



Full wwPDB X-ray Structure Validation Report ⓘ

May 28, 2020 – 09:53 pm BST

PDB ID : 2E5L
Title : A snapshot of the 30S ribosomal subunit capturing mRNA via the Shine-Dalgarno interaction
Authors : Kaminishi, T.; Wilson, D.N.; Takemoto, C.; Harms, J.M.; Kawazoe, M.; Schlunzen, F.; Hanawa-Suetsugu, K.; Shirouzu, M.; Fucini, P.; Yokoyama, S.; RIKEN Structural Genomics/Proteomics Initiative (RSGI)
Deposited on : 2006-12-21
Resolution : 3.30 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The 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

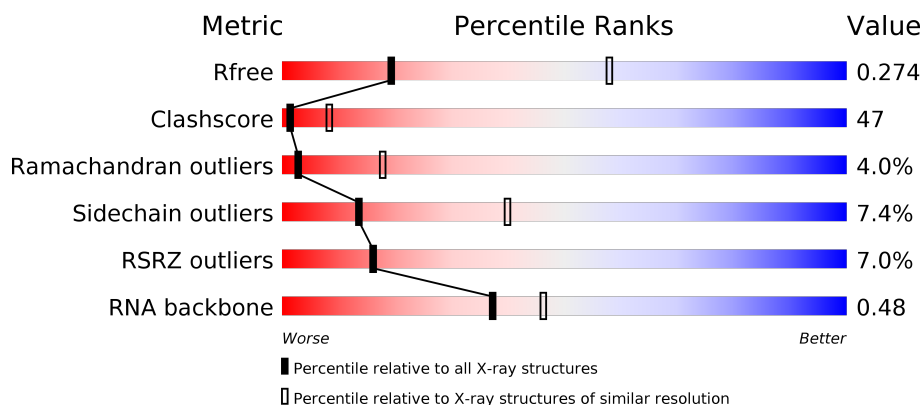
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.30 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))
R_{free}	130704	1149 (3.34-3.26)
Clashscore	141614	1205 (3.34-3.26)
Ramachandran outliers	138981	1183 (3.34-3.26)
Sidechain outliers	138945	1182 (3.34-3.26)
RSRZ outliers	127900	1115 (3.34-3.26)
RNA backbone	3102	1117 (3.70-2.90)

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 ≥ 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	A	1520	<div> <div>10%</div> <div>60%</div> <div>21%</div> <div>8%</div> </div>
2	1	6	<div> <div>33%</div> <div>17%</div> <div>50%</div> <div>33%</div> </div>
2	2	6	<div> <div>17%</div> <div>33%</div> <div>33%</div> <div>33%</div> </div>
3	B	227	<div> <div>52%</div> <div>37%</div> <div>7%</div> </div>

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Mol	Chain	Length	Quality of chain
4	C	238	
5	D	208	
6	E	161	
7	F	101	
8	G	155	
9	H	138	
10	I	128	
11	J	104	
12	K	128	
13	L	131	
14	M	125	
15	N	60	
16	O	88	
17	P	88	
18	Q	104	
19	R	87	
20	S	92	
21	T	105	
22	V	26	

2 Entry composition

There are 23 unique types of molecules in this entry. The entry contains 51895 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 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1517	Total	C	N	O	P	0	0	0
			32594	14508	6027	10542	1517			

- Molecule 2 is a RNA chain called 5'-R(*GP*AP*AP*AP*GP*A)-3'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	1	6	Total	C	N	O	P	0	0	0
			131	60	30	36	5			
2	2	4	Total	C	N	O	P	0	0	0
			86	40	20	23	3			

- Molecule 3 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	B	222	Total	C	N	O	S	0	0	0
			1811	1154	328	324	5			

- Molecule 4 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	C	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			

- Molecule 5 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	D	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 6 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	E	150	Total	C	N	O	S	0	0	0
			1146	724	217	201	4			

- Molecule 7 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	F	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 8 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	G	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 9 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	H	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 10 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
10	I	127	Total	C	N	O	0	0	0
			1011	639	198	174			

- Molecule 11 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	J	98	Total	C	N	O	S	0	0	0
			794	499	156	138	1			

- Molecule 12 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	K	115	Total	C	N	O	S	0	0	0
			853	531	160	159	3			

- Molecule 13 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	L	124	Total	C	N	O	S	0	0	0
			970	611	195	163	1			

- Molecule 14 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	M	122	Total	C	N	O	S	0	0	0
			969	600	200	167	2			

- Molecule 15 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	N	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 16 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	O	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 17 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	P	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			

- Molecule 18 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	Q	104	Total	C	N	O	S	0	0	0
			857	547	161	147	2			

- Molecule 19 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	R	73	Total	C	N	O		0	0	0
			597	380	118	99				

- Molecule 20 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	S	80	Total	C	N	O	S	0	0	0
			647	414	119	112	2			

- Molecule 21 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	T	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			

- Molecule 22 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
22	V	24	Total	C	N	O	0	0	0
			208	128	50	30			

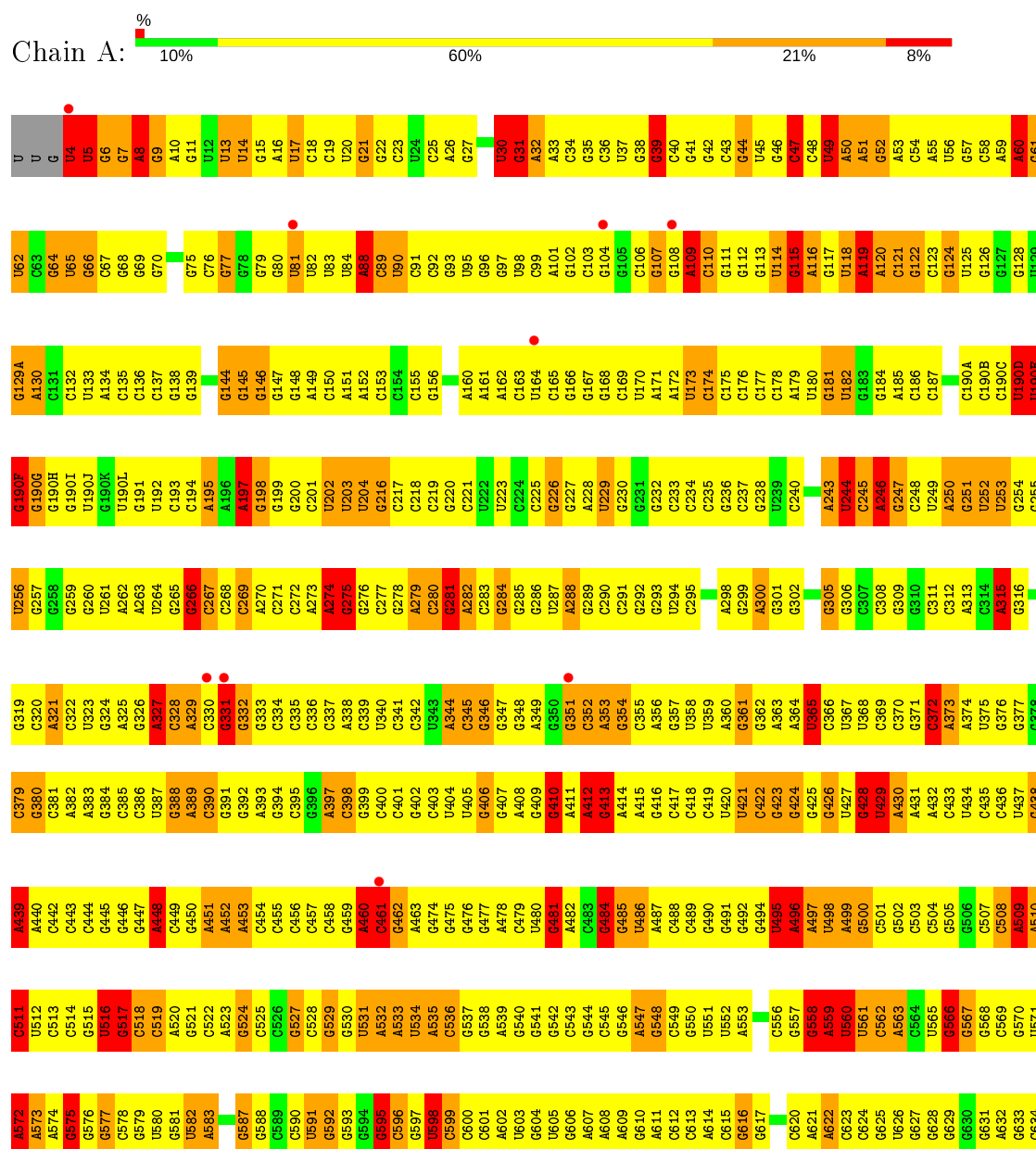
- Molecule 23 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
23	D	1	Total	Zn	0	0
			1	1		
23	N	1	Total	Zn	0	0
			1	1		

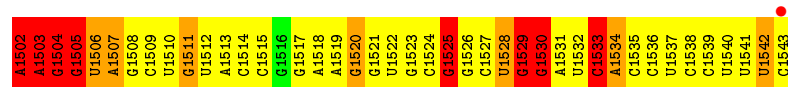
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of 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 ($RSRZ > 2$). 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.

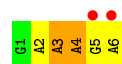
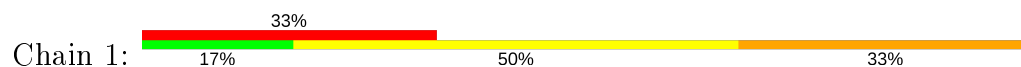
• Molecule 1: 16S ribosomal RNA



U1374	A1374	U1315	G1254	G1193	A1130	G1068	G1009	C948	G888	U820	C756	A695	G635
A1375	A1375	G1316	G1255	U1194	G1131	C1069	G1010	A949	A889	G821	U757	A696	U636
U1376	U1376	C1317	A1256	C1195			G1011	U950	G890	G822	U758	G697	G637
A1377	A1377	A1318	U1257	U1196	G1134	G1072	G1012	G951	U891	C823	A759	G698	G638
C1378	C1378	A1319	G1258	G1197	U1135	U1073	G1013	U952	U892	G824	G760	G699	G639
G1379	G1379	C1320	C1259	G1198	U1136	G1074	A1014	G953	C893	G825	G761	G700	A640
U1380	U1380	C1321	G1260	G1199	C1137	C1075	A1015	G954	G894	C826	C762	G701	U641
G1381	G1381	G1222	A1261	C1200	G1138	G1076	A1016	U955	G895	U827		A702	A642
C1382	C1382	G1323	C1262	A1201	G1139	G1077	G1017	U956	C896	A828	G765	G703	C643
A1446	A1446	C1324	C1263	G1202	C1140	U1078	C1018	U957	G897	G829	A766	A704	G644
G1448	G1448	C1325	C1264	C1203	G1141	G1079	G1019	A958	G898	G830	A767	U705	C645
U1450	U1450	G1326	G1265	A1204	G1143	A1080	U1021	A959	G899	U831	A768	A706	U646
C1327	C1327	U1205	G1266	U1206	G1144	G1081	G1022	U960	A900	G832	G769	C707	C647
C1328	C1328	G1207	C1267	G1207	C1145	G1082	G1023	U961	A901	U833	C770	C708	A648
U1329	U1329	A1268	A1268	G1207	A1146	U1083	G1024	G962	G902		G771	G709	G649
C1330	C1330	C1269	C1269	C1203	G1147	G1084	G1024	G963	G903	G836	U772	G710	G650
G1331	G1331	G1270	G1270	G1203	U1148	U1085	C1018	G964	C904	G837	G773	A712	U652
A1332	A1332	C1271	G1271	C1210	U1149	U1086	G1026	A965	U905	G838	G774	G713	A653
C1333	C1333	U1212	G1272	U1212	C1149	G1087	C1027	G966	G906	U839	G775	G714	G654
G1334	G1334	A1213	G1273	A1213	U1150	G1088	C1028	C967	A907	C840	A776	A715	A655
C1335	C1335	C1214	G1274	C1214	A1151	G1089	C1029	A968	A908	U841	A777	A716	C656
A1336	A1336	G1215		G1215	C1153	U1090	C1030	A969	A909	C848	G778	A717	G657
C1337	C1337	G1216		G1216	G1154	U1091	G1030A	C970	A910	C849	C779	C717	G658
A1338	A1338	C1217		G1217	G1155	A1092	C1030B	G971	U911	U850	A780	G718	G659
G1339	G1339	C1218		G1218	G1156	A1093	G1030C	C972	C912	G851	A781	C719	U659
U1340	U1340	U1219	A1280	U1219	A1157	G1094	A1030D	G973	A913	G852	A782	C720	G660
C1341	C1341	G1220	A1281	G1220	U1158	U1095	G1031	A974	A914	G853	C783	G721	G661
G1342	G1342	G1221	U1282	G1221	U1159	C1096	G1032	C979	A915	G854	A784	A722	G662
C1343	C1343	G1222	G1283	G1222	C1160	C1097	G1033	G976	G916	G857	G785	U723	A663
G1344	G1344	C1223	C1284	C1223	C1161	C1098	G1034	A977	G917	G858	A786	G724	G664
U1345	U1345	G1224	A1285	G1224	C1162	G1099		A978	A918	C857	A787	G725	A665
A1346	A1346	A1225	A1286	A1225	G1163	C1100	C1037	C979	A919	A859	U788	G726	G666
C1347	C1347	C1226	U1287	C1226	C1164	A1101	C1038	C980	U920	A860	U789	C727	G667
U1348	U1348	A1227	A1288	A1227	C1165	A1102	C1039	C981	U921	G861	G791	A728	G668
A1349	A1349	C1228	A1289	C1228	G1166	C1103	U1040	U982	G922	U863	G792	G670	G671
C1350	C1350	A1229	G1290	A1229	A1167	G1104		A983	A923	C864	A794	C732	G672
U1351	U1351	C1230	G1291	C1230	A1168	A1105	C1044	C985	G925	A865	C795	G734	G673
C1352	C1352	G1231	U1292	G1231	A1169	C1106	C1045	A986	G926	C866	C796	C735	G674
G1353	G1353	U1232	G1293	U1232	C1171	C1107	A1046	G987	G927	C867	C797	C736	A675
C1354	C1354	G1233	G1294	G1233	C1172	G1108	G1047	G988	G928	C868		G737	G676
G1355	G1355	C1234	G1295	C1234	G1173	C1109	G1048	C989	G929	G869	U801	C738	U677
U1356	U1356	U1235	U1296	U1235	G1174	A1110	U1049	C990	C930	U870	A802	C739	U678
A1357	A1357	G1236	C1297	G1236	G1175	A1111	G1050	U991	C931	U871	A803	U740	C679
U1358	U1358	C1237	C1298	C1237	A1176	G1112	U1051	U992	C932	A872	G803	G741	C680
C1359	C1359	A1238	A1299	A1238	G1177	C1113	U1052	G993	G933	C873	U804	G742	C681
A1360	A1360	U1239	G1300	U1239	G1178	C1114	G1053	U994	G934	A874	C805	U743	G682
G1361	G1361	U1240	U1301	U1240	A1179	A1054	A1055	C995	A935	C875	C806	C744	G683
C1362	C1362	G1241	U1302	G1241	A1180	G1117	U1056	A996	C936	G876	A807	C745	A684
A1363	A1363	C1242	C1303	C1242	G1181	C1118	U1057	U997	C937	C877	C808		G685
U1364	U1364	G1243	G1304	G1243	G1182	C1119	G1058	G998	A938	G878		A746	G686
G1365	G1365	C1244	G1305	C1244	A1183	G1120	G1059		G939	C879	C811	C747	U687
C1366	C1366	A1245	A1306	A1245	G1184	U1121	C1060	G1002	C940	C880	C812	C748	A687
U1367	U1367	C1246	G1307	C1246	G1185	U1122	G1061	G1003	G941	G881	U813	C749	G688
C1368	C1368	U1247	U1308	U1247	G1186	A1123	G1062	G1003A	G942	C882	A814	G750	C689
G1369	G1369	A1248	G1309	A1248	G1187	G1124	U1062	A1004	U943	C883	A815	U751	G690
C1370	C1370	C1249	G1310	C1249	A1188	U1125	C1063	A1005	G944	U884	A816	G752	G691
G1371	G1371	A1250	G1311	A1250	C1189	U1126	G1064	A1006	G945	G885	C817	A753	U692
U1372	U1372	A1251	G1312	A1251	G1190	G1127	U1065	C1007	G946	G886	C818	C754	G693
C1373	C1373	U1252	U1313	U1252	C1191	C1128	C1066	C1008	A947	G887		G755	A694
G1437	A1437	G1480	G1480	G1480	G1480	G1480	G1480	G1480	G1480	G1480	G1480	G1480	G1480
U1481	U1481	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477
G1482	G1482	A1476	A1476	A1476	A1476	A1476	A1476	A1476	A1476	A1476	A1476	A1476	A1476
A1483	A1483	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475
C1484	C1484	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477
U1485	U1485	G1471	G1471	G1471	G1471	G1471	G1471	G1471	G1471	G1471	G1471	G1471	G1471
G1486	G1486	U1472	U1472	U1472	U1472	U1472	U1472	U1472	U1472	U1472	U1472	U1472	U1472
U1487	U1487	A1473	A1473	A1473	A1473	A1473	A1473	A1473	A1473	A1473	A1473	A1473	A1473
G1488	G1488	G1474	G1474	G1474	G1474	G1474	G1474	G1474	G1474	G1474	G1474	G1474	G1474
C1489	C1489	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477
G1490	G1490	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475
A1491	A1491	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476
U1492	U1492	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477
A1493	A1493	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475
G1494	G1494	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476
U1495	U1495	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477
C1496	C1496	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475
G1497	G1497	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476
U1498	U1498	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477
A1499	A1499	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475	G1475
U1500	U1500	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476	U1476
C1501	C1501	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477	C1477



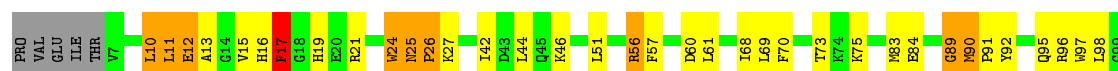
- Molecule 2: 5'-R(*GP*AP*AP*AP*GP*A)-3'



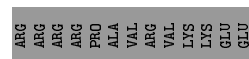
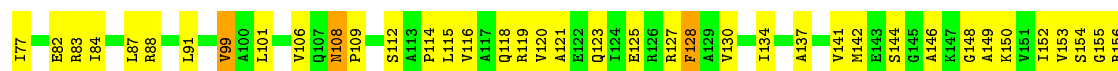
- Molecule 2: 5'-R(*GP*AP*AP*AP*GP*A)-3'



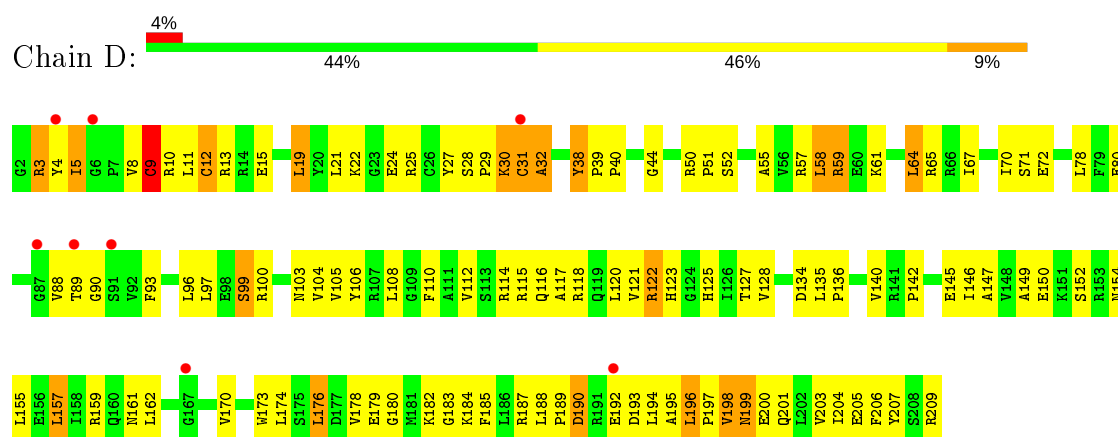
- Molecule 3: 30S ribosomal protein S2



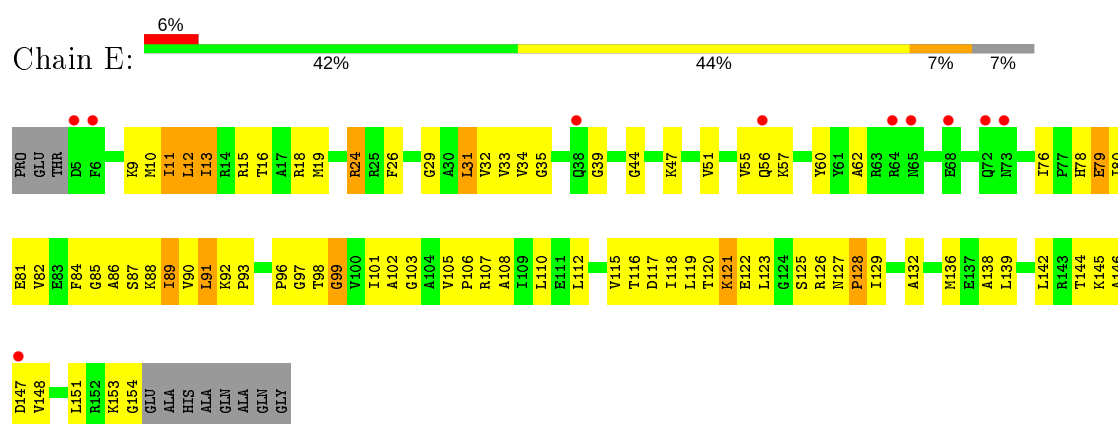
- Molecule 4: 30S ribosomal protein S3



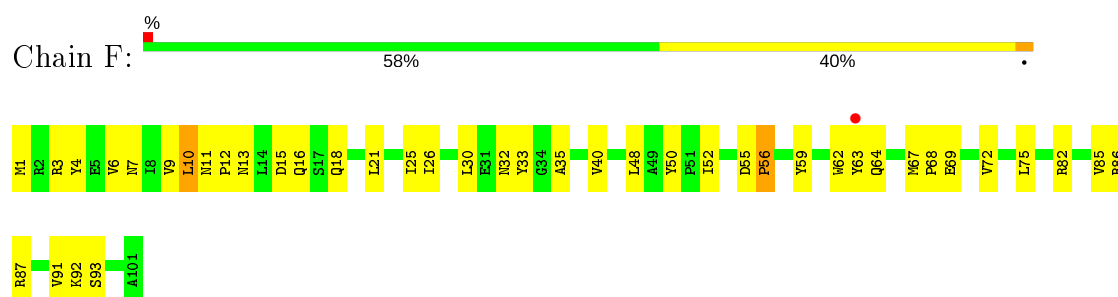
- Molecule 5: 30S ribosomal protein S4



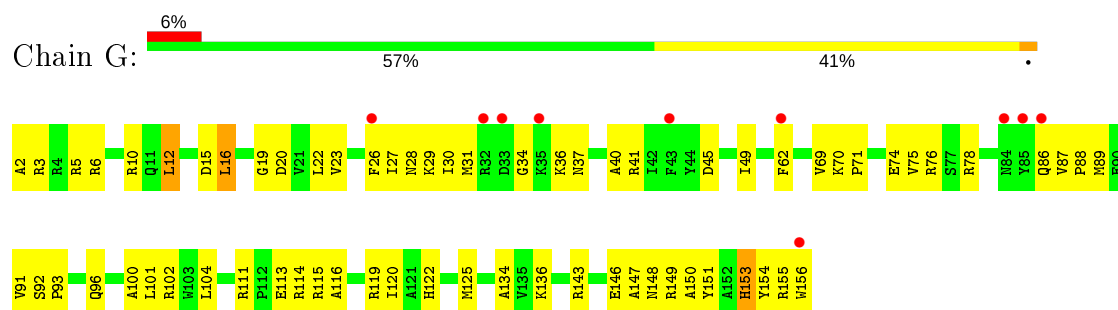
• Molecule 6: 30S ribosomal protein S5



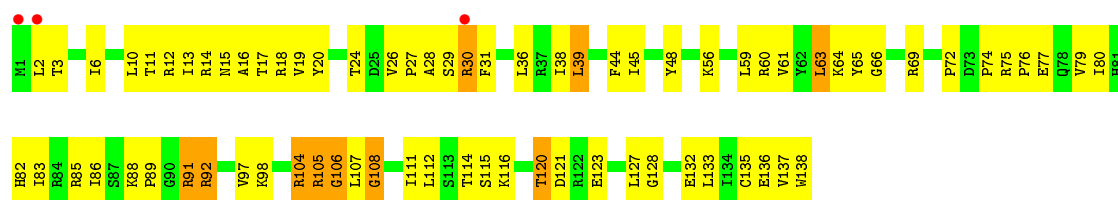
• Molecule 7: 30S ribosomal protein S6



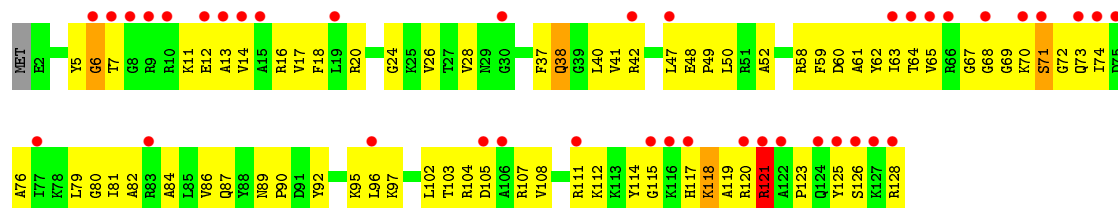
• Molecule 8: 30S ribosomal protein S7



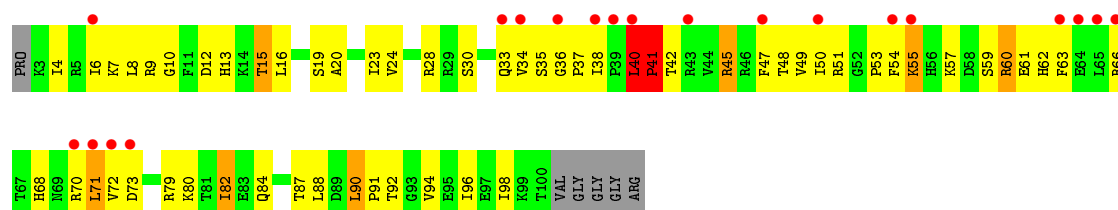
• Molecule 9: 30S ribosomal protein S8



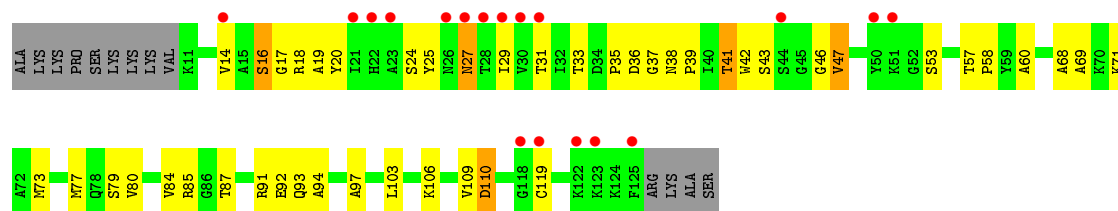
• Molecule 10: 30S ribosomal protein S9



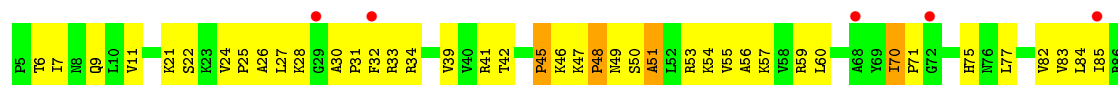
• Molecule 11: 30S ribosomal protein S10

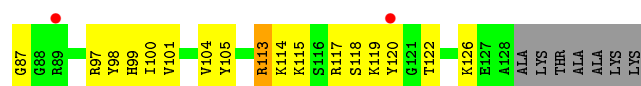


• Molecule 12: 30S ribosomal protein S11

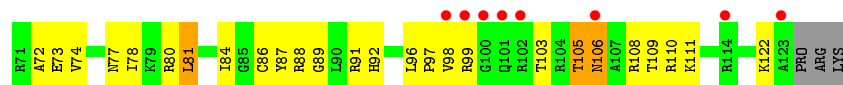


• Molecule 13: 30S ribosomal protein S12

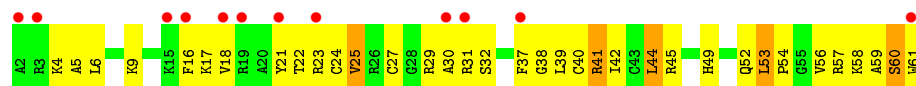




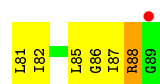
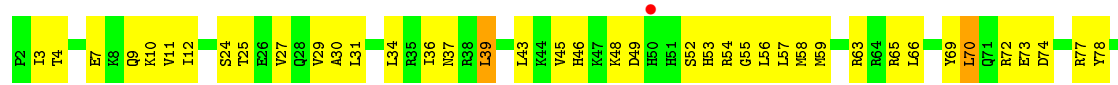
• Molecule 14: 30S ribosomal protein S13



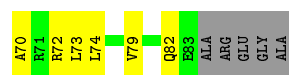
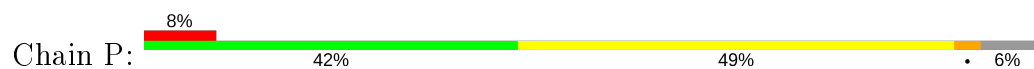
• Molecule 15: 30S ribosomal protein S14



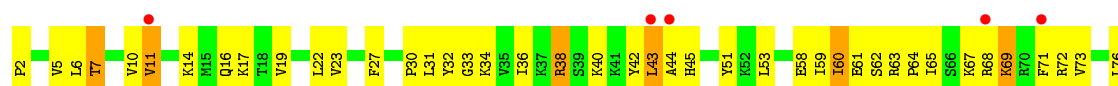
• Molecule 16: 30S ribosomal protein S15



• Molecule 17: 30S ribosomal protein S16



• Molecule 18: 30S ribosomal protein S17



4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α , β , γ	411.79 Å 411.79 Å 173.16 Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	148.83 – 3.30 148.83 – 3.30	Depositor EDS
% Data completeness (in resolution range)	97.0 (148.83-3.30) 97.1 (148.83-3.30)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.23 (at 3.33 Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.259 , 0.301 0.231 , 0.274	Depositor DCC
R_{free} test set	10897 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å ²)	96.4	Xtriage
Anisotropy	0.310	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.18 , 82.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.38$, $\langle L^2 \rangle = 0.21$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.82	EDS
Total number of atoms	51895	wwPDB-VP
Average B, all atoms (Å ²)	104.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.54% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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:
ZN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.97	19/36482 (0.1%)	0.99	145/56937 (0.3%)
2	1	0.51	0/148	0.76	0/230
2	2	0.42	0/97	0.73	0/150
3	B	0.67	0/1843	0.92	5/2479 (0.2%)
4	C	0.63	0/1636	0.89	2/2205 (0.1%)
5	D	0.80	3/1733 (0.2%)	0.96	8/2318 (0.3%)
6	E	0.82	0/1162	0.95	2/1564 (0.1%)
7	F	0.52	0/856	0.78	0/1154
8	G	0.50	0/1276	0.67	0/1709
9	H	0.76	0/1136	1.00	2/1527 (0.1%)
10	I	0.53	0/1029	0.78	0/1378
11	J	0.57	0/807	0.89	3/1085 (0.3%)
12	K	0.53	0/868	0.79	0/1173
13	L	0.62	0/986	0.85	0/1320
14	M	0.53	0/979	0.78	0/1310
15	N	0.66	0/501	0.93	1/664 (0.2%)
16	O	0.61	0/745	0.87	0/992
17	P	0.62	0/716	0.83	0/963
18	Q	0.74	0/870	0.92	1/1159 (0.1%)
19	R	0.59	0/603	0.86	0/799
20	S	0.51	0/661	0.82	0/890
21	T	0.49	0/764	0.73	0/1006
22	V	0.56	0/212	0.72	0/277
All	All	0.86	22/56110 (0.0%)	0.95	169/83289 (0.2%)

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	A	1	127

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	D	12	CYS	CB-SG	9.54	1.98	1.82
5	D	12	CYS	CA-CB	8.62	1.73	1.53
1	A	1108	G	C5-C6	7.41	1.49	1.42
1	A	660	G	C5-C6	-6.55	1.35	1.42
1	A	361	G	C5-C6	-6.41	1.35	1.42
1	A	566	G	C5-C6	-6.39	1.35	1.42
1	A	598	U	C4-O4	6.29	1.28	1.23
1	A	1502	A	C5-C6	-6.12	1.35	1.41
1	A	299	G	C6-O6	6.08	1.29	1.24
1	A	1129	C	N1-C2	6.07	1.46	1.40
1	A	583	A	C5-C6	-6.00	1.35	1.41
1	A	758	G	C2-N3	-5.87	1.28	1.32
1	A	880	C	N1-C2	-5.81	1.34	1.40
1	A	1080	A	C5-C6	-5.71	1.35	1.41
1	A	874	G	N1-C2	-5.65	1.33	1.37
1	A	300	A	C5-C6	-5.57	1.36	1.41
1	A	17	U	N3-C4	-5.18	1.33	1.38
1	A	299	G	C5-C6	5.16	1.47	1.42
1	A	30	U	N1-C6	-5.13	1.33	1.38
5	D	9	CYS	CB-SG	5.12	1.91	1.82
1	A	124	G	C5-C6	-5.09	1.37	1.42
1	A	1511	G	C5-C6	-5.03	1.37	1.42

All (169) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	D	12	CYS	CA-CB-SG	14.39	139.90	114.00
1	A	511	C	N1-C1'-C2'	12.07	129.70	114.00
1	A	934	C	N1-C1'-C2'	9.87	126.84	114.00
1	A	246	A	N9-C1'-C2'	9.69	126.60	114.00
1	A	1151	A	N9-C1'-C2'	9.47	126.31	114.00
1	A	1336	C	N1-C1'-C2'	9.44	126.27	114.00
1	A	1502	A	N9-C1'-C2'	8.71	125.32	114.00
1	A	511	C	O4'-C1'-N1	8.70	115.16	108.20
1	A	960	U	N1-C1'-C2'	8.69	125.30	114.00
1	A	653	A	N9-C1'-C2'	8.54	125.10	114.00
1	A	1322	C	N1-C1'-C2'	8.34	124.84	114.00
1	A	305	G	N9-C1'-C2'	8.10	124.53	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	J	40	LEU	C-N-CD	-7.96	103.08	120.60
1	A	1181	G	N9-C1'-C2'	7.90	124.27	114.00
1	A	971	G	O4'-C1'-N9	7.82	114.45	108.20
1	A	429	U	O4'-C1'-N1	7.73	114.39	108.20
3	B	196	LEU	CA-CB-CG	7.70	133.02	115.30
1	A	818	G	N9-C1'-C2'	7.50	123.75	114.00
1	A	976	G	N9-C1'-C2'	7.49	123.73	114.00
1	A	47	C	N1-C1'-C2'	7.34	123.54	114.00
1	A	884	U	N1-C1'-C2'	7.27	123.44	114.00
1	A	575	G	N9-C1'-C2'	7.24	123.41	114.00
1	A	315	A	N9-C1'-C2'	7.20	123.36	114.00
1	A	815	A	N9-C1'-C2'	7.18	123.34	114.00
1	A	266	G	O4'-C1'-N9	-7.18	102.46	108.20
1	A	702	A	N9-C1'-C2'	7.18	123.33	114.00
3	B	89	GLY	N-CA-C	-7.14	95.25	113.10
1	A	752	G	N9-C1'-C2'	7.08	123.20	114.00
1	A	5	U	N1-C1'-C2'	7.02	123.13	114.00
1	A	1380	U	C2'-C3'-O3'	7.02	124.94	109.50
1	A	563	A	N9-C1'-C2'	6.96	123.06	114.00
1	A	558	G	O5'-P-OP1	6.96	119.05	110.70
1	A	460	A	N9-C1'-C2'	6.94	123.02	114.00
1	A	190(E)	U	N1-C1'-C2'	6.92	123.00	114.00
1	A	31	G	N9-C1'-C2'	6.90	122.97	114.00
1	A	517	G	N9-C1'-C2'	6.84	122.89	114.00
4	C	4	LYS	N-CA-C	6.80	129.35	111.00
1	A	109	A	N9-C1'-C2'	6.77	122.80	114.00
1	A	1502	A	C1'-O4'-C4'	-6.75	104.50	109.90
18	Q	43	LEU	CA-CB-CG	-6.72	99.84	115.30
1	A	1124	G	N9-C1'-C2'	6.72	122.73	114.00
1	A	793	U	N1-C1'-C2'	6.71	122.73	114.00
1	A	1280	A	O4'-C1'-N9	6.70	113.56	108.20
1	A	1502	A	O4'-C1'-N9	6.68	113.54	108.20
1	A	119	A	C2'-C3'-O3'	6.63	124.30	113.70
1	A	266	G	C5'-C4'-C3'	-6.62	105.41	116.00
1	A	496	A	N9-C1'-C2'	6.62	122.61	114.00
3	B	196	LEU	CB-CG-CD1	-6.58	99.82	111.00
1	A	115	G	OP2-P-O3'	6.57	119.66	105.20
1	A	429	U	C5'-C4'-O4'	6.53	116.94	109.10
1	A	819	A	OP2-P-O3'	6.52	119.55	105.20
1	A	652	U	N1-C1'-C2'	6.46	122.39	114.00
1	A	305	G	O4'-C1'-N9	6.45	113.36	108.20
1	A	883	C	C2'-C3'-O3'	6.45	124.02	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1085	U	C2'-C3'-O3'	6.45	124.02	113.70
1	A	560	U	C2'-C3'-O3'	6.44	124.00	113.70
1	A	721	G	N9-C1'-C2'	6.43	122.36	114.00
1	A	566	G	N9-C1'-C2'	6.42	122.34	114.00
1	A	1086	U	N1-C1'-C2'	6.42	122.34	114.00
1	A	1224	G	N9-C1'-C2'	6.34	122.25	114.00
1	A	1190	G	N9-C1'-C2'	6.34	122.24	114.00
1	A	266	G	C2'-C3'-O3'	6.33	123.83	113.70
1	A	1302	U	C2'-C3'-O3'	6.32	123.81	113.70
1	A	1108	G	C4'-C3'-C2'	-6.29	96.31	102.60
1	A	1297	C	N1-C1'-C2'	6.28	122.16	114.00
1	A	566	G	C4'-C3'-O3'	-6.26	96.25	109.40
1	A	1498	U	N1-C1'-C2'	6.25	122.13	114.00
1	A	971	G	C1'-O4'-C4'	-6.25	104.90	109.90
1	A	274	A	N9-C1'-C2'	6.23	122.10	114.00
1	A	1504	G	OP2-P-O3'	6.23	118.91	105.20
1	A	1280	A	N9-C1'-C2'	6.18	122.03	114.00
1	A	595	G	C5'-C4'-O4'	-6.17	101.69	109.10
1	A	1364	U	OP1-P-O3'	6.15	118.74	105.20
1	A	595	G	C2'-C3'-O3'	-6.11	96.07	109.50
1	A	511	C	O4'-C1'-C2'	6.07	113.06	107.60
1	A	713	G	O4'-C1'-N9	6.04	113.03	108.20
1	A	1397	C	OP2-P-O3'	6.03	118.46	105.20
1	A	1525	G	N9-C1'-C2'	-6.02	105.38	112.00
1	A	429	U	C1'-O4'-C4'	-6.01	105.09	109.90
1	A	765	G	OP2-P-O3'	6.01	118.42	105.20
1	A	190(F)	G	N9-C1'-C2'	5.94	121.72	114.00
9	H	108	GLY	N-CA-C	-5.90	98.34	113.10
1	A	4	U	N1-C1'-C2'	5.89	121.66	114.00
1	A	1050	G	C5'-C4'-C3'	5.88	125.41	116.00
1	A	1085	U	N1-C1'-C2'	5.87	121.63	114.00
1	A	1280	A	C1'-O4'-C4'	-5.85	105.22	109.90
1	A	8	A	N9-C1'-C2'	5.84	121.59	114.00
1	A	461	C	N1-C1'-C2'	5.83	121.58	114.00
1	A	559	A	OP2-P-O3'	5.79	117.94	105.20
1	A	1144	G	N9-C1'-C2'	-5.79	105.64	112.00
5	D	31	CYS	CA-CB-SG	5.78	124.40	114.00
1	A	1505	G	C2'-C3'-O3'	5.78	122.94	113.70
15	N	53	LEU	CA-CB-CG	5.77	128.58	115.30
1	A	971	G	N9-C1'-C2'	5.76	121.49	114.00
1	A	872	A	O4'-C1'-N9	5.75	112.80	108.20
1	A	327	A	N9-C1'-C2'	5.74	121.46	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	D	12	CYS	N-CA-C	-5.73	95.53	111.00
1	A	428	G	N9-C1'-C2'	5.68	121.38	114.00
1	A	144	G	N9-C1'-C2'	-5.68	105.75	112.00
1	A	1196	U	OP2-P-O3'	5.67	117.68	105.20
1	A	1380	U	OP2-P-O3'	5.64	117.61	105.20
1	A	976	G	C1'-O4'-C4'	-5.61	105.41	109.90
1	A	982	U	C5'-C4'-O4'	-5.61	102.37	109.10
1	A	1099	G	O4'-C1'-N9	5.61	112.69	108.20
1	A	934	C	C1'-O4'-C4'	-5.59	105.42	109.90
1	A	516	U	N1-C1'-C2'	5.58	121.25	114.00
1	A	8	A	O4'-C1'-N9	5.55	112.64	108.20
1	A	484	G	N9-C1'-C2'	5.55	121.21	114.00
1	A	1159	U	N1-C1'-C2'	5.54	121.20	114.00
1	A	1305	G	N9-C1'-C2'	5.53	121.19	114.00
1	A	109	A	OP2-P-O3'	5.50	117.30	105.20
1	A	511	C	C1'-O4'-C4'	-5.50	105.50	109.90
1	A	1033	G	N9-C1'-C2'	-5.48	105.97	112.00
9	H	104	ARG	NE-CZ-NH2	-5.48	117.56	120.30
5	D	9	CYS	CA-CB-SG	5.46	123.83	114.00
1	A	1281	U	N1-C1'-C2'	5.45	121.08	114.00
1	A	1345	U	O4'-C1'-N1	5.42	112.53	108.20
1	A	1213	A	N9-C1'-C2'	5.41	121.03	114.00
1	A	1347	G	C5'-C4'-C3'	5.41	124.66	116.00
1	A	1530	G	N9-C1'-C2'	5.40	121.02	114.00
1	A	190(D)	U	N1-C1'-C2'	5.38	120.99	114.00
5	D	31	CYS	CB-CA-C	-5.38	99.64	110.40
1	A	1139	G	N9-C1'-C2'	5.37	120.98	114.00
1	A	1151	A	C1'-O4'-C4'	-5.37	105.60	109.90
1	A	439	A	O5'-P-OP1	-5.37	100.87	105.70
1	A	1065	U	OP2-P-O3'	5.37	117.01	105.20
5	D	31	CYS	N-CA-CB	5.34	120.21	110.60
1	A	365	U	N1-C1'-C2'	5.32	120.92	114.00
4	C	205	GLY	N-CA-C	5.31	126.38	113.10
11	J	41	PRO	N-CA-C	5.30	125.88	112.10
5	D	12	CYS	N-CA-CB	5.29	120.12	110.60
1	A	753	A	O4'-C1'-N9	5.29	112.43	108.20
1	A	1505	G	O4'-C1'-N9	-5.27	103.98	108.20
1	A	1108	G	C5'-C4'-C3'	5.26	124.42	116.00
1	A	412	A	O4'-C1'-N9	5.26	112.41	108.20
1	A	451	A	N9-C1'-C2'	5.25	120.83	114.00
1	A	190(D)	U	O4'-C1'-N1	5.25	112.40	108.20
11	J	40	LEU	C-N-CA	5.25	144.04	122.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	281	G	C2'-C3'-O3'	5.23	122.06	113.70
1	A	8	A	C1'-O4'-C4'	-5.21	105.73	109.90
1	A	21	G	O5'-P-OP1	5.21	116.96	110.70
1	A	1094	G	C1'-O4'-C4'	-5.21	105.73	109.90
1	A	372	C	C2'-C3'-O3'	5.18	121.99	113.70
1	A	1094	G	C5'-C4'-O4'	5.17	115.31	109.10
1	A	1129	C	C2'-C3'-O3'	5.17	121.97	113.70
1	A	1201	A	C4'-C3'-C2'	5.16	107.76	102.60
1	A	1345	U	C1'-O4'-C4'	-5.16	105.77	109.90
1	A	993	G	N9-C1'-C2'	5.14	120.69	114.00
1	A	991	U	N1-C1'-C2'	5.14	120.68	114.00
1	A	572	A	N9-C1'-C2'	5.12	120.66	114.00
1	A	115	G	C2'-C3'-O3'	5.12	121.89	113.70
1	A	448	A	N9-C1'-C2'	5.11	120.65	114.00
6	E	91	LEU	CA-CB-CG	-5.11	103.54	115.30
1	A	890	G	OP2-P-O3'	5.08	116.38	105.20
1	A	1529	G	O5'-P-OP1	-5.08	101.13	105.70
5	D	19	LEU	CA-CB-CG	-5.07	103.64	115.30
1	A	77	G	N9-C1'-C2'	-5.06	106.44	112.00
1	A	1236	A	C5'-C4'-C3'	5.05	124.08	116.00
1	A	88	A	C2'-C3'-O3'	5.04	121.76	113.70
1	A	792	A	N9-C1'-C2'	5.04	120.55	114.00
3	B	149	LEU	CA-CB-CG	-5.03	103.73	115.30
3	B	196	LEU	CB-CA-C	-5.03	100.64	110.20
1	A	1299	A	N9-C1'-C2'	5.03	120.53	114.00
6	E	24	ARG	N-CA-C	-5.03	97.43	111.00
1	A	1331	G	N9-C1'-C2'	5.02	120.53	114.00
1	A	509	A	C2'-C3'-O3'	5.02	121.73	113.70
1	A	281	G	OP2-P-O3'	5.01	116.23	105.20
1	A	752	G	C4'-C3'-O3'	-5.01	98.88	109.40
1	A	914	A	C4'-C3'-C2'	-5.00	97.60	102.60

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	511	C	C1'

All (127) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1023	G	Sidechain
1	A	1033	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1066	C	Sidechain
1	A	1067	A	Sidechain
1	A	107	G	Sidechain
1	A	1077	G	Sidechain
1	A	1079	G	Sidechain
1	A	108	G	Sidechain
1	A	1085	U	Sidechain
1	A	1089	G	Sidechain
1	A	1092	A	Sidechain
1	A	1100	C	Sidechain
1	A	1124	G	Sidechain
1	A	1139	G	Sidechain
1	A	114	U	Sidechain
1	A	1166	G	Sidechain
1	A	1168	A	Sidechain
1	A	118	U	Sidechain
1	A	1181	G	Sidechain
1	A	1190	G	Sidechain
1	A	1195	C	Sidechain
1	A	120	A	Sidechain
1	A	1203	C	Sidechain
1	A	1224	G	Sidechain
1	A	1238	A	Sidechain
1	A	1256	A	Sidechain
1	A	1268	A	Sidechain
1	A	1281	U	Sidechain
1	A	1306	A	Sidechain
1	A	1322	C	Sidechain
1	A	1336	C	Sidechain
1	A	1370	G	Sidechain
1	A	1372	U	Sidechain
1	A	1393	U	Sidechain
1	A	1398	A	Sidechain
1	A	1434	A	Sidechain
1	A	145	G	Sidechain
1	A	146	G	Sidechain
1	A	1498	U	Sidechain
1	A	1503	A	Sidechain
1	A	1525	G	Sidechain
1	A	1533	C	Sidechain
1	A	190(D)	U	Sidechain
1	A	190(E)	U	Sidechain

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Mol	Chain	Res	Type	Group
1	A	190(F)	G	Sidechain
1	A	197	A	Sidechain
1	A	226	G	Sidechain
1	A	229	U	Sidechain
1	A	244	U	Sidechain
1	A	256	U	Sidechain
1	A	266	G	Sidechain
1	A	269	C	Sidechain
1	A	274	A	Sidechain
1	A	275	G	Sidechain
1	A	284	G	Sidechain
1	A	30	U	Sidechain
1	A	315	A	Sidechain
1	A	321	A	Sidechain
1	A	331	G	Sidechain
1	A	365	U	Sidechain
1	A	379	C	Sidechain
1	A	380	G	Sidechain
1	A	39	G	Sidechain
1	A	410	G	Sidechain
1	A	412	A	Sidechain
1	A	413	G	Sidechain
1	A	424	G	Sidechain
1	A	426	G	Sidechain
1	A	448	A	Sidechain
1	A	461	C	Sidechain
1	A	47	C	Sidechain
1	A	481	G	Sidechain
1	A	484	G	Sidechain
1	A	49	U	Sidechain
1	A	495	U	Sidechain
1	A	516	U	Sidechain
1	A	517	G	Sidechain
1	A	524	G	Sidechain
1	A	529	G	Sidechain
1	A	549	C	Sidechain
1	A	566	G	Sidechain
1	A	575	G	Sidechain
1	A	582	U	Sidechain
1	A	587	G	Sidechain
1	A	591	U	Sidechain
1	A	592	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	599	C	Sidechain
1	A	60	A	Sidechain
1	A	603	U	Sidechain
1	A	622	A	Sidechain
1	A	652	U	Sidechain
1	A	654	G	Sidechain
1	A	657	G	Sidechain
1	A	666	G	Sidechain
1	A	679	C	Sidechain
1	A	686	U	Sidechain
1	A	727	G	Sidechain
1	A	740	U	Sidechain
1	A	752	G	Sidechain
1	A	757	U	Sidechain
1	A	760	G	Sidechain
1	A	767	A	Sidechain
1	A	773	G	Sidechain
1	A	785	G	Sidechain
1	A	801	U	Sidechain
1	A	804	U	Sidechain
1	A	812	C	Sidechain
1	A	833	U	Sidechain
1	A	853	G	Sidechain
1	A	854	G	Sidechain
1	A	861	G	Sidechain
1	A	868	C	Sidechain
1	A	870	U	Sidechain
1	A	872	A	Sidechain
1	A	874	G	Sidechain
1	A	879	C	Sidechain
1	A	881	G	Sidechain
1	A	920	U	Sidechain
1	A	926	G	Sidechain
1	A	941	G	Sidechain
1	A	946	A	Sidechain
1	A	947	G	Sidechain
1	A	953	G	Sidechain
1	A	955	U	Sidechain
1	A	971	G	Sidechain
1	A	974	A	Sidechain
1	A	993	G	Sidechain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32594	0	16454	3168	0
2	1	131	0	68	14	0
2	2	86	0	46	9	0
3	B	1811	0	1861	95	0
4	C	1612	0	1677	130	0
5	D	1703	0	1763	117	0
6	E	1146	0	1207	93	0
7	F	843	0	857	36	0
8	G	1257	0	1296	81	0
9	H	1116	0	1177	98	0
10	I	1011	0	1043	104	0
11	J	794	0	840	80	0
12	K	853	0	868	54	0
13	L	970	0	1057	75	0
14	M	969	0	1039	78	0
15	N	492	0	529	52	0
16	O	734	0	771	46	0
17	P	700	0	720	52	0
18	Q	857	0	930	53	0
19	R	597	0	668	43	0
20	S	647	0	673	61	0
21	T	762	0	859	48	0
22	V	208	0	221	14	0
23	D	1	0	0	0	0
23	N	1	0	0	0	0
All	All	51895	0	36624	4157	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 47.

All (4157) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1027:C:C2'	1:A:1028:C:H5''	1.48	1.40
1:A:390:C:H4'	17:P:28:ARG:NH2	1.46	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1027:C:H2'	1:A:1028:C:C5'	1.65	1.25
1:A:839:U:H5'	1:A:840:C:C5	1.71	1.24
1:A:243:A:H4'	1:A:244:U:C5'	1.65	1.24
1:A:243:A:H4'	1:A:244:U:H5'	1.16	1.15
6:E:18:ARG:HG2	6:E:19:MET:H	1.12	1.13
1:A:1005:A:H2'	1:A:1006:C:H5'	1.23	1.12
1:A:1435:G:H2'	1:A:1436:U:C6	1.84	1.12
1:A:277:C:H5''	18:Q:68:ARG:HH22	1.06	1.12
1:A:429:U:H2'	5:D:25:ARG:HH12	1.16	1.11
1:A:389:A:H2'	1:A:390:C:H5'	1.31	1.11
1:A:1346:A:H2'	8:G:10:ARG:HH22	1.08	1.09
1:A:625:G:H2'	1:A:626:U:H6	1.10	1.09
1:A:1149:C:H2'	1:A:1150:U:H6	1.16	1.09
1:A:839:U:H5'	1:A:840:C:H5	0.96	1.08
1:A:39:G:O2'	1:A:40:C:H5'	1.54	1.08
16:O:87:ILE:HG22	16:O:88:ARG:H	1.15	1.07
1:A:266:G:C8	1:A:266:G:H5''	1.88	1.07
1:A:109:A:H2'	1:A:326:G:N2	1.69	1.07
1:A:42:G:H2'	1:A:43:C:H6	1.19	1.07
1:A:277:C:H5''	18:Q:68:ARG:NH2	1.69	1.07
1:A:582:U:H2'	1:A:583:A:C8	1.89	1.07
1:A:112:G:H21	1:A:354:G:H5'	1.14	1.07
1:A:1029:C:H2'	1:A:1030:C:H5''	1.38	1.06
1:A:22:G:H2'	1:A:23:C:H6	1.17	1.06
1:A:438:G:H4'	1:A:439:A:OP1	1.50	1.05
1:A:807:A:H2'	1:A:808:C:H6	1.22	1.05
1:A:547:A:H4'	1:A:548:G:O5'	1.50	1.05
1:A:345:C:H4'	1:A:346:G:O5'	1.57	1.05
1:A:1443:G:H5''	1:A:1446:A:H5'	1.38	1.04
1:A:57:G:H2'	1:A:58:C:H6	1.18	1.03
1:A:946:A:H2'	1:A:947:G:C8	1.91	1.03
1:A:1251:A:H2'	1:A:1252:A:C8	1.93	1.03
1:A:1057:G:H5''	4:C:154:SER:HB2	1.35	1.03
1:A:1126:U:H2'	1:A:1127:G:H8	1.20	1.02
1:A:371:G:O2'	1:A:372:C:H5'	1.59	1.02
1:A:390:C:C4'	17:P:28:ARG:HH22	1.72	1.02
4:C:33:LEU:HD11	15:N:53:LEU:HD22	1.41	1.01
1:A:625:G:H2'	1:A:626:U:C6	1.96	1.01
1:A:975:A:H4'	1:A:976:G:OP2	1.61	1.01
1:A:964:A:H1'	11:J:55:LYS:HE2	1.41	1.00
1:A:429:U:H2'	5:D:25:ARG:NH1	1.76	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1292:U:H5'	10:I:38:GLN:NE2	1.76	1.00
1:A:1218:C:H2'	1:A:1219:U:C6	1.96	1.00
1:A:351:G:H4'	1:A:352:C:OP1	1.61	1.00
1:A:1086:U:H2'	1:A:1087:G:C8	1.96	1.00
1:A:1234:C:H5'	1:A:1365:G:OP1	1.62	1.00
1:A:1489:G:C3'	1:A:1490:C:H5''	1.92	0.99
1:A:1248:A:H1'	10:I:70:LYS:NZ	1.76	0.99
1:A:57:G:H2'	1:A:58:C:C6	1.96	0.99
1:A:664:G:H22	1:A:741:G:H1	1.08	0.99
1:A:1219:U:H2'	1:A:1220:G:H8	1.27	0.99
1:A:939:G:H5''	8:G:102:ARG:HH22	1.19	0.99
14:M:66:LEU:O	14:M:70:LEU:HB2	1.62	0.99
1:A:425:G:O2'	1:A:426:G:H5'	1.61	0.99
1:A:1349:A:H2'	1:A:1350:A:H8	1.22	0.99
1:A:266:G:H8	1:A:266:G:H5''	1.24	0.99
1:A:1113:C:H4'	4:C:14:ILE:HD11	1.42	0.99
1:A:1195:C:H3'	1:A:1196:U:H5'	1.44	0.98
1:A:1400:C:H4'	1:A:1401:G:OP2	1.63	0.98
1:A:328:C:H4'	1:A:329:A:O5'	1.62	0.98
1:A:1130:A:H62	1:A:1144:G:H21	1.09	0.98
1:A:447:G:H2'	1:A:485:G:N2	1.78	0.97
1:A:582:U:H2'	1:A:583:A:H8	1.23	0.97
1:A:1148:U:H4'	10:I:14:VAL:HG11	1.46	0.97
1:A:517:G:O2'	1:A:530:G:H4'	1.64	0.97
1:A:1176:A:H2'	1:A:1177:G:C8	1.98	0.97
1:A:1020:U:O2'	1:A:1021:G:H5'	1.63	0.97
1:A:1413:A:H2	1:A:1487:G:H22	1.02	0.97
1:A:386:C:C2'	1:A:387:U:H5'	1.95	0.96
1:A:807:A:H2'	1:A:808:C:C6	1.98	0.96
1:A:948:C:O2'	1:A:949:A:H5'	1.66	0.96
1:A:939:G:H5''	8:G:102:ARG:NH2	1.79	0.96
1:A:753:A:H4'	1:A:754:C:O5'	1.62	0.96
6:E:120:THR:HG22	6:E:121:LYS:H	1.30	0.96
4:C:34:LEU:HG	15:N:25:VAL:HG21	1.44	0.96
1:A:1505:G:H3'	1:A:1505:G:H8	1.28	0.96
1:A:1319:A:H4'	1:A:1320:C:OP1	1.65	0.95
1:A:109:A:H2'	1:A:326:G:H21	1.25	0.95
1:A:1351:U:O2'	1:A:1352:C:H5'	1.66	0.95
1:A:551:U:H2'	1:A:552:U:C6	2.01	0.95
3:B:219:VAL:HA	3:B:222:ILE:HD12	1.49	0.95
1:A:112:G:N2	1:A:354:G:H5'	1.81	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:429:U:H4'	1:A:430:A:O5'	1.62	0.94
1:A:839:U:C5'	1:A:840:C:H5	1.79	0.94
1:A:1394:A:N6	1:A:1501:C:H5'	1.79	0.94
1:A:981:U:H2'	1:A:982:U:H5	1.32	0.94
1:A:254:G:H21	18:Q:16:GLN:NE2	1.65	0.94
1:A:872:A:H4'	1:A:873:A:OP1	1.66	0.94
1:A:414:A:C2	1:A:415:A:N9	2.36	0.94
1:A:60:A:H4'	1:A:61:G:O5'	1.64	0.94
1:A:840:C:H5''	1:A:841:U:OP1	1.66	0.94
1:A:1323:G:H2'	1:A:1324:A:C8	2.04	0.93
1:A:370:C:O2'	1:A:371:G:H5'	1.68	0.93
1:A:946:A:H2'	1:A:947:G:H8	1.31	0.93
1:A:981:U:H2'	1:A:982:U:C5	2.03	0.93
1:A:914:A:O2'	1:A:915:A:H5'	1.67	0.93
1:A:22:G:H2'	1:A:23:C:C6	2.04	0.93
5:D:170:VAL:HG21	5:D:176:LEU:HD22	1.51	0.93
5:D:9:CYS:SG	5:D:31:CYS:O	2.27	0.92
1:A:148:G:H2'	1:A:149:A:H8	1.33	0.92
1:A:1451:A:H5''	1:A:1452:C:C5	2.05	0.92
1:A:423:G:N2	1:A:424:G:C8	2.37	0.92
1:A:556:C:C2'	1:A:557:G:H5'	2.00	0.92
1:A:191:G:H2'	1:A:192:U:H6	1.33	0.92
1:A:1124:G:H5'	11:J:35:SER:O	1.68	0.92
1:A:1505:G:H3'	1:A:1505:G:C8	2.05	0.92
1:A:1029:C:C2'	1:A:1030:C:H5''	1.99	0.92
1:A:338:A:H2'	1:A:339:C:H6	1.35	0.91
12:K:110:ASP:HB3	19:R:85:LEU:HB3	1.51	0.91
1:A:1094:G:H5''	1:A:1095:U:H5	1.34	0.91
1:A:794:A:H2'	1:A:795:C:C6	2.06	0.91
1:A:882:C:O2'	1:A:883:C:H5'	1.70	0.91
1:A:1149:C:H2'	1:A:1150:U:C6	2.06	0.91
1:A:1329:A:O2'	1:A:1330:U:H5'	1.68	0.91
4:C:91:LEU:HD21	4:C:99:VAL:HG13	1.52	0.91
1:A:1137:C:H4'	1:A:1138:G:C2	2.05	0.91
1:A:1014:A:H2'	1:A:1015:A:C8	2.06	0.91
1:A:1086:U:H2'	1:A:1087:G:H8	1.32	0.91
1:A:605:U:O2'	1:A:606:G:H5'	1.69	0.91
1:A:1533:C:H4'	1:A:1534:A:OP1	1.69	0.90
1:A:889:A:H4'	1:A:890:G:OP1	1.70	0.90
1:A:1435:G:H2'	1:A:1436:U:H6	1.33	0.90
1:A:625:G:C4	1:A:626:U:C5	2.59	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1349:A:H2'	1:A:1350:A:C8	2.06	0.90
1:A:1251:A:H2'	1:A:1252:A:H8	1.35	0.90
1:A:1193:G:O2'	1:A:1194:U:H5'	1.72	0.90
6:E:89:ILE:HD13	6:E:90:VAL:N	1.87	0.90
11:J:30:SER:HB3	11:J:80:LYS:HG3	1.51	0.90
1:A:1442:G:N2	1:A:1446:A:H3'	1.87	0.90
1:A:1219:U:H2'	1:A:1220:G:C8	2.07	0.90
1:A:1236:A:H4'	1:A:1304:G:H4'	1.53	0.89
1:A:178:C:H2'	1:A:179:A:H8	1.37	0.89
1:A:551:U:H2'	1:A:552:U:H6	1.36	0.89
1:A:1488:G:H2'	1:A:1489:G:C8	2.08	0.89
1:A:203:U:H5''	1:A:204:U:OP1	1.72	0.89
8:G:76:ARG:HD2	8:G:89:MET:SD	2.11	0.89
1:A:869:G:H4'	1:A:872:A:C8	2.08	0.89
1:A:967:C:H4'	10:I:128:ARG:HG3	1.54	0.89
1:A:1126:U:H6	1:A:1126:U:P	1.96	0.89
1:A:1250:A:H2'	1:A:1251:A:C8	2.08	0.89
1:A:1352:C:H2'	1:A:1353:G:C8	2.08	0.88
1:A:922:G:H2'	1:A:923:A:C8	2.08	0.88
1:A:579:G:H5'	1:A:728:A:H1'	1.56	0.88
1:A:1346:A:C2'	8:G:10:ARG:HH22	1.86	0.88
1:A:1256:A:H2	1:A:1258:G:N1	1.71	0.88
1:A:1342:C:O2'	1:A:1343:G:H5'	1.73	0.88
1:A:344:A:H5''	1:A:345:C:H5	1.38	0.88
1:A:992:U:H4'	1:A:993:G:O5'	1.73	0.88
1:A:382:A:H2'	1:A:383:A:C8	2.09	0.88
6:E:18:ARG:HG2	6:E:19:MET:N	1.89	0.88
1:A:531:U:H5''	1:A:532:A:OP1	1.74	0.88
1:A:981:U:H5'	15:N:21:TYR:CE1	2.08	0.88
1:A:1347:G:C8	10:I:107:ARG:HB3	2.08	0.87
1:A:36:C:H5''	13:L:122:THR:O	1.74	0.87
1:A:544:G:C5	1:A:545:C:C5	2.61	0.87
20:S:28:LYS:HG2	20:S:29:ARG:H	1.38	0.87
1:A:190(F):G:H4'	1:A:190(G):G:OP2	1.72	0.87
1:A:789:U:H2'	1:A:791:G:OP2	1.74	0.87
1:A:1005:A:C2'	1:A:1006:C:H5'	2.04	0.87
1:A:394:G:H2'	1:A:395:C:H6	1.40	0.87
1:A:22:G:O2'	1:A:23:C:H5'	1.74	0.87
1:A:1499:A:C2'	1:A:1500:A:H5'	2.05	0.86
1:A:181:G:O2'	1:A:182:U:H5'	1.75	0.86
1:A:556:C:O2'	1:A:557:G:H5'	1.73	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:559:A:H4'	1:A:560:U:O5'	1.75	0.86
1:A:961:U:C2'	1:A:962:C:H5'	2.05	0.86
1:A:1189:C:H5''	4:C:5:ILE:HD13	1.56	0.86
1:A:1518:A:H2'	1:A:1519:A:C8	2.10	0.86
1:A:820:U:H4'	1:A:821:G:OP2	1.73	0.86
1:A:1030:C:H2'	1:A:1030(A):G:C8	2.11	0.86
1:A:1300:G:HO2'	1:A:1301:U:H6	0.91	0.86
12:K:57:THR:HG23	12:K:60:ALA:H	1.40	0.86
1:A:939:G:C5'	8:G:102:ARG:HH22	1.88	0.86
1:A:965:A:C2	1:A:969:A:C2	2.63	0.86
1:A:1269:A:C2	1:A:1313:U:O4'	2.29	0.86
1:A:344:A:H5''	1:A:345:C:C5	2.10	0.86
1:A:947:G:H2'	1:A:948:C:H6	1.41	0.86
1:A:1532:U:H2'	1:A:1533:C:C6	2.10	0.86
1:A:327:A:H4'	1:A:328:C:OP1	1.73	0.86
1:A:1010:G:O2'	1:A:1011:G:H5'	1.76	0.85
1:A:624:C:O2'	1:A:625:G:H5'	1.76	0.85
1:A:1239:A:H4'	1:A:1240:U:O5'	1.72	0.85
1:A:1328:C:O2'	1:A:1329:A:H5'	1.75	0.85
1:A:1319:A:H2'	1:A:1323:G:N7	1.90	0.85
1:A:42:G:C4	1:A:43:C:C5	2.64	0.85
4:C:156:ARG:H	4:C:163:ALA:HA	1.41	0.85
1:A:1047:G:C2'	1:A:1048:G:H5'	2.06	0.85
1:A:1281:U:H4'	1:A:1282:C:OP2	1.76	0.85
1:A:250:A:H4'	1:A:251:G:O5'	1.76	0.85
3:B:113:HIS:HA	3:B:116:GLU:HG3	1.56	0.85
1:A:1016:A:H2'	1:A:1017:G:O4'	1.77	0.85
1:A:1196:U:H5''	1:A:1197:G:H5'	1.57	0.85
1:A:223:U:H5'	21:T:68:LYS:NZ	1.92	0.85
1:A:1126:U:C2	1:A:1127:G:C8	2.64	0.85
11:J:42:THR:HG23	11:J:68:HIS:HA	1.55	0.85
1:A:1346:A:H61	1:A:1374:A:H3'	1.41	0.85
1:A:1005:A:H2'	1:A:1006:C:C5'	2.05	0.84
1:A:1058:G:H2'	1:A:1059:C:H6	1.40	0.84
14:M:96:LEU:HB3	14:M:97:PRO:HD2	1.57	0.84
1:A:1130:A:N6	1:A:1144:G:H21	1.74	0.84
1:A:1521:G:H2'	1:A:1522:U:H6	1.42	0.84
1:A:1540:U:H2'	1:A:1541:U:C6	2.13	0.84
1:A:277:C:C5'	18:Q:68:ARG:HH22	1.89	0.84
1:A:443:C:H2'	1:A:444:C:H6	1.43	0.84
1:A:538:G:OP2	13:L:115:LYS:HG3	1.77	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1292:U:P	8:G:41:ARG:HH22	2.00	0.84
1:A:1234:C:H1'	1:A:1364:U:O2	1.76	0.84
1:A:1489:G:C2'	1:A:1490:C:H5''	2.08	0.84
1:A:940:C:O2'	1:A:941:G:H5'	1.78	0.84
1:A:62:U:H5''	1:A:385:C:O2	1.77	0.84
1:A:556:C:H2'	1:A:557:G:H5'	1.59	0.84
1:A:1126:U:H2'	1:A:1127:G:C8	2.10	0.84
1:A:1352:C:H2'	1:A:1353:G:H8	1.42	0.84
11:J:55:LYS:HG3	11:J:55:LYS:O	1.77	0.84
1:A:954:G:H21	1:A:1227:A:H62	1.25	0.84
1:A:191:G:C5	1:A:192:U:C5	2.66	0.83
1:A:670:G:H2'	1:A:671:G:O4'	1.76	0.83
1:A:346:G:H2'	1:A:347:G:H5'	1.60	0.83
1:A:794:A:H2'	1:A:795:C:H6	1.42	0.83
1:A:947:G:H2'	1:A:948:C:C6	2.12	0.83
1:A:961:U:H2'	1:A:962:C:H5'	1.58	0.83
1:A:1101:A:H4'	1:A:1102:A:O5'	1.78	0.83
1:A:386:C:H2'	1:A:387:U:H5'	1.58	0.83
1:A:486:U:O2	1:A:486:U:H2'	1.76	0.83
1:A:524:G:H2'	1:A:525:C:C6	2.14	0.83
1:A:664:G:OP1	19:R:64:ARG:HD3	1.79	0.83
1:A:399:G:O2'	1:A:400:C:H5'	1.78	0.83
1:A:428:G:H4'	1:A:429:U:O5'	1.75	0.83
1:A:958:A:N1	20:S:54:GLY:HA3	1.93	0.83
1:A:1451:A:H5''	1:A:1452:C:H5	1.44	0.83
1:A:1356:G:H2'	1:A:1357:A:C8	2.12	0.83
1:A:556:C:H2'	1:A:557:G:C5'	2.08	0.83
1:A:1346:A:H2'	8:G:10:ARG:NH2	1.92	0.83
1:A:411:A:H8	5:D:30:LYS:HZ1	1.23	0.83
1:A:454:C:H2'	1:A:455:C:H5'	1.61	0.83
5:D:104:VAL:HG21	5:D:140:VAL:HG21	1.59	0.83
1:A:254:G:H21	18:Q:16:GLN:HE21	1.27	0.83
1:A:1007:C:H2'	1:A:1008:C:H6	1.43	0.82
1:A:1058:G:H2'	1:A:1059:C:C6	2.14	0.82
1:A:1225:A:H3'	1:A:1226:C:C6	2.13	0.82
1:A:1353:G:O2'	1:A:1354:C:H5'	1.77	0.82
1:A:1487:G:O2'	1:A:1488:G:H5'	1.78	0.82
5:D:30:LYS:C	5:D:32:ALA:H	1.82	0.82
1:A:1007:C:H2'	1:A:1008:C:C6	2.14	0.82
1:A:1121:U:O2'	1:A:1122:U:H5'	1.79	0.82
1:A:1201:A:H4'	1:A:1202:G:O5'	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1129:C:O5'	1:A:1130:A:H5'	1.78	0.82
1:A:1502:A:H5''	1:A:1503:A:OP2	1.77	0.82
1:A:545:C:O2'	1:A:546:G:H5'	1.80	0.82
1:A:1532:U:H2'	1:A:1533:C:H6	1.42	0.82
1:A:1057:G:C5'	4:C:154:SER:HB2	2.10	0.81
1:A:358:U:H2'	1:A:359:U:C6	2.14	0.81
1:A:1329:A:C2'	1:A:1330:U:H5'	2.10	0.81
1:A:21:G:H2'	1:A:22:G:C8	2.15	0.81
1:A:390:C:H4'	17:P:28:ARG:HH22	0.76	0.81
3:B:178:ARG:HH21	9:H:74:PRO:HD3	1.45	0.81
9:H:69:ARG:HB2	9:H:74:PRO:HA	1.62	0.81
1:A:1461:G:O2'	1:A:1462:G:H5'	1.80	0.81
1:A:1190:G:HO2'	1:A:1191:A:P	2.03	0.81
1:A:1124:G:O2'	1:A:1125:U:H5'	1.81	0.81
1:A:1343:G:H2'	1:A:1344:C:C6	2.14	0.81
1:A:954:G:N2	1:A:1227:A:H62	1.79	0.81
2:2:9:A:O2'	2:2:10:A:H5'	1.79	0.81
1:A:1128:C:O2'	1:A:1130:A:H8	1.63	0.81
5:D:140:VAL:HG11	5:D:146:ILE:HD11	1.61	0.81
1:A:1488:G:H2'	1:A:1489:G:H8	1.46	0.81
1:A:694:A:H5'	12:K:53:SER:HB2	1.61	0.81
4:C:58:GLU:HB3	11:J:92:THR:HG21	1.63	0.81
1:A:1195:C:H3'	1:A:1196:U:C5'	2.11	0.80
1:A:15:G:C1'	6:E:24:ARG:HH12	1.93	0.80
1:A:718:G:H5'	1:A:719:C:OP2	1.80	0.80
1:A:484:G:H4'	1:A:485:G:O5'	1.81	0.80
1:A:1098:C:H2'	1:A:1099:G:O4'	1.81	0.80
1:A:1226:C:H4'	1:A:1227:A:OP1	1.78	0.80
1:A:1306:A:C2	1:A:1307:U:N1	2.49	0.80
1:A:900:A:O2'	1:A:901:A:H5'	1.80	0.80
1:A:1030(B):C:H2'	1:A:1030(C):G:H5''	1.64	0.80
1:A:1248:A:H1'	10:I:70:LYS:HZ2	1.42	0.80
1:A:42:G:H2'	1:A:43:C:C6	2.12	0.80
1:A:579:G:H2'	1:A:580:U:H6	1.46	0.80
1:A:1029:C:H2'	1:A:1030:C:C5'	2.11	0.80
1:A:501:C:H2'	1:A:502:G:H8	1.46	0.80
1:A:579:G:C4	1:A:580:U:C5	2.69	0.80
1:A:736:C:H2'	1:A:737:A:C8	2.17	0.80
1:A:1490:C:C5'	1:A:1490:C:H6	1.94	0.80
1:A:1491:G:H2'	1:A:1492:A:C8	2.15	0.80
1:A:838:G:H2'	1:A:839:U:H5''	1.63	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:840:C:H5'	1:A:848:C:O2	1.82	0.80
1:A:342:C:C2	1:A:348:G:N2	2.50	0.79
1:A:39:G:HO2'	1:A:40:C:H5'	1.47	0.79
1:A:1489:G:H3'	1:A:1490:C:H5''	1.64	0.79
1:A:595:G:H2'	1:A:641:U:O4	1.81	0.79
1:A:414:A:C2	1:A:415:A:C1'	2.65	0.79
4:C:155:GLY:O	4:C:196:LEU:HD22	1.81	0.79
1:A:1054:C:O2'	1:A:1055:A:H5''	1.83	0.79
1:A:1126:U:C2'	1:A:1127:G:H8	1.94	0.79
1:A:1508:G:H2'	1:A:1509:C:H6	1.47	0.79
1:A:642:A:C5	1:A:643:C:C5	2.70	0.79
1:A:1149:C:C2	1:A:1150:U:C5	2.70	0.79
1:A:1256:A:H4'	1:A:1257:U:H5'	1.65	0.79
1:A:1323:G:H2'	1:A:1324:A:H8	1.43	0.79
1:A:383:A:H2'	1:A:384:G:H5'	1.64	0.79
10:I:17:VAL:HG21	10:I:80:GLY:HA3	1.64	0.79
1:A:80:G:H3'	1:A:81:U:H5''	1.65	0.79
1:A:1391:U:H2'	1:A:1392:G:C8	2.17	0.78
1:A:447:G:H2'	1:A:485:G:H22	1.46	0.78
16:O:87:ILE:HG22	16:O:88:ARG:N	1.95	0.78
15:N:23:ARG:HD3	15:N:30:ALA:HB2	1.64	0.78
1:A:173:U:C2	1:A:197:A:C2	2.71	0.78
4:C:154:SER:HB3	4:C:197:GLY:H	1.49	0.78
1:A:161:A:H2'	1:A:162:A:C8	2.18	0.78
1:A:168:G:O2'	1:A:169:C:H5'	1.83	0.78
1:A:692:U:H1'	1:A:695:A:N7	1.98	0.78
1:A:839:U:O2	1:A:839:U:H2'	1.82	0.78
11:J:45:ARG:HB3	11:J:45:ARG:HH11	1.48	0.78
17:P:58:TYR:O	17:P:61:SER:HB3	1.84	0.78
1:A:607:A:C4	1:A:608:A:C8	2.72	0.78
1:A:967:C:C4'	10:I:128:ARG:HG3	2.14	0.78
1:A:1221:G:O3'	20:S:77:THR:HG21	1.84	0.78
1:A:1057:G:H2'	1:A:1058:G:H8	1.49	0.77
1:A:1325:C:O2'	1:A:1326:C:H5'	1.84	0.77
1:A:346:G:C2'	1:A:347:G:H5'	2.13	0.77
12:K:91:ARG:HD3	19:R:88:LYS:HE2	1.66	0.77
1:A:394:G:C4	1:A:395:C:C5	2.72	0.77
4:C:33:LEU:HD11	15:N:53:LEU:CD2	2.13	0.77
1:A:1225:A:H1'	20:S:78:ARG:NH1	1.99	0.77
1:A:1436:U:H2'	1:A:1437:C:C6	2.19	0.77
1:A:947:G:C4	1:A:948:C:C5	2.73	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:24:CYS:SG	15:N:39:LEU:HA	2.25	0.77
1:A:251:G:H4'	1:A:252:U:O5'	1.84	0.77
1:A:952:U:O2'	1:A:953:G:H5'	1.84	0.77
1:A:1225:A:H1'	20:S:78:ARG:HH11	1.49	0.77
1:A:1368:G:C2	1:A:1369:C:C6	2.72	0.77
1:A:1435:G:H2'	1:A:1436:U:C5	2.18	0.77
1:A:1499:A:H2'	1:A:1500:A:H5'	1.66	0.77
1:A:233:C:O2'	1:A:234:C:H5'	1.83	0.77
1:A:414:A:H2	1:A:415:A:H1'	1.48	0.77
1:A:453:A:C2	1:A:454:C:C2	2.72	0.77
1:A:1047:G:H2'	1:A:1048:G:H5'	1.67	0.77
1:A:57:G:C4	1:A:58:C:C5	2.72	0.77
1:A:650:G:C2'	1:A:651:C:H5'	2.13	0.77
6:E:120:THR:HG22	6:E:121:LYS:N	1.98	0.77
14:M:81:LEU:CD2	14:M:81:LEU:H	1.98	0.77
1:A:32:A:H2'	1:A:33:A:C8	2.19	0.77
1:A:647:C:O2'	1:A:648:A:H5'	1.84	0.77
1:A:1136:U:H5''	1:A:1137:C:OP2	1.86	0.76
1:A:499:A:O2'	1:A:500:G:C8	2.37	0.76
11:J:12:ASP:O	11:J:15:THR:HG22	1.85	0.76
11:J:54:PHE:CE2	11:J:55:LYS:HG2	2.20	0.76
1:A:404:U:H2'	1:A:405:U:H6	1.50	0.76
1:A:723:U:O2	1:A:723:U:H2'	1.84	0.76
20:S:36:ARG:HH21	20:S:75:ALA:HB3	1.46	0.76
1:A:1187:G:H2'	1:A:1188:A:C8	2.21	0.76
1:A:802:A:H2'	1:A:803:G:H5'	1.67	0.76
8:G:16:LEU:HD22	8:G:16:LEU:H	1.50	0.76
1:A:1475:G:H2'	1:A:1476:G:H8	1.50	0.76
1:A:273:A:O2'	1:A:274:A:H5'	1.85	0.76
5:D:100:ARG:O	5:D:104:VAL:HG23	1.84	0.76
1:A:1063:C:H2'	1:A:1064:G:C8	2.19	0.76
13:L:6:THR:OG1	13:L:9:GLN:HG3	1.85	0.76
1:A:1521:G:H2'	1:A:1522:U:C6	2.21	0.76
1:A:1530:G:O2'	1:A:1531:A:C8	2.39	0.76
1:A:1535:C:H6	1:A:1535:C:O5'	1.69	0.76
1:A:277:C:O2'	1:A:278:G:H5'	1.86	0.76
1:A:389:A:H2'	1:A:390:C:C5'	2.12	0.76
1:A:650:G:H2'	1:A:651:C:H5'	1.66	0.76
4:C:155:GLY:HA3	4:C:163:ALA:HB1	1.68	0.76
1:A:519:C:O2'	1:A:520:A:H5'	1.85	0.76
1:A:1347:G:N2	1:A:1373:G:H2'	2.00	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:914:A:H2'	1:A:915:A:O5'	1.85	0.75
16:O:55:GLY:O	16:O:59:MET:HG3	1.86	0.75
1:A:1064:G:H4'	1:A:1065:U:C5'	2.16	0.75
1:A:1489:G:H2'	1:A:1490:C:H5''	1.67	0.75
1:A:911:U:O2'	1:A:912:C:H5'	1.86	0.75
3:B:160:ASP:O	3:B:183:PRO:HD2	1.86	0.75
2:1:2:A:H2'	2:1:3:A:C8	2.20	0.75
1:A:926:G:H3'	1:A:1505:G:H21	1.51	0.75
1:A:1511:G:O2'	1:A:1512:U:H5'	1.84	0.75
1:A:236:G:H2'	1:A:237:C:H6	1.52	0.75
1:A:1015:A:H2'	1:A:1016:A:C8	2.21	0.75
1:A:540:G:O2'	1:A:541:G:H5'	1.85	0.75
1:A:390:C:C4'	17:P:28:ARG:NH2	2.41	0.75
1:A:1210:C:H5'	1:A:1214:C:N4	2.02	0.75
10:I:37:PHE:HD2	10:I:40:LEU:HD12	1.51	0.75
20:S:15:LEU:HA	20:S:18:LYS:HB3	1.67	0.75
1:A:1398:A:H8	1:A:1398:A:H5''	1.52	0.75
1:A:434:U:C2	1:A:435:C:C5	2.74	0.75
1:A:743:U:H2'	1:A:744:C:C6	2.22	0.75
1:A:1190:G:OP1	4:C:5:ILE:HG12	1.87	0.75
1:A:1187:G:H3'	1:A:1188:A:H8	1.50	0.75
1:A:218:C:H4'	1:A:461:C:N4	2.02	0.75
1:A:489:C:O2'	1:A:490:G:H5'	1.85	0.75
1:A:8:A:H1'	6:E:102:ALA:O	1.87	0.75
20:S:42:PRO:O	20:S:45:VAL:HG23	1.87	0.75
1:A:1026:G:N3	1:A:1026:G:H2'	1.99	0.75
6:E:153:LYS:HG2	6:E:154:GLY:N	2.01	0.75
14:M:49:THR:HB	14:M:52:GLU:HG3	1.66	0.75
1:A:394:G:H2'	1:A:395:C:C6	2.21	0.74
1:A:959:A:H3'	1:A:960:U:H5''	1.66	0.74
1:A:1306:A:C2	1:A:1307:U:C6	2.75	0.74
1:A:605:U:C2'	1:A:606:G:H5'	2.16	0.74
11:J:90:LEU:H	11:J:91:PRO:HD2	1.52	0.74
1:A:1196:U:H5''	1:A:1197:G:C5'	2.17	0.74
1:A:293:G:C5	1:A:294:U:C5	2.75	0.74
1:A:328:C:O2	1:A:328:C:H2'	1.86	0.74
4:C:70:VAL:O	4:C:106:VAL:HG23	1.87	0.74
1:A:1366:C:H2'	1:A:1367:C:C6	2.23	0.74
1:A:76:C:H2'	1:A:77:G:H8	1.52	0.74
3:B:178:ARG:HG3	9:H:72:PRO:HA	1.67	0.74
1:A:1354:C:O2'	1:A:1355:G:H5'	1.86	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:487:A:H2'	1:A:488:C:O4'	1.87	0.74
1:A:579:G:C4	1:A:580:U:C6	2.75	0.74
7:F:9:VAL:HB	7:F:87:ARG:HB2	1.68	0.74
1:A:223:U:C5'	21:T:68:LYS:HZ2	2.00	0.74
1:A:1514:C:O2'	1:A:1515:C:H5'	1.87	0.74
1:A:261:U:O2	1:A:263:A:C8	2.40	0.74
1:A:577:G:H1'	1:A:816:A:C4	2.22	0.74
4:C:70:VAL:HG21	4:C:76:VAL:HG21	1.66	0.74
1:A:1505:G:C3'	1:A:1505:G:C8	2.68	0.74
5:D:201:GLN:HA	5:D:204:ILE:HD12	1.69	0.74
1:A:1240:U:H4'	1:A:1241:G:OP2	1.87	0.74
1:A:1442:G:H21	1:A:1446:A:H3'	1.50	0.74
1:A:737:A:H2'	1:A:738:C:C6	2.23	0.74
1:A:803:G:H2'	1:A:804:U:H6	1.52	0.74
1:A:1305:G:C5'	22:V:4:GLY:HA3	2.17	0.74
1:A:192:U:C2	1:A:193:C:C5	2.76	0.73
1:A:1049:U:H1'	1:A:1201:A:N7	2.03	0.73
1:A:1369:C:H2'	1:A:1370:G:C8	2.23	0.73
1:A:173:U:C2	1:A:197:A:N1	2.56	0.73
1:A:175:C:H2'	1:A:176:C:H6	1.53	0.73
1:A:370:C:C2	1:A:371:G:C8	2.76	0.73
1:A:591:U:H2'	1:A:592:G:H8	1.51	0.73
1:A:1240:U:OP1	8:G:116:ALA:HB2	1.88	0.73
19:R:36:ASN:O	19:R:39:VAL:HG12	1.88	0.73
1:A:1243:C:H2'	1:A:1244:C:H6	1.53	0.73
1:A:1333:A:H2'	1:A:1334:G:O4'	1.87	0.73
1:A:404:U:H2'	1:A:405:U:C6	2.23	0.73
1:A:1508:G:O2'	1:A:1509:C:H5'	1.89	0.73
1:A:20:U:O2'	1:A:21:G:H5'	1.88	0.73
1:A:382:A:C2	1:A:383:A:C4	2.76	0.73
1:A:529:G:C4'	1:A:533:A:C2	2.72	0.73
7:F:6:VAL:HB	7:F:63:TYR:HB2	1.71	0.73
1:A:1243:C:H2'	1:A:1244:C:C6	2.22	0.73
10:I:104:ARG:HH11	10:I:104:ARG:HG2	1.52	0.73
4:C:22:TRP:CZ2	4:C:32:LEU:HD22	2.24	0.73
1:A:1020:U:C2'	1:A:1021:G:H5'	2.19	0.73
1:A:1157:A:H1'	1:A:1181:G:N2	2.04	0.73
1:A:1372:U:H5''	10:I:71:SER:CB	2.18	0.73
1:A:1452:C:H4'	1:A:1453:G:O5'	1.89	0.73
1:A:180:U:C2'	1:A:181:G:H5'	2.18	0.73
4:C:10:PHE:CZ	4:C:178:LEU:HD13	2.24	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1230:C:O2'	1:A:1231:G:H5'	1.88	0.73
1:A:218:C:C4'	1:A:461:C:N4	2.52	0.73
1:A:439:A:C4	1:A:497:A:C2	2.77	0.73
1:A:579:G:C5	1:A:580:U:C5	2.76	0.73
1:A:721:G:C6	1:A:733:A:C2	2.77	0.73
1:A:1126:U:P	1:A:1126:U:C6	2.81	0.73
1:A:1238:A:N7	1:A:1303:C:H1'	2.04	0.73
1:A:1413:A:H2'	1:A:1414:U:H6	1.53	0.73
5:D:104:VAL:HG11	5:D:146:ILE:CD1	2.18	0.73
10:I:48:GLU:N	10:I:49:PRO:HD2	2.04	0.73
1:A:99:C:H2'	1:A:101:A:C8	2.24	0.72
1:A:1333:A:C8	1:A:1334:G:C8	2.77	0.72
1:A:338:A:C4	1:A:339:C:C5	2.76	0.72
1:A:443:C:H2'	1:A:444:C:C6	2.24	0.72
1:A:1197:G:C2'	1:A:1198:G:H5'	2.20	0.72
4:C:154:SER:CB	4:C:197:GLY:H	2.02	0.72
5:D:64:LEU:HD23	5:D:198:VAL:HG21	1.70	0.72
1:A:1300:G:O2'	1:A:1301:U:H6	1.69	0.72
1:A:1366:C:H2'	1:A:1367:C:H6	1.52	0.72
1:A:1126:U:H6	1:A:1126:U:OP1	1.71	0.72
16:O:25:THR:O	16:O:29:VAL:HG23	1.89	0.72
1:A:1030:C:H6	1:A:1030:C:H5'	1.55	0.72
1:A:1356:G:H2'	1:A:1357:A:H8	1.52	0.72
1:A:35:G:H2'	1:A:36:C:H6	1.54	0.72
1:A:55:A:C2	1:A:56:U:N1	2.57	0.72
11:J:50:ILE:HB	15:N:41:ARG:NH1	2.04	0.72
1:A:266:G:O3'	18:Q:67:LYS:HB2	1.89	0.72
1:A:452:A:C2	1:A:453:A:N9	2.57	0.72
1:A:642:A:C4	1:A:643:C:C5	2.78	0.72
4:C:195:VAL:O	4:C:196:LEU:HD23	1.90	0.72
5:D:28:SER:O	5:D:30:LYS:N	2.21	0.72
1:A:1233:G:C4	1:A:1234:C:C5	2.77	0.72
1:A:1343:G:H2'	1:A:1344:C:H6	1.54	0.72
1:A:1440:C:H2'	1:A:1441:G:O4'	1.88	0.72
1:A:1450:U:HO2'	1:A:1451:A:H8	1.38	0.72
1:A:173:U:H5'	1:A:197:A:O4'	1.90	0.72
1:A:337:C:H2'	1:A:338:A:C8	2.24	0.72
8:G:12:LEU:HD12	8:G:12:LEU:N	2.05	0.72
1:A:1256:A:C2	1:A:1258:G:N1	2.57	0.72
1:A:1520:G:H2'	1:A:1521:G:H8	1.52	0.72
1:A:662:G:H2'	1:A:663:A:H8	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:179:ARG:HG2	4:C:179:ARG:O	1.88	0.72
1:A:1360:A:H2'	1:A:1361:G:O4'	1.90	0.72
1:A:528:C:H41	13:L:49:ASN:CG	1.92	0.72
1:A:972:C:O2	1:A:972:C:H2'	1.88	0.72
1:A:55:A:C2	1:A:56:U:C2	2.78	0.71
1:A:976:G:OP2	1:A:1358:U:H1'	1.90	0.71
3:B:188:ALA:O	3:B:202:PRO:HA	1.89	0.71
6:E:144:THR:O	6:E:148:VAL:HG23	1.88	0.71
1:A:32:A:N6	1:A:553:A:C6	2.58	0.71
1:A:874:G:N2	9:H:15:ASN:HD21	1.87	0.71
1:A:1083:U:C5	1:A:1084:G:C6	2.78	0.71
1:A:243:A:C4'	1:A:244:U:C5'	2.60	0.71
1:A:715:A:H2'	1:A:716:A:O4'	1.90	0.71
1:A:101:A:C2	1:A:102:G:C8	2.79	0.71
1:A:1490:C:H5'	1:A:1490:C:C6	2.25	0.71
1:A:1047:G:O2'	1:A:1048:G:H5'	1.90	0.71
1:A:1305:G:H22	1:A:1331:G:C2'	2.03	0.71
1:A:1346:A:N1	1:A:1374:A:H5''	2.04	0.71
1:A:149:A:H2'	1:A:150:C:C6	2.25	0.71
4:C:123:GLN:O	4:C:128:PHE:HB2	1.91	0.71
6:E:153:LYS:HG2	6:E:154:GLY:H	1.53	0.71
1:A:1055:A:H1'	4:C:156:ARG:HH12	1.54	0.71
1:A:1067:A:HO2'	1:A:1068:G:H8	1.37	0.71
1:A:338:A:C5	1:A:339:C:C5	2.79	0.71
1:A:432:A:C8	1:A:433:C:C5	2.79	0.71
7:F:7:ASN:ND2	19:R:34:TYR:HE1	1.89	0.71
1:A:1309:G:P	14:M:88:ARG:HH21	2.14	0.71
1:A:101:A:O2'	1:A:102:G:H5'	1.91	0.71
1:A:1542:U:H2'	1:A:1543:C:H6	1.56	0.71
1:A:191:G:H2'	1:A:192:U:C6	2.23	0.71
1:A:371:G:C2'	1:A:372:C:H5'	2.21	0.71
17:P:74:LEU:HB3	17:P:79:VAL:HG21	1.73	0.71
1:A:1486:G:H2'	1:A:1487:G:O4'	1.91	0.71
1:A:1540:U:H2'	1:A:1541:U:H6	1.55	0.71
1:A:190(A):C:C2'	1:A:190(B):C:H5'	2.20	0.71
1:A:509:A:H8	1:A:509:A:O5'	1.74	0.71
1:A:936:C:O2'	1:A:937:A:H5'	1.90	0.71
19:R:76:LEU:O	19:R:78:LEU:HG	1.91	0.71
21:T:73:HIS:O	21:T:74:LYS:HB2	1.91	0.71
1:A:450:G:H5''	1:A:451:A:H3'	1.72	0.71
9:H:108:GLY:HA3	9:H:138:TRP:HB3	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1010:G:H2'	1:A:1011:G:H8	1.56	0.70
1:A:448:A:C2	1:A:449:C:C4	2.79	0.70
1:A:55:A:C2	1:A:56:U:C1'	2.74	0.70
1:A:736:C:H2'	1:A:737:A:H8	1.53	0.70
1:A:600:C:H4'	9:H:128:GLY:O	1.91	0.70
1:A:202:U:H4'	1:A:203:U:OP2	1.92	0.70
1:A:448:A:C5	1:A:487:A:C2	2.79	0.70
1:A:807:A:C4	1:A:808:C:C5	2.79	0.70
8:G:40:ALA:HB3	10:I:41:VAL:HG21	1.72	0.70
1:A:487:A:H2'	1:A:488:C:C5'	2.21	0.70
1:A:499:A:H4'	1:A:500:G:OP1	1.91	0.70
1:A:1006:C:O2'	1:A:1007:C:H5'	1.90	0.70
1:A:170:U:O2'	1:A:171:A:H5'	1.92	0.70
1:A:294:U:H2'	1:A:295:C:H6	1.55	0.70
1:A:357:G:O2'	1:A:358:U:H5'	1.91	0.70
1:A:982:U:H4'	1:A:983:A:O5'	1.92	0.70
8:G:31:MET:SD	8:G:34:GLY:HA2	2.32	0.70
1:A:236:G:C5	1:A:237:C:C5	2.80	0.70
6:E:80:ILE:HD11	6:E:91:LEU:HD12	1.73	0.70
1:A:487:A:C2'	1:A:488:C:H5'	2.21	0.70
1:A:558:G:C8	1:A:559:A:C2	2.79	0.70
1:A:818:G:H3'	1:A:819:A:H5'	1.73	0.70
1:A:818:G:O2'	1:A:820:U:C5	2.44	0.70
1:A:908:A:O2'	1:A:909:A:H5'	1.91	0.70
1:A:1187:G:C3'	1:A:1188:A:H8	2.05	0.70
1:A:223:U:H5'	21:T:68:LYS:HZ2	1.53	0.70
1:A:22:G:H4'	1:A:885:G:C8	2.26	0.70
7:F:69:GLU:O	7:F:72:VAL:HG23	1.91	0.70
1:A:414:A:C2	1:A:415:A:C4	2.79	0.70
1:A:1278:U:C5'	1:A:1279:A:O4'	2.40	0.70
1:A:1355:G:O2'	1:A:1356:G:H5'	1.92	0.70
1:A:1542:U:H2'	1:A:1543:C:C6	2.27	0.70
1:A:336:C:O2'	1:A:337:C:H5'	1.92	0.70
1:A:414:A:C2	1:A:415:A:C8	2.79	0.70
1:A:915:A:H2'	1:A:916:G:H5'	1.73	0.70
1:A:943:U:C2'	1:A:944:G:H5'	2.22	0.70
1:A:243:A:C4'	1:A:244:U:H5'	2.08	0.70
1:A:767:A:H2'	1:A:768:A:H8	1.57	0.70
1:A:1189:C:C5'	4:C:5:ILE:HD13	2.21	0.70
1:A:1286:A:H2'	1:A:1287:A:H4'	1.73	0.69
1:A:1342:C:H2'	1:A:1343:G:H8	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:20:VAL:HG21	17:P:32:TYR:CB	2.22	0.69
17:P:20:VAL:HG21	17:P:32:TYR:HB2	1.73	0.69
1:A:321:A:H2'	1:A:322:C:H6	1.57	0.69
1:A:625:G:C5	1:A:626:U:C5	2.80	0.69
6:E:110:LEU:HD13	6:E:118:ILE:HD13	1.73	0.69
16:O:25:THR:HG21	16:O:70:LEU:CD2	2.22	0.69
1:A:437:U:O2'	5:D:123:HIS:HD2	1.75	0.69
1:A:643:C:H2'	1:A:644:G:H8	1.55	0.69
3:B:25:ASN:HD22	3:B:27:LYS:H	1.37	0.69
5:D:59:ARG:CG	5:D:59:ARG:HH11	2.05	0.69
1:A:1094:G:H5''	1:A:1095:U:C5	2.24	0.69
1:A:1281:U:H5'	1:A:1282:C:H5	1.57	0.69
1:A:50:A:N6	1:A:361:G:H4'	2.06	0.69
1:A:657:G:O2'	1:A:658:G:H5'	1.91	0.69
1:A:975:A:O2'	15:N:32:SER:HB2	1.92	0.69
1:A:532:A:H62	4:C:160:ALA:HA	1.57	0.69
1:A:1394:A:C5	1:A:1501:C:H4'	2.28	0.69
1:A:1402:C:O2	1:A:1500:A:N1	2.26	0.69
1:A:642:A:H2'	1:A:643:C:H6	1.55	0.69
1:A:663:A:H2'	1:A:664:G:C8	2.27	0.69
10:I:28:VAL:HA	10:I:63:ILE:O	1.93	0.69
15:N:6:LEU:HB3	15:N:23:ARG:NH2	2.07	0.69
1:A:1416:G:N2	1:A:1485:U:H1'	2.08	0.69
1:A:321:A:O2'	1:A:322:C:H5'	1.91	0.69
1:A:914:A:H2'	1:A:915:A:C5'	2.23	0.69
4:C:64:VAL:HB	4:C:99:VAL:HB	1.75	0.69
4:C:91:LEU:HD21	4:C:99:VAL:CG1	2.22	0.69
1:A:1338:G:H2'	1:A:1339:A:C8	2.28	0.69
1:A:1426:C:H2'	1:A:1427:U:H6	1.58	0.69
1:A:487:A:O2'	1:A:488:C:H5'	1.93	0.69
1:A:538:G:H5''	13:L:114:LYS:HB2	1.75	0.69
1:A:1347:G:O2'	1:A:1348:U:P	2.51	0.69
1:A:1128:C:O2'	1:A:1130:A:C8	2.46	0.69
1:A:149:A:H2'	1:A:150:C:H6	1.57	0.69
1:A:429:U:H1'	1:A:430:A:H5''	1.73	0.69
7:F:48:LEU:HD13	7:F:52:ILE:HG13	1.75	0.69
9:H:86:ILE:HD12	9:H:133:LEU:HD21	1.73	0.69
1:A:1388:C:O2'	1:A:1389:C:H5'	1.93	0.69
1:A:175:C:O2'	1:A:176:C:H5'	1.92	0.69
1:A:872:A:C2	1:A:874:G:C5	2.81	0.69
3:B:111:ARG:HH11	3:B:111:ARG:HG2	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:190(A):C:O2'	1:A:190(B):C:H5'	1.93	0.68
1:A:628:G:O2'	1:A:629:G:H5'	1.92	0.68
1:A:865:A:O2'	1:A:866:C:H5'	1.92	0.68
1:A:1147:C:H4'	10:I:5:TYR:CE1	2.28	0.68
1:A:642:A:C5	1:A:643:C:C4	2.82	0.68
3:B:115:LEU:HD23	3:B:153:ARG:NE	2.08	0.68
1:A:1030(B):C:H3'	1:A:1030(C):G:C5'	2.24	0.68
1:A:190(L):U:O2'	1:A:191:G:H5'	1.94	0.68
1:A:377:G:OP1	17:P:3:LYS:HD2	1.94	0.68
1:A:458:C:C2	1:A:459:G:C8	2.82	0.68
1:A:597:G:C8	1:A:598:U:C5	2.81	0.68
1:A:658:G:H2'	1:A:659:U:H6	1.56	0.68
1:A:1157:A:H4'	1:A:1158:C:O5'	1.91	0.68
1:A:1220:G:H2'	1:A:1221:G:H8	1.57	0.68
1:A:166:G:H2'	1:A:167:G:H8	1.58	0.68
1:A:402:G:O2'	1:A:403:C:H5'	1.93	0.68
1:A:405:U:H3'	1:A:406:G:H5'	1.74	0.68
1:A:529:G:H4'	1:A:533:A:C2	2.28	0.68
18:Q:67:LYS:O	18:Q:68:ARG:HB3	1.93	0.68
1:A:1288:A:C2	1:A:1289:A:C4	2.81	0.68
1:A:452:A:N3	1:A:453:A:C8	2.61	0.68
14:M:59:TYR:O	14:M:63:THR:HG22	1.94	0.68
2:2:9:A:C2'	2:2:10:A:H5'	2.23	0.68
1:A:1030(B):C:C2'	1:A:1030(C):G:H5''	2.24	0.68
1:A:1449:C:C2'	1:A:1450:U:H5'	2.23	0.68
1:A:181:G:N2	1:A:195:A:C4	2.62	0.68
1:A:259:G:H2'	1:A:260:G:C8	2.28	0.68
1:A:266:G:C8	1:A:266:G:C5'	2.72	0.68
1:A:1080:A:H4'	6:E:16:THR:HG21	1.76	0.68
1:A:1443:G:C5'	1:A:1446:A:H5'	2.20	0.68
1:A:337:C:H2'	1:A:338:A:H8	1.59	0.68
1:A:449:C:H2'	1:A:450:G:O4'	1.94	0.68
1:A:540:G:C2'	1:A:541:G:H5'	2.24	0.68
1:A:877:C:OP1	9:H:88:LYS:HE3	1.93	0.68
1:A:13:U:O2	1:A:914:A:H3'	1.93	0.68
4:C:150:LYS:HB3	4:C:201:TYR:HB2	1.76	0.68
8:G:148:ASN:C	8:G:150:ALA:H	1.96	0.68
21:T:50:GLU:HB2	21:T:99:LEU:HD12	1.75	0.68
1:A:1027:C:H2'	1:A:1028:C:H5''	0.71	0.68
1:A:1057:G:H2'	1:A:1058:G:C8	2.28	0.68
1:A:1225:A:H5'	1:A:1226:C:OP2	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1449:C:H2'	1:A:1450:U:H5'	1.76	0.68
1:A:355:C:C4	1:A:356:A:N7	2.61	0.68
1:A:379:C:O2'	1:A:380:G:H5'	1.94	0.68
1:A:406:G:H5''	5:D:5:ILE:HG21	1.75	0.68
1:A:203:U:C5'	1:A:204:U:OP1	2.42	0.68
1:A:56:U:H2'	1:A:57:G:C8	2.28	0.68
1:A:639:G:O2'	1:A:640:A:H5'	1.94	0.68
1:A:767:A:H2'	1:A:768:A:C8	2.29	0.68
1:A:731:G:O2'	1:A:732:C:H5'	1.94	0.68
1:A:914:A:C2'	1:A:915:A:O5'	2.41	0.68
1:A:986:A:H2'	1:A:987:G:C8	2.29	0.68
12:K:57:THR:HG22	12:K:60:ALA:HB2	1.75	0.68
1:A:1126:U:C6	1:A:1126:U:OP1	2.46	0.67
1:A:1250:A:H2'	1:A:1251:A:H8	1.59	0.67
1:A:1385:G:H2'	1:A:1386:G:O4'	1.94	0.67
1:A:1490:C:H5'	1:A:1490:C:H6	1.58	0.67
1:A:228:A:H2'	1:A:229:U:C6	2.28	0.67
1:A:37:U:O2'	1:A:500:G:H4'	1.94	0.67
1:A:425:G:C2'	1:A:426:G:H5'	2.23	0.67
7:F:3:ARG:HB3	7:F:93:SER:HB2	1.76	0.67
1:A:459:G:H3'	1:A:460:A:H5''	1.75	0.67
1:A:713:G:H21	1:A:777:A:C4'	2.07	0.67
1:A:965:A:C2	1:A:969:A:N1	2.62	0.67
4:C:5:ILE:HG13	4:C:5:ILE:O	1.93	0.67
1:A:1027:C:C2'	1:A:1028:C:C5'	2.42	0.67
1:A:386:C:O2'	1:A:387:U:H5'	1.92	0.67
1:A:55:A:O2'	1:A:56:U:H5'	1.94	0.67
1:A:501:C:O3'	13:L:118:SER:HB2	1.94	0.67
1:A:1305:G:H5'	22:V:4:GLY:HA3	1.75	0.67
1:A:1191:A:C4	1:A:1192:C:C5	2.82	0.67
1:A:148:G:H2'	1:A:149:A:C8	2.24	0.67
1:A:323:U:H2'	1:A:324:G:O4'	1.94	0.67
1:A:700:G:O3'	1:A:703:G:H5'	1.95	0.67
1:A:757:U:H2'	1:A:758:G:O4'	1.94	0.67
1:A:684:A:H1'	12:K:38:ASN:HD22	1.60	0.67
12:K:77:MET:HE1	12:K:80:VAL:HG22	1.77	0.67
1:A:1039:C:O2'	1:A:1040:U:H5'	1.94	0.67
1:A:1291:G:H4'	10:I:38:GLN:O	1.95	0.67
1:A:32:A:N6	1:A:553:A:N6	2.42	0.67
1:A:642:A:C6	1:A:643:C:C4	2.82	0.67
1:A:1368:G:OP1	11:J:62:HIS:HE1	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1151:A:C2	1:A:1152:A:C5	2.82	0.67
1:A:1151:A:O2'	1:A:1152:A:C8	2.47	0.67
1:A:197:A:H1'	1:A:198:G:O4'	1.94	0.67
1:A:1191:A:H5''	4:C:4:LYS:NZ	2.08	0.67
5:D:93:PHE:CE1	5:D:97:LEU:HD11	2.28	0.67
6:E:115:VAL:HG12	6:E:116:THR:N	2.08	0.67
1:A:125:U:H2'	1:A:126:G:H8	1.59	0.67
1:A:1492:A:H2'	1:A:1493:A:O4'	1.94	0.67
1:A:245:C:O2'	1:A:246:A:H5'	1.95	0.67
1:A:582:U:C2'	1:A:583:A:H8	2.04	0.67
1:A:818:G:C2'	1:A:819:A:H5''	2.24	0.67
1:A:1328:C:HO2'	1:A:1329:A:H5'	1.57	0.67
1:A:812:C:O2'	1:A:813:U:P	2.52	0.67
1:A:829:G:N2	1:A:830:G:C4	2.63	0.67
10:I:17:VAL:HG21	10:I:80:GLY:CA	2.25	0.67
11:J:16:LEU:HD23	11:J:94:VAL:HG22	1.77	0.67
1:A:254:G:N2	18:Q:16:GLN:NE2	2.41	0.67
1:A:1318:A:H4'	20:S:10:PHE:CE2	2.29	0.67
1:A:1490:C:C5'	1:A:1490:C:C6	2.78	0.67
1:A:338:A:C4	1:A:339:C:C6	2.82	0.67
1:A:411:A:C4	1:A:413:G:H1'	2.30	0.67
1:A:76:C:O2'	1:A:77:G:H5'	1.95	0.67
1:A:953:G:H2'	1:A:954:G:O4'	1.94	0.67
13:L:47:LYS:HB2	13:L:48:PRO:HD3	1.77	0.67
1:A:1015:A:H2'	1:A:1016:A:H8	1.58	0.67
1:A:1030(B):C:C3'	1:A:1030(C):G:H5''	2.25	0.67
1:A:459:G:H3'	1:A:460:A:C5'	2.24	0.67
5:D:104:VAL:HG11	5:D:146:ILE:HD12	1.77	0.67
7:F:1:MET:HG2	7:F:68:PRO:HA	1.77	0.67
7:F:40:VAL:HG23	7:F:62:TRP:O	1.96	0.67
9:H:13:ILE:O	9:H:17:THR:HG23	1.94	0.67
1:A:125:U:H2'	1:A:126:G:C8	2.30	0.66
1:A:458:C:C4	1:A:459:G:N7	2.63	0.66
1:A:544:G:C4	1:A:545:C:C5	2.83	0.66
5:D:30:LYS:C	5:D:32:ALA:N	2.48	0.66
9:H:111:ILE:HD12	9:H:135:CYS:SG	2.35	0.66
12:K:41:THR:HG21	12:K:71:LYS:HB2	1.77	0.66
1:A:1436:U:H2'	1:A:1437:C:H6	1.60	0.66
1:A:1469:G:O2'	1:A:1470:G:H5'	1.95	0.66
1:A:895:G:H2'	1:A:896:C:H6	1.61	0.66
10:I:18:PHE:HB2	10:I:62:TYR:O	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:376:G:H2'	1:A:377:G:H8	1.61	0.66
1:A:547:A:C4'	1:A:548:G:O5'	2.37	0.66
1:A:663:A:H2'	1:A:664:G:H8	1.60	0.66
1:A:854:G:H3'	1:A:871:U:O4	1.95	0.66
1:A:939:G:H5''	8:G:102:ARG:CZ	2.25	0.66
1:A:960:U:O2'	1:A:1223:C:H4'	1.95	0.66
10:I:13:ALA:HB2	10:I:68:GLY:HA3	1.77	0.66
17:P:20:VAL:HG22	17:P:21:VAL:N	2.10	0.66
1:A:1089:G:C5	1:A:1090:U:C5	2.83	0.66
1:A:1138:G:N2	1:A:1140:C:C5	2.63	0.66
1:A:1256:A:C2	1:A:1258:G:C6	2.83	0.66
1:A:281:G:O2'	1:A:282:A:OP2	2.14	0.66
1:A:668:G:O2'	1:A:669:U:H5'	1.94	0.66
1:A:994:A:C2	1:A:995:C:C6	2.83	0.66
1:A:341:C:C2	1:A:349:A:C2	2.83	0.66
1:A:393:A:C2	1:A:394:G:C8	2.83	0.66
1:A:173:U:N1	1:A:197:A:C2	2.63	0.66
1:A:827:U:H2'	1:A:870:U:O4	1.96	0.66
1:A:89:C:C2'	1:A:90:U:O5'	2.44	0.66
4:C:15:THR:O	4:C:16:ARG:HB2	1.94	0.66
5:D:157:LEU:HD23	5:D:161:ASN:HD21	1.61	0.66
6:E:11:ILE:HB	6:E:31:LEU:HB3	1.75	0.66
8:G:113:GLU:HB2	8:G:119:ARG:HG2	1.78	0.66
9:H:20:TYR:CE2	9:H:75:ARG:HD2	2.30	0.66
1:A:1030(C):G:H5'	1:A:1030(C):G:H8	1.58	0.66
1:A:817:C:H1'	1:A:819:A:H5'	1.78	0.66
3:B:130:ARG:HH22	4:C:207:VAL:HG11	1.59	0.66
4:C:187:ALA:HB3	4:C:198:VAL:HB	1.77	0.66
1:A:600:C:OP1	9:H:97:VAL:HG12	1.96	0.66
13:L:28:LYS:HD2	13:L:33:ARG:HH22	1.61	0.66
1:A:1033:G:O2'	1:A:1034:G:H5'	1.96	0.66
1:A:1067:A:O2'	1:A:1068:G:H8	1.78	0.66
1:A:1191:A:H2'	1:A:1192:C:C6	2.30	0.66
1:A:191:G:C4	1:A:192:U:C5	2.84	0.66
1:A:503:C:H2'	1:A:504:C:H6	1.61	0.66
1:A:838:G:C2'	1:A:839:U:H5''	2.24	0.66
1:A:1539:C:O2	2:1:6:A:C2	2.48	0.66
1:A:287:U:H2'	1:A:288:A:H8	1.59	0.66
1:A:698:G:H2'	1:A:699:C:C6	2.31	0.66
1:A:724:G:C2	1:A:725:G:C8	2.84	0.66
1:A:972:C:P	11:J:57:LYS:HD3	2.36	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:115:LEU:HD23	3:B:153:ARG:HE	1.60	0.66
9:H:20:TYR:HE2	9:H:75:ARG:HD2	1.59	0.66
1:A:687:A:H4'	12:K:47:VAL:HG23	1.77	0.66
14:M:96:LEU:O	14:M:110:ARG:HG2	1.94	0.66
1:A:1063:C:H2'	1:A:1064:G:H8	1.59	0.66
1:A:176:C:O2'	1:A:177:C:H5'	1.96	0.66
1:A:338:A:H2'	1:A:339:C:C6	2.26	0.66
4:C:173:VAL:O	4:C:173:VAL:HG12	1.96	0.66
1:A:1192:C:H2'	1:A:1193:G:O4'	1.95	0.65
1:A:1398:A:C8	1:A:1398:A:H5''	2.30	0.65
1:A:36:C:C2	1:A:37:U:C6	2.85	0.65
1:A:404:U:C2	1:A:405:U:C5	2.84	0.65
1:A:492:G:H2'	1:A:494:G:H8	1.59	0.65
13:L:119:LYS:O	13:L:120:TYR:HB2	1.95	0.65
1:A:1278:U:H5''	1:A:1279:A:O4'	1.97	0.65
1:A:1287:A:H2'	1:A:1288:A:C8	2.31	0.65
1:A:1305:G:N2	1:A:1331:G:O2'	2.29	0.65
1:A:321:A:H2'	1:A:322:C:C6	2.31	0.65
1:A:722:A:C6	1:A:724:G:C5	2.83	0.65
14:M:4:ILE:HG22	14:M:5:ALA:N	2.11	0.65
1:A:1157:A:N3	1:A:1181:G:C2	2.64	0.65
1:A:1489:G:H2'	1:A:1490:C:O4'	1.96	0.65
1:A:192:U:H2'	1:A:193:C:H6	1.61	0.65
1:A:662:G:H2'	1:A:663:A:C8	2.32	0.65
6:E:148:VAL:HG21	9:H:107:LEU:HD22	1.77	0.65
13:L:39:VAL:H	13:L:57:LYS:HB2	1.61	0.65
12:K:91:ARG:CD	19:R:88:LYS:HE2	2.26	0.65
1:A:1442:G:H2'	1:A:1442:G:N3	2.09	0.65
1:A:1509:C:C2	1:A:1510:U:C6	2.85	0.65
1:A:179:A:O2'	1:A:180:U:H5'	1.97	0.65
1:A:636:U:H5'	18:Q:2:PRO:HG2	1.77	0.65
1:A:1347:G:O2'	1:A:1348:U:OP2	2.15	0.65
1:A:803:G:H2'	1:A:804:U:C6	2.30	0.65
1:A:814:A:H2'	1:A:816:A:H5''	1.77	0.65
5:D:8:VAL:HG22	5:D:115:ARG:NH2	2.11	0.65
6:E:12:LEU:O	6:E:12:LEU:HD13	1.96	0.65
6:E:34:VAL:HG12	6:E:35:GLY:N	2.11	0.65
1:A:228:A:H4'	17:P:62:VAL:HG11	1.77	0.65
18:Q:92:ARG:O	18:Q:95:TYR:HB2	1.96	0.65
1:A:1231:G:O2'	1:A:1232:U:H5'	1.97	0.65
1:A:551:U:C2	1:A:552:U:C5	2.84	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:767:A:H2'	1:A:768:A:O4'	1.95	0.65
19:R:59:SER:OG	19:R:62:GLU:HG3	1.96	0.65
1:A:673:G:H5''	7:F:87:ARG:NH1	2.12	0.65
16:O:25:THR:HG21	16:O:70:LEU:HD23	1.79	0.65
19:R:39:VAL:HG13	19:R:40:LEU:N	2.12	0.65
1:A:1413:A:H2	1:A:1487:G:N2	1.85	0.65
1:A:39:G:C2'	1:A:40:C:H5'	2.26	0.65
1:A:413:G:H22	1:A:428:G:H1'	1.62	0.65
1:A:434:U:N3	1:A:435:C:C5	2.64	0.65
1:A:909:A:H2'	1:A:910:C:O4'	1.97	0.65
8:G:16:LEU:HD22	8:G:16:LEU:N	2.10	0.65
14:M:81:LEU:HA	14:M:84:ILE:CG1	2.26	0.65
1:A:1027:C:O2'	1:A:1028:C:H5''	1.94	0.65
1:A:1130:A:H62	1:A:1144:G:N2	1.90	0.65
1:A:1190:G:O2'	1:A:1191:A:P	2.49	0.65
1:A:1536:C:H6	1:A:1536:C:O5'	1.80	0.65
18:Q:62:SER:CB	18:Q:72:ARG:HG3	2.27	0.65
4:C:33:LEU:CD1	15:N:53:LEU:HD22	2.22	0.65
1:A:1226:C:OP2	14:M:103:THR:HG21	1.98	0.64
1:A:1305:G:H5''	22:V:4:GLY:CA	2.27	0.64
1:A:1406:U:H2'	1:A:1407:C:C6	2.32	0.64
1:A:151:A:H2'	1:A:152:A:O4'	1.97	0.64
1:A:429:U:H5'	1:A:430:A:OP1	1.96	0.64
1:A:490:G:C4	1:A:491:G:C8	2.86	0.64
1:A:1108:G:H2'	1:A:1109:C:H5'	1.79	0.64
1:A:1125:U:O3'	1:A:1126:U:C5	2.49	0.64
4:C:73:PRO:C	4:C:75:VAL:H	1.99	0.64
1:A:1442:G:H21	1:A:1446:A:H5''	1.63	0.64
1:A:35:G:H2'	1:A:36:C:C6	2.33	0.64
1:A:446:G:O2'	1:A:447:G:H5'	1.98	0.64
1:A:691:G:O2'	1:A:797:C:H4'	1.97	0.64
1:A:947:G:C5	1:A:948:C:C4	2.86	0.64
1:A:986:A:H4'	20:S:55:LYS:HD2	1.80	0.64
1:A:1056:U:O2'	1:A:1057:G:H5'	1.97	0.64
1:A:129(A):G:N3	1:A:190(E):U:H5'	2.13	0.64
1:A:35:G:C4	1:A:36:C:C5	2.86	0.64
1:A:411:A:O2'	1:A:412:A:H5'	1.97	0.64
1:A:448:A:C5	1:A:487:A:N3	2.65	0.64
4:C:19:GLU:OE2	15:N:52:GLN:HG3	1.97	0.64
13:L:42:THR:HA	13:L:53:ARG:O	1.98	0.64
1:A:1019:C:O2'	1:A:1020:U:H5'	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1218:C:H2'	1:A:1219:U:C5	2.32	0.64
1:A:1251:A:H4'	10:I:12:GLU:OE1	1.96	0.64
1:A:176:C:C2	1:A:177:C:C5	2.86	0.64
1:A:556:C:C2'	1:A:557:G:C5'	2.69	0.64
11:J:84:GLN:O	11:J:88:LEU:HD12	1.98	0.64
12:K:18:ARG:HB2	12:K:33:THR:CG2	2.28	0.64
14:M:34:LEU:HD13	14:M:41:PRO:HG3	1.80	0.64
1:A:177:C:O2'	1:A:178:C:H5'	1.98	0.64
1:A:38:G:C2	1:A:397:A:C2	2.86	0.64
1:A:414:A:N3	1:A:415:A:C8	2.66	0.64
1:A:436:C:H2'	1:A:437:U:H6	1.61	0.64
1:A:818:G:H3'	1:A:819:A:C5'	2.27	0.64
7:F:7:ASN:HD21	19:R:34:TYR:HE1	1.45	0.64
1:A:1250:A:H5''	10:I:67:GLY:HA2	1.79	0.64
14:M:96:LEU:HB3	14:M:97:PRO:CD	2.28	0.64
1:A:1097:C:O2'	1:A:1168:A:H1'	1.97	0.64
1:A:926:G:C3'	1:A:1505:G:H21	2.09	0.64
1:A:223:U:C5'	21:T:68:LYS:NZ	2.60	0.64
1:A:1233:G:H2'	1:A:1234:C:H6	1.62	0.64
1:A:1236:A:H2'	1:A:1237:C:C6	2.32	0.64
1:A:1342:C:H2'	1:A:1343:G:C8	2.33	0.64
6:E:105:VAL:HB	6:E:106:PRO:HD3	1.79	0.64
9:H:12:ARG:NH1	9:H:27:PRO:HD3	2.13	0.64
11:J:50:ILE:HB	15:N:41:ARG:HH11	1.61	0.64
17:P:39:TYR:CD2	17:P:73:LEU:HD11	2.32	0.64
1:A:1138:G:C2	1:A:1140:C:C6	2.86	0.64
1:A:1197:G:H2'	1:A:1198:G:H5'	1.78	0.64
1:A:1349:A:C2'	1:A:1350:A:H8	2.04	0.64
1:A:1390:U:H2'	1:A:1391:U:C6	2.33	0.64
1:A:277:C:C5'	18:Q:68:ARG:NH2	2.52	0.64
1:A:42:G:O2'	1:A:43:C:H5'	1.98	0.64
1:A:448:A:N6	1:A:487:A:C1'	2.61	0.64
1:A:50:A:O2'	1:A:52:G:C8	2.51	0.64
1:A:64:G:N2	1:A:67:C:N4	2.45	0.64
1:A:735:C:O2'	1:A:736:C:H5'	1.97	0.64
8:G:40:ALA:HB1	10:I:41:VAL:HG11	1.80	0.64
11:J:62:HIS:HB3	15:N:59:ALA:HB3	1.79	0.64
1:A:1191:A:H2'	1:A:1192:C:H6	1.61	0.64
1:A:1397:C:H4'	1:A:1398:A:OP2	1.98	0.64
1:A:1454:G:O2'	1:A:1455:G:H5'	1.97	0.64
1:A:191:G:C4	1:A:192:U:C6	2.86	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:384:G:H2'	1:A:385:C:C6	2.33	0.64
1:A:690:G:H8	1:A:690:G:O5'	1.81	0.64
1:A:838:G:H3'	1:A:840:C:H41	1.63	0.64
9:H:29:SER:O	9:H:31:PHE:N	2.30	0.64
16:O:3:ILE:H	16:O:3:ILE:HD12	1.62	0.64
1:A:1538:C:N3	2:1:6:A:N1	2.46	0.63
1:A:42:G:C5	1:A:43:C:C5	2.87	0.63
1:A:524:G:H2'	1:A:525:C:H6	1.63	0.63
1:A:607:A:N3	1:A:608:A:C8	2.66	0.63
1:A:634:C:O2'	1:A:635:G:H5'	1.98	0.63
7:F:12:PRO:HG3	7:F:55:ASP:OD1	1.98	0.63
12:K:33:THR:HA	12:K:39:PRO:HA	1.79	0.63
17:P:20:VAL:HG22	17:P:21:VAL:H	1.62	0.63
1:A:1030:C:C2'	1:A:1030(A):G:C8	2.81	0.63
1:A:597:G:C6	1:A:644:G:C6	2.86	0.63
6:E:12:LEU:CD1	6:E:31:LEU:HB2	2.28	0.63
1:A:964:A:C1'	11:J:55:LYS:HE2	2.24	0.63
17:P:21:VAL:HG21	17:P:59:TRP:CD1	2.33	0.63
17:P:74:LEU:O	17:P:79:VAL:HG23	1.99	0.63
1:A:1320:C:N4	20:S:36:ARG:HG3	2.13	0.63
1:A:147:G:O2'	1:A:148:G:H5'	1.98	0.63
1:A:423:G:N2	1:A:424:G:N7	2.45	0.63
1:A:448:A:C8	1:A:487:A:N1	2.66	0.63
1:A:914:A:C2'	1:A:915:A:C5'	2.77	0.63
13:L:83:VAL:HG22	13:L:84:LEU:H	1.63	0.63
1:A:1303:C:N4	1:A:1304:G:C6	2.66	0.63
1:A:1375:A:H4'	8:G:29:LYS:NZ	2.14	0.63
1:A:1533:C:C4'	1:A:1534:A:OP1	2.45	0.63
1:A:642:A:H2'	1:A:643:C:C6	2.33	0.63
1:A:709:G:H2'	1:A:710:G:H8	1.64	0.63
1:A:753:A:H5'	1:A:754:C:C6	2.33	0.63
17:P:6:LEU:HD23	17:P:17:TYR:CG	2.32	0.63
7:F:50:TYR:CE1	19:R:77:GLY:HA2	2.34	0.63
1:A:1284:C:H3'	1:A:1285:A:H8	1.62	0.63
1:A:1320:C:O2'	1:A:1321:C:H5'	1.99	0.63
1:A:1399:C:O2	1:A:1401:G:C5	2.51	0.63
1:A:243:A:H4'	1:A:244:U:H5''	1.74	0.63
1:A:562:C:H41	1:A:884:U:H2'	1.62	0.63
1:A:687:A:H4'	1:A:688:G:O5'	1.98	0.63
15:N:6:LEU:HB3	15:N:23:ARG:HH21	1.62	0.63
18:Q:76:LEU:HD23	18:Q:77:VAL:N	2.13	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1064:G:O2'	1:A:1190:G:N2	2.31	0.63
1:A:1440:C:O2'	1:A:1441:G:H5'	1.98	0.63
8:G:75:VAL:HG11	8:G:86:GLN:HB3	1.80	0.63
10:I:26:VAL:HA	10:I:61:ALA:HB3	1.80	0.63
1:A:1225:A:H5'	14:M:103:THR:OG1	1.98	0.63
1:A:1330:U:H5''	14:M:23:TYR:O	1.99	0.63
1:A:191:G:C6	1:A:192:U:C4	2.87	0.63
1:A:381:C:C2	1:A:382:A:C8	2.87	0.63
1:A:709:G:C4	1:A:710:G:C8	2.87	0.63
1:A:80:G:C3'	1:A:81:U:H5''	2.27	0.63
1:A:1135:U:H6	1:A:1135:U:O5'	1.82	0.63
1:A:132:C:H2'	1:A:133:U:O4'	1.98	0.63
1:A:1329:A:HO2'	1:A:1330:U:H5'	1.64	0.63
1:A:1364:U:O2'	1:A:1365:G:OP1	2.13	0.63
1:A:17:U:H2'	1:A:18:C:C6	2.34	0.63
1:A:56:U:H2'	1:A:57:G:H8	1.64	0.63
1:A:706:A:C1'	12:K:29:ILE:HD11	2.28	0.63
1:A:839:U:C2'	1:A:839:U:O2	2.47	0.63
1:A:869:G:C4'	1:A:872:A:C8	2.82	0.63
1:A:523:A:H61	13:L:53:ARG:HH12	1.45	0.63
20:S:46:GLY:N	20:S:62:ILE:HG23	2.14	0.63
1:A:1053:G:C8	1:A:1199:U:C6	2.87	0.63
1:A:1225:A:N3	1:A:1225:A:H2'	2.13	0.63
1:A:1316:G:N2	1:A:1318:A:H3'	2.14	0.63
1:A:1360:A:H2'	1:A:1361:G:C8	2.34	0.63
1:A:66:G:H4'	1:A:173:U:C5	2.34	0.63
1:A:499:A:H4'	1:A:500:G:H5'	1.79	0.63
1:A:1367:C:H4'	11:J:48:THR:HG21	1.81	0.63
14:M:84:ILE:HG21	20:S:66:MET:HB3	1.81	0.63
1:A:1206:G:C6	1:A:1207:G:C5	2.87	0.62
1:A:1210:C:H4'	1:A:1214:C:C4	2.34	0.62
1:A:1256:A:N6	1:A:1278:U:H1'	2.13	0.62
1:A:1347:G:C2'	1:A:1348:U:OP2	2.47	0.62
1:A:180:U:H2'	1:A:181:G:H5'	1.79	0.62
1:A:401:C:O2'	1:A:402:G:H5'	1.99	0.62
1:A:463:A:C4	1:A:474:G:C8	2.87	0.62
1:A:625:G:C6	1:A:626:U:C4	2.87	0.62
1:A:839:U:C5'	1:A:840:C:C5	2.63	0.62
5:D:64:LEU:CD2	5:D:198:VAL:HG21	2.29	0.62
6:E:144:THR:HG22	6:E:146:ALA:H	1.64	0.62
1:A:1250:A:H5''	10:I:67:GLY:CA	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1372:U:H5''	10:I:71:SER:HB2	1.81	0.62
1:A:1233:G:H2'	1:A:1234:C:C6	2.34	0.62
1:A:1268:A:H2'	1:A:1269:A:C8	2.34	0.62
1:A:650:G:O2'	1:A:651:C:H5'	1.98	0.62
1:A:940:C:HO2'	1:A:941:G:H5'	1.62	0.62
1:A:620:C:C6	5:D:135:LEU:HD13	2.34	0.62
1:A:1305:G:H5''	22:V:4:GLY:HA3	1.81	0.62
1:A:1157:A:C2	1:A:1181:G:C5	2.87	0.62
1:A:481:G:O2'	1:A:482:A:C8	2.52	0.62
1:A:486:U:C2'	1:A:486:U:O2	2.43	0.62
1:A:573:A:O2'	1:A:574:A:H5'	2.00	0.62
6:E:82:VAL:HG21	6:E:138:ALA:HA	1.80	0.62
17:P:20:VAL:HG21	17:P:32:TYR:CG	2.34	0.62
1:A:1057:G:H5''	4:C:154:SER:CB	2.22	0.62
1:A:1110:A:H8	1:A:1110:A:O5'	1.82	0.62
1:A:452:A:C4	1:A:453:A:C8	2.87	0.62
1:A:692:U:O2	1:A:694:A:H5''	2.00	0.62
6:E:116:THR:HG23	6:E:117:ASP:OD2	2.00	0.62
11:J:47:PHE:CZ	15:N:37:PHE:CE1	2.88	0.62
1:A:1272:G:C4	1:A:1273:G:C8	2.88	0.62
1:A:1306:A:N3	1:A:1307:U:C6	2.68	0.62
1:A:1511:G:H2'	1:A:1512:U:O4'	2.00	0.62
1:A:382:A:C2	1:A:383:A:C5	2.87	0.62
1:A:384:G:H2'	1:A:385:C:H6	1.64	0.62
1:A:958:A:C6	1:A:959:A:N1	2.68	0.62
1:A:969:A:H2'	1:A:970:C:H5'	1.81	0.62
1:A:130:A:C8	18:Q:63:ARG:HG3	2.34	0.62
1:A:113:G:C6	1:A:114:U:C4	2.88	0.62
1:A:1210:C:H5'	1:A:1214:C:H42	1.63	0.62
1:A:192:U:H2'	1:A:193:C:C6	2.34	0.62
1:A:413:G:N2	1:A:428:G:H1'	2.14	0.62
1:A:463:A:H2'	1:A:474:G:H8	1.65	0.62
1:A:622:A:N7	1:A:623:C:C5	2.68	0.62
1:A:874:G:H21	9:H:15:ASN:HD21	1.46	0.62
12:K:18:ARG:HB2	12:K:33:THR:HG23	1.81	0.62
2:2:7:G:N2	2:2:8:A:H1'	2.14	0.62
1:A:129(A):G:C2	1:A:190(E):U:H5'	2.35	0.62
1:A:35:G:C4	1:A:550:G:N2	2.68	0.62
1:A:459:G:C3'	1:A:460:A:H5''	2.28	0.62
1:A:492:G:C2	1:A:494:G:H1'	2.34	0.62
1:A:948:C:HO2'	1:A:949:A:H5'	1.60	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:975:A:C4'	1:A:976:G:OP2	2.43	0.62
7:F:18:GLN:O	7:F:21:LEU:HB3	1.99	0.62
9:H:64:LYS:HG2	9:H:79:VAL:HG21	1.82	0.62
11:J:87:THR:O	11:J:88:LEU:HD23	1.99	0.62
1:A:900:A:HO2'	1:A:901:A:H5'	1.63	0.62
1:A:98:U:C2	1:A:99:C:C5	2.87	0.62
7:F:15:ASP:OD2	7:F:18:GLN:HG3	1.98	0.62
13:L:87:GLY:HA2	13:L:98:TYR:HA	1.82	0.62
1:A:986:A:H4'	20:S:55:LYS:CD	2.30	0.62
1:A:1047:G:H5''	15:N:4:LYS:HD2	1.82	0.62
1:A:1159:U:H5	1:A:1182:G:H2'	1.64	0.62
1:A:1210:C:C5'	1:A:1214:C:N4	2.62	0.62
1:A:1227:A:H3'	1:A:1227:A:H8	1.65	0.62
1:A:1402:C:C2	1:A:1403:C:C6	2.88	0.62
1:A:1414:U:H2'	1:A:1415:G:C8	2.35	0.62
1:A:1491:G:N1	1:A:1492:A:N6	2.48	0.62
1:A:457:C:O2'	1:A:458:C:H5'	2.00	0.62
1:A:592:G:O2'	1:A:593:G:H5'	2.00	0.62
1:A:958:A:C6	20:S:54:GLY:HA3	2.35	0.62
1:A:910:C:H5''	13:L:97:ARG:HH22	1.64	0.62
1:A:1030(A):G:N2	1:A:1030(C):G:O6	2.33	0.62
1:A:1258:G:O2'	1:A:1259:C:H5'	1.99	0.62
1:A:1407:C:O2'	1:A:1408:A:H5'	2.00	0.62
1:A:391:G:H2'	1:A:392:G:O5'	2.00	0.62
1:A:746:A:N6	1:A:747:C:N4	2.47	0.62
1:A:914:A:C2'	1:A:915:A:H5'	2.29	0.62
1:A:1372:U:H5''	10:I:71:SER:OG	2.00	0.62
1:A:1038:C:C2	1:A:1039:C:C5	2.88	0.61
1:A:1161:C:H2'	1:A:1162:C:H6	1.65	0.61
1:A:1190:G:C2'	1:A:1191:A:OP2	2.47	0.61
1:A:1206:G:C5	1:A:1207:G:N7	2.68	0.61
1:A:953:G:N2	1:A:1229:A:C4	2.68	0.61
1:A:1426:C:H2'	1:A:1427:U:C6	2.35	0.61
1:A:1499:A:O2'	1:A:1500:A:H5'	1.99	0.61
9:H:26:VAL:O	9:H:26:VAL:HG13	1.99	0.61
1:A:981:U:C5'	15:N:21:TYR:CE1	2.82	0.61
1:A:1186:G:N2	1:A:1187:G:H1'	2.15	0.61
1:A:1187:G:C4	1:A:1188:A:C8	2.88	0.61
1:A:1309:G:O2'	1:A:1310:G:H5'	1.99	0.61
1:A:445:G:C4	1:A:446:G:C8	2.88	0.61
1:A:590:C:H2'	1:A:591:U:H6	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:760:G:H2'	1:A:761:G:H5'	1.82	0.61
1:A:1225:A:H3'	1:A:1226:C:C5	2.35	0.61
1:A:370:C:H2'	1:A:371:G:H8	1.64	0.61
1:A:477:G:H2'	1:A:478:A:H8	1.66	0.61
1:A:754:C:C2'	1:A:754:C:O2	2.48	0.61
3:B:25:ASN:ND2	3:B:27:LYS:H	1.98	0.61
2:1:6:A:O3'	2:2:7:G:H5'	2.00	0.61
1:A:1089:G:C6	1:A:1090:U:C5	2.88	0.61
1:A:1053:G:H2'	1:A:1199:U:H5	1.66	0.61
1:A:342:C:N3	1:A:348:G:C2	2.68	0.61
1:A:41:G:H2'	1:A:42:G:C8	2.36	0.61
1:A:559:A:P	6:E:126:ARG:HH22	2.23	0.61
1:A:95:U:H2'	1:A:96:G:H8	1.64	0.61
13:L:75:HIS:HD2	13:L:77:LEU:HB2	1.65	0.61
1:A:1103:C:H2'	1:A:1104:G:O4'	2.00	0.61
1:A:485:G:C2'	1:A:486:U:OP2	2.49	0.61
1:A:544:G:H2'	1:A:545:C:H6	1.65	0.61
1:A:681:C:H2'	1:A:682:G:H8	1.65	0.61
1:A:1107:C:N4	1:A:1108:G:N7	2.49	0.61
1:A:1331:G:O2'	1:A:1332:A:P	2.58	0.61
1:A:1375:A:C2	1:A:1376:U:C2	2.88	0.61
1:A:286:G:H2'	1:A:287:U:H6	1.65	0.61
1:A:416:G:C5	1:A:417:C:C4	2.88	0.61
1:A:413:G:H2'	1:A:428:G:N2	2.16	0.61
1:A:818:G:C3'	1:A:819:A:C5'	2.79	0.61
3:B:12:GLU:OE1	3:B:15:VAL:HG23	2.00	0.61
4:C:52:LEU:H	4:C:52:LEU:HD23	1.66	0.61
1:A:1059:C:H2'	1:A:1060:C:H6	1.66	0.61
1:A:1222:G:O2'	1:A:1223:C:H5'	2.00	0.61
1:A:1487:G:H2'	1:A:1488:G:H8	1.65	0.61
1:A:22:G:C4	1:A:23:C:C5	2.88	0.61
1:A:924:C:C2'	1:A:925:G:H5'	2.31	0.61
3:B:178:ARG:HH21	9:H:74:PRO:CD	2.14	0.61
6:E:151:LEU:HD21	9:H:79:VAL:HA	1.83	0.61
1:A:1145:C:H1'	1:A:1146:A:C8	2.35	0.61
1:A:1346:A:N9	8:G:10:ARG:NH2	2.48	0.61
1:A:236:G:C4	1:A:237:C:C5	2.89	0.61
1:A:394:G:C5	1:A:395:C:C5	2.89	0.61
1:A:531:U:H4'	1:A:532:A:H5''	1.82	0.61
1:A:657:G:H2'	1:A:658:G:H8	1.66	0.61
1:A:665:A:C2	1:A:732:C:C2	2.89	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:961:U:H2'	1:A:962:C:C5'	2.30	0.61
1:A:972:C:C2'	1:A:972:C:O2	2.48	0.61
6:E:31:LEU:HD23	6:E:44:GLY:O	2.00	0.61
9:H:88:LYS:HB3	9:H:89:PRO:HD2	1.81	0.61
1:A:1030:C:H2'	1:A:1030(A):G:H8	1.61	0.61
1:A:112:G:H21	1:A:354:G:C5'	2.01	0.61
1:A:1181:G:O2'	1:A:1182:G:O5'	2.19	0.61
1:A:1216:G:H5''	15:N:5:ALA:CB	2.31	0.61
1:A:262:A:H2'	1:A:263:A:C8	2.35	0.61
1:A:41:G:H2'	1:A:42:G:H8	1.66	0.61
1:A:723:U:OP1	1:A:723:U:C6	2.54	0.61
1:A:778:G:O2'	1:A:779:C:H5'	1.99	0.61
1:A:828:A:H2'	1:A:829:G:O5'	2.00	0.61
6:E:11:ILE:HG22	6:E:12:LEU:HD12	1.82	0.61
15:N:27:CYS:SG	15:N:29:ARG:CB	2.89	0.61
1:A:1125:U:O3'	1:A:1126:U:H5	1.82	0.60
1:A:1129:C:P	1:A:1130:A:H5'	2.40	0.60
1:A:1534:A:H2'	1:A:1535:C:C6	2.36	0.60
1:A:178:C:H2'	1:A:179:A:C8	2.29	0.60
1:A:577:G:H1'	1:A:816:A:N3	2.15	0.60
6:E:139:LEU:HD23	6:E:142:LEU:HD11	1.83	0.60
10:I:64:THR:HG22	10:I:65:VAL:H	1.66	0.60
1:A:689:C:OP2	12:K:46:GLY:HA3	2.01	0.60
21:T:29:LYS:O	21:T:32:ALA:HB3	2.01	0.60
1:A:1328:C:O2'	1:A:1329:A:C5'	2.49	0.60
1:A:1443:G:H5''	1:A:1446:A:C5'	2.24	0.60
1:A:175:C:C2	1:A:176:C:C5	2.89	0.60
1:A:287:U:H2'	1:A:288:A:C8	2.35	0.60
1:A:448:A:C4	1:A:487:A:C2	2.89	0.60
1:A:492:G:H2'	1:A:494:G:C8	2.35	0.60
1:A:611:A:C2'	1:A:612:C:H5'	2.31	0.60
1:A:622:A:C8	1:A:623:C:C5	2.89	0.60
1:A:651:C:C4	1:A:652:U:O4	2.53	0.60
1:A:949:A:C5	1:A:950:U:C4	2.89	0.60
1:A:965:A:O2'	1:A:966:G:OP2	2.19	0.60
1:A:986:A:C6	1:A:987:G:C6	2.89	0.60
20:S:62:ILE:HD12	20:S:66:MET:HG3	1.82	0.60
1:A:1161:C:H2'	1:A:1162:C:C6	2.36	0.60
1:A:1501:C:N4	1:A:1504:G:C2	2.70	0.60
1:A:1508:G:C5	1:A:1509:C:C5	2.89	0.60
1:A:52:G:O2'	1:A:53:A:H5'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:861:G:O2'	1:A:862:C:H5'	2.01	0.60
5:D:13:ARG:HD2	5:D:38:TYR:O	2.01	0.60
1:A:1064:G:H4'	1:A:1065:U:H5'	1.82	0.60
1:A:1218:C:H2'	1:A:1219:U:H6	1.62	0.60
1:A:1299:A:C5	1:A:1301:U:O2	2.55	0.60
1:A:1451:A:O2'	1:A:1452:C:P	2.59	0.60
1:A:392:G:N1	1:A:393:A:C5	2.69	0.60
1:A:446:G:C2'	1:A:447:G:H5'	2.31	0.60
1:A:519:C:O2'	1:A:520:A:C5'	2.50	0.60
1:A:55:A:C2	1:A:56:U:H1'	2.37	0.60
1:A:580:U:O2	1:A:580:U:H2'	2.01	0.60
6:E:33:VAL:HG12	6:E:112:LEU:HD12	1.82	0.60
1:A:130:A:N1	1:A:233:C:H1'	2.16	0.60
12:K:17:GLY:O	12:K:80:VAL:HA	2.01	0.60
13:L:25:PRO:HD2	13:L:98:TYR:OH	2.01	0.60
1:A:1085:U:H3'	1:A:1086:U:C5	2.37	0.60
1:A:1278:U:OP2	1:A:1278:U:C4	2.55	0.60
1:A:1349:A:C4	1:A:1350:A:C8	2.89	0.60
1:A:1350:A:H2'	1:A:1351:U:C6	2.36	0.60
1:A:1518:A:H2'	1:A:1519:A:N9	2.17	0.60
1:A:698:G:H2'	1:A:699:C:H6	1.66	0.60
1:A:961:U:C2	1:A:983:A:C2	2.90	0.60
8:G:104:LEU:HD23	8:G:134:ALA:HB1	1.83	0.60
1:A:1216:G:H5''	15:N:5:ALA:HB2	1.82	0.60
1:A:190(B):C:H2'	1:A:190(C):C:O4'	2.01	0.60
1:A:21:G:H2'	1:A:22:G:H8	1.67	0.60
1:A:452:A:C2	1:A:453:A:C4	2.90	0.60
1:A:948:C:O2'	1:A:949:A:C5'	2.45	0.60
1:A:1054:C:OP1	1:A:1198:G:OP2	2.19	0.60
1:A:1187:G:C2'	1:A:1188:A:C8	2.85	0.60
1:A:452:A:C2	1:A:453:A:C8	2.89	0.60
1:A:77:G:C4	1:A:93:G:N2	2.70	0.60
1:A:940:C:C2'	1:A:941:G:H5'	2.32	0.60
1:A:620:C:N1	5:D:135:LEU:HD13	2.17	0.60
16:O:39:LEU:HD13	16:O:56:LEU:HB2	1.82	0.60
1:A:1187:G:C2'	1:A:1188:A:H8	2.14	0.60
1:A:1291:G:C4	1:A:1292:U:C5	2.89	0.60
1:A:75:G:O2'	1:A:76:C:H5'	2.02	0.60
5:D:61:LYS:HA	5:D:203:VAL:HG22	1.83	0.60
1:A:1144:G:H22	1:A:1146:A:N6	2.00	0.60
1:A:1145:C:O2'	1:A:1146:A:O5'	2.18	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1306:A:N3	1:A:1306:A:H2'	2.16	0.60
1:A:1432:G:O5'	1:A:1432:G:H8	1.85	0.60
1:A:1480:G:H2'	1:A:1481:U:H6	1.66	0.60
1:A:926:G:C5	1:A:1505:G:C2	2.89	0.60
1:A:556:C:H2'	1:A:557:G:O5'	2.02	0.60
1:A:804:U:H5''	1:A:805:C:OP2	2.02	0.60
1:A:872:A:C2	1:A:874:G:C6	2.90	0.60
10:I:114:TYR:CE1	11:J:59:SER:O	2.55	0.60
16:O:87:ILE:O	16:O:88:ARG:HB2	2.01	0.60
20:S:64:GLU:O	20:S:67:VAL:HG23	2.02	0.60
1:A:261:U:C5	21:T:79:ARG:NH1	2.70	0.59
1:A:451:A:H1'	1:A:452:A:C8	2.36	0.59
3:B:145:LEU:HD22	3:B:149:LEU:HD12	1.83	0.59
16:O:70:LEU:HB3	16:O:78:TYR:HB2	1.82	0.59
1:A:1239:A:H62	1:A:1299:A:H62	1.48	0.59
1:A:1504:G:C5'	1:A:1505:G:H5'	2.32	0.59
1:A:382:A:H2'	1:A:383:A:H8	1.65	0.59
1:A:485:G:H2'	1:A:486:U:OP2	2.02	0.59
1:A:544:G:C4	1:A:545:C:C6	2.90	0.59
1:A:55:A:N1	1:A:56:U:C2	2.70	0.59
1:A:995:C:H2'	1:A:995:C:O2	2.01	0.59
1:A:532:A:N6	4:C:160:ALA:HA	2.16	0.59
20:S:41:VAL:H	20:S:44:MET:HE3	1.66	0.59
1:A:1244:C:OP2	22:V:9:ARG:HB2	2.02	0.59
1:A:1202:G:C4	15:N:42:ILE:HD13	2.36	0.59
1:A:955:U:H1'	1:A:1227:A:N6	2.17	0.59
1:A:1306:A:C2	1:A:1307:U:C1'	2.85	0.59
1:A:1375:A:H2'	1:A:1376:U:O4'	2.02	0.59
1:A:1415:G:H2'	1:A:1416:G:O4'	2.01	0.59
1:A:1424:C:O2'	1:A:1425:U:H5'	2.01	0.59
1:A:1450:U:O2'	1:A:1451:A:H8	1.86	0.59
1:A:147:G:C2	1:A:148:G:C8	2.89	0.59
1:A:1535:C:O2'	1:A:1536:C:H5'	2.02	0.59
1:A:872:A:C4	1:A:874:G:C8	2.90	0.59
1:A:1135:U:H4'	1:A:1136:U:H5	1.67	0.59
1:A:1308:U:O2'	1:A:1309:G:H5'	2.03	0.59
1:A:50:A:N6	1:A:361:G:C4'	2.65	0.59
1:A:866:C:C2'	1:A:867:G:O5'	2.50	0.59
6:E:11:ILE:HB	6:E:31:LEU:O	2.03	0.59
10:I:104:ARG:NH1	10:I:104:ARG:HG2	2.18	0.59
12:K:94:ALA:O	12:K:97:ALA:HB3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1429:C:H2'	1:A:1430:C:C6	2.37	0.59
1:A:397:A:N7	1:A:547:A:O2'	2.36	0.59
1:A:773:G:C6	1:A:774:G:N7	2.71	0.59
1:A:89:C:H2'	1:A:90:U:O4'	2.03	0.59
5:D:198:VAL:HG12	5:D:199:ASN:H	1.66	0.59
10:I:24:GLY:HA2	10:I:59:PHE:O	2.02	0.59
1:A:1272:G:C5	1:A:1273:G:C8	2.90	0.59
1:A:414:A:OP2	1:A:428:G:N2	2.36	0.59
1:A:42:G:C4	1:A:43:C:C6	2.91	0.59
1:A:628:G:H2'	1:A:629:G:C8	2.37	0.59
1:A:757:U:O2'	1:A:879:C:H1'	2.02	0.59
1:A:95:U:H2'	1:A:96:G:C8	2.37	0.59
1:A:1502:A:C5'	1:A:1503:A:OP2	2.50	0.59
1:A:625:G:C5	1:A:626:U:C4	2.90	0.59
1:A:802:A:C2'	1:A:803:G:H5'	2.33	0.59
11:J:47:PHE:HB2	11:J:63:PHE:HB2	1.83	0.59
4:C:58:GLU:CB	11:J:92:THR:HG21	2.31	0.59
1:A:247:G:OP2	18:Q:99:SER:HB2	2.03	0.59
1:A:113:G:C6	1:A:315:A:N6	2.70	0.59
1:A:1157:A:C2	1:A:1181:G:C4	2.91	0.59
1:A:391:G:C2'	1:A:392:G:O5'	2.51	0.59
1:A:438:G:C4'	1:A:439:A:OP1	2.40	0.59
1:A:515:G:H2'	1:A:516:U:O4'	2.03	0.59
1:A:766:A:H2'	1:A:767:A:H5'	1.84	0.59
1:A:924:C:O2'	1:A:925:G:H5'	2.03	0.59
1:A:35:G:N2	13:L:118:SER:OG	2.35	0.59
1:A:1107:C:C4	1:A:1108:G:C8	2.91	0.59
1:A:1350:A:C6	1:A:1351:U:C4	2.91	0.59
1:A:1483:A:H2'	1:A:1484:C:C6	2.37	0.59
1:A:191:G:C5	1:A:192:U:C4	2.91	0.59
1:A:286:G:H2'	1:A:287:U:C6	2.36	0.59
1:A:390:C:H2'	1:A:391:G:C8	2.37	0.59
1:A:434:U:C2	1:A:435:C:C6	2.90	0.59
1:A:803:G:C5	1:A:804:U:C5	2.90	0.59
1:A:16:A:O2'	6:E:16:THR:HG22	2.02	0.59
1:A:1292:U:P	10:I:38:GLN:HE22	2.26	0.59
17:P:8:ARG:HG2	17:P:17:TYR:HE2	1.66	0.59
1:A:1039:C:C2	1:A:1040:U:C6	2.91	0.59
1:A:1498:U:O2'	1:A:1499:A:P	2.60	0.59
1:A:286:G:C6	1:A:287:U:C4	2.91	0.59
1:A:512:U:H2'	1:A:513:C:H6	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:607:A:C2	1:A:608:A:C8	2.90	0.59
1:A:915:A:H2'	1:A:916:G:C5'	2.32	0.59
4:C:154:SER:OG	4:C:196:LEU:HA	2.03	0.59
5:D:9:CYS:SG	5:D:31:CYS:C	2.80	0.59
10:I:96:LEU:HD23	10:I:102:LEU:HD11	1.84	0.59
10:I:73:GLN:O	10:I:76:ALA:HB3	2.03	0.59
1:A:1152:A:H5''	11:J:13:HIS:CD2	2.38	0.59
14:M:37:THR:CG2	14:M:39:ILE:HG13	2.32	0.59
19:R:39:VAL:O	19:R:42:ARG:HB2	2.03	0.59
20:S:16:LEU:O	20:S:19:VAL:HG12	2.02	0.59
1:A:101:A:C2	1:A:102:G:N9	2.71	0.58
1:A:1032:G:H2'	1:A:1033:G:C8	2.38	0.58
1:A:1210:C:C4'	1:A:1214:C:C4	2.86	0.58
1:A:1475:G:H2'	1:A:1476:G:C8	2.34	0.58
1:A:202:U:O5'	1:A:202:U:H6	1.86	0.58
1:A:279:A:H5''	1:A:280:C:H3'	1.85	0.58
1:A:485:G:O2'	1:A:486:U:P	2.61	0.58
1:A:591:U:H2'	1:A:592:G:C8	2.37	0.58
1:A:9:G:H2'	1:A:10:A:H8	1.66	0.58
5:D:196:LEU:HB3	5:D:198:VAL:HG23	1.85	0.58
5:D:59:ARG:CG	5:D:59:ARG:NH1	2.64	0.58
8:G:37:ASN:ND2	10:I:41:VAL:HG23	2.17	0.58
14:M:10:PRO:HB2	14:M:18:ALA:HB1	1.85	0.58
15:N:25:VAL:HG12	15:N:38:GLY:O	2.03	0.58
1:A:263:A:OP2	21:T:79:ARG:NH1	2.36	0.58
1:A:1100:C:O2'	1:A:1101:A:H5'	2.02	0.58
1:A:1413:A:O2'	1:A:1414:U:H5'	2.04	0.58
1:A:357:G:C2	1:A:358:U:C5	2.90	0.58
1:A:383:A:C2'	1:A:384:G:H5'	2.33	0.58
1:A:578:C:O2'	1:A:728:A:N3	2.31	0.58
1:A:866:C:H2'	1:A:867:G:O5'	2.03	0.58
10:I:16:ARG:O	10:I:63:ILE:HG23	2.03	0.58
1:A:502:G:OP1	13:L:118:SER:N	2.35	0.58
1:A:1181:G:O2'	1:A:1182:G:C8	2.55	0.58
1:A:579:G:N3	1:A:580:U:C6	2.72	0.58
1:A:722:A:C2	1:A:724:G:N7	2.71	0.58
3:B:200:ILE:HG22	3:B:201:ILE:N	2.18	0.58
4:C:3:ASN:O	4:C:4:LYS:HB2	2.03	0.58
6:E:15:ARG:HD3	6:E:26:PHE:CD2	2.38	0.58
17:P:20:VAL:CG2	17:P:32:TYR:HB2	2.33	0.58
20:S:17:GLU:HA	20:S:20:LEU:HG	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1058:G:C4	1:A:1059:C:C5	2.90	0.58
1:A:1394:A:N7	1:A:1501:C:H4'	2.18	0.58
1:A:345:C:C4'	1:A:346:G:O5'	2.42	0.58
1:A:412:A:O2'	1:A:413:G:OP2	2.20	0.58
1:A:1202:G:C2	15:N:42:ILE:HG21	2.39	0.58
1:A:103:C:OP1	21:T:17:ARG:HD3	2.03	0.58
1:A:1080:A:H4'	6:E:16:THR:CG2	2.32	0.58
1:A:1136:U:O5'	1:A:1136:U:H6	1.87	0.58
1:A:1193:G:O2'	1:A:1194:U:C5'	2.50	0.58
1:A:1480:G:H2'	1:A:1481:U:C6	2.38	0.58
1:A:197:A:O2'	1:A:198:G:C8	2.55	0.58
1:A:413:G:H2'	1:A:428:G:H21	1.68	0.58
1:A:622:A:N7	1:A:623:C:C6	2.71	0.58
1:A:722:A:C4	1:A:724:G:C8	2.91	0.58
1:A:947:G:C6	1:A:948:C:N4	2.72	0.58
11:J:54:PHE:CD2	11:J:55:LYS:HG2	2.37	0.58
1:A:1250:A:C6	1:A:1251:A:C6	2.91	0.58
1:A:1367:C:H5'	11:J:60:ARG:NH1	2.18	0.58
1:A:1483:A:H2'	1:A:1484:C:H6	1.69	0.58
1:A:1504:G:H5''	1:A:1505:G:H5'	1.85	0.58
1:A:164:U:O2'	1:A:165:C:H5'	2.03	0.58
1:A:597:G:N7	1:A:598:U:C5	2.71	0.58
1:A:902:G:O2'	1:A:903:G:H5'	2.04	0.58
6:E:11:ILE:O	6:E:12:LEU:HB3	2.03	0.58
18:Q:45:HIS:HB2	18:Q:69:LYS:HE2	1.86	0.58
1:A:256:U:H2'	1:A:257:G:H8	1.68	0.58
1:A:364:A:H2'	1:A:365:U:O2	2.04	0.58
1:A:994:A:H2'	1:A:994:A:N3	2.18	0.58
4:C:182:ILE:HA	4:C:202:ILE:O	2.04	0.58
1:A:113:G:C6	1:A:315:A:C6	2.92	0.58
1:A:259:G:H2'	1:A:260:G:H8	1.65	0.58
1:A:892:A:C6	1:A:893:C:C4	2.92	0.58
4:C:156:ARG:N	4:C:163:ALA:HA	2.16	0.58
5:D:25:ARG:C	5:D:27:TYR:H	2.07	0.58
13:L:83:VAL:HG22	13:L:100:ILE:HG23	1.84	0.58
20:S:41:VAL:HG23	20:S:44:MET:HG3	1.84	0.58
1:A:1485:U:H2'	1:A:1485:U:O2	2.02	0.58
1:A:233:C:C2'	1:A:234:C:H5'	2.32	0.58
1:A:460:A:C5	1:A:462:G:C5	2.91	0.58
1:A:561:U:O2'	1:A:562:C:P	2.62	0.58
1:A:695:A:C2	1:A:696:A:C4	2.91	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:866:C:H2'	1:A:867:G:O4'	2.04	0.58
1:A:562:C:N4	1:A:884:U:C6	2.71	0.58
3:B:145:LEU:C	3:B:147:LYS:H	2.06	0.58
4:C:32:LEU:HD21	4:C:59:ARG:NE	2.19	0.58
1:A:878:G:C5'	9:H:89:PRO:HG2	2.33	0.58
1:A:1227:A:H3'	1:A:1227:A:C8	2.39	0.58
1:A:1331:G:HO2'	1:A:1332:A:P	2.26	0.58
1:A:1366:C:O2'	1:A:1367:C:H5'	2.04	0.58
1:A:1429:C:H2'	1:A:1430:C:H6	1.69	0.58
1:A:390:C:H2'	1:A:391:G:H8	1.67	0.58
1:A:614:A:C2	1:A:627:G:C2	2.91	0.58
1:A:872:A:C4'	1:A:873:A:OP1	2.47	0.58
4:C:55:VAL:O	4:C:55:VAL:HG12	2.02	0.58
13:L:28:LYS:C	13:L:30:ALA:H	2.07	0.58
1:A:1007:C:O2'	1:A:1008:C:H5'	2.04	0.57
1:A:1182:G:O2'	1:A:1183:A:OP2	2.22	0.57
1:A:1206:G:O5'	1:A:1206:G:H8	1.87	0.57
1:A:1532:U:C2	1:A:1533:C:C5	2.92	0.57
1:A:622:A:C8	1:A:623:C:C6	2.92	0.57
3:B:111:ARG:NH1	3:B:111:ARG:HG2	2.18	0.57
3:B:178:ARG:NH2	9:H:74:PRO:HB3	2.19	0.57
10:I:89:ASN:HB3	10:I:92:TYR:CE1	2.39	0.57
16:O:56:LEU:HA	16:O:59:MET:HE2	1.86	0.57
1:A:1080:A:C4'	6:E:16:THR:HG21	2.34	0.57
1:A:1221:G:H5''	20:S:36:ARG:NH1	2.18	0.57
1:A:270:A:H2'	1:A:271:C:C6	2.39	0.57
1:A:123:C:H5''	1:A:311:C:O2'	2.04	0.57
1:A:518:C:H5''	1:A:519:C:C6	2.39	0.57
1:A:748:C:H1'	1:A:749:C:H5	1.69	0.57
1:A:715:A:OP1	1:A:805:C:H1'	2.04	0.57
14:M:78:ILE:O	14:M:81:LEU:HD23	2.03	0.57
1:A:1290:G:C5	1:A:1291:G:N7	2.72	0.57
1:A:400:C:H2'	1:A:401:C:H6	1.68	0.57
1:A:496:A:H5''	1:A:497:A:OP1	2.04	0.57
1:A:501:C:H2'	1:A:502:G:C8	2.35	0.57
1:A:645:C:O2'	1:A:646:U:H5'	2.02	0.57
1:A:741:G:C2'	1:A:742:G:H5'	2.35	0.57
1:A:815:A:H5''	1:A:817:C:N4	2.19	0.57
1:A:770:C:O4'	1:A:900:A:H2	1.87	0.57
1:A:1055:A:O2'	4:C:156:ARG:NH1	2.38	0.57
1:A:1245:A:H2'	1:A:1246:C:C6	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1371:G:OP2	10:I:11:LYS:HE2	2.04	0.57
1:A:41:G:O2'	1:A:42:G:H5'	2.03	0.57
1:A:425:G:HO2'	1:A:426:G:H5'	1.68	0.57
1:A:373:A:H1'	1:A:481:G:N3	2.19	0.57
3:B:218:ALA:O	3:B:221:LEU:HB3	2.03	0.57
8:G:37:ASN:ND2	10:I:41:VAL:H	2.01	0.57
14:M:3:ARG:HG2	14:M:9:ILE:HG12	1.85	0.57
17:P:15:PRO:O	17:P:41:PRO:HD2	2.04	0.57
21:T:33:ILE:HD13	21:T:63:ILE:HG12	1.86	0.57
1:A:1030(B):C:H3'	1:A:1030(C):G:H5''	1.84	0.57
1:A:1313:U:OP2	20:S:6:LYS:HA	2.04	0.57
1:A:448:A:C6	1:A:487:A:N3	2.73	0.57
1:A:451:A:N7	1:A:481:G:C2	2.73	0.57
1:A:487:A:H2'	1:A:488:C:H5'	1.83	0.57
1:A:491:G:C2	1:A:492:G:C8	2.92	0.57
1:A:685:G:H5'	12:K:39:PRO:O	2.04	0.57
1:A:815:A:H4'	1:A:817:C:C4	2.40	0.57
1:A:864:A:H2'	1:A:865:A:C8	2.40	0.57
6:E:122:GLU:O	6:E:123:LEU:HD23	2.04	0.57
6:E:13:ILE:HA	6:E:29:GLY:O	2.04	0.57
1:A:1298:C:H2'	8:G:114:ARG:HH12	1.68	0.57
1:A:677:U:H1'	12:K:119:CYS:SG	2.44	0.57
18:Q:51:TYR:CE1	18:Q:73:VAL:HG11	2.39	0.57
21:T:14:LYS:HA	21:T:17:ARG:HB3	1.86	0.57
1:A:1054:C:H3'	1:A:1054:C:C6	2.39	0.57
1:A:1085:U:H3'	1:A:1086:U:C6	2.40	0.57
1:A:1143:G:H2'	1:A:1144:G:O4'	2.03	0.57
1:A:1149:C:C2	1:A:1150:U:C6	2.91	0.57
1:A:1233:G:N3	1:A:1234:C:C6	2.72	0.57
1:A:144:G:C6	1:A:145:G:N7	2.72	0.57
1:A:611:A:H2'	1:A:612:C:H5'	1.86	0.57
1:A:625:G:C4	1:A:626:U:C6	2.93	0.57
1:A:1240:U:OP1	8:G:119:ARG:NH2	2.37	0.57
1:A:1038:C:O2	1:A:1039:C:C6	2.58	0.57
1:A:374:A:C4	1:A:375:U:C5	2.93	0.57
1:A:449:C:H3'	1:A:450:G:H8	1.70	0.57
4:C:11:ARG:O	4:C:13:GLY:N	2.37	0.57
7:F:26:ILE:O	7:F:30:LEU:HG	2.05	0.57
1:A:4:U:C4	9:H:105:ARG:HD2	2.39	0.57
1:A:1310:G:C2	1:A:1328:C:N3	2.72	0.57
1:A:1504:G:O2'	1:A:1505:G:OP2	2.23	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:14:U:N3	1:A:17:U:OP2	2.33	0.57
1:A:448:A:C8	1:A:487:A:C6	2.93	0.57
1:A:565:U:C4	1:A:566:G:C5	2.93	0.57
7:F:67:MET:HB2	7:F:68:PRO:CD	2.34	0.57
1:A:1343:G:H1'	10:I:121:ARG:NH1	2.19	0.57
1:A:1148:U:C4'	10:I:14:VAL:HG11	2.27	0.57
11:J:50:ILE:HA	11:J:60:ARG:HA	1.85	0.57
1:A:187:C:N3	21:T:105:SER:HB2	2.20	0.57
1:A:1015:A:O5'	1:A:1015:A:H8	1.88	0.57
1:A:220:G:O2'	1:A:221:C:H5'	2.04	0.57
1:A:628:G:H2'	1:A:629:G:H8	1.69	0.57
1:A:1004:A:H2'	1:A:1005:A:C8	2.40	0.57
1:A:1005:A:H4'	1:A:1037:C:O2'	2.05	0.57
1:A:1278:U:H5'	1:A:1279:A:O4'	2.05	0.57
1:A:1301:U:C5	1:A:1303:C:C6	2.92	0.57
1:A:1358:U:H3'	1:A:1359:C:C5	2.40	0.57
1:A:219:C:C4	1:A:220:G:N7	2.73	0.57
1:A:519:C:H2'	1:A:520:A:C8	2.40	0.57
1:A:885:G:O2'	1:A:914:A:N1	2.33	0.57
1:A:955:U:H1'	1:A:1227:A:H61	1.69	0.57
8:G:92:SER:HB2	8:G:93:PRO:HD2	1.87	0.57
9:H:91:ARG:HG2	13:L:7:ILE:HG21	1.87	0.57
12:K:41:THR:HG21	12:K:71:LYS:CB	2.34	0.57
1:A:101:A:N3	1:A:102:G:C8	2.73	0.56
1:A:166:G:O2'	1:A:167:G:H5'	2.05	0.56
1:A:285:G:O2'	1:A:286:G:H5'	2.04	0.56
1:A:418:C:H2'	1:A:419:C:H6	1.70	0.56
1:A:505:G:H5'	1:A:534:U:H2'	1.87	0.56
1:A:714:G:N3	1:A:777:A:H1'	2.19	0.56
1:A:722:A:C6	1:A:724:G:C4	2.93	0.56
1:A:741:G:O2'	1:A:742:G:H5'	2.05	0.56
1:A:901:A:N7	1:A:902:G:H1'	2.19	0.56
3:B:100:GLY:C	3:B:102:LEU:H	2.09	0.56
4:C:6:HIS:CD2	4:C:8:ILE:HB	2.40	0.56
10:I:50:LEU:C	10:I:52:ALA:H	2.08	0.56
11:J:8:LEU:CD2	11:J:96:ILE:HG12	2.35	0.56
1:A:113:G:C2	1:A:114:U:C2	2.94	0.56
1:A:1061:G:N2	1:A:1197:G:H1'	2.20	0.56
1:A:1302:U:O2'	1:A:1303:C:OP1	2.18	0.56
1:A:1503:A:O2'	1:A:1504:G:OP1	2.20	0.56
1:A:1508:G:C4	1:A:1509:C:C5	2.93	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:328:C:C2'	1:A:328:C:O2	2.52	0.56
1:A:512:U:H2'	1:A:513:C:C6	2.40	0.56
1:A:676:A:C6	1:A:677:U:C4	2.93	0.56
1:A:792:A:O2'	1:A:793:U:P	2.63	0.56
1:A:830:G:H2'	1:A:831:U:O4'	2.05	0.56
5:D:8:VAL:O	5:D:10:ARG:N	2.38	0.56
1:A:1292:U:OP1	8:G:41:ARG:NH2	2.38	0.56
1:A:1020:U:HO2'	1:A:1021:G:H5'	1.70	0.56
1:A:1072:G:H2'	1:A:1073:U:O4'	2.04	0.56
1:A:1520:G:C4	1:A:1521:G:N7	2.73	0.56
1:A:840:C:H4'	1:A:841:U:O5'	2.05	0.56
1:A:1179:A:H5''	10:I:102:LEU:O	2.06	0.56
1:A:1195:C:C3'	1:A:1196:U:C5'	2.82	0.56
1:A:1532:U:C4	1:A:1533:C:N4	2.73	0.56
1:A:160:A:H1'	1:A:344:A:C5	2.39	0.56
1:A:410:G:C2	1:A:429:U:C2	2.94	0.56
1:A:452:A:O2'	1:A:453:A:O5'	2.23	0.56
1:A:518:C:H5''	1:A:519:C:H6	1.70	0.56
1:A:910:C:H5''	13:L:97:ARG:NH2	2.19	0.56
1:A:943:U:H2'	1:A:944:G:H5'	1.88	0.56
7:F:67:MET:HB2	7:F:68:PRO:HD2	1.87	0.56
1:A:1120:G:O2'	1:A:1121:U:H5'	2.06	0.56
1:A:1168:A:O5'	1:A:1168:A:H8	1.88	0.56
1:A:1187:G:H3'	1:A:1188:A:C8	2.36	0.56
1:A:1225:A:C1'	20:S:78:ARG:NH1	2.67	0.56
1:A:129(A):G:H4'	1:A:130:A:O5'	2.06	0.56
1:A:1449:C:O2'	1:A:1450:U:H5'	2.05	0.56
1:A:417:C:H6	1:A:417:C:O5'	1.89	0.56
1:A:517:G:H4'	1:A:519:C:C5	2.41	0.56
1:A:533:A:O2'	1:A:535:A:OP2	2.21	0.56
1:A:60:A:C4'	1:A:61:G:O5'	2.47	0.56
1:A:650:G:C6	1:A:651:C:C5	2.93	0.56
1:A:753:A:C4'	1:A:754:C:O5'	2.46	0.56
1:A:828:A:C2'	1:A:829:G:O5'	2.52	0.56
1:A:889:A:C4'	1:A:890:G:OP1	2.50	0.56
1:A:939:G:H5''	8:G:102:ARG:NH1	2.20	0.56
12:K:84:VAL:HG22	12:K:109:VAL:O	2.06	0.56
1:A:1189:C:P	11:J:51:ARG:HH22	2.29	0.56
1:A:1539:C:H2'	1:A:1540:U:H6	1.70	0.56
1:A:247:G:OP2	18:Q:100:LYS:HD2	2.04	0.56
1:A:257:G:C6	1:A:270:A:N1	2.73	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:A:N6	1:A:487:A:H1'	2.19	0.56
1:A:592:G:N2	1:A:593:G:C4	2.74	0.56
1:A:59:A:H3'	1:A:331:G:H22	1.69	0.56
1:A:1038:C:N3	1:A:1039:C:C5	2.74	0.56
1:A:116:A:H2'	1:A:117:G:O4'	2.06	0.56
1:A:392:G:C6	1:A:393:A:C5	2.93	0.56
1:A:624:C:O2'	1:A:625:G:C5'	2.50	0.56
1:A:886:G:C4	1:A:887:G:C8	2.94	0.56
1:A:89:C:H2'	1:A:90:U:O5'	2.06	0.56
12:K:57:THR:CG2	12:K:60:ALA:H	2.15	0.56
1:A:1215:G:C2	1:A:1216:G:C8	2.94	0.56
1:A:1256:A:H2	1:A:1258:G:C6	2.20	0.56
1:A:252:U:H2'	1:A:253:U:C6	2.39	0.56
1:A:445:G:C5	1:A:446:G:N7	2.74	0.56
1:A:44:G:H2'	1:A:45:U:O4'	2.05	0.56
1:A:627:G:O2'	1:A:628:G:H5'	2.06	0.56
1:A:766:A:C8	1:A:814:A:N6	2.74	0.56
1:A:1223:C:OP2	20:S:78:ARG:NH2	2.39	0.56
1:A:162:A:O5'	1:A:162:A:H8	1.89	0.56
1:A:123:C:OP1	1:A:312:C:H5'	2.06	0.56
1:A:612:C:O2'	1:A:613:C:H5'	2.06	0.56
3:B:108:ILE:O	3:B:111:ARG:N	2.39	0.56
11:J:20:ALA:O	11:J:24:VAL:HG23	2.05	0.56
1:A:1058:G:N2	11:J:53:PRO:HG3	2.21	0.56
14:M:56:LEU:O	14:M:60:VAL:HG23	2.06	0.56
20:S:22:LEU:HD11	20:S:31:ILE:HD11	1.88	0.56
22:V:24:ARG:O	22:V:25:LYS:HB2	2.05	0.56
1:A:1149:C:C2'	1:A:1150:U:H6	2.03	0.56
1:A:14:U:O2	1:A:16:A:C8	2.59	0.56
1:A:228:A:H2'	1:A:229:U:H6	1.70	0.56
1:A:559:A:OP2	6:E:126:ARG:NH2	2.31	0.56
1:A:789:U:C2	1:A:791:G:OP2	2.59	0.56
1:A:98:U:N3	1:A:99:C:C5	2.74	0.56
4:C:91:LEU:CD2	4:C:99:VAL:HG13	2.31	0.56
5:D:127:THR:HG22	5:D:128:VAL:N	2.21	0.56
1:A:1249:C:O2'	10:I:73:GLN:NE2	2.38	0.56
17:P:6:LEU:HD23	17:P:17:TYR:CD1	2.40	0.56
1:A:114:U:H2'	1:A:115:G:C8	2.40	0.56
1:A:1206:G:C4	1:A:1207:G:C8	2.95	0.56
1:A:1231:G:H4'	10:I:126:SER:OG	2.05	0.56
1:A:176:C:O2	1:A:177:C:C6	2.59	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:252:U:H2'	1:A:253:U:C5	2.41	0.56
1:A:402:G:C2'	1:A:403:C:H5'	2.35	0.56
1:A:445:G:H2'	1:A:446:G:H8	1.71	0.56
1:A:631:G:H2'	1:A:632:A:C8	2.40	0.56
1:A:746:A:C5	1:A:747:C:C5	2.94	0.56
9:H:104:ARG:NH2	9:H:138:TRP:CH2	2.74	0.56
11:J:34:VAL:HG12	11:J:36:GLY:H	1.71	0.56
1:A:1010:G:HO2'	1:A:1011:G:H5'	1.71	0.55
1:A:110:C:H2'	1:A:111:G:O4'	2.06	0.55
1:A:1168:A:H2'	1:A:1169:A:C8	2.42	0.55
1:A:954:G:N2	1:A:1228:C:N3	2.54	0.55
1:A:1305:G:H22	1:A:1331:G:HO2'	1.52	0.55
1:A:176:C:N3	1:A:177:C:C5	2.74	0.55
1:A:452:A:C2	1:A:453:A:H1'	2.41	0.55
1:A:774:G:N2	1:A:775:G:H1'	2.21	0.55
1:A:909:A:C8	1:A:910:C:C5	2.94	0.55
1:A:1292:U:C5'	10:I:38:GLN:NE2	2.60	0.55
1:A:1197:G:C8	1:A:1197:G:O5'	2.59	0.55
1:A:1329:A:H2'	1:A:1330:U:H5'	1.89	0.55
1:A:1390:U:H2'	1:A:1391:U:H6	1.72	0.55
1:A:292:G:N2	1:A:309:G:C4	2.74	0.55
1:A:445:G:C6	1:A:490:G:C6	2.94	0.55
1:A:636:U:O2'	1:A:637:G:H5'	2.07	0.55
1:A:890:G:O2'	1:A:891:U:OP2	2.24	0.55
8:G:146:GLU:HA	8:G:149:ARG:HB2	1.87	0.55
8:G:15:ASP:HB3	8:G:19:GLY:H	1.71	0.55
11:J:54:PHE:O	11:J:55:LYS:HB3	2.06	0.55
12:K:57:THR:OG1	12:K:58:PRO:HD2	2.05	0.55
1:A:1157:A:N6	1:A:1180:A:C6	2.75	0.55
1:A:1248:A:H1'	10:I:70:LYS:CE	2.35	0.55
1:A:1290:G:C4	1:A:1291:G:C8	2.95	0.55
1:A:1303:C:H2'	1:A:1304:G:H5'	1.89	0.55
1:A:1451:A:C5'	1:A:1452:C:H5	2.17	0.55
1:A:163:C:O2'	1:A:164:U:H5'	2.05	0.55
1:A:171:A:O2'	1:A:172:A:H5'	2.06	0.55
1:A:22:G:C5	1:A:23:C:C5	2.94	0.55
1:A:382:A:O2'	1:A:383:A:H5'	2.06	0.55
1:A:446:G:H2'	1:A:447:G:C5'	2.37	0.55
1:A:55:A:H2	1:A:56:U:H1'	1.70	0.55
5:D:134:ASP:O	5:D:136:PRO:HD3	2.07	0.55
9:H:48:TYR:HA	9:H:60:ARG:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1186:G:H21	15:N:61:TRP:C	2.10	0.55
18:Q:61:GLU:HA	18:Q:71:PHE:CD1	2.41	0.55
1:A:1055:A:C5	1:A:1206:G:C2	2.94	0.55
1:A:1397:C:O2'	1:A:1398:A:P	2.64	0.55
1:A:1480:G:C6	1:A:1481:U:C4	2.94	0.55
1:A:328:C:H4'	1:A:329:A:C5'	2.36	0.55
1:A:485:G:HO2'	1:A:486:U:P	2.29	0.55
1:A:969:A:C2'	1:A:970:C:H5'	2.37	0.55
1:A:961:U:O2	1:A:983:A:C4	2.59	0.55
1:A:1021:G:H2'	1:A:1022:G:O4'	2.06	0.55
1:A:1521:G:O2'	1:A:1522:U:H5'	2.06	0.55
1:A:319:G:C6	1:A:320:C:C5	2.95	0.55
1:A:64:G:H4'	1:A:65:U:O5'	2.07	0.55
9:H:36:LEU:HD22	9:H:61:VAL:HG22	1.87	0.55
1:A:1150:U:H4'	11:J:41:PRO:HD3	1.89	0.55
1:A:1225:A:C5'	14:M:103:THR:OG1	2.55	0.55
14:M:81:LEU:HD23	14:M:81:LEU:H	1.70	0.55
19:R:66:LEU:O	19:R:66:LEU:HD12	2.06	0.55
1:A:1012:U:O2'	1:A:1013:G:H5'	2.07	0.55
1:A:113:G:C6	1:A:114:U:O4	2.60	0.55
1:A:1231:G:C2'	1:A:1232:U:H5'	2.37	0.55
1:A:1332:A:C2	1:A:1333:A:C4	2.95	0.55
1:A:1433:A:O2'	1:A:1434:A:H5'	2.07	0.55
1:A:1509:C:N3	1:A:1510:U:C5	2.75	0.55
1:A:339:C:C2	1:A:340:U:C5	2.94	0.55
1:A:391:G:C5	1:A:392:G:C8	2.95	0.55
1:A:454:C:C2'	1:A:455:C:H5'	2.36	0.55
1:A:522:C:H2'	1:A:523:A:O4'	2.06	0.55
1:A:58:C:O2	1:A:58:C:H2'	2.05	0.55
1:A:637:G:O2'	1:A:638:G:H5'	2.06	0.55
1:A:725:G:H2'	1:A:726:C:H6	1.71	0.55
1:A:945:G:O6	1:A:1337:G:C6	2.59	0.55
4:C:152:ILE:HG22	4:C:153:VAL:N	2.20	0.55
4:C:152:ILE:HD12	4:C:201:TYR:HE1	1.72	0.55
6:E:89:ILE:HD13	6:E:89:ILE:C	2.26	0.55
8:G:74:GLU:HG2	8:G:91:VAL:HG22	1.89	0.55
1:A:877:C:H1'	9:H:3:THR:CG2	2.37	0.55
13:L:75:HIS:CD2	13:L:77:LEU:HB2	2.41	0.55
14:M:73:GLU:O	14:M:77:ASN:HB2	2.06	0.55
14:M:81:LEU:HD22	14:M:81:LEU:H	1.72	0.55
1:A:10:A:O2'	1:A:11:G:H5'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:927:G:H4'	1:A:1503:A:N7	2.21	0.55
1:A:373:A:C2	1:A:482:A:C6	2.94	0.55
1:A:522:C:H41	13:L:53:ARG:HH22	1.55	0.55
1:A:523:A:N6	13:L:53:ARG:HH12	2.04	0.55
1:A:723:U:O2	1:A:723:U:C2'	2.52	0.55
1:A:740:U:O2'	1:A:741:G:H5'	2.07	0.55
1:A:949:A:C8	1:A:950:U:C5	2.94	0.55
17:P:67:THR:HG22	17:P:68:ASP:N	2.22	0.55
20:S:11:VAL:HA	20:S:38:SER:HB3	1.89	0.55
1:A:99:C:H2'	1:A:101:A:H8	1.68	0.55
1:A:1064:G:H4'	1:A:1065:U:H5''	1.88	0.55
1:A:1220:G:H2'	1:A:1221:G:C8	2.41	0.55
1:A:1370:G:O2'	1:A:1371:G:H5'	2.07	0.55
1:A:1472:U:O2'	1:A:1473:A:H5'	2.06	0.55
1:A:410:G:N2	1:A:429:U:N3	2.54	0.55
1:A:452:A:H4'	17:P:72:ARG:NH2	2.22	0.55
1:A:608:A:C4	1:A:609:A:C8	2.95	0.55
1:A:722:A:N1	1:A:724:G:C5	2.75	0.55
1:A:7:G:H4'	1:A:8:A:OP1	2.06	0.55
1:A:836:G:C6	1:A:851:G:C6	2.94	0.55
1:A:961:U:C2	1:A:983:A:C4	2.95	0.55
6:E:144:THR:HG22	6:E:145:LYS:N	2.22	0.55
1:A:1082:G:N1	1:A:1083:U:C2	2.74	0.55
1:A:1315:U:H2'	1:A:1316:G:O4'	2.06	0.55
1:A:1402:C:H2'	1:A:1403:C:O4'	2.07	0.55
1:A:1470:G:O2'	1:A:1471:G:H5'	2.07	0.55
1:A:174:C:N3	1:A:175:C:C5	2.75	0.55
1:A:411:A:H1'	1:A:413:G:H1'	1.89	0.55
1:A:492:G:C4	1:A:494:G:C8	2.95	0.55
1:A:540:G:H2'	1:A:541:G:C5'	2.35	0.55
1:A:646:U:O2'	1:A:647:C:H5'	2.07	0.55
1:A:668:G:H2'	1:A:669:U:H6	1.72	0.55
1:A:664:G:N2	1:A:741:G:H1	1.92	0.55
1:A:925:G:C2	1:A:927:G:C8	2.95	0.55
8:G:69:VAL:HG21	8:G:104:LEU:HD21	1.88	0.55
9:H:26:VAL:CG1	9:H:59:LEU:HB2	2.37	0.55
16:O:3:ILE:N	16:O:3:ILE:HD12	2.21	0.55
17:P:4:ILE:HG12	17:P:21:VAL:HG22	1.88	0.55
1:A:1331:G:C2'	1:A:1332:A:OP2	2.54	0.55
1:A:1435:G:C4	1:A:1436:U:C5	2.95	0.55
1:A:369:C:O2'	1:A:370:C:H5'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:370:C:N3	1:A:371:G:N7	2.55	0.55
1:A:391:G:C6	1:A:392:G:N7	2.75	0.55
1:A:642:A:C4	1:A:643:C:C6	2.95	0.55
1:A:822:C:O2'	1:A:823:G:H5'	2.07	0.55
1:A:909:A:C8	1:A:910:C:C6	2.95	0.55
1:A:953:G:C4	1:A:1229:A:C2	2.95	0.55
1:A:1206:G:H4'	4:C:192:THR:O	2.06	0.55
6:E:32:VAL:HG12	6:E:33:VAL:N	2.23	0.55
6:E:76:ILE:O	6:E:93:PRO:HB3	2.07	0.55
15:N:27:CYS:SG	15:N:29:ARG:HB3	2.46	0.55
1:A:1030(B):C:C3'	1:A:1030(C):G:C5'	2.84	0.54
1:A:1333:A:C5	1:A:1334:G:C8	2.96	0.54
1:A:1531:A:C5	1:A:1532:U:C4	2.95	0.54
1:A:236:G:H2'	1:A:237:C:C6	2.39	0.54
1:A:389:A:C2'	1:A:390:C:H5'	2.22	0.54
1:A:613:C:O2'	1:A:614:A:H5'	2.08	0.54
1:A:996:A:H2'	1:A:997:U:C6	2.43	0.54
4:C:12:LEU:HA	4:C:16:ARG:O	2.06	0.54
4:C:134:ILE:O	4:C:137:ALA:HB3	2.07	0.54
4:C:59:ARG:HD3	4:C:64:VAL:HG22	1.88	0.54
5:D:105:VAL:HG13	5:D:110:PHE:HB2	1.89	0.54
10:I:89:ASN:HB3	10:I:92:TYR:CD1	2.42	0.54
1:A:706:A:O4'	12:K:29:ILE:HD11	2.07	0.54
13:L:70:ILE:HG12	13:L:100:ILE:HD12	1.89	0.54
13:L:7:ILE:O	13:L:11:VAL:HG23	2.07	0.54
1:A:1118:C:H1'	1:A:1179:A:C4	2.42	0.54
1:A:1287:A:C2	1:A:1353:G:H1'	2.43	0.54
1:A:1374:A:H2'	1:A:1375:A:H8	1.71	0.54
1:A:186:C:C2	1:A:187:C:C5	2.95	0.54
1:A:204:U:H4'	1:A:216:G:O5'	2.07	0.54
1:A:953:G:C2	1:A:1229:A:C4	2.96	0.54
4:C:120:VAL:O	4:C:123:GLN:HB2	2.07	0.54
5:D:174:LEU:HD23	5:D:185:PHE:HA	1.88	0.54
9:H:16:ALA:O	9:H:19:VAL:HG22	2.08	0.54
21:T:56:MET:O	21:T:59:ALA:HB3	2.06	0.54
1:A:1372:U:H2'	1:A:1373:G:O4'	2.07	0.54
1:A:445:G:C6	1:A:446:G:N7	2.75	0.54
1:A:607:A:C2	1:A:608:A:N9	2.75	0.54
1:A:945:G:C2	1:A:946:A:C8	2.95	0.54
9:H:65:TYR:HA	9:H:79:VAL:HG23	1.88	0.54
1:A:1305:G:H5''	22:V:4:GLY:C	2.27	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1182:G:H4'	1:A:1183:A:O5'	2.07	0.54
1:A:1191:A:H5''	4:C:4:LYS:HZ3	1.72	0.54
1:A:1261:A:H62	1:A:1274:G:H21	1.55	0.54
1:A:130:A:H5''	1:A:190(F):G:H2'	1.89	0.54
1:A:1434:A:H2'	1:A:1435:G:C8	2.42	0.54
1:A:1539:C:H2'	1:A:1540:U:C6	2.42	0.54
1:A:20:U:C2'	1:A:21:G:H5'	2.38	0.54
1:A:335:C:H2'	1:A:336:C:C6	2.42	0.54
1:A:426:G:O2'	1:A:427:U:H5'	2.08	0.54
1:A:575:G:C2	1:A:881:G:C4	2.95	0.54
1:A:877:C:O2'	9:H:3:THR:HG23	2.07	0.54
1:A:890:G:O2'	1:A:906:G:N1	2.40	0.54
1:A:92:C:H2'	1:A:93:G:C8	2.43	0.54
10:I:47:LEU:C	10:I:49:PRO:HD2	2.27	0.54
1:A:1086:U:C2'	1:A:1087:G:H8	2.12	0.54
1:A:1152:A:H5'	11:J:13:HIS:HB2	1.90	0.54
1:A:1311:G:C6	1:A:1312:G:N7	2.76	0.54
1:A:1347:G:H22	1:A:1374:A:P	2.30	0.54
1:A:172:A:C8	1:A:174:C:C5	2.96	0.54
1:A:190(A):C:H2'	1:A:190(B):C:H5'	1.89	0.54
1:A:243:A:C2	1:A:245:C:C2	2.96	0.54
1:A:9:G:C6	1:A:26:A:N6	2.75	0.54
1:A:451:A:N6	1:A:481:G:C4	2.75	0.54
1:A:754:C:O2	1:A:754:C:H2'	2.08	0.54
3:B:124:SER:O	3:B:127:ILE:HG13	2.06	0.54
5:D:187:ARG:HD2	5:D:188:LEU:H	1.72	0.54
8:G:37:ASN:HD21	10:I:41:VAL:H	1.56	0.54
15:N:27:CYS:SG	15:N:29:ARG:HB2	2.47	0.54
16:O:82:ILE:HG23	16:O:87:ILE:H	1.73	0.54
1:A:1004:A:H5'	1:A:1025:U:O2	2.08	0.54
1:A:1104:G:P	3:B:111:ARG:HD2	2.48	0.54
1:A:1151:A:C2	1:A:1152:A:C4	2.95	0.54
1:A:67:C:O2'	1:A:171:A:H1'	2.08	0.54
1:A:429:U:H4'	1:A:430:A:C5'	2.37	0.54
1:A:686:U:H2'	1:A:687:A:C8	2.43	0.54
1:A:81:U:C6	1:A:83:U:OP2	2.61	0.54
1:A:949:A:C5	1:A:950:U:C5	2.96	0.54
4:C:157:ILE:HB	4:C:164:ARG:HH21	1.73	0.54
1:A:547:A:OP1	5:D:3:ARG:NH2	2.41	0.54
14:M:13:LYS:O	14:M:45:VAL:HG23	2.08	0.54
14:M:34:LEU:CD1	14:M:41:PRO:HG3	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1054:C:C3'	1:A:1054:C:C6	2.91	0.54
1:A:129(A):G:N3	1:A:190(E):U:C5'	2.70	0.54
1:A:1305:G:O2'	1:A:1306:A:C8	2.60	0.54
1:A:1333:A:C2'	1:A:1334:G:H5'	2.37	0.54
1:A:414:A:N7	1:A:431:A:C2	2.76	0.54
1:A:658:G:H2'	1:A:659:U:C6	2.41	0.54
3:B:140:HIS:O	3:B:143:GLU:HB2	2.08	0.54
1:A:1298:C:C6	8:G:114:ARG:NH1	2.76	0.54
1:A:1023:G:H2'	1:A:1023:G:N3	2.22	0.54
1:A:1055:A:H1'	4:C:156:ARG:NH1	2.21	0.54
1:A:1187:G:C2	1:A:1188:A:C4	2.96	0.54
1:A:1219:U:C2	1:A:1220:G:N7	2.75	0.54
1:A:1333:A:H2'	1:A:1334:G:C5'	2.38	0.54
1:A:1440:C:C2'	1:A:1441:G:H5'	2.38	0.54
1:A:190(D):U:O2'	1:A:190(E):U:H5'	2.07	0.54
1:A:274:A:HO2'	1:A:275:G:H8	1.55	0.54
1:A:31:G:O2'	1:A:32:A:P	2.66	0.54
1:A:448:A:C2	1:A:449:C:N3	2.76	0.54
3:B:187:LEU:HA	3:B:201:ILE:HB	1.90	0.54
3:B:16:HIS:O	3:B:44:LEU:HD11	2.07	0.54
13:L:75:HIS:HD2	13:L:77:LEU:CB	2.20	0.54
1:A:1202:G:O2'	1:A:1203:C:H5'	2.08	0.54
1:A:1221:G:OP1	1:A:1321:C:N3	2.41	0.54
1:A:1415:G:O2'	1:A:1416:G:H5'	2.07	0.54
1:A:1454:G:H2'	1:A:1455:G:H8	1.73	0.54
1:A:273:A:N6	1:A:274:A:N6	2.56	0.54
1:A:39:G:C6	1:A:40:C:C5	2.95	0.54
1:A:720:C:H6	1:A:720:C:O5'	1.91	0.54
14:M:37:THR:HG22	14:M:39:ILE:HG13	1.88	0.54
1:A:1058:G:C5	1:A:1059:C:C5	2.97	0.54
1:A:1306:A:C2	1:A:1307:U:C2	2.96	0.54
1:A:414:A:C2	1:A:415:A:H1'	2.27	0.54
1:A:479:C:O2'	1:A:480:U:H5'	2.08	0.54
1:A:533:A:C5	1:A:536:C:C4	2.96	0.54
1:A:568:G:N2	1:A:883:C:C2	2.76	0.54
1:A:61:G:H2'	1:A:62:U:O4'	2.08	0.54
1:A:895:G:H2'	1:A:896:C:C6	2.42	0.54
13:L:117:ARG:O	13:L:119:LYS:O	2.26	0.54
22:V:10:ARG:HA	22:V:13:ILE:HD12	1.90	0.54
1:A:1030(B):C:O4'	1:A:1030(B):C:OP1	2.26	0.53
1:A:1130:A:N6	1:A:1144:G:N2	2.51	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1293:G:H2'	1:A:1294:G:O4'	2.08	0.53
1:A:1300:G:O2'	1:A:1301:U:C6	2.53	0.53
1:A:1329:A:P	14:M:28:ALA:HB3	2.48	0.53
1:A:1353:G:N2	1:A:1354:C:C2	2.76	0.53
1:A:1380:U:O2'	1:A:1381:U:OP2	2.23	0.53
1:A:148:G:N3	1:A:149:A:C8	2.76	0.53
1:A:386:C:H2'	1:A:387:U:C5'	2.33	0.53
1:A:402:G:C6	1:A:403:C:C5	2.95	0.53
1:A:492:G:N2	1:A:494:G:H1'	2.22	0.53
1:A:894:G:H2'	1:A:895:G:C8	2.42	0.53
1:A:924:C:H2'	1:A:925:G:H5'	1.90	0.53
3:B:100:GLY:N	3:B:176:GLU:OE2	2.41	0.53
5:D:157:LEU:CD2	5:D:161:ASN:HD21	2.20	0.53
19:R:43:PHE:HA	19:R:51:LEU:HD12	1.89	0.53
20:S:46:GLY:H	20:S:62:ILE:HG23	1.73	0.53
2:1:3:A:H2'	2:1:4:A:C8	2.42	0.53
1:A:1157:A:N6	1:A:1180:A:C5	2.77	0.53
1:A:1319:A:C4'	1:A:1320:C:OP1	2.50	0.53
1:A:1333:A:O2'	1:A:1334:G:H5'	2.08	0.53
1:A:1367:C:C2	1:A:1368:G:C8	2.96	0.53
5:D:120:LEU:HD23	5:D:125:HIS:HD2	1.73	0.53
6:E:12:LEU:HD13	6:E:31:LEU:HB2	1.91	0.53
11:J:82:ILE:HG22	11:J:82:ILE:O	2.08	0.53
1:A:1010:G:O2'	1:A:1011:G:C5'	2.52	0.53
1:A:144:G:N1	1:A:145:G:C5	2.76	0.53
1:A:1525:G:O2'	1:A:1526:G:H5'	2.08	0.53
1:A:166:G:N3	1:A:167:G:C8	2.76	0.53
1:A:692:U:O2	1:A:694:A:OP2	2.27	0.53
4:C:70:VAL:HG12	4:C:72:LYS:H	1.72	0.53
1:A:261:U:C6	21:T:79:ARG:NH1	2.76	0.53
1:A:940:C:C2	1:A:941:G:C8	2.97	0.53
9:H:123:GLU:O	9:H:127:LEU:HD23	2.08	0.53
10:I:79:LEU:O	10:I:82:ALA:HB3	2.08	0.53
13:L:85:ILE:HA	13:L:99:HIS:O	2.08	0.53
1:A:448:A:OP2	1:A:485:G:N2	2.39	0.53
1:A:597:G:C5	1:A:598:U:C6	2.96	0.53
1:A:659:U:O2'	1:A:660:G:H5'	2.09	0.53
1:A:872:A:C4	1:A:874:G:N7	2.77	0.53
1:A:986:A:H2'	1:A:987:G:H8	1.73	0.53
1:A:1123:A:O2'	11:J:38:ILE:HG23	2.08	0.53
14:M:65:LYS:HE2	14:M:69:GLU:HG2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1197:G:O2'	1:A:1198:G:H5'	2.09	0.53
1:A:1281:U:H5'	1:A:1282:C:C5	2.40	0.53
1:A:116:A:H61	1:A:313:A:H1'	1.72	0.53
1:A:393:A:C4	1:A:394:G:C8	2.97	0.53
1:A:393:A:N3	1:A:394:G:C8	2.76	0.53
1:A:425:G:C2'	1:A:426:G:C5'	2.87	0.53
1:A:435:C:C2	1:A:436:C:C5	2.96	0.53
1:A:458:C:N3	1:A:459:G:C8	2.76	0.53
1:A:487:A:C2'	1:A:488:C:C5'	2.83	0.53
1:A:490:G:C5	1:A:491:G:N7	2.76	0.53
1:A:802:A:C8	1:A:803:G:C8	2.96	0.53
3:B:100:GLY:C	3:B:102:LEU:N	2.62	0.53
16:O:25:THR:HG21	16:O:70:LEU:HD21	1.89	0.53
17:P:10:GLY:HA3	17:P:14:ASN:O	2.09	0.53
1:A:1124:G:O2'	1:A:1125:U:C5'	2.55	0.53
1:A:1347:G:C2'	1:A:1373:G:H1	2.21	0.53
1:A:428:G:C2	1:A:430:A:N6	2.77	0.53
1:A:448:A:H2'	1:A:449:C:C6	2.44	0.53
1:A:544:G:C6	1:A:545:C:C5	2.97	0.53
1:A:746:A:O2'	1:A:747:C:H5'	2.08	0.53
1:A:921:U:H2'	1:A:922:G:O4'	2.09	0.53
9:H:66:GLY:O	9:H:76:PRO:HB3	2.09	0.53
10:I:48:GLU:N	10:I:49:PRO:CD	2.72	0.53
17:P:38:TYR:O	17:P:49:LEU:HD12	2.09	0.53
1:A:1164:G:O2'	1:A:1165:C:H5'	2.09	0.53
1:A:1248:A:H1'	10:I:70:LYS:HZ1	1.66	0.53
1:A:124:G:C5	1:A:125:U:C4	2.97	0.53
1:A:232:G:H1'	1:A:262:A:N1	2.23	0.53
1:A:625:G:O2'	1:A:626:U:H5'	2.07	0.53
1:A:947:G:C6	1:A:948:C:C4	2.97	0.53
1:A:1309:G:N7	14:M:99:ARG:NH2	2.57	0.53
1:A:1129:C:OP2	10:I:62:TYR:HE2	1.92	0.53
1:A:1291:G:C6	1:A:1292:U:O4	2.61	0.53
1:A:1364:U:HO2'	1:A:1365:G:P	2.29	0.53
1:A:1411:C:H2'	1:A:1412:C:H6	1.72	0.53
1:A:1394:A:H62	1:A:1501:C:H5'	1.71	0.53
1:A:1507:A:H2'	1:A:1508:G:C8	2.44	0.53
1:A:400:C:H2'	1:A:401:C:C6	2.44	0.53
1:A:680:C:O2'	1:A:681:C:H5'	2.09	0.53
1:A:927:G:C4	1:A:928:G:C8	2.97	0.53
1:A:940:C:H2'	1:A:941:G:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:6:HIS:NE2	4:C:8:ILE:HB	2.24	0.53
5:D:149:ALA:HB3	5:D:152:SER:HB2	1.91	0.53
8:G:20:ASP:HB3	8:G:23:VAL:HG23	1.91	0.53
9:H:112:LEU:N	9:H:112:LEU:HD23	2.24	0.53
14:M:81:LEU:CD1	14:M:88:ARG:HD3	2.39	0.53
14:M:81:LEU:HD23	14:M:81:LEU:N	2.24	0.53
1:A:1151:A:O2'	1:A:1152:A:H8	1.92	0.53
1:A:1371:G:O3'	10:I:69:GLY:HA3	2.08	0.53
1:A:1449:C:H2'	1:A:1450:U:C5'	2.39	0.53
1:A:190(H):G:H2'	1:A:190(I):G:H8	1.74	0.53
1:A:657:G:C6	1:A:658:G:N7	2.76	0.53
1:A:802:A:H2'	1:A:803:G:C5'	2.36	0.53
1:A:818:G:O2'	1:A:820:U:H5	1.91	0.53
1:A:930:C:O2'	1:A:931:C:H5'	2.08	0.53
5:D:59:ARG:NH1	5:D:59:ARG:HG2	2.23	0.53
21:T:44:ALA:HB3	21:T:91:LEU:HD12	1.91	0.53
1:A:1303:C:N4	1:A:1304:G:C5	2.77	0.52
1:A:1346:A:H1'	1:A:1348:U:C5	2.44	0.52
1:A:1475:G:C4	1:A:1476:G:C8	2.97	0.52
1:A:1481:U:O2'	1:A:1482:G:H5'	2.09	0.52
1:A:266:G:H8	1:A:266:G:C5'	2.10	0.52
1:A:344:A:O2'	1:A:345:C:P	2.67	0.52
1:A:636:U:H2'	1:A:637:G:H8	1.75	0.52
1:A:926:G:C6	1:A:1505:G:C6	2.97	0.52
5:D:117:ALA:O	5:D:121:VAL:HG23	2.09	0.52
8:G:143:ARG:O	8:G:147:ALA:HB2	2.09	0.52
10:I:37:PHE:CD2	10:I:40:LEU:HD12	2.40	0.52
13:L:84:LEU:O	13:L:100:ILE:HA	2.09	0.52
1:A:1314:C:OP2	20:S:6:LYS:HB3	2.09	0.52
1:A:1144:G:H22	1:A:1146:A:H62	1.57	0.52
1:A:1053:G:N7	1:A:1199:U:H2'	2.25	0.52
1:A:225:C:O2'	1:A:226:G:H5'	2.10	0.52
1:A:236:G:C4	1:A:237:C:C6	2.97	0.52
1:A:577:G:N3	1:A:577:G:H2'	2.24	0.52
1:A:657:G:C2	1:A:750:G:C4	2.98	0.52
1:A:918:A:N6	1:A:919:A:C6	2.77	0.52
1:A:971:G:O2'	1:A:1365:G:O2'	2.27	0.52
1:A:1346:A:C4	8:G:10:ARG:CZ	2.92	0.52
12:K:16:SER:HB3	12:K:79:SER:HB3	1.90	0.52
17:P:69:THR:O	17:P:72:ARG:HB3	2.09	0.52
19:R:39:VAL:HG13	19:R:40:LEU:H	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1145:C:H1'	1:A:1146:A:H8	1.72	0.52
1:A:953:G:N3	1:A:1229:A:C2	2.77	0.52
1:A:1229:A:H2'	1:A:1230:C:C6	2.44	0.52
1:A:1249:C:O2	1:A:1249:C:H2'	2.09	0.52
1:A:1300:G:H2'	1:A:1301:U:OP2	2.09	0.52
1:A:236:G:C6	1:A:237:C:C4	2.97	0.52
1:A:354:G:C6	1:A:355:C:C5	2.97	0.52
1:A:50:A:H62	1:A:361:G:H4'	1.74	0.52
1:A:558:G:C4	1:A:559:A:C2	2.97	0.52
1:A:590:C:C2	1:A:591:U:C5	2.98	0.52
1:A:64:G:C2	1:A:67:C:N4	2.78	0.52
1:A:920:U:O2'	1:A:921:U:H5'	2.09	0.52
4:C:155:GLY:HA2	4:C:164:ARG:O	2.09	0.52
5:D:142:PRO:HA	5:D:185:PHE:HD2	1.73	0.52
1:A:1080:A:O3'	6:E:16:THR:HG21	2.09	0.52
1:A:1060:C:O2'	1:A:1061:G:H5'	2.09	0.52
1:A:113:G:C5	1:A:114:U:C4	2.97	0.52
1:A:1202:G:C2'	1:A:1203:C:H5'	2.39	0.52
1:A:1462:G:H2'	1:A:1463:C:H6	1.74	0.52
1:A:293:G:C4	1:A:294:U:C6	2.98	0.52
1:A:540:G:H2'	1:A:541:G:O4'	2.10	0.52
11:J:8:LEU:HD23	11:J:96:ILE:HG12	1.90	0.52
1:A:1054:C:H3'	1:A:1054:C:H6	1.75	0.52
1:A:1117:G:O3'	10:I:104:ARG:NH1	2.42	0.52
1:A:1128:C:O2'	1:A:1129:C:P	2.68	0.52
1:A:1137:C:H4'	1:A:1138:G:N2	2.25	0.52
1:A:1287:A:H2'	1:A:1288:A:H8	1.74	0.52
1:A:1324:A:C6	1:A:1325:C:C4	2.97	0.52
1:A:1350:A:C2	1:A:1351:U:C2	2.97	0.52
1:A:1391:U:H2'	1:A:1392:G:H8	1.68	0.52
1:A:1528:U:O2'	1:A:1529:G:H3'	2.09	0.52
1:A:197:A:N6	1:A:221:C:C5'	2.73	0.52
1:A:354:G:C2	1:A:355:C:C6	2.97	0.52
5:D:39:PRO:HG2	5:D:44:GLY:HA2	1.92	0.52
9:H:48:TYR:N	9:H:48:TYR:CD2	2.77	0.52
19:R:47:THR:HG22	19:R:48:GLY:H	1.74	0.52
1:A:1326:C:OP1	22:V:12:LYS:NZ	2.42	0.52
1:A:1220:G:O2'	1:A:1221:G:H5'	2.09	0.52
1:A:1413:A:N3	1:A:1414:U:C6	2.78	0.52
1:A:1497:G:H1'	1:A:1518:A:H2	1.74	0.52
1:A:496:A:H4'	1:A:497:A:OP1	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:691:G:H2'	1:A:692:U:H6	1.75	0.52
1:A:818:G:O2'	1:A:819:A:H5''	2.09	0.52
1:A:914:A:O2'	1:A:915:A:C5'	2.48	0.52
3:B:204:ASN:HD22	3:B:205:ASP:N	2.08	0.52
1:A:878:G:H5''	9:H:89:PRO:HG2	1.91	0.52
12:K:16:SER:HA	12:K:79:SER:O	2.09	0.52
14:M:87:TYR:N	20:S:73:GLU:O	2.38	0.52
1:A:1086:U:H3	1:A:1099:G:H1	1.57	0.52
1:A:1257:U:O2'	1:A:1258:G:P	2.67	0.52
1:A:1411:C:H2'	1:A:1412:C:C6	2.44	0.52
1:A:1494:G:C2	1:A:1495:U:C2	2.98	0.52
1:A:62:U:C5'	1:A:385:C:O2	2.54	0.52
1:A:389:A:C6	1:A:390:C:H1'	2.45	0.52
1:A:918:A:C6	1:A:919:A:C5	2.98	0.52
1:A:918:A:H2'	1:A:919:A:C8	2.45	0.52
1:A:928:G:H2'	1:A:929:G:H8	1.75	0.52
1:A:961:U:O2'	1:A:962:C:H5'	2.10	0.52
8:G:148:ASN:C	8:G:150:ALA:N	2.62	0.52
1:A:1083:U:H5	1:A:1084:G:C6	2.26	0.52
1:A:287:U:C2'	1:A:288:A:O5'	2.58	0.52
1:A:332:G:O2'	1:A:333:G:H5'	2.10	0.52
1:A:708:C:O2'	1:A:709:G:H5'	2.09	0.52
1:A:836:G:C6	1:A:851:G:C5	2.98	0.52
1:A:954:G:C5	1:A:955:U:C5	2.98	0.52
1:A:1057:G:C4'	4:C:154:SER:HB2	2.40	0.52
13:L:75:HIS:CD2	13:L:77:LEU:H	2.28	0.52
14:M:65:LYS:O	14:M:66:LEU:HD23	2.09	0.52
16:O:66:LEU:O	16:O:69:TYR:HB3	2.10	0.52
17:P:14:ASN:OD1	17:P:16:HIS:HE1	1.91	0.52
18:Q:31:LEU:HD23	18:Q:32:TYR:CZ	2.44	0.52
1:A:1138:G:H3'	1:A:1138:G:N3	2.25	0.52
1:A:1157:A:H1'	1:A:1181:G:H22	1.73	0.52
1:A:1381:U:O2'	1:A:1382:C:H5'	2.10	0.52
1:A:18:C:H2'	1:A:19:C:H6	1.75	0.52
1:A:226:G:C6	1:A:227:G:N7	2.78	0.52
1:A:246:A:C6	1:A:279:A:C5	2.97	0.52
1:A:277:C:C2'	1:A:278:G:O5'	2.58	0.52
1:A:419:C:C2	1:A:425:G:C2	2.98	0.52
1:A:446:G:H2'	1:A:447:G:H5'	1.91	0.52
1:A:451:A:N7	1:A:481:G:N1	2.57	0.52
1:A:57:G:C5	1:A:58:C:C5	2.98	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:644:G:C5	1:A:645:C:C5	2.98	0.52
1:A:746:A:C6	1:A:747:C:N4	2.78	0.52
5:D:52:SER:O	5:D:55:ALA:HB3	2.10	0.52
6:E:121:LYS:HD2	6:E:122:GLU:N	2.25	0.52
11:J:47:PHE:CE2	15:N:37:PHE:HE1	2.28	0.52
13:L:117:ARG:O	13:L:118:SER:C	2.49	0.52
16:O:36:ILE:HG12	16:O:59:MET:HE3	1.92	0.52
1:A:1026:G:N2	1:A:1027:C:O4'	2.43	0.52
1:A:1108:G:H2'	1:A:1109:C:C5'	2.39	0.52
1:A:1167:A:C6	1:A:1168:A:C6	2.98	0.52
1:A:1187:G:C4	1:A:1188:A:N7	2.78	0.52
1:A:1257:U:O2'	1:A:1258:G:OP2	2.24	0.52
1:A:1316:G:N1	1:A:1319:A:OP2	2.34	0.52
1:A:191:G:O2'	1:A:192:U:H5'	2.10	0.52
1:A:859:A:O2'	1:A:860:A:H5'	2.09	0.52
1:A:926:G:H3'	1:A:1505:G:N2	2.23	0.52
3:B:124:SER:HB2	3:B:125:PRO:HD2	1.91	0.52
3:B:98:LEU:HB2	3:B:101:MET:HG3	1.92	0.52
12:K:24:SER:HB3	12:K:27:ASN:O	2.09	0.52
12:K:33:THR:OG1	12:K:37:GLY:C	2.48	0.52
12:K:84:VAL:HG23	12:K:84:VAL:O	2.10	0.52
1:A:36:C:C5'	13:L:122:THR:O	2.52	0.52
14:M:4:ILE:HG22	14:M:5:ALA:H	1.73	0.52
16:O:77:ARG:HH11	16:O:77:ARG:HG3	1.74	0.52
20:S:44:MET:O	20:S:47:HIS:HD2	1.93	0.52
1:A:1237:C:H3'	1:A:1238:A:H5'	1.92	0.51
1:A:1288:A:H1'	1:A:1352:C:HO2'	1.75	0.51
1:A:1480:G:C4	1:A:1481:U:C5	2.98	0.51
1:A:1495:U:H2'	1:A:1496:C:H6	1.74	0.51
1:A:35:G:C6	1:A:36:C:N4	2.78	0.51
1:A:27:G:C5	1:A:557:G:C2	2.99	0.51
1:A:644:G:C2'	1:A:645:C:H5'	2.40	0.51
1:A:673:G:O3'	7:F:87:ARG:NH2	2.43	0.51
1:A:575:G:C2	1:A:881:G:N3	2.78	0.51
1:A:886:G:H2'	1:A:887:G:H8	1.75	0.51
1:A:926:G:C8	1:A:1505:G:N2	2.79	0.51
6:E:80:ILE:HG22	9:H:104:ARG:NH2	2.24	0.51
16:O:7:GLU:O	16:O:11:VAL:HG23	2.10	0.51
1:A:1033:G:C2'	1:A:1034:G:H5'	2.40	0.51
1:A:1180:A:OP1	10:I:103:THR:HG23	2.09	0.51
1:A:1250:A:N6	1:A:1251:A:N6	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1250:A:N7	1:A:1287:A:C8	2.78	0.51
1:A:1504:G:H4'	1:A:1505:G:O5'	2.10	0.51
1:A:174:C:C2	1:A:175:C:C6	2.98	0.51
1:A:604:G:N2	1:A:635:G:C4	2.78	0.51
1:A:712:A:H2'	1:A:713:G:O4'	2.10	0.51
1:A:818:G:O2'	1:A:820:U:C6	2.63	0.51
1:A:963:G:H21	11:J:55:LYS:HD3	1.75	0.51
13:L:84:LEU:HB3	13:L:101:VAL:HB	1.91	0.51
1:A:1065:U:O2'	1:A:1066:C:OP2	2.26	0.51
1:A:1292:U:O2'	1:A:1293:G:H5'	2.10	0.51
1:A:1309:G:C6	1:A:1329:A:C2	2.98	0.51
1:A:605:U:H2'	1:A:606:G:H5'	1.92	0.51
1:A:677:U:H6	1:A:677:U:O5'	1.93	0.51
1:A:677:U:H2'	1:A:678:U:C6	2.44	0.51
1:A:686:U:O4	1:A:703:G:O2'	2.23	0.51
1:A:9:G:OP1	6:E:122:GLU:HG3	2.10	0.51
7:F:10:LEU:HD12	7:F:59:TYR:HB3	1.92	0.51
7:F:82:ARG:HE	7:F:82:ARG:HA	1.76	0.51
8:G:75:VAL:CG1	8:G:86:GLN:HB3	2.40	0.51
16:O:39:LEU:HD22	16:O:43:LEU:HD11	1.92	0.51
1:A:1164:G:N1	1:A:1173:G:C6	2.79	0.51
1:A:1284:C:H3'	1:A:1285:A:C8	2.45	0.51
1:A:926:G:H2'	1:A:1505:G:N3	2.26	0.51
1:A:16:A:N1	1:A:919:A:H2	2.09	0.51
1:A:185:A:H2'	1:A:186:C:C6	2.44	0.51
1:A:248:C:O2'	1:A:249:U:H5'	2.11	0.51
1:A:324:G:N2	1:A:327:A:C8	2.78	0.51
1:A:450:G:N7	1:A:481:G:O6	2.43	0.51
1:A:812:C:HO2'	1:A:813:U:P	2.32	0.51
4:C:149:ALA:O	4:C:169:ALA:HB1	2.11	0.51
12:K:69:ALA:O	12:K:73:MET:HG2	2.10	0.51
14:M:11:ARG:HG2	14:M:12:ASN:N	2.26	0.51
15:N:29:ARG:HB3	15:N:40:CYS:HB3	1.92	0.51
1:A:1097:C:H1'	1:A:1169:A:H1'	1.93	0.51
1:A:1272:G:C6	1:A:1273:G:N7	2.78	0.51
1:A:1368:G:O2'	1:A:1369:C:H5'	2.10	0.51
1:A:1425:U:H2'	1:A:1426:C:C6	2.45	0.51
1:A:460:A:C5	1:A:462:G:C6	2.99	0.51
1:A:895:G:C4	1:A:896:C:C5	2.98	0.51
1:A:947:G:C5	1:A:948:C:N4	2.78	0.51
3:B:129:GLU:O	3:B:130:ARG:HB2	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:157:LEU:HD23	5:D:161:ASN:ND2	2.24	0.51
5:D:170:VAL:HG21	5:D:176:LEU:CD2	2.32	0.51
5:D:190:ASP:O	5:D:193:ASP:HB2	2.09	0.51
6:E:99:GLY:O	6:E:101:ILE:HG13	2.11	0.51
19:R:76:LEU:HB2	19:R:78:LEU:HD12	1.92	0.51
1:A:1064:G:C2	1:A:1066:C:N4	2.78	0.51
1:A:1520:G:H2'	1:A:1521:G:C8	2.40	0.51
1:A:1521:G:C4	1:A:1522:U:C5	2.99	0.51
1:A:15:G:C1'	6:E:24:ARG:NH1	2.69	0.51
1:A:186:C:H2'	1:A:187:C:H6	1.75	0.51
1:A:449:C:C5	1:A:450:G:C5	2.99	0.51
1:A:481:G:O4'	1:A:481:G:OP2	2.28	0.51
1:A:64:G:H4'	1:A:65:U:C5'	2.40	0.51
1:A:1113:C:C4'	4:C:14:ILE:HD11	2.29	0.51
11:J:49:VAL:O	11:J:60:ARG:HA	2.10	0.51
13:L:119:LYS:O	13:L:120:TYR:CB	2.59	0.51
21:T:73:HIS:HB2	21:T:76:ALA:HB2	1.93	0.51
1:A:1003:G:H2'	1:A:1003(A):G:O5'	2.11	0.51
1:A:1045:C:C6	1:A:1045:C:H3'	2.45	0.51
1:A:1151:A:N1	1:A:1152:A:C6	2.78	0.51
1:A:1197:G:O5'	1:A:1197:G:H8	1.92	0.51
1:A:1306:A:H2	1:A:1307:U:H1'	1.76	0.51
1:A:926:G:C2'	1:A:1505:G:H21	2.23	0.51
1:A:180:U:O2'	1:A:181:G:H5'	2.11	0.51
1:A:531:U:C5'	1:A:532:A:OP1	2.55	0.51
1:A:661:G:H8	1:A:661:G:H5''	1.74	0.51
1:A:939:G:H5''	8:G:102:ARG:HH12	1.76	0.51
1:A:959:A:C3'	1:A:960:U:H5''	2.38	0.51
3:B:144:ARG:O	3:B:147:LYS:HB2	2.11	0.51
3:B:181:PHE:N	3:B:181:PHE:CD1	2.77	0.51
3:B:200:ILE:HG22	3:B:201:ILE:H	1.74	0.51
3:B:207:ALA:O	3:B:211:ILE:HG13	2.10	0.51
8:G:27:ILE:O	8:G:30:ILE:N	2.42	0.51
11:J:55:LYS:O	11:J:55:LYS:CG	2.56	0.51
1:A:1156:G:O5'	1:A:1156:G:H8	1.94	0.51
1:A:245:C:C6	1:A:284:G:N2	2.79	0.51
1:A:286:G:O2'	1:A:287:U:H5'	2.10	0.51
1:A:319:G:C5	1:A:320:C:C5	2.99	0.51
1:A:397:A:N6	1:A:548:G:C5	2.79	0.51
1:A:423:G:N2	1:A:424:G:C5	2.78	0.51
1:A:509:A:C8	1:A:509:A:C3'	2.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:25:C:C5	1:A:558:G:N2	2.79	0.51
1:A:713:G:H21	1:A:777:A:H4'	1.74	0.51
1:A:836:G:C5	1:A:851:G:C6	2.99	0.51
4:C:47:LEU:N	4:C:47:LEU:HD12	2.26	0.51
1:A:403:C:O2'	5:D:122:ARG:NH2	2.42	0.51
5:D:155:LEU:O	5:D:159:ARG:HB2	2.11	0.51
1:A:1379:G:OP1	8:G:6:ARG:NH2	2.43	0.51
1:A:1152:A:C5'	11:J:13:HIS:CD2	2.93	0.51
2:1:2:A:C6	2:1:3:A:N6	2.78	0.51
1:A:1225:A:N3	1:A:1225:A:C2'	2.72	0.51
1:A:1348:U:C2	1:A:1349:A:C8	2.99	0.51
1:A:149:A:C2	1:A:150:C:C4	2.99	0.51
1:A:370:C:C2	1:A:371:G:N7	2.79	0.51
1:A:20:U:H5'	1:A:572:A:N6	2.26	0.51
1:A:658:G:C4	1:A:659:U:C5	2.99	0.51
1:A:734:G:C4	1:A:735:C:C5	2.99	0.51
1:A:890:G:O2'	1:A:891:U:P	2.69	0.51
4:C:73:PRO:O	4:C:75:VAL:N	2.44	0.51
4:C:73:PRO:C	4:C:75:VAL:N	2.64	0.51
11:J:34:VAL:HG13	11:J:73:ASP:O	2.11	0.51
14:M:70:LEU:C	14:M:72:ALA:N	2.64	0.51
1:A:1226:C:H5'	14:M:96:LEU:HD11	1.93	0.51
19:R:86:VAL:HG12	19:R:86:VAL:O	2.10	0.51
20:S:40:ILE:HD11	20:S:74:PHE:HE1	1.76	0.51
1:A:102:G:H5''	21:T:17:ARG:HH12	1.76	0.51
1:A:1049:U:H1'	1:A:1201:A:C8	2.46	0.51
1:A:1190:G:H2'	1:A:1191:A:OP2	2.09	0.51
1:A:1461:G:H2'	1:A:1462:G:H8	1.76	0.51
1:A:155:C:O2'	1:A:156:G:H5'	2.10	0.51
1:A:202:U:O2'	1:A:203:U:OP1	2.28	0.51
1:A:416:G:C6	1:A:417:C:C4	2.99	0.51
1:A:558:G:N9	1:A:559:A:C2	2.79	0.51
1:A:746:A:C6	1:A:747:C:C4	2.99	0.51
4:C:23:TYR:CD2	4:C:24:ALA:N	2.79	0.51
9:H:44:PHE:HB3	9:H:80:ILE:CG1	2.41	0.51
12:K:24:SER:OG	12:K:25:TYR:N	2.44	0.51
13:L:83:VAL:HG21	13:L:100:ILE:HD13	1.92	0.51
20:S:50:ALA:HA	20:S:59:PRO:HA	1.92	0.51
1:A:1053:G:N7	1:A:1199:U:C6	2.79	0.50
1:A:1154:G:O2'	1:A:1155:G:H5'	2.11	0.50
1:A:1472:U:H2'	1:A:1473:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1511:G:H8	1:A:1511:G:O5'	1.94	0.50
1:A:254:G:O2'	1:A:255:G:H5'	2.11	0.50
1:A:262:A:C6	1:A:263:A:C6	2.99	0.50
1:A:375:U:OP1	17:P:69:THR:HG21	2.11	0.50
1:A:391:G:C6	1:A:392:G:C5	2.99	0.50
1:A:773:G:O2'	1:A:774:G:H5'	2.11	0.50
1:A:88:A:H8	1:A:88:A:O5'	1.94	0.50
1:A:1346:A:C4	8:G:10:ARG:NH2	2.79	0.50
8:G:111:ARG:HB3	8:G:113:GLU:HG3	1.93	0.50
13:L:83:VAL:HG22	13:L:84:LEU:N	2.24	0.50
1:A:1160:G:O2'	1:A:1161:C:H5'	2.11	0.50
1:A:1206:G:H2'	1:A:1207:G:O4'	2.11	0.50
1:A:1381:U:O2	1:A:1382:C:C6	2.64	0.50
1:A:1459:C:O2'	1:A:1460:A:H5'	2.10	0.50
1:A:373:A:O2'	1:A:374:A:H5'	2.11	0.50
1:A:434:U:N3	1:A:435:C:C4	2.79	0.50
1:A:681:C:H2'	1:A:682:G:C8	2.45	0.50
1:A:858:G:O6	1:A:869:G:C8	2.64	0.50
14:M:89:GLY:O	14:M:92:HIS:HB2	2.12	0.50
15:N:6:LEU:HA	15:N:9:LYS:HB3	1.94	0.50
16:O:9:GLN:HA	16:O:12:ILE:HD12	1.92	0.50
22:V:12:LYS:O	22:V:16:GLY:N	2.41	0.50
1:A:1007:C:C2	1:A:1008:C:C5	2.99	0.50
1:A:1093:A:C2	1:A:1095:U:H5'	2.47	0.50
1:A:1318:A:O2'	20:S:37:ARG:HD2	2.12	0.50
1:A:1365:G:O2'	1:A:1366:C:H5'	2.11	0.50
1:A:1368:G:OP2	10:I:112:LYS:HD3	2.11	0.50
1:A:1435:G:C2'	1:A:1436:U:H6	2.15	0.50
1:A:1488:G:C2	1:A:1489:G:C5	2.99	0.50
1:A:414:A:O2'	1:A:415:A:H5'	2.11	0.50
1:A:41:G:C2	1:A:42:G:C5	2.99	0.50
1:A:448:A:C5	1:A:487:A:C4	2.99	0.50
1:A:463:A:C5	1:A:474:G:C8	3.00	0.50
1:A:865:A:C2'	1:A:866:C:H5'	2.41	0.50
3:B:17:PHE:N	3:B:17:PHE:CD1	2.79	0.50
5:D:3:ARG:HB2	5:D:118:ARG:HH12	1.76	0.50
1:A:429:U:C2'	5:D:25:ARG:HH12	2.05	0.50
9:H:26:VAL:HG13	9:H:59:LEU:HB2	1.93	0.50
9:H:83:ILE:O	9:H:83:ILE:HG23	2.11	0.50
1:A:686:U:O2	12:K:42:TRP:HZ2	1.93	0.50
1:A:1154:G:O2'	1:A:1155:G:C5'	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1193:G:C2	1:A:1194:U:C6	3.00	0.50
1:A:1304:G:H1'	1:A:1333:A:H61	1.77	0.50
1:A:1357:A:C5	1:A:1358:U:C4	2.99	0.50
1:A:1441:G:H5''	1:A:1442:G:C8	2.47	0.50
1:A:1442:G:C2'	1:A:1442:G:N3	2.74	0.50
1:A:1462:G:H2'	1:A:1463:C:C6	2.47	0.50
1:A:1502:A:H2	1:A:1505:G:H1	1.59	0.50
1:A:199:G:O2'	1:A:200:G:H5'	2.11	0.50
1:A:507:C:H2'	1:A:508:C:C5	2.46	0.50
1:A:713:G:N2	1:A:777:A:C1'	2.75	0.50
1:A:876:G:H1'	9:H:11:THR:HG21	1.92	0.50
4:C:27:LYS:O	4:C:31:HIS:HD2	1.95	0.50
7:F:11:ASN:OD1	7:F:13:ASN:N	2.44	0.50
8:G:12:LEU:CD1	8:G:12:LEU:N	2.71	0.50
8:G:16:LEU:H	8:G:16:LEU:CD2	2.20	0.50
1:A:878:G:H5'	9:H:89:PRO:HG2	1.94	0.50
11:J:7:LYS:HA	11:J:71:LEU:HD22	1.93	0.50
19:R:22:VAL:HG11	19:R:42:ARG:HB3	1.94	0.50
2:2:9:A:HO2'	2:2:10:A:H5'	1.73	0.50
1:A:1090:U:O2'	1:A:1091:U:H5'	2.12	0.50
1:A:1331:G:O2'	1:A:1332:A:OP2	2.29	0.50
1:A:1352:C:O2	1:A:1371:G:C2	2.63	0.50
1:A:1510:U:H2'	1:A:1511:G:N7	2.27	0.50
1:A:32:A:H61	1:A:553:A:N6	2.07	0.50
1:A:451:A:C1'	1:A:452:A:C8	2.93	0.50
1:A:457:C:H2'	1:A:458:C:H6	1.75	0.50
1:A:559:A:HO2'	1:A:560:U:P	2.35	0.50
1:A:701:C:O2'	1:A:702:A:OP2	2.23	0.50
1:A:745:C:H2'	1:A:746:A:C8	2.47	0.50
1:A:909:A:OP1	13:L:21:LYS:HD3	2.11	0.50
1:A:927:G:O2'	1:A:928:G:H5'	2.11	0.50
3:B:153:ARG:HH11	3:B:153:ARG:CB	2.24	0.50
3:B:98:LEU:HB2	3:B:101:MET:CG	2.41	0.50
4:C:125:GLU:C	4:C:127:ARG:H	2.15	0.50
19:R:21:LYS:HD3	19:R:57:GLY:HA2	1.93	0.50
1:A:1058:G:C5	1:A:1059:C:C4	2.99	0.50
1:A:1058:G:C6	1:A:1059:C:C4	2.99	0.50
1:A:1107:C:N4	1:A:1108:G:C5	2.80	0.50
1:A:1309:G:C2'	1:A:1310:G:H5'	2.41	0.50
1:A:1486:G:H2'	1:A:1487:G:C8	2.47	0.50
1:A:175:C:C2	1:A:176:C:C6	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:246:A:C5	1:A:279:A:C6	2.99	0.50
1:A:646:U:H2'	1:A:647:C:C6	2.47	0.50
1:A:650:G:C2	1:A:651:C:C6	3.00	0.50
1:A:986:A:O2'	20:S:55:LYS:HG3	2.11	0.50
3:B:162:ILE:HG22	3:B:163:PHE:N	2.27	0.50
5:D:103:ASN:O	5:D:106:TYR:HB3	2.12	0.50
9:H:82:HIS:HD2	9:H:138:TRP:NE1	2.09	0.50
1:A:1118:C:P	10:I:104:ARG:HH12	2.34	0.50
1:A:1347:G:H8	10:I:107:ARG:HB3	1.71	0.50
1:A:1311:G:O6	20:S:2:PRO:HB2	2.10	0.50
1:A:1125:U:H2'	1:A:1126:U:OP2	2.12	0.50
1:A:149:A:N3	1:A:150:C:C6	2.80	0.50
1:A:507:C:H2'	1:A:508:C:H5	1.77	0.50
1:A:509:A:H3'	1:A:509:A:C8	2.46	0.50
1:A:561:U:O2'	1:A:562:C:OP2	2.25	0.50
1:A:703:G:OP2	1:A:703:G:H2'	2.11	0.50
1:A:713:G:N2	1:A:777:A:H4'	2.27	0.50
1:A:725:G:C4	1:A:726:C:C5	3.00	0.50
6:E:84:PHE:O	6:E:86:ALA:N	2.41	0.50
11:J:37:PRO:HA	11:J:71:LEU:O	2.12	0.50
1:A:279:A:N1	18:Q:98:LEU:HD13	2.25	0.50
1:A:1045:C:H2'	1:A:1046:A:O5'	2.12	0.50
1:A:112:G:C6	1:A:113:G:N7	2.80	0.50
1:A:1317:C:H2'	1:A:1318:A:O4'	2.10	0.50
1:A:1333:A:N7	1:A:1334:G:N7	2.60	0.50
1:A:1498:U:H1'	1:A:1499:A:N7	2.27	0.50
1:A:190(L):U:N3	21:T:105:SER:OG	2.45	0.50
1:A:39:G:C5	1:A:498:U:O4	2.65	0.50
1:A:436:C:H2'	1:A:437:U:C6	2.45	0.50
1:A:453:A:C2	1:A:454:C:N1	2.80	0.50
1:A:767:A:C4	1:A:768:A:C8	3.00	0.50
3:B:16:HIS:NE2	3:B:210:SER:HB3	2.26	0.50
8:G:12:LEU:HD12	8:G:12:LEU:H	1.77	0.50
1:A:1206:G:C5	1:A:1207:G:C8	3.00	0.50
1:A:1240:U:H5''	1:A:1241:G:C8	2.47	0.50
1:A:15:G:C2	1:A:16:A:C4	3.00	0.50
1:A:355:C:N3	1:A:356:A:C8	2.80	0.50
1:A:408:A:N1	1:A:409:G:C5	2.80	0.50
1:A:721:G:N1	1:A:733:A:C2	2.80	0.50
1:A:1104:G:H4'	3:B:111:ARG:NH1	2.27	0.50
6:E:11:ILE:HD11	6:E:108:ALA:HB3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:688:G:O5'	12:K:47:VAL:HG23	2.12	0.50
20:S:62:ILE:HD12	20:S:66:MET:SD	2.52	0.50
1:A:1223:C:P	20:S:78:ARG:HH22	2.35	0.50
1:A:1234:C:H4'	1:A:1364:U:H1'	1.93	0.49
1:A:1367:C:OP1	10:I:115:GLY:N	2.36	0.49
1:A:1414:U:H2'	1:A:1415:G:H8	1.77	0.49
1:A:402:G:C5	1:A:403:C:C5	3.00	0.49
1:A:42:G:N3	1:A:43:C:C6	2.79	0.49
1:A:531:U:H4'	1:A:532:A:C5'	2.41	0.49
1:A:57:G:C2'	1:A:58:C:H6	2.07	0.49
1:A:69:G:H2'	1:A:70:G:H8	1.77	0.49
9:H:97:VAL:HG13	9:H:98:LYS:N	2.27	0.49
1:A:1250:A:H5''	10:I:67:GLY:C	2.31	0.49
13:L:83:VAL:CG2	13:L:100:ILE:HG23	2.42	0.49
14:M:22:ILE:HD12	14:M:25:ILE:HD12	1.92	0.49
1:A:1509:C:O2'	1:A:1510:U:H5'	2.12	0.49
1:A:369:C:N3	1:A:370:C:C5	2.80	0.49
1:A:416:G:C6	1:A:417:C:N3	2.80	0.49
1:A:496:A:C4'	1:A:497:A:OP1	2.61	0.49
1:A:60:A:H1'	1:A:61:G:O4'	2.12	0.49
1:A:859:A:H2'	1:A:860:A:H8	1.77	0.49
1:A:910:C:H2'	1:A:911:U:C6	2.47	0.49
3:B:165:VAL:O	3:B:167:PRO:HD3	2.13	0.49
4:C:148:GLY:HA3	4:C:172:ARG:O	2.12	0.49
1:A:674:G:P	7:F:87:ARG:HH22	2.35	0.49
11:J:79:ARG:HH11	11:J:82:ILE:HD12	1.76	0.49
20:S:15:LEU:O	20:S:19:VAL:N	2.42	0.49
21:T:75:ASN:O	21:T:78:ALA:HB3	2.11	0.49
1:A:1039:C:H2'	1:A:1040:U:H6	1.77	0.49
1:A:1173:G:C4	1:A:1174:G:C8	3.00	0.49
1:A:1309:G:C6	1:A:1329:A:N1	2.80	0.49
1:A:1430:C:O2'	1:A:1431:C:H5'	2.12	0.49
1:A:1418:A:C6	1:A:1483:A:C5	3.00	0.49
1:A:68:G:H5'	1:A:171:A:H1'	1.93	0.49
1:A:280:C:O2	18:Q:38:ARG:HG3	2.13	0.49
1:A:392:G:C2	1:A:393:A:C8	3.00	0.49
1:A:476:G:H2'	1:A:477:G:H8	1.76	0.49
1:A:516:U:C5	1:A:517:G:C6	3.01	0.49
1:A:604:G:C2	1:A:635:G:C5	3.00	0.49
1:A:616:G:N2	1:A:625:G:C4	2.79	0.49
1:A:723:U:C5	1:A:723:U:OP1	2.65	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:753:A:H5'	1:A:754:C:C5	2.46	0.49
1:A:770:C:O4'	1:A:900:A:C2	2.65	0.49
1:A:922:G:H2'	1:A:923:A:H8	1.69	0.49
5:D:176:LEU:HD23	5:D:176:LEU:O	2.12	0.49
5:D:4:TYR:CG	5:D:5:ILE:N	2.75	0.49
18:Q:5:VAL:HA	18:Q:59:ILE:O	2.12	0.49
18:Q:62:SER:HB2	18:Q:72:ARG:HG3	1.92	0.49
1:A:1089:G:C5	1:A:1090:U:C6	3.00	0.49
1:A:1128:C:C2	1:A:1139:G:O6	2.65	0.49
1:A:113:G:C4	1:A:114:U:C5	3.00	0.49
1:A:1158:C:C2'	1:A:1158:C:O2	2.61	0.49
1:A:1541:U:O5'	1:A:1541:U:H6	1.96	0.49
1:A:508:C:OP1	5:D:209:ARG:NH2	2.45	0.49
1:A:919:A:O2'	1:A:920:U:H5'	2.12	0.49
4:C:119:ARG:O	4:C:123:GLN:HG3	2.11	0.49
8:G:70:LYS:HB3	8:G:96:GLN:HB3	1.93	0.49
12:K:77:MET:CE	12:K:80:VAL:HG22	2.40	0.49
18:Q:81:ARG:HG3	18:Q:81:ARG:O	2.12	0.49
1:A:1030:C:C2'	1:A:1030(A):G:H8	2.21	0.49
1:A:1057:G:C4	1:A:1058:G:C8	3.00	0.49
1:A:1148:U:H2'	1:A:1149:C:O4'	2.12	0.49
1:A:1158:C:N3	1:A:1160:G:N7	2.61	0.49
1:A:1311:G:N2	1:A:1327:C:C2	2.81	0.49
1:A:1309:G:C2	1:A:1329:A:N3	2.81	0.49
1:A:277:C:H2'	1:A:278:G:O5'	2.12	0.49
1:A:439:A:C5	1:A:497:A:C2	3.01	0.49
1:A:505:G:C6	1:A:535:A:C2	3.01	0.49
1:A:665:A:N3	1:A:732:C:C2	2.81	0.49
1:A:684:A:H1'	12:K:38:ASN:ND2	2.25	0.49
1:A:690:G:C6	1:A:691:G:N1	2.81	0.49
1:A:69:G:C2	1:A:70:G:C8	3.01	0.49
1:A:947:G:C5	1:A:948:C:C5	3.00	0.49
1:A:981:U:H2'	1:A:982:U:C6	2.46	0.49
1:A:993:G:H4'	1:A:994:A:OP2	2.12	0.49
5:D:162:LEU:N	5:D:162:LEU:HD23	2.26	0.49
13:L:26:ALA:O	13:L:28:LYS:N	2.45	0.49
1:A:1155:G:H2'	1:A:1156:G:C8	2.48	0.49
1:A:1164:G:C6	1:A:1173:G:C6	3.00	0.49
1:A:1231:G:H2'	1:A:1232:U:H6	1.77	0.49
1:A:1284:C:H2'	1:A:1285:A:N7	2.27	0.49
1:A:245:C:C2'	1:A:246:A:H5'	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:41:G:N1	1:A:42:G:C6	2.81	0.49
1:A:523:A:C2	1:A:527:G:O6	2.65	0.49
1:A:522:C:O2'	1:A:523:A:H5'	2.12	0.49
1:A:588:G:C5	1:A:753:A:C5	3.01	0.49
1:A:643:C:H2'	1:A:644:G:C8	2.44	0.49
1:A:820:U:C4'	1:A:821:G:OP2	2.54	0.49
1:A:958:A:C6	1:A:959:A:C6	3.01	0.49
5:D:70:ILE:HD11	5:D:100:ARG:NE	2.27	0.49
5:D:8:VAL:C	5:D:10:ARG:H	2.15	0.49
8:G:113:GLU:O	8:G:119:ARG:HD3	2.12	0.49
14:M:39:ILE:O	14:M:41:PRO:HD3	2.13	0.49
11:J:47:PHE:CZ	15:N:37:PHE:CZ	3.01	0.49
19:R:73:ALA:HB3	19:R:79:LEU:CD1	2.43	0.49
1:A:1148:U:H4'	10:I:14:VAL:CG1	2.30	0.49
1:A:1149:C:N3	1:A:1150:U:C5	2.80	0.49
1:A:1162:C:N3	1:A:1175:G:C2	2.81	0.49
1:A:1459:C:H2'	1:A:1460:A:C5'	2.42	0.49
1:A:1495:U:H2'	1:A:1496:C:C6	2.48	0.49
1:A:184:G:O2'	1:A:185:A:H5'	2.13	0.49
1:A:376:G:H4'	17:P:5:ARG:NH1	2.28	0.49
1:A:392:G:C6	1:A:393:A:N7	2.80	0.49
1:A:401:C:H2'	1:A:402:G:H8	1.77	0.49
1:A:410:G:N2	1:A:429:U:C2	2.80	0.49
1:A:722:A:H5'	1:A:723:U:OP2	2.11	0.49
1:A:572:A:N1	1:A:864:A:C5	2.81	0.49
1:A:572:A:C2	1:A:864:A:C6	3.01	0.49
1:A:92:C:H2'	1:A:93:G:H8	1.76	0.49
1:A:981:U:C2'	1:A:982:U:C5	2.88	0.49
1:A:998:G:C6	1:A:1044:A:C6	3.01	0.49
4:C:39:ILE:HG22	4:C:43:LEU:HD12	1.94	0.49
10:I:64:THR:HG22	10:I:65:VAL:N	2.27	0.49
1:A:1135:U:O2'	1:A:1136:U:C6	2.60	0.49
1:A:1227:A:C8	1:A:1227:A:C3'	2.94	0.49
1:A:1250:A:C6	1:A:1251:A:N6	2.80	0.49
1:A:1378:C:C5	1:A:1379:G:C8	3.00	0.49
1:A:1431:C:H2'	1:A:1432:G:H5'	1.95	0.49
1:A:197:A:H4'	1:A:198:G:O5'	2.13	0.49
1:A:277:C:O2'	1:A:278:G:C5'	2.59	0.49
1:A:160:A:H1'	1:A:344:A:C6	2.48	0.49
1:A:496:A:C5'	1:A:497:A:OP1	2.60	0.49
1:A:587:G:C2	1:A:755:G:C5	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:705:U:C4	1:A:706:A:C6	3.01	0.49
6:E:11:ILE:HD11	6:E:108:ALA:CB	2.43	0.49
12:K:31:THR:HG23	12:K:42:TRP:HB3	1.93	0.49
13:L:84:LEU:HD13	13:L:105:TYR:HE1	1.76	0.49
13:L:32:PHE:HA	13:L:85:ILE:O	2.12	0.49
16:O:54:ARG:CZ	16:O:58:MET:HE2	2.42	0.49
19:R:74:ARG:HB3	19:R:81:PHE:CE1	2.48	0.49
1:A:1019:C:C2'	1:A:1020:U:H5'	2.43	0.49
1:A:1054:C:P	1:A:1197:G:OP1	2.71	0.49
1:A:1089:G:C6	1:A:1090:U:C4	3.00	0.49
1:A:1157:A:C6	1:A:1180:A:C6	3.00	0.49
1:A:1368:G:H5'	10:I:112:LYS:O	2.13	0.49
1:A:1487:G:O2'	1:A:1488:G:C5'	2.58	0.49
1:A:173:U:C6	1:A:197:A:C2	3.01	0.49
1:A:321:A:H2	1:A:332:G:H22	1.60	0.49
1:A:334:C:H6	1:A:334:C:O5'	1.96	0.49
1:A:355:C:N3	1:A:356:A:N7	2.61	0.49
1:A:41:G:C6	1:A:42:G:O6	2.66	0.49
1:A:451:A:C2	1:A:480:U:C4	3.01	0.49
1:A:714:G:H2'	1:A:715:A:C8	2.47	0.49
1:A:724:G:O2'	1:A:725:G:H5'	2.12	0.49
1:A:853:G:O2'	1:A:854:G:H5'	2.12	0.49
4:C:88:ARG:O	4:C:91:LEU:HB3	2.12	0.49
6:E:144:THR:HB	6:E:147:ASP:H	1.78	0.49
1:A:528:C:N4	13:L:49:ASN:OD1	2.45	0.49
1:A:1226:C:H5'	14:M:96:LEU:CD1	2.42	0.49
17:P:8:ARG:HG2	17:P:17:TYR:CE2	2.47	0.49
19:R:74:ARG:HB3	19:R:81:PHE:CZ	2.47	0.49
1:A:971:G:HO2'	1:A:1365:G:HO2'	1.60	0.49
1:A:1368:G:N3	1:A:1369:C:C6	2.81	0.49
1:A:1513:A:C2	1:A:1523:G:C5	3.01	0.49
1:A:295:C:H2'	1:A:295:C:O2	2.12	0.49
1:A:725:G:C5	1:A:726:C:C5	3.01	0.49
1:A:714:G:C2	1:A:777:A:H1'	2.48	0.49
1:A:792:A:O2'	1:A:793:U:OP2	2.30	0.49
1:A:933:G:O6	8:G:3:ARG:NH2	2.46	0.49
4:C:114:PRO:O	4:C:118:GLN:HG3	2.13	0.49
16:O:82:ILE:O	16:O:86:GLY:N	2.45	0.49
19:R:76:LEU:O	19:R:78:LEU:N	2.46	0.49
21:T:91:LEU:C	21:T:93:GLU:H	2.16	0.49
1:A:101:A:C2	1:A:102:G:C4	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1087:G:H2'	1:A:1088:G:H8	1.78	0.48
1:A:1128:C:O2'	1:A:1129:C:OP1	2.29	0.48
1:A:1307:U:N3	1:A:1308:U:C4	2.81	0.48
1:A:1400:C:C4'	1:A:1401:G:OP2	2.49	0.48
1:A:1433:A:N6	1:A:1434:A:C6	2.81	0.48
1:A:1459:C:H2'	1:A:1460:A:O5'	2.11	0.48
1:A:1542:U:C6	1:A:1542:U:OP2	2.66	0.48
1:A:197:A:N6	1:A:221:C:H5'	2.27	0.48
1:A:218:C:O4'	1:A:461:C:N4	2.45	0.48
1:A:418:C:H2'	1:A:419:C:C6	2.48	0.48
1:A:651:C:C2'	1:A:652:U:O5'	2.61	0.48
1:A:774:G:C2	1:A:775:G:H1'	2.47	0.48
1:A:80:G:H3'	1:A:81:U:C5'	2.39	0.48
1:A:429:U:H6	5:D:25:ARG:HH22	1.59	0.48
11:J:61:GLU:OE1	15:N:45:ARG:NH1	2.46	0.48
13:L:45:PRO:HG2	13:L:51:ALA:N	2.28	0.48
19:R:39:VAL:CG1	19:R:40:LEU:N	2.76	0.48
21:T:33:ILE:O	21:T:34:LYS:C	2.52	0.48
1:A:1089:G:O6	1:A:1090:U:C4	2.67	0.48
1:A:1113:C:H6	1:A:1113:C:O5'	1.95	0.48
1:A:1231:G:C5	1:A:1232:U:C5	3.00	0.48
1:A:1498:U:O2'	1:A:1499:A:C8	2.58	0.48
1:A:175:C:O2	1:A:176:C:C6	2.66	0.48
1:A:282:A:H3'	1:A:283:C:C6	2.48	0.48
1:A:374:A:C6	1:A:375:U:C4	3.01	0.48
1:A:420:U:N3	1:A:424:G:C6	2.81	0.48
1:A:626:U:H5''	17:P:38:TYR:CD2	2.48	0.48
1:A:803:G:H2'	1:A:804:U:O4'	2.11	0.48
1:A:837:G:N2	1:A:850:U:H1'	2.27	0.48
1:A:926:G:C4	1:A:1505:G:C2	3.00	0.48
4:C:5:ILE:O	4:C:6:HIS:C	2.51	0.48
6:E:115:VAL:CG1	6:E:116:THR:N	2.75	0.48
8:G:155:ARG:O	8:G:156:TRP:HB2	2.12	0.48
8:G:16:LEU:HD21	10:I:42:ARG:HG2	1.94	0.48
1:A:4:U:N3	9:H:105:ARG:HD2	2.27	0.48
9:H:26:VAL:HG12	9:H:59:LEU:O	2.13	0.48
1:A:1152:A:H4'	11:J:13:HIS:HD2	1.78	0.48
11:J:10:GLY:HA3	11:J:16:LEU:HD21	1.94	0.48
14:M:81:LEU:CD2	14:M:81:LEU:N	2.68	0.48
1:A:1028:C:C2	1:A:1034:G:C2	3.01	0.48
1:A:1367:C:N3	1:A:1368:G:N7	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1463:C:O2'	1:A:1464:G:H5'	2.13	0.48
1:A:1486:G:C2'	1:A:1487:G:O4'	2.61	0.48
1:A:218:C:C4'	1:A:461:C:H41	2.25	0.48
1:A:32:A:C2	1:A:33:A:C4	3.02	0.48
1:A:31:G:O2'	1:A:32:A:O5'	2.31	0.48
1:A:36:C:C4	1:A:37:U:C5	3.02	0.48
1:A:425:G:H2'	1:A:426:G:C5'	2.43	0.48
1:A:650:G:H2'	1:A:651:C:C5'	2.40	0.48
1:A:705:U:O4	1:A:706:A:C6	2.66	0.48
3:B:178:ARG:HH22	9:H:74:PRO:HB3	1.78	0.48
1:A:653:A:P	9:H:56:LYS:HZ1	2.35	0.48
13:L:45:PRO:HB2	13:L:49:ASN:O	2.12	0.48
21:T:73:HIS:O	21:T:74:LYS:CB	2.61	0.48
1:A:1240:U:HO2'	1:A:1241:G:P	2.37	0.48
1:A:1285:A:H4'	1:A:1286:A:O5'	2.12	0.48
1:A:1451:A:HO2'	1:A:1452:C:P	2.37	0.48
1:A:287:U:H2'	1:A:288:A:O5'	2.13	0.48
1:A:886:G:N3	1:A:887:G:C8	2.82	0.48
1:A:429:U:O3'	5:D:22:LYS:NZ	2.45	0.48
10:I:84:ALA:O	10:I:87:GLN:HB2	2.12	0.48
20:S:63:THR:HG22	20:S:64:GLU:N	2.29	0.48
1:A:1073:U:O2'	1:A:1074:G:H5'	2.13	0.48
1:A:293:G:C6	1:A:294:U:C4	3.02	0.48
1:A:342:C:C2	1:A:348:G:C2	3.01	0.48
1:A:34:C:H2'	1:A:35:G:H8	1.78	0.48
1:A:46:G:O2'	1:A:365:U:H1'	2.14	0.48
1:A:590:C:N3	1:A:591:U:C5	2.82	0.48
1:A:690:G:C6	1:A:691:G:C6	3.01	0.48
1:A:877:C:O2	9:H:3:THR:HG21	2.13	0.48
1:A:913:A:H4'	1:A:914:A:O5'	2.13	0.48
1:A:981:U:C2	1:A:982:U:C4	3.01	0.48
1:A:986:A:C6	1:A:1220:G:C6	3.02	0.48
4:C:195:VAL:C	4:C:196:LEU:HD23	2.34	0.48
4:C:70:VAL:C	4:C:106:VAL:HG23	2.33	0.48
6:E:103:GLY:O	6:E:106:PRO:HD2	2.14	0.48
1:A:363:A:OP1	13:L:33:ARG:HG3	2.14	0.48
14:M:26:GLY:O	14:M:28:ALA:N	2.44	0.48
14:M:26:GLY:C	14:M:28:ALA:H	2.16	0.48
1:A:1121:U:H2'	1:A:1122:U:C6	2.49	0.48
1:A:1263:C:H2'	1:A:1264:C:C6	2.49	0.48
1:A:1529:G:H5''	1:A:1530:G:OP2	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:197:A:N3	1:A:198:G:H1'	2.28	0.48
1:A:328:C:O2'	1:A:329:A:OP2	2.31	0.48
1:A:511:C:HO2'	1:A:512:U:P	2.37	0.48
1:A:597:G:C6	1:A:644:G:O6	2.67	0.48
1:A:713:G:N2	1:A:777:A:C4'	2.74	0.48
1:A:964:A:OP1	1:A:1199:U:OP1	2.31	0.48
8:G:40:ALA:CB	10:I:41:VAL:HG11	2.43	0.48
10:I:89:ASN:O	10:I:92:TYR:HB2	2.14	0.48
21:T:51:GLU:HA	21:T:54:LYS:HB2	1.95	0.48
1:A:1223:C:H3'	1:A:1224:G:H5''	1.95	0.48
1:A:1327:C:H2'	1:A:1328:C:C6	2.49	0.48
1:A:1422:G:O2'	1:A:1423:G:H5'	2.13	0.48
1:A:246:A:C4	1:A:279:A:N6	2.82	0.48
1:A:394:G:N3	1:A:395:C:C6	2.81	0.48
1:A:49:U:H1'	13:L:28:LYS:NZ	2.28	0.48
1:A:532:A:O2'	1:A:533:A:OP1	2.28	0.48
1:A:535:A:H5''	1:A:536:C:OP2	2.13	0.48
1:A:544:G:C5	1:A:545:C:H5	2.22	0.48
1:A:598:U:H2'	1:A:599:C:C6	2.48	0.48
1:A:642:A:C8	1:A:643:C:C5	3.02	0.48
1:A:668:G:O2'	16:O:46:HIS:HD2	1.96	0.48
1:A:805:C:H2'	1:A:806:C:C5'	2.44	0.48
1:A:917:G:H2'	1:A:918:A:O4'	2.14	0.48
4:C:8:ILE:O	4:C:11:ARG:N	2.40	0.48
1:A:1202:G:C4	15:N:42:ILE:CD1	2.96	0.48
1:A:1128:C:C2	1:A:1144:G:N2	2.81	0.48
1:A:1180:A:O2'	1:A:1181:G:H5'	2.13	0.48
1:A:1193:G:C2	1:A:1194:U:C5	3.01	0.48
1:A:1238:A:H5'	1:A:1336:C:H41	1.79	0.48
1:A:1358:U:H3'	1:A:1359:C:C6	2.48	0.48
1:A:286:G:C5	1:A:287:U:C4	3.02	0.48
1:A:345:C:H5''	1:A:346:G:OP1	2.14	0.48
1:A:341:C:O2	1:A:349:A:C2	2.66	0.48
1:A:376:G:O2'	1:A:377:G:H5'	2.14	0.48
1:A:392:G:C4	1:A:393:A:C8	3.02	0.48
1:A:434:U:H2'	1:A:435:C:C6	2.49	0.48
1:A:434:U:O2	1:A:435:C:C6	2.67	0.48
1:A:552:U:O2	13:L:31:PRO:HB3	2.14	0.48
1:A:581:G:C2	1:A:582:U:C5	3.02	0.48
1:A:67:C:O2'	1:A:68:G:H5'	2.13	0.48
3:B:92:TYR:CE2	3:B:151:GLY:HA3	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:10:LEU:CD1	7:F:59:TYR:HB3	2.43	0.48
9:H:6:ILE:HD11	9:H:31:PHE:CD2	2.49	0.48
1:A:1251:A:H4'	10:I:12:GLU:CD	2.34	0.48
14:M:59:TYR:CE1	14:M:63:THR:HG21	2.49	0.48
1:A:1074:G:O2'	1:A:1075:C:H5'	2.14	0.48
1:A:1094:G:C5'	1:A:1095:U:H5	2.18	0.48
1:A:1152:A:OP1	11:J:68:HIS:ND1	2.47	0.48
1:A:994:A:H8	1:A:1216:G:HO2'	1.61	0.48
1:A:1248:A:C4	1:A:1249:C:C5	3.01	0.48
1:A:1329:A:C2'	1:A:1330:U:C5'	2.88	0.48
1:A:1371:G:O2'	1:A:1372:U:H5'	2.13	0.48
1:A:36:C:N3	1:A:37:U:C5	2.82	0.48
1:A:455:C:O2'	1:A:456:C:H5'	2.14	0.48
1:A:543:C:O2'	1:A:544:G:H5'	2.13	0.48
1:A:596:C:O2'	1:A:597:G:H5'	2.14	0.48
1:A:6:G:N2	6:E:98:THR:OG1	2.46	0.48
1:A:818:G:C3'	1:A:819:A:H5''	2.44	0.48
1:A:854:G:H3'	1:A:871:U:C4	2.48	0.48
1:A:910:C:H2'	1:A:911:U:H6	1.79	0.48
1:A:949:A:N7	1:A:950:U:C5	2.82	0.48
3:B:164:VAL:O	3:B:186:ALA:HA	2.14	0.48
4:C:34:LEU:HD23	4:C:34:LEU:O	2.14	0.48
16:O:3:ILE:H	16:O:3:ILE:CD1	2.25	0.48
1:A:1045:C:C3'	1:A:1045:C:C6	2.97	0.48
1:A:1074:G:C2	1:A:1102:A:C5	3.02	0.48
1:A:1195:C:C3'	1:A:1196:U:H5'	2.31	0.48
1:A:1202:G:H2'	1:A:1203:C:C5'	2.44	0.48
1:A:22:G:O2'	1:A:23:C:C5'	2.56	0.48
1:A:274:A:O2'	1:A:275:G:H8	1.97	0.48
1:A:325:A:H2'	1:A:326:G:O4'	2.13	0.48
1:A:370:C:O2	1:A:371:G:C8	2.66	0.48
1:A:449:C:C6	1:A:450:G:C8	3.02	0.48
12:K:84:VAL:HG22	12:K:110:ASP:HA	1.96	0.48
15:N:44:LEU:O	15:N:44:LEU:HD12	2.14	0.48
1:A:1026:G:N3	1:A:1026:G:C2'	2.74	0.47
1:A:1047:G:H2'	1:A:1048:G:C5'	2.41	0.47
1:A:1054:C:C2'	1:A:1055:A:H5''	2.43	0.47
1:A:1333:A:N7	1:A:1334:G:C8	2.81	0.47
1:A:1480:G:C5	1:A:1481:U:C4	3.02	0.47
1:A:293:G:C4	1:A:294:U:C5	3.01	0.47
1:A:338:A:H2'	1:A:339:C:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:545:C:H2'	1:A:545:C:O2	2.14	0.47
1:A:575:G:C4	1:A:881:G:N2	2.82	0.47
1:A:792:A:H4'	1:A:793:U:H5''	1.96	0.47
4:C:118:GLN:O	4:C:121:ALA:HB3	2.14	0.47
1:A:15:G:C4'	6:E:24:ARG:HH12	2.27	0.47
12:K:43:SER:HB3	12:K:68:ALA:HB2	1.94	0.47
21:T:13:LEU:HD12	21:T:13:LEU:C	2.34	0.47
1:A:1139:G:O2'	1:A:1140:C:P	2.71	0.47
1:A:1287:A:C6	1:A:1288:A:C6	3.02	0.47
1:A:148:G:C2	1:A:149:A:N7	2.82	0.47
1:A:128:G:C2	1:A:234:C:O2	2.67	0.47
1:A:248:C:C2'	1:A:249:U:H5'	2.43	0.47
1:A:254:G:OP1	18:Q:67:LYS:O	2.32	0.47
1:A:39:G:C2'	1:A:40:C:C5'	2.92	0.47
1:A:452:A:C2	1:A:453:A:C1'	2.97	0.47
1:A:455:C:H6	1:A:455:C:O5'	1.97	0.47
1:A:479:C:C2'	1:A:480:U:H5'	2.44	0.47
1:A:821:G:H2'	1:A:822:C:C6	2.49	0.47
1:A:901:A:N7	1:A:902:G:C1'	2.77	0.47
1:A:991:U:O2'	1:A:992:U:H5'	2.14	0.47
6:E:44:GLY:N	6:E:62:ALA:HB2	2.28	0.47
1:A:948:C:C4	14:M:106:ASN:ND2	2.83	0.47
7:F:91:VAL:HG13	19:R:72:ARG:NH2	2.29	0.47
12:K:84:VAL:HG21	19:R:88:LYS:HD3	1.96	0.47
1:A:1125:U:C2'	1:A:1126:U:OP2	2.62	0.47
1:A:1392:G:N2	1:A:1502:A:C8	2.81	0.47
1:A:166:G:C4	1:A:167:G:C8	3.02	0.47
1:A:33:A:H2'	1:A:34:C:C6	2.50	0.47
1:A:341:C:N3	1:A:349:A:C2	2.82	0.47
1:A:376:G:H2'	1:A:377:G:C8	2.45	0.47
1:A:474:G:C2	1:A:475:G:C8	3.01	0.47
1:A:781:A:H2'	1:A:782:A:C5'	2.44	0.47
1:A:838:G:N2	1:A:849:C:C2	2.82	0.47
1:A:893:C:H2'	1:A:894:G:H8	1.79	0.47
1:A:936:C:H2'	1:A:937:A:O5'	2.13	0.47
3:B:130:ARG:NH2	4:C:207:VAL:HG11	2.26	0.47
4:C:73:PRO:O	4:C:77:ILE:HG12	2.14	0.47
7:F:7:ASN:ND2	19:R:34:TYR:CE1	2.76	0.47
17:P:20:VAL:CG2	17:P:21:VAL:H	2.27	0.47
1:A:1154:G:H2'	1:A:1155:G:H8	1.79	0.47
1:A:1217:C:C4	1:A:1218:C:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1256:A:C2	1:A:1258:G:C2	3.02	0.47
1:A:1329:A:H2'	1:A:1330:U:C5'	2.43	0.47
1:A:1392:G:N2	1:A:1502:A:H8	2.12	0.47
1:A:1401:G:C2	1:A:1402:C:H1'	2.49	0.47
1:A:370:C:C2'	1:A:371:G:H5'	2.44	0.47
1:A:401:C:H2'	1:A:402:G:C8	2.49	0.47
1:A:540:G:C4	1:A:541:G:C8	3.02	0.47
1:A:545:C:HO2'	1:A:546:G:H5'	1.75	0.47
1:A:657:G:C2	1:A:750:G:C5	3.02	0.47
1:A:694:A:C6	1:A:695:A:C4	3.01	0.47
1:A:743:U:H2'	1:A:744:C:H6	1.79	0.47
1:A:805:C:H2'	1:A:806:C:O5'	2.14	0.47
1:A:872:A:C5	1:A:874:G:C8	3.02	0.47
1:A:16:A:N1	1:A:919:A:C2	2.82	0.47
10:I:86:VAL:HG13	10:I:90:PRO:HA	1.95	0.47
13:L:55:VAL:HG12	13:L:56:ALA:N	2.30	0.47
22:V:20:LYS:HG2	22:V:20:LYS:O	2.15	0.47
1:A:1305:G:OP1	22:V:2:GLY:HA2	2.14	0.47
1:A:1306:A:N7	1:A:1332:A:N7	2.63	0.47
1:A:1359:C:H6	1:A:1359:C:O5'	1.97	0.47
1:A:172:A:N7	1:A:174:C:C4	2.82	0.47
1:A:129(A):G:O2'	1:A:190(E):U:C6	2.67	0.47
1:A:509:A:H8	1:A:509:A:C5'	2.27	0.47
1:A:540:G:C2'	1:A:541:G:C5'	2.89	0.47
1:A:57:G:C6	1:A:58:C:N4	2.83	0.47
1:A:760:G:C2'	1:A:761:G:H5'	2.45	0.47
1:A:981:U:H5''	15:N:21:TYR:CZ	2.50	0.47
3:B:10:LEU:HD12	3:B:10:LEU:N	2.29	0.47
6:E:120:THR:CG2	6:E:121:LYS:H	2.11	0.47
9:H:2:LEU:HD23	9:H:3:THR:N	2.29	0.47
1:A:981:U:C5'	15:N:21:TYR:CZ	2.97	0.47
18:Q:67:LYS:O	18:Q:68:ARG:CB	2.62	0.47
19:R:66:LEU:HD11	19:R:70:ILE:HD11	1.96	0.47
1:A:1130:A:C4	1:A:1146:A:C2	3.03	0.47
1:A:1272:G:C5	1:A:1273:G:N7	2.82	0.47
1:A:1497:G:C5	1:A:1498:U:C5	3.03	0.47
1:A:394:G:C6	1:A:395:C:C4	3.03	0.47
1:A:520:A:H2	1:A:536:C:O2	1.97	0.47
1:A:582:U:C2'	1:A:583:A:C8	2.80	0.47
1:A:607:A:O2'	1:A:608:A:H5'	2.14	0.47
1:A:818:G:H2'	1:A:820:U:OP2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:861:G:OP1	9:H:75:ARG:NH2	2.46	0.47
4:C:64:VAL:O	4:C:99:VAL:HG23	2.15	0.47
6:E:97:GLY:N	6:E:117:ASP:OD1	2.46	0.47
13:L:60:LEU:N	13:L:60:LEU:HD22	2.29	0.47
14:M:91:ARG:NH2	14:M:96:LEU:HD13	2.29	0.47
16:O:77:ARG:HG3	16:O:77:ARG:NH1	2.30	0.47
1:A:1052:U:H2'	1:A:1055:A:OP1	2.13	0.47
1:A:113:G:H2'	1:A:114:U:O4'	2.15	0.47
1:A:1491:G:C2	1:A:1492:A:N6	2.82	0.47
1:A:20:U:H2'	1:A:21:G:O4'	2.14	0.47
1:A:358:U:H2'	1:A:359:U:H6	1.72	0.47
1:A:415:A:C6	1:A:416:G:C5	3.02	0.47
1:A:459:G:N2	1:A:462:G:N7	2.63	0.47
1:A:665:A:H2'	1:A:732:C:O2	2.15	0.47
1:A:785:G:C2	1:A:786:G:C8	3.03	0.47
1:A:943:U:O2'	1:A:944:G:H5'	2.13	0.47
3:B:108:ILE:C	3:B:110:GLN:N	2.67	0.47
5:D:64:LEU:HD23	5:D:198:VAL:HG11	1.95	0.47
1:A:545:C:H5''	5:D:72:GLU:OE1	2.14	0.47
10:I:50:LEU:C	10:I:52:ALA:N	2.68	0.47
13:L:115:LYS:O	13:L:117:ARG:N	2.47	0.47
17:P:3:LYS:HA	17:P:65:GLN:O	2.14	0.47
17:P:6:LEU:N	17:P:6:LEU:HD12	2.29	0.47
1:A:1538:C:C2	2:I:6:A:N1	2.82	0.47
1:A:1016:A:O2'	1:A:1017:G:H5'	2.14	0.47
1:A:1149:C:C6	1:A:1150:U:H5	2.33	0.47
1:A:1272:G:O2'	1:A:1273:G:H5'	2.15	0.47
1:A:1367:C:C5'	11:J:60:ARG:HH11	2.28	0.47
1:A:59:A:C3'	1:A:331:G:H22	2.27	0.47
1:A:488:C:H6	1:A:488:C:O5'	1.98	0.47
1:A:766:A:C2'	1:A:767:A:H5'	2.45	0.47
1:A:803:G:C4	1:A:804:U:C6	3.03	0.47
1:A:9:G:H2'	1:A:10:A:C8	2.48	0.47
6:E:118:ILE:HG12	6:E:119:LEU:N	2.29	0.47
6:E:11:ILE:HG21	6:E:31:LEU:HD13	1.97	0.47
6:E:78:HIS:HD1	9:H:104:ARG:CD	2.28	0.47
17:P:12:LYS:O	17:P:13:HIS:HB2	2.15	0.47
1:A:1126:U:C2'	1:A:1127:G:C8	2.84	0.47
1:A:960:U:C2	1:A:1225:A:N7	2.83	0.47
1:A:1248:A:H2'	1:A:1249:C:H6	1.80	0.47
1:A:1343:G:C6	1:A:1344:C:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1489:G:H2'	1:A:1490:C:C5'	2.40	0.47
1:A:1531:A:C6	1:A:1532:U:C4	3.03	0.47
1:A:190(D):U:O2'	1:A:190(E):U:C5'	2.63	0.47
1:A:228:A:C4'	17:P:62:VAL:HG11	2.43	0.47
1:A:452:A:C2'	1:A:453:A:O5'	2.63	0.47
1:A:456:C:N4	1:A:457:C:N4	2.62	0.47
1:A:609:A:O2'	1:A:610:G:H5'	2.15	0.47
1:A:645:C:H2'	1:A:646:U:C6	2.49	0.47
1:A:829:G:C2	1:A:830:G:C5	3.03	0.47
1:A:1059:C:O2'	1:A:1060:C:H5'	2.15	0.47
1:A:1212:U:O2'	1:A:1213:A:O5'	2.29	0.47
1:A:1215:G:H2'	1:A:1215:G:N3	2.30	0.47
1:A:1466:C:H2'	1:A:1467:G:O4'	2.15	0.47
1:A:147:G:N3	1:A:148:G:C8	2.83	0.47
1:A:246:A:O3'	1:A:247:G:H4'	2.15	0.47
1:A:273:A:HO2'	1:A:274:A:H5'	1.80	0.47
1:A:319:G:O2'	1:A:320:C:H5'	2.15	0.47
1:A:408:A:C2	1:A:409:G:C4	3.02	0.47
1:A:437:U:O2'	5:D:123:HIS:CD2	2.62	0.47
5:D:173:TRP:CD1	5:D:174:LEU:HG	2.50	0.47
9:H:36:LEU:HD22	9:H:61:VAL:CG2	2.45	0.47
14:M:4:ILE:CG2	14:M:5:ALA:N	2.78	0.47
14:M:65:LYS:HG2	14:M:69:GLU:HB3	1.97	0.47
17:P:28:ARG:HG2	17:P:29:ASP:N	2.30	0.47
19:R:85:LEU:HD12	19:R:86:VAL:H	1.79	0.47
1:A:115:G:H1'	1:A:116:A:N7	2.30	0.47
1:A:1263:C:H2'	1:A:1264:C:H6	1.80	0.47
1:A:1351:U:HO2'	1:A:1352:C:H5'	1.77	0.47
1:A:1442:G:H22	1:A:1446:A:H8	1.63	0.47
1:A:262:A:C6	1:A:263:A:N6	2.83	0.47
1:A:518:C:C5	1:A:530:G:C4	3.03	0.47
1:A:302:G:N3	1:A:556:C:H4'	2.30	0.47
1:A:562:C:H4'	1:A:563:A:O5'	2.15	0.47
1:A:590:C:C4	1:A:591:U:C5	3.03	0.47
1:A:658:G:N3	1:A:659:U:C6	2.83	0.47
1:A:744:C:H2'	1:A:745:C:C6	2.50	0.47
1:A:783:C:H2'	1:A:784:C:H5'	1.97	0.47
1:A:900:A:O2'	1:A:901:A:C5'	2.57	0.47
5:D:88:VAL:O	5:D:90:GLY:N	2.48	0.47
8:G:26:PHE:HD1	8:G:101:LEU:HD22	1.80	0.47
8:G:100:ALA:O	8:G:104:LEU:HG	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:36:LYS:HG2	10:I:42:ARG:NH2	2.30	0.47
14:M:34:LEU:HD22	14:M:39:ILE:HB	1.96	0.47
14:M:15:VAL:HG23	14:M:43:THR:O	2.15	0.47
1:A:1135:U:O3'	1:A:1136:U:C5	2.68	0.46
1:A:121:C:H5'	1:A:122:G:OP1	2.15	0.46
1:A:322:C:O2'	1:A:323:U:H5'	2.16	0.46
1:A:458:C:C4	1:A:459:G:C5	3.03	0.46
1:A:480:U:C2'	1:A:481:G:OP2	2.63	0.46
1:A:657:G:C5	1:A:658:G:N7	2.83	0.46
1:A:64:G:H4'	1:A:65:U:H5''	1.97	0.46
1:A:780:A:O2'	1:A:781:A:H5''	2.15	0.46
1:A:974:A:OP1	15:N:29:ARG:NH2	2.48	0.46
1:A:96:G:H2'	1:A:97:G:O4'	2.15	0.46
9:H:86:ILE:HD12	9:H:133:LEU:CD2	2.44	0.46
14:M:32:GLU:O	14:M:32:GLU:HG2	2.15	0.46
14:M:70:LEU:C	14:M:72:ALA:H	2.19	0.46
20:S:22:LEU:HD22	20:S:28:LYS:HB2	1.97	0.46
1:A:1321:C:P	20:S:3:ARG:HH12	2.39	0.46
1:A:1052:U:C4	1:A:1200:C:C2	3.03	0.46
1:A:1053:G:N2	1:A:1056:U:C4	2.83	0.46
1:A:1150:U:O2	1:A:1150:U:H2'	2.16	0.46
1:A:1198:G:H2'	1:A:1199:U:O4'	2.15	0.46
1:A:1205:U:H1'	4:C:195:VAL:CG2	2.46	0.46
1:A:970:C:O2	1:A:1231:G:H1'	2.15	0.46
1:A:1248:A:N3	10:I:70:LYS:HD2	2.30	0.46
1:A:1326:C:H2'	1:A:1327:C:C6	2.50	0.46
1:A:1509:C:C2	1:A:1510:U:C5	3.03	0.46
1:A:1513:A:C2	1:A:1523:G:C6	3.03	0.46
1:A:181:G:N2	1:A:195:A:C5	2.84	0.46
1:A:341:C:O2'	1:A:342:C:H5'	2.15	0.46
1:A:38:G:N1	1:A:397:A:C2	2.83	0.46
1:A:448:A:C8	1:A:487:A:C2	3.03	0.46
1:A:460:A:C4	1:A:462:G:N7	2.83	0.46
1:A:515:G:O2'	1:A:516:U:H5'	2.16	0.46
1:A:524:G:C4	1:A:525:C:C5	3.04	0.46
1:A:662:G:O2'	1:A:663:A:H5'	2.16	0.46
1:A:803:G:C6	1:A:804:U:C4	3.03	0.46
7:F:55:ASP:HA	7:F:56:PRO:HD2	1.65	0.46
1:A:1231:G:H4'	10:I:126:SER:HG	1.80	0.46
1:A:1225:A:H5'	14:M:103:THR:CG2	2.45	0.46
14:M:70:LEU:O	14:M:74:VAL:HG23	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1057:G:C2'	1:A:1058:G:H8	2.25	0.46
1:A:1068:G:C2	1:A:1069:C:C6	3.04	0.46
1:A:1135:U:C6	1:A:1135:U:O5'	2.66	0.46
1:A:1144:G:N2	1:A:1146:A:N6	2.64	0.46
1:A:1183:A:O2'	1:A:1184:G:P	2.74	0.46
1:A:1346:A:C8	8:G:10:ARG:NH2	2.83	0.46
1:A:1376:U:H2'	1:A:1377:A:C8	2.50	0.46
1:A:926:G:H2'	1:A:1505:G:H21	1.81	0.46
1:A:354:G:C5	1:A:355:C:C5	3.04	0.46
1:A:362:G:N2	1:A:365:U:OP2	2.48	0.46
1:A:397:A:H5''	1:A:397:A:N3	2.31	0.46
1:A:39:G:C2	1:A:40:C:C6	3.03	0.46
1:A:448:A:N7	1:A:487:A:C6	2.84	0.46
1:A:540:G:H2'	1:A:541:G:H5'	1.95	0.46
1:A:673:G:H2'	1:A:674:G:C8	2.50	0.46
1:A:79:G:C2	1:A:91:C:C2	3.04	0.46
1:A:920:U:N3	1:A:921:U:C4	2.83	0.46
3:B:11:LEU:O	3:B:13:ALA:N	2.48	0.46
3:B:130:ARG:HH22	4:C:207:VAL:CG1	2.28	0.46
1:A:1173:G:OP1	8:G:5:ARG:NH1	2.48	0.46
1:A:1250:A:H4'	10:I:68:GLY:O	2.15	0.46
14:M:81:LEU:HA	14:M:84:ILE:HG12	1.98	0.46
17:P:20:VAL:CG2	17:P:21:VAL:N	2.78	0.46
17:P:53:VAL:HG23	17:P:54:GLU:N	2.31	0.46
21:T:56:MET:HE2	21:T:85:MET:HA	1.97	0.46
1:A:1072:G:H2'	1:A:1073:U:C6	2.51	0.46
1:A:1348:U:H2'	1:A:1349:A:H8	1.79	0.46
1:A:1526:G:O2'	1:A:1527:C:H5'	2.16	0.46
1:A:193:C:O2'	1:A:194:C:H5'	2.15	0.46
1:A:33:A:H2'	1:A:34:C:H6	1.80	0.46
1:A:502:G:C2	1:A:503:C:C2	3.03	0.46
1:A:560:U:H5'	1:A:566:G:N2	2.30	0.46
1:A:651:C:N3	1:A:652:U:C4	2.84	0.46
1:A:684:A:O2'	12:K:38:ASN:HB3	2.15	0.46
1:A:761:G:C6	1:A:762:C:C4	3.03	0.46
1:A:819:A:H5''	1:A:820:U:OP2	2.14	0.46
1:A:821:G:H2'	1:A:822:C:H6	1.81	0.46
1:A:542:G:P	5:D:10:ARG:NH2	2.89	0.46
1:A:15:G:H1'	6:E:24:ARG:HH12	1.78	0.46
11:J:16:LEU:CD2	11:J:94:VAL:HG22	2.45	0.46
16:O:24:SER:HB2	16:O:27:VAL:HG23	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1063:C:C6	1:A:1064:G:C8	3.03	0.46
1:A:1181:G:H2'	1:A:1182:G:N7	2.31	0.46
1:A:1187:G:C6	1:A:1188:A:C6	3.04	0.46
1:A:1306:A:C4	1:A:1307:U:C6	3.03	0.46
1:A:229:U:H2'	1:A:230:G:H8	1.80	0.46
1:A:300:A:C8	1:A:301:G:C8	3.03	0.46
1:A:435:C:O2'	1:A:436:C:H5'	2.15	0.46
1:A:458:C:C4	1:A:459:G:C8	3.04	0.46
1:A:69:G:C2	1:A:70:G:N7	2.84	0.46
1:A:807:A:C5	1:A:808:C:C5	3.04	0.46
1:A:840:C:C5'	1:A:841:U:OP1	2.52	0.46
1:A:981:U:N1	1:A:982:U:C5	2.84	0.46
7:F:4:TYR:O	7:F:64:GLN:HA	2.16	0.46
9:H:29:SER:C	9:H:31:PHE:H	2.17	0.46
1:A:653:A:O4'	9:H:56:LYS:HE2	2.16	0.46
16:O:45:VAL:HG12	16:O:46:HIS:N	2.30	0.46
18:Q:10:VAL:O	18:Q:53:LEU:HD12	2.14	0.46
18:Q:97:SER:O	18:Q:98:LEU:HD12	2.15	0.46
1:A:1238:A:N7	1:A:1303:C:C1'	2.76	0.46
1:A:1261:A:C4	1:A:1262:C:C6	3.04	0.46
1:A:1291:G:C6	1:A:1292:U:C4	3.04	0.46
1:A:1306:A:C2	1:A:1307:U:H1'	2.51	0.46
1:A:1308:U:OP1	14:M:98:VAL:N	2.46	0.46
1:A:1342:C:O2'	1:A:1343:G:C5'	2.56	0.46
1:A:1442:G:H22	1:A:1446:A:H3'	1.75	0.46
1:A:1538:C:H42	2:1:6:A:H61	1.63	0.46
1:A:191:G:C8	1:A:192:U:C5	3.04	0.46
1:A:440:A:C5'	1:A:442:C:OP2	2.64	0.46
1:A:495:U:H5''	1:A:496:A:OP2	2.16	0.46
1:A:509:A:C8	1:A:509:A:C4'	2.99	0.46
1:A:515:G:C2'	1:A:516:U:H5'	2.45	0.46
1:A:661:G:C8	1:A:661:G:H5''	2.50	0.46
1:A:805:C:O2'	1:A:806:C:H5'	2.16	0.46
1:A:927:G:H2'	1:A:928:G:H8	1.80	0.46
3:B:114:ARG:O	3:B:118:LEU:HG	2.16	0.46
3:B:25:ASN:O	3:B:27:LYS:N	2.49	0.46
1:A:1057:G:H4'	4:C:154:SER:CB	2.46	0.46
11:J:49:VAL:HG13	15:N:41:ARG:HB2	1.98	0.46
14:M:81:LEU:HD12	14:M:88:ARG:HD3	1.97	0.46
1:A:1082:G:C6	1:A:1083:U:N3	2.84	0.46
1:A:1087:G:H2'	1:A:1088:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1126:U:H6	1:A:1126:U:O5'	1.99	0.46
1:A:256:U:C2	1:A:257:G:C8	3.04	0.46
1:A:256:U:H2'	1:A:257:G:C8	2.50	0.46
1:A:380:G:C6	1:A:384:G:O6	2.69	0.46
1:A:445:G:N3	1:A:446:G:C8	2.83	0.46
1:A:460:A:N7	1:A:462:G:C6	2.84	0.46
1:A:478:A:O2'	1:A:479:C:H5'	2.14	0.46
1:A:674:G:H5'	7:F:50:TYR:CE2	2.50	0.46
1:A:738:C:H2'	1:A:739:C:H6	1.80	0.46
1:A:748:C:H4'	1:A:749:C:O5'	2.16	0.46
1:A:767:A:C2'	1:A:768:A:H8	2.27	0.46
1:A:778:G:H2'	1:A:779:C:O4'	2.16	0.46
1:A:827:U:O2'	9:H:19:VAL:HG11	2.16	0.46
1:A:961:U:N1	1:A:983:A:C2	2.84	0.46
9:H:28:ALA:HB2	9:H:59:LEU:HG	1.96	0.46
13:L:47:LYS:HB2	13:L:48:PRO:CD	2.44	0.46
15:N:44:LEU:HD12	15:N:44:LEU:C	2.36	0.46
1:A:309:G:H5''	17:P:29:ASP:O	2.14	0.46
17:P:58:TYR:HE1	17:P:59:TRP:CZ3	2.33	0.46
1:A:277:C:H5'	18:Q:68:ARG:NH1	2.31	0.46
19:R:43:PHE:C	19:R:51:LEU:HD12	2.36	0.46
20:S:22:LEU:HD21	20:S:28:LYS:HD2	1.98	0.46
1:A:1538:C:O2	2:1:6:A:N1	2.49	0.46
1:A:1030(A):G:H4'	1:A:1030(B):C:OP2	2.16	0.46
1:A:1067:A:H4'	1:A:1068:G:O5'	2.15	0.46
1:A:113:G:O6	1:A:315:A:N6	2.49	0.46
1:A:124:G:H2'	1:A:125:U:C6	2.50	0.46
1:A:1306:A:C8	1:A:1332:A:C5	3.04	0.46
1:A:1371:G:C5	1:A:1372:U:C5	3.04	0.46
1:A:235:C:O2'	1:A:236:G:H5'	2.16	0.46
1:A:118:U:C5	1:A:288:A:C2	3.04	0.46
1:A:391:G:C6	1:A:392:G:C8	3.04	0.46
1:A:445:G:C2	1:A:446:G:C8	3.04	0.46
1:A:64:G:N2	1:A:67:C:C4	2.84	0.46
1:A:781:A:H2'	1:A:782:A:H5'	1.97	0.46
1:A:805:C:H2'	1:A:806:C:H5'	1.98	0.46
1:A:947:G:C4	1:A:948:C:C4	3.04	0.46
4:C:174:PRO:C	4:C:176:HIS:H	2.18	0.46
5:D:180:GLY:O	5:D:182:LYS:HG3	2.16	0.46
9:H:10:LEU:HD23	9:H:10:LEU:HA	1.52	0.46
16:O:66:LEU:HA	16:O:66:LEU:HD23	1.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:7:THR:O	18:Q:23:VAL:HG13	2.16	0.46
20:S:47:HIS:O	20:S:62:ILE:HG22	2.16	0.46
1:A:1010:G:H2'	1:A:1011:G:C8	2.44	0.46
1:A:1055:A:N6	1:A:1206:G:C6	2.84	0.46
1:A:1187:G:N3	1:A:1188:A:C8	2.83	0.46
1:A:1215:G:C8	1:A:1215:G:OP2	2.68	0.46
1:A:1415:G:C4	1:A:1416:G:C8	3.04	0.46
1:A:190(I):G:H2'	1:A:190(J):U:O4'	2.15	0.46
1:A:182:U:O4	1:A:223:U:H1'	2.16	0.46
1:A:243:A:C2	1:A:245:C:N3	2.84	0.46
1:A:56:U:P	21:T:8:ARG:HH22	2.37	0.46
1:A:597:G:C4	1:A:598:U:C6	3.03	0.46
1:A:815:A:H5''	1:A:817:C:H41	1.80	0.46
1:A:918:A:C6	1:A:919:A:C6	3.04	0.46
4:C:191:THR:HG22	4:C:192:THR:H	1.80	0.46
4:C:87:LEU:O	4:C:91:LEU:HB2	2.15	0.46
1:A:1129:C:OP2	10:I:62:TYR:CE2	2.69	0.46
11:J:6:ILE:O	11:J:71:LEU:HD22	2.16	0.46
12:K:87:THR:HG23	12:K:91:ARG:HH21	1.81	0.46
16:O:11:VAL:HG21	16:O:34:LEU:HD12	1.98	0.46
1:A:1106:G:OP1	4:C:172:ARG:HD3	2.15	0.46
1:A:1181:G:O2'	1:A:1182:G:O4'	2.34	0.46
1:A:1374:A:C4	1:A:1375:A:C8	3.04	0.46
1:A:1504:G:H4'	1:A:1505:G:C5'	2.46	0.46
1:A:354:G:C6	1:A:355:C:C4	3.03	0.46
1:A:371:G:O2'	1:A:372:C:C5'	2.47	0.46
1:A:451:A:H2	1:A:480:U:C4	2.34	0.46
1:A:848:C:H2'	1:A:849:C:H6	1.80	0.46
1:A:858:G:C8	1:A:869:G:O6	2.69	0.46
1:A:949:A:H2'	1:A:950:U:H6	1.81	0.46
1:A:951:G:O2'	1:A:952:U:H5'	2.16	0.46
6:E:91:LEU:HD22	6:E:118:ILE:HD11	1.97	0.46
9:H:45:ILE:O	9:H:45:ILE:HG13	2.14	0.46
1:A:1347:G:H8	10:I:107:ARG:O	1.99	0.46
14:M:84:ILE:C	14:M:86:CYS:H	2.19	0.46
19:R:69:THR:O	19:R:72:ARG:HB2	2.16	0.46
1:A:1074:G:C5	1:A:1075:C:C4	3.05	0.45
1:A:1227:A:OP1	20:S:80:TYR:OH	2.20	0.45
1:A:1287:A:C6	1:A:1288:A:N6	2.84	0.45
1:A:1305:G:OP2	1:A:1305:G:C8	2.70	0.45
1:A:274:A:O2'	1:A:275:G:P	2.74	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:903:G:O2'	1:A:904:C:H5'	2.16	0.45
4:C:76:VAL:O	4:C:83:ARG:HB3	2.16	0.45
7:F:10:LEU:HB3	7:F:85:VAL:HA	1.98	0.45
1:A:707:C:OP1	12:K:85:ARG:NH1	2.49	0.45
14:M:70:LEU:O	14:M:72:ALA:N	2.50	0.45
16:O:36:ILE:HD12	16:O:63:ARG:HD3	1.97	0.45
20:S:62:ILE:CD1	20:S:66:MET:HG3	2.46	0.45
1:A:1037:C:H6	1:A:1037:C:O5'	1.99	0.45
1:A:1191:A:H5''	4:C:4:LYS:HZ1	1.79	0.45
1:A:1349:A:C2'	1:A:1350:A:C8	2.87	0.45
1:A:1451:A:O2'	1:A:1452:C:OP1	2.30	0.45
1:A:1530:G:O2'	1:A:1531:A:H8	1.91	0.45
1:A:1531:A:C5	1:A:1532:U:C5	3.04	0.45
1:A:393:A:C6	1:A:394:G:N7	2.84	0.45
1:A:608:A:C2	1:A:609:A:N9	2.85	0.45
1:A:694:A:C5	1:A:695:A:C8	3.04	0.45
1:A:582:U:C2	1:A:760:G:C6	3.04	0.45
5:D:78:LEU:HA	5:D:78:LEU:HD23	1.71	0.45
6:E:127:ASN:O	6:E:128:PRO:C	2.54	0.45
7:F:21:LEU:O	7:F:25:ILE:HG13	2.16	0.45
14:M:81:LEU:HB2	14:M:86:CYS:HB3	1.97	0.45
11:J:47:PHE:CE2	15:N:37:PHE:CE1	3.04	0.45
1:A:187:C:C2	21:T:105:SER:HB2	2.51	0.45
1:A:1451:A:H5''	1:A:1452:C:C6	2.48	0.45
1:A:145:G:C2	1:A:146:G:C8	3.03	0.45
1:A:177:C:H2'	1:A:178:C:H6	1.81	0.45
1:A:476:G:C2	1:A:477:G:C5	3.03	0.45
1:A:476:G:N3	1:A:477:G:C8	2.84	0.45
1:A:503:C:H2'	1:A:504:C:C6	2.46	0.45
1:A:4:U:C5'	1:A:5:U:OP2	2.64	0.45
1:A:89:C:H2'	1:A:90:U:H6	1.81	0.45
9:H:26:VAL:CG1	9:H:26:VAL:O	2.63	0.45
16:O:85:LEU:HD23	16:O:85:LEU:HA	1.75	0.45
1:A:1105:A:O2'	1:A:1106:G:H5'	2.15	0.45
1:A:1149:C:C4	1:A:1150:U:C5	3.05	0.45
1:A:1169:A:O5'	1:A:1169:A:H8	1.99	0.45
1:A:1250:A:C8	1:A:1287:A:N7	2.85	0.45
1:A:1347:G:N2	1:A:1374:A:OP2	2.49	0.45
1:A:1450:U:O2'	1:A:1451:A:C8	2.64	0.45
1:A:1520:G:C2	1:A:1521:G:C5	3.05	0.45
1:A:290:C:H2'	1:A:291:C:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:A:N7	1:A:487:A:C5	2.85	0.45
1:A:502:G:H2'	1:A:503:C:O4'	2.17	0.45
1:A:53:A:N1	1:A:54:C:C2	2.85	0.45
1:A:611:A:C5	1:A:612:C:C5	3.04	0.45
1:A:731:G:OP1	1:A:766:A:H1'	2.15	0.45
1:A:946:A:O2'	1:A:947:G:H5'	2.15	0.45
1:A:977:A:N3	1:A:977:A:H3'	2.31	0.45
3:B:73:THR:O	3:B:73:THR:HG22	2.17	0.45
3:B:90:MET:HA	3:B:91:PRO:HD3	1.62	0.45
1:A:1190:G:OP1	4:C:4:LYS:O	2.35	0.45
5:D:127:THR:HB	5:D:147:ALA:HB3	1.97	0.45
10:I:90:PRO:C	10:I:92:TYR:H	2.18	0.45
11:J:19:SER:HB2	11:J:91:PRO:HG3	1.98	0.45
21:T:77:ALA:O	21:T:80:ARG:HB2	2.16	0.45
1:A:1030(C):G:C8	1:A:1030(C):G:H5'	2.46	0.45
1:A:1178:G:C8	1:A:1178:G:H3'	2.52	0.45
1:A:1198:G:O2'	11:J:54:PHE:CE2	2.70	0.45
1:A:1217:C:H2'	1:A:1218:C:O4'	2.15	0.45
1:A:1350:A:O2'	1:A:1351:U:H5'	2.17	0.45
1:A:176:C:HO2'	1:A:177:C:H5'	1.79	0.45
1:A:273:A:N6	1:A:274:A:C6	2.84	0.45
1:A:294:U:C2	1:A:295:C:C5	3.04	0.45
1:A:336:C:H2'	1:A:337:C:H6	1.81	0.45
1:A:410:G:C2	1:A:429:U:N3	2.83	0.45
1:A:761:G:H2'	1:A:762:C:C6	2.52	0.45
1:A:826:C:H4'	9:H:12:ARG:HG2	1.97	0.45
1:A:838:G:C2	1:A:849:C:C2	3.04	0.45
3:B:84:GLU:HG3	3:B:215:LEU:HB3	1.99	0.45
7:F:1:MET:HB3	7:F:67:MET:O	2.16	0.45
7:F:35:ALA:HB2	7:F:67:MET:HB3	1.97	0.45
9:H:10:LEU:O	9:H:13:ILE:HB	2.16	0.45
9:H:114:THR:C	9:H:116:LYS:N	2.67	0.45
8:G:36:LYS:HG2	10:I:42:ARG:HH22	1.81	0.45
17:P:67:THR:HG22	17:P:68:ASP:H	1.79	0.45
18:Q:19:VAL:HG22	18:Q:44:ALA:HB3	1.98	0.45
20:S:28:LYS:HG2	20:S:29:ARG:N	2.18	0.45
21:T:72:LEU:HA	21:T:72:LEU:HD23	1.67	0.45
1:A:1002:G:C2'	1:A:1003:G:H5'	2.47	0.45
1:A:1083:U:C5	1:A:1084:G:C5	3.04	0.45
1:A:1100:C:O2	1:A:1102:A:OP1	2.35	0.45
1:A:1285:A:O2'	1:A:1286:A:OP2	2.28	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1288:A:C2	1:A:1289:A:C5	3.05	0.45
1:A:1290:G:C6	1:A:1291:G:N7	2.85	0.45
1:A:1350:A:C5	1:A:1351:U:C4	3.05	0.45
1:A:277:C:H5'	18:Q:68:ARG:HH12	1.82	0.45
1:A:292:G:C2	1:A:309:G:C2	3.04	0.45
1:A:375:U:C2	1:A:376:G:C8	3.05	0.45
1:A:635:G:C6	1:A:636:U:C4	3.04	0.45
1:A:644:G:H2'	1:A:645:C:H5'	1.99	0.45
1:A:706:A:H1'	12:K:29:ILE:HD11	1.98	0.45
1:A:778:G:C6	1:A:779:C:C4	3.05	0.45
1:A:949:A:H2'	1:A:950:U:O4'	2.17	0.45
4:C:154:SER:HB3	4:C:197:GLY:N	2.25	0.45
5:D:112:VAL:HG23	5:D:116:GLN:OE1	2.17	0.45
5:D:64:LEU:HD22	5:D:64:LEU:HA	1.76	0.45
10:I:50:LEU:O	10:I:52:ALA:N	2.50	0.45
19:R:37:VAL:HG21	19:R:78:LEU:HB3	1.98	0.45
1:A:1095:U:P	1:A:1108:G:H1	2.40	0.45
1:A:1181:G:C2'	1:A:1182:G:C8	3.00	0.45
1:A:1472:U:H2'	1:A:1473:A:C8	2.51	0.45
1:A:1475:G:O2'	1:A:1476:G:H5'	2.16	0.45
1:A:152:A:N6	1:A:170:U:O2	2.49	0.45
1:A:558:G:C5	1:A:559:A:C2	3.04	0.45
1:A:806:C:H2'	1:A:807:A:H8	1.82	0.45
1:A:877:C:H1'	9:H:3:THR:HG22	1.99	0.45
1:A:811:C:H4'	1:A:900:A:N6	2.32	0.45
4:C:35:GLU:O	4:C:38:ARG:HB2	2.17	0.45
10:I:95:LYS:HD3	10:I:95:LYS:HA	1.72	0.45
18:Q:11:VAL:HG11	18:Q:22:LEU:HB2	1.98	0.45
20:S:28:LYS:HD3	20:S:31:ILE:HD11	1.99	0.45
1:A:1224:G:H2'	20:S:78:ARG:NH2	2.32	0.45
1:A:102:G:H2'	1:A:103:C:H6	1.82	0.45
1:A:1072:G:C5	1:A:1073:U:C4	3.04	0.45
1:A:60:A:H2	1:A:107:G:N3	2.15	0.45
1:A:1061:G:C2	1:A:1197:G:N3	2.85	0.45
1:A:960:U:C2	1:A:1225:A:C5	3.05	0.45
1:A:1251:A:H2'	1:A:1252:A:O4'	2.17	0.45
1:A:1277:C:O4'	1:A:1282:C:H1'	2.17	0.45
1:A:1305:G:OP2	1:A:1305:G:O4'	2.35	0.45
1:A:392:G:C5	1:A:393:A:N7	2.85	0.45
4:C:23:TYR:CG	4:C:24:ALA:N	2.84	0.45
5:D:174:LEU:CD2	5:D:185:PHE:HA	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:114:THR:C	9:H:116:LYS:H	2.20	0.45
10:I:102:LEU:HD23	10:I:102:LEU:HA	1.65	0.45
1:A:1148:U:O3'	10:I:14:VAL:HG21	2.17	0.45
14:M:37:THR:HG21	14:M:39:ILE:HD11	1.98	0.45
18:Q:76:LEU:HD23	18:Q:76:LEU:C	2.37	0.45
19:R:73:ALA:HB3	19:R:79:LEU:HD12	1.98	0.45
20:S:62:ILE:HD12	20:S:66:MET:CG	2.46	0.45
2:1:4:A:H2'	2:1:5:G:H8	1.82	0.45
1:A:1059:C:H2'	1:A:1060:C:C6	2.49	0.45
1:A:1102:A:C6	1:A:1103:C:N4	2.85	0.45
1:A:1164:G:N2	1:A:1173:G:C4	2.85	0.45
1:A:1238:A:C4	1:A:1303:C:O2'	2.69	0.45
1:A:1238:A:C6	1:A:1303:C:H4'	2.52	0.45
1:A:1286:A:C8	1:A:1287:A:H4'	2.51	0.45
1:A:1303:C:C4	1:A:1304:G:C5	3.05	0.45
1:A:1350:A:H2'	1:A:1351:U:H6	1.82	0.45
1:A:1399:C:C2	1:A:1401:G:C4	3.04	0.45
1:A:1401:G:C5	1:A:1402:C:C5	3.05	0.45
1:A:1542:U:H2'	1:A:1543:C:O4'	2.17	0.45
1:A:201:C:H42	1:A:203:U:H1'	1.81	0.45
1:A:503:C:C2	1:A:504:C:C5	3.05	0.45
1:A:522:C:C2'	1:A:523:A:H5'	2.47	0.45
5:D:61:LYS:HD3	5:D:206:PHE:CE2	2.52	0.45
9:H:14:ARG:O	9:H:16:ALA:N	2.49	0.45
11:J:40:LEU:HA	11:J:40:LEU:HD23	1.66	0.45
1:A:538:G:P	13:L:115:LYS:HG3	2.56	0.45
13:L:75:HIS:HD2	13:L:77:LEU:CG	2.30	0.45
1:A:1318:A:H4'	20:S:10:PHE:CD2	2.51	0.45
20:S:19:VAL:O	20:S:22:LEU:HB2	2.16	0.45
1:A:1029:C:H42	1:A:1032:G:H1	1.63	0.45
1:A:1107:C:N4	1:A:1108:G:C8	2.84	0.45
1:A:1151:A:C2	1:A:1152:A:C6	3.05	0.45
1:A:1234:C:C4'	1:A:1364:U:H1'	2.47	0.45
1:A:124:G:C6	1:A:125:U:N3	2.85	0.45
1:A:1296:C:H4'	1:A:1302:U:O4	2.16	0.45
1:A:1358:U:H2'	1:A:1359:C:C6	2.51	0.45
1:A:138:G:C6	1:A:226:G:C6	3.05	0.45
1:A:149:A:O2'	1:A:150:C:H5'	2.17	0.45
1:A:398:C:O2'	1:A:399:G:H5'	2.17	0.45
1:A:636:U:H2'	1:A:637:G:C8	2.53	0.45
1:A:943:U:C2	1:A:944:G:C8	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:978:A:C6	1:A:1318:A:C6	3.05	0.45
5:D:190:ASP:O	5:D:193:ASP:N	2.42	0.45
5:D:65:ARG:HH21	5:D:71:SER:HA	1.81	0.45
8:G:26:PHE:HD1	8:G:101:LEU:CD2	2.30	0.45
11:J:40:LEU:HB3	11:J:41:PRO:HB2	1.98	0.45
14:M:10:PRO:HG2	14:M:10:PRO:O	2.17	0.45
1:A:1060:C:OP1	15:N:45:ARG:NH2	2.50	0.45
18:Q:44:ALA:O	18:Q:69:LYS:HE3	2.17	0.45
1:A:1191:A:N3	1:A:1192:C:C5	2.85	0.44
1:A:119:A:C5	1:A:240:C:C4	3.05	0.44
1:A:1442:G:N2	1:A:1446:A:C3'	2.70	0.44
1:A:262:A:N1	1:A:263:A:C6	2.84	0.44
1:A:272:C:O2'	1:A:273:A:H5'	2.16	0.44
1:A:26:A:H2'	1:A:27:G:H5'	1.99	0.44
1:A:40:C:C2	1:A:41:G:C8	3.05	0.44
1:A:476:G:N1	1:A:477:G:C5	2.85	0.44
1:A:633:G:H2'	1:A:634:C:C6	2.51	0.44
1:A:657:G:N2	1:A:750:G:N9	2.65	0.44
1:A:683:G:H2'	1:A:684:A:O4'	2.17	0.44
1:A:707:C:H5''	12:K:20:TYR:CD2	2.51	0.44
1:A:781:A:H2	1:A:1514:C:C4'	2.30	0.44
1:A:868:C:O2'	1:A:873:A:H2'	2.17	0.44
1:A:927:G:C6	1:A:1391:U:C2	3.04	0.44
1:A:977:A:C8	1:A:1223:C:C2	3.05	0.44
3:B:16:HIS:NE2	3:B:210:SER:CB	2.80	0.44
4:C:152:ILE:CG2	4:C:153:VAL:N	2.79	0.44
8:G:115:ARG:O	8:G:119:ARG:HG3	2.17	0.44
11:J:8:LEU:HB2	11:J:70:ARG:HB2	1.98	0.44
18:Q:82:MET:O	18:Q:85:VAL:N	2.50	0.44
21:T:36:LEU:HD12	21:T:62:LEU:HD12	1.99	0.44
1:A:1039:C:C2	1:A:1040:U:C5	3.05	0.44
1:A:1083:U:C4	1:A:1084:G:C2	3.06	0.44
1:A:1317:C:C6	15:N:16:PHE:CD2	3.06	0.44
1:A:1316:G:H22	1:A:1318:A:H3'	1.83	0.44
1:A:371:G:C2'	1:A:372:C:C5'	2.95	0.44
1:A:414:A:H2'	1:A:414:A:N3	2.32	0.44
1:A:633:G:H2'	1:A:634:C:H6	1.81	0.44
1:A:877:C:O2	9:H:3:THR:CG2	2.66	0.44
3:B:109:SER:O	3:B:112:VAL:HB	2.17	0.44
4:C:173:VAL:CG1	4:C:173:VAL:O	2.64	0.44
4:C:6:HIS:CD2	4:C:9:GLY:H	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:61:GLU:OE2	15:N:49:HIS:HE1	2.00	0.44
16:O:66:LEU:O	16:O:69:TYR:N	2.50	0.44
1:A:953:G:C2	1:A:1229:A:C2	3.05	0.44
1:A:1287:A:N6	1:A:1288:A:N6	2.66	0.44
1:A:1401:G:C5	1:A:1402:C:C6	3.05	0.44
1:A:197:A:O2'	1:A:198:G:P	2.75	0.44
1:A:286:G:C5	1:A:287:U:C5	3.05	0.44
1:A:118:U:O4	1:A:288:A:H2'	2.18	0.44
1:A:355:C:C2	1:A:356:A:C8	3.05	0.44
1:A:374:A:H2'	1:A:375:U:H6	1.82	0.44
1:A:407:G:O2'	1:A:408:A:H5'	2.17	0.44
1:A:621:A:C6	1:A:622:A:C6	3.05	0.44
1:A:665:A:N3	1:A:732:C:H2'	2.32	0.44
1:A:741:G:H2'	1:A:742:G:H5'	1.97	0.44
1:A:75:G:C2'	1:A:76:C:O5'	2.66	0.44
1:A:76:C:O2'	1:A:77:G:C5'	2.64	0.44
1:A:893:C:H2'	1:A:894:G:C8	2.52	0.44
3:B:187:LEU:HD21	3:B:214:ILE:HG13	2.00	0.44
3:B:204:ASN:ND2	3:B:205:ASP:N	2.64	0.44
4:C:115:LEU:HA	4:C:115:LEU:HD23	1.78	0.44
5:D:176:LEU:HA	5:D:183:GLY:HA2	1.99	0.44
5:D:70:ILE:HD11	5:D:100:ARG:CD	2.47	0.44
17:P:9:PHE:CE2	17:P:18:ARG:HD2	2.52	0.44
19:R:52:PRO:HB2	19:R:54:ARG:HG3	1.99	0.44
1:A:1138:G:C2	1:A:1140:C:C5	3.05	0.44
1:A:112:G:C2	1:A:113:G:C8	3.06	0.44
1:A:1195:C:H2'	1:A:1197:G:H5'	1.98	0.44
1:A:1205:U:H5''	4:C:190:ARG:CZ	2.46	0.44
1:A:1212:U:OP2	1:A:1212:U:O4'	2.36	0.44
1:A:1233:G:N2	1:A:1234:C:C2	2.85	0.44
1:A:1240:U:P	8:G:116:ALA:HB2	2.56	0.44
1:A:1257:U:C2'	1:A:1258:G:OP2	2.64	0.44
1:A:1301:U:C6	1:A:1303:C:C5	3.06	0.44
1:A:1403:C:H2'	1:A:1403:C:O2	2.16	0.44
1:A:1408:A:C6	1:A:1494:G:C6	3.05	0.44
1:A:1511:G:C2'	1:A:1512:U:H5'	2.47	0.44
1:A:1539:C:H6	1:A:1539:C:H3'	1.82	0.44
1:A:369:C:C2	1:A:370:C:C5	3.05	0.44
1:A:411:A:N9	1:A:413:G:H1'	2.32	0.44
1:A:533:A:O2'	1:A:534:U:P	2.74	0.44
1:A:624:C:H2'	1:A:625:G:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:642:A:C6	1:A:643:C:N4	2.85	0.44
1:A:65:U:C5	1:A:381:C:N4	2.85	0.44
3:B:98:LEU:HB2	3:B:101:MET:SD	2.58	0.44
6:E:80:ILE:O	6:E:80:ILE:HD12	2.17	0.44
2:1:3:A:O2'	2:1:4:A:OP1	2.30	0.44
1:A:109:A:H4'	1:A:110:C:OP2	2.18	0.44
1:A:1126:U:OP2	1:A:1281:U:O2	2.35	0.44
1:A:1129:C:O5'	1:A:1130:A:C5'	2.57	0.44
1:A:1306:A:N1	1:A:1307:U:C2	2.86	0.44
1:A:1514:C:C2'	1:A:1515:C:H5'	2.46	0.44
1:A:1533:C:O2'	1:A:1534:A:C8	2.71	0.44
1:A:1536:C:O2'	1:A:1537:U:H5'	2.18	0.44
1:A:175:C:N3	1:A:176:C:C5	2.85	0.44
1:A:544:G:C6	1:A:545:C:C4	3.05	0.44
1:A:573:A:C2	1:A:574:A:C2	3.06	0.44
1:A:805:C:C6	1:A:805:C:H3'	2.52	0.44
1:A:882:C:O2'	1:A:883:C:C5'	2.55	0.44
1:A:898:G:N2	1:A:900:A:H3'	2.32	0.44
1:A:936:C:H2'	1:A:937:A:C5'	2.47	0.44
1:A:945:G:H2'	1:A:946:A:H5'	2.00	0.44
3:B:42:ILE:HD12	3:B:203:GLY:HA2	1.99	0.44
1:A:1103:C:C5'	3:B:98:LEU:HD22	2.48	0.44
6:E:79:GLU:O	6:E:80:ILE:HG23	2.17	0.44
9:H:75:ARG:HA	9:H:76:PRO:HD3	1.74	0.44
17:P:36:ILE:O	17:P:36:ILE:HG13	2.16	0.44
1:A:1030(C):G:H2'	1:A:1030(D):A:C8	2.52	0.44
1:A:994:A:N7	1:A:1216:G:H4'	2.33	0.44
1:A:1311:G:C6	1:A:1312:G:C5	3.05	0.44
1:A:262:A:OP2	21:T:73:HIS:CD2	2.71	0.44
1:A:246:A:C4	1:A:279:A:C6	3.06	0.44
1:A:62:U:O2'	1:A:379:C:H1'	2.18	0.44
1:A:418:C:N3	1:A:426:G:C2	2.86	0.44
1:A:421:U:H5'	1:A:422:C:OP2	2.18	0.44
1:A:433:C:C2	1:A:434:U:C5	3.05	0.44
1:A:489:C:C2'	1:A:490:G:H5'	2.47	0.44
1:A:560:U:H5''	1:A:561:U:H3'	1.99	0.44
1:A:590:C:OP1	9:H:30:ARG:N	2.38	0.44
1:A:588:G:C6	1:A:753:A:C8	3.05	0.44
1:A:767:A:C6	1:A:768:A:C5	3.06	0.44
1:A:859:A:H2'	1:A:860:A:C8	2.53	0.44
1:A:1191:A:OP1	4:C:4:LYS:HE2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:151:LEU:HD23	6:E:151:LEU:O	2.18	0.44
6:E:57:LYS:O	6:E:60:TYR:N	2.50	0.44
8:G:113:GLU:HB2	8:G:119:ARG:CG	2.46	0.44
9:H:111:ILE:C	9:H:112:LEU:HD23	2.38	0.44
10:I:118:LYS:HB3	10:I:119:ALA:H	1.66	0.44
18:Q:40:LYS:HD3	18:Q:42:TYR:CZ	2.53	0.44
19:R:39:VAL:CG1	19:R:40:LEU:H	2.30	0.44
1:A:1320:C:C2	20:S:72:GLY:HA3	2.52	0.44
1:A:1009:G:C2	1:A:1010:G:C8	3.05	0.44
1:A:1020:U:C2'	1:A:1021:G:C5'	2.94	0.44
1:A:1030(A):G:H2'	1:A:1030(A):G:N3	2.32	0.44
1:A:960:U:N3	1:A:1225:A:C5	2.86	0.44
1:A:191:G:N7	1:A:192:U:C5	2.85	0.44
1:A:216:G:H2'	1:A:217:C:C6	2.53	0.44
1:A:509:A:C6	1:A:510:A:C6	3.06	0.44
1:A:760:G:H2'	1:A:761:G:C5'	2.47	0.44
1:A:802:A:O5'	1:A:802:A:H8	2.00	0.44
1:A:825:G:C6	1:A:826:C:C4	3.05	0.44
1:A:955:U:C2'	1:A:956:U:H5'	2.48	0.44
3:B:19:HIS:CE1	3:B:206:ASP:HB3	2.52	0.44
3:B:70:PHE:O	3:B:92:TYR:HA	2.17	0.44
5:D:50:ARG:HA	5:D:51:PRO:HD3	1.82	0.44
17:P:28:ARG:HG2	17:P:29:ASP:OD2	2.17	0.44
1:A:275:G:H5'	18:Q:14:LYS:HB3	2.00	0.44
1:A:1030:C:O2'	1:A:1030(A):G:C8	2.70	0.44
1:A:1045:C:C2'	1:A:1046:A:O5'	2.66	0.44
1:A:1162:C:C2	1:A:1175:G:C2	3.06	0.44
1:A:1190:G:H8	1:A:1190:G:O5'	2.01	0.44
1:A:1343:G:C4	1:A:1344:C:C5	3.06	0.44
1:A:1442:G:N2	1:A:1446:A:C8	2.85	0.44
1:A:344:A:OP2	1:A:345:C:N4	2.50	0.44
1:A:409:G:H2'	1:A:410:G:O5'	2.17	0.44
1:A:452:A:N3	1:A:453:A:N9	2.64	0.44
1:A:463:A:O2'	1:A:474:G:H5'	2.17	0.44
1:A:58:C:C2'	1:A:58:C:O2	2.65	0.44
1:A:738:C:H6	1:A:738:C:O5'	2.00	0.44
1:A:955:U:O2'	1:A:956:U:H5'	2.18	0.44
4:C:3:ASN:O	4:C:4:LYS:CB	2.66	0.44
5:D:59:ARG:HH11	5:D:59:ARG:HG3	1.78	0.44
6:E:11:ILE:HG12	6:E:33:VAL:HG23	1.99	0.44
11:J:42:THR:HG23	11:J:68:HIS:CA	2.37	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:362:G:OP2	13:L:34:ARG:NH2	2.51	0.44
13:L:54:LYS:N	13:L:54:LYS:HD2	2.33	0.44
16:O:39:LEU:HD12	16:O:59:MET:CE	2.48	0.44
1:A:264:U:O2'	18:Q:63:ARG:HG2	2.17	0.44
18:Q:64:PRO:C	18:Q:65:ILE:HG13	2.37	0.44
1:A:1081:G:N2	1:A:1082:G:H1'	2.32	0.44
1:A:1159:U:C5	1:A:1182:G:H2'	2.50	0.44
1:A:1266:G:C5	1:A:1268:A:OP2	2.71	0.44
1:A:1298:C:H5''	1:A:1299:A:OP1	2.18	0.44
1:A:153:C:N3	1:A:169:C:N4	2.66	0.44
1:A:177:C:O2'	1:A:178:C:C5'	2.65	0.44
1:A:321:A:N3	1:A:322:C:C6	2.86	0.44
1:A:439:A:N6	1:A:497:A:H1'	2.33	0.44
1:A:487:A:H2'	1:A:488:C:C4'	2.48	0.44
1:A:513:C:H2'	1:A:514:C:O4'	2.18	0.44
1:A:638:G:O2'	1:A:639:G:H5'	2.17	0.44
1:A:656:C:H2'	1:A:657:G:O5'	2.18	0.44
1:A:687:A:H4'	12:K:47:VAL:CG2	2.46	0.44
1:A:724:G:N2	1:A:725:G:C1'	2.81	0.44
1:A:736:C:O2'	1:A:737:A:H5'	2.17	0.44
1:A:774:G:H2'	1:A:775:G:O4'	2.18	0.44
1:A:981:U:C2	1:A:982:U:C5	3.06	0.44
3:B:17:PHE:N	3:B:17:PHE:HD1	2.15	0.44
5:D:11:LEU:O	5:D:12:CYS:C	2.55	0.44
5:D:187:ARG:CD	5:D:188:LEU:H	2.30	0.44
9:H:44:PHE:HD1	9:H:80:ILE:HG12	1.82	0.44
10:I:6:GLY:O	10:I:7:THR:HB	2.18	0.44
1:A:1178:G:P	10:I:97:LYS:HZ2	2.41	0.44
11:J:4:ILE:HG23	11:J:98:ILE:HG21	2.00	0.44
1:A:1316:G:O2'	15:N:18:VAL:HG11	2.18	0.44
15:N:57:ARG:HG2	15:N:58:LYS:H	1.82	0.44
1:A:1055:A:C6	1:A:1206:G:C6	3.06	0.43
1:A:1127:G:N2	1:A:1145:C:C2	2.82	0.43
1:A:1330:U:O4	1:A:1331:G:N1	2.51	0.43
1:A:1355:G:C2	1:A:1356:G:C4	3.06	0.43
1:A:1520:G:N3	1:A:1521:G:N7	2.66	0.43
1:A:293:G:H2'	1:A:294:U:H6	1.83	0.43
1:A:399:G:H2'	1:A:400:C:O4'	2.18	0.43
1:A:402:G:H2'	1:A:403:C:C5'	2.48	0.43
1:A:450:G:C8	1:A:481:G:O6	2.71	0.43
1:A:485:G:O2'	1:A:486:U:O5'	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:605:U:C4	1:A:606:G:C6	3.05	0.43
1:A:749:C:H2'	1:A:750:G:H8	1.82	0.43
1:A:838:G:C3'	1:A:839:U:H5''	2.47	0.43
1:A:934:C:C4	1:A:1345:U:C5	3.06	0.43
3:B:100:GLY:O	3:B:102:LEU:N	2.51	0.43
3:B:98:LEU:O	3:B:101:MET:HG3	2.18	0.43
5:D:121:VAL:O	5:D:134:ASP:HA	2.18	0.43
5:D:194:LEU:HD12	5:D:196:LEU:HG	1.98	0.43
9:H:24:THR:HG23	9:H:24:THR:O	2.18	0.43
10:I:50:LEU:HD21	10:I:81:ILE:CG2	2.48	0.43
15:N:31:ARG:HA	15:N:31:ARG:HD2	1.73	0.43
1:A:1221:G:OP1	1:A:1320:C:N4	2.50	0.43
1:A:1272:G:H2'	1:A:1273:G:O4'	2.18	0.43
1:A:1369:C:H2'	1:A:1370:G:O4'	2.17	0.43
1:A:1480:G:C5	1:A:1481:U:C5	3.07	0.43
1:A:1494:G:O2'	1:A:1495:U:H5'	2.18	0.43
1:A:190(A):C:H2'	1:A:190(B):C:C5'	2.48	0.43
1:A:264:U:H4'	18:Q:63:ARG:HD3	2.00	0.43
1:A:286:G:C4	1:A:287:U:C5	3.06	0.43
1:A:414:A:C5	1:A:431:A:C2	3.06	0.43
1:A:445:G:O2'	1:A:446:G:H5'	2.18	0.43
1:A:459:G:C3'	1:A:460:A:C5'	2.91	0.43
1:A:502:G:H2'	1:A:503:C:H6	1.83	0.43
1:A:676:A:C5	1:A:677:U:C4	3.06	0.43
1:A:817:C:C2	1:A:819:A:O4'	2.72	0.43
4:C:108:ASN:HA	4:C:109:PRO:HD2	1.68	0.43
4:C:154:SER:OG	4:C:155:GLY:N	2.51	0.43
5:D:19:LEU:HA	5:D:19:LEU:HD23	1.64	0.43
5:D:64:LEU:O	5:D:67:ILE:HB	2.18	0.43
1:A:1360:A:H2'	1:A:1361:G:H8	1.82	0.43
1:A:1426:C:O2'	1:A:1427:U:H5'	2.18	0.43
1:A:414:A:C4	1:A:415:A:C8	3.06	0.43
1:A:458:C:N4	1:A:459:G:C5	2.87	0.43
1:A:480:U:H2'	1:A:481:G:OP2	2.18	0.43
1:A:481:G:O2'	1:A:482:A:H8	2.00	0.43
1:A:541:G:O2'	1:A:542:G:H5'	2.19	0.43
1:A:565:U:C5	1:A:566:G:C4	3.06	0.43
1:A:613:C:C2	1:A:628:G:N2	2.86	0.43
1:A:658:G:O2'	1:A:659:U:H5'	2.18	0.43
1:A:724:G:N2	1:A:725:G:N9	2.66	0.43
1:A:79:G:H8	1:A:79:G:H5''	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:887:G:H2'	1:A:888:G:O4'	2.18	0.43
1:A:939:G:C6	1:A:940:C:C4	3.06	0.43
1:A:988:G:C6	1:A:989:C:C4	3.05	0.43
7:F:92:LYS:HG3	7:F:92:LYS:HZ3	1.64	0.43
11:J:47:PHE:CZ	15:N:37:PHE:HE1	2.37	0.43
11:J:51:ARG:HG2	11:J:61:GLU:HB2	1.99	0.43
2:I:6:A:H2'	2:2:7:G:O4'	2.18	0.43
1:A:1004:A:C5'	1:A:1025:U:O2	2.66	0.43
1:A:1109:C:O2'	1:A:1110:A:H5'	2.18	0.43
1:A:1219:U:C2	1:A:1220:G:C8	3.07	0.43
1:A:1343:G:C5	1:A:1344:C:C4	3.06	0.43
1:A:1539:C:H3'	1:A:1539:C:C6	2.52	0.43
1:A:166:G:C2	1:A:167:G:C5	3.05	0.43
1:A:265:G:H2'	1:A:267:C:H5	1.83	0.43
1:A:267:C:H2'	1:A:268:C:C6	2.53	0.43
1:A:113:G:C5	1:A:315:A:N1	2.86	0.43
1:A:660:G:H2'	1:A:661:G:O5'	2.18	0.43
1:A:886:G:O2'	1:A:887:G:H5'	2.18	0.43
5:D:201:GLN:O	5:D:205:GLU:HG3	2.18	0.43
7:F:75:LEU:HD13	7:F:75:LEU:O	2.18	0.43
13:L:50:SER:O	13:L:51:ALA:HB2	2.18	0.43
21:T:76:ALA:O	21:T:80:ARG:HG2	2.18	0.43
1:A:118:U:C5	1:A:288:A:C6	3.07	0.43
1:A:1231:G:C4	1:A:1232:U:C5	3.06	0.43
1:A:1314:C:H2'	1:A:1315:U:C6	2.53	0.43
1:A:1319:A:C8	1:A:1323:G:C5	3.06	0.43
1:A:166:G:C4	1:A:167:G:N7	2.87	0.43
1:A:192:U:N3	1:A:193:C:C5	2.87	0.43
1:A:333:G:C6	1:A:334:C:N4	2.87	0.43
1:A:377:G:C2	1:A:387:U:O2	2.70	0.43
1:A:570:G:C6	1:A:571:U:O4	2.72	0.43
1:A:625:G:C6	1:A:626:U:O4	2.72	0.43
1:A:664:G:H2'	1:A:666:G:OP1	2.18	0.43
1:A:741:G:H2'	1:A:742:G:C5'	2.48	0.43
1:A:805:C:C6	1:A:805:C:C3'	3.01	0.43
1:A:986:A:N1	1:A:1220:G:C6	2.86	0.43
3:B:57:PHE:CZ	3:B:199:TYR:HE1	2.37	0.43
5:D:108:LEU:HD23	5:D:108:LEU:HA	1.88	0.43
5:D:127:THR:HG22	5:D:128:VAL:H	1.83	0.43
6:E:34:VAL:CG1	6:E:35:GLY:N	2.80	0.43
6:E:91:LEU:HA	6:E:91:LEU:HD23	1.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:78:ARG:NH1	8:G:154:TYR:HB3	2.34	0.43
15:N:37:PHE:HB3	15:N:39:LEU:HD12	2.00	0.43
21:T:85:MET:HE3	21:T:103:GLY:O	2.18	0.43
21:T:48:LYS:O	21:T:50:GLU:N	2.51	0.43
1:A:101:A:H2'	1:A:102:G:H8	1.83	0.43
1:A:1291:G:H2'	1:A:1292:U:C6	2.53	0.43
1:A:15:G:H2'	1:A:16:A:O4'	2.18	0.43
1:A:452:A:N3	1:A:453:A:C1'	2.81	0.43
1:A:474:G:N3	1:A:475:G:C8	2.86	0.43
1:A:448:A:C6	1:A:487:A:C4	3.06	0.43
1:A:725:G:N3	1:A:726:C:C6	2.86	0.43
1:A:808:C:OP1	16:O:48:LYS:HE2	2.19	0.43
1:A:575:G:C4	1:A:881:G:C2	3.07	0.43
1:A:997:U:O2'	1:A:998:G:H5'	2.19	0.43
3:B:188:ALA:O	3:B:203:GLY:N	2.42	0.43
4:C:130:VAL:CB	4:C:157:ILE:HG23	2.49	0.43
9:H:74:PRO:O	9:H:76:PRO:HD3	2.18	0.43
10:I:17:VAL:CG2	10:I:80:GLY:HA3	2.43	0.43
1:A:1114:C:H1'	15:N:60:SER:HB3	1.99	0.43
1:A:1097:C:HO2'	1:A:1168:A:H1'	1.83	0.43
1:A:1173:G:H2'	1:A:1174:G:H8	1.84	0.43
1:A:1418:A:H2'	1:A:1419:G:O4'	2.18	0.43
1:A:1480:G:O2'	1:A:1481:U:H5'	2.18	0.43
1:A:1392:G:O2'	1:A:1502:A:H5'	2.19	0.43
1:A:357:G:C2	1:A:358:U:C6	3.07	0.43
1:A:36:C:N3	1:A:37:U:C6	2.87	0.43
1:A:421:U:C5'	1:A:422:C:OP2	2.67	0.43
1:A:440:A:H3'	1:A:442:C:C6	2.54	0.43
1:A:454:C:N4	1:A:478:A:C2	2.86	0.43
1:A:479:C:H2'	1:A:480:U:O4'	2.19	0.43
1:A:36:C:O2	1:A:501:C:H5'	2.19	0.43
1:A:551:U:C4	1:A:552:U:O4	2.72	0.43
1:A:651:C:N4	1:A:652:U:O4	2.51	0.43
1:A:706:A:H1'	12:K:29:ILE:CD1	2.49	0.43
1:A:885:G:C2	1:A:886:G:N7	2.87	0.43
4:C:64:VAL:HG12	4:C:65:ALA:N	2.32	0.43
6:E:117:ASP:O	6:E:118:ILE:HB	2.19	0.43
1:A:1080:A:O3'	6:E:16:THR:CG2	2.66	0.43
8:G:45:ASP:O	8:G:49:ILE:HG13	2.18	0.43
9:H:127:LEU:N	9:H:127:LEU:HD22	2.34	0.43
9:H:83:ILE:HA	9:H:136:GLU:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:89:PRO:HA	9:H:92:ARG:NE	2.33	0.43
13:L:30:ALA:HA	13:L:31:PRO:HD3	1.79	0.43
14:M:81:LEU:HA	14:M:84:ILE:HG13	2.00	0.43
15:N:16:PHE:CD1	15:N:16:PHE:N	2.86	0.43
18:Q:19:VAL:CG2	18:Q:44:ALA:HB3	2.48	0.43
1:A:1221:G:O2'	20:S:77:THR:HG21	2.19	0.43
1:A:1278:U:O5'	1:A:1278:U:C2	2.72	0.43
1:A:1287:A:H2	1:A:1353:G:H1'	1.81	0.43
1:A:1301:U:C4	1:A:1303:C:H1'	2.54	0.43
1:A:1381:U:H2'	1:A:1381:U:O2	2.18	0.43
1:A:172:A:N7	1:A:174:C:C5	2.86	0.43
1:A:176:C:O2'	1:A:177:C:C5'	2.66	0.43
1:A:346:G:H2'	1:A:347:G:C5'	2.40	0.43
1:A:408:A:H2'	1:A:409:G:O5'	2.19	0.43
1:A:668:G:H2'	1:A:669:U:C6	2.51	0.43
1:A:720:C:C6	1:A:720:C:C3'	3.01	0.43
1:A:777:A:C6	1:A:778:G:C4	3.06	0.43
1:A:979:C:H2'	1:A:980:C:H5'	2.01	0.43
3:B:101:MET:HA	3:B:108:ILE:HD13	2.00	0.43
5:D:61:LYS:HD2	5:D:207:TYR:OH	2.19	0.43
8:G:87:VAL:HA	8:G:88:PRO:HD2	1.89	0.43
9:H:83:ILE:HG13	9:H:137:VAL:HG22	1.99	0.43
6:E:151:LEU:CD2	9:H:79:VAL:HA	2.47	0.43
11:J:19:SER:CB	11:J:91:PRO:HG3	2.49	0.43
14:M:11:ARG:CG	14:M:12:ASN:N	2.81	0.43
18:Q:27:PHE:CE1	18:Q:36:ILE:HD11	2.53	0.43
19:R:34:TYR:H	19:R:34:TYR:HD2	1.60	0.43
1:A:1057:G:O2'	1:A:1058:G:H5'	2.19	0.43
1:A:106:C:H2'	1:A:107:G:H8	1.84	0.43
1:A:1135:U:O3'	1:A:1136:U:H5	2.01	0.43
1:A:1212:U:O2'	1:A:1213:A:C8	2.72	0.43
1:A:1249:C:H1'	10:I:70:LYS:HG3	2.01	0.43
1:A:1309:G:C5	1:A:1329:A:C2	3.07	0.43
1:A:1507:A:H2'	1:A:1508:G:H8	1.82	0.43
1:A:1528:U:O2'	1:A:1529:G:P	2.77	0.43
1:A:354:G:O2'	1:A:355:C:H5'	2.19	0.43
1:A:355:C:N4	1:A:356:A:N7	2.66	0.43
1:A:434:U:H2'	1:A:435:C:H6	1.82	0.43
1:A:450:G:N2	1:A:482:A:H61	2.16	0.43
1:A:522:C:H42	1:A:528:C:N4	2.17	0.43
1:A:529:G:O4'	1:A:533:A:C2	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:658:G:C6	1:A:749:C:N4	2.87	0.43
1:A:716:A:C6	1:A:717:C:N3	2.87	0.43
1:A:957:U:H6	1:A:957:U:O5'	2.02	0.43
3:B:187:LEU:HD23	3:B:201:ILE:CG2	2.49	0.43
13:L:98:TYR:N	13:L:98:TYR:CD1	2.87	0.43
14:M:49:THR:HG22	14:M:51:ALA:H	1.83	0.43
16:O:37:ASN:HD22	16:O:37:ASN:HA	1.57	0.43
1:A:279:A:H3'	18:Q:95:TYR:OH	2.19	0.43
1:A:1029:C:C2	1:A:1033:G:N2	2.87	0.43
1:A:998:G:C6	1:A:1044:A:N6	2.87	0.43
1:A:1074:G:N2	1:A:1102:A:C8	2.87	0.43
1:A:1108:G:C5	1:A:1109:C:C5	3.06	0.43
1:A:1121:U:H2'	1:A:1122:U:H6	1.83	0.43
1:A:1188:A:N3	1:A:1188:A:H2'	2.34	0.43
1:A:1239:A:N6	1:A:1299:A:H62	2.17	0.43
1:A:1407:C:H6	1:A:1407:C:O5'	2.01	0.43
1:A:1419:G:H2'	1:A:1420:C:C6	2.54	0.43
1:A:1452:C:C4'	1:A:1453:G:O5'	2.63	0.43
1:A:1501:C:N4	1:A:1504:G:N3	2.66	0.43
1:A:186:C:N3	1:A:187:C:C5	2.87	0.43
1:A:181:G:C2	1:A:195:A:C8	3.07	0.43
1:A:428:G:C5	1:A:430:A:C6	3.07	0.43
1:A:537:G:OP1	13:L:113:ARG:NH2	2.47	0.43
1:A:625:G:N3	1:A:626:U:C6	2.86	0.43
1:A:642:A:C5	9:H:115:SER:HA	2.54	0.43
1:A:762:C:H6	1:A:762:C:O5'	2.02	0.43
1:A:778:G:C2'	1:A:779:C:H5'	2.48	0.43
3:B:130:ARG:HA	3:B:130:ARG:HD3	1.75	0.43
13:L:82:VAL:HG12	13:L:83:VAL:N	2.34	0.43
16:O:7:GLU:O	16:O:10:LYS:HB3	2.19	0.43
18:Q:22:LEU:HA	18:Q:22:LEU:HD12	1.64	0.43
1:A:1057:G:C5'	4:C:154:SER:CB	2.91	0.42
1:A:1080:A:H5''	6:E:16:THR:HG21	2.01	0.42
1:A:1113:C:H1'	4:C:178:LEU:CD2	2.49	0.42
1:A:1181:G:H2'	1:A:1182:G:C8	2.54	0.42
1:A:1213:A:C2	1:A:1215:G:H1'	2.54	0.42
1:A:1402:C:C4	1:A:1403:C:C4	3.07	0.42
1:A:1509:C:H2'	1:A:1510:U:O4'	2.18	0.42
1:A:1523:G:C5	1:A:1524:C:C5	3.07	0.42
1:A:22:G:C4	1:A:23:C:C6	3.07	0.42
1:A:579:G:H2'	1:A:580:U:C6	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:805:C:C2'	1:A:806:C:H5'	2.49	0.42
1:A:942:G:C2	1:A:943:U:C6	3.06	0.42
3:B:149:LEU:HA	3:B:149:LEU:HD23	1.77	0.42
5:D:173:TRP:C	5:D:174:LEU:HG	2.38	0.42
13:L:22:SER:C	13:L:24:VAL:H	2.20	0.42
18:Q:60:ILE:HD13	18:Q:61:GLU:O	2.19	0.42
19:R:29:PHE:CE1	19:R:31:LEU:HD23	2.54	0.42
21:T:37:SER:HB3	21:T:84:LEU:HD12	2.00	0.42
1:A:1202:G:H2'	1:A:1203:C:H5'	2.00	0.42
1:A:1204:A:C5	1:A:1205:U:C5	3.07	0.42
1:A:1520:G:C2	1:A:1521:G:N7	2.86	0.42
1:A:160:A:O5'	1:A:160:A:H8	2.02	0.42
1:A:197:A:H1'	1:A:198:G:C1'	2.48	0.42
1:A:255:G:C6	1:A:256:U:O4	2.72	0.42
1:A:257:G:C2	1:A:270:A:C2	3.07	0.42
1:A:394:G:C4	1:A:395:C:C6	3.07	0.42
1:A:407:G:H2'	1:A:408:A:H8	1.84	0.42
1:A:432:A:H3'	1:A:433:C:C6	2.54	0.42
1:A:592:G:C2	1:A:593:G:C8	3.07	0.42
1:A:686:U:O2'	1:A:687:A:O5'	2.32	0.42
3:B:57:PHE:O	3:B:60:ASP:HB3	2.18	0.42
5:D:201:GLN:CA	5:D:204:ILE:HD12	2.44	0.42
1:A:409:G:OP1	5:D:24:GLU:O	2.37	0.42
1:A:1368:G:H4'	15:N:61:TRP:HZ2	1.84	0.42
17:P:20:VAL:HG23	17:P:35:LYS:HA	2.02	0.42
1:A:1318:A:N3	20:S:37:ARG:NH1	2.67	0.42
20:S:80:TYR:CG	20:S:81:ARG:N	2.87	0.42
1:A:1095:U:H2'	1:A:1096:C:C6	2.54	0.42
1:A:1319:A:C4	1:A:1323:G:C8	3.08	0.42
1:A:1237:C:H4'	1:A:1334:G:N2	2.34	0.42
1:A:1488:G:C2	1:A:1489:G:C4	3.07	0.42
1:A:66:G:C4'	1:A:173:U:C5	3.02	0.42
1:A:201:C:N4	1:A:203:U:H1'	2.34	0.42
1:A:255:G:O6	1:A:266:G:O6	2.36	0.42
1:A:355:C:C4'	1:A:388:G:HO2'	2.32	0.42
1:A:411:A:H2'	1:A:412:A:H4'	2.00	0.42
1:A:551:U:N3	1:A:552:U:C4	2.86	0.42
1:A:691:G:C5	1:A:692:U:H5	2.38	0.42
1:A:69:G:N3	1:A:70:G:C8	2.87	0.42
1:A:742:G:H2'	1:A:743:U:C5'	2.48	0.42
1:A:973:G:H2'	1:A:974:A:OP1	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:145:LEU:C	3:B:147:LYS:N	2.71	0.42
3:B:75:LYS:O	3:B:75:LYS:HD3	2.18	0.42
5:D:145:GLU:HG2	5:D:184:LYS:HE2	2.01	0.42
7:F:33:TYR:HB2	7:F:75:LEU:HD23	2.01	0.42
11:J:7:LYS:CE	11:J:9:ARG:HH21	2.32	0.42
16:O:27:VAL:O	16:O:31:LEU:HD13	2.19	0.42
18:Q:6:LEU:O	18:Q:58:GLU:HA	2.19	0.42
1:A:1052:U:O4	1:A:1200:C:H2'	2.18	0.42
1:A:1126:U:O2'	1:A:1127:G:OP1	2.35	0.42
1:A:1128:C:H1'	1:A:1146:A:H61	1.85	0.42
1:A:1052:U:O4	1:A:1200:C:C2	2.73	0.42
1:A:124:G:C6	1:A:125:U:C4	3.08	0.42
1:A:1321:C:H2'	1:A:1322:C:C6	2.54	0.42
1:A:1438:G:H2'	1:A:1439:C:C6	2.55	0.42
1:A:1508:G:H2'	1:A:1509:C:C6	2.38	0.42
1:A:186:C:O3'	21:T:82:SER:OG	2.29	0.42
1:A:190(L):U:C2'	1:A:191:G:H5'	2.48	0.42
1:A:392:G:C2	1:A:393:A:C4	3.07	0.42
1:A:418:C:C2	1:A:419:C:C5	3.06	0.42
1:A:463:A:H2'	1:A:474:G:O4'	2.18	0.42
1:A:545:C:C2'	1:A:545:C:O2	2.67	0.42
1:A:4:U:C4'	1:A:5:U:OP2	2.68	0.42
1:A:692:U:H5'	1:A:797:C:C5'	2.49	0.42
1:A:949:A:H2'	1:A:950:U:C6	2.54	0.42
1:A:9:G:N3	1:A:10:A:C8	2.87	0.42
3:B:68:ILE:H	3:B:90:MET:HE3	1.83	0.42
5:D:25:ARG:HH21	5:D:30:LYS:HD3	1.85	0.42
5:D:38:TYR:H	5:D:38:TYR:HD2	1.60	0.42
6:E:136:MET:O	6:E:139:LEU:N	2.52	0.42
9:H:108:GLY:HA3	9:H:138:TRP:CB	2.46	0.42
18:Q:43:LEU:HA	18:Q:43:LEU:HD23	1.53	0.42
22:V:5:ASP:C	22:V:7:ARG:H	2.23	0.42
1:A:1074:G:C6	1:A:1075:C:C4	3.07	0.42
1:A:1278:U:H5''	1:A:1279:A:C5'	2.50	0.42
1:A:1270:C:O2'	1:A:1314:C:H5'	2.19	0.42
1:A:1425:U:H2'	1:A:1426:C:H6	1.83	0.42
1:A:190(H):G:O2'	1:A:190(I):G:H5'	2.19	0.42
1:A:193:C:O4'	21:T:60:GLU:OE1	2.37	0.42
1:A:402:G:C6	1:A:403:C:C4	3.08	0.42
1:A:59:A:C2'	1:A:331:G:H22	2.33	0.42
1:A:595:G:C4	1:A:641:U:C4	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:642:A:N6	1:A:643:C:N4	2.67	0.42
1:A:815:A:C4'	1:A:817:C:N4	2.83	0.42
1:A:853:G:H2'	1:A:854:G:H8	1.84	0.42
1:A:978:A:C4	1:A:1319:A:C2	3.07	0.42
3:B:56:ARG:HG2	3:B:57:PHE:N	2.35	0.42
5:D:70:ILE:HD11	5:D:100:ARG:HD2	2.01	0.42
5:D:99:SER:O	5:D:140:VAL:HG23	2.20	0.42
6:E:11:ILE:HA	6:E:11:ILE:HD13	1.54	0.42
16:O:39:LEU:O	16:O:43:LEU:HG	2.20	0.42
16:O:70:LEU:HA	16:O:70:LEU:HD22	1.74	0.42
1:A:1030:C:H42	1:A:1031:G:H1	1.66	0.42
1:A:1113:C:H1'	4:C:178:LEU:HD23	2.01	0.42
1:A:1157:A:C2	1:A:1181:G:C6	3.08	0.42
1:A:1159:U:H1'	1:A:1182:G:N2	2.35	0.42
1:A:1441:G:C5'	1:A:1442:G:C8	3.03	0.42
1:A:15:G:N2	1:A:16:A:H1'	2.35	0.42
1:A:166:G:O2'	1:A:167:G:C5'	2.67	0.42
1:A:201:C:H2'	1:A:202:U:H3'	2.00	0.42
1:A:233:C:C2'	1:A:234:C:C5'	2.97	0.42
1:A:269:C:H2'	1:A:270:A:C8	2.55	0.42
1:A:446:G:C2'	1:A:447:G:C5'	2.94	0.42
1:A:509:A:N6	1:A:510:A:N6	2.67	0.42
1:A:604:G:C6	1:A:605:U:C4	3.07	0.42
1:A:60:A:P	1:A:60:A:H8	2.43	0.42
1:A:657:G:N2	1:A:750:G:C8	2.88	0.42
1:A:767:A:C5	1:A:768:A:N7	2.88	0.42
1:A:864:A:H3'	1:A:865:A:C8	2.55	0.42
1:A:22:G:O4'	1:A:885:G:H1'	2.19	0.42
1:A:973:G:H3'	1:A:974:A:H5''	2.02	0.42
1:A:996:A:C6	1:A:997:U:O4	2.72	0.42
3:B:124:SER:CB	3:B:125:PRO:HD2	2.49	0.42
4:C:201:TYR:O	4:C:202:ILE:HG13	2.20	0.42
5:D:8:VAL:HG11	5:D:21:LEU:HB3	2.01	0.42
8:G:12:LEU:CD1	8:G:12:LEU:H	2.32	0.42
9:H:83:ILE:CG2	9:H:83:ILE:O	2.67	0.42
21:T:88:VAL:O	21:T:91:LEU:N	2.50	0.42
1:A:1030(A):G:C5'	1:A:1030(B):C:OP2	2.68	0.42
1:A:1129:C:O2'	1:A:1130:A:OP2	2.32	0.42
1:A:1130:A:OP2	1:A:1131:G:OP2	2.38	0.42
1:A:1183:A:C2'	1:A:1184:G:OP1	2.68	0.42
1:A:1278:U:OP2	1:A:1278:U:N3	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1319:A:C8	1:A:1323:G:C6	3.08	0.42
1:A:138:G:H2'	1:A:139:G:C8	2.55	0.42
1:A:144:G:C6	1:A:145:G:C5	3.07	0.42
1:A:1462:G:O2'	1:A:1463:C:H5'	2.20	0.42
1:A:1518:A:H2'	1:A:1519:A:C1'	2.50	0.42
1:A:1539:C:C3'	1:A:1539:C:C6	3.03	0.42
1:A:463:A:C8	1:A:474:G:C8	3.07	0.42
1:A:567:G:H2'	1:A:568:G:O4'	2.20	0.42
1:A:571:U:H3'	1:A:572:A:C5'	2.49	0.42
1:A:781:A:C5	1:A:802:A:C2	3.07	0.42
4:C:10:PHE:CE1	4:C:178:LEU:HD13	2.55	0.42
4:C:64:VAL:HG12	4:C:99:VAL:HG21	2.01	0.42
1:A:15:G:H1'	6:E:24:ARG:NH1	2.35	0.42
6:E:57:LYS:O	6:E:60:TYR:HB3	2.20	0.42
8:G:26:PHE:HB2	8:G:62:PHE:HZ	1.84	0.42
1:A:1344:C:H4'	10:I:120:ARG:HB2	2.02	0.42
11:J:92:THR:HG22	11:J:92:THR:O	2.20	0.42
1:A:704:A:N6	12:K:42:TRP:CZ2	2.88	0.42
15:N:54:PRO:O	15:N:56:VAL:HG23	2.20	0.42
16:O:45:VAL:HG12	16:O:46:HIS:H	1.83	0.42
17:P:82:GLN:O	17:P:82:GLN:HG3	2.20	0.42
19:R:37:VAL:CG2	19:R:78:LEU:HB3	2.49	0.42
1:A:1118:C:H2'	1:A:1119:C:O4'	2.20	0.42
1:A:1127:G:N2	1:A:1147:C:N4	2.67	0.42
1:A:1253:G:C2	1:A:1254:C:C2	3.07	0.42
1:A:1485:U:O2	1:A:1485:U:C2'	2.66	0.42
1:A:104:G:H4'	1:A:174:C:O4'	2.20	0.42
1:A:7:G:C2	1:A:298:A:C6	3.08	0.42
1:A:42:G:O2'	1:A:43:C:C5'	2.68	0.42
1:A:429:U:C4'	1:A:430:A:O5'	2.49	0.42
1:A:453:A:N1	1:A:454:C:C2	2.88	0.42
1:A:542:G:P	5:D:10:ARG:HH22	2.42	0.42
1:A:769:G:C2	1:A:770:C:C6	3.08	0.42
1:A:7:G:C2	1:A:298:A:N1	2.88	0.42
1:A:81:U:N3	1:A:84:U:OP2	2.53	0.42
1:A:862:C:O2'	1:A:863:U:H5'	2.20	0.42
1:A:900:A:N1	1:A:901:A:C2	2.88	0.42
1:A:939:G:C6	1:A:940:C:N4	2.88	0.42
1:A:997:U:C2'	1:A:998:G:H5'	2.50	0.42
3:B:68:ILE:O	3:B:91:PRO:HD2	2.20	0.42
4:C:112:SER:O	4:C:116:VAL:HG23	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:24:ALA:HB3	4:C:29:TYR:HD1	1.84	0.42
6:E:12:LEU:C	6:E:12:LEU:HD13	2.40	0.42
6:E:129:ILE:O	6:E:132:ALA:HB3	2.20	0.42
6:E:81:GLU:OE1	6:E:88:LYS:NZ	2.51	0.42
1:A:1250:A:H4'	10:I:68:GLY:N	2.35	0.42
1:A:1226:C:C6	14:M:103:THR:OG1	2.72	0.42
19:R:70:ILE:O	19:R:74:ARG:HG3	2.19	0.42
20:S:28:LYS:HD3	20:S:31:ILE:CD1	2.50	0.42
1:A:1108:G:N7	1:A:1109:C:C5	2.87	0.42
1:A:1130:A:OP1	10:I:20:ARG:NH2	2.53	0.42
1:A:994:A:C8	1:A:1216:G:H4'	2.55	0.42
1:A:1224:G:O2'	1:A:1225:A:OP1	2.32	0.42
1:A:1238:A:C8	1:A:1303:C:H1'	2.53	0.42
1:A:1310:G:N1	1:A:1328:C:N4	2.68	0.42
1:A:1433:A:C8	1:A:1467:G:N2	2.88	0.42
1:A:174:C:C2	1:A:175:C:C5	3.08	0.42
1:A:190(C):C:C5	1:A:190(D):U:C5	3.07	0.42
1:A:128:G:C2	1:A:234:C:C2	3.07	0.42
1:A:432:A:N7	1:A:433:C:C5	2.88	0.42
1:A:25:C:C5	1:A:558:G:C2	3.08	0.42
1:A:617:G:H4'	17:P:44:THR:HB	2.02	0.42
1:A:652:U:O2'	1:A:653:A:H5''	2.19	0.42
1:A:849:C:C2	1:A:850:U:C6	3.07	0.42
4:C:10:PHE:CE2	4:C:178:LEU:HD13	2.55	0.42
6:E:127:ASN:HA	6:E:128:PRO:HD2	1.77	0.42
7:F:15:ASP:O	7:F:18:GLN:N	2.50	0.42
10:I:117:HIS:NE2	10:I:123:PRO:HB3	2.35	0.42
10:I:69:GLY:O	10:I:73:GLN:N	2.53	0.42
11:J:49:VAL:CG1	11:J:50:ILE:N	2.82	0.42
12:K:14:VAL:HG12	12:K:14:VAL:O	2.19	0.42
12:K:84:VAL:CG2	12:K:110:ASP:HA	2.49	0.42
20:S:22:LEU:CD2	20:S:28:LYS:HD2	2.50	0.42
1:A:1295:G:H4'	14:M:14:ARG:HH22	1.85	0.42
1:A:1300:G:C2'	1:A:1301:U:OP2	2.68	0.42
1:A:1324:A:C5	1:A:1325:C:C5	3.08	0.42
1:A:1328:C:O3'	14:M:28:ALA:HB3	2.19	0.42
1:A:1341:U:O5'	1:A:1341:U:H6	2.03	0.42
1:A:1343:G:C6	1:A:1344:C:N4	2.88	0.42
1:A:1372:U:OP2	10:I:11:LYS:HD3	2.19	0.42
1:A:136:C:H2'	1:A:137:C:H6	1.84	0.42
1:A:929:G:O6	1:A:1389:C:N4	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1459:C:C2'	1:A:1460:A:H5'	2.50	0.42
1:A:1509:C:N3	1:A:1510:U:C4	2.88	0.42
1:A:392:G:N3	1:A:393:A:C8	2.88	0.42
1:A:463:A:N7	1:A:474:G:N7	2.68	0.42
1:A:746:A:C4	1:A:747:C:C5	3.07	0.42
1:A:927:G:C2'	1:A:928:G:O5'	2.68	0.42
1:A:951:G:C6	1:A:1231:G:C6	3.08	0.42
3:B:11:LEU:H	3:B:11:LEU:HD12	1.85	0.42
5:D:21:LEU:HD23	5:D:21:LEU:HA	1.86	0.42
5:D:38:TYR:N	5:D:38:TYR:CD2	2.86	0.42
5:D:39:PRO:HB2	5:D:40:PRO:HD2	2.02	0.42
6:E:10:MET:HB2	6:E:10:MET:HE2	1.84	0.42
8:G:151:TYR:HA	8:G:153:HIS:CE1	2.55	0.42
16:O:29:VAL:O	16:O:30:ALA:C	2.57	0.42
2:1:5:G:H2'	2:1:5:G:N3	2.34	0.41
1:A:1019:C:H2'	1:A:1020:U:C5'	2.50	0.41
1:A:116:A:H8	1:A:116:A:O5'	2.03	0.41
1:A:1333:A:C4	1:A:1334:G:C8	3.08	0.41
1:A:1367:C:OP2	10:I:112:LYS:NZ	2.53	0.41
1:A:1368:G:C2'	1:A:1369:C:H5'	2.50	0.41
1:A:1399:C:H1'	1:A:1401:G:C8	2.55	0.41
1:A:1431:C:C2'	1:A:1432:G:H5'	2.50	0.41
1:A:1490:C:C6	1:A:1490:C:C4'	3.03	0.41
1:A:237:C:O2'	1:A:238:G:H5'	2.19	0.41
1:A:321:A:C4	1:A:322:C:C5	3.08	0.41
1:A:35:G:C6	1:A:550:G:N1	2.88	0.41
1:A:508:C:H4'	1:A:509:A:O5'	2.20	0.41
1:A:521:G:OP2	13:L:54:LYS:NZ	2.43	0.41
1:A:533:A:C5	1:A:536:C:N4	2.88	0.41
1:A:592:G:C6	1:A:648:A:C6	3.08	0.41
1:A:591:U:C2	1:A:592:G:C8	3.08	0.41
1:A:676:A:O2'	1:A:677:U:H5'	2.20	0.41
1:A:773:G:C6	1:A:807:A:N6	2.88	0.41
1:A:879:C:H2'	1:A:880:C:C6	2.55	0.41
1:A:963:G:H2'	1:A:964:A:H5'	2.02	0.41
5:D:146:ILE:HG13	5:D:146:ILE:H	1.70	0.41
11:J:71:LEU:HD13	11:J:72:VAL:N	2.35	0.41
19:R:34:TYR:CD2	19:R:34:TYR:N	2.79	0.41
1:A:1460:A:P	21:T:27:LYS:NZ	2.93	0.41
1:A:1054:C:OP1	1:A:1197:G:OP1	2.38	0.41
1:A:1126:U:HO2'	1:A:1127:G:P	2.43	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1240:U:H3	8:G:30:ILE:HG22	1.85	0.41
1:A:1248:A:C5	1:A:1290:G:N1	2.88	0.41
1:A:134:A:C2	1:A:135:C:C2	3.07	0.41
1:A:1402:C:H2'	1:A:1403:C:H6	1.85	0.41
1:A:229:U:H2'	1:A:230:G:C8	2.55	0.41
1:A:620:C:H3'	1:A:621:A:C8	2.55	0.41
1:A:68:G:H2'	1:A:69:G:O5'	2.20	0.41
1:A:772:U:C4	1:A:773:G:N7	2.89	0.41
1:A:857:C:H2'	1:A:858:G:O4'	2.19	0.41
4:C:6:HIS:HD2	4:C:9:GLY:H	1.68	0.41
8:G:22:LEU:HG	8:G:62:PHE:HE2	1.85	0.41
1:A:1147:C:O2	10:I:16:ARG:NH1	2.52	0.41
1:A:1411:C:H5''	13:L:41:ARG:HH12	1.85	0.41
14:M:105:THR:HB	14:M:106:ASN:H	1.52	0.41
1:A:1075:C:H5'	1:A:1101:A:N6	2.35	0.41
1:A:1136:U:C5'	1:A:1137:C:OP2	2.62	0.41
1:A:1233:G:C6	1:A:1234:C:C4	3.08	0.41
1:A:1324:A:C4	1:A:1325:C:C5	3.08	0.41
1:A:1355:G:N2	1:A:1356:G:C4	2.89	0.41
1:A:243:A:N6	1:A:281:G:O2'	2.52	0.41
1:A:308:C:H2'	1:A:309:G:H8	1.85	0.41
1:A:344:A:C8	1:A:344:A:O5'	2.73	0.41
1:A:380:G:C2	1:A:384:G:C6	3.09	0.41
1:A:463:A:C8	1:A:474:G:N7	2.89	0.41
1:A:533:A:C8	1:A:536:C:N4	2.89	0.41
1:A:556:C:C2'	1:A:557:G:O5'	2.65	0.41
1:A:720:C:C6	1:A:720:C:H3'	2.55	0.41
1:A:587:G:N2	1:A:755:G:C8	2.88	0.41
1:A:75:G:H2'	1:A:76:C:O5'	2.20	0.41
1:A:766:A:H2'	1:A:767:A:C5'	2.48	0.41
1:A:777:A:C6	1:A:778:G:C5	3.09	0.41
1:A:964:A:O2'	11:J:55:LYS:CE	2.68	0.41
3:B:145:LEU:O	3:B:147:LYS:N	2.53	0.41
4:C:6:HIS:HA	4:C:7:PRO:HD2	1.67	0.41
5:D:173:TRP:CD2	5:D:189:PRO:HB3	2.55	0.41
8:G:122:HIS:HA	8:G:125:MET:HE2	2.02	0.41
13:L:45:PRO:HG2	13:L:50:SER:HA	2.02	0.41
13:L:70:ILE:HA	13:L:71:PRO:HD2	1.88	0.41
14:M:63:THR:HG23	14:M:64:TRP:H	1.83	0.41
1:A:808:C:P	16:O:48:LYS:HE2	2.60	0.41
1:A:1119:C:O2'	1:A:1120:G:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1177:G:H8	1:A:1177:G:O5'	2.03	0.41
1:A:1291:G:N3	1:A:1292:U:C5	2.89	0.41
1:A:1415:G:C2'	1:A:1416:G:H5'	2.50	0.41
1:A:279:A:H4'	1:A:280:C:OP2	2.20	0.41
1:A:442:C:O5'	1:A:442:C:H6	2.03	0.41
1:A:440:A:H5''	1:A:442:C:OP2	2.21	0.41
1:A:523:A:N6	13:L:53:ARG:NH1	2.69	0.41
1:A:533:A:N6	1:A:536:C:C2	2.89	0.41
1:A:605:U:C2'	1:A:606:G:C5'	2.93	0.41
1:A:608:A:N3	1:A:609:A:C8	2.88	0.41
1:A:725:G:C4	1:A:726:C:C6	3.08	0.41
1:A:661:G:N2	1:A:745:C:C2	2.88	0.41
1:A:83:U:C4	1:A:84:U:C4	3.09	0.41
1:A:936:C:C2'	1:A:937:A:O5'	2.68	0.41
1:A:951:G:H2'	1:A:952:U:O5'	2.20	0.41
3:B:214:ILE:HD12	3:B:214:ILE:HG23	1.85	0.41
5:D:57:ARG:CZ	6:E:107:ARG:HH11	2.32	0.41
6:E:55:VAL:H	6:E:55:VAL:HG23	1.53	0.41
1:A:1377:A:O2'	8:G:2:ALA:HB3	2.20	0.41
8:G:69:VAL:O	8:G:71:PRO:HD3	2.21	0.41
12:K:73:MET:SD	12:K:103:LEU:HD21	2.60	0.41
2:1:4:A:H2'	2:1:5:G:C8	2.56	0.41
1:A:1030(C):G:H2'	1:A:1030(D):A:O4'	2.21	0.41
1:A:970:C:C2	1:A:1231:G:H1'	2.55	0.41
1:A:1301:U:C6	1:A:1303:C:C6	3.08	0.41
1:A:1347:G:H22	1:A:1373:G:H2'	1.79	0.41
1:A:1428:A:H2'	1:A:1429:C:C6	2.56	0.41
1:A:1504:G:HO2'	1:A:1505:G:P	2.42	0.41
1:A:1535:C:C2'	1:A:1536:C:H5'	2.50	0.41
1:A:174:C:C4	1:A:175:C:C5	3.08	0.41
1:A:252:U:C2	1:A:253:U:C5	3.09	0.41
1:A:266:G:C4'	1:A:266:G:C8	3.03	0.41
1:A:490:G:H2'	1:A:491:G:H8	1.85	0.41
1:A:761:G:C5	1:A:762:C:C4	3.08	0.41
1:A:872:A:N3	1:A:874:G:N7	2.68	0.41
1:A:948:C:C5	14:M:106:ASN:ND2	2.88	0.41
5:D:24:GLU:O	5:D:25:ARG:HB3	2.21	0.41
9:H:6:ILE:HG12	9:H:6:ILE:H	1.65	0.41
14:M:108:ARG:NH1	14:M:111:LYS:HD2	2.34	0.41
18:Q:19:VAL:O	18:Q:19:VAL:HG23	2.20	0.41
2:2:7:G:H2'	2:2:8:A:O5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:9:A:C2'	2:2:10:A:C5'	2.96	0.41
1:A:1291:G:O3'	10:I:38:GLN:NE2	2.49	0.41
1:A:1346:A:HO2'	1:A:1347:G:P	2.44	0.41
1:A:1378:C:OP1	8:G:6:ARG:O	2.37	0.41
1:A:1418:A:C5	1:A:1483:A:C6	3.08	0.41
1:A:276:G:C6	1:A:277:C:C4	3.08	0.41
1:A:300:A:N7	1:A:301:G:C8	2.89	0.41
1:A:338:A:N3	1:A:339:C:C6	2.88	0.41
1:A:411:A:C1'	1:A:413:G:H1'	2.50	0.41
1:A:439:A:C6	1:A:497:A:N3	2.88	0.41
1:A:51:A:H4'	1:A:52:G:C5'	2.51	0.41
1:A:537:G:H2'	1:A:538:G:C8	2.56	0.41
1:A:558:G:C8	1:A:559:A:N3	2.88	0.41
1:A:55:A:N3	1:A:56:U:C6	2.89	0.41
1:A:686:U:HO2'	1:A:687:A:C5'	2.34	0.41
1:A:825:G:C5	1:A:826:C:C5	3.09	0.41
1:A:936:C:C2'	1:A:937:A:H5'	2.50	0.41
1:A:1111:A:C2	4:C:177:THR:HG23	2.55	0.41
4:C:116:VAL:HG21	4:C:202:ILE:HD11	2.03	0.41
5:D:114:ARG:O	5:D:117:ALA:N	2.53	0.41
10:I:117:HIS:O	10:I:118:LYS:HG3	2.20	0.41
12:K:19:ALA:HB2	12:K:80:VAL:HG11	2.02	0.41
12:K:57:THR:O	12:K:60:ALA:HB3	2.20	0.41
17:P:41:PRO:O	17:P:43:LYS:HG3	2.20	0.41
1:A:1002:G:H2'	1:A:1003:G:H5'	2.02	0.41
1:A:1030(A):G:H5''	1:A:1030(B):C:O5'	2.21	0.41
1:A:1138:G:N2	1:A:1140:C:C4	2.89	0.41
1:A:1164:G:C2	1:A:1173:G:C2	3.09	0.41
1:A:1239:A:C4'	1:A:1240:U:O5'	2.58	0.41
1:A:926:G:C2	1:A:1505:G:C4	3.08	0.41
1:A:193:C:H2'	1:A:194:C:C6	2.56	0.41
1:A:406:G:H5''	5:D:5:ILE:CG2	2.48	0.41
1:A:502:G:C6	1:A:503:C:C4	3.09	0.41
1:A:538:G:H2'	1:A:539:A:C8	2.55	0.41
1:A:949:A:C6	1:A:950:U:C4	3.09	0.41
1:A:962:C:O2'	1:A:963:G:H5'	2.21	0.41
3:B:102:LEU:O	3:B:180:LEU:HD11	2.20	0.41
8:G:37:ASN:HD21	10:I:40:LEU:HA	1.86	0.41
13:L:104:VAL:O	13:L:105:TYR:HB2	2.20	0.41
13:L:113:ARG:HB2	13:L:122:THR:HG21	2.02	0.41
1:A:1030(A):G:C4'	1:A:1030(B):C:OP2	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1030:C:O2'	1:A:1030(A):G:H8	2.04	0.41
1:A:10:A:H2'	1:A:11:G:H8	1.86	0.41
1:A:1106:G:O2'	1:A:1107:C:H5'	2.21	0.41
1:A:1120:G:O5'	1:A:1120:G:H8	2.04	0.41
1:A:1199:U:H4'	11:J:54:PHE:CE1	2.55	0.41
1:A:1202:G:H2'	1:A:1203:C:O4'	2.20	0.41
1:A:1245:A:C6	1:A:1246:C:N4	2.88	0.41
1:A:1248:A:C5	1:A:1290:G:C2	3.09	0.41
1:A:1256:A:O2'	1:A:1257:U:P	2.79	0.41
1:A:1306:A:C8	1:A:1332:A:C6	3.09	0.41
1:A:1364:U:O2'	1:A:1365:G:P	2.78	0.41
1:A:1461:G:C4	1:A:1462:G:C8	3.09	0.41
1:A:1497:G:H2'	1:A:1498:U:H6	1.84	0.41
1:A:177:C:C2	1:A:178:C:C5	3.08	0.41
1:A:190(G):G:N3	1:A:190(G):G:H2'	2.36	0.41
1:A:279:A:H5'	1:A:281:G:O4'	2.21	0.41
1:A:509:A:O4'	5:D:58:LEU:HD12	2.20	0.41
1:A:703:G:OP2	1:A:703:G:H3'	2.21	0.41
1:A:83:U:H2'	1:A:84:U:C6	2.56	0.41
1:A:956:U:O2'	1:A:957:U:H5'	2.20	0.41
1:A:1074:G:O3'	3:B:103:THR:HG21	2.20	0.41
1:A:1104:G:O5'	3:B:111:ARG:HD2	2.21	0.41
5:D:200:GLU:O	5:D:203:VAL:N	2.54	0.41
9:H:120:THR:OG1	9:H:123:GLU:HB2	2.20	0.41
9:H:38:ILE:HG22	9:H:39:LEU:N	2.35	0.41
13:L:55:VAL:HG12	13:L:56:ALA:H	1.86	0.41
13:L:75:HIS:HD2	13:L:77:LEU:HG	1.86	0.41
17:P:67:THR:HB	17:P:70:ALA:H	1.84	0.41
20:S:13:ASP:O	20:S:17:GLU:HG2	2.21	0.41
1:A:17:U:O4'	1:A:1080:A:H1'	2.21	0.41
1:A:1111:A:N1	4:C:177:THR:HG23	2.36	0.41
1:A:1300:G:O2'	1:A:1301:U:O4'	2.38	0.41
1:A:1394:A:N6	1:A:1500:A:O2'	2.53	0.41
1:A:273:A:C6	1:A:274:A:C6	3.08	0.41
1:A:382:A:O2'	1:A:383:A:C5'	2.69	0.41
1:A:391:G:C4	1:A:392:G:C8	3.09	0.41
1:A:940:C:C2'	1:A:941:G:C5'	2.99	0.41
3:B:44:LEU:C	3:B:46:LYS:N	2.73	0.41
3:B:51:LEU:HA	3:B:51:LEU:HD23	1.75	0.41
1:A:16:A:HO2'	6:E:16:THR:HG22	1.86	0.41
9:H:63:LEU:HA	9:H:63:LEU:HD12	1.77	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1367:C:C5'	11:J:60:ARG:NH1	2.84	0.41
1:A:275:G:H5'	18:Q:14:LYS:CB	2.50	0.41
18:Q:89:LEU:HA	18:Q:89:LEU:HD23	1.86	0.41
1:A:1310:G:N1	1:A:1328:C:C4	2.89	0.41
1:A:1305:G:N2	1:A:1331:G:HO2'	2.14	0.41
1:A:1533:C:O2'	1:A:1534:A:N7	2.53	0.41
1:A:177:C:H2'	1:A:178:C:C6	2.56	0.41
1:A:281:G:O2'	1:A:282:A:P	2.79	0.41
1:A:302:G:O5'	1:A:302:G:H8	2.03	0.41
1:A:376:G:C4	1:A:389:A:C2	3.08	0.41
1:A:436:C:C2	1:A:437:U:C5	3.09	0.41
1:A:448:A:N6	1:A:487:A:N9	2.69	0.41
1:A:601:C:H2'	1:A:602:A:H8	1.86	0.41
1:A:620:C:H2'	1:A:621:A:O4'	2.21	0.41
1:A:682:G:C6	1:A:709:G:C6	3.09	0.41
1:A:756:C:H2'	1:A:757:U:O4'	2.19	0.41
1:A:838:G:C2	1:A:849:C:N3	2.89	0.41
1:A:757:U:O2'	1:A:879:C:O2	2.36	0.41
1:A:944:G:H3'	1:A:945:G:C5'	2.51	0.41
5:D:195:ALA:O	5:D:196:LEU:O	2.39	0.41
9:H:104:ARG:O	9:H:105:ARG:C	2.59	0.41
9:H:76:PRO:O	9:H:77:GLU:C	2.59	0.41
11:J:49:VAL:HG12	11:J:50:ILE:N	2.36	0.41
14:M:87:TYR:O	14:M:88:ARG:C	2.59	0.41
15:N:17:LYS:HE2	15:N:17:LYS:HB2	1.78	0.41
1:A:1220:G:N2	20:S:54:GLY:O	2.52	0.41
20:S:63:THR:HG22	20:S:64:GLU:H	1.86	0.41
21:T:37:SER:O	21:T:41:VAL:HG23	2.21	0.41
21:T:88:VAL:O	21:T:89:ARG:C	2.60	0.41
21:T:97:ALA:HA	21:T:98:PRO:HD2	1.97	0.41
1:A:1139:G:HO2'	1:A:1140:C:P	2.43	0.41
1:A:1189:C:OP1	11:J:51:ARG:NH2	2.49	0.41
1:A:1248:A:N6	1:A:1290:G:C5	2.89	0.41
1:A:1333:A:C2'	1:A:1334:G:C5'	2.98	0.41
1:A:339:C:H2'	1:A:339:C:O2	2.21	0.41
1:A:359:U:O2'	1:A:360:A:H5'	2.21	0.41
1:A:393:A:O2'	1:A:394:G:H5'	2.21	0.41
1:A:411:A:N6	1:A:429:U:C6	2.89	0.41
1:A:436:C:C2	1:A:437:U:C6	3.09	0.41
1:A:642:A:N7	9:H:115:SER:HA	2.35	0.41
1:A:652:U:O2'	1:A:653:A:P	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:76:C:C2	1:A:77:G:C8	3.09	0.41
1:A:815:A:C5'	1:A:817:C:N4	2.83	0.41
1:A:572:A:C2	1:A:864:A:C2	3.09	0.41
1:A:888:G:N1	1:A:889:A:N6	2.69	0.41
1:A:953:G:N1	1:A:1229:A:C6	2.89	0.41
1:A:971:G:H5''	1:A:972:C:H5''	2.03	0.41
4:C:137:ALA:O	4:C:141:VAL:HG23	2.21	0.41
8:G:122:HIS:HA	8:G:125:MET:CE	2.50	0.41
8:G:27:ILE:O	8:G:28:ASN:C	2.59	0.41
9:H:44:PHE:HB3	9:H:80:ILE:HG12	2.03	0.41
16:O:70:LEU:C	16:O:72:ARG:N	2.70	0.41
19:R:51:LEU:HA	19:R:52:PRO:HD3	1.88	0.41
1:A:1051:C:H2'	1:A:1052:U:O4'	2.21	0.40
1:A:1087:G:C2	1:A:1088:G:C5	3.09	0.40
1:A:1074:G:C6	1:A:1102:A:C6	3.08	0.40
1:A:1157:A:N3	1:A:1181:G:N1	2.68	0.40
1:A:1230:C:H2'	1:A:1231:G:H8	1.86	0.40
1:A:1257:U:HO2'	1:A:1258:G:P	2.43	0.40
1:A:1397:C:OP2	6:E:24:ARG:NH2	2.48	0.40
1:A:1401:G:N2	1:A:1402:C:H1'	2.37	0.40
1:A:1476:G:C2	1:A:1477:C:C2	3.09	0.40
1:A:1404:C:O4'	1:A:1499:A:C2	2.74	0.40
1:A:17:U:H4'	1:A:1080:A:O4'	2.22	0.40
1:A:226:G:C5	1:A:227:G:C8	3.09	0.40
1:A:342:C:H6	1:A:342:C:O5'	2.03	0.40
1:A:538:G:H4'	13:L:114:LYS:HD2	2.02	0.40
1:A:551:U:N3	1:A:552:U:C5	2.90	0.40
1:A:604:G:C6	1:A:605:U:N3	2.89	0.40
1:A:614:A:H2'	1:A:615:C:C6	2.56	0.40
1:A:787:A:O2'	1:A:788:U:H5'	2.21	0.40
1:A:918:A:C2	1:A:919:A:C4	3.09	0.40
1:A:946:A:C4	1:A:947:G:N7	2.89	0.40
4:C:7:PRO:HG2	4:C:8:ILE:H	1.86	0.40
5:D:178:VAL:O	5:D:180:GLY:N	2.54	0.40
6:E:34:VAL:HG12	6:E:35:GLY:H	1.84	0.40
9:H:104:ARG:C	9:H:106:GLY:N	2.73	0.40
9:H:10:LEU:HD12	9:H:85:ARG:HG2	2.03	0.40
9:H:45:ILE:CG2	9:H:80:ILE:HD11	2.51	0.40
1:A:1130:A:P	10:I:20:ARG:HH22	2.44	0.40
16:O:24:SER:O	16:O:25:THR:C	2.59	0.40
21:T:10:LEU:C	21:T:12:ALA:H	2.24	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1298:C:N1	8:G:114:ARG:NH1	2.69	0.40
1:A:1417:G:N2	1:A:1484:C:N4	2.69	0.40
1:A:1505:G:O2'	1:A:1506:U:OP2	2.29	0.40
1:A:192:U:O4'	21:T:102:GLY:O	2.39	0.40
1:A:226:G:O2'	1:A:227:G:H5'	2.21	0.40
1:A:285:G:H2'	1:A:286:G:H8	1.86	0.40
1:A:357:G:N1	1:A:358:U:C4	2.89	0.40
1:A:374:A:N1	1:A:390:C:O2'	2.45	0.40
1:A:55:A:H2'	1:A:56:U:C6	2.56	0.40
1:A:568:G:C6	1:A:569:C:N4	2.90	0.40
1:A:663:A:C2	1:A:664:G:C4	3.09	0.40
1:A:963:G:C2'	1:A:964:A:H5'	2.51	0.40
1:A:965:A:O2'	1:A:966:G:P	2.80	0.40
3:B:163:PHE:HA	3:B:185:ILE:O	2.22	0.40
3:B:92:TYR:CE2	3:B:151:GLY:CA	3.04	0.40
5:D:149:ALA:O	5:D:150:GLU:C	2.59	0.40
5:D:188:LEU:HA	5:D:188:LEU:HD23	1.89	0.40
1:A:1280:A:O4'	11:J:41:PRO:HG2	2.21	0.40
11:J:50:ILE:HG22	11:J:51:ARG:N	2.35	0.40
14:M:81:LEU:HB2	14:M:86:CYS:CB	2.52	0.40
1:A:1128:C:C2'	1:A:1129:C:H5''	2.52	0.40
1:A:1137:C:H5'	1:A:1138:G:C6	2.57	0.40
1:A:1345:U:C2	1:A:1377:A:C2	3.09	0.40
1:A:1465:C:O2'	1:A:1466:C:H5'	2.21	0.40
1:A:262:A:OP1	21:T:73:HIS:ND1	2.55	0.40
1:A:267:C:H2'	1:A:268:C:H6	1.86	0.40
1:A:344:A:H8	1:A:344:A:O5'	2.04	0.40
1:A:410:G:N2	1:A:429:U:H3	2.19	0.40
1:A:502:G:C4	1:A:503:C:C6	3.10	0.40
1:A:605:U:H2'	1:A:606:G:C5'	2.50	0.40
1:A:678:U:H2'	1:A:679:C:O4'	2.21	0.40
1:A:785:G:C6	1:A:786:G:N7	2.89	0.40
1:A:981:U:C6	1:A:982:U:C6	3.09	0.40
3:B:57:PHE:CD2	3:B:199:TYR:CE1	3.09	0.40
3:B:97:TRP:HZ2	3:B:102:LEU:CD1	2.34	0.40
4:C:130:VAL:HG11	4:C:157:ILE:HG23	2.02	0.40
4:C:174:PRO:C	4:C:176:HIS:N	2.75	0.40
5:D:187:ARG:CG	5:D:188:LEU:N	2.84	0.40
1:A:935:A:C6	8:G:3:ARG:NH2	2.90	0.40
3:B:178:ARG:CG	9:H:72:PRO:HA	2.44	0.40
12:K:16:SER:CB	12:K:79:SER:HB3	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:5:ARG:HG3	17:P:5:ARG:HH11	1.86	0.40
19:R:22:VAL:O	19:R:26:LEU:HB2	2.21	0.40
2:2:9:A:H2'	2:2:10:A:C5'	2.51	0.40
1:A:102:G:H2'	1:A:103:C:C6	2.56	0.40
1:A:1164:G:H2'	1:A:1165:C:H6	1.86	0.40
1:A:1325:C:C2'	1:A:1326:C:H5'	2.52	0.40
1:A:1306:A:C5	1:A:1332:A:N7	2.89	0.40
1:A:1333:A:C8	1:A:1334:G:N7	2.90	0.40
1:A:1350:A:C4	1:A:1351:U:C5	3.09	0.40
1:A:1511:G:HO2'	1:A:1512:U:H5'	1.84	0.40
1:A:1520:G:N3	1:A:1521:G:C8	2.90	0.40
1:A:1539:C:O2'	1:A:1540:U:H5'	2.22	0.40
1:A:173:U:O2	1:A:197:A:N1	2.52	0.40
1:A:197:A:O2'	1:A:198:G:O4'	2.35	0.40
1:A:250:A:O2'	1:A:251:G:OP2	2.35	0.40
1:A:295:C:O2	1:A:295:C:C2'	2.68	0.40
1:A:315:A:H4'	1:A:353:A:N1	2.35	0.40
1:A:394:G:C6	1:A:395:C:N4	2.89	0.40
1:A:432:A:H3'	1:A:433:C:H6	1.86	0.40
1:A:435:C:N3	1:A:436:C:C5	2.89	0.40
1:A:453:A:N3	1:A:453:A:H2'	2.37	0.40
1:A:509:A:C8	1:A:509:A:O5'	2.64	0.40
1:A:523:A:H61	13:L:53:ARG:NH1	2.13	0.40
1:A:550:G:C6	1:A:551:U:C4	3.09	0.40
1:A:597:G:C8	1:A:598:U:C6	3.08	0.40
1:A:779:C:H2'	1:A:780:A:O4'	2.22	0.40
1:A:812:C:O2'	1:A:813:U:O5'	2.40	0.40
1:A:98:U:C2	1:A:99:C:C6	3.09	0.40
1:A:1055:A:C2'	4:C:156:ARG:NH1	2.85	0.40
6:E:92:LYS:HA	6:E:93:PRO:HD2	1.88	0.40
1:A:1343:G:OP1	10:I:125:TYR:HE2	2.04	0.40
12:K:57:THR:HG22	12:K:60:ALA:CB	2.48	0.40
1:A:254:G:N2	18:Q:16:GLN:HE21	2.04	0.40
1:A:1054:C:O2'	1:A:1055:A:C5'	2.63	0.40
1:A:1097:C:C1'	1:A:1169:A:H1'	2.50	0.40
1:A:1267:C:O2	22:V:20:LYS:HD3	2.21	0.40
1:A:1371:G:C6	1:A:1372:U:C4	3.10	0.40
1:A:149:A:C2	1:A:150:C:C5	3.10	0.40
1:A:204:U:O2	1:A:204:U:H2'	2.20	0.40
1:A:294:U:H2'	1:A:295:C:C6	2.44	0.40
1:A:414:A:N1	1:A:415:A:C4	2.88	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:452:A:HO2'	1:A:453:A:C4'	2.35	0.40
1:A:492:G:H2'	1:A:494:G:O4'	2.21	0.40
1:A:565:U:O4	1:A:566:G:C6	2.73	0.40
1:A:657:G:C4	1:A:658:G:C8	3.09	0.40
1:A:660:G:C2'	1:A:661:G:O5'	2.70	0.40
1:A:695:A:N3	1:A:695:A:H2'	2.35	0.40
6:E:51:VAL:O	6:E:55:VAL:HG23	2.22	0.40
10:I:87:GLN:NE2	10:I:87:GLN:HA	2.36	0.40
14:M:22:ILE:HG22	14:M:23:TYR:N	2.36	0.40
14:M:48:LEU:HA	14:M:48:LEU:HD23	1.85	0.40
16:O:54:ARG:HG2	16:O:58:MET:HE2	2.02	0.40
16:O:53:HIS:O	16:O:57:LEU:CD1	2.70	0.40
21:T:62:LEU:HA	21:T:62:LEU:HD23	1.93	0.40
21:T:60:GLU:HG3	21:T:81:LYS:HE3	2.02	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	B	220/227 (97%)	169 (77%)	39 (18%)	12 (6%)	2	11
4	C	204/238 (86%)	149 (73%)	42 (21%)	13 (6%)	1	9
5	D	206/208 (99%)	165 (80%)	31 (15%)	10 (5%)	2	14
6	E	148/161 (92%)	113 (76%)	30 (20%)	5 (3%)	3	22
7	F	99/101 (98%)	83 (84%)	14 (14%)	2 (2%)	7	32
8	G	153/155 (99%)	129 (84%)	23 (15%)	1 (1%)	22	54
9	H	136/138 (99%)	113 (83%)	21 (15%)	2 (2%)	10	38
10	I	125/128 (98%)	94 (75%)	25 (20%)	6 (5%)	2	14
11	J	96/104 (92%)	75 (78%)	14 (15%)	7 (7%)	1	7

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	K	113/128 (88%)	88 (78%)	22 (20%)	3 (3%)	5	26
13	L	122/131 (93%)	96 (79%)	21 (17%)	5 (4%)	3	17
14	M	120/125 (96%)	89 (74%)	26 (22%)	5 (4%)	3	17
15	N	58/60 (97%)	45 (78%)	13 (22%)	0	100	100
16	O	86/88 (98%)	70 (81%)	14 (16%)	2 (2%)	6	29
17	P	81/88 (92%)	64 (79%)	16 (20%)	1 (1%)	13	42
18	Q	102/104 (98%)	86 (84%)	11 (11%)	5 (5%)	2	14
19	R	71/87 (82%)	57 (80%)	13 (18%)	1 (1%)	11	38
20	S	78/92 (85%)	63 (81%)	11 (14%)	4 (5%)	2	13
21	T	97/105 (92%)	72 (74%)	17 (18%)	8 (8%)	1	5
22	V	22/26 (85%)	19 (86%)	1 (4%)	2 (9%)	1	4
All	All	2337/2494 (94%)	1839 (79%)	404 (17%)	94 (4%)	3	18

All (94) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	B	12	GLU
3	B	21	ARG
3	B	24	TRP
3	B	130	ARG
4	C	4	LYS
4	C	16	ARG
4	C	61	ALA
4	C	146	ALA
5	D	9	CYS
5	D	30	LYS
9	H	30	ARG
10	I	121	ARG
11	J	33	GLN
11	J	40	LEU
11	J	41	PRO
11	J	55	LYS
12	K	16	SER
13	L	27	LEU
14	M	106	ASN
16	O	73	GLU
18	Q	69	LYS
21	T	74	LYS

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Mol	Chain	Res	Type
3	B	17	PHE
4	C	12	LEU
4	C	178	LEU
5	D	29	PRO
5	D	89	THR
6	E	99	GLY
7	F	16	GLN
10	I	74	ILE
11	J	60	ARG
11	J	90	LEU
12	K	106	LYS
13	L	45	PRO
13	L	51	ALA
14	M	27	LYS
18	Q	33	GLY
19	R	77	GLY
21	T	49	ALA
21	T	73	HIS
21	T	92	LEU
3	B	83	MET
3	B	95	GLN
3	B	146	GLN
3	B	150	SER
4	C	181	ASN
5	D	32	ALA
10	I	72	GLY
10	I	108	VAL
10	I	118	LYS
12	K	27	ASN
17	P	12	LYS
20	S	6	LYS
3	B	26	PRO
5	D	154	ASN
5	D	179	GLU
6	E	121	LYS
13	L	46	LYS
14	M	80	ARG
16	O	88	ARG
18	Q	83	ASP
22	V	6	ARG
22	V	9	ARG
3	B	89	GLY

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Mol	Chain	Res	Type
4	C	128	PHE
5	D	5	ILE
7	F	56	PRO
8	G	153	HIS
14	M	7	VAL
18	Q	17	LYS
18	Q	30	PRO
21	T	97	ALA
3	B	10	LEU
4	C	5	ILE
6	E	39	GLY
13	L	48	PRO
14	M	60	VAL
20	S	8	GLY
20	S	16	LEU
21	T	96	GLY
4	C	6	HIS
21	T	102	GLY
4	C	13	GLY
4	C	108	ASN
5	D	196	LEU
9	H	106	GLY
20	S	45	VAL
21	T	63	ILE
4	C	74	GLY
6	E	85	GLY
10	I	6	GLY
11	J	82	ILE
5	D	197	PRO
6	E	128	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	B	191/196 (97%)	170 (89%)	21 (11%)	6 24

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	C	160/187 (86%)	146 (91%)	14 (9%)	10	33
5	D	180/180 (100%)	163 (91%)	17 (9%)	8	30
6	E	115/122 (94%)	103 (90%)	12 (10%)	7	25
7	F	90/90 (100%)	87 (97%)	3 (3%)	38	66
8	G	126/126 (100%)	122 (97%)	4 (3%)	39	67
9	H	119/119 (100%)	110 (92%)	9 (8%)	13	39
10	I	98/99 (99%)	91 (93%)	7 (7%)	14	42
11	J	88/91 (97%)	82 (93%)	6 (7%)	16	44
12	K	87/98 (89%)	80 (92%)	7 (8%)	12	37
13	L	104/108 (96%)	100 (96%)	4 (4%)	33	62
14	M	97/100 (97%)	90 (93%)	7 (7%)	14	41
15	N	49/49 (100%)	44 (90%)	5 (10%)	7	27
16	O	79/79 (100%)	71 (90%)	8 (10%)	7	27
17	P	72/74 (97%)	67 (93%)	5 (7%)	15	44
18	Q	96/96 (100%)	89 (93%)	7 (7%)	14	41
19	R	64/76 (84%)	62 (97%)	2 (3%)	40	67
20	S	71/79 (90%)	65 (92%)	6 (8%)	10	35
21	T	76/81 (94%)	73 (96%)	3 (4%)	32	62
22	V	19/21 (90%)	19 (100%)	0	100	100
All	All	1981/2071 (96%)	1834 (93%)	147 (7%)	13	40

All (147) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	B	11	LEU
3	B	17	PHE
3	B	24	TRP
3	B	25	ASN
3	B	26	PRO
3	B	56	ARG
3	B	61	LEU
3	B	69	LEU
3	B	90	MET
3	B	96	ARG
3	B	114	ARG

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Mol	Chain	Res	Type
3	B	119	GLU
3	B	137	ARG
3	B	144	ARG
3	B	153	ARG
3	B	170	GLU
3	B	184	VAL
3	B	187	LEU
3	B	195	ASP
3	B	204	ASN
3	B	205	ASP
4	C	3	ASN
4	C	12	LEU
4	C	17	ASP
4	C	34	LEU
4	C	56	ASP
4	C	82	GLU
4	C	84	ILE
4	C	99	VAL
4	C	101	LEU
4	C	142	MET
4	C	144	SER
4	C	167	TRP
4	C	191	THR
4	C	193	TYR
5	D	3	ARG
5	D	9	CYS
5	D	15	GLU
5	D	38	TYR
5	D	58	LEU
5	D	59	ARG
5	D	64	LEU
5	D	80	GLU
5	D	96	LEU
5	D	99	SER
5	D	122	ARG
5	D	157	LEU
5	D	176	LEU
5	D	190	ASP
5	D	192	GLU
5	D	198	VAL
5	D	199	ASN
6	E	9	LYS

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Mol	Chain	Res	Type
6	E	11	ILE
6	E	12	LEU
6	E	13	ILE
6	E	31	LEU
6	E	47	LYS
6	E	56	GLN
6	E	79	GLU
6	E	87	SER
6	E	89	ILE
6	E	96	PRO
6	E	125	SER
7	F	10	LEU
7	F	32	ASN
7	F	86	ARG
8	G	12	LEU
8	G	16	LEU
8	G	120	ILE
8	G	136	LYS
9	H	18	ARG
9	H	39	LEU
9	H	63	LEU
9	H	91	ARG
9	H	92	ARG
9	H	105	ARG
9	H	120	THR
9	H	121	ASP
9	H	132	GLU
10	I	38	GLN
10	I	58	ARG
10	I	60	ASP
10	I	71	SER
10	I	105	ASP
10	I	111	ARG
10	I	121	ARG
11	J	15	THR
11	J	23	ILE
11	J	28	ARG
11	J	45	ARG
11	J	66	ARG
11	J	71	LEU
12	K	35	PRO
12	K	36	ASP

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Mol	Chain	Res	Type
12	K	41	THR
12	K	47	VAL
12	K	92	GLU
12	K	93	GLN
12	K	110	ASP
13	L	59	ARG
13	L	70	ILE
13	L	113	ARG
13	L	126	LYS
14	M	44	ARG
14	M	56	LEU
14	M	63	THR
14	M	81	LEU
14	M	105	THR
14	M	109	THR
14	M	122	LYS
15	N	22	THR
15	N	25	VAL
15	N	41	ARG
15	N	44	LEU
15	N	60	SER
16	O	4	THR
16	O	39	LEU
16	O	49	ASP
16	O	52	SER
16	O	65	ARG
16	O	70	LEU
16	O	74	ASP
16	O	81	LEU
17	P	2	VAL
17	P	28	ARG
17	P	47	ASP
17	P	55	ARG
17	P	65	GLN
18	Q	7	THR
18	Q	11	VAL
18	Q	34	LYS
18	Q	38	ARG
18	Q	60	ILE
18	Q	78	GLU
18	Q	100	LYS
19	R	31	LEU

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Mol	Chain	Res	Type
19	R	54	ARG
20	S	6	LYS
20	S	7	LYS
20	S	15	LEU
20	S	36	ARG
20	S	41	VAL
20	S	57	HIS
21	T	10	LEU
21	T	64	ASP
21	T	105	SER

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (41) such sidechains are listed below:

Mol	Chain	Res	Type
3	B	19	HIS
3	B	25	ASN
3	B	204	ASN
4	C	3	ASN
4	C	6	HIS
4	C	31	HIS
4	C	37	GLN
4	C	69	HIS
4	C	139	GLN
5	D	103	ASN
5	D	123	HIS
5	D	161	ASN
5	D	199	ASN
6	E	65	ASN
7	F	27	GLN
7	F	100	ASN
8	G	37	ASN
8	G	86	GLN
8	G	106	GLN
9	H	15	ASN
9	H	82	HIS
10	I	38	GLN
10	I	73	GLN
10	I	87	GLN
11	J	56	HIS
11	J	62	HIS
12	K	38	ASN
12	K	93	GLN

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Mol	Chain	Res	Type
12	K	117	ASN
13	L	49	ASN
13	L	75	HIS
14	M	12	ASN
14	M	106	ASN
15	N	49	HIS
16	O	37	ASN
16	O	46	HIS
17	P	16	HIS
18	Q	16	GLN
19	R	36	ASN
20	S	47	HIS
21	T	75	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1517/1520 (99%)	331 (21%)	187 (12%)
2	1	5/6 (83%)	1 (20%)	1 (20%)
2	2	3/6 (50%)	2 (66%)	0
All	All	1525/1532 (99%)	334 (21%)	188 (12%)

All (334) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	6	G
1	A	7	G
1	A	8	A
1	A	9	G
1	A	14	U
1	A	31	G
1	A	32	A
1	A	39	G
1	A	44	G
1	A	47	C
1	A	48	C
1	A	49	U
1	A	50	A
1	A	51	A
1	A	52	G

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Mol	Chain	Res	Type
1	A	61	G
1	A	62	U
1	A	64	G
1	A	65	U
1	A	66	G
1	A	81	U
1	A	82	U
1	A	89	C
1	A	90	U
1	A	109	A
1	A	110	C
1	A	116	A
1	A	120	A
1	A	121	C
1	A	122	G
1	A	129(A)	G
1	A	130	A
1	A	174	C
1	A	182	U
1	A	190(D)	U
1	A	190(E)	U
1	A	190(F)	G
1	A	190(G)	G
1	A	195	A
1	A	197	A
1	A	198	G
1	A	202	U
1	A	203	U
1	A	204	U
1	A	216	G
1	A	244	U
1	A	245	C
1	A	247	G
1	A	251	G
1	A	252	U
1	A	253	U
1	A	266	G
1	A	267	C
1	A	275	G
1	A	280	C
1	A	282	A
1	A	288	A

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Mol	Chain	Res	Type
1	A	289	G
1	A	306	G
1	A	316	G
1	A	328	C
1	A	329	A
1	A	330	C
1	A	331	G
1	A	332	G
1	A	345	C
1	A	346	G
1	A	352	C
1	A	353	A
1	A	354	G
1	A	367	U
1	A	368	U
1	A	373	A
1	A	388	G
1	A	389	A
1	A	390	C
1	A	397	A
1	A	398	C
1	A	406	G
1	A	410	G
1	A	412	A
1	A	413	G
1	A	421	U
1	A	422	C
1	A	423	G
1	A	428	G
1	A	429	U
1	A	430	A
1	A	439	A
1	A	452	A
1	A	453	A
1	A	460	A
1	A	461	C
1	A	462	G
1	A	481	G
1	A	484	G
1	A	485	G
1	A	486	U
1	A	495	U

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Mol	Chain	Res	Type
1	A	497	A
1	A	498	U
1	A	500	G
1	A	508	C
1	A	509	A
1	A	510	A
1	A	511	C
1	A	517	G
1	A	518	C
1	A	519	C
1	A	527	G
1	A	532	A
1	A	533	A
1	A	534	U
1	A	535	A
1	A	536	C
1	A	548	G
1	A	558	G
1	A	559	A
1	A	560	U
1	A	561	U
1	A	562	C
1	A	567	G
1	A	572	A
1	A	573	A
1	A	575	G
1	A	576	G
1	A	577	G
1	A	595	G
1	A	596	C
1	A	598	U
1	A	616	G
1	A	641	U
1	A	642	A
1	A	652	U
1	A	653	A
1	A	654	G
1	A	665	A
1	A	686	U
1	A	688	G
1	A	701	C
1	A	702	A

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Mol	Chain	Res	Type
1	A	703	G
1	A	704	A
1	A	717	C
1	A	718	G
1	A	721	G
1	A	722	A
1	A	723	U
1	A	724	G
1	A	748	C
1	A	749	C
1	A	752	G
1	A	753	A
1	A	754	C
1	A	755	G
1	A	777	A
1	A	781	A
1	A	782	A
1	A	792	A
1	A	793	U
1	A	805	C
1	A	813	U
1	A	815	A
1	A	816	A
1	A	817	C
1	A	818	G
1	A	819	A
1	A	820	U
1	A	821	G
1	A	828	A
1	A	839	U
1	A	840	C
1	A	841	U
1	A	867	G
1	A	870	U
1	A	871	U
1	A	872	A
1	A	873	A
1	A	874	G
1	A	884	U
1	A	885	G
1	A	889	A
1	A	890	G

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Mol	Chain	Res	Type
1	A	902	G
1	A	914	A
1	A	915	A
1	A	916	G
1	A	926	G
1	A	927	G
1	A	934	C
1	A	935	A
1	A	945	G
1	A	960	U
1	A	961	U
1	A	966	G
1	A	968	A
1	A	969	A
1	A	971	G
1	A	972	C
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	978	A
1	A	982	U
1	A	983	A
1	A	984	C
1	A	989	C
1	A	991	U
1	A	992	U
1	A	993	G
1	A	994	A
1	A	1003	G
1	A	1003(A)	G
1	A	1004	A
1	A	1006	C
1	A	1022	G
1	A	1023	G
1	A	1024	G
1	A	1025	U
1	A	1027	C
1	A	1028	C
1	A	1030	C
1	A	1030(A)	G
1	A	1030(B)	C

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Mol	Chain	Res	Type
1	A	1030(C)	G
1	A	1050	G
1	A	1054	C
1	A	1055	A
1	A	1065	U
1	A	1066	C
1	A	1068	G
1	A	1085	U
1	A	1086	U
1	A	1101	A
1	A	1102	A
1	A	1104	G
1	A	1108	G
1	A	1124	G
1	A	1125	U
1	A	1126	U
1	A	1127	G
1	A	1129	C
1	A	1130	A
1	A	1131	G
1	A	1134	G
1	A	1137	C
1	A	1138	G
1	A	1139	G
1	A	1140	C
1	A	1145	C
1	A	1146	A
1	A	1152	A
1	A	1158	C
1	A	1159	U
1	A	1160	G
1	A	1171	G
1	A	1183	A
1	A	1184	G
1	A	1191	A
1	A	1196	U
1	A	1197	G
1	A	1200	C
1	A	1201	A
1	A	1202	G
1	A	1212	U
1	A	1213	A

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Mol	Chain	Res	Type
1	A	1215	G
1	A	1225	A
1	A	1226	C
1	A	1227	A
1	A	1239	A
1	A	1240	U
1	A	1241	G
1	A	1257	U
1	A	1258	G
1	A	1278	U
1	A	1279	A
1	A	1282	C
1	A	1285	A
1	A	1286	A
1	A	1287	A
1	A	1298	C
1	A	1299	A
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1303	C
1	A	1305	G
1	A	1320	C
1	A	1322	C
1	A	1332	A
1	A	1337	G
1	A	1338	G
1	A	1345	U
1	A	1346	A
1	A	1347	G
1	A	1348	U
1	A	1353	G
1	A	1363	A
1	A	1364	U
1	A	1365	G
1	A	1370	G
1	A	1381	U
1	A	1394	A
1	A	1395	C
1	A	1398	A
1	A	1399	C
1	A	1400	C

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Mol	Chain	Res	Type
1	A	1401	G
1	A	1442	G
1	A	1443	G
1	A	1446	A
1	A	1447	G
1	A	1452	C
1	A	1453	G
1	A	1490	C
1	A	1499	A
1	A	1502	A
1	A	1503	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1507	A
1	A	1517	G
1	A	1520	G
1	A	1529	G
1	A	1530	G
1	A	1534	A
1	A	1542	U
2	1	4	A
2	2	8	A
2	2	9	A

All (188) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	4	U
1	A	5	U
1	A	7	G
1	A	8	A
1	A	13	U
1	A	30	U
1	A	31	G
1	A	47	C
1	A	48	C
1	A	49	U
1	A	50	A
1	A	51	A
1	A	60	A
1	A	64	G

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Mol	Chain	Res	Type
1	A	88	A
1	A	89	C
1	A	109	A
1	A	115	G
1	A	119	A
1	A	121	C
1	A	129(A)	G
1	A	130	A
1	A	173	U
1	A	181	G
1	A	190(D)	U
1	A	190(E)	U
1	A	190(F)	G
1	A	197	A
1	A	202	U
1	A	204	U
1	A	243	A
1	A	244	U
1	A	246	A
1	A	250	A
1	A	251	G
1	A	266	G
1	A	274	A
1	A	279	A
1	A	280	C
1	A	281	G
1	A	305	G
1	A	315	A
1	A	327	A
1	A	328	C
1	A	329	A
1	A	344	A
1	A	345	C
1	A	351	G
1	A	366	C
1	A	367	U
1	A	372	C
1	A	388	G
1	A	421	U
1	A	428	G
1	A	429	U
1	A	438	G

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Mol	Chain	Res	Type
1	A	484	G
1	A	485	G
1	A	496	A
1	A	497	A
1	A	499	A
1	A	508	C
1	A	509	A
1	A	511	C
1	A	517	G
1	A	518	C
1	A	531	U
1	A	533	A
1	A	535	A
1	A	547	A
1	A	559	A
1	A	560	U
1	A	561	U
1	A	562	C
1	A	566	G
1	A	575	G
1	A	576	G
1	A	595	G
1	A	641	U
1	A	652	U
1	A	653	A
1	A	686	U
1	A	687	A
1	A	701	C
1	A	702	A
1	A	703	G
1	A	717	C
1	A	721	G
1	A	733	A
1	A	748	C
1	A	752	G
1	A	753	A
1	A	792	A
1	A	812	C
1	A	815	A
1	A	817	C
1	A	818	G
1	A	819	A

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Mol	Chain	Res	Type
1	A	820	U
1	A	840	C
1	A	870	U
1	A	871	U
1	A	872	A
1	A	873	A
1	A	883	C
1	A	884	U
1	A	889	A
1	A	913	A
1	A	914	A
1	A	934	C
1	A	960	U
1	A	965	A
1	A	968	A
1	A	971	G
1	A	974	A
1	A	975	A
1	A	976	G
1	A	982	U
1	A	992	U
1	A	993	G
1	A	1021	G
1	A	1049	U
1	A	1064	G
1	A	1065	U
1	A	1067	A
1	A	1085	U
1	A	1094	G
1	A	1101	A
1	A	1126	U
1	A	1128	C
1	A	1129	C
1	A	1139	G
1	A	1145	C
1	A	1151	A
1	A	1157	A
1	A	1159	U
1	A	1181	G
1	A	1182	G
1	A	1183	A
1	A	1190	G

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Mol	Chain	Res	Type
1	A	1196	U
1	A	1200	C
1	A	1201	A
1	A	1214	C
1	A	1224	G
1	A	1225	A
1	A	1226	C
1	A	1239	A
1	A	1240	U
1	A	1256	A
1	A	1257	U
1	A	1278	U
1	A	1280	A
1	A	1281	U
1	A	1285	A
1	A	1297	C
1	A	1298	C
1	A	1299	A
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1319	A
1	A	1322	C
1	A	1331	G
1	A	1336	C
1	A	1345	U
1	A	1346	A
1	A	1347	G
1	A	1363	A
1	A	1364	U
1	A	1380	U
1	A	1394	A
1	A	1396	A
1	A	1397	C
1	A	1399	C
1	A	1400	C
1	A	1451	A
1	A	1452	C
1	A	1498	U
1	A	1502	A
1	A	1503	A
1	A	1504	G

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Mol	Chain	Res	Type
1	A	1505	G
1	A	1506	U
1	A	1528	U
1	A	1529	G
1	A	1533	C
2	1	3	A

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 2 ligands modelled in this entry, 2 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 ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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, 95th 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 ²)	Q<0.9
1	A	1517/1520 (99%)	-0.02	21 (1%) 75 75	44, 89, 178, 199	0
2	1	6/6 (100%)	0.76	2 (33%) 0 0	199, 199, 199, 199	0
2	2	4/6 (66%)	2.20	1 (25%) 0 0	185, 193, 195, 198	0
3	B	222/227 (97%)	0.22	3 (1%) 75 75	46, 104, 169, 199	0
4	C	206/238 (86%)	0.10	4 (1%) 66 65	49, 107, 172, 198	0
5	D	208/208 (100%)	0.35	8 (3%) 40 37	32, 90, 156, 199	0
6	E	150/161 (93%)	0.58	10 (6%) 17 17	32, 72, 151, 195	0
7	F	101/101 (100%)	-0.13	1 (0%) 82 82	63, 116, 167, 182	0
8	G	155/155 (100%)	0.07	10 (6%) 18 18	70, 133, 184, 199	0
9	H	138/138 (100%)	0.20	3 (2%) 62 60	31, 72, 145, 181	0
10	I	127/128 (99%)	1.30	40 (31%) 0 0	55, 147, 191, 199	0
11	J	98/104 (94%)	1.01	20 (20%) 1 1	64, 138, 198, 199	0
12	K	115/128 (89%)	0.51	18 (15%) 2 2	59, 111, 172, 190	0
13	L	124/131 (94%)	0.42	7 (5%) 24 23	46, 104, 165, 199	0
14	M	122/125 (97%)	0.64	18 (14%) 2 2	71, 127, 180, 198	0
15	N	60/60 (100%)	1.09	12 (20%) 1 1	56, 89, 158, 190	0
16	O	88/88 (100%)	0.07	2 (2%) 60 59	45, 100, 167, 185	0
17	P	83/88 (94%)	0.66	7 (8%) 11 10	38, 91, 146, 185	0
18	Q	104/104 (100%)	0.86	11 (10%) 6 6	49, 90, 172, 199	0
19	R	73/87 (83%)	0.14	0 100 100	46, 103, 175, 199	0
20	S	80/92 (86%)	1.29	23 (28%) 0 0	74, 136, 187, 199	0
21	T	99/105 (94%)	1.59	35 (35%) 0 0	69, 122, 182, 199	0
22	V	24/26 (92%)	3.70	19 (79%) 0 0	72, 121, 168, 199	0
All	All	3904/4026 (96%)	0.32	275 (7%) 16 16	31, 99, 178, 199	0

All (275) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
18	Q	103	GLY	11.7
18	Q	104	LYS	11.4
21	T	73	HIS	11.3
20	S	3	ARG	11.1
20	S	2	PRO	9.0
22	V	2	GLY	8.8
15	N	2	ALA	8.1
18	Q	105	ALA	8.0
6	E	5	ASP	7.8
21	T	9	ASN	6.8
22	V	18	TYR	6.8
14	M	27	LYS	6.7
22	V	6	ARG	6.4
11	J	73	ASP	6.3
22	V	21	TYR	6.2
10	I	128	ARG	6.0
10	I	7	THR	5.7
11	J	33	GLN	5.6
17	P	12	LYS	5.6
21	T	103	GLY	5.6
17	P	1	MET	5.6
12	K	23	ALA	5.5
12	K	22	HIS	5.5
20	S	37	ARG	5.4
10	I	66	ARG	5.4
22	V	5	ASP	5.2
22	V	7	ARG	5.2
9	H	1	MET	5.2
14	M	13	LYS	5.1
10	I	14	VAL	5.1
15	N	61	TRP	5.0
20	S	74	PHE	5.0
11	J	40	LEU	5.0
22	V	22	ARG	4.9
10	I	71	SER	4.9
10	I	126	SER	4.8
20	S	71	LEU	4.7
22	V	10	ARG	4.7
11	J	72	VAL	4.7
6	E	73	ASN	4.6
11	J	71	LEU	4.6
21	T	67	ALA	4.5

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Mol	Chain	Res	Type	RSRZ
18	Q	102	GLY	4.5
21	T	30	LYS	4.5
10	I	65	VAL	4.4
15	N	31	ARG	4.4
12	K	29	ILE	4.4
21	T	80	ARG	4.4
20	S	52	TYR	4.4
10	I	105	ASP	4.3
11	J	70	ARG	4.2
17	P	25	ARG	4.1
21	T	20	LEU	4.1
10	I	68	GLY	4.1
10	I	15	ALA	4.0
10	I	70	LYS	4.0
22	V	14	TRP	4.0
21	T	72	LEU	3.9
8	G	156	TRP	3.9
20	S	38	SER	3.9
20	S	32	LYS	3.9
11	J	64	GLU	3.8
10	I	8	GLY	3.8
12	K	122	LYS	3.8
14	M	16	ASP	3.8
22	V	17	THR	3.7
20	S	31	ILE	3.7
12	K	51	LYS	3.7
14	M	23	TYR	3.7
21	T	75	ASN	3.7
21	T	28	ALA	3.7
22	V	15	ARG	3.7
14	M	102	ARG	3.6
1	A	990	C	3.6
14	M	21	TYR	3.6
2	1	6	A	3.6
20	S	35	SER	3.5
20	S	72	GLY	3.5
5	D	192	GLU	3.5
21	T	76	ALA	3.5
12	K	50	TYR	3.5
15	N	21	TYR	3.5
11	J	6	ILE	3.5
12	K	28	THR	3.5

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Mol	Chain	Res	Type	RSRZ
13	L	32	PHE	3.5
11	J	39	PRO	3.4
17	P	17	TYR	3.4
2	2	8	A	3.4
21	T	68	LYS	3.4
10	I	121	ARG	3.4
8	G	62	PHE	3.4
8	G	32	ARG	3.4
22	V	3	LYS	3.4
21	T	71	THR	3.4
20	S	69	HIS	3.4
1	A	1129	C	3.4
21	T	17	ARG	3.3
10	I	106	ALA	3.3
21	T	12	ALA	3.3
11	J	54	PHE	3.3
21	T	104	LEU	3.3
10	I	9	ARG	3.3
11	J	38	ILE	3.3
22	V	24	ARG	3.3
14	M	101	GLN	3.2
8	G	26	PHE	3.2
14	M	114	ARG	3.2
6	E	72	GLN	3.2
3	B	160	ASP	3.1
1	A	461	C	3.1
21	T	64	ASP	3.1
20	S	33	THR	3.1
4	C	14	ILE	3.1
1	A	978	A	3.1
10	I	74	ILE	3.0
11	J	55	LYS	3.0
22	V	13	ILE	3.0
22	V	23	PRO	3.0
14	M	99	ARG	3.0
10	I	115	GLY	2.9
21	T	10	LEU	2.9
18	Q	44	ALA	2.9
21	T	70	SER	2.9
14	M	123	ALA	2.9
8	G	33	ASP	2.9
10	I	83	ARG	2.9

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Mol	Chain	Res	Type	RSRZ
10	I	19	LEU	2.9
10	I	120	ARG	2.9
10	I	111	ARG	2.9
15	N	15	LYS	2.9
10	I	30	GLY	2.8
12	K	118	GLY	2.8
20	S	50	ALA	2.8
10	I	73	GLN	2.8
10	I	64	THR	2.8
15	N	19	ARG	2.8
10	I	42	ARG	2.8
20	S	57	HIS	2.8
12	K	21	ILE	2.8
8	G	84	ASN	2.8
21	T	101	GLY	2.8
18	Q	43	LEU	2.8
11	J	34	VAL	2.8
20	S	40	ILE	2.8
4	C	207	VAL	2.8
21	T	77	ALA	2.8
21	T	16	HIS	2.8
21	T	8	ARG	2.8
8	G	35	LYS	2.7
15	N	30	ALA	2.7
18	Q	88	TYR	2.7
11	J	66	ARG	2.7
21	T	15	ARG	2.7
1	A	1224	G	2.7
14	M	11	ARG	2.7
20	S	75	ALA	2.7
14	M	100	GLY	2.7
5	D	31	CYS	2.6
22	V	20	LYS	2.6
12	K	26	ASN	2.6
4	C	178	LEU	2.6
15	N	37	PHE	2.6
22	V	9	ARG	2.6
11	J	50	ILE	2.6
20	S	29	ARG	2.6
15	N	18	VAL	2.6
13	L	29	GLY	2.6
10	I	125	TYR	2.5

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Mol	Chain	Res	Type	RSRZ
14	M	19	LEU	2.5
1	A	977	A	2.5
21	T	24	LEU	2.5
10	I	77	ILE	2.5
11	J	36	GLY	2.5
12	K	123	LYS	2.5
20	S	49	ILE	2.5
10	I	75	ASP	2.5
21	T	11	SER	2.5
17	P	41	PRO	2.5
3	B	190	THR	2.5
5	D	87	GLY	2.5
9	H	2	LEU	2.5
21	T	26	ASN	2.5
1	A	331	G	2.5
20	S	4	SER	2.5
21	T	21	LYS	2.4
6	E	147	ASP	2.4
15	N	16	PHE	2.4
8	G	43	PHE	2.4
12	K	27	ASN	2.4
1	A	1543	C	2.4
11	J	65	LEU	2.4
1	A	1017	G	2.4
22	V	12	LYS	2.4
14	M	15	VAL	2.4
8	G	85	TYR	2.4
1	A	1286	A	2.3
21	T	25	ARG	2.3
1	A	991	U	2.3
5	D	6	GLY	2.3
11	J	47	PHE	2.3
16	O	50	HIS	2.3
12	K	44	SER	2.3
10	I	116	LYS	2.3
21	T	63	ILE	2.3
8	G	86	GLN	2.3
5	D	167	GLY	2.3
12	K	125	PHE	2.3
10	I	13	ALA	2.3
6	E	38	GLN	2.3
12	K	119	CYS	2.3

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Mol	Chain	Res	Type	RSRZ
21	T	90	GLN	2.3
21	T	81	LYS	2.3
10	I	124	GLN	2.3
1	A	104	G	2.2
1	A	1124	G	2.2
21	T	74	LYS	2.2
1	A	351	G	2.2
10	I	127	LYS	2.2
22	V	8	THR	2.2
13	L	72	GLY	2.2
6	E	65	ASN	2.2
1	A	1216	G	2.2
10	I	122	ALA	2.2
13	L	120	TYR	2.2
1	A	1362	C	2.2
18	Q	68	ARG	2.2
1	A	108	G	2.2
20	S	34	TRP	2.2
10	I	10	ARG	2.2
1	A	4	U	2.2
5	D	91	SER	2.2
6	E	56	GLN	2.2
6	E	64	ARG	2.2
17	P	26	ARG	2.2
21	T	86	ARG	2.2
5	D	89	THR	2.2
6	E	6	PHE	2.2
12	K	31	THR	2.2
1	A	330	C	2.2
12	K	14	VAL	2.2
6	E	68	GLU	2.1
10	I	63	ILE	2.1
16	O	89	GLY	2.1
3	B	128	GLU	2.1
18	Q	11	VAL	2.1
20	S	70	LYS	2.1
11	J	63	PHE	2.1
14	M	17	VAL	2.1
18	Q	71	PHE	2.1
13	L	85	ILE	2.1
13	L	89	ARG	2.1
10	I	96	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
10	I	117	HIS	2.1
1	A	164	U	2.1
4	C	13	GLY	2.1
10	I	12	GLU	2.0
11	J	43	ARG	2.0
1	A	81	U	2.0
9	H	30	ARG	2.0
15	N	23	ARG	2.0
13	L	68	ALA	2.0
14	M	106	ASN	2.0
2	1	5	G	2.0
5	D	4	TYR	2.0
7	F	63	TYR	2.0
14	M	98	VAL	2.0
17	P	39	TYR	2.0
15	N	3	ARG	2.0
18	Q	92	ARG	2.0
12	K	30	VAL	2.0
14	M	2	ALA	2.0
10	I	6	GLY	2.0
21	T	69	GLY	2.0
20	S	73	GLU	2.0
10	I	47	LEU	2.0

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

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

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

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, 95th 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.

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	ZN	D	210	1/1	0.97	0.34	85,85,85,85	0
23	ZN	N	62	1/1	0.98	0.10	87,87,87,87	0

6.5 Other polymers [i](#)

There are no such residues in this entry.