



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 12:51 PM UTC

PDB ID : 2ZM6 / pdb_00002zm6
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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

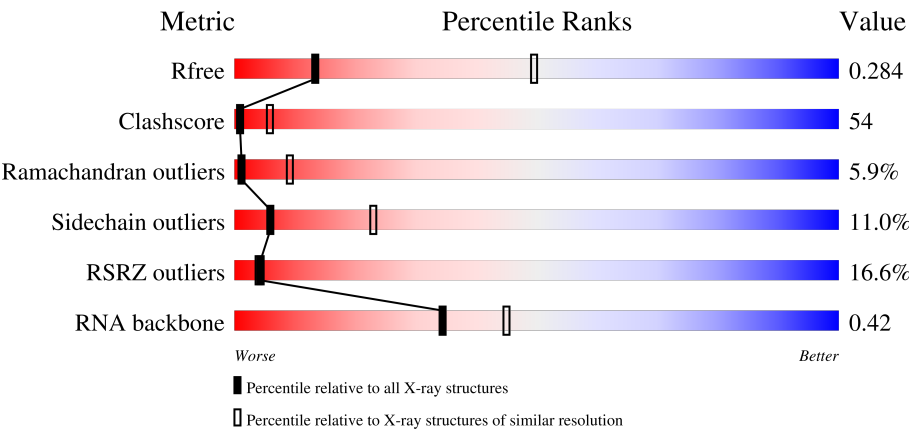
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 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}	180053	1169 (3.32-3.28)
Clashscore	190562	1209 (3.32-3.28)
Ramachandran outliers	187476	1188 (3.32-3.28)
Sidechain outliers	187428	1187 (3.32-3.28)
RSRZ outliers	180081	1169 (3.32-3.28)
RNA backbone	3983	1048 (3.60-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	
2	B	255	
3	C	238	
4	D	208	

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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			

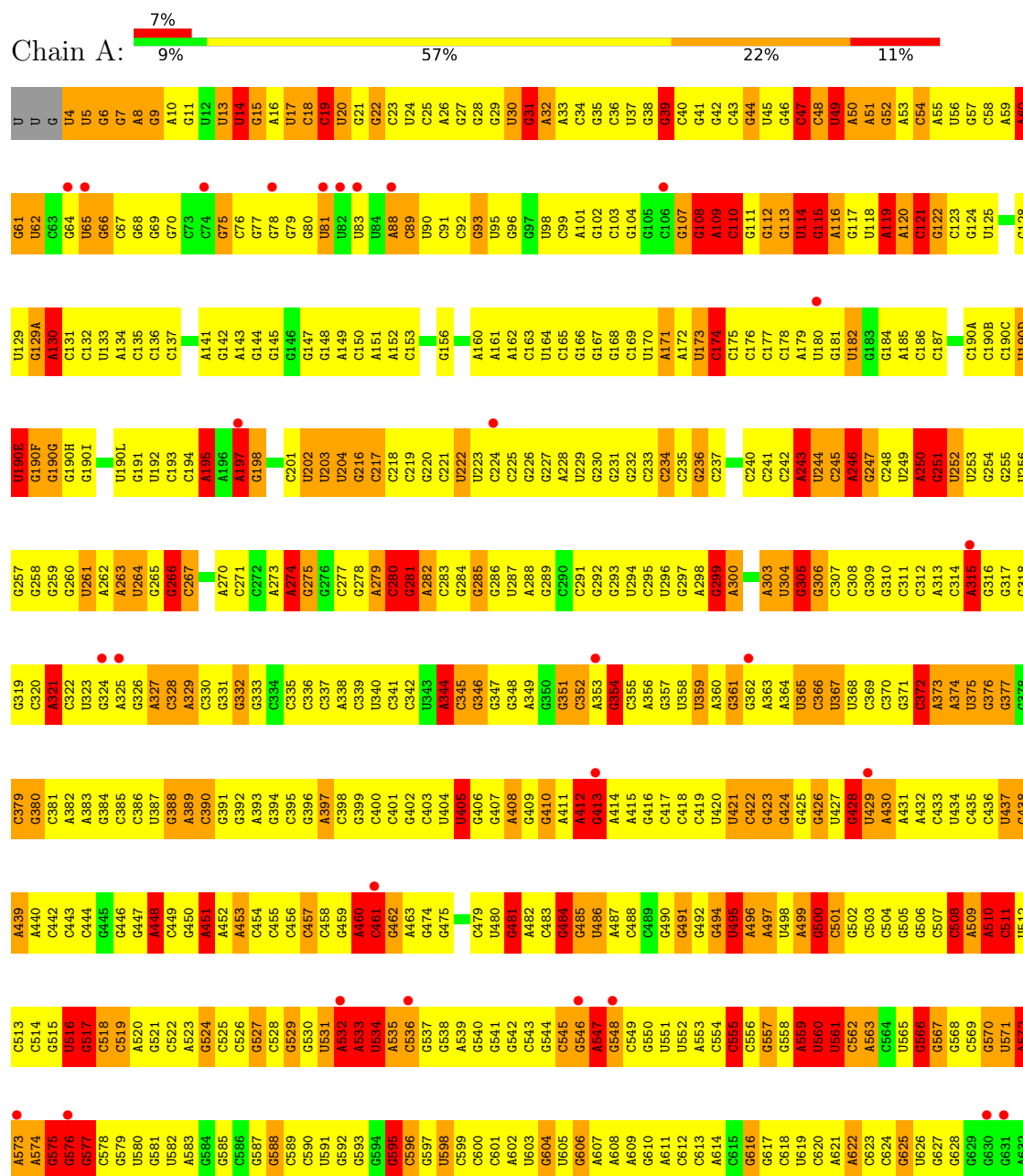
- Molecule 22 is ZINC ION (CCD ID: ZN) (formula: Zn).

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, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry 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.

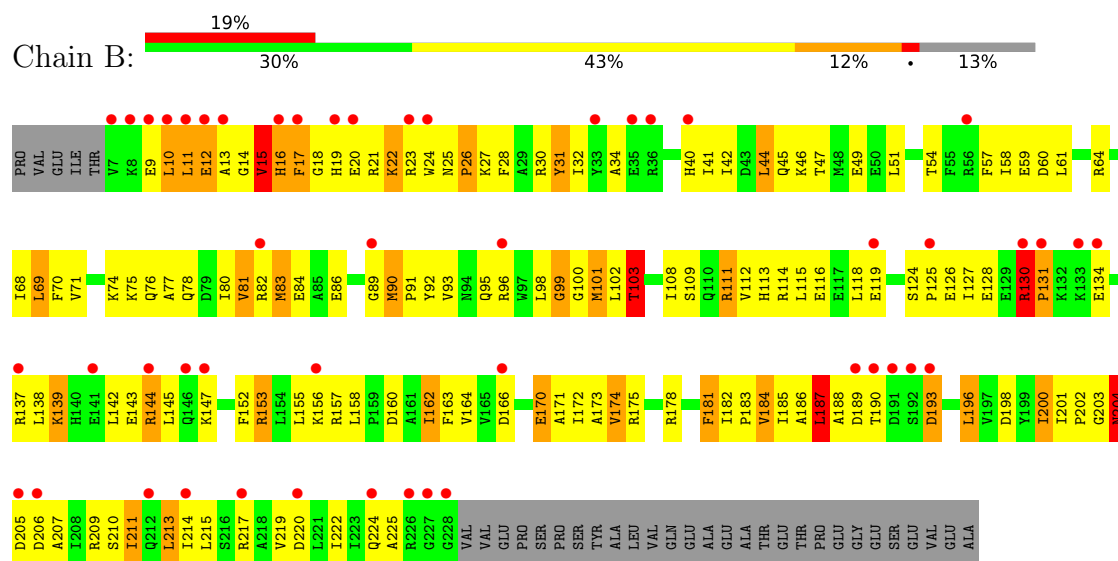
• Molecule 1: 16S ribosomal RNA



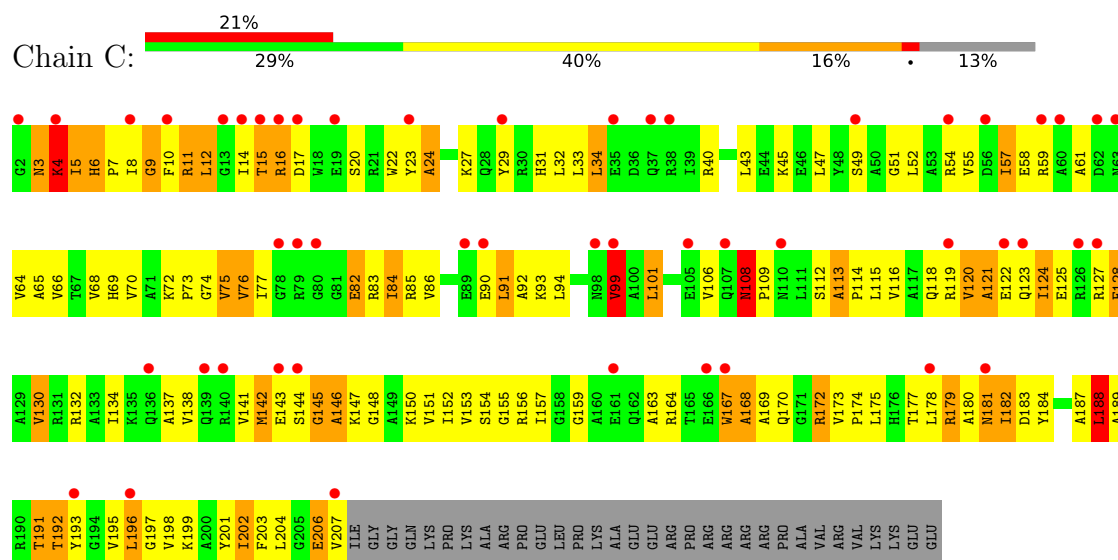
C1430	C1367	U1308	U1247	G1187	A1123	C1063	C1006	A946	G886	A816	C754	G693	G633
C1431	G1368	G1309	A1248	A1188	G1124	G1064	C1007	G947	G887	C817	G755	A694	C634
G1432	C1369	G1310	C1249	C1189	U1126	U1085	C1008	C948	G888	C818	C756	A695	C635
A1433	G1370	G1311	A1250	G1190	U1126	C1066	G1009	A949	A889	A819	U757	A696	U636
A1434	G1371	G1312	A1251	A1191	G1127	A1067	G1010	U950	G890	U820	G758	U697	G637
G1435	U1372	U1313	A1252	C1192	G1128	G1068	G1011	G951	U891	G821	A759	G698	G638
G1436	G1373	G1314	G1253	G1193	G1129	C1069	U1012	U952	A892	C822	G760	C699	G639
A1437	C1254	U1315	C1254	U1194	A1130	U1070	G1013	G853	C893	G823	G761	G700	A640
G1438	G1375	G1316	G1255	C1195	G1131	C1071	A1014	G954	C894	G824	C762	C701	U641
C1439	A1376	C1317	A1256	U1196	G1132	G1072	A1015	U955	C895	G825	A702	A702	A642
C1440	A1377	G1318	U1257	G1197	G1133	U1073	A1016	U956	C896	C826	C764	G703	C643
G1441	C1378	A1319	G1258	U1198	G1134	G1074	G1017	U957	C897	U827	A765	A704	G644
G1442	G1379	C1320	C1259	U1199	U1135	C1075	G1018	A958	G898	A828	A766	U705	C645
G1443	U1380	C1321	G1260	C1200	U1136	G1076	C1019	A959	C899	G829	A767	A706	U646
A1446	C1381	C1322	A1261	A1201	C1137	U1077	U1020	U960	A900	G830	A768	C707	C647
G1447	C1382	G1323	C1262	G1202	G1138	U1078	G1021	G962	A901	U831	C770	G708	A648
C1448	A1383	C1324	C1263	C1203	G1139	G1079	G1022	G963	G902	G832	G709	G649	G650
C1449	G1385	A1325	C1264	A1204	C1140	A1080	G1024	A964	G903	U835	G773	G710	C651
U1450	G1386	C1326	G1267	U1205	G1141	G1081	U1025	A965	C904	G836	G774	G711	C652
A1451	G1387	C1327	A1268	G1206	G1142	U1082	G1026	G966	U905	G837	G775	A712	A653
C1452	C1388	G1328	A1269	C1207	G1143	U1083	C1027	C967	A907	U839	G776	G713	G654
G1453	U1389	A1329	A1270	C1208	G1144	G1084	U1028	A968	A908	C840	A777	G714	A655
G1454	C1390	U1330	G1271	C1209	C1145	U1085	G1030	A974	A914	C852	C783	A715	C656
G1455	U1391	G1331	G1272	C1210	A1146	U1086	C1031	A975	A915	C853	C784	A716	C657
C1459	G1392	A1332	G1273	U1211	C1147	G1087	G1032	G976	G916	U841	G778	G717	G657
A1460	U1393	A1333	G1274	U1212	U1148	G1088	G1033	A977	G917	C849	A780	G718	C658
G1461	A1394	G1334	A1275	A1213	C1149	U1089	G1034	C972	C912	U850	A781	C719	U659
G1462	C1395	C1335	U1276	C1214	U1150	G1090	A1035	C979	A919	C851	A782	C720	G660
G1463	A1396	C1336	G1277	G1215	A1151	U1091	G1036	A980	U920	U860	U788	G727	G667
G1464	C1397	G1337	U1278	C1216	A1152	A1092	C1037	U981	U921	C861	U789	G728	G668
A1465	A1398	G1338	U1279	C1217	G1153	G1093	G1038	U982	G922	C862	G791	A728	U669
C1466	C1399	A1339	A1280	U1218	C1154	U1094	G1039	A983	A923	U863	G792	G670	G670
G1467	U1400	A1340	A1281	C1219	U1155	U1095	A1040	C984	C924	A864	U793	C732	G671
G1470	G1401	U1341	U1282	G1220	G1156	C1096	A1041	A985	G925	A865	A794	A733	U672
G1471	C1402	C1342	G1283	G1221	G1160	C1097	G1036	A986	G926	C866	C795	A734	G673
C1472	C1403	G1343	G1284	G1222	C1161	C1098	C1037	G987	G927	C867	C796	C735	G674
G1473	A1404	C1344	A1285	C1223	C1162	U1099	C1038	C988	G928	C868	C797	C736	A675
G1475	G1405	U1345	A1286	G1224	G1163	C1100	A1044	C989	G929	C869	G798	A737	A676
G1476	U1406	A1346	A1287	C1225	G1164	A1101	G1045	C990	C930	U870	G799	C738	U677
C1477	C1407	G1347	A1288	C1226	C1165	A1102	A1046	U991	C931	U871	G800	C739	U678
A1478	A1408	A1348	A1289	A1227	G1166	C1103	G1047	U992	C932	A872	U801	U740	C679
C1479	G1409	U1349	G1290	C1228	A1167	G1104	A1048	G988	G933	A873	A802	G741	C680
U1481	A1411	A1350	G1291	A1229	A1168	G1105	U1049	C989	C934	G874	A803	G742	C681
G1482	C1412	U1351	U1292	C1230	A1169	G1106	A1046	C990	A935	C875	U804	U743	G682
G1483	A1413	C1352	G1293	G1231	G1171	C1107	G1047	C991	G936	G876	C805	C744	G683
C1484	U1414	G1353	G1294	U1232	C1172	G1108	G1048	U991	C937	C877	C806	C745	A684
G1485	G1415	C1354	G1295	G1233	G1173	C1109	U1049	U992	A938	C878	A807	A746	G685
U1486	G1416	G1355	C1296	C1234	A1174	A1110	G1050	G993	G939	C879	C808	C747	U686
G1487	G1417	G1356	C1297	U1235	G1175	A1111	C1051	A994	C940	C880	C748	G749	G687
A1488	A1418	A1357	C1298	A1236	A1176	C1112	U1052	C995	A936	C876	C809	C750	C688
G1489	G1419	U1358	C1299	C1237	G1177	C1113	G1053	A996	U997	C877	C811	C751	G689
C1490	A1299	C1359	A1298	A1238	G1178	C1114	C1054	U997	A937	C877	C812	G752	U692
G1491	U1300	A1360	U1239	A1179	C1115	C1115	A1055	G998	G938	C878	C813	U751	G690
C1492	G1422	G1361	A1180	A1180	U1056	U1056	U1056	C999	C939	C879	U813	G752	C691
A1493	U1302	C1362	G1241	G1181	G1117	C1117	G1057	U1000	C940	C880	C748	A753	U692
G1494	G1423	C1363	C1242	G1182	G1118	C1118	G1058	G1003	G942	C881	C812	G753	G693
U1495	U1425	A1363	C1243	A1183	C1119	C1119	C1059	G1003	G943	C882	C813	G754	G694
C1496	G1305	G1364	C1244	G1184	U1120	U1120	C1060	G1003A	U944	C883	U814	G755	C695
G1497	U1427	A1365	A1245	G1185	U1121	U1121	G1061	A1004	G945	U884	A815	G756	U696
		C1366	C1246	G1186	U1122	U1122	U1062	A1005		G885			



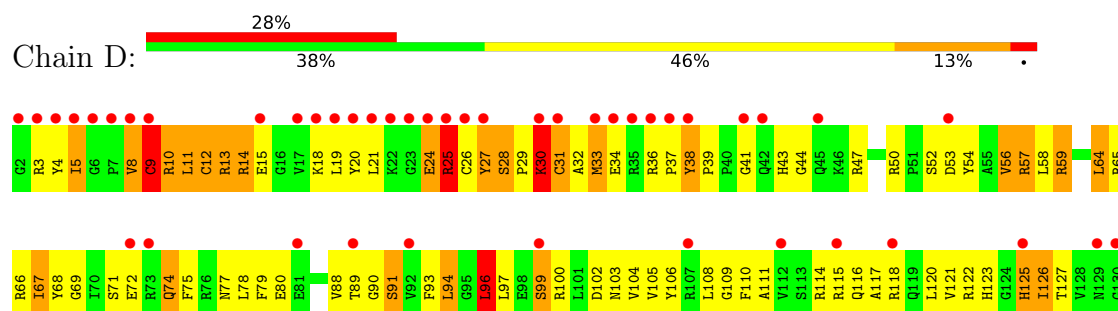
- Molecule 2: 30S ribosomal protein S2

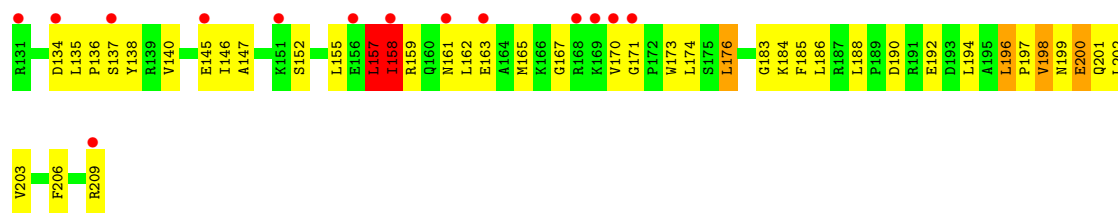


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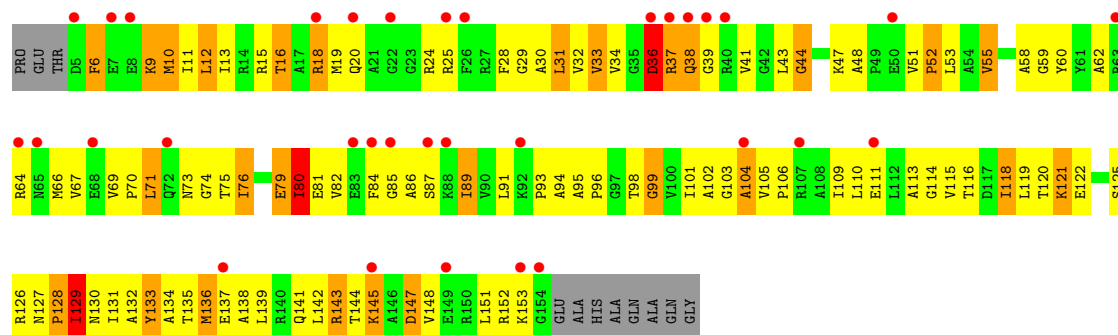


- Molecule 4: 30S ribosomal protein S4

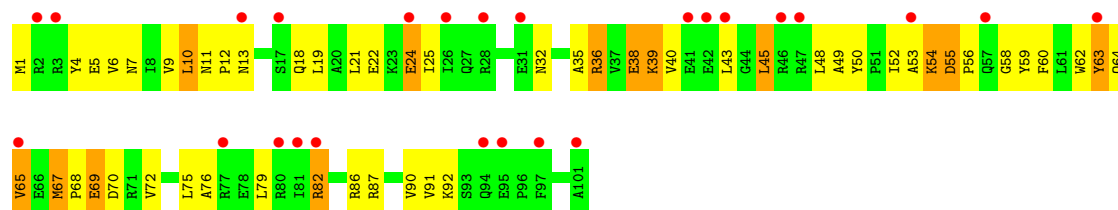




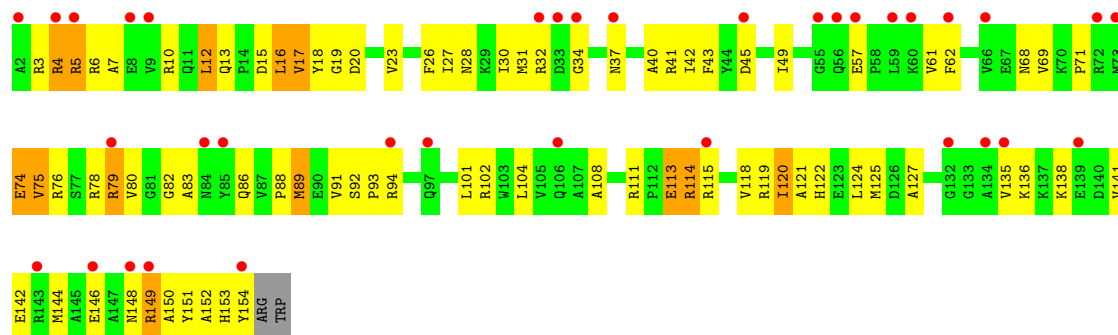
• Molecule 5: 30S ribosomal protein S5



• Molecule 6: 30S ribosomal protein S6

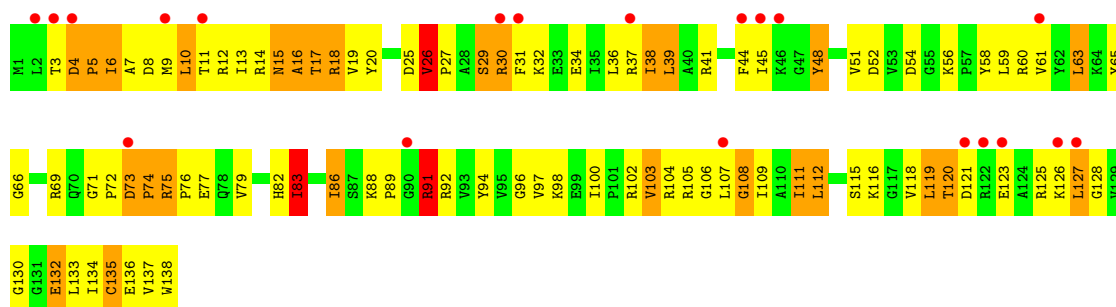


• Molecule 7: 30S ribosomal protein S7

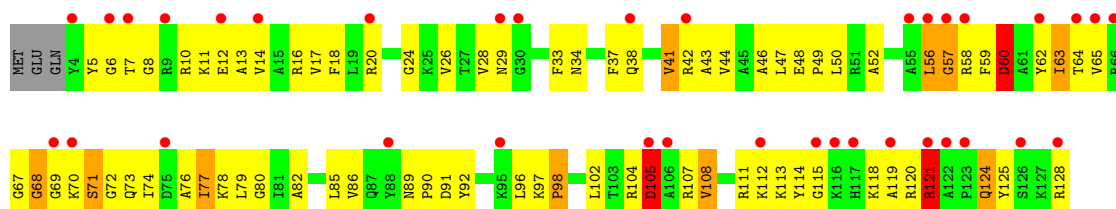


• Molecule 8: 30S ribosomal protein S8

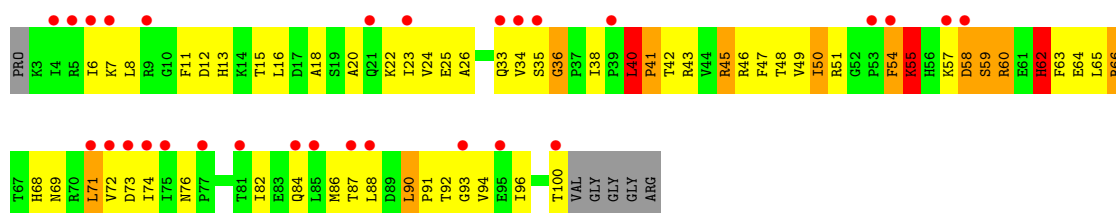




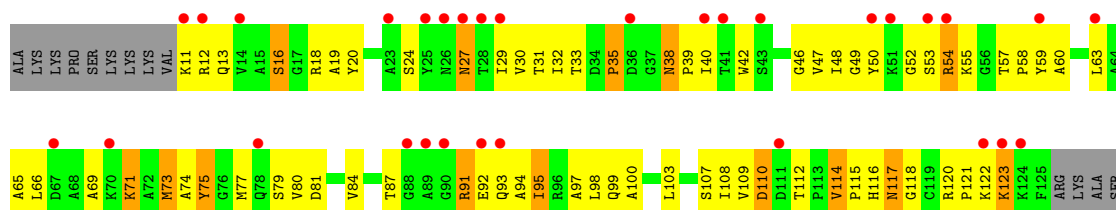
• Molecule 9: 30S ribosomal protein S9



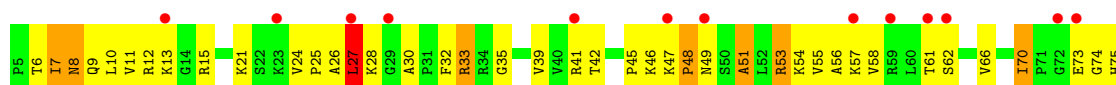
• Molecule 10: 30S ribosomal protein S10

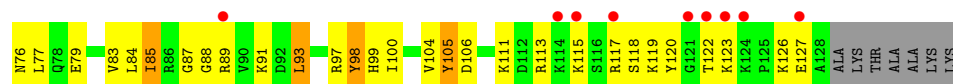


• Molecule 11: 30S ribosomal protein S11

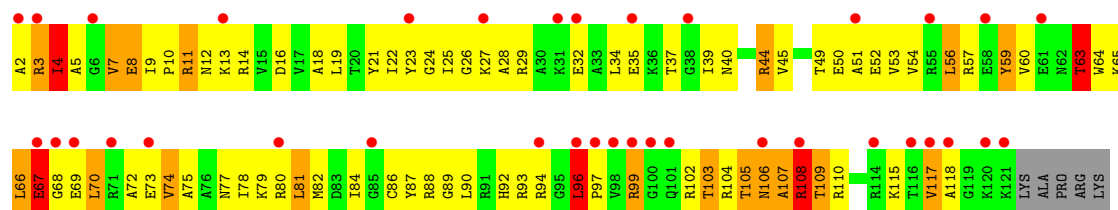


• Molecule 12: 30S ribosomal protein S12





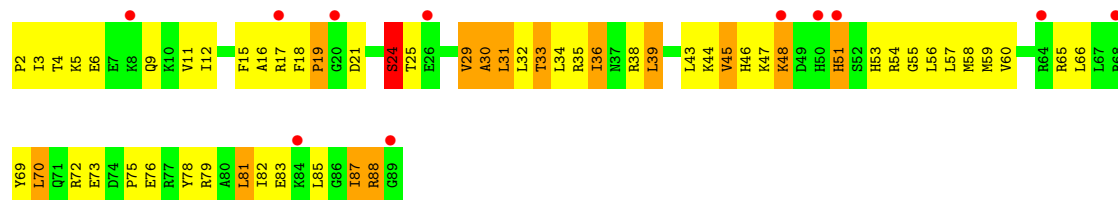
• Molecule 13: 30S ribosomal protein S13



• Molecule 14: 30S ribosomal protein S14 type Z



• Molecule 15: 30S ribosomal protein S15

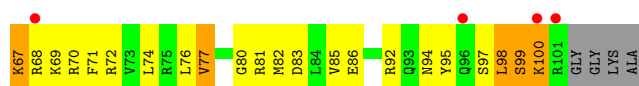


• Molecule 16: 30S ribosomal protein S16

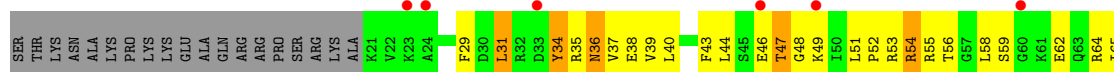


• Molecule 17: 30S ribosomal protein S17





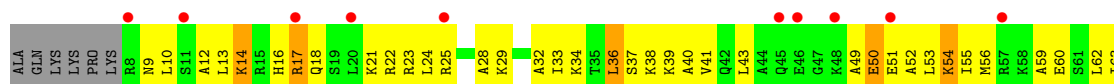
• Molecule 18: 30S ribosomal protein S18



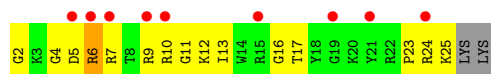
• Molecule 19: 30S ribosomal protein S19



• 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, α , β , γ	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
$\langle I/\sigma(I) \rangle$ ¹	1.86 (at 3.33Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.292 , 0.323 0.251 , 0.284	Depositor DCC
R_{free} test set	10942 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å ²)	95.8	Xtriage
Anisotropy	0.188	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 999.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.35$, $\langle L^2 \rangle = 0.18$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	51308	wwPDB-VP
Average B, all atoms (Å ²)	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.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.64	1/36237 (0.0%)	1.05	237/56558 (0.4%)
2	B	0.88	3/1842 (0.2%)	1.36	30/2479 (1.2%)
3	C	0.81	2/1636 (0.1%)	1.23	21/2205 (1.0%)
4	D	0.93	1/1733 (0.1%)	1.44	30/2318 (1.3%)
5	E	1.14	3/1162 (0.3%)	1.51	21/1564 (1.3%)
6	F	0.73	0/856	1.31	11/1154 (1.0%)
7	G	0.65	0/1248	1.14	8/1672 (0.5%)
8	H	1.02	1/1136 (0.1%)	1.55	24/1527 (1.6%)
9	I	0.69	0/1011	1.20	9/1354 (0.7%)
10	J	0.68	0/807	1.24	14/1085 (1.3%)
11	K	0.67	0/868	1.35	16/1173 (1.4%)
12	L	0.77	1/986 (0.1%)	1.33	12/1320 (0.9%)
13	M	0.67	0/965	1.35	15/1292 (1.2%)
14	N	0.77	0/501	1.43	9/664 (1.4%)
15	O	0.90	1/745 (0.1%)	1.30	8/992 (0.8%)
16	P	0.88	1/716 (0.1%)	1.17	4/963 (0.4%)
17	Q	0.93	2/847 (0.2%)	1.30	9/1131 (0.8%)
18	R	0.73	0/564	1.26	7/748 (0.9%)
19	S	0.70	0/661	1.36	11/890 (1.2%)
20	T	0.68	0/736	1.24	9/970 (0.9%)
21	V	0.76	0/212	0.98	0/277
All	All	0.71	16/55469 (0.0%)	1.15	505/82336 (0.6%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	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 (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	12	CYS	CA-CB	8.39	1.66	1.53
5	E	55	VAL	CA-CB	-6.63	1.47	1.54
1	A	1077	G	C5-C6	-6.22	1.29	1.42
8	H	16	ALA	CA-CB	-6.10	1.43	1.53
2	B	182	ILE	CA-CB	-5.67	1.47	1.54
3	C	182	ILE	CA-CB	-5.58	1.47	1.54
12	L	26	ALA	CA-CB	5.41	1.60	1.53
16	P	14	ASN	C-O	-5.37	1.18	1.24
2	B	103	THR	CA-CB	-5.36	1.44	1.53
5	E	136	MET	CA-C	-5.36	1.48	1.53
17	Q	65	ILE	CA-CB	-5.33	1.47	1.54
5	E	152	ARG	CA-C	5.29	1.58	1.53
17	Q	35	VAL	CA-C	-5.11	1.47	1.53
3	C	124	ILE	CA-CB	-5.08	1.47	1.54
2	B	174	VAL	CA-CB	-5.05	1.48	1.54
15	O	36	ILE	CA-CB	-5.05	1.49	1.54

All (505) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	31	CYS	N-CA-C	-15.37	95.54	113.21
8	H	75	ARG	CA-C-N	13.32	133.49	119.90
8	H	75	ARG	C-N-CA	13.32	133.49	119.90
13	M	3	ARG	N-CA-C	12.70	127.97	109.69
6	F	55	ASP	CA-C-N	12.03	134.88	119.84
6	F	55	ASP	C-N-CA	12.03	134.88	119.84
1	A	1302	U	C2'-C3'-O3'	11.08	126.12	109.50
12	L	26	ALA	N-CA-C	-10.87	97.47	112.25
1	A	595	G	C2'-C3'-O3'	-10.52	97.93	113.70
8	H	119	LEU	N-CA-C	10.33	123.42	108.86
12	L	13	LYS	N-CA-C	10.28	123.94	111.40
1	A	1380	U	C2'-C3'-O3'	9.98	124.47	109.50
19	S	4	SER	N-CA-C	9.89	123.39	108.46
13	M	5	ALA	N-CA-C	-9.49	91.39	107.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	12	CYS	N-CA-C	-9.36	95.92	111.37
12	L	85	ILE	N-CA-C	9.24	121.05	108.11
19	S	38	SER	N-CA-C	9.24	123.96	110.28
1	A	246	A	N9-C1'-C2'	9.23	127.85	114.00
10	J	54	PHE	N-CA-C	9.01	122.86	111.24
13	M	107	ALA	N-CA-C	-9.00	103.41	114.75
17	Q	98	LEU	N-CA-C	8.98	123.52	111.30
20	T	75	ASN	N-CA-C	-8.91	101.84	112.89
11	K	13	GLN	N-CA-C	8.84	122.07	111.02
1	A	31	G	C2'-C3'-O3'	8.84	122.76	109.50
1	A	281	G	C2'-C3'-O3'	8.84	122.75	109.50
8	H	73	ASP	CA-C-N	8.80	130.84	119.84
8	H	73	ASP	C-N-CA	8.80	130.84	119.84
4	D	10	ARG	N-CA-C	-8.67	104.74	114.62
3	C	4	LYS	N-CA-C	8.67	129.26	110.80
1	A	934	C	N1-C1'-C2'	8.65	126.98	114.00
8	H	135	CYS	N-CA-C	8.49	121.50	108.42
1	A	119	A	C2'-C3'-O3'	8.44	122.17	109.50
5	E	48	ALA	N-CA-C	8.43	115.72	108.13
12	L	93	LEU	CA-C-N	8.34	128.41	119.90
12	L	93	LEU	C-N-CA	8.34	128.41	119.90
1	A	1297	C	C2'-C3'-O3'	8.31	121.96	109.50
2	B	9	GLU	N-CA-C	8.27	121.89	108.41
10	J	40	LEU	C-N-CD	-8.25	102.44	120.60
13	M	11	ARG	N-CA-C	8.22	121.57	109.07
12	L	126	LYS	N-CA-C	8.20	123.00	109.95
4	D	11	LEU	N-CA-C	-8.19	101.62	111.69
4	D	126	ILE	N-CA-C	8.16	119.66	107.75
13	M	8	GLU	N-CA-C	8.11	122.52	110.52
2	B	81	VAL	N-CA-C	-8.10	102.44	110.30
1	A	1129	C	C2'-C3'-O3'	8.06	121.58	109.50
1	A	1336	C	N1-C1'-C2'	8.03	126.05	114.00
19	S	36	ARG	N-CA-C	-8.02	102.53	112.88
5	E	6	PHE	N-CA-C	7.99	121.99	110.24
11	K	91	ARG	N-CA-C	-7.99	101.52	111.11
3	C	99	VAL	N-CA-C	7.93	121.06	108.85
2	B	158	LEU	CA-C-N	7.91	127.93	119.78
2	B	158	LEU	C-N-CA	7.91	127.93	119.78
1	A	1346	A	C2'-C3'-O3'	7.84	121.27	109.50
1	A	652	U	N1-C1'-C2'	7.77	125.66	114.00
1	A	871	U	C2'-C3'-O3'	-7.75	97.88	109.50
9	I	105	ASP	N-CA-C	7.74	122.44	109.76

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	42	ILE	N-CA-C	7.71	119.34	108.93
3	C	75	VAL	CB-CA-C	-7.71	104.11	111.44
1	A	653	A	N9-C1'-C2'	7.71	125.56	114.00
6	F	60	PHE	N-CA-C	7.70	121.45	108.90
20	T	14	LYS	N-CA-C	-7.67	102.05	111.33
1	A	1181	G	N9-C1'-C2'	7.60	125.40	114.00
4	D	30	LYS	N-CA-C	7.60	126.98	110.80
1	A	1085	U	C2'-C3'-O3'	7.59	120.89	109.50
1	A	372	C	C2'-C3'-O3'	7.58	120.87	109.50
11	K	120	ARG	CA-C-N	7.56	129.29	119.84
11	K	120	ARG	C-N-CA	7.56	129.29	119.84
2	B	90	MET	N-CA-C	7.55	120.33	108.55
1	A	566	G	C4'-C3'-O3'	-7.53	98.10	109.40
1	A	566	G	N9-C1'-C2'	7.50	125.25	114.00
17	Q	99	SER	N-CA-C	7.49	118.15	108.34
13	M	4	ILE	N-CA-C	7.48	124.89	109.34
1	A	965	A	C2'-C3'-O3'	7.45	120.68	109.50
1	A	1151	A	N9-C1'-C2'	7.43	125.15	114.00
2	B	90	MET	CA-C-N	7.42	129.12	119.84
2	B	90	MET	C-N-CA	7.42	129.12	119.84
14	N	40	CYS	CA-CB-SG	7.40	131.43	114.40
1	A	560	U	C2'-C3'-O3'	7.37	120.56	109.50
10	J	40	LEU	CA-C-N	7.37	144.68	127.00
10	J	40	LEU	C-N-CA	7.37	144.68	127.00
19	S	6	LYS	N-CA-C	7.35	126.46	110.80
4	D	24	GLU	N-CA-C	-7.32	99.62	110.23
1	A	1139	G	C2'-C3'-O3'	7.28	120.42	109.50
1	A	864	A	C4'-C3'-O3'	-7.28	102.08	113.00
1	A	1305	G	N9-C1'-C2'	7.25	122.88	112.00
13	M	34	LEU	N-CA-C	-7.22	104.99	113.88
5	E	37	ARG	N-CA-C	-7.22	104.56	113.15
16	P	51	VAL	N-CA-C	7.22	124.35	109.34
2	B	220	ASP	N-CA-C	-7.18	103.14	110.97
1	A	243	A	C2'-C3'-O3'	7.18	120.27	109.50
1	A	250	A	C2'-C3'-O3'	7.18	120.27	109.50
1	A	753	A	C4'-C3'-O3'	7.18	120.17	109.40
9	I	124	GLN	N-CA-C	7.18	120.37	108.96
4	D	50	ARG	CA-C-N	7.16	129.04	120.23
4	D	50	ARG	C-N-CA	7.16	129.04	120.23
15	O	44	LYS	N-CA-C	-7.16	103.51	111.82
4	D	26	CYS	N-CA-C	-7.15	103.48	113.20
1	A	115	G	C2'-C3'-O3'	7.13	120.20	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	77	ILE	N-CA-C	-7.13	103.71	110.42
8	H	108	GLY	N-CA-C	-7.13	102.80	112.57
20	T	93	GLU	N-CA-C	-7.12	105.21	114.04
5	E	153	LYS	N-CA-C	7.12	120.02	108.34
1	A	481	G	C4'-C3'-O3'	-7.12	102.32	113.00
15	O	15	PHE	N-CA-C	7.12	122.87	114.04
1	A	960	U	N1-C1'-C2'	7.11	124.66	114.00
16	P	65	GLN	CA-C-N	7.11	128.41	120.66
16	P	65	GLN	C-N-CA	7.11	128.41	120.66
12	L	66	VAL	N-CA-C	7.09	124.09	109.34
8	H	4	ASP	CA-C-N	7.07	128.68	119.84
8	H	4	ASP	C-N-CA	7.07	128.68	119.84
1	A	881	G	C4'-C3'-O3'	-7.06	102.41	113.00
14	N	20	ALA	N-CA-C	7.06	119.32	109.15
1	A	1364	U	C2'-C3'-O3'	7.05	120.08	109.50
4	D	12	CYS	CA-CB-SG	7.05	130.62	114.40
1	A	1502	A	N9-C1'-C2'	7.02	124.53	114.00
1	A	517	G	N9-C1'-C2'	7.01	124.52	114.00
1	A	1181	G	C1'-C2'-O2'	-7.01	101.28	111.80
2	B	103	THR	CB-CA-C	-7.01	98.94	110.85
1	A	880	C	C4'-C3'-O3'	-7.00	102.49	113.00
5	E	18	ARG	N-CA-C	-7.00	98.00	109.40
5	E	10	MET	N-CA-C	6.99	120.29	107.99
2	B	15	VAL	N-CA-C	6.98	123.86	109.34
18	R	81	PHE	N-CA-C	-6.95	105.07	113.97
4	D	171	GLY	CA-C-N	6.95	126.65	119.56
4	D	171	GLY	C-N-CA	6.95	126.65	119.56
1	A	652	U	C3'-C2'-O2'	-6.91	104.23	114.60
1	A	750	G	C2'-C3'-O3'	-6.91	103.33	113.70
1	A	1322	C	N1-C1'-C2'	6.89	124.33	114.00
5	E	36	ASP	N-CA-C	-6.88	99.47	110.14
9	I	63	ILE	N-CA-C	6.88	118.51	108.53
1	A	1078	U	C3'-C2'-O2'	-6.88	100.38	110.70
5	E	71	LEU	N-CA-C	6.87	122.20	109.56
14	N	13	THR	CA-C-N	6.87	128.15	120.66
14	N	13	THR	C-N-CA	6.87	128.15	120.66
1	A	559	A	C2'-C3'-O3'	6.87	119.80	109.50
1	A	884	U	N1-C1'-C2'	6.86	124.28	114.00
1	A	1528	U	C2'-C3'-O3'	6.85	119.77	109.50
14	N	42	ILE	CB-CA-C	-6.83	103.27	111.81
1	A	516	U	N1-C1'-C2'	6.80	122.20	112.00
1	A	752	G	N9-C1'-C2'	6.80	124.19	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	N	31	ARG	N-CA-C	6.79	118.33	111.07
1	A	1341	U	C2'-C3'-O3'	-6.78	103.52	113.70
18	R	49	LYS	N-CA-C	6.76	119.03	110.24
19	S	39	THR	N-CA-C	-6.76	101.81	110.53
1	A	1224	G	C2'-C3'-O3'	6.75	119.63	109.50
3	C	6	HIS	CA-C-N	6.75	128.28	119.84
3	C	6	HIS	C-N-CA	6.75	128.28	119.84
1	A	815	A	C4'-C3'-O3'	-6.74	99.29	109.40
5	E	89	ILE	N-CA-C	6.73	117.81	108.12
1	A	702	A	N9-C1'-C2'	6.72	122.08	112.00
6	F	67	MET	N-CA-C	6.72	117.86	110.13
18	R	46	GLU	N-CA-C	-6.71	104.95	113.01
1	A	1053	G	O3'-P-O5'	-6.68	93.98	104.00
1	A	1124	G	N9-C1'-C2'	6.67	122.01	112.00
1	A	190(E)	U	N1-C1'-C2'	6.59	121.88	112.00
7	G	74	GLU	N-CA-C	6.59	118.22	108.60
5	E	145	LYS	N-CA-C	-6.58	104.03	111.07
8	H	134	ILE	N-CA-C	6.57	116.73	110.42
1	A	1065	U	C5'-C4'-C3'	6.55	125.03	115.20
1	A	1298	C	C2'-C3'-O3'	-6.54	99.68	109.50
12	L	58	VAL	N-CA-C	6.54	117.54	108.12
1	A	1053	G	C2'-C3'-O3'	-6.51	103.93	113.70
1	A	1195	C	C4'-C3'-O3'	-6.51	103.23	113.00
14	N	32	SER	N-CA-C	6.46	121.44	109.24
1	A	274	A	C2'-C3'-O3'	6.45	119.17	109.50
1	A	501	C	C2'-C3'-O3'	-6.43	104.05	113.70
1	A	875	C	C5'-C4'-C3'	-6.43	106.35	116.00
1	A	388	G	C4'-C3'-O3'	-6.40	99.80	109.40
1	A	1108	G	C5'-C4'-C3'	6.39	125.59	116.00
1	A	575	G	N9-C1'-C2'	6.39	123.58	114.00
1	A	1299	A	N9-C1'-C2'	6.39	123.58	114.00
1	A	460	A	N9-C1'-C2'	6.37	121.55	112.00
1	A	922	G	C4'-C3'-O3'	-6.35	103.47	113.00
8	H	116	LYS	N-CA-C	-6.34	105.12	112.92
18	R	70	ILE	CB-CA-C	-6.33	103.78	111.88
1	A	1281	U	C2'-C3'-O3'	6.28	118.93	109.50
1	A	1285	A	C2'-C3'-O3'	6.28	118.92	109.50
1	A	461	C	N1-C1'-C2'	6.26	121.40	112.00
4	D	33	MET	N-CA-C	-6.26	104.74	112.38
1	A	595	G	C4'-C3'-O3'	6.26	122.39	113.00
9	I	98	PRO	N-CA-C	-6.25	104.84	113.53
1	A	574	A	C2'-C3'-O3'	-6.23	104.35	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	890	G	N9-C1'-C2'	6.23	121.35	112.00
1	A	595	G	C5'-C4'-O4'	-6.22	100.46	109.80
19	S	42	PRO	N-CA-C	-6.22	105.76	113.84
20	T	12	ALA	N-CA-C	-6.21	96.99	108.24
1	A	388	G	N9-C1'-C2'	6.21	123.32	114.00
1	A	960	U	C2'-C3'-O3'	6.20	118.80	109.50
1	A	792	A	C2'-C3'-O3'	6.19	118.79	109.50
3	C	65	ALA	N-CA-C	6.19	117.56	107.23
2	B	187	LEU	N-CA-C	-6.18	100.99	109.71
9	I	60	ASP	N-CA-C	-6.18	100.36	109.81
4	D	125	HIS	N-CA-C	-6.17	104.24	112.94
14	N	53	LEU	CA-C-N	6.15	126.10	119.76
14	N	53	LEU	C-N-CA	6.15	126.10	119.76
10	J	46	ARG	N-CA-C	6.14	118.70	110.35
1	A	315	A	N9-C1'-C2'	6.14	123.21	114.00
4	D	31	CYS	N-CA-CB	6.12	119.45	110.57
19	S	30	LEU	N-CA-C	6.12	119.11	108.76
2	B	166	ASP	CA-C-N	6.12	125.34	118.97
2	B	166	ASP	C-N-CA	6.12	125.34	118.97
1	A	625	G	C4'-C3'-O3'	-6.11	103.83	113.00
2	B	130	ARG	CA-C-N	6.11	127.48	119.84
2	B	130	ARG	C-N-CA	6.11	127.48	119.84
1	A	976	G	N9-C1'-C2'	6.11	123.16	114.00
4	D	8	VAL	N-CA-C	6.09	122.01	109.34
1	A	19	C	C2'-C3'-O3'	-6.09	104.56	113.70
6	F	49	ALA	N-CA-C	-6.09	104.65	111.28
1	A	546	G	C4'-C3'-O3'	-6.08	103.89	113.00
17	Q	9	VAL	N-CA-C	6.07	117.50	108.46
1	A	752	G	C4'-C3'-O3'	-6.06	100.31	109.40
11	K	54	ARG	N-CA-C	6.06	117.89	111.28
1	A	197	A	C2'-C3'-O3'	6.06	118.58	109.50
1	A	563	A	N9-C1'-C2'	6.05	121.07	112.00
13	M	96	LEU	CA-C-N	-6.04	113.73	120.14
13	M	96	LEU	C-N-CA	-6.04	113.73	120.14
1	A	867	G	C1'-C2'-O2'	6.04	117.46	108.40
9	I	41	VAL	N-CA-C	6.04	116.51	110.23
7	G	32	ARG	N-CA-C	-6.03	100.32	109.85
2	B	193	ASP	CA-C-N	6.03	127.38	119.84
2	B	193	ASP	C-N-CA	6.03	127.38	119.84
1	A	405	U	N1-C1'-C2'	6.03	121.04	112.00
4	D	155	LEU	N-CA-C	6.01	118.53	108.73
1	A	1108	G	C4'-C3'-C2'	-6.01	96.59	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1256	A	C3'-C2'-O2'	6.01	119.71	110.70
7	G	68	ASN	N-CA-C	6.01	120.34	112.89
2	B	200	ILE	CB-CA-C	-6.00	101.44	111.29
1	A	547	A	N9-C1'-C2'	6.00	123.00	114.00
1	A	511	C	C1'-C2'-O2'	-6.00	102.80	111.80
2	B	174	VAL	CB-CA-C	-6.00	104.31	111.81
19	S	10	PHE	N-CA-C	5.99	120.03	109.96
1	A	299	G	N9-C1'-C2'	5.99	120.98	112.00
1	A	1194	U	C4'-C3'-O3'	-5.98	104.03	113.00
18	R	86	VAL	N-CA-C	5.98	121.77	109.34
1	A	517	G	C4'-C3'-O3'	-5.97	100.45	109.40
8	H	77	GLU	N-CA-C	-5.96	102.25	110.35
6	F	5	GLU	N-CA-C	-5.95	98.58	108.34
1	A	484	G	C2'-C3'-O3'	5.95	118.42	109.50
4	D	94	LEU	CA-CB-CG	-5.95	95.49	116.30
1	A	460	A	C4'-C3'-O3'	-5.94	104.09	113.00
1	A	747	C	C2'-C3'-O3'	5.93	122.59	113.70
2	B	196	LEU	CA-C-N	-5.91	115.43	123.12
2	B	196	LEU	C-N-CA	-5.91	115.43	123.12
20	T	9	ASN	N-CA-C	5.91	119.30	110.14
9	I	115	GLY	N-CA-C	-5.91	108.05	115.08
4	D	9	CYS	CA-C-N	5.91	132.91	121.63
4	D	9	CYS	C-N-CA	5.91	132.91	121.63
1	A	344	A	C2'-C3'-O3'	5.88	118.32	109.50
1	A	575	G	C2'-C3'-O3'	5.88	118.32	109.50
1	A	413	G	C4'-C3'-O3'	-5.87	104.19	113.00
11	K	73	MET	N-CA-C	-5.87	105.01	111.82
1	A	642	A	C2'-C3'-O3'	-5.86	104.90	113.70
15	O	18	PHE	CA-C-N	5.85	127.15	119.84
15	O	18	PHE	C-N-CA	5.85	127.15	119.84
10	J	76	ASN	CA-C-N	5.85	127.15	119.84
10	J	76	ASN	C-N-CA	5.85	127.15	119.84
8	H	126	LYS	N-CA-C	-5.84	104.99	111.71
1	A	508	C	C4'-C3'-O3'	5.84	118.16	109.40
2	B	204	ASN	N-CA-C	-5.84	102.41	110.35
5	E	67	VAL	CB-CA-C	-5.84	103.76	110.41
1	A	108	G	C4'-C3'-C2'	-5.83	96.77	102.60
1	A	511	C	N1-C1'-C2'	5.83	122.74	114.00
1	A	437	U	C2'-C3'-O3'	-5.82	104.97	113.70
1	A	889	A	C4'-C3'-O3'	5.82	118.13	109.40
1	A	1363	A	C2'-C3'-O3'	-5.82	100.78	109.50
16	P	17	TYR	N-CA-C	5.81	119.37	110.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	Q	39	SER	N-CA-C	5.80	116.22	108.38
1	A	1050	G	C5'-C4'-C3'	5.80	124.69	116.00
8	H	26	VAL	CA-C-N	5.79	126.13	119.93
8	H	26	VAL	C-N-CA	5.79	126.13	119.93
11	K	112	THR	CA-C-N	5.79	127.08	119.84
11	K	112	THR	C-N-CA	5.79	127.08	119.84
7	G	4	ARG	N-CA-C	5.79	117.26	111.07
1	A	305	G	N9-C1'-C2'	5.79	122.68	114.00
3	C	108	ASN	CA-C-N	5.78	125.49	119.82
3	C	108	ASN	C-N-CA	5.78	125.49	119.82
1	A	266	G	C1'-C2'-O2'	5.78	117.07	108.40
1	A	1395	C	C2'-C3'-O3'	5.78	122.37	113.70
3	C	147	LYS	N-CA-C	-5.78	106.45	112.93
1	A	606	G	C4'-C3'-O3'	-5.78	104.33	113.00
1	A	190(E)	U	C4'-C3'-O3'	-5.78	104.33	113.00
1	A	1310	G	C5'-C4'-C3'	5.78	124.66	116.00
1	A	1335	C	C4'-C3'-O3'	-5.77	104.34	113.00
15	O	51	HIS	N-CA-C	5.77	117.44	111.03
1	A	1200	C	C2'-C3'-O3'	-5.77	105.05	113.70
20	T	23	ARG	N-CA-C	-5.76	104.91	111.07
1	A	1086	U	N1-C1'-C2'	5.75	120.62	112.00
1	A	561	U	C2'-C3'-O3'	5.74	118.11	109.50
1	A	1505	G	O4'-C1'-C2'	-5.74	101.86	107.60
1	A	677	U	N1-C1'-C2'	5.74	120.61	112.00
1	A	532	A	C4'-C3'-O3'	-5.73	104.40	113.00
1	A	545	C	C2'-C3'-O3'	-5.73	105.10	113.70
1	A	1498	U	C2'-C3'-O3'	5.73	118.09	109.50
2	B	23	ARG	N-CA-C	-5.72	104.85	113.89
2	B	31	TYR	N-CA-C	5.72	119.95	112.92
2	B	103	THR	N-CA-C	-5.71	105.13	111.36
1	A	879	C	C2'-C3'-O3'	-5.71	105.13	113.70
1	A	47	C	N1-C1'-C2'	5.69	122.54	114.00
2	B	20	GLU	N-CA-C	5.69	118.90	110.48
2	B	11	LEU	N-CA-C	-5.69	104.09	111.71
13	M	40	ASN	CA-C-N	5.69	126.95	119.84
13	M	40	ASN	C-N-CA	5.69	126.95	119.84
1	A	819	A	N9-C1'-C2'	5.68	122.53	114.00
1	A	575	G	O4'-C1'-C2'	5.68	111.48	105.80
1	A	1213	A	N9-C1'-C2'	5.68	120.51	112.00
1	A	1505	G	C2'-C3'-O3'	5.67	122.20	113.70
7	G	79	ARG	N-CA-C	5.66	118.37	108.52
5	E	114	GLY	N-CA-C	-5.66	107.84	115.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	982	U	C4'-C3'-O3'	5.65	117.88	109.40
1	A	533	A	C2'-C3'-O3'	5.63	117.95	109.50
1	A	20	U	C2'-C3'-O3'	-5.63	105.26	113.70
1	A	870	U	C1'-C2'-O2'	-5.62	103.36	111.80
1	A	570	G	C2'-C3'-O3'	-5.61	105.28	113.70
5	E	52	PRO	N-CA-C	-5.61	105.40	113.75
5	E	69	VAL	N-CA-C	5.61	114.28	107.61
1	A	1498	U	N1-C1'-C2'	5.60	122.40	114.00
18	R	76	LEU	N-CA-C	-5.59	105.11	112.72
1	A	934	C	C4'-C3'-O3'	-5.59	101.01	109.40
1	A	588	G	C2'-C3'-O3'	-5.58	105.33	113.70
1	A	130	A	N9-C1'-C2'	5.58	122.37	114.00
7	G	89	MET	N-CA-C	5.58	118.29	108.75
8	H	102	ARG	N-CA-C	-5.58	100.15	109.24
1	A	748	C	C2'-C3'-O3'	5.57	117.86	109.50
1	A	965	A	O4'-C1'-C2'	5.57	111.37	105.80
3	C	24	ALA	N-CA-C	5.56	117.29	108.79
1	A	1399	C	C2'-C3'-O3'	-5.55	101.17	109.50
12	L	8	ASN	N-CA-C	-5.55	105.13	111.07
11	K	59	TYR	N-CA-C	-5.54	105.32	111.36
4	D	74	GLN	N-CA-C	-5.54	105.16	111.14
1	A	1151	A	C4'-C3'-O3'	-5.54	101.09	109.40
1	A	572	A	N9-C1'-C2'	5.54	120.31	112.00
6	F	63	TYR	N-CA-C	5.54	116.48	107.23
5	E	55	VAL	CB-CA-C	-5.52	104.63	111.70
5	E	119	LEU	N-CA-C	5.52	118.79	107.69
1	A	1280	A	C5'-C4'-C3'	5.51	123.47	115.20
7	G	5	ARG	N-CA-C	5.51	117.35	109.14
1	A	321	A	N9-C1'-C2'	5.51	120.26	112.00
11	K	114	VAL	CA-C-N	5.50	125.68	119.90
11	K	114	VAL	C-N-CA	5.50	125.68	119.90
17	Q	57	VAL	N-CA-C	5.50	118.03	108.90
1	A	1331	G	N9-C1'-C2'	5.50	120.25	112.00
3	C	184	TYR	CA-C-N	-5.50	116.75	122.69
3	C	184	TYR	C-N-CA	-5.50	116.75	122.69
1	A	1077	G	O4'-C4'-C3'	-5.50	98.50	104.00
2	B	64	ARG	N-CA-C	-5.49	106.54	113.18
17	Q	35	VAL	CB-CA-C	-5.48	105.31	111.23
3	C	15	THR	N-CA-C	5.47	118.70	107.37
6	F	86	ARG	N-CA-C	5.47	120.07	112.90
3	C	51	GLY	N-CA-C	-5.46	100.25	113.18
1	A	1224	G	N9-C1'-C2'	5.46	122.18	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	Q	50	LYS	N-CA-C	5.45	117.03	111.14
15	O	45	VAL	N-CA-C	-5.45	101.55	109.29
1	A	984	C	C4'-C3'-O3'	-5.44	104.84	113.00
1	A	1236	A	C5'-C4'-C3'	5.44	124.17	116.00
1	A	975	A	C2'-C3'-O3'	5.44	117.65	109.50
10	J	25	GLU	N-CA-C	5.43	116.89	110.97
15	O	24	SER	N-CA-C	-5.43	100.25	108.46
20	T	54	LYS	N-CA-C	-5.43	104.80	111.75
1	A	1318	A	C2'-C3'-O3'	-5.43	105.55	113.70
4	D	12	CYS	CA-C-N	5.43	128.56	120.31
4	D	12	CYS	C-N-CA	5.43	128.56	120.31
6	F	67	MET	CA-C-N	5.43	125.19	119.76
6	F	67	MET	C-N-CA	5.43	125.19	119.76
1	A	109	A	C2'-C3'-O3'	-5.43	101.36	109.50
8	H	15	ASN	N-CA-C	5.43	119.00	112.38
10	J	36	GLY	CA-C-N	5.42	126.26	120.13
10	J	36	GLY	C-N-CA	5.42	126.26	120.13
9	I	68	GLY	N-CA-C	5.42	121.66	111.80
1	A	484	G	N9-C1'-C2'	5.42	122.13	114.00
10	J	62	HIS	N-CA-C	5.42	117.58	107.99
1	A	1343	G	C4'-C3'-O3'	-5.42	104.88	113.00
1	A	422	C	C4'-C3'-O3'	-5.41	104.89	113.00
8	H	96	GLY	N-CA-C	-5.40	104.43	113.02
1	A	570	G	C4'-C3'-O3'	-5.40	104.90	113.00
1	A	976	G	C4'-C3'-O3'	-5.39	101.32	109.40
1	A	422	C	N1-C1'-C2'	5.39	120.08	112.00
1	A	1506	U	N1-C1'-C2'	5.39	122.08	114.00
17	Q	67	LYS	N-CA-C	-5.39	101.39	109.15
1	A	448	A	N9-C1'-C2'	5.38	120.07	112.00
1	A	1529	G	C4'-C3'-O3'	5.37	117.46	109.40
1	A	47	C	C2'-C3'-O3'	5.37	117.55	109.50
1	A	1057	G	C2'-C3'-O3'	-5.37	105.65	113.70
1	A	1511	G	C3'-C2'-O2'	-5.36	102.67	110.70
8	H	66	GLY	CA-C-N	5.36	125.82	120.52
8	H	66	GLY	C-N-CA	5.36	125.82	120.52
1	A	280	C	C2'-C3'-O3'	-5.35	101.47	109.50
1	A	701	C	C2'-C3'-O3'	5.35	117.52	109.50
1	A	877	C	C3'-C2'-O2'	-5.35	102.68	110.70
3	C	202	ILE	N-CA-C	5.35	116.43	107.18
1	A	1199	U	C2'-C3'-O3'	-5.34	105.69	113.70
13	M	35	GLU	N-CA-C	-5.34	105.63	111.82
11	K	81	ASP	N-CA-C	-5.33	100.48	109.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	60	A	C2'-C3'-O3'	5.33	117.50	109.50
17	Q	21	VAL	N-CA-C	5.33	115.63	108.17
1	A	428	G	C2'-C3'-O3'	5.33	117.49	109.50
1	A	408	A	C2'-C3'-O3'	-5.33	105.71	113.70
4	D	57	ARG	N-CA-C	-5.33	104.89	111.33
11	K	95	ILE	CB-CA-C	-5.32	105.01	111.87
12	L	111	LYS	N-CA-C	-5.32	103.37	110.55
1	A	702	A	C4'-C3'-O3'	-5.32	105.03	113.00
12	L	53	ARG	N-CA-C	5.32	117.91	109.24
1	A	113	G	N9-C1'-C2'	5.31	119.97	112.00
7	G	82	GLY	N-CA-C	-5.30	105.75	114.76
4	D	13	ARG	N-CA-C	5.30	117.97	111.82
1	A	766	A	C3'-C2'-O2'	5.30	118.65	110.70
1	A	1322	C	C4'-C3'-O3'	-5.30	101.46	109.40
1	A	852	G	C4'-C3'-O3'	-5.29	105.06	113.00
2	B	34	ALA	N-CA-C	5.29	115.33	107.88
1	A	1525	G	N9-C1'-C2'	-5.29	104.07	112.00
1	A	49	U	N1-C1'-C2'	5.28	121.92	114.00
1	A	22	G	C2'-C3'-O3'	-5.28	105.78	113.70
1	A	190(E)	U	O4'-C4'-C3'	5.27	109.27	104.00
1	A	281	G	O4'-C1'-C2'	5.27	111.07	105.80
8	H	10	LEU	CA-CB-CG	-5.27	97.86	116.30
1	A	1079	G	O4'-C4'-C3'	-5.27	98.73	104.00
1	A	121	C	C2'-C3'-O3'	-5.27	101.60	109.50
1	A	717	C	C2'-C3'-O3'	-5.26	101.60	109.50
1	A	991	U	N1-C1'-C2'	5.25	119.88	112.00
1	A	555	C	C2'-C3'-O3'	-5.25	105.82	113.70
1	A	686	U	N1-C1'-C2'	5.25	119.88	112.00
10	J	66	ARG	N-CA-C	5.25	117.29	109.25
1	A	655	A	C4'-C3'-O3'	-5.25	105.13	113.00
19	S	46	GLY	N-CA-C	5.25	122.03	115.21
11	K	38	ASN	CA-C-N	5.24	126.06	119.98
11	K	38	ASN	C-N-CA	5.24	126.06	119.98
1	A	1364	U	O4'-C1'-C2'	5.24	111.04	105.80
1	A	755	G	C3'-C2'-O2'	-5.24	102.84	110.70
4	D	28	SER	N-CA-C	-5.24	102.53	110.39
13	M	3	ARG	CA-C-N	5.24	131.40	121.97
13	M	3	ARG	C-N-CA	5.24	131.40	121.97
1	A	31	G	O4'-C1'-C2'	5.23	111.03	105.80
1	A	557	G	N9-C1'-C2'	5.23	119.85	112.00
20	T	17	ARG	N-CA-C	-5.23	105.70	111.71
1	A	1529	G	C2'-C3'-O3'	-5.22	101.67	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	O	47	LYS	N-CA-C	-5.21	106.02	112.38
5	E	81	GLU	N-CA-C	-5.21	100.91	109.40
1	A	651	C	C4'-C3'-O3'	-5.20	105.19	113.00
3	C	68	VAL	N-CA-C	5.20	115.47	107.77
4	D	96	LEU	N-CA-C	-5.20	105.50	111.07
1	A	572	A	C4'-C3'-O3'	-5.20	105.20	113.00
19	S	9	VAL	N-CA-C	5.20	116.39	109.37
1	A	508	C	C2'-C3'-O3'	-5.19	101.71	109.50
5	E	44	GLY	N-CA-C	5.19	119.17	111.18
1	A	1124	G	C4'-C3'-O3'	-5.19	105.22	113.00
1	A	372	C	C3'-C2'-O2'	5.18	122.37	114.60
11	K	71	LYS	N-CA-C	-5.18	106.81	113.23
1	A	1509	C	C2'-C3'-O3'	-5.17	105.94	113.70
1	A	234	C	C3'-C2'-O2'	5.17	118.45	110.70
3	C	85	ARG	N-CA-C	-5.17	105.29	111.03
4	D	25	ARG	N-CA-CB	5.16	119.21	110.49
8	H	103	VAL	N-CA-C	5.16	115.74	108.36
1	A	18	C	O4'-C4'-C3'	-5.16	98.84	104.00
1	A	60	A	N9-C1'-C2'	5.16	121.74	114.00
3	C	143	GLU	N-CA-C	5.16	117.30	111.11
3	C	113	ALA	CA-C-N	-5.15	113.61	118.97
3	C	113	ALA	C-N-CA	-5.15	113.61	118.97
20	T	16	HIS	N-CA-C	-5.15	105.75	111.36
5	E	80	ILE	CB-CA-C	-5.15	102.85	111.29
10	J	43	ARG	N-CA-C	5.14	117.12	108.73
1	A	923	A	C5'-C4'-C3'	-5.14	108.29	116.00
1	A	722	A	C3'-C2'-O2'	5.14	118.40	110.70
6	F	43	LEU	N-CA-C	-5.13	106.17	112.90
1	A	359	U	C4'-C3'-O3'	-5.13	105.30	113.00
12	L	41	ARG	N-CA-C	5.13	117.28	109.63
1	A	114	U	N1-C1'-C2'	5.13	119.69	112.00
1	A	365	U	N1-C1'-C2'	5.12	119.68	112.00
1	A	686	U	C4'-C3'-O3'	-5.12	105.32	113.00
1	A	576	G	C1'-C2'-O2'	-5.11	104.14	111.80
1	A	745	C	C4'-C3'-O3'	-5.11	105.34	113.00
1	A	1068	G	C2'-C3'-O3'	-5.09	106.07	113.70
1	A	719	C	N1-C1'-C2'	5.08	119.62	112.00
3	C	172	ARG	N-CA-C	5.08	117.40	110.55
1	A	726	C	C4'-C3'-O3'	-5.08	105.39	113.00
1	A	281	G	C1'-C2'-O2'	-5.07	104.19	111.80
1	A	819	A	C1'-C2'-O2'	-5.07	104.19	111.80
8	H	127	LEU	N-CA-C	5.07	119.32	113.18

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	759	A	C2'-C3'-O3'	-5.06	106.10	113.70
1	A	494	G	C2'-C3'-O3'	-5.06	106.11	113.70
1	A	873	A	C5'-C4'-C3'	-5.06	107.61	115.20
1	A	890	G	C5'-C4'-C3'	5.06	123.59	116.00
19	S	60	VAL	N-CA-C	5.06	115.26	107.77
18	R	47	THR	N-CA-C	-5.06	102.67	109.95
1	A	910	C	C4'-C3'-O3'	-5.05	105.42	113.00
1	A	1241	G	C4'-C3'-O3'	-5.04	105.44	113.00
8	H	6	ILE	CB-CA-C	-5.04	103.03	111.29
1	A	1094	G	C5'-C4'-C3'	5.04	122.75	115.20
1	A	818	G	N9-C1'-C2'	5.03	121.55	114.00
1	A	510	A	C2'-C3'-O3'	-5.03	106.16	113.70
1	A	914	A	C4'-C3'-O3'	-5.03	105.46	113.00
1	A	1347	G	C5'-C4'-C3'	5.03	123.54	116.00
1	A	752	G	C1'-C2'-O2'	-5.02	104.26	111.80
1	A	75	G	C2'-C3'-O3'	-5.02	106.17	113.70
10	J	50	ILE	CB-CA-C	-5.02	104.62	111.15
1	A	114	U	C4'-C3'-O3'	-5.02	105.47	113.00
1	A	826	C	C2'-C3'-O3'	-5.02	106.17	113.70
1	A	667	G	C4'-C3'-O3'	-5.02	105.47	113.00
1	A	48	C	C2'-C3'-O3'	5.01	117.02	109.50
1	A	770	C	C3'-C2'-O2'	5.01	118.22	110.70
13	M	66	LEU	N-CA-C	5.01	117.92	108.65
1	A	451	A	N9-C1'-C2'	5.01	121.52	114.00
5	E	33	VAL	CA-C-N	-5.01	115.49	122.71
5	E	33	VAL	C-N-CA	-5.01	115.49	122.71
1	A	576	G	C4'-C3'-O3'	-5.01	101.89	109.40
4	D	12	CYS	N-CA-CB	5.01	117.94	109.78
1	A	231	G	C2'-C3'-O3'	-5.00	106.19	113.70

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

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Mol	Chain	Res	Type	Group
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
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

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Mol	Chain	Res	Type	Group
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
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

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Mol	Chain	Res	Type	Group
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
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

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Mol	Chain	Res	Type	Group
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
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	3393	0
2	B	1810	0	1861	129	0
3	C	1612	0	1677	177	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	D	1703	0	1763	143	0
5	E	1146	0	1207	120	0
6	F	843	0	857	45	0
7	G	1231	0	1273	84	0
8	H	1116	0	1177	118	0
9	I	993	0	1029	109	0
10	J	794	0	840	67	0
11	K	853	0	868	54	0
12	L	970	0	1057	81	0
13	M	955	0	1021	98	0
14	N	492	0	529	65	0
15	O	734	0	771	47	0
16	P	700	0	720	67	0
17	Q	834	0	906	73	0
18	R	559	0	624	51	0
19	S	647	0	673	59	0
20	T	734	0	832	60	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	4658	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 54.

All (4658) 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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
4:D:104:VAL:HG11	4:D:146:ILE:HD12	1.33	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:15:G:H4'	5:E:24:ARG:HH12	1.12	1.07
1:A:277:C:H5''	17:Q:68:ARG:HH22	0.94	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
1:A:1126:U:H2'	1:A:1127:G:H8	1.19	1.05
3:C:91:LEU:HD21	3:C:99:VAL:HG13	1.33	1.05
1:A:266:G:H5''	1:A:266:G:H8	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:42:G:H2'	1:A:43:C:H6	1.22	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
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:872:A:C2	1:A:874:G:C5	2.46	1.02
1:A:1029:C:C2'	1:A:1030:C:H5''	1.88	1.02
1:A:1005:A:H2'	1:A:1006:C:H5'	1.40	1.01
1:A:39:G:O2'	1:A:40:C:H5'	1.58	1.01
1:A:1189:C:H5''	3:C:5:ILE:HD13	1.39	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:386:C:H2'	1:A:387:U:H5'	1.42	1.00
1:A:1347:G:N2	1:A:1373:G:H2'	1.75	1.00
1:A:1129:C:O5'	1:A:1130:A:H5'	1.60	1.00
1:A:1505:G:H8	1:A:1505:G:H3'	1.24	1.00
1:A:190(F):G:H4'	1:A:190(G):G:OP2	1.61	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:1086:U:H2'	1:A:1087:G:H8	1.27	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: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:1047:G:C2'	1:A:1048:G:H5'	1.95	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:386:C:C2'	1:A:387:U:H5'	1.94	0.96
1:A:1319:A:H4'	1:A:1320:C:OP1	1.66	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:351:G:H4'	1:A:352:C:OP1	1.66	0.94
1:A:1126:U:H2'	1:A:1127:G:C8	2.03	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1343:G:H2'	1:A:1344:C:C6	2.03	0.93
1:A:390:C:H4'	16:P:28:ARG:NH2	1.84	0.93
1:A:794:A:H2'	1:A:795:C:C6	2.03	0.93
1:A:1451:A:H5''	1:A:1452:C:H5	1.34	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
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:42:G:C4	1:A:43:C:C5	2.58	0.92
1:A:109:A:H2'	1:A:326:G:H21	1.28	0.92
11:K:57:THR:HG23	11:K:60:ALA:H	1.33	0.92
1:A:57:G:H2'	1:A:58:C:H6	1.33	0.92
1:A:371:G:O2'	1:A:372:C:H5'	1.70	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:370:C:HO2'	1:A:371:G:H5'	1.34	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:405:U:H3'	1:A:406:G:H5'	1.52	0.91
1:A:1014:A:H2'	1:A:1015:A:C8	2.06	0.91
1:A:1029:C:H2'	1:A:1030:C:C5'	2.01	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:1251:A:H2'	1:A:1252:A:C8	2.06	0.91
1:A:1490:C:H6	1:A:1490:C:H5'	1.36	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:625:G:H2'	1:A:626:U:C6	2.05	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1250:A:H2'	1:A:1251:A:H8	1.24	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:582:U:H2'	1:A:583:A:H8	1.33	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
2:B:19:HIS:CE1	2:B:206:ASP:HB3	2.06	0.89
1:A:358:U:H2'	1:A:359:U:C6	2.08	0.89
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:1047:G:O2'	1:A:1048:G:H5'	1.72	0.89
1:A:562:C:C4	1:A:884:U:C6	2.61	0.89
4:D:30:LYS:C	4:D:32:ALA:H	1.71	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:975:A:H4'	1:A:976:G:OP2	1.72	0.89
1:A:1367:C:C2	1:A:1368:G:C8	2.61	0.89
1:A:429:U:H2'	4:D:25:ARG:HH12	1.36	0.88
1:A:1191:A:C4	1:A:1192:C:C5	2.60	0.88
1:A:1347:G:H22	1:A:1373:G:H2'	1.38	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:607:A:O2'	1:A:608:A:H5'	1.72	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: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
1:A:625:G:C4	1:A:626:U:C5	2.61	0.87
1:A:952:U:O2'	1:A:953:G:H5'	1.74	0.87
1:A:1126:U:P	1:A:1126:U:H6	1.97	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
15:O:30:ALA:O	15:O:33:THR:HB	1.75	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:965:A:C2	1:A:969:A:C2	2.63	0.87
1:A:1490:C:H6	1:A:1490:C:C5'	1.87	0.87
1:A:1518:A:H2'	1:A:1519:A:C8	2.10	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:HG2	9:I:121:ARG:HH11	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
1:A:1300:G:HO2'	1:A:1301:U:H6	1.23	0.86
1:A:914:A:C2'	1:A:915:A:H5'	2.06	0.86
1:A:1487:G:O2'	1:A:1488:G:H5'	1.76	0.86
1:A:1124:G:O2'	1:A:1125:U:H5'	1.75	0.86
1:A:770:C:H1'	1:A:900:A:C2	2.11	0.86
1:A:1371:G:C5	1:A:1372:U:C5	2.63	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:H2'	1:A:486:U:O2	1.76	0.85
1:A:562:C:N4	1:A:884:U:C6	2.44	0.85
1:A:1005:A:C2'	1:A:1006:C:H5'	2.04	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: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
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
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:HG2	2:B:111:ARG:HH11	1.41	0.84
1:A:57:G:C4	1:A:58:C:C5	2.66	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:1064:G:H4'	1:A:1065:U:C5'	2.07	0.84
1:A:1234:C:H1'	1:A:1364:U:O2	1.77	0.84
1:A:579:G:C4	1:A:580:U:C5	2.66	0.84
1:A:613:C:C2	1:A:628:G:N2	2.46	0.84
1:A:15:G:H4'	5:E:24:ARG:NH1	1.92	0.83
1:A:457:C:O2'	1:A:458:C:H5'	1.76	0.83
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: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:663:A:H2'	1:A:664:G:C8	2.13	0.83
1:A:1451:A:H5''	1:A:1452:C:C5	2.14	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:429:U:H2'	4:D:25:ARG:NH1	1.93	0.83
1:A:1225:A:H3'	1:A:1226:C:C6	2.14	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
15:O:36:ILE:HG12	15:O:59:MET:HE3	1.59	0.82
1:A:1288:A:C2	1:A:1289:A:C4	2.67	0.82
2:B:68:ILE:HB	2:B:90:MET:HE3	1.61	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:39:G:C2'	1:A:40:C:H5'	2.08	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
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
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:266:G:H5''	1:A:266:G:C8	2.11	0.82
1:A:1443:G:C5'	1:A:1446:A:H5'	2.09	0.82
1:A:99:C:H2'	1:A:101:A:C8	2.14	0.82
9:I:104:ARG:HG2	9:I:104:ARG:HH11	1.44	0.81
1:A:57:G:H2'	1:A:58:C:C6	2.14	0.81
1:A:1443:G:H5''	1:A:1446:A:C5'	2.08	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
2:B:101:MET:C	2:B:102:LEU:HD12	2.06	0.81
7:G:31:MET:SD	7:G:34:GLY:HA2	2.21	0.81
1:A:41:G:H2'	1:A:42:G:H8	1.43	0.81
1:A:414:A:H2	1:A:415:A:H1'	1.46	0.81
1:A:254:G:H21	17:Q:16:GLN:NE2	1.78	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: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:1225:A:H2'	1:A:1225:A:N3	1.94	0.81
1:A:961:U:C2'	1:A:962:C:H5'	2.11	0.81
1:A:1015:A:H2'	1:A:1016:A:C8	2.16	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:58:GLU:HB3	10:J:92:THR:HG21	1.62	0.80
3:C:179:ARG:O	3:C:179:ARG:HG2	1.80	0.80
7:G:76:ARG:HD2	7:G:89:MET:SD	2.21	0.80
1:A:279:A:C8	17:Q:95:TYR:CE2	2.69	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
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
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:981:U:C5'	14:N:21:TYR:CE1	2.63	0.80
1:A:1126:U:C2'	1:A:1127:G:H8	1.92	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: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: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
4:D:9:CYS:SG	4:D:31:CYS:C	2.62	0.79
1:A:544:G:C5	1:A:545:C:C5	2.70	0.79
1:A:1350:A:C2	1:A:1351:U:C2	2.69	0.79
11:K:108:ILE:HD12	18:R:88:LYS:HG3	1.62	0.79
12:L:83:VAL:HG22	12:L:84:LEU:H	1.47	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: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
1:A:1089:G:C5	1:A:1090:U:C5	2.70	0.79
9:I:17:VAL:HG21	9:I:80:GLY:HA3	1.64	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:1098:C:H2'	1:A:1099:G: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:528:C:H41	12:L:49:ASN:CG	1.91	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: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
1:A:1502:A:H5''	1:A:1503:A:OP2	1.83	0.78
7:G:12:LEU:H	7:G:12:LEU:HD12	1.47	0.78
1:A:452:A:C2	1:A:453:A:C4	2.72	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: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
3:C:3:ASN:H	3:C:3:ASN:ND2	1.76	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:337:C:H2'	1:A:338:A:C8	2.19	0.78
1:A:1016:A:H2'	1:A:1017:G:O4'	1.84	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:890:G:HO2'	1:A:906:G:H1	1.29	0.78
1:A:1521:G:C4	1:A:1522:U:C5	2.72	0.78
2:B:47:THR:HG23	2:B:202:PRO:HG2	1.65	0.78
7:G:122:HIS:HA	7:G:125:MET:HE3	1.66	0.78
1:A:76:C:O2'	1:A:77:G:H5'	1.83	0.77
1:A:579:G:H2'	1:A:580:U:H6	1.50	0.77
1:A:972:C:O2	1:A:972:C:H2'	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1508:G:O2'	1:A:1509:C:H5'	1.84	0.77
5:E:11:ILE:HG21	5:E:31:LEU:HD13	1.65	0.77
1:A:914:A:H2'	1:A:915:A:C5'	2.14	0.77
5:E:120:THR:HG22	5:E:121:LYS:N	1.97	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: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: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:556:C:C2'	1:A:557:G:H5'	2.15	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
1:A:1206:G:C6	1:A:1207:G:C5	2.72	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:266:G:O3'	17:Q:67:LYS:HB2	1.83	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
4:D:30:LYS:C	4:D:32:ALA:N	2.41	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:394:G:H2'	1:A:395:C:C6	2.19	0.77
1:A:1030:C:H6	1:A:1030:C:H5'	1.50	0.77
1:A:1149:C:H2'	1:A:1150:U:C6	2.20	0.77
14:N:24:CYS:SG	14:N:40:CYS:N	2.58	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
1:A:1505:G:C8	1:A:1505:G:C3'	2.66	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:34:C:H2'	1:A:35:G:H8	1.51	0.76
1:A:335:C:H2'	1:A:336:C:C6	2.20	0.76
1:A:947:G:H2'	1:A:948:C:C6	2.21	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: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: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
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
5:E:12:LEU:O	5:E:12:LEU:HD13	1.86	0.76
5:E:143:ARG:NH2	8:H:104:ARG:HH11	1.82	0.76
7:G:101:LEU:HA	7:G:104:LEU:HD12	1.68	0.76
18:R:74:ARG:HB3	18:R:81:PHE:CE1	2.21	0.76
1:A:577:G:H1'	1:A:816:A:N3	2.00	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: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:414:A:C2	1:A:415:A:C4	2.75	0.75
1:A:1233:G:H2'	1:A:1234:C:C6	2.21	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: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: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:657:G:O2'	1:A:658:G:H5'	1.87	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
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:H	7:G:16:LEU:HD22	1.50	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:977:A:H2'	1:A:978:A:H5''	1.69	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:1027:C:O2'	1:A:1028:C:H5''	1.85	0.75
1:A:696:A:H2'	1:A:697:U:C6	2.22	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:247:G:OP2	17:Q:99:SER:HB2	1.87	0.74
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
1:A:696:A:C4	1:A:697:U:C5	2.74	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
1:A:1128:C:O2'	1:A:1130:A:C8	2.39	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	1.50	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: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:1230:C:O2'	1:A:1231:G:H5'	1.87	0.74
1:A:818:G:O2'	1:A:820:U:C5	2.40	0.74
2:B:100:GLY:C	2:B:102:LEU:H	1.94	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:60:A:H4'	1:A:61:G:O5'	1.85	0.74
1:A:455:C:O2'	1:A:456:C:H5'	1.87	0.74
1:A:1401:G:C5	1:A:1402:C:C5	2.76	0.74
1:A:754:C:O2	1:A:754:C:C2'	2.35	0.74
1:A:1309:G:P	13:M:88:ARG:HH21	2.11	0.74
8:H:44:PHE:CE1	8:H:137:VAL:HG12	2.22	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1094:G:H5''	1:A:1095:U:C5	2.22	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:458:C:C2	1:A:459:G:C8	2.76	0.73
1:A:1250:A:H5''	9:I:67:GLY:C	2.13	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: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:781:A:H2'	1:A:782:A:H5'	1.70	0.73
1:A:1278:U:C5'	1:A:1279:A:O4'	2.36	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:56:U:H2'	1:A:57:G:H8	1.54	0.73
1:A:1442:G:N2	1:A:1446:A:H3'	2.04	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: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:1528:U:O2'	1:A:1529:G:H3'	1.89	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:1440:C:H2'	1:A:1441:G:O4'	1.90	0.72
1:A:656:C:H3'	1:A:656:C:C6	2.24	0.72
1:A:880:C:H5''	12:L:12:ARG:HH21	1.54	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
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
2:B:178:ARG:HH21	8:H:74:PRO:HG3	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:18:GLN:O	6:F:21:LEU:HB3	1.90	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: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:53:A:N1	1:A:54:C:C2	2.58	0.72
1:A:400:C:H2'	1:A:401:C:H6	1.52	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:88:VAL:HB	4:D:91:SER:OG	1.89	0.72
4:D:194:LEU:HD12	4:D:196:LEU:HG	1.70	0.72
1:A:16:A:O2'	5:E:16:THR:HG22	1.89	0.72
1:A:49:U:H1'	12:L:28:LYS:NZ	2.04	0.72
1:A:321:A:H2'	1:A:322:C:H6	1.53	0.72
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
3:C:54:ARG:HB3	3:C:69:HIS:HD2	1.54	0.72
12:L:47:LYS:HB2	12:L:48:PRO:HD3	1.69	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
1:A:1005:A:H2'	1:A:1006:C:C5'	2.17	0.72
10:J:49:VAL:O	10:J:60:ARG:HA	1.88	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: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
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
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:926:G:H2'	1:A:1505:G:H21	1.55	0.71
1:A:1193:G:O2'	1:A:1194:U:H5'	1.90	0.71
1:A:1244:C:OP2	21:V:9:ARG:HB2	1.90	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1030(B):C:H2'	1:A:1030(C):G:H5''	1.72	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: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
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
3:C:173:VAL:O	3:C:173:VAL:HG12	1.90	0.71
1:A:402:G:C6	1:A:403:C:C5	2.79	0.71
1:A:807:A:C4	1:A:808:C:C5	2.79	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
3:C:187:ALA:HB3	3:C:198:VAL:HB	1.73	0.71
1:A:118:U:C5	1:A:288:A:C6	2.79	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
1:A:1381:U:O2'	1:A:1382:C:H5'	1.90	0.71
3:C:10:PHE:CZ	3:C:178:LEU:HD13	2.26	0.71
13:M:81:LEU:H	13:M:81:LEU:CD2	2.03	0.71
1:A:620:C:N1	4:D:135:LEU:HD13	2.05	0.71
1:A:935:A:C6	7:G:3:ARG:NH2	2.57	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
3:C:5:ILE:O	3:C:5:ILE:HG13	1.91	0.71
1:A:22:G:C4	1:A:23:C:C5	2.79	0.71
1:A:192:U:H2'	1:A:193:C:C6	2.25	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:65:U:C5	1:A:381:C:N4	2.58	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:718:G:H5'	1:A:719:C:OP2	1.91	0.71
1:A:1511:G:H2'	1:A:1512:U:O4'	1.90	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:1197:G:C2'	1:A:1198:G:H5'	2.21	0.71
1:A:9:G:C6	1:A:26:A:N6	2.58	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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:377:G:OP1	16:P:3:LYS:HD2	1.91	0.70
1:A:803:G:C5	1:A:804:U:C5	2.79	0.70
1:A:1187:G:H5'	9:I:113:LYS:CE	2.20	0.70
1:A:650:G:C2'	1:A:651:C:H5'	2.20	0.70
1:A:1256:A:H2	1:A:1258:G:C6	2.09	0.70
5:E:103:GLY:O	5:E:106:PRO:HD2	1.92	0.70
19:S:41:VAL:HG23	19:S:44:MET:HB2	1.72	0.70
1:A:16:A:N1	1:A:919:A:C2	2.60	0.70
1:A:394:G:C4	1:A:395:C:C5	2.78	0.70
1:A:1202:G:C2'	1:A:1203:C:H5'	2.20	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: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
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
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
12:L:83:VAL:HG22	12:L:84:LEU:N	2.05	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
1:A:1197:G:H2'	1:A:1198:G:H5'	1.73	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:55:A:C2	1:A:56:U:C1'	2.75	0.70
1:A:281:G:O2'	1:A:282:A:OP2	2.09	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:382:A:C2	1:A:383:A:C5	2.79	0.70
1:A:670:G:H2'	1:A:671:G:O4'	1.92	0.70
1:A:1490:C:C6	1:A:1490:C:C5'	2.72	0.70
18:R:47:THR:HA	18:R:83:GLU:HB2	1.73	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
1:A:1187:G:H5'	9:I:113:LYS:NZ	2.06	0.70
1:A:362:G:H5''	12:L:61:THR:HG21	1.74	0.69
1:A:1128:C:H5'	9:I:16:ARG:CZ	2.21	0.69
1:A:1217:C:C4	1:A:1218:C:C5	2.79	0.69
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
2:B:13:ALA:C	2:B:15:VAL:H	2.00	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
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
2:B:101:MET:O	2:B:102:LEU:HD12	1.92	0.69
5:E:113:ALA:HB3	5:E:115:VAL:HG23	1.74	0.69
1:A:531:U:H4'	1:A:532:A:H5''	1.72	0.69
1:A:1452:C:H4'	1:A:1453:G:O5'	1.90	0.69
1:A:266:G:H8	1:A:266:G:C5'	2.00	0.69
1:A:1061:G:N2	1:A:1197:G:H1'	2.07	0.69
1:A:1138:G:N2	1:A:1140:C:C4	2.60	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: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
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
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:39:G:C2	1:A:40:C:C6	2.81	0.69
1:A:218:C:C4'	1:A:461:C:N4	2.55	0.69
1:A:338:A:H2'	1:A:339:C:H6	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:650:G:C6	1:A:651:C:C5	2.81	0.69
1:A:698:G:H2'	1:A:699:C:H6	1.58	0.69
1:A:959:A:H3'	1:A:960:U:H5''	1.75	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:1292:U:P	7:G:41:ARG:HH22	2.16	0.69
1:A:1306:A:H2	1:A:1307:U:H1'	1.57	0.69
1:A:1326:C:H2'	1:A:1327: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:77:G:O2'	1:A:78:G:H5'	1.92	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:571:U:OP1	1:A:819:A:H2'	1.93	0.69
1:A:656:C:H3'	1:A:656:C:H6	1.56	0.69
1:A:767:A:C5	1:A:768:A:N7	2.60	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: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:C8	1:A:509:A:H3'	2.27	0.69
1:A:740:U:OP2	15:O:2:PRO:HG3	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
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: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:1219:U:H2'	1:A:1220:G:C8	2.27	0.68
10:J:40:LEU:HB3	10:J:41:PRO:HB2	1.75	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:947:G:C4	1:A:948:C:C5	2.80	0.68
1:A:1347:G:C2'	1:A:1348:U:OP2	2.41	0.68
1:A:8:A:N6	4:D:209:ARG:HB2	2.09	0.68
1:A:32:A:C2	1:A:33:A:C4	2.81	0.68
1:A:75:G:O2'	1:A:76:C:H5'	1.94	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:797:C:O2'	1:A:798:G:H5'	1.94	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
13:M:49:THR:HB	13:M:52:GLU:HG3	1.75	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
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
2:B:113:HIS:HA	2:B:116:GLU:HG3	1.73	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: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:562:C:N4	1:A:884:U:H6	1.89	0.68
1:A:1326:C:OP1	21:V:12:LYS:NZ	2.27	0.68
5:E:75:THR:HG22	5:E:76:ILE:N	2.02	0.68
8:H:108:GLY:HA3	8:H:138:TRP:HB3	1.76	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:936:C:O2'	1:A:937:A:H5'	1.94	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: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:1311:G:C6	1:A:1312:G:N7	2.61	0.68
1:A:1090:U:HO2'	1:A:1091:U:H5'	1.57	0.67
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:HG2	9:I:104:ARG:NH1	2.09	0.67
15:O:9:GLN:HA	15:O:12:ILE:CD1	2.20	0.67
1:A:35:G:C4	1:A:550:G:N2	2.62	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
3:C:33:LEU:HD11	14:N:53:LEU:HD22	1.76	0.67
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: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:409:G:OP1	4:D:24:GLU:O	2.11	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: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
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:254:G:H21	17:Q:16:GLN:HE21	1.42	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: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:41:G:H2'	1:A:42:G:C8	2.27	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: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
1:A:953:G:N7	13:M:104:ARG:NH2	2.43	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:42:G:N3	1:A:43:C:C6	2.63	0.67
1:A:181:G:N2	1:A:195:A:C4	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:HG2	2:B:111:ARG:NH1	2.10	0.67
1:A:55:A:C2	1:A:56:U:N1	2.62	0.67
1:A:80:G:C3'	1:A:81:U:H5''	2.23	0.67
1:A:499:A:H4'	1:A:500:G:OP1	1.94	0.67
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:1058:G:H2'	1:A:1059:C:H6	1.59	0.67
19:S:62:ILE:HD12	19:S:66:MET:CE	2.23	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
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
3:C:3:ASN:ND2	3:C:3:ASN:N	2.42	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
1:A:1372:U:H5''	9:I:71:SER:CB	2.23	0.67
8:H:83:ILE:HD12	8:H:137:VAL:HG13	1.77	0.67
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:1316:G:H22	1:A:1318:A:H3'	1.60	0.66
1:A:620:C:C6	4:D:135:LEU:HD13	2.29	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
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
2:B:152:PHE:CE1	2:B:155:LEU:HD12	2.30	0.66
20:T:56:MET:HE2	20:T:85:MET:HA	1.76	0.66
1:A:501:C:O2'	1:A:502:G:H5'	1.95	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:95:U:H2'	1:A:96:G:H8	1.60	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:1149:C:H2'	1:A:1150:U:H6	1.58	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:1442:G:H21	1:A:1446:A:H3'	1.60	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
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
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
19:S:62:ILE:HD12	19:S:66:MET:HE3	1.77	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
5:E:43:LEU:HD23	5:E:43:LEU:C	2.21	0.66
7:G:40:ALA:HB1	9:I:41:VAL:HG11	1.78	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:1358:U:H3'	1:A:1359:C:C6	2.30	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:1191:A:H5''	3:C:4:LYS:HZ3	1.59	0.66
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:1281:U:H5'	1:A:1282:C:H5	1.61	0.65
1:A:20:U:O4	1:A:21:G:C6	2.49	0.65
1:A:99:C:C2	1:A:101:A:C8	2.84	0.65
1:A:829:G:N2	1:A:830:G:C4	2.64	0.65
1:A:1318:A:H4'	19:S:10:PHE:CE2	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:49:LEU:HD12	16:P:50:LYS:N	2.09	0.65
1:A:32:A:C2	1:A:33:A:C5	2.84	0.65
1:A:162:A:O5'	1:A:162:A:H8	1.78	0.65
1:A:452:A:N3	1:A:453:A:C8	2.64	0.65
1:A:1056:U:O2'	1:A:1057:G:H5'	1.96	0.65
1:A:1057:G:C4'	3:C:154:SER:HB2	2.25	0.65
1:A:1225:A:H3'	1:A:1226:C:C5	2.31	0.65
3:C:151:VAL:HG12	3:C:152:ILE:N	2.10	0.65
4:D:25:ARG:C	4:D:27:TYR:H	2.02	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
1:A:1291:G:H4'	9:I:38:GLN:O	1.96	0.65
8:H:88:LYS:HB3	8:H:89:PRO:HD2	1.77	0.65
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: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:1369:C:H2'	1:A:1370:G:O4'	1.96	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
1:A:1287:A:H2'	1:A:1288:A:H8	1.60	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: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
1:A:1030(A):G:N2	1:A:1030(C):G:O6	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1118:C:P	9:I:104:ARG:HH12	2.19	0.65
1:A:1151:A:C2	1:A:1152:A:C5	2.85	0.65
6:F:69:GLU:O	6:F:72:VAL:HG23	1.96	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
1:A:985:C:C2	1:A:1221:G:N2	2.65	0.65
1:A:1221:G:O3'	19:S:77:THR:HG21	1.97	0.65
4:D:140:VAL:CG1	4:D:146:ILE:HD11	2.25	0.65
1:A:36:C:C5'	12:L:122:THR:O	2.45	0.64
1:A:50:A:O2'	1:A:52:G:C8	2.50	0.64
1:A:129(A):G:N3	1:A:190(E):U:H5'	2.12	0.64
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
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: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
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
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:346:G:H2'	1:A:347:G:H5'	1.80	0.64
1:A:1026:G:H2'	1:A:1026:G:N3	2.11	0.64
1:A:1196:U:H5''	1:A:1197:G:H5''	1.77	0.64
17:Q:27:PHE:O	17:Q:36:ILE:HG12	1.97	0.64
1:A:7:G:C2	1:A:298:A:N1	2.65	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:757:U:O2'	1:A:879:C:H1'	1.98	0.64
1:A:852:G:C2	1:A:853:G:C8	2.86	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:3:ARG:HB3	13:M:4:ILE:HG13	1.79	0.64
15:O:3:ILE:HD12	15:O:3:ILE:H	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: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
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
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: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: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: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: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
7:G:142:GLU:C	7:G:144:MET:H	2.06	0.63
1:A:9:G:H5'	5:E:122:GLU:OE2	1.98	0.63
1:A:42:G:C5	1:A:43:C:C5	2.86	0.63
1:A:55:A:N1	1:A:56:U:C2	2.66	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:867:G:H5''	1:A:867:G:H8	1.63	0.63
1:A:1057:G:H4'	3:C:154:SER:CB	2.28	0.63
1:A:1210:C:H5'	1:A:1214:C:H42	1.63	0.63
1:A:1346:A:C2'	7:G:10:ARG:HH22	2.10	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
7:G:15:ASP:OD2	7:G:17:VAL:HB	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:60:ILE:HD13	17:Q:61:GLU:N	2.12	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
1:A:1310:G:C5'	13:M:77:ASN:HD21	2.11	0.63
1:A:1371:G:C4	1:A:1372:U:C6	2.86	0.63
9:I:121:ARG:HG2	9:I:121:ARG:NH1	2.11	0.63
12:L:104:VAL:O	12:L:105:TYR:HB2	1.97	0.63
18:R:43:PHE:CG	18:R:66:LEU:HD21	2.34	0.63
1:A:34:C:H2'	1:A:35:G:C8	2.32	0.63
1:A:202:U:O5'	1:A:202:U:H6	1.81	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
1:A:1125:U:O3'	1:A:1126:U:H5	1.81	0.63
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
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:113:G:C4	1:A:114:U:C5	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
1:A:1067:A:HO2'	1:A:1068:G:H8	1.44	0.63
1:A:1401:G:C5	1:A:1402:C:C6	2.87	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: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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:113:G:C2	1:A:114:U:C2	2.87	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
1:A:1157:A:H4'	1:A:1158:C:O5'	1.99	0.63
6:F:12:PRO:HG3	6:F:55:ASP:OD1	1.99	0.63
8:H:83:ILE:HG23	8:H:83:ILE:O	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: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
1:A:1314:C:OP2	19:S:6:LYS:HB3	1.99	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
5:E:11:ILE:HG22	5:E:12:LEU:HD12	1.80	0.63
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
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
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: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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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:32:A:N6	1:A:553:A:C6	2.67	0.62
1:A:149:A:H2'	1:A:150:C:C6	2.35	0.62
1:A:645:C:H2'	1:A:646:U:C6	2.34	0.62
1:A:1306:A:N3	1:A:1306:A:H2'	2.13	0.62
1:A:95:U:H2'	1:A:96:G:C8	2.34	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: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
4:D:28:SER:O	4:D:30:LYS:N	2.33	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:881:G:P	12:L:12:ARG:HH22	2.23	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: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:1318:A:H4'	19:S:10:PHE:CD2	2.35	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:981:U:C2'	1:A:982:U:H5	1.98	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
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:149:A:H2'	1:A:150:C:H6	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:375:U:OP1	16:P:69:THR:HG21	2.00	0.62
1:A:703:G:H3'	1:A:703:G:OP2	1.99	0.62
1:A:1225:A:H5'	13:M:103:THR:CG2	2.29	0.62
1:A:1498:U:O2'	1:A:1499:A:P	2.57	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: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
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
10:J:8:LEU:CD2	10:J:96:ILE:HG12	2.29	0.62
12:L:28:LYS:C	12:L:30:ALA:H	2.07	0.62
1:A:92:C:H2'	1:A:93:G:H8	1.63	0.62
1:A:152:A:N6	1:A:170:U:C2	2.68	0.62
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
14:N:37:PHE:HB3	14:N:39:LEU:HD12	1.81	0.62
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:1029:C:H42	1:A:1032:G:H1	1.47	0.61
1:A:1030(B):C:C2'	1:A:1030(C):G:H5''	2.30	0.61
1:A:1508:G:H2'	1:A:1509:C:C6	2.35	0.61
1:A:7:G:H4'	1:A:8:A:OP1	2.00	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:815:A:O2'	1:A:816:A:P	2.57	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:210:SER:O	2:B:214:ILE:HG12	2.00	0.61
1:A:891:U:C6	1:A:906:G:N2	2.69	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
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: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
1:A:955:U:H1'	1:A:1227:A:N6	2.15	0.61
2:B:74:LYS:HZ2	2:B:76:GLN:HG2	1.65	0.61
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: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
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
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:26:GLY:C	13:M:28:ALA:H	2.08	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:22:G:C5	1:A:23:C:C5	2.88	0.61
1:A:228:A:H4'	16:P:62:VAL:HG11	1.82	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
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
3:C:3:ASN:O	3:C:4:LYS:HB2	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:15:THR:O	3:C:16:ARG:HB2	1.99	0.61
4:D:105:VAL:HG13	4:D:110:PHE:HB2	1.82	0.61
7:G:37:ASN:HD21	9:I:41:VAL:H	1.47	0.61
9:I:107:ARG:HG3	9:I:107:ARG:NH1	2.16	0.61
1:A:252:U:C2	1:A:253:U:C5	2.88	0.61
1:A:376:G:OP2	16:P:67:THR:HG21	2.01	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
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
11:K:30:VAL:HG12	11:K:31:THR:N	2.14	0.61
20:T:29:LYS:O	20:T:32:ALA:HB3	2.00	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
1:A:1125:U:O3'	1:A:1126:U:C5	2.54	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: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
1:A:1094:G:OP2	1:A:1095:U:C5	2.54	0.61
2:B:170:GLU:O	2:B:172:ILE:N	2.34	0.61
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
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
16:P:22:THR:HA	16:P:33:ILE:HD12	1.83	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1435:G:C4	1:A:1436:U:C5	2.89	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:7:G:C6	1:A:298:A:C2	2.89	0.60
1:A:192:U:C2	1:A:193:C:C5	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
1:A:1128:C:HO2'	1:A:1130:A:H8	1.47	0.60
1:A:1231:G:C2'	1:A:1232:U:H5'	2.31	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: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
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
1:A:1268:A:H2'	1:A:1269:A:C8	2.36	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: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
1:A:1180:A:O2'	1:A:1181:G:H5'	2.02	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:8:A:H1'	5:E:102:ALA:O	2.01	0.60
1:A:32:A:N6	1:A:553:A:N1	2.48	0.60
1:A:533:A:C5	1:A:536:C:C4	2.90	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: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
10:J:26:ALA:HB1	10:J:84:GLN:HB3	1.83	0.60
1:A:134:A:C4	1:A:325:A:C2	2.90	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:642:A:N7	8:H:115:SER:HA	2.16	0.60
1:A:976:G:C8	1:A:1358:U:O2	2.55	0.60
1:A:1126:U:C2'	1:A:1127:G:C8	2.77	0.60
1:A:1190:G:OP1	3:C:5:ILE:HG12	2.02	0.60
1:A:1249:C:O2'	9:I:73:GLN:NE2	2.35	0.60
1:A:1250:A:H5''	9:I:67:GLY:HA2	1.84	0.60
1:A:1309:G:N7	13:M:99:ARG:NH2	2.50	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: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
1:A:986:A:H2'	1:A:987:G:C8	2.36	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:1223:C:OP2	19:S:78:ARG:NH2	2.30	0.60
1:A:1258:G:O2'	1:A:1259:C:H5'	2.02	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: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: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: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: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
1:A:1347:G:O2'	1:A:1348:U:OP2	2.19	0.59
5:E:51:VAL:O	5:E:55:VAL:HG23	2.02	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
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:1346:A:C4	7:G:10:ARG:NH2	2.71	0.59
3:C:34:LEU:HG	14:N:25:VAL:HG21	1.85	0.59
1:A:617:G:O2'	16:P:44:THR:HG21	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:O2	1:A:486:U:C2'	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
1:A:1101:A:C2	2:B:99:GLY:O	2.56	0.59
1:A:1136:U:H6	1:A:1136:U:O5'	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
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:391:G:C6	1:A:392:G:N7	2.71	0.59
1:A:509:A:O5'	1:A:509:A:H8	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
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
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:16:A:N1	1:A:919:A:H2	1.99	0.59
1:A:691:G:O2'	1:A:797:C:H4'	2.02	0.59
1:A:783:C:O2'	1:A:784:C:H5'	2.03	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:973:G:H3'	1:A:974:A:H5''	1.84	0.59
1:A:1181:G:O2'	1:A:1182:G:O5'	2.19	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:39:G:H2'	1:A:40:C:H5'	1.85	0.59
1:A:318:G:O2'	1:A:319:G:H5'	2.03	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
1:A:1309:G:C2	1:A:1329:A:N3	2.70	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1324:A:C6	1:A:1325:C:C4	2.90	0.59
2:B:100:GLY:O	2:B:102:LEU:N	2.35	0.59
17:Q:68:ARG:HG2	17:Q:68:ARG:O	2.02	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
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
2:B:124:SER:O	2:B:127:ILE:HG13	2.02	0.59
10:J:42:THR:HG23	10:J:68:HIS:HA	1.85	0.59
1:A:29:G:N2	1:A:555:C:C2	2.71	0.59
1:A:149:A:C2	1:A:150:C:C5	2.91	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:1333:A:H2'	1:A:1334:G:C5'	2.33	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:926:G:C2'	1:A:1505:G:H21	2.15	0.59
1:A:958:A:C6	1:A:959:A:N1	2.71	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
3:C:132:ARG:HH22	4:D:47:ARG:NH2	2.00	0.59
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
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
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
8:H:111:ILE:C	8:H:112:LEU:HD23	2.28	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: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1501:C:N4	1:A:1504:G:N3	2.50	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
9:I:107:ARG:HG3	9:I:107:ARG:HH11	1.68	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: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:1117:G:O3'	9:I:104:ARG:NH1	2.37	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:925:G:C2	1:A:927:G:C8	2.91	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
3:C:195:VAL:C	3:C:196:LEU:HD23	2.28	0.58
7:G:148:ASN:C	7:G:150:ALA:H	2.10	0.58
1:A:101:A:C2	1:A:102:G:N9	2.72	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
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
16:P:39:TYR:OH	16:P:41:PRO:HA	2.02	0.58
1:A:46:G:O2'	1:A:365:U:H1'	2.04	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:958:A:N1	19:S:54:GLY:HA3	2.18	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:57:G:C6	1:A:58:C:N4	2.72	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:1372:U:C5'	9:I:71:SER:HB2	2.31	0.58
13:M:73:GLU:O	13:M:77:ASN:HB2	2.02	0.58
1:A:457:C:H2'	1:A:458:C:H6	1.68	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
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:41:G:C4	1:A:42:G:N7	2.72	0.58
1:A:102:G:H2'	1:A:103:C:H6	1.67	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: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
1:A:1038:C:N3	1:A:1039:C:C5	2.72	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
2:B:178:ARG:O	8:H:71:GLY:HA2	2.03	0.58
9:I:50:LEU:C	9:I:52:ALA:H	2.12	0.58
12:L:8:ASN:O	12:L:11:VAL:HB	2.04	0.58
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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:27:G:C5	1:A:28:G:N7	2.72	0.57
1:A:36:C:C2	1:A:37:U:C6	2.92	0.57
1:A:294:U:H2'	1:A:295:C:H6	1.69	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
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:O2	1:A:1485:U:H2'	2.04	0.57
3:C:151:VAL:C	3:C:152:ILE:HG13	2.28	0.57
4:D:18:LYS:O	4:D:19:LEU:HD23	2.04	0.57
13:M:32:GLU:HG2	13:M:32:GLU:O	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
1:A:1019:C:C2'	1:A:1020:U:H5'	2.35	0.57
1:A:1145:C:O2'	1:A:1146:A:O5'	2.21	0.57
1:A:1371:G:O3'	9:I:69:GLY:HA3	2.04	0.57
11:K:94:ALA:O	11:K:97:ALA:HB3	2.03	0.57
1:A:39:G:C2'	1:A:40:C:C5'	2.82	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: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
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
2:B:204:ASN:HD22	2:B:205:ASP:N	2.02	0.57
3:C:52:LEU:HG	3:C:52:LEU:O	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
1:A:65:U:C5	1:A:381:C:C4	2.93	0.57
1:A:89:C:C2'	1:A:90:U:O5'	2.52	0.57
1:A:113:G:C6	1:A:315:A:C6	2.92	0.57
1:A:700:G:O3'	1:A:703:G:H5'	2.05	0.57
1:A:706:A:O4'	11:K:29:ILE:HD11	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:922:G:N2	1:A:1396:A:C4	2.72	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:1371:G:OP2	9:I:11:LYS:HE2	2.03	0.57
15:O:53:HIS:O	15:O:56:LEU:HB3	2.04	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:1210:C:C5'	1:A:1214:C:N4	2.67	0.57
1:A:1361(A):C:HO2'	1:A:1362:C:H6	1.50	0.57
1:A:1414:U:H2'	1:A:1415:G:C8	2.39	0.57
18:R:38:GLU:H	18:R:38:GLU:CD	2.13	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:511:C:H1'	4:D:43:HIS:HE2	1.70	0.57
1:A:573:A:C2	1:A:574:A:C2	2.93	0.57
1:A:690:G:C6	1:A:691:G:N1	2.72	0.57
1:A:1319:A:C2'	1:A:1323:G:N7	2.67	0.57
7:G:16:LEU:HD22	7:G:16:LEU:N	2.18	0.57
1:A:25:C:C5	1:A:558:G:N2	2.73	0.57
1:A:492:G:C2	1:A:494:G:H1'	2.40	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
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
3:C:187:ALA:O	3:C:188:LEU:HB2	2.05	0.57
5:E:36:ASP:C	5:E:38:GLN:H	2.11	0.57
15:O:45:VAL:HG12	15:O:46:HIS:N	2.20	0.57
1:A:27:G:C4	1:A:28:G:C8	2.93	0.57
1:A:75:G:C2'	1:A:76:C:O5'	2.52	0.57
1:A:286:G:C2	1:A:287:U:C2	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:807:A:C6	1:A:808:C:N4	2.73	0.57
1:A:1205:U:H1'	3:C:195:VAL:HG21	1.87	0.57
1:A:1305:G:H22	1:A:1331:G:C2'	2.17	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:42:G:C4	1:A:43:C:C6	2.93	0.57
1:A:75:G:H2'	1:A:76:C:O5'	2.05	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: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
1:A:1060:C:OP1	14:N:45:ARG:NH2	2.38	0.57
2:B:178:ARG:HG3	8:H:72:PRO:HA	1.87	0.57
1:A:90:U:H2'	1:A:91:C:C6	2.40	0.56
1:A:148:G:H2'	1:A:149:A:C8	2.28	0.56
1:A:709:G:H2'	1:A:710:G:H8	1.70	0.56
1:A:958:A:C6	1:A:959:A:C6	2.93	0.56
1:A:1030(C):G:H5'	1:A:1030(C):G:C8	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
2:B:11:LEU:O	2:B:13:ALA:N	2.38	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
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
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:22:G:H4'	1:A:885:G:C8	2.40	0.56
1:A:116:A:H61	1:A:313:A:H1'	1.70	0.56
1:A:119:A:C2	1:A:240:C:C5	2.93	0.56
1:A:393:A:N3	1:A:394:G:C8	2.73	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: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: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
1:A:937:A:N6	1:A:1345:U:O4	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1158:C:O2	1:A:1158:C:C2'	2.52	0.56
1:A:1193:G:C2	1:A:1194:U:C6	2.94	0.56
1:A:1202:G:H2'	1:A:1203:C:C5'	2.35	0.56
1:A:1306:A:C4	1:A:1307:U:C6	2.93	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
4:D:96:LEU:H	4:D:96:LEU:HD22	1.70	0.56
5:E:79:GLU:O	5:E:80:ILE:HG23	2.04	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
18:R:39:VAL:CG1	18:R:40:LEU:N	2.67	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
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:94:LEU:HA	4:D:97:LEU:HB2	1.87	0.56
4:D:96:LEU:HD13	4:D:96:LEU:N	2.20	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: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:O2	1:A:839:U:C2'	2.50	0.56
1:A:858:G:C6	1:A:869:G:C8	2.94	0.56
1:A:866:C:H2'	1:A:867:G:O4'	2.04	0.56
1:A:996:A:H2'	1:A:997:U:C6	2.41	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
2:B:13:ALA:C	2:B:15:VAL:N	2.64	0.56
2:B:124:SER:HB2	2:B:125:PRO:HD2	1.86	0.56
3:C:52:LEU:HD23	3:C:52:LEU:H	1.70	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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: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
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
1:A:1438:G:H2'	1:A:1439:C:C6	2.40	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:35:G:H2'	1:A:36:C:H6	1.71	0.56
1:A:88:A:H2'	1:A:89:C:O5'	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:449:C:C5	1:A:450:G:C5	2.94	0.56
1:A:1158:C:O2	1:A:1158:C:H2'	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
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:190(E):U:C5	17:Q:72:ARG:NH2	2.74	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:600:C:H4'	8:H:128:GLY:O	2.06	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:1190:G:O2'	1:A:1191:A:OP2	2.24	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:42:G:N3	1:A:43:C:C5	2.74	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: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: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
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
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
20:T:73:HIS:HB2	20:T:76:ALA:HB2	1.88	0.56
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
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
2:B:181:PHE:N	2:B:181:PHE:CD1	2.73	0.55
3:C:8:ILE:O	3:C:10:PHE:N	2.39	0.55
3:C:202:ILE:HG22	3:C:204:LEU:HG	1.87	0.55
14:N:54:PRO:C	14:N:56:VAL:H	2.14	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:N3	1:A:397:A:H5''	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
1:A:1053:G:C4	1:A:1199:U:C5	2.94	0.55
1:A:1126:U:C6	1:A:1126:U:O5'	2.59	0.55
1:A:1309:G:H2'	1:A:1310:G:H5'	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:818:G:C3'	1:A:819:A:C5'	2.83	0.55
1:A:1459:C:H2'	1:A:1460:A:O5'	2.05	0.55
4:D:59:ARG:HG2	4:D:59:ARG:NH1	2.20	0.55
4:D:173:TRP:CD1	4:D:174:LEU:HG	2.40	0.55
15:O:29:VAL:O	15:O:30:ALA:C	2.48	0.55
16:P:43:LYS:HG2	16:P:48:TRP:CG	2.42	0.55
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
1:A:1015:A:H8	1:A:1015:A:O5'	1.90	0.55
1:A:1346:A:C4	7:G:10:ARG:CZ	2.89	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
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
5:E:136:MET:C	5:E:138:ALA:N	2.62	0.55
11:K:71:LYS:O	11:K:74:ALA:HB3	2.06	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1504:G:H4'	1:A:1505:G:H5'	1.89	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
1:A:67:C:O2'	1:A:68:G:H5'	2.06	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:854:G:H3'	1:A:871:U:C4	2.40	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
3:C:73:PRO:C	3:C:75:VAL:H	2.15	0.55
13:M:81:LEU:H	13:M:81:LEU:HD23	1.72	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
1:A:981:U:C5'	14:N:21:TYR:CZ	2.89	0.55
1:A:1052:U:H2'	1:A:1055:A:OP1	2.06	0.55
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
4:D:67:ILE:HG22	4:D:68:TYR:N	2.20	0.55
5:E:127:ASN:O	5:E:128:PRO:C	2.49	0.55
1:A:321:A:H2	1:A:332:G:H22	1.54	0.55
1:A:421:U:C6	3:C:127:ARG:NH2	2.75	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: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
6:F:48:LEU:HD13	6:F:52:ILE:CG1	2.30	0.55
13:M:37:THR:HG22	13:M:37:THR:O	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:8:A:H62	4:D:209:ARG:HB2	1.72	0.55
1:A:130:A:C8	17:Q:63:ARG:HG3	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
16:P:49:LEU:HD22	16:P:73:LEU:HD22	1.89	0.55
1:A:10:A:C2	1:A:11:G:C5	2.95	0.55
1:A:21:G:H2'	1:A:22:G:H8	1.72	0.55
1:A:37:U:O2'	1:A:38:G:H5'	2.07	0.55
1:A:113:G:C6	1:A:315:A:N6	2.74	0.55
1:A:265:G:O2'	1:A:266:G:H5'	2.06	0.55
1:A:596:C:N4	1:A:645:C:N3	2.53	0.55
1:A:1225:A:C5'	13:M:103:THR:OG1	2.55	0.55
1:A:1392:G:N2	1:A:1502:A:H8	2.04	0.55
11:K:95:ILE:O	11:K:99:GLN:HG3	2.07	0.55
18:R:39:VAL:HG13	18:R:40:LEU:N	2.21	0.55
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
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
2:B:98:LEU:HD12	2:B:101:MET:HE3	1.89	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:38:G:H22	1:A:397:A:C5'	2.20	0.54
1:A:319:G:O2'	1:A:320:C:H5'	2.06	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:835:U:OP1	18:R:64:ARG:NH2	2.41	0.54
1:A:955:U:H1'	1:A:1227:A:H61	1.69	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:O	11:K:114:VAL:HG13	2.07	0.54
1:A:5:U:O2	1:A:5:U:C2'	2.56	0.54
1:A:80:G:H3'	1:A:81:U:C5'	2.33	0.54
1:A:720:C:O5'	1:A:720:C:H6	1.90	0.54
1:A:924:C:C2'	1:A:925:G:H5'	2.37	0.54
1:A:1346:A:N9	7:G:10:ARG:NH2	2.56	0.54
1:A:1381:U:O2	1:A:1381:U:H2'	2.06	0.54
1:A:1461:G:O2'	1:A:1462:G:H5'	2.07	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:35:G:H2'	1:A:36:C:C6	2.42	0.54
1:A:119:A:C5	1:A:240:C:C4	2.95	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
1:A:1039:C:C2	1:A:1040:U:C5	2.95	0.54
1:A:1226:C:C4'	1:A:1227:A:OP1	2.54	0.54
1:A:1317:C:H2'	1:A:1318:A:O4'	2.08	0.54
9:I:6:GLY:O	9:I:7:THR:HB	2.07	0.54
16:P:59:TRP:HA	16:P:59:TRP:CE3	2.42	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
1:A:1085:U:H1'	1:A:1094:G:C6	2.42	0.54
1:A:1227:A:H5'	1:A:1227:A:H8	1.72	0.54
1:A:1442:G:N2	1:A:1446:A:C8	2.75	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:6:G:O6	5:E:95:ALA:N	2.38	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:965:A:C2	1:A:969:A:N1	2.75	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
3:C:33:LEU:HD11	14:N:53:LEU:CD2	2.37	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: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
1:A:1040:U:H2'	1:A:1041:A:H8	1.72	0.54
1:A:1085:U:O2'	1:A:1086:U:OP1	2.26	0.54
1:A:1290:G:C6	1:A:1291:G:C5	2.96	0.54
1:A:1305:G:H5'	21:V:4:GLY:HA3	1.90	0.54
1:A:1371:G:C6	1:A:1372:U:C4	2.96	0.54
2:B:162:ILE:HG22	2:B:164:VAL:HG23	1.89	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
1:A:9:G:C2	1:A:10:A:C8	2.96	0.54
1:A:142:G:O6	1:A:143:A:N6	2.41	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
1:A:1107:C:C4	1:A:1108:G:C8	2.96	0.54
1:A:1108:G:C5	1:A:1109:C:C5	2.95	0.54
1:A:1144:G:N2	1:A:1146:A:H62	2.06	0.54
1:A:1516:G:C2	1:A:1520:G:C2	2.96	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
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:45:U:H2'	1:A:46:G:C8	2.43	0.54
1:A:76:C:H2'	1:A:77:G:O5'	2.08	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: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:972:C:O2	1:A:972:C:C2'	2.49	0.54
1:A:1105:A:C2'	1:A:1106:G:H5'	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1168:A:H8	1:A:1168:A:O5'	1.89	0.54
1:A:1216:G:H5''	14:N:5:ALA:HB1	1.89	0.54
1:A:1366:C:H2'	1:A:1367:C:C6	2.43	0.54
4:D:125:HIS:C	4:D:126:ILE:HD13	2.33	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: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:1064:G:H4'	1:A:1065:U:H5''	1.90	0.54
1:A:1080:A:H4'	5:E:16:THR:HG21	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:H8	1:A:1206:G:O5'	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
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: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: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:818:G:O2'	1:A:820:U:C6	2.61	0.53
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
17:Q:92:ARG:O	17:Q:95:TYR:HB2	2.08	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:953:G:N3	1:A:1229:A:C2	2.76	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: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
2:B:130:ARG:NH2	3:C:207:VAL:HG11	2.23	0.53
3:C:70:VAL:C	3:C:106:VAL:HG23	2.32	0.53
3:C:167:TRP:O	3:C:168:ALA:HB2	2.07	0.53
7:G:122:HIS:HA	7:G:125:MET:CE	2.38	0.53
17:Q:60:ILE:HD13	17:Q:60:ILE:C	2.33	0.53
19:S:42:PRO:O	19:S:45:VAL:HG23	2.07	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
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
10:J:47:PHE:CZ	14:N:37:PHE:HE1	2.26	0.53
12:L:87:GLY:HA2	12:L:98:TYR:HA	1.90	0.53
1:A:50:A:N6	1:A:361:G:H4'	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: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
1:A:949:A:N6	1:A:1233:G:C6	2.76	0.53
1:A:960:U:C2	1:A:1225:A:C5	2.96	0.53
1:A:1152:A:OP1	10:J:68:HIS:ND1	2.41	0.53
1:A:1227:A:H5'	1:A:1227:A:C8	2.44	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
2:B:145:LEU:C	2:B:147:LYS:H	2.16	0.53
3:C:154:SER:OG	3:C:196:LEU:HA	2.07	0.53
3:C:157:ILE:HB	3:C:164:ARG:HH21	1.73	0.53
13:M:86:CYS:SG	13:M:88:ARG:HB3	2.48	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:20:VAL:HG21	16:P:32:TYR:HB2	1.90	0.53
1:A:13:U:C5	1:A:916:G:O6	2.61	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: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
2:B:30:ARG:C	2:B:31:TYR:HD2	2.17	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
5:E:12:LEU:HD13	5:E:12:LEU:C	2.33	0.53
15:O:29:VAL:O	15:O:31:LEU:N	2.42	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
1:A:1500:A:C2	1:A:1501:C:N1	2.77	0.53
5:E:121:LYS:HD2	5:E:122:GLU:H	1.73	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
1:A:974:A:N3	14:N:31:ARG:NH2	2.56	0.53
1:A:1052:U:O4	1:A:1200:C:H2'	2.09	0.53
1:A:1253:G:C2	1:A:1254:C:C2	2.96	0.53
1:A:1402:C:C4	1:A:1403:C:C4	2.97	0.53
1:A:1402:C:O2	1:A:1500:A:N1	2.41	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
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:55:A:O2'	1:A:56:U:H5'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69:G:H2'	1:A:70:G:H8	1.73	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:608:A:N3	1:A:609:A:C8	2.77	0.53
1:A:919:A:N3	1:A:1080:A:H2	2.07	0.53
1:A:1039:C:O2'	1:A:1040:U:C5'	2.56	0.53
1:A:1347:G:H2'	1:A:1348:U:OP2	2.09	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:27:G:C5	1:A:557:G: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: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
1:A:953:G:C2	1:A:1229:A:C2	2.97	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
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:39:G:H2'	1:A:40:C:C5'	2.39	0.53
1:A:112:G:C2	1:A:113:G:C8	2.97	0.53
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:506:G:C6	1:A:507:C:N4	2.76	0.53
1:A:542:G:OP1	4:D:10:ARG:NH2	2.42	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:1128:C:C1'	1:A:1146:A:H61	2.22	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
4:D:117:ALA:O	4:D:121:VAL:HG23	2.09	0.53
8:H:104:ARG:O	8:H:105:ARG:C	2.52	0.53
15:O:25:THR:HG21	15:O:70:LEU:HD23	1.90	0.53
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
1:A:1030:C:H42	1:A:1031:G:H1	1.56	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:670:G:N1	1:A:737:A:C6	2.77	0.52
1:A:714:G:H2'	1:A:715:A:C8	2.44	0.52
1:A:825:G:C4	1:A:826:C:C5	2.97	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
9:I:20:ARG:O	9:I:60:ASP:N	2.37	0.52
1:A:51:A:H4'	1:A:52:G:C5'	2.39	0.52
1:A:112:G:C6	1:A:113:G:N7	2.76	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:1237:C:H4'	1:A:1334:G:N2	2.24	0.52
1:A:1442:G:N3	1:A:1442:G:H2'	2.25	0.52
7:G:15:ASP:HB3	7:G:19:GLY:H	1.73	0.52
1:A:9:G:N3	1:A:10:A:C8	2.78	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:1136:U:H5''	1:A:1137:C:OP2	2.09	0.52
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
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: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:811:C:O2'	1:A:901:A:N1	2.43	0.52
1:A:889:A:C4'	1:A:890:G:OP1	2.51	0.52
1:A:1164:G:N1	1:A:1173:G:C6	2.78	0.52
1:A:1298:C:C6	7:G:114:ARG:NH1	2.77	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:29:TYR:OH	14:N:54:PRO:HG2	2.09	0.52
6:F:21:LEU:O	6:F:24:GLU:HB3	2.10	0.52
11:K:115:PRO:C	11:K:117:ASN:H	2.18	0.52
1:A:5:U:H4'	1:A:6:G:C2	2.45	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:887:G:H2'	1:A:888:G:H8	1.75	0.52
1:A:939:G:H5''	7:G:102:ARG:NH2	2.25	0.52
1:A:1013:G:HO2'	1:A:1014:A:H8	1.57	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
2:B:130:ARG:HH12	3:C:207:VAL:HG11	1.75	0.52
13:M:84:ILE:C	13:M:86:CYS:H	2.18	0.52
16:P:39:TYR:HB2	16:P:49:LEU:HD13	1.92	0.52
1:A:61:G:C5	1:A:107:G:N2	2.77	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: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
1:A:1058:G:OP1	3:C:199:LYS:HE3	2.10	0.52
3:C:142:MET:HE1	3:C:148:GLY:N	2.24	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
1:A:174:C:C4	1:A:175:C:C5	2.98	0.52
1:A:182:U:O2	1:A:182:U:H2'	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: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:5:U:O2	1:A:5:U:H2'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:58:C:H2'	1:A:58:C:O2	2.08	0.52
1:A:101:A:C2	1:A:102:G:C4	2.98	0.52
1:A:579:G:C2	1:A:763:G:C2	2.98	0.52
1:A:663:A:HO2'	1:A:664:G:H5'	1.74	0.52
1:A:665:A:C2	1:A:732:C:C2	2.98	0.52
1:A:724:G:N2	1:A:725:G:C4	2.78	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
1:A:1144:G:N2	1:A:1146:A:N6	2.58	0.52
1:A:1187:G:C5'	9:I:113:LYS:HE3	2.35	0.52
1:A:1231:G:C4	1:A:1232:U:C5	2.97	0.52
1:A:1250:A:H4'	9:I:68:GLY:N	2.24	0.52
1:A:1501:C:C4	1:A:1504:G:C2	2.98	0.52
2:B:70:PHE:O	2:B:92:TYR:HA	2.09	0.52
2:B:214:ILE:HD12	2:B:217:ARG:NH2	2.25	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
5:E:128:PRO:O	5:E:129:ILE:C	2.53	0.52
9:I:17:VAL:HG13	9:I:63:ILE:HD11	1.91	0.52
1:A:55:A:C2	1:A:56:U:H1'	2.44	0.52
1:A:76:C:C2'	1:A:77:G:O5'	2.58	0.52
1:A:92:C:H2'	1:A:93:G:C8	2.44	0.52
1:A:129:U:OP1	17:Q:3:LYS:NZ	2.43	0.52
1:A:357:G:O2'	1:A:358:U:H5'	2.10	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: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:954:G:C5	1:A:955:U:C5	2.97	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: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
1:A:1494:G:O2'	1:A:1495:U:H5'	2.10	0.52
2:B:46:LYS:O	2:B:49:GLU:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:198:VAL:HG12	4:D:199:ASN:H	1.75	0.52
8:H:133:LEU:O	8:H:133:LEU:HD23	2.09	0.52
1:A:62:U:H5''	1:A:385:C:O2	2.10	0.51
1:A:76:C:O2'	1:A:77:G:C5'	2.55	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:830:G:H2'	1:A:831:U:O4'	2.10	0.51
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
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:HD2	17:Q:100:LYS:N	2.24	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
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
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
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: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
1:A:1095:U:P	1:A:1108:G:H1	2.33	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
6:F:67:MET:HB2	6:F:68:PRO:CD	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:8:LEU:HD23	10:J:96:ILE:HG12	1.93	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
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:41:G:O2'	1:A:42:G: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:829:G:C2	1:A:830:G:C8	2.99	0.51
1:A:926:G:C5	1:A:1505:G:C2	2.98	0.51
1:A:974:A:OP1	14:N:29:ARG:NH2	2.44	0.51
1:A:1028:C:C5'	1:A:1028:C:H6	2.22	0.51
1:A:1150:U:O2'	10:J:40:LEU:O	2.26	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:1527:C:O2'	1:A:1528:U:H5'	2.11	0.51
6:F:82:ARG:HA	6:F:82:ARG:HE	1.74	0.51
9:I:89:ASN:HB3	9:I:92:TYR:CD1	2.45	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: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:O2	1:A:995:C:H2'	2.11	0.51
1:A:1161:C:H2'	1:A:1162:C:C6	2.46	0.51
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
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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:447:G:C2'	1:A:485:G:H22	2.13	0.51
1:A:458:C:C4	1:A:459:G:N7	2.79	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
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
3:C:33:LEU:HD23	3:C:33:LEU:C	2.35	0.51
15:O:39:LEU:CD1	15:O:56:LEU:HB2	2.40	0.51
1:A:32:A:H2'	1:A:33:A:C8	2.45	0.51
1:A:75:G:O2'	1:A:76:C:C5'	2.57	0.51
1:A:132:C:O2'	1:A:133:U:H5'	2.11	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:1111:A:N1	3:C:177:THR:HG23	2.25	0.51
1:A:1475:G:C4	1:A:1476:G:C8	2.99	0.51
4:D:59:ARG:HG2	4:D:59:ARG:HH11	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
13:M:81:LEU:CD2	13:M:81:LEU:N	2.68	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
1:A:1088:G:C6	1:A:1089:G:N7	2.79	0.51
1:A:1169:A:H8	1:A:1169:A:O5'	1.93	0.51
1:A:1191:A:H5''	3:C:4:LYS:HZ2	1.72	0.51
1:A:1287:A:N6	1:A:1288:A:N6	2.59	0.51
1:A:1310:G:C5'	13:M:77:ASN:ND2	2.74	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
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
8:H:29:SER:O	8:H:30:ARG:C	2.53	0.51
11:K:16:SER:HA	11:K:79:SER:O	2.11	0.51
13:M:37:THR:HG21	13:M:39:ILE:HD11	1.92	0.51
13:M:106:ASN:HA	13:M:108:ARG:NE	2.26	0.51
20:T:66:ALA:HB1	20:T:71:THR:HB	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:72:LEU:O	20:T:74:LYS:N	2.44	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:88:A:C2'	1:A:89:C:O5'	2.58	0.51
1:A:153:C:N3	1:A:169:C:N4	2.59	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:715:A:OP1	1:A:805:C:H1'	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:947:G:C6	1:A:948:C:C4	2.99	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
3:C:120:VAL:O	3:C:121:ALA:C	2.54	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
19:S:62:ILE:HD12	19:S:66:MET:HE2	1.93	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:547:A:OP1	4:D:3:ARG:NH2	2.44	0.51
1:A:607:A:H2'	1:A:608:A:H5'	1.92	0.51
1:A:704:A:N6	11:K:42:TRP:CZ2	2.79	0.51
1:A:806:C:O2'	1:A:807:A:H5'	2.11	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
1:A:1347:G:N7	9:I:107:ARG:HB3	2.23	0.51
1:A:1385:G:H2'	1:A:1386:G:O4'	2.10	0.51
7:G:75:VAL:HG11	7:G:86:GLN:HB3	1.91	0.51
16:P:20:VAL:HG21	16:P:32:TYR:CB	2.41	0.51
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:859:A:C2'	1:A:860:A:H5'	2.40	0.50
1:A:948:C:C4	13:M:106:ASN:ND2	2.79	0.50
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:C6	1:A:1054:C:H3'	2.46	0.50
1:A:1257:U:O2'	1:A:1258:G:P	2.69	0.50
3:C:121:ALA:HB2	3:C:187:ALA:HB1	1.92	0.50
9:I:16:ARG:HB2	9:I:64:THR:HB	1.93	0.50
20:T:33:ILE:CD1	20:T:63:ILE:HA	2.38	0.50
1:A:98:U:O2'	1:A:99:C:H5'	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:537:G:OP1	12:L:113:ARG:NH2	2.45	0.50
1:A:665:A:H2'	1:A:732:C:O2	2.10	0.50
1:A:683:G:C6	1:A:684:A:C6	2.98	0.50
1:A:781:A:C8	1:A:802:A:C2	2.99	0.50
1:A:973:G:H8	1:A:973:G:O5'	1.93	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
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
9:I:46:ALA:O	9:I:49:PRO:HD2	2.10	0.50
13:M:4:ILE:HG23	13:M:7:VAL:HA	1.94	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:328:C:O2'	1:A:329:A:OP2	2.28	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
15:O:87:ILE:HG22	15:O:88:ARG:N	2.26	0.50
17:Q:82:MET:O	17:Q:85:VAL:N	2.45	0.50
1:A:92:C:O2'	1:A:93:G:H5'	2.11	0.50
1:A:114:U:H2'	1:A:115:G:C8	2.46	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:1305:G:OP1	21:V:2:GLY:N	2.44	0.50
1:A:1320:C:C2	19:S:72:GLY:HA3	2.47	0.50
1:A:1331:G:C2'	1:A:1332:A:OP2	2.59	0.50
5:E:36:ASP:C	5:E:38:GLN:N	2.69	0.50
13:M:56:LEU:O	13:M:60:VAL:HG23	2.11	0.50
15:O:32:LEU:O	15:O:33:THR:C	2.55	0.50
1:A:24:U:O2	1:A:24:U:H2'	2.12	0.50
1:A:149:A:C2	1:A:150:C:C6	2.99	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: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
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:1518:A:H2'	1:A:1519:A:N9	2.25	0.50
2:B:17:PHE:HD1	2:B:18:GLY:N	2.09	0.50
13:M:84:ILE:HD13	19:S:66:MET:HB2	1.94	0.50
1:A:57:G:C6	1:A:58:C:C4	2.99	0.50
1:A:384:G:H2'	1:A:385:C:H6	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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
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:67:C:O2'	1:A:171:A:H1'	2.12	0.50
1:A:115:G:C2	1:A:313:A:N3	2.80	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:384:G:H2'	1:A:385:C:C6	2.47	0.50
1:A:448:A:C6	1:A:487:A:C4	2.99	0.50
1:A:452:A:N3	1:A:453:A:N9	2.60	0.50
1:A:568:G:N2	1:A:883:C:C5	2.80	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:O5'	1:A:796:C:H6	1.94	0.50
1:A:950:U:H3'	13:M:102:ARG:HH22	1.77	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
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
21:V:5:ASP:C	21:V:7:ARG:H	2.20	0.50
1:A:53:A:C6	1:A:54:C:C2	3.00	0.50
1:A:227:G:H2'	1:A:228:A:C8	2.47	0.50
1:A:263:A:OP2	20:T:79:ARG:NH1	2.45	0.50
1:A:404:U:C2	1:A:405:U:C5	2.99	0.50
1:A:439:A:C5	1:A:497:A:C2	3.00	0.50
1:A:457:C:HO2'	1:A:458:C:H5'	1.75	0.50
1:A:487:A:C2'	1:A:488:C:H5'	2.42	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
4:D:157:LEU:O	4:D:158:ILE:C	2.55	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:142:G:N2	1:A:222:U:C2	2.79	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
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:1451:A:O2'	1:A:1452:C:P	2.70	0.50
10:J:47:PHE:CZ	14:N:37:PHE:CE1	3.00	0.50
10:J:82:ILE:O	10:J:86:MET:HB2	2.11	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: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
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
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
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:75:G:C6	1:A:96:G:C6	3.00	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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: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
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
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: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
1:A:1054:C:C2'	1:A:1055:A:H5''	2.40	0.49
1:A:1060:C:C2	1:A:1198:G:C2	3.00	0.49
1:A:1071:C:H2'	1:A:1072:G:C8	2.47	0.49
1:A:1221:G:O2'	19:S:77:THR:HG21	2.12	0.49
1:A:1402:C:N3	1:A:1403:C:C5	2.81	0.49
2:B:213:LEU:HD23	2:B:213:LEU:C	2.38	0.49
4:D:109:GLY:C	4:D:111:ALA:H	2.20	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
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:41:G:C2	1:A:42:G:C5	3.01	0.49
1:A:49:U:H5	1:A:365:U:O4	1.95	0.49
1:A:128:G:O3'	17:Q:3:LYS:NZ	2.44	0.49
1:A:226:G:C5	1:A:227:G:C8	3.00	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
1:A:1093:A:N3	1:A:1095:U:H5'	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1240:U:H5''	1:A:1241:G:C8	2.48	0.49
1:A:1309:G:C6	1:A:1329:A:C2	3.01	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: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
1:A:926:G:H2'	1:A:1505:G:N3	2.28	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:1521:G:C5	1:A:1522:U:C5	3.01	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
14:N:36:PHE:CD1	14:N:36:PHE:C	2.90	0.49
17:Q:27:PHE:HB2	17:Q:28:PRO:HD2	1.94	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:403:C:O2'	4:D:122:ARG:NH2	2.45	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:933:G:OP1	7:G:4:ARG:NE	2.46	0.49
1:A:960:U:N3	1:A:1225:A:C5	2.81	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:1347:G:H8	9:I:107:ARG:HB3	1.70	0.49
4:D:134:ASP:O	4:D:136:PRO:HD3	2.13	0.49
8:H:4:ASP:O	8:H:7:ALA:HB3	2.13	0.49
8:H:75:ARG:HA	8:H:76:PRO:HD3	1.52	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:57:G:C4	1:A:58:C:C6	3.00	0.49
1:A:176:C:O2'	1:A:177:C:H5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
1:A:1305:G:C8	1:A:1305:G:OP2	2.66	0.49
1:A:1305:G:O2'	1:A:1306:A:C8	2.64	0.49
5:E:130:ASN:O	5:E:131:ILE:C	2.56	0.49
8:H:6:ILE:HD11	8:H:31:PHE:CE2	2.47	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:54:C:O2	1:A:358:U:N3	2.46	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: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:O5'	1:A:344:A:C8	2.65	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
1:A:1526:G:H8	1:A:1526:G:O5'	1.96	0.49
2:B:31:TYR:CD2	2:B:31:TYR:N	2.79	0.49
2:B:100:GLY:C	2:B:102:LEU:N	2.58	0.49
2:B:144:ARG:O	2:B:147:LYS:HB2	2.13	0.49
4:D:67:ILE:HG22	4:D:68:TYR:CD1	2.47	0.49
4:D:170:VAL:CG2	4:D:176:LEU:HD22	2.40	0.49
12:L:28:LYS:C	12:L:30:ALA:N	2.71	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:C:118:GLN:O	3:C:119:ARG:C	2.56	0.49
4:D:79:PHE:C	4:D:79:PHE:CD2	2.91	0.49
11:K:75:TYR:N	11:K:75:TYR:CD1	2.81	0.49
20:T:18:GLN:O	20:T:21:LYS:HB2	2.13	0.49
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:582:U:C2	1:A:760:G:C6	3.01	0.48
1:A:738:C:H2'	1:A:739:C:H6	1.78	0.48
1:A:914:A:C6	1:A:915:A:C5	3.01	0.48
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:O4'	1:A:1212:U:OP2	2.30	0.48
1:A:1316:G:N2	1:A:1318:A:C8	2.81	0.48
1:A:1482:G:HO2'	1:A:1483:A:H8	1.57	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
3:C:6:HIS:CD2	3:C:6:HIS:C	2.91	0.48
10:J:47:PHE:HB2	10:J:63:PHE:HB2	1.95	0.48
11:K:98:LEU:C	11:K:100:ALA:H	2.20	0.48
1:A:282:A:N7	1:A:283:C:C5	2.80	0.48
1:A:387:U:H3'	1:A:387:U:H6	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:927:G:H4'	1:A:1503:A:N7	2.28	0.48
1:A:965:A:O2'	1:A:966:G:OP2	2.26	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:1500:A:OP2	1:A:1505:G:OP2	2.31	0.48
2:B:142:LEU:O	2:B:143:GLU:C	2.56	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:7:G:N1	1:A:298:A:N1	2.61	0.48
1:A:132:C:H2'	1:A:133:U: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:501:C:O3'	12:L:118:SER:HB2	2.13	0.48
1:A:533:A:O2'	1:A:535:A:OP2	2.27	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:721:G:OP2	18:R:53:ARG:HG3	2.12	0.48
1:A:786:G:N1	1:A:787:A:C4	2.81	0.48
1:A:875:C:H1'	8:H:15:ASN:HD21	1.77	0.48
1:A:954:G:C6	1:A:955:U:C4	3.01	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: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
2:B:184:VAL:HG23	2:B:198:ASP:OD2	2.13	0.48
3:C:66:VAL:O	3:C:101:LEU:HA	2.13	0.48
4:D:8:VAL:C	4:D:10:ARG:N	2.71	0.48
7:G:30:ILE:HG21	7:G:42:ILE:HD12	1.95	0.48
8:H:97:VAL:HG13	8:H:98:LYS:N	2.28	0.48
11:K:55:LYS:O	11:K:60:ALA:HB3	2.12	0.48
15:O:2:PRO:HA	15:O:38:ARG:HH12	1.78	0.48
17:Q:76:LEU:C	17:Q:76:LEU:HD23	2.39	0.48
20:T:56:MET:CE	20:T:85:MET:HA	2.43	0.48
1:A:109:A:C6	1:A:326:G:C6	3.01	0.48
1:A:175:C:C2	1:A:176:C:C6	3.01	0.48
1:A:488:C:O5'	1:A:488:C:H6	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:1367:C:H4'	10:J:48:THR:HG21	1.93	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:20:TYR:HA	8:H:65:TYR:OH	2.13	0.48
8:H:51:VAL:CG1	8:H:52:ASP:N	2.75	0.48
16:P:6:LEU:HD12	16:P:6:LEU:N	2.28	0.48
18:R:35:ARG:O	18:R:37:VAL:HG23	2.14	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
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
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:92:C:C2	1:A:93:G:C8	3.01	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:545:C:HO2'	1:A:546:G:H5'	1.78	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:811:C:H4'	1:A:900:A:N6	2.29	0.48
1:A:872:A:C4	1:A:874:G:N7	2.81	0.48
1:A:992:U:O2'	1:A:993:G:OP2	2.31	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:1240:U:OP1	7:G:119:ARG:NH2	2.47	0.48
1:A:1475:G:O2'	1:A:1476:G:H5'	2.12	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
19:S:6:LYS:HD2	19:S:7:LYS:H	1.76	0.48
1:A:8:A:H4'	5:E:102:ALA:HA	1.96	0.48
1:A:253:U:C2	1:A:254:G:C8	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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
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
15:O:54:ARG:C	15:O:56:LEU:N	2.70	0.48
1:A:362:G:OP1	12:L:61:THR:HG23	2.13	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
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
3:C:23:TYR:CD2	3:C:24:ALA:N	2.82	0.48
13:M:74:VAL:O	13:M:77:ASN:N	2.47	0.48
13:M:117:VAL:HG12	13:M:118:ALA:H	1.78	0.48
1:A:4:U:H4'	1:A:5:U:OP2	2.13	0.48
1:A:35:G:C6	1:A:550:G:N1	2.82	0.48
1:A:262:A:OP2	20:T:73:HIS:CG	2.67	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
1:A:577:G:C2	1:A:578:C:C6	3.02	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:69:LEU:HD23	2:B:91:PRO:O	2.14	0.48
4:D:39:PRO:HG2	4:D:44:GLY:HA2	1.96	0.48
4:D:59:ARG:HH11	4:D:59:ARG:CG	2.26	0.48
4:D:90:GLY:O	4:D:94:LEU:HD12	2.13	0.48
4:D:173:TRP:O	4:D:186:LEU:HB2	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:9:G:C6	1:A:26:A:C6	3.02	0.48
1:A:98:U:C2	1:A:99:C:C5	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: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
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
8:H:136:GLU:C	8:H:137:VAL:HG23	2.38	0.48
19:S:15:LEU:HD12	19:S:16:LEU:N	2.28	0.48
1:A:92:C:O2'	1:A:93:G:C5'	2.62	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:397:A:C6	1:A:548:G:N7	2.82	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:652:U:C5	1:A:752:G:C4	3.01	0.47
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:971:G:H5''	1:A:972:C:H5''	1.95	0.47
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
5:E:32:VAL:HG12	5:E:33:VAL:H	1.76	0.47
12:L:8:ASN:O	12:L:9:GLN:C	2.57	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: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
1:A:1183:A:C2'	1:A:1184:G:OP1	2.63	0.47
1:A:1189:C:C5'	3:C:5:ILE:HD13	2.28	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:1251:A:O2'	1:A:1369:C:O2'	2.25	0.47
1:A:1358:U:H3'	1:A:1359:C:H6	1.76	0.47
1:A:1401:G:H5''	1:A:1402:C:OP2	2.14	0.47
2:B:19:HIS:NE2	2:B:206:ASP:HB3	2.26	0.47
4:D:199:ASN:O	4:D:200:GLU:C	2.58	0.47
5:E:102:ALA:HB2	5:E:120:THR:OG1	2.14	0.47
8:H:103:VAL:O	8:H:104:ARG:C	2.57	0.47
13:M:50:GLU:O	13:M:53:VAL:HB	2.14	0.47
13:M:74:VAL:O	13:M:75:ALA:C	2.58	0.47
17:Q:53:LEU:HD12	17:Q:54:GLY:N	2.29	0.47
17:Q:82:MET:O	17:Q:83:ASP:C	2.57	0.47
1:A:15:G:N3	1:A:16:A:C8	2.82	0.47
1:A:42:G:O2'	1:A:43:C:H5'	2.15	0.47
1:A:121:C:C5'	1:A:122:G:OP1	2.61	0.47
1:A:130:A:C2	1:A:232:G:N2	2.82	0.47
1:A:136:C:C2	1:A:137:C:C5	3.03	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: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
1:A:1007:C:O2'	1:A:1008:C:H5'	2.14	0.47
1:A:1231:G:C5	1:A:1232:U:C5	3.01	0.47
1:A:1306:A:C8	1:A:1332:A:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1477:C:H2'	1:A:1478:C:H6	1.80	0.47
2:B:77:ALA:O	2:B:81:VAL:HG23	2.14	0.47
3:C:59:ARG:HD3	3:C:64:VAL:HG22	1.96	0.47
3:C:141:VAL:O	3:C:146:ALA:HB3	2.14	0.47
4:D:8:VAL:C	4:D:10:ARG:H	2.20	0.47
4:D:25:ARG:C	4:D:27:TYR:N	2.71	0.47
7:G:30:ILE:H	7:G:30:ILE:HD12	1.80	0.47
16:P:4:ILE:HG12	16:P:21:VAL:CG2	2.41	0.47
16:P:50:LYS:C	16:P:51:VAL:HG23	2.40	0.47
18:R:29:PHE:HE1	18:R:31:LEU:CD2	2.24	0.47
20:T:13:LEU:HD12	20:T:13:LEU:C	2.39	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: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
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
7:G:13:GLN:HB2	9:I:42:ARG:NH2	2.30	0.47
8:H:13:ILE:O	8:H:17:THR:CG2	2.62	0.47
9:I:47:LEU:C	9:I:49:PRO:HD2	2.40	0.47
13:M:107:ALA:O	13:M:109:THR:N	2.47	0.47
15:O:11:VAL:HG21	15:O:34:LEU:HD12	1.96	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:406:G:C6	1:A:496:A:C8	3.03	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:985:C:H3'	1:A:985:C:C6	2.49	0.47
1:A:1151:A:H5''	10:J:42:THR:HG1	1.80	0.47
1:A:1284:C:C4	1:A:1285:A:C6	3.02	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
15:O:75:PRO:O	15:O:76:GLU:C	2.57	0.47
21:V:24:ARG:O	21:V:25:LYS:HB2	2.14	0.47
1:A:38:G:H22	1:A:397:A:H5''	1.79	0.47
1:A:39:G:C5	1:A:40:C:C5	3.03	0.47
1:A:130:A:H5''	1:A:190(F):G:H2'	1.95	0.47
1:A:336:C:H2'	1:A:337:C:H6	1.80	0.47
1:A:366:C:O2'	1:A:394:G:N2	2.46	0.47
1:A:390:C:H2'	1:A:391:G:H8	1.78	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
1:A:1004:A:C5'	1:A:1025:U:O2	2.61	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:1251:A:HO2'	1:A:1369:C:HO2'	1.59	0.47
1:A:1402:C:H2'	1:A:1403:C:O4'	2.15	0.47
3:C:8:ILE:C	3:C:10:PHE:N	2.72	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
15:O:82:ILE:O	15:O:83:GLU:C	2.57	0.47
1:A:37:U:C2'	1:A:38:G:H5'	2.44	0.47
1:A:101:A:N1	1:A:102:G:C5	2.83	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: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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:621:A:C6	1:A:622:A:C5	3.03	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:767:A:N6	1:A:768:A:C6	2.83	0.47
1:A:778:G:C5	1:A:779:C:C5	3.02	0.47
1:A:793:U:O4	1:A:1517:G:H8	1.98	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
1:A:890:G:O2'	1:A:891:U:OP2	2.32	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:1301:U:C5	1:A:1303:C:C5	3.02	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:1401:G:C4	1:A:1402:C:C6	3.01	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
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
5:E:43:LEU:C	5:E:43:LEU:CD2	2.86	0.47
5:E:87:SER:HB3	5:E:125:SER:O	2.15	0.47
7:G:142:GLU:C	7:G:144:MET:N	2.73	0.47
7:G:148:ASN:C	7:G:150:ALA:N	2.72	0.47
8:H:26:VAL:HG13	8:H:26:VAL:O	2.14	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:H	13:M:81:LEU:HD22	1.80	0.47
14:N:13:THR:HG22	14:N:14:PRO:HD2	1.96	0.47
16:P:53:VAL:HG23	16:P:54:GLU:N	2.29	0.47
17:Q:9:VAL:O	17:Q:21:VAL:HA	2.15	0.47
1:A:13:U:O2	1:A:914:A:H3'	2.14	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: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
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
3:C:29:TYR:CZ	14:N:54:PRO:HG2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:51:VAL:HB	5:E:52:PRO:HD3	1.95	0.47
8:H:26:VAL:C	8:H:58:TYR:HD2	2.22	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
16:P:5:ARG:HH11	16:P:5:ARG:HG3	1.80	0.47
1:A:41:G:N3	1:A:42:G:C8	2.83	0.47
1:A:42:G:C6	1:A:43:C:N4	2.83	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:460:A:C5	1:A:462:G:C6	3.03	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
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
1:A:1441:G:H5''	1:A:1442:G:C8	2.50	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: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:H2'	1:A:1199:U:H5	1.80	0.47
1:A:1191:A:H2'	1:A:1192:C:C6	2.49	0.47
1:A:149:A:C2	1:A:150:C:N3	2.84	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
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:1526:G:C5	1:A:1527:C:C5	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:34:LEU:HD23	3:C:34:LEU:O	2.15	0.46
4:D:88:VAL:O	4:D:90:GLY:N	2.48	0.46
4:D:103:ASN:O	4:D:106:TYR: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:44:G:OP2	16:P:12:LYS:HB2	2.16	0.46
1:A:77:G:C2'	1:A:78:G:H5'	2.45	0.46
1:A:129(A):G:C2	1:A:190(E):U:H5'	2.50	0.46
1:A:129(A):G:O2'	1:A:130:A:OP2	2.32	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:866:C:H2'	1:A:867:G:C4'	2.45	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: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
4:D:136:PRO:C	4:D:138:TYR:H	2.23	0.46
4:D:162:LEU:O	4:D:163:GLU:C	2.59	0.46
5:E:58:ALA:O	5:E:59:GLY:C	2.58	0.46
8:H:9:MET:HG2	8:H:13:ILE:CD1	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
17:Q:61:GLU:HA	17:Q:71:PHE:CE1	2.50	0.46
20:T:72:LEU:HD23	20:T:72:LEU:HA	1.52	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:O2	1:A:545:C:H2'	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
1:A:950:U:H3'	13:M:102:ARG:NH2	2.30	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
2:B:69:LEU:HD23	2:B:70:PHE:N	2.29	0.46
2:B:112:VAL:O	2:B:115:LEU:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:141:GLN:O	5:E:142:LEU:C	2.57	0.46
8:H:19:VAL:O	8:H:20:TYR:HB2	2.16	0.46
8:H:104:ARG:O	8:H:106:GLY:N	2.49	0.46
9:I:73:GLN:O	9:I:76:ALA:HB3	2.15	0.46
10:J:86:MET:O	10:J:86:MET:HE3	2.15	0.46
10:J:90:LEU:N	10:J:91:PRO:HD2	2.16	0.46
13:M:26:GLY:C	13:M:28:ALA:N	2.71	0.46
14:N:53:LEU:HB3	14:N:56:VAL:HG21	1.97	0.46
1:A:9:G:C4	1:A:26:A:N1	2.83	0.46
1:A:46:G:N1	1:A:396:G:C6	2.84	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
1:A:532:A:N6	3:C:159:GLY:O	2.49	0.46
1:A:557:G:C6	1:A:558:G:C6	3.03	0.46
1:A:578:C:O2'	1:A:728:A:N3	2.43	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:C6	1:A:985:C:C3'	2.99	0.46
1:A:1190:G:OP1	3:C:4:LYS:O	2.33	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
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:O	17:Q:56:VAL:HG13	2.16	0.46
17:Q:8:GLY:HA3	17:Q:23:VAL:HG22	1.96	0.46
1:A:54:C:O2	1:A:358:U:C2	2.69	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:277:C:H5'	17:Q:68:ARG:NH1	2.30	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:187:LEU:HD23	2:B:214:ILE:HG21	1.97	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
19:S:17:GLU:HA	19:S:20:LEU:CD2	2.45	0.46
1:A:36:C:OP1	12:L:123:LYS:HE2	2.16	0.46
1:A:59:A:C4	1:A:331:G:N2	2.84	0.46
1:A:292:G:N2	1:A:309:G:N3	2.63	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
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
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
4:D:202:LEU:HD23	4:D:202:LEU:HA	1.77	0.46
5:E:136:MET:O	5:E:137:GLU:C	2.58	0.46
8:H:4:ASP:OD2	8:H:89:PRO:HD3	2.15	0.46
8:H:5:PRO:O	8:H:6:ILE:C	2.58	0.46
8:H:31:PHE:O	8:H:34:GLU:N	2.49	0.46
13:M:67:GLU:C	13:M:69:GLU:H	2.24	0.46
1:A:42:G:C4	1:A:43:C:H5	2.30	0.46
1:A:168:G:C2	1:A:169:C:C5	3.03	0.46
1:A:190(E):U:H2'	17:Q:63:ARG:NH2	2.31	0.46
1:A:607:A:C2'	1:A:608:A:C5'	2.94	0.46
1:A:689:C:OP2	11:K:46:GLY:HA3	2.16	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
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:1350:A:O2'	1:A:1351:U:H5'	2.16	0.46
2:B:17:PHE:CD1	2:B:18:GLY:N	2.84	0.46
2:B:163:PHE:CD1	2:B:185:ILE:HD12	2.51	0.46
2:B:164:VAL:O	2:B:186:ALA:HA	2.16	0.46
4:D:71:SER:O	4:D:72:GLU:C	2.58	0.46
4:D:121:VAL:O	4:D:134:ASP:HA	2.15	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
7:G:27:ILE:O	7:G:28:ASN:C	2.58	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:12:LYS:O	16:P:13:HIS:HB2	2.14	0.46
17:Q:57:VAL:HA	17:Q:77:VAL:HG23	1.97	0.46
17:Q:66:SER:OG	17:Q:69:LYS:CB	2.64	0.46
18:R:44:LEU:HD22	18:R:48:GLY:O	2.15	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: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
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
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
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:49:ALA:HB3	20:T:99:LEU:HG	1.98	0.46
20:T:56:MET:O	20:T:59:ALA:HB3	2.16	0.46
1:A:15:G:H2'	1:A:16:A:O4'	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: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: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
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
3:C:73:PRO:C	3:C:75:VAL:N	2.73	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:26:VAL:HG12	8:H:59:LEU:O	2.15	0.46
8:H:86:ILE:HD11	8:H:136:GLU:HG3	1.98	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:9:G:H2'	1:A:10:A:H8	1.81	0.46
1:A:55:A:C2'	1:A:56:U:H5'	2.46	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
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: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:953:G:N2	1:A:1229:A:C4	2.84	0.46
1:A:972:C:OP2	10:J:57:LYS:HD3	2.16	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:1312:G:C6	1:A:1326:C:N4	2.84	0.46
1:A:1313:U:H5	19:S:4:SER:HG	1.63	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
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
8:H:120:THR:OG1	8:H:123:GLU:HB2	2.16	0.46
1:A:17:U:O2'	1:A:1079:G:N3	2.46	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:O2	1:A:328:C:C2'	2.44	0.45
1:A:523:A:H61	12:L:53:ARG:HH12	1.63	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:43:LEU:HD23	5:E:44:GLY:N	2.32	0.45
5:E:129:ILE:O	5:E:132:ALA:HB3	2.17	0.45
8:H:17:THR:OG1	8:H:18:ARG:N	2.48	0.45
20:T:37:SER:O	20:T:41:VAL:HG23	2.16	0.45
1:A:99:C:N3	1:A:101:A:N7	2.63	0.45
1:A:246:A:C4	1:A:279:A:N6	2.84	0.45
1:A:542:G:H5'	4:D:41:GLY:HA2	1.99	0.45
1:A:686:U:O4	1:A:703:G:O2'	2.22	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:1010:G:H2'	1:A:1011:G:C8	2.40	0.45
1:A:1064:G:O6	1:A:1193:G:C6	2.69	0.45
1:A:1173:G:C4	1:A:1174:G:C8	3.05	0.45
1:A:1342:C:HO2'	1:A:1343:G:H5'	1.77	0.45
1:A:1352:C:N3	1:A:1371:G:C6	2.84	0.45
5:E:110:LEU:O	5:E:111:GLU:C	2.58	0.45
8:H:10:LEU:HD23	8:H:10:LEU:HA	1.36	0.45
8:H:105:ARG:HD3	8:H:105:ARG:HA	1.71	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:HD12	20:T:24:LEU:HA	1.83	0.45
1:A:22:G:C4	1:A:23:C:C6	3.04	0.45
1:A:34:C:O2'	1:A:35:G:H5'	2.16	0.45
1:A:59:A:H3'	1:A:331:G:H22	1.81	0.45
1:A:89:C:H2'	1:A:90:U:O4'	2.16	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:357:G:N3	1:A:358:U:C5	2.84	0.45
1:A:389:A:H8	1:A:389:A:H5'	1.81	0.45
1:A:419:C:H2'	1:A:420:U:C6	2.51	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:940:C:H2'	1:A:941:G:O4'	2.16	0.45
1:A:1028:C:H5'	1:A:1028:C:C6	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
4:D:206:PHE:CD2	4:D:206:PHE:C	2.94	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:32:A:C6	1:A:553:A:N1	2.84	0.45
1:A:265:G:H2'	1:A:267:C:C5	2.41	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:1213:A:C5	1:A:1215:G:C4	3.05	0.45
1:A:1237:C:C5	1:A:1336:C:C4	3.05	0.45
1:A:1325:C:H5''	21:V:17:THR:HG21	1.99	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
2:B:108:ILE:O	2:B:109:SER:C	2.59	0.45
4:D:21:LEU:HD23	4:D:21:LEU:HA	1.68	0.45
5:E:12:LEU:HD22	5:E:12:LEU:C	2.41	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
14:N:9:LYS:C	14:N:11:LYS:H	2.24	0.45
16:P:22:THR:HA	16:P:33:ILE:HD11	1.94	0.45
1:A:26:A:N6	1:A:558:G:O2'	2.45	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:562:C:H4'	1:A:563:A:O5'	2.16	0.45
1:A:867:G:H5''	1:A:867:G:C8	2.49	0.45
1:A:1033:G:H8	1:A:1033:G:O5'	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
4:D:104:VAL:O	4:D:105:VAL:C	2.59	0.45
4:D:157:LEU:O	4:D:159:ARG:N	2.50	0.45
8:H:29:SER:OG	8:H:32:LYS:HG3	2.16	0.45
8:H:82:HIS:HD2	8:H:138:TRP:NE1	2.13	0.45
8:H:108:GLY:CA	8:H:138:TRP:HB3	2.43	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
12:L:117:ARG:O	12:L:118:SER:C	2.59	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:61:G:H2'	1:A:62:U:O4'	2.17	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:390:C:C3'	16:P:28:ARG:HH22	2.29	0.45
1:A:518:C:O2'	1:A:519:C:OP2	2.29	0.45
1:A:1003:G:C6	1:A:1003(A):G:N7	2.85	0.45
1:A:1030(B):C:OP1	1:A:1030(B):C:O4'	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
2:B:144:ARG:HG3	2:B:145:LEU:N	2.31	0.45
5:E:33:VAL:HG11	5:E:109:ILE:HA	1.98	0.45
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
9:I:50:LEU:C	9:I:52:ALA:N	2.70	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
17:Q:15:MET:HE3	17:Q:18:THR:HB	1.99	0.45
17:Q:81:ARG:HG3	17:Q:81:ARG:O	2.16	0.45
1:A:166:G:C2	1:A:167:G:C8	3.05	0.45
1:A:278:G:OP2	17:Q:41:LYS:NZ	2.49	0.45
1:A:279:A:H4'	1:A:280:C:OP2	2.15	0.45
1:A:406:G:C4	1:A:496:A:C5	3.05	0.45
1:A:482:A:C2	1:A:483:C:C2	3.05	0.45
1:A:613:C:O2	1:A:628:G:C2	2.70	0.45
1:A:819:A:N6	1:A:1529:G:C5	2.85	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1487:G:O2'	1:A:1488:G:C5'	2.57	0.45
2:B:57:PHE:O	2:B:60:ASP:HB3	2.17	0.45
7:G:40:ALA:CB	9:I:41:VAL:HG11	2.46	0.45
8:H:34:GLU:O	8:H:37:ARG:HB3	2.17	0.45
11:K:52:GLY:C	11:K:54:ARG:N	2.74	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
14:N:4:LYS:C	14:N:6:LEU:H	2.24	0.45
1:A:93:G:C6	1:A:95:U:N3	2.85	0.45
1:A:228:A:C4'	16:P:62:VAL:HG11	2.46	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
1:A:994:A:H2'	1:A:994:A:N3	2.31	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
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
4:D:115:ARG:O	4:D:116:GLN:C	2.58	0.45
7:G:17:VAL:HG12	7:G:18:TYR:N	2.31	0.45
8:H:25:ASP:C	8:H:26:VAL:HG12	2.42	0.45
9:I:5:TYR:HD2	9:I:17:VAL:O	2.00	0.45
19:S:39:THR:HA	19:S:70:LYS:HG2	1.99	0.45
1:A:39:G:HO2'	1:A:40:C:H5'	1.77	0.45
1:A:373:A:C5	1:A:482:A:C8	3.04	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: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: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
1:A:1167:A:H8	1:A:1167:A:O5'	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:31:TYR:HD2	2:B:31:TYR:N	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:91:LEU:HA	5:E:91:LEU:HD23	1.54	0.45
5:E:129:ILE:CG2	5:E:133:TYR:HE1	2.30	0.45
7:G:74:GLU:O	7:G:88:PRO:HA	2.17	0.45
7:G:120:ILE:O	7:G:124:LEU:HG	2.16	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
18:R:75:ILE:C	18:R:77:GLY:H	2.25	0.45
19:S:71:LEU:HD23	19:S:71:LEU:HA	1.77	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:370:C:C2	1:A:371:G:N7	2.85	0.45
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:581:G:C5	1:A:758:G:N7	2.85	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: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
1:A:1295:G:H4'	13:M:14:ARG:NH2	2.31	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
2:B:134:GLU:HA	2:B:137:ARG:HB2	1.99	0.45
2:B:181:PHE:N	2:B:181:PHE:HD1	2.15	0.45
5:E:10:MET:HE3	5:E:10:MET:HB2	1.79	0.45
7:G:41:ARG:O	7:G:42:ILE:C	2.59	0.45
11:K:75:TYR:N	11:K:75:TYR:HD1	2.14	0.45
16:P:9:PHE:HB2	16:P:16:HIS:O	2.16	0.45
19:S:63:THR:H	19:S:66:MET:HE2	1.82	0.45
1:A:20:U:H2'	1:A:21:G:O4'	2.16	0.44
1:A:55:A:H2	1:A:56:U:H1'	1.81	0.44
1:A:113:G:N3	1:A:114:U:C6	2.84	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:223:U:C5'	20:T:68:LYS:NZ	2.72	0.44
1:A:363:A:OP1	12:L:33:ARG:HG3	2.17	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:533:A:N6	1:A:536:C:N3	2.65	0.44
1:A:534:U:C5'	1:A:535:A:OP2	2.65	0.44
1:A:706:A:H1'	11:K:29:ILE:HD11	1.99	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
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:1301:U:C4	1:A:1303:C:C6	3.05	0.44
1:A:1394:A:N6	1:A:1500:A:O2'	2.48	0.44
1:A:1459:C:C2'	1:A:1460:A:O5'	2.64	0.44
2:B:109:SER:HA	2:B:112:VAL:HG23	1.99	0.44
4:D:114:ARG:O	4:D:115:ARG:C	2.59	0.44
5:E:41:VAL:HG23	5:E:41:VAL:O	2.17	0.44
11:K:11:LYS:O	11:K:12: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:20:U:H2'	1:A:21:G:C5'	2.47	0.44
1:A:113:G:O6	1:A:315:A:N6	2.50	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: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:613:C:N3	1:A:628:G:C2	2.85	0.44
1:A:621:A:H8	1:A:621:A:O5'	2.00	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
1:A:1015:A:C6	1:A:1016:A:C6	3.05	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:204:ASN:ND2	2:B:205:ASP:N	2.64	0.44
2:B:213:LEU:C	2:B:213:LEU:CD2	2.90	0.44
3:C:22:TRP:HB2	3:C:23:TYR:H	1.63	0.44
8:H:104:ARG:C	8:H:106:GLY:N	2.72	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
1:A:8:A:N7	4:D:209:ARG:HA	2.32	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: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:279:A:H8	17:Q:95:TYR:CE2	2.28	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:600:C:OP1	8:H:97:VAL:HG12	2.18	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
1:A:958:A:H2	1:A:985:C:O2	2.00	0.44
1:A:960:U:O2	1:A:960:U:H2'	2.17	0.44
1:A:1152:A:H5'	10:J:13:HIS:HB2	2.00	0.44
1:A:1443:G:C4'	1:A:1446:A:H5'	2.48	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
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
18:R:47:THR:CA	18:R:83:GLU:HB2	2.45	0.44
1:A:33:A:O5'	1:A:33:A:H8	2.01	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:H6	1:A:225:C:O5'	2.01	0.44
1:A:262:A:C2	1:A:263:A:C2	3.06	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:972:C:O2	10:J:55:LYS:HD2	2.17	0.44
1:A:973:G:H2'	1:A:974:A:C8	2.52	0.44
1:A:1075:C:OP1	2:B:103:THR:HG21	2.18	0.44
1:A:1110:A:O5'	1:A:1110:A:C8	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:1358:U:H2'	1:A:1359:C:C6	2.52	0.44
1:A:1368:G:OP1	10:J:62:HIS:HE1	2.00	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: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
14:N:40:CYS:O	14:N:41:ARG:C	2.59	0.44
16:P:39:TYR:CG	16:P:73:LEU:HD11	2.53	0.44
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:19:C:O2'	1:A:20:U:H5'	2.17	0.44
1:A:46:G:HO2'	1:A:365:U:H1'	1.83	0.44
1:A:202:U:O5'	1:A:202:U:C6	2.67	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1412:C:H2'	1:A:1413:A:C8	2.52	0.44
2:B:178:ARG:CG	8:H:72:PRO:HA	2.48	0.44
4:D:32:ALA:C	4:D:34:GLU:N	2.70	0.44
8:H:6:ILE:HD11	8:H:31:PHE:CD2	2.53	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:15:G:O2'	5:E:24:ARG:NH1	2.51	0.44
1:A:89:C:O2'	1:A:90:U:O5'	2.33	0.44
1:A:141:A:O2'	1:A:182:U:H1'	2.17	0.44
1:A:177:C:H2'	1:A:178:C:H6	1.83	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:372:C:O2'	1:A:373:A:OP2	2.22	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
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:954:G:N2	1:A:1228:C:N4	2.66	0.44
1:A:1055:A:C1'	3:C:156:ARG:NH1	2.79	0.44
1:A:1158:C:C4	1:A:1160:G:C8	3.06	0.44
1:A:1239:A:H2'	1:A:1298:C:H42	1.81	0.44
1:A:1392:G:H21	1:A:1502:A:H8	1.64	0.44
1:A:1435:G:C2'	1:A:1436:U:H6	2.13	0.44
2:B:170:GLU:C	2:B:172:ILE:H	2.25	0.44
3:C:125:GLU:HG2	3:C:189:ALA:HB1	1.99	0.44
4:D:136:PRO:C	4:D:138:TYR:N	2.76	0.44
5:E:134:ALA:O	5:E:138:ALA:HB2	2.17	0.44
8:H:26:VAL:HG13	8:H:59:LEU:HB2	1.99	0.44
8:H:36:LEU:CD2	8:H:61:VAL:HG21	2.47	0.44
8:H:83:ILE:O	8:H:83:ILE:CG2	2.65	0.44
8:H:91:ARG:HG3	12:L:7:ILE:HD12	2.00	0.44
9:I:79:LEU:HD13	9:I:79:LEU:C	2.42	0.44
9:I:85:LEU:HD12	9:I:85:LEU:HA	1.75	0.44
11:K:110:ASP:HB3	18:R:85:LEU:HB3	1.99	0.44
12:L:9:GLN:C	12:L:11:VAL:N	2.73	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:3:ARG:HB3	13:M:4:ILE:CG1	2.45	0.44
13:M:44:ARG:HA	13:M:44:ARG:HD2	1.75	0.44
19:S:41:VAL:CG2	19:S:44:MET:HB2	2.44	0.44
1:A:93:G:N1	1:A:95:U:C2	2.86	0.44
1:A:113:G:H2'	1:A:114:U:C6	2.52	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:O5'	1:A:455:C:H6	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: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: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
2:B:81:VAL:O	2:B:82:ARG:C	2.60	0.44
8:H:63:LEU:HD23	8:H:65:TYR:OH	2.17	0.44
12:L:85:ILE:CG2	12:L:98:TYR:HB3	2.48	0.44
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:197:A:H1'	1:A:198:G:O4'	2.18	0.44
1:A:264:U:O2'	17:Q:63:ARG:HG2	2.17	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
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
2:B:170:GLU:C	2:B:172:ILE:N	2.74	0.44
4:D:52:SER:O	4:D:53:ASP:C	2.61	0.44
5:E:98:THR:O	5:E:98:THR:HG22	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:97:LYS:N	9:I:98:PRO:CD	2.80	0.44
1:A:23:C:N3	1:A:24:U:C5	2.86	0.44
1:A:89:C:H2'	1:A:90:U:O5'	2.18	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:414:A:H2'	1:A:415:A:O4'	2.18	0.44
1:A:481:G:OP2	1:A:481:G:O4'	2.35	0.44
1:A:552:U:O2'	1:A:553:A:H5'	2.18	0.44
1:A:568:G:N2	1:A:883:C:C4	2.86	0.44
1:A:572:A:N1	1:A:864:A:C5	2.85	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: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
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
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
9:I:77:ILE:O	9:I:78:LYS:C	2.61	0.44
11:K:122:LYS:O	11:K:123:LYS:C	2.61	0.44
13:M:2:ALA:HB1	13:M:45:VAL:HG12	1.99	0.44
13:M:84:ILE:HG21	19:S:66:MET:SD	2.58	0.44
1:A:162:A:O5'	1:A:162:A:C8	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:O2	1:A:580:U:C2'	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
1:A:1010:G:N3	1:A:1011:G:C8	2.86	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
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:CD2	8:H:48:TYR:N	2.86	0.43
9:I:104:ARG:NH1	9:I:104:ARG:CG	2.77	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:9:GLN:O	12:L:10:LEU:C	2.61	0.43
18:R:55:ARG:O	18:R:56:THR:C	2.60	0.43
18:R:70:ILE:C	18:R:72:ARG:N	2.74	0.43
19:S:28:LYS:HG2	19:S:29:ARG:N	2.19	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:575:G:C2	1:A:881:G:N3	2.86	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:976:G:OP2	1:A:1358:U:O2'	2.36	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:O5'	1:A:1382:C:H6	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
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
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:35:G:H5'	12:L:104:VAL:CG2	2.48	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:577:G:C1'	1:A:816:A:C4	2.98	0.43
1:A:719:C:H3'	1:A:720:C:C5	2.54	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
12:L:25:PRO:C	12:L:27:LEU:H	2.25	0.43
13:M:70:LEU:C	13:M:72:ALA:N	2.75	0.43
1:A:47:C:H6	1:A:365:U:H2'	1.84	0.43
1:A:119:A:O2'	1:A:120:A:OP2	2.27	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: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
1:A:1130:A:P	9:I:20:ARG:HH22	2.42	0.43
1:A:1202:G:H8	1:A:1202:G:OP1	2.01	0.43
1:A:1210:C:H4'	1:A:1214:C:N4	2.33	0.43
1:A:1315:U:O2'	1:A:1360:A:N3	2.49	0.43
1:A:1367:C:C2	1:A:1368:G:H8	2.31	0.43
1:A:1370:G:H5''	9:I:12:GLU:OE1	2.18	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
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
3:C:113:ALA:O	3:C:114:PRO:C	2.59	0.43
8:H:111:ILE:HG13	8:H:135:CYS:SG	2.58	0.43
12:L:54:LYS:NZ	12:L:74:GLY:HA2	2.34	0.43
15:O:32:LEU:C	15:O:34:LEU:N	2.74	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: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:373:A:H1'	1:A:481:G:N3	2.33	0.43
1:A:391:G:C6	1:A:392:G:C8	3.06	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: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:1408:A:N6	1:A:1494:G:O6	2.52	0.43
1:A:1418:A:C6	1:A:1483:A:C5	3.06	0.43
3:C:8:ILE:C	3:C:10:PHE:H	2.26	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:33:ILE:O	20:T:34:LYS:C	2.61	0.43
1:A:118:U:C5	1:A:288:A:C5	3.06	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:670:G:C6	1:A:737:A:N1	2.87	0.43
1:A:706:A:H1'	11:K:29:ILE:CD1	2.48	0.43
1:A:949:A:N7	1:A:950:U:C4	2.86	0.43
1:A:1138:G:N3	1:A:1140:C:C6	2.87	0.43
1:A:1189:C:OP2	10:J:51:ARG:NH2	2.52	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
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
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:39:G:N1	1:A:40:C:C5	2.86	0.43
1:A:61:G:C5	1:A:107:G:C2	3.07	0.43
1:A:104:G:H4'	1:A:174:C:O4'	2.19	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: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:429:U:H4'	1:A:430:A:H5''	1.98	0.43
1:A:599:C:H4'	8:H:130:GLY:C	2.43	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
1:A:1061:G:C5	1:A:1062:U:N3	2.86	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
3:C:82:GLU:O	3:C:86:VAL:HG23	2.19	0.43
3:C:180:ALA:CB	3:C:182:ILE:HG13	2.49	0.43
8:H:8:ASP:O	8:H:9:MET:C	2.60	0.43
14:N:37:PHE:CE2	14:N:53:LEU:HD13	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:40:CYS:O	14:N:43:CYS:HB2	2.19	0.43
15:O:75:PRO:O	15:O:78:TYR:N	2.52	0.43
20:T:51:GLU:HA	20:T:54:LYS:HB2	2.00	0.43
1:A:123:C:OP1	1:A:312:C:H5'	2.19	0.43
1:A:197:A:O2'	1:A:198:G:P	2.77	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:575:G:N2	1:A:881:G:N9	2.66	0.43
1:A:818:G:O2'	1:A:820:U:H5	1.95	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:1488:G:C2	1:A:1489:G:C4	3.07	0.43
1:A:1489:G:C2'	1:A:1490:C:C5'	2.74	0.43
2:B:26:PRO:O	2:B:27:LYS:C	2.62	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:11:LEU:O	4:D:12:CYS:C	2.61	0.43
4:D:196:LEU:HA	4:D:197:PRO:HD2	1.88	0.43
5:E:103:GLY:O	5:E:104:ALA:C	2.61	0.43
5:E:134:ALA:C	5:E:136:MET:N	2.75	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
14:N:31:ARG:HA	14:N:31:ARG:HD2	1.80	0.43
1:A:7:G:O2'	1:A:8:A:P	2.77	0.43
1:A:75:G:C6	1:A:76:C:C4	3.06	0.43
1:A:425:G:H2'	1:A:426:G:H5'	1.99	0.43
1:A:427:U:OP1	4:D:13:ARG:NH2	2.52	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:926:G:C2	1:A:1505:G:C4	3.06	0.43
1:A:1104:G:H4'	2:B:111:ARG:NH1	2.33	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: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
3:C:3:ASN:O	3:C:4:LYS:CB	2.65	0.43
3:C:120:VAL:O	3:C:123:GLN:HB2	2.18	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
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
9:I:105:ASP:HB3	9:I:107:ARG:HG2	2.01	0.43
16:P:53:VAL:O	16:P:57:ARG:HG3	2.18	0.43
19:S:16:LEU:C	19:S:18:LYS:H	2.27	0.43
1:A:41:G:N1	1:A:402:G:C6	2.87	0.43
1:A:60:A:N1	1:A:107:G:O2'	2.50	0.43
1:A:113:G:C5	1:A:315:A:N1	2.87	0.43
1:A:162:A:H2'	1:A:163:C:O4'	2.18	0.43
1:A:362:G:N2	1:A:365:U:OP2	2.51	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:581:G:C8	1:A:758:G:O6	2.72	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: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
1:A:935:A:N1	7:G:3:ARG:NH2	2.66	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
2:B:211:ILE:H	2:B:211:ILE:HG13	1.36	0.43
4:D:19:LEU:HD23	4:D:19:LEU:HA	1.62	0.43
4:D:104:VAL:HG21	4:D:140:VAL:CG2	2.36	0.43
5:E:89:ILE:HD12	5:E:135:THR:OG1	2.18	0.43
5:E:132:ALA:O	5:E:133:TYR:C	2.62	0.43
10:J:87:THR:O	10:J:87:THR:HG22	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:53:LEU:C	20:T:55:ILE:N	2.73	0.43
1:A:43:C:O2	1:A:43:C:H2'	2.19	0.42
1:A:115:G:H1'	1:A:116:A:N7	2.34	0.42
1:A:142:G:H2'	1:A:143:A:C8	2.54	0.42
1:A:177:C:O2'	1:A:178:C:C5'	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:392:G:C6	1:A:393:A:N7	2.87	0.42
1:A:414:A:N3	1:A:414:A:H2'	2.34	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:792:A:HO2'	1:A:794:A:H8	1.60	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
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:1497:G:N7	1:A:1498:U:C5	2.87	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
11:K:77:MET:HE2	11:K:77:MET:HB3	1.78	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: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
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
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:1361(A):C:O2'	1:A:1362:C:H6	2.02	0.42
3:C:114:PRO:HD3	3:C:183:ASP:OD1	2.18	0.42
4:D:38:TYR:CD2	4:D:38:TYR:N	2.69	0.42
6:F:1:MET:HE3	6:F:1:MET:HB2	1.86	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
20:T:33:ILE:HD11	20:T:63:ILE:CA	2.45	0.42
1:A:44:G:C6	1:A:45:U:C2	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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
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
8:H:44:PHE:N	8:H:44:PHE:CD2	2.88	0.42
8:H:133:LEU:HD23	8:H:133:LEU:C	2.45	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:HB3	14:N:58:LYS:HE3	1.43	0.42
18:R:52:PRO:HB2	18:R:54:ARG:HG3	2.01	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
1:A:1150:U:H4'	10:J:41:PRO:HD3	2.00	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
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
12:L:119:LYS:O	12:L:120:TYR:CB	2.68	0.42
15:O:46:HIS:C	15:O:48:LYS:N	2.78	0.42
18:R:88:LYS:HD3	18:R:88:LYS:HA	1.80	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:43:C:O2	1:A:43:C:C2'	2.66	0.42
1:A:101:A:O2'	1:A:102:G:C5'	2.67	0.42
1:A:256:U:H2'	1:A:257:G:C8	2.53	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
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
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:HE	6:F:36:ARG:HB2	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:57:G:C5	1:A:58:C:C4	3.08	0.42
1:A:113:G:C4	1:A:114:U:C6	3.07	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: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
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: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
1:A:1378:C:OP1	7:G:6:ARG:O	2.37	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
1:A:174:C:C2	1:A:175:C:C6	3.06	0.42
1:A:262:A:OP1	20:T:73:HIS:ND1	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:1088:G:C4	1:A:1089:G:C8	3.07	0.42
1:A:1372:U:OP2	9:I:11:LYS:NZ	2.49	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
3:C:8:ILE:HG23	3:C:16:ARG:HG2	2.02	0.42
5:E:118:ILE:HD13	5:E:118:ILE:HG21	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:O	13:M:37:THR:CG2	2.67	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
1:A:418:C:H2'	1:A:419:C:C6	2.54	0.42
1:A:500:G:C8	1:A:500:G:H3'	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
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
2:B:44:LEU:O	2:B:45:GLN:C	2.61	0.42
2:B:83:MET:O	2:B:86:GLU:HB2	2.20	0.42
4:D:79:PHE:CD2	4:D:79:PHE:O	2.73	0.42
5:E:32:VAL:O	5:E:43:LEU:HA	2.20	0.42
5:E:101:ILE:HG22	5:E:101:ILE:O	2.19	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:9:G:C2	1:A:10:A:C5	3.07	0.42
1:A:39:G:N1	1:A:40:C:C6	2.88	0.42
1:A:75:G:C6	1:A:76:C:N4	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:129(A):G:N3	1:A:190(E):U:C5'	2.83	0.42
1:A:142:G:C2	1:A:222:U:C2	3.08	0.42
1:A:266:G:C8	1:A:266:G:C4'	3.02	0.42
1:A:339:C:H2'	1:A:340:U:H6	1.84	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:801:U:O2'	1:A:802:A:H5'	2.20	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:1278:U:H5''	1:A:1279:A:C5'	2.50	0.42
1:A:1381:U:O2	1:A:1381:U:C2'	2.68	0.42
3:C:152:ILE:HG22	3:C:153:VAL:N	2.35	0.42
3:C:173:VAL:O	3:C:173:VAL:CG1	2.61	0.42
6:F:53:ALA:C	6:F:55:ASP:H	2.28	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:H	15:O:12:ILE:HG13	1.66	0.42
1:A:7:G:C5	1:A:298:A:C2	3.08	0.42
1:A:31:G:O2'	1:A:32:A:P	2.77	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: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:981:U:C2	1:A:982:U:C5	3.07	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
3:C:31:HIS:O	3:C:32:LEU:C	2.63	0.42
3:C:121:ALA:O	3:C:122:GLU:C	2.63	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:HA	16:P:59:TRP:HE3	1.82	0.42
1:A:22:G:C5	1:A:23:C:C4	3.07	0.41
1:A:28:G:O2'	1:A:296:U:OP1	2.29	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:284:G:C4	1:A:285:G:C8	3.08	0.41
1:A:300:A:C8	1:A:300:A:C3'	3.02	0.41
1:A:448:A:N6	1:A:487:A:N9	2.68	0.41
1:A:452:A:C2	1:A:453:A:H1'	2.55	0.41
1:A:508:C:OP1	4:D:209:ARG:NH2	2.53	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
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
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
7:G:113:GLU:OE1	7:G:118:VAL:HG12	2.20	0.41
8:H:9:MET:CG	8:H:13:ILE:HD11	2.49	0.41
8:H:112:LEU:N	8:H:112:LEU:CD2	2.65	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
15:O:31:LEU:O	15:O:32:LEU:C	2.63	0.41
16:P:49:LEU:HD12	16:P:49:LEU:C	2.45	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:103:C:O2'	1:A:172:A:N1	2.50	0.41
1:A:142:G:C6	1:A:143:A:C6	3.08	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:279:A:H3'	17:Q:95:TYR:OH	2.20	0.41
1:A:307:C:H5''	1:A:308:C:OP2	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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: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
2:B:14:GLY:C	2:B:15:VAL:CG2	2.92	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:HD23	10:J:40:LEU:HA	1.72	0.41
17:Q:62:SER:OG	17:Q:72:ARG:HG3	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:58:C:O2	1:A:58:C:C2'	2.69	0.41
1:A:79:G:C2	1:A:91:C:C2	3.08	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: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:918:A:H2'	1:A:919:A:C8	2.54	0.41
1:A:923:A:N6	1:A:1392:G:O6	2.53	0.41
1:A:945:G:C6	1:A:1337:G:C6	3.09	0.41
1:A:955:U:C2'	1:A:956:U:H5'	2.51	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:1114:C:H1'	14:N:60:SER:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:1297:C:O2'	1:A:1298:C:OP2	2.25	0.41
1:A:1324:A:C6	1:A:1325:C:N4	2.88	0.41
1:A:1345:U:C2	1:A:1377:A:N1	2.89	0.41
1:A:1398:A:H5''	1:A:1398:A:C8	2.55	0.41
1:A:1477:C:H2'	1:A:1478:C:C6	2.55	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
8:H:127:LEU:HA	8:H:127:LEU:HD13	1.76	0.41
13:M:65:LYS:O	13:M:66:LEU:HD23	2.20	0.41
14:N:4:LYS:C	14:N:6:LEU:N	2.79	0.41
15:O:5:LYS:O	15:O:6:GLU:C	2.63	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:109:A:C2'	1:A:326:G:N2	2.53	0.41
1:A:168:G:N1	1:A:169:C:C5	2.88	0.41
1:A:175:C:H4'	20:T:25:ARG:NH1	2.36	0.41
1:A:201:C:C4	1:A:203:U:C6	3.09	0.41
1:A:376:G:O3'	16:P:5:ARG:HD2	2.19	0.41
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
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
2:B:84:GLU:HG3	2:B:215:LEU:CB	2.49	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:45:PRO:HG2	12:L:51:ALA:N	2.35	0.41
19:S:45:VAL:HG11	19:S:64:GLU:HA	2.03	0.41
20:T:50:GLU:CB	20:T:99:LEU:HD12	2.32	0.41
1:A:9:G:C2	1:A:10:A:N7	2.89	0.41
1:A:101:A:C2	1:A:102:G:C5	3.08	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:N3	1:A:872:A:H2'	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: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
3:C:34:LEU:HD23	3:C:34:LEU:C	2.46	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:24:VAL:HG13	12:L:98:TYR:CE2	2.55	0.41
12:L:75:HIS:CD2	12:L:76:ASN:N	2.88	0.41
12:L:105:TYR:HB3	12:L:106:ASP:H	1.61	0.41
16:P:62:VAL:O	16:P:62:VAL:CG1	2.68	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:757:U:OP1	1:A:822:C:O2'	2.37	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:949:A:C6	1:A:950:U:N3	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1130:A:O5'	1:A:1131:G:OP2	2.38	0.41
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
3:C:6:HIS:CD2	3:C:9:GLY:H	2.37	0.41
3:C:54:ARG:H	3:C:69:HIS:HB2	1.86	0.41
3:C:154:SER:OG	3:C:197:GLY:N	2.48	0.41
4:D:56:VAL:O	4:D:57:ARG:C	2.62	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
8:H:26:VAL:C	8:H:58:TYR:CD2	2.99	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
15:O:24:SER:O	15:O:25:THR:C	2.64	0.41
1:A:10:A:C2	1:A:11:G:C4	3.08	0.41
1:A:59:A:C6	1:A:354:G:C5	3.09	0.41
1:A:59:A:N1	1:A:354:G:C8	2.88	0.41
1:A:217:C:O2'	1:A:218:C:H5'	2.20	0.41
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: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
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:P	1:A:1126:U:C5	3.14	0.41
1:A:1248:A:C5	1:A:1249:C:C5	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1504:G:HO2'	1:A:1505:G:P	2.44	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:HD12	8:H:63:LEU:HA	1.76	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:110:C:N4	1:A:111:G:C6	2.88	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:328:C:HO2'	1:A:329:A:P	2.43	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:716:A:N3	11:K:117:ASN:O	2.53	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
1:A:1037:C:H6	1:A:1037:C:O5'	2.04	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:1228:C:H4'	13:M:115:LYS:O	2.21	0.41
1:A:1370:G:C5'	9:I:12:GLU:OE1	2.69	0.41
1:A:1450:U:HO2'	1:A:1451:A:H8	1.69	0.41
1:A:1508:G:C2'	1:A:1509:C:H5'	2.51	0.41
3:C:6:HIS:HA	3:C:7:PRO:HD2	1.65	0.41
3:C:22:TRP:HZ3	3:C:24:ALA:CB	2.33	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:73:ASP:N	8:H:74:PRO:CD	2.84	0.41
8:H:107:LEU:HD23	8:H:107:LEU:HA	1.86	0.41
9:I:28:VAL:O	9:I:29:ASN:C	2.64	0.41
9:I:43:ALA:O	9:I:44:VAL:C	2.63	0.41
11:K:33:THR:C	11:K:40:ILE:HD11	2.45	0.41
1:A:22:G:O2'	1:A:23:C:C5'	2.69	0.41
1:A:23:C:C2	1:A:24:U:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:142:G:C2	1:A:222:U:N3	2.88	0.41
1:A:319:G:C4	1:A:320:C:C6	3.08	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:521:G:OP1	12:L:73:GLU:O	2.39	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:605:U:O2'	1:A:606:G:H5'	2.21	0.41
1:A:621:A:N6	1:A:622:A:N6	2.69	0.41
1:A:622:A:H3'	1:A:623:C:C6	2.54	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
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:941:G:C6	1:A:1343:G:C6	3.09	0.41
1:A:949:A:C6	1:A:1233:G:C6	3.08	0.41
1:A:986:A:H2'	1:A:987:G:H8	1.86	0.41
1:A:986:A:C6	1:A:987:G:C6	3.09	0.41
1:A:1054:C:OP2	1:A:1197:G:OP1	2.38	0.41
1:A:1172:C:H2'	1:A:1173:G:C8	2.54	0.41
1:A:1202:G:H1'	14:N:42:ILE:HD12	2.02	0.41
1:A:1217:C:H2'	1:A:1218:C:O4'	2.21	0.41
1:A:1240:U:C4	7:G:30:ILE:HG23	2.56	0.41
1:A:1241:G:N3	1:A:1241:G:H2'	2.35	0.41
1:A:1345:U:O2'	1:A:1377:A:N1	2.47	0.41
1:A:1350:A:N1	1:A:1351:U:C2	2.89	0.41
1:A:1366:C:O2'	1:A:1367:C:H5'	2.21	0.41
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
2:B:12:GLU:OE1	2:B:213:LEU:HD11	2.21	0.41
2:B:17:PHE:O	2:B:41:ILE:HG23	2.21	0.41
2:B:80:ILE:O	2:B:80:ILE:HG22	2.21	0.41
2:B:138:LEU:O	2:B:139:LYS:C	2.62	0.41
2:B:214:ILE:HG23	2:B:217:ARG:HH21	1.85	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
3:C:112:SER:C	3:C:114:PRO:CD	2.94	0.41
4:D:64:LEU:HD12	4:D:75:PHE:CE1	2.55	0.41
5:E:6:PHE:CE2	5:E:66:MET:HE1	2.56	0.41
5:E:62:ALA:C	5:E:64:ARG:N	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:89:ASN:HA	9:I:90:PRO:HD2	1.92	0.41
10:J:6:ILE:O	10:J:71:LEU:HD22	2.21	0.41
10:J:45:ARG:NH2	14:N:36:PHE:HD2	2.19	0.41
11:K:24:SER:HB3	11:K:27:ASN:O	2.21	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
16:P:45:THR:C	16:P:47:ASP:N	2.78	0.41
19:S:40:ILE:HA	19:S:44:MET:HE1	2.03	0.41
20:T:78:ALA:O	20:T:79:ARG:C	2.63	0.41
20:T:88:VAL:O	20:T:89:ARG:C	2.64	0.41
21:V:5:ASP:O	21:V:11:GLY:HA3	2.20	0.41
1:A:103:C:OP2	20:T:14:LYS:HE3	2.21	0.41
1:A:115:G:C2	1:A:313:A:C2	3.09	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
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: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:1331:G:O2'	1:A:1332:A:P	2.78	0.41
1:A:1417:G:HO2'	1:A:1418:A:H8	1.59	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
2:B:58:ILE:O	2:B:59:GLU:C	2.62	0.41
3:C:91:LEU:HD23	3:C:91:LEU:C	2.46	0.41
4:D:4:TYR:CG	4:D:5:ILE:N	2.84	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: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
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
17:Q:85:VAL:O	17:Q:86:GLU:C	2.64	0.41
20:T:59:ALA:O	20:T:60:GLU:C	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:485:G:HO2'	1:A:486:U:P	2.40	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:922:G:C2	1:A:1396:A:C2	3.09	0.40
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: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
3:C:33:LEU:CD1	14:N:53:LEU:HD22	2.48	0.40
3:C:125:GLU:C	3:C:127:ARG:H	2.29	0.40
4:D:19:LEU:O	4:D:21:LEU:N	2.54	0.40
5:E:59:GLY:O	5:E:60:TYR:C	2.64	0.40
7:G:78:ARG:HG2	7:G:80:VAL:HG23	2.02	0.40
7:G:125:MET:C	7:G:127:ALA:N	2.78	0.40
7:G:136:LYS:HD2	7:G:136:LYS:C	2.46	0.40
8:H:14:ARG:NH1	8:H:83:ILE:O	2.54	0.40
9:I:10:ARG:O	9:I:11:LYS:C	2.64	0.40
12:L:93:LEU:HD23	12:L:93:LEU:HA	1.77	0.40
15:O:43:LEU:HA	15:O:43:LEU:HD23	1.63	0.40
15:O:78:TYR:O	15:O:79:ARG:C	2.63	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:250:A:O4'	1:A:252:U:C6	2.75	0.40
1:A:254:G:N2	17:Q:16:GLN:NE2	2.59	0.40
1:A:528:C:N4	12:L:49:ASN:OD1	2.48	0.40
1:A:560:U:H4'	1:A:561:U:H5''	2.04	0.40
1:A:585:G:O3'	17:Q:34:LYS:NZ	2.54	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
1:A:974:A:C4	14:N:31:ARG:NH2	2.89	0.40
1:A:1029:C:C3'	1:A:1030:C:H5''	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1497:G:H2'	1:A:1498:U:C6	2.41	0.40
2:B:68:ILE:O	2:B:91:PRO:HD2	2.21	0.40
2:B:127:ILE:HB	2:B:128:GLU:H	1.68	0.40
2:B:174:VAL:O	2:B:175:ARG:C	2.63	0.40
3:C:203:PHE:O	3:C:204:LEU:HG	2.21	0.40
4:D:11:LEU:C	4:D:13:ARG:N	2.77	0.40
4:D:97:LEU:HA	4:D:97:LEU:HD23	1.74	0.40
5:E:62:ALA:C	5:E:64:ARG:H	2.29	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
14:N:3:ARG:O	14:N:4:LYS:C	2.64	0.40
1:A:38:G:N2	1:A:397:A:H5''	2.36	0.40
1:A:115:G:C6	1:A:313:A:C2	3.09	0.40
1:A:149:A:C4	1:A:150:C:C5	3.09	0.40
1:A:969:A:O2'	1:A:970:C:H5'	2.21	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:1342:C:O3'	9:I:125:TYR:CE2	2.74	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
2:B:25:ASN:O	2:B:26:PRO:C	2.64	0.40
2:B:80:ILE:H	2:B:80:ILE:HG13	1.74	0.40
2:B:207:ALA:O	2:B:211:ILE:HG13	2.20	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
3:C:112:SER:O	3:C:115:LEU:N	2.54	0.40
4:D:20:TYR:N	4:D:20:TYR:CD2	2.89	0.40
5:E:80:ILE:HG22	8:H:104:ARG:HH22	1.87	0.40
17:Q:60:ILE:C	17:Q:71:PHE:HD1	2.29	0.40
18:R:43:PHE:CA	18:R:51:LEU:HD12	2.51	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:869:G:O2'	1:A:872:A:N7	2.54	0.40
1:A:975:A:N1	10:J:48:THR:HB	2.36	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
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
6:F:67:MET:HE1	6:F:75:LEU:HB2	2.04	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
10:J:45:ARG:NH2	14:N:36:PHE:CD2	2.90	0.40
13:M:11:ARG:CG	13:M:12:ASN:H	2.34	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:4:U:C4'	1:A:5:U:OP2	2.69	0.40
1:A:142:G:H2'	1:A:143:A:H8	1.85	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:321:A:H62	1:A:328:C:HO2'	1.68	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:579:G:C5'	1:A:728:A:H1'	2.33	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:797:C:H2'	1:A:798:G:H8	1.87	0.40
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:1152:A:H5''	10:J:13:HIS:CG	2.56	0.40
1:A:1191:A:OP1	3:C:4:LYS:HE2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1212:U:O2'	1:A:1213:A:C8	2.75	0.40
1:A:1226:C:H6	13:M:103:THR:OG1	2.04	0.40
1:A:1286:A:C8	1:A:1286:A:C3'	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:1460:A:O2'	1:A:1461:G:H5'	2.21	0.40
4:D:96:LEU:O	4:D:97:LEU:C	2.65	0.40
5:E:80:ILE:HG22	8:H:104:ARG:NH2	2.36	0.40
5:E:110:LEU:O	5:E:113:ALA:N	2.51	0.40
8:H:120:THR:O	8:H:121:ASP:C	2.64	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 ⓘ

5.3.1 Protein backbone ⓘ

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

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	220/255 (86%)	165 (75%)	41 (19%)	14 (6%)	1	8
3	C	204/238 (86%)	140 (69%)	47 (23%)	17 (8%)	0	5
4	D	206/208 (99%)	153 (74%)	42 (20%)	11 (5%)	1	10
5	E	148/161 (92%)	113 (76%)	24 (16%)	11 (7%)	1	6
6	F	99/101 (98%)	86 (87%)	9 (9%)	4 (4%)	2	15
7	G	151/155 (97%)	126 (83%)	21 (14%)	4 (3%)	4	23
8	H	136/138 (99%)	117 (86%)	13 (10%)	6 (4%)	2	13
9	I	123/128 (96%)	98 (80%)	21 (17%)	4 (3%)	3	19
10	J	96/104 (92%)	74 (77%)	14 (15%)	8 (8%)	0	5
11	K	113/128 (88%)	88 (78%)	17 (15%)	8 (7%)	1	6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	L	122/131 (93%)	87 (71%)	26 (21%)	9 (7%)	1	6
13	M	118/125 (94%)	75 (64%)	31 (26%)	12 (10%)	0	2
14	N	58/60 (97%)	46 (79%)	12 (21%)	0	100	100
15	O	86/88 (98%)	62 (72%)	17 (20%)	7 (8%)	1	5
16	P	81/88 (92%)	58 (72%)	19 (24%)	4 (5%)	1	12
17	Q	98/104 (94%)	77 (79%)	16 (16%)	5 (5%)	1	11
18	R	66/87 (76%)	45 (68%)	17 (26%)	4 (6%)	1	9
19	S	78/92 (85%)	62 (80%)	15 (19%)	1 (1%)	9	35
20	T	92/105 (88%)	70 (76%)	16 (17%)	6 (6%)	1	8
21	V	22/26 (85%)	17 (77%)	3 (14%)	2 (9%)	0	3
All	All	2317/2522 (92%)	1759 (76%)	421 (18%)	137 (6%)	1	9

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

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Mol	Chain	Res	Type
10	J	55	LYS
10	J	90	LEU
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

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Mol	Chain	Res	Type
3	C	168	ALA
5	E	80	ILE
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

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Mol	Chain	Res	Type
5	E	147	ASP
6	F	70	ASP
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%)	162 (85%)	29 (15%)	3 13

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	160/187 (86%)	136 (85%)	24 (15%)	3	13
4	D	180/180 (100%)	161 (89%)	19 (11%)	6	24
5	E	115/122 (94%)	99 (86%)	16 (14%)	3	15
6	F	90/90 (100%)	81 (90%)	9 (10%)	7	27
7	G	124/126 (98%)	118 (95%)	6 (5%)	23	52
8	H	119/119 (100%)	102 (86%)	17 (14%)	3	14
9	I	96/99 (97%)	89 (93%)	7 (7%)	13	39
10	J	88/91 (97%)	78 (89%)	10 (11%)	5	21
11	K	87/98 (89%)	81 (93%)	6 (7%)	14	41
12	L	104/108 (96%)	98 (94%)	6 (6%)	18	47
13	M	96/100 (96%)	82 (85%)	14 (15%)	3	14
14	N	49/49 (100%)	40 (82%)	9 (18%)	1	7
15	O	79/79 (100%)	66 (84%)	13 (16%)	2	11
16	P	72/74 (97%)	66 (92%)	6 (8%)	10	34
17	Q	95/96 (99%)	86 (90%)	9 (10%)	8	29
18	R	60/76 (79%)	56 (93%)	4 (7%)	15	42
19	S	71/79 (90%)	64 (90%)	7 (10%)	7	27
20	T	74/81 (91%)	68 (92%)	6 (8%)	11	36
21	V	19/21 (90%)	19 (100%)	0	100	100
All	All	1969/2094 (94%)	1752 (89%)	217 (11%)	6	23

All (217) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	15	VAL
2	B	16	HIS
2	B	17	PHE
2	B	22	LYS
2	B	26	PRO
2	B	44	LEU
2	B	61	LEU
2	B	69	LEU
2	B	75	LYS
2	B	96	ARG
2	B	103	THR

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Mol	Chain	Res	Type
2	B	111	ARG
2	B	114	ARG
2	B	119	GLU
2	B	131	PRO
2	B	139	LYS
2	B	144	ARG
2	B	153	ARG
2	B	162	ILE
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
2	B	213	LEU
3	C	3	ASN
3	C	11	ARG
3	C	12	LEU
3	C	17	ASP
3	C	34	LEU
3	C	49	SER
3	C	57	ILE
3	C	76	VAL
3	C	82	GLU
3	C	84	ILE
3	C	91	LEU
3	C	94	LEU
3	C	99	VAL
3	C	101	LEU
3	C	120	VAL
3	C	130	VAL
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

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Mol	Chain	Res	Type
4	D	14	ARG
4	D	15	GLU
4	D	29	PRO
4	D	38	TYR
4	D	56	VAL
4	D	58	LEU
4	D	59	ARG
4	D	64	LEU
4	D	67	ILE
4	D	80	GLU
4	D	91	SER
4	D	96	LEU
4	D	99	SER
4	D	157	LEU
4	D	158	ILE
4	D	176	LEU
4	D	190	ASP
4	D	192	GLU
4	D	198	VAL
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	38	GLN
5	E	47	LYS
5	E	53	LEU
5	E	76	ILE
5	E	80	ILE
5	E	96	PRO
5	E	118	ILE
5	E	129	ILE
5	E	143	ARG
6	F	10	LEU
6	F	24	GLU
6	F	32	ASN
6	F	36	ARG
6	F	38	GLU
6	F	40	VAL
6	F	45	LEU

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Mol	Chain	Res	Type
6	F	65	VAL
6	F	82	ARG
7	G	12	LEU
7	G	16	LEU
7	G	75	VAL
7	G	113	GLU
7	G	120	ILE
7	G	149	ARG
8	H	17	THR
8	H	18	ARG
8	H	26	VAL
8	H	38	ILE
8	H	39	LEU
8	H	41	ARG
8	H	54	ASP
8	H	63	LEU
8	H	83	ILE
8	H	86	ILE
8	H	91	ARG
8	H	109	ILE
8	H	111	ILE
8	H	112	LEU
8	H	118	VAL
8	H	120	THR
8	H	132	GLU
9	I	56	LEU
9	I	60	ASP
9	I	71	SER
9	I	105	ASP
9	I	108	VAL
9	I	111	ARG
9	I	121	ARG
10	J	23	ILE
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

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Mol	Chain	Res	Type
11	K	35	PRO
11	K	47	VAL
11	K	75	TYR
11	K	92	GLU
11	K	107	SER
11	K	110	ASP
12	L	7	ILE
12	L	27	LEU
12	L	33	ARG
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
13	M	117	VAL
14	N	13	THR
14	N	14	PRO
14	N	22	THR
14	N	25	VAL
14	N	31	ARG
14	N	33	VAL
14	N	39	LEU
14	N	58	LYS
14	N	60	SER
15	O	4	THR
15	O	17	ARG
15	O	19	PRO
15	O	21	ASP
15	O	24	SER
15	O	31	LEU
15	O	39	LEU

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Mol	Chain	Res	Type
15	O	48	LYS
15	O	58	MET
15	O	65	ARG
15	O	70	LEU
15	O	81	LEU
15	O	88	ARG
16	P	2	VAL
16	P	34	GLU
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	77	VAL
17	Q	98	LEU
17	Q	100	LYS
18	R	31	LEU
18	R	34	TYR
18	R	54	ARG
18	R	69	THR
19	S	6	LYS
19	S	15	LEU
19	S	39	THR
19	S	45	VAL
19	S	57	HIS
19	S	60	VAL
19	S	67	VAL
20	T	10	LEU
20	T	36	LEU
20	T	39	LYS
20	T	64	ASP
20	T	72	LEU
20	T	75	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (37) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	25	ASN
2	B	94	ASN
2	B	204	ASN
3	C	3	ASN
3	C	6	HIS
3	C	31	HIS
3	C	37	GLN
3	C	69	HIS
3	C	139	GLN
4	D	77	ASN
4	D	123	HIS
4	D	199	ASN
5	E	130	ASN
6	F	27	GLN
6	F	64	GLN
6	F	94	GLN
6	F	100	ASN
7	G	37	ASN
7	G	106	GLN
8	H	82	HIS
9	I	31	GLN
9	I	87	GLN
9	I	117	HIS
10	J	56	HIS
10	J	62	HIS
11	K	62	GLN
11	K	93	GLN
11	K	117	ASN
12	L	75	HIS
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 [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1506/1509 (99%)	336 (22%)	181 (12%)

All (336) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	6	G
1	A	7	G
1	A	8	A
1	A	9	G
1	A	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

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Mol	Chain	Res	Type
1	A	198	G
1	A	202	U
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	388	G
1	A	389	A
1	A	390	C
1	A	397	A
1	A	412	A

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Mol	Chain	Res	Type
1	A	413	G
1	A	421	U
1	A	422	C
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	517	G
1	A	518	C
1	A	519	C
1	A	527	G
1	A	532	A
1	A	533	A
1	A	534	U
1	A	535	A
1	A	536	C
1	A	548	G
1	A	555	C
1	A	559	A
1	A	560	U
1	A	561	U
1	A	562	C
1	A	566	G

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Mol	Chain	Res	Type
1	A	567	G
1	A	572	A
1	A	573	A
1	A	575	G
1	A	576	G
1	A	577	G
1	A	595	G
1	A	596	C
1	A	598	U
1	A	616	G
1	A	641	U
1	A	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

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Mol	Chain	Res	Type
1	A	818	G
1	A	819	A
1	A	820	U
1	A	821	G
1	A	828	A
1	A	839	U
1	A	840	C
1	A	841	U
1	A	867	G
1	A	870	U
1	A	871	U
1	A	872	A
1	A	873	A
1	A	874	G
1	A	884	U
1	A	885	G
1	A	889	A
1	A	890	G
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

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Mol	Chain	Res	Type
1	A	977	A
1	A	982	U
1	A	983	A
1	A	984	C
1	A	992	U
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

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Mol	Chain	Res	Type
1	A	1138	G
1	A	1139	G
1	A	1140	C
1	A	1145	C
1	A	1146	A
1	A	1152	A
1	A	1157	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

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Mol	Chain	Res	Type
1	A	1305	G
1	A	1310	G
1	A	1320	C
1	A	1322	C
1	A	1326	C
1	A	1332	A
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
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

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Mol	Chain	Res	Type
1	A	344	A
1	A	345	C
1	A	351	G
1	A	366	C
1	A	367	U
1	A	372	C
1	A	388	G
1	A	421	U
1	A	428	G
1	A	429	U
1	A	438	G
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

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Mol	Chain	Res	Type
1	A	733	A
1	A	747	C
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

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Mol	Chain	Res	Type
1	A	1129	C
1	A	1139	G
1	A	1145	C
1	A	1151	A
1	A	1157	A
1	A	1159	U
1	A	1181	G
1	A	1182	G
1	A	1183	A
1	A	1190	G
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

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Mol	Chain	Res	Type
1	A	1397	C
1	A	1399	C
1	A	1400	C
1	A	1451	A
1	A	1452	C
1	A	1498	U
1	A	1502	A
1	A	1503	A
1	A	1504	G
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 oligosaccharides 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, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	1506/1509 (99%)	0.43	104 (6%) 23 16	29, 94, 180, 218	0
2	B	222/255 (87%)	1.25	49 (22%) 2 2	43, 111, 195, 218	0
3	C	206/238 (86%)	1.39	50 (24%) 2 1	49, 123, 192, 215	0
4	D	208/208 (100%)	1.39	59 (28%) 1 1	25, 101, 171, 218	0
5	E	150/161 (93%)	1.12	33 (22%) 2 2	42, 85, 151, 185	0
6	F	101/101 (100%)	1.22	25 (24%) 2 1	53, 122, 186, 211	0
7	G	153/155 (98%)	1.38	35 (22%) 2 2	74, 136, 196, 218	0
8	H	138/138 (100%)	0.79	20 (14%) 6 5	30, 83, 156, 193	0
9	I	125/128 (97%)	1.50	36 (28%) 1 1	69, 144, 201, 218	0
10	J	98/104 (94%)	1.63	29 (29%) 1 1	61, 150, 210, 218	0
11	K	115/128 (89%)	1.37	31 (26%) 1 1	60, 118, 181, 209	0
12	L	124/131 (94%)	1.02	22 (17%) 4 3	41, 108, 169, 204	0
13	M	120/125 (96%)	1.51	36 (30%) 1 1	66, 133, 198, 218	0
14	N	60/60 (100%)	1.15	11 (18%) 3 3	56, 110, 174, 203	0
15	O	88/88 (100%)	0.68	11 (12%) 8 6	50, 103, 167, 203	0
16	P	83/88 (94%)	0.72	6 (7%) 21 15	36, 91, 152, 216	0
17	Q	100/104 (96%)	0.67	13 (13%) 7 6	43, 95, 166, 211	0
18	R	68/87 (78%)	0.84	9 (13%) 7 6	49, 102, 184, 196	0
19	S	80/92 (86%)	1.60	31 (38%) 1 1	66, 143, 208, 218	0
20	T	94/105 (89%)	1.46	21 (22%) 2 2	64, 126, 190, 218	0
21	V	24/26 (92%)	1.63	9 (37%) 1 1	93, 129, 158, 188	0
All	All	3863/4031 (95%)	0.92	640 (16%) 4 4	25, 104, 188, 218	0

All (640) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	C	107	GLN	12.5
1	A	1129	C	11.5
20	T	101	GLY	10.5
3	C	56	ASP	9.1
3	C	14	ILE	8.4
5	E	137	GLU	8.2
2	B	206	ASP	8.1
7	G	33	ASP	8.1
7	G	146	GLU	7.8
5	E	154	GLY	7.8
10	J	33	GLN	7.8
20	T	46	GLU	7.6
11	K	124	LYS	7.5
4	D	2	GLY	7.5
2	B	96	ARG	7.4
10	J	73	ASP	7.3
20	T	73	HIS	7.2
4	D	18	LYS	7.1
12	L	114	LYS	7.0
13	M	121	LYS	6.9
13	M	6	GLY	6.9
16	P	83	GLU	6.8
13	M	117	VAL	6.8
4	D	24	GLU	6.7
1	A	461	C	6.4
3	C	79	ARG	6.3
5	E	83	GLU	6.3
1	A	81	U	6.3
2	B	166	ASP	6.2
4	D	35	ARG	6.1
3	C	143	GLU	6.0
2	B	189	ASP	6.0
9	I	105	ASP	6.0
11	K	54	ARG	6.0
20	T	100	ILE	5.9
1	A	990	C	5.9
3	C	19	GLU	5.9
1	A	1013	G	5.8
4	D	33	MET	5.8
2	B	19	HIS	5.8
7	G	84	ASN	5.8
3	C	80	GLY	5.8
1	A	1416	G	5.8

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Mol	Chain	Res	Type	RSRZ
1	A	1278	U	5.8
7	G	85	TYR	5.7
11	K	59	TYR	5.7
13	M	69	GLU	5.7
8	H	30	ARG	5.6
5	E	22	GLY	5.6
2	B	217	ARG	5.6
11	K	36	ASP	5.6
13	M	120	LYS	5.6
1	A	1415	G	5.5
7	G	57	GLU	5.5
20	T	48	LYS	5.5
2	B	36	ARG	5.5
2	B	134	GLU	5.5
4	D	23	GLY	5.5
3	C	54	ARG	5.4
2	B	220	ASP	5.4
9	I	58	ARG	5.4
5	E	20	GLN	5.3
3	C	17	ASP	5.3
6	F	95	GLU	5.3
12	L	89	ARG	5.3
7	G	8	GLU	5.3
9	I	121	ARG	5.3
10	J	85	LEU	5.3
7	G	5	ARG	5.2
4	D	5	ILE	5.1
5	E	85	GLY	5.0
1	A	1488	G	5.0
6	F	77	ARG	5.0
13	M	3	ARG	5.0
7	G	79	ARG	5.0
18	R	87	ARG	5.0
1	A	1487	G	4.9
11	K	53	SER	4.9
1	A	1024	G	4.9
1	A	1139	G	4.9
10	J	75	ILE	4.8
17	Q	101	ARG	4.8
19	S	3	ARG	4.8
2	B	16	HIS	4.8
2	B	191	ASP	4.8

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Mol	Chain	Res	Type	RSRZ
4	D	3	ARG	4.8
7	G	149	ARG	4.8
12	L	61	THR	4.8
19	S	81	ARG	4.8
5	E	72	GLN	4.7
13	M	94	ARG	4.7
2	B	35	GLU	4.7
8	H	37	ARG	4.7
8	H	46	LYS	4.7
14	N	2	ALA	4.7
19	S	30	LEU	4.7
1	A	1124	G	4.7
3	C	15	THR	4.7
11	K	26	ASN	4.7
11	K	70	LYS	4.7
13	M	118	ALA	4.6
2	B	119	GLU	4.6
4	D	26	CYS	4.6
3	C	178	LEU	4.6
8	H	122	ARG	4.5
4	D	21	LEU	4.5
4	D	112	VAL	4.5
10	J	5	ARG	4.5
3	C	89	GLU	4.4
20	T	57	ARG	4.4
12	L	122	THR	4.4
18	R	46	GLU	4.4
4	D	30	LYS	4.4
9	I	66	ARG	4.4
20	T	17	ARG	4.4
11	K	89	ALA	4.4
5	E	18	ARG	4.4
8	H	3	THR	4.4
1	A	631	G	4.4
13	M	73	GLU	4.4
10	J	57	LYS	4.4
11	K	27	ASN	4.4
5	E	7	GLU	4.3
13	M	98	VAL	4.3
4	D	34	GLU	4.3
21	V	21	TYR	4.3
1	A	1493	A	4.3

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Mol	Chain	Res	Type	RSRZ
4	D	209	ARG	4.3
11	K	50	TYR	4.3
9	I	57	GLY	4.3
10	J	58	ASP	4.3
9	I	115	GLY	4.2
4	D	27	TYR	4.2
18	R	23	LYS	4.2
8	H	73	ASP	4.2
9	I	62	TYR	4.1
17	Q	52	LYS	4.1
4	D	131	ARG	4.1
4	D	169	LYS	4.1
9	I	29	ASN	4.1
1	A	1442	G	4.1
2	B	12	GLU	4.1
1	A	1173	G	4.1
10	J	71	LEU	4.0
1	A	781	A	4.0
5	E	88	LYS	4.0
9	I	116	LYS	4.0
10	J	6	ILE	4.0
1	A	792	A	4.0
9	I	122	ALA	4.0
13	M	32	GLU	4.0
13	M	27	LYS	3.9
4	D	17	VAL	3.9
13	M	108	ARG	3.9
5	E	153	LYS	3.9
9	I	117	HIS	3.9
7	G	154	TYR	3.9
2	B	24	TRP	3.9
6	F	47	ARG	3.8
3	C	63	ASN	3.8
7	G	56	GLN	3.8
17	Q	49	GLU	3.8
1	A	630	G	3.8
19	S	55	LYS	3.8
13	M	23	TYR	3.8
11	K	88	GLY	3.8
3	C	119	ARG	3.8
6	F	13	ASN	3.8
11	K	90	GLY	3.8

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Mol	Chain	Res	Type	RSRZ
7	G	73	MET	3.8
16	P	81	ARG	3.8
3	C	110	ASN	3.7
5	E	65	ASN	3.7
2	B	133	LYS	3.7
2	B	20	GLU	3.7
1	A	1036	G	3.7
5	E	104	ALA	3.7
20	T	72	LEU	3.7
13	M	61	GLU	3.7
1	A	1492	A	3.7
6	F	41	GLU	3.6
12	L	73	GLU	3.6
4	D	36	ARG	3.6
7	G	4	ARG	3.6
5	E	149	GLU	3.6
20	T	67	ALA	3.6
2	B	146	GLN	3.6
19	S	47	HIS	3.6
2	B	228	GLY	3.6
3	C	13	GLY	3.6
9	I	30	GLY	3.6
1	A	315	A	3.6
2	B	7	VAL	3.6
4	D	134	ASP	3.6
7	G	106	GLN	3.6
7	G	148	ASN	3.6
11	K	93	GLN	3.6
2	B	226	ARG	3.6
6	F	80	ARG	3.6
9	I	9	ARG	3.6
1	A	991	U	3.6
6	F	43	LEU	3.6
4	D	156	GLU	3.5
17	Q	24	GLU	3.5
3	C	62	ASP	3.5
5	E	111	GLU	3.5
1	A	979	C	3.5
4	D	89	THR	3.5
4	D	129	ASN	3.5
4	D	31	CYS	3.5
3	C	140	ARG	3.5

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Mol	Chain	Res	Type	RSRZ
6	F	24	GLU	3.4
17	Q	48	GLU	3.4
7	G	32	ARG	3.4
12	L	117	ARG	3.4
9	I	106	ALA	3.4
14	N	29	ARG	3.4
9	I	7	THR	3.4
11	K	51	LYS	3.4
2	B	192	SER	3.4
2	B	205	ASP	3.4
3	C	10	PHE	3.4
11	K	67	ASP	3.4
10	J	95	GLU	3.4
4	D	20	TYR	3.4
4	D	115	ARG	3.4
5	E	107	ARG	3.4
20	T	80	ARG	3.3
3	C	29	TYR	3.3
19	S	2	PRO	3.3
14	N	37	PHE	3.3
4	D	72	GLU	3.3
1	A	353	A	3.3
1	A	794	A	3.3
1	A	1531	A	3.3
9	I	69	GLY	3.3
2	B	40	HIS	3.3
13	M	116	THR	3.3
17	Q	100	LYS	3.3
3	C	161	GLU	3.3
19	S	27	GLU	3.3
5	E	64	ARG	3.3
12	L	47	LYS	3.3
8	H	9	MET	3.3
4	D	7	PRO	3.3
21	V	6	ARG	3.3
1	A	1023	G	3.3
1	A	1224	G	3.3
7	G	62	PHE	3.3
3	C	167	TRP	3.3
11	K	12	ARG	3.2
19	S	80	TYR	3.2
18	R	33	ASP	3.2

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Mol	Chain	Res	Type	RSRZ
2	B	212	GLN	3.2
1	A	1130	A	3.2
11	K	25	TYR	3.2
10	J	35	SER	3.2
10	J	84	GLN	3.2
20	T	90	GLN	3.2
1	A	980	C	3.2
15	O	84	LYS	3.2
2	B	33	TYR	3.2
2	B	56	ARG	3.2
14	N	31	ARG	3.2
1	A	1134	G	3.2
3	C	123	GLN	3.2
19	S	49	ILE	3.2
3	C	181	ASN	3.1
1	A	576	G	3.1
1	A	993	G	3.1
7	G	143	ARG	3.1
3	C	207	VAL	3.1
10	J	72	VAL	3.1
9	I	128	ARG	3.1
19	S	37	ARG	3.1
1	A	362	G	3.1
4	D	163	GLU	3.1
10	J	74	ILE	3.1
12	L	49	ASN	3.1
15	O	51	HIS	3.1
1	A	1335	C	3.1
4	D	92	VAL	3.1
21	V	5	ASP	3.1
1	A	1126	U	3.1
4	D	168	ARG	3.1
21	V	7	ARG	3.1
20	T	11	SER	3.1
3	C	4	LYS	3.1
3	C	35	GLU	3.1
17	Q	2	PRO	3.1
7	G	2	ALA	3.0
13	M	71	ARG	3.0
3	C	99	VAL	3.0
7	G	60	LYS	3.0
19	S	59	PRO	3.0

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Mol	Chain	Res	Type	RSRZ
9	I	75	ASP	3.0
9	I	88	TYR	3.0
4	D	19	LEU	3.0
8	H	2	LEU	3.0
1	A	88	A	3.0
1	A	532	A	3.0
2	B	23	ARG	3.0
12	L	41	ARG	3.0
4	D	171	GLY	3.0
17	Q	47	PRO	3.0
14	N	35	ARG	3.0
1	A	224	C	3.0
19	S	4	SER	3.0
3	C	38	ARG	3.0
6	F	3	ARG	3.0
5	E	36	ASP	3.0
2	B	156	LYS	3.0
19	S	68	GLY	3.0
2	B	9	GLU	3.0
3	C	16	ARG	3.0
10	J	9	ARG	3.0
6	F	101	ALA	3.0
13	M	2	ALA	3.0
1	A	1412	C	3.0
9	I	14	VAL	3.0
20	T	99	LEU	2.9
4	D	137	SER	2.9
9	I	38	GLN	2.9
1	A	1277	C	2.9
19	S	31	ILE	2.9
3	C	127	ARG	2.9
9	I	126	SER	2.9
13	M	68	GLY	2.9
1	A	548	G	2.9
6	F	57	GLN	2.9
10	J	21	GLN	2.9
1	A	1159	U	2.9
1	A	1281	U	2.9
4	D	41	GLY	2.9
15	O	50	HIS	2.9
1	A	64	G	2.9
11	K	92	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	1478	C	2.9
7	G	72	ARG	2.9
15	O	17	ARG	2.9
14	N	8	GLU	2.9
4	D	170	VAL	2.9
6	F	97	PHE	2.9
19	S	74	PHE	2.9
20	T	86	ARG	2.9
1	A	413	G	2.9
1	A	1489	G	2.9
2	B	214	ILE	2.9
10	J	23	ILE	2.9
17	Q	96	GLN	2.8
13	M	35	GLU	2.8
4	D	161	ASN	2.8
10	J	93	GLY	2.8
11	K	122	LYS	2.8
12	L	124	LYS	2.8
1	A	546	G	2.8
1	A	1131	G	2.8
1	A	1414	U	2.8
1	A	74	C	2.8
4	D	73	ARG	2.8
5	E	8	GLU	2.8
6	F	2	ARG	2.8
9	I	12	GLU	2.8
13	M	85	GLY	2.8
21	V	19	GLY	2.8
21	V	24	ARG	2.8
1	A	977	A	2.8
1	A	83	U	2.8
18	R	60	GLY	2.8
3	C	59	ARG	2.8
5	E	87	SER	2.8
14	N	15	LYS	2.8
19	S	62	ILE	2.8
3	C	98	ASN	2.8
1	A	65	U	2.8
3	C	37	GLN	2.8
19	S	6	LYS	2.8
6	F	17	SER	2.8
19	S	63	THR	2.8

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Mol	Chain	Res	Type	RSRZ
9	I	112	LYS	2.7
12	L	29	GLY	2.7
12	L	72	GLY	2.7
12	L	121	GLY	2.7
1	A	324	G	2.7
5	E	5	ASP	2.7
5	E	25	ARG	2.7
13	M	55	ARG	2.7
15	O	68	ARG	2.7
19	S	29	ARG	2.7
10	J	34	VAL	2.7
20	T	20	LEU	2.7
14	N	19	ARG	2.7
1	A	1397	C	2.7
1	A	1331	G	2.7
14	N	30	ALA	2.7
3	C	8	ILE	2.7
19	S	10	PHE	2.7
5	E	68	GLU	2.7
5	E	145	LYS	2.7
1	A	769	G	2.7
9	I	4	TYR	2.7
16	P	73	LEU	2.7
4	D	125	HIS	2.7
7	G	97	GLN	2.6
3	C	49	SER	2.6
3	C	144	SER	2.6
13	M	51	ALA	2.6
19	S	60	VAL	2.6
13	M	99	ARG	2.6
15	O	48	LYS	2.6
3	C	2	GLY	2.6
3	C	166	GLU	2.6
7	G	139	GLU	2.6
18	R	24	ALA	2.6
12	L	13	LYS	2.6
17	Q	68	ARG	2.6
7	G	132	GLY	2.6
1	A	82	U	2.6
1	A	1000	U	2.6
4	D	145	GLU	2.6
1	A	197	A	2.6

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Mol	Chain	Res	Type	RSRZ
9	I	42	ARG	2.6
3	C	23	TYR	2.6
6	F	26	ILE	2.6
11	K	40	ILE	2.6
1	A	536	C	2.6
2	B	10	LEU	2.6
8	H	123	GLU	2.6
2	B	190	THR	2.6
19	S	32	LYS	2.6
19	S	38	SER	2.6
4	D	6	GLY	2.6
3	C	122	GLU	2.6
4	D	118	ARG	2.6
7	G	134	ALA	2.6
8	H	126	LYS	2.6
11	K	23	ALA	2.6
14	N	57	ARG	2.6
21	V	9	ARG	2.6
4	D	42	GLN	2.5
6	F	94	GLN	2.5
13	M	101	GLN	2.5
4	D	53	ASP	2.5
4	D	81	GLU	2.5
1	A	1260	C	2.5
8	H	127	LEU	2.5
12	L	62	SER	2.5
1	A	429	U	2.5
3	C	139	GLN	2.5
5	E	38	GLN	2.5
13	M	114	ARG	2.5
18	R	68	LYS	2.5
9	I	119	ALA	2.5
1	A	325	A	2.5
1	A	1133	G	2.5
1	A	1216	G	2.5
2	B	130	ARG	2.5
4	D	107	ARG	2.5
6	F	46	ARG	2.5
11	K	43	SER	2.5
10	J	54	PHE	2.5
3	C	193	TYR	2.5
5	E	63	ARG	2.5

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Mol	Chain	Res	Type	RSRZ
12	L	27	LEU	2.5
1	A	965	A	2.5
1	A	1417	G	2.5
6	F	53	ALA	2.5
1	A	985	C	2.5
1	A	1477	C	2.5
12	L	123	LYS	2.5
4	D	37	PRO	2.5
5	E	39	GLY	2.5
8	H	90	GLY	2.5
1	A	1183	A	2.4
5	E	84	PHE	2.4
2	B	8	LYS	2.4
4	D	25	ARG	2.4
5	E	40	ARG	2.4
1	A	1006	C	2.4
2	B	11	LEU	2.4
8	H	11	THR	2.4
2	B	89	GLY	2.4
7	G	66	VAL	2.4
9	I	65	VAL	2.4
2	B	147	LYS	2.4
7	G	115	ARG	2.4
18	R	88	LYS	2.4
21	V	10	ARG	2.4
9	I	123	PRO	2.4
9	I	6	GLY	2.4
19	S	44	MET	2.4
3	C	105	GLU	2.4
2	B	144	ARG	2.4
7	G	37	ASN	2.4
13	M	38	GLY	2.4
13	M	106	ASN	2.4
2	B	13	ALA	2.4
4	D	4	TYR	2.4
20	T	8	ARG	2.4
1	A	811	C	2.3
1	A	1411	C	2.3
15	O	89	GLY	2.3
4	D	151	LYS	2.3
8	H	45	ILE	2.3
11	K	11	LYS	2.3

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Mol	Chain	Res	Type	RSRZ
15	O	8	LYS	2.3
6	F	82	ARG	2.3
1	A	1276	G	2.3
9	I	56	LEU	2.3
20	T	51	GLU	2.3
9	I	70	LYS	2.3
5	E	37	ARG	2.3
11	K	28	THR	2.3
20	T	89	ARG	2.3
20	T	95	ALA	2.3
1	A	180	U	2.3
1	A	1125	U	2.3
2	B	141	GLU	2.3
1	A	78	G	2.3
1	A	791	G	2.3
1	A	798	G	2.3
1	A	1030(C)	G	2.3
18	R	49	LYS	2.3
7	G	55	GLY	2.3
12	L	127	GLU	2.3
2	B	131	PRO	2.3
19	S	35	SER	2.3
1	A	1022	G	2.3
4	D	38	TYR	2.3
11	K	111	ASP	2.3
11	K	123	LYS	2.3
11	K	14	VAL	2.3
20	T	25	ARG	2.3
1	A	1217	C	2.3
13	M	80	ARG	2.3
20	T	45	GLN	2.3
3	C	90	GLU	2.2
6	F	81	ILE	2.2
7	G	59	LEU	2.2
19	S	71	LEU	2.2
7	G	9	VAL	2.2
6	F	42	GLU	2.2
3	C	60	ALA	2.2
3	C	78	GLY	2.2
11	K	41	THR	2.2
1	A	992	U	2.2
6	F	28	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
6	F	63	TYR	2.2
1	A	964	A	2.2
7	G	135	VAL	2.2
3	C	136	GLN	2.2
7	G	34	GLY	2.2
17	Q	14	LYS	2.2
14	N	61	TRP	2.2
11	K	78	GLN	2.2
1	A	573	A	2.2
1	A	1491	G	2.2
13	M	67	GLU	2.2
19	S	43	GLU	2.2
13	M	13	LYS	2.2
17	Q	13	ASP	2.2
1	A	1113	C	2.2
4	D	45	GLN	2.2
10	J	4	ILE	2.2
13	M	58	GLU	2.2
1	A	1532	U	2.2
2	B	227	GLY	2.2
15	O	20	GLY	2.2
9	I	20	ARG	2.2
19	S	78	ARG	2.2
8	H	121	ASP	2.2
1	A	999	C	2.1
4	D	99	SER	2.1
12	L	57	LYS	2.1
2	B	137	ARG	2.1
12	L	59	ARG	2.1
19	S	21	GLU	2.1
5	E	26	PHE	2.1
1	A	1212	U	2.1
2	B	193	ASP	2.1
10	J	87	THR	2.1
10	J	100	THR	2.1
10	J	7	LYS	2.1
12	L	23	LYS	2.1
12	L	115	LYS	2.1
13	M	96	LEU	2.1
1	A	644	G	2.1
2	B	82	ARG	2.1
13	M	97	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
4	D	8	VAL	2.1
19	S	12	ASP	2.1
3	C	196	LEU	2.1
16	P	31	LYS	2.1
9	I	55	ALA	2.1
5	E	50	GLU	2.1
1	A	1441	G	2.1
1	A	1200	C	2.1
5	E	92	LYS	2.1
11	K	63	LEU	2.1
19	S	5	LEU	2.1
2	B	125	PRO	2.1
4	D	15	GLU	2.1
6	F	31	GLU	2.1
8	H	31	PHE	2.1
10	J	53	PRO	2.1
6	F	65	VAL	2.1
1	A	768	A	2.1
17	Q	38	ARG	2.1
7	G	45	ASP	2.1
16	P	29	ASP	2.1
4	D	9	CYS	2.1
9	I	64	THR	2.1
1	A	106	C	2.1
13	M	100	GLY	2.1
8	H	107	LEU	2.0
10	J	88	LEU	2.0
11	K	29	ILE	2.0
15	O	64	ARG	2.0
10	J	81	THR	2.0
4	D	130	GLY	2.0
8	H	44	PHE	2.0
10	J	77	PRO	2.0
13	M	31	LYS	2.0
15	O	26	GLU	2.0
1	A	795	C	2.0
1	A	1354	C	2.0
1	A	1370	G	2.0
3	C	126	ARG	2.0
21	V	15	ARG	2.0
4	D	158	ILE	2.0
8	H	4	ASP	2.0

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Mol	Chain	Res	Type	RSRZ
2	B	17	PHE	2.0
2	B	224	GLN	2.0
4	D	22	LYS	2.0
9	I	95	LYS	2.0
10	J	39	PRO	2.0
1	A	978	A	2.0
7	G	94	ARG	2.0
8	H	61	VAL	2.0
16	P	26	ARG	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 oligosaccharides in this entry.

6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
22	ZN	D	210	1/1	0.94	0.21	90,90,90,90	0
22	ZN	N	62	1/1	1.00	0.02	101,101,101,101	0

6.5 Other polymers [i](#)

There are no such residues in this entry.