



# Full wwPDB X-ray Structure Validation Report ⓘ

May 29, 2020 – 02:19 am BST

PDB ID : 2ZM6  
Title : Crystal structure of the *Thermus thermophilus* 30S ribosomal subunit  
Authors : Kaminishi, T.; Wang, H.; Kawazoe, M.; Ishii, R.; Schlutzen, F.; Hanawa-Suetsugu, K.; Wilson, D.N.; Nomura, M.; Takemoto, C.; Shirouzu, M.; Fucini, P.; Yokoyama, S.; RIKEN Structural Genomics/Proteomics Initiative (RSGI)  
Deposited on : 2008-04-11  
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](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.11
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.11

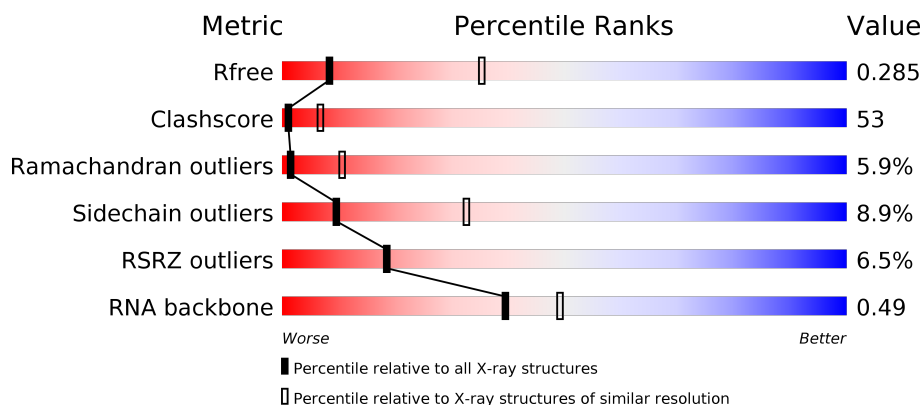
# 1 Overall quality at a glance

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1509	<div> <div>9%</div> <div>59%</div> <div>21%</div> <div>10%</div> </div>
2	B	255	<div> <div>2%</div> <div>39%</div> <div>39%</div> <div>9%</div> <div>13%</div> </div>
3	C	238	<div> <div>6%</div> <div>33%</div> <div>42%</div> <div>11%</div> <div>13%</div> </div>
4	D	208	<div> <div>4%</div> <div>43%</div> <div>47%</div> <div>9%</div> </div>

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

## 2 Entry composition

There are 22 unique types of molecules in this entry. The entry contains 51308 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	1506	Total	C	N	O	P	0	0	0
			32372	14408	5996	10462	1506			

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	222	Total	C	N	O	S	0	0	0
			1810	1154	328	323	5			

- Molecule 3 is a protein called 30S ribosomal protein S3.

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

- Molecule 4 is a protein called 30S ribosomal protein S4.

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

- Molecule 5 is a protein called 30S ribosomal protein S5.

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

- Molecule 6 is a protein called 30S ribosomal protein S6.

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

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	153	Total	C	N	O	S	0	0	0
			1231	764	246	215	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

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

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	125	Total	C	N	O	S	0	0	0
			993	629	195	169				

- Molecule 10 is a protein called 30S ribosomal protein S10.

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

- Molecule 11 is a protein called 30S ribosomal protein S11.

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

- Molecule 12 is a protein called 30S ribosomal protein S12.

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

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	120	Total	C	N	O	S	0	0	0
			955	591	197	165	2			

- Molecule 14 is a protein called 30S ribosomal protein S14 type Z.

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

- Molecule 15 is a protein called 30S ribosomal protein S15.

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

- Molecule 16 is a protein called 30S ribosomal protein S16.

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

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	100	Total	C	N	O	S	0	0	0
			834	534	156	142	2			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	R	68	Total	C	N	O	0	0	0
			559	357	109	93			

- Molecule 19 is a protein called 30S ribosomal protein S19.

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

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	94	Total	C	N	O	S	0	0	0
			734	453	157	122	2			

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

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

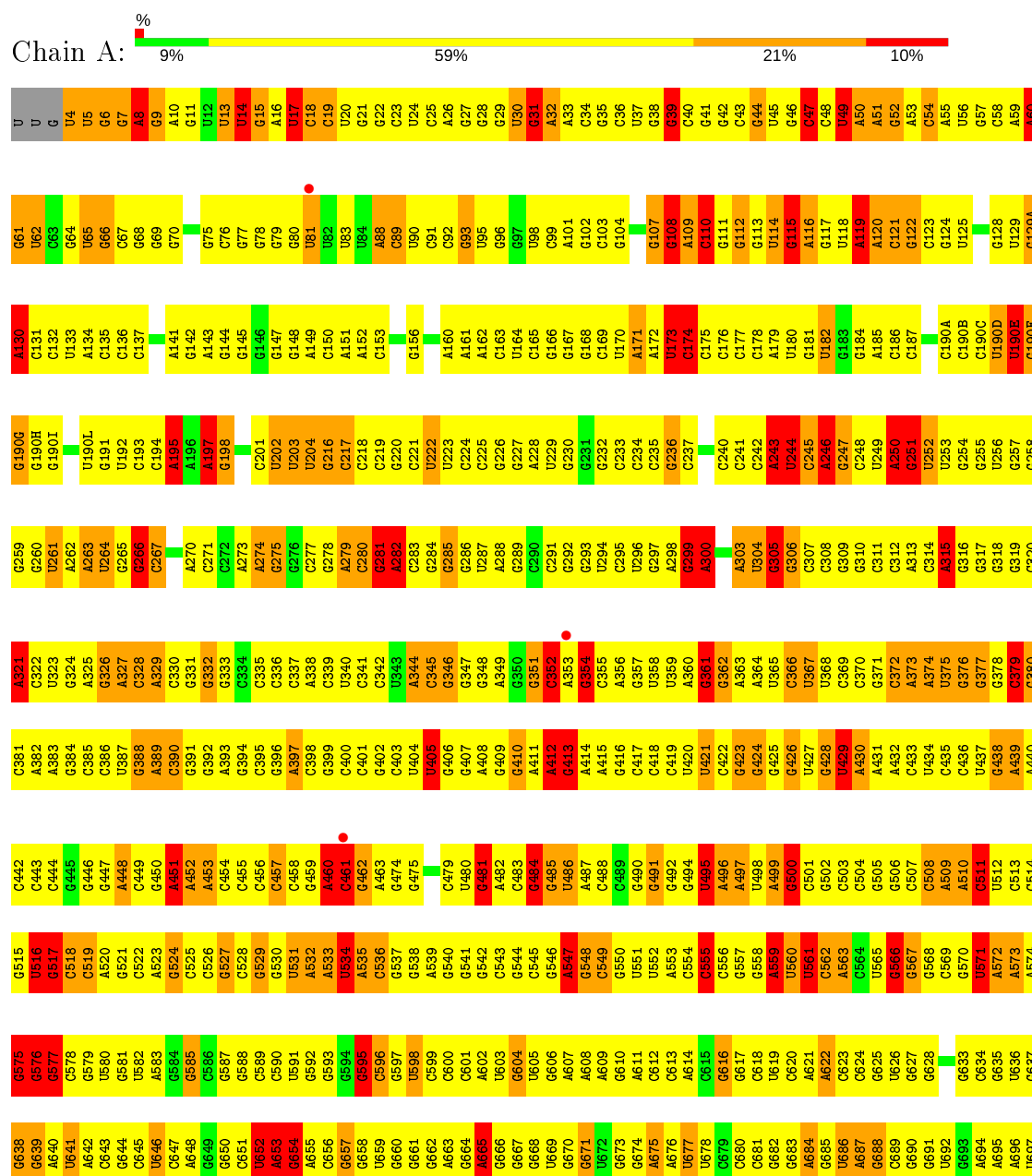
- Molecule 22 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
22	D	1	Total	Zn	0	0
			1	1		
22	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.

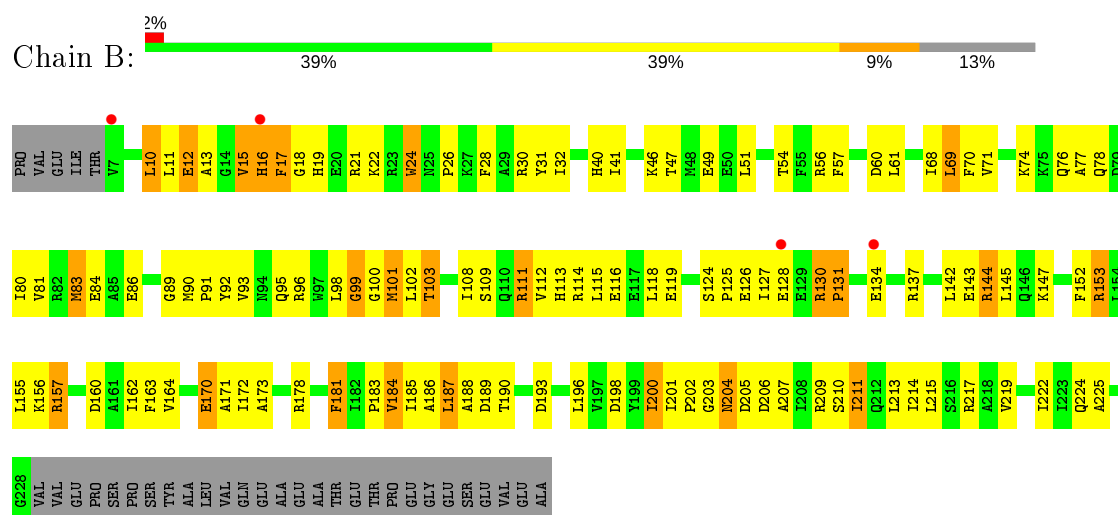
#### • Molecule 1: 16S ribosomal RNA



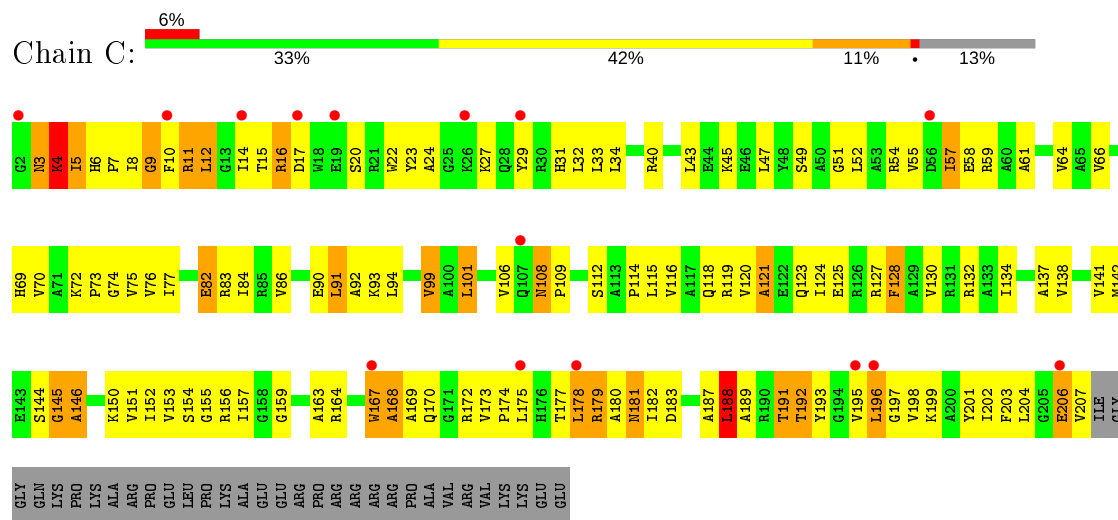


G1507	C1439	U1376	C1317	G1255	C1195	G1131	C1071	G1013	G951	U891	C821	A759	G698
G1508	C1440	A1377	A1318	A1256	U1196	C1132	G1072	A1014	U952	A892	C822	G760	C699
C1509	G1441	C1378	A1319	C1257	G1197	G1133	U1073	A1015	G953	C893	G823	G761	G701
U1510	G1442	G1379	C1320	G1258	G1198	G1134	G1074	A1016	G954	G894	C824	G762	C700
G1511	C1443	U1380	C1321	C1259	U1199	U1135	U1075	G1017	U955	C895	G825	G763	A702
U1512	A1444	U1381	C1322	G1260	C1200	U1136	G1076	G1018	U956	C896	C826	G764	G703
A1513	C1447	C1382	G1323	A1261	A1201	C1137	G1077	C1019	U957	C897	U827	G765	A704
C1514	C1448	G1383	A1324	C1262	G1202	G1138	U1078	U1020	A958	G898	A828	A766	U705
C1515	G1449	G1385	C1325	G1263	C1203	G1139	G1079	G1021	A959	C899	G829	A767	A706
U1516	A1450	G1386	C1326	C1264	A1204	C1140	A1080	G1022	U960	A900	G830	A768	C707
A1517	G1451	G1387	C1327	G1265	U1205	C1141	G1081	G1023	U961	A901	G831	G769	G708
C1518	A1452	C1388	C1328	C1267	G1206	G1142	G1082	G1024	G962	G902	U835	G770	G709
G1519	G1453	C1389	A1329	A1268	G1207	G1143	U1083	U1025	G963	G903	G836	G771	G710
G1520	G1454	U1390	U1330	A1269	C1208	G1144	G1084	G1026	A964	C904	G837	G772	G711
G1521	G1455	U1391	G1331	C1270	C1209	C1145	U1085	C1027	A965	U905	G838	G773	A712
U1522	G1456	G1392	A1332	G1271	C1210	A1146	U1086	G1028	G966	G906	G839	G774	G713
G1523	A1460	U1393	A1333	G1272	U1211	C1147	G1087	G1029	C967	A907	U839	G775	G714
G1524	G1461	C1394	G1334	G1273	U1212	U1148	G1088	G1030	A968	A908	U840	A777	A715
G1525	G1462	C1395	C1335	G1274	A1213	C1149	U1089	G1030A	A969	A909	U841	G778	A716
G1526	G1463	A1396	C1336	C1277	G1214	U1150	U1090	G1030B	C970	G910	C848	G779	C717
C1527	C1464	C1397	G1337	U1278	A1151	A1152	U1091	G1030C	G971	U911	C849	G780	G718
G1465	G1465	A1398	G1338	A1278	G1216	G1153	C1098	C1037	A977	A917	G858	G781	C719
C1466	C1466	C1399	A1339	U1279	C1217	C1154	U1099	C1038	C980	A919	A859	U788	C720
G1467	G1467	C1400	A1340	A1280	C1218	C1155	G1106	G1039	C981	U920	A860	G789	G727
G1470	G1470	G1401	U1341	U1281	U1219	C1156	G1107	U1040	U982	U921	G861	A790	A728
A1531	G1471	C1402	C1342	C1282	G1220	G1157	G1108	A1041	U983	G922	C862	G791	G731
U1532	G1472	C1403	G1343	G1283	G1221	C1158	G1109	A1044	A983	A923	C863	A792	G732
G1475	G1475	G1404	U1344	A1284	C1222	C1159	C1109	C1045	C984	C924	A864	U793	A733
G1476	A1476	G1405	A1345	A1285	C1223	C1160	G1110	G1046	C985	G925	A865	A794	G734
C1477	G1477	U1406	U1346	A1286	G1224	C1161	A1111	A1047	A986	G926	C866	G795	G735
C1478	G1478	C1407	G1347	A1287	A1225	G1162	C1112	G1048	G987	G927	C867	C796	C736
C1479	G1479	A1408	U1348	A1288	C1226	G1163	G1113	U1049	C988	G928	C868	C797	
G1480	G1480	G1411	A1349	U1289	A1227	C1166	C1114	U1052	C989	G929	C869	G798	A737
U1481	U1481	C1412	A1350	G1290	C1228	A1167	C1115	C1054	C990	U930	U870	G799	C738
G1482	G1482	A1413	U1351	G1291	A1229	A1168	G1116	A1055	A996	C931	U871	U801	C739
A1483	A1483	U1414	C1352	U1292	C1230	A1169	G1117	U1056	C997	G932	A872	U802	U740
C1484	C1484	G1415	G1353	G1293	G1231	G1171	C1118	G1058	U997	C933	A873	A803	G741
U1485	U1485	G1416	C1354	G1294	U1232	C1172	G1119	C1059	G998	G934	C874	U804	G742
G1486	G1486	G1417	G1355	G1295	C1233	G1173	C1116	A1056	C999	A935	C875	C806	C744
G1487	G1487	A1418	C1356	C1296	C1234	G1174	G1117	U1057	U997	A936	G876	C807	C745
G1488	G1488	U1419	A1357	U1235	U1235	A1176	C1118	C1058	U998	G937	G877	A807	A746
U1489	U1489	C1420	U1358	C1236	A1236	G1177	C1119	C1059	G999	G938	C878	C808	G747
G1490	G1490	G1421	A1360	A1237	C1237	G1178	C1120	C1060	C999	C940	C880	C748	C748
G1491	G1491	G1422	G1361	U1301	A1238	C1179	U1121	G1061	C999	G941	G881	C749	
A1492	A1492	G1423	C1361A	U1302	A1239	A1179	C1122	G1062	C999	G942	C882	C811	
C1493	C1493	C1424	C1362	C1303	U1240	A1180	G1123	U1062	C999	G943	C883	C812	G750
U1494	U1494	U1425	A1363	G1304	G1241	A1181	C1124	C1063	C999	U943	U813	U751	
U1495	U1495	C1426	U1364	G1305	C1242	G1182	U1125	G1064	C999	G944	U814	G752	
C1496	C1496	U1427	G1365	A1306	G1243	A1183	U1126	C1065	C999	G945	A815	A753	
G1497	G1497	G1427	C1366	A1307	C1244	G1184	C1127	U1066	C999	A946	A816	C754	
U1498	U1498	C1430	C1367	U1308	A1245	G1185	G1128	A1067	C999	G947	G887	C755	
A1499	A1499	C1431	G1368	U1309	C1246	G1186	C1129	G1068	C999	G948	G888	C756	
A1500	A1500	G1432	C1369	G1310	U1247	G1187	U1130	U1069	C999	A949	A889	U757	
C1501	C1501	A1433	G1370	G1311	A1248	A1188	U1131	U1070	C999	U950	G890	U820	G758
A1502	A1502	A1434	G1371	G1312	C1249	A1189	U1132						
A1503	A1503	G1435	U1372	U1313	A1250	G1190	U1133						
G1504	G1504	U1436	C1373	C1314	A1251	A1191	G1127						
G1505	G1505	C1437	A1374	U1315	A1252	C1192	C1128						
U1506	U1506	G1438	A1375	G1316	C1254	U1194	A1130						

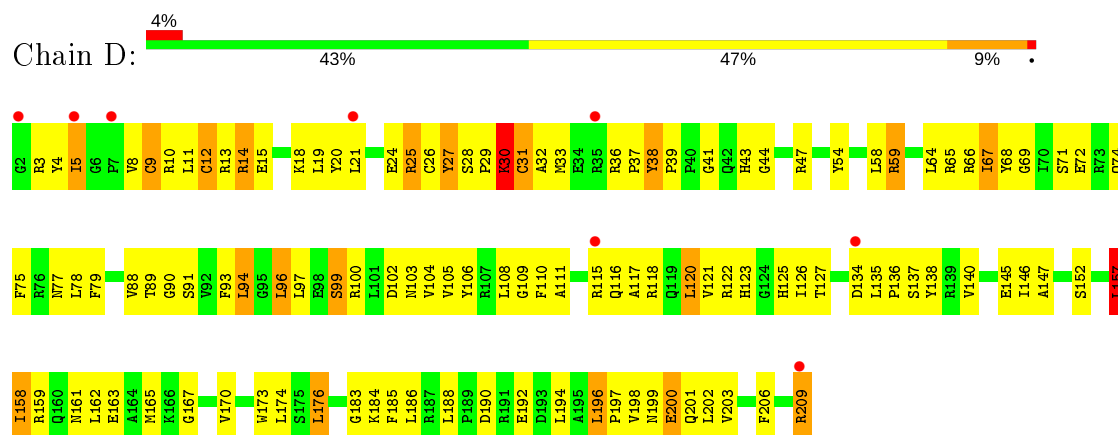
- Molecule 2: 30S ribosomal protein S2



- Molecule 3: 30S ribosomal protein S3

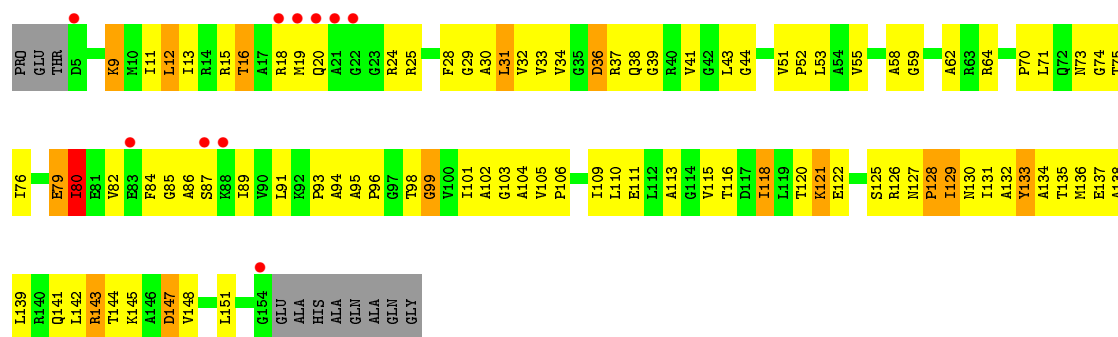


- Molecule 4: 30S ribosomal protein S4

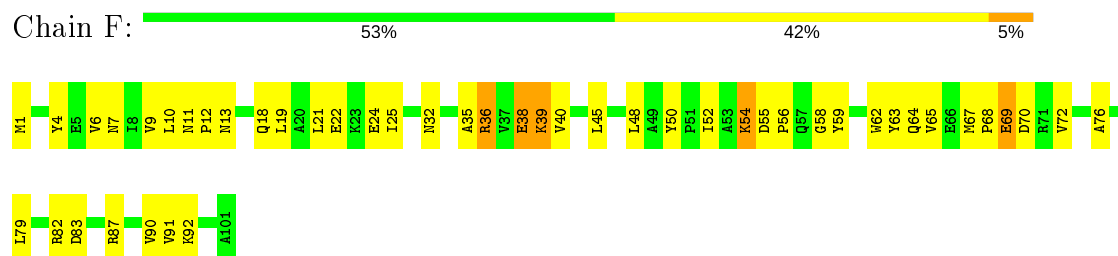


- Molecule 5: 30S ribosomal protein S5

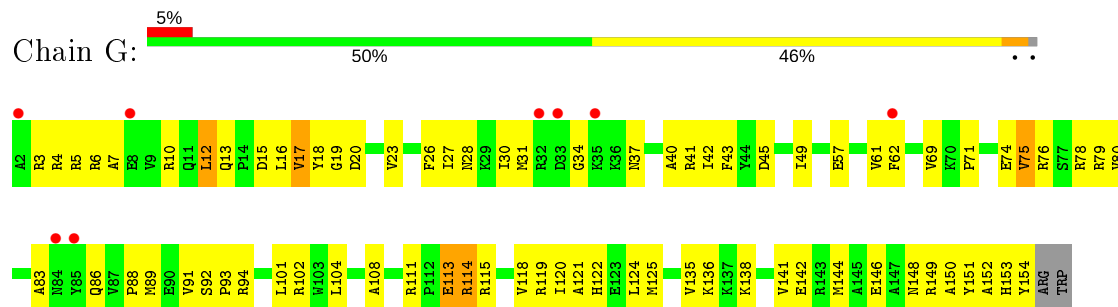




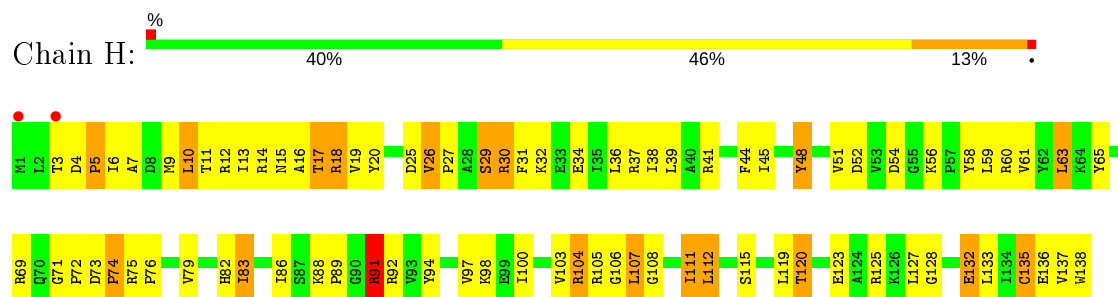
• Molecule 6: 30S ribosomal protein S6



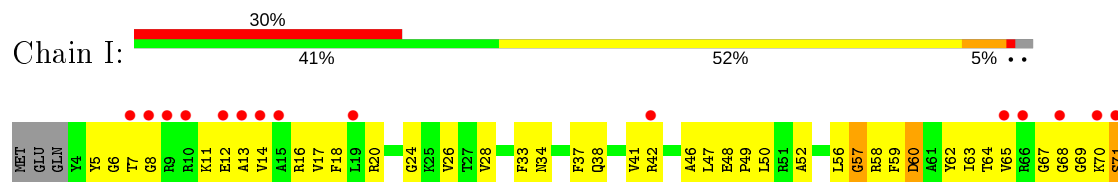
• Molecule 7: 30S ribosomal protein S7

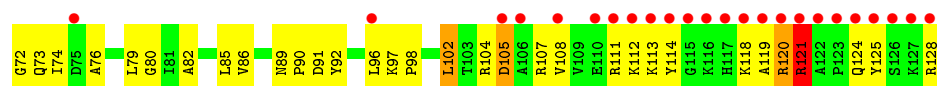


• Molecule 8: 30S ribosomal protein S8

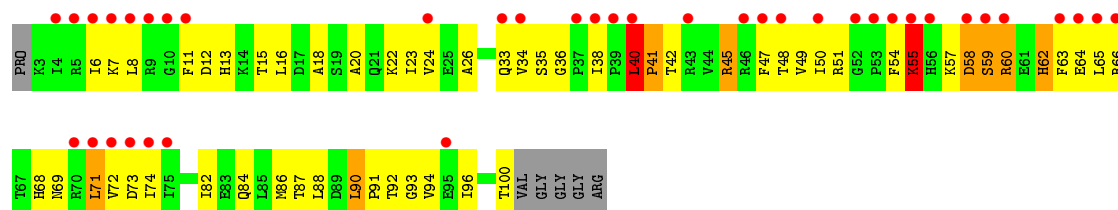


• Molecule 9: 30S ribosomal protein S9

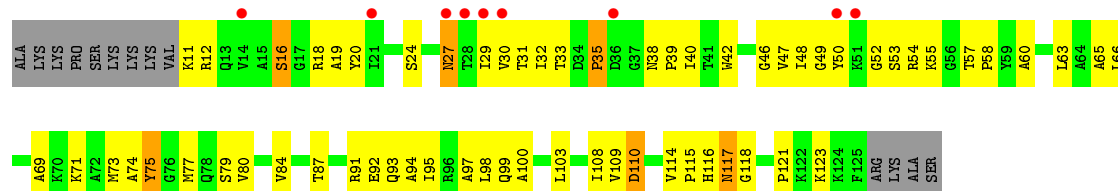




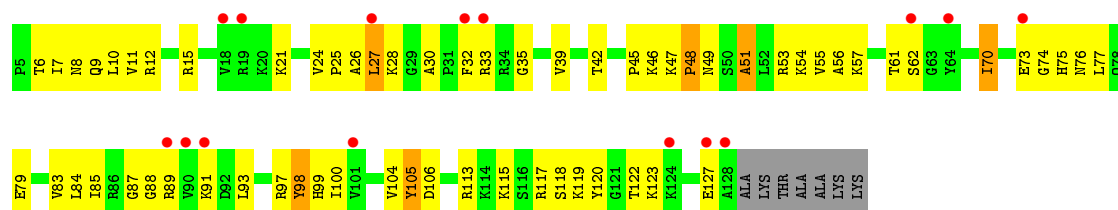
• Molecule 10: 30S ribosomal protein S10



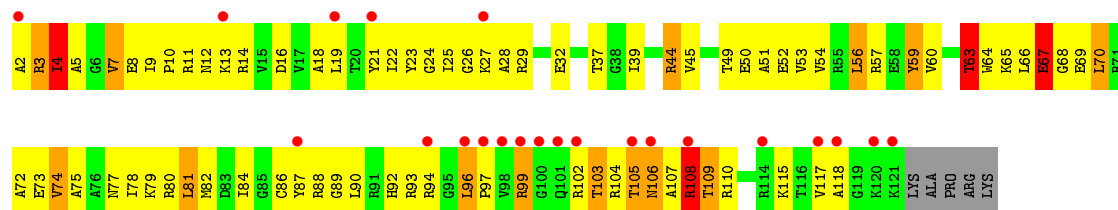
• Molecule 11: 30S ribosomal protein S11



• Molecule 12: 30S ribosomal protein S12

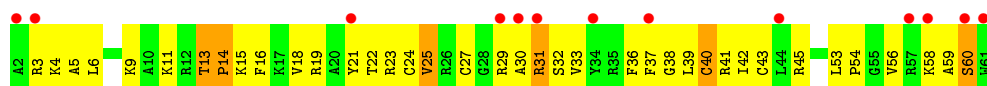


• Molecule 13: 30S ribosomal protein S13

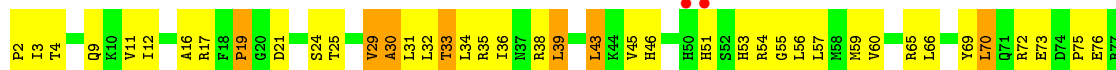


• Molecule 14: 30S ribosomal protein S14 type Z

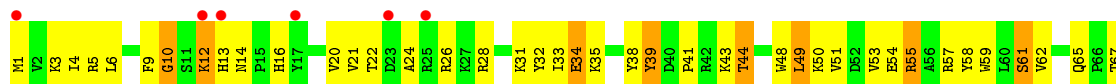
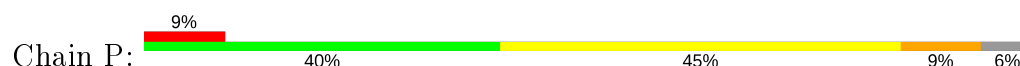




• Molecule 15: 30S ribosomal protein S15



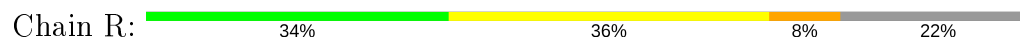
• Molecule 16: 30S ribosomal protein S16



• Molecule 17: 30S ribosomal protein S17

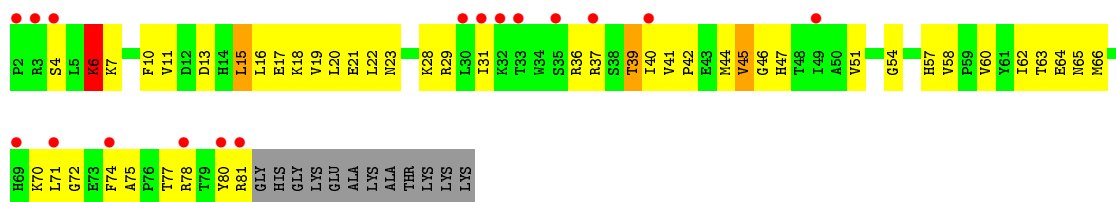


• Molecule 18: 30S ribosomal protein S18

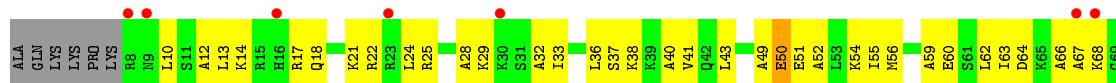


• Molecule 19: 30S ribosomal protein S19

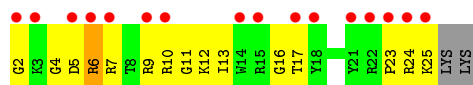




- Molecule 20: 30S ribosomal protein S20



- Molecule 21: 30S ribosomal protein Thx



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	411.50Å 411.50Å 172.58Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	184.03 – 3.30 184.03 – 3.30	Depositor EDS
% Data completeness (in resolution range)	97.7 (184.03-3.30) 97.7 (184.03-3.30)	Depositor EDS
$R_{merge}$	0.15	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.86 (at 3.33Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, $R_{free}$	0.292 , 0.323 0.252 , 0.285	Depositor DCC
$R_{free}$ test set	10942 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	95.8	Xtriage
Anisotropy	0.188	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.12 , 20.1	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.35$ , $\langle L^2 \rangle = 0.18$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.87	EDS
Total number of atoms	51308	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	109.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.66% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: 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	29/36237 (0.1%)	0.99	122/56558 (0.2%)
2	B	0.68	0/1842	0.91	1/2479 (0.0%)
3	C	0.62	0/1636	0.88	3/2205 (0.1%)
4	D	0.72	2/1733 (0.1%)	1.01	7/2318 (0.3%)
5	E	0.81	0/1162	1.02	0/1564
6	F	0.57	0/856	0.83	0/1154
7	G	0.48	0/1248	0.71	0/1672
8	H	0.76	0/1136	1.02	3/1527 (0.2%)
9	I	0.56	0/1011	0.80	1/1354 (0.1%)
10	J	0.53	0/807	0.87	2/1085 (0.2%)
11	K	0.53	0/868	0.82	0/1173
12	L	0.59	0/986	0.89	1/1320 (0.1%)
13	M	0.54	0/965	0.88	3/1292 (0.2%)
14	N	0.58	0/501	0.98	1/664 (0.2%)
15	O	0.66	0/745	0.90	1/992 (0.1%)
16	P	0.66	0/716	0.88	0/963
17	Q	0.69	0/847	0.92	0/1131
18	R	0.56	0/564	0.89	0/748
19	S	0.53	0/661	0.92	1/890 (0.1%)
20	T	0.50	0/736	0.83	1/970 (0.1%)
21	V	0.60	0/212	0.77	0/277
All	All	0.87	31/55469 (0.1%)	0.96	147/82336 (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	0	160
4	D	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
5	E	0	1
8	H	0	1
17	Q	0	1
All	All	0	164

All (31) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1077	G	C5-C6	-12.45	1.29	1.42
1	A	1511	G	N3-C4	-8.17	1.29	1.35
1	A	1108	G	C5-C6	7.17	1.49	1.42
1	A	378	G	C5-C6	-6.89	1.35	1.42
1	A	1081	G	N3-C4	-6.69	1.30	1.35
1	A	576	G	C5-C6	-6.62	1.35	1.42
1	A	1081	G	N9-C4	-6.51	1.32	1.38
1	A	577	G	C5-C6	-6.42	1.35	1.42
1	A	918	A	C5-C6	-6.32	1.35	1.41
1	A	1080	A	C5-C6	-6.06	1.35	1.41
1	A	1102	A	C5-C6	-6.03	1.35	1.41
1	A	1079	G	C5-C6	-6.02	1.36	1.42
1	A	585	G	C5-C6	-6.01	1.36	1.42
1	A	299	G	C6-O6	6.00	1.29	1.24
1	A	300	A	C5-C6	-6.00	1.35	1.41
1	A	921	U	N1-C2	-5.92	1.33	1.38
4	D	12	CYS	CA-CB	5.87	1.66	1.53
1	A	17	U	C4-O4	-5.85	1.19	1.23
1	A	379	C	C4-N4	-5.75	1.28	1.33
1	A	555	C	N1-C2	-5.56	1.34	1.40
1	A	825	G	C5-C6	-5.35	1.37	1.42
1	A	361	G	C5-C6	-5.29	1.37	1.42
1	A	758	G	C2-N3	-5.28	1.28	1.32
1	A	17	U	C4-C5	-5.20	1.38	1.43
1	A	299	G	N3-C4	-5.14	1.31	1.35
1	A	758	G	N9-C4	-5.12	1.33	1.38
1	A	916	G	C5-C6	-5.08	1.37	1.42
4	D	12	CYS	CB-SG	5.07	1.90	1.82
1	A	362	G	C5-C6	-5.06	1.37	1.42
1	A	326	G	C5-C6	-5.04	1.37	1.42
1	A	665	A	C5-C6	-5.02	1.36	1.41

All (147) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	246	A	N9-C1'-C2'	10.65	127.85	114.00
1	A	934	C	N1-C1'-C2'	9.98	126.98	114.00
14	N	40	CYS	CA-CB-SG	9.68	131.43	114.00
1	A	1336	C	N1-C1'-C2'	9.27	126.05	114.00
4	D	12	CYS	CA-CB-SG	9.23	130.62	114.00
1	A	652	U	N1-C1'-C2'	8.97	125.66	114.00
1	A	653	A	N9-C1'-C2'	8.89	125.56	114.00
1	A	1181	G	N9-C1'-C2'	8.77	125.40	114.00
1	A	566	G	N9-C1'-C2'	8.66	125.25	114.00
4	D	94	LEU	CA-CB-CG	-8.61	95.49	115.30
1	A	1151	A	N9-C1'-C2'	8.57	125.15	114.00
10	J	40	LEU	C-N-CD	-8.25	102.44	120.60
1	A	960	U	N1-C1'-C2'	8.20	124.66	114.00
1	A	1502	A	N9-C1'-C2'	8.10	124.53	114.00
1	A	517	G	N9-C1'-C2'	8.09	124.52	114.00
1	A	1322	C	N1-C1'-C2'	7.95	124.33	114.00
1	A	884	U	N1-C1'-C2'	7.91	124.28	114.00
1	A	752	G	N9-C1'-C2'	7.84	124.19	114.00
8	H	10	LEU	CA-CB-CG	-7.58	97.86	115.30
1	A	1302	U	C2'-C3'-O3'	7.56	126.12	109.50
1	A	429	U	O4'-C1'-N1	7.49	114.19	108.20
1	A	575	G	N9-C1'-C2'	7.37	123.58	114.00
1	A	1299	A	N9-C1'-C2'	7.37	123.58	114.00
1	A	266	G	O4'-C1'-N9	-7.37	102.31	108.20
13	M	5	ALA	N-CA-C	-7.26	91.39	111.00
1	A	1525	G	N9-C1'-C2'	-7.21	104.07	112.00
1	A	595	G	C5'-C4'-O4'	-7.20	100.46	109.10
1	A	388	G	N9-C1'-C2'	7.17	123.32	114.00
1	A	315	A	N9-C1'-C2'	7.08	123.21	114.00
1	A	976	G	N9-C1'-C2'	7.04	123.16	114.00
1	A	867	G	O4'-C1'-N9	-7.03	102.57	108.20
1	A	8	A	O4'-C1'-N9	6.97	113.78	108.20
1	A	547	A	N9-C1'-C2'	6.93	123.00	114.00
1	A	1305	G	N9-C1'-C2'	6.83	122.88	114.00
1	A	1504	G	OP2-P-O3'	6.80	120.16	105.20
3	C	4	LYS	N-CA-C	6.76	129.26	111.00
1	A	1380	U	C2'-C3'-O3'	6.73	124.47	113.70
1	A	511	C	N1-C1'-C2'	6.72	122.74	114.00
1	A	305	G	N9-C1'-C2'	6.67	122.68	114.00
1	A	1502	A	O4'-C1'-N9	6.60	113.48	108.20
1	A	47	C	N1-C1'-C2'	6.57	122.54	114.00
1	A	819	A	N9-C1'-C2'	6.56	122.53	114.00
4	D	120	LEU	CA-CB-CG	-6.47	100.43	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1498	U	N1-C1'-C2'	6.46	122.40	114.00
1	A	130	A	N9-C1'-C2'	6.44	122.37	114.00
1	A	516	U	N1-C1'-C2'	6.30	122.20	114.00
1	A	1224	G	N9-C1'-C2'	6.29	122.18	114.00
13	M	3	ARG	N-CA-C	6.29	127.97	111.00
1	A	985	C	N1-C1'-C2'	-6.28	105.09	112.00
1	A	484	G	N9-C1'-C2'	6.25	122.13	114.00
1	A	702	A	N9-C1'-C2'	6.22	122.08	114.00
1	A	1506	U	N1-C1'-C2'	6.22	122.08	114.00
1	A	1454	G	N9-C1'-C2'	-6.21	105.17	112.00
1	A	1124	G	N9-C1'-C2'	6.16	122.01	114.00
1	A	1502	A	C1'-O4'-C4'	-6.12	105.01	109.90
8	H	107	LEU	CA-CB-CG	-6.11	101.24	115.30
1	A	49	U	N1-C1'-C2'	6.09	121.92	114.00
1	A	190(E)	U	N1-C1'-C2'	6.06	121.88	114.00
1	A	1529	G	O4'-C1'-N9	6.04	113.03	108.20
1	A	875	C	C5'-C4'-C3'	-6.03	106.35	116.00
1	A	1108	G	C4'-C3'-C2'	-6.01	96.59	102.60
1	A	1108	G	C5'-C4'-C3'	5.99	125.59	116.00
1	A	60	A	N9-C1'-C2'	5.95	121.74	114.00
4	D	30	LYS	N-CA-C	5.92	126.98	111.00
1	A	1132	C	N1-C1'-C2'	-5.87	105.54	112.00
1	A	108	G	C4'-C3'-C2'	-5.83	96.77	102.60
1	A	934	C	C1'-O4'-C4'	-5.83	105.24	109.90
1	A	281	G	OP2-P-O3'	5.82	118.01	105.20
1	A	352	C	O5'-P-OP1	-5.82	100.47	105.70
1	A	1364	U	OP1-P-O3'	5.81	117.98	105.20
1	A	460	A	N9-C1'-C2'	5.81	121.55	114.00
1	A	818	G	N9-C1'-C2'	5.80	121.55	114.00
1	A	511	C	C1'-O4'-C4'	-5.80	105.26	109.90
1	A	451	A	N9-C1'-C2'	5.78	121.52	114.00
4	D	31	CYS	N-CA-C	-5.73	95.54	111.00
19	S	6	LYS	N-CA-C	5.73	126.46	111.00
1	A	1281	U	N1-C1'-C2'	5.71	121.43	114.00
1	A	1101	A	OP2-P-O3'	5.71	117.76	105.20
1	A	461	C	N1-C1'-C2'	5.69	121.40	114.00
1	A	1401	G	C5'-C4'-O4'	5.68	115.92	109.10
1	A	767	A	OP2-P-O3'	5.67	117.66	105.20
1	A	31	G	C2'-C3'-O3'	5.66	122.76	113.70
1	A	281	G	C2'-C3'-O3'	5.66	122.75	113.70
1	A	890	G	N9-C1'-C2'	5.65	121.35	114.00
1	A	1065	U	C5'-C4'-C3'	5.65	125.03	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	H	135	CYS	CA-CB-SG	-5.64	103.85	114.00
1	A	1280	A	C1'-O4'-C4'	-5.64	105.39	109.90
15	O	43	LEU	CA-CB-CG	-5.63	102.36	115.30
1	A	1139	G	N9-C1'-C2'	5.61	121.29	114.00
4	D	12	CYS	N-CA-C	-5.58	95.92	111.00
1	A	747	C	C2'-C3'-O3'	5.56	122.59	113.70
3	C	178	LEU	CA-CB-CG	5.55	128.06	115.30
1	A	282	A	O5'-P-OP1	-5.53	100.72	105.70
1	A	429	U	C1'-O4'-C4'	-5.53	105.48	109.90
1	A	721	G	N9-C1'-C2'	5.50	121.15	114.00
1	A	1077	G	O4'-C4'-C3'	-5.50	98.50	104.00
1	A	976	G	C1'-O4'-C4'	-5.48	105.51	109.90
1	A	934	C	O4'-C1'-N1	5.48	112.58	108.20
1	A	173	U	N1-C1'-C2'	5.47	121.11	114.00
1	A	563	A	N9-C1'-C2'	5.44	121.07	114.00
1	A	792	A	N9-C1'-C2'	5.44	121.07	114.00
1	A	1050	G	C5'-C4'-C3'	5.43	124.69	116.00
1	A	571	U	OP2-P-O3'	5.42	117.13	105.20
1	A	890	G	OP2-P-O3'	5.42	117.12	105.20
1	A	1395	C	C2'-C3'-O3'	5.42	122.37	113.70
1	A	405	U	N1-C1'-C2'	5.42	121.04	114.00
1	A	1310	G	C5'-C4'-C3'	5.42	124.66	116.00
1	A	452	A	O4'-C1'-N9	5.41	112.53	108.20
1	A	17	U	O5'-P-OP1	5.41	117.19	110.70
10	J	40	LEU	C-N-CA	5.40	144.68	122.00
1	A	244	U	N1-C1'-C2'	5.40	121.02	114.00
1	A	1099	G	O4'-C1'-N9	5.38	112.51	108.20
1	A	566	G	C4'-C3'-O3'	-5.38	98.10	109.40
1	A	1094	G	C5'-C4'-O4'	5.38	115.55	109.10
1	A	971	G	N9-C1'-C2'	5.37	120.98	114.00
1	A	299	G	N9-C1'-C2'	5.37	120.98	114.00
1	A	815	A	N9-C1'-C2'	5.32	120.91	114.00
1	A	1505	G	C2'-C3'-O3'	5.31	122.20	113.70
9	I	102	LEU	CA-CB-CG	-5.30	103.10	115.30
1	A	119	A	C2'-C3'-O3'	5.29	122.17	113.70
1	A	871	U	C2'-C3'-O3'	-5.28	97.88	109.50
4	D	26	CYS	CA-CB-SG	5.28	123.51	114.00
1	A	1053	G	O3'-P-O5'	-5.28	93.98	104.00
1	A	1079	G	O4'-C4'-C3'	-5.27	98.73	104.00
1	A	595	G	C2'-C3'-O3'	-5.26	97.93	109.50
1	A	1302	U	N1-C1'-C2'	5.26	120.84	114.00
1	A	511	C	O4'-C1'-N1	5.25	112.40	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	873	A	C5'-C4'-C3'	-5.24	107.61	116.00
1	A	1081	G	N9-C1'-C2'	-5.24	106.24	112.00
1	A	971	G	C1'-O4'-C4'	-5.22	105.72	109.90
20	T	12	ALA	N-CA-C	-5.19	96.99	111.00
1	A	1297	C	C2'-C3'-O3'	5.16	121.96	113.70
1	A	18	C	O4'-C4'-C3'	-5.16	98.84	104.00
13	M	4	ILE	N-CA-C	5.15	124.89	111.00
3	C	51	GLY	N-CA-C	-5.14	100.25	113.10
1	A	1345	U	O4'-C1'-N1	5.12	112.30	108.20
1	A	1236	A	C5'-C4'-C3'	5.10	124.17	116.00
1	A	305	G	O4'-C1'-N9	5.10	112.28	108.20
1	A	1086	U	N1-C1'-C2'	5.09	120.62	114.00
1	A	559	A	OP2-P-O3'	5.09	116.39	105.20
1	A	677	U	N1-C1'-C2'	5.08	120.61	114.00
2	B	200	ILE	CB-CA-C	-5.08	101.44	111.60
1	A	872	A	N9-C1'-C2'	5.05	120.56	114.00
1	A	115	G	N9-C1'-C2'	5.03	120.55	114.00
1	A	675	A	N9-C1'-C2'	-5.01	106.48	112.00
12	L	26	ALA	N-CA-C	-5.01	97.47	111.00
1	A	1213	A	N9-C1'-C2'	5.01	120.51	114.00

There are no chirality outliers.

All (164) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1023	G	Sidechain
1	A	1048	G	Sidechain
1	A	1056	U	Sidechain
1	A	1066	C	Sidechain
1	A	107	G	Sidechain
1	A	1077	G	Sidechain
1	A	1078	U	Sidechain
1	A	1079	G	Sidechain
1	A	108	G	Sidechain
1	A	1083	U	Sidechain
1	A	1085	U	Sidechain
1	A	110	C	Sidechain
1	A	112	G	Sidechain
1	A	1124	G	Sidechain
1	A	1133	G	Sidechain
1	A	1139	G	Sidechain
1	A	114	U	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1160	G	Sidechain
1	A	1166	G	Sidechain
1	A	1181	G	Sidechain
1	A	1183	A	Sidechain
1	A	1188	A	Sidechain
1	A	1190	G	Sidechain
1	A	1191	A	Sidechain
1	A	1195	C	Sidechain
1	A	1196	U	Sidechain
1	A	1199	U	Sidechain
1	A	1213	A	Sidechain
1	A	1236	A	Sidechain
1	A	1281	U	Sidechain
1	A	1322	C	Sidechain
1	A	1326	C	Sidechain
1	A	1329	A	Sidechain
1	A	1336	C	Sidechain
1	A	1337	G	Sidechain
1	A	1347	G	Sidechain
1	A	1365	G	Sidechain
1	A	1370	G	Sidechain
1	A	1372	U	Sidechain
1	A	1385	G	Sidechain
1	A	1398	A	Sidechain
1	A	14	U	Sidechain
1	A	1434	A	Sidechain
1	A	1441	G	Sidechain
1	A	1498	U	Sidechain
1	A	15	G	Sidechain
1	A	1503	A	Sidechain
1	A	1505	G	Sidechain
1	A	1507	A	Sidechain
1	A	1514	C	Sidechain
1	A	1525	G	Sidechain
1	A	17	U	Sidechain
1	A	171	A	Sidechain
1	A	174	C	Sidechain
1	A	19	C	Sidechain
1	A	190(E)	U	Sidechain
1	A	195	A	Sidechain
1	A	197	A	Sidechain
1	A	222	U	Sidechain

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Mol	Chain	Res	Type	Group
1	A	236	G	Sidechain
1	A	243	A	Sidechain
1	A	250	A	Sidechain
1	A	251	G	Sidechain
1	A	261	U	Sidechain
1	A	263	A	Sidechain
1	A	264	U	Sidechain
1	A	285	G	Sidechain
1	A	299	G	Sidechain
1	A	30	U	Sidechain
1	A	303	A	Sidechain
1	A	317	G	Sidechain
1	A	321	A	Sidechain
1	A	354	G	Sidechain
1	A	361	G	Sidechain
1	A	374	A	Sidechain
1	A	375	U	Sidechain
1	A	376	G	Sidechain
1	A	377	G	Sidechain
1	A	379	C	Sidechain
1	A	380	G	Sidechain
1	A	39	G	Sidechain
1	A	405	U	Sidechain
1	A	410	G	Sidechain
1	A	412	A	Sidechain
1	A	413	G	Sidechain
1	A	426	G	Sidechain
1	A	448	A	Sidechain
1	A	457	C	Sidechain
1	A	47	C	Sidechain
1	A	481	G	Sidechain
1	A	484	G	Sidechain
1	A	491	G	Sidechain
1	A	495	U	Sidechain
1	A	500	G	Sidechain
1	A	516	U	Sidechain
1	A	517	G	Sidechain
1	A	524	G	Sidechain
1	A	529	G	Sidechain
1	A	534	U	Sidechain
1	A	54	C	Sidechain
1	A	547	A	Sidechain

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Mol	Chain	Res	Type	Group
1	A	549	C	Sidechain
1	A	561	U	Sidechain
1	A	566	G	Sidechain
1	A	571	U	Sidechain
1	A	575	G	Sidechain
1	A	577	G	Sidechain
1	A	60	A	Sidechain
1	A	604	G	Sidechain
1	A	622	A	Sidechain
1	A	638	G	Sidechain
1	A	639	G	Sidechain
1	A	646	U	Sidechain
1	A	652	U	Sidechain
1	A	654	G	Sidechain
1	A	657	G	Sidechain
1	A	684	A	Sidechain
1	A	686	U	Sidechain
1	A	701	C	Sidechain
1	A	724	G	Sidechain
1	A	727	G	Sidechain
1	A	732	C	Sidechain
1	A	740	U	Sidechain
1	A	752	G	Sidechain
1	A	760	G	Sidechain
1	A	765	G	Sidechain
1	A	767	A	Sidechain
1	A	768	A	Sidechain
1	A	773	G	Sidechain
1	A	775	G	Sidechain
1	A	777	A	Sidechain
1	A	785	G	Sidechain
1	A	803	G	Sidechain
1	A	819	A	Sidechain
1	A	820	U	Sidechain
1	A	828	A	Sidechain
1	A	835	U	Sidechain
1	A	836	G	Sidechain
1	A	854	G	Sidechain
1	A	861	G	Sidechain
1	A	866	C	Sidechain
1	A	868	C	Sidechain
1	A	870	U	Sidechain

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Mol	Chain	Res	Type	Group
1	A	871	U	Sidechain
1	A	872	A	Sidechain
1	A	873	A	Sidechain
1	A	875	C	Sidechain
1	A	880	C	Sidechain
1	A	884	U	Sidechain
1	A	888	G	Sidechain
1	A	910	C	Sidechain
1	A	914	A	Sidechain
1	A	915	A	Sidechain
1	A	917	G	Sidechain
1	A	93	G	Sidechain
1	A	953	G	Sidechain
1	A	956	U	Sidechain
1	A	963	G	Sidechain
1	A	991	U	Sidechain
1	A	993	G	Sidechain
4	D	27	TYR	Sidechain
5	E	133	TYR	Sidechain
8	H	48	TYR	Sidechain
17	Q	32	TYR	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	32372	0	16335	3399	0
2	B	1810	0	1861	119	0
3	C	1612	0	1677	169	0
4	D	1703	0	1763	134	0
5	E	1146	0	1207	112	0
6	F	843	0	857	42	0
7	G	1231	0	1273	81	0
8	H	1116	0	1177	113	0
9	I	993	0	1029	103	0
10	J	794	0	840	65	0
11	K	853	0	868	52	0
12	L	970	0	1057	77	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
13	M	955	0	1021	98	0
14	N	492	0	529	62	0
15	O	734	0	771	41	0
16	P	700	0	720	65	0
17	Q	834	0	906	70	0
18	R	559	0	624	49	0
19	S	647	0	673	57	0
20	T	734	0	832	55	0
21	V	208	0	221	15	0
22	D	1	0	0	0	0
22	N	1	0	0	0	0
All	All	51308	0	36241	4584	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 53.

All (4584) 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''	1.52	1.36
1:A:1250:A:H2'	1:A:1251:A:C8	1.72	1.25
14:N:24:CYS:SG	14:N:39:LEU:HA	1.79	1.21
1:A:1027:C:H2'	1:A:1028:C:C5'	1.72	1.19
1:A:109:A:H2'	1:A:326:G:N2	1.58	1.18
1:A:981:U:H2'	1:A:982:U:C5	1.80	1.16
1:A:22:G:H2'	1:A:23:C:H6	1.03	1.15
1:A:243:A:H4'	1:A:244:U:C5'	1.76	1.15
1:A:243:A:H4'	1:A:244:U:H5'	1.22	1.14
1:A:981:U:H5'	14:N:21:TYR:CE1	1.82	1.13
2:B:71:VAL:HG22	2:B:93:VAL:HB	1.30	1.13
1:A:389:A:H2'	1:A:390:C:H5'	1.23	1.12
1:A:547:A:H4'	1:A:548:G:O5'	1.46	1.11
1:A:869:G:H4'	1:A:872:A:C8	1.85	1.11
1:A:447:G:H2'	1:A:485:G:N2	1.65	1.10
1:A:1029:C:H2'	1:A:1030:C:H5''	1.20	1.10
1:A:1489:G:C3'	1:A:1490:C:H5''	1.82	1.10
1:A:438:G:H4'	1:A:439:A:OP1	1.47	1.09
1:A:22:G:H2'	1:A:23:C:C6	1.85	1.09
1:A:1435:G:H2'	1:A:1436:U:C6	1.87	1.09
1:A:1218:C:H2'	1:A:1219:U:C6	1.88	1.08
4:D:104:VAL:HG11	4:D:146:ILE:HD12	1.33	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1443:G:H5''	1:A:1446:A:H5'	1.29	1.08
1:A:1489:G:C2'	1:A:1490:C:H5''	1.83	1.08
1:A:551:U:H2'	1:A:552:U:H6	1.16	1.07
1:A:981:U:H2'	1:A:982:U:H5	1.05	1.07
1:A:277:C:H5''	17:Q:68:ARG:HH22	0.94	1.07
1:A:15:G:H4'	5:E:24:ARG:HH12	1.12	1.07
5:E:143:ARG:HH21	8:H:104:ARG:NH1	1.51	1.07
1:A:1196:U:H5''	1:A:1197:G:H5'	1.30	1.06
3:C:91:LEU:HD21	3:C:99:VAL:HG13	1.33	1.05
1:A:1126:U:H2'	1:A:1127:G:H8	1.19	1.05
1:A:266:G:H8	1:A:266:G:H5''	1.22	1.04
1:A:872:A:H4'	1:A:873:A:OP1	1.52	1.04
1:A:677:U:H2'	1:A:678:U:C6	1.93	1.03
1:A:1196:U:H5''	1:A:1197:G:C5'	1.88	1.03
1:A:1356:G:H2'	1:A:1357:A:H8	1.22	1.03
1:A:42:G:H2'	1:A:43:C:H6	1.22	1.03
5:E:75:THR:HG22	5:E:76:ILE:H	1.23	1.03
1:A:794:A:H2'	1:A:795:C:H6	1.24	1.02
1:A:1029:C:C2'	1:A:1030:C:H5''	1.88	1.02
1:A:872:A:C2	1:A:874:G:C5	2.46	1.02
1:A:1005:A:H2'	1:A:1006:C:H5'	1.40	1.01
1:A:1189:C:H5''	3:C:5:ILE:HD13	1.39	1.01
1:A:39:G:O2'	1:A:40:C:H5'	1.58	1.01
1:A:1356:G:H2'	1:A:1357:A:C8	1.95	1.01
1:A:625:G:H2'	1:A:626:U:H6	1.22	1.00
1:A:15:G:C4'	5:E:24:ARG:HH12	1.72	1.00
1:A:1054:C:O2'	1:A:1055:A:H5''	1.59	1.00
1:A:1347:G:N2	1:A:1373:G:H2'	1.75	1.00
1:A:386:C:H2'	1:A:387:U:H5'	1.42	1.00
1:A:1129:C:O5'	1:A:1130:A:H5'	1.60	1.00
1:A:1505:G:H3'	1:A:1505:G:H8	1.24	1.00
1:A:190(F):G:H4'	1:A:190(G):G:OP2	1.61	0.99
4:D:25:ARG:HH21	4:D:30:LYS:HD3	1.23	0.99
1:A:1347:G:C8	9:I:107:ARG:HB3	1.98	0.99
9:I:26:VAL:HB	9:I:33:PHE:HB2	1.45	0.99
15:O:9:GLN:HA	15:O:12:ILE:HD12	1.42	0.99
1:A:807:A:H2'	1:A:808:C:H6	1.28	0.98
1:A:1489:G:H2'	1:A:1490:C:H5''	1.44	0.98
1:A:112:G:H21	1:A:354:G:H5'	1.24	0.98
1:A:1413:A:H2	1:A:1487:G:H22	1.01	0.98
1:A:1086:U:H2'	1:A:1087:G:H8	1.27	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:551:U:H2'	1:A:552:U:C6	1.99	0.98
1:A:839:U:H5'	1:A:840:C:C5	1.99	0.98
1:A:1020:U:O2'	1:A:1021:G:H5'	1.64	0.98
1:A:277:C:H5''	17:Q:68:ARG:NH2	1.78	0.98
1:A:579:G:C5	1:A:580:U:C5	2.51	0.97
1:A:277:C:C5'	17:Q:68:ARG:HH22	1.76	0.97
1:A:1323:G:H2'	1:A:1324:A:C8	1.99	0.97
1:A:1047:G:C2'	1:A:1048:G:H5'	1.95	0.97
1:A:429:U:H4'	1:A:430:A:O5'	1.63	0.97
1:A:802:A:H2'	1:A:803:G:H5'	1.45	0.97
1:A:624:C:O2'	1:A:625:G:H5'	1.64	0.96
1:A:1191:A:C4	1:A:1192:C:H5	1.82	0.96
20:T:50:GLU:HB2	20:T:99:LEU:HD12	1.46	0.96
5:E:120:THR:HG22	5:E:121:LYS:H	1.26	0.96
1:A:1086:U:H2'	1:A:1087:G:C8	2.01	0.96
1:A:1319:A:H4'	1:A:1320:C:OP1	1.66	0.96
1:A:386:C:C2'	1:A:387:U:H5'	1.94	0.96
1:A:1346:A:H2'	7:G:10:ARG:HH22	1.31	0.96
1:A:1505:G:H3'	1:A:1505:G:C8	2.01	0.96
1:A:663:A:H2'	1:A:664:G:H8	1.27	0.95
1:A:447:G:H2'	1:A:485:G:H22	1.29	0.95
1:A:946:A:H2'	1:A:947:G:C8	2.00	0.95
4:D:9:CYS:SG	4:D:31:CYS:O	2.24	0.95
1:A:946:A:H2'	1:A:947:G:H8	1.32	0.95
1:A:1306:A:C2	1:A:1307:U:N1	2.36	0.94
1:A:1239:A:H4'	1:A:1240:U:O5'	1.66	0.94
16:P:21:VAL:HG21	16:P:59:TRP:CD1	2.02	0.94
1:A:948:C:O2'	1:A:949:A:H5'	1.67	0.94
1:A:1126:U:H2'	1:A:1127:G:C8	2.03	0.94
1:A:351:G:H4'	1:A:352:C:OP1	1.66	0.94
1:A:579:G:H5'	1:A:728:A:H1'	1.48	0.93
1:A:914:A:O2'	1:A:915:A:H5'	1.66	0.93
1:A:1343:G:H2'	1:A:1344:C:C6	2.03	0.93
1:A:1451:A:H5''	1:A:1452:C:H5	1.34	0.93
1:A:794:A:H2'	1:A:795:C:C6	2.03	0.93
1:A:390:C:H4'	16:P:28:ARG:NH2	1.84	0.93
2:B:219:VAL:HA	2:B:222:ILE:HD12	1.51	0.93
1:A:854:G:H3'	1:A:871:U:O4	1.69	0.93
1:A:1007:C:H2'	1:A:1008:C:H6	1.34	0.93
12:L:6:THR:OG1	12:L:9:GLN:HG3	1.69	0.93
1:A:370:C:O2'	1:A:371:G:H5'	1.69	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:451:A:H1'	1:A:452:A:C8	2.04	0.92
1:A:1521:G:H2'	1:A:1522:U:H6	1.30	0.92
1:A:109:A:H2'	1:A:326:G:H21	1.28	0.92
1:A:42:G:C4	1:A:43:C:C5	2.58	0.92
11:K:57:THR:HG23	11:K:60:ALA:H	1.33	0.92
1:A:371:G:O2'	1:A:372:C:H5'	1.70	0.92
1:A:57:G:H2'	1:A:58:C:H6	1.33	0.92
1:A:1201:A:H4'	1:A:1202:G:O5'	1.68	0.92
12:L:75:HIS:HD2	12:L:77:LEU:H	1.17	0.92
1:A:345:C:H4'	1:A:346:G:O5'	1.67	0.92
1:A:882:C:O2'	1:A:883:C:H5'	1.68	0.92
1:A:839:U:H5'	1:A:840:C:H5	1.34	0.91
6:F:9:VAL:HB	6:F:87:ARG:HB2	1.52	0.91
1:A:1014:A:H2'	1:A:1015:A:C8	2.06	0.91
1:A:405:U:H3'	1:A:406:G:H5'	1.52	0.91
1:A:1029:C:H2'	1:A:1030:C:C5'	2.01	0.91
1:A:1251:A:H2'	1:A:1252:A:C8	2.06	0.91
1:A:1490:C:H5'	1:A:1490:C:H6	1.36	0.91
1:A:148:G:H2'	1:A:149:A:H8	1.36	0.91
1:A:992:U:H4'	1:A:993:G:O5'	1.71	0.91
1:A:450:G:H5''	1:A:451:A:H3'	1.52	0.91
1:A:642:A:C4	1:A:643:C:C5	2.60	0.91
1:A:736:C:H2'	1:A:737:A:C8	2.05	0.91
6:F:48:LEU:HD13	6:F:52:ILE:HG13	1.53	0.91
1:A:753:A:H4'	1:A:754:C:O5'	1.71	0.90
1:A:807:A:H2'	1:A:808:C:C6	2.06	0.90
1:A:677:U:H2'	1:A:678:U:H6	1.31	0.90
1:A:840:C:H5''	1:A:841:U:OP1	1.71	0.90
1:A:1090:U:O2'	1:A:1091:U:H5'	1.72	0.90
1:A:1400:C:H4'	1:A:1401:G:OP2	1.70	0.90
1:A:1250:A:H2'	1:A:1251:A:H8	1.24	0.90
1:A:625:G:H2'	1:A:626:U:C6	2.05	0.90
1:A:344:A:H5''	1:A:345:C:C5	2.07	0.90
1:A:820:U:H4'	1:A:821:G:OP2	1.69	0.90
1:A:1490:C:H5'	1:A:1490:C:C6	2.07	0.89
1:A:1218:C:H2'	1:A:1219:U:C5	2.07	0.89
1:A:1435:G:H2'	1:A:1436:U:H6	1.28	0.89
1:A:582:U:H2'	1:A:583:A:H8	1.33	0.89
2:B:19:HIS:CE1	2:B:206:ASP:HB3	2.06	0.89
1:A:1047:G:O2'	1:A:1048:G:H5'	1.72	0.89
1:A:358:U:H2'	1:A:359:U:C6	2.08	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:517:G:O2'	1:A:530:G:H4'	1.71	0.89
1:A:802:A:C8	1:A:803:G:C8	2.60	0.89
1:A:562:C:C4	1:A:884:U:C6	2.61	0.89
5:E:144:THR:O	5:E:148:VAL:HG23	1.71	0.89
1:A:414:A:C2	1:A:415:A:N9	2.41	0.89
1:A:394:G:H2'	1:A:395:C:H6	1.37	0.89
1:A:1367:C:C2	1:A:1368:G:C8	2.61	0.89
1:A:975:A:H4'	1:A:976:G:OP2	1.72	0.89
1:A:1191:A:C4	1:A:1192:C:C5	2.60	0.88
1:A:1300:G:HO2'	1:A:1301:U:H6	1.22	0.88
1:A:1347:G:H22	1:A:1373:G:H2'	1.38	0.88
1:A:429:U:H2'	4:D:25:ARG:HH12	1.36	0.88
1:A:902:G:O2'	1:A:903:G:H5'	1.71	0.88
3:C:22:TRP:CZ2	3:C:32:LEU:HD22	2.08	0.88
10:J:90:LEU:H	10:J:91:PRO:HD2	1.37	0.88
1:A:889:A:H4'	1:A:890:G:OP1	1.70	0.88
1:A:1128:C:O2'	1:A:1130:A:H8	1.56	0.88
1:A:1256:A:H2	1:A:1258:G:N1	1.71	0.88
1:A:607:A:O2'	1:A:608:A:H5'	1.72	0.88
1:A:328:C:O2	1:A:328:C:H2'	1.73	0.88
4:D:104:VAL:HG21	4:D:140:VAL:HG21	1.56	0.88
1:A:1319:A:H2'	1:A:1323:G:N7	1.89	0.88
1:A:1057:G:H5''	3:C:154:SER:HB2	1.55	0.87
1:A:943:U:C2'	1:A:944:G:H5'	2.03	0.87
7:G:122:HIS:HA	7:G:125:MET:HE3	1.54	0.87
1:A:625:G:C4	1:A:626:U:C5	2.61	0.87
1:A:1126:U:H6	1:A:1126:U:P	1.97	0.87
1:A:952:U:O2'	1:A:953:G:H5'	1.74	0.87
1:A:1027:C:H2'	1:A:1028:C:H5''	0.87	0.87
1:A:1328:C:O2'	1:A:1329:A:H5'	1.73	0.87
1:A:940:C:O2'	1:A:941:G:H5'	1.75	0.87
4:D:30:LYS:C	4:D:32:ALA:H	1.71	0.87
15:O:30:ALA:O	15:O:33:THR:HB	1.75	0.87
1:A:1490:C:C5'	1:A:1490:C:H6	1.87	0.87
1:A:1518:A:H2'	1:A:1519:A:C8	2.10	0.87
1:A:965:A:C2	1:A:969:A:C2	2.63	0.87
6:F:1:MET:HG2	6:F:68:PRO:HA	1.57	0.87
8:H:10:LEU:HD23	8:H:13:ILE:HD12	1.54	0.87
9:I:121:ARG:HH11	9:I:121:ARG:HG2	1.40	0.87
1:A:1372:U:H5''	9:I:71:SER:HB2	1.57	0.86
1:A:36:C:H5''	12:L:122:THR:O	1.75	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1487:G:O2'	1:A:1488:G:H5'	1.76	0.86
1:A:914:A:C2'	1:A:915:A:H5'	2.06	0.86
1:A:1124:G:O2'	1:A:1125:U:H5'	1.75	0.86
1:A:1371:G:C5	1:A:1372:U:C5	2.63	0.86
1:A:770:C:H1'	1:A:900:A:C2	2.11	0.86
1:A:1305:G:H5''	21:V:4:GLY:HA3	1.55	0.86
1:A:382:A:H2'	1:A:383:A:C8	2.11	0.85
1:A:486:U:O2	1:A:486:U:H2'	1.76	0.85
1:A:1005:A:C2'	1:A:1006:C:H5'	2.04	0.85
1:A:1128:C:HO2'	1:A:1130:A:H8	1.19	0.85
1:A:562:C:N4	1:A:884:U:C6	2.44	0.85
1:A:1399:C:O2	1:A:1401:G:C5	2.29	0.85
12:L:75:HIS:CD2	12:L:77:LEU:H	1.93	0.85
1:A:1007:C:H2'	1:A:1008:C:C6	2.11	0.85
1:A:1101:A:H4'	1:A:1102:A:O5'	1.77	0.85
1:A:1426:C:H2'	1:A:1427:U:H6	1.41	0.85
1:A:1491:G:H2'	1:A:1492:A:C8	2.12	0.85
1:A:178:C:H2'	1:A:179:A:H8	1.42	0.85
1:A:429:U:H1'	1:A:430:A:H5''	1.57	0.85
19:S:28:LYS:HG2	19:S:29:ARG:H	1.39	0.85
1:A:80:G:H3'	1:A:81:U:H5''	1.59	0.85
1:A:423:G:N2	1:A:424:G:C8	2.44	0.85
1:A:664:G:OP1	18:R:64:ARG:HD2	1.75	0.85
1:A:1010:G:O2'	1:A:1011:G:H5'	1.77	0.85
1:A:1352:C:H2'	1:A:1353:G:C8	2.11	0.85
1:A:338:A:C5	1:A:339:C:C5	2.65	0.84
1:A:598:U:H2'	1:A:599:C:C6	2.11	0.84
1:A:872:A:C2	1:A:874:G:C6	2.64	0.84
1:A:39:G:C6	1:A:40:C:C5	2.66	0.84
1:A:531:U:H5''	1:A:532:A:OP1	1.77	0.84
1:A:948:C:OP2	13:M:108:ARG:HD2	1.77	0.84
2:B:111:ARG:HH11	2:B:111:ARG:HG2	1.41	0.84
1:A:57:G:C4	1:A:58:C:C5	2.66	0.84
1:A:1060:C:O2'	1:A:1061:G:H5'	1.78	0.84
5:E:80:ILE:HD11	5:E:91:LEU:HD12	1.59	0.84
1:A:1064:G:H4'	1:A:1065:U:C5'	2.07	0.84
1:A:277:C:O2'	1:A:278:G:H5'	1.78	0.84
1:A:736:C:H2'	1:A:737:A:H8	1.41	0.84
1:A:1234:C:H1'	1:A:1364:U:O2	1.77	0.84
3:C:3:ASN:H	3:C:3:ASN:ND2	1.76	0.84
1:A:579:G:C4	1:A:580:U:C5	2.66	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:613:C:C2	1:A:628:G:N2	2.46	0.84
1:A:1323:G:H2'	1:A:1324:A:H8	1.39	0.83
1:A:1513:A:H2'	1:A:1514:C:C6	2.13	0.83
1:A:457:C:O2'	1:A:458:C:H5'	1.76	0.83
1:A:15:G:H4'	5:E:24:ARG:NH1	1.92	0.83
1:A:627:G:O2'	1:A:628:G:H5'	1.78	0.83
1:A:839:U:O2	1:A:839:U:H2'	1.79	0.83
19:S:15:LEU:HA	19:S:18:LYS:HB3	1.61	0.83
1:A:1451:A:H5''	1:A:1452:C:C5	2.14	0.83
1:A:663:A:H2'	1:A:664:G:C8	2.13	0.83
1:A:1176:A:H2'	1:A:1177:G:C8	2.13	0.83
1:A:1181:G:O2'	1:A:1182:G:C8	2.32	0.83
1:A:1416:G:N2	1:A:1485:U:H1'	1.93	0.83
13:M:96:LEU:HB3	13:M:97:PRO:HD2	1.59	0.83
1:A:181:G:O2'	1:A:182:U:H5'	1.77	0.83
1:A:279:A:C8	17:Q:95:TYR:HE2	1.97	0.83
1:A:789:U:H2'	1:A:791:G:OP2	1.78	0.83
1:A:1225:A:H3'	1:A:1226:C:C6	2.14	0.83
1:A:429:U:H2'	4:D:25:ARG:NH1	1.93	0.83
1:A:1049:U:H1'	1:A:1201:A:N7	1.93	0.83
1:A:1342:C:O2'	1:A:1343:G:H5'	1.79	0.83
1:A:581:G:N7	1:A:758:G:N7	2.26	0.83
1:A:389:A:H2'	1:A:390:C:C5'	2.08	0.82
1:A:404:U:H2'	1:A:405:U:C6	2.14	0.82
1:A:1089:G:C6	1:A:1090:U:C5	2.66	0.82
1:A:1488:G:H2'	1:A:1489:G:C8	2.14	0.82
4:D:13:ARG:HD2	4:D:38:TYR:O	1.80	0.82
1:A:1288:A:C2	1:A:1289:A:C4	2.67	0.82
1:A:1303:C:H2'	1:A:1304:G:H5'	1.60	0.82
1:A:1378:C:C5	1:A:1379:G:C8	2.67	0.82
5:E:143:ARG:HH21	8:H:104:ARG:HH11	1.26	0.82
7:G:37:ASN:ND2	9:I:41:VAL:HG23	1.95	0.82
15:O:36:ILE:HG12	15:O:59:MET:HE3	1.61	0.82
1:A:1030:C:H2'	1:A:1030(A):G:C8	2.14	0.82
1:A:1130:A:H62	1:A:1144:G:H21	1.28	0.82
1:A:1349:A:H2'	1:A:1350:A:H8	1.45	0.82
1:A:39:G:C2'	1:A:40:C:H5'	2.08	0.82
5:E:143:ARG:NH2	8:H:104:ARG:NH1	2.28	0.82
12:L:7:ILE:O	12:L:11:VAL:HG23	1.79	0.82
1:A:1226:C:H4'	1:A:1227:A:OP1	1.76	0.82
1:A:328:C:H4'	1:A:329:A:O5'	1.80	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:746:A:O2'	1:A:747:C:H5'	1.80	0.82
14:N:24:CYS:SG	14:N:39:LEU:CA	2.67	0.82
20:T:40:ALA:HB2	20:T:55:ILE:HG22	1.62	0.82
1:A:1443:G:C5'	1:A:1446:A:H5'	2.09	0.82
1:A:266:G:C8	1:A:266:G:H5''	2.11	0.82
1:A:99:C:H2'	1:A:101:A:C8	2.14	0.82
9:I:104:ARG:HH11	9:I:104:ARG:HG2	1.44	0.81
1:A:1443:G:H5''	1:A:1446:A:C5'	2.08	0.81
1:A:57:G:H2'	1:A:58:C:C6	2.14	0.81
7:G:31:MET:SD	7:G:34:GLY:HA2	2.21	0.81
1:A:404:U:H2'	1:A:405:U:H6	1.42	0.81
1:A:642:A:C5	1:A:643:C:C5	2.68	0.81
1:A:414:A:H2	1:A:415:A:H1'	1.46	0.81
1:A:41:G:H2'	1:A:42:G:H8	1.43	0.81
1:A:321:A:O2'	1:A:322:C:H5'	1.79	0.81
1:A:402:G:C5	1:A:403:C:C5	2.69	0.81
1:A:254:G:H21	17:Q:16:GLN:NE2	1.78	0.81
1:A:1225:A:N3	1:A:1225:A:H2'	1.94	0.81
1:A:163:C:O2'	1:A:164:U:H5'	1.80	0.81
1:A:524:G:H2'	1:A:525:C:C6	2.15	0.81
1:A:1015:A:H2'	1:A:1016:A:C8	2.16	0.81
1:A:961:U:C2'	1:A:962:C:H5'	2.11	0.81
1:A:293:G:H2'	1:A:294:U:H6	1.46	0.81
1:A:1027:C:C2'	1:A:1028:C:C5'	2.46	0.81
1:A:1094:G:H5''	1:A:1095:U:H5	1.44	0.81
1:A:259:G:H2'	1:A:260:G:H8	1.46	0.80
1:A:559:A:H4'	1:A:560:U:O5'	1.78	0.80
1:A:383:A:H2'	1:A:384:G:H5'	1.62	0.80
1:A:499:A:O2'	1:A:500:G:C8	2.34	0.80
9:I:96:LEU:HD23	9:I:102:LEU:HD11	1.62	0.80
1:A:724:G:C2	1:A:725:G:C8	2.70	0.80
1:A:869:G:C4'	1:A:872:A:C8	2.65	0.80
3:C:179:ARG:HG2	3:C:179:ARG:O	1.80	0.80
3:C:58:GLU:HB3	10:J:92:THR:HG21	1.62	0.80
7:G:76:ARG:HD2	7:G:89:MET:SD	2.21	0.80
1:A:1202:G:O2'	1:A:1203:C:H5'	1.81	0.80
16:P:4:ILE:HG12	16:P:21:VAL:HG22	1.64	0.80
1:A:279:A:C8	17:Q:95:TYR:CE2	2.69	0.80
8:H:112:LEU:N	8:H:112:LEU:HD23	1.96	0.80
17:Q:64:PRO:HA	17:Q:70:ARG:HG3	1.64	0.80
1:A:858:G:O6	1:A:869:G:C8	2.34	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1368:G:C2	1:A:1369:C:C6	2.69	0.80
10:J:55:LYS:HG3	10:J:55:LYS:O	1.82	0.80
20:T:75:ASN:ND2	20:T:75:ASN:H	1.79	0.80
1:A:1126:U:C2'	1:A:1127:G:H8	1.92	0.80
1:A:981:U:C5'	14:N:21:TYR:CE1	2.63	0.80
1:A:1305:G:C5'	21:V:4:GLY:HA3	2.11	0.80
1:A:1055:A:H1'	3:C:156:ARG:HH12	1.46	0.80
3:C:3:ASN:HD22	3:C:3:ASN:H	1.28	0.80
1:A:101:A:C2	1:A:102:G:C8	2.69	0.79
1:A:1047:G:H2'	1:A:1048:G:H5'	1.63	0.79
1:A:1256:A:H4'	1:A:1257:U:H5'	1.64	0.79
1:A:1310:G:H5''	13:M:77:ASN:HD21	1.47	0.79
1:A:1316:G:N2	1:A:1318:A:H3'	1.97	0.79
1:A:439:A:C4	1:A:497:A:C2	2.70	0.79
1:A:562:C:C4	1:A:884:U:C5	2.69	0.79
1:A:947:G:H2'	1:A:948:C:H6	1.46	0.79
1:A:1350:A:C2	1:A:1351:U:C2	2.69	0.79
1:A:544:G:C5	1:A:545:C:C5	2.70	0.79
12:L:83:VAL:HG22	12:L:84:LEU:H	1.47	0.79
11:K:108:ILE:HD12	18:R:88:LYS:HG3	1.62	0.79
15:O:25:THR:HG21	15:O:70:LEU:HD21	1.65	0.79
16:P:20:VAL:HG22	16:P:21:VAL:H	1.43	0.79
1:A:1089:G:C5	1:A:1090:U:C5	2.70	0.79
1:A:414:A:C2	1:A:415:A:C1'	2.65	0.79
1:A:463:A:N7	1:A:474:G:N7	2.31	0.79
9:I:17:VAL:HG21	9:I:80:GLY:HA3	1.64	0.79
1:A:1098:C:H2'	1:A:1099:G:O4'	1.82	0.79
1:A:607:A:C2	1:A:608:A:C8	2.71	0.79
1:A:767:A:H2'	1:A:768:A:O4'	1.82	0.79
1:A:42:G:H2'	1:A:43:C:C6	2.14	0.79
1:A:562:C:N3	1:A:884:U:C5	2.51	0.79
3:C:70:VAL:O	3:C:106:VAL:HG23	1.82	0.79
4:D:38:TYR:H	4:D:38:TYR:HD2	1.29	0.79
5:E:11:ILE:HB	5:E:31:LEU:HB3	1.62	0.79
20:T:60:GLU:HA	20:T:63:ILE:HD12	1.65	0.79
1:A:1325:C:O2'	1:A:1326:C:H5'	1.83	0.79
1:A:556:C:O2'	1:A:557:G:H5'	1.82	0.79
1:A:598:U:H2'	1:A:599:C:H6	1.45	0.79
16:P:22:THR:HA	16:P:33:ILE:CD1	2.12	0.79
1:A:293:G:C5	1:A:294:U:C5	2.71	0.79
1:A:1502:A:H5''	1:A:1503:A:OP2	1.83	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:642:A:H2'	1:A:643:C:H6	1.47	0.78
1:A:723:U:O2	1:A:723:U:H2'	1.82	0.78
7:G:12:LEU:HD12	7:G:12:LEU:H	1.47	0.78
1:A:39:G:HO2'	1:A:40:C:H5'	1.46	0.78
1:A:1196:U:C5'	1:A:1197:G:H5'	2.13	0.78
1:A:1306:A:C2	1:A:1307:U:C1'	2.67	0.78
1:A:452:A:C2	1:A:453:A:C4	2.72	0.78
1:A:218:C:H4'	1:A:461:C:N4	1.99	0.78
1:A:390:C:H4'	16:P:28:ARG:HH22	1.48	0.78
13:M:25:ILE:HG23	13:M:29:ARG:HB2	1.65	0.78
1:A:1030(C):G:H5'	1:A:1030(C):G:H8	1.46	0.78
15:O:25:THR:HG21	15:O:70:LEU:CD2	2.13	0.78
1:A:1016:A:H2'	1:A:1017:G:O4'	1.84	0.78
1:A:337:C:H2'	1:A:338:A:C8	2.19	0.78
1:A:802:A:C2'	1:A:803:G:H5'	2.14	0.78
2:B:32:ILE:HD13	2:B:40:HIS:HB3	1.66	0.78
1:A:582:U:H2'	1:A:583:A:C8	2.19	0.78
1:A:968:A:H4'	1:A:969:A:OP2	1.84	0.78
1:A:337:C:H2'	1:A:338:A:H8	1.46	0.78
1:A:754:C:O2	1:A:754:C:H2'	1.83	0.78
1:A:924:C:O2'	1:A:925:G:H5'	1.83	0.78
1:A:982:U:H4'	1:A:983:A:O5'	1.84	0.78
11:K:18:ARG:HB2	11:K:33:THR:HG23	1.66	0.78
1:A:1521:G:C4	1:A:1522:U:C5	2.72	0.78
1:A:890:G:HO2'	1:A:906:G:H1	1.29	0.78
2:B:47:THR:HG23	2:B:202:PRO:HG2	1.65	0.78
1:A:579:G:H2'	1:A:580:U:H6	1.50	0.77
1:A:76:C:O2'	1:A:77:G:H5'	1.83	0.77
1:A:1508:G:O2'	1:A:1509:C:H5'	1.84	0.77
1:A:972:C:O2	1:A:972:C:H2'	1.84	0.77
5:E:11:ILE:HG21	5:E:31:LEU:HD13	1.65	0.77
5:E:120:THR:HG22	5:E:121:LYS:N	1.97	0.77
1:A:914:A:H2'	1:A:915:A:C5'	2.14	0.77
7:G:115:ARG:HB2	7:G:118:VAL:HG23	1.66	0.77
19:S:36:ARG:HH21	19:S:75:ALA:HB3	1.46	0.77
1:A:1137:C:H4'	1:A:1138:G:C2	2.18	0.77
1:A:1501:C:N4	1:A:1504:G:C2	2.53	0.77
1:A:203:U:H5''	1:A:204:U:OP1	1.85	0.77
1:A:293:G:C4	1:A:294:U:C5	2.73	0.77
1:A:1010:G:H2'	1:A:1011:G:H8	1.50	0.77
1:A:1126:U:P	1:A:1126:U:C6	2.77	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1206:G:C6	1:A:1207:G:C5	2.72	0.77
1:A:556:C:C2'	1:A:557:G:H5'	2.15	0.77
1:A:250:A:H4'	1:A:251:G:O5'	1.84	0.77
1:A:344:A:H5''	1:A:345:C:H5	1.45	0.77
1:A:943:U:H2'	1:A:944:G:H5'	1.66	0.77
20:T:73:HIS:O	20:T:74:LYS:HB2	1.85	0.77
1:A:577:G:H1'	1:A:816:A:C4	2.19	0.77
1:A:836:G:C6	1:A:851:G:C6	2.72	0.77
1:A:836:G:C5	1:A:851:G:C6	2.73	0.77
2:B:77:ALA:HA	2:B:80:ILE:HD12	1.66	0.77
16:P:10:GLY:HA3	16:P:14:ASN:O	1.84	0.77
17:Q:12:SER:HB3	17:Q:20:THR:OG1	1.83	0.77
1:A:266:G:O3'	17:Q:67:LYS:HB2	1.83	0.77
1:A:1030:C:H5'	1:A:1030:C:H6	1.50	0.77
1:A:1149:C:H2'	1:A:1150:U:C6	2.20	0.77
1:A:394:G:H2'	1:A:395:C:C6	2.19	0.77
14:N:24:CYS:SG	14:N:40:CYS:N	2.58	0.77
1:A:1505:G:C3'	1:A:1505:G:C8	2.66	0.77
1:A:76:C:H2'	1:A:77:G:H8	1.49	0.77
1:A:827:U:H2'	1:A:870:U:O4	1.84	0.77
2:B:101:MET:C	2:B:102:LEU:HD12	2.06	0.77
1:A:981:U:C2'	1:A:982:U:C5	2.66	0.77
1:A:1124:G:H5'	10:J:35:SER:O	1.85	0.77
1:A:1225:A:H5'	13:M:103:THR:OG1	1.85	0.77
1:A:112:G:N2	1:A:354:G:H5'	2.00	0.76
1:A:292:G:N2	1:A:309:G:C4	2.53	0.76
10:J:12:ASP:O	10:J:15:THR:HG22	1.85	0.76
1:A:1202:G:C4	14:N:42:ILE:HD13	2.20	0.76
20:T:75:ASN:H	20:T:75:ASN:HD22	1.29	0.76
1:A:1105:A:O2'	1:A:1106:G:H5'	1.85	0.76
1:A:1269:A:C2	1:A:1313:U:O4'	2.37	0.76
1:A:335:C:H2'	1:A:336:C:C6	2.20	0.76
1:A:34:C:H2'	1:A:35:G:H8	1.51	0.76
1:A:947:G:H2'	1:A:948:C:C6	2.21	0.76
1:A:1187:G:H5'	9:I:113:LYS:HE3	1.67	0.76
1:A:1240:U:H4'	1:A:1241:G:OP2	1.84	0.76
1:A:1281:U:H4'	1:A:1282:C:OP2	1.84	0.76
1:A:1497:G:H2'	1:A:1498:U:H6	1.50	0.76
1:A:428:G:H4'	1:A:429:U:O5'	1.86	0.76
1:A:1191:A:H5''	3:C:4:LYS:NZ	2.00	0.76
5:E:12:LEU:O	5:E:12:LEU:HD13	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:101:LEU:HA	7:G:104:LEU:HD12	1.68	0.76
5:E:143:ARG:NH2	8:H:104:ARG:HH11	1.82	0.76
18:R:74:ARG:HB3	18:R:81:PHE:CE1	2.21	0.76
1:A:1206:G:C5	1:A:1207:G:N7	2.53	0.76
1:A:1343:G:H2'	1:A:1344:C:H6	1.46	0.76
1:A:577:G:H1'	1:A:816:A:N3	2.00	0.76
1:A:1126:U:C6	1:A:1126:U:OP1	2.39	0.76
3:C:91:LEU:HD21	3:C:99:VAL:CG1	2.15	0.76
1:A:1233:G:H2'	1:A:1234:C:C6	2.21	0.75
1:A:414:A:C2	1:A:415:A:C4	2.75	0.75
1:A:1343:G:O2'	1:A:1344:C:H5'	1.85	0.75
1:A:1352:C:H2'	1:A:1353:G:H8	1.50	0.75
1:A:243:A:C2	1:A:245:C:N3	2.54	0.75
1:A:338:A:C4	1:A:339:C:C5	2.74	0.75
1:A:223:U:H5'	20:T:68:LYS:NZ	2.01	0.75
1:A:397:A:N6	1:A:548:G:C5	2.54	0.75
2:B:69:LEU:HD22	2:B:71:VAL:HG23	1.68	0.75
1:A:192:U:H2'	1:A:193:C:H6	1.51	0.75
1:A:861:G:O2'	1:A:862:C:H5'	1.85	0.75
1:A:99:C:H2'	1:A:101:A:H8	1.51	0.75
1:A:1058:G:H2'	1:A:1059:C:C6	2.22	0.75
1:A:1195:C:H3'	1:A:1196:U:H5'	1.69	0.75
1:A:657:G:O2'	1:A:658:G:H5'	1.87	0.75
4:D:9:CYS:SG	4:D:31:CYS:C	2.62	0.75
6:F:35:ALA:HB2	6:F:67:MET:HB3	1.66	0.75
14:N:6:LEU:HA	14:N:9:LYS:HB3	1.69	0.75
1:A:1126:U:C2	1:A:1127:G:C8	2.75	0.75
1:A:1306:A:C2	1:A:1307:U:C6	2.74	0.75
4:D:170:VAL:HG21	4:D:176:LEU:HD22	1.67	0.75
7:G:16:LEU:HD22	7:G:16:LEU:H	1.50	0.75
1:A:1091:U:H2'	1:A:1093:A:OP2	1.87	0.75
1:A:1130:A:N6	1:A:1144:G:H21	1.83	0.75
1:A:1300:G:O2'	1:A:1301:U:H6	1.69	0.75
1:A:1333:A:H2'	1:A:1334:G:O4'	1.86	0.75
1:A:977:A:H2'	1:A:978:A:H5''	1.69	0.75
1:A:1027:C:O2'	1:A:1028:C:H5''	1.85	0.75
1:A:1305:G:H5''	21:V:4:GLY:CA	2.17	0.75
1:A:1489:G:H3'	1:A:1490:C:H5''	1.68	0.75
1:A:696:A:H2'	1:A:697:U:C6	2.22	0.75
1:A:382:A:C2	1:A:383:A:C4	2.75	0.74
1:A:676:A:O2'	1:A:677:U:H5'	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:696:A:C4	1:A:697:U:C5	2.74	0.74
1:A:247:G:OP2	17:Q:99:SER:HB2	1.87	0.74
1:A:642:A:C6	1:A:643:C:C4	2.75	0.74
1:A:908:A:O2'	1:A:909:A:H5'	1.87	0.74
1:A:943:U:O2'	1:A:944:G:H5'	1.87	0.74
16:P:39:TYR:CD2	16:P:73:LEU:HD11	2.21	0.74
1:A:1367:C:N3	1:A:1368:G:N7	2.34	0.74
12:L:28:LYS:HD2	12:L:33:ARG:HH22	1.50	0.74
18:R:29:PHE:HE1	18:R:31:LEU:HD23	1.51	0.74
19:S:41:VAL:H	19:S:44:MET:HE3	1.51	0.74
1:A:1236:A:H4'	1:A:1304:G:H4'	1.70	0.74
1:A:1349:A:C4	1:A:1350:A:C8	2.75	0.74
1:A:1402:C:C2	1:A:1403:C:C6	2.74	0.74
1:A:1230:C:O2'	1:A:1231:G:H5'	1.87	0.74
1:A:579:G:C4	1:A:580:U:C6	2.75	0.74
1:A:994:A:C2	1:A:995:C:C6	2.74	0.74
1:A:818:G:O2'	1:A:820:U:C5	2.40	0.74
1:A:528:C:H41	12:L:49:ASN:CG	1.91	0.74
13:M:96:LEU:O	13:M:110:ARG:HG2	1.87	0.74
1:A:1278:U:H5''	1:A:1279:A:O4'	1.88	0.74
1:A:1347:G:O2'	1:A:1348:U:P	2.46	0.74
1:A:1401:G:C5	1:A:1402:C:C5	2.76	0.74
1:A:455:C:O2'	1:A:456:C:H5'	1.87	0.74
1:A:60:A:H4'	1:A:61:G:O5'	1.85	0.74
1:A:754:C:C2'	1:A:754:C:O2	2.35	0.74
8:H:44:PHE:CE1	8:H:137:VAL:HG12	2.22	0.74
1:A:1309:G:P	13:M:88:ARG:HH21	2.11	0.74
16:P:43:LYS:HG2	16:P:48:TRP:CD2	2.23	0.74
18:R:34:TYR:H	18:R:34:TYR:HD2	1.35	0.74
1:A:1094:G:H5''	1:A:1095:U:C5	2.22	0.74
1:A:414:A:C2	1:A:415:A:H1'	2.23	0.74
1:A:696:A:H2'	1:A:697:U:H6	1.51	0.74
1:A:915:A:H2'	1:A:916:G:C5'	2.18	0.74
1:A:893:C:H2'	1:A:894:G:H8	1.52	0.73
1:A:943:U:H2'	1:A:944:G:C5'	2.16	0.73
14:N:27:CYS:SG	14:N:29:ARG:HB2	2.28	0.73
1:A:370:C:C2	1:A:371:G:C8	2.77	0.73
1:A:1369:C:H2'	1:A:1370:G:C8	2.24	0.73
1:A:1497:G:C5	1:A:1498:U:C5	2.76	0.73
1:A:1521:G:H2'	1:A:1522:U:C6	2.19	0.73
1:A:458:C:C2	1:A:459:G:C8	2.76	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:694:A:H5'	11:K:53:SER:HB2	1.68	0.73
1:A:914:A:H2'	1:A:915:A:H5'	1.71	0.73
20:T:33:ILE:HD11	20:T:63:ILE:HA	1.70	0.73
1:A:1278:U:C5'	1:A:1279:A:O4'	2.36	0.73
1:A:781:A:H2'	1:A:782:A:H5'	1.70	0.73
19:S:20:LEU:HA	19:S:23:ASN:ND2	2.03	0.73
1:A:411:A:C4	1:A:413:G:H1'	2.23	0.73
1:A:804:U:H5''	1:A:805:C:OP2	1.88	0.73
14:N:23:ARG:HD3	14:N:30:ALA:HB2	1.71	0.73
1:A:1442:G:N2	1:A:1446:A:H3'	2.04	0.73
1:A:56:U:H2'	1:A:57:G:H8	1.54	0.73
3:C:154:SER:CB	3:C:197:GLY:H	2.01	0.73
18:R:29:PHE:CE1	18:R:31:LEU:HD23	2.24	0.73
1:A:1528:U:O2'	1:A:1529:G:H3'	1.89	0.72
1:A:251:G:H4'	1:A:252:U:O5'	1.88	0.72
1:A:1113:C:H4'	3:C:14:ILE:HD11	1.70	0.72
1:A:1440:C:H2'	1:A:1441:G:O4'	1.90	0.72
1:A:56:U:H2'	1:A:57:G:C8	2.24	0.72
1:A:607:A:C2	1:A:608:A:N9	2.57	0.72
1:A:1083:U:C5	1:A:1084:G:C6	2.77	0.72
1:A:1256:A:C2	1:A:1258:G:C6	2.76	0.72
1:A:1290:G:C5	1:A:1291:G:N7	2.57	0.72
1:A:1413:A:H2'	1:A:1414:U:H6	1.53	0.72
1:A:656:C:C6	1:A:656:C:H3'	2.24	0.72
1:A:961:U:H2'	1:A:962:C:H5'	1.70	0.72
1:A:981:U:H5'	14:N:21:TYR:HE1	1.54	0.72
6:F:18:GLN:O	6:F:21:LEU:HB3	1.90	0.72
2:B:178:ARG:HH21	8:H:74:PRO:HG3	1.54	0.72
1:A:880:C:H5''	12:L:12:ARG:HH21	1.54	0.72
1:A:1015:A:H2'	1:A:1016:A:H8	1.51	0.72
1:A:1413:A:H2	1:A:1487:G:N2	1.82	0.72
1:A:180:U:C2'	1:A:181:G:H5'	2.19	0.72
1:A:357:G:C2	1:A:358:U:C5	2.77	0.72
1:A:400:C:H2'	1:A:401:C:H6	1.52	0.72
1:A:53:A:N1	1:A:54:C:C2	2.58	0.72
1:A:607:A:C4	1:A:608:A:C8	2.77	0.72
2:B:160:ASP:O	2:B:183:PRO:HD2	1.89	0.72
1:A:265:G:H2'	1:A:267:C:H5	1.55	0.72
1:A:322:C:O2'	1:A:323:U:H5'	1.90	0.72
4:D:194:LEU:HD12	4:D:196:LEU:HG	1.70	0.72
4:D:88:VAL:HB	4:D:91:SER:OG	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1057:G:C5'	3:C:154:SER:HB2	2.19	0.72
1:A:1306:A:C2	1:A:1307:U:C2	2.77	0.72
1:A:321:A:H2'	1:A:322:C:H6	1.53	0.72
1:A:49:U:H1'	12:L:28:LYS:NZ	2.04	0.72
3:C:54:ARG:HB3	3:C:69:HIS:HD2	1.54	0.72
1:A:16:A:O2'	5:E:16:THR:HG22	1.89	0.72
12:L:47:LYS:HB2	12:L:48:PRO:HD3	1.69	0.72
1:A:1005:A:H2'	1:A:1006:C:C5'	2.17	0.72
1:A:642:A:C5	1:A:643:C:C4	2.78	0.72
1:A:914:A:C2'	1:A:915:A:C5'	2.68	0.72
10:J:49:VAL:O	10:J:60:ARG:HA	1.88	0.72
1:A:1191:A:H5''	3:C:4:LYS:HZ3	1.52	0.72
1:A:393:A:C2	1:A:394:G:C8	2.77	0.72
1:A:452:A:C2	1:A:453:A:N9	2.58	0.72
6:F:62:TRP:CH2	6:F:64:GLN:HB2	2.25	0.72
11:K:50:TYR:CD2	11:K:54:ARG:HD3	2.25	0.72
1:A:1126:U:H6	1:A:1126:U:OP1	1.71	0.72
1:A:1190:G:O2'	1:A:1191:A:P	2.47	0.72
1:A:1489:G:H2'	1:A:1490:C:C5'	2.18	0.72
1:A:170:U:O2'	1:A:171:A:H5'	1.90	0.72
1:A:622:A:C8	1:A:623:C:C6	2.78	0.72
1:A:642:A:H2'	1:A:643:C:C6	2.25	0.72
3:C:9:GLY:HA2	3:C:12:LEU:HD21	1.72	0.72
18:R:73:ALA:HB3	18:R:79:LEU:HD12	1.71	0.72
1:A:1193:G:O2'	1:A:1194:U:H5'	1.90	0.71
1:A:926:G:H2'	1:A:1505:G:H21	1.55	0.71
1:A:1244:C:OP2	21:V:9:ARG:HB2	1.90	0.71
1:A:1030(B):C:H2'	1:A:1030(C):G:H5''	1.72	0.71
1:A:336:C:O2'	1:A:337:C:H5'	1.90	0.71
1:A:608:A:C4	1:A:609:A:C8	2.78	0.71
3:C:64:VAL:HB	3:C:99:VAL:HB	1.72	0.71
4:D:140:VAL:HG11	4:D:146:ILE:HD11	1.70	0.71
1:A:1144:G:H22	1:A:1146:A:H62	1.38	0.71
1:A:1157:A:H1'	1:A:1181:G:N2	2.05	0.71
1:A:1299:A:C5	1:A:1301:U:O2	2.42	0.71
1:A:389:A:C2'	1:A:390:C:H5'	2.14	0.71
1:A:484:G:H4'	1:A:485:G:O5'	1.90	0.71
3:C:173:VAL:O	3:C:173:VAL:HG12	1.90	0.71
1:A:1267:C:C5	1:A:1268:A:N7	2.59	0.71
1:A:1303:C:N4	1:A:1304:G:C6	2.58	0.71
1:A:402:G:C6	1:A:403:C:C5	2.79	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:807:A:C4	1:A:808:C:C5	2.79	0.71
3:C:187:ALA:HB3	3:C:198:VAL:HB	1.73	0.71
19:S:62:ILE:HD12	19:S:66:MET:HE2	1.72	0.71
1:A:118:U:C5	1:A:288:A:C6	2.79	0.71
1:A:1381:U:O2'	1:A:1382:C:H5'	1.90	0.71
1:A:293:G:C6	1:A:305:G:C2	2.79	0.71
1:A:536:C:H2'	1:A:537:G:H8	1.53	0.71
3:C:10:PHE:CZ	3:C:178:LEU:HD13	2.26	0.71
13:M:81:LEU:CD2	13:M:81:LEU:H	2.03	0.71
1:A:1064:G:H4'	1:A:1065:U:H5'	1.71	0.71
1:A:1138:G:N2	1:A:1140:C:C5	2.59	0.71
1:A:1486:G:H2'	1:A:1487:G:O4'	1.90	0.71
1:A:935:A:C6	7:G:3:ARG:NH2	2.57	0.71
3:C:5:ILE:HG13	3:C:5:ILE:O	1.91	0.71
1:A:620:C:N1	4:D:135:LEU:HD13	2.05	0.71
1:A:192:U:H2'	1:A:193:C:C6	2.25	0.71
1:A:22:G:C4	1:A:23:C:C5	2.79	0.71
1:A:571:U:H3'	1:A:572:A:C5'	2.21	0.71
1:A:976:G:OP2	1:A:1358:U:H1'	1.89	0.71
5:E:129:ILE:HG23	5:E:133:TYR:CE1	2.26	0.71
1:A:1511:G:H2'	1:A:1512:U:O4'	1.90	0.71
1:A:454:C:H2'	1:A:455:C:H5'	1.73	0.71
1:A:490:G:C4	1:A:491:G:C8	2.79	0.71
1:A:65:U:C5	1:A:381:C:N4	2.58	0.71
1:A:718:G:H5'	1:A:719:C:OP2	1.91	0.71
4:D:30:LYS:C	4:D:32:ALA:N	2.41	0.71
1:A:1197:G:C2'	1:A:1198:G:H5'	2.21	0.71
1:A:176:C:C2	1:A:177:C:C5	2.79	0.71
1:A:607:A:N3	1:A:608:A:C8	2.59	0.71
1:A:900:A:O2'	1:A:901:A:H5'	1.91	0.71
1:A:1147:C:H4'	9:I:5:TYR:CE1	2.26	0.71
1:A:1306:A:N1	1:A:1307:U:C2	2.59	0.71
1:A:9:G:C6	1:A:26:A:N6	2.58	0.71
1:A:371:G:C2'	1:A:372:C:H5'	2.21	0.71
1:A:650:G:H2'	1:A:651:C:H5'	1.71	0.71
5:E:75:THR:HG22	5:E:76:ILE:N	2.02	0.71
12:L:25:PRO:HD2	12:L:98:TYR:OH	1.91	0.71
13:M:4:ILE:HA	13:M:8:GLU:O	1.91	0.71
1:A:259:G:H2'	1:A:260:G:C8	2.26	0.70
1:A:1187:G:H5'	9:I:113:LYS:CE	2.20	0.70
1:A:377:G:OP1	16:P:3:LYS:HD2	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:803:G:C5	1:A:804:U:C5	2.79	0.70
1:A:1256:A:H2	1:A:1258:G:C6	2.09	0.70
1:A:650:G:C2'	1:A:651:C:H5'	2.20	0.70
5:E:103:GLY:O	5:E:106:PRO:HD2	1.92	0.70
12:L:83:VAL:HG22	12:L:84:LEU:N	2.05	0.70
19:S:41:VAL:HG23	19:S:44:MET:HB2	1.72	0.70
1:A:1202:G:C2'	1:A:1203:C:H5'	2.20	0.70
1:A:394:G:C4	1:A:395:C:C5	2.78	0.70
1:A:16:A:N1	1:A:919:A:C2	2.60	0.70
5:E:120:THR:CG2	5:E:121:LYS:H	2.04	0.70
8:H:69:ARG:HB2	8:H:74:PRO:HA	1.72	0.70
15:O:56:LEU:O	15:O:60:VAL:HG23	1.89	0.70
1:A:1129:C:O5'	1:A:1130:A:C5'	2.39	0.70
1:A:1148:U:H4'	9:I:14:VAL:HG11	1.72	0.70
1:A:407:G:O2'	1:A:408:A:H5'	1.91	0.70
1:A:451:A:C1'	1:A:452:A:C8	2.74	0.70
1:A:554:C:H2'	1:A:555:C:H5'	1.74	0.70
1:A:872:A:C4'	1:A:873:A:OP1	2.36	0.70
1:A:885:G:C2	1:A:886:G:C8	2.80	0.70
7:G:40:ALA:HB3	9:I:41:VAL:HG21	1.73	0.70
1:A:1426:C:H2'	1:A:1427:U:C6	2.27	0.70
5:E:13:ILE:HG22	5:E:30:ALA:HA	1.73	0.70
1:A:1197:G:H2'	1:A:1198:G:H5'	1.73	0.70
1:A:166:G:H2'	1:A:167:G:H8	1.56	0.70
1:A:179:A:O2'	1:A:180:U:H5'	1.92	0.70
1:A:449:C:C6	1:A:450:G:C8	2.79	0.70
3:C:32:LEU:HD21	3:C:59:ARG:NE	2.06	0.70
1:A:1435:G:H2'	1:A:1436:U:C5	2.26	0.70
3:C:150:LYS:HB3	3:C:201:TYR:HB2	1.74	0.70
5:E:75:THR:CG2	5:E:76:ILE:H	2.03	0.70
1:A:1490:C:C5'	1:A:1490:C:C6	2.72	0.70
1:A:281:G:O2'	1:A:282:A:OP2	2.09	0.70
1:A:382:A:C2	1:A:383:A:C5	2.79	0.70
1:A:55:A:C2	1:A:56:U:C1'	2.75	0.70
1:A:670:G:H2'	1:A:671:G:O4'	1.92	0.70
18:R:47:THR:HA	18:R:83:GLU:HB2	1.73	0.70
1:A:1187:G:H5'	9:I:113:LYS:NZ	2.06	0.70
1:A:426:G:O2'	1:A:427:U:H5'	1.91	0.70
1:A:676:A:H2'	1:A:677:U:C6	2.26	0.70
2:B:101:MET:O	2:B:102:LEU:HD12	1.92	0.70
1:A:1217:C:C4	1:A:1218:C:C5	2.79	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1263:C:H2'	1:A:1264:C:H6	1.58	0.69
1:A:1286:A:C8	1:A:1287:A:H4'	2.27	0.69
1:A:1333:A:C8	1:A:1334:G:C8	2.79	0.69
1:A:362:G:H5''	12:L:61:THR:HG21	1.74	0.69
2:B:100:GLY:C	2:B:102:LEU:H	1.94	0.69
1:A:1128:C:H5'	9:I:16:ARG:CZ	2.21	0.69
1:A:1028:C:H6	1:A:1028:C:H5'	1.57	0.69
1:A:1470:G:O2'	1:A:1471:G:H5'	1.92	0.69
1:A:149:A:C2	1:A:150:C:C4	2.80	0.69
1:A:443:C:H2'	1:A:444:C:H6	1.58	0.69
1:A:687:A:H4'	1:A:688:G:O5'	1.91	0.69
5:E:113:ALA:HB3	5:E:115:VAL:HG23	1.74	0.69
1:A:1452:C:H4'	1:A:1453:G:O5'	1.90	0.69
1:A:531:U:H4'	1:A:532:A:H5''	1.72	0.69
1:A:1138:G:N2	1:A:1140:C:C4	2.60	0.69
1:A:1061:G:N2	1:A:1197:G:H1'	2.07	0.69
1:A:266:G:H8	1:A:266:G:C5'	2.00	0.69
1:A:1187:G:H5'	9:I:113:LYS:HZ1	1.57	0.69
1:A:448:A:OP2	1:A:485:G:N2	2.24	0.69
1:A:171:A:O2'	1:A:172:A:H5'	1.93	0.69
2:B:130:ARG:HH22	3:C:207:VAL:HG11	1.55	0.69
6:F:50:TYR:CE1	18:R:77:GLY:HA2	2.28	0.69
1:A:1151:A:HO2'	1:A:1152:A:H8	1.39	0.69
1:A:1371:G:C6	1:A:1372:U:C5	2.80	0.69
1:A:338:A:C4	1:A:339:C:C6	2.80	0.69
1:A:915:A:H2'	1:A:916:G:H5'	1.73	0.69
6:F:7:ASN:ND2	18:R:34:TYR:HE1	1.91	0.69
7:G:115:ARG:HB2	7:G:118:VAL:CG2	2.22	0.69
12:L:70:ILE:HD13	12:L:77:LEU:HD12	1.75	0.69
1:A:1326:C:H2'	1:A:1327:C:H6	1.58	0.69
1:A:39:G:C2	1:A:40:C:C6	2.81	0.69
1:A:405:U:H5''	1:A:406:G:O4'	1.93	0.69
1:A:429:U:H4'	1:A:430:A:C5'	2.22	0.69
1:A:698:G:H2'	1:A:699:C:H6	1.58	0.69
5:E:82:VAL:HG21	5:E:138:ALA:HA	1.74	0.69
8:H:86:ILE:HD12	8:H:133:LEU:HD21	1.74	0.69
1:A:1151:A:O2'	1:A:1152:A:C8	2.46	0.69
1:A:1179:A:O2'	1:A:1180:A:H5'	1.92	0.69
1:A:1306:A:H2	1:A:1307:U:H1'	1.57	0.69
1:A:338:A:H2'	1:A:339:C:H6	1.57	0.69
1:A:218:C:C4'	1:A:461:C:N4	2.55	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:650:G:C6	1:A:651:C:C5	2.81	0.69
1:A:959:A:H3'	1:A:960:U:H5''	1.75	0.69
1:A:1292:U:P	7:G:41:ARG:HH22	2.16	0.69
1:A:1030(B):C:H3'	1:A:1030(C):G:C5'	2.23	0.69
1:A:1226:C:OP2	13:M:103:THR:HG21	1.93	0.69
1:A:185:A:H2'	1:A:186:C:C6	2.28	0.69
1:A:332:G:O2'	1:A:333:G:H5'	1.93	0.69
1:A:487:A:O2'	1:A:488:C:H5'	1.92	0.69
1:A:656:C:H6	1:A:656:C:H3'	1.56	0.69
1:A:767:A:C5	1:A:768:A:N7	2.60	0.69
1:A:77:G:O2'	1:A:78:G:H5'	1.92	0.69
1:A:571:U:OP1	1:A:819:A:H2'	1.93	0.69
1:A:1004:A:H2'	1:A:1005:A:C8	2.28	0.69
1:A:1287:A:H2'	1:A:1288:A:C8	2.28	0.69
1:A:1424:C:O2'	1:A:1425:U:H5'	1.93	0.69
1:A:425:G:O2'	1:A:426:G:H5'	1.93	0.69
1:A:463:A:C8	1:A:474:G:C8	2.81	0.69
1:A:509:A:H3'	1:A:509:A:C8	2.27	0.69
1:A:740:U:OP2	15:O:2:PRO:HG3	1.93	0.69
5:E:76:ILE:O	5:E:93:PRO:HB3	1.91	0.69
12:L:46:LYS:HG2	12:L:47:LYS:H	1.57	0.69
1:A:1219:U:H2'	1:A:1220:G:C8	2.27	0.68
1:A:624:C:H2'	1:A:625:G:H8	1.58	0.68
1:A:766:A:C8	1:A:814:A:N6	2.61	0.68
1:A:1250:A:H5''	9:I:67:GLY:C	2.13	0.68
10:J:40:LEU:HB3	10:J:41:PRO:HB2	1.75	0.68
1:A:1063:C:H2'	1:A:1064:G:C8	2.28	0.68
1:A:1210:C:H5'	1:A:1214:C:N4	2.08	0.68
1:A:15:G:C4	1:A:16:A:C8	2.80	0.68
1:A:261:U:O2	1:A:263:A:C8	2.45	0.68
1:A:802:A:H2'	1:A:803:G:C5'	2.22	0.68
10:J:54:PHE:CE2	10:J:55:LYS:HG2	2.28	0.68
1:A:121:C:H5'	1:A:122:G:OP1	1.93	0.68
1:A:1347:G:C2'	1:A:1348:U:OP2	2.41	0.68
1:A:947:G:C4	1:A:948:C:C5	2.80	0.68
1:A:1391:U:H2'	1:A:1392:G:C8	2.28	0.68
1:A:1520:G:H2'	1:A:1521:G:H8	1.59	0.68
1:A:32:A:C2	1:A:33:A:C4	2.81	0.68
1:A:607:A:C2'	1:A:608:A:H5'	2.23	0.68
1:A:676:A:C4	1:A:677:U:C5	2.81	0.68
1:A:75:G:O2'	1:A:76:C:H5'	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:797:C:O2'	1:A:798:G:H5'	1.94	0.68
1:A:8:A:N6	4:D:209:ARG:HB2	2.09	0.68
13:M:49:THR:HB	13:M:52:GLU:HG3	1.75	0.68
1:A:1219:U:H2'	1:A:1220:G:H8	1.58	0.68
1:A:1309:G:C2'	1:A:1310:G:H5'	2.23	0.68
1:A:551:U:C2	1:A:552:U:C5	2.81	0.68
1:A:676:A:H2'	1:A:677:U:H6	1.58	0.68
2:B:113:HIS:HA	2:B:116:GLU:HG3	1.73	0.68
1:A:1128:C:O2'	1:A:1130:A:C8	2.39	0.68
1:A:1225:A:H5'	1:A:1226:C:OP2	1.93	0.68
1:A:1375:A:C2	1:A:1376:U:C2	2.82	0.68
1:A:182:U:O4	1:A:223:U:H1'	1.93	0.68
1:A:487:A:H2'	1:A:488:C:O4'	1.93	0.68
1:A:767:A:H2'	1:A:768:A:H8	1.58	0.68
1:A:562:C:N4	1:A:884:U:H6	1.89	0.68
8:H:108:GLY:HA3	8:H:138:TRP:HB3	1.76	0.68
1:A:1326:C:OP1	21:V:12:LYS:NZ	2.27	0.68
1:A:245:C:O2'	1:A:246:A:H5'	1.93	0.68
1:A:448:A:C8	1:A:487:A:C6	2.82	0.68
12:L:32:PHE:HA	12:L:85:ILE:O	1.93	0.68
13:M:2:ALA:O	13:M:9:ILE:HG23	1.93	0.68
1:A:1004:A:H5'	1:A:1025:U:O2	1.93	0.68
1:A:1030(B):C:C3'	1:A:1030(C):G:H5''	2.24	0.68
1:A:936:C:O2'	1:A:937:A:H5'	1.94	0.68
1:A:1311:G:C6	1:A:1312:G:N7	2.61	0.68
1:A:191:G:H2'	1:A:192:U:H6	1.59	0.68
1:A:540:G:O2'	1:A:541:G:H5'	1.94	0.68
1:A:692:U:H1'	1:A:695:A:N7	2.09	0.68
1:A:770:C:C1'	1:A:900:A:H2	2.06	0.68
1:A:1233:G:H2'	1:A:1234:C:H6	1.56	0.67
3:C:6:HIS:NE2	3:C:8:ILE:HB	2.07	0.67
7:G:74:GLU:HG2	7:G:91:VAL:HG22	1.76	0.67
7:G:92:SER:HB2	7:G:93:PRO:HD2	1.76	0.67
1:A:280:C:O2	17:Q:38:ARG:HG3	1.93	0.67
9:I:104:ARG:NH1	9:I:104:ARG:HG2	2.09	0.67
15:O:9:GLN:HA	15:O:12:ILE:CD1	2.20	0.67
1:A:1144:G:H22	1:A:1146:A:N6	1.93	0.67
1:A:1306:A:N3	1:A:1307:U:C6	2.62	0.67
1:A:35:G:C4	1:A:550:G:N2	2.62	0.67
1:A:517:G:HO2'	1:A:530:G:H4'	1.58	0.67
3:C:33:LEU:HD11	14:N:53:LEU:HD22	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:8:VAL:O	4:D:10:ARG:N	2.24	0.67
5:E:84:PHE:O	5:E:86:ALA:N	2.28	0.67
1:A:1158:C:N3	1:A:1160:G:N7	2.42	0.67
1:A:1364:U:O2'	1:A:1365:G:OP1	2.11	0.67
1:A:191:G:H2'	1:A:192:U:C6	2.29	0.67
1:A:243:A:C2	1:A:245:C:C4	2.82	0.67
1:A:449:C:H3'	1:A:450:G:H8	1.59	0.67
1:A:591:U:H2'	1:A:592:G:H8	1.59	0.67
1:A:656:C:C6	1:A:656:C:C3'	2.77	0.67
1:A:960:U:O2'	1:A:1223:C:H4'	1.93	0.67
1:A:409:G:OP1	4:D:24:GLU:O	2.11	0.67
5:E:151:LEU:HD21	8:H:79:VAL:HA	1.76	0.67
7:G:37:ASN:ND2	9:I:41:VAL:H	1.92	0.67
20:T:43:LEU:HD11	20:T:55:ILE:HD12	1.75	0.67
1:A:1039:C:O2'	1:A:1040:U:H5'	1.95	0.67
1:A:1488:G:H2'	1:A:1489:G:H8	1.60	0.67
1:A:463:A:C8	1:A:474:G:N7	2.63	0.67
1:A:911:U:O2'	1:A:912:C:H5'	1.94	0.67
1:A:254:G:H21	17:Q:16:GLN:HE21	1.42	0.67
1:A:1157:A:C2	1:A:1181:G:C4	2.83	0.67
1:A:1504:G:C5'	1:A:1505:G:H5'	2.24	0.67
1:A:149:A:N3	1:A:150:C:C6	2.63	0.67
1:A:266:G:C8	1:A:266:G:C5'	2.78	0.67
1:A:280:C:H4'	1:A:281:G:OP2	1.94	0.67
1:A:41:G:H2'	1:A:42:G:C8	2.27	0.67
1:A:434:U:H2'	1:A:435:C:H6	1.59	0.67
1:A:523:A:C2	1:A:527:G:O6	2.47	0.67
1:A:533:A:N6	1:A:536:C:C2	2.63	0.67
1:A:923:A:H1'	1:A:1398:A:C2	2.29	0.67
3:C:137:ALA:O	3:C:141:VAL:HG23	1.94	0.67
5:E:32:VAL:HG12	5:E:33:VAL:N	2.09	0.67
11:K:18:ARG:HB2	11:K:33:THR:CG2	2.24	0.67
1:A:953:G:N7	13:M:104:ARG:NH2	2.43	0.67
1:A:181:G:N2	1:A:195:A:C4	2.63	0.67
1:A:42:G:N3	1:A:43:C:C6	2.63	0.67
1:A:554:C:C2'	1:A:555:C:H5'	2.24	0.67
1:A:560:U:H5'	1:A:566:G:N2	2.10	0.67
2:B:111:ARG:NH1	2:B:111:ARG:HG2	2.10	0.67
1:A:1058:G:H2'	1:A:1059:C:H6	1.59	0.67
1:A:499:A:H4'	1:A:500:G:OP1	1.94	0.67
1:A:55:A:C2	1:A:56:U:N1	2.62	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:614:A:C2	1:A:627:G:C2	2.82	0.67
1:A:635:G:H2'	1:A:636:U:H6	1.60	0.67
1:A:80:G:C3'	1:A:81:U:H5''	2.23	0.67
19:S:62:ILE:HD12	19:S:66:MET:CE	2.23	0.67
1:A:1055:A:H1'	3:C:156:ARG:NH1	2.09	0.67
1:A:1248:A:H2'	1:A:1249:C:H6	1.60	0.67
1:A:411:A:N9	1:A:413:G:H1'	2.10	0.67
1:A:885:G:C2	1:A:886:G:N7	2.62	0.67
3:C:3:ASN:ND2	3:C:3:ASN:N	2.42	0.67
1:A:1372:U:H5''	9:I:71:SER:CB	2.23	0.67
1:A:434:U:C2	1:A:435:C:C5	2.83	0.67
1:A:452:A:C4	1:A:453:A:C8	2.82	0.67
1:A:558:G:H2'	1:A:559:A:H2	1.60	0.67
1:A:803:G:H2'	1:A:804:U:H6	1.60	0.67
8:H:83:ILE:HD12	8:H:137:VAL:HG13	1.77	0.67
1:A:1316:G:H22	1:A:1318:A:H3'	1.60	0.66
1:A:33:A:H2'	1:A:34:C:C6	2.30	0.66
1:A:490:G:C5	1:A:491:G:N7	2.63	0.66
1:A:815:A:H5''	1:A:817:C:N4	2.09	0.66
1:A:1128:C:H5'	9:I:16:ARG:NH1	2.11	0.66
1:A:1039:C:H2'	1:A:1040:U:H6	1.61	0.66
1:A:1480:G:H2'	1:A:1481:U:H6	1.59	0.66
1:A:696:A:C6	1:A:697:U:O4	2.48	0.66
1:A:872:A:N3	1:A:874:G:N7	2.42	0.66
2:B:152:PHE:CE1	2:B:155:LEU:HD12	2.30	0.66
1:A:620:C:C6	4:D:135:LEU:HD13	2.29	0.66
1:A:1157:A:N3	1:A:1181:G:C2	2.63	0.66
1:A:1243:C:H2'	1:A:1244:C:C6	2.30	0.66
1:A:501:C:O2'	1:A:502:G:H5'	1.95	0.66
3:C:10:PHE:CE1	3:C:178:LEU:HD13	2.30	0.66
10:J:16:LEU:HD23	10:J:94:VAL:HG22	1.76	0.66
16:P:20:VAL:HG23	16:P:35:LYS:HA	1.77	0.66
1:A:1030(B):C:H3'	1:A:1030(C):G:H5''	1.77	0.66
1:A:1138:G:C2	1:A:1140:C:C6	2.83	0.66
1:A:355:C:C4	1:A:356:A:N7	2.63	0.66
1:A:746:A:C2'	1:A:747:C:H5'	2.25	0.66
1:A:1149:C:H2'	1:A:1150:U:H6	1.58	0.66
1:A:438:G:C4'	1:A:439:A:OP1	2.36	0.66
1:A:685:G:H5'	11:K:39:PRO:O	1.95	0.66
1:A:746:A:C4	1:A:747:C:C5	2.84	0.66
1:A:95:U:H2'	1:A:96:G:H8	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1442:G:H21	1:A:1446:A:H3'	1.60	0.66
1:A:484:G:C4	1:A:486:U:C5	2.83	0.66
1:A:668:G:O2'	1:A:669:U:H5'	1.95	0.66
1:A:756:C:H2'	1:A:757:U:O4'	1.95	0.66
1:A:1198:G:H2'	1:A:1199:U:O4'	1.95	0.66
1:A:1315:U:H2'	1:A:1316:G:O4'	1.96	0.66
1:A:123:C:H5''	1:A:311:C:O2'	1.96	0.66
1:A:538:G:OP2	12:L:115:LYS:HG3	1.96	0.66
8:H:9:MET:HG2	8:H:13:ILE:HD11	1.77	0.66
9:I:28:VAL:HA	9:I:63:ILE:O	1.96	0.66
1:A:21:G:H2'	1:A:22:G:C8	2.31	0.66
1:A:622:A:C8	1:A:623:C:C5	2.84	0.66
1:A:767:A:N6	1:A:768:A:N6	2.44	0.66
7:G:40:ALA:HB1	9:I:41:VAL:HG11	1.78	0.66
1:A:1358:U:H3'	1:A:1359:C:C6	2.30	0.66
1:A:147:G:O2'	1:A:148:G:H5'	1.96	0.66
1:A:748:C:H4'	1:A:749:C:O5'	1.95	0.66
1:A:781:A:H2'	1:A:782:A:C5'	2.26	0.66
1:A:279:A:H5''	1:A:280:C:H3'	1.77	0.66
1:A:575:G:C2	1:A:881:G:C4	2.84	0.66
1:A:639:G:O2'	1:A:640:A:H5'	1.96	0.66
1:A:802:A:N7	1:A:803:G:C8	2.64	0.66
1:A:1281:U:H5'	1:A:1282:C:H5	1.61	0.65
1:A:293:G:C4	1:A:294:U:C6	2.84	0.65
1:A:556:C:H2'	1:A:557:G:H5'	1.76	0.65
1:A:20:U:O4	1:A:21:G:C6	2.49	0.65
1:A:829:G:N2	1:A:830:G:C4	2.64	0.65
1:A:99:C:C2	1:A:101:A:C8	2.84	0.65
16:P:49:LEU:HD12	16:P:50:LYS:N	2.09	0.65
1:A:1318:A:H4'	19:S:10:PHE:CE2	2.30	0.65
1:A:1056:U:O2'	1:A:1057:G:H5'	1.96	0.65
1:A:1225:A:H3'	1:A:1226:C:C5	2.31	0.65
1:A:162:A:H8	1:A:162:A:O5'	1.78	0.65
1:A:32:A:C2	1:A:33:A:C5	2.84	0.65
1:A:452:A:N3	1:A:453:A:C8	2.64	0.65
3:C:151:VAL:HG12	3:C:152:ILE:N	2.10	0.65
1:A:1057:G:C4'	3:C:154:SER:HB2	2.25	0.65
1:A:1291:G:H4'	9:I:38:GLN:O	1.96	0.65
1:A:195:A:H2	1:A:222:U:O2	1.79	0.65
1:A:818:G:H3'	1:A:819:A:H5'	1.79	0.65
8:H:88:LYS:HB3	8:H:89:PRO:HD2	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:90:LEU:H	10:J:91:PRO:CD	2.09	0.65
1:A:35:G:C6	1:A:36:C:N4	2.65	0.65
1:A:370:C:C2'	1:A:371:G:H5'	2.26	0.65
1:A:428:G:C2	1:A:430:A:N6	2.64	0.65
1:A:536:C:H2'	1:A:537:G:C8	2.31	0.65
1:A:625:G:N3	1:A:626:U:C6	2.65	0.65
1:A:698:G:H2'	1:A:699:C:C6	2.31	0.65
10:J:87:THR:O	10:J:88:LEU:HD23	1.96	0.65
13:M:26:GLY:O	13:M:28:ALA:N	2.28	0.65
1:A:1369:C:H2'	1:A:1370:G:O4'	1.96	0.65
1:A:415:A:N6	1:A:416:G:C6	2.64	0.65
1:A:505:G:H5'	1:A:534:U:H2'	1.79	0.65
1:A:674:G:H5'	6:F:50:TYR:CE2	2.31	0.65
1:A:895:G:H2'	1:A:896:C:H6	1.61	0.65
1:A:1347:G:H8	9:I:107:ARG:O	1.79	0.65
1:A:1287:A:H2'	1:A:1288:A:H8	1.60	0.65
1:A:151:A:O2'	1:A:152:A:H5'	1.97	0.65
1:A:818:G:C2'	1:A:819:A:H5''	2.27	0.65
2:B:13:ALA:C	2:B:15:VAL:H	2.00	0.65
5:E:106:PRO:O	5:E:110:LEU:HG	1.96	0.65
7:G:12:LEU:HD12	7:G:12:LEU:N	2.12	0.65
1:A:381:C:C2	1:A:382:A:C8	2.85	0.65
1:A:485:G:C2'	1:A:486:U:OP2	2.44	0.65
1:A:509:A:C8	1:A:509:A:C3'	2.79	0.65
1:A:663:A:O2'	1:A:664:G:H5'	1.97	0.65
1:A:765:G:H1	1:A:812:C:H2'	1.62	0.65
1:A:1030(A):G:N2	1:A:1030(C):G:O6	2.29	0.65
1:A:1151:A:C2	1:A:1152:A:C5	2.85	0.65
1:A:55:A:C2	1:A:56:U:C2	2.85	0.65
1:A:580:U:O2	1:A:580:U:H2'	1.97	0.65
6:F:69:GLU:O	6:F:72:VAL:HG23	1.96	0.65
1:A:1118:C:P	9:I:104:ARG:HH12	2.19	0.65
1:A:985:C:C2	1:A:1221:G:N2	2.65	0.65
1:A:243:A:C4'	1:A:244:U:H5'	2.14	0.65
1:A:725:G:N3	1:A:726:C:C6	2.65	0.65
4:D:140:VAL:CG1	4:D:146:ILE:HD11	2.25	0.65
1:A:1221:G:O3'	19:S:77:THR:HG21	1.97	0.65
1:A:1216:G:H5''	14:N:5:ALA:CB	2.27	0.64
1:A:1291:G:C4	1:A:1292:U:C5	2.86	0.64
1:A:129(A):G:N3	1:A:190(E):U:H5'	2.12	0.64
1:A:36:C:C5'	12:L:122:THR:O	2.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:50:A:O2'	1:A:52:G:C8	2.50	0.64
18:R:37:VAL:HG21	18:R:78:LEU:HB3	1.79	0.64
18:R:87:ARG:O	18:R:88:LYS:HG2	1.97	0.64
1:A:616:G:N2	1:A:625:G:C4	2.65	0.64
15:O:55:GLY:O	15:O:59:MET:HG3	1.96	0.64
1:A:1196:U:C5'	1:A:1197:G:C5'	2.71	0.64
1:A:1329:A:O2'	1:A:1330:U:H5'	1.96	0.64
1:A:1330:U:H5''	13:M:23:TYR:O	1.97	0.64
1:A:20:U:C2'	1:A:21:G:H5'	2.28	0.64
1:A:285:G:H2'	1:A:286:G:H8	1.62	0.64
1:A:415:A:C6	1:A:416:G:C5	2.86	0.64
1:A:642:A:C4	1:A:643:C:C6	2.85	0.64
3:C:70:VAL:HG21	3:C:76:VAL:HG21	1.80	0.64
20:T:40:ALA:HB2	20:T:55:ILE:CG2	2.27	0.64
1:A:1026:G:N3	1:A:1026:G:H2'	2.11	0.64
1:A:1196:U:H5''	1:A:1197:G:H5''	1.77	0.64
1:A:346:G:H2'	1:A:347:G:H5'	1.80	0.64
17:Q:27:PHE:O	17:Q:36:ILE:HG12	1.97	0.64
1:A:168:G:O2'	1:A:169:C:H5'	1.97	0.64
1:A:262:A:C6	1:A:263:A:C6	2.86	0.64
1:A:617:G:H4'	16:P:44:THR:HB	1.79	0.64
1:A:731:G:O2'	1:A:732:C:H5'	1.98	0.64
1:A:7:G:C2	1:A:298:A:N1	2.65	0.64
1:A:852:G:C2	1:A:853:G:C8	2.86	0.64
1:A:757:U:O2'	1:A:879:C:H1'	1.98	0.64
16:P:58:TYR:O	16:P:61:SER:HB3	1.97	0.64
1:A:1326:C:H2'	1:A:1327:C:C6	2.33	0.64
1:A:1408:A:C6	1:A:1494:G:C6	2.86	0.64
8:H:10:LEU:HA	8:H:13:ILE:HD12	1.79	0.64
13:M:3:ARG:HB3	13:M:4:ILE:HG13	1.79	0.64
15:O:3:ILE:H	15:O:3:ILE:HD12	1.63	0.64
1:A:226:G:C6	1:A:227:G:N7	2.66	0.64
1:A:723:U:O2	1:A:723:U:C2'	2.46	0.64
1:A:725:G:C2	1:A:726:C:C6	2.86	0.64
1:A:836:G:C6	1:A:851:G:C5	2.86	0.64
5:E:121:LYS:HD2	5:E:122:GLU:N	2.13	0.64
1:A:411:A:H1'	1:A:413:G:H1'	1.80	0.64
1:A:1250:A:H5''	9:I:67:GLY:CA	2.28	0.64
20:T:75:ASN:O	20:T:78:ALA:HB3	1.97	0.64
1:A:1158:C:C2	1:A:1160:G:C8	2.86	0.64
1:A:1402:C:C4	1:A:1403:C:C5	2.86	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:7:G:C2	1:A:298:A:C6	2.85	0.64
1:A:386:C:H2'	1:A:387:U:C5'	2.25	0.64
1:A:643:C:H2'	1:A:644:G:H8	1.63	0.64
1:A:961:U:O2'	1:A:962:C:H5'	1.98	0.64
11:K:84:VAL:HG22	11:K:109:VAL:O	1.98	0.64
13:M:13:LYS:O	13:M:45:VAL:HG23	1.98	0.64
1:A:1019:C:O2'	1:A:1020:U:H5'	1.97	0.64
1:A:1306:A:C2	1:A:1307:U:H1'	2.31	0.64
1:A:1459:C:O2'	1:A:1460:A:H5'	1.98	0.64
1:A:57:G:C5	1:A:58:C:C5	2.86	0.64
1:A:872:A:C4	1:A:874:G:C8	2.86	0.64
1:A:981:U:C2	1:A:982:U:C4	2.86	0.64
1:A:1250:A:C6	1:A:1251:A:C6	2.87	0.63
1:A:1475:G:H2'	1:A:1476:G:H8	1.63	0.63
1:A:436:C:H2'	1:A:437:U:H6	1.62	0.63
1:A:596:C:O2'	1:A:597:G:H5'	1.99	0.63
1:A:1210:C:H5'	1:A:1214:C:H42	1.63	0.63
1:A:1447:G:C4	1:A:1448:C:C5	2.87	0.63
1:A:1491:G:N1	1:A:1492:A:N6	2.46	0.63
1:A:42:G:C5	1:A:43:C:C5	2.86	0.63
1:A:527:G:N2	1:A:528:C:C2	2.66	0.63
1:A:556:C:H2'	1:A:557:G:C5'	2.28	0.63
1:A:55:A:N1	1:A:56:U:C2	2.66	0.63
1:A:867:G:H8	1:A:867:G:H5''	1.63	0.63
1:A:9:G:H5'	5:E:122:GLU:OE2	1.98	0.63
1:A:1057:G:H4'	3:C:154:SER:CB	2.28	0.63
1:A:1346:A:C2'	7:G:10:ARG:HH22	2.10	0.63
7:G:15:ASP:OD2	7:G:17:VAL:HB	1.98	0.63
17:Q:60:ILE:HD13	17:Q:61:GLU:N	2.12	0.63
20:T:56:MET:HE2	20:T:85:MET:HA	1.79	0.63
1:A:1371:G:C4	1:A:1372:U:C6	2.86	0.63
1:A:202:U:H4'	1:A:203:U:OP2	1.96	0.63
1:A:262:A:C2	1:A:263:A:C4	2.86	0.63
1:A:282:A:C5	1:A:283:C:C5	2.86	0.63
1:A:448:A:C2	1:A:449:C:C4	2.87	0.63
1:A:767:A:H2'	1:A:768:A:C8	2.33	0.63
9:I:121:ARG:NH1	9:I:121:ARG:HG2	2.11	0.63
12:L:104:VAL:O	12:L:105:TYR:HB2	1.97	0.63
1:A:1310:G:C5'	13:M:77:ASN:HD21	2.11	0.63
18:R:43:PHE:CG	18:R:66:LEU:HD21	2.34	0.63
1:A:1125:U:O3'	1:A:1126:U:H5	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1129:C:P	1:A:1130:A:H5'	2.39	0.63
1:A:1206:G:C4	1:A:1207:G:C8	2.87	0.63
1:A:1415:G:H2'	1:A:1416:G:O4'	1.98	0.63
1:A:1526:G:O2'	1:A:1527:C:H5'	1.98	0.63
1:A:202:U:H6	1:A:202:U:O5'	1.81	0.63
1:A:34:C:H2'	1:A:35:G:C8	2.32	0.63
1:A:382:A:H2'	1:A:383:A:H8	1.61	0.63
1:A:449:C:H2'	1:A:450:G:O4'	1.97	0.63
8:H:38:ILE:HG22	8:H:39:LEU:N	2.13	0.63
13:M:22:ILE:HD12	13:M:25:ILE:HD12	1.78	0.63
13:M:59:TYR:O	13:M:63:THR:HG22	1.98	0.63
18:R:43:PHE:HA	18:R:51:LEU:HD12	1.79	0.63
1:A:1067:A:HO2'	1:A:1068:G:H8	1.44	0.63
1:A:113:G:C4	1:A:114:U:C5	2.87	0.63
1:A:1401:G:C5	1:A:1402:C:C6	2.87	0.63
1:A:507:C:C2	1:A:508:C:C5	2.87	0.63
1:A:561:U:O2'	1:A:562:C:P	2.56	0.63
1:A:602:A:H2'	1:A:603:U:H6	1.62	0.63
1:A:715:A:H2'	1:A:716:A:O4'	1.98	0.63
1:A:757:U:H2'	1:A:758:G:O4'	1.98	0.63
1:A:886:G:O2'	1:A:887:G:H5'	1.99	0.63
2:B:19:HIS:HE1	2:B:206:ASP:HB3	1.63	0.63
5:E:89:ILE:HD11	5:E:131:ILE:HG23	1.81	0.63
1:A:1290:G:C6	1:A:1291:G:N7	2.66	0.63
1:A:1486:G:H2'	1:A:1487:G:C8	2.33	0.63
1:A:949:A:O2'	1:A:950:U:H5'	1.97	0.63
1:A:969:A:C2'	1:A:970:C:H5'	2.29	0.63
4:D:104:VAL:HG12	4:D:108:LEU:CD1	2.28	0.63
6:F:7:ASN:HD21	18:R:34:TYR:HE1	1.45	0.63
1:A:1256:A:C2	1:A:1258:G:N1	2.61	0.63
1:A:1288:A:C2	1:A:1289:A:C5	2.87	0.63
1:A:1415:G:O2'	1:A:1416:G:H5'	1.99	0.63
1:A:190(L):U:O2'	1:A:191:G:H5'	1.99	0.63
1:A:479:C:C2'	1:A:480:U:H5'	2.28	0.63
1:A:113:G:C2	1:A:114:U:C2	2.87	0.63
1:A:1157:A:H4'	1:A:1158:C:O5'	1.99	0.63
1:A:406:G:H5''	4:D:5:ILE:HG21	1.81	0.63
1:A:491:G:C2	1:A:492:G:C8	2.86	0.63
1:A:688:G:C5	1:A:700:G:C2	2.87	0.63
1:A:949:A:C5	1:A:950:U:C4	2.86	0.63
6:F:12:PRO:HG3	6:F:55:ASP:OD1	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:83:ILE:O	8:H:83:ILE:HG23	1.99	0.63
10:J:54:PHE:O	10:J:55:LYS:HB3	1.98	0.63
11:K:73:MET:SD	11:K:103:LEU:HD21	2.38	0.63
16:P:20:VAL:HG21	16:P:32:TYR:CG	2.34	0.63
1:A:1440:C:C2'	1:A:1441:G:H5'	2.28	0.63
1:A:1504:G:O2'	1:A:1505:G:OP2	2.17	0.63
1:A:161:A:H2'	1:A:162:A:C8	2.34	0.63
1:A:608:A:H2'	1:A:609:A:H8	1.63	0.63
1:A:838:G:H2'	1:A:839:U:H5''	1.80	0.63
5:E:11:ILE:HG22	5:E:12:LEU:HD12	1.80	0.63
1:A:1314:C:OP2	19:S:6:LYS:HB3	1.99	0.63
1:A:1052:U:O4	1:A:1200:C:C2	2.52	0.62
1:A:1055:A:C5	1:A:1206:G:C2	2.87	0.62
1:A:185:A:H2'	1:A:186:C:H6	1.63	0.62
1:A:186:C:C2	1:A:187:C:C5	2.87	0.62
1:A:293:G:H2'	1:A:294:U:C6	2.31	0.62
1:A:450:G:N2	1:A:482:A:H61	1.97	0.62
1:A:975:A:C4'	1:A:976:G:OP2	2.45	0.62
3:C:134:ILE:O	3:C:138:VAL:HG23	1.99	0.62
9:I:86:VAL:HG13	9:I:90:PRO:HA	1.80	0.62
17:Q:67:LYS:O	17:Q:68:ARG:HB3	1.99	0.62
1:A:1038:C:C2	1:A:1039:C:C5	2.87	0.62
1:A:1053:G:C8	1:A:1199:U:C6	2.87	0.62
1:A:1303:C:N4	1:A:1304:G:C5	2.66	0.62
1:A:1376:U:H2'	1:A:1377:A:C8	2.33	0.62
1:A:1406:U:H2'	1:A:1407:C:C6	2.35	0.62
1:A:405:U:C3'	1:A:406:G:H5'	2.27	0.62
1:A:448:A:H2'	1:A:449:C:C6	2.34	0.62
1:A:892:A:C6	1:A:893:C:C4	2.86	0.62
1:A:1054:C:OP1	1:A:1198:G:OP2	2.16	0.62
1:A:1255:G:H2'	1:A:1279:A:H62	1.64	0.62
1:A:129(A):G:H4'	1:A:130:A:O5'	1.98	0.62
1:A:622:A:N7	1:A:623:C:C6	2.66	0.62
1:A:662:G:H2'	1:A:663:A:H8	1.64	0.62
1:A:972:C:P	10:J:57:LYS:HD3	2.39	0.62
2:B:16:HIS:CE1	2:B:214:ILE:HD11	2.34	0.62
15:O:75:PRO:HG2	15:O:76:GLU:H	1.64	0.62
1:A:1306:A:N3	1:A:1306:A:H2'	2.13	0.62
1:A:149:A:H2'	1:A:150:C:C6	2.35	0.62
1:A:32:A:N6	1:A:553:A:C6	2.67	0.62
1:A:645:C:H2'	1:A:646:U:C6	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1077:G:N1	1:A:1080:A:OP2	2.31	0.62
1:A:1333:A:C2'	1:A:1334:G:H5'	2.29	0.62
1:A:1405:G:O2'	1:A:1406:U:H5'	1.99	0.62
1:A:176:C:N3	1:A:177:C:C5	2.67	0.62
1:A:252:U:H2'	1:A:253:U:C6	2.34	0.62
1:A:393:A:C4	1:A:394:G:C8	2.87	0.62
1:A:563:A:C8	1:A:567:G:O4'	2.52	0.62
1:A:95:U:H2'	1:A:96:G:C8	2.34	0.62
4:D:28:SER:O	4:D:30:LYS:N	2.33	0.62
1:A:1057:G:C4	1:A:1058:G:C8	2.87	0.62
1:A:1130:A:C4	1:A:1146:A:C2	2.87	0.62
1:A:1321:C:C6	1:A:1322:C:C6	2.88	0.62
1:A:1394:A:N6	1:A:1501:C:H5'	2.15	0.62
1:A:203:U:C5'	1:A:204:U:OP1	2.48	0.62
1:A:256:U:C2	1:A:257:G:C8	2.88	0.62
1:A:443:C:H2'	1:A:444:C:C6	2.35	0.62
1:A:613:C:C2	1:A:628:G:C2	2.88	0.62
1:A:663:A:C4	1:A:664:G:C8	2.88	0.62
1:A:885:G:O2'	1:A:914:A:N1	2.30	0.62
1:A:953:G:H2'	1:A:954:G:O4'	2.00	0.62
1:A:881:G:P	12:L:12:ARG:HH22	2.23	0.62
1:A:1318:A:H4'	19:S:10:PHE:CD2	2.35	0.62
1:A:1291:G:H2'	1:A:1292:U:C6	2.34	0.62
1:A:1401:G:C6	1:A:1402:C:C5	2.88	0.62
1:A:981:U:C2'	1:A:982:U:H5	1.98	0.62
3:C:32:LEU:HD21	3:C:59:ARG:HE	1.62	0.62
8:H:89:PRO:HB3	8:H:92:ARG:HH21	1.64	0.62
12:L:98:TYR:N	12:L:98:TYR:CD1	2.67	0.62
1:A:1498:U:O2'	1:A:1499:A:P	2.57	0.62
1:A:149:A:H2'	1:A:150:C:H6	1.65	0.62
1:A:375:U:OP1	16:P:69:THR:HG21	2.00	0.62
1:A:703:G:OP2	1:A:703:G:H3'	1.99	0.62
4:D:8:VAL:HG22	4:D:115:ARG:NH2	2.14	0.62
12:L:83:VAL:HG21	12:L:100:ILE:HD13	1.82	0.62
1:A:1225:A:H5'	13:M:103:THR:CG2	2.29	0.62
1:A:1225:A:N3	1:A:1225:A:C2'	2.62	0.62
1:A:1333:A:H2'	1:A:1334:G:H5'	1.81	0.62
1:A:545:C:O2'	1:A:546:G:H5'	1.99	0.62
1:A:922:G:C6	1:A:923:A:C6	2.87	0.62
10:J:8:LEU:CD2	10:J:96:ILE:HG12	2.29	0.62
1:A:152:A:N6	1:A:170:U:C2	2.68	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:262:A:N1	1:A:263:A:C6	2.68	0.62
1:A:448:A:C4	1:A:487:A:C2	2.88	0.62
1:A:650:G:C2	1:A:651:C:C6	2.88	0.62
1:A:840:C:H4'	1:A:841:U:O5'	1.98	0.62
1:A:92:C:H2'	1:A:93:G:H8	1.63	0.62
14:N:37:PHE:HB3	14:N:39:LEU:HD12	1.81	0.62
1:A:1030(B):C:C2'	1:A:1030(C):G:H5''	2.30	0.61
1:A:1029:C:H42	1:A:1032:G:H1	1.47	0.61
1:A:1508:G:H2'	1:A:1509:C:C6	2.35	0.61
1:A:690:G:H8	1:A:690:G:O5'	1.83	0.61
1:A:818:G:H3'	1:A:819:A:C5'	2.30	0.61
1:A:967:C:H4'	9:I:128:ARG:HG3	1.81	0.61
1:A:1251:A:H2'	1:A:1252:A:H8	1.60	0.61
1:A:1286:A:H8	1:A:1287:A:H4'	1.65	0.61
1:A:1487:G:H2'	1:A:1488:G:H8	1.65	0.61
1:A:325:A:N6	1:A:326:G:C6	2.67	0.61
1:A:481:G:O2'	1:A:482:A:C8	2.46	0.61
1:A:507:C:H2'	1:A:508:C:C5	2.34	0.61
1:A:7:G:H4'	1:A:8:A:OP1	2.00	0.61
1:A:815:A:O2'	1:A:816:A:P	2.57	0.61
4:D:25:ARG:C	4:D:27:TYR:H	2.02	0.61
1:A:1057:G:H2'	1:A:1058:G:O4'	2.00	0.61
1:A:1301:U:C5	1:A:1303:C:C6	2.87	0.61
1:A:66:G:H4'	1:A:173:U:C5	2.36	0.61
1:A:243:A:C4'	1:A:244:U:C5'	2.68	0.61
1:A:273:A:O2'	1:A:274:A:H5'	2.00	0.61
1:A:434:U:H2'	1:A:435:C:C6	2.35	0.61
1:A:434:U:N3	1:A:435:C:C5	2.68	0.61
1:A:880:C:H5''	12:L:12:ARG:NH2	2.16	0.61
1:A:953:G:C4	1:A:1229:A:C2	2.88	0.61
1:A:969:A:H2'	1:A:970:C:H5'	1.80	0.61
2:B:210:SER:O	2:B:214:ILE:HG12	2.00	0.61
1:A:1055:A:C8	1:A:1206:G:N2	2.68	0.61
1:A:1500:A:C2	1:A:1501:C:C6	2.88	0.61
1:A:891:U:C6	1:A:906:G:N2	2.69	0.61
3:C:154:SER:HB3	3:C:197:GLY:H	1.63	0.61
17:Q:29:HIS:O	17:Q:31:LEU:N	2.33	0.61
18:R:36:ASN:O	18:R:39:VAL:HG12	2.01	0.61
1:A:955:U:H1'	1:A:1227:A:N6	2.15	0.61
1:A:496:A:C2	1:A:497:A:C6	2.87	0.61
1:A:806:C:H2'	1:A:807:A:H8	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:36:ASP:HB3	5:E:38:GLN:H	1.65	0.61
8:H:26:VAL:HG23	8:H:27:PRO:HD2	1.82	0.61
11:K:57:THR:HG22	11:K:60:ALA:HB2	1.82	0.61
13:M:78:ILE:O	13:M:81:LEU:HD23	2.00	0.61
1:A:1128:C:H5'	9:I:16:ARG:NH2	2.15	0.61
1:A:1151:A:O2'	1:A:1152:A:H8	1.82	0.61
1:A:1270:C:O2'	1:A:1271:G:H5'	2.00	0.61
1:A:1358:U:H3'	1:A:1359:C:C5	2.36	0.61
1:A:1413:A:O2'	1:A:1414:U:H5'	2.00	0.61
1:A:180:U:H2'	1:A:181:G:H5'	1.81	0.61
1:A:277:C:C5'	17:Q:68:ARG:NH2	2.50	0.61
1:A:535:A:H5''	1:A:536:C:OP2	2.00	0.61
1:A:803:G:C6	1:A:804:U:C4	2.88	0.61
1:A:905:U:H2'	1:A:906:G:H5'	1.82	0.61
6:F:6:VAL:HB	6:F:63:TYR:HB2	1.82	0.61
11:K:54:ARG:O	11:K:57:THR:HG22	2.00	0.61
13:M:96:LEU:HB3	13:M:97:PRO:CD	2.30	0.61
14:N:6:LEU:HD23	14:N:9:LYS:HD3	1.82	0.61
18:R:76:LEU:HB2	18:R:78:LEU:HD12	1.82	0.61
1:A:1206:G:C5	1:A:1207:G:C8	2.89	0.61
1:A:1300:G:H2'	1:A:1301:U:OP2	2.01	0.61
1:A:22:G:C5	1:A:23:C:C5	2.88	0.61
1:A:364:A:H2'	1:A:365:U:O2	2.00	0.61
1:A:675:A:N6	1:A:676:A:C6	2.68	0.61
1:A:859:A:O2'	1:A:860:A:H5'	2.00	0.61
3:C:15:THR:O	3:C:16:ARG:HB2	1.99	0.61
3:C:3:ASN:O	3:C:4:LYS:HB2	2.01	0.61
4:D:105:VAL:HG13	4:D:110:PHE:HB2	1.82	0.61
9:I:107:ARG:HG3	9:I:107:ARG:NH1	2.16	0.61
7:G:37:ASN:HD21	9:I:41:VAL:H	1.47	0.61
1:A:228:A:H4'	16:P:62:VAL:HG11	1.82	0.61
1:A:1128:C:H1'	1:A:1146:A:H61	1.66	0.61
1:A:1218:C:H2'	1:A:1219:U:H6	1.63	0.61
1:A:1231:G:O2'	1:A:1232:U:H5'	2.01	0.61
1:A:252:U:C2	1:A:253:U:C5	2.88	0.61
1:A:625:G:O2'	1:A:626:U:H5'	2.00	0.61
1:A:647:C:O2'	1:A:648:A:H5'	1.99	0.61
1:A:968:A:C4'	1:A:969:A:OP2	2.49	0.61
11:K:30:VAL:HG12	11:K:31:THR:N	2.14	0.61
1:A:376:G:OP2	16:P:67:THR:HG21	2.01	0.61
20:T:29:LYS:O	20:T:32:ALA:HB3	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1125:U:O3'	1:A:1126:U:C5	2.54	0.61
1:A:573:A:O2'	1:A:574:A:H5'	2.01	0.61
1:A:645:C:H2'	1:A:646:U:H6	1.66	0.61
1:A:840:C:H5'	1:A:848:C:O2	2.00	0.61
14:N:54:PRO:O	14:N:56:VAL:HG23	2.01	0.61
16:P:20:VAL:HG22	16:P:21:VAL:N	2.13	0.61
19:S:46:GLY:H	19:S:62:ILE:HG23	1.65	0.61
1:A:101:A:O2'	1:A:102:G:H5'	2.00	0.61
1:A:1094:G:OP2	1:A:1095:U:C5	2.54	0.61
1:A:218:C:C4'	1:A:461:C:H41	2.12	0.61
1:A:397:A:N7	1:A:547:A:O2'	2.34	0.61
1:A:474:G:H2'	1:A:475:G:H8	1.66	0.61
1:A:492:G:N2	1:A:494:G:H1'	2.15	0.61
2:B:170:GLU:O	2:B:172:ILE:N	2.34	0.61
1:A:1194:U:O2'	1:A:1195:C:H5'	2.01	0.60
1:A:1438:G:H2'	1:A:1439:C:H6	1.66	0.60
1:A:243:A:C2	1:A:245:C:C2	2.89	0.60
1:A:293:G:C5	1:A:305:G:C2	2.89	0.60
1:A:325:A:N6	1:A:326:G:N1	2.48	0.60
1:A:425:G:C2'	1:A:426:G:H5'	2.31	0.60
1:A:943:U:C2'	1:A:944:G:C5'	2.75	0.60
16:P:22:THR:HA	16:P:33:ILE:HD12	1.83	0.60
1:A:1248:A:C4	1:A:1249:C:C5	2.88	0.60
1:A:1263:C:H2'	1:A:1264:C:C6	2.35	0.60
1:A:1426:C:C2	1:A:1427:U:C5	2.89	0.60
1:A:1435:G:C4	1:A:1436:U:C5	2.89	0.60
1:A:487:A:H2'	1:A:488:C:C5'	2.31	0.60
1:A:964:A:OP1	1:A:1199:U:OP1	2.19	0.60
5:E:129:ILE:HG23	5:E:133:TYR:HE1	1.66	0.60
6:F:35:ALA:CB	6:F:67:MET:HB3	2.30	0.60
19:S:63:THR:HG22	19:S:65:ASN:H	1.64	0.60
1:A:1231:G:C2'	1:A:1232:U:H5'	2.31	0.60
1:A:192:U:C2	1:A:193:C:C5	2.89	0.60
1:A:7:G:C6	1:A:298:A:C2	2.89	0.60
1:A:411:A:C1'	1:A:413:G:H1'	2.31	0.60
1:A:753:A:H5'	1:A:754:C:C6	2.36	0.60
2:B:17:PHE:HD1	2:B:18:GLY:H	1.49	0.60
6:F:6:VAL:HG22	6:F:90:VAL:HG22	1.83	0.60
1:A:1268:A:H2'	1:A:1269:A:C8	2.36	0.60
1:A:130:A:N1	1:A:233:C:H1'	2.16	0.60
1:A:151:A:H2'	1:A:152:A:O4'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:173:U:C2	1:A:197:A:C2	2.90	0.60
1:A:390:C:C4'	16:P:28:ARG:HH22	2.14	0.60
1:A:544:G:C6	1:A:545:C:C5	2.89	0.60
5:E:43:LEU:C	5:E:43:LEU:HD23	2.21	0.60
10:J:11:PHE:CZ	10:J:65:LEU:HD21	2.37	0.60
12:L:55:VAL:HG12	12:L:56:ALA:H	1.66	0.60
13:M:11:ARG:HG2	13:M:12:ASN:N	2.15	0.60
1:A:706:A:C1'	11:K:29:ILE:HD11	2.32	0.60
1:A:101:A:N3	1:A:102:G:C8	2.70	0.60
1:A:1180:A:O2'	1:A:1181:G:H5'	2.02	0.60
1:A:595:G:C5	1:A:641:U:C4	2.89	0.60
1:A:792:A:H4'	1:A:793:U:H5''	1.82	0.60
13:M:14:ARG:HB3	13:M:16:ASP:OD1	2.01	0.60
16:P:3:LYS:HA	16:P:65:GLN:O	2.01	0.60
1:A:1204:A:H2'	1:A:1205:U:H6	1.65	0.60
1:A:1231:G:H2'	1:A:1232:U:H6	1.66	0.60
1:A:1480:G:H2'	1:A:1481:U:C6	2.36	0.60
1:A:533:A:C5	1:A:536:C:C4	2.90	0.60
1:A:32:A:N6	1:A:553:A:N1	2.48	0.60
1:A:770:C:C1'	1:A:900:A:C2	2.80	0.60
1:A:778:G:O2'	1:A:779:C:H5'	2.02	0.60
1:A:854:G:C3'	1:A:871:U:O4	2.48	0.60
1:A:8:A:H1'	5:E:102:ALA:O	2.01	0.60
10:J:26:ALA:HB1	10:J:84:GLN:HB3	1.83	0.60
1:A:1126:U:C2'	1:A:1127:G:C8	2.77	0.60
1:A:134:A:C4	1:A:325:A:C2	2.90	0.60
1:A:976:G:C8	1:A:1358:U:O2	2.55	0.60
1:A:434:U:C2	1:A:435:C:C6	2.90	0.60
1:A:636:U:H5'	17:Q:2:PRO:HG2	1.82	0.60
1:A:642:A:N7	8:H:115:SER:HA	2.16	0.60
1:A:1190:G:OP1	3:C:5:ILE:HG12	2.02	0.60
5:E:11:ILE:HG12	5:E:33:VAL:HG23	1.83	0.60
7:G:75:VAL:CG1	7:G:86:GLN:HB3	2.31	0.60
1:A:1250:A:H5''	9:I:67:GLY:HA2	1.84	0.60
1:A:1249:C:O2'	9:I:73:GLN:NE2	2.35	0.60
1:A:1309:G:N7	13:M:99:ARG:NH2	2.50	0.60
1:A:1110:A:H8	1:A:1110:A:O5'	1.84	0.60
1:A:1168:A:H2'	1:A:1169:A:C8	2.36	0.60
1:A:1258:G:O2'	1:A:1259:C:H5'	2.02	0.60
1:A:274:A:HO2'	1:A:275:G:H8	1.48	0.60
1:A:658:G:C6	1:A:749:C:N4	2.70	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:986:A:H2'	1:A:987:G:C8	2.36	0.60
2:B:89:GLY:O	2:B:90:MET:SD	2.60	0.60
2:B:178:ARG:HH21	8:H:74:PRO:CG	2.14	0.60
9:I:56:LEU:HD22	9:I:57:GLY:H	1.67	0.60
18:R:31:LEU:HD13	18:R:65:ILE:HG22	1.84	0.60
1:A:1223:C:OP2	19:S:78:ARG:NH2	2.30	0.60
1:A:252:U:H2'	1:A:253:U:C5	2.37	0.60
1:A:327:A:H4'	1:A:328:C:OP1	2.00	0.60
1:A:35:G:C4	1:A:36:C:C5	2.89	0.60
1:A:38:G:C2	1:A:397:A:C2	2.89	0.60
1:A:460:A:C5	1:A:462:G:C5	2.90	0.60
1:A:559:A:P	5:E:126:ARG:HH22	2.25	0.60
1:A:621:A:C6	1:A:622:A:C6	2.90	0.60
1:A:767:A:C4	1:A:768:A:C8	2.90	0.60
1:A:1347:G:O2'	1:A:1348:U:OP2	2.19	0.59
1:A:496:A:C2	1:A:497:A:C5	2.90	0.59
1:A:849:C:C2	1:A:850:U:C6	2.90	0.59
5:E:51:VAL:O	5:E:55:VAL:HG23	2.02	0.59
1:A:1148:U:H2'	1:A:1149:C:O4'	2.02	0.59
1:A:1195:C:H3'	1:A:1196:U:C5'	2.31	0.59
1:A:1291:G:H2'	1:A:1292:U:H6	1.67	0.59
1:A:1329:A:C2'	1:A:1330:U:H5'	2.32	0.59
1:A:345:C:C4'	1:A:346:G:O5'	2.47	0.59
1:A:794:A:C5	1:A:795:C:C4	2.89	0.59
3:C:34:LEU:HG	14:N:25:VAL:HG21	1.85	0.59
1:A:1346:A:C4	7:G:10:ARG:NH2	2.71	0.59
1:A:1020:U:C2'	1:A:1021:G:H5'	2.31	0.59
1:A:1039:C:C2	1:A:1040:U:C6	2.91	0.59
1:A:1126:U:H6	1:A:1126:U:O5'	1.83	0.59
1:A:617:G:O2'	16:P:44:THR:HG21	2.02	0.59
1:A:1101:A:C2	2:B:99:GLY:O	2.56	0.59
1:A:1136:U:O5'	1:A:1136:U:H6	1.85	0.59
1:A:1189:C:P	10:J:51:ARG:HH22	2.25	0.59
1:A:1324:A:C4	1:A:1325:C:C5	2.91	0.59
1:A:243:A:N6	1:A:281:G:H1'	2.16	0.59
1:A:429:U:C1'	1:A:430:A:H5''	2.29	0.59
1:A:486:U:C2'	1:A:486:U:O2	2.47	0.59
1:A:571:U:H3'	1:A:572:A:H5''	1.84	0.59
1:A:664:G:N2	1:A:666:G:C8	2.71	0.59
1:A:838:G:H3'	1:A:840:C:H41	1.67	0.59
1:A:1057:G:H4'	3:C:154:SER:HB2	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:83:ILE:HG13	8:H:137:VAL:HG22	1.82	0.59
17:Q:5:VAL:HA	17:Q:59:ILE:O	2.03	0.59
17:Q:62:SER:CB	17:Q:72:ARG:HG3	2.31	0.59
1:A:1290:G:C4	1:A:1291:G:C8	2.90	0.59
1:A:1326:C:O2'	1:A:1327:C:H5'	2.02	0.59
1:A:391:G:C6	1:A:392:G:N7	2.71	0.59
1:A:509:A:H8	1:A:509:A:O5'	1.85	0.59
1:A:662:G:C2	1:A:663:A:C5	2.90	0.59
1:A:895:G:C4	1:A:896:C:C5	2.90	0.59
3:C:12:LEU:HD23	3:C:12:LEU:H	1.67	0.59
9:I:56:LEU:HD22	9:I:57:GLY:N	2.17	0.59
15:O:25:THR:O	15:O:29:VAL:HG23	2.02	0.59
1:A:1181:G:O2'	1:A:1182:G:O5'	2.19	0.59
1:A:16:A:N1	1:A:919:A:H2	1.99	0.59
1:A:783:C:O2'	1:A:784:C:H5'	2.03	0.59
1:A:691:G:O2'	1:A:797:C:H4'	2.02	0.59
1:A:812:C:O2'	1:A:813:U:P	2.60	0.59
1:A:925:G:C6	1:A:927:G:N7	2.70	0.59
1:A:948:C:HO2'	1:A:949:A:H5'	1.66	0.59
1:A:973:G:H3'	1:A:974:A:H5''	1.84	0.59
4:D:102:ASP:HB3	4:D:136:PRO:HB3	1.84	0.59
19:S:15:LEU:O	19:S:19:VAL:N	2.33	0.59
1:A:1324:A:C6	1:A:1325:C:C4	2.90	0.59
1:A:1309:G:C2	1:A:1329:A:N3	2.70	0.59
1:A:318:G:O2'	1:A:319:G:H5'	2.03	0.59
1:A:39:G:H2'	1:A:40:C:H5'	1.85	0.59
1:A:540:G:C2'	1:A:541:G:H5'	2.32	0.59
1:A:547:A:C4'	1:A:548:G:O5'	2.34	0.59
1:A:866:C:C2'	1:A:867:G:O5'	2.51	0.59
2:B:100:GLY:O	2:B:102:LEU:N	2.35	0.59
2:B:68:ILE:HB	2:B:90:MET:HE3	1.84	0.59
17:Q:68:ARG:HG2	17:Q:68:ARG:O	2.02	0.59
1:A:1191:A:N3	1:A:1192:C:C5	2.70	0.59
1:A:1324:A:C5	1:A:1325:C:C5	2.91	0.59
1:A:1507:A:H2'	1:A:1508:G:C8	2.38	0.59
1:A:362:G:H5''	12:L:61:THR:CG2	2.32	0.59
1:A:485:G:O2'	1:A:486:U:P	2.59	0.59
1:A:961:U:H2'	1:A:962:C:C5'	2.31	0.59
2:B:124:SER:O	2:B:127:ILE:HG13	2.02	0.59
7:G:142:GLU:C	7:G:144:MET:H	2.06	0.59
10:J:42:THR:HG23	10:J:68:HIS:HA	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1333:A:H2'	1:A:1334:G:C5'	2.33	0.59
1:A:149:A:C2	1:A:150:C:C5	2.91	0.59
1:A:29:G:N2	1:A:555:C:C2	2.71	0.59
1:A:544:G:H2'	1:A:545:C:H6	1.68	0.59
1:A:724:G:O2'	1:A:725:G:H5'	2.03	0.59
1:A:877:C:OP1	8:H:88:LYS:HE3	2.03	0.59
1:A:1223:C:P	19:S:78:ARG:HH22	2.25	0.59
1:A:1168:A:C2	1:A:1169:A:C2	2.91	0.59
1:A:1401:G:N2	1:A:1402:C:H1'	2.17	0.59
1:A:926:G:C2'	1:A:1505:G:H21	2.15	0.59
1:A:321:A:H2'	1:A:322:C:C6	2.35	0.59
1:A:579:G:N2	1:A:763:G:C4	2.71	0.59
1:A:958:A:C6	1:A:959:A:N1	2.71	0.59
3:C:132:ARG:HH22	4:D:47:ARG:NH2	2.00	0.59
1:A:1012:U:O2'	1:A:1013:G:H5'	2.02	0.58
1:A:1103:C:H2'	1:A:1104:G:O4'	2.03	0.58
1:A:482:A:C2	1:A:483:C:H1'	2.38	0.58
1:A:781:A:C2'	1:A:782:A:H5'	2.33	0.58
2:B:130:ARG:HH22	3:C:207:VAL:CG1	2.16	0.58
3:C:91:LEU:CD2	3:C:99:VAL:HG13	2.22	0.58
4:D:36:ARG:HA	4:D:38:TYR:HE2	1.68	0.58
9:I:48:GLU:N	9:I:49:PRO:HD2	2.17	0.58
20:T:14:LYS:HA	20:T:17:ARG:HD2	1.84	0.58
1:A:1081:G:N2	1:A:1082:G:H1'	2.18	0.58
1:A:1182:G:H4'	1:A:1183:A:O5'	2.03	0.58
1:A:1440:C:O2'	1:A:1441:G:H5'	2.03	0.58
1:A:1501:C:N4	1:A:1504:G:N3	2.50	0.58
1:A:177:C:O2'	1:A:178:C:H5'	2.03	0.58
1:A:746:A:C5	1:A:747:C:C5	2.91	0.58
1:A:978:A:C4	1:A:1319:A:C2	2.91	0.58
2:B:84:GLU:HG3	2:B:215:LEU:HB3	1.85	0.58
4:D:18:LYS:HB3	4:D:20:TYR:HE2	1.68	0.58
13:M:81:LEU:HD23	13:M:81:LEU:N	2.18	0.58
13:M:89:GLY:O	13:M:92:HIS:HB2	2.03	0.58
1:A:247:G:OP2	17:Q:100:LYS:HD2	2.03	0.58
1:A:325:A:N7	1:A:326:G:C5	2.71	0.58
1:A:335:C:H2'	1:A:336:C:H6	1.68	0.58
1:A:482:A:N1	1:A:483:C:C2	2.71	0.58
1:A:891:U:C5	1:A:906:G:N2	2.71	0.58
3:C:76:VAL:O	3:C:83:ARG:HD3	2.03	0.58
4:D:104:VAL:HG12	4:D:108:LEU:HD11	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:107:ARG:HH11	9:I:107:ARG:HG3	1.68	0.58
1:A:1117:G:O3'	9:I:104:ARG:NH1	2.37	0.58
1:A:113:G:C6	1:A:114:U:C4	2.92	0.58
1:A:116:A:H2'	1:A:117:G:O4'	2.03	0.58
1:A:1263:C:O2'	1:A:1264:C:H5'	2.03	0.58
1:A:1349:A:C5	1:A:1350:A:N7	2.71	0.58
1:A:1434:A:H2'	1:A:1435:G:O4'	2.03	0.58
1:A:292:G:C2	1:A:309:G:C2	2.91	0.58
1:A:949:A:H2'	1:A:950:U:C6	2.38	0.58
1:A:1080:A:O3'	5:E:16:THR:HG21	2.03	0.58
1:A:1028:C:C2	1:A:1034:G:C2	2.92	0.58
1:A:1135:U:H4'	1:A:1136:U:H5	1.68	0.58
1:A:1205:U:H1'	3:C:195:VAL:CG2	2.34	0.58
1:A:1504:G:H4'	1:A:1505:G:C5'	2.34	0.58
1:A:925:G:C2	1:A:927:G:C8	2.91	0.58
2:B:74:LYS:HZ2	2:B:76:GLN:HG2	1.68	0.58
1:A:101:A:C2	1:A:102:G:N9	2.72	0.58
1:A:1193:G:C2	1:A:1194:U:C5	2.91	0.58
1:A:1320:C:O2'	1:A:1321:C:H5'	2.04	0.58
1:A:1435:G:C6	1:A:1436:U:O4	2.56	0.58
1:A:323:U:H2'	1:A:324:G:O4'	2.03	0.58
1:A:561:U:O2'	1:A:562:C:OP2	2.18	0.58
16:P:39:TYR:OH	16:P:41:PRO:HA	2.02	0.58
1:A:99:C:C2	1:A:101:A:N7	2.72	0.58
1:A:259:G:C4	1:A:260:G:C8	2.92	0.58
1:A:46:G:O2'	1:A:365:U:H1'	2.04	0.58
1:A:423:G:N2	1:A:424:G:N7	2.51	0.58
1:A:432:A:C8	1:A:433:C:C5	2.92	0.58
1:A:889:A:C2	1:A:891:U:O4	2.56	0.58
1:A:933:G:O6	7:G:3:ARG:NH2	2.36	0.58
5:E:105:VAL:HB	5:E:106:PRO:HD3	1.84	0.58
9:I:8:GLY:HA2	9:I:79:LEU:HD12	1.86	0.58
10:J:34:VAL:HG12	10:J:36:GLY:H	1.68	0.58
12:L:97:ARG:HB2	12:L:98:TYR:CE1	2.39	0.58
15:O:30:ALA:HA	15:O:85:LEU:HD11	1.86	0.58
1:A:958:A:N1	19:S:54:GLY:HA3	2.18	0.58
1:A:248:C:C2'	1:A:249:U:H5'	2.34	0.58
1:A:459:G:N2	1:A:462:G:N7	2.51	0.58
1:A:482:A:C2	1:A:483:C:C1'	2.87	0.58
1:A:57:G:C6	1:A:58:C:N4	2.72	0.58
1:A:1372:U:C5'	9:I:71:SER:HB2	2.31	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:73:GLU:O	13:M:77:ASN:HB2	2.02	0.58
1:A:1023:G:H2'	1:A:1023:G:N3	2.18	0.58
1:A:1328:C:O2'	1:A:1329:A:C5'	2.50	0.58
1:A:457:C:H2'	1:A:458:C:H6	1.68	0.58
11:K:87:THR:HG23	11:K:91:ARG:HH21	1.69	0.58
19:S:46:GLY:N	19:S:62:ILE:HG23	2.18	0.58
1:A:1038:C:N3	1:A:1039:C:C5	2.72	0.58
1:A:102:G:H2'	1:A:103:C:H6	1.67	0.58
1:A:1067:A:H4'	1:A:1068:G:O5'	2.04	0.58
1:A:1284:C:H3'	1:A:1285:A:H8	1.68	0.58
1:A:1513:A:H2'	1:A:1514:C:H6	1.65	0.58
1:A:282:A:C4	1:A:283:C:C6	2.92	0.58
1:A:293:G:C6	1:A:294:U:C4	2.91	0.58
1:A:41:G:C4	1:A:42:G:N7	2.72	0.58
1:A:451:A:H1'	1:A:452:A:H8	1.63	0.58
1:A:568:G:N2	1:A:883:C:C6	2.72	0.58
1:A:597:G:C6	1:A:644:G:C6	2.92	0.58
1:A:713:G:H21	1:A:777:A:C4'	2.17	0.58
2:B:178:ARG:O	8:H:71:GLY:HA2	2.03	0.58
12:L:8:ASN:O	12:L:11:VAL:HB	2.04	0.58
1:A:1067:A:O2'	1:A:1068:G:H8	1.87	0.57
1:A:1114:C:O2'	1:A:1115:C:H5'	2.04	0.57
1:A:1511:G:O2'	1:A:1512:U:H5'	2.04	0.57
1:A:1521:G:C4	1:A:1522:U:C6	2.91	0.57
1:A:357:G:N3	1:A:358:U:C6	2.72	0.57
1:A:439:A:C8	1:A:497:A:C6	2.92	0.57
1:A:765:G:N1	1:A:812:C:H2'	2.19	0.57
1:A:1085:U:O4'	1:A:1094:G:C2	2.58	0.57
1:A:1157:A:C2	1:A:1181:G:C5	2.92	0.57
1:A:1401:G:C6	1:A:1402:C:C4	2.91	0.57
1:A:1485:U:H2'	1:A:1485:U:O2	2.04	0.57
1:A:27:G:C5	1:A:28:G:N7	2.72	0.57
1:A:294:U:H2'	1:A:295:C:H6	1.69	0.57
1:A:36:C:C2	1:A:37:U:C6	2.92	0.57
1:A:588:G:N2	1:A:589:C:C2	2.72	0.57
1:A:640:A:H2'	1:A:641:U:O4'	2.03	0.57
1:A:839:U:C5'	1:A:840:C:H5	2.11	0.57
1:A:926:G:H2'	1:A:1505:G:N2	2.19	0.57
4:D:18:LYS:O	4:D:19:LEU:HD23	2.04	0.57
13:M:32:GLU:O	13:M:32:GLU:HG2	2.04	0.57
1:A:1019:C:C2'	1:A:1020:U:H5'	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1371:G:O3'	9:I:69:GLY:HA3	2.04	0.57
1:A:166:G:C4	1:A:167:G:C8	2.93	0.57
1:A:539:A:H2'	1:A:540:G:C8	2.39	0.57
1:A:597:G:C8	1:A:598:U:C5	2.92	0.57
1:A:914:A:H2'	1:A:915:A:O5'	2.04	0.57
1:A:926:G:C4	1:A:1505:G:C2	2.92	0.57
11:K:94:ALA:O	11:K:97:ALA:HB3	2.03	0.57
1:A:1053:G:N7	1:A:1199:U:H2'	2.19	0.57
1:A:1367:C:O2	1:A:1368:G:C8	2.57	0.57
1:A:149:A:C2	1:A:150:C:C2	2.93	0.57
1:A:181:G:N2	1:A:195:A:C5	2.72	0.57
1:A:39:G:C2'	1:A:40:C:C5'	2.82	0.57
1:A:560:U:H5'	1:A:566:G:H22	1.70	0.57
1:A:698:G:C4	1:A:699:C:C5	2.93	0.57
1:A:859:A:H2'	1:A:860:A:H8	1.69	0.57
1:A:866:C:H2'	1:A:867:G:O5'	2.04	0.57
2:B:204:ASN:HD22	2:B:205:ASP:N	2.02	0.57
3:C:52:LEU:O	3:C:52:LEU:HG	2.04	0.57
4:D:136:PRO:O	4:D:138:TYR:N	2.37	0.57
5:E:31:LEU:HD23	5:E:44:GLY:O	2.03	0.57
12:L:28:LYS:C	12:L:30:ALA:H	2.07	0.57
18:R:39:VAL:CG1	18:R:40:LEU:N	2.67	0.57
1:A:1089:G:C5	1:A:1090:U:C6	2.92	0.57
1:A:1138:G:C2	1:A:1140:C:C5	2.93	0.57
1:A:113:G:C6	1:A:315:A:C6	2.92	0.57
1:A:1371:G:OP2	9:I:11:LYS:HE2	2.03	0.57
1:A:65:U:C5	1:A:381:C:C4	2.93	0.57
1:A:700:G:O3'	1:A:703:G:H5'	2.05	0.57
1:A:89:C:C2'	1:A:90:U:O5'	2.52	0.57
1:A:922:G:N2	1:A:1396:A:C4	2.72	0.57
1:A:706:A:O4'	11:K:29:ILE:HD11	2.04	0.57
15:O:53:HIS:O	15:O:56:LEU:HB3	2.04	0.57
1:A:1210:C:C5'	1:A:1214:C:N4	2.67	0.57
1:A:1414:U:H2'	1:A:1415:G:C8	2.39	0.57
1:A:598:U:C2	1:A:599:C:C5	2.93	0.57
1:A:722:A:H5'	1:A:723:U:OP2	2.05	0.57
1:A:1319:A:C2'	1:A:1323:G:N7	2.67	0.57
1:A:119:A:C2	1:A:240:C:C6	2.93	0.57
1:A:325:A:N7	1:A:326:G:N7	2.52	0.57
1:A:463:A:C5	1:A:474:G:C8	2.93	0.57
1:A:573:A:C2	1:A:574:A:C2	2.93	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:690:G:C6	1:A:691:G:N1	2.72	0.57
1:A:511:C:H1'	4:D:43:HIS:HE2	1.70	0.57
7:G:16:LEU:HD22	7:G:16:LEU:N	2.18	0.57
1:A:1489:G:C3'	1:A:1490:C:C5'	2.71	0.57
1:A:1497:G:C8	1:A:1498:U:H5	2.23	0.57
1:A:492:G:C2	1:A:494:G:H1'	2.40	0.57
1:A:25:C:C5	1:A:558:G:N2	2.73	0.57
1:A:650:G:O2'	1:A:651:C:H5'	2.05	0.57
1:A:862:C:O2'	1:A:863:U:H5'	2.05	0.57
1:A:866:C:C5	1:A:867:G:H1'	2.40	0.57
2:B:100:GLY:C	2:B:102:LEU:N	2.58	0.57
3:C:187:ALA:O	3:C:188:LEU:HB2	2.05	0.57
15:O:45:VAL:HG12	15:O:46:HIS:N	2.20	0.57
1:A:1305:G:H22	1:A:1331:G:C2'	2.17	0.57
1:A:286:G:C2	1:A:287:U:C2	2.93	0.57
1:A:27:G:C4	1:A:28:G:C8	2.93	0.57
1:A:391:G:H2'	1:A:392:G:O5'	2.04	0.57
1:A:458:C:H2'	1:A:459:G:H8	1.68	0.57
1:A:626:U:H4'	16:P:38:TYR:CZ	2.40	0.57
1:A:663:A:C2	1:A:664:G:C4	2.92	0.57
1:A:75:G:C2'	1:A:76:C:O5'	2.52	0.57
1:A:807:A:C6	1:A:808:C:N4	2.73	0.57
3:C:130:VAL:CB	3:C:157:ILE:HG23	2.35	0.57
3:C:130:VAL:HG21	3:C:157:ILE:HG23	1.85	0.57
1:A:1205:U:H1'	3:C:195:VAL:HG21	1.87	0.57
5:E:70:PRO:O	5:E:71:LEU:HD23	2.05	0.57
11:K:57:THR:HG23	11:K:60:ALA:N	2.13	0.57
13:M:26:GLY:C	13:M:28:ALA:H	2.08	0.57
1:A:42:G:C4	1:A:43:C:C6	2.93	0.57
1:A:563:A:N7	1:A:567:G:H1'	2.20	0.57
1:A:688:G:C5	1:A:700:G:N2	2.73	0.57
1:A:725:G:C2	1:A:726:C:C5	2.93	0.57
1:A:75:G:H2'	1:A:76:C:O5'	2.05	0.57
1:A:770:C:O4'	1:A:900:A:H2	1.88	0.57
1:A:913:A:H4'	1:A:914:A:O5'	2.03	0.57
2:B:178:ARG:HG3	8:H:72:PRO:HA	1.87	0.57
1:A:1060:C:OP1	14:N:45:ARG:NH2	2.38	0.57
1:A:1030(C):G:C8	1:A:1030(C):G:H5'	2.35	0.56
1:A:1305:G:N2	1:A:1331:G:O2'	2.38	0.56
1:A:1311:G:C6	1:A:1312:G:C5	2.93	0.56
1:A:148:G:H2'	1:A:149:A:C8	2.28	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:709:G:H2'	1:A:710:G:H8	1.70	0.56
1:A:90:U:H2'	1:A:91:C:C6	2.40	0.56
1:A:958:A:C6	1:A:959:A:C6	2.93	0.56
2:B:11:LEU:O	2:B:13:ALA:N	2.38	0.56
1:A:1306:A:C6	1:A:1307:U:C4	2.92	0.56
1:A:1437:C:H2'	1:A:1438:G:C8	2.40	0.56
1:A:248:C:H2'	1:A:249:U:H5'	1.87	0.56
1:A:490:G:H2'	1:A:491:G:H8	1.68	0.56
1:A:579:G:C5	1:A:580:U:H5	2.20	0.56
1:A:803:G:H2'	1:A:804:U:O4'	2.04	0.56
1:A:914:A:O2'	1:A:915:A:C5'	2.48	0.56
8:H:103:VAL:O	8:H:106:GLY:N	2.38	0.56
20:T:14:LYS:O	20:T:17:ARG:HB2	2.05	0.56
1:A:1158:C:C2'	1:A:1158:C:O2	2.52	0.56
1:A:1306:A:C4	1:A:1307:U:C6	2.93	0.56
1:A:116:A:H61	1:A:313:A:H1'	1.70	0.56
1:A:328:C:HO2'	1:A:329:A:P	2.28	0.56
1:A:399:G:O2'	1:A:400:C:H5'	2.05	0.56
1:A:446:G:O2'	1:A:447:G:H5'	2.05	0.56
1:A:914:A:C2'	1:A:915:A:O5'	2.54	0.56
1:A:930:C:O2'	1:A:931:C:H5'	2.05	0.56
5:E:79:GLU:O	5:E:80:ILE:HG23	2.04	0.56
1:A:1193:G:C2	1:A:1194:U:C6	2.94	0.56
1:A:119:A:C2	1:A:240:C:C5	2.93	0.56
1:A:1202:G:H2'	1:A:1203:C:C5'	2.35	0.56
1:A:1436:U:H2'	1:A:1437:C:C6	2.41	0.56
1:A:1442:G:H22	1:A:1446:A:H8	1.53	0.56
1:A:393:A:N3	1:A:394:G:C8	2.73	0.56
1:A:622:A:N7	1:A:623:C:C5	2.73	0.56
1:A:714:G:N3	1:A:777:A:H1'	2.20	0.56
1:A:794:A:C5	1:A:795:C:C5	2.94	0.56
1:A:872:A:H2	1:A:874:G:C6	2.23	0.56
1:A:22:G:H4'	1:A:885:G:C8	2.40	0.56
1:A:937:A:N6	1:A:1345:U:O4	2.38	0.56
4:D:96:LEU:HD22	4:D:96:LEU:H	1.70	0.56
14:N:27:CYS:SG	14:N:29:ARG:CB	2.94	0.56
17:Q:56:VAL:O	17:Q:77:VAL:HG23	2.05	0.56
1:A:374:A:C4	1:A:375:U:C5	2.93	0.56
1:A:389:A:C6	1:A:390:C:H1'	2.40	0.56
1:A:597:G:N7	1:A:598:U:C5	2.74	0.56
1:A:657:G:C2	1:A:750:G:C4	2.92	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:778:G:C4	1:A:779:C:C6	2.94	0.56
1:A:936:C:C2'	1:A:937:A:H5'	2.35	0.56
3:C:116:VAL:O	3:C:119:ARG:HB3	2.05	0.56
4:D:96:LEU:HD13	4:D:96:LEU:N	2.20	0.56
4:D:94:LEU:HA	4:D:97:LEU:HB2	1.87	0.56
5:E:31:LEU:HD21	5:E:43:LEU:HD21	1.87	0.56
6:F:50:TYR:HE1	18:R:77:GLY:HA2	1.65	0.56
18:R:34:TYR:CD2	18:R:34:TYR:N	2.68	0.56
1:A:1088:G:C2	1:A:1089:G:C8	2.93	0.56
1:A:1250:A:N6	1:A:1251:A:N6	2.54	0.56
1:A:1357:A:C5	1:A:1358:U:C4	2.94	0.56
1:A:338:A:C6	1:A:339:C:C4	2.92	0.56
1:A:398:C:O2'	1:A:399:G:H5'	2.06	0.56
1:A:581:G:O6	1:A:758:G:C8	2.59	0.56
1:A:645:C:O2'	1:A:646:U:H5'	2.06	0.56
1:A:663:A:C4	1:A:664:G:N7	2.74	0.56
1:A:839:U:C2'	1:A:839:U:O2	2.50	0.56
1:A:866:C:H2'	1:A:867:G:O4'	2.04	0.56
1:A:858:G:C6	1:A:869:G:C8	2.94	0.56
1:A:996:A:H2'	1:A:997:U:C6	2.41	0.56
2:B:124:SER:HB2	2:B:125:PRO:HD2	1.86	0.56
3:C:52:LEU:H	3:C:52:LEU:HD23	1.70	0.56
1:A:1063:C:H2'	1:A:1064:G:H8	1.68	0.56
1:A:1087:G:H2'	1:A:1088:G:C8	2.40	0.56
1:A:1100:C:O2'	1:A:1101:A:H5'	2.06	0.56
1:A:1202:G:H2'	1:A:1203:C:H5'	1.87	0.56
1:A:1253:G:N2	1:A:1254:C:C2	2.74	0.56
1:A:270:A:H2'	1:A:271:C:C6	2.39	0.56
1:A:329:A:C2	1:A:332:G:C4	2.93	0.56
1:A:439:A:C8	1:A:497:A:N1	2.73	0.56
1:A:621:A:N6	1:A:622:A:C6	2.74	0.56
1:A:741:G:O2'	1:A:742:G:H5'	2.05	0.56
1:A:803:G:C4	1:A:804:U:C6	2.94	0.56
1:A:880:C:H2'	1:A:881:G:H8	1.69	0.56
3:C:20:SER:HB3	3:C:40:ARG:HH22	1.69	0.56
7:G:78:ARG:NH1	7:G:154:TYR:HB3	2.19	0.56
8:H:36:LEU:HD22	8:H:61:VAL:CG2	2.36	0.56
1:A:1061:G:C2'	1:A:1062:U:H5'	2.35	0.56
1:A:1129:C:OP2	9:I:62:TYR:HE2	1.89	0.56
1:A:1186:G:N2	1:A:1187:G:H1'	2.21	0.56
1:A:1374:A:C4	1:A:1375:A:C8	2.94	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1438:G:H2'	1:A:1439:C:C6	2.40	0.56
1:A:920:U:O2'	1:A:921:U:H5'	2.06	0.56
1:A:973:G:H2'	1:A:974:A:H8	1.71	0.56
3:C:125:GLU:CG	3:C:189:ALA:HB1	2.36	0.56
16:P:58:TYR:HE1	16:P:59:TRP:CZ3	2.24	0.56
1:A:1158:C:H2'	1:A:1158:C:O2	2.04	0.56
1:A:1285:A:O2'	1:A:1286:A:OP2	2.22	0.56
1:A:1302:U:O2'	1:A:1303:C:OP1	2.20	0.56
1:A:1503:A:O2'	1:A:1504:G:OP1	2.19	0.56
1:A:1529:G:H5''	1:A:1530:G:OP2	2.06	0.56
1:A:197:A:O2'	1:A:198:G:C8	2.59	0.56
1:A:293:G:C5	1:A:305:G:N2	2.74	0.56
1:A:35:G:H2'	1:A:36:C:H6	1.71	0.56
1:A:449:C:C5	1:A:450:G:C5	2.94	0.56
1:A:88:A:H2'	1:A:89:C:O5'	2.06	0.56
20:T:36:LEU:HD12	20:T:62:LEU:HD12	1.88	0.56
20:T:75:ASN:ND2	20:T:75:ASN:N	2.53	0.56
1:A:1190:G:O2'	1:A:1191:A:OP2	2.24	0.56
1:A:354:G:C2	1:A:355:C:C6	2.94	0.56
1:A:512:U:H2'	1:A:513:C:H6	1.71	0.56
1:A:737:A:H2'	1:A:738:C:C6	2.41	0.56
1:A:761:G:C6	1:A:762:C:C4	2.94	0.56
1:A:910:C:H2'	1:A:911:U:C6	2.41	0.56
1:A:600:C:H4'	8:H:128:GLY:O	2.06	0.56
1:A:190(E):U:C5	17:Q:72:ARG:NH2	2.74	0.56
1:A:1190:G:C2'	1:A:1191:A:OP2	2.53	0.56
1:A:1216:G:H5''	14:N:5:ALA:HB2	1.88	0.56
1:A:1249:C:H1'	9:I:70:LYS:HG3	1.88	0.56
1:A:1368:G:N2	1:A:1369:C:N1	2.54	0.56
1:A:1455:G:C2	1:A:1459:C:C6	2.94	0.56
1:A:152:A:N6	1:A:170:U:O2	2.39	0.56
1:A:357:G:C2	1:A:358:U:C6	2.93	0.56
1:A:42:G:N3	1:A:43:C:C5	2.74	0.56
1:A:519:C:O2'	1:A:520:A:H5'	2.06	0.56
1:A:600:C:O2'	1:A:601:C:H5'	2.05	0.56
1:A:627:G:HO2'	1:A:628:G:H5'	1.71	0.56
1:A:895:G:C5	1:A:896:C:C5	2.94	0.56
1:A:920:U:H2'	1:A:921:U:O5'	2.06	0.56
1:A:978:A:C5	1:A:1319:A:C2	2.94	0.56
15:O:45:VAL:HG12	15:O:46:HIS:H	1.71	0.56
16:P:74:LEU:HD22	16:P:79:VAL:HG21	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:73:HIS:HB2	20:T:76:ALA:HB2	1.88	0.56
1:A:1065:U:O2'	1:A:1066:C:OP2	2.25	0.55
1:A:1192:C:O2	1:A:1193:G:H1'	2.05	0.55
1:A:1234:C:H5'	1:A:1365:G:OP1	2.07	0.55
1:A:1314:C:O2'	1:A:1315:U:H5'	2.06	0.55
1:A:1507:A:H2'	1:A:1508:G:H8	1.70	0.55
1:A:543:C:C2	1:A:544:G:C8	2.94	0.55
1:A:724:G:N1	1:A:725:G:C5	2.75	0.55
1:A:768:A:C4	1:A:769:G:C8	2.93	0.55
1:A:817:C:H4'	1:A:818:G:OP1	2.03	0.55
2:B:181:PHE:N	2:B:181:PHE:CD1	2.73	0.55
3:C:202:ILE:HG22	3:C:204:LEU:HG	1.87	0.55
3:C:8:ILE:O	3:C:10:PHE:N	2.39	0.55
1:A:1053:G:C4	1:A:1199:U:C5	2.94	0.55
1:A:1126:U:O5'	1:A:1126:U:C6	2.59	0.55
1:A:1309:G:H2'	1:A:1310:G:H5'	1.88	0.55
1:A:174:C:N3	1:A:175:C:C5	2.75	0.55
1:A:201:C:H2'	1:A:202:U:H3'	1.86	0.55
1:A:243:A:N3	1:A:245:C:C4	2.74	0.55
1:A:256:U:H2'	1:A:257:G:H8	1.70	0.55
1:A:393:A:C6	1:A:394:G:N7	2.74	0.55
1:A:397:A:H5''	1:A:397:A:N3	2.21	0.55
1:A:402:G:C4	1:A:403:C:C6	2.94	0.55
1:A:485:G:H2'	1:A:486:U:OP2	2.05	0.55
1:A:724:G:N3	1:A:725:G:C8	2.73	0.55
2:B:214:ILE:HG23	2:B:217:ARG:NH2	2.21	0.55
8:H:36:LEU:HD22	8:H:61:VAL:HG22	1.87	0.55
12:L:8:ASN:O	12:L:11:VAL:N	2.39	0.55
1:A:1459:C:H2'	1:A:1460:A:O5'	2.05	0.55
1:A:233:C:O2'	1:A:234:C:H5'	2.05	0.55
1:A:435:C:C2	1:A:436:C:C5	2.95	0.55
1:A:534:U:H5''	1:A:535:A:OP2	2.06	0.55
1:A:609:A:C2'	1:A:610:G:H5'	2.37	0.55
1:A:686:U:O4	1:A:703:G:O2'	2.22	0.55
1:A:818:G:C3'	1:A:819:A:C5'	2.83	0.55
4:D:173:TRP:CD1	4:D:174:LEU:HG	2.40	0.55
4:D:59:ARG:NH1	4:D:59:ARG:HG2	2.20	0.55
16:P:43:LYS:HG2	16:P:48:TRP:CG	2.42	0.55
1:A:1015:A:O5'	1:A:1015:A:H8	1.90	0.55
1:A:1499:A:C2'	1:A:1500:A:H5'	2.37	0.55
1:A:1504:G:C4'	1:A:1505:G:H5'	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:202:U:O2'	1:A:203:U:OP1	2.24	0.55
1:A:355:C:N3	1:A:356:A:N7	2.54	0.55
1:A:391:G:P	16:P:28:ARG:HH12	2.29	0.55
1:A:573:A:C6	1:A:574:A:N1	2.75	0.55
1:A:595:G:C4	1:A:641:U:C4	2.94	0.55
1:A:769:G:C2	1:A:770:C:C6	2.95	0.55
1:A:777:A:C6	1:A:778:G:C5	2.95	0.55
1:A:780:A:O2'	1:A:781:A:H5''	2.06	0.55
1:A:783:C:C2'	1:A:784:C:H5'	2.36	0.55
1:A:921:U:H2'	1:A:922:G:O4'	2.05	0.55
2:B:80:ILE:O	2:B:84:GLU:HG2	2.05	0.55
5:E:127:ASN:OD1	5:E:129:ILE:HB	2.07	0.55
1:A:1346:A:C4	7:G:10:ARG:CZ	2.89	0.55
11:K:71:LYS:O	11:K:74:ALA:HB3	2.06	0.55
1:A:1061:G:O2'	1:A:1062:U:H5'	2.06	0.55
1:A:1218:C:C2'	1:A:1219:U:C6	2.78	0.55
1:A:1245:A:H2'	1:A:1246:C:C6	2.41	0.55
1:A:1489:G:H2'	1:A:1490:C:O4'	2.06	0.55
1:A:1492:A:H2'	1:A:1493:A:O4'	2.07	0.55
1:A:1504:G:H4'	1:A:1505:G:H5'	1.89	0.55
1:A:175:C:O2'	1:A:176:C:H5'	2.06	0.55
1:A:407:G:H2'	1:A:408:A:H8	1.71	0.55
1:A:448:A:C5	1:A:487:A:C4	2.94	0.55
1:A:781:A:C5	1:A:802:A:C2	2.94	0.55
1:A:996:A:C6	1:A:997:U:O4	2.59	0.55
3:C:57:ILE:HG22	3:C:57:ILE:O	2.06	0.55
7:G:146:GLU:HA	7:G:149:ARG:HB2	1.89	0.55
18:R:39:VAL:HG13	18:R:40:LEU:N	2.21	0.55
1:A:1065:U:H4'	1:A:1066:C:O5'	2.05	0.55
1:A:1089:G:C6	1:A:1090:U:C6	2.94	0.55
1:A:1095:U:H2'	1:A:1096:C:C6	2.40	0.55
1:A:1220:G:H2'	1:A:1221:G:H8	1.71	0.55
1:A:175:C:C2	1:A:176:C:C5	2.94	0.55
1:A:261:U:C6	20:T:79:ARG:NH1	2.75	0.55
1:A:373:A:C4	1:A:482:A:N7	2.75	0.55
1:A:429:U:C4'	1:A:430:A:O5'	2.48	0.55
1:A:592:G:N2	1:A:593:G:C4	2.74	0.55
1:A:67:C:O2'	1:A:68:G:H5'	2.06	0.55
1:A:854:G:H3'	1:A:871:U:C4	2.40	0.55
13:M:81:LEU:HD23	13:M:81:LEU:H	1.72	0.55
1:A:1052:U:H2'	1:A:1055:A:OP1	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1057:G:H2'	1:A:1058:G:H8	1.71	0.55
1:A:1061:G:C6	1:A:1062:U:N3	2.75	0.55
1:A:1158:C:N3	1:A:1160:G:C8	2.75	0.55
1:A:1492:A:N6	1:A:1493:A:C2	2.75	0.55
1:A:204:U:H4'	1:A:216:G:O5'	2.05	0.55
1:A:565:U:C6	1:A:566:G:C8	2.95	0.55
1:A:657:G:N2	1:A:750:G:N9	2.54	0.55
4:D:67:ILE:HG22	4:D:68:TYR:N	2.20	0.55
1:A:981:U:C5'	14:N:21:TYR:CZ	2.89	0.55
1:A:1049:U:H1'	1:A:1201:A:C8	2.41	0.55
1:A:1399:C:C2	1:A:1401:G:C4	2.95	0.55
1:A:1442:G:N2	1:A:1446:A:H8	2.05	0.55
1:A:1480:G:C4	1:A:1481:U:C5	2.94	0.55
1:A:321:A:H2	1:A:332:G:H22	1.54	0.55
1:A:663:A:N3	1:A:664:G:C8	2.75	0.55
1:A:767:A:C6	1:A:768:A:C5	2.94	0.55
1:A:421:U:C6	3:C:127:ARG:NH2	2.75	0.55
6:F:48:LEU:HD13	6:F:52:ILE:CG1	2.30	0.55
13:M:37:THR:O	13:M:37:THR:HG22	2.06	0.55
15:O:32:LEU:O	15:O:35:ARG:N	2.39	0.55
15:O:69:TYR:O	15:O:72:ARG:HB3	2.06	0.55
1:A:1192:C:O2	1:A:1193:G:C1'	2.54	0.55
1:A:1309:G:O2'	1:A:1310:G:H5'	2.07	0.55
1:A:1360:A:H2'	1:A:1361:G:O4'	2.07	0.55
1:A:300:A:H1'	1:A:565:U:O2	2.07	0.55
1:A:544:G:C4	1:A:545:C:C5	2.94	0.55
1:A:582:U:C2	1:A:583:A:C8	2.95	0.55
1:A:651:C:C4	1:A:652:U:O4	2.60	0.55
1:A:825:G:C5	1:A:826:C:C5	2.95	0.55
1:A:869:G:H4'	1:A:872:A:H8	1.61	0.55
2:B:189:ASP:HB3	2:B:203:GLY:O	2.07	0.55
3:C:27:LYS:O	3:C:31:HIS:HD2	1.90	0.55
3:C:70:VAL:HG12	3:C:72:LYS:H	1.70	0.55
1:A:8:A:H62	4:D:209:ARG:HB2	1.72	0.55
16:P:49:LEU:HD22	16:P:73:LEU:HD22	1.89	0.55
1:A:130:A:C8	17:Q:63:ARG:HG3	2.42	0.55
1:A:113:G:C6	1:A:315:A:N6	2.74	0.55
1:A:10:A:C2	1:A:11:G:C5	2.95	0.55
1:A:1392:G:N2	1:A:1502:A:H8	2.04	0.55
1:A:21:G:H2'	1:A:22:G:H8	1.72	0.55
1:A:265:G:O2'	1:A:266:G:H5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:37:U:O2'	1:A:38:G:H5'	2.07	0.55
1:A:596:C:N4	1:A:645:C:N3	2.53	0.55
3:C:167:TRP:O	3:C:168:ALA:HB2	2.07	0.55
11:K:95:ILE:O	11:K:99:GLN:HG3	2.07	0.55
1:A:1225:A:C5'	13:M:103:THR:OG1	2.55	0.55
1:A:1077:G:N2	1:A:1080:A:OP2	2.40	0.54
1:A:1508:G:H2'	1:A:1509:C:H6	1.71	0.54
1:A:27:G:C6	1:A:28:G:N7	2.75	0.54
1:A:65:U:C4	1:A:381:C:C4	2.96	0.54
1:A:522:C:H41	12:L:53:ARG:HH22	1.56	0.54
1:A:657:G:N2	1:A:750:G:C4	2.75	0.54
1:A:948:C:O2'	1:A:949:A:C5'	2.48	0.54
4:D:104:VAL:CG1	4:D:146:ILE:HD12	2.23	0.54
5:E:12:LEU:HD22	5:E:13:ILE:N	2.22	0.54
6:F:38:GLU:O	6:F:39:LYS:HB3	2.07	0.54
17:Q:9:VAL:N	17:Q:21:VAL:HG13	2.22	0.54
1:A:1307:U:H2'	1:A:1308:U:C6	2.43	0.54
1:A:1368:G:O2'	1:A:1369:C:H5'	2.06	0.54
1:A:319:G:O2'	1:A:320:C:H5'	2.06	0.54
1:A:38:G:H22	1:A:397:A:C5'	2.20	0.54
1:A:448:A:C5	1:A:487:A:C2	2.96	0.54
1:A:676:A:C6	1:A:677:U:C4	2.95	0.54
1:A:955:U:H1'	1:A:1227:A:H61	1.69	0.54
3:C:22:TRP:HZ3	3:C:24:ALA:HB2	1.72	0.54
4:D:78:LEU:HB3	4:D:93:PHE:HE2	1.73	0.54
11:K:114:VAL:HG13	11:K:114:VAL:O	2.07	0.54
1:A:835:U:OP1	18:R:64:ARG:NH2	2.41	0.54
1:A:1346:A:N9	7:G:10:ARG:NH2	2.56	0.54
1:A:1381:U:H2'	1:A:1381:U:O2	2.06	0.54
1:A:1461:G:O2'	1:A:1462:G:H5'	2.07	0.54
1:A:5:U:C2'	1:A:5:U:O2	2.56	0.54
1:A:720:C:H6	1:A:720:C:O5'	1.90	0.54
1:A:80:G:H3'	1:A:81:U:C5'	2.33	0.54
1:A:924:C:C2'	1:A:925:G:H5'	2.37	0.54
3:C:120:VAL:HG12	3:C:124:ILE:HD11	1.89	0.54
5:E:129:ILE:HG22	5:E:130:ASN:N	2.21	0.54
6:F:4:TYR:O	6:F:64:GLN:HA	2.07	0.54
7:G:23:VAL:HG13	7:G:43:PHE:CE2	2.42	0.54
1:A:1039:C:C2	1:A:1040:U:C5	2.95	0.54
1:A:119:A:C5	1:A:240:C:C4	2.95	0.54
1:A:1226:C:C4'	1:A:1227:A:OP1	2.54	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1317:C:H2'	1:A:1318:A:O4'	2.08	0.54
1:A:35:G:H2'	1:A:36:C:C6	2.42	0.54
1:A:370:C:O2	1:A:371:G:C8	2.60	0.54
1:A:518:C:H5'	1:A:519:C:H6	1.73	0.54
1:A:910:C:H2'	1:A:911:U:H6	1.71	0.54
9:I:6:GLY:O	9:I:7:THR:HB	2.07	0.54
16:P:59:TRP:CE3	16:P:59:TRP:HA	2.42	0.54
1:A:1085:U:H1'	1:A:1094:G:C6	2.42	0.54
1:A:1227:A:H8	1:A:1227:A:H5'	1.72	0.54
1:A:1442:G:N2	1:A:1446:A:C8	2.75	0.54
1:A:501:C:H2'	1:A:502:G:H8	1.72	0.54
1:A:507:C:C2	1:A:508:C:H5	2.25	0.54
1:A:614:A:N1	1:A:627:G:C6	2.76	0.54
1:A:872:A:C2	1:A:874:G:N7	2.76	0.54
4:D:36:ARG:HA	4:D:38:TYR:CE2	2.42	0.54
8:H:89:PRO:HA	8:H:92:ARG:HE	1.72	0.54
18:R:37:VAL:CG2	18:R:78:LEU:HB3	2.38	0.54
1:A:1053:G:N7	1:A:1199:U:C6	2.75	0.54
1:A:1083:U:C4	1:A:1084:G:C2	2.96	0.54
1:A:1172:C:H2'	1:A:1173:G:H8	1.71	0.54
1:A:1425:U:H2'	1:A:1426:C:C6	2.42	0.54
1:A:318:G:C2	1:A:319:G:C8	2.96	0.54
1:A:318:G:C6	1:A:319:G:N7	2.76	0.54
1:A:506:G:C6	1:A:507:C:C4	2.95	0.54
1:A:696:A:C6	1:A:697:U:C4	2.96	0.54
1:A:965:A:C2	1:A:969:A:N1	2.75	0.54
3:C:33:LEU:HD11	14:N:53:LEU:CD2	2.37	0.54
1:A:6:G:O6	5:E:95:ALA:N	2.38	0.54
8:H:13:ILE:O	8:H:17:THR:HG23	2.07	0.54
20:T:51:GLU:O	20:T:54:LYS:HB2	2.07	0.54
1:A:1040:U:H2'	1:A:1041:A:H8	1.72	0.54
1:A:1290:G:C6	1:A:1291:G:C5	2.96	0.54
1:A:1371:G:C6	1:A:1372:U:C4	2.96	0.54
1:A:22:G:O2'	1:A:23:C:H5'	2.08	0.54
1:A:655:A:O2'	1:A:656:C:H5'	2.08	0.54
1:A:673:G:H2'	1:A:674:G:C8	2.43	0.54
2:B:162:ILE:HG22	2:B:164:VAL:HG23	1.89	0.54
8:H:111:ILE:C	8:H:112:LEU:HD23	2.28	0.54
9:I:112:LYS:HE2	9:I:118:LYS:HA	1.90	0.54
10:J:8:LEU:HD21	10:J:96:ILE:HG12	1.90	0.54
19:S:15:LEU:O	19:S:19:VAL:HG12	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1305:G:H5'	21:V:4:GLY:HA3	1.90	0.54
1:A:9:G:C2	1:A:10:A:C8	2.96	0.54
1:A:1108:G:C5	1:A:1109:C:C5	2.95	0.54
1:A:1107:C:C4	1:A:1108:G:C8	2.96	0.54
1:A:1144:G:N2	1:A:1146:A:H62	2.06	0.54
1:A:142:G:O6	1:A:143:A:N6	2.41	0.54
1:A:1516:G:C2	1:A:1520:G:C2	2.96	0.54
1:A:448:A:N6	1:A:487:A:C1'	2.70	0.54
1:A:462:G:C2	1:A:463:A:C4	2.95	0.54
1:A:690:G:N1	1:A:691:G:C2	2.75	0.54
3:C:4:LYS:O	3:C:5:ILE:HG12	2.07	0.54
3:C:8:ILE:O	3:C:11:ARG:N	2.36	0.54
7:G:148:ASN:C	7:G:150:ALA:H	2.10	0.54
9:I:65:VAL:HG21	9:I:73:GLN:OE1	2.07	0.54
9:I:70:LYS:O	9:I:74:ILE:HG13	2.08	0.54
1:A:1105:A:C2'	1:A:1106:G:H5'	2.38	0.54
1:A:1168:A:O5'	1:A:1168:A:H8	1.89	0.54
1:A:1366:C:H2'	1:A:1367:C:C6	2.43	0.54
1:A:166:G:N3	1:A:167:G:C8	2.76	0.54
1:A:294:U:C2	1:A:295:C:C5	2.96	0.54
1:A:45:U:H2'	1:A:46:G:C8	2.43	0.54
1:A:502:G:C4	1:A:503:C:C6	2.96	0.54
1:A:616:G:N2	1:A:625:G:C5	2.76	0.54
1:A:76:C:H2'	1:A:77:G:O5'	2.08	0.54
1:A:972:C:C2'	1:A:972:C:O2	2.49	0.54
5:E:110:LEU:HD13	5:E:118:ILE:HD13	1.88	0.54
8:H:83:ILE:HD12	8:H:137:VAL:CG1	2.38	0.54
1:A:1216:G:H5''	14:N:5:ALA:HB1	1.89	0.54
1:A:1064:G:H4'	1:A:1065:U:H5''	1.90	0.54
1:A:1087:G:H2'	1:A:1088:G:H8	1.72	0.54
1:A:1114:C:H2'	1:A:1115:C:H6	1.73	0.54
1:A:1206:G:O5'	1:A:1206:G:H8	1.91	0.54
1:A:1237:C:H3'	1:A:1238:A:H5'	1.90	0.54
1:A:1281:U:H5'	1:A:1282:C:C5	2.41	0.54
1:A:1303:C:C2'	1:A:1304:G:H5'	2.34	0.54
1:A:33:A:H2'	1:A:34:C:H6	1.69	0.54
1:A:633:G:C6	1:A:634:C:C4	2.96	0.54
1:A:803:G:H2'	1:A:804:U:C6	2.43	0.54
1:A:849:C:N3	1:A:850:U:C5	2.76	0.54
1:A:981:U:H2'	1:A:982:U:C6	2.37	0.54
1:A:1080:A:H4'	5:E:16:THR:HG21	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:117:ARG:O	12:L:119:LYS:O	2.26	0.54
17:Q:63:ARG:O	17:Q:65:ILE:HG13	2.08	0.54
1:A:1278:U:H5'	1:A:1279:A:O4'	2.07	0.53
1:A:1284:C:H3'	1:A:1285:A:C8	2.42	0.53
1:A:1381:U:O2	1:A:1382:C:C6	2.61	0.53
1:A:1392:G:C6	1:A:1393:U:C4	2.96	0.53
1:A:1407:C:H6	1:A:1407:C:O5'	1.90	0.53
1:A:1499:A:O2'	1:A:1500:A:H5'	2.07	0.53
1:A:1521:G:N3	1:A:1522:U:C6	2.76	0.53
1:A:190(A):C:O2'	1:A:190(B):C:H5'	2.08	0.53
1:A:293:G:C4	1:A:305:G:N2	2.76	0.53
1:A:449:C:C6	1:A:450:G:N7	2.76	0.53
1:A:484:G:O4'	1:A:486:U:C6	2.61	0.53
1:A:521:G:O6	1:A:529:G:C2	2.61	0.53
1:A:53:A:N6	1:A:54:C:C4	2.75	0.53
1:A:81:U:C6	1:A:83:U:OP2	2.62	0.53
1:A:818:G:O2'	1:A:820:U:C6	2.61	0.53
3:C:195:VAL:C	3:C:196:LEU:HD23	2.28	0.53
17:Q:92:ARG:O	17:Q:95:TYR:HB2	2.08	0.53
1:A:1206:G:C6	1:A:1207:G:N7	2.76	0.53
1:A:1221:G:H5''	19:S:36:ARG:NH1	2.23	0.53
1:A:953:G:N3	1:A:1229:A:C2	2.76	0.53
1:A:1300:G:C6	1:A:1334:G:C5	2.96	0.53
1:A:1338:G:H2'	1:A:1339:A:C8	2.43	0.53
1:A:1348:U:C2	1:A:1349:A:C8	2.97	0.53
1:A:20:U:H2'	1:A:21:G:H5'	1.90	0.53
1:A:118:U:H5	1:A:288:A:C6	2.25	0.53
1:A:452:A:H4'	16:P:72:ARG:NH2	2.24	0.53
1:A:499:A:C6	1:A:547:A:C8	2.96	0.53
1:A:568:G:C6	1:A:569:C:N4	2.77	0.53
1:A:635:G:H2'	1:A:636:U:C6	2.41	0.53
2:B:130:ARG:NH2	3:C:207:VAL:HG11	2.23	0.53
19:S:42:PRO:O	19:S:45:VAL:HG23	2.07	0.53
1:A:1308:U:O2'	1:A:1309:G:H5'	2.08	0.53
1:A:1369:C:C2'	1:A:1370:G:O4'	2.56	0.53
1:A:1401:G:C6	1:A:1402:C:C6	2.96	0.53
1:A:1454:G:O2'	1:A:1455:G:H5'	2.08	0.53
1:A:52:G:O2'	1:A:53:A:H5'	2.08	0.53
1:A:577:G:O2'	1:A:816:A:H2'	2.09	0.53
1:A:688:G:C8	1:A:700:G:N2	2.77	0.53
1:A:783:C:H2'	1:A:784:C:H5'	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:87:GLY:HA2	12:L:98:TYR:HA	1.90	0.53
10:J:47:PHE:CZ	14:N:37:PHE:HE1	2.26	0.53
1:A:1152:A:OP1	10:J:68:HIS:ND1	2.41	0.53
1:A:960:U:C2	1:A:1225:A:C5	2.96	0.53
1:A:1227:A:C8	1:A:1227:A:H5'	2.44	0.53
1:A:949:A:N6	1:A:1233:G:C6	2.76	0.53
1:A:1363:A:H1'	1:A:1365:G:N7	2.23	0.53
1:A:1498:U:H1'	1:A:1499:A:N7	2.23	0.53
1:A:369:C:N3	1:A:370:C:C5	2.76	0.53
1:A:502:G:C2	1:A:503:C:C2	2.96	0.53
1:A:50:A:N6	1:A:361:G:H4'	2.23	0.53
1:A:538:G:C2	1:A:539:A:C4	2.96	0.53
1:A:595:G:H2'	1:A:641:U:O4	2.07	0.53
1:A:657:G:C2	1:A:750:G:C5	2.97	0.53
1:A:698:G:C5	1:A:699:C:C5	2.97	0.53
3:C:157:ILE:HB	3:C:164:ARG:HH21	1.73	0.53
3:C:154:SER:OG	3:C:196:LEU:HA	2.07	0.53
13:M:86:CYS:SG	13:M:88:ARG:HB3	2.48	0.53
16:P:20:VAL:HG21	16:P:32:TYR:HB2	1.90	0.53
1:A:1021:G:H2'	1:A:1022:G:O4'	2.09	0.53
1:A:1030:C:C2'	1:A:1030(A):G:C8	2.91	0.53
1:A:370:C:H2'	1:A:371:G:H8	1.72	0.53
1:A:399:G:H2'	1:A:400:C:C6	2.44	0.53
1:A:490:G:C6	1:A:491:G:N7	2.76	0.53
1:A:698:G:C6	1:A:699:C:C4	2.97	0.53
1:A:698:G:C6	1:A:699:C:N4	2.76	0.53
1:A:893:C:H2'	1:A:894:G:C8	2.39	0.53
1:A:13:U:C5	1:A:916:G:O6	2.61	0.53
2:B:188:ALA:O	2:B:203:GLY:N	2.41	0.53
3:C:91:LEU:HD23	3:C:92:ALA:N	2.22	0.53
15:O:29:VAL:O	15:O:31:LEU:N	2.42	0.53
1:A:1500:A:C2	1:A:1501:C:N1	2.77	0.53
1:A:7:G:N2	1:A:298:A:N6	2.57	0.53
1:A:503:C:H2'	1:A:504:C:H6	1.72	0.53
1:A:568:G:H2'	1:A:569:C:C6	2.43	0.53
1:A:640:A:O2'	1:A:641:U:H5'	2.08	0.53
1:A:778:G:H2'	1:A:779:C:H6	1.72	0.53
1:A:892:A:C5	1:A:893:C:C5	2.96	0.53
1:A:951:G:C6	1:A:1231:G:C6	2.96	0.53
5:E:121:LYS:HD2	5:E:122:GLU:H	1.73	0.53
1:A:1052:U:O4	1:A:1200:C:H2'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1253:G:C2	1:A:1254:C:C2	2.96	0.53
1:A:1402:C:O2	1:A:1500:A:N1	2.41	0.53
1:A:1402:C:C4	1:A:1403:C:C4	2.97	0.53
1:A:160:A:H2'	1:A:161:A:O4'	2.07	0.53
1:A:354:G:O2'	1:A:355:C:H5'	2.08	0.53
1:A:397:A:N3	1:A:397:A:H3'	2.23	0.53
1:A:864:A:C6	1:A:865:A:C6	2.96	0.53
1:A:869:G:C4'	1:A:872:A:H8	2.18	0.53
2:B:13:ALA:O	2:B:15:VAL:N	2.39	0.53
3:C:73:PRO:O	3:C:77:ILE:HG12	2.09	0.53
5:E:15:ARG:HB3	5:E:28:PHE:CE2	2.44	0.53
9:I:89:ASN:OD1	9:I:91:ASP:HB2	2.09	0.53
1:A:974:A:N3	14:N:31:ARG:NH2	2.56	0.53
18:R:76:LEU:O	18:R:78:LEU:N	2.42	0.53
19:S:47:HIS:O	19:S:62:ILE:HG22	2.09	0.53
1:A:1039:C:O2'	1:A:1040:U:C5'	2.56	0.53
1:A:919:A:N3	1:A:1080:A:H2	2.07	0.53
1:A:1347:G:H2'	1:A:1348:U:OP2	2.09	0.53
1:A:229:U:O2'	1:A:230:G:H5'	2.08	0.53
1:A:357:G:C2	1:A:358:U:C4	2.96	0.53
1:A:55:A:O2'	1:A:56:U:H5'	2.09	0.53
1:A:608:A:N3	1:A:609:A:C8	2.77	0.53
1:A:69:G:H2'	1:A:70:G:H8	1.73	0.53
3:C:151:VAL:CG1	3:C:152:ILE:N	2.72	0.53
13:M:67:GLU:O	13:M:69:GLU:N	2.42	0.53
1:A:1030:C:H2'	1:A:1030(A):G:H8	1.68	0.53
1:A:1032:G:H2'	1:A:1033:G:C8	2.44	0.53
1:A:1093:A:C2	1:A:1095:U:H5'	2.44	0.53
1:A:1120:G:O2'	1:A:1121:U:H5'	2.09	0.53
1:A:953:G:C2	1:A:1229:A:C2	2.97	0.53
1:A:264:U:C5	1:A:265:G:C8	2.97	0.53
1:A:533:A:C6	1:A:536:C:N3	2.77	0.53
1:A:27:G:C5	1:A:557:G:C2	2.97	0.53
1:A:571:U:C3'	1:A:572:A:H5''	2.39	0.53
1:A:613:C:O2	1:A:628:G:N2	2.42	0.53
4:D:157:LEU:HD23	4:D:161:ASN:ND2	2.24	0.53
17:Q:65:ILE:HB	17:Q:69:LYS:O	2.09	0.53
1:A:1128:C:C1'	1:A:1146:A:H61	2.22	0.53
1:A:112:G:C2	1:A:113:G:C8	2.97	0.53
1:A:1147:C:H4'	9:I:5:TYR:HE1	1.72	0.53
1:A:1250:A:C6	1:A:1251:A:N6	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:233:C:C2'	1:A:234:C:H5'	2.39	0.53
1:A:310:G:C4	1:A:311:C:C5	2.97	0.53
1:A:310:G:C5	1:A:311:C:C5	2.97	0.53
1:A:391:G:C2'	1:A:392:G:O5'	2.57	0.53
1:A:39:G:H2'	1:A:40:C:C5'	2.39	0.53
1:A:506:G:C6	1:A:507:C:N4	2.76	0.53
1:A:719:C:N3	18:R:74:ARG:NH1	2.51	0.53
1:A:743:U:H2'	1:A:744:C:C6	2.43	0.53
1:A:542:G:OP1	4:D:10:ARG:NH2	2.42	0.53
4:D:117:ALA:O	4:D:121:VAL:HG23	2.09	0.53
15:O:25:THR:HG21	15:O:70:LEU:HD23	1.90	0.53
1:A:1030:C:H42	1:A:1031:G:H1	1.56	0.52
1:A:1145:C:O2'	1:A:1146:A:O5'	2.21	0.52
1:A:173:U:H5'	1:A:197:A:O4'	2.08	0.52
1:A:204:U:H5'	1:A:216:G:OP1	2.10	0.52
1:A:744:C:H2'	1:A:745:C:H6	1.74	0.52
3:C:174:PRO:HB2	3:C:177:THR:OG1	2.09	0.52
6:F:10:LEU:HD12	6:F:59:TYR:HB3	1.90	0.52
9:I:50:LEU:C	9:I:52:ALA:H	2.12	0.52
18:R:38:GLU:CD	18:R:38:GLU:H	2.13	0.52
1:A:1267:C:C5	1:A:1268:A:C5	2.96	0.52
1:A:1402:C:H2'	1:A:1403:C:H6	1.74	0.52
1:A:1520:G:C4	1:A:1521:G:N7	2.77	0.52
1:A:416:G:C5	1:A:417:C:C4	2.97	0.52
1:A:579:G:C6	1:A:580:U:C4	2.97	0.52
1:A:600:C:H2'	1:A:601:C:H6	1.74	0.52
1:A:714:G:H2'	1:A:715:A:C8	2.44	0.52
1:A:670:G:N1	1:A:737:A:C6	2.77	0.52
1:A:825:G:C4	1:A:826:C:C5	2.97	0.52
5:E:36:ASP:C	5:E:38:GLN:H	2.11	0.52
9:I:20:ARG:O	9:I:60:ASP:N	2.37	0.52
1:A:112:G:C6	1:A:113:G:N7	2.76	0.52
1:A:1237:C:H4'	1:A:1334:G:N2	2.24	0.52
1:A:1442:G:H2'	1:A:1442:G:N3	2.25	0.52
1:A:175:C:O2	1:A:176:C:C6	2.62	0.52
1:A:355:C:N3	1:A:356:A:C8	2.77	0.52
1:A:515:G:C2'	1:A:516:U:H5'	2.40	0.52
1:A:515:G:H2'	1:A:516:U:O4'	2.09	0.52
1:A:51:A:H4'	1:A:52:G:C5'	2.39	0.52
7:G:15:ASP:HB3	7:G:19:GLY:H	1.73	0.52
1:A:1136:U:H5''	1:A:1137:C:OP2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1151:A:C2'	1:A:1152:A:H8	2.23	0.52
1:A:1167:A:C6	1:A:1168:A:C6	2.97	0.52
1:A:1504:G:H4'	1:A:1505:G:O5'	2.10	0.52
1:A:1528:U:O2'	1:A:1529:G:P	2.68	0.52
1:A:228:A:H2'	1:A:229:U:C6	2.44	0.52
1:A:579:G:C6	1:A:580:U:C5	2.97	0.52
1:A:936:C:H2'	1:A:937:A:C5'	2.39	0.52
1:A:9:G:N3	1:A:10:A:C8	2.78	0.52
12:L:9:GLN:O	12:L:11:VAL:N	2.42	0.52
1:A:113:G:C5	1:A:114:U:C4	2.98	0.52
1:A:1164:G:N1	1:A:1173:G:C6	2.78	0.52
1:A:1380:U:O2'	1:A:1381:U:OP2	2.18	0.52
1:A:1388:C:O2'	1:A:1389:C:H5'	2.09	0.52
1:A:391:G:C6	1:A:392:G:C5	2.97	0.52
1:A:408:A:H2'	1:A:409:G:O5'	2.10	0.52
1:A:604:G:C6	1:A:605:U:C4	2.98	0.52
1:A:889:A:C4'	1:A:890:G:OP1	2.51	0.52
6:F:21:LEU:O	6:F:24:GLU:HB3	2.10	0.52
1:A:1298:C:C6	7:G:114:ARG:NH1	2.77	0.52
3:C:29:TYR:OH	14:N:54:PRO:HG2	2.09	0.52
1:A:1128:C:O2'	1:A:1129:C:OP1	2.26	0.52
1:A:1168:A:N1	1:A:1169:A:C2	2.78	0.52
1:A:1331:G:HO2'	1:A:1332:A:P	2.32	0.52
1:A:344:A:O2'	1:A:345:C:P	2.67	0.52
1:A:377:G:C6	1:A:387:U:O2	2.63	0.52
1:A:402:G:C4	1:A:403:C:C5	2.97	0.52
1:A:5:U:H4'	1:A:6:G:C2	2.45	0.52
1:A:887:G:H2'	1:A:888:G:H8	1.75	0.52
2:B:130:ARG:HH12	3:C:207:VAL:HG11	1.75	0.52
1:A:939:G:H5''	7:G:102:ARG:NH2	2.25	0.52
16:P:39:TYR:HB2	16:P:49:LEU:HD13	1.92	0.52
1:A:1058:G:OP1	3:C:199:LYS:HE3	2.10	0.52
1:A:402:G:C6	1:A:403:C:C4	2.97	0.52
1:A:436:C:H2'	1:A:437:U:C6	2.43	0.52
1:A:529:G:C4'	1:A:533:A:C2	2.92	0.52
1:A:61:G:C5	1:A:107:G:N2	2.77	0.52
1:A:792:A:C2	1:A:794:A:C4	2.97	0.52
1:A:798:G:C2'	1:A:799:G:O5'	2.58	0.52
1:A:915:A:H2'	1:A:916:G:O5'	2.09	0.52
3:C:182:ILE:HA	3:C:202:ILE:O	2.09	0.52
1:A:102:G:H2'	1:A:103:C:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:174:C:C4	1:A:175:C:C5	2.98	0.52
1:A:182:U:H2'	1:A:182:U:O2	2.10	0.52
1:A:254:G:OP1	17:Q:67:LYS:O	2.27	0.52
1:A:310:G:H2'	1:A:311:C:H6	1.73	0.52
1:A:379:C:O2'	1:A:380:G:H5'	2.08	0.52
1:A:417:C:O5'	1:A:417:C:H6	1.93	0.52
1:A:533:A:O2'	1:A:535:A:OP2	2.27	0.52
1:A:625:G:N3	1:A:626:U:C5	2.78	0.52
1:A:657:G:N2	1:A:750:G:C8	2.77	0.52
1:A:658:G:H2'	1:A:659:U:C6	2.45	0.52
1:A:746:A:H2'	1:A:747:C:H5'	1.92	0.52
1:A:827:U:C2'	1:A:870:U:O4	2.54	0.52
1:A:1152:A:H5''	10:J:13:HIS:CD2	2.45	0.52
10:J:16:LEU:CD2	10:J:94:VAL:HG22	2.39	0.52
17:Q:61:GLU:HA	17:Q:71:PHE:CD1	2.44	0.52
1:A:101:A:C2	1:A:102:G:C4	2.98	0.52
1:A:1144:G:N2	1:A:1146:A:N6	2.58	0.52
1:A:1231:G:C4	1:A:1232:U:C5	2.97	0.52
1:A:1501:C:C4	1:A:1504:G:C2	2.98	0.52
1:A:579:G:C2	1:A:763:G:C2	2.98	0.52
1:A:58:C:O2	1:A:58:C:H2'	2.08	0.52
1:A:5:U:H2'	1:A:5:U:O2	2.09	0.52
1:A:724:G:N2	1:A:725:G:C4	2.78	0.52
1:A:665:A:C2	1:A:732:C:C2	2.98	0.52
1:A:782:A:H62	1:A:800:G:H21	1.56	0.52
1:A:909:A:H2'	1:A:910:C:O4'	2.10	0.52
2:B:214:ILE:HD12	2:B:217:ARG:NH2	2.25	0.52
2:B:70:PHE:O	2:B:92:TYR:HA	2.09	0.52
3:C:151:VAL:C	3:C:152:ILE:HG13	2.28	0.52
4:D:12:CYS:HA	4:D:19:LEU:HB2	1.91	0.52
4:D:96:LEU:O	4:D:99:SER:N	2.38	0.52
1:A:1187:G:C5'	9:I:113:LYS:HE3	2.35	0.52
9:I:17:VAL:HG13	9:I:63:ILE:HD11	1.91	0.52
1:A:1250:A:H4'	9:I:68:GLY:N	2.24	0.52
1:A:1054:C:HO2'	1:A:1055:A:H5''	1.69	0.52
1:A:1089:G:C4	1:A:1090:U:C6	2.98	0.52
1:A:1151:A:C4	1:A:1152:A:N7	2.78	0.52
1:A:129:U:OP1	17:Q:3:LYS:NZ	2.43	0.52
1:A:1301:U:O4	1:A:1303:C:H1'	2.10	0.52
1:A:1355:G:O2'	1:A:1356:G:H5'	2.09	0.52
1:A:1367:C:N3	1:A:1368:G:C8	2.78	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1494:G:O2'	1:A:1495:U:H5'	2.10	0.52
1:A:357:G:O2'	1:A:358:U:H5'	2.10	0.52
1:A:55:A:C2	1:A:56:U:H1'	2.44	0.52
1:A:592:G:C2	1:A:593:G:C8	2.98	0.52
1:A:687:A:HO2'	1:A:688:G:P	2.32	0.52
1:A:724:G:N2	1:A:725:G:N9	2.58	0.52
1:A:731:G:OP1	1:A:766:A:H1'	2.08	0.52
1:A:767:A:O2'	1:A:768:A:H5'	2.10	0.52
1:A:76:C:C2'	1:A:77:G:O5'	2.58	0.52
1:A:838:G:C2'	1:A:839:U:H5''	2.39	0.52
1:A:879:C:H2'	1:A:880:C:H6	1.74	0.52
1:A:885:G:H2'	1:A:886:G:H8	1.75	0.52
1:A:888:G:N1	1:A:889:A:N6	2.58	0.52
1:A:92:C:H2'	1:A:93:G:C8	2.44	0.52
1:A:954:G:C5	1:A:955:U:C5	2.97	0.52
2:B:46:LYS:O	2:B:49:GLU:N	2.43	0.52
4:D:198:VAL:HG12	4:D:199:ASN:H	1.75	0.52
8:H:133:LEU:HD23	8:H:133:LEU:O	2.09	0.52
1:A:1321:C:C6	1:A:1322:C:C5	2.98	0.51
1:A:1349:A:H2'	1:A:1350:A:C8	2.36	0.51
1:A:1449:C:H2'	1:A:1450:U:H5'	1.92	0.51
1:A:62:U:H5''	1:A:385:C:O2	2.10	0.51
1:A:397:A:H5'	1:A:398:C:OP1	2.09	0.51
1:A:449:C:C5	1:A:450:G:N7	2.78	0.51
1:A:637:G:O2'	1:A:638:G:H5'	2.10	0.51
1:A:658:G:H2'	1:A:659:U:H6	1.75	0.51
1:A:691:G:H2'	1:A:692:U:H6	1.75	0.51
1:A:701:C:O2'	1:A:702:A:OP2	2.23	0.51
1:A:76:C:O2'	1:A:77:G:C5'	2.55	0.51
1:A:830:G:H2'	1:A:831:U:O4'	2.10	0.51
2:B:155:LEU:HD22	2:B:157:ARG:O	2.09	0.51
5:E:115:VAL:HG11	5:E:118:ILE:HD12	1.90	0.51
17:Q:100:LYS:N	17:Q:100:LYS:HD2	2.24	0.51
1:A:1047:G:H5''	14:N:4:LYS:HD2	1.92	0.51
1:A:1121:U:H2'	1:A:1122:U:C6	2.45	0.51
1:A:1326:C:OP2	21:V:6:ARG:NH1	2.43	0.51
1:A:149:A:N3	1:A:150:C:C5	2.79	0.51
1:A:246:A:O3'	1:A:247:G:H4'	2.10	0.51
1:A:293:G:C5	1:A:294:U:C4	2.98	0.51
1:A:605:U:O4	1:A:606:G:C6	2.63	0.51
1:A:786:G:C2	1:A:787:A:C4	2.97	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:794:A:C4	1:A:795:C:C5	2.99	0.51
1:A:993:G:O2'	1:A:994:A:OP1	2.27	0.51
2:B:13:ALA:C	2:B:15:VAL:N	2.64	0.51
3:C:203:PHE:CD1	3:C:204:LEU:N	2.79	0.51
6:F:45:LEU:HA	6:F:58:GLY:O	2.10	0.51
10:J:49:VAL:HG13	14:N:41:ARG:HB2	1.92	0.51
1:A:1095:U:P	1:A:1108:G:H1	2.33	0.51
1:A:1297:C:O2'	1:A:1298:C:OP2	2.25	0.51
1:A:1350:A:H2'	1:A:1351:U:C6	2.45	0.51
1:A:1366:C:H2'	1:A:1367:C:H6	1.75	0.51
1:A:291:C:O2'	1:A:292:G:H5'	2.11	0.51
1:A:359:U:O2'	1:A:360:A:H5'	2.09	0.51
1:A:437:U:O2'	4:D:123:HIS:HD2	1.93	0.51
1:A:448:A:N7	1:A:487:A:C5	2.79	0.51
1:A:527:G:C2	1:A:528:C:C6	2.98	0.51
1:A:742:G:O2'	1:A:743:U:H5'	2.10	0.51
1:A:983:A:H3'	1:A:984:C:H5'	1.93	0.51
6:F:67:MET:HB2	6:F:68:PRO:CD	2.39	0.51
10:J:40:LEU:HB3	10:J:41:PRO:CB	2.41	0.51
10:J:84:GLN:O	10:J:88:LEU:HD12	2.10	0.51
10:J:8:LEU:HD23	10:J:96:ILE:HG12	1.93	0.51
12:L:28:LYS:HD2	12:L:33:ARG:NH2	2.21	0.51
13:M:69:GLU:O	13:M:72:ALA:HB3	2.09	0.51
1:A:1028:C:C5'	1:A:1028:C:H6	2.22	0.51
1:A:1248:A:H2'	1:A:1249:C:C6	2.43	0.51
1:A:1300:G:C2'	1:A:1301:U:OP2	2.59	0.51
1:A:926:G:C5	1:A:1505:G:C2	2.98	0.51
1:A:1527:C:O2'	1:A:1528:U:H5'	2.11	0.51
1:A:176:C:H2'	1:A:177:C:H6	1.75	0.51
1:A:415:A:C6	1:A:416:G:C6	2.98	0.51
1:A:41:G:O2'	1:A:42:G:H5'	2.11	0.51
1:A:829:G:C2	1:A:830:G:C8	2.99	0.51
1:A:974:A:OP1	14:N:29:ARG:NH2	2.44	0.51
6:F:82:ARG:HE	6:F:82:ARG:HA	1.74	0.51
9:I:89:ASN:HB3	9:I:92:TYR:CD1	2.45	0.51
1:A:1150:U:O2'	10:J:40:LEU:O	2.26	0.51
14:N:36:PHE:O	14:N:36:PHE:CD1	2.63	0.51
16:P:62:VAL:O	16:P:62:VAL:HG12	2.11	0.51
17:Q:11:VAL:HG11	17:Q:22:LEU:HB2	1.92	0.51
19:S:17:GLU:HA	19:S:20:LEU:HG	1.93	0.51
1:A:1161:C:H2'	1:A:1162:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1222:G:C6	1:A:1223:C:C4	2.99	0.51
1:A:1249:C:O2	1:A:1249:C:H2'	2.09	0.51
1:A:1374:A:H2'	1:A:1375:A:H8	1.74	0.51
1:A:1463:C:O2'	1:A:1464:G:H5'	2.11	0.51
1:A:321:A:N3	1:A:322:C:C6	2.78	0.51
1:A:414:A:C2	1:A:415:A:C8	2.99	0.51
1:A:428:G:C5	1:A:430:A:C6	2.99	0.51
1:A:583:A:H1'	1:A:759:A:N6	2.25	0.51
1:A:602:A:H2'	1:A:603:U:C6	2.45	0.51
1:A:995:C:H2'	1:A:995:C:O2	2.11	0.51
4:D:33:MET:SD	4:D:37:PRO:HA	2.49	0.51
6:F:76:ALA:O	6:F:79:LEU:N	2.43	0.51
8:H:100:ILE:HG22	8:H:125:ARG:NH2	2.25	0.51
11:K:69:ALA:O	11:K:73:MET:HG2	2.11	0.51
13:M:66:LEU:O	13:M:70:LEU:N	2.33	0.51
1:A:1057:G:H5''	3:C:154:SER:CB	2.36	0.51
1:A:1128:C:O2'	1:A:1129:C:P	2.69	0.51
1:A:1251:A:C2'	1:A:1252:A:H8	2.24	0.51
1:A:1301:U:C4	1:A:1303:C:N1	2.79	0.51
1:A:1350:A:C6	1:A:1351:U:C4	2.99	0.51
1:A:1486:G:C2'	1:A:1487:G:O4'	2.58	0.51
1:A:176:C:O2	1:A:177:C:C6	2.63	0.51
1:A:383:A:C2'	1:A:384:G:H5'	2.35	0.51
1:A:428:G:O4'	1:A:430:A:C8	2.63	0.51
1:A:458:C:C4	1:A:459:G:N7	2.79	0.51
1:A:447:G:C2'	1:A:485:G:H22	2.13	0.51
1:A:656:C:H2'	1:A:657:G:O5'	2.10	0.51
1:A:858:G:O2'	1:A:859:A:H5'	2.10	0.51
1:A:947:G:C5	1:A:948:C:C5	2.99	0.51
15:O:39:LEU:CD1	15:O:56:LEU:HB2	2.40	0.51
1:A:1111:A:N1	3:C:177:THR:HG23	2.25	0.51
1:A:132:C:O2'	1:A:133:U:H5'	2.11	0.51
1:A:1475:G:C4	1:A:1476:G:C8	2.99	0.51
1:A:32:A:H2'	1:A:33:A:C8	2.45	0.51
1:A:529:G:H4'	1:A:533:A:C2	2.46	0.51
1:A:703:G:OP2	1:A:703:G:C3'	2.58	0.51
1:A:75:G:O2'	1:A:76:C:C5'	2.57	0.51
4:D:59:ARG:HH11	4:D:59:ARG:HG2	1.76	0.51
6:F:65:VAL:HG23	6:F:67:MET:HG2	1.93	0.51
7:G:135:VAL:O	7:G:138:LYS:HB3	2.11	0.51
8:H:48:TYR:HA	8:H:60:ARG:O	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:81:LEU:CD2	13:M:81:LEU:N	2.68	0.51
1:A:1088:G:C6	1:A:1089:G:N7	2.79	0.51
1:A:1169:A:O5'	1:A:1169:A:H8	1.93	0.51
1:A:1287:A:N6	1:A:1288:A:N6	2.59	0.51
1:A:1346:A:N1	1:A:1374:A:H5''	2.26	0.51
1:A:1360:A:H2'	1:A:1361:G:C8	2.46	0.51
1:A:286:G:C6	1:A:287:U:C4	2.99	0.51
1:A:926:G:C8	1:A:1505:G:N2	2.79	0.51
3:C:55:VAL:O	3:C:55:VAL:HG12	2.11	0.51
7:G:45:ASP:O	7:G:49:ILE:HG13	2.11	0.51
11:K:16:SER:HA	11:K:79:SER:O	2.11	0.51
13:M:106:ASN:HA	13:M:108:ARG:NE	2.26	0.51
13:M:37:THR:HG21	13:M:39:ILE:HD11	1.92	0.51
1:A:1310:G:C5'	13:M:77:ASN:ND2	2.74	0.51
14:N:54:PRO:C	14:N:56:VAL:H	2.14	0.51
20:T:66:ALA:HB1	20:T:71:THR:HB	1.92	0.51
20:T:72:LEU:O	20:T:74:LYS:N	2.44	0.51
1:A:1060:C:C2	1:A:1198:G:N2	2.79	0.51
1:A:1061:G:H2'	1:A:1062:U:H5'	1.93	0.51
1:A:1061:G:H22	1:A:1197:G:H1'	1.73	0.51
1:A:1291:G:N3	1:A:1292:U:C5	2.78	0.51
1:A:1325:C:H2'	1:A:1326:C:H6	1.76	0.51
1:A:1375:A:H2'	1:A:1376:U:O4'	2.11	0.51
1:A:1501:C:N3	1:A:1504:G:C6	2.79	0.51
1:A:1508:G:HO2'	1:A:1509:C:H5'	1.75	0.51
1:A:153:C:N3	1:A:169:C:N4	2.59	0.51
1:A:14:U:N3	1:A:17:U:OP2	2.44	0.51
1:A:23:C:C2	1:A:24:U:C6	2.99	0.51
1:A:357:G:N1	1:A:358:U:C4	2.79	0.51
1:A:408:A:O2'	1:A:409:G:H5'	2.11	0.51
1:A:746:A:H2'	1:A:747:C:H6	1.76	0.51
1:A:754:C:OP1	15:O:72:ARG:NH2	2.44	0.51
1:A:715:A:OP1	1:A:805:C:H1'	2.11	0.51
1:A:88:A:C2'	1:A:89:C:O5'	2.58	0.51
1:A:947:G:C6	1:A:948:C:C4	2.99	0.51
4:D:200:GLU:O	4:D:203:VAL:HB	2.11	0.51
12:L:119:LYS:O	12:L:120:TYR:HB2	2.11	0.51
16:P:20:VAL:HG21	16:P:32:TYR:CD2	2.45	0.51
1:A:1049:U:H4'	1:A:1050:G:OP2	2.11	0.51
1:A:1157:A:H1'	1:A:1181:G:H22	1.76	0.51
1:A:1257:U:O2'	1:A:1258:G:OP2	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1385:G:H2'	1:A:1386:G:O4'	2.10	0.51
1:A:296:U:H2'	1:A:297:G:C8	2.46	0.51
1:A:397:A:N6	1:A:548:G:N7	2.59	0.51
1:A:531:U:H4'	1:A:532:A:C5'	2.41	0.51
1:A:544:G:C5	1:A:545:C:H5	2.27	0.51
1:A:544:G:C4	1:A:545:C:C6	2.98	0.51
1:A:607:A:H2'	1:A:608:A:H5'	1.92	0.51
1:A:806:C:O2'	1:A:807:A:H5'	2.11	0.51
1:A:547:A:OP1	4:D:3:ARG:NH2	2.44	0.51
7:G:75:VAL:HG11	7:G:86:GLN:HB3	1.91	0.51
1:A:1347:G:N7	9:I:107:ARG:HB3	2.23	0.51
1:A:704:A:N6	11:K:42:TRP:CZ2	2.79	0.51
15:O:29:VAL:O	15:O:30:ALA:C	2.48	0.51
15:O:87:ILE:HG22	15:O:88:ARG:N	2.26	0.51
16:P:20:VAL:HG21	16:P:32:TYR:CB	2.41	0.51
1:A:1047:G:H2'	1:A:1048:G:C5'	2.36	0.50
1:A:1054:C:C3'	1:A:1054:C:C6	2.93	0.50
1:A:1054:C:H3'	1:A:1054:C:C6	2.46	0.50
1:A:1257:U:O2'	1:A:1258:G:P	2.69	0.50
1:A:20:U:O2'	1:A:21:G:H5'	2.11	0.50
1:A:792:A:O2'	1:A:793:U:P	2.69	0.50
1:A:859:A:C2'	1:A:860:A:H5'	2.40	0.50
3:C:121:ALA:HB2	3:C:187:ALA:HB1	1.92	0.50
5:E:136:MET:C	5:E:138:ALA:N	2.62	0.50
9:I:16:ARG:HB2	9:I:64:THR:HB	1.93	0.50
1:A:948:C:C4	13:M:106:ASN:ND2	2.79	0.50
20:T:33:ILE:CD1	20:T:63:ILE:HA	2.38	0.50
1:A:1003:G:C4	1:A:1003(A):G:C8	2.99	0.50
1:A:1064:G:C2	1:A:1066:C:N4	2.79	0.50
1:A:1397:C:H4'	1:A:1398:A:OP2	2.11	0.50
1:A:164:U:O2'	1:A:165:C:H5'	2.10	0.50
1:A:346:G:C2'	1:A:347:G:H5'	2.40	0.50
1:A:517:G:N1	1:A:533:A:OP2	2.43	0.50
1:A:683:G:C6	1:A:684:A:C6	2.98	0.50
1:A:665:A:H2'	1:A:732:C:O2	2.10	0.50
1:A:781:A:C8	1:A:802:A:C2	2.99	0.50
1:A:973:G:O5'	1:A:973:G:H8	1.93	0.50
1:A:98:U:O2'	1:A:99:C:H5'	2.11	0.50
2:B:125:PRO:O	2:B:127:ILE:N	2.44	0.50
3:C:22:TRP:CZ3	3:C:24:ALA:HB2	2.46	0.50
8:H:52:ASP:HA	8:H:56:LYS:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:46:ALA:O	9:I:49:PRO:HD2	2.10	0.50
1:A:537:G:OP1	12:L:113:ARG:NH2	2.45	0.50
13:M:4:ILE:HG23	13:M:7:VAL:HA	1.94	0.50
1:A:1179:A:C2'	1:A:1180:A:H5'	2.41	0.50
1:A:1237:C:C6	1:A:1336:C:N4	2.80	0.50
1:A:1394:A:C5	1:A:1501:C:H4'	2.46	0.50
1:A:147:G:C2	1:A:148:G:C8	3.00	0.50
1:A:236:G:C6	1:A:237:C:C4	2.98	0.50
1:A:450:G:C5'	1:A:451:A:H3'	2.32	0.50
1:A:507:C:H2'	1:A:508:C:C6	2.47	0.50
1:A:533:A:C5	1:A:536:C:N4	2.80	0.50
1:A:892:A:C2	1:A:907:A:C4	3.00	0.50
1:A:975:A:O2'	14:N:32:SER:HB2	2.11	0.50
2:B:51:LEU:HD21	2:B:217:ARG:NH2	2.26	0.50
5:E:99:GLY:O	5:E:101:ILE:HG13	2.11	0.50
5:E:133:TYR:O	5:E:136:MET:HB2	2.10	0.50
10:J:7:LYS:HA	10:J:71:LEU:HD22	1.94	0.50
12:L:55:VAL:HG12	12:L:56:ALA:N	2.26	0.50
15:O:81:LEU:O	15:O:81:LEU:HD22	2.11	0.50
17:Q:82:MET:O	17:Q:85:VAL:N	2.45	0.50
1:A:114:U:H2'	1:A:115:G:C8	2.46	0.50
1:A:1331:G:C2'	1:A:1332:A:OP2	2.59	0.50
1:A:235:C:H2'	1:A:236:G:H8	1.77	0.50
1:A:453:A:C2	1:A:454:C:C2	2.99	0.50
1:A:506:G:H2'	1:A:507:C:C6	2.46	0.50
1:A:543:C:O2'	1:A:544:G:H5'	2.11	0.50
1:A:622:A:H3'	1:A:623:C:H6	1.76	0.50
1:A:625:G:C5	1:A:626:U:C5	2.99	0.50
1:A:746:A:H2'	1:A:747:C:C5'	2.42	0.50
1:A:876:G:C6	1:A:877:C:N4	2.78	0.50
1:A:905:U:C2'	1:A:906:G:H5'	2.42	0.50
1:A:92:C:O2'	1:A:93:G:H5'	2.11	0.50
5:E:127:ASN:O	5:E:128:PRO:C	2.49	0.50
13:M:56:LEU:O	13:M:60:VAL:HG23	2.11	0.50
1:A:1320:C:C2	19:S:72:GLY:HA3	2.47	0.50
1:A:1305:G:OP1	21:V:2:GLY:N	2.44	0.50
1:A:1004:A:C6	1:A:1026:G:H1'	2.45	0.50
1:A:1007:C:C2	1:A:1008:C:C5	3.00	0.50
1:A:1090:U:C2'	1:A:1091:U:H5'	2.41	0.50
1:A:1329:A:P	13:M:28:ALA:HB3	2.52	0.50
1:A:149:A:C2	1:A:150:C:C6	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1518:A:H2'	1:A:1519:A:N9	2.25	0.50
1:A:184:G:O2'	1:A:185:A:H5'	2.11	0.50
1:A:223:U:C5'	20:T:68:LYS:HZ2	2.24	0.50
1:A:24:U:H2'	1:A:24:U:O2	2.12	0.50
1:A:257:G:C6	1:A:270:A:N1	2.79	0.50
1:A:391:G:C5	1:A:392:G:C8	3.00	0.50
1:A:452:A:C2	1:A:453:A:C8	3.00	0.50
1:A:577:G:C4	1:A:816:A:C2	3.00	0.50
1:A:608:A:C2	1:A:609:A:N9	2.79	0.50
1:A:654:G:C6	1:A:655:A:C5	3.00	0.50
1:A:746:A:C2'	1:A:747:C:C5'	2.88	0.50
2:B:17:PHE:HD1	2:B:18:GLY:N	2.09	0.50
3:C:73:PRO:C	3:C:75:VAL:H	2.15	0.50
13:M:84:ILE:HD13	19:S:66:MET:HB2	1.94	0.50
1:A:1206:G:O6	1:A:1207:G:C6	2.64	0.50
1:A:1317:C:C6	14:N:16:PHE:CD2	2.99	0.50
1:A:1371:G:C4	1:A:1372:U:C5	3.00	0.50
1:A:384:G:H2'	1:A:385:C:H6	1.76	0.50
1:A:509:A:H5'	4:D:54:TYR:CD2	2.46	0.50
1:A:533:A:C8	1:A:536:C:N4	2.80	0.50
1:A:542:G:O2'	1:A:543:C:H5'	2.12	0.50
1:A:57:G:C6	1:A:58:C:C4	2.99	0.50
1:A:819:A:H5''	1:A:820:U:OP2	2.11	0.50
1:A:948:C:OP1	13:M:109:THR:HB	2.11	0.50
3:C:156:ARG:H	3:C:163:ALA:HA	1.77	0.50
4:D:4:TYR:CD2	4:D:5:ILE:N	2.80	0.50
10:J:57:LYS:HG3	10:J:58:ASP:N	2.27	0.50
12:L:6:THR:HG23	12:L:9:GLN:OE1	2.11	0.50
1:A:1306:A:H62	1:A:1331:G:H1'	1.76	0.50
1:A:1325:C:C2	1:A:1326:C:C5	3.00	0.50
1:A:67:C:O2'	1:A:171:A:H1'	2.12	0.50
1:A:178:C:H2'	1:A:179:A:C8	2.34	0.50
1:A:264:U:O4	1:A:265:G:C5	2.65	0.50
1:A:115:G:C2	1:A:313:A:N3	2.80	0.50
1:A:384:G:H2'	1:A:385:C:C6	2.47	0.50
1:A:452:A:N3	1:A:453:A:N9	2.60	0.50
1:A:448:A:C6	1:A:487:A:C4	2.99	0.50
1:A:662:G:N2	1:A:663:A:C4	2.80	0.50
1:A:720:C:C2	1:A:721:G:N7	2.80	0.50
1:A:796:C:H6	1:A:796:C:O5'	1.94	0.50
1:A:568:G:N2	1:A:883:C:C5	2.80	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:950:U:H3'	13:M:102:ARG:HH22	1.77	0.50
4:D:104:VAL:HG11	4:D:146:ILE:CD1	2.23	0.50
9:I:89:ASN:O	9:I:92:TYR:HB2	2.11	0.50
1:A:949:A:C2	1:A:1233:G:N3	2.80	0.50
1:A:1261:A:H62	1:A:1274:G:H21	1.60	0.50
1:A:1303:C:C4	1:A:1304:G:C5	2.99	0.50
1:A:1400:C:C4'	1:A:1401:G:OP2	2.52	0.50
1:A:1417:G:N2	1:A:1484:C:N4	2.60	0.50
1:A:227:G:H2'	1:A:228:A:C8	2.47	0.50
1:A:404:U:C2	1:A:405:U:C5	2.99	0.50
1:A:487:A:C2'	1:A:488:C:H5'	2.42	0.50
1:A:439:A:C5	1:A:497:A:C2	3.00	0.50
1:A:53:A:C6	1:A:54:C:C2	3.00	0.50
1:A:724:G:C2	1:A:725:G:N7	2.80	0.50
1:A:909:A:OP1	12:L:21:LYS:HD3	2.12	0.50
1:A:949:A:H2'	1:A:950:U:H6	1.75	0.50
17:Q:40:LYS:HD3	17:Q:42:TYR:OH	2.12	0.50
17:Q:60:ILE:O	17:Q:71:PHE:HD1	1.94	0.50
1:A:263:A:OP2	20:T:79:ARG:NH1	2.45	0.50
1:A:1030(B):C:C3'	1:A:1030(C):G:C5'	2.87	0.50
1:A:1135:U:H6	1:A:1135:U:O5'	1.95	0.50
1:A:1288:A:N1	1:A:1289:A:C6	2.80	0.50
1:A:1374:A:C5	1:A:1375:A:N7	2.80	0.50
1:A:142:G:N2	1:A:222:U:C2	2.79	0.50
1:A:1451:A:O2'	1:A:1452:C:P	2.70	0.50
1:A:219:C:C4	1:A:220:G:N7	2.80	0.50
1:A:282:A:C8	1:A:283:C:C5	3.00	0.50
1:A:485:G:O2'	1:A:486:U:OP2	2.30	0.50
1:A:981:U:N1	1:A:982:U:C5	2.79	0.50
10:J:82:ILE:O	10:J:86:MET:HB2	2.11	0.50
10:J:47:PHE:CZ	14:N:37:PHE:CE1	3.00	0.50
17:Q:53:LEU:HD12	17:Q:54:GLY:H	1.77	0.50
20:T:13:LEU:HD12	20:T:13:LEU:O	2.12	0.50
1:A:1225:A:H5'	13:M:103:THR:HG23	1.93	0.49
1:A:1325:C:C2'	1:A:1326:C:H5'	2.42	0.49
1:A:1402:C:C2	1:A:1403:C:C5	3.00	0.49
1:A:1501:C:C4	1:A:1504:G:C4	3.00	0.49
1:A:329:A:C2	1:A:332:G:C8	3.00	0.49
1:A:355:C:C2	1:A:356:A:C8	3.00	0.49
1:A:482:A:N1	1:A:483:C:O2	2.45	0.49
1:A:592:G:C6	1:A:648:A:C6	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:664:G:P	18:R:64:ARG:HH11	2.35	0.49
1:A:673:G:O3'	6:F:87:ARG:NH2	2.45	0.49
1:A:859:A:N7	1:A:860:A:N7	2.60	0.49
1:A:877:C:O2	8:H:3:THR:HG21	2.11	0.49
1:A:949:A:H2'	1:A:950:U:O5'	2.12	0.49
1:A:958:A:N6	1:A:959:A:N1	2.60	0.49
10:J:71:LEU:HD13	10:J:72:VAL:N	2.27	0.49
16:P:49:LEU:HD12	16:P:50:LYS:H	1.77	0.49
1:A:1011:G:C6	1:A:1012:U:C4	3.00	0.49
1:A:1028:C:C2	1:A:1034:G:N2	2.80	0.49
1:A:1054:C:H3'	1:A:1054:C:H6	1.76	0.49
1:A:1121:U:O2'	1:A:1122:U:H5'	2.11	0.49
1:A:1238:A:N7	1:A:1303:C:H1'	2.27	0.49
1:A:1354:C:O2'	1:A:1355:G:H5'	2.12	0.49
1:A:386:C:O2'	1:A:387:U:H5'	2.10	0.49
1:A:568:G:N2	1:A:883:C:C2	2.80	0.49
1:A:760:G:N2	17:Q:94:ASN:OD1	2.45	0.49
1:A:786:G:C6	1:A:787:A:C6	2.99	0.49
1:A:75:G:C6	1:A:96:G:C6	3.00	0.49
3:C:6:HIS:CD2	3:C:8:ILE:HB	2.46	0.49
7:G:79:ARG:HA	7:G:83:ALA:O	2.12	0.49
13:M:66:LEU:O	13:M:70:LEU:HB2	2.12	0.49
19:S:51:VAL:O	19:S:58:VAL:N	2.45	0.49
1:A:1055:A:O2'	3:C:156:ARG:NH1	2.46	0.49
1:A:1330:U:C5'	13:M:23:TYR:O	2.59	0.49
1:A:1351:U:O2'	1:A:1352:C:H5'	2.12	0.49
1:A:518:C:H5''	1:A:519:C:C6	2.47	0.49
1:A:602:A:C4	1:A:603:U:C6	3.00	0.49
1:A:797:C:O2'	1:A:798:G:C5'	2.60	0.49
1:A:826:C:H5'	8:H:12:ARG:NH2	2.27	0.49
1:A:919:A:C2'	1:A:920:U:H5'	2.42	0.49
3:C:173:VAL:N	3:C:174:PRO:CD	2.75	0.49
7:G:16:LEU:H	7:G:16:LEU:CD2	2.22	0.49
1:A:1054:C:C2'	1:A:1055:A:H5''	2.40	0.49
1:A:1071:C:H2'	1:A:1072:G:C8	2.47	0.49
1:A:1060:C:C2	1:A:1198:G:C2	3.00	0.49
1:A:1402:C:N3	1:A:1403:C:C5	2.81	0.49
1:A:479:C:O2'	1:A:480:U:H5'	2.12	0.49
1:A:565:U:C5	1:A:566:G:C4	3.00	0.49
6:F:11:ASN:OD1	6:F:13:ASN:N	2.46	0.49
7:G:115:ARG:O	7:G:118:VAL:HB	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.94	0.49
19:S:22:LEU:CD2	19:S:28:LYS:HD2	2.42	0.49
1:A:1221:G:O2'	19:S:77:THR:HG21	2.12	0.49
1:A:1093:A:N3	1:A:1095:U:H5'	2.28	0.49
1:A:1240:U:H5''	1:A:1241:G:C8	2.48	0.49
1:A:128:G:O3'	17:Q:3:LYS:NZ	2.44	0.49
1:A:1309:G:C6	1:A:1329:A:C2	3.01	0.49
1:A:226:G:C5	1:A:227:G:C8	3.00	0.49
1:A:49:U:H5	1:A:365:U:O4	1.95	0.49
1:A:41:G:C2	1:A:42:G:C5	3.01	0.49
1:A:452:A:O2'	1:A:453:A:O4'	2.29	0.49
1:A:502:G:H2'	1:A:503:C:O4'	2.11	0.49
1:A:964:A:O2'	10:J:55:LYS:HE3	2.13	0.49
3:C:154:SER:HB3	3:C:197:GLY:N	2.26	0.49
12:L:45:PRO:HB2	12:L:49:ASN:O	2.12	0.49
1:A:1083:U:C4	1:A:1084:G:N1	2.81	0.49
1:A:1126:U:HO2'	1:A:1127:G:P	2.35	0.49
1:A:1437:C:H2'	1:A:1438:G:H8	1.78	0.49
1:A:926:G:H2'	1:A:1505:G:N3	2.28	0.49
1:A:1521:G:C5	1:A:1522:U:C5	3.01	0.49
1:A:311:C:O2'	1:A:312:C:H5'	2.11	0.49
1:A:435:C:N3	1:A:436:C:C5	2.81	0.49
1:A:540:G:H2'	1:A:541:G:C5'	2.43	0.49
1:A:616:G:C2	1:A:625:G:C6	3.01	0.49
1:A:633:G:O6	1:A:634:C:N4	2.46	0.49
1:A:819:A:H4'	1:A:820:U:OP2	2.10	0.49
1:A:892:A:C5	1:A:893:C:C4	3.00	0.49
2:B:30:ARG:HG3	2:B:31:TYR:CD2	2.47	0.49
8:H:11:THR:O	8:H:15:ASN:HB2	2.12	0.49
12:L:84:LEU:O	12:L:100:ILE:HA	2.13	0.49
12:L:85:ILE:HA	12:L:99:HIS:O	2.12	0.49
17:Q:27:PHE:HB2	17:Q:28:PRO:HD2	1.94	0.49
1:A:960:U:N3	1:A:1225:A:C5	2.81	0.49
1:A:261:U:C5	20:T:79:ARG:NH1	2.81	0.49
1:A:344:A:H8	1:A:344:A:O5'	1.96	0.49
1:A:448:A:C5	1:A:487:A:N3	2.81	0.49
1:A:607:A:C2	1:A:608:A:C1'	2.95	0.49
1:A:651:C:N3	1:A:652:U:C4	2.80	0.49
1:A:969:A:H2'	1:A:970:C:C5'	2.42	0.49
1:A:989:C:O2'	1:A:990:C:H5'	2.12	0.49
1:A:403:C:O2'	4:D:122:ARG:NH2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:125:HIS:C	4:D:126:ILE:HD13	2.33	0.49
4:D:134:ASP:O	4:D:136:PRO:HD3	2.13	0.49
1:A:933:G:OP1	7:G:4:ARG:NE	2.46	0.49
8:H:75:ARG:HA	8:H:76:PRO:HD3	1.52	0.49
8:H:4:ASP:O	8:H:7:ALA:HB3	2.13	0.49
1:A:1347:G:H8	9:I:107:ARG:HB3	1.70	0.49
19:S:13:ASP:O	19:S:17:GLU:HG2	2.12	0.49
20:T:54:LYS:HG3	20:T:100:ILE:HD11	1.95	0.49
20:T:67:ALA:HB2	20:T:77:ALA:HB2	1.94	0.49
1:A:1305:G:OP2	1:A:1305:G:C8	2.66	0.49
1:A:1305:G:O2'	1:A:1306:A:C8	2.64	0.49
1:A:176:C:O2'	1:A:177:C:H5'	2.13	0.49
1:A:236:G:C5	1:A:237:C:C5	3.00	0.49
1:A:556:C:C2'	1:A:557:G:C5'	2.86	0.49
1:A:57:G:C4	1:A:58:C:C6	3.00	0.49
1:A:655:A:C2	1:A:656:C:C2	3.00	0.49
1:A:722:A:C4	1:A:724:G:C8	3.00	0.49
1:A:766:A:C8	1:A:814:A:C6	3.01	0.49
1:A:919:A:H2'	1:A:920:U:H5'	1.95	0.49
1:A:949:A:N1	1:A:1233:G:C4	2.81	0.49
1:A:949:A:C8	1:A:950:U:C5	3.00	0.49
8:H:6:ILE:HD11	8:H:31:PHE:CE2	2.47	0.49
8:H:97:VAL:HG13	8:H:98:LYS:N	2.28	0.49
9:I:79:LEU:O	9:I:82:ALA:HB3	2.12	0.49
15:O:75:PRO:HG2	15:O:76:GLU:N	2.27	0.49
1:A:110:C:H2'	1:A:111:G:O4'	2.13	0.49
1:A:131:C:H2'	1:A:132:C:C6	2.48	0.49
1:A:1526:G:H8	1:A:1526:G:O5'	1.96	0.49
1:A:176:C:C2	1:A:177:C:C6	3.01	0.49
1:A:246:A:C5	1:A:279:A:C6	3.00	0.49
1:A:293:G:N3	1:A:294:U:C6	2.81	0.49
1:A:344:A:C8	1:A:344:A:O5'	2.65	0.49
1:A:54:C:O2	1:A:358:U:N3	2.46	0.49
1:A:520:A:H2'	1:A:521:G:O4'	2.13	0.49
1:A:521:G:O2'	1:A:522:C:H5'	2.13	0.49
1:A:642:A:C6	1:A:643:C:N4	2.79	0.49
1:A:692:U:O2	1:A:694:A:H5"	2.13	0.49
1:A:827:U:H5"	1:A:828:A:OP2	2.13	0.49
1:A:895:G:H2'	1:A:896:C:C6	2.45	0.49
2:B:144:ARG:O	2:B:147:LYS:HB2	2.13	0.49
2:B:31:TYR:N	2:B:31:TYR:CD2	2.79	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:170:VAL:CG2	4:D:176:LEU:HD22	2.40	0.49
4:D:67:ILE:HG22	4:D:68:TYR:CD1	2.47	0.49
1:A:134:A:C5	1:A:135:C:C4	3.00	0.49
1:A:274:A:O2'	1:A:275:G:H8	1.95	0.49
1:A:277:C:H5'	17:Q:68:ARG:HH12	1.78	0.49
1:A:400:C:O2'	1:A:401:C:H5'	2.13	0.49
1:A:410:G:H2'	1:A:429:U:C5	2.47	0.49
1:A:440:A:H5'	1:A:442:C:OP2	2.13	0.49
1:A:484:G:O4'	1:A:486:U:H6	1.96	0.49
1:A:509:A:C8	1:A:509:A:C4'	2.96	0.49
1:A:571:U:C3'	1:A:572:A:C5'	2.90	0.49
1:A:650:G:N1	1:A:651:C:C5	2.80	0.49
1:A:656:C:H6	1:A:656:C:C3'	2.19	0.49
1:A:662:G:H2'	1:A:663:A:C8	2.46	0.49
1:A:724:G:C2	1:A:725:G:C5	3.01	0.49
1:A:741:G:C2'	1:A:742:G:H5'	2.43	0.49
1:A:947:G:C6	1:A:948:C:N4	2.81	0.49
2:B:74:LYS:NZ	2:B:76:GLN:HG2	2.27	0.49
11:K:75:TYR:N	11:K:75:TYR:CD1	2.81	0.49
17:Q:60:ILE:C	17:Q:60:ILE:HD13	2.33	0.49
20:T:18:GLN:O	20:T:21:LYS:HB2	2.13	0.49
1:A:1159:U:H5	1:A:1182:G:H2'	1.78	0.48
1:A:1202:G:C2'	1:A:1203:C:C5'	2.89	0.48
1:A:1212:U:OP2	1:A:1212:U:O4'	2.30	0.48
1:A:1316:G:N2	1:A:1318:A:C8	2.81	0.48
1:A:1488:G:C2	1:A:1489:G:C5	3.01	0.48
1:A:1497:G:C4	1:A:1498:U:C5	3.01	0.48
1:A:17:U:H2'	1:A:18:C:O4'	2.13	0.48
1:A:195:A:C2	1:A:222:U:O2	2.63	0.48
1:A:259:G:C2'	1:A:260:G:H8	2.22	0.48
1:A:370:C:C2'	1:A:371:G:C5'	2.91	0.48
1:A:487:A:C2'	1:A:488:C:C5'	2.91	0.48
1:A:738:C:H2'	1:A:739:C:H6	1.78	0.48
1:A:582:U:C2	1:A:760:G:C6	3.01	0.48
1:A:914:A:C6	1:A:915:A:C5	3.01	0.48
2:B:145:LEU:C	2:B:147:LYS:H	2.16	0.48
10:J:47:PHE:HB2	10:J:63:PHE:HB2	1.95	0.48
1:A:1118:C:H2'	1:A:1119:C:O4'	2.13	0.48
1:A:1353:G:N2	1:A:1354:C:C2	2.81	0.48
1:A:1401:G:O6	1:A:1402:C:C4	2.66	0.48
1:A:1454:G:H2'	1:A:1455:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1500:A:OP2	1:A:1505:G:OP2	2.31	0.48
1:A:927:G:H4'	1:A:1503:A:N7	2.28	0.48
1:A:282:A:N7	1:A:283:C:C5	2.80	0.48
1:A:387:U:H6	1:A:387:U:H3'	1.78	0.48
1:A:394:G:N3	1:A:395:C:C6	2.81	0.48
1:A:533:A:O2'	1:A:534:U:P	2.71	0.48
1:A:664:G:H2'	1:A:666:G:OP1	2.13	0.48
1:A:745:C:H2'	1:A:745:C:O2	2.12	0.48
1:A:965:A:O2'	1:A:966:G:OP2	2.26	0.48
3:C:70:VAL:C	3:C:106:VAL:HG23	2.32	0.48
4:D:74:GLN:O	4:D:77:ASN:N	2.47	0.48
8:H:17:THR:O	8:H:20:TYR:N	2.42	0.48
12:L:42:THR:HA	12:L:53:ARG:O	2.13	0.48
13:M:70:LEU:O	13:M:74:VAL:HG23	2.12	0.48
16:P:67:THR:HB	16:P:70:ALA:HB2	1.94	0.48
1:A:1030(C):G:H2'	1:A:1030(D):A:C8	2.48	0.48
1:A:1213:A:C2	1:A:1215:G:H1'	2.47	0.48
1:A:132:C:H2'	1:A:133:U:O4'	2.13	0.48
1:A:1447:G:C5	1:A:1448:C:C5	3.00	0.48
1:A:1495:U:H2'	1:A:1496:C:C6	2.48	0.48
1:A:1496:C:H2'	1:A:1497:G:O4'	2.13	0.48
1:A:180:U:O2'	1:A:181:G:H5'	2.13	0.48
1:A:233:C:H2'	1:A:234:C:C5'	2.44	0.48
1:A:7:G:N1	1:A:298:A:N1	2.61	0.48
1:A:625:G:C4	1:A:626:U:C6	3.00	0.48
1:A:637:G:H2'	1:A:638:G:H8	1.79	0.48
1:A:786:G:N1	1:A:787:A:C4	2.81	0.48
1:A:954:G:C6	1:A:955:U:C4	3.01	0.48
2:B:184:VAL:HG23	2:B:198:ASP:OD2	2.13	0.48
2:B:30:ARG:C	2:B:31:TYR:HD2	2.17	0.48
3:C:66:VAL:O	3:C:101:LEU:HA	2.13	0.48
5:E:12:LEU:C	5:E:12:LEU:HD13	2.33	0.48
7:G:30:ILE:HG21	7:G:42:ILE:HD12	1.95	0.48
1:A:875:C:H1'	8:H:15:ASN:HD21	1.77	0.48
11:K:55:LYS:O	11:K:60:ALA:HB3	2.12	0.48
1:A:501:C:O3'	12:L:118:SER:HB2	2.13	0.48
15:O:2:PRO:HA	15:O:38:ARG:HH12	1.78	0.48
1:A:721:G:OP2	18:R:53:ARG:HG3	2.12	0.48
20:T:56:MET:CE	20:T:85:MET:HA	2.43	0.48
1:A:1040:U:H2'	1:A:1041:A:C8	2.48	0.48
1:A:1073:U:O2'	1:A:1074:G:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1089:G:C6	1:A:1090:U:C4	3.01	0.48
1:A:1326:C:C2	1:A:1327:C:C5	3.01	0.48
1:A:175:C:C2	1:A:176:C:C6	3.01	0.48
1:A:109:A:C6	1:A:326:G:C6	3.01	0.48
1:A:488:C:H6	1:A:488:C:O5'	1.96	0.48
1:A:558:G:H2'	1:A:559:A:C2	2.45	0.48
1:A:663:A:C2	1:A:664:G:C5	3.00	0.48
1:A:683:G:C6	1:A:684:A:C5	3.01	0.48
2:B:28:PHE:CD2	2:B:190:THR:HA	2.48	0.48
3:C:40:ARG:HE	3:C:55:VAL:HB	1.78	0.48
8:H:51:VAL:CG1	8:H:52:ASP:N	2.75	0.48
8:H:20:TYR:HA	8:H:65:TYR:OH	2.13	0.48
1:A:1367:C:H4'	10:J:48:THR:HG21	1.93	0.48
16:P:6:LEU:N	16:P:6:LEU:HD12	2.28	0.48
18:R:35:ARG:O	18:R:37:VAL:HG23	2.14	0.48
1:A:1108:G:N7	1:A:1109:C:C5	2.81	0.48
1:A:1179:A:H5''	9:I:102:LEU:O	2.13	0.48
1:A:300:A:C8	1:A:300:A:H3'	2.49	0.48
1:A:392:G:C6	1:A:393:A:C5	3.01	0.48
1:A:460:A:N7	1:A:462:G:C6	2.81	0.48
1:A:900:A:N6	1:A:901:A:C6	2.82	0.48
1:A:900:A:N6	1:A:901:A:N1	2.61	0.48
8:H:111:ILE:HA	8:H:119:LEU:O	2.12	0.48
19:S:40:ILE:HD11	19:S:74:PHE:HE1	1.78	0.48
1:A:1151:A:C2'	1:A:1152:A:C8	2.97	0.48
1:A:1164:G:C6	1:A:1173:G:C6	3.02	0.48
1:A:1217:C:C5	1:A:1218:C:C5	3.02	0.48
1:A:1475:G:O2'	1:A:1476:G:H5'	2.12	0.48
1:A:374:A:N1	1:A:391:G:O4'	2.46	0.48
1:A:428:G:C4	1:A:430:A:C5	3.01	0.48
1:A:642:A:N3	1:A:643:C:C6	2.81	0.48
1:A:667:G:C2	1:A:740:U:O2	2.66	0.48
1:A:712:A:H2'	1:A:713:G:O4'	2.14	0.48
1:A:872:A:C4	1:A:874:G:N7	2.81	0.48
1:A:811:C:H4'	1:A:900:A:N6	2.29	0.48
1:A:92:C:C2	1:A:93:G:C8	3.01	0.48
1:A:992:U:O2'	1:A:993:G:OP2	2.31	0.48
2:B:115:LEU:HD23	2:B:153:ARG:HE	1.77	0.48
6:F:35:ALA:HB1	6:F:65:VAL:HB	1.96	0.48
7:G:113:GLU:HB2	7:G:119:ARG:HG2	1.95	0.48
1:A:1240:U:OP1	7:G:119:ARG:NH2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:6:LYS:HD2	19:S:7:LYS:H	1.76	0.48
1:A:1061:G:H2'	1:A:1062:U:C5'	2.44	0.48
1:A:1162:C:N3	1:A:1175:G:C2	2.81	0.48
1:A:1258:G:N2	1:A:1259:C:C2	2.82	0.48
1:A:1475:G:H2'	1:A:1476:G:C8	2.45	0.48
1:A:253:U:C2	1:A:254:G:C8	3.02	0.48
1:A:309:G:H2'	1:A:310:G:H8	1.79	0.48
1:A:579:G:N3	1:A:763:G:C2	2.81	0.48
1:A:8:A:H4'	5:E:102:ALA:HA	1.96	0.48
1:A:925:G:N1	1:A:927:G:C5	2.82	0.48
1:A:986:A:C6	1:A:1220:G:C6	3.01	0.48
7:G:40:ALA:CB	9:I:41:VAL:HG21	2.42	0.48
12:L:35:GLY:O	12:L:83:VAL:HG12	2.12	0.48
1:A:1105:A:HO2'	1:A:1106:G:H5'	1.79	0.48
1:A:1151:A:H5''	10:J:42:THR:OG1	2.14	0.48
1:A:1191:A:H2'	1:A:1192:C:H6	1.78	0.48
1:A:1290:G:C5	1:A:1291:G:C8	3.01	0.48
1:A:1388:C:H2'	1:A:1389:C:H6	1.79	0.48
1:A:1460:A:C2	1:A:1461:G:H1'	2.48	0.48
1:A:1480:G:C6	1:A:1481:U:C4	3.02	0.48
1:A:1482:G:HO2'	1:A:1483:A:H8	1.58	0.48
1:A:380:G:C2	1:A:384:G:C6	3.02	0.48
1:A:571:U:H3'	1:A:572:A:H5'	1.95	0.48
1:A:760:G:H2'	1:A:761:G:H5'	1.95	0.48
1:A:818:G:H2'	1:A:819:A:H5''	1.95	0.48
1:A:910:C:O2'	1:A:911:U:H5'	2.14	0.48
1:A:993:G:H4'	1:A:994:A:OP2	2.14	0.48
3:C:23:TYR:CD2	3:C:24:ALA:N	2.82	0.48
8:H:104:ARG:O	8:H:105:ARG:C	2.52	0.48
1:A:362:G:OP1	12:L:61:THR:HG23	2.13	0.48
13:M:117:VAL:HG12	13:M:118:ALA:H	1.78	0.48
13:M:74:VAL:O	13:M:77:ASN:N	2.47	0.48
1:A:1084:G:C5	1:A:1085:U:C4	3.02	0.48
1:A:1212:U:O2'	1:A:1213:A:O5'	2.32	0.48
1:A:1418:A:H2'	1:A:1419:G:O4'	2.14	0.48
1:A:1449:C:C2'	1:A:1450:U:H5'	2.44	0.48
1:A:262:A:OP2	20:T:73:HIS:CG	2.67	0.48
1:A:35:G:C6	1:A:550:G:N1	2.82	0.48
1:A:390:C:H2'	1:A:391:G:C8	2.49	0.48
1:A:513:C:H2'	1:A:514:C:C6	2.48	0.48
1:A:551:U:C2	1:A:552:U:C6	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:577:G:C2	1:A:578:C:C6	3.02	0.48
1:A:4:U:H4'	1:A:5:U:OP2	2.13	0.48
1:A:652:U:O2'	1:A:653:A:H5''	2.13	0.48
1:A:676:A:C5	1:A:677:U:C4	3.02	0.48
1:A:864:A:C2	1:A:865:A:C2	3.01	0.48
2:B:69:LEU:HD23	2:B:91:PRO:O	2.14	0.48
4:D:173:TRP:O	4:D:186:LEU:HB2	2.13	0.48
4:D:39:PRO:HG2	4:D:44:GLY:HA2	1.96	0.48
4:D:59:ARG:CG	4:D:59:ARG:HH11	2.26	0.48
4:D:90:GLY:O	4:D:94:LEU:HD12	2.13	0.48
17:Q:40:LYS:HD3	17:Q:42:TYR:CZ	2.49	0.48
18:R:39:VAL:CG1	18:R:40:LEU:H	2.27	0.48
1:A:1278:U:OP2	1:A:1278:U:C4	2.67	0.48
1:A:1299:A:C4	1:A:1301:U:C2	3.02	0.48
1:A:184:G:C4'	1:A:224:C:H4'	2.44	0.48
1:A:376:G:C4	1:A:389:A:C2	3.02	0.48
1:A:406:G:C5	1:A:496:A:N7	2.82	0.48
1:A:551:U:N3	1:A:552:U:C5	2.81	0.48
1:A:607:A:H2'	1:A:608:A:C5'	2.43	0.48
1:A:664:G:H22	1:A:741:G:H1	1.60	0.48
1:A:781:A:N7	1:A:802:A:C2	2.82	0.48
1:A:98:U:C2	1:A:99:C:C5	3.02	0.48
1:A:9:G:C6	1:A:26:A:C6	3.02	0.48
3:C:130:VAL:HG11	3:C:157:ILE:HG23	1.96	0.48
4:D:176:LEU:HA	4:D:183:GLY:HA2	1.96	0.48
19:S:15:LEU:HD12	19:S:16:LEU:N	2.28	0.48
1:A:1067:A:H1'	1:A:1068:G:O4'	2.14	0.47
1:A:1070:U:O5'	5:E:25:ARG:NH1	2.48	0.47
1:A:1225:A:C5'	1:A:1226:C:OP2	2.62	0.47
1:A:1245:A:C6	1:A:1293:G:C6	3.02	0.47
1:A:1309:G:H2'	1:A:1310:G:O4'	2.15	0.47
1:A:1324:A:N3	1:A:1325:C:C6	2.82	0.47
1:A:1401:G:C2	1:A:1402:C:H1'	2.48	0.47
1:A:148:G:N3	1:A:149:A:C8	2.82	0.47
1:A:190(B):C:H2'	1:A:190(C):C:O4'	2.13	0.47
1:A:423:G:N2	1:A:424:G:C5	2.81	0.47
1:A:433:C:H2'	1:A:434:U:H6	1.78	0.47
1:A:448:A:C6	1:A:487:A:N3	2.82	0.47
1:A:503:C:O2	1:A:510:A:H2	1.95	0.47
1:A:397:A:C6	1:A:548:G:N7	2.82	0.47
1:A:652:U:C5	1:A:752:G:C4	3.01	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:767:A:C2'	1:A:768:A:H8	2.26	0.47
1:A:825:G:C4	1:A:826:C:C6	3.01	0.47
1:A:864:A:H3'	1:A:865:A:C8	2.49	0.47
1:A:898:G:C6	1:A:902:G:O6	2.67	0.47
1:A:92:C:O2'	1:A:93:G:C5'	2.62	0.47
1:A:971:G:H5''	1:A:972:C:H5''	1.95	0.47
5:E:32:VAL:HG12	5:E:33:VAL:H	1.76	0.47
16:P:39:TYR:CZ	16:P:41:PRO:HA	2.49	0.47
20:T:22:ARG:HA	20:T:25:ARG:HB3	1.96	0.47
1:A:1183:A:C2'	1:A:1184:G:OP1	2.63	0.47
1:A:1206:G:C6	1:A:1207:G:C6	3.02	0.47
1:A:1217:C:C5	1:A:1218:C:H5	2.32	0.47
1:A:1358:U:H3'	1:A:1359:C:H6	1.76	0.47
1:A:1251:A:O2'	1:A:1369:C:O2'	2.25	0.47
1:A:1401:G:H5''	1:A:1402:C:OP2	2.14	0.47
1:A:287:U:H2'	1:A:288:A:C8	2.48	0.47
1:A:303:A:N6	1:A:304:U:C4	2.83	0.47
1:A:371:G:C2	1:A:372:C:C5	3.03	0.47
1:A:390:C:O3'	16:P:28:ARG:NH1	2.44	0.47
1:A:443:C:C2	1:A:444:C:C5	3.02	0.47
1:A:512:U:H2'	1:A:513:C:C6	2.49	0.47
1:A:542:G:H2'	1:A:543:C:H6	1.78	0.47
2:B:19:HIS:NE2	2:B:206:ASP:HB3	2.26	0.47
1:A:1189:C:C5'	3:C:5:ILE:HD13	2.28	0.47
5:E:102:ALA:HB2	5:E:120:THR:OG1	2.14	0.47
13:M:50:GLU:O	13:M:53:VAL:HB	2.14	0.47
17:Q:53:LEU:HD12	17:Q:54:GLY:N	2.29	0.47
1:A:1007:C:O2'	1:A:1008:C:H5'	2.14	0.47
1:A:121:C:C5'	1:A:122:G:OP1	2.61	0.47
1:A:1231:G:C5	1:A:1232:U:C5	3.01	0.47
1:A:130:A:C2	1:A:232:G:N2	2.82	0.47
1:A:1306:A:C8	1:A:1332:A:C5	3.02	0.47
1:A:136:C:C2	1:A:137:C:C5	3.03	0.47
1:A:1477:C:H2'	1:A:1478:C:H6	1.80	0.47
1:A:15:G:N3	1:A:16:A:C8	2.82	0.47
1:A:175:C:H2'	1:A:176:C:H6	1.79	0.47
1:A:392:G:N1	1:A:393:A:C5	2.83	0.47
1:A:414:A:OP2	1:A:428:G:N2	2.48	0.47
1:A:42:G:O2'	1:A:43:C:H5'	2.15	0.47
1:A:961:U:C2	1:A:983:A:C2	3.02	0.47
1:A:994:A:C2	1:A:995:C:N1	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:77:ALA:O	2:B:81:VAL:HG23	2.14	0.47
3:C:141:VAL:O	3:C:146:ALA:HB3	2.14	0.47
3:C:59:ARG:HD3	3:C:64:VAL:HG22	1.96	0.47
7:G:30:ILE:H	7:G:30:ILE:HD12	1.80	0.47
11:K:115:PRO:C	11:K:117:ASN:H	2.18	0.47
16:P:4:ILE:HG12	16:P:21:VAL:CG2	2.41	0.47
18:R:29:PHE:HE1	18:R:31:LEU:CD2	2.24	0.47
1:A:1161:C:H2'	1:A:1162:C:H6	1.79	0.47
1:A:1221:G:O2'	19:S:77:THR:CG2	2.62	0.47
1:A:1500:A:C2	1:A:1501:C:C2	3.03	0.47
1:A:1521:G:O2'	1:A:1522:U:H5'	2.14	0.47
1:A:245:C:O2	1:A:283:C:N3	2.47	0.47
1:A:408:A:H2'	1:A:409:G:C5'	2.45	0.47
1:A:450:G:OP1	1:A:452:A:OP2	2.32	0.47
1:A:558:G:C8	1:A:559:A:C2	3.03	0.47
1:A:614:A:C6	1:A:627:G:C6	3.02	0.47
1:A:718:G:C8	11:K:116:HIS:HB3	2.48	0.47
1:A:874:G:C6	1:A:875:C:C4	3.02	0.47
1:A:940:C:HO2'	1:A:941:G:H5'	1.73	0.47
2:B:10:LEU:HB2	2:B:12:GLU:HG3	1.97	0.47
2:B:10:LEU:HD12	2:B:10:LEU:H	1.79	0.47
2:B:170:GLU:O	2:B:173:ALA:N	2.48	0.47
3:C:130:VAL:CG2	3:C:157:ILE:HG23	2.44	0.47
8:H:13:ILE:O	8:H:17:THR:CG2	2.62	0.47
7:G:13:GLN:HB2	9:I:42:ARG:NH2	2.30	0.47
13:M:107:ALA:O	13:M:109:THR:N	2.47	0.47
13:M:84:ILE:C	13:M:86:CYS:H	2.18	0.47
15:O:11:VAL:HG21	15:O:34:LEU:HD12	1.96	0.47
1:A:1284:C:C4	1:A:1285:A:C6	3.02	0.47
1:A:226:G:C4	1:A:227:G:C8	3.03	0.47
1:A:282:A:H3'	1:A:283:C:C6	2.49	0.47
1:A:402:G:C5	1:A:403:C:H5	2.27	0.47
1:A:424:G:O2'	1:A:425:G:H5'	2.14	0.47
1:A:460:A:C4	1:A:462:G:N7	2.82	0.47
1:A:406:G:C6	1:A:496:A:C8	3.03	0.47
1:A:499:A:H4'	1:A:500:G:H5'	1.95	0.47
1:A:527:G:N2	1:A:528:C:N1	2.62	0.47
1:A:557:G:C6	1:A:558:G:N1	2.82	0.47
1:A:849:C:C2	1:A:850:U:C5	3.03	0.47
1:A:872:A:N1	1:A:874:G:C4	2.82	0.47
1:A:953:G:C2	1:A:1229:A:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:985:C:H3'	1:A:985:C:C6	2.49	0.47
4:D:200:GLU:HG2	4:D:201:GLN:N	2.30	0.47
12:L:10:LEU:HD22	12:L:15:ARG:HD3	1.95	0.47
12:L:83:VAL:CG2	12:L:84:LEU:H	2.23	0.47
21:V:24:ARG:O	21:V:25:LYS:HB2	2.14	0.47
1:A:1004:A:C5'	1:A:1025:U:O2	2.61	0.47
1:A:1085:U:O2'	1:A:1086:U:OP1	2.26	0.47
1:A:1173:G:OP1	7:G:5:ARG:NH2	2.47	0.47
1:A:1220:G:H2'	1:A:1221:G:C8	2.48	0.47
1:A:130:A:H5''	1:A:190(F):G:H2'	1.95	0.47
1:A:1402:C:H2'	1:A:1403:C:O4'	2.15	0.47
1:A:336:C:H2'	1:A:337:C:H6	1.80	0.47
1:A:38:G:H22	1:A:397:A:H5''	1.79	0.47
1:A:390:C:H2'	1:A:391:G:H8	1.78	0.47
1:A:366:C:O2'	1:A:394:G:N2	2.46	0.47
1:A:39:G:C5	1:A:40:C:C5	3.03	0.47
1:A:408:A:C2	1:A:409:G:C4	3.03	0.47
1:A:570:G:C6	1:A:571:U:O4	2.68	0.47
1:A:579:G:C8	1:A:580:U:H5	2.32	0.47
1:A:892:A:N6	1:A:893:C:N4	2.63	0.47
1:A:918:A:H2'	1:A:919:A:H8	1.79	0.47
1:A:959:A:C3'	1:A:960:U:H5''	2.42	0.47
3:C:22:TRP:HA	10:J:93:GLY:HA2	1.97	0.47
9:I:114:TYR:CE1	10:J:59:SER:O	2.67	0.47
12:L:75:HIS:HD2	12:L:77:LEU:N	1.99	0.47
1:A:101:A:N1	1:A:102:G:C5	2.83	0.47
1:A:1107:C:N4	1:A:1108:G:C8	2.83	0.47
1:A:1255:G:H2'	1:A:1279:A:N6	2.28	0.47
1:A:1309:G:P	13:M:88:ARG:NH2	2.84	0.47
1:A:1319:A:C8	1:A:1323:G:C5	3.02	0.47
1:A:1390:U:H2'	1:A:1391:U:C6	2.50	0.47
1:A:793:U:O4	1:A:1517:G:H8	1.98	0.47
1:A:339:C:H2'	1:A:340:U:C6	2.50	0.47
1:A:394:G:C5	1:A:395:C:C5	3.02	0.47
1:A:621:A:C6	1:A:622:A:C5	3.03	0.47
1:A:767:A:N6	1:A:768:A:C6	2.83	0.47
1:A:794:A:C6	1:A:795:C:C4	3.02	0.47
1:A:885:G:N3	1:A:886:G:C8	2.82	0.47
2:B:22:LYS:HD2	2:B:40:HIS:CE1	2.49	0.47
3:C:120:VAL:O	3:C:123:GLN:N	2.47	0.47
5:E:87:SER:HB3	5:E:125:SER:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:128:PRO:O	5:E:129:ILE:C	2.53	0.47
9:I:13:ALA:HB2	9:I:68:GLY:HA3	1.97	0.47
9:I:24:GLY:HA2	9:I:59:PHE:O	2.15	0.47
10:J:40:LEU:HG	10:J:69:ASN:HB3	1.97	0.47
13:M:81:LEU:HD22	13:M:81:LEU:H	1.80	0.47
16:P:53:VAL:HG23	16:P:54:GLU:N	2.29	0.47
1:A:1301:U:C5	1:A:1303:C:C5	3.02	0.47
1:A:1401:G:C4	1:A:1402:C:C6	3.01	0.47
1:A:181:G:C2	1:A:195:A:C8	3.03	0.47
1:A:197:A:H4'	1:A:198:G:O5'	2.14	0.47
1:A:37:U:C2'	1:A:38:G:H5'	2.44	0.47
1:A:400:C:H2'	1:A:401:C:C6	2.41	0.47
1:A:448:A:N7	1:A:487:A:C6	2.83	0.47
1:A:515:G:O2'	1:A:516:U:H5'	2.15	0.47
1:A:688:G:C4	1:A:700:G:N2	2.83	0.47
1:A:752:G:O2'	1:A:753:A:P	2.72	0.47
1:A:778:G:C5	1:A:779:C:C5	3.02	0.47
1:A:890:G:O2'	1:A:891:U:OP2	2.32	0.47
4:D:65:ARG:HH21	4:D:71:SER:HA	1.79	0.47
5:E:32:VAL:CG1	5:E:33:VAL:N	2.76	0.47
8:H:26:VAL:O	8:H:26:VAL:HG13	2.14	0.47
14:N:13:THR:HG22	14:N:14:PRO:HD2	1.96	0.47
17:Q:9:VAL:O	17:Q:21:VAL:HA	2.15	0.47
1:A:1210:C:C4'	1:A:1214:C:C4	2.98	0.47
1:A:1319:A:C8	1:A:1323:G:C6	3.03	0.47
1:A:604:G:C5	1:A:605:U:C5	3.03	0.47
1:A:725:G:C4	1:A:726:C:C5	3.03	0.47
1:A:748:C:H1'	1:A:749:C:H5	1.80	0.47
1:A:13:U:O2	1:A:914:A:H3'	2.14	0.47
1:A:973:G:C2'	1:A:974:A:OP1	2.63	0.47
1:A:993:G:O2'	1:A:994:A:P	2.73	0.47
5:E:51:VAL:HB	5:E:52:PRO:HD3	1.95	0.47
10:J:18:ALA:HB1	10:J:22:LYS:NZ	2.30	0.47
13:M:59:TYR:CE1	13:M:63:THR:HG21	2.49	0.47
3:C:29:TYR:CZ	14:N:54:PRO:HG2	2.50	0.47
16:P:5:ARG:HG3	16:P:5:ARG:HH11	1.80	0.47
1:A:1003:G:C6	1:A:1003(A):G:C5	3.02	0.47
1:A:1064:G:O2'	1:A:1190:G:N2	2.48	0.47
1:A:1116:C:O2'	9:I:108:VAL:HG21	2.14	0.47
1:A:1225:A:C4'	1:A:1226:C:OP2	2.62	0.47
1:A:1291:G:C2	1:A:1292:U:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1361(A):C:HO2'	1:A:1362:C:H6	1.62	0.47
1:A:1441:G:H5''	1:A:1442:G:C8	2.50	0.47
1:A:175:C:N3	1:A:176:C:C5	2.83	0.47
1:A:414:A:N3	1:A:415:A:C8	2.82	0.47
1:A:42:G:C6	1:A:43:C:N4	2.83	0.47
1:A:41:G:N3	1:A:42:G:C8	2.83	0.47
1:A:460:A:C5	1:A:462:G:C6	3.03	0.47
1:A:545:C:HO2'	1:A:546:G:H5'	1.79	0.47
1:A:560:U:O4'	1:A:566:G:N2	2.48	0.47
1:A:903:G:H2'	1:A:904:C:C6	2.50	0.47
1:A:946:A:O2'	1:A:1333:A:H1'	2.15	0.47
8:H:44:PHE:HE1	8:H:137:VAL:HG12	1.77	0.47
13:M:49:THR:HB	13:M:52:GLU:CG	2.42	0.47
1:A:1191:A:H2'	1:A:1192:C:C6	2.49	0.47
1:A:1053:G:H2'	1:A:1199:U:H5	1.80	0.47
1:A:329:A:C2	1:A:332:G:N9	2.83	0.47
1:A:490:G:N3	1:A:491:G:C8	2.83	0.47
1:A:525:C:H2'	1:A:526:C:C6	2.50	0.47
1:A:531:U:C5'	1:A:532:A:OP1	2.58	0.47
1:A:575:G:O2'	1:A:576:G:P	2.73	0.47
1:A:662:G:C2	1:A:663:A:N7	2.83	0.47
1:A:1053:G:N7	1:A:1199:U:C2'	2.79	0.46
1:A:1210:C:H4'	1:A:1214:C:C4	2.49	0.46
1:A:1314:C:H2'	1:A:1315:U:C6	2.49	0.46
1:A:149:A:C2	1:A:150:C:N3	2.84	0.46
1:A:1526:G:C5	1:A:1527:C:C5	3.04	0.46
1:A:166:G:C5	1:A:167:G:N7	2.83	0.46
1:A:437:U:O2'	4:D:123:HIS:CD2	2.67	0.46
1:A:506:G:C5	1:A:507:C:C4	3.02	0.46
1:A:646:U:H2'	1:A:647:C:C6	2.50	0.46
1:A:735:C:O2'	1:A:736:C:H5'	2.15	0.46
1:A:815:A:H5''	1:A:817:C:H41	1.78	0.46
1:A:949:A:C2'	1:A:950:U:O5'	2.62	0.46
3:C:34:LEU:HD23	3:C:34:LEU:O	2.15	0.46
4:D:103:ASN:O	4:D:106:TYR:N	2.48	0.46
4:D:88:VAL:O	4:D:90:GLY:N	2.48	0.46
8:H:6:ILE:O	8:H:9:MET:HB3	2.15	0.46
20:T:28:ALA:O	20:T:32:ALA:HB2	2.15	0.46
1:A:1087:G:C6	1:A:1099:G:C6	3.03	0.46
1:A:1258:G:C2	1:A:1259:C:C2	3.04	0.46
1:A:129(A):G:C2	1:A:190(E):U:H5'	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1378:C:N3	1:A:1379:G:H1'	2.29	0.46
1:A:1421:G:C6	1:A:1422:G:C5	3.03	0.46
1:A:1454:G:H2'	1:A:1455:G:O5'	2.16	0.46
1:A:166:G:O2'	1:A:167:G:H5'	2.15	0.46
1:A:299:G:H2'	1:A:300:A:C8	2.50	0.46
1:A:318:G:C4	1:A:319:G:C8	3.03	0.46
1:A:581:G:H3'	1:A:758:G:O6	2.15	0.46
1:A:592:G:O2'	1:A:593:G:H5'	2.14	0.46
1:A:77:G:C2'	1:A:78:G:H5'	2.45	0.46
1:A:866:C:H2'	1:A:867:G:C4'	2.45	0.46
8:H:16:ALA:O	8:H:19:VAL:HG22	2.15	0.46
8:H:17:THR:HA	8:H:65:TYR:OH	2.14	0.46
8:H:9:MET:HG2	8:H:13:ILE:CD1	2.45	0.46
1:A:44:G:OP2	16:P:12:LYS:HB2	2.16	0.46
17:Q:61:GLU:HA	17:Q:71:PHE:CE1	2.50	0.46
20:T:72:LEU:HA	20:T:72:LEU:HD23	1.52	0.46
1:A:1130:A:H62	1:A:1144:G:N2	2.06	0.46
1:A:1350:A:N1	1:A:1351:U:N3	2.63	0.46
1:A:1401:G:C2	1:A:1402:C:C1'	2.98	0.46
1:A:382:A:O2'	1:A:383:A:H5'	2.16	0.46
1:A:463:A:N7	1:A:474:G:C8	2.82	0.46
1:A:490:G:C4	1:A:491:G:N7	2.82	0.46
1:A:533:A:N7	1:A:536:C:N4	2.63	0.46
1:A:545:C:H2'	1:A:545:C:O2	2.14	0.46
1:A:614:A:C6	1:A:627:G:N1	2.83	0.46
1:A:945:G:C2	1:A:946:A:C8	3.03	0.46
2:B:112:VAL:O	2:B:115:LEU:N	2.48	0.46
2:B:69:LEU:HD23	2:B:70:PHE:N	2.29	0.46
8:H:104:ARG:O	8:H:106:GLY:N	2.49	0.46
8:H:19:VAL:O	8:H:20:TYR:HB2	2.16	0.46
9:I:73:GLN:O	9:I:76:ALA:HB3	2.15	0.46
10:J:90:LEU:N	10:J:91:PRO:HD2	2.16	0.46
1:A:950:U:H3'	13:M:102:ARG:NH2	2.30	0.46
14:N:53:LEU:HB3	14:N:56:VAL:HG21	1.97	0.46
1:A:1256:A:C2	1:A:1258:G:C2	3.03	0.46
1:A:1310:G:C2	1:A:1328:C:N3	2.84	0.46
1:A:1319:A:C4'	1:A:1320:C:OP1	2.49	0.46
1:A:1391:U:H2'	1:A:1392:G:H8	1.76	0.46
1:A:1529:G:H4'	1:A:1530:G:OP2	2.14	0.46
1:A:181:G:N2	1:A:195:A:C8	2.83	0.46
1:A:190(D):U:O2	1:A:190(D):U:C2'	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:46:G:N1	1:A:396:G:C6	2.84	0.46
1:A:557:G:C6	1:A:558:G:C6	3.03	0.46
1:A:918:A:H2'	1:A:919:A:O4'	2.15	0.46
1:A:926:G:C6	1:A:1505:G:C6	3.04	0.46
1:A:985:C:C3'	1:A:985:C:C6	2.99	0.46
1:A:9:G:C4	1:A:26:A:N1	2.83	0.46
1:A:532:A:N6	3:C:159:GLY:O	2.49	0.46
3:C:33:LEU:C	3:C:33:LEU:HD23	2.35	0.46
1:A:1190:G:OP1	3:C:4:LYS:O	2.33	0.46
8:H:86:ILE:HG21	8:H:133:LEU:HD22	1.97	0.46
11:K:58:PRO:HB2	11:K:93:GLN:HG3	1.96	0.46
13:M:49:THR:HG22	13:M:51:ALA:H	1.80	0.46
13:M:87:TYR:O	13:M:90:LEU:N	2.49	0.46
17:Q:8:GLY:HA3	17:Q:23:VAL:HG22	1.96	0.46
17:Q:8:GLY:O	17:Q:56:VAL:HG13	2.16	0.46
1:A:1187:G:H3'	1:A:1188:A:H8	1.80	0.46
1:A:1256:A:N3	1:A:1258:G:C5	2.83	0.46
1:A:1340:A:O2'	1:A:1341:U:H5'	2.16	0.46
1:A:1396:A:H4'	1:A:1397:C:H5''	1.98	0.46
1:A:1421:G:C6	1:A:1422:G:N7	2.84	0.46
1:A:149:A:O2'	1:A:150:C:H5'	2.15	0.46
1:A:173:U:C2	1:A:197:A:N1	2.83	0.46
1:A:54:C:O2	1:A:358:U:C2	2.69	0.46
1:A:663:A:C6	1:A:664:G:C6	3.04	0.46
1:A:761:G:C5	1:A:762:C:C4	3.03	0.46
2:B:187:LEU:HD23	2:B:214:ILE:HG21	1.97	0.46
8:H:29:SER:O	8:H:30:ARG:C	2.53	0.46
11:K:33:THR:HA	11:K:40:ILE:HG13	1.96	0.46
13:M:11:ARG:HG2	13:M:12:ASN:H	1.79	0.46
14:N:18:VAL:HG23	14:N:19:ARG:N	2.31	0.46
15:O:51:HIS:ND1	15:O:51:HIS:N	2.64	0.46
1:A:277:C:H5'	17:Q:68:ARG:NH1	2.30	0.46
19:S:17:GLU:HA	19:S:20:LEU:CD2	2.45	0.46
1:A:1085:U:O4'	1:A:1094:G:N1	2.49	0.46
1:A:1288:A:N1	1:A:1289:A:C5	2.83	0.46
1:A:1399:C:O2	1:A:1401:G:C4	2.69	0.46
1:A:292:G:N2	1:A:309:G:N3	2.63	0.46
1:A:36:C:OP1	12:L:123:LYS:HE2	2.16	0.46
1:A:446:G:C2'	1:A:447:G:H5'	2.46	0.46
1:A:448:A:C8	1:A:487:A:N1	2.84	0.46
1:A:511:C:H1'	4:D:43:HIS:NE2	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:59:A:C4	1:A:331:G:N2	2.84	0.46
1:A:879:C:H2'	1:A:880:C:C6	2.50	0.46
1:A:961:U:C2	1:A:983:A:C4	3.04	0.46
3:C:120:VAL:O	3:C:121:ALA:C	2.54	0.46
4:D:202:LEU:HA	4:D:202:LEU:HD23	1.77	0.46
8:H:31:PHE:O	8:H:34:GLU:N	2.49	0.46
8:H:4:ASP:OD2	8:H:89:PRO:HD3	2.15	0.46
1:A:1104:G:P	2:B:111:ARG:HD2	2.56	0.46
1:A:1222:G:C6	1:A:1223:C:N4	2.84	0.46
1:A:1251:A:HO2'	1:A:1369:C:HO2'	1.60	0.46
1:A:1350:A:O2'	1:A:1351:U:H5'	2.16	0.46
1:A:168:G:C2	1:A:169:C:C5	3.03	0.46
1:A:42:G:C4	1:A:43:C:H5	2.30	0.46
1:A:501:C:O2	1:A:549:C:O2'	2.25	0.46
1:A:607:A:C2'	1:A:608:A:C5'	2.94	0.46
1:A:812:C:C2'	1:A:813:U:OP2	2.63	0.46
1:A:954:G:N2	1:A:1228:C:C4	2.84	0.46
2:B:164:VAL:O	2:B:186:ALA:HA	2.16	0.46
2:B:163:PHE:CD1	2:B:185:ILE:HD12	2.51	0.46
2:B:17:PHE:CD1	2:B:18:GLY:N	2.84	0.46
4:D:121:VAL:O	4:D:134:ASP:HA	2.15	0.46
4:D:4:TYR:CG	4:D:5:ILE:N	2.84	0.46
5:E:75:THR:HG21	5:E:94:ALA:H	1.81	0.46
7:G:26:PHE:HB2	7:G:62:PHE:HZ	1.81	0.46
1:A:689:C:OP2	11:K:46:GLY:HA3	2.16	0.46
16:P:12:LYS:O	16:P:13:HIS:HB2	2.14	0.46
1:A:190(E):U:H2'	17:Q:63:ARG:NH2	2.31	0.46
17:Q:66:SER:OG	17:Q:69:LYS:CB	2.64	0.46
17:Q:57:VAL:HA	17:Q:77:VAL:HG23	1.97	0.46
18:R:44:LEU:HD22	18:R:48:GLY:O	2.15	0.46
1:A:1225:A:H4'	1:A:1226:C:OP2	2.15	0.46
1:A:1378:C:C4	1:A:1379:G:H1'	2.50	0.46
1:A:1525:G:O2'	1:A:1526:G:H5'	2.16	0.46
1:A:151:A:C2'	1:A:152:A:H5'	2.46	0.46
1:A:446:G:H2'	1:A:447:G:C5'	2.46	0.46
1:A:670:G:C2	1:A:737:A:C2	3.03	0.46
1:A:691:G:C5	1:A:692:U:H5	2.33	0.46
1:A:777:A:C6	1:A:778:G:C4	3.04	0.46
1:A:777:A:N6	1:A:778:G:C6	2.84	0.46
1:A:807:A:C5	1:A:808:C:C5	3.04	0.46
1:A:829:G:C2	1:A:830:G:C4	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:542:G:H5'	4:D:41:GLY:CA	2.46	0.46
1:A:544:G:OP1	4:D:59:ARG:NH2	2.48	0.46
7:G:20:ASP:HB3	7:G:23:VAL:HG23	1.97	0.46
13:M:11:ARG:CG	13:M:12:ASN:N	2.79	0.46
14:N:37:PHE:CD2	14:N:53:LEU:HD13	2.51	0.46
20:T:56:MET:O	20:T:59:ALA:HB3	2.16	0.46
20:T:49:ALA:HB3	20:T:99:LEU:HG	1.98	0.46
1:A:1009:G:C2	1:A:1010:G:C8	3.04	0.46
1:A:1010:G:O2'	1:A:1011:G:C5'	2.57	0.46
1:A:1355:G:N2	1:A:1356:G:C4	2.84	0.46
1:A:1495:U:C4	1:A:1496:C:N4	2.84	0.46
1:A:1501:C:H5''	1:A:1502:A:OP2	2.16	0.46
1:A:15:G:H2'	1:A:16:A:O4'	2.16	0.46
1:A:243:A:H62	1:A:281:G:H1'	1.80	0.46
1:A:273:A:H2'	1:A:274:A:O5'	2.16	0.46
1:A:27:G:C6	1:A:28:G:C5	3.04	0.46
1:A:42:G:C2	1:A:43:C:C5	3.04	0.46
1:A:459:G:H3'	1:A:460:A:C5'	2.46	0.46
1:A:503:C:C2	1:A:504:C:C5	3.04	0.46
1:A:507:C:H2'	1:A:508:C:H5	1.77	0.46
1:A:751:U:C5	1:A:752:G:C6	3.04	0.46
1:A:877:C:O2'	8:H:3:THR:HG23	2.16	0.46
1:A:998:G:C6	1:A:1044:A:C6	3.03	0.46
4:D:36:ARG:N	4:D:37:PRO:HD3	2.31	0.46
7:G:15:ASP:O	7:G:19:GLY:HA2	2.16	0.46
8:H:86:ILE:HD11	8:H:136:GLU:HG3	1.98	0.46
8:H:26:VAL:HG12	8:H:59:LEU:O	2.15	0.46
9:I:50:LEU:O	9:I:52:ALA:N	2.49	0.46
11:K:65:ALA:HB1	11:K:98:LEU:HD21	1.96	0.46
15:O:66:LEU:O	15:O:69:TYR:HB3	2.15	0.46
1:A:1030(A):G:H2'	1:A:1030(A):G:N3	2.30	0.46
1:A:1160:G:C2'	1:A:1161:C:O5'	2.64	0.46
1:A:953:G:N2	1:A:1229:A:C4	2.84	0.46
1:A:1312:G:C6	1:A:1326:C:N4	2.84	0.46
1:A:1316:G:C2	1:A:1318:A:H3'	2.51	0.46
1:A:1346:A:H61	1:A:1374:A:H3'	1.81	0.46
1:A:156:G:N2	1:A:166:G:C4	2.84	0.46
1:A:262:A:N1	1:A:263:A:N1	2.63	0.46
1:A:303:A:C6	1:A:304:U:C4	3.03	0.46
1:A:376:G:O2'	1:A:377:G:H5'	2.16	0.46
1:A:406:G:H5''	4:D:5:ILE:CG2	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:463:A:N7	1:A:474:G:C5	2.83	0.46
1:A:474:G:H2'	1:A:475:G:C8	2.48	0.46
1:A:55:A:C2'	1:A:56:U:H5'	2.46	0.46
1:A:591:U:H2'	1:A:592:G:C8	2.46	0.46
1:A:714:G:C2	1:A:777:A:H1'	2.51	0.46
1:A:865:A:C6	1:A:866:C:N4	2.84	0.46
1:A:947:G:C5	1:A:948:C:C4	3.03	0.46
1:A:972:C:OP2	10:J:57:LYS:HD3	2.16	0.46
1:A:9:G:H2'	1:A:10:A:H8	1.81	0.46
2:B:47:THR:CG2	2:B:202:PRO:HG2	2.42	0.46
3:C:125:GLU:HG3	3:C:189:ALA:HB1	1.98	0.46
5:E:36:ASP:C	5:E:38:GLN:N	2.69	0.46
8:H:120:THR:OG1	8:H:123:GLU:HB2	2.16	0.46
1:A:1313:U:H5	19:S:4:SER:HG	1.63	0.46
1:A:1054:C:P	1:A:1197:G:OP1	2.74	0.45
1:A:1068:G:C2	1:A:1069:C:C6	3.04	0.45
1:A:1399:C:O2	1:A:1401:G:N7	2.49	0.45
1:A:186:C:N3	1:A:187:C:C5	2.84	0.45
1:A:321:A:N3	1:A:322:C:C5	2.84	0.45
1:A:328:C:C2'	1:A:328:C:O2	2.44	0.45
1:A:675:A:C6	1:A:676:A:C5	3.04	0.45
1:A:722:A:C2	1:A:724:G:N7	2.84	0.45
1:A:976:G:C8	1:A:1358:U:C2	3.05	0.45
1:A:984:C:O2'	1:A:985:C:H5'	2.16	0.45
5:E:129:ILE:O	5:E:132:ALA:HB3	2.17	0.45
5:E:43:LEU:HD23	5:E:44:GLY:N	2.32	0.45
8:H:17:THR:OG1	8:H:18:ARG:N	2.48	0.45
1:A:523:A:H61	12:L:53:ARG:HH12	1.63	0.45
15:O:32:LEU:O	15:O:33:THR:C	2.55	0.45
20:T:37:SER:O	20:T:41:VAL:HG23	2.16	0.45
1:A:1010:G:H2'	1:A:1011:G:C8	2.40	0.45
1:A:99:C:N3	1:A:101:A:N7	2.63	0.45
1:A:1173:G:C4	1:A:1174:G:C8	3.05	0.45
1:A:1064:G:O6	1:A:1193:G:C6	2.69	0.45
1:A:1352:C:N3	1:A:1371:G:C6	2.84	0.45
1:A:246:A:C4	1:A:279:A:N6	2.84	0.45
1:A:853:G:H2'	1:A:854:G:H8	1.81	0.45
1:A:880:C:H2'	1:A:881:G:C8	2.51	0.45
1:A:944:G:H3'	1:A:945:G:C5'	2.46	0.45
1:A:542:G:H5'	4:D:41:GLY:HA2	1.99	0.45
8:H:105:ARG:HD3	8:H:105:ARG:HA	1.71	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:10:LEU:HD23	8:H:10:LEU:HA	1.36	0.45
9:I:50:LEU:C	9:I:52:ALA:N	2.70	0.45
11:K:19:ALA:HB2	11:K:80:VAL:HG11	1.97	0.45
14:N:6:LEU:HB3	14:N:23:ARG:HH21	1.81	0.45
20:T:24:LEU:HA	20:T:24:LEU:HD12	1.83	0.45
1:A:1028:C:C6	1:A:1028:C:H5'	2.45	0.45
1:A:1498:U:O2'	1:A:1499:A:OP2	2.34	0.45
1:A:1524:C:H2'	1:A:1525:G:O4'	2.15	0.45
1:A:22:G:C4	1:A:23:C:C6	3.04	0.45
1:A:262:A:C2	1:A:263:A:C5	3.04	0.45
1:A:287:U:O2'	1:A:288:A:H5'	2.16	0.45
1:A:292:G:N3	1:A:309:G:C2	2.84	0.45
1:A:34:C:O2'	1:A:35:G:H5'	2.16	0.45
1:A:357:G:N3	1:A:358:U:C5	2.84	0.45
1:A:389:A:H5'	1:A:389:A:H8	1.81	0.45
1:A:419:C:H2'	1:A:420:U:C6	2.51	0.45
1:A:59:A:H3'	1:A:331:G:H22	1.81	0.45
1:A:686:U:O2'	1:A:687:A:O5'	2.34	0.45
1:A:696:A:N3	1:A:697:U:C5	2.84	0.45
1:A:89:C:H2'	1:A:90:U:O4'	2.16	0.45
1:A:940:C:H2'	1:A:941:G:O4'	2.16	0.45
7:G:121:ALA:O	7:G:125:MET:HG3	2.16	0.45
11:K:32:ILE:HG22	11:K:40:ILE:HD12	1.97	0.45
13:M:79:LYS:HA	13:M:82:MET:HB3	1.97	0.45
13:M:90:LEU:O	13:M:93:ARG:N	2.50	0.45
1:A:1191:A:H5''	3:C:4:LYS:HZ1	1.79	0.45
1:A:1213:A:C5	1:A:1215:G:C4	3.05	0.45
1:A:1301:U:HO2'	1:A:1302:U:P	2.39	0.45
1:A:1237:C:C5	1:A:1336:C:C4	3.05	0.45
1:A:1352:C:O2	1:A:1371:G:C2	2.70	0.45
1:A:1454:G:C2'	1:A:1455:G:O5'	2.65	0.45
1:A:265:G:H2'	1:A:267:C:C5	2.41	0.45
1:A:32:A:C6	1:A:553:A:N1	2.84	0.45
1:A:414:A:N3	1:A:415:A:C1'	2.79	0.45
1:A:660:G:C2'	1:A:661:G:O5'	2.64	0.45
1:A:755:G:C2	1:A:756:C:C6	3.04	0.45
1:A:811:C:O2'	1:A:901:A:N1	2.43	0.45
4:D:21:LEU:HD23	4:D:21:LEU:HA	1.68	0.45
5:E:34:VAL:O	5:E:41:VAL:HA	2.16	0.45
6:F:1:MET:HB3	6:F:67:MET:O	2.16	0.45
12:L:113:ARG:HB2	12:L:122:THR:HG21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:22:THR:HA	16:P:33:ILE:HD11	1.94	0.45
1:A:1325:C:H5''	21:V:17:THR:HG21	1.99	0.45
21:V:5:ASP:C	21:V:7:ARG:H	2.20	0.45
1:A:1033:G:O5'	1:A:1033:G:H8	2.00	0.45
1:A:1251:A:C2'	1:A:1252:A:C8	2.88	0.45
1:A:1480:G:O2'	1:A:1481:U:H5'	2.16	0.45
1:A:1491:G:C2	1:A:1492:A:N6	2.84	0.45
1:A:1529:G:C4'	1:A:1530:G:OP2	2.64	0.45
1:A:173:U:N1	1:A:197:A:C2	2.84	0.45
1:A:204:U:O2	1:A:204:U:H2'	2.15	0.45
1:A:370:C:N3	1:A:371:G:N7	2.63	0.45
1:A:456:C:O2'	1:A:457:C:H5'	2.16	0.45
1:A:500:G:H8	1:A:500:G:O5'	1.98	0.45
1:A:26:A:N6	1:A:558:G:O2'	2.45	0.45
1:A:562:C:H4'	1:A:563:A:O5'	2.16	0.45
1:A:867:G:C8	1:A:867:G:H5''	2.49	0.45
4:D:157:LEU:O	4:D:159:ARG:N	2.50	0.45
4:D:157:LEU:O	4:D:158:ILE:C	2.55	0.45
8:H:108:GLY:CA	8:H:138:TRP:HB3	2.43	0.45
8:H:82:HIS:HD2	8:H:138:TRP:NE1	2.13	0.45
8:H:29:SER:OG	8:H:32:LYS:HG3	2.16	0.45
9:I:97:LYS:HG3	9:I:102:LEU:HD12	1.99	0.45
11:K:30:VAL:CG1	11:K:31:THR:N	2.80	0.45
16:P:58:TYR:CE1	16:P:59:TRP:CZ3	3.03	0.45
20:T:60:GLU:HG3	20:T:81:LYS:HE3	1.98	0.45
1:A:1003:G:C6	1:A:1003(A):G:N7	2.85	0.45
1:A:1030(B):C:O4'	1:A:1030(B):C:OP1	2.33	0.45
1:A:1057:G:C5	1:A:1058:G:N7	2.85	0.45
1:A:1064:G:N3	1:A:1066:C:N4	2.64	0.45
1:A:1066:C:O2'	1:A:1067:A:H5'	2.16	0.45
1:A:1223:C:H3'	1:A:1224:G:H5''	1.98	0.45
1:A:1460:A:H2'	1:A:1461:G:O4'	2.16	0.45
1:A:303:A:C5	1:A:304:U:C5	3.04	0.45
1:A:380:G:C2	1:A:384:G:C5	3.05	0.45
1:A:518:C:O2'	1:A:519:C:OP2	2.29	0.45
1:A:61:G:H2'	1:A:62:U:O4'	2.17	0.45
1:A:902:G:HO2'	1:A:903:G:H5'	1.77	0.45
2:B:144:ARG:HG3	2:B:145:LEU:N	2.31	0.45
4:D:109:GLY:C	4:D:111:ALA:H	2.20	0.45
5:E:33:VAL:HG11	5:E:109:ILE:HA	1.98	0.45
5:E:98:THR:HG22	5:E:98:THR:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:26:VAL:HB	9:I:33:PHE:CB	2.32	0.45
9:I:33:PHE:O	9:I:37:PHE:HD1	2.00	0.45
10:J:34:VAL:HG22	10:J:74:ILE:HG12	1.99	0.45
12:L:47:LYS:HB2	12:L:48:PRO:CD	2.42	0.45
1:A:390:C:C3'	16:P:28:ARG:HH22	2.29	0.45
17:Q:81:ARG:HG3	17:Q:81:ARG:O	2.16	0.45
1:A:1109:C:O2'	1:A:1110:A:H5'	2.15	0.45
1:A:1198:G:O2'	10:J:54:PHE:CE2	2.69	0.45
1:A:1306:A:C5	1:A:1307:U:C5	3.04	0.45
1:A:1311:G:C5	1:A:1312:G:C8	3.04	0.45
1:A:1324:A:C2	1:A:1325:C:C6	3.05	0.45
1:A:1349:A:C5	1:A:1350:A:C8	3.05	0.45
1:A:1430:C:O2'	1:A:1431:C:H5'	2.16	0.45
1:A:1442:G:C2	1:A:1446:A:C8	3.05	0.45
1:A:1487:G:O2'	1:A:1488:G:C5'	2.57	0.45
1:A:819:A:N6	1:A:1529:G:C5	2.85	0.45
1:A:166:G:C2	1:A:167:G:C8	3.05	0.45
1:A:279:A:H4'	1:A:280:C:OP2	2.15	0.45
1:A:482:A:C2	1:A:483:C:C2	3.05	0.45
1:A:406:G:C4	1:A:496:A:C5	3.05	0.45
1:A:613:C:O2	1:A:628:G:C2	2.70	0.45
1:A:910:C:P	12:L:97:ARG:HH22	2.39	0.45
1:A:935:A:C5	7:G:3:ARG:NH2	2.85	0.45
1:A:997:U:H2'	1:A:998:G:O4'	2.17	0.45
2:B:57:PHE:O	2:B:60:ASP:HB3	2.17	0.45
8:H:34:GLU:O	8:H:37:ARG:HB3	2.17	0.45
7:G:40:ALA:CB	9:I:41:VAL:HG11	2.46	0.45
12:L:83:VAL:HG21	12:L:100:ILE:CD1	2.46	0.45
13:M:105:THR:HB	13:M:106:ASN:H	1.43	0.45
1:A:1038:C:O2	1:A:1039:C:C6	2.70	0.45
1:A:1057:G:H2'	1:A:1058:G:C8	2.50	0.45
1:A:1205:U:C1'	3:C:195:VAL:HG21	2.46	0.45
1:A:1252:A:C2	1:A:1253:G:C4	3.05	0.45
1:A:1452:C:C4'	1:A:1453:G:O5'	2.61	0.45
1:A:264:U:C5	1:A:265:G:N7	2.85	0.45
1:A:369:C:C2	1:A:370:C:C5	3.05	0.45
1:A:448:A:C2	1:A:449:C:N3	2.85	0.45
1:A:557:G:N1	1:A:558:G:C2	2.84	0.45
1:A:640:A:C2'	1:A:641:U:H5'	2.46	0.45
1:A:786:G:C6	1:A:787:A:C5	3.04	0.45
1:A:918:A:C4	1:A:919:A:C8	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:93:G:C6	1:A:95:U:N3	2.85	0.45
1:A:994:A:H2'	1:A:994:A:N3	2.31	0.45
3:C:43:LEU:HA	3:C:47:LEU:HD13	1.99	0.45
3:C:47:LEU:N	3:C:47:LEU:HD12	2.31	0.45
7:G:17:VAL:HG12	7:G:18:TYR:N	2.31	0.45
9:I:5:TYR:HD2	9:I:17:VAL:O	2.00	0.45
1:A:228:A:C4'	16:P:62:VAL:HG11	2.46	0.45
19:S:39:THR:HA	19:S:70:LYS:HG2	1.99	0.45
1:A:1167:A:O5'	1:A:1167:A:H8	2.00	0.45
1:A:1347:G:H22	1:A:1373:G:C2'	2.21	0.45
1:A:1348:U:H4'	9:I:120:ARG:HG3	1.98	0.45
1:A:1368:G:N2	1:A:1369:C:C1'	2.79	0.45
1:A:1411:C:H2'	1:A:1412:C:C6	2.52	0.45
1:A:428:G:H8	1:A:428:G:OP1	2.00	0.45
1:A:479:C:H2'	1:A:480:U:O4'	2.17	0.45
1:A:373:A:C5	1:A:482:A:C8	3.04	0.45
1:A:609:A:O2'	1:A:610:G:H5'	2.17	0.45
1:A:644:G:C5	1:A:645:C:C5	3.05	0.45
1:A:722:A:C6	1:A:724:G:C4	3.05	0.45
1:A:782:A:H62	1:A:800:G:N2	2.14	0.45
1:A:900:A:HO2'	1:A:901:A:H5'	1.79	0.45
1:A:936:C:C2'	1:A:937:A:C5'	2.95	0.45
1:A:973:G:C4	1:A:974:A:N7	2.85	0.45
2:B:31:TYR:N	2:B:31:TYR:HD2	2.14	0.45
3:C:169:ALA:O	3:C:170:GLN:HG3	2.17	0.45
4:D:25:ARG:NH2	4:D:30:LYS:HD3	2.08	0.45
5:E:74:GLY:HA3	5:E:116:THR:HG22	1.99	0.45
5:E:129:ILE:CG2	5:E:133:TYR:HE1	2.30	0.45
5:E:91:LEU:HA	5:E:91:LEU:HD23	1.54	0.45
7:G:120:ILE:O	7:G:124:LEU:HG	2.16	0.45
7:G:74:GLU:O	7:G:88:PRO:HA	2.17	0.45
12:L:115:LYS:O	12:L:117:ARG:N	2.49	0.45
13:M:63:THR:HG23	13:M:64:TRP:H	1.82	0.45
16:P:1:MET:O	16:P:24:ALA:HB2	2.16	0.45
19:S:71:LEU:HA	19:S:71:LEU:HD23	1.77	0.45
1:A:1368:G:N3	1:A:1369:C:C6	2.84	0.45
1:A:1507:A:C6	1:A:1530:G:C5	3.05	0.45
1:A:166:G:C4	1:A:167:G:N7	2.85	0.45
1:A:226:G:C6	1:A:227:G:C8	3.05	0.45
1:A:319:G:HO2'	1:A:1434:A:H2	1.65	0.45
1:A:370:C:C2	1:A:371:G:N7	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:392:G:C4	1:A:393:A:C8	3.05	0.45
1:A:404:U:H5'	4:D:122:ARG:NH2	2.32	0.45
1:A:634:C:O2'	1:A:635:G:H5'	2.17	0.45
1:A:742:G:H2'	1:A:743:U:C5'	2.47	0.45
1:A:581:G:C5	1:A:758:G:N7	2.85	0.45
1:A:769:G:N2	1:A:770:C:C2	2.85	0.45
1:A:817:C:H1'	1:A:819:A:H5'	1.99	0.45
1:A:979:C:O2	14:N:19:ARG:NE	2.47	0.45
2:B:134:GLU:HA	2:B:137:ARG:HB2	1.99	0.45
2:B:181:PHE:HD1	2:B:181:PHE:N	2.15	0.45
2:B:213:LEU:HD23	2:B:213:LEU:C	2.38	0.45
11:K:75:TYR:N	11:K:75:TYR:HD1	2.14	0.45
1:A:1295:G:H4'	13:M:14:ARG:NH2	2.31	0.45
16:P:9:PHE:HB2	16:P:16:HIS:O	2.16	0.45
1:A:1085:U:C1'	1:A:1094:G:C6	3.00	0.44
1:A:1145:C:O2'	1:A:1146:A:P	2.74	0.44
1:A:113:G:N3	1:A:114:U:C6	2.84	0.44
1:A:1301:U:C4	1:A:1303:C:C6	3.05	0.44
1:A:1459:C:C2'	1:A:1460:A:O5'	2.64	0.44
1:A:1394:A:N6	1:A:1500:A:O2'	2.48	0.44
1:A:20:U:H2'	1:A:21:G:O4'	2.16	0.44
1:A:401:C:O2'	1:A:402:G:H5'	2.17	0.44
1:A:492:G:H2'	1:A:494:G:O4'	2.18	0.44
1:A:534:U:C5'	1:A:535:A:OP2	2.65	0.44
1:A:533:A:N6	1:A:536:C:N3	2.65	0.44
1:A:55:A:H2	1:A:56:U:H1'	1.81	0.44
1:A:785:G:C6	1:A:786:G:N7	2.85	0.44
1:A:886:G:C2'	1:A:887:G:H5'	2.46	0.44
1:A:920:U:C2'	1:A:921:U:O5'	2.65	0.44
1:A:934:C:N3	1:A:1345:U:C5	2.85	0.44
2:B:109:SER:HA	2:B:112:VAL:HG23	1.99	0.44
5:E:41:VAL:HG23	5:E:41:VAL:O	2.17	0.44
8:H:38:ILE:CG2	8:H:39:LEU:N	2.80	0.44
11:K:11:LYS:O	11:K:12:ARG:HG3	2.17	0.44
1:A:706:A:H1'	11:K:29:ILE:HD11	1.99	0.44
1:A:363:A:OP1	12:L:33:ARG:HG3	2.17	0.44
13:M:16:ASP:OD1	13:M:16:ASP:N	2.50	0.44
18:R:44:LEU:HD23	18:R:44:LEU:HA	1.67	0.44
19:S:6:LYS:CD	19:S:7:LYS:H	2.30	0.44
1:A:223:U:C5'	20:T:68:LYS:NZ	2.72	0.44
1:A:1015:A:C6	1:A:1016:A:C6	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:113:G:O6	1:A:315:A:N6	2.50	0.44
1:A:1160:G:H2'	1:A:1161:C:O5'	2.16	0.44
1:A:1179:A:H2'	1:A:1180:A:C8	2.53	0.44
1:A:1202:G:C4	14:N:42:ILE:CD1	2.97	0.44
1:A:1239:A:C4'	1:A:1240:U:O5'	2.53	0.44
1:A:1346:A:C8	7:G:10:ARG:NH2	2.85	0.44
1:A:1368:G:OP2	9:I:112:LYS:O	2.35	0.44
1:A:1490:C:C6	1:A:1490:C:C4'	2.99	0.44
1:A:20:U:H2'	1:A:21:G:C5'	2.47	0.44
1:A:119:A:C4	1:A:240:C:C5	3.05	0.44
1:A:408:A:C4	1:A:409:G:C8	3.05	0.44
1:A:457:C:HO2'	1:A:458:C:H5'	1.80	0.44
1:A:459:G:C6	1:A:461:C:OP2	2.70	0.44
1:A:565:U:C5	1:A:566:G:C5	3.05	0.44
1:A:621:A:H8	1:A:621:A:O5'	2.00	0.44
1:A:613:C:N3	1:A:628:G:C2	2.85	0.44
1:A:683:G:H2'	1:A:684:A:O4'	2.17	0.44
1:A:760:G:C2'	1:A:761:G:H5'	2.48	0.44
2:B:204:ASN:ND2	2:B:205:ASP:N	2.64	0.44
3:C:22:TRP:HB2	3:C:23:TYR:H	1.63	0.44
10:J:45:ARG:HB2	10:J:65:LEU:HB3	1.99	0.44
11:K:33:THR:OG1	11:K:38:ASN:N	2.51	0.44
12:L:39:VAL:H	12:L:57:LYS:HB2	1.82	0.44
13:M:2:ALA:N	13:M:11:ARG:HD2	2.32	0.44
19:S:22:LEU:HD22	19:S:28:LYS:HD2	1.99	0.44
19:S:40:ILE:HA	19:S:44:MET:HE3	1.99	0.44
1:A:1152:A:H5'	10:J:13:HIS:HB2	2.00	0.44
1:A:120:A:C6	1:A:122:G:C2	3.06	0.44
1:A:124:G:C6	1:A:125:U:C4	3.05	0.44
1:A:1443:G:C4'	1:A:1446:A:H5'	2.48	0.44
1:A:190(F):G:C4'	1:A:190(G):G:OP2	2.49	0.44
1:A:190(L):U:C2'	1:A:191:G:H5'	2.46	0.44
1:A:255:G:C2	1:A:256:U:C4	3.05	0.44
1:A:282:A:C5	1:A:283:C:C6	3.05	0.44
1:A:285:G:O2'	1:A:286:G:H5'	2.17	0.44
1:A:348:G:O2'	1:A:349:A:H5'	2.18	0.44
1:A:454:C:C2'	1:A:455:C:H5'	2.45	0.44
1:A:575:G:N2	1:A:881:G:C4	2.85	0.44
1:A:662:G:N2	1:A:663:A:C5	2.85	0.44
1:A:687:A:O2'	1:A:688:G:OP2	2.30	0.44
1:A:792:A:C2	1:A:794:A:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:960:U:O2	1:A:960:U:H2'	2.17	0.44
1:A:958:A:H2	1:A:985:C:O2	2.00	0.44
3:C:108:ASN:HA	3:C:109:PRO:HD2	1.74	0.44
3:C:155:GLY:O	3:C:156:ARG:HB2	2.17	0.44
1:A:8:A:N7	4:D:209:ARG:HA	2.32	0.44
6:F:19:LEU:HD11	6:F:59:TYR:CZ	2.52	0.44
6:F:91:VAL:HG12	6:F:92:LYS:O	2.17	0.44
1:A:600:C:OP1	8:H:97:VAL:HG12	2.18	0.44
14:N:36:PHE:CD1	14:N:36:PHE:C	2.90	0.44
1:A:279:A:H8	17:Q:95:TYR:CE2	2.28	0.44
18:R:47:THR:CA	18:R:83:GLU:HB2	2.45	0.44
1:A:1075:C:OP1	2:B:103:THR:HG21	2.18	0.44
1:A:1110:A:C8	1:A:1110:A:O5'	2.69	0.44
1:A:1142:G:H2'	1:A:1143:G:O4'	2.16	0.44
1:A:1145:C:H1'	1:A:1146:A:C8	2.51	0.44
1:A:1237:C:C4'	1:A:1334:G:N2	2.81	0.44
1:A:1240:U:HO2'	1:A:1241:G:P	2.40	0.44
1:A:1358:U:H2'	1:A:1359:C:C6	2.52	0.44
1:A:68:G:H5'	1:A:171:A:H1'	2.00	0.44
1:A:197:A:N6	1:A:221:C:C5'	2.81	0.44
1:A:225:C:O5'	1:A:225:C:H6	2.01	0.44
1:A:262:A:C2	1:A:263:A:C2	3.06	0.44
1:A:33:A:O5'	1:A:33:A:H8	2.01	0.44
1:A:455:C:C2'	1:A:456:C:H5'	2.48	0.44
1:A:725:G:C4	1:A:726:C:C6	3.06	0.44
1:A:766:A:C2'	1:A:767:A:H5'	2.47	0.44
1:A:900:A:O2'	1:A:901:A:C5'	2.63	0.44
1:A:949:A:C6	1:A:1233:G:C2	3.06	0.44
1:A:973:G:H2'	1:A:974:A:C8	2.52	0.44
2:B:74:LYS:HE3	2:B:206:ASP:HA	1.99	0.44
3:C:123:GLN:O	3:C:128:PHE:HB2	2.17	0.44
3:C:191:THR:HG22	3:C:192:THR:H	1.82	0.44
4:D:64:LEU:HD12	4:D:75:PHE:HE1	1.83	0.44
5:E:130:ASN:O	5:E:131:ILE:C	2.56	0.44
5:E:13:ILE:HA	5:E:29:GLY:O	2.17	0.44
7:G:69:VAL:O	7:G:71:PRO:HD3	2.18	0.44
9:I:17:VAL:HG21	9:I:80:GLY:CA	2.43	0.44
9:I:18:PHE:HB2	9:I:62:TYR:O	2.17	0.44
1:A:972:C:O2	10:J:55:LYS:HD2	2.17	0.44
1:A:1368:G:OP1	10:J:62:HIS:HE1	2.00	0.44
16:P:39:TYR:CG	16:P:73:LEU:HD11	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:28:LYS:HD3	19:S:31:ILE:CD1	2.48	0.44
20:T:43:LEU:CD1	20:T:52:ALA:HA	2.48	0.44
20:T:56:MET:HG3	20:T:84:LEU:CD2	2.47	0.44
1:A:1013:G:H2'	1:A:1015:A:OP2	2.17	0.44
1:A:1182:G:H4'	1:A:1183:A:C5'	2.47	0.44
1:A:1296:C:H4'	1:A:1302:U:O4	2.16	0.44
1:A:1311:G:C6	1:A:1312:G:C8	3.04	0.44
1:A:1342:C:HO2'	1:A:1343:G:H5'	1.78	0.44
1:A:1412:C:H2'	1:A:1413:A:C8	2.52	0.44
1:A:202:U:C6	1:A:202:U:O5'	2.67	0.44
1:A:19:C:O2'	1:A:20:U:H5'	2.17	0.44
1:A:341:C:O2'	1:A:342:C:H5'	2.18	0.44
1:A:342:C:C2	1:A:348:G:N2	2.85	0.44
1:A:373:A:O2'	1:A:374:A:H5'	2.18	0.44
1:A:416:G:C6	1:A:417:C:N3	2.86	0.44
1:A:439:A:N9	1:A:497:A:C2	2.84	0.44
1:A:502:G:C5	1:A:503:C:C5	3.06	0.44
1:A:663:A:C5	1:A:664:G:N7	2.85	0.44
1:A:683:G:C5	1:A:684:A:C5	3.05	0.44
1:A:765:G:C6	1:A:812:C:C2	3.06	0.44
1:A:812:C:O2'	1:A:813:U:OP2	2.30	0.44
1:A:952:U:C2'	1:A:953:G:H5'	2.48	0.44
5:E:43:LEU:C	5:E:43:LEU:CD2	2.86	0.44
8:H:6:ILE:HD11	8:H:31:PHE:CD2	2.53	0.44
2:B:178:ARG:CG	8:H:72:PRO:HA	2.48	0.44
9:I:18:PHE:HD1	9:I:62:TYR:HD2	1.66	0.44
13:M:54:VAL:O	13:M:57:ARG:HB3	2.18	0.44
19:S:80:TYR:CG	19:S:81:ARG:N	2.85	0.44
20:T:62:LEU:HA	20:T:62:LEU:HD23	1.72	0.44
1:A:1158:C:C4	1:A:1160:G:C8	3.06	0.44
1:A:954:G:N2	1:A:1228:C:N4	2.66	0.44
1:A:1239:A:H2'	1:A:1298:C:H42	1.81	0.44
1:A:1435:G:C2'	1:A:1436:U:H6	2.13	0.44
1:A:1392:G:H21	1:A:1502:A:H8	1.64	0.44
1:A:177:C:H2'	1:A:178:C:H6	1.83	0.44
1:A:141:A:O2'	1:A:182:U:H1'	2.17	0.44
1:A:282:A:H3'	1:A:283:C:H6	1.83	0.44
1:A:292:G:C2'	1:A:293:G:O5'	2.66	0.44
1:A:427:U:C4	1:A:428:G:C6	3.05	0.44
1:A:604:G:O6	1:A:605:U:C4	2.71	0.44
1:A:624:C:O2'	1:A:625:G:C5'	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:686:U:H2'	1:A:687:A:C8	2.53	0.44
1:A:766:A:H2'	1:A:767:A:H5'	1.99	0.44
1:A:890:G:O2'	1:A:891:U:P	2.75	0.44
1:A:89:C:O2'	1:A:90:U:O5'	2.33	0.44
3:C:118:GLN:O	3:C:119:ARG:C	2.56	0.44
1:A:1055:A:C1'	3:C:156:ARG:NH1	2.79	0.44
3:C:125:GLU:HG2	3:C:189:ALA:HB1	1.99	0.44
5:E:134:ALA:O	5:E:138:ALA:HB2	2.17	0.44
1:A:15:G:O2'	5:E:24:ARG:NH1	2.51	0.44
7:G:122:HIS:HA	7:G:125:MET:CE	2.38	0.44
8:H:36:LEU:CD2	8:H:61:VAL:HG21	2.47	0.44
8:H:26:VAL:HG13	8:H:59:LEU:HB2	1.99	0.44
8:H:83:ILE:CG2	8:H:83:ILE:O	2.65	0.44
8:H:91:ARG:HG3	12:L:7:ILE:HD12	2.00	0.44
9:I:85:LEU:HA	9:I:85:LEU:HD12	1.75	0.44
11:K:110:ASP:HB3	18:R:85:LEU:HB3	1.99	0.44
13:M:3:ARG:HB3	13:M:4:ILE:CG1	2.45	0.44
13:M:44:ARG:HD2	13:M:44:ARG:HA	1.75	0.44
19:S:41:VAL:CG2	19:S:44:MET:HB2	2.44	0.44
1:A:1014:A:C2	1:A:1219:U:H1'	2.53	0.44
1:A:1085:U:H3'	1:A:1086:U:C5	2.53	0.44
1:A:113:G:H2'	1:A:114:U:C6	2.52	0.44
1:A:1229:A:H2'	1:A:1230:C:C6	2.53	0.44
1:A:1273:G:H2'	1:A:1274:G:O4'	2.18	0.44
1:A:1378:C:C6	1:A:1379:G:C8	3.05	0.44
1:A:1450:U:O2'	1:A:1451:A:H8	1.99	0.44
1:A:319:G:C2	1:A:320:C:C6	3.06	0.44
1:A:370:C:H2'	1:A:371:G:C5'	2.48	0.44
1:A:414:A:N7	1:A:431:A:C2	2.86	0.44
1:A:440:A:C5'	1:A:442:C:OP2	2.65	0.44
1:A:455:C:H6	1:A:455:C:O5'	2.00	0.44
1:A:718:G:C5	1:A:719:C:C4	3.06	0.44
1:A:864:A:H2'	1:A:865:A:C8	2.52	0.44
1:A:887:G:H2'	1:A:888:G:C8	2.52	0.44
1:A:93:G:N1	1:A:95:U:C2	2.86	0.44
3:C:6:HIS:CD2	3:C:6:HIS:C	2.91	0.44
4:D:79:PHE:C	4:D:79:PHE:CD2	2.91	0.44
8:H:63:LEU:HD23	8:H:65:TYR:OH	2.17	0.44
11:K:98:LEU:C	11:K:100:ALA:H	2.20	0.44
12:L:85:ILE:CG2	12:L:98:TYR:HB3	2.48	0.44
13:M:26:GLY:C	13:M:28:ALA:N	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:53:LEU:O	14:N:56:VAL:HB	2.17	0.44
17:Q:66:SER:OG	17:Q:69:LYS:HB3	2.18	0.44
1:A:1126:U:O2'	1:A:1127:G:OP1	2.31	0.44
1:A:1250:A:H5'	9:I:68:GLY:O	2.17	0.44
1:A:1500:A:N3	1:A:1501:C:C6	2.85	0.44
1:A:197:A:H1'	1:A:198:G:O4'	2.18	0.44
1:A:436:C:C2'	1:A:437:U:O5'	2.66	0.44
1:A:502:G:C6	1:A:503:C:C4	3.06	0.44
1:A:539:A:H2'	1:A:540:G:H8	1.81	0.44
1:A:544:G:C6	1:A:545:C:C4	3.06	0.44
1:A:579:G:N3	1:A:580:U:C6	2.86	0.44
1:A:633:G:C5	1:A:634:C:C5	3.05	0.44
1:A:650:G:H2'	1:A:651:C:C5'	2.43	0.44
1:A:763:G:C2	1:A:764:C:C6	3.06	0.44
1:A:849:C:C4	1:A:850:U:C5	3.06	0.44
2:B:142:LEU:O	2:B:143:GLU:C	2.56	0.44
9:I:97:LYS:N	9:I:98:PRO:CD	2.80	0.44
1:A:264:U:O2'	17:Q:63:ARG:HG2	2.17	0.44
1:A:1083:U:C5	1:A:1084:G:C5	3.06	0.44
1:A:1504:G:O2'	1:A:1505:G:P	2.75	0.44
1:A:178:C:C2	1:A:179:A:C8	3.06	0.44
1:A:246:A:H3'	17:Q:100:LYS:HD3	2.00	0.44
1:A:23:C:N3	1:A:24:U:C5	2.86	0.44
1:A:278:G:OP2	17:Q:41:LYS:NZ	2.49	0.44
1:A:414:A:H2'	1:A:415:A:O4'	2.18	0.44
1:A:481:G:O4'	1:A:481:G:OP2	2.35	0.44
1:A:552:U:O2'	1:A:553:A:H5'	2.18	0.44
1:A:745:C:O2'	1:A:746:A:H5'	2.18	0.44
1:A:767:A:C6	1:A:768:A:C6	3.06	0.44
1:A:792:A:O2'	1:A:794:A:C8	2.69	0.44
1:A:572:A:N1	1:A:864:A:C5	2.85	0.44
1:A:568:G:N2	1:A:883:C:C4	2.86	0.44
1:A:89:C:H2'	1:A:90:U:O5'	2.18	0.44
1:A:949:A:C6	1:A:1233:G:N1	2.86	0.44
1:A:956:U:O2'	1:A:957:U:H5'	2.18	0.44
1:A:986:A:C2	1:A:987:G:C4	3.06	0.44
1:A:993:G:HO2'	1:A:994:A:P	2.40	0.44
4:D:8:VAL:C	4:D:10:ARG:N	2.71	0.44
6:F:22:GLU:HA	6:F:25:ILE:CD1	2.48	0.44
8:H:94:TYR:CE2	8:H:132:GLU:HG3	2.53	0.44
13:M:2:ALA:HB1	13:M:45:VAL:HG12	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:76:LEU:HD23	17:Q:76:LEU:C	2.39	0.44
13:M:84:ILE:HG21	19:S:66:MET:SD	2.58	0.44
1:A:1010:G:N3	1:A:1011:G:C8	2.86	0.43
1:A:1145:C:HO2'	1:A:1146:A:P	2.38	0.43
1:A:1221:G:OP1	1:A:1321:C:N3	2.51	0.43
1:A:1447:G:N3	1:A:1448:C:C6	2.86	0.43
1:A:162:A:C8	1:A:162:A:O5'	2.66	0.43
1:A:181:G:N2	1:A:195:A:N9	2.65	0.43
1:A:292:G:H2'	1:A:293:G:O5'	2.18	0.43
1:A:338:A:N3	1:A:339:C:C6	2.86	0.43
1:A:542:G:H2'	1:A:543:C:C6	2.53	0.43
1:A:580:U:C2'	1:A:580:U:O2	2.59	0.43
1:A:604:G:C2	1:A:635:G:C5	3.05	0.43
1:A:683:G:O6	1:A:684:A:C6	2.71	0.43
1:A:775:G:O6	1:A:776:G:C6	2.71	0.43
2:B:155:LEU:HA	2:B:155:LEU:HD23	1.70	0.43
3:C:73:PRO:O	3:C:75:VAL:N	2.51	0.43
4:D:125:HIS:ND1	4:D:152:SER:OG	2.50	0.43
8:H:48:TYR:N	8:H:48:TYR:CD2	2.86	0.43
9:I:104:ARG:NH1	9:I:104:ARG:CG	2.77	0.43
19:S:28:LYS:HG2	19:S:29:ARG:N	2.19	0.43
1:A:1055:A:C2'	3:C:156:ARG:NH1	2.82	0.43
1:A:1079:G:C6	1:A:1080:A:N6	2.86	0.43
1:A:1097:C:O2'	1:A:1168:A:H1'	2.17	0.43
1:A:1182:G:O2'	1:A:1183:A:OP2	2.34	0.43
1:A:1240:U:O4	7:G:30:ILE:HG23	2.18	0.43
1:A:1295:G:H4'	13:M:14:ARG:HH22	1.84	0.43
1:A:1305:G:H22	1:A:1331:G:H2'	1.81	0.43
1:A:1382:C:H6	1:A:1382:C:O5'	2.01	0.43
1:A:1425:U:H2'	1:A:1426:C:H6	1.82	0.43
1:A:1440:C:H2'	1:A:1441:G:H5'	1.98	0.43
1:A:322:C:HO2'	1:A:323:U:H5'	1.83	0.43
1:A:517:G:N2	1:A:533:A:OP2	2.50	0.43
1:A:553:A:H2'	1:A:554:C:C6	2.53	0.43
1:A:766:A:C8	1:A:813:U:O4	2.71	0.43
1:A:812:C:HO2'	1:A:813:U:P	2.39	0.43
1:A:575:G:C2	1:A:881:G:N3	2.86	0.43
3:C:9:GLY:CA	3:C:12:LEU:HD21	2.44	0.43
4:D:64:LEU:O	4:D:67:ILE:HB	2.18	0.43
6:F:21:LEU:O	6:F:25:ILE:HG13	2.17	0.43
7:G:57:GLU:O	7:G:61:VAL:HG23	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:30:VAL:HG21	11:K:65:ALA:HA	1.99	0.43
16:P:67:THR:HB	16:P:70:ALA:CB	2.48	0.43
17:Q:16:GLN:O	17:Q:18:THR:N	2.51	0.43
18:R:59:SER:H	18:R:62:GLU:HB2	1.83	0.43
21:V:12:LYS:O	21:V:16:GLY:N	2.51	0.43
1:A:1006:C:O2'	1:A:1007:C:H5'	2.18	0.43
1:A:1135:U:O3'	1:A:1136:U:C5	2.71	0.43
1:A:1168:A:C6	1:A:1169:A:C6	3.05	0.43
1:A:1223:C:OP1	1:A:1224:G:H3'	2.18	0.43
1:A:1460:A:C6	1:A:1461:G:C4	3.06	0.43
1:A:306:G:N3	1:A:306:G:H2'	2.33	0.43
1:A:373:A:C2'	1:A:374:A:O5'	2.67	0.43
1:A:540:G:H2'	1:A:541:G:O4'	2.18	0.43
1:A:719:C:H3'	1:A:720:C:C5	2.54	0.43
1:A:577:G:C1'	1:A:816:A:C4	2.98	0.43
1:A:850:U:O2	1:A:851:G:C8	2.70	0.43
1:A:862:C:O2'	1:A:863:U:C5'	2.66	0.43
1:A:890:G:O2'	1:A:906:G:N1	2.31	0.43
3:C:45:LYS:HD3	3:C:45:LYS:HA	1.55	0.43
5:E:115:VAL:HG11	5:E:118:ILE:CD1	2.48	0.43
1:A:35:G:H5'	12:L:104:VAL:CG2	2.48	0.43
15:O:54:ARG:C	15:O:56:LEU:N	2.70	0.43
19:S:62:ILE:HD12	19:S:66:MET:HE3	1.99	0.43
1:A:1130:A:P	9:I:20:ARG:HH22	2.42	0.43
1:A:1202:G:OP1	1:A:1202:G:H8	2.01	0.43
1:A:119:A:O2'	1:A:120:A:OP2	2.27	0.43
1:A:1210:C:H4'	1:A:1214:C:N4	2.33	0.43
1:A:1367:C:C2	1:A:1368:G:H8	2.31	0.43
1:A:1415:G:C2'	1:A:1416:G:H5'	2.48	0.43
1:A:1431:C:O2'	1:A:1432:G:H5'	2.17	0.43
1:A:149:A:N1	1:A:150:C:C4	2.87	0.43
1:A:354:G:N3	1:A:355:C:C6	2.87	0.43
1:A:428:G:HO2'	1:A:429:U:P	2.41	0.43
1:A:47:C:H6	1:A:365:U:H2'	1.84	0.43
1:A:577:G:N9	1:A:816:A:C2	2.86	0.43
1:A:867:G:C6	1:A:868:C:C5	3.06	0.43
2:B:118:LEU:HA	2:B:118:LEU:HD23	1.72	0.43
2:B:156:LYS:HD2	2:B:157:ARG:HD2	2.00	0.43
2:B:224:GLN:O	2:B:224:GLN:HG2	2.18	0.43
8:H:111:ILE:HG13	8:H:135:CYS:SG	2.58	0.43
1:A:1370:G:H5''	9:I:12:GLU:OE1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:54:LYS:NZ	12:L:74:GLY:HA2	2.34	0.43
17:Q:4:LYS:O	17:Q:60:ILE:HA	2.19	0.43
19:S:20:LEU:HD12	19:S:21:GLU:N	2.34	0.43
1:A:1029:C:N4	1:A:1032:G:H1	2.14	0.43
1:A:1187:G:H2'	1:A:1188:A:C8	2.54	0.43
1:A:1418:A:C6	1:A:1483:A:C5	3.06	0.43
1:A:1408:A:N6	1:A:1494:G:O6	2.52	0.43
1:A:294:U:H2'	1:A:295:C:C6	2.50	0.43
1:A:357:G:C4	1:A:358:U:C5	3.06	0.43
1:A:391:G:C6	1:A:392:G:C8	3.06	0.43
1:A:373:A:H1'	1:A:481:G:N3	2.33	0.43
1:A:590:C:H2'	1:A:591:U:H6	1.83	0.43
1:A:815:A:H4'	1:A:817:C:C4	2.53	0.43
1:A:929:G:O2'	1:A:930:C:H5'	2.19	0.43
1:A:1138:G:N3	1:A:1140:C:C6	2.87	0.43
1:A:118:U:C5	1:A:288:A:C5	3.06	0.43
1:A:1255:G:H3'	1:A:1279:A:H61	1.84	0.43
1:A:1372:U:H2'	1:A:1373:G:O4'	2.19	0.43
1:A:1411:C:H2'	1:A:1412:C:H6	1.84	0.43
1:A:1504:G:O5'	1:A:1505:G:H5'	2.19	0.43
1:A:257:G:C2	1:A:258:G:C4	3.06	0.43
1:A:406:G:C6	1:A:496:A:N7	2.86	0.43
1:A:425:G:H2'	1:A:426:G:C5'	2.49	0.43
1:A:706:A:H1'	11:K:29:ILE:CD1	2.48	0.43
1:A:670:G:C6	1:A:737:A:N1	2.87	0.43
1:A:949:A:N7	1:A:950:U:C4	2.86	0.43
5:E:9:LYS:O	5:E:32:VAL:HG13	2.18	0.43
8:H:51:VAL:HG12	8:H:52:ASP:N	2.32	0.43
9:I:33:PHE:HD2	9:I:34:ASN:OD1	2.01	0.43
1:A:1189:C:OP2	10:J:51:ARG:NH2	2.52	0.43
11:K:48:ILE:HD13	11:K:63:LEU:HB2	1.99	0.43
18:R:74:ARG:HB3	18:R:81:PHE:CZ	2.53	0.43
1:A:1061:G:C5	1:A:1062:U:N3	2.86	0.43
1:A:61:G:C5	1:A:107:G:C2	3.07	0.43
1:A:118:U:H5	1:A:288:A:C5	2.36	0.43
1:A:121:C:C4'	1:A:122:G:OP1	2.67	0.43
1:A:1243:C:H2'	1:A:1244:C:H6	1.78	0.43
1:A:1278:U:H5''	1:A:1279:A:C4'	2.48	0.43
1:A:1426:C:O2'	1:A:1427:U:H5'	2.19	0.43
1:A:1480:G:C5	1:A:1481:U:C5	3.06	0.43
1:A:104:G:H4'	1:A:174:C:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:241:C:N4	1:A:242:C:N4	2.66	0.43
1:A:341:C:C2	1:A:349:A:C2	3.06	0.43
1:A:381:C:H2'	1:A:382:A:H8	1.83	0.43
1:A:39:G:N1	1:A:40:C:C5	2.86	0.43
1:A:429:U:H4'	1:A:430:A:H5''	1.98	0.43
1:A:817:C:C2	1:A:819:A:O4'	2.71	0.43
1:A:925:G:N1	1:A:927:G:N7	2.67	0.43
1:A:927:G:H2'	1:A:928:G:O5'	2.19	0.43
3:C:180:ALA:CB	3:C:182:ILE:HG13	2.49	0.43
3:C:82:GLU:O	3:C:86:VAL:HG23	2.19	0.43
8:H:136:GLU:C	8:H:137:VAL:HG23	2.38	0.43
14:N:40:CYS:O	14:N:43:CYS:HB2	2.19	0.43
14:N:37:PHE:CE2	14:N:53:LEU:HD13	2.52	0.43
15:O:75:PRO:O	15:O:78:TYR:N	2.52	0.43
15:O:75:PRO:O	15:O:76:GLU:C	2.57	0.43
20:T:51:GLU:HA	20:T:54:LYS:HB2	2.00	0.43
1:A:1052:U:C4	1:A:1200:C:C2	3.06	0.43
1:A:1091:U:C2'	1:A:1092:A:O5'	2.67	0.43
1:A:1164:G:O2'	1:A:1165:C:H5'	2.19	0.43
1:A:1375:A:C2	1:A:1376:U:N1	2.85	0.43
1:A:1381:U:H2'	1:A:1382:C:C6	2.54	0.43
1:A:1489:G:C2'	1:A:1490:C:C5'	2.74	0.43
1:A:1488:G:C2	1:A:1489:G:C4	3.07	0.43
1:A:197:A:O2'	1:A:198:G:P	2.77	0.43
1:A:123:C:OP1	1:A:312:C:H5'	2.19	0.43
1:A:374:A:H2'	1:A:375:U:H6	1.83	0.43
1:A:436:C:O2'	1:A:437:U:H5'	2.18	0.43
1:A:818:G:O2'	1:A:820:U:H5	1.95	0.43
1:A:575:G:N2	1:A:881:G:N9	2.66	0.43
3:C:132:ARG:HH22	4:D:47:ARG:HH22	1.66	0.43
3:C:145:GLY:O	3:C:146:ALA:O	2.37	0.43
4:D:196:LEU:HA	4:D:197:PRO:HD2	1.88	0.43
9:I:118:LYS:HB3	9:I:119:ALA:H	1.62	0.43
10:J:49:VAL:HG12	10:J:50:ILE:N	2.34	0.43
12:L:8:ASN:O	12:L:9:GLN:C	2.57	0.43
14:N:31:ARG:HA	14:N:31:ARG:HD2	1.80	0.43
1:A:1107:C:N4	1:A:1108:G:N7	2.67	0.43
1:A:1181:G:C2'	1:A:1182:G:C8	3.01	0.43
1:A:1245:A:C2	1:A:1293:G:C2	3.07	0.43
1:A:1361(A):C:O2'	1:A:1362:C:H6	2.02	0.43
1:A:1371:G:C2	1:A:1372:U:C6	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1401:G:N1	1:A:1402:C:C2	2.87	0.43
1:A:1448:C:H2'	1:A:1448:C:O2	2.18	0.43
1:A:926:G:C2	1:A:1505:G:C4	3.06	0.43
1:A:425:G:H2'	1:A:426:G:H5'	1.99	0.43
1:A:605:U:H2'	1:A:606:G:C8	2.54	0.43
1:A:662:G:N3	1:A:663:A:C8	2.87	0.43
1:A:663:A:C6	1:A:664:G:C5	3.06	0.43
1:A:713:G:H21	1:A:777:A:H4'	1.81	0.43
1:A:718:G:C6	1:A:719:C:C4	3.06	0.43
1:A:75:G:C6	1:A:76:C:C4	3.06	0.43
1:A:7:G:O2'	1:A:8:A:P	2.77	0.43
1:A:1104:G:H4'	2:B:111:ARG:NH1	2.33	0.43
3:C:120:VAL:O	3:C:123:GLN:HB2	2.18	0.43
3:C:3:ASN:O	3:C:4:LYS:CB	2.65	0.43
1:A:427:U:OP1	4:D:13:ARG:NH2	2.52	0.43
4:D:165:MET:O	4:D:167:GLY:N	2.52	0.43
4:D:174:LEU:CD2	4:D:185:PHE:HA	2.49	0.43
4:D:199:ASN:O	4:D:200:GLU:C	2.58	0.43
4:D:25:ARG:C	4:D:27:TYR:N	2.71	0.43
7:G:108:ALA:O	7:G:111:ARG:HG3	2.19	0.43
7:G:111:ARG:NH1	7:G:122:HIS:HB3	2.34	0.43
8:H:103:VAL:O	8:H:104:ARG:C	2.57	0.43
9:I:105:ASP:HB3	9:I:107:ARG:HG2	2.01	0.43
13:M:74:VAL:O	13:M:75:ALA:C	2.58	0.43
16:P:53:VAL:O	16:P:57:ARG:HG3	2.18	0.43
17:Q:82:MET:O	17:Q:83:ASP:C	2.57	0.43
1:A:1044:A:C2'	1:A:1045:C:H5'	2.49	0.43
1:A:1293:G:H2'	1:A:1294:G:O4'	2.19	0.43
1:A:162:A:H2'	1:A:163:C:O4'	2.18	0.43
1:A:113:G:C5	1:A:315:A:N1	2.87	0.43
1:A:362:G:N2	1:A:365:U:OP2	2.51	0.43
1:A:41:G:N1	1:A:402:G:C6	2.87	0.43
1:A:406:G:C5	1:A:496:A:C8	3.07	0.43
1:A:415:A:C5	1:A:416:G:C5	3.07	0.43
1:A:437:U:H2'	1:A:438:G:O4'	2.18	0.43
1:A:517:G:O2'	1:A:530:G:C4'	2.56	0.43
1:A:718:G:C6	1:A:719:C:N3	2.87	0.43
1:A:742:G:C2'	1:A:743:U:H5'	2.49	0.43
1:A:581:G:C8	1:A:758:G:O6	2.72	0.43
1:A:774:G:C2	1:A:775:G:H1'	2.54	0.43
1:A:797:C:C2'	1:A:798:G:O5'	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:935:A:N1	7:G:3:ARG:NH2	2.66	0.43
2:B:211:ILE:HG13	2:B:211:ILE:H	1.36	0.43
4:D:104:VAL:HG21	4:D:140:VAL:CG2	2.36	0.43
4:D:19:LEU:HA	4:D:19:LEU:HD23	1.62	0.43
5:E:89:ILE:HD12	5:E:135:THR:OG1	2.18	0.43
10:J:87:THR:HG22	10:J:87:THR:O	2.19	0.43
15:O:54:ARG:O	15:O:57:LEU:N	2.52	0.43
18:R:51:LEU:HA	18:R:52:PRO:HD3	1.77	0.43
20:T:13:LEU:HD12	20:T:13:LEU:C	2.39	0.43
1:A:115:G:H1'	1:A:116:A:N7	2.34	0.42
1:A:1237:C:C2'	1:A:1238:A:OP1	2.67	0.42
1:A:1415:G:C4	1:A:1416:G:C8	3.07	0.42
1:A:142:G:H2'	1:A:143:A:C8	2.54	0.42
1:A:1497:G:N7	1:A:1498:U:C5	2.87	0.42
1:A:177:C:O2'	1:A:178:C:C5'	2.67	0.42
1:A:392:G:C6	1:A:393:A:N7	2.87	0.42
1:A:414:A:H2'	1:A:414:A:N3	2.34	0.42
1:A:43:C:H2'	1:A:43:C:O2	2.19	0.42
1:A:522:C:C2'	1:A:523:A:H5'	2.49	0.42
1:A:533:A:C6	1:A:536:C:C2	3.07	0.42
1:A:579:G:N7	1:A:580:U:H5	2.17	0.42
1:A:696:A:C5	1:A:697:U:C5	3.06	0.42
1:A:819:A:C4'	1:A:820:U:OP2	2.66	0.42
1:A:976:G:N7	1:A:1358:U:C2	2.86	0.42
1:A:1205:U:C1'	3:C:195:VAL:CG2	2.97	0.42
4:D:10:ARG:O	4:D:13:ARG:HB2	2.19	0.42
4:D:11:LEU:HD13	4:D:66:ARG:HD3	1.99	0.42
4:D:71:SER:O	4:D:74:GLN:N	2.48	0.42
6:F:1:MET:CG	6:F:68:PRO:HA	2.40	0.42
8:H:26:VAL:CG1	8:H:59:LEU:O	2.67	0.42
16:P:20:VAL:CG2	16:P:21:VAL:H	2.23	0.42
19:S:10:PHE:O	19:S:11:VAL:HG23	2.19	0.42
21:V:5:ASP:O	21:V:7:ARG:N	2.52	0.42
1:A:17:U:O2'	1:A:1079:G:N3	2.46	0.42
1:A:1208:C:O2'	1:A:1209:C:H5'	2.19	0.42
1:A:1214:C:H4'	1:A:1215:G:OP1	2.18	0.42
1:A:1306:A:C4	1:A:1307:U:C5	3.06	0.42
1:A:411:A:H2'	1:A:413:G:C8	2.54	0.42
1:A:411:A:C8	1:A:413:G:C4	3.07	0.42
1:A:458:C:N3	1:A:459:G:C8	2.87	0.42
1:A:605:U:O4	1:A:606:G:O6	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:655:A:C2'	1:A:656:C:H5'	2.49	0.42
1:A:883:C:O2'	1:A:884:U:H5'	2.19	0.42
1:A:973:G:C3'	1:A:974:A:H5''	2.49	0.42
3:C:8:ILE:C	3:C:10:PHE:N	2.72	0.42
3:C:114:PRO:HD3	3:C:183:ASP:OD1	2.18	0.42
4:D:38:TYR:N	4:D:38:TYR:CD2	2.69	0.42
8:H:10:LEU:HD22	8:H:83:ILE:HG12	2.01	0.42
10:J:20:ALA:O	10:J:24:VAL:HG23	2.20	0.42
13:M:21:TYR:N	13:M:21:TYR:CD1	2.85	0.42
16:P:50:LYS:C	16:P:51:VAL:HG23	2.40	0.42
20:T:33:ILE:HD11	20:T:63:ILE:CA	2.45	0.42
1:A:1057:G:C2'	1:A:1058:G:H8	2.30	0.42
1:A:1181:G:H2'	1:A:1182:G:N7	2.34	0.42
1:A:1202:G:H1'	14:N:42:ILE:CD1	2.49	0.42
1:A:1321:C:H2'	1:A:1322:C:C5	2.54	0.42
1:A:1388:C:H2'	1:A:1389:C:C6	2.54	0.42
1:A:319:G:C2'	1:A:320:C:H5'	2.49	0.42
1:A:366:C:H4'	1:A:367:U:OP1	2.19	0.42
1:A:412:A:O2'	1:A:413:G:OP2	2.29	0.42
1:A:44:G:C6	1:A:45:U:C2	3.08	0.42
1:A:463:A:C4	1:A:474:G:C8	3.07	0.42
1:A:501:C:H2'	1:A:502:G:C8	2.53	0.42
1:A:509:A:H8	1:A:509:A:C5'	2.33	0.42
1:A:518:C:H4'	1:A:519:C:O5'	2.17	0.42
1:A:663:A:N1	1:A:664:G:C5	2.88	0.42
1:A:724:G:C2	1:A:725:G:N9	2.87	0.42
1:A:819:A:C5'	1:A:820:U:OP2	2.67	0.42
1:A:939:G:H5''	7:G:102:ARG:HH22	1.82	0.42
2:B:15:VAL:HG13	2:B:209:ARG:HB3	2.00	0.42
2:B:54:THR:HG21	2:B:201:ILE:HD11	2.01	0.42
4:D:100:ARG:O	4:D:104:VAL:HG23	2.19	0.42
5:E:11:ILE:HA	5:E:11:ILE:HD13	1.74	0.42
7:G:148:ASN:C	7:G:150:ALA:N	2.72	0.42
8:H:44:PHE:CD2	8:H:44:PHE:N	2.88	0.42
9:I:124:GLN:HG3	9:I:124:GLN:O	2.19	0.42
10:J:71:LEU:HD13	10:J:72:VAL:H	1.84	0.42
14:N:58:LYS:HE3	14:N:58:LYS:HB3	1.43	0.42
15:O:82:ILE:O	15:O:83:GLU:C	2.57	0.42
18:R:52:PRO:HB2	18:R:54:ARG:HG3	2.01	0.42
1:A:1442:G:N1	1:A:1446:A:C8	2.87	0.42
1:A:1450:U:N3	1:A:1452:C:N3	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1506:U:O4	1:A:1521:G:H5''	2.20	0.42
1:A:1528:U:HO2'	1:A:1529:G:P	2.40	0.42
1:A:20:U:C4	1:A:21:G:C5	3.07	0.42
1:A:265:G:C4	1:A:267:C:C5	3.06	0.42
1:A:273:A:N6	1:A:274:A:C6	2.87	0.42
1:A:338:A:C6	1:A:339:C:C5	3.07	0.42
1:A:508:C:H4'	1:A:509:A:O5'	2.18	0.42
1:A:695:A:C2	1:A:696:A:C4	3.07	0.42
1:A:981:U:C6	1:A:982:U:C6	3.08	0.42
8:H:26:VAL:C	8:H:58:TYR:HD2	2.22	0.42
1:A:1150:U:H4'	10:J:41:PRO:HD3	2.00	0.42
11:K:77:MET:HB3	11:K:77:MET:HE2	1.88	0.42
12:L:119:LYS:O	12:L:120:TYR:CB	2.68	0.42
18:R:88:LYS:HD3	18:R:88:LYS:HA	1.80	0.42
1:A:101:A:O2'	1:A:102:G:C5'	2.67	0.42
1:A:1210:C:C4'	1:A:1214:C:N4	2.82	0.42
1:A:1349:A:C2'	1:A:1350:A:H8	2.25	0.42
1:A:1491:G:OP1	12:L:47:LYS:HE2	2.20	0.42
1:A:256:U:H2'	1:A:257:G:C8	2.53	0.42
1:A:43:C:C2'	1:A:43:C:O2	2.66	0.42
1:A:506:G:C5	1:A:507:C:C5	3.07	0.42
1:A:635:G:C4	1:A:636:U:C5	3.07	0.42
1:A:669:U:H2'	1:A:670:G:C8	2.55	0.42
1:A:707:C:H5''	11:K:20:TYR:CD2	2.54	0.42
1:A:866:C:C6	1:A:867:G:C1'	3.02	0.42
1:A:898:G:C6	1:A:902:G:C6	3.07	0.42
3:C:172:ARG:O	3:C:173:VAL:HG23	2.19	0.42
5:E:129:ILE:CG2	5:E:133:TYR:CE1	2.98	0.42
6:F:36:ARG:HB2	6:F:36:ARG:HE	1.32	0.42
7:G:141:VAL:O	7:G:144:MET:HB2	2.19	0.42
9:I:49:PRO:O	9:I:52:ALA:HB3	2.20	0.42
9:I:65:VAL:HG11	9:I:73:GLN:OE1	2.19	0.42
11:K:66:LEU:HD23	11:K:66:LEU:HA	1.94	0.42
19:S:20:LEU:O	19:S:23:ASN:HB2	2.19	0.42
20:T:14:LYS:O	20:T:18:GLN:HG3	2.20	0.42
1:A:1003:G:C5	1:A:1003(A):G:C8	3.08	0.42
1:A:1044:A:H2'	1:A:1045:C:H5'	2.00	0.42
1:A:1094:G:OP2	1:A:1095:U:H5	2.02	0.42
1:A:113:G:C4	1:A:114:U:C6	3.07	0.42
1:A:1183:A:O2'	1:A:1184:G:P	2.77	0.42
1:A:1237:C:C6	1:A:1336:C:C4	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1378:C:OP1	7:G:6:ARG:O	2.37	0.42
1:A:195:A:N3	1:A:222:U:O2'	2.44	0.42
1:A:393:A:C2	1:A:394:G:N9	2.88	0.42
1:A:418:C:N3	1:A:426:G:C2	2.88	0.42
1:A:57:G:C5	1:A:58:C:C4	3.08	0.42
1:A:600:C:H2'	1:A:601:C:C6	2.54	0.42
1:A:608:A:C2	1:A:609:A:C8	3.08	0.42
1:A:616:G:C2	1:A:625:G:C5	3.08	0.42
1:A:910:C:H5''	12:L:97:ARG:NH2	2.35	0.42
1:A:941:G:C2'	1:A:942:G:O5'	2.68	0.42
2:B:156:LYS:CD	2:B:157:ARG:HD2	2.49	0.42
3:C:12:LEU:HA	3:C:16:ARG:O	2.18	0.42
4:D:36:ARG:HG2	4:D:38:TYR:OH	2.20	0.42
5:E:101:ILE:HG22	5:E:101:ILE:O	2.19	0.42
1:A:1088:G:C4	1:A:1089:G:C8	3.07	0.42
1:A:1440:C:H2'	1:A:1441:G:C5'	2.50	0.42
1:A:1520:G:C2	1:A:1521:G:C5	3.08	0.42
1:A:174:C:C2	1:A:175:C:C6	3.06	0.42
1:A:291:C:C2'	1:A:292:G:H5'	2.50	0.42
1:A:486:U:C2'	1:A:487:A:H5'	2.49	0.42
1:A:495:U:O5'	1:A:495:U:H6	2.02	0.42
1:A:674:G:C5'	6:F:50:TYR:CE2	3.00	0.42
1:A:886:G:C2	1:A:887:G:C4	3.08	0.42
1:A:927:G:C6	1:A:1391:U:C2	3.08	0.42
3:C:8:ILE:HG23	3:C:16:ARG:HG2	2.02	0.42
4:D:136:PRO:C	4:D:138:TYR:H	2.23	0.42
5:E:118:ILE:HG21	5:E:118:ILE:HD13	1.77	0.42
5:E:139:LEU:O	5:E:142:LEU:HG	2.19	0.42
5:E:144:THR:HB	5:E:147:ASP:H	1.85	0.42
7:G:93:PRO:HG2	7:G:94:ARG:H	1.85	0.42
13:M:37:THR:CG2	13:M:37:THR:O	2.67	0.42
1:A:262:A:OP1	20:T:73:HIS:ND1	2.53	0.42
1:A:1135:U:O3'	1:A:1136:U:H5	2.02	0.42
1:A:1165:C:C4	1:A:1166:G:N7	2.88	0.42
1:A:1191:A:C5	1:A:1192:C:C5	3.07	0.42
1:A:1378:C:C5	1:A:1379:G:N9	2.88	0.42
1:A:1447:G:H2'	1:A:1448:C:H6	1.84	0.42
1:A:1508:G:C6	1:A:1509:C:C4	3.08	0.42
1:A:248:C:H2'	1:A:249:U:C5'	2.49	0.42
1:A:281:G:O2'	1:A:282:A:P	2.77	0.42
1:A:408:A:C2	1:A:409:G:N9	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:418:C:H2'	1:A:419:C:C6	2.54	0.42
1:A:500:G:H3'	1:A:500:G:C8	2.55	0.42
1:A:829:G:C2	1:A:830:G:C5	3.07	0.42
1:A:944:G:H3'	1:A:945:G:H5'	2.02	0.42
1:A:968:A:C5'	1:A:969:A:OP2	2.68	0.42
2:B:83:MET:O	2:B:86:GLU:HB2	2.20	0.42
4:D:79:PHE:O	4:D:79:PHE:CD2	2.73	0.42
5:E:32:VAL:O	5:E:43:LEU:HA	2.20	0.42
6:F:35:ALA:CA	6:F:67:MET:HB3	2.50	0.42
13:M:2:ALA:CB	13:M:45:VAL:HG12	2.50	0.42
14:N:6:LEU:HB3	14:N:23:ARG:NH2	2.33	0.42
1:A:1278:U:H5''	1:A:1279:A:C5'	2.50	0.42
1:A:129(A):G:N3	1:A:190(E):U:C5'	2.83	0.42
1:A:1381:U:O2	1:A:1381:U:C2'	2.68	0.42
1:A:142:G:C2	1:A:222:U:C2	3.08	0.42
1:A:266:G:C4'	1:A:266:G:C8	3.02	0.42
1:A:339:C:H2'	1:A:340:U:H6	1.84	0.42
1:A:39:G:N1	1:A:40:C:C6	2.88	0.42
1:A:540:G:H2'	1:A:541:G:H5'	2.00	0.42
1:A:627:G:H2'	1:A:628:G:O5'	2.20	0.42
1:A:75:G:C6	1:A:76:C:N4	2.87	0.42
1:A:801:U:O2'	1:A:802:A:H5'	2.20	0.42
1:A:885:G:O2'	1:A:914:A:C2	2.70	0.42
1:A:865:A:C2	1:A:918:A:H4'	2.54	0.42
1:A:940:C:C2	1:A:941:G:C8	3.08	0.42
1:A:940:C:C2'	1:A:941:G:H5'	2.50	0.42
1:A:978:A:C5	1:A:1319:A:N1	2.88	0.42
1:A:9:G:C2	1:A:10:A:C5	3.07	0.42
3:C:152:ILE:HG22	3:C:153:VAL:N	2.35	0.42
3:C:173:VAL:CG1	3:C:173:VAL:O	2.61	0.42
8:H:86:ILE:HD12	8:H:133:LEU:CD2	2.46	0.42
10:J:40:LEU:HG	10:J:69:ASN:CB	2.50	0.42
15:O:12:ILE:HG13	15:O:12:ILE:H	1.66	0.42
1:A:1069:C:H2'	1:A:1070:U:O5'	2.18	0.42
1:A:1072:G:C5	1:A:1073:U:C4	3.08	0.42
1:A:1091:U:N1	1:A:1093:A:OP2	2.53	0.42
1:A:1439:C:P	20:T:38:LYS:HZ2	2.43	0.42
1:A:1451:A:HO2'	1:A:1452:C:P	2.42	0.42
1:A:190(D):U:O2'	1:A:190(E):U:H5'	2.20	0.42
1:A:293:G:C6	1:A:305:G:N1	2.88	0.42
1:A:31:G:O2'	1:A:32:A:P	2.77	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:491:G:N1	1:A:492:G:C5	2.88	0.42
1:A:533:A:H2'	1:A:535:A:OP2	2.19	0.42
1:A:676:A:C5	1:A:677:U:C5	3.08	0.42
1:A:769:G:N2	1:A:770:C:N1	2.68	0.42
1:A:7:G:C5	1:A:298:A:C2	3.08	0.42
1:A:981:U:C2	1:A:982:U:C5	3.07	0.42
3:C:155:GLY:O	3:C:196:LEU:HD22	2.20	0.42
3:C:180:ALA:O	3:C:181:ASN:CB	2.68	0.42
3:C:180:ALA:HB1	3:C:182:ILE:HG13	2.02	0.42
3:C:191:THR:HG22	3:C:192:THR:N	2.35	0.42
4:D:162:LEU:O	4:D:163:GLU:C	2.59	0.42
5:E:144:THR:HG22	5:E:145:LYS:N	2.35	0.42
9:I:28:VAL:HG22	9:I:63:ILE:HB	2.02	0.42
13:M:96:LEU:O	13:M:110:ARG:NH1	2.53	0.42
15:O:53:HIS:O	15:O:57:LEU:HD13	2.20	0.42
16:P:59:TRP:HE3	16:P:59:TRP:HA	1.82	0.42
1:A:1019:C:H2'	1:A:1020:U:C5'	2.50	0.41
1:A:1054:C:O2'	1:A:1055:A:C5'	2.48	0.41
1:A:1055:A:N6	1:A:1206:G:C6	2.87	0.41
1:A:1398:A:H8	1:A:1398:A:H5''	1.85	0.41
1:A:1450:U:HO2'	1:A:1451:A:H8	1.68	0.41
1:A:185:A:C6	1:A:186:C:N4	2.88	0.41
1:A:223:U:H2'	1:A:224:C:O4'	2.19	0.41
1:A:22:G:C5	1:A:23:C:C4	3.07	0.41
1:A:284:G:C4	1:A:285:G:C8	3.08	0.41
1:A:28:G:O2'	1:A:296:U:OP1	2.29	0.41
1:A:300:A:C8	1:A:300:A:C3'	3.02	0.41
1:A:452:A:C2	1:A:453:A:H1'	2.55	0.41
1:A:448:A:N6	1:A:487:A:N9	2.68	0.41
1:A:508:C:OP1	4:D:209:ARG:NH2	2.53	0.41
1:A:533:A:HO2'	1:A:534:U:P	2.43	0.41
1:A:559:A:OP1	5:E:126:ARG:NH1	2.51	0.41
1:A:633:G:C6	1:A:634:C:N4	2.88	0.41
1:A:662:G:O2'	1:A:663:A:H5'	2.20	0.41
1:A:817:C:C4'	1:A:818:G:OP1	2.67	0.41
1:A:866:C:C5	1:A:867:G:C1'	3.03	0.41
1:A:889:A:C4	1:A:891:U:C4	3.08	0.41
2:B:22:LYS:HD2	2:B:40:HIS:HE1	1.85	0.41
4:D:117:ALA:O	4:D:120:LEU:HB2	2.20	0.41
4:D:188:LEU:HA	4:D:188:LEU:HD23	1.83	0.41
5:E:141:GLN:O	5:E:142:LEU:C	2.57	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:58:ALA:O	5:E:59:GLY:C	2.58	0.41
7:G:113:GLU:OE1	7:G:118:VAL:HG12	2.20	0.41
8:H:112:LEU:N	8:H:112:LEU:CD2	2.65	0.41
8:H:9:MET:CG	8:H:13:ILE:HD11	2.49	0.41
11:K:29:ILE:HG21	11:K:29:ILE:HD13	1.81	0.41
14:N:25:VAL:HG12	14:N:38:GLY:O	2.20	0.41
18:R:85:LEU:HD12	18:R:85:LEU:HA	1.89	0.41
18:R:85:LEU:HD12	18:R:86:VAL:H	1.85	0.41
1:A:1135:U:H4'	1:A:1136:U:C5	2.53	0.41
1:A:1233:G:C4	1:A:1234:C:C5	3.08	0.41
1:A:1237:C:H2'	1:A:1336:C:C5	2.55	0.41
1:A:1328:C:O3'	13:M:28:ALA:HB3	2.20	0.41
1:A:142:G:C6	1:A:143:A:C6	3.08	0.41
1:A:1466:C:H2'	1:A:1467:G:O4'	2.20	0.41
1:A:1480:G:C4	1:A:1481:U:C6	3.08	0.41
1:A:1505:G:O2'	1:A:1506:U:OP2	2.28	0.41
1:A:190(A):C:C2'	1:A:190(B):C:H5'	2.50	0.41
1:A:190(H):G:H2'	1:A:190(I):G:H8	1.85	0.41
1:A:243:A:C4	1:A:245:C:C4	3.07	0.41
1:A:307:C:H5''	1:A:308:C:OP2	2.19	0.41
1:A:371:G:C2'	1:A:372:C:C5'	2.96	0.41
1:A:411:A:H1'	1:A:413:G:C1'	2.50	0.41
1:A:463:A:C5	1:A:474:G:C5	3.08	0.41
1:A:538:G:H2'	1:A:539:A:C8	2.56	0.41
1:A:587:G:C6	1:A:755:G:C6	3.08	0.41
1:A:922:G:C6	1:A:923:A:N1	2.88	0.41
1:A:939:G:C5'	7:G:102:ARG:HH22	2.32	0.41
2:B:205:ASP:O	2:B:211:ILE:HG12	2.20	0.41
4:D:24:GLU:O	4:D:25:ARG:HB3	2.20	0.41
10:J:40:LEU:HA	10:J:40:LEU:HD23	1.72	0.41
17:Q:62:SER:OG	17:Q:72:ARG:HG3	2.20	0.41
1:A:279:A:H3'	17:Q:95:TYR:OH	2.20	0.41
18:R:56:THR:HB	18:R:58:LEU:HG	2.02	0.41
18:R:74:ARG:O	18:R:77:GLY:N	2.52	0.41
19:S:15:LEU:CA	19:S:18:LYS:HB3	2.42	0.41
20:T:56:MET:HG3	20:T:84:LEU:HD21	2.02	0.41
1:A:1031:G:H2'	1:A:1032:G:H8	1.85	0.41
1:A:1039:C:N3	1:A:1040:U:C5	2.89	0.41
1:A:1045:C:C2'	1:A:1046:A:O5'	2.69	0.41
1:A:1256:A:O2'	1:A:1257:U:OP2	2.38	0.41
1:A:1272:G:H2'	1:A:1273:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1286:A:H2'	1:A:1287:A:H4'	2.01	0.41
1:A:1291:G:N3	1:A:1292:U:C6	2.88	0.41
1:A:1324:A:C6	1:A:1325:C:N4	2.88	0.41
1:A:945:G:C6	1:A:1337:G:C6	3.09	0.41
1:A:1345:U:C2	1:A:1377:A:N1	2.89	0.41
1:A:923:A:N6	1:A:1392:G:O6	2.53	0.41
1:A:1398:A:C8	1:A:1398:A:H5''	2.55	0.41
1:A:1477:C:H2'	1:A:1478:C:C6	2.55	0.41
1:A:170:U:O2'	1:A:171:A:C5'	2.65	0.41
1:A:311:C:O2	1:A:311:C:H2'	2.19	0.41
1:A:332:G:C2'	1:A:333:G:H5'	2.50	0.41
1:A:495:U:H5''	1:A:496:A:OP2	2.20	0.41
1:A:555:C:C6	1:A:555:C:C3'	3.03	0.41
1:A:563:A:N7	1:A:567:G:C1'	2.83	0.41
1:A:58:C:C2'	1:A:58:C:O2	2.69	0.41
1:A:618:C:H3'	1:A:619:U:H5''	2.02	0.41
1:A:687:A:C2	1:A:704:A:C5	3.08	0.41
1:A:79:G:C2	1:A:91:C:C2	3.08	0.41
1:A:918:A:H2'	1:A:919:A:C8	2.54	0.41
1:A:955:U:C2'	1:A:956:U:H5'	2.51	0.41
3:C:112:SER:O	3:C:116:VAL:HG23	2.20	0.41
4:D:118:ARG:O	4:D:121:VAL:N	2.47	0.41
4:D:157:LEU:HB3	4:D:158:ILE:H	1.66	0.41
5:E:11:ILE:O	5:E:12:LEU:HB3	2.19	0.41
5:E:102:ALA:HB2	5:E:120:THR:CB	2.49	0.41
7:G:142:GLU:C	7:G:144:MET:N	2.73	0.41
8:H:127:LEU:HD13	8:H:127:LEU:HA	1.76	0.41
13:M:65:LYS:O	13:M:66:LEU:HD23	2.20	0.41
1:A:1114:C:H1'	14:N:60:SER:HB3	2.02	0.41
19:S:63:THR:HG22	19:S:64:GLU:N	2.35	0.41
21:V:10:ARG:HA	21:V:13:ILE:HD12	2.01	0.41
1:A:1004:A:H2'	1:A:1005:A:H8	1.83	0.41
1:A:1086:U:C2'	1:A:1087:G:H8	2.15	0.41
1:A:1232:U:C2'	1:A:1233:G:O5'	2.68	0.41
1:A:1321:C:H2'	1:A:1322:C:C6	2.54	0.41
1:A:1450:U:O2'	1:A:1451:A:C8	2.73	0.41
1:A:1486:G:C2	1:A:1487:G:C4	3.08	0.41
1:A:168:G:N1	1:A:169:C:C5	2.88	0.41
1:A:201:C:C4	1:A:203:U:C6	3.09	0.41
1:A:109:A:C2'	1:A:326:G:N2	2.53	0.41
1:A:376:G:O3'	16:P:5:ARG:HD2	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:401:C:H2'	1:A:402:G:C8	2.55	0.41
1:A:520:A:H2	1:A:536:C:O2	2.03	0.41
1:A:562:C:N3	1:A:884:U:H5	2.15	0.41
1:A:656:C:C2'	1:A:657:G:O5'	2.68	0.41
1:A:718:G:O4'	11:K:117:ASN:ND2	2.54	0.41
2:B:115:LEU:HD23	2:B:153:ARG:NE	2.35	0.41
2:B:222:ILE:O	2:B:225:ALA:HB3	2.21	0.41
2:B:84:GLU:HG3	2:B:215:LEU:CB	2.49	0.41
3:C:206:GLU:HB3	3:C:207:VAL:H	1.67	0.41
4:D:127:THR:HB	4:D:147:ALA:HB3	2.02	0.41
5:E:136:MET:O	5:E:137:GLU:C	2.58	0.41
8:H:5:PRO:O	8:H:6:ILE:C	2.58	0.41
12:L:45:PRO:HG2	12:L:51:ALA:N	2.35	0.41
13:M:67:GLU:C	13:M:69:GLU:H	2.24	0.41
19:S:45:VAL:HG11	19:S:64:GLU:HA	2.03	0.41
1:A:175:C:H4'	20:T:25:ARG:NH1	2.36	0.41
20:T:50:GLU:CB	20:T:99:LEU:HD12	2.32	0.41
1:A:101:A:C2	1:A:102:G:C5	3.08	0.41
1:A:1049:U:O2'	1:A:1050:G:OP2	2.32	0.41
1:A:1075:C:O5'	1:A:1075:C:H6	2.03	0.41
1:A:1325:C:H2'	1:A:1326:C:C6	2.55	0.41
1:A:1371:G:OP1	9:I:11:LYS:HD3	2.20	0.41
1:A:1396:A:H4'	1:A:1397:C:C5'	2.50	0.41
1:A:284:G:H2'	1:A:285:G:H8	1.84	0.41
1:A:513:C:H2'	1:A:514:C:H6	1.86	0.41
1:A:592:G:C2	1:A:593:G:N7	2.88	0.41
1:A:688:G:C6	1:A:700:G:C2	3.08	0.41
1:A:798:G:H2'	1:A:799:G:O5'	2.20	0.41
1:A:872:A:H2'	1:A:872:A:N3	2.36	0.41
1:A:915:A:C2'	1:A:916:G:O5'	2.68	0.41
1:A:924:C:C2'	1:A:925:G:C5'	2.98	0.41
1:A:9:G:C2	1:A:10:A:N7	2.89	0.41
4:D:71:SER:O	4:D:72:GLU:C	2.58	0.41
7:G:27:ILE:O	7:G:28:ASN:C	2.58	0.41
8:H:123:GLU:O	8:H:127:LEU:N	2.50	0.41
8:H:136:GLU:O	8:H:137:VAL:HG23	2.20	0.41
12:L:105:TYR:HB3	12:L:106:ASP:H	1.61	0.41
12:L:75:HIS:CD2	12:L:76:ASN:N	2.88	0.41
12:L:24:VAL:HG13	12:L:98:TYR:CE2	2.55	0.41
16:P:62:VAL:CG1	16:P:62:VAL:O	2.68	0.41
1:A:1130:A:O5'	1:A:1131:G:OP2	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1179:A:H2'	1:A:1180:A:H8	1.85	0.41
1:A:1231:G:H2'	1:A:1232:U:C6	2.53	0.41
1:A:1267:C:C6	1:A:1268:A:C8	3.09	0.41
1:A:1299:A:C5	1:A:1301:U:C2	3.09	0.41
1:A:1305:G:N2	1:A:1331:G:C2'	2.83	0.41
1:A:1348:U:H2'	1:A:1349:A:H8	1.85	0.41
1:A:1414:U:H2'	1:A:1415:G:H8	1.86	0.41
1:A:144:G:C6	1:A:145:G:N7	2.89	0.41
1:A:296:U:H2'	1:A:297:G:H8	1.84	0.41
1:A:404:U:H5'	4:D:122:ARG:NE	2.35	0.41
1:A:433:C:O2'	1:A:434:U:H5'	2.20	0.41
1:A:436:C:C2	1:A:437:U:C5	3.08	0.41
1:A:577:G:C6	1:A:578:C:C5	3.08	0.41
1:A:581:G:N7	1:A:758:G:C5	2.87	0.41
1:A:680:C:O2	1:A:711:G:C2	2.73	0.41
1:A:710:G:OP1	6:F:54:LYS:HE3	2.20	0.41
1:A:753:A:H5'	1:A:754:C:C5	2.56	0.41
1:A:791:G:C2'	1:A:792:A:H5'	2.51	0.41
1:A:807:A:C6	1:A:808:C:C4	3.09	0.41
1:A:823:G:C6	1:A:878:G:C6	3.08	0.41
1:A:865:A:H2	1:A:918:A:H4'	1.86	0.41
1:A:914:A:HO2'	1:A:915:A:H5'	1.74	0.41
1:A:949:A:C6	1:A:950:U:N3	2.89	0.41
3:C:154:SER:OG	3:C:197:GLY:N	2.48	0.41
3:C:54:ARG:H	3:C:69:HIS:HB2	1.86	0.41
3:C:73:PRO:C	3:C:75:VAL:N	2.73	0.41
3:C:6:HIS:CD2	3:C:9:GLY:H	2.37	0.41
4:D:145:GLU:HG2	4:D:184:LYS:HE2	2.02	0.41
6:F:79:LEU:HD23	6:F:79:LEU:HA	1.89	0.41
7:G:151:TYR:O	7:G:153:HIS:N	2.48	0.41
10:J:57:LYS:HB2	10:J:60:ARG:NH2	2.34	0.41
13:M:84:ILE:CG2	19:S:66:MET:SD	3.07	0.41
13:M:94:ARG:HH22	19:S:81:ARG:HD2	1.85	0.41
1:A:1073:U:C2'	1:A:1074:G:H5'	2.51	0.41
1:A:1083:U:H5	1:A:1084:G:C6	2.33	0.41
1:A:1126:U:C5	1:A:1126:U:P	3.14	0.41
1:A:10:A:C2	1:A:11:G:C4	3.08	0.41
1:A:1248:A:C5	1:A:1249:C:C5	3.08	0.41
1:A:1504:G:HO2'	1:A:1505:G:P	2.44	0.41
1:A:217:C:O2'	1:A:218:C:H5'	2.20	0.41
1:A:59:A:N1	1:A:354:G:C8	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:374:A:H2'	1:A:375:U:C6	2.56	0.41
1:A:412:A:O2'	1:A:413:G:P	2.79	0.41
1:A:418:C:H2'	1:A:419:C:H6	1.84	0.41
1:A:540:G:C2'	1:A:541:G:C5'	2.97	0.41
1:A:562:C:O2'	12:L:15:ARG:HB3	2.20	0.41
1:A:592:G:C2	1:A:593:G:C5	3.09	0.41
1:A:59:A:C6	1:A:354:G:C5	3.09	0.41
1:A:593:G:C2	1:A:647:C:O2	2.74	0.41
1:A:654:G:O6	1:A:655:A:C6	2.73	0.41
1:A:660:G:H2'	1:A:661:G:O5'	2.20	0.41
1:A:718:G:C4'	11:K:117:ASN:HD21	2.33	0.41
1:A:794:A:C8	1:A:795:C:C5	3.09	0.41
1:A:939:G:H5''	7:G:102:ARG:CZ	2.50	0.41
1:A:970:C:H5''	1:A:972:C:C6	2.54	0.41
2:B:16:HIS:HE2	2:B:213:LEU:HD13	1.84	0.41
3:C:130:VAL:HB	3:C:157:ILE:HG23	2.02	0.41
4:D:78:LEU:HA	4:D:78:LEU:HD23	1.53	0.41
7:G:27:ILE:HA	7:G:30:ILE:HD13	2.03	0.41
8:H:26:VAL:HA	8:H:27:PRO:HD3	1.92	0.41
8:H:63:LEU:HA	8:H:63:LEU:HD12	1.76	0.41
9:I:47:LEU:C	9:I:49:PRO:HD2	2.40	0.41
10:J:64:GLU:OE2	14:N:59:ALA:HA	2.20	0.41
14:N:3:ARG:O	14:N:6:LEU:N	2.44	0.41
16:P:74:LEU:HB3	16:P:79:VAL:HG21	2.01	0.41
18:R:59:SER:OG	18:R:62:GLU:HG3	2.21	0.41
1:A:1037:C:H6	1:A:1037:C:O5'	2.04	0.41
1:A:110:C:N4	1:A:111:G:C6	2.88	0.41
1:A:1141:C:O2'	1:A:1142:G:H5'	2.21	0.41
1:A:1143:G:H2'	1:A:1144:G:O4'	2.20	0.41
1:A:1370:G:C5'	9:I:12:GLU:OE1	2.69	0.41
1:A:1508:G:C2'	1:A:1509:C:H5'	2.51	0.41
1:A:279:A:O2'	1:A:280:C:P	2.78	0.41
1:A:318:G:N3	1:A:319:G:C8	2.88	0.41
1:A:325:A:C8	1:A:326:G:N7	2.89	0.41
1:A:451:A:C2	1:A:480:U:C4	3.08	0.41
1:A:550:G:C5	1:A:551:U:C5	3.08	0.41
1:A:563:A:C8	1:A:567:G:C1'	3.04	0.41
1:A:575:G:HO2'	1:A:576:G:P	2.43	0.41
1:A:872:A:N1	1:A:874:G:C5	2.86	0.41
1:A:945:G:O6	1:A:1337:G:C6	2.73	0.41
3:C:22:TRP:HZ3	3:C:24:ALA:CB	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:6:HIS:HA	3:C:7:PRO:HD2	1.65	0.41
5:E:62:ALA:O	5:E:64:ARG:N	2.54	0.41
6:F:55:ASP:HA	6:F:56:PRO:HD2	1.68	0.41
8:H:107:LEU:HD23	8:H:107:LEU:HA	1.86	0.41
8:H:73:ASP:N	8:H:74:PRO:CD	2.84	0.41
1:A:716:A:N3	11:K:117:ASN:O	2.53	0.41
1:A:1228:C:H4'	13:M:115:LYS:O	2.21	0.41
1:A:1020:U:HO2'	1:A:1021:G:H5'	1.75	0.41
1:A:1054:C:OP2	1:A:1197:G:OP1	2.38	0.41
1:A:1202:G:H1'	14:N:42:ILE:HD12	2.02	0.41
1:A:1241:G:H2'	1:A:1241:G:N3	2.35	0.41
1:A:941:G:C6	1:A:1343:G:C6	3.09	0.41
1:A:1366:C:O2'	1:A:1367:C:H5'	2.21	0.41
1:A:1345:U:O2'	1:A:1377:A:N1	2.47	0.41
1:A:142:G:C2	1:A:222:U:N3	2.88	0.41
1:A:22:G:O2'	1:A:23:C:C5'	2.69	0.41
1:A:416:G:H2'	1:A:417:C:C6	2.55	0.41
1:A:428:G:C4	1:A:430:A:C6	3.08	0.41
1:A:428:G:N1	1:A:430:A:N6	2.68	0.41
1:A:595:G:O2'	1:A:596:C:C5	2.65	0.41
1:A:605:U:O2'	1:A:606:G:H5'	2.21	0.41
1:A:622:A:H3'	1:A:623:C:C6	2.54	0.41
1:A:751:U:C4	1:A:752:G:C6	3.08	0.41
1:A:783:C:H2'	1:A:784:C:C5'	2.50	0.41
1:A:949:A:C6	1:A:1233:G:C6	3.08	0.41
1:A:986:A:C6	1:A:987:G:C6	3.09	0.41
1:A:986:A:H2'	1:A:987:G:H8	1.86	0.41
2:B:170:GLU:C	2:B:172:ILE:N	2.74	0.41
2:B:214:ILE:HG23	2:B:217:ARG:HH21	1.85	0.41
2:B:17:PHE:O	2:B:41:ILE:HG23	2.21	0.41
3:C:23:TYR:CG	3:C:24:ALA:N	2.89	0.41
3:C:90:GLU:O	3:C:93:LYS:HB2	2.21	0.41
4:D:64:LEU:HD12	4:D:75:PHE:CE1	2.55	0.41
1:A:1240:U:C4	7:G:30:ILE:HG23	2.56	0.41
9:I:89:ASN:HA	9:I:90:PRO:HD2	1.92	0.41
12:L:45:PRO:HD3	12:L:51:ALA:O	2.20	0.41
15:O:39:LEU:HD13	15:O:56:LEU:HB2	2.03	0.41
1:A:1010:G:HO2'	1:A:1011:G:H5'	1.79	0.41
1:A:1172:C:H2'	1:A:1173:G:C8	2.54	0.41
1:A:1217:C:H2'	1:A:1218:C:O4'	2.21	0.41
1:A:1350:A:N1	1:A:1351:U:C2	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1368:G:N2	1:A:1369:C:C6	2.88	0.41
1:A:1480:G:C2	1:A:1481:U:C2	3.08	0.41
1:A:23:C:C2	1:A:24:U:C5	3.09	0.41
1:A:319:G:C4	1:A:320:C:C6	3.08	0.41
1:A:328:C:O2'	1:A:329:A:OP2	2.28	0.41
1:A:522:C:O2'	1:A:523:A:H5'	2.21	0.41
1:A:550:G:C6	1:A:551:U:C4	3.08	0.41
1:A:621:A:N6	1:A:622:A:N6	2.69	0.41
1:A:680:C:C2	1:A:711:G:C2	3.09	0.41
1:A:746:A:H2'	1:A:747:C:O5'	2.21	0.41
2:B:12:GLU:OE1	2:B:213:LEU:HD11	2.21	0.41
2:B:80:ILE:O	2:B:80:ILE:HG22	2.21	0.41
5:E:110:LEU:O	5:E:111:GLU:C	2.58	0.41
10:J:6:ILE:O	10:J:71:LEU:HD22	2.21	0.41
11:K:24:SER:HB3	11:K:27:ASN:O	2.21	0.41
1:A:521:G:OP1	12:L:73:GLU:O	2.39	0.41
10:J:45:ARG:NH2	14:N:36:PHE:HD2	2.19	0.41
18:R:70:ILE:C	18:R:72:ARG:N	2.74	0.41
21:V:5:ASP:O	21:V:11:GLY:HA3	2.20	0.41
1:A:1053:G:C5	1:A:1199:U:C6	3.09	0.41
1:A:1089:G:O6	1:A:1090:U:C4	2.74	0.41
1:A:115:G:C2	1:A:313:A:C2	3.09	0.41
1:A:1226:C:OP2	13:M:103:THR:CG2	2.65	0.41
1:A:1231:G:H2'	1:A:1232:U:H5'	2.01	0.41
1:A:1324:A:C6	1:A:1325:C:C5	3.08	0.41
1:A:1431:C:C2'	1:A:1432:G:H5'	2.51	0.41
1:A:1459:C:H2'	1:A:1460:A:C5'	2.50	0.41
1:A:1483:A:H2'	1:A:1484:C:C6	2.56	0.41
1:A:1497:G:N7	1:A:1498:U:H5	2.19	0.41
1:A:149:A:H2	1:A:150:C:C2	2.37	0.41
1:A:194:C:H2'	1:A:195:A:H5''	2.03	0.41
1:A:474:G:N3	1:A:475:G:C8	2.89	0.41
1:A:692:U:O2	1:A:692:U:H2'	2.21	0.41
1:A:859:A:C8	1:A:860:A:N7	2.89	0.41
1:A:926:G:H2'	1:A:1505:G:C2	2.56	0.41
4:D:14:ARG:HD3	4:D:14:ARG:HA	1.84	0.41
5:E:110:LEU:HD13	5:E:118:ILE:CD1	2.51	0.41
5:E:12:LEU:C	5:E:12:LEU:HD22	2.41	0.41
5:E:151:LEU:CD2	8:H:79:VAL:HA	2.47	0.41
14:N:25:VAL:HG13	14:N:39:LEU:HD23	2.03	0.41
14:N:9:LYS:C	14:N:11:LYS:H	2.24	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:34:GLU:OE2	16:P:55:ARG:NH1	2.53	0.41
17:Q:29:HIS:HA	17:Q:30:PRO:HD2	1.78	0.41
1:A:103:C:OP2	20:T:14:LYS:HE3	2.21	0.41
1:A:1030(C):G:H2'	1:A:1030(D):A:O4'	2.22	0.40
1:A:1186:G:C6	1:A:1187:G:N7	2.89	0.40
1:A:1221:G:O2'	1:A:1222:G:H5'	2.21	0.40
1:A:1324:A:C4	1:A:1325:C:C6	3.09	0.40
1:A:1329:A:H4'	13:M:24:GLY:O	2.21	0.40
1:A:922:G:C2	1:A:1396:A:C2	3.09	0.40
1:A:1499:A:C2	1:A:1500:A:C8	3.09	0.40
1:A:1509:C:O2'	1:A:1510:U:H5'	2.21	0.40
1:A:190(E):U:H2'	17:Q:63:ARG:HH22	1.86	0.40
1:A:202:U:HO2'	1:A:203:U:P	2.42	0.40
1:A:560:U:H5''	1:A:561:U:H3'	2.02	0.40
1:A:587:G:C2	1:A:755:G:C5	3.09	0.40
1:A:609:A:H2'	1:A:610:G:H5'	2.02	0.40
1:A:663:A:O2'	1:A:664:G:C5'	2.68	0.40
1:A:761:G:C6	1:A:762:C:N3	2.90	0.40
1:A:792:A:O2'	1:A:793:U:OP2	2.39	0.40
1:A:859:A:H2'	1:A:860:A:C8	2.54	0.40
1:A:976:G:OP2	1:A:1358:U:O2'	2.36	0.40
2:B:98:LEU:HD12	2:B:101:MET:CE	2.51	0.40
2:B:108:ILE:O	2:B:109:SER:C	2.59	0.40
3:C:154:SER:HG	3:C:197:GLY:H	1.64	0.40
4:D:206:PHE:CD2	4:D:206:PHE:C	2.94	0.40
4:D:19:LEU:O	4:D:21:LEU:N	2.54	0.40
7:G:78:ARG:HG2	7:G:80:VAL:HG23	2.02	0.40
8:H:14:ARG:NH1	8:H:83:ILE:O	2.54	0.40
12:L:93:LEU:HD23	12:L:93:LEU:HA	1.77	0.40
3:C:33:LEU:CD1	14:N:53:LEU:HD22	2.48	0.40
15:O:43:LEU:HA	15:O:43:LEU:HD23	1.63	0.40
16:P:20:VAL:CG2	16:P:32:TYR:HB2	2.51	0.40
19:S:28:LYS:HD3	19:S:31:ILE:HD11	2.04	0.40
1:A:1029:C:C3'	1:A:1030:C:H5''	2.50	0.40
1:A:1129:C:OP2	9:I:62:TYR:CE2	2.72	0.40
1:A:1167:A:O5'	1:A:1167:A:C8	2.74	0.40
1:A:1215:G:H2'	1:A:1215:G:N3	2.36	0.40
1:A:1318:A:O2'	19:S:37:ARG:HD2	2.21	0.40
1:A:1381:U:HO2'	1:A:1382:C:H5'	1.84	0.40
1:A:1497:G:H2'	1:A:1498:U:C6	2.41	0.40
1:A:250:A:O4'	1:A:252:U:C6	2.75	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:560:U:H4'	1:A:561:U:H5''	2.04	0.40
1:A:611:A:C5	1:A:612:C:C5	3.09	0.40
1:A:840:C:C5'	1:A:841:U:OP1	2.56	0.40
2:B:127:ILE:HB	2:B:128:GLU:H	1.68	0.40
2:B:68:ILE:O	2:B:91:PRO:HD2	2.21	0.40
3:C:203:PHE:O	3:C:204:LEU:HG	2.21	0.40
4:D:104:VAL:O	4:D:105:VAL:C	2.59	0.40
4:D:97:LEU:HD23	4:D:97:LEU:HA	1.74	0.40
5:E:143:ARG:NH2	8:H:138:TRP:CE3	2.89	0.40
8:H:45:ILE:HD13	8:H:61:VAL:HG13	2.03	0.40
12:L:117:ARG:O	12:L:118:SER:C	2.59	0.40
1:A:528:C:N4	12:L:49:ASN:OD1	2.48	0.40
1:A:974:A:C4	14:N:31:ARG:NH2	2.89	0.40
1:A:254:G:N2	17:Q:16:GLN:NE2	2.59	0.40
1:A:585:G:O3'	17:Q:34:LYS:NZ	2.54	0.40
1:A:1003:G:C5	1:A:1003(A):G:N7	2.90	0.40
1:A:1053:G:C5	1:A:1199:U:C5	3.09	0.40
1:A:1331:G:O2'	1:A:1332:A:P	2.78	0.40
1:A:1342:C:O3'	9:I:125:TYR:CE2	2.74	0.40
1:A:149:A:C4	1:A:150:C:C5	3.09	0.40
1:A:1501:C:C2	1:A:1504:G:C6	3.09	0.40
1:A:1528:U:O2'	1:A:1529:G:O5'	2.40	0.40
1:A:115:G:C6	1:A:313:A:C2	3.09	0.40
1:A:38:G:N2	1:A:397:A:H5''	2.36	0.40
1:A:969:A:O2'	1:A:970:C:H5'	2.21	0.40
2:B:207:ALA:O	2:B:211:ILE:HG13	2.20	0.40
2:B:80:ILE:H	2:B:80:ILE:HG13	1.74	0.40
3:C:112:SER:O	3:C:115:LEU:N	2.54	0.40
3:C:20:SER:HB2	3:C:57:ILE:HB	2.03	0.40
3:C:84:ILE:O	3:C:84:ILE:HG12	2.21	0.40
4:D:20:TYR:CD2	4:D:20:TYR:N	2.89	0.40
5:E:80:ILE:HG22	8:H:104:ARG:HH22	1.87	0.40
18:R:43:PHE:CA	18:R:51:LEU:HD12	2.51	0.40
1:A:1126:U:C3'	1:A:1127:G:H8	2.34	0.40
1:A:1277:C:O2'	1:A:1279:A:C8	2.71	0.40
1:A:1357:A:C5	1:A:1358:U:O4	2.75	0.40
1:A:24:U:O2	1:A:24:U:C2'	2.69	0.40
1:A:255:G:O2'	1:A:256:U:H5'	2.20	0.40
1:A:344:A:HO2'	1:A:345:C:P	2.43	0.40
1:A:372:C:N3	1:A:387:U:C5	2.89	0.40
1:A:434:U:N3	1:A:435:C:C4	2.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:523:A:C2	1:A:527:G:C6	3.09	0.40
1:A:754:C:OP1	15:O:72:ARG:CZ	2.69	0.40
1:A:786:G:O6	1:A:787:A:C6	2.74	0.40
1:A:820:U:C4'	1:A:821:G:OP2	2.55	0.40
1:A:859:A:C4	1:A:860:A:C8	3.09	0.40
2:B:70:PHE:HE1	2:B:90:MET:HG3	1.86	0.40
3:C:4:LYS:O	3:C:5:ILE:CG1	2.70	0.40
5:E:19:MET:O	5:E:20:GLN:HG2	2.22	0.40
7:G:115:ARG:HB2	7:G:118:VAL:HG21	2.03	0.40
8:H:136:GLU:O	8:H:137:VAL:CG2	2.69	0.40
1:A:975:A:N1	10:J:48:THR:HB	2.36	0.40
11:K:52:GLY:C	11:K:54:ARG:N	2.74	0.40
13:M:11:ARG:CG	13:M:12:ASN:H	2.34	0.40
13:M:70:LEU:C	13:M:72:ALA:N	2.75	0.40
10:J:45:ARG:NH2	14:N:36:PHE:CD2	2.90	0.40
14:N:4:LYS:C	14:N:6:LEU:H	2.24	0.40
16:P:48:TRP:O	16:P:49:LEU:HB2	2.21	0.40
18:R:35:ARG:O	18:R:37:VAL:N	2.54	0.40
20:T:43:LEU:HD12	20:T:52:ALA:HA	2.04	0.40
1:A:1152:A:H5''	10:J:13:HIS:CG	2.56	0.40
1:A:1212:U:O2'	1:A:1213:A:C8	2.75	0.40
1:A:1286:A:C3'	1:A:1286:A:C8	3.05	0.40
1:A:1355:G:C2	1:A:1356:G:C4	3.09	0.40
1:A:1369:C:H2'	1:A:1370:G:H8	1.79	0.40
1:A:142:G:H2'	1:A:143:A:H8	1.85	0.40
1:A:1460:A:O2'	1:A:1461:G:H5'	2.21	0.40
1:A:226:G:C6	1:A:227:G:C5	3.10	0.40
1:A:243:A:N3	1:A:245:C:C5	2.90	0.40
1:A:292:G:C2	1:A:309:G:N3	2.89	0.40
1:A:452:A:O2'	1:A:453:A:O5'	2.35	0.40
1:A:515:G:N1	1:A:537:G:C6	2.89	0.40
1:A:533:A:C6	1:A:536:C:C4	3.10	0.40
1:A:547:A:OP1	4:D:3:ARG:CZ	2.69	0.40
1:A:4:U:C4'	1:A:5:U:OP2	2.69	0.40
1:A:642:A:C5	1:A:643:C:N4	2.89	0.40
1:A:643:C:H2'	1:A:644:G:C8	2.50	0.40
1:A:673:G:H5''	6:F:87:ARG:CZ	2.51	0.40
1:A:681:C:H2'	1:A:682:G:H8	1.87	0.40
1:A:690:G:C6	1:A:691:G:C2	3.09	0.40
1:A:579:G:C5'	1:A:728:A:H1'	2.33	0.40
1:A:797:C:H2'	1:A:798:G:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:919:A:N3	1:A:1080:A:C2	2.89	0.40
1:A:960:U:N3	1:A:1225:A:C4	2.90	0.40
1:A:965:A:O2'	1:A:966:G:P	2.80	0.40
1:A:1191:A:OP1	3:C:4:LYS:HE2	2.21	0.40
4:D:115:ARG:O	4:D:116:GLN:C	2.58	0.40
5:E:110:LEU:O	5:E:113:ALA:N	2.51	0.40
5:E:80:ILE:HG22	8:H:104:ARG:NH2	2.36	0.40
8:H:25:ASP:C	8:H:26:VAL:HG12	2.42	0.40
1:A:1226:C:H6	13:M:103:THR:OG1	2.04	0.40
14:N:37:PHE:HB3	14:N:39:LEU:CD1	2.48	0.40
17:Q:22:LEU:HA	17:Q:22:LEU:HD12	1.82	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	
2	B	220/255 (86%)	165 (75%)	41 (19%)	14 (6%)	1	9
3	C	204/238 (86%)	140 (69%)	47 (23%)	17 (8%)	1	5
4	D	206/208 (99%)	153 (74%)	42 (20%)	11 (5%)	2	12
5	E	148/161 (92%)	113 (76%)	24 (16%)	11 (7%)	1	7
6	F	99/101 (98%)	86 (87%)	9 (9%)	4 (4%)	3	18
7	G	151/155 (97%)	126 (83%)	21 (14%)	4 (3%)	5	27
8	H	136/138 (99%)	117 (86%)	13 (10%)	6 (4%)	2	16
9	I	123/128 (96%)	98 (80%)	21 (17%)	4 (3%)	4	22
10	J	96/104 (92%)	74 (77%)	14 (15%)	8 (8%)	1	5
11	K	113/128 (88%)	88 (78%)	17 (15%)	8 (7%)	1	7
12	L	122/131 (93%)	87 (71%)	26 (21%)	9 (7%)	1	7

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	M	118/125 (94%)	75 (64%)	31 (26%)	12 (10%)	0	3
14	N	58/60 (97%)	46 (79%)	12 (21%)	0	100	100
15	O	86/88 (98%)	62 (72%)	17 (20%)	7 (8%)	1	6
16	P	81/88 (92%)	58 (72%)	19 (24%)	4 (5%)	2	14
17	Q	98/104 (94%)	77 (79%)	16 (16%)	5 (5%)	2	13
18	R	66/87 (76%)	45 (68%)	17 (26%)	4 (6%)	1	10
19	S	78/92 (85%)	62 (80%)	15 (19%)	1 (1%)	12	40
20	T	92/105 (88%)	70 (76%)	16 (17%)	6 (6%)	1	9
21	V	22/26 (85%)	17 (77%)	3 (14%)	2 (9%)	1	4
All	All	2317/2522 (92%)	1759 (76%)	421 (18%)	137 (6%)	1	10

All (137) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	10	LEU
2	B	12	GLU
2	B	21	ARG
2	B	24	TRP
2	B	95	GLN
2	B	130	ARG
2	B	131	PRO
2	B	171	ALA
3	C	4	LYS
3	C	16	ARG
3	C	61	ALA
3	C	128	PHE
3	C	146	ALA
3	C	179	ARG
3	C	181	ASN
3	C	188	LEU
4	D	9	CYS
4	D	30	LYS
5	E	73	ASN
8	H	91	ARG
10	J	33	GLN
10	J	40	LEU
10	J	41	PRO
10	J	55	LYS
10	J	90	LEU

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Mol	Chain	Res	Type
11	K	123	LYS
13	M	4	ILE
13	M	27	LYS
15	O	19	PRO
15	O	73	GLU
20	T	73	HIS
20	T	74	LYS
2	B	99	GLY
4	D	25	ARG
4	D	89	THR
4	D	137	SER
4	D	158	ILE
5	E	85	GLY
5	E	99	GLY
5	E	104	ALA
5	E	121	LYS
7	G	7	ALA
8	H	29	SER
8	H	83	ILE
9	I	58	ARG
10	J	60	ARG
11	K	16	SER
11	K	121	PRO
12	L	27	LEU
12	L	105	TYR
12	L	127	GLU
13	M	67	GLU
13	M	68	GLY
13	M	80	ARG
13	M	106	ASN
13	M	108	ARG
15	O	29	VAL
17	Q	17	LYS
18	R	36	ASN
18	R	77	GLY
19	S	6	LYS
20	T	100	ILE
21	V	6	ARG
2	B	126	GLU
3	C	9	GLY
3	C	168	ALA
5	E	80	ILE

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Mol	Chain	Res	Type
8	H	5	PRO
9	I	72	GLY
9	I	121	ARG
11	K	27	ASN
11	K	49	GLY
11	K	118	GLY
12	L	51	ALA
12	L	89	ARG
13	M	19	LEU
13	M	59	TYR
15	O	30	ALA
17	Q	80	GLY
17	Q	97	SER
18	R	87	ARG
20	T	50	GLU
2	B	78	GLN
2	B	83	MET
2	B	101	MET
3	C	206	GLU
4	D	200	GLU
5	E	79	GLU
6	F	39	LYS
6	F	54	LYS
6	F	69	GLU
7	G	114	ARG
8	H	30	ARG
12	L	79	GLU
13	M	99	ARG
15	O	16	ALA
16	P	49	LEU
17	Q	30	PRO
20	T	96	GLY
3	C	5	ILE
3	C	108	ASN
3	C	121	ALA
3	C	175	LEU
4	D	5	ILE
4	D	157	LEU
4	D	196	LEU
5	E	39	GLY
5	E	147	ASP
6	F	70	ASP

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Mol	Chain	Res	Type
8	H	74	PRO
10	J	58	ASP
10	J	59	SER
11	K	117	ASN
12	L	91	LYS
13	M	63	THR
15	O	33	THR
16	P	10	GLY
16	P	31	LYS
21	V	23	PRO
5	E	129	ILE
7	G	152	ALA
16	P	12	LYS
15	O	87	ILE
7	G	17	VAL
2	B	15	VAL
3	C	145	GLY
17	Q	47	PRO
20	T	97	ALA
4	D	69	GLY
5	E	128	PRO
11	K	35	PRO
12	L	88	GLY
13	M	96	LEU
18	R	86	VAL
3	C	74	GLY
9	I	57	GLY
12	L	48	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	
2	B	191/219 (87%)	166 (87%)	25 (13%)	4	17
3	C	160/187 (86%)	141 (88%)	19 (12%)	5	21
4	D	180/180 (100%)	166 (92%)	14 (8%)	12	38

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	E	115/122 (94%)	103 (90%)	12 (10%)	7	25
6	F	90/90 (100%)	85 (94%)	5 (6%)	21	52
7	G	124/126 (98%)	120 (97%)	4 (3%)	39	67
8	H	119/119 (100%)	107 (90%)	12 (10%)	7	27
9	I	96/99 (97%)	90 (94%)	6 (6%)	18	47
10	J	88/91 (97%)	78 (89%)	10 (11%)	5	22
11	K	87/98 (89%)	82 (94%)	5 (6%)	20	51
12	L	104/108 (96%)	100 (96%)	4 (4%)	33	62
13	M	96/100 (96%)	83 (86%)	13 (14%)	4	16
14	N	49/49 (100%)	41 (84%)	8 (16%)	2	10
15	O	79/79 (100%)	69 (87%)	10 (13%)	4	19
16	P	72/74 (97%)	65 (90%)	7 (10%)	8	29
17	Q	95/96 (99%)	87 (92%)	8 (8%)	11	35
18	R	60/76 (79%)	57 (95%)	3 (5%)	24	55
19	S	71/79 (90%)	65 (92%)	6 (8%)	10	35
20	T	74/81 (91%)	70 (95%)	4 (5%)	22	53
21	V	19/21 (90%)	19 (100%)	0	100	100
All	All	1969/2094 (94%)	1794 (91%)	175 (9%)	9	32

All (175) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	16	HIS
2	B	17	PHE
2	B	24	TRP
2	B	26	PRO
2	B	56	ARG
2	B	61	LEU
2	B	69	LEU
2	B	96	ARG
2	B	103	THR
2	B	111	ARG
2	B	114	ARG
2	B	119	GLU
2	B	131	PRO
2	B	144	ARG

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Mol	Chain	Res	Type
2	B	153	ARG
2	B	157	ARG
2	B	170	GLU
2	B	181	PHE
2	B	184	VAL
2	B	187	LEU
2	B	193	ASP
2	B	196	LEU
2	B	200	ILE
2	B	204	ASN
2	B	211	ILE
3	C	3	ASN
3	C	11	ARG
3	C	12	LEU
3	C	17	ASP
3	C	49	SER
3	C	57	ILE
3	C	82	GLU
3	C	91	LEU
3	C	94	LEU
3	C	99	VAL
3	C	101	LEU
3	C	142	MET
3	C	144	SER
3	C	167	TRP
3	C	188	LEU
3	C	191	THR
3	C	192	THR
3	C	193	TYR
3	C	196	LEU
4	D	14	ARG
4	D	15	GLU
4	D	29	PRO
4	D	38	TYR
4	D	58	LEU
4	D	59	ARG
4	D	67	ILE
4	D	96	LEU
4	D	99	SER
4	D	157	LEU
4	D	176	LEU
4	D	190	ASP

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Mol	Chain	Res	Type
4	D	192	GLU
4	D	209	ARG
5	E	9	LYS
5	E	12	LEU
5	E	16	THR
5	E	18	ARG
5	E	31	LEU
5	E	36	ASP
5	E	37	ARG
5	E	53	LEU
5	E	80	ILE
5	E	96	PRO
5	E	118	ILE
5	E	143	ARG
6	F	32	ASN
6	F	36	ARG
6	F	38	GLU
6	F	40	VAL
6	F	83	ASP
7	G	12	LEU
7	G	75	VAL
7	G	113	GLU
7	G	136	LYS
8	H	17	THR
8	H	18	ARG
8	H	26	VAL
8	H	41	ARG
8	H	54	ASP
8	H	63	LEU
8	H	91	ARG
8	H	104	ARG
8	H	111	ILE
8	H	112	LEU
8	H	120	THR
8	H	132	GLU
9	I	60	ASP
9	I	71	SER
9	I	105	ASP
9	I	111	ARG
9	I	120	ARG
9	I	121	ARG
10	J	23	ILE

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Mol	Chain	Res	Type
10	J	38	ILE
10	J	40	LEU
10	J	45	ARG
10	J	55	LYS
10	J	62	HIS
10	J	66	ARG
10	J	71	LEU
10	J	73	ASP
10	J	100	THR
11	K	35	PRO
11	K	47	VAL
11	K	75	TYR
11	K	92	GLU
11	K	110	ASP
12	L	27	LEU
12	L	62	SER
12	L	70	ILE
12	L	98	TYR
13	M	4	ILE
13	M	7	VAL
13	M	44	ARG
13	M	56	LEU
13	M	63	THR
13	M	67	GLU
13	M	70	LEU
13	M	74	VAL
13	M	81	LEU
13	M	103	THR
13	M	105	THR
13	M	108	ARG
13	M	109	THR
14	N	13	THR
14	N	14	PRO
14	N	15	LYS
14	N	22	THR
14	N	25	VAL
14	N	31	ARG
14	N	33	VAL
14	N	60	SER
15	O	4	THR
15	O	17	ARG
15	O	19	PRO

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Mol	Chain	Res	Type
15	O	21	ASP
15	O	24	SER
15	O	39	LEU
15	O	65	ARG
15	O	70	LEU
15	O	81	LEU
15	O	88	ARG
16	P	26	ARG
16	P	34	GLU
16	P	39	TYR
16	P	44	THR
16	P	55	ARG
16	P	61	SER
16	P	80	PHE
17	Q	9	VAL
17	Q	11	VAL
17	Q	34	LYS
17	Q	38	ARG
17	Q	60	ILE
17	Q	74	LEU
17	Q	98	LEU
17	Q	100	LYS
18	R	31	LEU
18	R	34	TYR
18	R	54	ARG
19	S	6	LYS
19	S	15	LEU
19	S	39	THR
19	S	45	VAL
19	S	57	HIS
19	S	60	VAL
20	T	10	LEU
20	T	64	ASP
20	T	72	LEU
20	T	75	ASN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (33) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	25	ASN
2	B	204	ASN
3	C	3	ASN

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Mol	Chain	Res	Type
3	C	6	HIS
3	C	31	HIS
3	C	37	GLN
3	C	69	HIS
3	C	139	GLN
4	D	123	HIS
4	D	161	ASN
4	D	199	ASN
6	F	27	GLN
6	F	100	ASN
7	G	37	ASN
7	G	106	GLN
7	G	122	HIS
8	H	82	HIS
9	I	117	HIS
10	J	56	HIS
10	J	62	HIS
11	K	38	ASN
11	K	93	GLN
11	K	117	ASN
12	L	75	HIS
13	M	12	ASN
13	M	77	ASN
14	N	49	HIS
15	O	37	ASN
15	O	46	HIS
17	Q	16	GLN
19	S	14	HIS
19	S	23	ASN
20	T	75	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1506/1509 (99%)	332 (22%)	181 (12%)

All (332) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	6	G

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Mol	Chain	Res	Type
1	A	7	G
1	A	8	A
1	A	9	G
1	A	13	U
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
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	89	C
1	A	108	G
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	173	U
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

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Mol	Chain	Res	Type
1	A	203	U
1	A	204	U
1	A	216	G
1	A	217	C
1	A	244	U
1	A	245	C
1	A	247	G
1	A	251	G
1	A	252	U
1	A	266	G
1	A	267	C
1	A	275	G
1	A	280	C
1	A	281	G
1	A	282	A
1	A	289	G
1	A	300	A
1	A	304	U
1	A	305	G
1	A	306	G
1	A	314	C
1	A	316	G
1	A	321	A
1	A	328	C
1	A	329	A
1	A	330	C
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	389	A
1	A	390	C
1	A	397	A
1	A	412	A
1	A	413	G
1	A	421	U
1	A	422	C

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Mol	Chain	Res	Type
1	A	423	G
1	A	424	G
1	A	428	G
1	A	429	U
1	A	430	A
1	A	439	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
1	A	496	A
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	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	555	C
1	A	559	A
1	A	560	U
1	A	561	U
1	A	562	C
1	A	566	G
1	A	567	G
1	A	572	A
1	A	573	A
1	A	575	G

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Mol	Chain	Res	Type
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	652	U
1	A	653	A
1	A	654	G
1	A	665	A
1	A	671	G
1	A	688	G
1	A	701	C
1	A	702	A
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	731	G
1	A	734	G
1	A	748	C
1	A	749	C
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	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

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Mol	Chain	Res	Type
1	A	828	A
1	A	839	U
1	A	840	C
1	A	841	U
1	A	867	G
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
1	A	902	G
1	A	910	C
1	A	914	A
1	A	915	A
1	A	916	G
1	A	919	A
1	A	923	A
1	A	925	G
1	A	927	G
1	A	934	C
1	A	935	A
1	A	945	G
1	A	950	U
1	A	953	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	982	U
1	A	983	A
1	A	984	C
1	A	992	U

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Mol	Chain	Res	Type
1	A	993	G
1	A	994	A
1	A	1003(A)	G
1	A	1004	A
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
1	A	1030(C)	G
1	A	1030(D)	A
1	A	1050	G
1	A	1053	G
1	A	1054	C
1	A	1055	A
1	A	1064	G
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	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

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Mol	Chain	Res	Type
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	1201	A
1	A	1202	G
1	A	1212	U
1	A	1213	A
1	A	1215	G
1	A	1224	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	1310	G
1	A	1320	C
1	A	1322	C
1	A	1326	C
1	A	1332	A

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Mol	Chain	Res	Type
1	A	1337	G
1	A	1345	U
1	A	1346	A
1	A	1347	G
1	A	1348	U
1	A	1362	C
1	A	1363	A
1	A	1364	U
1	A	1365	G
1	A	1381	U
1	A	1394	A
1	A	1395	C
1	A	1396	A
1	A	1397	C
1	A	1398	A
1	A	1399	C
1	A	1400	C
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

All (181) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	4	U
1	A	5	U

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Mol	Chain	Res	Type
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
1	A	88	A
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	190(D)	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

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Mol	Chain	Res	Type
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
1	A	451	A
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	687	A
1	A	701	C
1	A	703	G
1	A	717	C
1	A	721	G
1	A	733	A
1	A	747	C

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Mol	Chain	Res	Type
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
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	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	1030(C)	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

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Mol	Chain	Res	Type
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
1	A	1196	U
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	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	1395	C
1	A	1396	A
1	A	1397	C
1	A	1399	C

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Mol	Chain	Res	Type
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
1	A	1505	G
1	A	1506	U
1	A	1528	U
1	A	1529	G

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

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

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 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 [i](#)

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, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	1506/1509 (99%)	-0.33	9 (0%) 89 90	29, 94, 180, 218	0
2	B	222/255 (87%)	0.09	4 (1%) 68 67	43, 111, 195, 218	0
3	C	206/238 (86%)	0.24	15 (7%) 15 15	49, 123, 192, 215	0
4	D	208/208 (100%)	0.26	8 (3%) 40 37	25, 101, 171, 218	0
5	E	150/161 (93%)	0.30	10 (6%) 17 17	42, 85, 151, 185	0
6	F	101/101 (100%)	-0.05	0 100 100	53, 122, 186, 211	0
7	G	153/155 (98%)	0.12	8 (5%) 27 25	74, 136, 196, 218	0
8	H	138/138 (100%)	0.02	2 (1%) 75 75	30, 83, 156, 193	0
9	I	125/128 (97%)	1.36	39 (31%) 0 0	69, 144, 201, 218	0
10	J	98/104 (94%)	1.56	39 (39%) 0 0	61, 150, 210, 218	0
11	K	115/128 (89%)	0.19	9 (7%) 13 12	60, 118, 181, 209	0
12	L	124/131 (94%)	0.57	15 (12%) 4 3	41, 108, 169, 204	0
13	M	120/125 (96%)	0.69	22 (18%) 1 1	66, 133, 198, 218	0
14	N	60/60 (100%)	1.18	13 (21%) 0 1	56, 110, 174, 203	0
15	O	88/88 (100%)	0.16	2 (2%) 60 59	50, 103, 167, 203	0
16	P	83/88 (94%)	0.44	8 (9%) 8 8	36, 91, 152, 216	0
17	Q	100/104 (96%)	0.11	0 100 100	43, 95, 166, 211	0
18	R	68/87 (78%)	-0.03	0 100 100	49, 102, 184, 196	0
19	S	80/92 (86%)	0.78	17 (21%) 0 1	66, 143, 208, 218	0
20	T	94/105 (89%)	0.80	16 (17%) 1 1	64, 126, 190, 218	0
21	V	24/26 (92%)	3.16	16 (66%) 0 0	93, 129, 158, 188	0
All	All	3863/4031 (95%)	0.14	252 (6%) 18 18	25, 104, 188, 218	0

All (252) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
10	J	33	GLN	9.9
9	I	128	ARG	9.7
19	S	2	PRO	9.3
13	M	121	LYS	8.0
21	V	6	ARG	7.6
9	I	9	ARG	7.5
19	S	3	ARG	7.3
2	B	7	VAL	6.7
14	N	2	ALA	6.2
10	J	54	PHE	6.1
20	T	73	HIS	5.8
14	N	61	TRP	5.7
9	I	106	ALA	5.7
21	V	24	ARG	5.6
14	N	31	ARG	5.5
9	I	105	ASP	5.3
21	V	21	TYR	5.3
21	V	18	TYR	5.2
9	I	70	LYS	5.2
9	I	126	SER	5.1
9	I	117	HIS	5.0
10	J	73	ASP	5.0
9	I	66	ARG	5.0
21	V	2	GLY	5.0
13	M	120	LYS	5.0
10	J	64	GLU	4.9
10	J	66	ARG	4.8
9	I	127	LYS	4.8
21	V	7	ARG	4.8
13	M	106	ASN	4.7
13	M	102	ARG	4.7
7	G	2	ALA	4.7
21	V	3	LYS	4.6
10	J	39	PRO	4.5
14	N	30	ALA	4.5
9	I	121	ARG	4.5
7	G	8	GLU	4.4
4	D	209	ARG	4.4
21	V	22	ARG	4.4
19	S	35	SER	4.4
9	I	71	SER	4.4
9	I	124	GLN	4.4
10	J	53	PRO	4.4

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Mol	Chain	Res	Type	RSRZ
13	M	27	LYS	4.3
10	J	71	LEU	4.3
9	I	42	ARG	4.3
7	G	33	ASP	4.2
20	T	80	ARG	4.2
10	J	6	ILE	4.2
14	N	37	PHE	4.2
10	J	75	ILE	4.1
5	E	22	GLY	4.1
13	M	117	VAL	4.1
9	I	116	LYS	4.0
3	C	14	ILE	4.0
12	L	89	ARG	4.0
9	I	115	GLY	4.0
10	J	58	ASP	4.0
9	I	123	PRO	3.9
21	V	17	THR	3.9
9	I	119	ALA	3.9
10	J	8	LEU	3.8
20	T	72	LEU	3.8
10	J	34	VAL	3.8
4	D	134	ASP	3.8
9	I	14	VAL	3.7
21	V	5	ASP	3.7
2	B	128	GLU	3.7
13	M	105	THR	3.7
10	J	5	ARG	3.6
8	H	1	MET	3.6
9	I	12	GLU	3.6
1	A	1129	C	3.5
10	J	47	PHE	3.5
10	J	7	LYS	3.5
9	I	122	ALA	3.5
13	M	114	ARG	3.5
12	L	19	ARG	3.5
3	C	195	VAL	3.4
11	K	51	LYS	3.4
20	T	68	LYS	3.4
10	J	72	VAL	3.4
19	S	69	HIS	3.4
13	M	99	ARG	3.4
19	S	4	SER	3.4

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Mol	Chain	Res	Type	RSRZ
10	J	74	ILE	3.3
19	S	78	ARG	3.3
19	S	37	ARG	3.3
15	O	51	HIS	3.3
10	J	70	ARG	3.3
9	I	65	VAL	3.3
3	C	167	TRP	3.3
10	J	63	PHE	3.2
10	J	55	LYS	3.2
13	M	97	PRO	3.2
5	E	18	ARG	3.2
5	E	20	GLN	3.2
13	M	118	ALA	3.2
10	J	48	THR	3.2
3	C	107	GLN	3.2
13	M	101	GLN	3.2
7	G	84	ASN	3.2
19	S	81	ARG	3.2
9	I	111	ARG	3.2
9	I	125	TYR	3.2
9	I	7	THR	3.1
10	J	40	LEU	3.1
16	P	1	MET	3.1
1	A	81	U	3.1
10	J	56	HIS	3.1
13	M	98	VAL	3.1
13	M	2	ALA	3.1
10	J	38	ILE	3.1
10	J	50	ILE	3.1
20	T	76	ALA	3.0
12	L	27	LEU	3.0
9	I	118	LYS	3.0
7	G	62	PHE	3.0
3	C	175	LEU	3.0
13	M	108	ARG	3.0
4	D	35	ARG	3.0
14	N	57	ARG	3.0
14	N	21	TYR	3.0
3	C	19	GLU	2.9
4	D	21	LEU	2.9
21	V	14	TRP	2.9
14	N	34	TYR	2.8

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Mol	Chain	Res	Type	RSRZ
16	P	12	LYS	2.8
20	T	8	ARG	2.8
3	C	2	GLY	2.8
15	O	50	HIS	2.8
16	P	13	HIS	2.8
20	T	9	ASN	2.8
13	M	100	GLY	2.8
12	L	90	VAL	2.8
19	S	32	LYS	2.8
7	G	32	ARG	2.8
9	I	112	LYS	2.8
1	A	353	A	2.8
13	M	94	ARG	2.8
10	J	9	ARG	2.8
9	I	10	ARG	2.8
21	V	10	ARG	2.8
10	J	52	GLY	2.8
1	A	461	C	2.8
19	S	71	LEU	2.8
20	T	23	ARG	2.8
1	A	1224	G	2.7
19	S	31	ILE	2.7
19	S	80	TYR	2.7
11	K	28	THR	2.7
9	I	110	GLU	2.7
11	K	36	ASP	2.7
7	G	85	TYR	2.7
10	J	59	SER	2.7
9	I	75	ASP	2.7
11	K	29	ILE	2.7
11	K	14	VAL	2.7
12	L	128	ALA	2.7
19	S	49	ILE	2.6
1	A	1124	G	2.6
9	I	19	LEU	2.6
2	B	16	HIS	2.6
7	G	35	LYS	2.6
20	T	83	ARG	2.6
1	A	1286	A	2.6
20	T	67	ALA	2.6
21	V	9	ARG	2.6
3	C	56	ASP	2.6

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Mol	Chain	Res	Type	RSRZ
5	E	87	SER	2.6
10	J	46	ARG	2.5
10	J	24	VAL	2.5
9	I	96	LEU	2.5
16	P	17	TYR	2.5
20	T	74	LYS	2.5
11	K	50	TYR	2.5
11	K	27	ASN	2.5
16	P	25	ARG	2.5
21	V	25	LYS	2.5
3	C	206	GLU	2.5
1	A	978	A	2.5
3	C	29	TYR	2.5
3	C	178	LEU	2.5
12	L	33	ARG	2.4
21	V	23	PRO	2.4
9	I	8	GLY	2.4
16	P	83	GLU	2.4
5	E	154	GLY	2.4
16	P	23	ASP	2.4
5	E	21	ALA	2.4
13	M	87	TYR	2.4
10	J	10	GLY	2.4
21	V	15	ARG	2.4
9	I	68	GLY	2.4
9	I	108	VAL	2.4
20	T	77	ALA	2.4
10	J	37	PRO	2.4
12	L	91	LYS	2.4
12	L	62	SER	2.4
10	J	95	GLU	2.4
12	L	73	GLU	2.4
14	N	29	ARG	2.3
9	I	15	ALA	2.3
1	A	1362	C	2.3
10	J	65	LEU	2.3
14	N	60	SER	2.3
2	B	134	GLU	2.3
10	J	43	ARG	2.3
20	T	16	HIS	2.3
3	C	26	LYS	2.3
11	K	21	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
11	K	30	VAL	2.3
20	T	71	THR	2.3
20	T	30	LYS	2.3
5	E	83	GLU	2.3
12	L	127	GLU	2.3
10	J	11	PHE	2.3
14	N	44	LEU	2.2
4	D	7	PRO	2.2
19	S	40	ILE	2.2
13	M	19	LEU	2.2
20	T	70	SER	2.2
3	C	10	PHE	2.2
8	H	3	THR	2.2
19	S	74	PHE	2.2
13	M	13	LYS	2.2
3	C	196	LEU	2.2
19	S	33	THR	2.2
12	L	18	VAL	2.2
10	J	60	ARG	2.2
14	N	3	ARG	2.2
12	L	32	PHE	2.2
14	N	58	LYS	2.2
9	I	114	TYR	2.1
10	J	4	ILE	2.1
16	P	68	ASP	2.1
19	S	30	LEU	2.1
5	E	5	ASP	2.1
4	D	5	ILE	2.1
5	E	88	LYS	2.1
12	L	64	TYR	2.1
12	L	101	VAL	2.1
5	E	19	MET	2.1
13	M	21	TYR	2.1
4	D	115	ARG	2.1
3	C	17	ASP	2.0
9	I	120	ARG	2.0
9	I	13	ALA	2.0
12	L	124	LYS	2.0
4	D	2	GLY	2.0
9	I	113	LYS	2.0
13	M	96	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, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
22	ZN	D	210	1/1	0.99	0.33	90,90,90,90	0
22	ZN	N	62	1/1	0.99	0.11	101,101,101,101	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.