10:H:100:ASN:OD1	10:H:102:GLN:HG2	2.16	0.46
5:C:28:HIS:CE1	11:I:17:LYS:HA	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:18:ARG:HB2	11:I:21:ARG:CB	2.38	0.46
11:I:36:GLY:O	11:I:37:GLN:HB2	2.15	0.46
12:J:116:LYS:HE2	12:J:132:MET:CE	2.46	0.46
12:J:61:ARG:HH12	21:S:175:ARG:HD3	1.80	0.46
13:K:87:TYR:O	13:K:88:ALA:C	2.53	0.46
14:L:12:ARG:O	14:L:16:LYS:HB2	2.14	0.46
17:O:11:GLN:HE22	17:O:38:LEU:HB3	1.80	0.46
18:P:35:PRO:O	18:P:39:ARG:HD3	2.15	0.46
1:X:321:A:OP1	20:R:27:GLY:N	2.49	0.46
20:R:56:LYS:HA	20:R:68:GLY:O	2.16	0.46
20:R:15:HIS:HD1	20:R:82:ALA:HB2	1.80	0.46
23:U:28:GLY:CA	23:U:32:ARG:HB3	2.39	0.46
24:V:7:ARG:O	24:V:9:LEU:N	2.48	0.46
25:W:4:LYS:HD2	25:W:52:GLU:CD	2.36	0.46
1:X:1182:U:H2'	1:X:1183:C:O4'	2.15	0.46
1:X:136:A:H2'	1:X:137:A:O5'	2.15	0.46
1:X:1715:A:H4'	1:X:1716:G:O5'	2.16	0.46
1:X:2231:G:H2'	1:X:2232:G:O4'	2.14	0.46
1:X:2332:G:H2'	1:X:2333:A:O4'	2.15	0.46
1:X:2823:G:O2'	1:X:2824:C:OP2	2.34	0.46
1:X:459:A:H1'	1:X:461:A:N6	2.31	0.46
1:X:471:A:C2	1:X:481:A:C4	3.04	0.46
1:X:845:U:P	11:I:41:SER:HG	2.39	0.46
1:X:982:C:H2'	1:X:983:G:O5'	2.15	0.46
1:X:994:A:O2'	1:X:995:A:H5'	2.14	0.46
3:A:181:GLU:HG2	3:A:182:LEU:H	1.79	0.46
3:A:217:ARG:NH2	3:A:218:LYS:HZ3	2.14	0.46
5:C:173:ALA:C	5:C:175:VAL:H	2.19	0.46
7:E:76:VAL:C	7:E:78:GLY:N	2.69	0.46
1:X:538:A:H5''	9:G:142:ARG:HH12	1.81	0.46
10:H:13:ASN:HD21	10:H:109:ARG:N	2.14	0.46
13:K:51:LEU:HD11	13:K:66:VAL:HG13	1.97	0.46
14:L:33:ARG:NH1	14:L:99:ARG:O	2.49	0.46
16:N:24:PHE:CE2	16:N:39:LEU:HD21	2.49	0.46
16:N:83:LEU:HD12	16:N:83:LEU:H	1.81	0.46
17:O:38:LEU:HD13	17:O:39:PHE:H	1.76	0.46
20:R:85:ASP:CG	20:R:86:PRO:HD3	2.35	0.46
23:U:28:GLY:O	23:U:31:GLY:N	2.49	0.46
24:V:4:SER:HB3	24:V:7:ARG:CZ	2.46	0.46
1:X:1188:A:H2'	1:X:1189:G:O5'	2.16	0.46
1:X:1785:A:H2'	1:X:1786:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2215:C:H2'	1:X:2216:G:O4'	2.16	0.46
1:X:334:G:H3'	5:C:162:ARG:HG2	1.98	0.46
1:X:38:G:H2'	1:X:39:C:C6	2.51	0.46
1:X:428:A:H2'	1:X:429:C:O4'	2.15	0.46
1:X:458:G:P	16:N:3:ARG:HD3	2.56	0.46
3:A:161:THR:O	3:A:195:ALA:HB1	2.16	0.46
3:A:228:PRO:CD	3:A:235:GLY:H	2.25	0.46
3:A:88:ARG:HH11	3:A:88:ARG:HG3	1.79	0.46
4:B:123:ALA:O	4:B:124:GLY:C	2.53	0.46
5:C:65:GLY:O	5:C:66:ASN:O	2.33	0.46
6:D:35:VAL:O	6:D:154:ILE:HG13	2.16	0.46
6:D:33:LYS:HD2	6:D:90:THR:HG23	1.98	0.46
8:F:82:ALA:HB3	8:F:84:ILE:CD1	2.46	0.46
14:L:34:SER:HB2	14:L:94:TYR:CE2	2.50	0.46
16:N:50:ARG:O	16:N:51:ARG:C	2.53	0.46
17:O:39:PHE:C	17:O:39:PHE:CD1	2.88	0.46
17:O:63:HIS:CE1	17:O:91:THR:HG23	2.51	0.46
18:P:45:ILE:HG12	18:P:53:ALA:HA	1.98	0.46
18:P:81:HIS:O	18:P:83:ASP:N	2.49	0.46
20:R:92:THR:C	20:R:95:ARG:NH2	2.69	0.46
20:R:93:ARG:N	20:R:95:ARG:HH22	2.13	0.46
21:S:1:MET:HG3	21:S:52:PHE:CE2	2.51	0.46
23:U:28:GLY:N	23:U:32:ARG:CD	2.77	0.46
24:V:3:PRO:O	24:V:5:GLU:N	2.49	0.46
1:X:573:C:O2	1:X:1266:G:N2	2.48	0.46
1:X:2417:U:H2'	1:X:2418:A:OP2	2.16	0.46
1:X:2663:U:N3	1:X:2664:G:C8	2.84	0.46
1:X:2728:A:H4'	7:E:66:GLY:O	2.15	0.46
1:X:2741:G:O2'	1:X:2742:G:H5'	2.16	0.46
1:X:2698:G:O2'	1:X:2822:U:OP1	2.34	0.46
1:X:462:G:O6	1:X:465:C:OP1	2.33	0.46
1:X:53:G:C2'	1:X:54:G:O5'	2.63	0.46
1:X:618:A:O2'	1:X:619:A:H5'	2.16	0.46
1:X:931:G:C5	1:X:932:G:C8	3.03	0.46
26:Z:31:THR:O	26:Z:39:LYS:HA	2.15	0.46
3:A:70:ARG:C	3:A:72:LYS:N	2.70	0.46
1:X:2713:A:N6	4:B:203:LYS:HG2	2.30	0.46
5:C:117:LEU:CD2	5:C:117:LEU:C	2.85	0.46
5:C:126:ALA:C	5:C:127:ASP:CG	2.73	0.46
5:C:138:LYS:C	5:C:140:ASN:H	2.18	0.46
5:C:14:THR:O	5:C:15:ILE:CB	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:154:ASP:O	5:C:157:THR:OG1	2.33	0.46
6:D:33:LYS:CG	6:D:157:VAL:HG21	2.45	0.46
7:E:98:LEU:HD11	7:E:101:LYS:N	2.29	0.46
9:G:103:TYR:CG	9:G:111:LYS:HA	2.51	0.46
10:H:23:ARG:HG2	10:H:24:VAL:H	1.80	0.46
11:I:62:LYS:HG2	11:I:63:ARG:N	2.31	0.46
12:J:25:GLY:O	12:J:26:ASP:O	2.34	0.46
12:J:53:ILE:O	12:J:57:ARG:HG2	2.15	0.46
13:K:99:ARG:HG2	13:K:99:ARG:HH11	1.81	0.46
14:L:64:LYS:NZ	14:L:66:ASP:OD2	2.48	0.46
16:N:25:TRP:O	16:N:26:GLY:O	2.33	0.46
20:R:15:HIS:O	20:R:82:ALA:CB	2.64	0.46
21:S:62:PHE:HB3	21:S:85:MET:CE	2.45	0.46
23:U:41:VAL:O	23:U:42:GLN:OE1	2.33	0.46
24:V:31:GLN:O	24:V:32:ALA:C	2.54	0.46
1:X:1226:A:N6	1:X:1249:G:H1'	2.30	0.46
1:X:1332:G:C2	1:X:1333:G:C2	3.04	0.46
1:X:1376:C:C2	1:X:1377:G:C8	3.03	0.46
1:X:1383:C:C2	1:X:1384:G:C8	3.03	0.46
1:X:1724:C:N3	1:X:1747:G:C6	2.84	0.46
1:X:1793:A:O5'	1:X:1793:A:H8	1.99	0.46
1:X:2274:C:H5	14:L:14:ARG:NH1	2.14	0.46
1:X:227:G:O2'	11:I:53:ARG:CZ	2.64	0.46
1:X:2397:A:H2'	1:X:2398:U:O4'	2.15	0.46
1:X:239:A:H2'	1:X:240:U:O4'	2.16	0.46
1:X:2662:C:O2'	1:X:2663:U:H5'	2.15	0.46
1:X:2671:C:O2'	1:X:2672:U:H5'	2.16	0.46
1:X:2778:U:H5'	1:X:2779:C:H1'	1.97	0.46
1:X:734:G:H2'	1:X:735:G:C8	2.50	0.46
1:X:862:A:H8	1:X:862:A:H5'	1.80	0.46
30:4:29:ASN:OD1	30:4:31:LYS:N	2.49	0.46
3:A:67:PHE:CB	3:A:153:ALA:H	2.10	0.46
3:A:42:GLY:N	3:A:43:ARG:NH1	2.64	0.46
5:C:153:ASP:HA	5:C:158:ARG:HH21	1.81	0.46
5:C:47:THR:CG2	5:C:85:GLY:H	2.17	0.46
6:D:101:GLU:HA	6:D:104:ILE:HD12	1.98	0.46
6:D:163:ASP:HA	6:D:166:ALA:HB3	1.97	0.46
6:D:69:LYS:HG2	6:D:84:PRO:HA	1.98	0.46
8:F:110:THR:O	8:F:113:PRO:HD2	2.16	0.46
8:F:84:ILE:CG2	8:F:85:GLY:N	2.78	0.46
9:G:148:LEU:HD12	9:G:148:LEU:C	2.33	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:67:ARG:HE	9:G:70:PHE:CB	2.28	0.46
10:H:10:VAL:HA	10:H:96:ALA:O	2.16	0.46
12:J:81:GLU:CG	12:J:82:THR:H	2.22	0.46
15:M:11:GLU:O	15:M:12:LEU:C	2.53	0.46
16:N:93:LYS:O	16:N:94:VAL:CG2	2.64	0.46
1:X:514:G:N7	18:P:20:LEU:HD21	2.30	0.46
18:P:83:ASP:O	18:P:84:GLU:C	2.54	0.46
19:Q:93:GLY:O	19:Q:94:GLN:C	2.54	0.46
21:S:1:MET:CE	21:S:52:PHE:HB3	2.44	0.46
1:X:2334:C:O2'	22:T:39:ARG:NE	2.49	0.46
25:W:36:ASP:C	25:W:41:ARG:NH1	2.69	0.46
1:X:1040:A:C8	1:X:1041:G:C8	3.04	0.46
1:X:1053:G:H4'	1:X:1054:C:OP1	2.15	0.46
1:X:1082:G:N2	1:X:1101:U:H5	2.13	0.46
1:X:1147:G:C4	1:X:1148:G:C8	3.04	0.46
1:X:1325:U:O2'	1:X:1327:C:N4	2.49	0.46
1:X:1801:C:H1'	1:X:2207:G:O2'	2.16	0.46
1:X:1807:A:P	1:X:1814:G:H4'	2.56	0.46
1:X:1914:U:O2'	1:X:1915:A:H5'	2.15	0.46
1:X:2030:U:O2'	1:X:2031:A:H5'	2.15	0.46
1:X:2507:U:O2'	1:X:2508:G:H3'	2.16	0.46
1:X:2540:A:O2'	10:H:23:ARG:HD3	2.16	0.46
1:X:2700:U:N3	1:X:2701:A:N7	2.64	0.46
1:X:352:G:O2'	1:X:353:G:H5'	2.15	0.46
1:X:944:A:H2'	1:X:945:G:H5'	1.98	0.46
2:Y:4:C:H2'	2:Y:5:C:H5'	1.96	0.46
30:4:1:MET:CE	30:4:35:ARG:NH2	2.78	0.45
3:A:184:ARG:CG	3:A:184:ARG:HH11	2.29	0.45
1:X:2289:A:C2	6:D:79:LEU:HD21	2.29	0.45
9:G:150:VAL:HG12	9:G:151:TYR:N	2.31	0.45
9:G:86:ALA:HB2	9:G:152:ALA:HB1	1.97	0.45
10:H:47:VAL:HG11	10:H:115:ALA:CB	2.47	0.45
11:I:28:LYS:NZ	11:I:37:GLN:H	2.11	0.45
12:J:51:CYS:SG	12:J:126:LEU:HD21	2.55	0.45
14:L:77:ALA:O	14:L:80:ALA:HB3	2.15	0.45
17:O:10:LYS:CD	17:O:11:GLN:HE21	2.28	0.45
17:O:6:GLN:O	17:O:7:THR:OG1	2.31	0.45
18:P:88:ASP:N	18:P:88:ASP:OD2	2.49	0.45
19:Q:9:ALA:O	19:Q:27:PHE:HB2	2.16	0.45
20:R:25:LEU:CD1	20:R:81:VAL:N	2.77	0.45
24:V:18:ILE:O	24:V:20:ALA:N	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1318:A:H2'	1:X:1319:C:O5'	2.16	0.45
1:X:1468:A:C8	1:X:1468:A:P	3.04	0.45
1:X:1502:G:O2'	1:X:1503:G:H5'	2.16	0.45
1:X:1522:C:H6	1:X:1522:C:H3'	1.82	0.45
1:X:1672:A:H3'	1:X:1673:C:C6	2.51	0.45
1:X:1830:C:H42	1:X:1881:U:H2'	1.81	0.45
1:X:1929:U:H2'	1:X:1930:C:C6	2.50	0.45
1:X:1953:A:C5'	1:X:1954:A:OP1	2.61	0.45
1:X:1987:G:C6	1:X:1988:A:C4	3.04	0.45
1:X:203:G:OP1	1:X:233:A:O2'	2.32	0.45
1:X:2598:C:H4'	4:B:150:VAL:HG22	1.98	0.45
1:X:2618:A:H1'	1:X:2758:A:C2	2.51	0.45
1:X:2701:A:H2'	1:X:2702:G:O5'	2.15	0.45
1:X:308:C:O2	1:X:308:C:H2'	2.15	0.45
1:X:312:G:O2'	1:X:313:U:O4'	2.33	0.45
1:X:469:G:N2	1:X:480:G:H2'	2.31	0.45
1:X:623:G:N2	1:X:626:A:N3	2.49	0.45
1:X:59:G:N2	1:X:73:A:C4	2.84	0.45
1:X:988:G:N3	1:X:1012:A:C2	2.83	0.45
3:A:228:PRO:HD3	3:A:235:GLY:CA	2.46	0.45
3:A:244:ARG:CB	3:A:252:LYS:NZ	2.68	0.45
3:A:261:ARG:O	3:A:264:LYS:HB3	2.15	0.45
3:A:43:ARG:NH2	3:A:55:GLY:HA2	2.29	0.45
4:B:159:HIS:CE1	4:B:162:MET:HB3	2.51	0.45
4:B:161:GLY:O	4:B:162:MET:HB3	2.17	0.45
5:C:107:ALA:CB	5:C:180:ILE:HD13	2.45	0.45
5:C:46:ARG:HD2	5:C:51:VAL:HG23	1.98	0.45
5:C:43:ALA:HB3	5:C:87:LYS:C	2.37	0.45
7:E:7:GLN:HB3	7:E:51:LEU:HD11	1.96	0.45
10:H:83:ARG:CD	10:H:89:ILE:HD11	2.42	0.45
13:K:13:ASN:C	13:K:13:ASN:ND2	2.60	0.45
15:M:46:ARG:O	15:M:47:SER:HB2	2.16	0.45
16:N:91:ASN:ND2	17:O:11:GLN:HE22	2.14	0.45
22:T:52:GLY:HA3	22:T:60:PHE:CZ	2.51	0.45
1:X:2210:C:H5''	23:U:45:ASN:HB3	1.97	0.45
25:W:37:THR:HA	25:W:41:ARG:NH2	2.30	0.45
1:X:1148:G:H5''	1:X:1149:G:OP2	2.17	0.45
1:X:1188:A:N7	1:X:1189:G:C5	2.85	0.45
1:X:1389:C:O2'	1:X:1390:G:H5'	2.16	0.45
1:X:1476:G:C6	1:X:1477:C:C4	3.04	0.45
1:X:1551:U:C5'	1:X:1552:C:C5	3.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1858:C:C2'	1:X:1859:A:O5'	2.64	0.45
1:X:2196:U:C4	1:X:2197:U:C4	3.05	0.45
1:X:2299:A:C2	1:X:2312:A:C5	3.05	0.45
1:X:428:A:N1	1:X:2388:G:C6	2.84	0.45
1:X:2395:C:O5'	1:X:2395:C:H6	1.99	0.45
1:X:409:G:C2'	1:X:410:A:H5'	2.45	0.45
1:X:417:C:N3	1:X:419:G:C6	2.84	0.45
1:X:620:G:O2'	1:X:621:U:H5'	2.15	0.45
1:X:843:G:H1'	1:X:2427:A:C6	2.50	0.45
1:X:939:C:H4'	1:X:940:G:OP2	2.14	0.45
3:A:172:TYR:CD2	3:A:186:HIS:N	2.84	0.45
3:A:186:HIS:C	3:A:188:GLU:N	2.69	0.45
3:A:231:HIS:HD2	3:A:233:HIS:N	2.08	0.45
5:C:104:LEU:O	5:C:107:ALA:N	2.48	0.45
5:C:53:LYS:HA	5:C:53:LYS:HD3	1.63	0.45
6:D:52:LYS:O	6:D:56:GLU:HB2	2.17	0.45
6:D:99:PHE:O	6:D:102:LYS:HB2	2.15	0.45
8:F:99:LEU:HD13	8:F:103:GLN:HB2	1.98	0.45
9:G:33:ILE:HD11	9:G:35:LYS:NZ	2.31	0.45
11:I:120:VAL:HG12	11:I:122:VAL:HG13	1.97	0.45
11:I:86:THR:O	11:I:86:THR:HG22	2.17	0.45
16:N:45:TYR:O	16:N:49:ASP:OD1	2.34	0.45
17:O:35:LEU:HD22	17:O:36:LYS:O	2.15	0.45
1:X:1631:C:C1'	18:P:108:PRO:HG2	2.34	0.45
19:Q:53:ILE:HD12	19:Q:79:ILE:O	2.16	0.45
20:R:52:ASN:HD21	20:R:71:GLN:CD	2.19	0.45
20:R:95:ARG:HG3	20:R:95:ARG:NH1	2.32	0.45
21:S:101:THR:OG1	21:S:135:VAL:CG1	2.64	0.45
21:S:87:THR:O	21:S:88:TYR:CB	2.61	0.45
24:V:41:HIS:O	24:V:42:ARG:C	2.52	0.45
24:V:4:SER:O	24:V:8:ASN:OD1	2.34	0.45
1:X:1312:G:C5'	1:X:1313:U:OP1	2.63	0.45
1:X:1339:U:H5	1:X:1664:G:O2'	2.00	0.45
1:X:1354:A:C5'	19:Q:56:MET:HG3	2.46	0.45
1:X:1490:U:H2'	1:X:1491:C:C6	2.43	0.45
1:X:1517:C:H4'	3:A:96:HIS:CD2	2.51	0.45
1:X:1830:C:N4	1:X:1881:U:H2'	2.31	0.45
1:X:196:A:C2'	1:X:197:G:H5'	2.46	0.45
1:X:2170:C:C3'	1:X:2171:U:C5'	2.88	0.45
1:X:219:G:C2'	1:X:220:U:OP2	2.63	0.45
1:X:2263:C:H1'	1:X:2304:G:N2	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2431:C:N4	1:X:2432:A:C6	2.84	0.45
1:X:2499:C:O2'	1:X:2500:C:H5'	2.16	0.45
1:X:2532:G:C6	1:X:2533:U:C2	3.05	0.45
1:X:1:G:H2'	1:X:2:G:C8	2.51	0.45
1:X:410:A:OP1	23:U:47:HIS:ND1	2.49	0.45
1:X:467:U:O2'	1:X:468:A:OP1	2.29	0.45
1:X:632:A:C2	1:X:633:G:C8	3.04	0.45
1:X:673:G:H5'	5:C:93:TYR:CE1	2.51	0.45
1:X:83:A:C2	1:X:97:U:O2	2.69	0.45
5:C:158:ARG:HB3	5:C:169:VAL:HG11	1.99	0.45
5:C:17:LEU:HA	5:C:18:PRO:HD3	1.75	0.45
6:D:175:LEU:CG	6:D:177:PHE:HE1	2.29	0.45
6:D:88:LYS:HE2	6:D:90:THR:HG1	1.78	0.45
6:D:8:TYR:O	6:D:12:VAL:CG2	2.65	0.45
7:E:163:ARG:HB2	7:E:167:GLU:HG2	1.98	0.45
9:G:108:GLY:C	9:G:110:LEU:CD2	2.85	0.45
10:H:97:VAL:HG11	10:H:126:ILE:HD12	1.96	0.45
11:I:76:LYS:HG3	11:I:111:SER:CB	2.25	0.45
11:I:81:GLN:NE2	11:I:115:SER:CA	2.80	0.45
11:I:93:LEU:C	11:I:97:ARG:HG3	2.36	0.45
12:J:15:ARG:HB3	12:J:16:GLY:H	1.41	0.45
12:J:44:LYS:HD3	12:J:47:GLN:OE1	2.17	0.45
12:J:76:THR:HB	12:J:88:LYS:O	2.16	0.45
14:L:107:ALA:C	14:L:109:GLU:N	2.68	0.45
16:N:91:ASN:C	16:N:93:LYS:N	2.69	0.45
18:P:79:ALA:O	18:P:85:MET:HB2	2.16	0.45
20:R:58:VAL:C	20:R:60:PRO:HD3	2.37	0.45
21:S:105:GLN:O	21:S:141:MET:O	2.35	0.45
21:S:91:PRO:CG	21:S:125:PRO:HG2	2.46	0.45
22:T:14:ARG:O	22:T:15:ASP:HB2	2.17	0.45
1:X:1008:G:H2'	1:X:1009:C:H6	1.81	0.45
1:X:1332:G:C6	1:X:1333:G:N1	2.84	0.45
1:X:1357:U:H4'	1:X:1397:A:C6	2.51	0.45
1:X:1522:C:H3'	1:X:1522:C:C6	2.52	0.45
1:X:1771:A:O2'	1:X:1772:C:OP1	2.33	0.45
1:X:1876:C:C2'	1:X:1877:C:H5'	2.47	0.45
1:X:1958:G:H2'	1:X:1959:U:C6	2.51	0.45
1:X:215:G:H2'	1:X:216:U:O4'	2.17	0.45
1:X:2224:U:H5''	1:X:2225:G:H5'	1.98	0.45
1:X:2247:A:H5'	1:X:2248:A:P	2.57	0.45
1:X:2651:U:O2	1:X:2652:G:C8	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:304:A:N7	1:X:356:A:N6	2.65	0.45
1:X:394:U:OP1	23:U:19:ILE:HD11	2.16	0.45
1:X:42:G:H2'	1:X:43:A:C8	2.52	0.45
1:X:558:G:H2'	1:X:559:C:O4'	2.15	0.45
1:X:5:A:C2	1:X:6:A:C4	3.04	0.45
1:X:600:G:H3'	1:X:601:A:H5''	1.99	0.45
1:X:617:U:H5	1:X:632:A:N1	2.11	0.45
1:X:945:G:O2'	1:X:946:U:H5'	2.16	0.45
1:X:986:A:C2	1:X:1001:A:C8	3.05	0.45
3:A:153:ALA:O	3:A:154:GLN:HG3	2.17	0.45
3:A:216:GLY:O	3:A:217:ARG:O	2.35	0.45
3:A:55:GLY:H	3:A:217:ARG:HB2	1.82	0.45
1:X:1673:C:H5''	4:B:136:ARG:HH11	1.81	0.45
5:C:195:ILE:O	5:C:196:VAL:HB	2.16	0.45
6:D:108:LEU:HD13	6:D:176:PRO:CG	2.46	0.45
7:E:84:THR:HB	7:E:134:SER:CB	2.46	0.45
7:E:76:VAL:O	7:E:78:GLY:N	2.49	0.45
9:G:66:HIS:O	9:G:70:PHE:CE1	2.69	0.45
12:J:92:GLU:CA	12:J:92:GLU:OE1	2.64	0.45
15:M:34:ARG:CZ	15:M:88:VAL:HG21	2.47	0.45
1:X:986:A:O3'	16:N:48:ARG:NH2	2.49	0.45
16:N:81:ASN:C	16:N:84:LYS:HB3	2.36	0.45
16:N:91:ASN:HA	16:N:93:LYS:HZ2	1.81	0.45
17:O:26:GLN:CG	17:O:27:GLY:N	2.77	0.45
17:O:40:VAL:HG12	17:O:45:THR:N	2.31	0.45
16:N:88:ILE:HG23	17:O:49:GLU:OE1	2.16	0.45
18:P:109:ARG:HH11	18:P:115:ASN:HD22	1.63	0.45
22:T:20:TYR:HB3	22:T:21:LEU:H	1.41	0.45
24:V:13:ASP:O	24:V:17:GLU:N	2.41	0.45
1:X:1089:C:H1'	1:X:1099:A:C2	2.51	0.45
1:X:1182:U:H5'	1:X:1182:U:H6	1.80	0.45
1:X:1189:G:O2'	1:X:1190:C:H5'	2.17	0.45
1:X:1277:G:O5'	1:X:1277:G:H8	1.99	0.45
1:X:1615:C:OP1	19:Q:35:LYS:N	2.25	0.45
1:X:1314:A:C2	1:X:1642:G:N3	2.85	0.45
1:X:1851:A:N6	1:X:1866:G:H21	2.09	0.45
1:X:1874:G:C6	1:X:1875:C:C4	3.05	0.45
1:X:2070:G:H2'	1:X:2071:G:C8	2.47	0.45
1:X:2186:G:O2'	3:A:151:LYS:HB2	2.16	0.45
1:X:2199:C:N3	1:X:2200:G:N7	2.64	0.45
1:X:2213:G:N2	1:X:2214:G:C4	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:230:C:H2'	1:X:231:G:H5'	1.97	0.45
1:X:239:A:C2	1:X:443:A:N3	2.85	0.45
1:X:2436:U:O2	1:X:2474:G:C2	2.69	0.45
1:X:413:G:C2'	1:X:414:A:H5''	2.46	0.45
1:X:549:G:C6	1:X:550:C:C4	3.04	0.45
1:X:704:G:H2'	1:X:705:C:C6	2.51	0.45
1:X:857:U:C3'	1:X:858:G:H8	2.20	0.45
1:X:871:U:H1'	1:X:2248:A:C5'	2.45	0.45
1:X:792:U:OP1	3:A:49:ILE:HG22	2.17	0.45
5:C:165:SER:HB3	5:C:166:TRP:CE3	2.52	0.45
5:C:117:LEU:HD22	5:C:187:VAL:HG22	1.98	0.45
6:D:20:PHE:CD1	6:D:20:PHE:N	2.85	0.45
7:E:9:ILE:HG22	7:E:11:VAL:HG22	1.98	0.45
8:F:121:GLU:HB3	8:F:125:ASN:HD21	1.81	0.45
9:G:103:TYR:CE2	9:G:111:LYS:CB	2.99	0.45
9:G:49:VAL:CG1	9:G:50:PRO:HD2	2.43	0.45
11:I:120:VAL:HG11	11:I:122:VAL:HG13	1.98	0.45
1:X:2814:G:O2'	13:K:49:GLU:OE2	2.28	0.45
14:L:28:ARG:O	14:L:42:ILE:HD13	2.17	0.45
16:N:66:ASN:CB	16:N:70:ARG:NH1	2.60	0.45
16:N:7:GLY:C	16:N:9:VAL:N	2.70	0.45
17:O:32:LYS:HB2	17:O:58:ALA:O	2.17	0.45
18:P:109:ARG:HG3	18:P:110:ALA:H	1.81	0.45
21:S:104:SER:HA	21:S:139:THR:CA	2.22	0.45
21:S:122:ILE:HG13	21:S:122:ILE:O	2.17	0.45
21:S:19:ILE:HG22	21:S:20:ALA:N	2.25	0.45
1:X:1685:A:C5	1:X:1691:G:C4	3.05	0.45
1:X:1793:A:H2'	1:X:1794:A:C8	2.51	0.45
1:X:1819:U:H4'	1:X:1953:A:O2'	2.17	0.45
1:X:1837:G:O2'	1:X:1838:G:H5'	2.16	0.45
1:X:1842:G:O2'	1:X:1843:U:H5'	2.17	0.45
1:X:2546:G:C4	1:X:2547:C:C5	3.04	0.45
1:X:2598:C:O2'	1:X:2599:U:H5'	2.16	0.45
1:X:2700:U:H2'	1:X:2701:A:H8	1.81	0.45
1:X:416:U:H4'	1:X:419:G:O2'	2.16	0.45
1:X:481:A:C6	1:X:482:A:C6	3.04	0.45
1:X:810:U:C3'	1:X:810:U:C6	3.00	0.45
1:X:830:C:H2'	1:X:831:G:C8	2.52	0.45
1:X:84:G:O2'	1:X:85:C:H5'	2.17	0.45
30:4:25:VAL:CG2	30:4:34:GLN:HB2	2.46	0.45
30:4:35:ARG:HG2	30:4:37:GLY:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:200:GLU:HG3	3:A:202:LYS:CB	2.47	0.45
3:A:211:ARG:O	3:A:215:LEU:HD12	2.16	0.45
3:A:79:VAL:HG12	3:A:79:VAL:O	2.16	0.45
5:C:13:ARG:HD2	5:C:13:ARG:H	1.80	0.45
9:G:85:ALA:O	9:G:87:GLN:N	2.50	0.45
13:K:37:THR:HG1	13:K:40:LYS:HG3	1.79	0.45
14:L:8:ARG:CB	14:L:8:ARG:NH1	2.80	0.45
19:Q:47:GLY:O	19:Q:48:VAL:HB	2.16	0.45
20:R:23:ILE:CD1	20:R:81:VAL:O	2.65	0.45
21:S:23:ALA:O	21:S:29:ASN:HA	2.16	0.45
25:W:36:ASP:C	25:W:41:ARG:HH12	2.19	0.45
1:X:134:G:N3	1:X:136:A:OP2	2.50	0.45
1:X:1595:A:H2'	1:X:1596:A:O4'	2.16	0.45
1:X:1659:G:O2'	1:X:1660:G:H5'	2.16	0.45
1:X:1661:C:O2'	1:X:1662:G:H5'	2.16	0.45
1:X:2079:A:H61	1:X:2175:A:N6	2.15	0.45
1:X:2382:C:C4	1:X:2394:G:C2	3.05	0.45
1:X:2560:G:C4	1:X:2589:C:C4	3.05	0.45
1:X:2711:G:OP1	4:B:169:ASN:ND2	2.49	0.45
1:X:518:A:C4'	1:X:518:A:OP2	2.65	0.45
1:X:736:G:H2'	1:X:737:C:O4'	2.16	0.45
1:X:98:U:H1'	1:X:100:G:N9	2.27	0.45
2:Y:116:C:O2'	14:L:49:GLN:HA	2.16	0.45
3:A:218:LYS:HD2	3:A:218:LYS:C	2.36	0.45
4:B:170:LEU:HB3	4:B:184:VAL:CG1	2.46	0.45
4:B:32:PRO:HA	4:B:89:ASP:OD1	2.17	0.45
5:C:154:ASP:HB2	5:C:157:THR:CG2	2.47	0.45
5:C:144:GLY:CA	5:C:166:TRP:CE2	3.00	0.45
5:C:3:GLN:CB	5:C:116:LYS:HD2	2.46	0.45
7:E:126:PRO:CG	7:E:130:ARG:HB3	2.46	0.45
9:G:160:ALA:C	9:G:161:GLN:HG3	2.37	0.45
12:J:125:LYS:NZ	12:J:125:LYS:N	2.65	0.45
16:N:7:GLY:O	16:N:9:VAL:HG23	2.16	0.45
17:O:52:GLY:O	17:O:53:LYS:C	2.56	0.45
18:P:85:MET:HE3	18:P:130:GLU:H	1.80	0.45
19:Q:35:LYS:HD3	19:Q:53:ILE:CG2	2.45	0.45
19:Q:43:GLN:HA	19:Q:48:VAL:O	2.16	0.45
19:Q:59:PRO:O	19:Q:75:ARG:NH2	2.50	0.45
20:R:28:LYS:O	20:R:29:HIS:CB	2.64	0.45
20:R:60:PRO:O	20:R:65:PRO:HG3	2.17	0.45
21:S:141:MET:HA	21:S:145:ASP:CG	2.36	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:27:ASP:N	23:U:32:ARG:HH21	2.15	0.45
23:U:49:LYS:HB2	23:U:61:TRP:CA	2.37	0.45
24:V:26:MET:HE2	24:V:27:GLU:OE2	2.17	0.45
24:V:7:ARG:HD2	24:V:8:ASN:CA	2.44	0.45
1:X:1142:G:C4'	9:G:103:TYR:CD2	3.00	0.45
1:X:1182:U:H2'	1:X:1183:C:C6	2.52	0.45
1:X:1284:G:OP2	1:X:1285:A:OP1	2.35	0.45
1:X:1420:A:H2'	1:X:1421:U:C6	2.52	0.45
1:X:1554:G:H2'	1:X:1555:A:C8	2.52	0.45
1:X:1623:C:C4'	1:X:1624:A:O5'	2.57	0.45
1:X:1746:A:H2'	1:X:1747:G:O5'	2.16	0.45
1:X:1777:A:O2'	1:X:1778:U:P	2.75	0.45
1:X:2190:A:C8	1:X:2190:A:H3'	2.52	0.45
1:X:2473:G:O2'	12:J:81:GLU:HB2	2.16	0.45
1:X:827:C:H6	1:X:827:C:O5'	1.99	0.45
1:X:89:A:O2'	1:X:90:G:H5''	2.17	0.45
26:Z:12:SER:HB2	26:Z:15:LYS:N	2.18	0.45
26:Z:45:ILE:HD13	26:Z:57:VAL:CG2	2.47	0.45
1:X:1788:C:H4'	3:A:255:LYS:O	2.16	0.45
3:A:270:ILE:CG1	3:A:271:VAL:H	2.15	0.45
6:D:169:LEU:HD12	6:D:169:LEU:C	2.37	0.45
10:H:90:ARG:HH21	10:H:90:ARG:HG3	1.82	0.45
13:K:95:THR:O	13:K:95:THR:CG2	2.58	0.45
15:M:11:GLU:O	15:M:14:ARG:N	2.50	0.45
17:O:12:TYR:CG	17:O:13:ARG:N	2.84	0.45
17:O:46:VAL:HG12	17:O:51:ALA:HB2	1.98	0.45
18:P:107:ILE:HG23	18:P:107:ILE:O	2.16	0.45
1:X:1630:A:H61	18:P:109:ARG:H	1.65	0.45
19:Q:20:MET:C	19:Q:22:ARG:N	2.69	0.45
21:S:106:GLY:CA	21:S:109:GLN:HG3	2.47	0.45
1:X:1032:A:C8	1:X:1032:A:H3'	2.52	0.45
1:X:1131:G:C6	1:X:1132:C:C4	3.05	0.45
1:X:1515:U:H2'	1:X:1516:A:H8	1.82	0.45
1:X:1555:A:H2'	1:X:1556:A:C8	2.52	0.45
1:X:1627:C:N4	1:X:1628:C:H41	2.15	0.45
1:X:1723:U:O2'	1:X:1724:C:P	2.75	0.45
1:X:173:A:H61	1:X:844:G:N2	2.15	0.45
1:X:1766:U:H2'	1:X:1767:G:C5'	2.46	0.45
1:X:192:G:C1'	1:X:193:A:H4'	2.47	0.45
1:X:2229:G:O4'	1:X:2229:G:N3	2.49	0.45
1:X:2371:A:H8	11:I:59:ARG:HA	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:839:U:C5'	1:X:2408:G:OP2	2.62	0.45
1:X:2560:G:N2	1:X:2560:G:OP2	2.50	0.45
1:X:2668:U:O2	1:X:2693:U:O4'	2.35	0.45
1:X:304:A:H62	1:X:356:A:N6	2.14	0.45
1:X:417:C:O2'	1:X:418:C:H4'	2.17	0.45
1:X:444:U:O2'	1:X:445:A:H5'	2.17	0.45
1:X:542:A:N6	1:X:2003:A:H1'	2.32	0.45
1:X:660:G:C2'	1:X:661:C:H5'	2.46	0.45
1:X:802:A:H3'	1:X:802:A:OP1	2.17	0.45
1:X:872:G:H2'	1:X:928:G:C6	2.51	0.45
1:X:943:U:O2'	1:X:944:A:O4'	2.28	0.45
1:X:956:A:C4	1:X:2427:A:C2	3.05	0.45
2:Y:16:U:O2'	2:Y:110:U:O2	2.34	0.45
2:Y:2:C:C3'	2:Y:2:C:C6	3.00	0.45
18:P:36:ARG:CZ	26:Z:20:ARG:CZ	2.92	0.45
3:A:171:ASP:O	3:A:186:HIS:HA	2.17	0.45
3:A:219:PRO:O	3:A:220:HIS:O	2.34	0.45
4:B:93:VAL:C	4:B:95:ILE:H	2.20	0.45
6:D:111:ILE:HA	6:D:137:ILE:HG22	1.99	0.45
6:D:119:PRO:CG	6:D:120:ASN:N	2.80	0.45
6:D:33:LYS:HG3	6:D:157:VAL:CG2	2.47	0.45
12:J:60:ARG:O	12:J:61:ARG:CG	2.57	0.45
16:N:12:ARG:O	16:N:16:LYS:HG3	2.17	0.45
16:N:78:THR:HG23	16:N:117:ARG:CZ	2.47	0.45
18:P:27:VAL:HG13	18:P:27:VAL:O	2.17	0.45
19:Q:7:LEU:CD2	24:V:30:PHE:CE2	2.97	0.45
19:Q:89:GLU:OE1	19:Q:91:LEU:CD2	2.65	0.45
20:R:22:VAL:O	20:R:33:THR:HA	2.17	0.45
20:R:25:LEU:HD12	20:R:81:VAL:HG23	1.93	0.45
1:X:393:U:H4'	23:U:19:ILE:O	2.16	0.45
1:X:1070:G:H2'	1:X:1071:U:C5	2.52	0.45
1:X:1770:U:H6	1:X:1775:A:H62	1.65	0.45
1:X:1812:U:N3	3:A:200:GLU:OE1	2.51	0.45
1:X:1811:A:H1'	1:X:1813:A:C6	2.52	0.45
1:X:1916:G:O2'	1:X:1957:C:H4'	2.16	0.45
1:X:1976:U:O2'	1:X:1977:C:H5'	2.17	0.45
1:X:2340:C:H2'	1:X:2341:G:C5'	2.47	0.45
1:X:2394:G:H3'	11:I:63:ARG:NH1	2.22	0.45
1:X:2225:G:C6	1:X:2405:A:C8	3.05	0.45
1:X:2595:C:O2'	1:X:2596:C:H5'	2.17	0.45
1:X:2634:G:O2'	1:X:2635:U:OP2	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2874:A:H2'	1:X:2875:C:H6	1.82	0.45
1:X:411:C:H6	1:X:411:C:H5''	1.81	0.45
1:X:431:G:H2'	1:X:432:C:H6	1.82	0.45
1:X:796:A:H2'	1:X:797:A:O3'	2.17	0.45
1:X:861:G:C1'	1:X:944:A:N3	2.79	0.45
1:X:913:A:O5'	1:X:913:A:H8	2.00	0.45
5:C:168:SER:HB2	5:C:183:HIS:NE2	2.32	0.44
6:D:111:ILE:O	6:D:114:PHE:CB	2.65	0.44
6:D:74:ILE:HG23	6:D:79:LEU:C	2.37	0.44
7:E:15:VAL:HG23	7:E:16:THR:N	2.31	0.44
8:F:82:ALA:HB3	8:F:84:ILE:HG13	1.98	0.44
11:I:52:GLY:O	11:I:57:ILE:HG13	2.17	0.44
12:J:37:ALA:HB2	12:J:104:MET:CE	2.47	0.44
12:J:36:ILE:O	12:J:130:THR:HB	2.18	0.44
14:L:100:VAL:C	14:L:102:ALA:N	2.70	0.44
14:L:60:LYS:HE3	14:L:62:GLY:N	2.32	0.44
16:N:108:ALA:HB1	17:O:47:PHE:CZ	2.52	0.44
16:N:39:LEU:CA	16:N:42:ALA:HB3	2.45	0.44
16:N:75:ASN:O	16:N:76:TYR:C	2.55	0.44
17:O:36:LYS:HD2	17:O:54:TYR:O	2.18	0.44
19:Q:15:LYS:O	19:Q:19:ALA:HB2	2.16	0.44
19:Q:40:ASP:CG	19:Q:41:ALA:N	2.70	0.44
20:R:100:ASP:O	20:R:100:ASP:OD1	2.35	0.44
21:S:91:PRO:HD3	21:S:127:PRO:CG	2.46	0.44
21:S:19:ILE:HG12	21:S:36:ARG:CA	2.40	0.44
24:V:60:LEU:C	24:V:62:ARG:H	2.20	0.44
1:X:1108:U:N3	1:X:1109:A:H1'	2.32	0.44
1:X:1166:A:C2'	1:X:1167:A:H5''	2.46	0.44
1:X:1200:G:H2'	1:X:1201:G:O4'	2.16	0.44
1:X:1278:A:N6	1:X:1996:A:H5''	2.32	0.44
1:X:1812:U:O2	1:X:1812:U:C2'	2.64	0.44
1:X:188:G:N1	1:X:189:A:C5	2.85	0.44
1:X:1978:U:OP2	1:X:1979:C:H3'	2.17	0.44
1:X:2058:U:H1'	1:X:2576:G:H21	1.82	0.44
1:X:2190:A:C3'	1:X:2190:A:C8	2.94	0.44
1:X:2394:G:OP1	11:I:63:ARG:CZ	2.64	0.44
1:X:242:A:H2'	1:X:243:G:C4'	2.46	0.44
1:X:2495:G:O2'	1:X:2496:C:H5'	2.17	0.44
1:X:2560:G:C4	1:X:2589:C:N4	2.85	0.44
1:X:33:C:O2'	1:X:34:U:C5'	2.60	0.44
1:X:447:U:O2'	1:X:448:C:H5	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:764:A:C6	1:X:802:A:C5	3.05	0.44
30:4:24:LEU:HD12	30:4:24:LEU:N	2.32	0.44
30:4:30:VAL:O	30:4:33:LYS:N	2.27	0.44
3:A:220:HIS:ND1	3:A:220:HIS:N	2.65	0.44
3:A:243:GLY:N	3:A:244:ARG:HH11	2.15	0.44
3:A:69:ARG:NH2	3:A:105:ILE:HG21	2.33	0.44
4:B:182:ILE:C	4:B:183:LEU:HD23	2.36	0.44
5:C:151:VAL:CG1	5:C:173:ALA:HA	2.47	0.44
5:C:8:GLY:O	5:C:9:GLN:CB	2.64	0.44
6:D:54:ALA:N	6:D:57:LEU:HD12	2.32	0.44
7:E:107:ILE:HD11	7:E:151:VAL:CG1	2.44	0.44
7:E:22:GLY:O	7:E:24:PHE:HD1	2.00	0.44
10:H:116:ARG:NH1	15:M:38:LYS:CD	2.79	0.44
10:H:116:ARG:NH2	15:M:40:ARG:C	2.71	0.44
10:H:56:LYS:O	10:H:57:ASP:OD1	2.36	0.44
10:H:82:LYS:HE3	10:H:82:LYS:HB2	1.77	0.44
1:X:1218:C:H1'	11:I:8:PRO:O	2.17	0.44
14:L:33:ARG:HH12	14:L:103:LEU:HB2	1.75	0.44
1:X:2271:C:P	14:L:18:ARG:HH21	2.40	0.44
15:M:36:ASP:OD1	15:M:36:ASP:C	2.56	0.44
15:M:8:ASN:O	15:M:10:GLY:N	2.50	0.44
16:N:82:GLY:C	16:N:84:LYS:N	2.67	0.44
17:O:90:PHE:CD1	17:O:90:PHE:C	2.90	0.44
18:P:42:VAL:CG1	18:P:42:VAL:O	2.64	0.44
18:P:67:PRO:O	18:P:68:VAL:C	2.53	0.44
21:S:149:ALA:C	21:S:151:ASP:H	2.20	0.44
21:S:117:VAL:CG2	21:S:168:VAL:HG22	2.47	0.44
24:V:6:MET:HE2	24:V:56:VAL:HG21	1.99	0.44
1:X:1524:C:H5''	1:X:1525:A:H8	1.81	0.44
1:X:1570:C:C5'	1:X:1571:G:OP2	2.63	0.44
1:X:1611:U:H2'	1:X:1612:U:O4'	2.17	0.44
1:X:2055:G:C2'	1:X:2056:C:H5'	2.47	0.44
1:X:2074:U:OP2	1:X:2075:U:H3'	2.17	0.44
1:X:2387:U:H2'	1:X:2388:G:C8	2.51	0.44
1:X:403:A:H4'	1:X:404:A:C5'	2.48	0.44
1:X:5:A:H1'	9:G:162:LYS:HZ2	1.82	0.44
1:X:936:A:H2'	1:X:937:C:C6	2.52	0.44
1:X:1516:A:C2	3:A:100:GLY:HA3	2.53	0.44
5:C:17:LEU:HA	5:C:17:LEU:HD12	1.78	0.44
7:E:87:LEU:N	7:E:131:ILE:O	2.49	0.44
9:G:119:LEU:CD1	9:G:126:VAL:HG22	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:158:HIS:CA	9:G:161:GLN:NE2	2.80	0.44
9:G:159:SER:C	9:G:161:GLN:N	2.68	0.44
10:H:8:LEU:N	10:H:8:LEU:HD23	2.33	0.44
11:I:54:SER:OG	11:I:59:ARG:CZ	2.65	0.44
11:I:77:LEU:HA	11:I:77:LEU:HD12	1.86	0.44
12:J:62:GLY:C	12:J:64:LYS:N	2.69	0.44
15:M:37:THR:HG23	15:M:39:VAL:H	1.82	0.44
16:N:88:ILE:CG2	17:O:49:GLU:HB2	2.44	0.44
18:P:19:LYS:HD3	18:P:21:ARG:NH2	2.32	0.44
18:P:66:GLU:HB3	18:P:67:PRO:CD	2.46	0.44
20:R:52:ASN:HD21	20:R:71:GLN:NE2	2.15	0.44
20:R:56:LYS:HG2	20:R:56:LYS:H	1.53	0.44
21:S:10:PRO:HG2	21:S:14:LEU:CD1	2.25	0.44
23:U:23:LYS:HE3	23:U:26:ALA:CB	2.47	0.44
23:U:48:LYS:NZ	23:U:48:LYS:HB2	2.32	0.44
1:X:2208:U:O2	23:U:48:LYS:NZ	2.50	0.44
1:X:1247:U:O2'	1:X:1248:G:H5'	2.17	0.44
1:X:13:A:N3	1:X:15:G:C6	2.85	0.44
1:X:13:A:N3	1:X:15:G:O6	2.50	0.44
1:X:181:A:H4'	1:X:182:G:OP1	2.16	0.44
1:X:1990:U:H2'	1:X:1991:C:H6	1.81	0.44
1:X:2033:C:C4	1:X:2034:A:C6	3.04	0.44
1:X:2197:U:C4	1:X:2198:U:C4	3.06	0.44
1:X:2270:U:O2'	1:X:2353:G:H1'	2.18	0.44
1:X:2280:A:H2'	1:X:2281:C:C6	2.52	0.44
1:X:2420:C:O2'	1:X:2421:C:H5'	2.17	0.44
1:X:2701:A:O2'	1:X:2702:G:H5'	2.18	0.44
1:X:2812:A:H2'	1:X:2813:G:C8	2.51	0.44
1:X:2828:C:O2'	1:X:2829:A:H5'	2.18	0.44
1:X:528:G:H5'	18:P:39:ARG:HH12	1.82	0.44
1:X:546:A:H2'	1:X:547:U:C6	2.52	0.44
1:X:615:C:H41	11:I:100:ARG:CZ	2.30	0.44
1:X:754:G:C6	1:X:755:C:N4	2.85	0.44
1:X:972:C:C5'	1:X:973:U:OP2	2.66	0.44
2:Y:16:U:H4'	2:Y:72:C:O2	2.17	0.44
26:Z:20:ARG:C	26:Z:22:HIS:N	2.70	0.44
3:A:125:PRO:HG3	3:A:131:LEU:HD11	1.99	0.44
5:C:125:ILE:HG22	5:C:126:ALA:N	2.32	0.44
6:D:125:ARG:CG	6:D:125:ARG:NH1	2.80	0.44
7:E:146:ALA:O	7:E:150:LYS:HG3	2.18	0.44
10:H:47:VAL:HG22	10:H:75:VAL:C	2.37	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:36:GLY:O	11:I:37:GLN:CB	2.64	0.44
12:J:27:TYR:HB3	12:J:28:VAL:H	1.68	0.44
12:J:83:ARG:HH11	12:J:83:ARG:HG2	1.81	0.44
12:J:76:THR:CG2	12:J:88:LYS:O	2.65	0.44
13:K:106:ASP:OD1	13:K:108:VAL:HG23	2.18	0.44
19:Q:14:GLU:HG3	19:Q:15:LYS:N	2.32	0.44
19:Q:20:MET:C	19:Q:22:ARG:H	2.21	0.44
19:Q:19:ALA:O	19:Q:24:VAL:HB	2.17	0.44
20:R:93:ARG:CZ	20:R:108:VAL:HA	2.47	0.44
21:S:117:VAL:HG21	21:S:168:VAL:HG22	1.98	0.44
21:S:1:MET:HG3	21:S:52:PHE:HD2	1.81	0.44
1:X:870:C:H1'	22:T:26:PHE:CE2	2.53	0.44
25:W:48:LYS:O	25:W:50:LEU:N	2.50	0.44
1:X:985:G:C6	1:X:1000:G:C5	3.06	0.44
1:X:1121:G:C2'	1:X:1122:A:C8	3.00	0.44
1:X:1206:G:C2'	1:X:1207:G:H5'	2.48	0.44
1:X:1370:U:H2'	1:X:1371:G:O4'	2.18	0.44
1:X:1524:C:H3'	1:X:1525:A:H5''	1.98	0.44
1:X:1555:A:H2'	1:X:1556:A:O4'	2.18	0.44
1:X:1673:C:C5'	4:B:136:ARG:HD3	2.46	0.44
1:X:1278:A:H61	1:X:1996:A:H5''	1.82	0.44
1:X:2038:C:H2'	1:X:2483:U:H4'	1.99	0.44
1:X:2490:U:H2'	1:X:2491:C:O4'	2.17	0.44
1:X:2526:U:H2'	1:X:2527:G:H8	1.83	0.44
1:X:2539:C:O2'	1:X:2540:A:H5'	2.18	0.44
1:X:428:A:H2'	1:X:429:C:H6	1.79	0.44
1:X:590:C:H2'	1:X:591:G:C8	2.50	0.44
1:X:64:C:N3	1:X:89:A:N6	2.65	0.44
1:X:657:A:O5'	1:X:657:A:H8	1.99	0.44
1:X:649:G:N2	1:X:661:C:C2	2.86	0.44
1:X:698:A:H5''	1:X:699:G:H5''	2.00	0.44
1:X:860:U:H2'	1:X:861:G:H5'	1.99	0.44
3:A:246:PRO:HD3	3:A:251:GLY:N	2.29	0.44
3:A:55:GLY:O	3:A:56:GLY:O	2.36	0.44
3:A:65:ILE:HD11	3:A:92:ILE:HD11	1.99	0.44
5:C:90:SER:O	5:C:91:TYR:C	2.55	0.44
6:D:57:LEU:C	6:D:60:ILE:HG12	2.37	0.44
6:D:79:LEU:CA	6:D:80:ARG:CZ	2.88	0.44
7:E:7:GLN:H	7:E:8:PRO:HD3	1.82	0.44
9:G:106:TYR:CE2	9:G:108:GLY:CA	3.00	0.44
9:G:116:ARG:O	9:G:119:LEU:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:66:HIS:HB3	16:N:71:LEU:HD13	1.99	0.44
12:J:100:PRO:HB2	21:S:74:ARG:HG2	1.99	0.44
12:J:78:LYS:C	12:J:80:ALA:N	2.71	0.44
13:K:30:ARG:C	13:K:31:GLU:HG2	2.38	0.44
13:K:83:VAL:HG23	13:K:87:TYR:HE2	1.81	0.44
14:L:101:LYS:C	14:L:104:ALA:HB3	2.37	0.44
14:L:68:ALA:HB1	14:L:102:ALA:HB2	1.93	0.44
4:B:192:ASN:HB2	15:M:9:ARG:HH11	1.81	0.44
1:X:514:G:C2	18:P:15:LYS:HA	2.51	0.44
20:R:105:ARG:NH1	20:R:112:LYS:HA	2.32	0.44
20:R:25:LEU:HG	20:R:81:VAL:HG23	1.98	0.44
23:U:63:SER:O	23:U:64:ALA:C	2.55	0.44
1:X:1226:A:H62	1:X:1249:G:H1'	1.82	0.44
1:X:1494:G:O2'	1:X:1574:A:H2	2.01	0.44
1:X:1681:A:N1	1:X:2706:U:C6	2.85	0.44
1:X:2710:C:H4'	4:B:168:GLN:O	2.17	0.44
1:X:2764:U:C4'	4:B:42:ASP:OD2	2.64	0.44
1:X:551:A:H2'	1:X:552:C:O4'	2.17	0.44
1:X:631:G:H4'	1:X:632:A:OP1	2.17	0.44
1:X:717:G:C2'	1:X:718:A:OP2	2.65	0.44
1:X:782:U:O2'	1:X:783:G:H5'	2.17	0.44
1:X:801:A:HO2'	1:X:802:A:P	2.31	0.44
3:A:226:MET:HE3	3:A:230:ASP:CB	2.47	0.44
3:A:268:ARG:C	3:A:269:PHE:CD2	2.90	0.44
3:A:72:LYS:CG	3:A:103:ARG:NH1	2.79	0.44
5:C:48:ARG:C	5:C:50:GLN:H	2.18	0.44
6:D:108:LEU:HD13	6:D:117:ILE:HD11	1.96	0.44
6:D:74:ILE:HG12	6:D:80:ARG:HA	1.98	0.44
7:E:140:LEU:O	7:E:141:VAL:C	2.55	0.44
7:E:172:LYS:HB2	7:E:172:LYS:NZ	2.33	0.44
7:E:7:GLN:N	7:E:8:PRO:CD	2.79	0.44
11:I:127:ALA:C	11:I:129:ALA:H	2.20	0.44
11:I:94:GLU:HB3	11:I:97:ARG:NH1	2.31	0.44
12:J:64:LYS:HB2	12:J:108:ALA:HB3	1.99	0.44
13:K:46:PRO:O	13:K:47:PHE:C	2.55	0.44
1:X:1469:U:H2'	13:K:60:LEU:HD12	1.98	0.44
15:M:13:LEU:CD1	15:M:13:LEU:N	2.80	0.44
17:O:51:ALA:C	17:O:53:LYS:N	2.68	0.44
18:P:126:ILE:HD12	18:P:126:ILE:C	2.35	0.44
20:R:105:ARG:NH1	20:R:113:THR:OG1	2.50	0.44
21:S:10:PRO:HB2	21:S:13:LYS:HE3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:125:PRO:HG2	21:S:126:GLY:H	1.81	0.44
21:S:90:GLU:HA	21:S:90:GLU:OE1	2.18	0.44
1:X:100:G:C4'	1:X:101:A:OP2	2.38	0.44
1:X:1023:U:C6	1:X:1023:U:H3'	2.52	0.44
1:X:1246:G:C6	1:X:1247:U:C4	3.06	0.44
1:X:1443:G:H2'	1:X:1444:C:C6	2.53	0.44
1:X:1468:A:OP2	1:X:1468:A:C8	2.71	0.44
1:X:1574:A:C2'	1:X:1575:C:H5''	2.38	0.44
1:X:1629:G:H3'	1:X:1633:C:H42	1.82	0.44
1:X:1698:C:HO2'	1:X:1753:A:C2'	2.28	0.44
1:X:1937:G:N3	1:X:2530:C:C5'	2.80	0.44
1:X:2063:A:C2	1:X:2064:U:C2	3.05	0.44
1:X:2185:U:H2'	1:X:2186:G:C8	2.53	0.44
1:X:2520:A:C2	1:X:2745:A:N6	2.86	0.44
1:X:2800:C:C5	1:X:2801:A:C8	3.05	0.44
1:X:34:U:H1'	20:R:4:PRO:CA	2.47	0.44
1:X:408:U:C2'	1:X:409:G:C8	3.01	0.44
1:X:490:A:HO2'	1:X:492:G:H5''	1.80	0.44
1:X:542:A:H8	16:N:28:ARG:NH2	2.07	0.44
1:X:546:A:H2'	1:X:547:U:H6	1.83	0.44
1:X:638:A:C6	1:X:648:A:C8	3.06	0.44
1:X:730:C:H4'	1:X:731:A:OP1	2.17	0.44
1:X:755:C:H2'	1:X:756:C:C6	2.53	0.44
1:X:797:A:C6	3:A:229:VAL:HG21	2.52	0.44
26:Z:31:THR:O	26:Z:40:LYS:N	2.39	0.44
3:A:215:LEU:HD12	3:A:215:LEU:N	2.33	0.44
3:A:218:LYS:CD	3:A:218:LYS:O	2.66	0.44
3:A:246:PRO:CD	3:A:251:GLY:N	2.79	0.44
6:D:104:ILE:HG13	6:D:104:ILE:H	1.54	0.44
6:D:104:ILE:HG21	6:D:174:GLY:HA3	1.99	0.44
7:E:11:VAL:HG12	7:E:11:VAL:O	2.18	0.44
11:I:58:ALA:C	11:I:59:ARG:HD2	2.38	0.44
12:J:136:GLU:HA	12:J:138:TYR:CE2	2.53	0.44
12:J:64:LYS:CD	12:J:64:LYS:N	2.65	0.44
16:N:3:ARG:NH1	16:N:3:ARG:HG2	2.32	0.44
9:G:66:HIS:HA	16:N:67:ALA:HB1	2.00	0.44
1:X:1354:A:H5'	19:Q:56:MET:HG3	1.99	0.44
21:S:75:LYS:C	21:S:77:ALA:N	2.71	0.44
1:X:1009:C:H6	1:X:1009:C:O5'	2.01	0.44
1:X:102:C:H2'	1:X:103:U:O4'	2.18	0.44
1:X:1187:A:H4'	1:X:1187:A:OP1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1459:U:O4'	1:X:1475:U:O2'	2.32	0.44
1:X:219:G:HO2'	1:X:231:G:H1	1.66	0.44
1:X:2382:C:N4	1:X:2394:G:C6	2.86	0.44
1:X:2486:C:C4	1:X:2562:G:C6	3.05	0.44
1:X:2522:G:H2'	1:X:2523:G:O4'	2.17	0.44
1:X:2570:C:H2'	1:X:2571:G:C8	2.52	0.44
1:X:2691:C:H2'	1:X:2692:A:H3'	1.99	0.44
1:X:2701:A:C2'	1:X:2702:G:O5'	2.66	0.44
1:X:416:U:H4'	1:X:419:G:C1'	2.47	0.44
1:X:637:G:C6	11:I:101:ARG:HD3	2.52	0.44
1:X:67:G:H2'	1:X:68:C:O4'	2.17	0.44
1:X:733:G:O2'	1:X:734:G:H5'	2.18	0.44
1:X:836:G:H2'	1:X:837:U:H6	1.82	0.44
2:Y:46:G:C5'	6:D:92:ARG:NH1	2.74	0.44
3:A:43:ARG:NH1	3:A:43:ARG:HB3	2.32	0.44
3:A:43:ARG:CB	3:A:54:ILE:HG23	2.48	0.44
4:B:26:VAL:HB	4:B:182:ILE:HG23	1.99	0.44
5:C:48:ARG:CA	5:C:51:VAL:HG22	2.48	0.44
6:D:33:LYS:N	6:D:157:VAL:HB	2.33	0.44
6:D:43:SER:OG	6:D:44:LYS:HG3	2.17	0.44
6:D:70:ALA:C	6:D:72:LYS:N	2.69	0.44
7:E:140:LEU:O	7:E:144:VAL:N	2.50	0.44
7:E:157:TYR:CD1	7:E:157:TYR:N	2.86	0.44
9:G:61:ARG:HH22	9:G:78:ASP:CB	2.31	0.44
10:H:85:ASP:HB3	15:M:87:LEU:HG	2.00	0.44
12:J:128:ILE:C	12:J:128:ILE:CD1	2.86	0.44
13:K:31:GLU:C	13:K:33:ARG:H	2.20	0.44
15:M:98:LYS:HE2	15:M:99:VAL:O	2.17	0.44
18:P:24:GLY:O	18:P:127:ILE:HA	2.18	0.44
23:U:11:LYS:NZ	23:U:75:TYR:CD1	2.85	0.44
23:U:78:ILE:HG23	23:U:78:ILE:O	2.18	0.44
1:X:1051:U:H3'	1:X:1051:U:C6	2.52	0.44
1:X:1173:G:H2'	1:X:1174:G:H8	1.83	0.44
1:X:1391:A:H1'	1:X:1392:U:C5	2.52	0.44
1:X:1422:C:O2'	1:X:1423:A:H5'	2.18	0.44
1:X:168:A:H2'	1:X:169:C:H6	1.83	0.44
1:X:1715:A:C8	1:X:1717:A:H1'	2.53	0.44
1:X:1782:A:H1'	3:A:208:LYS:CE	2.42	0.44
1:X:192:G:H4'	1:X:193:A:H4'	1.98	0.44
1:X:1965:U:H2'	1:X:1966:C:C6	2.53	0.44
1:X:2344:G:H4'	22:T:60:PHE:CZ	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2356:A:H1'	14:L:89:PHE:CZ	2.52	0.44
1:X:654:A:N3	1:X:654:A:C2'	2.80	0.44
1:X:663:G:C3'	1:X:664:C:C5'	2.81	0.44
1:X:684:C:H5	11:I:43:ALA:HB1	1.83	0.44
1:X:754:G:H2'	1:X:755:C:H6	1.82	0.44
1:X:982:C:C4	1:X:983:G:C5	3.06	0.44
26:Z:35:GLN:HG3	26:Z:51:TYR:CD2	2.52	0.44
1:X:1999:U:O2	26:Z:7:PRO:HG2	2.18	0.44
30:4:1:MET:CE	30:4:1:MET:CA	2.96	0.44
30:4:7:VAL:HG22	30:4:34:GLN:HB3	2.00	0.44
3:A:81:ALA:HA	3:A:113:VAL:CG1	2.48	0.44
3:A:68:LYS:CA	3:A:152:GLY:HA2	2.48	0.44
3:A:59:LYS:O	3:A:60:ARG:C	2.57	0.44
4:B:134:TRP:O	4:B:136:ARG:O	2.35	0.44
4:B:34:VAL:O	4:B:35:GLN:HB2	2.18	0.44
5:C:46:ARG:O	5:C:48:ARG:N	2.50	0.44
6:D:108:LEU:HA	6:D:111:ILE:CG1	2.47	0.44
6:D:13:ARG:HG2	6:D:17:MET:HE1	2.00	0.44
6:D:13:ARG:HG2	6:D:13:ARG:NH2	2.33	0.44
7:E:39:THR:C	7:E:41:LEU:H	2.21	0.44
9:G:115:ALA:O	9:G:118:ALA:CB	2.63	0.44
9:G:33:ILE:CB	9:G:34:PRO:HD3	2.44	0.44
9:G:41:TRP:CZ3	9:G:79:PHE:CG	3.06	0.44
11:I:73:GLU:HG3	11:I:101:ARG:HG3	1.98	0.44
12:J:122:ALA:HA	12:J:125:LYS:HD3	1.99	0.44
13:K:10:LEU:C	13:K:11:ASN:OD1	2.56	0.44
13:K:28:LEU:C	13:K:28:LEU:CD2	2.86	0.44
16:N:61:TRP:HZ3	16:N:93:LYS:CA	2.29	0.44
17:O:20:ILE:CG1	17:O:21:ARG:N	2.79	0.44
17:O:28:GLU:C	17:O:30:GLY:N	2.61	0.44
17:O:61:VAL:HB	17:O:92:ALA:CB	2.48	0.44
19:Q:58:VAL:HA	19:Q:59:PRO:HD2	1.71	0.44
21:S:148:THR:HG22	21:S:166:LEU:C	2.38	0.44
2:Y:107:C:H4'	21:S:24:TYR:HE1	1.83	0.44
21:S:39:PHE:CZ	21:S:81:VAL:HG11	2.53	0.44
1:X:1071:U:OP1	1:X:1071:U:H6	2.01	0.44
1:X:1309:G:O2'	1:X:1310:C:H5'	2.18	0.44
1:X:135:U:N3	1:X:136:A:N6	2.66	0.44
1:X:136:A:N1	1:X:137:A:C4	2.85	0.44
1:X:1606:C:O2'	1:X:1607:A:H5'	2.17	0.44
1:X:1631:C:O2	1:X:1631:C:H2'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:45:C:OP2	1:X:192:G:H3'	2.18	0.44
1:X:218:A:H5'	1:X:220:U:C1'	2.48	0.44
1:X:228:A:H2'	1:X:229:G:O4'	2.18	0.44
1:X:2633:A:N1	1:X:2644:A:H5''	2.33	0.44
1:X:405:C:C2	1:X:406:G:C8	3.06	0.44
1:X:456:C:OP2	16:N:2:PRO:HD3	2.18	0.44
1:X:580:A:N7	1:X:584:A:C5	2.86	0.44
1:X:812:G:H2'	1:X:813:A:C8	2.52	0.44
1:X:876:A:P	12:J:23:LYS:HD3	2.58	0.44
1:X:930:A:C3'	1:X:930:A:C8	3.01	0.44
1:X:982:C:H2'	1:X:983:G:H5'	2.00	0.44
2:Y:15:A:C6	2:Y:72:C:H5'	2.52	0.44
5:C:186:LEU:HG	5:C:188:ILE:HG12	2.00	0.43
5:C:35:LEU:O	5:C:36:ALA:C	2.54	0.43
7:E:113:VAL:HG21	7:E:151:VAL:HG13	2.00	0.43
9:G:83:ILE:HG13	9:G:84:ASN:HD22	1.81	0.43
10:H:1:MET:HE2	10:H:44:TYR:CZ	2.52	0.43
12:J:19:THR:HG21	12:J:40:PRO:HB3	1.99	0.43
14:L:34:SER:HB2	14:L:94:TYR:CZ	2.53	0.43
19:Q:2:SER:OG	19:Q:3:HIS:N	2.51	0.43
21:S:138:VAL:O	21:S:139:THR:C	2.56	0.43
24:V:2:LYS:H	24:V:3:PRO:CD	2.30	0.43
1:X:1055:A:C4	1:X:1055:A:C3'	2.83	0.43
1:X:1142:G:H21	9:G:101:THR:HG21	1.83	0.43
1:X:1191:G:C6	1:X:1192:A:C6	3.06	0.43
1:X:829:C:C2	1:X:1206:G:N2	2.86	0.43
1:X:1662:G:H5''	1:X:1663:C:H5'	2.00	0.43
1:X:1749:G:H5'	1:X:1750:A:N7	2.33	0.43
1:X:2181:A:O2'	1:X:2182:A:H5'	2.18	0.43
1:X:2199:C:O2	1:X:2199:C:C2'	2.65	0.43
1:X:2324:G:O2'	1:X:2325:A:OP2	2.33	0.43
1:X:2335:U:H2'	1:X:2336:G:H8	1.83	0.43
1:X:2654:A:H5'	10:H:42:LYS:H	1.83	0.43
2:Y:58:G:H4'	2:Y:59:A:C5'	2.48	0.43
3:A:69:ARG:CZ	3:A:105:ILE:HD13	2.48	0.43
3:A:80:ALA:O	3:A:81:ALA:HB2	2.18	0.43
4:B:141:ILE:HD13	4:B:154:LYS:NZ	2.33	0.43
5:C:112:GLN:O	5:C:114:GLY:N	2.51	0.43
5:C:112:GLN:CA	5:C:116:LYS:HD3	2.47	0.43
6:D:60:ILE:O	6:D:99:PHE:CD1	2.71	0.43
7:E:7:GLN:HB3	7:E:51:LEU:CD1	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:101:TRP:HA	8:F:104:VAL:CG2	2.48	0.43
8:F:101:TRP:HA	8:F:104:VAL:HG23	1.99	0.43
10:H:88:THR:HB	15:M:80:VAL:HB	2.01	0.43
11:I:76:LYS:C	11:I:79:GLN:HG2	2.38	0.43
12:J:11:ARG:HB3	12:J:12:LYS:H	1.53	0.43
12:J:33:TYR:O	12:J:106:GLU:CA	2.66	0.43
13:K:75:VAL:O	13:K:79:VAL:HG12	2.17	0.43
14:L:16:LYS:O	14:L:19:THR:HB	2.18	0.43
17:O:5:ILE:CD1	17:O:9:GLY:O	2.66	0.43
17:O:64:GLY:O	17:O:89:ASN:HA	2.18	0.43
20:R:105:ARG:HH22	20:R:111:GLY:C	2.21	0.43
20:R:38:LEU:CD1	20:R:47:VAL:HG21	2.48	0.43
21:S:154:LEU:HB3	21:S:155:PRO:HD2	2.00	0.43
25:W:46:THR:CG2	25:W:47:VAL:N	2.79	0.43
1:X:1238:A:C2	1:X:1239:A:C2	3.06	0.43
1:X:1735:G:C6	1:X:1736:C:C4	3.06	0.43
1:X:1790:G:H5''	3:A:261:ARG:HH22	1.82	0.43
1:X:2026:C:H1'	1:X:2759:U:O4	2.18	0.43
1:X:2074:U:H1'	23:U:48:LYS:CE	2.39	0.43
1:X:2483:U:H6	1:X:2483:U:O5'	2.02	0.43
1:X:2733:A:O5'	1:X:2733:A:H8	2.00	0.43
1:X:318:G:H21	1:X:341:A:N6	2.16	0.43
1:X:334:G:O2'	1:X:335:A:P	2.77	0.43
1:X:601:A:H2'	1:X:602:C:OP1	2.18	0.43
1:X:663:G:H3'	1:X:664:C:C5'	2.32	0.43
1:X:982:C:C2'	1:X:983:G:H5'	2.48	0.43
1:X:98:U:C4'	1:X:99:U:H5''	2.43	0.43
2:Y:118:G:C2'	2:Y:119:G:H5'	2.48	0.43
2:Y:31:A:P	14:L:35:SER:HB2	2.59	0.43
30:4:13:ASN:HB2	30:4:27:CYS:SG	2.59	0.43
3:A:161:THR:N	3:A:196:VAL:CG2	2.80	0.43
3:A:82:ILE:HA	3:A:92:ILE:O	2.18	0.43
3:A:63:ARG:NE	3:A:85:ASP:OD1	2.51	0.43
4:B:67:PHE:HE1	4:B:78:LEU:HD21	1.82	0.43
4:B:4:ILE:HD11	4:B:91:VAL:HA	2.00	0.43
5:C:147:LYS:HB2	5:C:184:ASP:H	1.82	0.43
7:E:43:VAL:CB	7:E:52:VAL:HG13	2.42	0.43
1:X:2728:A:C4'	7:E:66:GLY:O	2.66	0.43
9:G:94:LYS:HB2	9:G:94:LYS:HE3	1.84	0.43
11:I:53:ARG:NH2	11:I:53:ARG:CG	2.81	0.43
15:M:43:ASN:O	15:M:44:ARG:C	2.55	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:75:ASN:OD1	16:N:75:ASN:O	2.36	0.43
19:Q:17:TYR:HA	19:Q:20:MET:HE2	2.01	0.43
19:Q:36:THR:O	19:Q:39:LYS:N	2.51	0.43
20:R:82:ALA:C	20:R:83:LEU:CG	2.86	0.43
21:S:164:PRO:C	21:S:166:LEU:H	2.21	0.43
21:S:34:LEU:HD13	21:S:35:ASP:O	2.18	0.43
23:U:28:GLY:H	23:U:32:ARG:NE	2.16	0.43
23:U:53:GLU:HB3	23:U:58:LYS:H	1.84	0.43
24:V:17:GLU:O	24:V:21:ARG:NH1	2.50	0.43
24:V:3:PRO:C	24:V:5:GLU:N	2.72	0.43
1:X:1069:G:H1'	8:F:116:ASN:OD1	2.18	0.43
1:X:1296:G:H22	1:X:1299:A:C5'	2.32	0.43
1:X:1529:C:C2'	1:X:1530:U:H5'	2.47	0.43
1:X:1544:A:C2	1:X:1560:A:C5	3.07	0.43
1:X:1581:C:O2'	1:X:1582:A:O5'	2.24	0.43
1:X:1705:U:O2	1:X:1717:A:C5'	2.63	0.43
1:X:1722:G:H2'	1:X:1723:U:H5'	1.99	0.43
1:X:765:C:C5	1:X:1772:C:C2	3.07	0.43
1:X:1971:C:C2'	1:X:1972:G:H5'	2.47	0.43
1:X:2073:A:C6	1:X:2074:U:C4	3.06	0.43
1:X:2571:G:C6	1:X:2572:U:C4	3.06	0.43
1:X:2790:C:H2'	1:X:2791:C:H6	1.82	0.43
1:X:2859:U:H2'	1:X:2860:C:C5'	2.48	0.43
1:X:2:G:H2'	1:X:3:U:C6	2.53	0.43
1:X:37:C:H2'	1:X:38:G:H8	1.83	0.43
1:X:435:A:N1	1:X:436:A:C6	2.86	0.43
1:X:447:U:O2'	1:X:448:C:C5	2.71	0.43
1:X:75:C:C2'	1:X:76:C:H5''	2.48	0.43
1:X:685:U:C2	1:X:822:G:N2	2.86	0.43
2:Y:6:C:O2'	2:Y:7:C:H5'	2.19	0.43
3:A:144:ALA:O	3:A:153:ALA:HB1	2.18	0.43
5:C:173:ALA:HB1	5:C:193:LEU:HB2	2.00	0.43
5:C:95:LEU:O	5:C:96:PRO:C	2.56	0.43
7:E:162:VAL:CG1	7:E:163:ARG:N	2.82	0.43
8:F:100:ASN:HB2	8:F:139:GLU:OE1	2.18	0.43
9:G:41:TRP:CH2	9:G:79:PHE:CD2	3.06	0.43
1:X:637:G:H1	11:I:101:ARG:HD3	1.82	0.43
1:X:227:G:O3'	11:I:53:ARG:HG2	2.18	0.43
1:X:876:A:OP2	12:J:23:LYS:HD3	2.17	0.43
12:J:69:ILE:HD13	12:J:104:MET:CB	2.48	0.43
16:N:107:LYS:O	16:N:108:ALA:C	2.57	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:74:MET:O	16:N:75:ASN:CB	2.62	0.43
17:O:10:LYS:HE3	17:O:11:GLN:CG	2.48	0.43
19:Q:12:ILE:CG1	19:Q:13:SER:H	2.07	0.43
20:R:97:GLN:OE1	20:R:101:GLY:HA3	2.19	0.43
20:R:37:LEU:HD11	20:R:49:GLU:HG2	1.99	0.43
20:R:8:SER:O	20:R:9:HIS:C	2.56	0.43
21:S:25:ASN:O	21:S:26:LYS:HB3	2.17	0.43
21:S:75:LYS:C	21:S:77:ALA:H	2.22	0.43
1:X:1011:A:O2'	1:X:1012:A:H5'	2.18	0.43
1:X:1051:U:C6	1:X:1051:U:C3'	3.02	0.43
1:X:1341:G:O5'	1:X:1341:G:H8	2.02	0.43
1:X:1391:A:O2'	1:X:1392:U:OP1	2.37	0.43
1:X:1451:C:O2'	1:X:1533:G:H4'	2.18	0.43
1:X:1429:A:H1'	1:X:1603:A:N1	2.33	0.43
1:X:1629:G:C6	1:X:1635:G:O6	2.71	0.43
1:X:2027:C:N3	1:X:2604:G:C2	2.86	0.43
1:X:2300:G:C2'	1:X:2301:A:OP1	2.66	0.43
1:X:322:A:HO2'	1:X:323:G:P	2.40	0.43
1:X:438:G:H2'	1:X:439:C:C6	2.54	0.43
1:X:490:A:HO2'	1:X:491:A:P	2.41	0.43
1:X:521:U:OP2	1:X:522:G:C6	2.71	0.43
1:X:668:A:O2'	1:X:669:G:O4'	2.36	0.43
1:X:984:A:H1'	1:X:1202:U:C4	2.53	0.43
2:Y:58:G:H5''	2:Y:59:A:OP1	2.17	0.43
2:Y:4:C:H2'	2:Y:5:C:C5'	2.49	0.43
4:B:131:SER:O	4:B:132:LYS:CB	2.66	0.43
4:B:133:LYS:HG2	4:B:137:ARG:HB3	1.99	0.43
4:B:16:LYS:HB2	4:B:21:ILE:HD12	1.99	0.43
5:C:102:LEU:HD21	5:C:106:MET:CE	2.49	0.43
5:C:164:VAL:C	5:C:166:TRP:H	2.22	0.43
5:C:3:GLN:CD	5:C:4:ILE:N	2.71	0.43
6:D:53:ALA:C	6:D:57:LEU:HD12	2.38	0.43
7:E:68:THR:O	7:E:71:LEU:HB2	2.19	0.43
10:H:1:MET:CB	10:H:44:TYR:HB3	2.48	0.43
12:J:28:VAL:N	12:J:137:VAL:HG11	2.33	0.43
12:J:70:PHE:HA	12:J:71:PRO:HD3	1.78	0.43
13:K:10:LEU:CD2	13:K:17:ARG:HB2	2.46	0.43
14:L:97:HIS:CG	14:L:98:GLY:N	2.84	0.43
15:M:22:ARG:NH2	15:M:89:ASN:O	2.50	0.43
17:O:33:VAL:CG2	17:O:33:VAL:O	2.67	0.43
18:P:118:LYS:HE3	18:P:118:LYS:HB2	1.70	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:80:LEU:HD21	18:P:90:LEU:HD11	1.99	0.43
19:Q:11:VAL:HG23	19:Q:27:PHE:CA	2.49	0.43
19:Q:29:VAL:HG23	19:Q:30:SER:N	2.34	0.43
19:Q:76:LYS:O	19:Q:77:LYS:C	2.54	0.43
21:S:49:THR:HG22	21:S:94:VAL:HG11	2.01	0.43
1:X:102:C:C4	1:X:103:U:C4	3.06	0.43
1:X:1092:U:H2'	1:X:1093:U:C6	2.53	0.43
1:X:1850:G:H2'	1:X:1851:A:OP2	2.18	0.43
1:X:2286:G:N2	1:X:2290:A:N6	2.60	0.43
1:X:2548:G:C2	1:X:2549:G:C8	3.07	0.43
1:X:2797:G:C2'	1:X:2798:A:O5'	2.65	0.43
1:X:399:G:O2'	1:X:400:U:P	2.76	0.43
1:X:627:A:OP1	5:C:34:GLN:OE1	2.36	0.43
1:X:631:G:H8	1:X:633:G:O6	2.01	0.43
1:X:882:C:H2'	1:X:883:A:O4'	2.19	0.43
2:Y:109:G:H2'	2:Y:110:U:O4'	2.19	0.43
1:X:931:G:H4'	2:Y:83:C:H4'	2.00	0.43
30:4:34:GLN:O	30:4:35:ARG:HB2	2.19	0.43
3:A:70:ARG:HH12	3:A:150:GLY:N	2.16	0.43
4:B:123:ALA:C	4:B:124:GLY:O	2.55	0.43
4:B:95:ILE:HA	4:B:95:ILE:HD13	1.78	0.43
6:D:50:ILE:O	6:D:53:ALA:HB3	2.19	0.43
6:D:52:LYS:HD3	6:D:56:GLU:OE2	2.18	0.43
9:G:33:ILE:CD1	9:G:34:PRO:N	2.82	0.43
10:H:92:ASP:O	10:H:93:ARG:HG3	2.18	0.43
11:I:28:LYS:NZ	11:I:36:GLY:HA3	2.33	0.43
13:K:20:LEU:C	13:K:22:ARG:N	2.71	0.43
19:Q:8:GLN:NE2	19:Q:8:GLN:HA	2.33	0.43
21:S:105:GLN:OE1	21:S:139:THR:HG22	2.18	0.43
21:S:6:LYS:CB	21:S:32:PHE:HA	2.49	0.43
23:U:14:VAL:O	23:U:15:VAL:HG22	2.19	0.43
1:X:2210:C:C5'	23:U:45:ASN:HB3	2.49	0.43
24:V:6:MET:HE1	24:V:52:GLN:HB3	2.00	0.43
1:X:114:C:H2'	1:X:115:G:C8	2.54	0.43
1:X:1441:A:O2'	1:X:1442:C:OP2	2.35	0.43
1:X:48:A:N7	1:X:154:U:C4	2.86	0.43
1:X:1692:C:O2'	1:X:1693:A:H5'	2.19	0.43
1:X:1876:C:H2'	1:X:1877:C:H5'	1.99	0.43
1:X:1919:A:C2	1:X:1928:G:C8	3.07	0.43
1:X:1965:U:OP1	1:X:1965:U:H3'	2.18	0.43
1:X:2084:G:H2'	1:X:2085:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2334:C:H4'	22:T:24:LYS:CD	2.46	0.43
1:X:2448:A:H5'	1:X:2448:A:H8	1.83	0.43
1:X:312:G:C4	1:X:313:U:C5	3.06	0.43
1:X:342:G:H4'	1:X:343:A:OP1	2.18	0.43
1:X:455:A:C5	5:C:39:ARG:HD2	2.53	0.43
1:X:657:A:O2'	1:X:658:G:H5'	2.19	0.43
1:X:820:U:H2'	1:X:821:A:C8	2.53	0.43
1:X:837:U:C2	1:X:838:A:C8	3.06	0.43
1:X:884:C:H5''	12:J:70:PHE:CZ	2.52	0.43
2:Y:111:C:H6	2:Y:111:C:H5'	1.84	0.43
30:4:14:CYS:HA	30:4:27:CYS:HB2	1.99	0.43
30:4:15:LYS:O	30:4:17:VAL:HG23	2.19	0.43
30:4:19:ARG:HH11	30:4:19:ARG:HG3	1.83	0.43
3:A:133:LEU:O	3:A:134:ARG:C	2.54	0.43
3:A:205:VAL:O	3:A:207:GLY:N	2.51	0.43
3:A:91:ARG:HB2	3:A:107:ALA:HB3	2.00	0.43
4:B:59:VAL:HG12	4:B:64:GLN:HG3	2.01	0.43
5:C:112:GLN:HB3	5:C:116:LYS:HD3	1.99	0.43
5:C:164:VAL:C	5:C:166:TRP:N	2.72	0.43
6:D:138:PHE:HB2	6:D:141:ILE:CG1	2.49	0.43
6:D:70:ALA:O	6:D:72:LYS:N	2.52	0.43
2:Y:47:A:OP1	6:D:92:ARG:NH2	2.52	0.43
9:G:140:GLN:O	9:G:143:ALA:HB3	2.19	0.43
9:G:96:ASP:O	9:G:98:LYS:N	2.52	0.43
10:H:116:ARG:NH2	15:M:40:ARG:O	2.51	0.43
11:I:45:LYS:CG	11:I:46:GLY:H	2.32	0.43
1:X:969:U:C5'	12:J:17:ARG:HH11	2.24	0.43
14:L:8:ARG:HB3	14:L:8:ARG:HH11	1.83	0.43
14:L:8:ARG:HB3	14:L:8:ARG:NH1	2.34	0.43
14:L:90:ASP:O	14:L:91:ARG:O	2.36	0.43
2:Y:51:G:OP1	14:L:99:ARG:HG2	2.18	0.43
16:N:33:ARG:HG3	16:N:33:ARG:HH11	1.83	0.43
16:N:66:ASN:HB3	16:N:76:TYR:CB	2.38	0.43
17:O:54:TYR:N	17:O:54:TYR:CD1	2.85	0.43
17:O:36:LYS:NZ	17:O:55:THR:O	2.48	0.43
18:P:100:GLY:C	18:P:101:PRO:O	2.57	0.43
19:Q:65:VAL:HG12	19:Q:66:GLY:N	2.27	0.43
19:Q:69:ILE:HD13	19:Q:70:GLY:N	2.25	0.43
19:Q:7:LEU:CD2	19:Q:7:LEU:C	2.71	0.43
1:X:1202:U:O2'	1:X:1203:A:H5'	2.19	0.43
1:X:1237:G:C6	1:X:1238:A:N6	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1573:G:O5'	1:X:1574:A:H5''	2.19	0.43
1:X:16:G:C2	1:X:17:G:C8	3.07	0.43
1:X:1766:U:C2'	1:X:1767:G:H5'	2.48	0.43
1:X:1830:C:N4	1:X:1881:U:H3'	2.34	0.43
1:X:1921:A:O2'	1:X:1922:U:OP1	2.28	0.43
1:X:2082:C:C2'	1:X:2083:G:H5'	2.47	0.43
1:X:2309:G:O2'	1:X:2310:G:H5'	2.19	0.43
1:X:2345:A:H4'	22:T:62:LEU:HD12	2.01	0.43
1:X:2370:G:O2'	1:X:2403:C:N4	2.51	0.43
1:X:242:A:C2'	1:X:243:G:C4'	2.97	0.43
1:X:2502:G:O2'	1:X:2503:G:H5'	2.19	0.43
1:X:2630:C:O2'	1:X:2631:C:H5'	2.19	0.43
1:X:2663:U:N3	1:X:2664:G:N7	2.66	0.43
1:X:334:G:C2	1:X:344:G:H1'	2.53	0.43
1:X:540:G:C2'	1:X:542:A:C2	3.02	0.43
1:X:563:U:H2'	1:X:564:U:O4'	2.19	0.43
1:X:460:U:C4	1:X:592:G:H1'	2.49	0.43
1:X:880:C:H6	1:X:880:C:O5'	2.01	0.43
1:X:930:A:H3'	1:X:930:A:C8	2.53	0.43
1:X:977:G:H2'	1:X:978:U:C6	2.52	0.43
26:Z:4:HIS:O	26:Z:5:PRO:C	2.54	0.43
3:A:243:GLY:O	3:A:244:ARG:CZ	2.67	0.43
3:A:86:PRO:O	3:A:87:ASN:CB	2.66	0.43
5:C:165:SER:HB3	5:C:166:TRP:CZ3	2.54	0.43
5:C:149:LEU:HD22	5:C:179:ASP:HB3	2.00	0.43
5:C:46:ARG:HD2	5:C:51:VAL:HB	2.01	0.43
6:D:108:LEU:HB2	6:D:109:PRO:HD3	2.01	0.43
9:G:119:LEU:HD12	9:G:126:VAL:HG22	2.01	0.43
9:G:84:ASN:N	9:G:153:GLY:O	2.49	0.43
9:G:165:VAL:O	9:G:167:LYS:N	2.51	0.43
10:H:75:VAL:HG23	10:H:76:ARG:HG3	2.00	0.43
11:I:127:ALA:C	11:I:129:ALA:N	2.72	0.43
14:L:33:ARG:CZ	14:L:103:LEU:HD12	2.49	0.43
15:M:6:LYS:H	15:M:6:LYS:CD	2.24	0.43
17:O:39:PHE:HE2	17:O:51:ALA:HB1	1.79	0.43
1:X:984:A:H5'	17:O:78:VAL:CG2	2.49	0.43
1:X:1630:A:N6	18:P:109:ARG:H	2.16	0.43
19:Q:71:GLN:O	19:Q:72:ARG:O	2.36	0.43
19:Q:90:ALA:C	19:Q:92:ALA:N	2.50	0.43
20:R:22:VAL:CG1	20:R:23:ILE:N	2.81	0.43
21:S:19:ILE:HD11	21:S:36:ARG:HA	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:56:VAL:O	21:S:57:GLU:C	2.56	0.43
22:T:50:GLY:O	22:T:81:ILE:HD12	2.19	0.43
23:U:20:ARG:HB2	23:U:43:ARG:HD2	2.01	0.43
24:V:22:LYS:HA	24:V:25:LEU:HB3	2.01	0.43
1:X:863:C:H4'	25:W:18:LYS:CB	2.46	0.43
1:X:1052:C:H3'	1:X:1053:G:H5'	1.93	0.43
1:X:1115:C:H6	1:X:1115:C:O5'	2.02	0.43
1:X:1122:A:C2'	1:X:1123:G:O5'	2.66	0.43
1:X:1463:A:H2'	1:X:1464:A:H8	1.82	0.43
1:X:1514:C:C4'	1:X:1593:C:H5'	2.48	0.43
1:X:1873:A:H2	1:X:2214:G:O4'	2.02	0.43
1:X:2299:A:H61	1:X:2312:A:H2'	1.84	0.43
1:X:2270:U:O2'	1:X:2353:G:N3	2.48	0.43
1:X:2564:U:H5'	1:X:2565:C:P	2.59	0.43
1:X:2701:A:H2'	1:X:2702:G:O4'	2.19	0.43
1:X:2759:U:C5'	1:X:2760:G:OP1	2.67	0.43
1:X:486:U:H4'	1:X:519:C:H2'	2.00	0.43
1:X:861:G:C2'	1:X:862:A:C5'	2.96	0.43
2:Y:100:G:H2'	2:Y:101:A:O4'	2.18	0.43
2:Y:44:C:N3	6:D:90:THR:OG1	2.44	0.43
1:X:2722:C:H5''	30:4:35:ARG:HH12	1.83	0.43
3:A:213:ARG:C	3:A:215:LEU:H	2.22	0.43
1:X:1808:C:H41	3:A:37:LEU:HD12	1.83	0.43
3:A:45:ASN:ND2	3:A:46:ARG:N	2.67	0.43
1:X:2598:C:HO2'	4:B:154:LYS:HE3	1.82	0.43
4:B:30:PRO:N	4:B:180:ASN:ND2	2.67	0.43
4:B:188:ILE:HG23	4:B:189:PRO:CD	2.49	0.43
5:C:82:VAL:C	5:C:83:ALA:O	2.56	0.43
6:D:122:PHE:O	6:D:123:ASP:C	2.57	0.43
6:D:4:LEU:HG	6:D:5:LYS:N	2.34	0.43
9:G:155:THR:HG23	9:G:156:HIS:ND1	2.34	0.43
10:H:4:PRO:O	10:H:5:GLN:CB	2.57	0.43
14:L:100:VAL:HG13	14:L:101:LYS:N	2.34	0.43
14:L:81:GLU:O	14:L:82:LYS:CG	2.63	0.43
15:M:29:PRO:C	15:M:30:GLY:O	2.54	0.43
15:M:41:GLU:O	15:M:44:ARG:O	2.37	0.43
16:N:82:GLY:O	16:N:83:LEU:C	2.58	0.43
19:Q:71:GLN:C	19:Q:72:ARG:O	2.57	0.43
21:S:130:ILE:HD12	21:S:130:ILE:N	2.34	0.43
21:S:138:VAL:HG23	21:S:139:THR:N	2.33	0.43
21:S:13:LYS:O	21:S:16:GLU:O	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:77:ALA:HA	21:S:78:PRO:HD3	1.70	0.43
24:V:21:ARG:C	24:V:23:LYS:N	2.72	0.43
24:V:26:MET:HA	24:V:29:ARG:NH2	2.34	0.43
1:X:1169:C:O5'	1:X:1169:C:H6	2.01	0.43
1:X:1419:G:H2'	1:X:1420:A:C8	2.54	0.43
1:X:1492:A:N6	1:X:1531:C:N4	2.66	0.43
1:X:1698:C:HO2'	1:X:1753:A:H2'	1.76	0.43
1:X:1782:A:N6	1:X:1820:G:C2'	2.82	0.43
1:X:2197:U:C4	1:X:2198:U:C5	3.06	0.43
1:X:2378:G:C2	1:X:2397:A:C2	3.07	0.43
1:X:2237:C:H2'	1:X:2406:C:OP2	2.18	0.43
1:X:2516:U:C2	1:X:2517:C:C5	3.06	0.43
1:X:349:G:OP1	20:R:13:LYS:NZ	2.32	0.43
1:X:496:C:O2'	1:X:497:C:H5''	2.19	0.43
1:X:657:A:H2'	1:X:658:G:O4'	2.19	0.43
1:X:717:G:H1'	1:X:740:A:H61	1.82	0.43
1:X:731:A:O2'	1:X:732:G:C5'	2.64	0.43
1:X:766:A:H8	1:X:766:A:O5'	2.01	0.43
1:X:872:G:H22	1:X:929:A:P	2.42	0.43
1:X:89:A:O4'	1:X:89:A:OP1	2.36	0.43
3:A:142:VAL:CG1	3:A:193:ILE:HD13	2.48	0.43
4:B:61:LYS:N	4:B:62:PRO:CD	2.82	0.43
5:C:187:VAL:O	5:C:189:ASP:N	2.52	0.43
6:D:10:ASP:O	6:D:11:GLN:C	2.57	0.43
6:D:32:GLU:OE2	6:D:157:VAL:HG11	2.19	0.43
6:D:75:SER:O	6:D:76:ASN:C	2.57	0.43
7:E:126:PRO:CG	7:E:127:GLU:H	2.21	0.43
7:E:137:ASP:O	7:E:138:LYS:C	2.57	0.43
10:H:25:LEU:HG	10:H:52:VAL:HG23	2.00	0.43
11:I:116:ARG:CG	11:I:117:ALA:N	2.81	0.43
16:N:105:ALA:O	16:N:106:PHE:C	2.57	0.43
19:Q:7:LEU:CD2	24:V:29:ARG:HH12	2.31	0.43
21:S:24:TYR:HA	21:S:28:ASN:O	2.18	0.43
21:S:28:ASN:OD1	21:S:28:ASN:N	2.51	0.43
21:S:73:LYS:C	21:S:75:LYS:H	2.23	0.43
23:U:72:LYS:N	23:U:72:LYS:HD3	2.33	0.43
24:V:31:GLN:O	24:V:35:GLY:N	2.51	0.43
24:V:5:GLU:HA	24:V:8:ASN:HB2	1.99	0.43
1:X:1022:A:C2	1:X:1024:G:C4	3.07	0.43
1:X:1060:C:N4	1:X:1061:A:N6	2.67	0.43
1:X:1392:U:C6	1:X:1392:U:OP1	2.69	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1526:U:H3'	1:X:1527:G:C8	2.53	0.43
1:X:1558:C:C2'	1:X:1559:G:O5'	2.67	0.43
1:X:160:C:O2	1:X:445:A:H2	2.01	0.43
1:X:1850:G:C2'	1:X:1851:A:C8	2.95	0.43
1:X:185:C:H2'	1:X:186:C:H6	1.84	0.43
1:X:2304:G:H8	1:X:2304:G:P	2.41	0.43
1:X:2378:G:C6	1:X:2397:A:N1	2.87	0.43
1:X:2444:C:O3'	30:4:5:SER:HB3	2.19	0.43
1:X:2713:A:C6	4:B:203:LYS:HG2	2.53	0.43
1:X:2718:A:H2'	1:X:2719:U:O5'	2.19	0.43
1:X:2726:U:H1'	7:E:139:GLN:NE2	2.32	0.43
1:X:29:U:O2'	16:N:11:ARG:NH2	2.52	0.43
1:X:437:G:H2'	1:X:438:G:O4'	2.19	0.43
1:X:461:A:H4'	16:N:3:ARG:NH2	2.32	0.43
1:X:623:G:H2'	1:X:626:A:C6	2.53	0.43
1:X:731:A:C2'	1:X:732:G:C4'	2.97	0.43
1:X:756:C:C2'	1:X:757:U:C5'	2.96	0.43
1:X:777:A:OP2	3:A:214:TRP:HH2	2.01	0.43
1:X:703:A:O2'	1:X:793:G:OP1	2.36	0.43
3:A:108:PRO:HG2	3:A:111:LEU:HG	2.00	0.42
1:X:1582:A:H1'	3:A:214:TRP:HB3	2.00	0.42
3:A:258:LYS:NZ	3:A:261:ARG:HE	2.17	0.42
5:C:147:LYS:HA	5:C:166:TRP:O	2.19	0.42
5:C:195:ILE:O	5:C:196:VAL:CB	2.67	0.42
5:C:48:ARG:CB	5:C:51:VAL:H	2.32	0.42
6:D:52:LYS:HE3	6:D:148:LYS:H	1.84	0.42
7:E:163:ARG:HB2	7:E:167:GLU:CG	2.49	0.42
7:E:6:LYS:O	7:E:7:GLN:HG3	2.19	0.42
9:G:164:GLN:O	9:G:165:VAL:CG1	2.56	0.42
11:I:107:LYS:HG3	11:I:108:LEU:H	1.84	0.42
11:I:34:HIS:O	11:I:35:LYS:CG	2.67	0.42
11:I:90:ARG:O	11:I:121:HIS:HB2	2.19	0.42
12:J:119:PHE:O	12:J:122:ALA:N	2.52	0.42
12:J:126:LEU:HA	12:J:127:PRO:HD3	1.89	0.42
13:K:103:ARG:CG	13:K:104:ARG:N	2.82	0.42
14:L:35:SER:OG	14:L:36:LYS:N	2.51	0.42
16:N:47:TYR:CE1	17:O:73:LYS:NZ	2.87	0.42
17:O:42:GLY:C	17:O:44:GLN:N	2.71	0.42
20:R:18:LYS:CD	20:R:18:LYS:N	2.81	0.42
1:X:2331:A:H2	22:T:33:ALA:HB1	1.84	0.42
23:U:23:LYS:HD2	23:U:35:THR:CB	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:70:LEU:HD13	23:U:79:GLU:OE2	2.18	0.42
24:V:6:MET:CE	24:V:56:VAL:HG21	2.49	0.42
1:X:1023:U:C6	1:X:1023:U:C3'	3.01	0.42
1:X:1031:C:O2'	1:X:1032:A:C5'	2.67	0.42
1:X:1077:U:H2'	1:X:1079:G:OP2	2.19	0.42
1:X:1189:G:O5'	1:X:1189:G:H8	2.01	0.42
1:X:1371:G:H1'	1:X:1387:G:H1	1.84	0.42
1:X:1808:C:C5	3:A:62:TYR:CE2	3.07	0.42
1:X:1830:C:H41	1:X:1881:U:H3'	1.83	0.42
1:X:2081:U:H2'	1:X:2082:C:H6	1.83	0.42
1:X:2379:G:H2'	1:X:2380:U:C5'	2.49	0.42
1:X:2381:A:C2'	1:X:2382:C:OP2	2.67	0.42
1:X:2505:G:O2'	30:4:1:MET:N	2.51	0.42
1:X:2560:G:C8	1:X:2589:C:N4	2.87	0.42
1:X:2718:A:C2	1:X:2719:U:H1'	2.54	0.42
1:X:2760:G:C2'	1:X:2761:A:OP1	2.66	0.42
1:X:1:G:H2'	1:X:2:G:O4'	2.19	0.42
1:X:640:C:H4'	1:X:660:G:C2	2.54	0.42
1:X:648:A:OP1	11:I:110:ALA:HB3	2.19	0.42
1:X:695:G:O2'	1:X:696:U:H5'	2.19	0.42
1:X:777:A:OP2	3:A:214:TRP:CH2	2.71	0.42
1:X:847:C:H2'	1:X:848:A:C8	2.54	0.42
1:X:873:U:O4	1:X:929:A:N7	2.52	0.42
1:X:885:A:C5	1:X:918:A:C2	3.07	0.42
1:X:938:G:H4'	1:X:939:C:C6	2.53	0.42
2:Y:26:G:H5''	2:Y:27:A:OP1	2.19	0.42
3:A:172:TYR:HB3	3:A:184:ARG:HB3	1.99	0.42
3:A:268:ARG:O	3:A:269:PHE:HB2	2.19	0.42
5:C:108:ILE:O	5:C:112:GLN:HG2	2.19	0.42
5:C:154:ASP:OD2	5:C:157:THR:OG1	2.29	0.42
5:C:161:ALA:HB3	5:C:169:VAL:CG2	2.49	0.42
1:X:1300:A:OP2	13:K:103:ARG:HD2	2.19	0.42
13:K:13:ASN:HD22	13:K:14:SER:N	2.17	0.42
15:M:33:VAL:CG2	15:M:51:GLU:OE1	2.66	0.42
20:R:93:ARG:HH22	20:R:108:VAL:CA	2.32	0.42
20:R:70:GLU:OE1	20:R:72:ARG:NH1	2.34	0.42
22:T:31:VAL:CG1	22:T:37:LEU:HD21	2.47	0.42
23:U:39:LYS:O	23:U:40:ARG:CB	2.67	0.42
24:V:18:ILE:C	24:V:20:ALA:H	2.22	0.42
25:W:41:ARG:HH11	25:W:41:ARG:CG	2.29	0.42
1:X:1089:C:C1'	1:X:1099:A:H2	2.31	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1261:G:O2'	1:X:1262:U:OP1	2.34	0.42
1:X:127:C:O2'	1:X:128:C:H5'	2.19	0.42
1:X:1283:C:H5''	1:X:1284:G:C5'	2.49	0.42
1:X:131:C:H6	1:X:131:C:O5'	2.02	0.42
1:X:1385:C:O2'	1:X:1386:A:H5'	2.19	0.42
1:X:167:A:H5''	1:X:181:A:N1	2.34	0.42
1:X:2035:G:N3	4:B:149:ARG:HA	2.34	0.42
1:X:971:A:H4'	1:X:2436:U:C5'	2.49	0.42
1:X:2618:A:N7	1:X:2755:A:H2	2.17	0.42
1:X:2858:A:H5''	1:X:2859:U:H5'	2.00	0.42
1:X:2859:U:OP2	26:Z:43:HIS:CE1	2.72	0.42
1:X:677:G:C2	1:X:678:G:C8	3.08	0.42
1:X:759:C:C1'	1:X:761:G:N2	2.82	0.42
1:X:774:A:C8	1:X:774:A:O5'	2.73	0.42
1:X:922:A:N1	1:X:2256:G:H1'	2.34	0.42
2:Y:32:C:H2'	2:Y:33:C:H5'	2.01	0.42
2:Y:7:C:H2'	2:Y:8:C:H6	1.83	0.42
1:X:760:U:C2	26:Z:3:LYS:HG3	2.53	0.42
30:4:1:MET:SD	30:4:35:ARG:NE	2.91	0.42
1:X:1516:A:N3	3:A:100:GLY:HA3	2.35	0.42
3:A:111:LEU:HD21	3:A:127:LEU:O	2.20	0.42
3:A:270:ILE:HG13	3:A:271:VAL:HG23	2.02	0.42
5:C:102:LEU:CD2	5:C:106:MET:HB2	2.47	0.42
5:C:154:ASP:N	5:C:154:ASP:OD1	2.52	0.42
5:C:34:GLN:O	5:C:38:ARG:HG3	2.19	0.42
6:D:55:LYS:O	6:D:59:LEU:HG	2.19	0.42
7:E:26:VAL:HG12	7:E:27:LYS:N	2.34	0.42
7:E:39:THR:O	7:E:41:LEU:N	2.51	0.42
8:F:129:GLY:CA	8:F:132:ARG:HB3	2.37	0.42
1:X:8:A:P	9:G:149:LYS:HZ1	2.41	0.42
10:H:121:ARG:HB3	10:H:123:PHE:CE1	2.54	0.42
20:R:22:VAL:HG22	20:R:83:LEU:H	1.84	0.42
20:R:66:GLN:HG2	20:R:66:GLN:O	2.19	0.42
21:S:10:PRO:O	21:S:13:LYS:CG	2.63	0.42
21:S:117:VAL:O	21:S:117:VAL:HG23	2.19	0.42
23:U:59:THR:O	23:U:60:VAL:O	2.37	0.42
1:X:111:G:H5'	1:X:112:U:OP1	2.17	0.42
1:X:1200:G:N7	1:X:1201:G:N7	2.68	0.42
1:X:1673:C:C2	1:X:1674:C:C5	3.08	0.42
1:X:1699:A:H61	1:X:1723:U:H3	1.67	0.42
1:X:1824:C:N4	1:X:1825:C:C4	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1918:G:C6	1:X:1945:C:C5	3.07	0.42
1:X:1926:U:H5''	1:X:1927:U:OP1	2.20	0.42
1:X:224:G:H4'	1:X:399:G:N1	2.34	0.42
1:X:2358:C:H2'	1:X:2359:U:H6	1.83	0.42
1:X:2590:U:O2	1:X:2590:U:H2'	2.19	0.42
1:X:2644:A:O2'	1:X:2645:C:H5'	2.19	0.42
1:X:321:A:C2	1:X:323:G:H1'	2.54	0.42
1:X:541:C:OP1	1:X:570:G:N1	2.51	0.42
1:X:745:C:H2'	1:X:746:G:H5'	2.01	0.42
1:X:963:G:C6	1:X:977:G:C6	3.07	0.42
3:A:165:VAL:HG13	3:A:173:VAL:HG11	2.01	0.42
5:C:112:GLN:OE1	5:C:116:LYS:HD3	2.20	0.42
5:C:129:LYS:O	5:C:131:LYS:N	2.48	0.42
5:C:48:ARG:HB2	5:C:51:VAL:CG1	2.50	0.42
7:E:150:LYS:C	7:E:152:ARG:H	2.21	0.42
9:G:33:ILE:CD1	9:G:35:LYS:HZ3	2.31	0.42
10:H:1:MET:HB3	10:H:44:TYR:HB3	2.01	0.42
14:L:33:ARG:HH22	14:L:103:LEU:HB2	1.79	0.42
17:O:11:GLN:NE2	17:O:38:LEU:HB3	2.34	0.42
23:U:20:ARG:HD2	23:U:43:ARG:CD	2.50	0.42
1:X:1050:G:C2'	1:X:1051:U:H5''	2.50	0.42
1:X:1325:U:H4'	1:X:1326:U:O5'	2.19	0.42
1:X:1688:U:H6	1:X:1688:U:O5'	2.03	0.42
1:X:1708:C:C4	1:X:1709:U:C5	3.08	0.42
1:X:1978:U:C3'	1:X:1979:C:C5'	2.94	0.42
1:X:2220:A:H2'	1:X:2221:G:C8	2.55	0.42
1:X:2551:A:H2'	4:B:144:ARG:HH11	1.84	0.42
1:X:2555:G:H3'	1:X:2555:G:OP1	2.19	0.42
1:X:2562:G:C5	1:X:2563:U:C5	3.07	0.42
1:X:759:C:OP2	1:X:2591:C:C6	2.72	0.42
1:X:2807:U:O2'	1:X:2808:U:C5'	2.68	0.42
1:X:2849:C:C2'	1:X:2850:U:C5'	2.98	0.42
1:X:496:C:H2'	1:X:497:C:H5''	1.99	0.42
1:X:745:C:H2'	1:X:746:G:C5'	2.50	0.42
1:X:923:A:C2	12:J:12:LYS:HE3	2.54	0.42
1:X:931:G:C6	1:X:932:G:C5	3.07	0.42
1:X:956:A:H5'	1:X:957:G:OP2	2.18	0.42
2:Y:15:A:C2'	2:Y:16:U:H5''	2.50	0.42
2:Y:53:G:N2	2:Y:54:U:C5	2.80	0.42
26:Z:20:ARG:O	26:Z:22:HIS:N	2.52	0.42
1:X:787:A:P	3:A:48:ARG:HH12	2.43	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:147:PRO:C	4:B:149:ARG:H	2.23	0.42
5:C:112:GLN:C	5:C:114:GLY:N	2.73	0.42
6:D:119:PRO:HG2	6:D:120:ASN:N	2.21	0.42
6:D:93:GLY:O	6:D:97:TYR:HB2	2.19	0.42
7:E:109:TYR:CD1	7:E:109:TYR:N	2.88	0.42
7:E:54:ARG:CZ	7:E:62:ARG:HG2	2.50	0.42
9:G:67:ARG:NH2	9:G:70:PHE:O	2.52	0.42
10:H:27:SER:HB3	10:H:49:ASP:HA	2.02	0.42
11:I:126:SER:O	11:I:130:ILE:HG13	2.20	0.42
1:X:643:A:H4'	11:I:67:ASN:HB2	2.01	0.42
13:K:24:GLN:O	13:K:25:ALA:C	2.57	0.42
13:K:33:ARG:HG2	13:K:34:ILE:N	2.34	0.42
13:K:45:ARG:O	13:K:49:GLU:HG3	2.19	0.42
14:L:79:ALA:O	14:L:82:LYS:HB2	2.19	0.42
15:M:5:ILE:HD12	15:M:7:ILE:HB	2.01	0.42
16:N:97:ASP:OD2	16:N:101:ARG:CZ	2.68	0.42
17:O:36:LYS:HE3	17:O:56:VAL:HG13	2.01	0.42
20:R:48:VAL:C	20:R:50:GLY:H	2.22	0.42
21:S:94:VAL:CG1	21:S:95:SER:N	2.83	0.42
25:W:4:LYS:HD2	25:W:52:GLU:CG	2.49	0.42
1:X:1145:C:C6	1:X:1147:G:OP2	2.73	0.42
1:X:1163:C:H2'	1:X:1164:C:H6	1.84	0.42
1:X:1183:C:H2'	1:X:1184:G:H8	1.82	0.42
1:X:1406:A:N6	19:Q:15:LYS:CG	2.82	0.42
1:X:1814:G:O2'	1:X:1815:G:H5'	2.19	0.42
1:X:1858:C:H2'	1:X:1859:A:C8	2.54	0.42
1:X:199:A:O2'	1:X:200:A:H5'	2.20	0.42
1:X:221:A:C6	1:X:232:A:C8	3.08	0.42
1:X:2314:A:O2'	1:X:2315:A:H8	2.03	0.42
1:X:2398:U:H2'	1:X:2399:C:C6	2.54	0.42
1:X:805:G:N7	1:X:2419:C:C1'	2.82	0.42
1:X:1750:A:N7	1:X:2675:U:H1'	2.35	0.42
1:X:2712:G:H8	1:X:2712:G:OP2	2.02	0.42
1:X:2754:C:O2'	1:X:2755:A:H5'	2.19	0.42
1:X:2777:A:N7	18:P:134:LYS:HB2	2.34	0.42
1:X:2799:C:C5	1:X:2800:C:C4	3.08	0.42
1:X:2825:A:C6	1:X:2826:C:C4	3.07	0.42
1:X:43:A:H8	1:X:43:A:O5'	2.03	0.42
1:X:494:A:N7	1:X:507:A:H2	2.17	0.42
1:X:5:A:N3	9:G:162:LYS:HD2	2.34	0.42
1:X:691:C:C2	1:X:692:C:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:694:G:H2'	1:X:695:G:O4'	2.20	0.42
1:X:826:U:O2	1:X:827:C:C6	2.72	0.42
1:X:92:U:H2'	1:X:93:A:C8	2.55	0.42
3:A:223:GLY:HA2	3:A:226:MET:SD	2.60	0.42
3:A:248:THR:HB	3:A:249:PRO:HD2	2.02	0.42
4:B:85:ALA:HB3	4:B:86:PRO:HD3	2.02	0.42
5:C:170:LEU:HD12	5:C:170:LEU:HA	1.78	0.42
5:C:185:ARG:HG2	5:C:185:ARG:HH21	1.84	0.42
6:D:123:ASP:H	6:D:129:ASN:ND2	2.17	0.42
6:D:5:LYS:C	6:D:8:TYR:HB3	2.34	0.42
7:E:136:ILE:H	7:E:136:ILE:CD1	2.31	0.42
12:J:122:ALA:O	12:J:125:LYS:HD2	2.19	0.42
14:L:11:LEU:HA	14:L:14:ARG:CD	2.45	0.42
14:L:43:ILE:HD12	14:L:43:ILE:N	2.34	0.42
15:M:43:ASN:ND2	15:M:43:ASN:C	2.70	0.42
17:O:68:LYS:HA	17:O:87:ARG:HB3	2.01	0.42
18:P:38:VAL:O	18:P:39:ARG:C	2.54	0.42
23:U:41:VAL:CG2	23:U:42:GLN:N	2.70	0.42
23:U:64:ALA:O	23:U:66:ALA:N	2.53	0.42
24:V:56:VAL:O	24:V:57:LYS:C	2.57	0.42
1:X:1375:C:N3	1:X:1376:C:C6	2.88	0.42
1:X:1437:A:H2'	1:X:1438:G:C8	2.53	0.42
1:X:1780:A:H2'	1:X:1781:C:O4'	2.20	0.42
1:X:1927:U:H1'	1:X:1938:U:C4'	2.49	0.42
1:X:2165:A:H2'	1:X:2166:G:C8	2.54	0.42
1:X:2196:U:C3'	1:X:2197:U:H6	2.33	0.42
1:X:2210:C:C2	1:X:2211:U:C6	3.08	0.42
1:X:2252:A:O2'	1:X:2253:A:H5'	2.20	0.42
1:X:2431:C:O2'	1:X:2432:A:H5'	2.20	0.42
1:X:317:U:C2'	1:X:318:G:C5'	2.88	0.42
1:X:441:A:OP2	1:X:441:A:H8	2.01	0.42
1:X:707:U:H6	1:X:707:U:O5'	2.03	0.42
1:X:730:C:C5'	1:X:731:A:P	3.06	0.42
3:A:248:THR:HB	3:A:249:PRO:CD	2.50	0.42
3:A:88:ARG:NH1	3:A:88:ARG:HG3	2.35	0.42
4:B:133:LYS:HE2	4:B:133:LYS:HB3	1.73	0.42
5:C:168:SER:CB	5:C:183:HIS:NE2	2.82	0.42
1:X:463:C:OP1	5:C:46:ARG:NH1	2.53	0.42
5:C:48:ARG:HB2	5:C:51:VAL:H	1.84	0.42
6:D:108:LEU:HA	6:D:111:ILE:HG13	2.01	0.42
6:D:128:TYR:HB3	6:D:156:ILE:HD12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:130:LEU:HD22	6:D:132:ILE:HD11	2.01	0.42
6:D:33:LYS:O	6:D:157:VAL:HG23	2.20	0.42
7:E:117:PRO:N	7:E:123:PHE:HE1	2.18	0.42
9:G:117:GLU:C	9:G:119:LEU:N	2.73	0.42
10:H:116:ARG:HH21	15:M:40:ARG:CB	2.32	0.42
10:H:133:VAL:HG12	15:M:38:LYS:NZ	2.35	0.42
10:H:127:VAL:HG13	10:H:133:VAL:HG21	2.00	0.42
13:K:96:ARG:CD	13:K:114:GLU:OE2	2.67	0.42
1:X:2356:A:H2	14:L:91:ARG:HH22	1.61	0.42
15:M:51:GLU:O	15:M:51:GLU:HG3	2.14	0.42
15:M:72:SER:O	15:M:73:PHE:HB2	2.19	0.42
15:M:34:ARG:HH12	15:M:81:PHE:HB3	1.82	0.42
15:M:34:ARG:NE	15:M:88:VAL:HG13	2.35	0.42
16:N:93:LYS:HE2	17:O:5:ILE:HG21	2.00	0.42
17:O:62:GLU:H	17:O:92:ALA:HB3	1.85	0.42
18:P:46:ARG:CG	18:P:46:ARG:HH11	2.29	0.42
19:Q:35:LYS:HA	19:Q:38:ILE:CG2	2.50	0.42
21:S:100:THR:O	21:S:101:THR:HG23	2.20	0.42
21:S:16:GLU:O	21:S:17:SER:C	2.57	0.42
1:X:1412:C:C2'	1:X:1413:U:O5'	2.68	0.42
1:X:2225:G:H2'	1:X:2226:A:C8	2.55	0.42
1:X:2387:U:H2'	1:X:2388:G:H8	1.85	0.42
1:X:198:A:N7	1:X:243:G:C5	2.87	0.42
1:X:2490:U:O4	1:X:2554:C:N3	2.53	0.42
1:X:2691:C:C2'	1:X:2692:A:C5'	2.98	0.42
1:X:26:G:C2	1:X:27:G:N2	2.87	0.42
1:X:510:G:H1'	1:X:515:A:N6	2.34	0.42
1:X:847:C:H2'	1:X:848:A:O4'	2.20	0.42
2:Y:58:G:C4'	2:Y:59:A:H8	2.33	0.42
3:A:68:LYS:HG2	3:A:69:ARG:N	2.34	0.42
5:C:45:THR:HG21	5:C:86:PRO:HD2	2.02	0.42
6:D:134:GLU:HG2	6:D:136:LEU:N	2.28	0.42
6:D:40:LEU:HB2	6:D:41:GLY:H	1.69	0.42
6:D:69:LYS:HG2	6:D:84:PRO:HG3	2.01	0.42
8:F:112:MET:CA	8:F:115:LEU:HD12	2.45	0.42
10:H:113:PRO:HB2	10:H:134:LEU:HD12	2.01	0.42
11:I:108:LEU:O	11:I:109:LEU:HD23	2.20	0.42
11:I:11:GLY:C	11:I:13:ARG:N	2.72	0.42
11:I:28:LYS:HZ2	11:I:36:GLY:HA3	1.83	0.42
11:I:78:SER:CA	11:I:112:GLY:HA3	2.50	0.42
2:Y:9:G:H5'	14:L:32:TYR:CE2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:26:ARG:HD3	14:L:88:VAL:HG22	2.02	0.42
16:N:59:ARG:HB2	16:N:59:ARG:HE	1.64	0.42
16:N:93:LYS:O	16:N:94:VAL:HB	2.18	0.42
17:O:13:ARG:CZ	17:O:13:ARG:HB2	2.49	0.42
17:O:83:ARG:NH2	17:O:83:ARG:HG2	2.34	0.42
20:R:86:PRO:HD3	20:R:90:LYS:HD3	2.01	0.42
21:S:172:LEU:CD2	21:S:173:PRO:HD2	2.50	0.42
21:S:51:LEU:CD2	21:S:51:LEU:H	2.19	0.42
22:T:72:LYS:O	22:T:74:LYS:N	2.52	0.42
23:U:53:GLU:HB3	23:U:58:LYS:HB2	2.01	0.42
1:X:1088:A:C2'	1:X:1089:C:H5'	2.49	0.42
1:X:1194:U:C6	1:X:1194:U:H5'	2.49	0.42
1:X:1441:A:H4'	1:X:1442:C:O5'	2.19	0.42
1:X:165:G:O2'	1:X:166:G:H5'	2.19	0.42
1:X:1838:G:C2	1:X:1878:C:C2	3.08	0.42
1:X:1917:C:H2'	1:X:1918:G:C5'	2.50	0.42
1:X:1914:U:O4	1:X:1952:A:N7	2.52	0.42
1:X:2004:U:H4'	1:X:2005:U:OP2	2.16	0.42
1:X:2033:C:H1'	4:B:156:MET:CE	2.48	0.42
1:X:219:G:O2'	1:X:220:U:P	2.78	0.42
1:X:2594:U:C2	1:X:2595:C:C5	3.08	0.42
1:X:2754:C:C2'	1:X:2755:A:H5'	2.49	0.42
1:X:305:A:H2'	1:X:306:G:C5'	2.48	0.42
1:X:405:C:H2'	1:X:406:G:O4'	2.19	0.42
1:X:516:G:O2'	1:X:517:A:P	2.76	0.42
1:X:632:A:H3'	1:X:632:A:N3	2.34	0.42
1:X:699:G:C4'	1:X:700:C:OP2	2.67	0.42
1:X:715:U:H2'	1:X:716:U:O4'	2.19	0.42
1:X:777:A:O2'	1:X:778:G:P	2.78	0.42
2:Y:16:U:HO2'	2:Y:17:A:P	2.43	0.42
2:Y:29:C:O3'	14:L:37:HIS:CD2	2.73	0.42
3:A:257:LEU:HA	3:A:257:LEU:HD23	1.61	0.42
3:A:70:ARG:O	3:A:72:LYS:N	2.53	0.42
4:B:146:THR:O	4:B:147:PRO:O	2.37	0.42
5:C:122:GLY:CA	5:C:124:ASP:OD1	2.67	0.42
5:C:46:ARG:HB3	5:C:51:VAL:HG23	2.02	0.42
6:D:53:ALA:O	6:D:54:ALA:C	2.57	0.42
8:F:115:LEU:C	8:F:117:ALA:N	2.67	0.42
12:J:28:VAL:O	12:J:29:ALA:HB2	2.20	0.42
12:J:39:GLU:HA	12:J:40:PRO:HD3	1.80	0.42
4:B:192:ASN:CB	15:M:9:ARG:NH1	2.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:36:ARG:HH21	26:Z:20:ARG:HD3	1.85	0.42
18:P:39:ARG:NE	18:P:97:VAL:HB	2.34	0.42
19:Q:49:ARG:C	19:Q:50:VAL:HG23	2.40	0.42
20:R:14:LEU:C	20:R:16:PHE:N	2.71	0.42
21:S:98:VAL:HG21	21:S:168:VAL:CG1	2.50	0.42
23:U:24:ALA:O	23:U:25:ARG:HB2	2.18	0.42
23:U:32:ARG:HG2	23:U:33:LYS:N	2.35	0.42
24:V:49:GLU:O	24:V:53:LEU:HG	2.20	0.42
1:X:107:G:C2	1:X:108:G:C8	3.08	0.42
1:X:1095:A:H2'	1:X:1096:A:C4'	2.49	0.42
1:X:1068:A:N7	1:X:1097:A:H3'	2.34	0.42
1:X:1114:A:H3'	1:X:1115:C:H5	1.85	0.42
1:X:1177:U:C2	1:X:1198:C:O2	2.73	0.42
1:X:1178:C:H6	1:X:1178:C:O5'	2.03	0.42
1:X:1453:A:H2'	1:X:1454:U:O4'	2.20	0.42
1:X:1552:C:H1'	1:X:1553:G:C4	2.55	0.42
1:X:1724:C:H2'	1:X:1725:C:C6	2.55	0.42
1:X:1831:G:C5	1:X:1832:G:C8	3.08	0.42
1:X:1922:U:HO2'	1:X:2571:G:H1'	1.77	0.42
1:X:1939:U:C4	1:X:1940:C:C4	3.07	0.42
1:X:2197:U:H3'	1:X:2198:U:H6	1.85	0.42
1:X:871:U:H2'	1:X:2247:A:N3	2.34	0.42
1:X:2463:G:H1'	12:J:125:LYS:HB2	2.02	0.42
1:X:2856:U:H2'	1:X:2857:C:C6	2.54	0.42
1:X:354:C:H2'	1:X:355:G:O4'	2.19	0.42
1:X:37:C:H1'	5:C:44:SER:HB2	2.02	0.42
1:X:531:G:C2'	1:X:532:A:O5'	2.68	0.42
1:X:559:C:O2	1:X:560:G:H1'	2.19	0.42
1:X:683:A:O2'	1:X:684:C:O5'	2.36	0.42
1:X:698:A:C2	1:X:702:A:C2	3.07	0.42
1:X:711:C:O2'	1:X:747:A:N6	2.53	0.42
1:X:756:C:O5'	1:X:756:C:H6	2.02	0.42
1:X:951:G:H3'	1:X:952:A:H5"	2.02	0.42
3:A:43:ARG:HH21	3:A:55:GLY:CA	2.31	0.42
4:B:39:ALA:HA	4:B:44:TYR:N	2.35	0.42
5:C:148:VAL:O	5:C:167:VAL:CA	2.62	0.42
6:D:175:LEU:HD12	6:D:176:PRO:CD	2.50	0.42
7:E:89:LEU:CD1	7:E:96:ALA:N	2.82	0.42
10:H:14:SER:OG	10:H:98:ILE:HD12	2.20	0.42
10:H:1:MET:HB2	10:H:44:TYR:CD1	2.55	0.42
12:J:38:MET:SD	12:J:131:LYS:HD3	2.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:83:ARG:CG	12:J:83:ARG:O	2.68	0.42
15:M:7:ILE:HD13	15:M:7:ILE:HA	1.81	0.42
16:N:21:ALA:HB1	16:N:24:PHE:CD2	2.54	0.42
17:O:13:ARG:NE	17:O:95:ILE:HG13	2.35	0.42
17:O:86:HIS:O	17:O:87:ARG:HB3	2.18	0.42
18:P:27:VAL:HG23	18:P:125:THR:CG2	2.35	0.42
21:S:46:GLN:HB3	21:S:50:GLY:HA3	2.02	0.42
22:T:51:VAL:HG21	22:T:79:ILE:O	2.20	0.42
22:T:5:LYS:CD	22:T:5:LYS:N	2.83	0.42
23:U:46:LEU:C	23:U:47:HIS:ND1	2.74	0.42
1:X:1017:C:O2'	1:X:1018:C:H5'	2.19	0.42
1:X:1138:A:H2'	1:X:1139:A:H5''	2.01	0.42
1:X:1188:A:C8	1:X:1189:G:C5	3.08	0.42
1:X:1188:A:C2'	1:X:1189:G:O5'	2.68	0.42
1:X:1249:G:O2'	1:X:1250:A:O5'	2.34	0.42
1:X:1253:C:H2'	1:X:1254:G:C5'	2.50	0.42
1:X:1276:U:H1'	26:Z:10:LYS:HG3	2.01	0.42
1:X:1351:G:C2	1:X:1352:G:C4	3.08	0.42
1:X:1426:U:H2'	1:X:1427:G:O4'	2.19	0.42
1:X:1715:A:C8	1:X:1717:A:C1'	3.03	0.42
1:X:1838:G:H2'	1:X:1839:A:O4'	2.20	0.42
1:X:1968:G:O2'	1:X:1969:G:H5'	2.20	0.42
1:X:2088:U:HO2'	1:X:2089:C:P	2.42	0.42
1:X:20:C:H2'	1:X:21:A:H8	1.84	0.42
1:X:2313:G:OP1	1:X:2313:G:H8	2.03	0.42
1:X:2331:A:C8	1:X:2345:A:N1	2.88	0.42
1:X:2585:C:C2'	1:X:2586:G:H5'	2.50	0.42
1:X:2757:G:OP2	1:X:2761:A:O2'	2.34	0.42
1:X:2819:G:H2'	1:X:2820:C:C6	2.55	0.42
1:X:494:A:H3'	1:X:495:C:H6	1.85	0.42
1:X:5:A:N3	9:G:162:LYS:NZ	2.62	0.42
1:X:660:G:O2'	1:X:661:C:H5'	2.20	0.42
1:X:692:C:H2'	1:X:693:A:C8	2.54	0.42
1:X:75:C:H2'	1:X:76:C:H5''	2.02	0.42
1:X:968:C:C4	1:X:970:A:C4	3.08	0.42
1:X:1818:G:OP1	3:A:224:SER:HB3	2.19	0.41
3:A:55:GLY:H	3:A:217:ARG:H	1.68	0.41
4:B:151:TYR:CD1	9:G:106:TYR:CZ	3.07	0.41
4:B:183:LEU:HD11	15:M:16:ILE:CG2	2.50	0.41
5:C:104:LEU:N	5:C:177:VAL:HG22	2.35	0.41
5:C:14:THR:HG22	5:C:15:ILE:N	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:22:VAL:HA	5:C:106:MET:CG	2.48	0.41
6:D:7:LYS:O	6:D:11:GLN:HB2	2.19	0.41
6:D:163:ASP:HA	6:D:166:ALA:CB	2.50	0.41
8:F:74:MET:HG3	8:F:111:LYS:HD2	2.02	0.41
9:G:124:GLU:O	9:G:128:GLU:HB2	2.20	0.41
11:I:90:ARG:O	11:I:91:ASP:HB3	2.19	0.41
11:I:97:ARG:O	11:I:98:LEU:HB3	2.20	0.41
12:J:35:LEU:N	12:J:105:PHE:O	2.46	0.41
12:J:28:VAL:HG23	12:J:137:VAL:HG21	2.02	0.41
10:H:116:ARG:HH21	15:M:40:ARG:C	2.24	0.41
16:N:17:VAL:O	16:N:18:LEU:C	2.56	0.41
16:N:31:GLN:O	16:N:32:TYR:O	2.38	0.41
18:P:93:LYS:HB2	18:P:129:ALA:HB3	2.01	0.41
19:Q:42:ILE:O	19:Q:43:GLN:C	2.58	0.41
19:Q:71:GLN:HG2	19:Q:72:ARG:N	2.33	0.41
20:R:105:ARG:NH1	20:R:113:THR:N	2.59	0.41
19:Q:7:LEU:HD21	24:V:29:ARG:HH12	1.85	0.41
1:X:1033:G:O2'	1:X:1034:U:OP2	2.36	0.41
1:X:1036:G:HO2'	1:X:1037:U:P	2.42	0.41
1:X:1188:A:N6	1:X:1189:G:N2	2.68	0.41
1:X:1221:C:C2	1:X:1222:G:C8	3.08	0.41
1:X:1329:U:O2'	1:X:1330:G:H5'	2.19	0.41
1:X:1348:C:H2'	1:X:1349:A:H8	1.85	0.41
1:X:133:C:C2'	1:X:134:G:O5'	2.68	0.41
1:X:136:A:H2'	1:X:137:A:C8	2.52	0.41
1:X:1428:G:H2'	1:X:1429:A:OP2	2.20	0.41
1:X:1773:C:O5'	1:X:1773:C:H6	2.02	0.41
1:X:177:U:C4	1:X:225:G:C2	3.07	0.41
1:X:1782:A:N6	1:X:1820:G:O2'	2.53	0.41
1:X:1969:G:O2'	1:X:1970:G:H5'	2.20	0.41
1:X:2013:A:H5''	1:X:2014:A:OP1	2.20	0.41
1:X:2021:G:C6	1:X:2022:C:N3	2.88	0.41
1:X:2036:G:N2	1:X:2037:A:H1'	2.35	0.41
1:X:216:U:H5''	1:X:601:A:H62	1.86	0.41
1:X:2171:U:C4	1:X:2172:U:C4	3.07	0.41
1:X:2200:G:H2'	1:X:2201:G:H8	1.84	0.41
1:X:2202:G:O2'	3:A:262:LYS:HD3	2.20	0.41
1:X:2204:A:H5'	1:X:2205:C:O4'	2.20	0.41
1:X:236:C:H2'	1:X:237:G:H8	1.84	0.41
1:X:2463:G:O2'	12:J:125:LYS:HB2	2.20	0.41
1:X:2492:G:C6	1:X:2493:U:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2508:G:C5'	1:X:2509:A:H5''	2.50	0.41
1:X:2527:G:C6	1:X:2540:A:N1	2.88	0.41
1:X:2665:G:C6	1:X:2666:U:N3	2.88	0.41
1:X:481:A:H2'	1:X:481:A:N3	2.35	0.41
1:X:53:G:H2'	1:X:54:G:O5'	2.20	0.41
1:X:57:G:N3	1:X:72:A:H2	2.18	0.41
1:X:612:G:O2'	1:X:614:G:O2'	2.35	0.41
1:X:98:U:N1	1:X:100:G:C4	2.88	0.41
2:Y:40:C:N3	2:Y:46:G:N2	2.63	0.41
2:Y:77:G:H2'	2:Y:78:A:C8	2.55	0.41
3:A:267:ASP:OD1	3:A:268:ARG:N	2.52	0.41
3:A:89:SER:HG	3:A:201:HIS:CE1	2.35	0.41
7:E:10:ALA:O	7:E:12:PRO:CD	2.68	0.41
7:E:126:PRO:CG	7:E:127:GLU:N	2.77	0.41
7:E:139:GLN:O	7:E:140:LEU:C	2.58	0.41
7:E:144:VAL:C	7:E:146:ALA:N	2.68	0.41
7:E:9:ILE:CD1	7:E:50:LEU:HB3	2.46	0.41
7:E:90:ARG:NH2	7:E:163:ARG:NH1	2.68	0.41
9:G:170:PRO:C	9:G:171:LEU:HD23	2.40	0.41
11:I:83:LEU:HB3	11:I:84:GLU:H	1.69	0.41
11:I:94:GLU:O	11:I:99:VAL:HG22	2.21	0.41
12:J:52:ARG:HG3	12:J:67:ILE:HD11	2.02	0.41
12:J:69:ILE:HD13	12:J:104:MET:CG	2.49	0.41
1:X:2256:G:P	12:J:86:LYS:HD2	2.59	0.41
12:J:96:SER:O	12:J:97:VAL:C	2.59	0.41
14:L:43:ILE:HG23	14:L:49:GLN:C	2.41	0.41
14:L:98:GLY:O	14:L:99:ARG:C	2.58	0.41
15:M:33:VAL:HG23	15:M:94:VAL:HG21	2.02	0.41
10:H:92:ASP:CG	15:M:69:ARG:HH12	2.22	0.41
16:N:85:ARG:HH21	16:N:85:ARG:CG	2.25	0.41
16:N:96:ALA:O	16:N:99:ALA:HB3	2.20	0.41
17:O:10:LYS:CE	17:O:11:GLN:HE21	2.33	0.41
18:P:49:SER:O	18:P:50:VAL:C	2.59	0.41
19:Q:25:TYR:HH	19:Q:87:SER:HA	1.83	0.41
20:R:11:ASN:ND2	20:R:11:ASN:O	2.51	0.41
22:T:46:LYS:HZ1	22:T:76:ALA:HA	1.85	0.41
24:V:24:GLU:OE2	24:V:46:LEU:HD21	2.20	0.41
24:V:39:GLN:N	24:V:40:PRO:HD3	2.36	0.41
1:X:1033:G:O2'	1:X:1034:U:P	2.78	0.41
1:X:1096:A:H2'	1:X:1097:A:C4	2.55	0.41
1:X:1140:A:C4	1:X:2549:G:H1'	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1007:A:C6	1:X:1171:A:C2	3.08	0.41
1:X:1569:A:O2'	1:X:1570:C:H5''	2.20	0.41
1:X:1622:G:H4'	1:X:1624:A:C2	2.55	0.41
1:X:1686:A:OP2	1:X:1687:C:H5	2.04	0.41
1:X:1804:U:O2'	1:X:1805:G:H5'	2.19	0.41
1:X:182:G:O2'	1:X:183:U:P	2.78	0.41
1:X:1928:G:C4	1:X:1929:U:C5	3.08	0.41
1:X:197:G:H22	1:X:242:A:N6	2.18	0.41
1:X:198:A:H4'	1:X:199:A:O5'	2.21	0.41
1:X:971:A:H4'	1:X:2436:U:H4'	2.02	0.41
1:X:2557:G:N2	1:X:2558:C:C2	2.88	0.41
1:X:2757:G:H5''	1:X:2758:A:H5''	2.02	0.41
1:X:2799:C:H6	1:X:2799:C:O5'	2.03	0.41
1:X:681:A:H5'	1:X:682:G:OP2	2.20	0.41
1:X:759:C:C1'	1:X:761:G:H21	2.32	0.41
1:X:780:U:C6	1:X:780:U:C3'	3.03	0.41
26:Z:16:ARG:HD3	26:Z:20:ARG:CZ	2.50	0.41
4:B:141:ILE:HD13	4:B:154:LYS:HZ2	1.85	0.41
4:B:183:LEU:HD23	4:B:183:LEU:N	2.34	0.41
4:B:38:THR:C	4:B:40:GLN:N	2.74	0.41
4:B:38:THR:CG2	4:B:39:ALA:N	2.82	0.41
5:C:153:ASP:O	5:C:154:ASP:CG	2.59	0.41
6:D:8:TYR:HB2	6:D:173:MET:CE	2.50	0.41
7:E:43:VAL:HG23	7:E:51:LEU:C	2.40	0.41
10:H:73:VAL:O	10:H:73:VAL:HG13	2.20	0.41
11:I:19:VAL:C	11:I:21:ARG:H	2.24	0.41
13:K:89:GLU:HG3	13:K:89:GLU:H	1.64	0.41
1:X:2313:G:N2	14:L:17:VAL:HB	2.35	0.41
14:L:66:ASP:O	14:L:68:ALA:N	2.53	0.41
17:O:38:LEU:O	17:O:39:PHE:CB	2.65	0.41
18:P:32:ARG:NH2	18:P:120:ARG:O	2.53	0.41
18:P:31:VAL:HG21	18:P:124:ILE:CD1	2.48	0.41
21:S:120:LEU:HD21	21:S:162:ALA:HB3	2.01	0.41
21:S:26:LYS:HB2	21:S:26:LYS:HE3	1.67	0.41
22:T:42:GLY:C	22:T:57:HIS:HD2	2.23	0.41
23:U:49:LYS:CB	23:U:62:LEU:H	2.33	0.41
23:U:50:ALA:HB3	23:U:52:ARG:HH22	1.85	0.41
1:X:1108:U:H2'	1:X:1109:A:O4'	2.19	0.41
1:X:119:G:H2'	1:X:120:G:C8	2.55	0.41
1:X:1359:G:O2'	1:X:1360:G:H5'	2.19	0.41
1:X:1440:G:H3'	1:X:1441:A:H5''	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1442:C:O2'	1:X:1443:G:P	2.77	0.41
1:X:1473:U:C2'	1:X:1474:A:OP2	2.69	0.41
1:X:1733:U:H6	1:X:1733:U:H5''	1.84	0.41
1:X:1779:C:H2'	1:X:1780:A:C8	2.55	0.41
1:X:1925:C:H6	1:X:1925:C:O5'	2.03	0.41
1:X:2082:C:C2'	1:X:2083:G:C5'	2.98	0.41
1:X:2286:G:N7	1:X:2287:G:C8	2.88	0.41
1:X:2468:G:H2'	1:X:2469:G:O4'	2.20	0.41
1:X:2520:A:H4'	1:X:2744:A:N1	2.35	0.41
1:X:1937:G:H1'	1:X:2530:C:H4'	2.01	0.41
1:X:2623:A:N6	1:X:2624:G:N1	2.69	0.41
1:X:2648:G:C2'	1:X:2649:A:O5'	2.68	0.41
1:X:1981:A:O3'	1:X:2704:U:H4'	2.19	0.41
1:X:2724:G:N7	1:X:2735:C:H1'	2.35	0.41
1:X:2720:A:C6	1:X:2744:A:C8	3.08	0.41
1:X:2618:A:N7	1:X:2755:A:C2	2.89	0.41
1:X:357:A:H3'	1:X:358:C:C6	2.55	0.41
1:X:469:G:H22	1:X:481:A:P	2.43	0.41
1:X:494:A:H3'	1:X:495:C:C6	2.55	0.41
1:X:701:U:O2'	1:X:702:A:H5'	2.20	0.41
1:X:891:A:N1	1:X:911:A:C5	2.88	0.41
1:X:930:A:N7	1:X:931:G:C8	2.88	0.41
1:X:93:A:C2'	1:X:94:C:H5'	2.50	0.41
1:X:963:G:H2'	1:X:964:A:O5'	2.20	0.41
3:A:96:HIS:CE1	3:A:100:GLY:HA2	2.54	0.41
3:A:83:GLU:OE1	3:A:104:TYR:HE2	2.03	0.41
3:A:105:ILE:HG22	3:A:106:LEU:O	2.20	0.41
3:A:134:ARG:NE	3:A:135:PHE:CZ	2.88	0.41
4:B:38:THR:C	4:B:40:GLN:H	2.20	0.41
5:C:127:ASP:HB2	5:C:129:LYS:HG2	2.01	0.41
6:D:57:LEU:HA	6:D:60:ILE:CG1	2.51	0.41
7:E:165:VAL:C	7:E:167:GLU:H	2.23	0.41
7:E:172:LYS:O	7:E:173:ALA:CB	2.68	0.41
7:E:69:ARG:O	7:E:70:THR:C	2.58	0.41
9:G:155:THR:N	9:G:157:PRO:HD2	2.35	0.41
10:H:121:ARG:HB3	10:H:123:PHE:CD1	2.56	0.41
11:I:18:ARG:O	11:I:19:VAL:HB	2.21	0.41
11:I:55:ARG:O	11:I:56:LEU:HB2	2.19	0.41
12:J:97:VAL:CG2	12:J:97:VAL:O	2.67	0.41
13:K:80:MET:HB2	13:K:80:MET:HE3	1.83	0.41
14:L:69:ALA:CB	14:L:106:ALA:HB2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:26:ASP:O	15:M:27:PHE:CD2	2.74	0.41
17:O:15:SER:HA	17:O:95:ILE:CB	2.42	0.41
17:O:65:ARG:CG	17:O:87:ARG:HD2	2.32	0.41
20:R:95:ARG:HG3	20:R:95:ARG:HH11	1.86	0.41
20:R:98:ILE:CG2	20:R:99:VAL:H	2.16	0.41
21:S:12:GLN:O	21:S:13:LYS:CB	2.68	0.41
21:S:73:LYS:O	21:S:75:LYS:N	2.45	0.41
22:T:25:LYS:HB2	22:T:37:LEU:HA	2.02	0.41
23:U:27:ASP:N	23:U:32:ARG:HD3	2.34	0.41
23:U:28:GLY:O	23:U:29:GLY:C	2.58	0.41
23:U:52:ARG:NH1	23:U:67:LEU:CD1	2.83	0.41
1:X:1229:C:H2'	1:X:1230:C:H6	1.85	0.41
1:X:1301:U:H5''	1:X:1302:C:OP2	2.19	0.41
1:X:1433:A:N3	1:X:1433:A:H2'	2.35	0.41
1:X:1440:G:C6	1:X:1441:A:N6	2.89	0.41
1:X:1724:C:C4	1:X:1747:G:C6	3.09	0.41
1:X:177:U:C2	1:X:178:C:N1	2.88	0.41
1:X:1949:A:N6	1:X:2581:A:H62	2.19	0.41
1:X:2196:U:H3'	1:X:2197:U:H6	1.84	0.41
1:X:2310:G:C6	1:X:2311:U:C4	3.09	0.41
1:X:2434:G:H2'	1:X:2435:C:C6	2.55	0.41
1:X:2528:G:C2	1:X:2529:G:C8	3.08	0.41
1:X:2560:G:N9	1:X:2589:C:N4	2.68	0.41
1:X:2596:C:O2'	1:X:2597:G:H5'	2.20	0.41
1:X:2779:C:C2'	1:X:2780:A:O4'	2.69	0.41
1:X:407:A:H2'	1:X:408:U:C6	2.55	0.41
1:X:50:G:H1'	1:X:116:A:N6	2.35	0.41
1:X:538:A:OP2	9:G:142:ARG:NH1	2.53	0.41
1:X:804:C:O2'	1:X:805:G:O5'	2.37	0.41
26:Z:45:ILE:HD13	26:Z:57:VAL:HG22	2.02	0.41
6:D:13:ARG:CB	6:D:14:PRO:CD	2.87	0.41
1:X:2292:C:H5''	6:D:68:THR:HG21	2.02	0.41
7:E:94:PHE:CB	7:E:107:ILE:HG22	2.51	0.41
10:H:12:ASP:C	10:H:12:ASP:OD1	2.58	0.41
10:H:2:ILE:HD12	10:H:8:LEU:CD2	2.46	0.41
11:I:18:ARG:HD2	11:I:21:ARG:CD	2.48	0.41
11:I:7:LYS:O	11:I:9:THR:N	2.54	0.41
13:K:98:LEU:N	13:K:112:LEU:O	2.48	0.41
14:L:40:ALA:HB2	14:L:103:LEU:HD21	2.01	0.41
16:N:26:GLY:O	16:N:27:SER:C	2.58	0.41
19:Q:20:MET:O	19:Q:22:ARG:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:25:TYR:O	19:Q:80:VAL:HG22	2.21	0.41
20:R:98:ILE:HB	20:R:100:ASP:H	1.86	0.41
20:R:90:LYS:HB2	20:R:108:VAL:HG11	2.01	0.41
21:S:123:VAL:HG23	21:S:161:ALA:CA	2.49	0.41
21:S:123:VAL:N	21:S:159:THR:O	2.53	0.41
22:T:21:LEU:HD11	22:T:41:ARG:HG2	2.00	0.41
23:U:49:LYS:HD3	23:U:61:TRP:CE2	2.56	0.41
25:W:47:VAL:HB	25:W:50:LEU:HD12	2.02	0.41
25:W:5:LEU:HB2	25:W:25:LEU:HD13	2.02	0.41
1:X:83:A:N6	1:X:100:G:H1'	2.33	0.41
1:X:1012:A:H2'	1:X:1013:G:O4'	2.21	0.41
1:X:1029:C:O2'	1:X:1030:U:H5'	2.21	0.41
1:X:1254:G:H8	1:X:1254:G:O5'	2.04	0.41
1:X:1347:C:O2'	1:X:1348:C:H5'	2.20	0.41
1:X:1474:A:C1'	1:X:1475:U:H5'	2.51	0.41
1:X:211:U:H2'	1:X:212:U:O4'	2.21	0.41
1:X:2289:A:C3'	1:X:2290:A:H8	2.33	0.41
1:X:2331:A:H2'	1:X:2332:G:H5'	2.02	0.41
1:X:2864:C:O2'	1:X:2865:G:H5'	2.20	0.41
1:X:2769:C:O2	1:X:2866:A:H2	2.04	0.41
1:X:504:G:H4'	18:P:27:VAL:CG1	2.50	0.41
1:X:580:A:C8	1:X:584:A:C6	3.09	0.41
1:X:679:C:H2'	1:X:680:U:H6	1.80	0.41
1:X:931:G:H4'	2:Y:83:C:C4'	2.51	0.41
2:Y:26:G:O3'	2:Y:27:A:O4'	2.39	0.41
4:B:127:ALA:HB2	4:B:135:HIS:CE1	2.54	0.41
4:B:176:ARG:C	4:B:177:ALA:O	2.59	0.41
4:B:179:GLU:HB3	4:B:181:LEU:HG	2.02	0.41
5:C:3:GLN:NE2	5:C:4:ILE:H	2.19	0.41
6:D:171:GLN:O	6:D:174:GLY:N	2.48	0.41
6:D:16:LEU:HD13	6:D:28:VAL:HG11	1.99	0.41
6:D:83:MET:O	6:D:84:PRO:C	2.57	0.41
7:E:45:GLN:NE2	7:E:48:ASP:O	2.54	0.41
12:J:105:PHE:HA	12:J:106:GLU:OE2	2.21	0.41
12:J:113:GLU:HA	12:J:113:GLU:OE2	2.21	0.41
12:J:27:TYR:HB3	12:J:137:VAL:CG1	2.51	0.41
16:N:68:GLY:C	16:N:106:PHE:HE2	2.23	0.41
18:P:34:SER:O	18:P:35:PRO:C	2.59	0.41
20:R:37:LEU:N	20:R:47:VAL:O	2.53	0.41
20:R:86:PRO:O	20:R:87:GLU:HB2	2.21	0.41
21:S:132:GLN:O	21:S:133:GLU:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:W:1:MET:HB2	25:W:34:VAL:CG1	2.51	0.41
1:X:1064:C:C4	1:X:1065:A:N7	2.89	0.41
1:X:1122:A:H2'	1:X:1123:G:O5'	2.21	0.41
1:X:1141:U:O2'	1:X:1142:G:P	2.78	0.41
1:X:1151:U:C5'	1:X:1153:A:H5'	2.50	0.41
1:X:1298:G:N1	1:X:1342:U:OP1	2.53	0.41
1:X:1474:A:HO2'	1:X:1475:U:P	2.43	0.41
1:X:1666:G:C6	1:X:1992:G:C6	3.09	0.41
1:X:2020:G:C6	1:X:2021:G:C6	3.09	0.41
1:X:2194:A:H2'	1:X:2195:C:C5'	2.50	0.41
1:X:2210:C:C2	1:X:2211:U:C5	3.09	0.41
1:X:2259:G:O2'	1:X:2260:C:H5'	2.20	0.41
1:X:228:A:OP1	11:I:53:ARG:HB3	2.20	0.41
1:X:2558:C:O5'	1:X:2558:C:H6	2.03	0.41
1:X:2576:G:C5	1:X:2577:A:C6	3.08	0.41
1:X:2770:A:O2'	1:X:2771:C:P	2.78	0.41
1:X:2800:C:H5''	1:X:2800:C:H6	1.85	0.41
1:X:318:G:H21	1:X:341:A:H62	1.69	0.41
1:X:353:G:H2'	1:X:354:C:H6	1.84	0.41
1:X:210:A:H61	1:X:441:A:H62	1.68	0.41
1:X:459:A:H1'	1:X:461:A:H62	1.85	0.41
1:X:769:C:H2'	1:X:770:U:H5'	2.02	0.41
1:X:771:C:H2'	1:X:772:G:H8	1.85	0.41
1:X:871:U:C4	1:X:2247:A:N1	2.89	0.41
1:X:982:C:O2'	1:X:983:G:H5'	2.21	0.41
2:Y:68:A:H61	2:Y:111:C:H5''	1.85	0.41
2:Y:19:C:H2'	2:Y:20:A:C8	2.55	0.41
2:Y:39:C:C5	2:Y:40:C:C4	3.08	0.41
26:Z:51:TYR:HA	26:Z:54:GLY:O	2.20	0.41
3:A:213:ARG:HA	3:A:213:ARG:HD2	1.75	0.41
4:B:39:ALA:N	4:B:45:GLU:OE2	2.33	0.41
6:D:143:TYR:CA	6:D:146:VAL:HG22	2.48	0.41
6:D:22:TYR:CE2	6:D:29:PRO:HD3	2.56	0.41
6:D:66:ILE:O	6:D:87:ILE:HA	2.21	0.41
7:E:150:LYS:O	7:E:151:VAL:C	2.59	0.41
9:G:145:HIS:CE1	9:G:148:LEU:HD23	2.56	0.41
11:I:123:ASP:OD1	11:I:123:ASP:O	2.38	0.41
11:I:117:ALA:HB2	11:I:137:GLY:HA3	2.03	0.41
11:I:73:GLU:OE2	11:I:105:PRO:O	2.38	0.41
12:J:63:GLY:C	12:J:65:ILE:N	2.74	0.41
14:L:63:ASN:HB3	14:L:66:ASP:CB	2.43	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2273:C:C5'	14:L:95:LYS:HD2	2.50	0.41
15:M:56:ALA:O	15:M:66:PHE:HA	2.20	0.41
17:O:47:PHE:O	17:O:51:ALA:HB2	2.21	0.41
17:O:9:GLY:O	17:O:10:LYS:CB	2.66	0.41
18:P:116:ILE:HD13	18:P:116:ILE:HG21	1.89	0.41
1:X:1406:A:N6	19:Q:15:LYS:HG2	2.35	0.41
19:Q:3:HIS:ND1	19:Q:44:GLN:HB2	2.35	0.41
19:Q:53:ILE:HG13	19:Q:54:SER:N	2.36	0.41
19:Q:75:ARG:HG3	19:Q:75:ARG:NH1	2.36	0.41
20:R:101:GLY:C	20:R:103:LYS:N	2.74	0.41
20:R:38:LEU:HD13	20:R:47:VAL:HG21	2.02	0.41
20:R:48:VAL:C	20:R:50:GLY:N	2.74	0.41
21:S:34:LEU:CD1	21:S:34:LEU:C	2.89	0.41
22:T:52:GLY:N	22:T:62:LEU:HD21	2.35	0.41
24:V:37:LEU:CD2	24:V:37:LEU:C	2.89	0.41
1:X:1139:A:O2'	1:X:1140:A:P	2.79	0.41
1:X:1171:A:H2'	1:X:1172:U:C6	2.55	0.41
1:X:1728:A:H2'	1:X:1729:C:C6	2.55	0.41
1:X:1742:G:H2'	1:X:1743:C:H6	1.85	0.41
1:X:2170:C:C2'	1:X:2171:U:H4'	2.39	0.41
1:X:223:C:H2'	1:X:224:G:H5'	2.02	0.41
1:X:2289:A:N1	6:D:79:LEU:HD11	2.36	0.41
1:X:2418:A:N6	1:X:2564:U:H4'	2.36	0.41
1:X:632:A:C2	1:X:633:G:C4	3.09	0.41
1:X:831:G:N7	1:X:1201:G:C6	2.89	0.41
1:X:836:G:H2'	1:X:837:U:C6	2.56	0.41
1:X:999:A:N1	1:X:1000:G:C2	2.88	0.41
6:D:113:ASP:O	6:D:115:ARG:NH2	2.54	0.41
7:E:30:LYS:HG2	7:E:79:VAL:C	2.36	0.41
10:H:41:ASN:O	10:H:42:LYS:O	2.39	0.41
10:H:16:ALA:HA	10:H:58:ALA:HA	2.03	0.41
11:I:94:GLU:CB	11:I:97:ARG:HH11	2.30	0.41
12:J:88:LYS:HZ2	12:J:88:LYS:HB2	1.86	0.41
13:K:44:LEU:HD12	13:K:44:LEU:HA	1.84	0.41
14:L:11:LEU:HD23	14:L:14:ARG:HD2	2.01	0.41
14:L:39:TYR:O	14:L:41:GLN:N	2.53	0.41
14:L:40:ALA:HB1	14:L:75:LEU:CD2	2.45	0.41
17:O:13:ARG:HB2	17:O:13:ARG:NH2	2.35	0.41
20:R:105:ARG:NH2	20:R:112:LYS:CA	2.69	0.41
20:R:53:VAL:O	20:R:71:GLN:HA	2.20	0.41
21:S:94:VAL:O	21:S:121:GLN:HG3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:60:GLU:O	21:S:62:PHE:CD2	2.74	0.41
24:V:37:LEU:HD23	24:V:37:LEU:C	2.40	0.41
1:X:1007:A:N6	1:X:1171:A:C6	2.89	0.41
1:X:1151:U:H5''	1:X:1153:A:C5'	2.51	0.41
1:X:1776:A:OP1	1:X:1965:U:H5'	2.20	0.41
1:X:208:C:H2'	1:X:209:G:C5'	2.50	0.41
1:X:2225:G:H2'	1:X:2226:A:H8	1.85	0.41
1:X:223:C:C4	1:X:224:G:N7	2.89	0.41
1:X:2446:C:N3	1:X:2462:C:N4	2.69	0.41
1:X:2706:U:O2'	1:X:2707:G:OP1	2.33	0.41
1:X:2714:A:C2	4:B:203:LYS:NZ	2.84	0.41
1:X:2796:A:P	13:K:3:HIS:CE1	3.14	0.41
1:X:328:A:O2'	1:X:329:C:H5'	2.21	0.41
1:X:457:C:H2'	1:X:458:G:O4'	2.21	0.41
1:X:565:A:H2'	1:X:566:U:C6	2.55	0.41
1:X:678:G:H4'	11:I:50:GLU:OE1	2.21	0.41
1:X:780:U:O2'	1:X:781:G:H5'	2.21	0.41
1:X:869:C:O5'	1:X:869:C:H6	2.04	0.41
1:X:871:U:OP1	22:T:44:LYS:HE3	2.20	0.41
1:X:944:A:H2'	1:X:945:G:C5'	2.51	0.41
1:X:2790:C:O2'	26:Z:43:HIS:HD2	2.04	0.41
30:4:22:ARG:HD2	30:4:37:GLY:CA	2.49	0.41
3:A:78:LYS:HG2	3:A:115:ALA:O	2.20	0.41
3:A:57:GLY:O	3:A:58:HIS:HB2	2.21	0.41
4:B:59:VAL:HG12	4:B:60:ASN:O	2.20	0.41
4:B:63:MET:O	4:B:64:GLN:C	2.57	0.41
5:C:58:MET:HB2	5:C:70:GLY:O	2.21	0.41
6:D:22:TYR:CG	6:D:28:VAL:HG22	2.56	0.41
6:D:80:ARG:O	6:D:81:GLN:O	2.39	0.41
6:D:81:GLN:CG	6:D:82:GLY:H	2.28	0.41
11:I:73:GLU:CG	11:I:101:ARG:CB	2.95	0.41
11:I:64:GLY:O	11:I:65:PHE:HB3	2.19	0.41
11:I:76:LYS:HB3	11:I:79:GLN:CD	2.40	0.41
12:J:71:PRO:CA	12:J:96:SER:HB2	2.44	0.41
14:L:80:ALA:C	14:L:82:LYS:H	2.24	0.41
17:O:20:ILE:HD12	17:O:21:ARG:N	2.35	0.41
18:P:134:LYS:HB3	18:P:134:LYS:HE2	1.78	0.41
20:R:14:LEU:HD23	20:R:14:LEU:HA	1.84	0.41
20:R:17:LYS:C	20:R:19:GLY:H	2.24	0.41
20:R:25:LEU:HD22	20:R:26:SER:CB	2.48	0.41
21:S:22:VAL:HA	21:S:32:PHE:HD1	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:7:ARG:CD	24:V:8:ASN:N	2.68	0.41
25:W:36:ASP:O	25:W:36:ASP:OD1	2.38	0.41
1:X:1002:C:N3	1:X:1003:C:C5	2.89	0.41
1:X:1052:C:H2'	1:X:1053:G:C5'	2.35	0.41
1:X:1090:C:C2'	1:X:1091:C:H5'	2.51	0.41
1:X:1184:G:H3'	1:X:1185:C:H5''	2.02	0.41
1:X:952:A:H1'	1:X:1204:G:O2'	2.21	0.41
1:X:1318:A:C2'	1:X:1319:C:O5'	2.68	0.41
1:X:135:U:C3'	1:X:135:U:C6	3.04	0.41
1:X:1498:G:C5	1:X:1523:A:C6	3.09	0.41
1:X:1538:A:H2'	1:X:1539:U:O4'	2.21	0.41
1:X:1511:A:H2	1:X:1594:U:H1'	1.86	0.41
1:X:1601:U:H6	1:X:1601:U:O5'	2.04	0.41
1:X:1753:A:C8	1:X:1753:A:O5'	2.63	0.41
1:X:1763:G:C2'	1:X:1764:A:H5'	2.50	0.41
1:X:2218:G:H5'	3:A:249:PRO:CB	2.43	0.41
1:X:2285:U:H5'	1:X:2286:G:O4'	2.21	0.41
1:X:2364:C:H2'	1:X:2365:U:H6	1.84	0.41
1:X:2451:G:H2'	1:X:2454:C:H42	1.86	0.41
1:X:2460:G:H2'	1:X:2461:G:OP2	2.21	0.41
1:X:335:A:N6	1:X:349:G:O2'	2.53	0.41
1:X:490:A:HO2'	1:X:492:G:C5'	2.34	0.41
1:X:593:C:N4	1:X:594:G:C6	2.89	0.41
1:X:674:U:H6	1:X:674:U:O5'	2.04	0.41
1:X:844:G:OP2	1:X:955:G:N2	2.52	0.41
1:X:862:A:H2'	1:X:863:C:O4'	2.20	0.41
26:Z:44:HIS:CD2	26:Z:44:HIS:N	2.89	0.41
3:A:226:MET:HE3	3:A:230:ASP:HB2	2.03	0.41
3:A:54:ILE:O	3:A:54:ILE:CG2	2.68	0.41
4:B:33:ILE:HD13	4:B:36:ARG:HH12	1.85	0.41
5:C:112:GLN:NE2	5:C:116:LYS:CB	2.84	0.41
1:X:2042:A:O2'	5:C:62:LYS:HE3	2.21	0.41
6:D:106:ILE:CG2	6:D:110:ARG:HD2	2.44	0.41
6:D:57:LEU:O	6:D:60:ILE:CG1	2.69	0.41
7:E:33:LEU:HG	7:E:34:THR:N	2.36	0.41
7:E:71:LEU:HA	7:E:71:LEU:HD23	1.84	0.41
9:G:127:ILE:HD12	9:G:127:ILE:N	2.36	0.41
10:H:23:ARG:HH12	10:H:25:LEU:HG	1.83	0.41
10:H:83:ARG:NH1	15:M:40:ARG:HE	2.14	0.41
5:C:26:VAL:HG22	11:I:18:ARG:HH11	1.84	0.41
14:L:27:LEU:HB3	14:L:42:ILE:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:44:ASP:OD1	14:L:44:ASP:C	2.59	0.41
15:M:9:ARG:O	15:M:13:LEU:HD13	2.21	0.41
19:Q:25:TYR:CE2	19:Q:88:ILE:HG23	2.56	0.41
20:R:15:HIS:CE1	20:R:16:PHE:CE2	3.08	0.41
20:R:40:LEU:HA	20:R:41:PRO:HD2	1.88	0.41
20:R:93:ARG:HH12	20:R:109:ALA:N	2.17	0.41
21:S:90:GLU:N	21:S:127:PRO:HG2	2.36	0.41
21:S:148:THR:HG22	21:S:167:THR:CA	2.51	0.41
23:U:14:VAL:HB	23:U:15:VAL:H	1.71	0.41
25:W:5:LEU:HA	25:W:51:LEU:HD23	2.02	0.41
1:X:1386:A:H2'	1:X:1387:G:O4'	2.21	0.41
1:X:171:G:N1	1:X:172:A:C2	2.89	0.41
1:X:2009:U:H6	1:X:2009:U:C5'	2.28	0.41
1:X:2036:G:H2'	1:X:2037:A:C5'	2.50	0.41
1:X:2055:G:C6	1:X:2056:C:C4	3.09	0.41
1:X:2526:U:O2'	1:X:2527:G:H5'	2.21	0.41
1:X:1949:A:N3	1:X:2572:U:O4'	2.54	0.41
1:X:2764:U:O2'	1:X:2765:C:H5'	2.21	0.41
1:X:306:G:H22	1:X:355:G:H1'	1.84	0.41
1:X:417:C:C2	1:X:419:G:C8	3.07	0.41
1:X:439:C:H6	1:X:439:C:O5'	2.04	0.41
1:X:497:C:C4'	1:X:497:C:C6	3.04	0.41
1:X:51:A:O2'	1:X:52:A:H5'	2.21	0.41
1:X:567:G:H2'	1:X:568:G:H8	1.86	0.41
1:X:617:U:H5''	1:X:617:U:O2	2.21	0.41
1:X:59:G:N3	1:X:73:A:C2	2.88	0.41
1:X:921:A:C6	1:X:924:C:C2	3.09	0.41
2:Y:11:G:P	14:L:28:ARG:NH2	2.91	0.41
30:4:2:LYS:HG2	30:4:4:ARG:HD3	2.02	0.41
30:4:30:VAL:HG23	30:4:31:LYS:N	2.36	0.41
3:A:190:TYR:CD2	3:A:190:TYR:N	2.89	0.41
3:A:206:LEU:O	3:A:207:GLY:C	2.58	0.41
4:B:142:GLY:O	4:B:143:GLN:CG	2.61	0.41
4:B:64:GLN:O	4:B:65:GLY:C	2.58	0.41
7:E:98:LEU:CD1	7:E:101:LYS:C	2.89	0.41
7:E:109:TYR:O	7:E:110:SER:C	2.58	0.41
7:E:84:THR:CB	7:E:134:SER:HA	2.50	0.41
9:G:109:GLY:N	9:G:110:LEU:HD23	2.36	0.41
9:G:146:THR:O	9:G:149:LYS:HE2	2.20	0.41
10:H:113:PRO:CB	10:H:134:LEU:HD12	2.51	0.41
10:H:77:THR:C	10:H:79:HIS:H	2.23	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:91:ASN:HA	16:N:93:LYS:NZ	2.36	0.41
17:O:35:LEU:C	17:O:35:LEU:HD23	2.40	0.41
18:P:81:HIS:CD2	18:P:82:ASN:N	2.89	0.41
19:Q:12:ILE:O	19:Q:16:ALA:HB3	2.20	0.41
19:Q:8:GLN:O	19:Q:9:ALA:CB	2.69	0.41
20:R:30:LYS:H	20:R:30:LYS:HG3	1.63	0.41
21:S:87:THR:OG1	21:S:91:PRO:HA	2.21	0.41
23:U:10:LYS:HZ3	23:U:70:LEU:HG	1.86	0.41
24:V:6:MET:O	24:V:14:PHE:HE1	2.04	0.41
1:X:1121:G:H2'	1:X:1122:A:C8	2.55	0.41
1:X:123:A:C2'	1:X:124:A:OP1	2.69	0.41
1:X:142:U:H5''	1:X:143:A:OP2	2.20	0.41
1:X:1501:C:C2'	1:X:1502:G:O4'	2.62	0.41
1:X:1705:U:O2	1:X:1717:A:H8	2.04	0.41
1:X:1787:U:H4'	3:A:254:THR:HG23	2.03	0.41
1:X:1948:C:C6	1:X:1949:A:C8	3.09	0.41
1:X:1681:A:N6	1:X:1979:C:H42	2.18	0.41
1:X:2187:A:N6	1:X:2188:A:N6	2.69	0.41
1:X:2208:U:H2'	1:X:2209:G:C8	2.53	0.41
1:X:2243:C:H2'	1:X:2244:C:O4'	2.21	0.41
1:X:2297:G:O2'	1:X:2300:G:O6	2.31	0.41
1:X:2322:U:O3'	1:X:2323:U:O4'	2.39	0.41
1:X:2437:G:O2'	1:X:2438:A:P	2.79	0.41
1:X:2691:C:H1'	1:X:2692:A:C8	2.56	0.41
1:X:2715:C:H2'	1:X:2716:G:O4'	2.20	0.41
1:X:341:A:C8	1:X:341:A:H3'	2.55	0.41
1:X:37:C:H4'	1:X:463:C:OP1	2.21	0.41
1:X:417:C:C4	1:X:419:G:C5	3.09	0.41
1:X:422:C:H2'	1:X:423:G:C8	2.55	0.41
1:X:441:A:N7	1:X:442:A:C5	2.89	0.41
1:X:461:A:H4'	16:N:3:ARG:HE	1.85	0.41
1:X:666:U:OP1	1:X:666:U:H4'	2.21	0.41
1:X:793:G:C2	1:X:795:A:C2	3.09	0.41
1:X:877:G:H21	1:X:879:A:H61	1.67	0.41
1:X:963:G:C2'	1:X:964:A:O5'	2.69	0.41
30:4:27:CYS:O	30:4:28:SER:C	2.60	0.40
3:A:39:LYS:HD2	3:A:39:LYS:HA	1.84	0.40
3:A:52:ARG:HB2	3:A:53:PHE:CE2	2.56	0.40
4:B:165:VAL:HG12	4:B:166:THR:N	2.36	0.40
5:C:59:TYR:HB3	5:C:60:GLY:H	1.55	0.40
6:D:146:VAL:HB	6:D:147:ASP:H	1.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:71:LYS:O	6:D:72:LYS:CB	2.69	0.40
7:E:14:GLY:O	7:E:15:VAL:O	2.38	0.40
7:E:87:LEU:HD22	7:E:162:VAL:CG1	2.51	0.40
9:G:103:TYR:CE1	9:G:111:LYS:HA	2.57	0.40
9:G:95:LEU:HD21	9:G:117:GLU:OE2	2.21	0.40
10:H:1:MET:HE2	10:H:44:TYR:CE2	2.56	0.40
11:I:107:LYS:HG2	11:I:109:LEU:CD2	2.49	0.40
11:I:77:LEU:HB3	11:I:112:GLY:N	2.36	0.40
12:J:102:ARG:NH1	12:J:102:ARG:HG3	2.33	0.40
12:J:66:TYR:N	12:J:106:GLU:OE1	2.52	0.40
13:K:39:THR:O	13:K:42:LYS:HB2	2.21	0.40
14:L:42:ILE:O	14:L:42:ILE:CG2	2.68	0.40
14:L:31:VAL:O	14:L:94:TYR:HE1	2.04	0.40
17:O:73:LYS:HB2	17:O:82:ARG:HB2	2.03	0.40
21:S:141:MET:HG2	21:S:145:ASP:CB	2.41	0.40
21:S:70:GLN:CA	21:S:70:GLN:HE21	2.30	0.40
2:Y:94:G:H5''	21:S:74:ARG:HH12	1.86	0.40
23:U:41:VAL:HG21	23:U:43:ARG:HH22	1.86	0.40
24:V:2:LYS:N	24:V:3:PRO:CD	2.84	0.40
25:W:12:ARG:HD3	25:W:12:ARG:HA	1.95	0.40
1:X:1342:U:H5''	1:X:1343:C:C5	2.54	0.40
1:X:1460:G:C6	1:X:1461:C:C4	3.09	0.40
1:X:2011:U:O2'	1:X:2012:A:H5'	2.21	0.40
1:X:2057:U:H5''	1:X:2057:U:C6	2.56	0.40
1:X:2290:A:C8	1:X:2290:A:O5'	2.74	0.40
1:X:2311:U:H4'	1:X:2315:A:H62	1.85	0.40
1:X:2404:A:HO2'	1:X:2405:A:P	2.44	0.40
1:X:2484:G:C2'	1:X:2485:U:H5'	2.49	0.40
1:X:2506:C:O2'	1:X:2507:U:H5'	2.21	0.40
1:X:2511:G:C6	1:X:2512:A:C5	3.09	0.40
1:X:704:G:HO2'	1:X:705:C:H5'	1.86	0.40
1:X:77:C:C2	1:X:78:C:C5	3.09	0.40
1:X:83:A:C1'	1:X:84:G:O4'	2.69	0.40
1:X:877:G:H2'	1:X:878:C:O4'	2.21	0.40
1:X:98:U:O2	1:X:98:U:C2'	2.60	0.40
2:Y:23:G:C6	2:Y:24:U:C4	3.10	0.40
2:Y:65:A:H2'	2:Y:66:G:H8	1.86	0.40
2:Y:75:A:C2	2:Y:76:U:H1'	2.56	0.40
3:A:43:ARG:NE	3:A:55:GLY:HA2	2.34	0.40
5:C:77:PHE:O	5:C:78:VAL:C	2.58	0.40
7:E:39:THR:OG1	7:E:40:GLU:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:77:LYS:HB2	12:J:92:GLU:HB2	2.03	0.40
12:J:19:THR:CG2	12:J:99:LYS:HD3	2.51	0.40
13:K:115:LEU:HA	13:K:115:LEU:HD23	1.89	0.40
15:M:8:ASN:O	15:M:9:ARG:C	2.60	0.40
17:O:56:VAL:CA	17:O:97:GLY:HA3	2.45	0.40
17:O:55:THR:O	17:O:98:ILE:HB	2.21	0.40
18:P:12:LYS:HD3	18:P:13:GLN:HE21	1.86	0.40
1:X:1279:G:O6	18:P:34:SER:CB	2.69	0.40
19:Q:49:ARG:O	19:Q:50:VAL:CG2	2.69	0.40
20:R:95:ARG:CZ	20:R:106:VAL:HG12	2.51	0.40
24:V:52:GLN:C	24:V:54:ASN:N	2.74	0.40
25:W:1:MET:SD	25:W:55:GLU:OXT	2.79	0.40
1:X:1055:A:C3'	1:X:1055:A:C8	2.77	0.40
1:X:1135:C:C2	1:X:1136:G:C8	3.09	0.40
1:X:1188:A:H3'	1:X:1189:G:C8	2.55	0.40
1:X:1312:G:H4'	1:X:1313:U:H5'	2.03	0.40
1:X:1473:U:O2'	1:X:1474:A:OP2	2.36	0.40
1:X:1491:C:C2	1:X:1492:A:C8	3.09	0.40
1:X:1522:C:C6	1:X:1522:C:C3'	3.03	0.40
1:X:46:C:N3	1:X:156:G:C2	2.90	0.40
1:X:1683:G:H2'	1:X:1684:G:H5'	2.01	0.40
1:X:1845:A:N1	1:X:2070:G:H1'	2.36	0.40
1:X:1997:A:C2	1:X:1998:A:N1	2.89	0.40
1:X:2080:U:N3	1:X:2081:U:C4	2.89	0.40
1:X:2245:A:N3	1:X:2251:U:C5	2.89	0.40
1:X:2620:G:H5''	9:G:104:THR:HG22	2.03	0.40
1:X:2770:A:N3	1:X:2867:G:O2'	2.51	0.40
1:X:357:A:C2'	1:X:358:C:H5'	2.50	0.40
1:X:457:C:HO2'	1:X:458:G:H5'	1.82	0.40
1:X:532:A:C2	1:X:533:C:C2	3.09	0.40
1:X:625:A:H5'	1:X:626:A:OP2	2.20	0.40
1:X:71:A:H8	1:X:71:A:O5'	2.03	0.40
1:X:795:A:OP1	1:X:795:A:O4'	2.39	0.40
1:X:982:C:OP1	1:X:985:G:C8	2.75	0.40
3:A:169:GLU:HG2	3:A:170:SER:N	2.36	0.40
4:B:188:ILE:HA	4:B:189:PRO:HD3	1.89	0.40
5:C:118:VAL:O	5:C:119:ALA:HB2	2.22	0.40
1:X:1270:C:H4'	5:C:77:PHE:CE2	2.55	0.40
6:D:112:ARG:O	6:D:113:ASP:HB2	2.20	0.40
6:D:111:ILE:HG12	6:D:137:ILE:HB	2.04	0.40
1:X:2645:C:N4	7:E:108:GLY:O	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:13:ASN:OD1	10:H:107:GLY:CA	2.70	0.40
11:I:13:ARG:NH2	11:I:13:ARG:CB	2.84	0.40
14:L:19:THR:HG22	14:L:19:THR:O	2.20	0.40
14:L:21:THR:HG22	14:L:22:ALA:H	1.84	0.40
16:N:18:LEU:HA	16:N:18:LEU:HD12	1.73	0.40
9:G:70:PHE:CB	16:N:64:ARG:HG2	2.43	0.40
16:N:85:ARG:CG	16:N:85:ARG:NH2	2.84	0.40
17:O:71:ILE:HB	17:O:84:THR:HG1	1.86	0.40
18:P:106:LEU:HD23	18:P:107:ILE:N	2.36	0.40
18:P:109:ARG:NH1	18:P:115:ASN:HD22	2.20	0.40
18:P:14:ARG:CA	18:P:17:GLN:HG2	2.47	0.40
19:Q:34:THR:O	19:Q:36:THR:N	2.54	0.40
19:Q:49:ARG:O	19:Q:50:VAL:HG23	2.21	0.40
20:R:85:ASP:OD1	20:R:86:PRO:CD	2.64	0.40
1:X:2366:U:HO2'	22:T:41:ARG:NH2	2.18	0.40
22:T:66:LYS:HB3	22:T:66:LYS:HE2	1.99	0.40
1:X:1007:A:N6	1:X:1171:A:N1	2.70	0.40
1:X:129:A:O2'	1:X:130:C:H5'	2.21	0.40
1:X:1412:C:H2'	1:X:1413:U:O5'	2.22	0.40
1:X:1557:G:O2'	1:X:1558:C:H5'	2.21	0.40
1:X:1609:G:N3	1:X:1609:G:H2'	2.35	0.40
1:X:1674:C:O2'	1:X:1675:C:H5'	2.21	0.40
1:X:1704:G:N2	1:X:1719:G:C6	2.90	0.40
1:X:1790:G:HO2'	1:X:1791:C:P	2.45	0.40
1:X:2046:C:O2	1:X:2429:A:N1	2.54	0.40
1:X:2206:C:N4	1:X:2207:G:C6	2.89	0.40
1:X:2301:A:H2'	1:X:2302:G:O4'	2.20	0.40
1:X:2350:G:C6	1:X:2351:G:N7	2.89	0.40
1:X:2556:A:N1	1:X:2593:A:C2	2.89	0.40
1:X:2700:U:C2	1:X:2701:A:N7	2.90	0.40
1:X:2756:A:O2'	1:X:2757:G:P	2.80	0.40
1:X:2787:A:O2'	1:X:2788:C:H5'	2.22	0.40
1:X:2699:G:H5'	1:X:2822:U:OP1	2.21	0.40
1:X:430:C:C2	1:X:431:G:C8	3.09	0.40
1:X:67:G:H2'	1:X:68:C:C6	2.56	0.40
1:X:720:A:H2'	1:X:721:C:C6	2.57	0.40
1:X:872:G:OP2	1:X:872:G:C8	2.74	0.40
1:X:999:A:N1	1:X:1000:G:N2	2.69	0.40
2:Y:15:A:H2	2:Y:71:G:N3	2.19	0.40
3:A:91:ARG:HG3	3:A:198:ASN:HA	2.04	0.40
4:B:125:GLY:O	4:B:126:PRO:O	2.39	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:88:GLY:O	4:B:89:ASP:CG	2.59	0.40
5:C:174:GLY:O	5:C:175:VAL:O	2.40	0.40
5:C:28:HIS:ND1	11:I:21:ARG:NH1	2.68	0.40
6:D:52:LYS:HZ1	6:D:149:THR:HA	1.86	0.40
7:E:44:ARG:NH2	7:E:46:ASP:HB2	2.21	0.40
7:E:76:VAL:C	7:E:78:GLY:H	2.24	0.40
1:X:2873:G:N2	9:G:162:LYS:HZ3	2.17	0.40
10:H:116:ARG:HA	10:H:133:VAL:HG13	2.03	0.40
1:X:2394:G:H4'	11:I:64:GLY:O	2.21	0.40
12:J:100:PRO:O	12:J:102:ARG:N	2.54	0.40
17:O:19:VAL:CG1	17:O:90:PHE:CG	3.04	0.40
19:Q:49:ARG:HE	19:Q:49:ARG:HB2	1.70	0.40
20:R:11:ASN:C	20:R:11:ASN:ND2	2.72	0.40
20:R:88:THR:O	20:R:89:GLY:C	2.60	0.40
21:S:142:ASN:H	21:S:145:ASP:CG	2.25	0.40
21:S:154:LEU:CD1	21:S:160:LEU:HG	2.39	0.40
21:S:59:GLY:C	21:S:60:GLU:HG3	2.41	0.40
22:T:37:LEU:C	22:T:38:VAL:CG2	2.90	0.40
23:U:43:ARG:NH2	23:U:43:ARG:HG3	2.36	0.40
23:U:52:ARG:HE	23:U:79:GLU:HB3	1.85	0.40
24:V:15:ALA:O	24:V:18:ILE:HB	2.21	0.40
1:X:1408:A:H4'	1:X:1410:U:C5	2.56	0.40
1:X:141:G:O2'	1:X:142:U:H5'	2.22	0.40
1:X:1514:C:O4'	1:X:1593:C:C5'	2.69	0.40
1:X:1588:A:H2'	1:X:1589:G:H8	1.87	0.40
1:X:1733:U:C2	1:X:1734:C:C5	3.09	0.40
1:X:1918:G:C5	1:X:1945:C:C4	3.09	0.40
1:X:1946:U:OP2	1:X:1946:U:H3'	2.22	0.40
1:X:2061:C:O5'	1:X:2061:C:H6	2.04	0.40
1:X:2187:A:H2'	1:X:2188:A:H8	1.84	0.40
1:X:2194:A:C2'	1:X:2195:C:O4'	2.48	0.40
1:X:1774:A:H5'	1:X:2587:G:H4'	2.02	0.40
1:X:2626:U:O2'	1:X:2627:G:H5'	2.21	0.40
1:X:353:G:H2'	1:X:354:C:C6	2.56	0.40
1:X:38:G:H1	1:X:453:U:H3	1.70	0.40
1:X:559:C:H2'	1:X:560:G:C4'	2.52	0.40
1:X:726:G:N2	1:X:731:A:C2	2.89	0.40
1:X:812:G:H2'	1:X:813:A:H8	1.87	0.40
26:Z:19:ARG:C	26:Z:21:SER:H	2.25	0.40
3:A:126:LYS:C	3:A:193:ILE:HG21	2.41	0.40
3:A:48:ARG:N	3:A:48:ARG:HD2	2.32	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:70:ARG:C	3:A:72:LYS:H	2.25	0.40
4:B:181:LEU:HD13	15:M:16:ILE:CD1	2.51	0.40
4:B:198:LEU:C	4:B:199:ARG:HG3	2.41	0.40
1:X:2714:A:N1	4:B:203:LYS:HE3	2.37	0.40
1:X:331:U:O2'	5:C:162:ARG:HD2	2.22	0.40
6:D:39:GLY:HA2	6:D:86:GLY:HA3	2.02	0.40
6:D:74:ILE:O	6:D:75:SER:O	2.39	0.40
7:E:92:VAL:O	7:E:94:PHE:HD1	2.02	0.40
8:F:109:LYS:O	8:F:109:LYS:HG3	2.21	0.40
9:G:58:ILE:O	9:G:62:ILE:HG13	2.21	0.40
10:H:23:ARG:HG2	10:H:24:VAL:N	2.36	0.40
11:I:76:LYS:CB	11:I:79:GLN:HG2	2.50	0.40
12:J:135:ARG:HB3	12:J:136:GLU:H	1.55	0.40
14:L:15:ARG:NH2	14:L:18:ARG:NH1	2.70	0.40
16:N:79:PHE:HE2	16:N:95:LEU:HD21	1.86	0.40
18:P:79:ALA:O	18:P:83:ASP:HB2	2.20	0.40
19:Q:6:ILE:C	19:Q:7:LEU:O	2.59	0.40
20:R:10:HIS:O	20:R:11:ASN:CB	2.64	0.40
21:S:46:GLN:O	21:S:47:SER:C	2.59	0.40
22:T:58:THR:CG2	22:T:59:LEU:N	2.83	0.40
24:V:21:ARG:HG2	24:V:21:ARG:HH11	1.86	0.40
1:X:1007:A:N3	1:X:1008:G:C8	2.90	0.40
1:X:1050:G:C2'	1:X:1051:U:H5'	2.49	0.40
1:X:1136:G:C6	1:X:1137:A:N6	2.90	0.40
1:X:1301:U:H2'	1:X:1340:C:O2	2.22	0.40
1:X:1373:G:O6	1:X:1385:C:C4	2.74	0.40
1:X:1542:G:N2	1:X:1562:G:N2	2.69	0.40
1:X:1544:A:C2	1:X:1560:A:C4	3.10	0.40
1:X:1549:C:H2'	1:X:1550:C:O4'	2.21	0.40
1:X:1578:U:H2'	1:X:1579:G:O4'	2.22	0.40
1:X:1432:G:H21	1:X:1596:A:H62	1.69	0.40
1:X:1710:U:H5'	1:X:1711:C:C5	2.56	0.40
1:X:1918:G:H21	1:X:1947:G:C1'	2.34	0.40
1:X:1938:U:C5	1:X:2536:G:N2	2.90	0.40
1:X:229:G:H2'	1:X:230:C:H6	1.87	0.40
1:X:2426:G:O2'	1:X:2427:A:OP2	2.34	0.40
1:X:405:C:H2'	1:X:406:G:C8	2.55	0.40
1:X:631:G:H4'	1:X:632:A:C5'	2.51	0.40
1:X:636:G:C5'	1:X:636:G:H8	2.32	0.40
1:X:613:A:C2	1:X:636:G:N3	2.90	0.40
1:X:693:A:C4	1:X:694:G:N7	2.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:710:C:O2'	1:X:711:C:H5'	2.21	0.40
1:X:76:C:H2'	1:X:77:C:O4'	2.22	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	A	238/274 (87%)	147 (62%)	53 (22%)	38 (16%)	0	0
4	B	203/211 (96%)	147 (72%)	31 (15%)	25 (12%)	0	1
5	C	195/205 (95%)	99 (51%)	48 (25%)	48 (25%)	0	0
6	D	175/180 (97%)	91 (52%)	59 (34%)	25 (14%)	0	0
7	E	169/185 (91%)	100 (59%)	39 (23%)	30 (18%)	0	0
8	F	69/144 (48%)	45 (65%)	19 (28%)	5 (7%)	1	2
9	G	140/174 (80%)	80 (57%)	28 (20%)	32 (23%)	0	0
10	H	132/134 (98%)	114 (86%)	11 (8%)	7 (5%)	2	5
11	I	139/156 (89%)	62 (45%)	33 (24%)	44 (32%)	0	0
12	J	134/142 (94%)	74 (55%)	36 (27%)	24 (18%)	0	0
13	K	111/116 (96%)	85 (77%)	12 (11%)	14 (13%)	0	0
14	L	102/114 (90%)	55 (54%)	22 (22%)	25 (24%)	0	0
15	M	106/166 (64%)	71 (67%)	21 (20%)	14 (13%)	0	0
16	N	115/118 (98%)	72 (63%)	25 (22%)	18 (16%)	0	0
17	O	92/100 (92%)	57 (62%)	16 (17%)	19 (21%)	0	0
18	P	125/134 (93%)	94 (75%)	20 (16%)	11 (9%)	1	1
19	Q	91/95 (96%)	44 (48%)	23 (25%)	24 (26%)	0	0
20	R	108/115 (94%)	60 (56%)	24 (22%)	24 (22%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	S	173/237 (73%)	94 (54%)	40 (23%)	39 (22%)	0	0
22	T	82/91 (90%)	48 (58%)	20 (24%)	14 (17%)	0	0
23	U	70/81 (86%)	35 (50%)	18 (26%)	17 (24%)	0	0
24	V	64/67 (96%)	32 (50%)	20 (31%)	12 (19%)	0	0
25	W	53/55 (96%)	42 (79%)	6 (11%)	5 (9%)	0	1
26	Z	56/60 (93%)	41 (73%)	7 (12%)	8 (14%)	0	0
30	4	35/37 (95%)	17 (49%)	9 (26%)	9 (26%)	0	0
All	All	2977/3391 (88%)	1806 (61%)	640 (22%)	531 (18%)	0	0

All (531) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	60	ARG
3	A	187	SER
3	A	209	ALA
3	A	217	ARG
3	A	220	HIS
4	B	73	ALA
4	B	85	ALA
4	B	86	PRO
4	B	123	ALA
4	B	126	PRO
4	B	131	SER
4	B	132	LYS
4	B	137	ARG
4	B	147	PRO
4	B	179	GLU
5	C	9	GLN
5	C	10	ASN
5	C	13	ARG
5	C	30	VAL
5	C	31	VAL
5	C	67	ALA
5	C	84	PHE
5	C	129	LYS
5	C	161	ALA
5	C	164	VAL
5	C	165	SER
5	C	166	TRP
5	C	172	VAL

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Mol	Chain	Res	Type
5	C	175	VAL
5	C	184	ASP
5	C	195	ILE
5	C	196	VAL
6	D	5	LYS
6	D	10	ASP
6	D	53	ALA
6	D	75	SER
6	D	81	GLN
6	D	119	PRO
6	D	123	ASP
6	D	137	ILE
6	D	145	MET
7	E	13	SER
7	E	14	GLY
7	E	15	VAL
7	E	55	PRO
7	E	58	ALA
7	E	92	VAL
7	E	93	GLY
7	E	119	ALA
7	E	126	PRO
7	E	165	VAL
8	F	120	VAL
9	G	33	ILE
9	G	34	PRO
9	G	37	ASP
9	G	39	GLN
9	G	48	GLY
9	G	65	LYS
9	G	67	ARG
9	G	73	ASN
9	G	78	ASP
9	G	97	ASP
9	G	98	LYS
9	G	104	THR
9	G	107	GLN
9	G	165	VAL
9	G	170	PRO
10	H	27	SER
11	I	29	THR
11	I	38	LYS

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Mol	Chain	Res	Type
11	I	39	SER
11	I	40	ARG
11	I	49	PHE
11	I	65	PHE
11	I	86	THR
11	I	91	ASP
11	I	93	LEU
11	I	98	LEU
11	I	99	VAL
11	I	106	VAL
11	I	127	ALA
11	I	131	LYS
12	J	11	ARG
12	J	21	ASP
12	J	22	ALA
12	J	26	ASP
12	J	82	THR
12	J	117	GLU
13	K	6	ALA
13	K	11	ASN
13	K	32	GLY
13	K	92	GLY
14	L	31	VAL
14	L	38	ILE
14	L	45	ASP
14	L	46	SER
14	L	55	SER
14	L	68	ALA
14	L	91	ARG
14	L	104	ALA
15	M	26	ASP
15	M	28	ARG
15	M	29	PRO
15	M	58	ASN
15	M	102	ALA
16	N	5	LYS
16	N	8	ILE
16	N	27	SER
16	N	32	TYR
16	N	75	ASN
16	N	94	VAL
17	O	7	THR

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Mol	Chain	Res	Type
17	O	9	GLY
17	O	10	LYS
17	O	13	ARG
17	O	35	LEU
17	O	36	LYS
18	P	11	LYS
18	P	50	VAL
19	Q	12	ILE
19	Q	33	ALA
19	Q	34	THR
19	Q	40	ASP
19	Q	63	LYS
19	Q	69	ILE
19	Q	74	ASP
19	Q	84	GLU
20	R	7	GLY
20	R	11	ASN
20	R	49	GLU
20	R	60	PRO
20	R	61	SER
20	R	83	LEU
20	R	96	LYS
21	S	13	LYS
21	S	17	SER
21	S	26	LYS
21	S	33	ALA
21	S	36	ARG
21	S	49	THR
21	S	76	ARG
21	S	88	TYR
21	S	92	VAL
21	S	118	HIS
21	S	156	GLU
22	T	3	HIS
22	T	19	LYS
22	T	75	GLY
22	T	83	ALA
23	U	14	VAL
23	U	16	ASN
23	U	19	ILE
23	U	30	VAL
23	U	56	GLN

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Mol	Chain	Res	Type
23	U	60	VAL
24	V	2	LYS
24	V	36	GLN
25	W	49	HIS
26	Z	4	HIS
26	Z	20	ARG
26	Z	36	CYS
26	Z	53	ASP
30	4	12	ASP
3	A	52	ARG
3	A	54	ILE
3	A	56	GLY
3	A	58	HIS
3	A	59	LYS
3	A	151	LYS
3	A	160	GLY
3	A	197	GLY
3	A	235	GLY
3	A	241	GLY
3	A	244	ARG
3	A	249	PRO
3	A	263	ARG
4	B	17	ASN
4	B	76	ARG
4	B	121	ASN
4	B	124	GLY
4	B	135	HIS
5	C	14	THR
5	C	15	ILE
5	C	22	VAL
5	C	66	ASN
5	C	68	ARG
5	C	103	GLY
5	C	152	THR
5	C	153	ASP
5	C	159	ARG
5	C	176	ASN
5	C	188	ILE
5	C	192	ALA
6	D	13	ARG
6	D	19	GLN
6	D	42	SER

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Mol	Chain	Res	Type
6	D	68	THR
6	D	71	LYS
6	D	107	GLY
6	D	120	ASN
6	D	124	GLY
6	D	168	ALA
7	E	7	GLN
7	E	19	ALA
7	E	139	GLN
8	F	116	ASN
8	F	121	GLU
9	G	36	ASN
9	G	68	PRO
9	G	72	PRO
9	G	86	ALA
9	G	105	GLY
9	G	158	HIS
9	G	164	GLN
9	G	166	LEU
10	H	5	GLN
10	H	32	LYS
10	H	37	GLY
10	H	101	ASN
11	I	12	SER
11	I	18	ARG
11	I	44	GLY
11	I	56	LEU
11	I	64	GLY
11	I	69	GLY
11	I	81	GLN
11	I	102	LYS
11	I	103	ASN
11	I	105	PRO
11	I	135	ALA
12	J	13	GLN
12	J	15	ARG
12	J	27	TYR
12	J	63	GLY
12	J	64	LYS
12	J	80	ALA
12	J	81	GLU
12	J	83	ARG

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Mol	Chain	Res	Type
12	J	97	VAL
12	J	101	GLY
12	J	111	THR
13	K	7	GLY
13	K	21	ALA
13	K	70	ILE
14	L	40	ALA
14	L	52	ALA
14	L	53	ALA
14	L	56	SER
14	L	82	LYS
14	L	89	PHE
14	L	102	ALA
15	M	17	GLU
15	M	39	VAL
15	M	46	ARG
16	N	7	GLY
16	N	26	GLY
16	N	51	ARG
16	N	110	VAL
17	O	8	GLY
17	O	15	SER
17	O	26	GLN
17	O	29	ALA
17	O	30	GLY
17	O	49	GLU
17	O	66	GLY
17	O	80	TYR
17	O	96	LEU
17	O	97	GLY
18	P	10	ASN
18	P	81	HIS
18	P	82	ASN
19	Q	13	SER
19	Q	35	LYS
19	Q	41	ALA
19	Q	47	GLY
19	Q	48	VAL
19	Q	65	VAL
19	Q	67	ARG
19	Q	72	ARG
19	Q	93	GLY

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Mol	Chain	Res	Type
20	R	5	SER
20	R	12	ASP
20	R	15	HIS
20	R	50	GLY
20	R	63	THR
20	R	91	ALA
20	R	110	SER
21	S	19	ILE
21	S	25	ASN
21	S	37	LYS
21	S	47	SER
21	S	61	THR
21	S	86	VAL
21	S	91	PRO
21	S	128	ARG
21	S	139	THR
21	S	152	ILE
21	S	165	GLU
22	T	31	VAL
22	T	47	ALA
22	T	48	GLY
23	U	29	GLY
23	U	41	VAL
23	U	53	GLU
24	V	4	SER
24	V	8	ASN
24	V	19	ASP
24	V	43	VAL
24	V	53	LEU
24	V	61	ALA
24	V	65	GLU
25	W	54	GLN
26	Z	19	ARG
30	4	16	VAL
30	4	20	HIS
30	4	33	LYS
3	A	46	ARG
3	A	90	ALA
3	A	115	ALA
3	A	125	PRO
3	A	168	LYS
3	A	199	ALA

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Mol	Chain	Res	Type
3	A	206	LEU
3	A	222	ARG
4	B	35	GLN
4	B	69	LYS
4	B	74	PRO
4	B	127	ALA
5	C	11	GLY
5	C	75	PRO
5	C	123	PHE
5	C	126	ALA
5	C	178	TYR
6	D	77	PHE
6	D	146	VAL
7	E	21	ASP
7	E	49	GLN
7	E	76	VAL
7	E	98	LEU
7	E	106	ASN
8	F	143	ASN
9	G	84	ASN
9	G	169	GLN
11	I	17	LYS
11	I	37	GLN
11	I	43	ALA
11	I	48	PHE
11	I	62	LYS
11	I	82	ASP
11	I	84	GLU
12	J	29	ALA
12	J	61	ARG
12	J	89	GLY
12	J	114	GLN
13	K	4	GLY
13	K	13	ASN
13	K	95	THR
14	L	83	GLY
14	L	103	LEU
14	L	108	ARG
14	L	109	GLU
15	M	25	PRO
15	M	27	PHE
15	M	44	ARG

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Mol	Chain	Res	Type
15	M	47	SER
16	N	33	ARG
16	N	46	GLU
17	O	14	VAL
17	O	39	PHE
17	O	87	ARG
18	P	9	ARG
18	P	32	ARG
18	P	49	SER
19	Q	61	LYS
19	Q	91	LEU
20	R	20	ASP
20	R	26	SER
20	R	65	PRO
21	S	106	GLY
21	S	109	GLN
21	S	124	ALA
21	S	125	PRO
21	S	158	CYS
22	T	4	LYS
23	U	15	VAL
23	U	26	ALA
23	U	32	ARG
23	U	34	THR
23	U	42	GLN
25	W	23	LEU
26	Z	37	HIS
30	4	35	ARG
3	A	106	LEU
3	A	132	PRO
3	A	156	ALA
3	A	159	ALA
3	A	248	THR
4	B	66	HIS
4	B	143	GLN
5	C	20	PRO
5	C	46	ARG
5	C	113	GLU
5	C	119	ALA
5	C	121	ASP
5	C	138	LYS
5	C	154	ASP

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Mol	Chain	Res	Type
5	C	190	ALA
6	D	9	ASN
7	E	8	PRO
7	E	84	THR
7	E	128	PRO
7	E	149	ARG
9	G	55	ALA
9	G	85	ALA
9	G	163	PRO
11	I	10	PRO
11	I	25	GLY
11	I	33	GLY
11	I	47	ALA
11	I	90	ARG
11	I	136	ALA
13	K	5	LYS
14	L	26	ARG
14	L	80	ALA
15	M	83	PHE
16	N	78	THR
16	N	90	LEU
18	P	101	PRO
20	R	66	GLN
20	R	85	ASP
20	R	108	VAL
21	S	6	LYS
21	S	45	GLN
21	S	85	MET
21	S	110	GLY
22	T	13	GLY
23	U	47	HIS
26	Z	12	SER
26	Z	21	SER
30	4	21	GLY
3	A	79	VAL
3	A	154	GLN
3	A	201	HIS
3	A	219	PRO
4	B	46	ALA
5	C	47	THR
5	C	125	ILE
6	D	164	GLU

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Mol	Chain	Res	Type
6	D	170	LEU
7	E	16	THR
7	E	69	ARG
7	E	173	ALA
9	G	160	ALA
11	I	8	PRO
11	I	19	VAL
11	I	133	VAL
12	J	56	SER
12	J	106	GLU
12	J	112	GLU
13	K	100	VAL
14	L	58	ALA
14	L	78	ALA
16	N	77	SER
16	N	88	ILE
18	P	77	ALA
18	P	112	GLY
19	Q	71	GLN
19	Q	89	GLU
19	Q	90	ALA
20	R	6	ALA
20	R	10	HIS
21	S	24	TYR
21	S	133	GLU
21	S	134	LEU
21	S	164	PRO
22	T	73	GLY
22	T	74	LYS
23	U	40	ARG
25	W	38	PRO
30	4	9	LYS
30	4	31	LYS
3	A	55	GLY
3	A	269	PHE
4	B	71	GLY
4	B	122	PHE
4	B	177	ALA
5	C	80	GLY
7	E	11	VAL
7	E	40	GLU
7	E	66	GLY

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Mol	Chain	Res	Type
7	E	77	LYS
9	G	130	ALA
10	H	42	LYS
11	I	57	ILE
11	I	95	ALA
11	I	114	ILE
13	K	57	GLY
14	L	33	ARG
14	L	96	TYR
15	M	95	GLU
16	N	76	TYR
19	Q	85	GLY
20	R	89	GLY
21	S	7	PRO
21	S	10	PRO
22	T	20	TYR
23	U	55	GLY
24	V	32	ALA
24	V	35	GLY
24	V	45	GLN
25	W	53	VAL
30	4	14	CYS
6	D	12	VAL
9	G	88	VAL
19	Q	60	GLY
21	S	63	PRO
22	T	7	VAL
3	A	210	GLY
5	C	25	GLY
5	C	171	PRO
16	N	23	GLY
6	D	14	PRO
8	F	91	PRO
9	G	162	LYS
13	K	91	PRO
20	R	31	GLY
22	T	30	VAL
5	C	55	GLY
7	E	43	VAL
10	H	74	VAL
21	S	131	PRO

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	A	185/215 (86%)	167 (90%)	18 (10%)	8	24
4	B	155/157 (99%)	139 (90%)	16 (10%)	7	21
5	C	157/163 (96%)	132 (84%)	25 (16%)	2	7
6	D	153/156 (98%)	136 (89%)	17 (11%)	6	18
7	E	136/144 (94%)	124 (91%)	12 (9%)	10	28
8	F	51/107 (48%)	49 (96%)	2 (4%)	32	64
9	G	118/146 (81%)	101 (86%)	17 (14%)	3	9
10	H	103/103 (100%)	93 (90%)	10 (10%)	8	24
11	I	108/121 (89%)	91 (84%)	17 (16%)	2	7
12	J	110/116 (95%)	97 (88%)	13 (12%)	5	15
13	K	90/93 (97%)	73 (81%)	17 (19%)	1	4
14	L	74/82 (90%)	57 (77%)	17 (23%)	1	2
15	M	94/134 (70%)	81 (86%)	13 (14%)	3	10
16	N	96/97 (99%)	85 (88%)	11 (12%)	5	16
17	O	75/79 (95%)	66 (88%)	9 (12%)	5	14
18	P	109/115 (95%)	100 (92%)	9 (8%)	11	30
19	Q	75/76 (99%)	67 (89%)	8 (11%)	6	19
20	R	91/96 (95%)	79 (87%)	12 (13%)	4	11
21	S	149/192 (78%)	133 (89%)	16 (11%)	6	19
22	T	62/67 (92%)	58 (94%)	4 (6%)	17	43
23	U	57/66 (86%)	44 (77%)	13 (23%)	1	2
24	V	54/55 (98%)	48 (89%)	6 (11%)	6	18
25	W	48/48 (100%)	43 (90%)	5 (10%)	7	20
26	Z	51/53 (96%)	43 (84%)	8 (16%)	2	7
30	4	35/35 (100%)	33 (94%)	2 (6%)	20	49
All	All	2436/2716 (90%)	2139 (88%)	297 (12%)	5	14

All (297) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	38	PRO
3	A	40	THR
3	A	43	ARG
3	A	44	ASN
3	A	48	ARG
3	A	68	LYS
3	A	122	GLU
3	A	161	THR
3	A	162	SER
3	A	163	VAL
3	A	164	GLN
3	A	183	ARG
3	A	208	LYS
3	A	214	TRP
3	A	218	LYS
3	A	244	ARG
3	A	252	LYS
3	A	260	ARG
4	B	18	ASP
4	B	23	VAL
4	B	60	ASN
4	B	74	PRO
4	B	75	THR
4	B	86	PRO
4	B	87	ASP
4	B	91	VAL
4	B	105	THR
4	B	107	THR
4	B	126	PRO
4	B	137	ARG
4	B	138	PRO
4	B	143	GLN
4	B	147	PRO
4	B	150	VAL
5	C	5	ASN
5	C	13	ARG
5	C	17	LEU
5	C	39	ARG
5	C	45	THR
5	C	48	ARG
5	C	62	LYS
5	C	66	ASN

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Mol	Chain	Res	Type
5	C	71	ASP
5	C	75	PRO
5	C	95	LEU
5	C	104	LEU
5	C	113	GLU
5	C	121	ASP
5	C	124	ASP
5	C	127	ASP
5	C	136	TRP
5	C	139	GLN
5	C	153	ASP
5	C	154	ASP
5	C	155	GLU
5	C	162	ARG
5	C	166	TRP
5	C	171	PRO
5	C	180	ILE
6	D	20	PHE
6	D	35	VAL
6	D	40	LEU
6	D	42	SER
6	D	80	ARG
6	D	89	VAL
6	D	104	ILE
6	D	112	ARG
6	D	123	ASP
6	D	125	ARG
6	D	130	LEU
6	D	137	ILE
6	D	144	ASP
6	D	145	MET
6	D	146	VAL
6	D	147	ASP
6	D	173	MET
7	E	24	PHE
7	E	35	VAL
7	E	42	THR
7	E	48	ASP
7	E	50	LEU
7	E	57	ASP
7	E	67	LEU
7	E	72	VAL

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Mol	Chain	Res	Type
7	E	98	LEU
7	E	107	ILE
7	E	129	THR
7	E	136	ILE
8	F	102	ASP
8	F	111	LYS
9	G	34	PRO
9	G	37	ASP
9	G	38	GLU
9	G	61	ARG
9	G	70	PHE
9	G	93	LYS
9	G	98	LYS
9	G	101	THR
9	G	102	ARG
9	G	106	TYR
9	G	110	LEU
9	G	113	GLU
9	G	132	PHE
9	G	148	LEU
9	G	154	GLU
9	G	165	VAL
9	G	169	GLN
10	H	1	MET
10	H	22	ILE
10	H	23	ARG
10	H	41	ASN
10	H	70	VAL
10	H	78	SER
10	H	81	ILE
10	H	88	THR
10	H	92	ASP
10	H	120	ASP
11	I	7	LYS
11	I	13	ARG
11	I	21	ARG
11	I	23	PRO
11	I	26	THR
11	I	34	HIS
11	I	37	GLN
11	I	45	LYS
11	I	53	ARG

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Mol	Chain	Res	Type
11	I	60	LEU
11	I	61	PRO
11	I	65	PHE
11	I	84	GLU
11	I	85	ASP
11	I	88	PHE
11	I	99	VAL
11	I	103	ASN
12	J	11	ARG
12	J	21	ASP
12	J	27	TYR
12	J	60	ARG
12	J	64	LYS
12	J	75	VAL
12	J	82	THR
12	J	91	VAL
12	J	93	TYR
12	J	106	GLU
12	J	111	THR
12	J	125	LYS
12	J	134	LYS
13	K	3	HIS
13	K	11	ASN
13	K	12	ARG
13	K	13	ASN
13	K	28	LEU
13	K	31	GLU
13	K	43	GLU
13	K	51	LEU
13	K	59	ASP
13	K	60	LEU
13	K	83	VAL
13	K	89	GLU
13	K	95	THR
13	K	96	ARG
13	K	99	ARG
13	K	109	THR
13	K	114	GLU
14	L	15	ARG
14	L	31	VAL
14	L	37	HIS
14	L	38	ILE

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Mol	Chain	Res	Type
14	L	42	ILE
14	L	43	ILE
14	L	44	ASP
14	L	45	ASP
14	L	60	LYS
14	L	64	LYS
14	L	67	THR
14	L	71	VAL
14	L	88	VAL
14	L	89	PHE
14	L	90	ASP
14	L	91	ARG
14	L	93	SER
15	M	7	ILE
15	M	22	ARG
15	M	26	ASP
15	M	31	ASP
15	M	37	THR
15	M	43	ASN
15	M	46	ARG
15	M	51	GLU
15	M	69	ARG
15	M	72	SER
15	M	79	ARG
15	M	89	ASN
15	M	92	THR
16	N	13	ARG
16	N	18	LEU
16	N	19	LYS
16	N	22	LYS
16	N	30	LYS
16	N	33	ARG
16	N	85	ARG
16	N	87	ASN
16	N	88	ILE
16	N	90	LEU
16	N	93	LYS
17	O	18	ASP
17	O	20	ILE
17	O	28	GLU
17	O	47	PHE
17	O	56	VAL

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Mol	Chain	Res	Type
17	O	65	ARG
17	O	78	VAL
17	O	82	ARG
17	O	87	ARG
18	P	16	GLN
18	P	32	ARG
18	P	46	ARG
18	P	91	PHE
18	P	118	LYS
18	P	122	SER
18	P	125	THR
18	P	126	ILE
18	P	133	ASN
19	Q	6	ILE
19	Q	7	LEU
19	Q	12	ILE
19	Q	13	SER
19	Q	27	PHE
19	Q	42	ILE
19	Q	62	ARG
19	Q	82	LEU
20	R	10	HIS
20	R	11	ASN
20	R	18	LYS
20	R	23	ILE
20	R	25	LEU
20	R	57	ASN
20	R	80	LYS
20	R	83	LEU
20	R	95	ARG
20	R	106	VAL
20	R	112	LYS
20	R	113	THR
21	S	3	LEU
21	S	4	THR
21	S	9	THR
21	S	13	LYS
21	S	34	LEU
21	S	35	ASP
21	S	40	ASP
21	S	49	THR
21	S	51	LEU

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Mol	Chain	Res	Type
21	S	53	ASP
21	S	71	MET
21	S	82	ASP
21	S	92	VAL
21	S	101	THR
21	S	120	LEU
21	S	122	ILE
22	T	31	VAL
22	T	40	GLN
22	T	77	ARG
22	T	85	GLN
23	U	8	THR
23	U	14	VAL
23	U	27	ASP
23	U	32	ARG
23	U	35	THR
23	U	40	ARG
23	U	42	GLN
23	U	45	ASN
23	U	46	LEU
23	U	54	ASN
23	U	59	THR
23	U	70	LEU
23	U	78	ILE
24	V	6	MET
24	V	19	ASP
24	V	21	ARG
24	V	37	LEU
24	V	41	HIS
24	V	55	THR
25	W	12	ARG
25	W	32	ARG
25	W	35	SER
25	W	45	LYS
25	W	46	THR
26	Z	3	LYS
26	Z	4	HIS
26	Z	5	PRO
26	Z	6	VAL
26	Z	25	LEU
26	Z	29	ASN
26	Z	32	GLU

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Mol	Chain	Res	Type
26	Z	57	VAL
30	4	11	CYS
30	4	22	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (90) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	44	ASN
3	A	96	HIS
3	A	129	ASN
3	A	166	GLN
3	A	227	ASN
3	A	231	HIS
4	B	129	HIS
4	B	135	HIS
4	B	143	GLN
4	B	180	ASN
4	B	192	ASN
5	C	3	GLN
5	C	5	ASN
5	C	9	GLN
5	C	61	GLN
5	C	66	ASN
5	C	112	GLN
5	C	132	ASN
5	C	139	GLN
5	C	140	ASN
6	D	9	ASN
6	D	63	GLN
6	D	118	ASN
6	D	129	ASN
7	E	20	GLN
7	E	45	GLN
7	E	61	HIS
7	E	111	HIS
7	E	139	GLN
8	F	125	ASN
9	G	84	ASN
9	G	129	HIS
9	G	140	GLN
9	G	161	GLN
10	H	41	ASN

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Mol	Chain	Res	Type
11	I	37	GLN
11	I	79	GLN
11	I	81	GLN
11	I	121	HIS
12	J	13	GLN
13	K	13	ASN
14	L	37	HIS
14	L	49	GLN
14	L	63	ASN
14	L	86	GLN
14	L	97	HIS
15	M	18	GLN
15	M	43	ASN
15	M	48	GLN
16	N	31	GLN
16	N	34	ASN
16	N	66	ASN
16	N	72	HIS
16	N	81	ASN
16	N	91	ASN
17	O	11	GLN
17	O	57	GLN
17	O	86	HIS
18	P	13	GLN
18	P	78	ASN
18	P	81	HIS
18	P	115	ASN
18	P	133	ASN
19	Q	8	GLN
19	Q	73	ASN
20	R	10	HIS
20	R	11	ASN
20	R	29	HIS
20	R	64	ASN
20	R	71	GLN
21	S	45	GLN
21	S	70	GLN
21	S	80	HIS
21	S	146	HIS
22	T	3	HIS
22	T	12	ASN
22	T	17	ASN

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Mol	Chain	Res	Type
22	T	35	ASN
22	T	57	HIS
22	T	71	ASN
23	U	42	GLN
24	V	41	HIS
24	V	45	GLN
25	W	49	HIS
26	Z	29	ASN
26	Z	35	GLN
26	Z	43	HIS
26	Z	44	HIS
30	4	34	GLN
30	4	36	GLN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	X	2680/2880 (93%)	695 (25%)	324 (12%)
2	Y	121/123 (98%)	25 (20%)	1 (0%)
All	All	2801/3003 (93%)	720 (25%)	325 (11%)

All (720) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	X	2	G
1	X	4	C
1	X	13	A
1	X	14	A
1	X	25	U
1	X	28	A
1	X	34	U
1	X	35	G
1	X	39	C
1	X	45	C
1	X	49	U
1	X	50	G
1	X	59	G
1	X	63	A
1	X	70	A
1	X	71	A
1	X	72	A

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Mol	Chain	Res	Type
1	X	74	G
1	X	76	C
1	X	82	G
1	X	83	A
1	X	84	G
1	X	87	G
1	X	88	G
1	X	89	A
1	X	90	G
1	X	91	A
1	X	97	U
1	X	98	U
1	X	99	U
1	X	100	G
1	X	101	A
1	X	105	G
1	X	110	U
1	X	111	G
1	X	117	A
1	X	118	U
1	X	119	G
1	X	123	A
1	X	124	A
1	X	129	A
1	X	133	C
1	X	134	G
1	X	136	A
1	X	137	A
1	X	138	G
1	X	147	G
1	X	149	A
1	X	158	A
1	X	173	A
1	X	174	A
1	X	176	A
1	X	177	U
1	X	178	C
1	X	181	A
1	X	182	G
1	X	193	A
1	X	199	A
1	X	200	A

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Mol	Chain	Res	Type
1	X	201	G
1	X	203	G
1	X	205	A
1	X	206	U
1	X	207	U
1	X	210	A
1	X	218	A
1	X	219	G
1	X	225	G
1	X	229	G
1	X	242	A
1	X	245	C
1	X	304	A
1	X	305	A
1	X	318	G
1	X	323	G
1	X	333	A
1	X	334	G
1	X	335	A
1	X	340	G
1	X	341	A
1	X	342	G
1	X	343	A
1	X	399	G
1	X	400	U
1	X	401	G
1	X	403	A
1	X	404	A
1	X	414	A
1	X	416	U
1	X	417	C
1	X	418	C
1	X	419	G
1	X	424	G
1	X	425	A
1	X	441	A
1	X	447	U
1	X	448	C
1	X	455	A
1	X	456	C
1	X	460	U
1	X	461	A

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Mol	Chain	Res	Type
1	X	463	C
1	X	466	A
1	X	467	U
1	X	468	A
1	X	470	U
1	X	485	G
1	X	491	A
1	X	492	G
1	X	497	C
1	X	514	G
1	X	515	A
1	X	517	A
1	X	519	C
1	X	520	C
1	X	523	A
1	X	537	C
1	X	538	A
1	X	539	A
1	X	540	G
1	X	541	C
1	X	542	A
1	X	543	G
1	X	554	U
1	X	555	U
1	X	556	A
1	X	557	U
1	X	558	G
1	X	559	C
1	X	571	U
1	X	572	G
1	X	580	A
1	X	581	A
1	X	582	G
1	X	583	C
1	X	584	A
1	X	587	A
1	X	595	A
1	X	601	A
1	X	613	A
1	X	614	G
1	X	624	A
1	X	625	A

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Mol	Chain	Res	Type
1	X	626	A
1	X	628	A
1	X	631	G
1	X	632	A
1	X	633	G
1	X	636	G
1	X	638	A
1	X	639	G
1	X	648	A
1	X	649	G
1	X	652	C
1	X	654	A
1	X	655	A
1	X	657	A
1	X	664	C
1	X	665	A
1	X	666	U
1	X	667	U
1	X	668	A
1	X	669	G
1	X	670	U
1	X	682	G
1	X	683	A
1	X	684	C
1	X	695	G
1	X	699	G
1	X	700	C
1	X	718	A
1	X	728	G
1	X	729	A
1	X	730	C
1	X	731	A
1	X	740	A
1	X	742	G
1	X	743	A
1	X	752	G
1	X	753	U
1	X	759	C
1	X	760	U
1	X	766	A
1	X	775	U
1	X	776	G

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Mol	Chain	Res	Type
1	X	777	A
1	X	778	G
1	X	780	U
1	X	781	G
1	X	789	G
1	X	790	A
1	X	794	A
1	X	795	A
1	X	796	A
1	X	797	A
1	X	798	G
1	X	802	A
1	X	803	C
1	X	804	C
1	X	805	G
1	X	806	A
1	X	807	A
1	X	813	A
1	X	814	G
1	X	815	A
1	X	818	G
1	X	819	C
1	X	825	C
1	X	832	A
1	X	840	U
1	X	841	G
1	X	843	G
1	X	844	G
1	X	845	U
1	X	862	A
1	X	872	G
1	X	873	U
1	X	878	C
1	X	879	A
1	X	891	A
1	X	919	U
1	X	922	A
1	X	926	C
1	X	927	C
1	X	940	G
1	X	944	A
1	X	952	A

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Mol	Chain	Res	Type
1	X	955	G
1	X	956	A
1	X	957	G
1	X	968	C
1	X	969	U
1	X	970	A
1	X	972	C
1	X	973	U
1	X	984	A
1	X	985	G
1	X	994	A
1	X	995	A
1	X	996	C
1	X	1001	A
1	X	1006	C
1	X	1007	A
1	X	1016	C
1	X	1019	U
1	X	1020	A
1	X	1022	A
1	X	1023	U
1	X	1024	G
1	X	1032	A
1	X	1033	G
1	X	1034	U
1	X	1036	G
1	X	1037	U
1	X	1044	U
1	X	1045	G
1	X	1051	U
1	X	1053	G
1	X	1054	C
1	X	1055	A
1	X	1056	U
1	X	1057	A
1	X	1058	G
1	X	1059	A
1	X	1060	C
1	X	1070	G
1	X	1071	U
1	X	1072	U
1	X	1073	G

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Mol	Chain	Res	Type
1	X	1078	A
1	X	1079	G
1	X	1081	A
1	X	1082	G
1	X	1087	C
1	X	1090	C
1	X	1095	A
1	X	1096	A
1	X	1097	A
1	X	1098	G
1	X	1099	A
1	X	1108	U
1	X	1115	C
1	X	1119	U
1	X	1120	C
1	X	1121	G
1	X	1122	A
1	X	1123	G
1	X	1125	G
1	X	1128	G
1	X	1129	A
1	X	1137	A
1	X	1138	A
1	X	1139	A
1	X	1140	A
1	X	1142	G
1	X	1143	A
1	X	1145	C
1	X	1146	G
1	X	1152	C
1	X	1153	A
1	X	1154	A
1	X	1155	G
1	X	1167	A
1	X	1168	G
1	X	1182	U
1	X	1183	C
1	X	1185	C
1	X	1186	G
1	X	1187	A
1	X	1188	A
1	X	1189	G

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Mol	Chain	Res	Type
1	X	1192	A
1	X	1194	U
1	X	1195	U
1	X	1220	G
1	X	1224	A
1	X	1225	G
1	X	1234	C
1	X	1250	A
1	X	1251	G
1	X	1253	C
1	X	1261	G
1	X	1262	U
1	X	1264	C
1	X	1266	G
1	X	1269	G
1	X	1278	A
1	X	1279	G
1	X	1280	U
1	X	1284	G
1	X	1285	A
1	X	1286	U
1	X	1288	A
1	X	1295	U
1	X	1300	A
1	X	1302	C
1	X	1313	U
1	X	1314	A
1	X	1315	A
1	X	1316	G
1	X	1325	U
1	X	1326	U
1	X	1333	G
1	X	1334	A
1	X	1338	G
1	X	1339	U
1	X	1342	U
1	X	1343	C
1	X	1346	C
1	X	1354	A
1	X	1355	A
1	X	1356	G
1	X	1358	C

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Mol	Chain	Res	Type
1	X	1359	G
1	X	1374	G
1	X	1391	A
1	X	1392	U
1	X	1398	G
1	X	1410	U
1	X	1411	C
1	X	1413	U
1	X	1428	G
1	X	1429	A
1	X	1430	G
1	X	1432	G
1	X	1433	A
1	X	1434	U
1	X	1440	G
1	X	1441	A
1	X	1442	C
1	X	1443	G
1	X	1460	G
1	X	1465	G
1	X	1467	U
1	X	1468	A
1	X	1469	U
1	X	1470	G
1	X	1473	U
1	X	1474	A
1	X	1475	U
1	X	1482	U
1	X	1489	C
1	X	1490	U
1	X	1497	C
1	X	1498	G
1	X	1513	U
1	X	1514	C
1	X	1523	A
1	X	1524	C
1	X	1525	A
1	X	1528	C
1	X	1551	U
1	X	1552	C
1	X	1553	G
1	X	1554	G

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Mol	Chain	Res	Type
1	X	1559	G
1	X	1562	G
1	X	1563	U
1	X	1570	C
1	X	1571	G
1	X	1574	A
1	X	1575	C
1	X	1576	G
1	X	1581	C
1	X	1582	A
1	X	1583	A
1	X	1585	A
1	X	1601	U
1	X	1602	G
1	X	1603	A
1	X	1608	U
1	X	1619	A
1	X	1624	A
1	X	1625	A
1	X	1626	A
1	X	1627	C
1	X	1632	A
1	X	1633	C
1	X	1634	A
1	X	1635	G
1	X	1648	C
1	X	1651	U
1	X	1652	G
1	X	1657	A
1	X	1661	C
1	X	1664	G
1	X	1665	C
1	X	1668	G
1	X	1671	A
1	X	1685	A
1	X	1686	A
1	X	1691	G
1	X	1692	C
1	X	1699	A
1	X	1710	U
1	X	1711	C
1	X	1712	G

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Mol	Chain	Res	Type
1	X	1713	G
1	X	1715	A
1	X	1716	G
1	X	1717	A
1	X	1718	A
1	X	1724	C
1	X	1732	U
1	X	1733	U
1	X	1734	C
1	X	1747	G
1	X	1749	G
1	X	1750	A
1	X	1754	G
1	X	1755	G
1	X	1764	A
1	X	1771	A
1	X	1772	C
1	X	1773	C
1	X	1776	A
1	X	1778	U
1	X	1790	G
1	X	1791	C
1	X	1792	C
1	X	1793	A
1	X	1800	A
1	X	1801	C
1	X	1802	A
1	X	1807	A
1	X	1808	C
1	X	1812	U
1	X	1813	A
1	X	1821	A
1	X	1825	C
1	X	1831	G
1	X	1842	G
1	X	1851	A
1	X	1852	G
1	X	1854	G
1	X	1855	G
1	X	1856	U
1	X	1857	G
1	X	1859	A

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Mol	Chain	Res	Type
1	X	1861	G
1	X	1865	C
1	X	1867	A
1	X	1868	A
1	X	1869	A
1	X	1873	A
1	X	1874	G
1	X	1883	A
1	X	1910	A
1	X	1912	G
1	X	1914	U
1	X	1919	A
1	X	1922	U
1	X	1923	U
1	X	1924	C
1	X	1926	U
1	X	1927	U
1	X	1928	G
1	X	1938	U
1	X	1939	U
1	X	1946	U
1	X	1947	G
1	X	1948	C
1	X	1949	A
1	X	1950	C
1	X	1953	A
1	X	1954	A
1	X	1955	G
1	X	1964	A
1	X	1976	U
1	X	1978	U
1	X	1979	C
1	X	1980	A
1	X	2004	U
1	X	2005	U
1	X	2006	G
1	X	2014	A
1	X	2015	G
1	X	2016	A
1	X	2019	C
1	X	2026	C
1	X	2035	G

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Mol	Chain	Res	Type
1	X	2038	C
1	X	2039	G
1	X	2044	G
1	X	2045	A
1	X	2046	C
1	X	2052	G
1	X	2075	U
1	X	2076	G
1	X	2083	G
1	X	2089	C
1	X	2171	U
1	X	2181	A
1	X	2190	A
1	X	2191	A
1	X	2192	U
1	X	2195	C
1	X	2196	U
1	X	2197	U
1	X	2198	U
1	X	2199	C
1	X	2200	G
1	X	2205	C
1	X	2217	G
1	X	2218	G
1	X	2229	G
1	X	2230	G
1	X	2237	C
1	X	2238	G
1	X	2245	A
1	X	2246	A
1	X	2247	A
1	X	2248	A
1	X	2254	C
1	X	2255	G
1	X	2261	G
1	X	2262	C
1	X	2265	A
1	X	2266	A
1	X	2267	A
1	X	2268	G
1	X	2276	C
1	X	2284	U

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Mol	Chain	Res	Type
1	X	2285	U
1	X	2286	G
1	X	2287	G
1	X	2288	A
1	X	2298	U
1	X	2299	A
1	X	2300	G
1	X	2301	A
1	X	2306	A
1	X	2313	G
1	X	2314	A
1	X	2316	G
1	X	2322	U
1	X	2323	U
1	X	2324	G
1	X	2325	A
1	X	2326	C
1	X	2351	G
1	X	2362	G
1	X	2364	C
1	X	2369	U
1	X	2371	A
1	X	2386	G
1	X	2396	C
1	X	2402	U
1	X	2403	C
1	X	2405	A
1	X	2406	C
1	X	2408	G
1	X	2409	A
1	X	2410	U
1	X	2418	A
1	X	2419	C
1	X	2420	C
1	X	2427	A
1	X	2428	U
1	X	2438	A
1	X	2448	A
1	X	2452	U
1	X	2455	A
1	X	2461	G
1	X	2469	G

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Mol	Chain	Res	Type
1	X	2470	U
1	X	2476	A
1	X	2477	C
1	X	2481	G
1	X	2482	A
1	X	2483	U
1	X	2484	G
1	X	2485	U
1	X	2497	A
1	X	2498	U
1	X	2499	C
1	X	2508	G
1	X	2521	A
1	X	2522	G
1	X	2545	A
1	X	2546	G
1	X	2552	C
1	X	2560	G
1	X	2561	G
1	X	2564	U
1	X	2565	C
1	X	2581	A
1	X	2582	G
1	X	2588	U
1	X	2591	C
1	X	2592	U
1	X	2593	A
1	X	2594	U
1	X	2608	A
1	X	2609	G
1	X	2624	G
1	X	2625	U
1	X	2633	A
1	X	2634	G
1	X	2650	G
1	X	2660	C
1	X	2668	U
1	X	2669	C
1	X	2684	A
1	X	2691	C
1	X	2692	A
1	X	2693	U

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Mol	Chain	Res	Type
1	X	2694	G
1	X	2700	U
1	X	2702	G
1	X	2706	U
1	X	2707	G
1	X	2712	G
1	X	2713	A
1	X	2730	A
1	X	2731	G
1	X	2732	C
1	X	2736	U
1	X	2737	A
1	X	2738	A
1	X	2744	A
1	X	2745	A
1	X	2757	G
1	X	2758	A
1	X	2759	U
1	X	2760	G
1	X	2761	A
1	X	2770	A
1	X	2771	C
1	X	2775	U
1	X	2777	A
1	X	2778	U
1	X	2779	C
1	X	2782	G
1	X	2783	U
1	X	2795	A
1	X	2796	A
1	X	2798	A
1	X	2807	U
1	X	2808	U
1	X	2809	A
1	X	2810	A
1	X	2811	G
1	X	2815	C
1	X	2824	C
1	X	2825	A
1	X	2841	U
1	X	2842	C
1	X	2846	G

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Mol	Chain	Res	Type
1	X	2847	G
1	X	2850	U
1	X	2854	G
1	X	2855	C
1	X	2858	A
1	X	2868	G
2	Y	4	C
2	Y	14	C
2	Y	15	A
2	Y	17	A
2	Y	18	G
2	Y	27	A
2	Y	28	A
2	Y	37	C
2	Y	38	C
2	Y	43	G
2	Y	44	C
2	Y	46	G
2	Y	47	A
2	Y	54	U
2	Y	59	A
2	Y	68	A
2	Y	69	G
2	Y	81	C
2	Y	93	G
2	Y	102	A
2	Y	110	U
2	Y	111	C
2	Y	112	A
2	Y	115	G
2	Y	123	U

All (325) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	X	3	U
1	X	13	A
1	X	27	G
1	X	33	C
1	X	38	G
1	X	48	A
1	X	62	U

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Mol	Chain	Res	Type
1	X	70	A
1	X	71	A
1	X	73	A
1	X	82	G
1	X	83	A
1	X	89	A
1	X	90	G
1	X	98	U
1	X	99	U
1	X	100	G
1	X	117	A
1	X	118	U
1	X	173	A
1	X	176	A
1	X	177	U
1	X	181	A
1	X	192	G
1	X	198	A
1	X	199	A
1	X	204	A
1	X	218	A
1	X	226	C
1	X	312	G
1	X	318	G
1	X	322	A
1	X	333	A
1	X	334	G
1	X	340	G
1	X	341	A
1	X	342	G
1	X	399	G
1	X	400	U
1	X	403	A
1	X	417	C
1	X	424	G
1	X	454	G
1	X	458	G
1	X	460	U
1	X	466	A
1	X	467	U
1	X	468	A
1	X	469	G

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Mol	Chain	Res	Type
1	X	485	G
1	X	490	A
1	X	513	A
1	X	514	G
1	X	516	G
1	X	522	G
1	X	538	A
1	X	539	A
1	X	541	C
1	X	542	A
1	X	553	C
1	X	554	U
1	X	555	U
1	X	556	A
1	X	557	U
1	X	571	U
1	X	580	A
1	X	582	G
1	X	583	C
1	X	596	C
1	X	613	A
1	X	625	A
1	X	631	G
1	X	638	A
1	X	648	A
1	X	664	C
1	X	667	U
1	X	682	G
1	X	683	A
1	X	698	A
1	X	699	G
1	X	717	G
1	X	730	C
1	X	739	G
1	X	741	G
1	X	751	G
1	X	752	G
1	X	759	C
1	X	765	C
1	X	775	U
1	X	777	A
1	X	780	U

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Mol	Chain	Res	Type
1	X	788	G
1	X	789	G
1	X	795	A
1	X	801	A
1	X	802	A
1	X	803	C
1	X	804	C
1	X	805	G
1	X	806	A
1	X	813	A
1	X	814	G
1	X	818	G
1	X	824	U
1	X	842	A
1	X	843	G
1	X	872	G
1	X	878	C
1	X	890	U
1	X	925	U
1	X	939	C
1	X	955	G
1	X	956	A
1	X	968	C
1	X	969	U
1	X	972	C
1	X	983	G
1	X	984	A
1	X	985	G
1	X	994	A
1	X	1000	G
1	X	1006	C
1	X	1023	U
1	X	1031	C
1	X	1033	G
1	X	1036	G
1	X	1044	U
1	X	1053	G
1	X	1055	A
1	X	1057	A
1	X	1071	U
1	X	1072	U
1	X	1096	A

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Mol	Chain	Res	Type
1	X	1121	G
1	X	1122	A
1	X	1123	G
1	X	1137	A
1	X	1139	A
1	X	1141	U
1	X	1142	G
1	X	1152	C
1	X	1153	A
1	X	1154	A
1	X	1167	A
1	X	1182	U
1	X	1186	G
1	X	1188	A
1	X	1194	U
1	X	1223	G
1	X	1224	A
1	X	1233	A
1	X	1249	G
1	X	1260	A
1	X	1261	G
1	X	1263	G
1	X	1264	C
1	X	1265	G
1	X	1266	G
1	X	1278	A
1	X	1279	G
1	X	1285	A
1	X	1299	A
1	X	1301	U
1	X	1313	U
1	X	1314	A
1	X	1315	A
1	X	1324	G
1	X	1325	U
1	X	1333	G
1	X	1337	G
1	X	1338	G
1	X	1342	U
1	X	1345	G
1	X	1353	A
1	X	1354	A

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Mol	Chain	Res	Type
1	X	1355	A
1	X	1373	G
1	X	1391	A
1	X	1409	U
1	X	1410	U
1	X	1412	C
1	X	1439	G
1	X	1441	A
1	X	1442	C
1	X	1459	U
1	X	1473	U
1	X	1474	A
1	X	1496	G
1	X	1552	C
1	X	1561	A
1	X	1575	C
1	X	1581	C
1	X	1582	A
1	X	1583	A
1	X	1601	U
1	X	1607	A
1	X	1618	U
1	X	1623	C
1	X	1624	A
1	X	1626	A
1	X	1632	A
1	X	1633	C
1	X	1634	A
1	X	1651	U
1	X	1664	G
1	X	1670	G
1	X	1685	A
1	X	1691	G
1	X	1698	C
1	X	1710	U
1	X	1711	C
1	X	1712	G
1	X	1715	A
1	X	1716	G
1	X	1723	U
1	X	1732	U
1	X	1749	G

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Mol	Chain	Res	Type
1	X	1771	A
1	X	1772	C
1	X	1775	A
1	X	1777	A
1	X	1790	G
1	X	1791	C
1	X	1807	A
1	X	1811	A
1	X	1820	G
1	X	1849	G
1	X	1867	A
1	X	1913	G
1	X	1921	A
1	X	1922	U
1	X	1923	U
1	X	1926	U
1	X	1927	U
1	X	1938	U
1	X	1947	G
1	X	1953	A
1	X	1963	G
1	X	1975	G
1	X	1979	C
1	X	2004	U
1	X	2005	U
1	X	2014	A
1	X	2015	G
1	X	2016	A
1	X	2018	G
1	X	2034	A
1	X	2044	G
1	X	2045	A
1	X	2050	G
1	X	2075	U
1	X	2088	U
1	X	2189	A
1	X	2195	C
1	X	2196	U
1	X	2197	U
1	X	2204	A
1	X	2217	G
1	X	2228	U

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Mol	Chain	Res	Type
1	X	2229	G
1	X	2237	C
1	X	2245	A
1	X	2254	C
1	X	2261	G
1	X	2265	A
1	X	2267	A
1	X	2275	U
1	X	2298	U
1	X	2312	A
1	X	2313	G
1	X	2323	U
1	X	2324	G
1	X	2325	A
1	X	2396	C
1	X	2401	A
1	X	2402	U
1	X	2404	A
1	X	2405	A
1	X	2409	A
1	X	2418	A
1	X	2426	G
1	X	2427	A
1	X	2428	U
1	X	2437	G
1	X	2460	G
1	X	2469	G
1	X	2476	A
1	X	2482	A
1	X	2496	C
1	X	2497	A
1	X	2498	U
1	X	2521	A
1	X	2545	A
1	X	2551	A
1	X	2560	G
1	X	2580	C
1	X	2588	U
1	X	2589	C
1	X	2592	U
1	X	2593	A
1	X	2608	A

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Mol	Chain	Res	Type
1	X	2624	G
1	X	2633	A
1	X	2660	C
1	X	2668	U
1	X	2669	C
1	X	2691	C
1	X	2693	U
1	X	2705	A
1	X	2706	U
1	X	2712	G
1	X	2736	U
1	X	2756	A
1	X	2758	A
1	X	2759	U
1	X	2770	A
1	X	2807	U
1	X	2810	A
1	X	2823	G
1	X	2824	C
1	X	2841	U
1	X	2848	A
1	X	2854	G
1	X	2867	G
2	Y	26	G

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

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

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 35 ligands modelled in this entry, 35 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	X	2686/2880 (93%)	-0.22	110 (4%) 37 34	3, 38, 98, 118	0
2	Y	122/123 (99%)	-0.03	3 (2%) 57 56	24, 67, 89, 101	0
3	A	240/274 (87%)	0.27	20 (8%) 11 9	17, 53, 65, 71	0
4	B	205/211 (97%)	-0.45	1 (0%) 91 91	2, 21, 43, 56	0
5	C	197/205 (96%)	0.02	10 (5%) 28 24	14, 43, 58, 66	0
6	D	177/180 (98%)	0.45	13 (7%) 15 12	50, 60, 67, 69	0
7	E	171/185 (92%)	-0.09	5 (2%) 51 48	38, 53, 64, 68	0
8	F	71/144 (49%)	2.85	52 (73%) 0 0	0, 77, 83, 85	0
9	G	142/174 (81%)	0.10	9 (6%) 20 17	24, 39, 53, 63	0
10	H	134/134 (100%)	-0.53	0 100 100	3, 17, 33, 42	0
11	I	141/156 (90%)	0.77	24 (17%) 1 1	21, 53, 62, 71	0
12	J	136/142 (95%)	-0.03	3 (2%) 62 60	28, 43, 60, 65	0
13	K	113/116 (97%)	-0.47	0 100 100	2, 10, 24, 34	0
14	L	104/114 (91%)	0.28	10 (9%) 8 6	38, 51, 58, 63	0
15	M	108/166 (65%)	-0.54	1 (0%) 84 84	3, 18, 43, 55	0
16	N	117/118 (99%)	-0.19	2 (1%) 70 70	5, 37, 54, 61	0
17	O	94/100 (94%)	-0.17	3 (3%) 47 44	22, 47, 59, 64	0
18	P	127/134 (94%)	-0.50	0 100 100	4, 18, 47, 59	0
19	Q	93/95 (97%)	-0.00	3 (3%) 47 44	29, 42, 57, 68	0
20	R	110/115 (95%)	0.35	12 (10%) 5 4	35, 46, 61, 65	0
21	S	175/237 (73%)	0.64	18 (10%) 6 5	49, 58, 64, 68	0
22	T	84/91 (92%)	0.62	14 (16%) 1 1	26, 44, 59, 70	0
23	U	72/81 (88%)	0.74	11 (15%) 2 1	41, 53, 63, 67	0
24	V	66/67 (98%)	-0.12	2 (3%) 50 46	38, 52, 65, 67	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
25	W	55/55 (100%)	-0.40	0 100 100	21, 37, 49, 64	0
26	Z	58/60 (96%)	-0.42	1 (1%) 70 70	4, 16, 38, 44	0
27	1	53/55 (96%)	3.46	42 (79%) 0 0	37, 47, 56, 60	0
28	2	46/47 (97%)	6.25	46 (100%) 0 0	11, 27, 34, 37	0
29	3	63/66 (95%)	5.67	59 (93%) 0 0	21, 36, 46, 48	0
30	4	37/37 (100%)	1.02	9 (24%) 0 0	44, 52, 58, 59	0
All	All	5997/6562 (91%)	0.10	483 (8%) 12 10	0, 43, 85, 118	0

All (483) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
29	3	37	SER	16.5
29	3	38	GLY	16.4
29	3	39	ASP	11.4
29	3	33	ASN	11.4
29	3	43	GLY	11.0
28	2	29	ASN	10.4
29	3	42	ARG	9.6
29	3	36	LYS	9.2
28	2	26	SER	9.2
28	2	24	THR	9.1
29	3	35	GLY	9.0
29	3	40	GLU	9.0
29	3	41	ILE	8.9
29	3	34	THR	8.9
21	S	92	VAL	8.8
8	F	125	ASN	8.8
28	2	7	PRO	8.7
28	2	36	ALA	8.6
28	2	22	MET	8.5
29	3	7	HIS	8.3
28	2	20	ALA	8.3
27	1	43	VAL	8.2
29	3	6	THR	8.2
29	3	31	HIS	8.2
22	T	15	ASP	8.1
27	1	25	THR	8.1
28	2	8	ASN	8.0
28	2	9	ASN	7.8
29	3	11	LYS	7.8

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Mol	Chain	Res	Type	RSRZ
28	2	15	THR	7.7
28	2	4	THR	7.7
29	3	27	SER	7.6
28	2	27	GLY	7.6
28	2	6	GLN	7.5
28	2	32	ALA	7.5
29	3	8	LYS	7.4
29	3	28	GLY	7.4
21	S	91	PRO	7.3
27	1	42	PRO	7.2
29	3	9	MET	7.1
27	1	40	TYR	7.0
28	2	33	ARG	6.9
3	A	250	TRP	6.9
29	3	63	PRO	6.8
28	2	5	TYR	6.8
28	2	40	HIS	6.7
22	T	9	SER	6.7
20	R	58	VAL	6.7
2	Y	123	U	6.6
28	2	16	HIS	6.6
1	X	1086	C	6.6
29	3	44	LYS	6.6
27	1	23	THR	6.6
11	I	48	PHE	6.6
11	I	29	THR	6.5
12	J	84	MET	6.4
29	3	62	LEU	6.4
27	1	41	ASP	6.4
9	G	97	ASP	6.3
1	X	731	A	6.3
29	3	10	ALA	6.3
27	1	47	HIS	6.2
28	2	30	ILE	6.0
28	2	3	ARG	6.0
27	1	7	ARG	6.0
28	2	21	ARG	6.0
28	2	28	ARG	5.9
28	2	37	LYS	5.9
29	3	4	MET	5.9
27	1	24	THR	5.9
28	2	25	LYS	5.8

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Mol	Chain	Res	Type	RSRZ
11	I	6	LEU	5.8
29	3	61	MET	5.8
27	1	9	ILE	5.8
1	X	2088	U	5.7
28	2	31	LEU	5.7
29	3	18	GLY	5.7
28	2	19	ARG	5.7
28	2	43	THR	5.7
28	2	13	ALA	5.6
27	1	21	TYR	5.6
28	2	46	ASP	5.6
27	1	26	LYS	5.6
8	F	144	ALA	5.5
1	X	891	A	5.5
11	I	10	PRO	5.5
28	2	42	LEU	5.5
28	2	45	SER	5.5
29	3	45	GLY	5.4
29	3	47	GLY	5.4
28	2	10	ARG	5.4
1	X	1069	G	5.3
29	3	32	GLN	5.3
1	X	514	G	5.2
8	F	129	GLY	5.2
23	U	16	ASN	5.2
1	X	2779	C	5.2
28	2	17	GLY	5.2
28	2	39	ARG	5.2
29	3	53	ALA	5.1
29	3	25	PHE	5.1
11	I	53	ARG	5.1
1	X	2776	U	5.1
28	2	41	GLN	5.0
7	E	37	TYR	5.0
27	1	10	VAL	5.0
8	F	114	ASP	5.0
29	3	55	TRP	4.9
28	2	23	LYS	4.9
8	F	93	LYS	4.9
28	2	11	LYS	4.9
28	2	1	MET	4.9
29	3	54	GLU	4.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
26	Z	2	ALA	4.8
9	G	156	HIS	4.8
1	X	558	G	4.8
8	F	130	THR	4.8
29	3	30	ARG	4.8
11	I	52	GLY	4.8
1	X	1085	G	4.8
11	I	5	ASP	4.8
30	4	37	GLY	4.7
29	3	46	LYS	4.7
8	F	92	ASN	4.7
27	1	27	ASN	4.7
1	X	1522	C	4.7
28	2	34	ARG	4.7
29	3	17	THR	4.7
8	F	142	PRO	4.7
29	3	29	LYS	4.6
27	1	37	LEU	4.6
29	3	19	THR	4.6
8	F	132	ARG	4.5
29	3	26	LYS	4.5
8	F	101	TRP	4.5
28	2	44	VAL	4.5
8	F	74	MET	4.5
28	2	38	GLY	4.5
22	T	8	GLY	4.5
29	3	3	LYS	4.5
19	Q	64	ARG	4.4
21	S	123	VAL	4.4
27	1	44	ALA	4.4
8	F	128	ALA	4.4
5	C	44	SER	4.4
8	F	94	ALA	4.3
1	X	2780	A	4.3
28	2	18	PHE	4.3
28	2	14	LYS	4.3
27	1	36	GLU	4.3
8	F	123	ALA	4.3
6	D	43	SER	4.3
22	T	10	SER	4.3
1	X	2775	U	4.3
30	4	22	ARG	4.3

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Mol	Chain	Res	Type	RSRZ
27	1	30	ASN	4.2
14	L	58	ALA	4.2
1	X	2778	U	4.2
20	R	99	VAL	4.2
8	F	126	THR	4.1
9	G	129	HIS	4.1
1	X	248	A	4.1
1	X	1090	C	4.1
3	A	254	THR	4.1
1	X	2290	A	4.1
6	D	145	MET	4.0
29	3	56	ALA	4.0
8	F	116	ASN	4.0
8	F	90	THR	4.0
1	X	1057	A	4.0
1	X	1104	G	4.0
23	U	52	ARG	4.0
3	A	249	PRO	4.0
20	R	57	ASN	3.9
6	D	11	GLN	3.9
28	2	35	ARG	3.9
7	E	23	VAL	3.9
11	I	4	HIS	3.9
22	T	3	HIS	3.9
3	A	203	ASN	3.8
29	3	60	LEU	3.8
29	3	5	LYS	3.8
7	E	119	ALA	3.8
6	D	86	GLY	3.8
22	T	7	VAL	3.8
8	F	122	ALA	3.8
17	O	46	VAL	3.8
1	X	665	A	3.7
27	1	22	TYR	3.7
28	2	12	ARG	3.7
8	F	84	ILE	3.7
27	1	48	VAL	3.7
8	F	136	VAL	3.7
8	F	143	ASN	3.7
8	F	97	GLY	3.7
1	X	2087	U	3.7
1	X	1524	C	3.7

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Mol	Chain	Res	Type	RSRZ
1	X	1190	C	3.7
27	1	38	LYS	3.6
17	O	39	PHE	3.6
28	2	2	LYS	3.6
29	3	58	MET	3.6
11	I	32	ARG	3.6
22	T	2	ALA	3.6
1	X	1121	G	3.6
5	C	19	LEU	3.6
1	X	728	G	3.6
1	X	1523	A	3.6
27	1	14	SER	3.6
3	A	219	PRO	3.6
27	1	12	MET	3.6
3	A	241	GLY	3.6
29	3	12	ARG	3.6
11	I	36	GLY	3.5
23	U	62	LEU	3.5
3	A	242	ALA	3.5
1	X	1087	C	3.5
21	S	143	ILE	3.5
1	X	1077	U	3.5
1	X	1187	A	3.5
14	L	97	HIS	3.5
30	4	24	LEU	3.4
8	F	83	GLY	3.4
8	F	96	VAL	3.4
29	3	48	PHE	3.4
1	X	729	A	3.4
22	T	14	ARG	3.4
1	X	730	C	3.4
29	3	57	ARG	3.3
1	X	727	U	3.3
8	F	113	PRO	3.3
1	X	1189	G	3.3
6	D	42	SER	3.3
5	C	47	THR	3.3
29	3	51	ALA	3.3
27	1	28	ARG	3.3
8	F	88	SER	3.3
27	1	46	LYS	3.3
27	1	52	GLU	3.3

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Mol	Chain	Res	Type	RSRZ
1	X	1186	G	3.3
1	X	1084	A	3.2
1	X	1114	A	3.2
1	X	2409	A	3.2
3	A	39	LYS	3.2
22	T	17	ASN	3.2
1	X	1058	G	3.2
1	X	1106	A	3.2
29	3	64	ARG	3.2
1	X	1526	U	3.2
22	T	6	GLY	3.2
8	F	82	ALA	3.2
20	R	68	GLY	3.2
11	I	8	PRO	3.2
1	X	1037	U	3.2
1	X	2777	A	3.2
1	X	1103	C	3.2
1	X	1071	U	3.1
1	X	1111	C	3.1
4	B	135	HIS	3.1
1	X	1188	A	3.1
8	F	119	SER	3.1
6	D	141	ILE	3.1
1	X	1067	G	3.1
1	X	1733	U	3.1
1	X	2173	G	3.1
8	F	133	SER	3.0
1	X	1107	A	3.0
1	X	2190	A	3.0
8	F	85	GLY	3.0
8	F	124	ALA	3.0
11	I	50	GLU	3.0
29	3	23	MET	3.0
1	X	1120	C	3.0
11	I	97	ARG	3.0
1	X	1080	A	3.0
8	F	127	VAL	3.0
8	F	121	GLU	3.0
20	R	102	LYS	3.0
23	U	43	ARG	3.0
24	V	4	SER	3.0
27	1	31	THR	3.0

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Mol	Chain	Res	Type	RSRZ
27	1	11	LYS	3.0
8	F	81	ALA	3.0
14	L	34	SER	2.9
14	L	33	ARG	2.9
29	3	59	LYS	2.9
11	I	49	PHE	2.9
1	X	1551	U	2.9
23	U	27	ASP	2.9
21	S	86	VAL	2.9
27	1	45	LYS	2.9
1	X	1074	G	2.9
1	X	1525	A	2.9
11	I	15	ASP	2.9
6	D	146	VAL	2.9
1	X	1065	A	2.9
1	X	2169	A	2.9
16	N	48	ARG	2.9
1	X	1076	U	2.8
8	F	102	ASP	2.8
8	F	134	MET	2.8
1	X	100	G	2.8
1	X	418	C	2.8
23	U	40	ARG	2.8
27	1	17	GLY	2.8
1	X	1108	U	2.8
1	X	2089	C	2.8
11	I	88	PHE	2.8
6	D	147	ASP	2.8
30	4	35	ARG	2.8
1	X	1553	G	2.8
8	F	104	VAL	2.8
9	G	158	HIS	2.8
1	X	1095	A	2.7
9	G	37	ASP	2.7
8	F	105	LEU	2.7
8	F	110	THR	2.7
21	S	55	THR	2.7
27	1	49	VAL	2.7
11	I	63	ARG	2.7
1	X	1552	C	2.7
5	C	48	ARG	2.7
1	X	1557	G	2.7

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Mol	Chain	Res	Type	RSRZ
1	X	1850	G	2.7
27	1	20	PHE	2.7
23	U	25	ARG	2.7
29	3	13	ARG	2.7
5	C	165	SER	2.7
1	X	1072	U	2.7
23	U	47	HIS	2.7
3	A	237	GLU	2.7
11	I	9	THR	2.7
27	1	19	GLY	2.7
5	C	121	ASP	2.6
8	F	118	GLY	2.6
11	I	7	LYS	2.6
1	X	2170	C	2.6
5	C	123	PHE	2.6
24	V	36	GLN	2.6
20	R	67	GLY	2.6
1	X	90	G	2.6
14	L	64	LYS	2.6
21	S	171	VAL	2.6
14	L	57	ALA	2.6
2	Y	61	A	2.6
20	R	100	ASP	2.6
7	E	62	ARG	2.6
8	F	95	LYS	2.6
8	F	98	LYS	2.6
21	S	54	ILE	2.6
1	X	1096	A	2.6
1	X	1909	U	2.6
1	X	2774	U	2.6
1	X	1089	C	2.5
6	D	35	VAL	2.5
21	S	23	ALA	2.5
29	3	2	PRO	2.5
22	T	62	LEU	2.5
1	X	1056	U	2.5
7	E	175	LYS	2.5
3	A	220	HIS	2.5
23	U	49	LYS	2.5
3	A	91	ARG	2.5
1	X	1913	G	2.5
8	F	112	MET	2.5

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Mol	Chain	Res	Type	RSRZ
22	T	4	LYS	2.5
9	G	103	TYR	2.5
1	X	2877	A	2.5
21	S	93	GLU	2.5
8	F	100	ASN	2.5
30	4	20	HIS	2.5
1	X	358	C	2.5
3	A	271	VAL	2.5
1	X	2174	G	2.5
23	U	46	LEU	2.5
27	1	35	LEU	2.5
9	G	96	ASP	2.4
22	T	74	LYS	2.4
8	F	76	TYR	2.4
14	L	85	LYS	2.4
1	X	1078	A	2.4
1	X	1097	A	2.4
1	X	2324	G	2.4
21	S	17	SER	2.4
3	A	84	TYR	2.4
1	X	1092	U	2.4
27	1	39	LYS	2.4
1	X	1068	A	2.4
3	A	78	LYS	2.4
21	S	12	GLN	2.4
2	Y	2	C	2.4
5	C	91	TYR	2.3
6	D	144	ASP	2.3
3	A	261	ARG	2.3
3	A	186	HIS	2.3
1	X	871	U	2.3
11	I	103	ASN	2.3
20	R	94	VAL	2.3
27	1	16	ALA	2.3
8	F	115	LEU	2.3
20	R	63	THR	2.3
27	1	15	SER	2.3
1	X	1070	G	2.3
5	C	57	LYS	2.3
21	S	32	PHE	2.3
1	X	1556	A	2.3
11	I	23	PRO	2.3

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Mol	Chain	Res	Type	RSRZ
8	F	111	LYS	2.3
21	S	101	THR	2.3
29	3	49	VAL	2.3
1	X	1079	G	2.3
3	A	134	ARG	2.3
30	4	16	VAL	2.3
27	1	13	GLU	2.3
1	X	1601	U	2.3
3	A	217	ARG	2.3
19	Q	72	ARG	2.3
1	X	1110	G	2.3
1	X	1432	G	2.3
14	L	63	ASN	2.3
21	S	169	VAL	2.3
8	F	75	SER	2.2
12	J	82	THR	2.2
27	1	4	ASP	2.2
1	X	434	C	2.2
16	N	118	GLN	2.2
1	X	2289	A	2.2
11	I	68	VAL	2.2
1	X	172	A	2.2
3	A	272	THR	2.2
29	3	20	GLY	2.2
20	R	60	PRO	2.2
1	X	1098	G	2.2
1	X	2082	C	2.2
3	A	46	ARG	2.2
29	3	14	ILE	2.2
17	O	41	GLY	2.2
9	G	155	THR	2.2
1	X	1081	A	2.2
15	M	34	ARG	2.2
11	I	30	ALA	2.2
21	S	152	ILE	2.2
30	4	21	GLY	2.2
1	X	1115	C	2.2
27	1	29	ARG	2.2
11	I	33	GLY	2.1
1	X	2323	U	2.1
22	T	5	LYS	2.1
30	4	18	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
27	1	3	LYS	2.1
1	X	1185	C	2.1
1	X	1184	G	2.1
29	3	52	LYS	2.1
8	F	78	ILE	2.1
1	X	1088	A	2.1
8	F	89	SER	2.1
29	3	22	VAL	2.1
5	C	66	ASN	2.1
8	F	80	LYS	2.1
14	L	9	ARG	2.1
6	D	94	GLU	2.1
27	1	50	PHE	2.1
9	G	106	TYR	2.1
1	X	1109	A	2.1
20	R	61	SER	2.1
14	L	40	ALA	2.1
1	X	2287	G	2.1
1	X	1055	A	2.1
1	X	135	U	2.0
8	F	79	ARG	2.0
20	R	82	ALA	2.0
23	U	51	ILE	2.0
1	X	1091	C	2.0
21	S	44	ARG	2.0
1	X	2165	A	2.0
29	3	16	ILE	2.0
30	4	36	GLN	2.0
19	Q	2	SER	2.0
6	D	108	LEU	2.0
1	X	667	U	2.0
21	S	168	VAL	2.0
12	J	18	MET	2.0
6	D	120	ASN	2.0

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

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

### 6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

### 6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
31	MG	X	2886	1/1	0.52	0.33	41,41,41,41	0
31	MG	X	2884	1/1	0.53	0.42	55,55,55,55	0
31	MG	X	2910	1/1	0.63	0.37	19,19,19,19	0
31	MG	X	2882	1/1	0.66	0.29	12,12,12,12	0
31	MG	X	2908	1/1	0.72	0.49	17,17,17,17	0
31	MG	Y	126	1/1	0.73	0.29	25,25,25,25	0
31	MG	X	2883	1/1	0.76	0.19	49,49,49,49	0
31	MG	Y	124	1/1	0.80	0.42	26,26,26,26	0
31	MG	Y	128	1/1	0.82	0.16	41,41,41,41	0
31	MG	X	2881	1/1	0.82	0.26	59,59,59,59	0
31	MG	X	2888	1/1	0.83	0.23	3,3,3,3	0
31	MG	X	2890	1/1	0.83	0.20	49,49,49,49	0
31	MG	X	2900	1/1	0.83	0.40	3,3,3,3	0
31	MG	X	2893	1/1	0.83	0.21	13,13,13,13	0
31	MG	X	2885	1/1	0.84	0.52	56,56,56,56	0
31	MG	X	2909	1/1	0.86	0.12	3,3,3,3	0
31	MG	X	2892	1/1	0.87	0.19	22,22,22,22	0
31	MG	X	2899	1/1	0.88	0.22	19,19,19,19	0
31	MG	Y	127	1/1	0.90	0.18	12,12,12,12	0
31	MG	X	2906	1/1	0.91	0.44	13,13,13,13	0
31	MG	X	2896	1/1	0.92	0.25	3,3,3,3	0
31	MG	X	2898	1/1	0.92	0.42	3,3,3,3	0
31	MG	X	2905	1/1	0.92	0.28	6,6,6,6	0
31	MG	X	2903	1/1	0.93	0.24	24,24,24,24	0
31	MG	X	2897	1/1	0.93	0.51	3,3,3,3	0
31	MG	X	2901	1/1	0.93	0.28	3,3,3,3	0
31	MG	X	2887	1/1	0.94	0.15	3,3,3,3	0
31	MG	X	2894	1/1	0.95	0.39	15,15,15,15	0
31	MG	X	2907	1/1	0.96	0.17	58,58,58,58	0
31	MG	X	2904	1/1	0.96	0.13	3,3,3,3	0
31	MG	X	2902	1/1	0.97	0.11	60,60,60,60	0
31	MG	Y	125	1/1	0.97	0.20	9,9,9,9	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
31	MG	X	2895	1/1	0.97	0.35	3,3,3,3	0
31	MG	X	2889	1/1	0.98	0.36	3,3,3,3	0
31	MG	X	2891	1/1	0.99	0.51	12,12,12,12	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.