



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 09:05 PM UTC

PDB ID : 5H1S / pdb_00005h1s
EMDB ID : EMD-9572
Title : Structure of the large subunit of the chloro-ribosome
Authors : Ahmed, T.; Yin, Z.; Bhushan, S.
Deposited on : 2016-10-11
Resolution : 3.50 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

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:

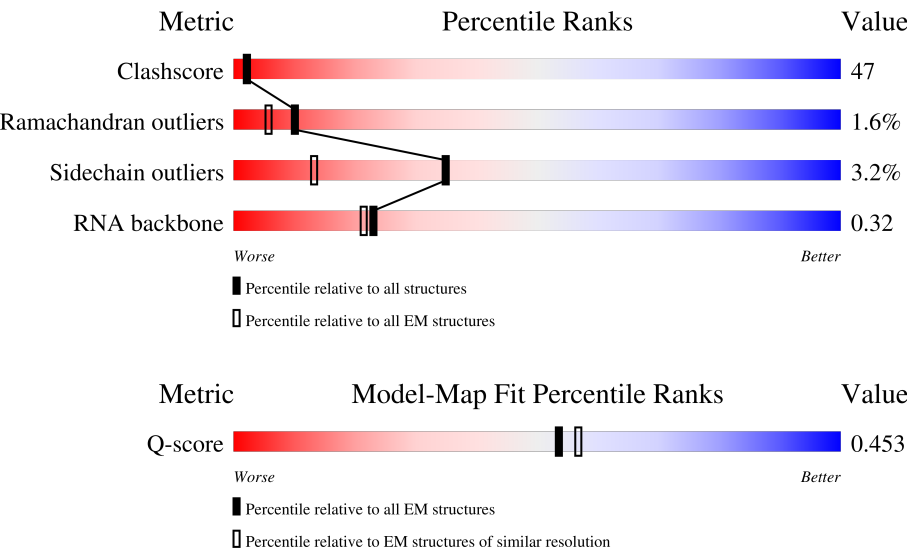
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 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.



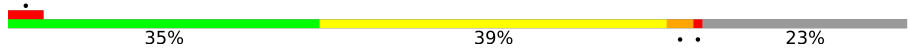
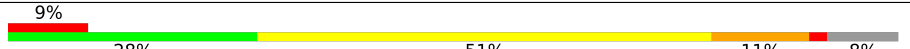
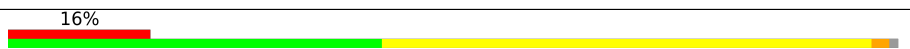
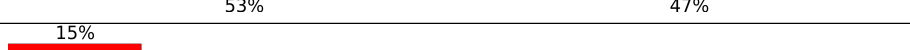
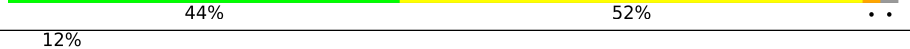
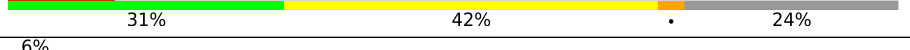
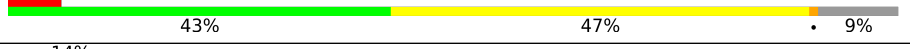
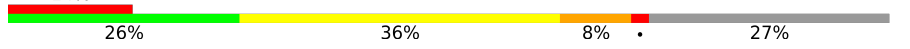
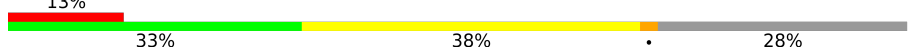
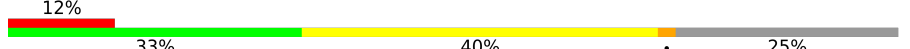
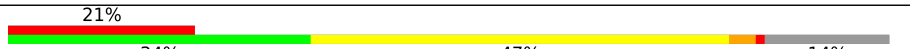
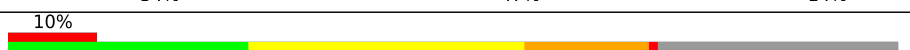
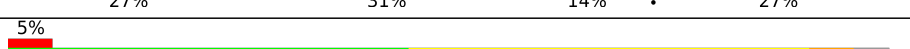
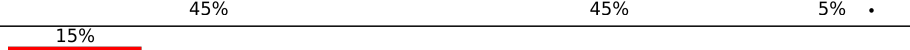
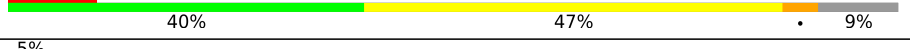
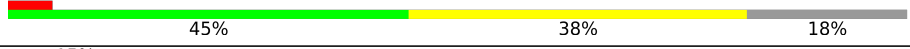
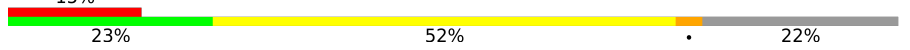
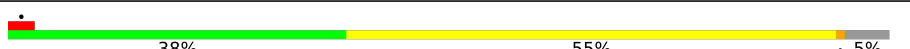
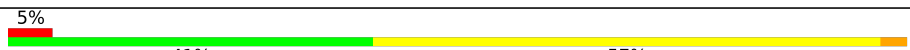
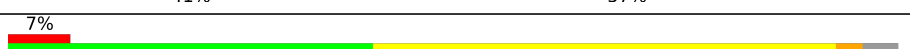
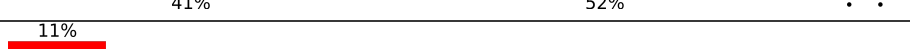
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	13950 (3.00 - 4.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	2810	11% 29% 44% 27%
2	C	106	6% 9% 48% 38% ••
3	B	121	• 12% 43% 41% •

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Mol	Chain	Length	Quality of chain
4	L	191	
5	M	121	
6	N	192	
7	O	135	
8	P	116	
9	Q	123	
10	R	156	
11	S	127	
12	T	201	
13	U	199	
14	V	122	
15	W	145	
16	X	137	
17	Y	77	
18	Z	109	
19	E	271	
20	b	56	
21	c	65	
22	d	60	
23	e	73	
24	f	37	
25	F	221	
26	G	243	
27	H	220	
28	I	182	

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Mol	Chain	Length	Quality of chain
29	J	155	26%18%14%66%
30	g	142	8%18%13%70%
31	a	94	39%12%26%60%
32	h	116	18%17%60%

2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 90825 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	2799	Total	C	N	O	P	0	0
			60117	26819	11134	19365	2799		

- Molecule 2 is a RNA chain called Spinach chloroplast 4.5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	102	Total	C	N	O	P	0	0
			2187	977	403	705	102		

- Molecule 3 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	B	117	Total	C	N	O	P	0	0
			2500	1116	452	815	117		

- Molecule 4 is a protein called 50S ribosomal protein L13, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	L	147	Total	C	N	O	S	0	0
			1184	754	225	202	3		

- Molecule 5 is a protein called 50S ribosomal protein L14, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	M	121	Total	C	N	O	S	0	0
			942	588	179	170	5		

- Molecule 6 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	N	177	Total	C	N	O	S	0	0
			1342	836	264	236	6		

- Molecule 7 is a protein called 50S ribosomal protein L16, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	O	134	Total	C	N	O	S	0	0
			1067	672	217	173	5		

- Molecule 8 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	P	116	Total	C	N	O	S	0	0
			944	592	193	155	4		

- Molecule 9 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	Q	120	Total	C	N	O	S	0	0
			947	589	183	170	5		

- Molecule 10 is a protein called 50S ribosomal protein L19, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	R	118	Total	C	N	O	S	0	0
			953	610	186	156	1		

- Molecule 11 is a protein called 50S ribosomal protein L20, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	S	115	Total	C	N	O	S	0	0
			996	633	208	153	2		

- Molecule 12 is a protein called 50S ribosomal protein L21, chloroplastic.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	T	147	Total	C	N	O	0	0
			1171	759	202	210		

- Molecule 13 is a protein called 50S ribosomal protein L22, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	U	144	Total	C	N	O	S	0	0
			1149	731	210	200	8		

- Molecule 14 is a protein called 50S ribosomal protein L23, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	V	92	Total	C	N	O	S	0	0
			740	477	129	132	2		

- Molecule 15 is a protein called 50S ribosomal protein L24, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	W	124	Total	C	N	O	S	0	0
			993	624	187	180	2		

- Molecule 16 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	X	100	Total	C	N	O	S	0	0
			810	511	159	140			

- Molecule 17 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Y	74	Total	C	N	O	S	0	0
			605	385	121	98	1		

- Molecule 18 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Z	90	Total	C	N	O	S	0	0
			754	470	150	131	3		

- Molecule 19 is a protein called 50S ribosomal protein L2, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	E	247	Total	C	N	O	S	0	0
			1904	1181	390	327	6		

- Molecule 20 is a protein called 50S ribosomal protein L32, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	b	46	Total	C	N	O	S	0	0
			378	250	70	58			

- Molecule 21 is a protein called 50S ribosomal protein L33, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	c	51	Total	C	N	O	S	0	0
			415	258	83	70	4		

- Molecule 22 is a protein called 50S ribosomal protein L34, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	d	57	Total	C	N	O	S	0	0
			445	268	103	71	3		

- Molecule 23 is a protein called 50S ribosomal protein L35, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	e	69	Total	C	N	O	S	0	0
			563	353	119	90	1		

- Molecule 24 is a protein called 50S ribosomal protein L36, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	f	37	Total	C	N	O	S	0	0
			304	186	70	44	4		

- Molecule 25 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	F	212	Total	C	N	O	S	0	0
			1620	1025	295	289	11		

- Molecule 26 is a protein called 50S ribosomal protein L4, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	G	210	Total	C	N	O	S	0	0
			1655	1052	308	292	3		

- Molecule 27 is a protein called 50S ribosomal protein L5, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	H	175	Total	C	N	O	S	0	0
			1351	862	233	248	8		

- Molecule 28 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	I	173	Total	C	N	O	S	0	0
			1353	855	249	245	4		

- Molecule 29 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	J	53	Total	C	N	O	S	0	0
			423	280	74	68	1		

- Molecule 30 is a protein called 50S ribosomal protein 5 alpha, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	g	43	Total	C	N	O	S	0	0
			345	218	65	59	3		

- Molecule 31 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	a	38	Total	C	N	O	S	0	0
			300	187	49	62	2		

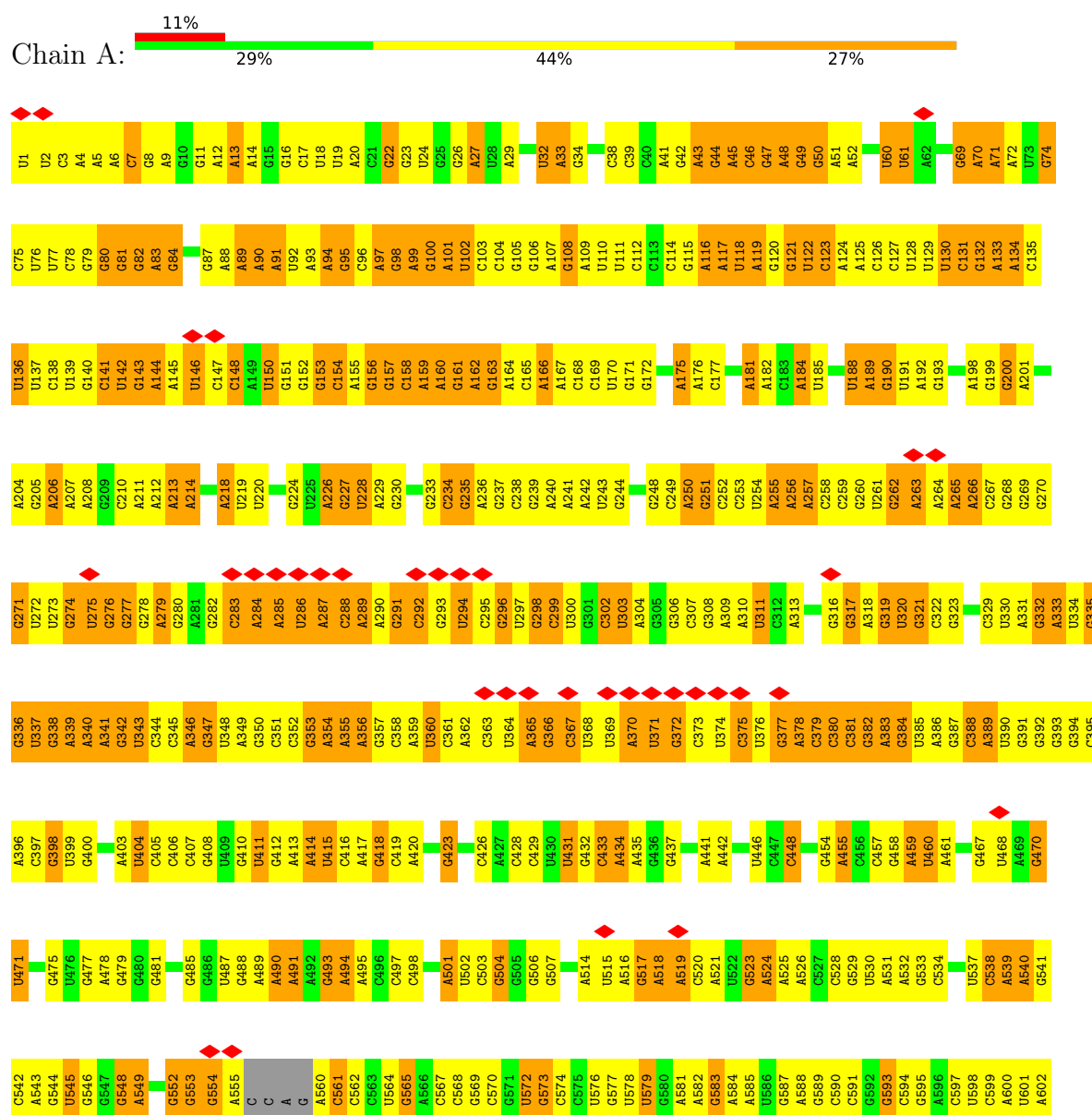
- Molecule 32 is a protein called 50S ribosomal protein 6, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	h	46	Total	C	N	O	S	0	0
			368	237	71	59	1		

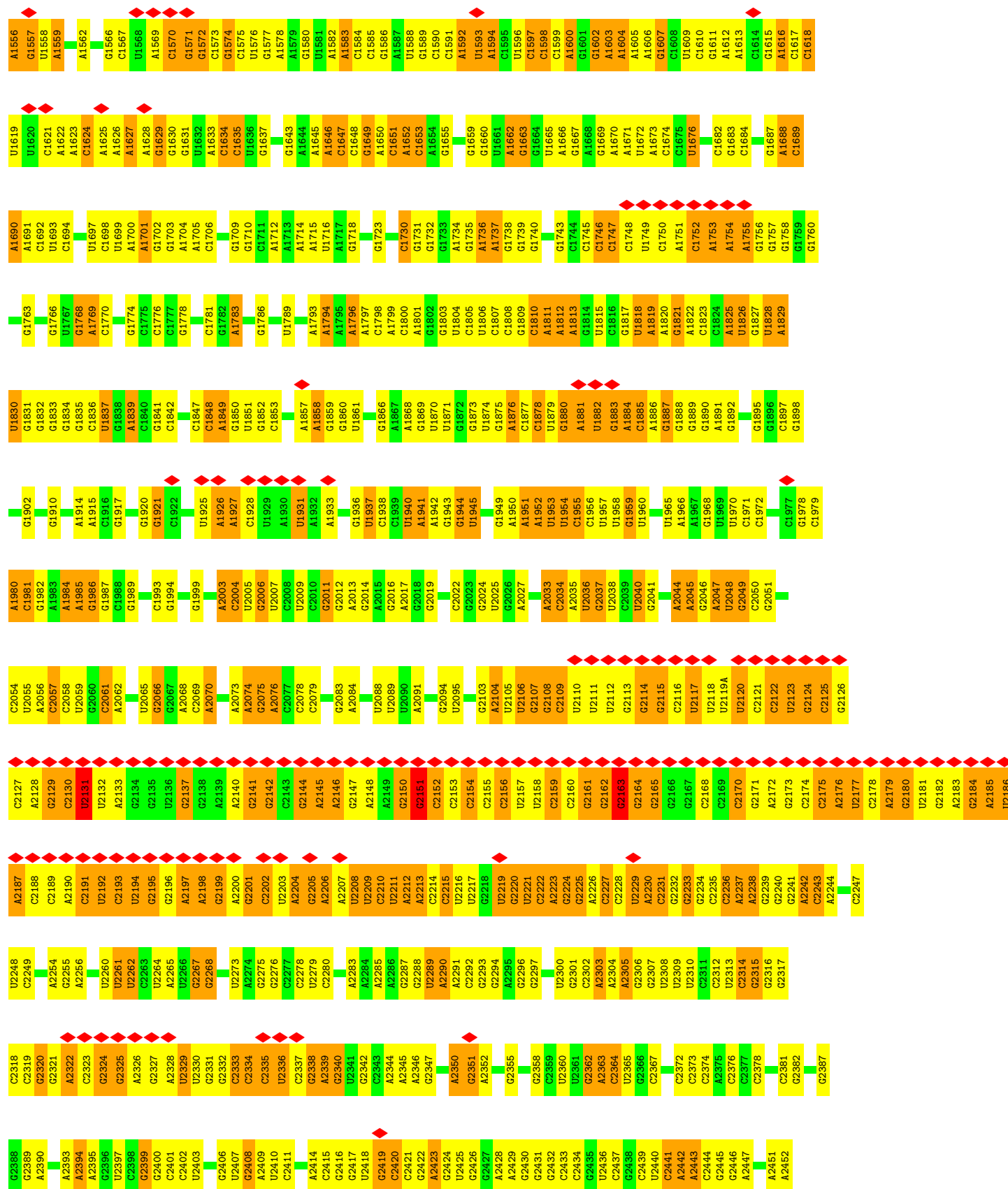
3 Residue-property plots

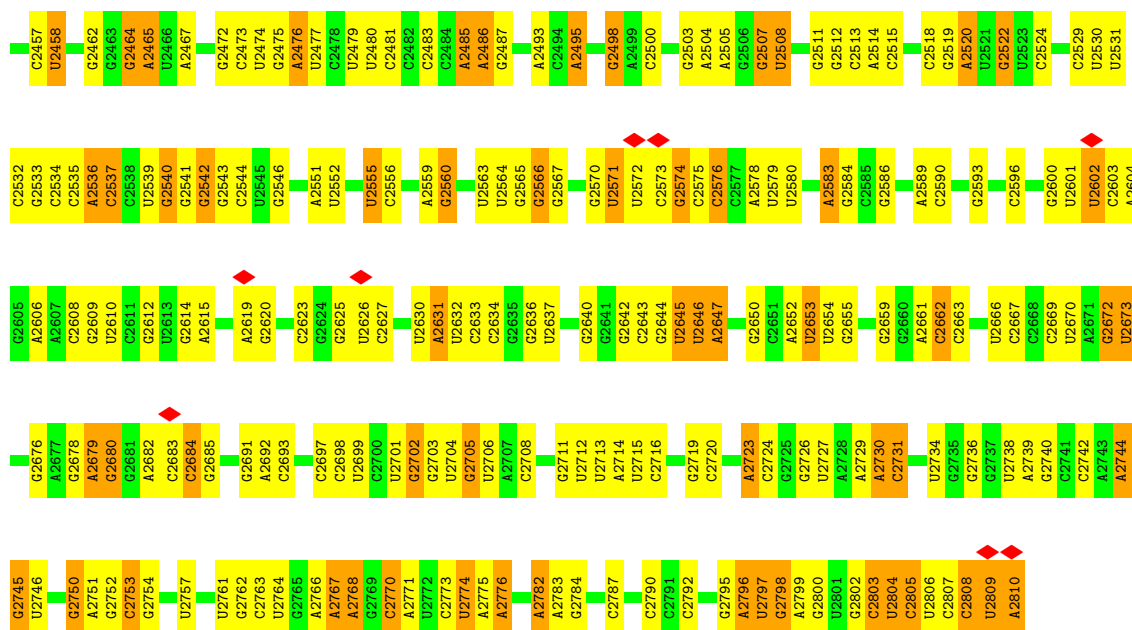
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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: 23S rRNA

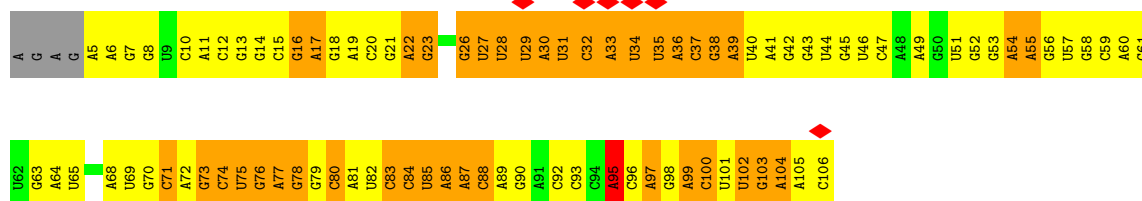


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A1497	C1429	C1341	A1268	G1194	A1131	C1071	A1008	C943	U881	A815	U735	U666	G604
G1498	C1430	C1342	G1269	U1195	C1132	A1072	A1009	C944	C882	G816	G736	G667	C805
G1499	C1431	A1196	G1270	A1196	U1133	G1073	C1010	A945	C883	C817	G737	U668	A606
U1500	U1432	A1343	G1271	A1197	U1134	A1074	C1011	A946	G884	G820	A738	C669	G607
G1501	U1433	G1344	A1272	A1198	U1135	G1075	G1012	A947	G885	U821	G739	U670	U608
A1502	G1434	G1345	G1273	A1199	A1136	A1076	C1013	U948	U886	U822	G740	C671	G609
C1503	U1435	U1346	A1274	A1200	C1137	A1078	G1016	U949	G887	U823	U741	U672	G610
C1504	U1436	C1347	A1275	A1201	G1138	G1079	G1017	A950	G888	C825	C747	G679	G611
C1505	G1437	G1349	A1202	A1202	A1139	C1080	A1018	A951	G889	U824	G748	G680	U612
U1506	G1438	C1350	C1203	C1203	C1141	A1082	C1020	A952	G890	C825	G749	A681	U613
U1507	G1443	C1351	A1204	G1207	G1142	G1083	U1019	G953	G891	G828	A750	G682	G614
U	A1444	C1352	A1208	U1207	C1143	A1084	A1022	G954	C892	A830	G751	C683	G615
U	A1448	A1353	G1208	G1208	C1144	G1085	C1023	G955	C893	A831	U758	G685	U616
U	C1449	U1361	U1209	U1209	U1144	A1086	A1024	U956	G894	A832	A760	A686	A619
U	G1450	G1362	G1285	A1210	C1145	G1087	G1025	U957	C895	G836	G762	C688	G620
U	U1451	C1366	G1287	G1211	U1146	U1088	A1028	U958	G896	U837	A761	C689	G621
C	A1452	U1219	U1220	U1219	G1150	U1089	A1029	A959	G897	U838	G763	C690	G622
A	G1454	U1220	U1220	U1220	G1153	U1090	G1030	A960	G898	U839	A764	U690	A623
G1515	G1457	U1224	U1224	U1224	A1154	G1091	C1031	G961	G899	A840	G765	G691	A624
G1516	C1458	G1225	G1225	G1225	A1155	C1092	C1032	G962	G900	G841	G766	G692	C625
G1517	U1459	U1226	U1226	U1226	G1156	C1093	C1033	G963	G901	G842	G767	G693	C626
U1518	A1460	U1227	U1227	U1227	A1157	C1094	C1034	G964	G902	G843	G768	C694	C627
A1519	G1461	G1231	G1231	G1231	U1158	U1094	U1035	G965	G903	G844	G769	C695	A628
A1520	U1462	A1232	A1232	A1232	G1159	G1096	A1037	G966	G904	G845	G770	C696	C629
A1522	U1463	G1233	G1233	G1233	A1160	U1098	A1038	G967	G905	A846	G771	C697	C630
A1523	U1464	A1234	A1234	A1234	C1161	A1098	A1039	G968	G906	G850	G772	A700	G631
A1524	A1465	A1235	A1235	A1235	G1162	G1099	A1040	G969	G907	U851	G773	A701	G632
G1524	G1466	G1306	G1306	G1306	G1163	U1099	U1041	G970	C908	U852	G774	C702	A633
G1525	C1467	A1236	A1236	A1236	G1164	A1098	A1042	G971	C909	U853	G775	A703	G634
G1526	C1468	G1237	G1237	G1237	U1165	G1099	C1043	G972	U900	U854	G776	A704	C635
U1527	G1469	G1238	G1238	G1238	G1166	C1100	C1044	G973	A901	G855	G777	A705	C636
U1528	A1470	C1239	C1239	C1239	C1167	C1101	G1045	A975	A909	U856	G778	G706	U637
A1529	G1471	G1240	G1240	G1240	U1168	A1101	G1046	G976	A910	G857	G779	G707	G638
G1530	C1472	U1241	U1241	U1241	A1169	G1102	C1047	G977	U911	G858	G780	G708	G640
A1531	A1473	A1170	A1170	A1170	C1171	C1103	U1048	G978	C912	U859	G781	A709	C641
G1532	G1398	G1171	G1171	G1171	C1172	C1104	A1049	G979	G913	A861	G782	G710	G642
A1533	A1399	C1172	C1172	C1172	U1173	C1105	G1050	G980	A914	U862	G783	G711	A643
A1534	U1400	G1174	G1174	G1174	U1175	C1106	U1051	G981	G915	U863	G784	G712	A644
A1535	G1401	G1175	G1175	G1175	C1176	C1107	G1052	G982	C917	C863	A717	G713	A645
A1536	C1404	U1176	U1176	U1176	U1177	C1108	U1053	G983	G918	U864	G718	G719	G648
U1537	C1405	C1317	C1317	C1317	C1178	C1109	U1054	G984	A919	U865	G720	C719	A649
G1538	A1406	G1318	G1318	G1318	U1179	U1110	A1055	U986	A920	G866	G721	U721	G650
C1539	A1407	G1320	G1320	G1320	C1180	U1111	A1056	A987	C921	G867	G722	G722	U651
C1540	A1408	A1321	A1321	A1321	G1181	G1112	A1057	A988	U922	G868	G723	G723	C652
U1541	A1413	G1322	G1322	G1322	U1182	G1113	U1058	G989	C923	U870	G724	G724	U653
C1542	G1483	A1323	A1323	A1323	A1183	A1112	A1060	C993	U924	A871	G725	G725	U654
G1543	U1484	G1257	G1257	G1257	G1184	A1113	G1061	A994	A927	G803	U726	U726	U657
U1485	U1485	A1258	A1258	A1258	C1185	A1114	G1062	G997	U928	A804	G727	G727	A658
U1486	C1487	C1259	C1259	C1259	U1186	G1115	U1063	U998	A929	G805	A728	A728	G659
G1487	U1487	G1260	G1260	G1260	G1187	A1116	G1065	U999	A932	C806	G729	G729	G660
C1488	A1488	A1261	A1261	A1261	U1188	G1117	G1066	G1000	G933	C807	A730	A730	G661
A1489	U1417	A1262	A1262	A1262	U1189	U1118	U1069	G1001	A934	A811	G731	G731	G662
C1425	C1425	C1263	C1263	C1263	G1189	U1119	U1069	G1002	U935	G812	C730	C730	A663
U1493	U1493	U1337	U1337	U1337	A1192	C1120	U1069	G1003	A936	C813	A732	A732	A664
G1494	G1494	C1264	C1264	C1264	G1192	G1121	U1069	G1004	U937	G812	A733	A733	
G1495	G1495	U1125	U1125	U1125	A1123	U1122	U1069	G1004	G938	C941			
		A1126	A1126	A1126	U1126	U1127	U1069	G1004	C941				
		G1127	G1127	G1127	U1127	U1128	U1069	G1004					
		U1128	U1128	U1128	U1128	U1129	U1069	G1004					
		U1129	U1129	U1129	U1129	U1130	U1069	G1004					
		U1130	U1130	U1130	U1130	U1131	U1069	G1004					
		U1131	U1131	U1131	U1131	U1132	U1069	G1004					
		U1132	U1132	U1132	U1132	U1133	U1069	G1004					
		U1133	U1133	U1133	U1133	U1134	U1069	G1004					
		U1134	U1134	U1134	U1134	U1135	U1069	G1004					
		U1135	U1135	U1135	U1135	U1136	U1069	G1004					
		U1136	U1136	U1136	U1136	U1137	U1069	G1004					
		U1137	U1137	U1137	U1137	U1138	U1069	G1004					
		U1138	U1138	U1138	U1138	U1139	U1069	G1004					
		U1139	U1139	U1139	U1139	U1140	U1069	G1004					
		U1140	U1140	U1140	U1140	U1141	U1069	G1004					
		U1141	U1141	U1141	U1141	U1142	U1069	G1004					
		U1142	U1142	U1142	U1142	U1143	U1069	G1004					
		U1143	U1143	U1143	U1143	U1144	U1069	G1004					
		U1144	U1144	U1144	U1144	U1145	U1069	G1004					
		U1145	U1145	U1145	U1145	U1146	U1069	G1004					
		U1146	U1146	U1146	U1146	U1147	U1069	G1004					
		U1147	U1147	U1147	U1147	U1148	U1069	G1004					
		U1148	U1148	U1148	U1148	U1149	U1069	G1004					
		U1149	U1149	U1149	U1149	U1150	U1069	G1004					
		U1150	U1150	U1150	U1150	U1151	U1069	G1004					
		U1151	U1151	U1151	U1151	U1152	U1069	G1004					
		U1152	U1152	U1152	U1152	U1153	U1069	G1004					
		U1153	U1153	U1153	U1153	U1154	U1069	G1004					
		U1154	U1154	U1154	U1154	U1155	U1069	G1004					
		U1155	U1155	U1155	U1155	U1156	U1069	G1004					
		U1156	U1156	U1156	U1156	U1157	U1069	G1004					
		U1157	U1157	U1157	U1157	U1158	U1069	G1004					
		U1158	U1158	U1158	U1158	U1159	U1069	G1004					
		U1159	U1159	U1159	U1159	U1160	U1069	G1004					
		U1160	U1160	U1160	U1160	U1161	U1069	G1004					
		U1161	U1161	U1161	U1161	U1162	U1069	G1004					
		U1162	U1162	U1162	U1162	U1163	U1069	G1004					
		U1163	U1163	U1163	U1163	U1164	U1069	G1004					
		U1164	U1164	U1164	U1164	U1165	U1069	G1004					
		U1165	U1165	U1165	U1165	U1166	U1069	G1004					
		U1166	U1166	U1166	U1166	U1167	U1069	G1004					
		U1167	U1167	U1167	U1167	U1168	U1069	G1004					
		U1168	U1168	U1168	U1168	U1169	U1069	G1004					
		U1169	U1169	U1169	U1169	U1170	U1069	G1004					
		U1170	U1170	U1170	U1170	U1171	U1069	G1004					
		U1171	U1171	U1171	U1171	U1172	U1069	G1004					
		U1172	U1172	U1172	U1172	U1173	U1069	G1004					
		U1173	U1173	U1173	U1173	U1174	U1069	G1004					

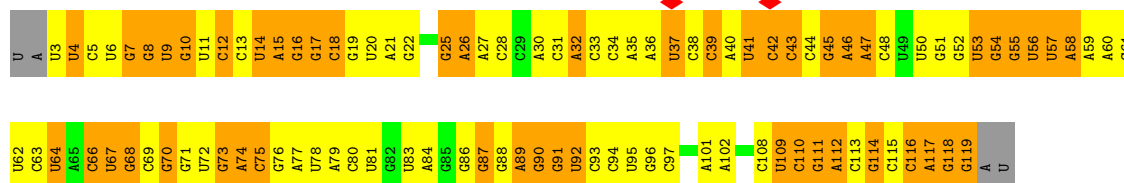




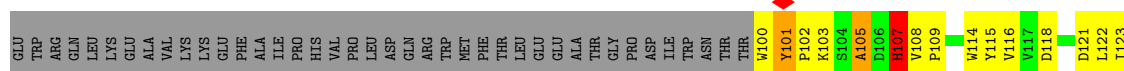
- Molecule 2: Spinach chloroplast 4.5S rRNA

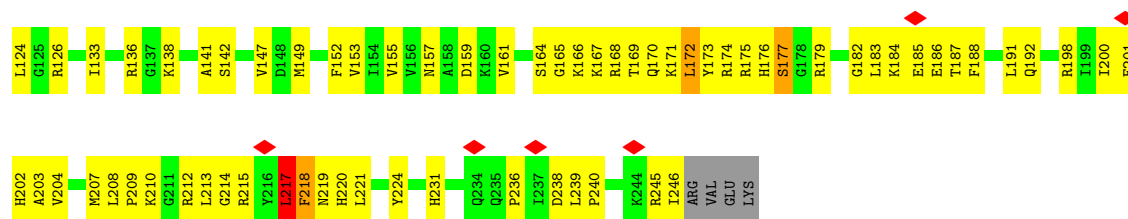


- Molecule 3: 5S rRNA

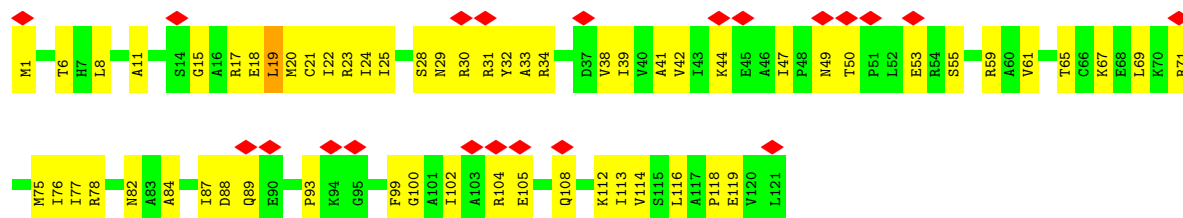


- Molecule 4: 50S ribosomal protein L13, chloroplastic

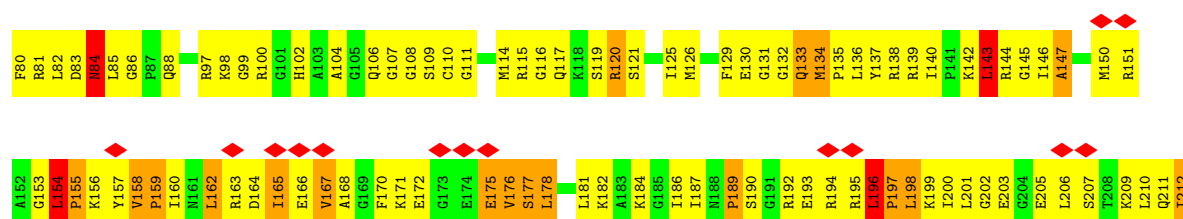




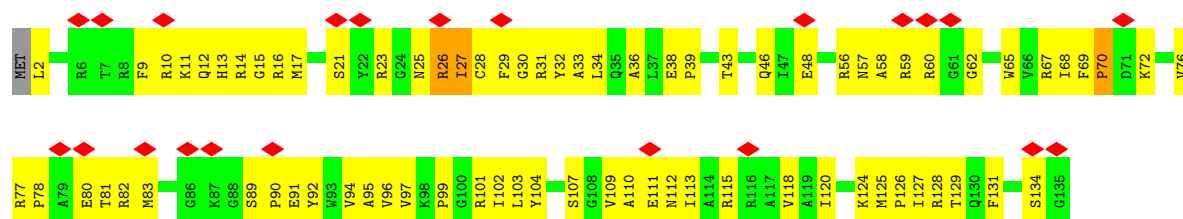
• Molecule 5: 50S ribosomal protein L14, chloroplastic



• Molecule 6: 50S ribosomal protein L15

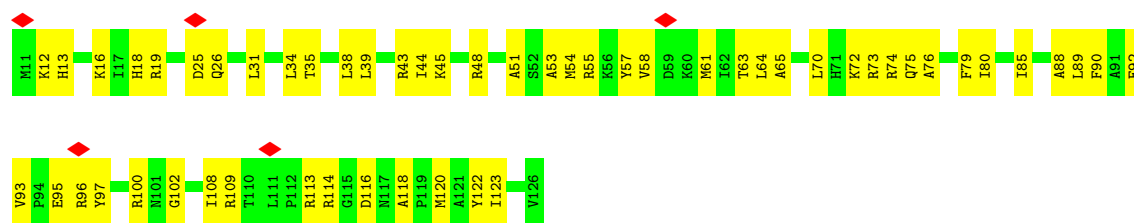


• Molecule 7: 50S ribosomal protein L16, chloroplastic

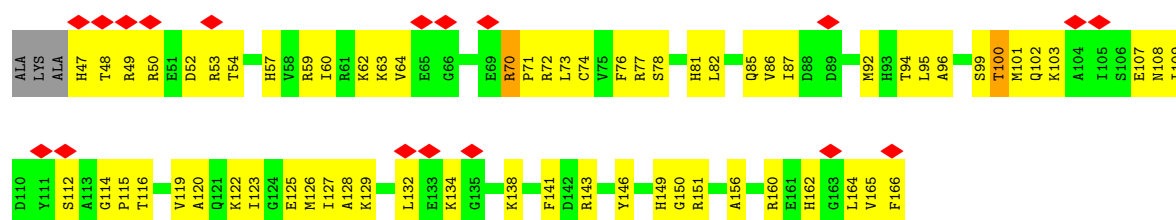
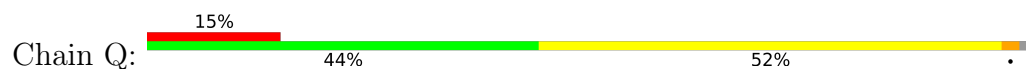


• Molecule 8: 50S ribosomal protein L17

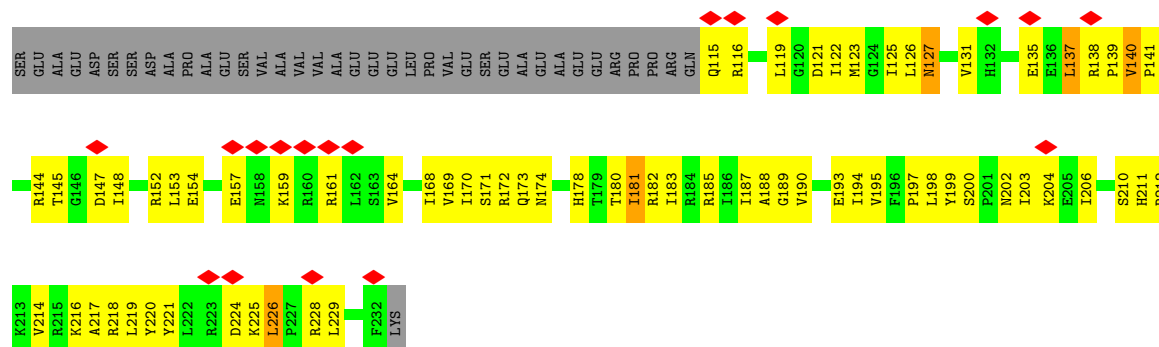




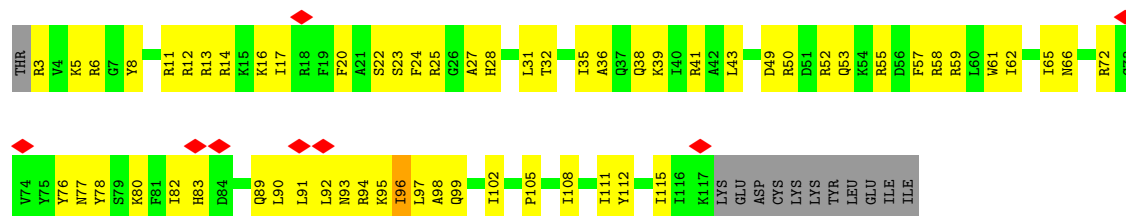
• Molecule 9: 50S ribosomal protein L18



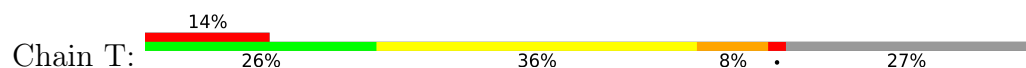
• Molecule 10: 50S ribosomal protein L19, chloroplastic

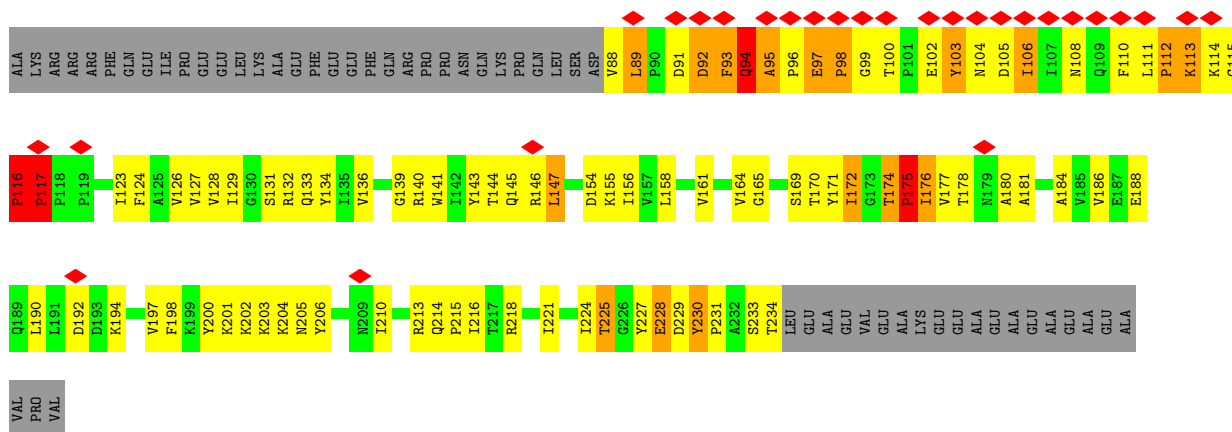


• Molecule 11: 50S ribosomal protein L20, chloroplastic

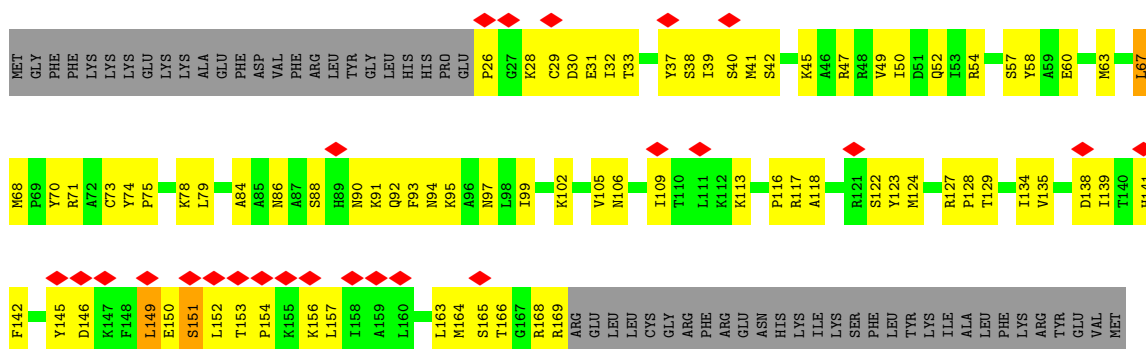


• Molecule 12: 50S ribosomal protein L21, chloroplastic

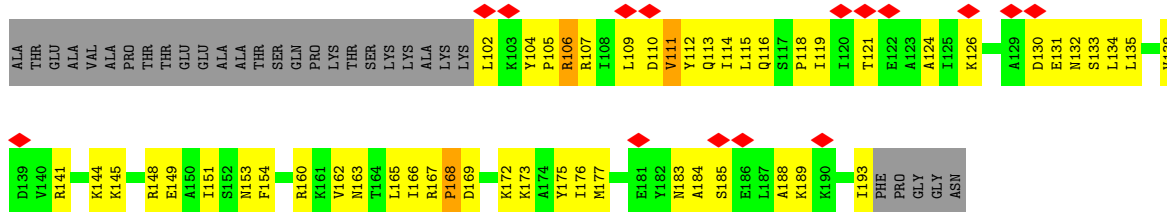




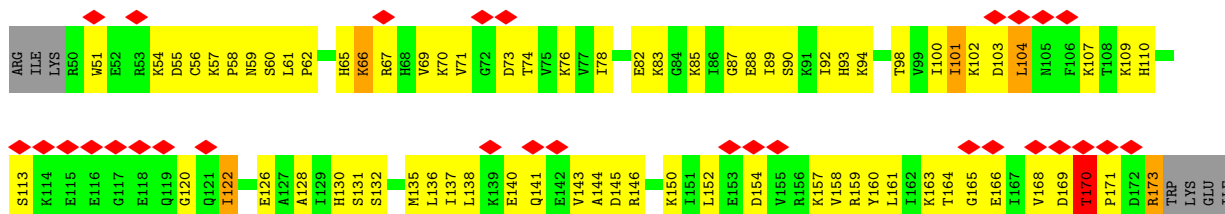
• Molecule 13: 50S ribosomal protein L22, chloroplastic



• Molecule 14: 50S ribosomal protein L23, chloroplastic



• Molecule 15: 50S ribosomal protein L24, chloroplastic



GLN
ASN
LYS
LYS
GLU
SER
GLU
THR
ALA
VAL
ALA
VAL
ALA
ALA

• Molecule 16: 50S ribosomal protein L27

Chain X: 10% 27% 31% 14% 27%

ALA HIS LYS LYS GLY ALA GLY THR
T66 K67 N68 G69 R70 D71 S72
G73 G74 G75 R76 L77 G78 V79
K80 K81 Q82 Y82 Q85 V86
A87 I93 I94 R97 G98
F101 H102 K111 D112
D120 G121 L122 V123
K124 F125 E126 K127
Y128 G129 P130 D131
K132 K133 K134 V135
S136 V137

Y138 P139 R140 E141 I142
Q143 P144 E145 N146
P147 N148 A152
R153 K154 R155
E156 N157 F158
R159 L160 Q161
R162 E163 K164
K165 LYS
ALA ARG ARG
GLU GLY TYR
SER PHE GLN
PRO GLN LEU
ILE LEU LEU
ALA SER
ALA VAL CYS

• Molecule 17: 50S ribosomal protein L28

Chain Y: 5% 45% 45% 5%

R72 R73 I74 C75 T78
G79 K80 K81 S82
N83 R87 N92
R153 K154 R155
E156 N157 F158
R159 L160 Q161
R162 E163 K164
K165 LYS
ALA ARG ARG
GLU GLY TYR
SER PHE GLN
PRO GLN LEU
ILE LEU LEU
ALA SER
ALA VAL CYS

R72 R73 I74 C75 T78
G79 K80 K81 S82
N83 R87 N92
R153 K154 R155
E156 N157 F158
R159 L160 Q161
R162 E163 K164
K165 LYS
ALA ARG ARG
GLU GLY TYR
SER PHE GLN
PRO GLN LEU
ILE LEU LEU
ALA SER
ALA VAL CYS

• Molecule 18: 50S ribosomal protein L29

Chain Z: 15% 36% 40% 6% 17%

LYS LYS D63 E64 L65 L68
T72 T73 E74 Q75
W77 L76 W77 E78
E79 L83 E86
L87 F88 M89
V101 V102 L103
K106 R107 R115
F116 V117 R120
L121 S122 T123
K124 A125 L126
L127 T128 I129
E130 K131 N132
G133 V137
A138 G142
I143 D144
L145 ARG
LYS GLU

LYS LYS D63 E64 L65 L68
T72 T73 E74 Q75
W77 L76 W77 E78
E79 L83 E86
L87 F88 M89
V101 V102 L103
K106 R107 R115
F116 V117 R120
L121 S122 T123
K124 A125 L126
L127 T128 I129
E130 K131 N132
G133 V137
A138 G142
I143 D144
L145 ARG
LYS GLU

• Molecule 19: 50S ribosomal protein L2, chloroplastic

Chain E: 10% 40% 47% 9%

ALA ILE HIS LEU TYR LYS THR
SER THR SER SER THR
ARG ASN GLY VAL
GLN VAL LYS SER
N23 P24 R25 N26
I29 S30 G31 Q32
C35 G36 K37
G38 R39 N40
A41 R42 G43
I44 I45 T46
A47 R48 H49
R50 K55
R56 L57
Y58 R59
K60 I61
D62 F63
R64 R65
N66

ALA ILE HIS LEU TYR LYS THR
SER THR SER SER THR
ARG ASN GLY VAL
GLN VAL LYS SER
N23 P24 R25 N26
I29 S30 G31 Q32
C35 G36 K37
G38 R39 N40
A41 R42 G43
I44 I45 T46
A47 R48 H49
R50 K55
R56 L57
Y58 R59
K60 I61
D62 F63
R64 R65
N66

E67 K68 D69 V75 T76 I77
D80 R83 N84
A85 Y86 I87
C88 L89 I90
H91 G95
E96 R97
R98 H102
P103 A106
V113
S114 G115
T116 E117
K121
M122 G123
N124 A125
L126 P127
T128 T129
D130 M131
P132 L133
G134 T135
A136 I137
H138 M139
I140 E141
I142 T143
L144

E67 K68 D69 V75 T76 I77
D80 R83 N84
A85 Y86 I87
C88 L89 I90
H91 G95
E96 R97
R98 H102
P103 A106
V113
S114 G115
T116 E117
K121
M122 G123
N124 A125
L126 P127
T128 T129
D130 M131
P132 L133
G134 T135
A136 I137
H138 M139
I140 E141
I142 T143
L144

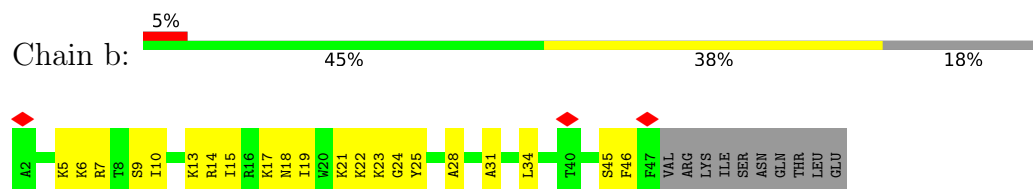
G145 R146 G147
G148 Q149
L150 A151
R152 A153
P227 G155
A156 V157
L160 I161
A162 K166
T169 L172
P173 S174
G175 E176
L179 I180
S181 K182
M183 C184
T187 Q190
V191 M197
Q198
K199 R200
L201 G202
R203 A204
G205 S206
W209
L210 G211
R212 K213
P214 V215
V216 T143
R217

G145 R146 G147
G148 Q149
L150 A151
R152 A153
P227 G155
A156 V157
L160 I161
A162 K166
T169 L172
P173 S174
G175 E176
L179 I180
S181 K182
M183 C184
T187 Q190
V191 M197
Q198
K199 R200
L201 G202
R203 A204
G205 S206
W209
L210 G211
R212 K213
P214 V215
V216 T143
R217

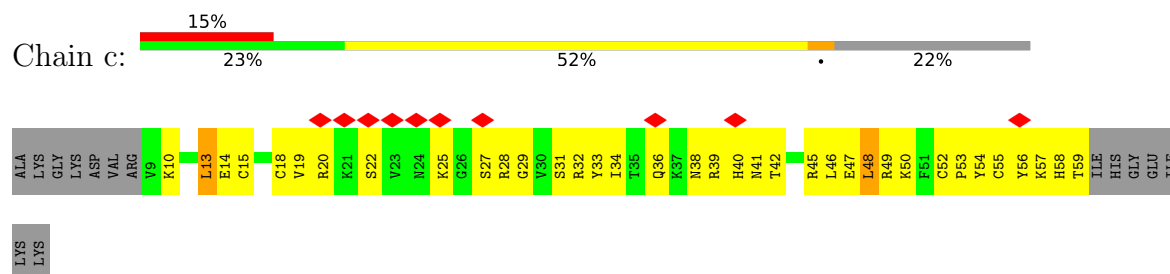
G218 V219
M220 V221
N222 P223
V224 H225
H226 P227
H228 G229
E232 P236
G238 R239
T243 T244
W246 G247
Y248 R253
R256 K257
R258 N259
K260 Y261
S262 D263
N264 F265
I266 I267
R268 R269
ARG
SER
LYS

G218 V219
M220 V221
N222 P223
V224 H225
H226 P227
H228 G229
E232 P236
G238 R239
T243 T244
W246 G247
Y248 R253
R256 K257
R258 N259
K260 Y261
S262 D263
N264 F265
I266 I267
R268 R269
ARG
SER
LYS

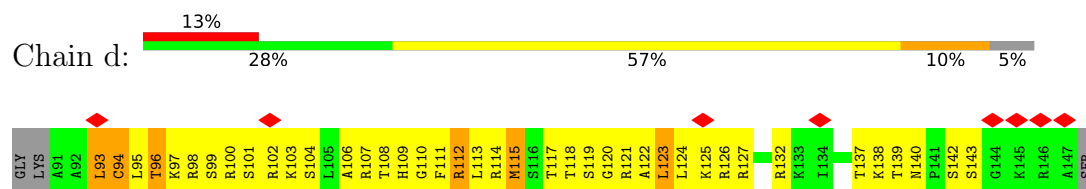
- Molecule 20: 50S ribosomal protein L32, chloroplastic



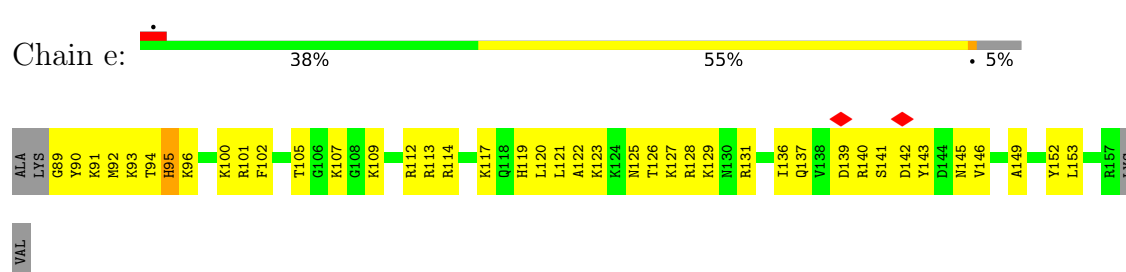
- Molecule 21: 50S ribosomal protein L33, chloroplastic



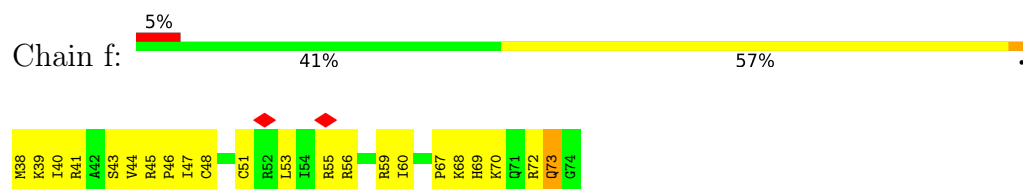
- Molecule 22: 50S ribosomal protein L34, chloroplastic



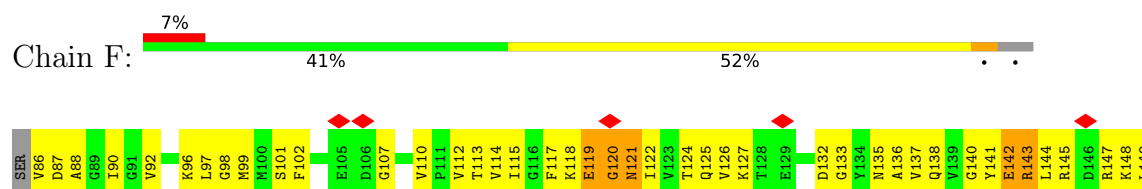
- Molecule 23: 50S ribosomal protein L35, chloroplastic

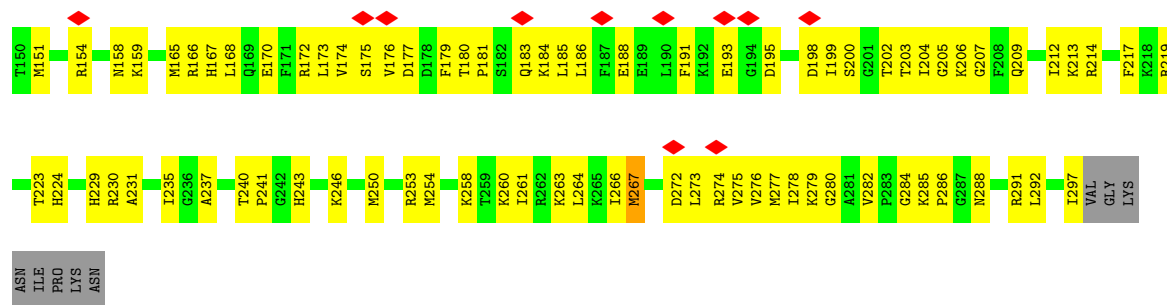


- Molecule 24: 50S ribosomal protein L36, chloroplastic

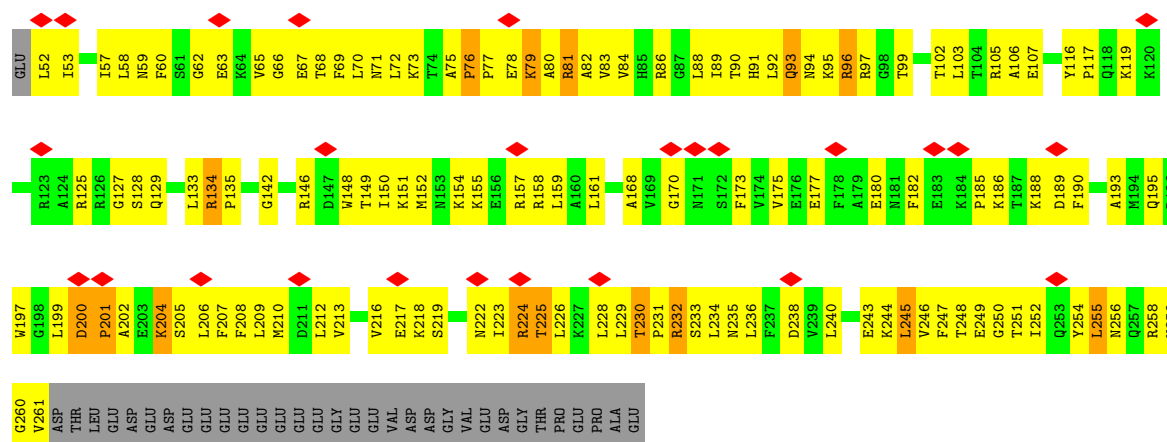


- Molecule 25: 50S ribosomal protein L3

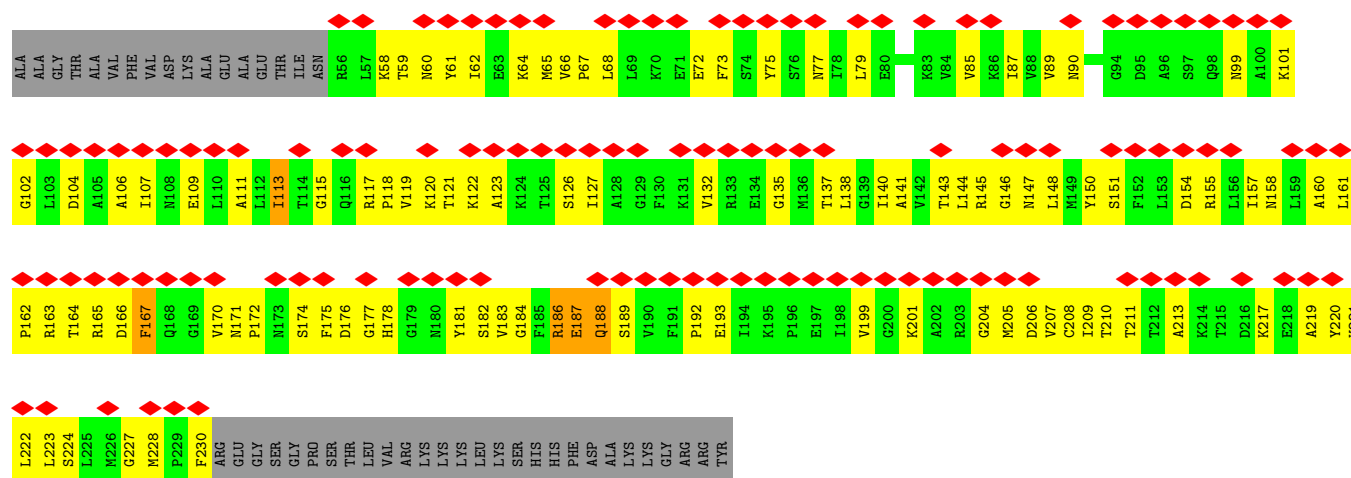




- Molecule 26: 50S ribosomal protein L4, chloroplastic

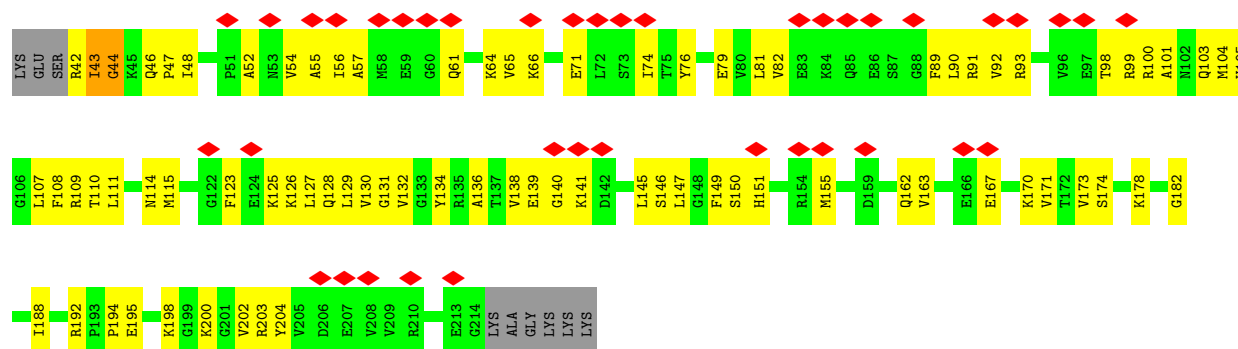


- Molecule 27: 50S ribosomal protein L5, chloroplastic

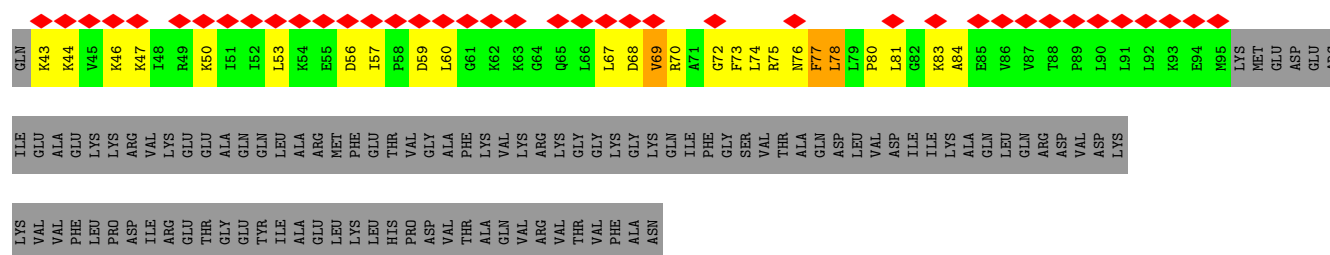


- Molecule 28: 50S ribosomal protein L6

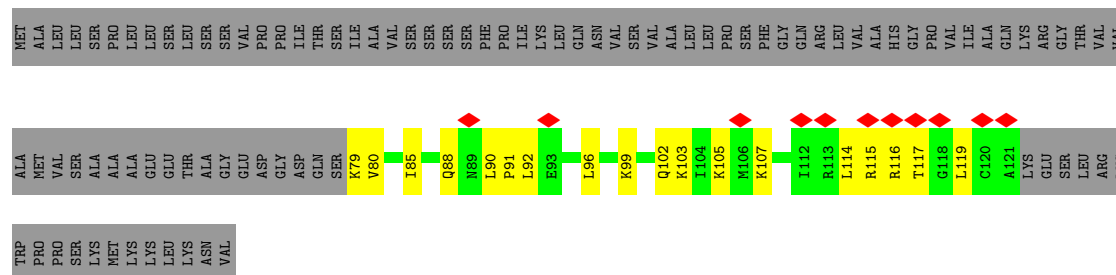




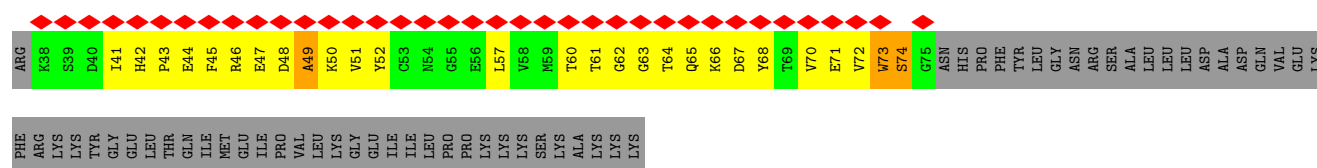
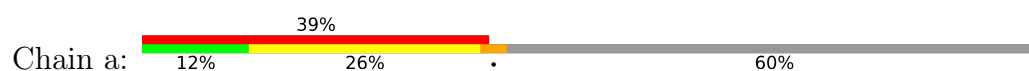
• Molecule 29: 50S ribosomal protein L9



• Molecule 30: 50S ribosomal protein 5 alpha, chloroplastic

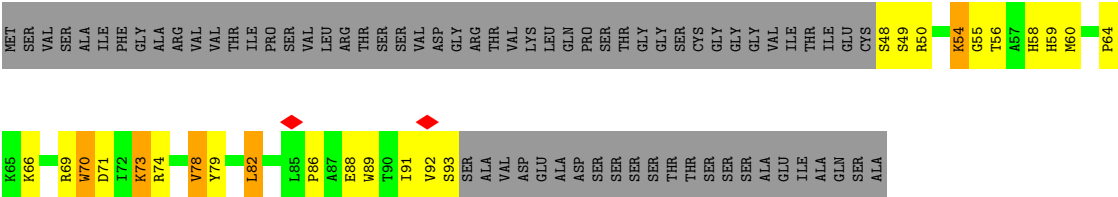


• Molecule 31: 50S ribosomal protein L31



• Molecule 32: 50S ribosomal protein 6, chloroplastic





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	174949	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TECNAI ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	26	Depositor
Minimum defocus (nm)	200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	109375	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.928	Depositor
Minimum map value	-0.585	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.028	Depositor
Recommended contour level	0.132	Depositor
Map size ($\text{\AA}$)	399.36, 399.36, 399.36	wwPDB
Map dimensions	312, 312, 312	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.28, 1.28, 1.28	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	0.41	19/67340 (0.0%)	0.49	1/105056 (0.0%)
2	C	1.19	6/2449 (0.2%)	0.60	0/3817
3	B	0.43	0/2796	0.58	0/4357
4	L	0.64	0/1212	0.78	4/1634 (0.2%)
5	M	0.56	0/951	0.68	2/1282 (0.2%)
6	N	0.51	0/1361	1.12	16/1806 (0.9%)
7	O	0.59	1/1089 (0.1%)	0.74	0/1461
8	P	0.62	0/959	0.75	0/1280
9	Q	0.48	0/963	0.70	1/1293 (0.1%)
10	R	0.59	0/967	0.93	2/1300 (0.2%)
11	S	0.72	0/1013	0.91	0/1351
12	T	0.73	0/1199	1.07	14/1633 (0.9%)
13	U	0.60	0/1168	0.88	2/1566 (0.1%)
14	V	0.51	0/749	0.72	0/1006
15	W	0.50	1/1006 (0.1%)	0.87	3/1343 (0.2%)
16	X	0.71	0/825	1.20	12/1099 (1.1%)
17	Y	0.64	0/615	0.83	0/819
18	Z	0.65	1/762 (0.1%)	1.08	8/1012 (0.8%)
19	E	0.61	0/1938	0.89	6/2603 (0.2%)
20	b	0.66	0/387	0.67	0/513
21	c	0.51	0/422	0.89	1/564 (0.2%)
22	d	0.57	0/447	0.91	2/588 (0.3%)
23	e	0.68	0/569	0.87	0/752
24	f	0.63	0/306	0.84	0/403
25	F	0.65	0/1646	0.78	2/2201 (0.1%)
26	G	0.63	0/1687	0.93	8/2271 (0.4%)
27	H	0.32	0/1372	0.61	0/1848
28	I	0.41	0/1374	0.64	1/1849 (0.1%)
29	J	0.29	0/427	0.71	1/568 (0.2%)
30	g	0.47	0/345	0.92	0/455
31	a	0.31	0/306	0.83	1/413 (0.2%)
32	h	0.67	0/382	1.03	6/520 (1.2%)
All	All	0.50	28/99032 (0.0%)	0.60	93/148663 (0.1%)

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
9	Q	0	1
10	R	0	1
11	S	0	3
13	U	0	1
19	E	0	3
24	f	0	1
25	F	0	1
26	G	0	2
27	H	0	1
32	h	0	2
All	All	0	16

All (28) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	95	A	C6-N1	24.88	1.85	1.35
2	C	95	A	N3-C4	23.03	1.80	1.34
2	C	95	A	C2-N3	21.28	1.76	1.33
2	C	95	A	N1-C2	21.17	1.76	1.34
2	C	95	A	C5-C6	19.24	1.79	1.41
2	C	95	A	C5-C4	17.81	1.74	1.38
1	A	2131	U	C1'-N1	6.78	1.57	1.47
1	A	2168	C	C1'-N1	6.78	1.58	1.48
1	A	2177	U	C1'-N1	6.73	1.58	1.48
1	A	2170	C	C1'-N1	6.60	1.58	1.48
18	Z	147	ARG	C-N	6.46	1.39	1.33
1	A	2155	C	C1'-N1	6.40	1.58	1.48
1	A	2158	U	C1'-N1	6.25	1.57	1.48
1	A	2145	A	C1'-N9	-6.22	1.38	1.48
1	A	2179	A	C1'-N9	-6.21	1.38	1.48
1	A	2156	C	C1'-N1	6.15	1.57	1.48
1	A	2154	C	C1'-N1	5.97	1.57	1.48
1	A	2144	G	C1'-N9	-5.87	1.39	1.48
1	A	2152	C	C1'-N1	5.86	1.57	1.48
1	A	2130	C	C1'-N1	5.83	1.57	1.48
7	O	76	VAL	C-N	-5.58	1.22	1.33
1	A	2146	A	C1'-N9	-5.56	1.39	1.48
1	A	2151	G	C1'-N9	-5.49	1.39	1.48
1	A	2165	G	C1'-N9	-5.29	1.40	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2163	G	C1'-N9	-5.28	1.40	1.48
1	A	2164	G	C1'-N9	-5.25	1.40	1.48
1	A	2180	G	C1'-N9	-5.13	1.40	1.48
15	W	170	THR	C-N	5.02	1.39	1.33

All (93) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	X	131	ASP	N-CA-C	9.62	121.85	111.36
6	N	196	LEU	C-N-CD	-8.82	88.83	125.00
16	X	132	LYS	N-CA-C	8.08	122.97	110.20
16	X	129	GLY	N-CA-C	-8.06	95.90	112.34
16	X	73	LYS	N-CA-C	7.98	120.06	111.36
18	Z	147	ARG	CA-C-N	-7.98	113.83	119.66
18	Z	147	ARG	C-N-CA	-7.98	113.83	119.66
16	X	133	LYS	N-CA-C	7.65	119.69	111.36
16	X	69	GLY	N-CA-C	7.46	122.09	112.54
12	T	116	PRO	C-N-CD	-7.36	94.82	125.00
18	Z	125	GLU	CA-C-N	7.31	130.07	120.28
18	Z	125	GLU	C-N-CA	7.31	130.07	120.28
16	X	148	ASN	N-CA-C	7.18	120.48	108.20
12	T	175	PRO	CA-N-CD	-7.12	102.03	112.00
6	N	154	LEU	C-N-CD	-7.07	96.03	125.00
22	d	96	THR	N-CA-C	6.99	118.98	111.36
32	h	50	ARG	CA-C-N	-6.62	113.96	120.52
32	h	50	ARG	C-N-CA	-6.62	113.96	120.52
6	N	158	VAL	N-CA-C	6.57	115.22	107.73
29	J	78	LEU	N-CA-C	6.50	118.44	111.36
13	U	145	TYR	N-CA-C	6.50	118.44	111.36
6	N	175	GLU	N-CA-C	6.29	118.14	111.28
16	X	72	SER	N-CA-C	6.27	119.33	110.23
25	F	120	GLY	N-CA-C	6.15	119.91	111.54
25	F	142	GLU	N-CA-C	6.11	118.06	110.91
18	Z	148	PRO	CA-C-N	-6.10	114.10	120.38
18	Z	148	PRO	C-N-CA	-6.10	114.10	120.38
16	X	129	GLY	CA-C-N	-6.10	112.63	118.97
16	X	129	GLY	C-N-CA	-6.10	112.63	118.97
15	W	170	THR	CA-C-N	-6.07	114.51	120.52
15	W	170	THR	C-N-CA	-6.07	114.51	120.52
18	Z	148	PRO	O-C-N	6.04	124.09	121.31
21	c	48	LEU	CA-CB-CG	-6.02	95.22	116.30
26	G	76	PRO	O-C-N	6.02	124.08	121.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	d	115	MET	N-CA-C	6.01	117.91	111.36
12	T	105	ASP	N-CA-C	5.97	117.78	111.28
5	M	49	ASN	CA-C-N	5.94	137.84	120.97
5	M	49	ASN	C-N-CA	5.94	137.84	120.97
6	N	196	LEU	N-CA-C	5.92	117.36	109.83
6	N	150	MET	N-CA-C	-5.88	104.87	111.28
19	E	247	GLY	N-CA-C	5.88	122.85	115.21
12	T	228	GLU	N-CA-C	5.86	117.67	111.28
6	N	134	MET	CA-C-N	-5.83	114.25	120.03
6	N	134	MET	C-N-CA	-5.83	114.25	120.03
15	W	122	ILE	N-CA-C	5.83	118.02	109.63
10	R	140	VAL	CA-C-N	-5.80	113.99	119.85
10	R	140	VAL	C-N-CA	-5.80	113.99	119.85
6	N	237	GLY	N-CA-C	5.72	120.09	112.77
19	E	265	PHE	N-CA-C	5.72	117.60	111.36
26	G	225	THR	N-CA-C	5.72	117.51	111.28
32	h	70	TRP	CA-CB-CG	-5.71	102.76	113.60
12	T	89	LEU	CA-C-N	-5.70	114.39	120.03
12	T	89	LEU	C-N-CA	-5.70	114.39	120.03
4	L	101	TYR	CA-C-N	-5.69	114.07	119.76
4	L	101	TYR	C-N-CA	-5.69	114.07	119.76
26	G	93	GLN	N-CA-C	-5.68	104.55	112.45
12	T	230	TYR	CA-C-N	-5.67	113.70	119.83
12	T	230	TYR	C-N-CA	-5.67	113.70	119.83
12	T	225	THR	N-CA-C	5.67	117.80	109.24
12	T	117	PRO	N-CA-C	5.64	117.58	110.70
4	L	177	SER	N-CA-C	-5.62	103.11	110.53
26	G	76	PRO	CA-C-N	-5.61	113.98	119.76
26	G	76	PRO	C-N-CA	-5.61	113.98	119.76
9	Q	100	THR	CA-C-O	5.59	127.29	119.80
6	N	104	ALA	N-CA-C	-5.58	105.20	111.28
6	N	164	ASP	N-CA-C	5.58	117.16	111.14
18	Z	124	ILE	N-CA-C	5.57	116.30	110.62
19	E	248	TYR	CA-C-N	-5.53	114.06	119.76
19	E	248	TYR	C-N-CA	-5.53	114.06	119.76
4	L	217	LEU	N-CA-C	5.53	117.39	111.36
19	E	244	THR	CA-C-N	-5.49	113.96	119.56
19	E	244	THR	C-N-CA	-5.49	113.96	119.56
13	U	146	ASP	N-CA-C	5.49	117.53	109.24
6	N	84	ASN	N-CA-C	5.49	117.26	111.28
32	h	54	LYS	N-CA-C	5.46	117.77	109.63
31	a	74	SER	N-CA-C	5.44	117.20	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	T	99	GLY	N-CA-C	-5.37	105.08	111.36
28	I	44	GLY	N-CA-C	-5.33	106.33	112.73
6	N	162	LEU	N-CA-C	-5.33	105.47	111.28
12	T	174	THR	N-CA-C	-5.30	102.47	109.84
26	G	224	ARG	N-CA-C	5.24	117.07	111.36
1	A	1287	G	C2'-C3'-O3'	5.21	117.32	109.50
12	T	178	THR	N-CA-C	5.18	117.75	110.23
16	X	134	LYS	N-CA-C	5.17	118.37	111.24
12	T	116	PRO	CA-N-CD	-5.13	104.81	112.00
6	N	133	GLN	N-CA-C	-5.11	103.65	110.55
6	N	86	GLY	CA-C-N	-5.06	114.14	120.51
6	N	86	GLY	C-N-CA	-5.06	114.14	120.51
32	h	78	VAL	CA-C-N	5.05	134.12	121.80
32	h	78	VAL	C-N-CA	5.05	134.12	121.80
26	G	134	ARG	CA-C-N	-5.05	113.84	120.96
26	G	134	ARG	C-N-CA	-5.05	113.84	120.96
16	X	152	ALA	N-CA-C	-5.02	105.88	111.36

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
19	E	150	LEU	Peptide
19	E	29	ILE	Peptide
19	E	41	ALA	Peptide
25	F	267	MET	Peptide
26	G	200	ASP	Peptide
26	G	204	LYS	Peptide
27	H	167	PHE	Peptide
9	Q	70	ARG	Peptide
10	R	190	VAL	Peptide
11	S	24	PHE	Peptide
11	S	82	ILE	Peptide
11	S	96	ILE	Peptide
13	U	90	ASN	Peptide
24	f	73	GLN	Peptide
32	h	73	LYS	Peptide
32	h	78	VAL	Peptide

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	60117	0	30254	4123	0
2	C	2187	0	1099	307	0
3	B	2500	0	1263	332	0
4	L	1184	0	1221	141	0
5	M	942	0	996	53	0
6	N	1342	0	1413	419	0
7	O	1067	0	1121	106	0
8	P	944	0	1004	74	0
9	Q	947	0	966	85	0
10	R	953	0	1044	84	0
11	S	996	0	1060	127	0
12	T	1171	0	1216	230	0
13	U	1149	0	1220	106	0
14	V	740	0	795	103	0
15	W	993	0	1054	133	0
16	X	810	0	847	188	0
17	Y	605	0	652	53	0
18	Z	754	0	804	100	0
19	E	1904	0	1982	224	0
20	b	378	0	413	32	0
21	c	415	0	434	55	0
22	d	445	0	501	72	0
23	e	563	0	621	68	0
24	f	304	0	342	45	0
25	F	1620	0	1699	182	0
26	G	1655	0	1723	244	0
27	H	1351	0	1407	165	0
28	I	1353	0	1416	91	0
29	J	423	0	488	40	0
30	g	345	0	395	30	0
31	a	300	0	279	114	0
32	h	368	0	386	55	0
All	All	90825	0	60115	6942	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 47.

All (6942) 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:2351:G:C4	9:Q:64:VAL:HG21	1.27	1.61
2:C:95:A:C5	2:C:95:A:C6	1.79	1.59
16:X:128:TYR:CB	16:X:134:LYS:CD	1.78	1.58
11:S:91:LEU:CD1	12:T:175:PRO:HB3	1.30	1.55
1:A:274:G:C6	1:A:433:C:C6	1.94	1.54
16:X:128:TYR:HB3	16:X:134:LYS:CG	1.33	1.52
2:C:95:A:C2	2:C:95:A:N1	1.76	1.51
12:T:171:TYR:CE2	12:T:231:PRO:HB3	1.40	1.51
2:C:95:A:C2	2:C:95:A:N3	1.76	1.51
12:T:170:THR:H	12:T:233:SER:CB	1.20	1.51
16:X:128:TYR:HB2	16:X:134:LYS:CD	1.05	1.50
1:A:2351:G:C4	9:Q:64:VAL:CG2	1.95	1.47
1:A:2213:A:N6	1:A:2241:G:H21	0.98	1.47
2:C:95:A:N3	2:C:95:A:C4	1.80	1.46
2:C:95:A:C6	2:C:95:A:N1	1.85	1.45
1:A:2033:A:N7	20:b:6:LYS:NZ	1.61	1.44
1:A:983:G:N2	7:O:82:ARG:CZ	1.80	1.43
10:R:123:MET:CE	25:F:97:LEU:O	1.64	1.43
1:A:983:G:N2	7:O:82:ARG:NH2	1.63	1.42
1:A:330:U:C2	26:G:218:LYS:HE2	1.52	1.42
31:a:48:ASP:HB2	31:a:68:TYR:N	1.26	1.42
1:A:133:A:N6	1:A:162:A:C2	1.77	1.41
31:a:48:ASP:HB2	31:a:67:ASP:C	1.43	1.41
1:A:135:C:C5	1:A:161:G:O6	1.74	1.41
1:A:2213:A:N6	1:A:2241:G:N2	1.66	1.41
1:A:274:G:O6	1:A:433:C:C3'	1.67	1.40
16:X:128:TYR:CB	16:X:134:LYS:CG	1.93	1.40
1:A:1527:G:N1	1:A:1539:C:N3	1.70	1.40
1:A:2279:U:OP2	16:X:73:LYS:CG	1.67	1.39
1:A:639:A:N6	6:N:201:LEU:HD13	1.34	1.38
1:A:2351:G:N9	9:Q:64:VAL:HG21	1.35	1.38
14:V:116:GLN:HA	18:Z:91:ARG:NH2	1.31	1.38
12:T:170:THR:N	12:T:233:SER:HB3	1.06	1.37
6:N:165:ILE:HG13	6:N:206:LEU:CA	1.45	1.37
2:C:30:A:N6	2:C:83:C:O2'	1.56	1.36
6:N:156:LYS:NZ	6:N:215:ARG:NH1	1.68	1.36
1:A:983:G:C2	7:O:82:ARG:NH2	1.92	1.36
1:A:1263:G:N2	6:N:83:ASP:OD2	1.58	1.35
1:A:2322:A:N3	27:H:186:ARG:NH1	1.74	1.35
6:N:81:ARG:NH1	26:G:243:GLU:HB2	1.39	1.35
1:A:44:G:N7	1:A:200:G:O2'	1.58	1.35

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:540:A:P	4:L:212:ARG:HH11	1.48	1.35
1:A:1002:G:H5'	12:T:201:LYS:NZ	1.38	1.35
3:B:41:U:C2'	3:B:46:A:H61	1.39	1.35
28:I:46:GLN:OE1	28:I:109:ARG:CG	1.71	1.35
6:N:159:PRO:HB3	6:N:187:ILE:CD1	1.54	1.34
31:a:48:ASP:CB	31:a:67:ASP:C	2.00	1.34
1:A:1236:A:N6	1:A:1253:G:H1	1.21	1.34
31:a:48:ASP:HB2	31:a:68:TYR:CA	1.54	1.34
27:H:162:PRO:CB	31:a:71:GLU:OE1	1.76	1.34
12:T:96:PRO:C	12:T:98:PRO:HD3	1.50	1.33
16:X:128:TYR:CB	16:X:134:LYS:HD3	1.44	1.33
14:V:109:LEU:CD1	14:V:141:ARG:O	1.75	1.33
1:A:1528:U:O2	1:A:1538:G:N2	1.61	1.33
12:T:169:SER:HB2	12:T:233:SER:OG	1.27	1.33
27:H:161:LEU:HD11	31:a:73:TRP:CE3	1.62	1.32
1:A:329:C:C2'	26:G:222:ASN:ND2	1.92	1.32
1:A:2213:A:C2	1:A:2214:C:C2	2.17	1.32
12:T:108:ASN:O	12:T:112:PRO:HD3	1.23	1.32
1:A:639:A:C6	6:N:201:LEU:HD13	1.62	1.32
1:A:111:U:OP2	18:Z:134:ARG:NH1	1.62	1.31
1:A:2113:G:H22	1:A:2204:A:N6	1.25	1.31
1:A:2495:A:OP2	24:f:39:LYS:CE	1.77	1.31
1:A:330:U:N3	26:G:218:LYS:NZ	1.76	1.31
1:A:355:A:C8	1:A:356:A:C8	2.19	1.30
14:V:109:LEU:HD11	14:V:141:ARG:O	1.23	1.30
1:A:82:G:OP2	15:W:157:LYS:CE	1.79	1.30
3:B:17:G:N2	3:B:70:G:H1'	1.47	1.30
1:A:234:C:C6	6:N:142:LYS:NZ	2.00	1.30
1:A:1751:A:C2	1:A:1753:A:C8	2.20	1.29
25:F:142:GLU:OE2	25:F:167:HIS:CE1	1.84	1.29
1:A:330:U:N3	26:G:218:LYS:CE	1.95	1.29
3:B:16:G:O6	3:B:111:G:C2	1.85	1.29
16:X:128:TYR:CB	16:X:134:LYS:HG3	1.54	1.29
31:a:48:ASP:CG	31:a:67:ASP:O	1.74	1.29
1:A:983:G:N2	7:O:82:ARG:NH1	1.78	1.29
1:A:2109:C:C5	1:A:2110:U:C2	2.20	1.28
11:S:91:LEU:CD1	12:T:175:PRO:CB	2.11	1.28
1:A:983:G:N3	7:O:82:ARG:NH2	1.81	1.28
1:A:1023:C:O2	4:L:102:PRO:HD3	1.13	1.28
31:a:48:ASP:OD2	31:a:67:ASP:N	1.66	1.27
1:A:2154:C:N3	1:A:2165:G:N2	1.82	1.26

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:330:U:O2	26:G:218:LYS:HE2	1.30	1.26
1:A:1169:A:OP1	4:L:245:ARG:NH2	1.67	1.26
1:A:2107:G:OP1	29:J:72:GLY:HA3	1.33	1.26
1:A:822:U:C5	1:A:1272:A:C2	2.23	1.26
27:H:162:PRO:CG	31:a:71:GLU:OE1	1.82	1.26
4:L:175:ARG:HH22	4:L:184:LYS:NZ	1.31	1.25
6:N:160:ILE:HG21	6:N:203:GLU:OE2	1.22	1.25
1:A:2120:U:O4	1:A:2197:A:N1	1.69	1.25
6:N:160:ILE:CG2	6:N:203:GLU:OE2	1.83	1.25
6:N:205:GLU:OE1	6:N:224:LYS:CD	1.82	1.25
1:A:279:A:N7	1:A:379:C:N4	1.83	1.25
1:A:1176:C:N4	32:h:70:TRP:CZ2	2.03	1.25
28:I:46:GLN:OE1	28:I:109:ARG:HG3	1.13	1.25
1:A:843:C:H4'	6:N:125:ILE:CD1	1.67	1.24
25:F:117:PHE:HA	25:F:141:TYR:OH	1.35	1.24
1:A:1830:U:C4	19:E:197:ASN:ND2	2.06	1.24
1:A:2124:G:N2	1:A:2194:U:O2	1.69	1.24
1:A:2303:A:H61	21:c:34:ILE:CD1	1.49	1.24
6:N:205:GLU:OE1	6:N:224:LYS:HD2	1.15	1.24
1:A:330:U:C2	26:G:218:LYS:CE	2.18	1.24
26:G:70:LEU:CD1	26:G:256:ASN:OD1	1.85	1.24
1:A:822:U:H2'	6:N:100:ARG:O	1.27	1.23
1:A:2116:C:N3	1:A:2201:G:N2	1.84	1.23
1:A:932:A:C4'	16:X:85:GLN:HE22	1.51	1.23
1:A:1176:C:N4	32:h:70:TRP:CH2	2.06	1.23
31:a:48:ASP:OD2	31:a:67:ASP:CA	1.87	1.23
1:A:1023:C:O2	4:L:102:PRO:CD	1.87	1.22
2:C:30:A:N1	2:C:83:C:H2'	1.53	1.22
1:A:981:G:OP2	7:O:16:ARG:HD3	1.34	1.22
31:a:48:ASP:OD2	31:a:67:ASP:C	1.82	1.22
1:A:274:G:N1	1:A:433:C:C5	2.08	1.22
1:A:540:A:OP1	4:L:212:ARG:NH1	1.71	1.22
22:d:107:ARG:O	22:d:113:LEU:CD2	1.87	1.22
1:A:279:A:N6	1:A:379:C:H42	1.38	1.22
1:A:329:C:O2	26:G:222:ASN:ND2	1.70	1.22
1:A:2011:G:O5'	25:F:219:ARG:NH2	1.73	1.22
10:R:123:MET:HE1	25:F:97:LEU:O	1.05	1.21
1:A:2322:A:C4	27:H:186:ARG:NH1	2.07	1.21
26:G:73:LYS:CA	26:G:261:VAL:O	1.88	1.21
16:X:126:GLU:O	16:X:133:LYS:O	1.57	1.21
1:A:1521:G:C8	1:A:1543:G:N2	2.09	1.20

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2322:A:N6	27:H:204:GLY:HA3	1.55	1.20
16:X:128:TYR:CE2	16:X:132:LYS:HB2	1.76	1.20
1:A:1211:G:C5'	6:N:111:GLY:HA2	1.71	1.20
27:H:162:PRO:HB2	31:a:71:GLU:OE1	1.39	1.20
1:A:2804:U:OP1	25:F:159:LYS:HG3	1.39	1.20
1:A:1196:A:N6	1:A:1201:A:H61	1.38	1.20
1:A:1023:C:N3	4:L:102:PRO:HD2	1.57	1.19
1:A:2213:A:C5	1:A:2242:A:N1	2.09	1.19
12:T:171:TYR:HD2	12:T:231:PRO:HA	1.06	1.19
22:d:107:ARG:O	22:d:113:LEU:HD22	1.40	1.19
1:A:1224:U:H1'	6:N:83:ASP:OD1	1.38	1.19
1:A:1499:G:N2	1:A:1546:C:N3	1.89	1.19
1:A:2233:G:H2'	1:A:2234:G:C8	1.76	1.19
28:I:48:ILE:HG12	28:I:90:LEU:O	1.37	1.19
1:A:913:G:H2'	1:A:914:A:H8	1.04	1.19
6:N:159:PRO:CD	6:N:199:LYS:O	1.92	1.18
1:A:1211:G:H5''	6:N:111:GLY:CA	1.73	1.18
1:A:1751:A:H2	1:A:1753:A:C8	1.57	1.18
1:A:60:U:O2'	18:Z:94:ARG:NH1	1.74	1.18
1:A:881:U:O2	1:A:915:G:N2	1.76	1.18
1:A:1532:G:N2	1:A:1611:G:N3	1.90	1.18
6:N:137:TYR:O	23:e:101:ARG:NH2	1.75	1.18
1:A:384:G:O2'	1:A:412:G:O6	1.60	1.18
1:A:888:C:N4	1:A:908:A:H2	1.42	1.18
1:A:2684:C:H5	28:I:150:SER:HB3	1.06	1.18
1:A:79:G:O2'	1:A:355:A:C2	1.95	1.17
1:A:2121:C:N4	1:A:2196:G:N2	1.93	1.17
1:A:236:A:OP1	23:e:95:HIS:HE1	1.26	1.17
6:N:159:PRO:CB	6:N:187:ILE:HD11	1.74	1.17
26:G:70:LEU:HD12	26:G:256:ASN:OD1	1.40	1.17
26:G:73:LYS:HA	26:G:261:VAL:O	1.41	1.17
6:N:136:LEU:HD12	23:e:142:ASP:CB	1.73	1.16
1:A:1196:A:H61	1:A:1201:A:N6	1.41	1.16
6:N:136:LEU:HD12	23:e:142:ASP:HB3	1.23	1.16
29:J:76:ASN:O	29:J:80:PRO:HD2	1.42	1.16
31:a:48:ASP:CG	31:a:67:ASP:C	2.13	1.16
1:A:2075:G:OP2	26:G:119:LYS:CE	1.93	1.16
1:A:2684:C:C5	28:I:150:SER:HB3	1.81	1.16
16:X:128:TYR:CD2	16:X:132:LYS:HB2	1.78	1.16
1:A:1159:G:C5	4:L:176:HIS:CE1	2.34	1.16
1:A:2129:G:O2'	1:A:2180:G:N2	1.78	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2767:A:OP2	28:I:42:ARG:O	1.64	1.16
1:A:329:C:H2'	26:G:222:ASN:ND2	1.56	1.15
1:A:1521:G:N2	1:A:1544:A:N1	1.94	1.15
1:A:236:A:OP1	23:e:95:HIS:CE1	1.99	1.15
1:A:279:A:N7	1:A:379:C:C4	2.14	1.15
1:A:609:G:H5''	26:G:79:LYS:HD2	1.23	1.15
1:A:2156:C:O2	1:A:2164:G:N2	1.79	1.15
6:N:165:ILE:HG21	6:N:205:GLU:O	1.46	1.15
1:A:49:G:O2'	18:Z:130:LYS:HD2	1.45	1.15
1:A:93:A:O2'	18:Z:102:PRO:CG	1.93	1.15
1:A:2279:U:OP2	16:X:73:LYS:HG3	0.99	1.15
3:B:6:U:C2	3:B:118:G:N2	2.15	1.15
3:B:91:G:H22	7:O:38:GLU:CG	1.59	1.15
1:A:93:A:O2'	18:Z:102:PRO:HG2	0.99	1.14
1:A:624:A:C4	1:A:625:C:C5	2.34	1.14
1:A:853:G:O6	1:A:965:G:O6	1.65	1.14
1:A:2351:G:C5	9:Q:64:VAL:CG2	2.27	1.14
3:B:17:G:H22	3:B:70:G:C1'	1.58	1.14
2:C:77:A:H1'	8:P:16:LYS:HB2	1.17	1.14
3:B:35:A:C2	3:B:51:G:C2	2.35	1.14
1:A:75:C:OP1	18:Z:110:LYS:NZ	1.81	1.14
1:A:290:A:H2'	1:A:291:G:H8	1.11	1.14
1:A:384:G:OP2	17:Y:131:LYS:HE3	1.47	1.14
1:A:1002:G:C5'	12:T:201:LYS:NZ	2.08	1.14
1:A:1159:G:C4	4:L:176:HIS:CE1	2.36	1.14
1:A:1596:U:C2'	1:A:1597:C:H5'	1.77	1.14
1:A:1159:G:C5	4:L:176:HIS:HE1	1.66	1.14
14:V:116:GLN:CA	18:Z:91:ARG:HH22	1.60	1.14
1:A:135:C:H5	1:A:161:G:O6	1.15	1.14
2:C:104:A:C2	2:C:105:A:C5	2.36	1.13
31:a:48:ASP:CA	31:a:68:TYR:HD1	1.61	1.13
1:A:355:A:H2'	1:A:356:A:H5'	1.23	1.13
1:A:274:G:C2	1:A:433:C:C5	2.35	1.13
1:A:368:U:C2	1:A:369:U:C5	2.37	1.13
1:A:2798:G:C6	4:L:201:GLU:OE2	2.01	1.13
1:A:2798:G:O6	4:L:201:GLU:OE2	1.66	1.13
6:N:81:ARG:NH1	26:G:243:GLU:CB	2.10	1.13
1:A:83:A:N6	1:A:98:G:N7	1.96	1.13
1:A:2095:U:OP1	17:Y:87:ARG:NH1	1.79	1.13
25:F:144:LEU:HD11	25:F:166:ARG:CZ	1.77	1.12
6:N:162:LEU:CD1	6:N:203:GLU:OE1	1.98	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:T:108:ASN:O	12:T:112:PRO:CD	1.97	1.12
1:A:289:A:H2'	1:A:290:A:H8	1.10	1.12
1:A:381:C:O2	1:A:416:C:C5	2.03	1.12
1:A:1507:G:N2	1:A:1515:G:OP2	1.81	1.12
1:A:2109:C:H5	1:A:2110:U:C2	1.61	1.12
1:A:48:A:N1	1:A:162:A:N7	1.66	1.12
1:A:857:G:N2	1:A:961:G:C4	2.16	1.12
1:A:1525:G:N2	1:A:1541:U:C2	2.16	1.12
1:A:609:G:H5''	26:G:79:LYS:CD	1.79	1.12
1:A:740:G:O6	19:E:204:ALA:HB3	1.50	1.12
1:A:234:C:C5	6:N:142:LYS:NZ	2.18	1.11
6:N:159:PRO:HD2	6:N:199:LYS:O	1.41	1.11
14:V:114:ILE:HG23	14:V:115:LEU:HD12	1.31	1.11
15:W:59:ASN:O	15:W:60:SER:OG	1.66	1.11
31:a:48:ASP:CA	31:a:68:TYR:HA	1.80	1.11
1:A:1475:U:H1'	8:P:70:LEU:CD1	1.81	1.11
27:H:161:LEU:CD1	31:a:73:TRP:CE3	2.32	1.11
6:N:202:GLY:N	6:N:221:ALA:HB2	1.63	1.11
28:I:48:ILE:HD11	28:I:109:ARG:NH2	1.65	1.11
1:A:276:G:N2	1:A:416:C:O2'	1.82	1.11
1:A:1811:A:OP1	19:E:146:ARG:NH2	1.82	1.11
28:I:48:ILE:HD11	28:I:109:ARG:HH21	0.94	1.11
1:A:133:A:N6	1:A:162:A:N1	1.98	1.10
1:A:2279:U:OP2	16:X:73:LYS:CB	1.99	1.10
3:B:92:U:OP2	7:O:16:ARG:NH2	1.84	1.10
31:a:48:ASP:HA	31:a:68:TYR:CD1	1.86	1.10
1:A:313:A:C2	1:A:323:G:N1	2.20	1.10
1:A:356:A:H2'	1:A:357:G:H8	1.16	1.10
1:A:1002:G:C5'	12:T:201:LYS:HZ1	1.63	1.10
1:A:2113:G:N2	1:A:2204:A:N1	1.97	1.10
1:A:2303:A:H61	21:c:34:ILE:HD13	1.04	1.10
3:B:16:G:O6	3:B:111:G:N3	1.83	1.10
3:B:91:G:N1	7:O:38:GLU:OE2	1.84	1.10
1:A:140:G:C6	1:A:155:A:N1	2.18	1.10
1:A:857:G:N2	1:A:961:G:N3	1.98	1.10
1:A:1885:C:N4	6:N:253:ALA:HB2	1.66	1.10
6:N:202:GLY:HA2	6:N:221:ALA:CA	1.81	1.10
1:A:279:A:H62	1:A:379:C:N4	1.50	1.10
26:G:193:ALA:O	26:G:197:TRP:HB2	1.48	1.10
19:E:237:ILE:HD11	19:E:239:ARG:HB2	1.15	1.10
31:a:48:ASP:CB	31:a:68:TYR:HA	1.80	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:639:A:C5	6:N:201:LEU:CD1	2.35	1.09
6:N:143:LEU:HG	6:N:146:ILE:HD11	1.13	1.09
1:A:1702:G:O2'	5:M:6:THR:HG22	1.50	1.09
6:N:162:LEU:HD12	6:N:203:GLU:OE1	1.52	1.09
14:V:104:TYR:HD1	18:Z:142:ARG:HD2	1.05	1.09
1:A:2107:G:OP1	29:J:72:GLY:CA	1.99	1.09
6:N:200:ILE:HD11	6:N:212:ILE:HG21	1.34	1.09
6:N:202:GLY:CA	6:N:221:ALA:HB2	1.83	1.09
12:T:171:TYR:CE2	12:T:231:PRO:CB	2.34	1.09
1:A:857:G:N3	1:A:961:G:C2	2.21	1.09
1:A:903:G:H2'	1:A:904:U:H5''	1.31	1.09
1:A:1885:C:C4	6:N:253:ALA:HB2	1.88	1.09
1:A:2211:U:C5	1:A:2241:G:C6	2.39	1.09
6:N:156:LYS:HZ1	6:N:215:ARG:NH1	1.30	1.09
1:A:368:U:C2	1:A:369:U:H5	1.71	1.09
2:C:36:A:H2	25:F:274:ARG:CZ	1.65	1.09
11:S:91:LEU:HD11	12:T:175:PRO:CB	1.75	1.09
3:B:41:U:C2'	3:B:46:A:N6	2.14	1.08
6:N:156:LYS:NZ	6:N:215:ARG:HH11	1.37	1.08
1:A:932:A:C4'	16:X:85:GLN:NE2	2.15	1.08
1:A:2279:U:P	16:X:73:LYS:HG3	1.94	1.08
3:B:8:G:OP2	9:Q:76:PHE:CZ	2.05	1.08
31:a:48:ASP:OD2	31:a:67:ASP:O	1.67	1.08
1:A:2157:U:C2	1:A:2163:G:N2	2.21	1.08
16:X:128:TYR:HB2	16:X:134:LYS:HD2	1.09	1.08
31:a:48:ASP:HA	31:a:68:TYR:HD1	0.99	1.08
1:A:356:A:H2'	1:A:357:G:C8	1.89	1.08
1:A:639:A:N7	6:N:201:LEU:CD1	2.15	1.08
1:A:2120:U:O4	1:A:2197:A:C2	2.06	1.08
16:X:122:LEU:HD11	16:X:140:ARG:CG	1.70	1.08
17:Y:124:LYS:O	17:Y:128:THR:HG23	1.53	1.08
31:a:48:ASP:CB	31:a:68:TYR:N	2.11	1.08
1:A:504:G:H4'	13:U:37:TYR:HB2	1.35	1.08
1:A:858:G:H2'	1:A:859:A:H8	1.17	1.08
1:A:2320:G:H2'	1:A:2321:G:C8	1.89	1.08
16:X:77:LEU:HD11	16:X:97:ARG:NH1	1.66	1.08
2:C:37:C:C2	25:F:143:ARG:NH2	2.22	1.07
6:N:81:ARG:O	6:N:84:ASN:ND2	1.88	1.07
31:a:71:GLU:O	31:a:73:TRP:CD1	2.07	1.07
1:A:274:G:C6	1:A:433:C:H6	1.45	1.07
1:A:2419:G:H1	21:c:25:LYS:HG3	1.12	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:104:A:C2	2:C:105:A:C6	2.43	1.07
16:X:122:LEU:CD1	16:X:140:ARG:HG3	1.79	1.07
1:A:274:G:O6	1:A:433:C:H3'	0.89	1.07
1:A:289:A:H2'	1:A:290:A:C8	1.89	1.07
1:A:290:A:H2'	1:A:291:G:C8	1.89	1.07
1:A:2113:G:N2	1:A:2204:A:H61	1.49	1.07
1:A:2322:A:C6	27:H:204:GLY:HA3	1.90	1.07
15:W:170:THR:HG22	15:W:171:PRO:HD3	1.32	1.07
27:H:161:LEU:HD12	31:a:73:TRP:CD2	1.88	1.07
1:A:416:C:O2	1:A:418:G:C5	2.07	1.07
1:A:669:C:H2'	1:A:670:A:C8	1.89	1.07
1:A:856:U:C6	1:A:962:G:N2	1.95	1.07
1:A:1660:G:H5'	30:g:90:LEU:CD2	1.84	1.07
2:C:40:U:C4	2:C:87:A:N6	2.21	1.07
4:L:105:ALA:HB3	4:L:147:VAL:HG21	1.35	1.07
6:N:165:ILE:CG1	6:N:206:LEU:HA	1.71	1.07
15:W:173:ARG:HH21	15:W:173:ARG:HB3	1.14	1.07
1:A:292:C:H2'	1:A:293:G:C8	1.90	1.07
1:A:624:A:C4	1:A:625:C:C6	2.42	1.07
1:A:1521:G:C5	1:A:1543:G:N2	2.23	1.07
1:A:2109:C:C5	1:A:2110:U:N3	2.22	1.07
6:N:102:HIS:NE2	12:T:205:ASN:ND2	2.02	1.07
26:G:254:TYR:OH	26:G:258:ARG:NE	1.86	1.07
1:A:853:G:C6	1:A:965:G:C6	2.43	1.06
6:N:165:ILE:CD1	6:N:207:SER:H	1.66	1.06
1:A:822:U:C2'	6:N:100:ARG:O	2.03	1.06
1:A:1746:C:O2'	1:A:1747:C:H5'	1.53	1.06
2:C:104:A:H2'	2:C:105:A:C8	1.90	1.06
16:X:128:TYR:CG	16:X:134:LYS:HG3	1.89	1.06
1:A:83:A:N7	1:A:98:G:O6	1.89	1.06
1:A:313:A:H2	1:A:323:G:N1	1.50	1.06
1:A:1482:C:H2'	1:A:1483:G:C8	1.89	1.06
1:A:1499:G:H1	1:A:1546:C:N4	1.51	1.06
1:A:2186:U:OP2	1:A:2188:C:C5	2.07	1.06
3:B:87:G:O2'	3:B:88:G:H5'	1.55	1.06
1:A:545:U:O2'	11:S:49:ASP:OD2	1.71	1.06
1:A:890:G:H2'	1:A:891:G:H8	1.20	1.06
27:H:193:GLU:CG	31:a:65:GLN:HG3	1.84	1.06
1:A:44:G:O2'	1:A:200:G:C8	2.09	1.06
1:A:160:A:C2	1:A:161:G:N7	2.24	1.06
1:A:274:G:C6	1:A:433:C:C5	2.40	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:388:C:N4	1:A:410:G:H1	1.54	1.06
1:A:887:G:N2	1:A:909:A:N1	2.02	1.06
1:A:1521:G:N7	1:A:1543:G:N2	2.03	1.06
6:N:154:LEU:N	6:N:155:PRO:CD	2.19	1.06
1:A:913:G:H2'	1:A:914:A:C8	1.91	1.05
1:A:2500:C:N3	7:O:124:LYS:NZ	2.04	1.05
19:E:226:HIS:CE1	19:E:228:HIS:HD2	1.74	1.05
19:E:258:ARG:C	19:E:259:ASN:HD22	1.64	1.05
29:J:76:ASN:O	29:J:80:PRO:CD	2.03	1.05
31:a:48:ASP:CB	31:a:68:TYR:CA	2.34	1.05
6:N:136:LEU:HD13	23:e:142:ASP:OD2	1.56	1.05
6:N:205:GLU:CD	6:N:224:LYS:HD2	1.80	1.05
22:d:112:ARG:HB3	22:d:112:ARG:HH21	1.15	1.05
1:A:883:C:H2'	1:A:884:G:C8	1.90	1.05
11:S:91:LEU:HG	12:T:175:PRO:CA	1.85	1.05
12:T:96:PRO:C	12:T:98:PRO:CD	2.29	1.05
14:V:104:TYR:CD1	18:Z:142:ARG:HD2	1.90	1.05
1:A:82:G:OP2	15:W:157:LYS:HE2	1.54	1.05
1:A:141:C:N3	1:A:153:G:N1	2.03	1.05
1:A:1479:U:H4'	1:A:1480:A:H5''	1.33	1.05
1:A:1524:G:N3	30:g:116:ARG:NH1	2.05	1.05
1:A:1887:G:H2'	1:A:1888:G:C8	1.91	1.05
2:C:53:G:H22	10:R:144:ARG:NH1	1.55	1.05
4:L:217:LEU:HD12	4:L:218:PHE:N	1.72	1.05
6:N:154:LEU:H	6:N:155:PRO:CD	1.69	1.05
1:A:1269:G:N7	11:S:3:ARG:N	2.03	1.04
1:A:2075:G:OP2	26:G:119:LYS:HE3	1.56	1.04
1:A:2806:U:O2'	2:C:5:A:N3	1.89	1.04
3:B:41:U:O2'	3:B:46:A:N6	1.90	1.04
27:H:188:GLN:HE21	27:H:188:GLN:HA	1.17	1.04
1:A:2211:U:H5	1:A:2241:G:C6	1.73	1.04
14:V:106:ARG:O	14:V:107:ARG:HG2	1.55	1.04
1:A:234:C:H6	6:N:142:LYS:NZ	1.43	1.04
1:A:1159:G:C4	4:L:176:HIS:ND1	2.24	1.04
1:A:2322:A:C2	27:H:186:ARG:NH1	2.25	1.04
3:B:41:U:H2'	3:B:46:A:N6	1.73	1.04
6:N:176:VAL:HG12	6:N:177:SER:H	1.20	1.04
27:H:161:LEU:CD1	31:a:73:TRP:CD2	2.40	1.04
1:A:858:G:C2'	1:A:859:A:H5'	1.85	1.04
1:A:1539:C:H2'	1:A:1540:C:C6	1.92	1.04
1:A:2035:A:OP1	20:b:9:SER:OG	1.75	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2233:G:H2'	1:A:2234:G:H8	1.09	1.04
2:C:40:U:H2'	2:C:41:A:C8	1.92	1.04
16:X:128:TYR:CE2	16:X:132:LYS:CB	2.41	1.04
18:Z:76:LEU:HD12	18:Z:115:MET:CE	1.86	1.04
28:I:48:ILE:CG1	28:I:90:LEU:O	2.03	1.04
1:A:255:A:OP2	1:A:271:G:N2	1.88	1.03
1:A:2809:U:H2'	1:A:2810:A:H4'	1.05	1.03
6:N:158:VAL:HG11	6:N:201:LEU:HD21	1.36	1.03
1:A:329:C:H2'	26:G:222:ASN:HD22	0.87	1.03
2:C:37:C:N3	25:F:143:ARG:NH2	2.06	1.03
3:B:39:C:N4	3:B:45:G:H1	1.56	1.03
1:A:912:C:H2'	1:A:913:G:C8	1.92	1.03
1:A:1596:U:O2'	1:A:1597:C:H5'	1.56	1.03
1:A:1600:A:C2	19:E:209:TRP:CZ3	2.47	1.03
1:A:2304:A:N6	1:A:2363:A:H62	1.56	1.03
1:A:898:G:C8	1:A:899:A:N7	2.25	1.03
1:A:1529:A:N1	1:A:1537:U:N3	2.06	1.03
1:A:1829:A:H4'	1:A:1830:U:C5'	1.89	1.03
10:R:141:PRO:HD2	10:R:206:ILE:HD11	1.40	1.03
31:a:48:ASP:OD2	31:a:67:ASP:OD1	1.77	1.03
1:A:279:A:C5	1:A:379:C:N4	2.27	1.02
1:A:1879:U:O4	6:N:252:ARG:NH2	1.92	1.02
1:A:2213:A:C2	1:A:2242:A:C2	2.47	1.02
1:A:5:A:H2'	1:A:6:A:C8	1.94	1.02
1:A:96:C:H2'	1:A:97:A:C8	1.95	1.02
1:A:152:G:C2	1:A:153:G:C8	2.47	1.02
1:A:912:C:H2'	1:A:913:G:H8	1.20	1.02
1:A:1083:G:N2	1:A:1132:C:N3	2.06	1.02
1:A:1635:C:H4'	14:V:106:ARG:NH2	1.73	1.02
1:A:1660:G:H5'	30:g:90:LEU:HD21	1.08	1.02
1:A:2351:G:C4	9:Q:64:VAL:HG22	1.95	1.02
1:A:2479:U:O4	1:A:2505:A:N1	1.92	1.02
3:B:91:G:N2	7:O:38:GLU:HG3	1.74	1.02
1:A:1178:G:C1'	11:S:83:HIS:NE2	2.23	1.02
6:N:202:GLY:HA2	6:N:221:ALA:CB	1.90	1.02
27:H:193:GLU:HG3	31:a:65:GLN:CG	1.89	1.02
1:A:1361:U:O4	14:V:168:PRO:HB3	1.58	1.02
1:A:1745:C:C4	1:A:1746:C:N4	2.28	1.02
3:B:35:A:C2	3:B:51:G:N3	2.28	1.02
1:A:259:C:H2'	1:A:260:G:H8	1.25	1.01
1:A:2075:G:OP2	26:G:119:LYS:HE2	1.56	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2322:A:C6	27:H:204:GLY:CA	2.43	1.01
1:A:2365:U:H1'	21:c:48:LEU:HD23	1.42	1.01
6:N:197:PRO:HB3	6:N:215:ARG:HD2	1.40	1.01
1:A:1808:C:H2'	1:A:1829:A:H61	1.22	1.01
1:A:2154:C:N4	1:A:2165:G:H22	1.58	1.01
6:N:211:GLN:HA	6:N:231:SER:O	1.60	1.01
1:A:139:U:N3	1:A:140:G:N7	2.09	1.01
1:A:1689:C:H41	8:P:19:ARG:NE	1.55	1.01
11:S:91:LEU:HG	12:T:175:PRO:CB	1.90	1.01
19:E:213:ARG:HD3	19:E:214:PRO:HD2	1.43	1.01
1:A:1023:C:C2	4:L:102:PRO:CD	2.44	1.01
1:A:1516:G:H3'	1:A:1517:G:H5''	1.39	1.01
1:A:1751:A:C2	1:A:1753:A:N7	2.27	1.01
1:A:2074:A:H62	26:G:125:ARG:HH22	1.05	1.01
1:A:133:A:N6	1:A:162:A:H2	1.26	1.01
1:A:2328:A:O4'	27:H:127:ILE:CD1	2.09	1.01
1:A:2731:C:OP1	8:P:25:ASP:OD2	1.79	1.01
1:A:853:G:C6	1:A:965:G:O6	2.14	1.00
1:A:1830:U:N3	19:E:197:ASN:ND2	2.08	1.00
2:C:53:G:H8	2:C:70:G:H21	1.01	1.00
1:A:60:U:O2'	18:Z:94:ARG:CZ	1.94	1.00
1:A:883:C:O4'	7:O:65:TRP:HZ3	1.45	1.00
1:A:1076:A:N1	1:A:1139:A:O2'	1.93	1.00
1:A:2393:A:H2	9:Q:166:PHE:CZ	1.78	1.00
1:A:2809:U:C2'	1:A:2810:A:H4'	1.90	1.00
6:N:159:PRO:HB3	6:N:187:ILE:HD11	1.04	1.00
1:A:278:G:N2	1:A:380:C:N3	2.10	1.00
1:A:843:C:H4'	6:N:125:ILE:HD11	1.39	1.00
1:A:1393:U:O2'	1:A:2230:A:H2'	1.61	1.00
1:A:1529:A:C2	1:A:1537:U:C2	2.50	1.00
2:C:30:A:N1	2:C:83:C:C2'	2.25	1.00
19:E:265:PHE:CD1	19:E:266:ILE:HG13	1.97	1.00
27:H:193:GLU:OE2	31:a:64:THR:O	1.79	1.00
31:a:48:ASP:HB3	31:a:66:LYS:O	1.60	1.00
1:A:1248:G:OP1	11:S:13:ARG:NH2	1.93	1.00
1:A:1472:A:N6	1:A:1479:U:C4	2.30	1.00
1:A:2480:U:O4	1:A:2504:A:N1	1.95	1.00
11:S:91:LEU:CG	12:T:175:PRO:CB	2.40	1.00
1:A:330:U:C4	26:G:218:LYS:NZ	2.18	1.00
1:A:626:C:C6	1:A:627:C:C5	2.49	1.00
1:A:1177:U:O4	32:h:74:ARG:NH2	1.95	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:121:GLY:HA3	16:X:138:TYR:O	1.61	1.00
31:a:48:ASP:HB2	31:a:68:TYR:HA	1.30	1.00
1:A:295:C:H2'	1:A:296:G:H8	1.23	1.00
1:A:2798:G:N1	4:L:201:GLU:OE2	1.94	1.00
10:R:116:ARG:CZ	10:R:116:ARG:HA	1.91	1.00
27:H:162:PRO:HB2	31:a:71:GLU:CD	1.86	1.00
1:A:648:G:N7	6:N:199:LYS:HE2	1.76	1.00
6:N:172:GLU:HA	6:N:210:LEU:CD2	1.92	0.99
12:T:171:TYR:HD2	12:T:231:PRO:CA	1.76	0.99
1:A:1023:C:C2	4:L:102:PRO:HD2	1.96	0.99
1:A:1470:A:C2	1:A:1482:C:N3	2.30	0.99
15:W:161:LEU:CD1	15:W:168:VAL:CG2	2.40	0.99
1:A:274:G:O6	1:A:433:C:C6	2.15	0.99
1:A:1475:U:H1'	8:P:70:LEU:HD13	1.42	0.99
1:A:1812:A:H2'	1:A:1813:A:C8	1.98	0.99
1:A:629:C:OP1	26:G:158:ARG:NE	1.95	0.99
13:U:149:LEU:HD23	13:U:149:LEU:H	1.25	0.99
14:V:116:GLN:CA	18:Z:91:ARG:NH2	2.23	0.99
1:A:2189:C:H2'	1:A:2190:A:C8	1.98	0.99
12:T:171:TYR:CD2	12:T:231:PRO:HA	1.97	0.99
1:A:259:C:H2'	1:A:260:G:C8	1.98	0.99
1:A:639:A:N6	6:N:201:LEU:CD1	2.26	0.99
2:C:40:U:N3	2:C:87:A:C6	2.31	0.99
1:A:540:A:P	4:L:212:ARG:NH1	2.32	0.99
1:A:329:C:C2'	26:G:222:ASN:HD22	1.60	0.99
6:N:165:ILE:HG13	6:N:206:LEU:HA	1.00	0.99
1:A:2739:A:C2	2:C:77:A:N6	2.31	0.99
2:C:38:G:OP2	25:F:144:LEU:HD22	1.63	0.99
1:A:102:U:H2'	1:A:103:C:H5'	1.42	0.99
1:A:139:U:C2	1:A:140:G:C8	2.51	0.99
1:A:2495:A:OP2	24:f:39:LYS:HE2	0.81	0.99
1:A:143:G:H2'	1:A:144:A:H5'	1.42	0.98
1:A:1211:G:OP1	6:N:109:SER:OG	1.79	0.98
1:A:1470:A:C2	1:A:1482:C:O2	2.16	0.98
1:A:2191:C:H2'	1:A:2192:U:H5'	1.45	0.98
2:C:33:A:H1'	2:C:34:U:H5'	1.44	0.98
4:L:175:ARG:NH2	4:L:184:LYS:HD3	1.78	0.98
16:X:131:ASP:OD1	16:X:132:LYS:NZ	1.94	0.98
6:N:205:GLU:OE2	6:N:224:LYS:CE	2.12	0.98
12:T:169:SER:HB2	12:T:233:SER:CB	1.93	0.98
1:A:1886:A:H2'	1:A:1887:G:H5'	1.45	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2219:U:H3'	1:A:2220:G:C5'	1.92	0.98
6:N:154:LEU:N	6:N:155:PRO:HD3	1.78	0.98
2:C:40:U:H2'	2:C:41:A:H8	1.27	0.98
2:C:40:U:O4	2:C:87:A:N6	1.95	0.98
31:a:46:ARG:NH1	31:a:64:THR:HA	1.77	0.98
1:A:932:A:O4'	16:X:85:GLN:NE2	1.93	0.98
22:d:118:THR:HA	22:d:121:ARG:HH21	1.24	0.98
1:A:267:C:H2'	1:A:268:G:H8	1.26	0.98
1:A:317:G:H21	1:A:338:G:H21	1.08	0.98
1:A:330:U:H3	26:G:218:LYS:CE	1.67	0.98
1:A:609:G:C5'	26:G:79:LYS:HD2	1.93	0.98
6:N:136:LEU:CD1	23:e:142:ASP:OD2	2.10	0.98
1:A:82:G:OP2	15:W:157:LYS:HE3	1.62	0.98
1:A:1444:A:N1	1:A:1609:U:O4	1.97	0.98
1:A:582:A:OP2	12:T:203:LYS:NZ	1.96	0.98
1:A:1479:U:H4'	1:A:1480:A:C5'	1.93	0.98
1:A:1876:A:H3'	1:A:1877:C:H6	1.28	0.98
1:A:145:A:H3'	1:A:146:U:H5''	1.45	0.98
1:A:639:A:C6	6:N:201:LEU:CD1	2.47	0.98
1:A:934:A:H1'	1:A:935:U:C5'	1.93	0.98
1:A:274:G:N1	1:A:433:C:C6	2.28	0.97
1:A:1522:A:H2'	1:A:1523:A:H8	1.29	0.97
1:A:144:A:H62	1:A:150:U:H3	1.10	0.97
1:A:330:U:C2	26:G:218:LYS:NZ	2.26	0.97
1:A:1083:G:H1	1:A:1132:C:H42	1.11	0.97
11:S:91:LEU:HG	12:T:175:PRO:CG	1.93	0.97
12:T:171:TYR:CD2	12:T:231:PRO:HB3	1.99	0.97
1:A:822:U:C5	1:A:1272:A:N1	2.32	0.97
1:A:857:G:N3	1:A:961:G:N2	2.12	0.97
1:A:861:A:N6	1:A:935:U:O4	1.96	0.97
1:A:1800:C:O2'	19:E:204:ALA:HB1	1.63	0.97
1:A:2213:A:C2	1:A:2242:A:H2	1.80	0.97
2:C:33:A:H1'	2:C:34:U:C5'	1.93	0.97
12:T:113:LYS:HA	12:T:113:LYS:HZ3	1.26	0.97
1:A:2116:C:H2'	1:A:2117:U:H5'	1.46	0.97
1:A:2215:C:O2'	1:A:2216:U:H5'	1.64	0.97
1:A:2304:A:C6	1:A:2363:A:N6	2.33	0.97
1:A:2213:A:H61	1:A:2241:G:H21	1.11	0.97
2:C:36:A:C2	25:F:274:ARG:NH1	2.33	0.97
4:L:175:ARG:HH21	4:L:184:LYS:HD3	1.26	0.97
18:Z:118:VAL:CG1	18:Z:122:ARG:NH2	2.26	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:911:U:H2'	1:A:912:C:C6	1.99	0.97
1:A:1829:A:H4'	1:A:1830:U:H5'	1.46	0.97
1:A:2419:G:N1	21:c:25:LYS:HG3	1.80	0.97
1:A:1885:C:C5	6:N:253:ALA:HB2	2.00	0.97
1:A:2129:G:H2'	1:A:2131:U:H5	1.27	0.96
1:A:2205:G:H2'	1:A:2206:A:H8	1.29	0.96
4:L:175:ARG:NH2	4:L:184:LYS:NZ	2.13	0.96
1:A:624:A:N9	1:A:625:C:H5	1.62	0.96
1:A:856:U:H6	1:A:962:G:N2	1.22	0.96
12:T:169:SER:HA	12:T:233:SER:HB2	1.44	0.96
2:C:36:A:C2	25:F:274:ARG:CZ	2.48	0.96
16:X:128:TYR:HB3	16:X:134:LYS:HG3	0.99	0.96
1:A:616:U:OP2	26:G:155:LYS:NZ	1.98	0.96
1:A:1526:G:N2	1:A:1540:C:O2	1.97	0.96
1:A:1691:A:N6	1:A:2019:G:N3	2.14	0.96
1:A:2304:A:C5	1:A:2363:A:N6	2.34	0.96
4:L:105:ALA:CB	4:L:147:VAL:HG21	1.94	0.96
1:A:639:A:H62	6:N:201:LEU:HD13	1.22	0.96
1:A:2432:G:O3'	6:N:145:GLY:HA2	1.65	0.96
1:A:624:A:C5	1:A:625:C:C5	2.52	0.96
1:A:1178:G:H1'	11:S:83:HIS:NE2	1.80	0.96
1:A:2328:A:O4'	27:H:127:ILE:HD11	1.65	0.96
15:W:159:ARG:CB	15:W:168:VAL:HB	1.95	0.96
1:A:44:G:C8	1:A:200:G:H2'	2.00	0.96
1:A:524:A:O2'	11:S:11:ARG:NH2	1.97	0.96
1:A:140:G:N1	1:A:154:C:N3	2.14	0.96
12:T:113:LYS:HA	12:T:113:LYS:NZ	1.79	0.96
1:A:2723:A:O2'	8:P:74:ARG:HD3	1.65	0.96
1:A:159:A:H1'	1:A:160:A:OP1	1.64	0.95
1:A:351:C:H2'	1:A:352:C:C6	2.01	0.95
1:A:639:A:C5	6:N:201:LEU:HD13	1.98	0.95
1:A:888:C:N4	1:A:908:A:C2	2.24	0.95
1:A:1881:A:N7	6:N:255:GLU:OE1	1.99	0.95
1:A:2186:U:P	1:A:2188:C:H41	1.88	0.95
31:a:47:GLU:HG3	31:a:61:THR:N	1.73	0.95
1:A:83:A:N6	1:A:98:G:C5	2.32	0.95
1:A:329:C:C1'	26:G:222:ASN:HD21	1.79	0.95
14:V:109:LEU:HD12	14:V:141:ARG:O	1.66	0.95
1:A:1470:A:C2	1:A:1482:C:C2	2.54	0.95
11:S:91:LEU:CG	12:T:175:PRO:HA	1.95	0.95
1:A:122:U:C4	22:d:112:ARG:NH1	2.35	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2129:G:H1'	1:A:2180:G:N2	1.80	0.95
1:A:2186:U:OP1	1:A:2188:C:N4	1.97	0.95
3:B:5:C:O2	3:B:119:G:N1	1.97	0.95
3:B:42:C:OP1	3:B:44:C:H5	1.48	0.95
3:B:91:G:H22	7:O:38:GLU:HG3	1.25	0.95
31:a:46:ARG:NH1	31:a:64:THR:CA	2.29	0.95
1:A:1879:U:C4	6:N:252:ARG:NH2	2.33	0.95
3:B:10:G:OP1	9:Q:63:LYS:HD2	1.67	0.95
29:J:76:ASN:O	29:J:80:PRO:CG	2.13	0.95
1:A:152:G:N3	1:A:153:G:C8	2.35	0.95
1:A:256:A:H8	1:A:380:C:O2'	1.48	0.95
6:N:202:GLY:HA2	6:N:221:ALA:HB2	1.47	0.95
7:O:26:ARG:HG3	7:O:27:ILE:H	1.31	0.95
16:X:143:GLN:C	16:X:145:GLU:OE1	2.08	0.95
1:A:822:U:O2'	1:A:1271:G:O2'	1.85	0.95
2:C:54:A:OP2	2:C:70:G:N2	2.00	0.95
27:H:162:PRO:HB2	31:a:71:GLU:CG	1.95	0.95
1:A:140:G:O6	1:A:154:C:N4	1.99	0.95
1:A:636:C:H2'	1:A:637:G:H8	1.29	0.95
1:A:2698:C:OP1	25:F:285:LYS:CE	2.15	0.94
1:A:1525:G:N2	1:A:1541:U:O2	2.00	0.94
1:A:2579:U:O2'	5:M:23:ARG:NH1	1.99	0.94
1:A:1041:G:N2	1:A:1177:U:O2	2.00	0.94
1:A:1080:C:H3'	1:A:1081:C:H5''	1.47	0.94
6:N:175:GLU:O	6:N:213:LYS:NZ	2.00	0.94
28:I:48:ILE:CD1	28:I:109:ARG:HH21	1.80	0.94
1:A:83:A:C2	1:A:100:G:N2	2.34	0.94
15:W:166:GLU:OE1	15:W:166:GLU:N	2.01	0.94
16:X:128:TYR:HB3	16:X:134:LYS:CB	1.96	0.94
27:H:193:GLU:HG3	31:a:65:GLN:HG3	0.96	0.94
1:A:1532:G:H1'	1:A:1611:G:O2'	1.67	0.94
6:N:136:LEU:CD1	23:e:142:ASP:HB3	1.98	0.94
1:A:46:C:H2'	1:A:47:G:H5'	1.46	0.94
1:A:857:G:C2	1:A:961:G:C2	2.56	0.94
1:A:1024:A:O2'	11:S:94:ARG:HD2	1.68	0.94
12:T:96:PRO:HB2	12:T:98:PRO:HD3	1.45	0.94
1:A:330:U:N3	26:G:218:LYS:HE2	1.72	0.94
1:A:2113:G:N2	1:A:2204:A:N6	2.08	0.94
1:A:2191:C:C2'	1:A:2192:U:H5'	1.96	0.94
1:A:2129:G:H2'	1:A:2131:U:C5	2.03	0.94
1:A:2213:A:N1	1:A:2214:C:C2	2.35	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2646:U:O2'	1:A:2647:A:O5'	1.85	0.94
10:R:123:MET:HE2	25:F:97:LEU:O	1.68	0.94
16:X:122:LEU:HG	16:X:140:ARG:CB	1.98	0.94
18:Z:118:VAL:CG1	18:Z:122:ARG:HH21	1.81	0.94
1:A:14:A:O2'	20:b:18:ASN:ND2	2.00	0.94
1:A:250:A:H4'	1:A:251:G:OP1	1.64	0.94
1:A:539:A:OP2	4:L:215:ARG:NH1	2.01	0.94
1:A:1499:G:N2	1:A:1546:C:C2	2.34	0.94
25:F:142:GLU:OE2	25:F:167:HIS:ND1	2.01	0.94
1:A:1187:G:N3	12:T:131:SER:OG	1.99	0.93
31:a:47:GLU:N	31:a:47:GLU:OE2	2.01	0.93
1:A:161:G:O2'	1:A:162:A:O5'	1.85	0.93
1:A:213:A:H3'	6:N:239:LYS:O	1.69	0.93
1:A:880:U:H2'	1:A:881:U:H5'	1.49	0.93
1:A:2351:G:C5	9:Q:64:VAL:HG22	2.00	0.93
12:T:170:THR:N	12:T:233:SER:CB	1.94	0.93
1:A:158:C:C5	1:A:159:A:N7	2.37	0.93
1:A:2320:G:H4'	27:H:175:PHE:HA	1.47	0.93
3:B:30:A:H2'	3:B:31:C:H6	1.29	0.93
6:N:253:ALA:O	6:N:255:GLU:N	2.02	0.93
12:T:169:SER:CA	12:T:233:SER:HB2	1.98	0.93
1:A:1504:C:H2'	1:A:1505:C:C6	2.03	0.93
1:A:2114:G:C6	1:A:2204:A:N1	2.37	0.93
1:A:2129:G:C2'	1:A:2131:U:H5	1.82	0.93
1:A:2213:A:C2	1:A:2214:C:N1	2.37	0.93
31:a:71:GLU:OE2	31:a:71:GLU:N	2.01	0.93
1:A:388:C:N4	1:A:410:G:N1	2.15	0.93
1:A:2213:A:C6	1:A:2242:A:C2	2.57	0.93
6:N:205:GLU:OE2	6:N:224:LYS:HE3	1.66	0.93
15:W:57:LYS:HA	15:W:61:LEU:O	1.69	0.93
18:Z:76:LEU:CD1	18:Z:115:MET:HE3	1.98	0.93
6:N:160:ILE:HG12	6:N:201:LEU:HD12	1.50	0.93
1:A:2303:A:N6	21:c:34:ILE:CD1	2.31	0.93
16:X:128:TYR:CD2	16:X:132:LYS:CB	2.52	0.93
1:A:279:A:N6	1:A:379:C:N4	2.12	0.93
1:A:368:U:H2'	1:A:369:U:H6	1.31	0.93
1:A:1178:G:O4'	11:S:83:HIS:NE2	2.01	0.93
15:W:141:GLN:CG	15:W:166:GLU:OE2	2.17	0.93
1:A:1471:A:H2	1:A:1481:U:H3	1.16	0.93
1:A:2206:A:H2'	1:A:2207:A:C8	2.03	0.93
1:A:2322:A:Cl'	27:H:186:ARG:CD	2.37	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1876:A:H3'	1:A:1877:C:C6	2.02	0.92
3:B:7:G:N1	3:B:117:A:C2	2.37	0.92
16:X:153:ARG:HG2	16:X:153:ARG:HH11	1.32	0.92
1:A:416:C:O2	1:A:418:G:C4	2.22	0.92
1:A:2107:G:C5	1:A:2242:A:C8	2.56	0.92
1:A:2213:A:N1	1:A:2214:C:N3	2.17	0.92
6:N:143:LEU:CG	6:N:146:ILE:HD11	1.99	0.92
6:N:182:LYS:HE2	6:N:189:PRO:CG	1.99	0.92
12:T:197:VAL:HG23	12:T:210:ILE:HG13	1.50	0.92
1:A:890:G:H2'	1:A:891:G:C8	2.04	0.92
1:A:2213:A:H2	1:A:2214:C:C2	1.72	0.92
13:U:138:ASP:OD1	13:U:139:ILE:N	2.01	0.92
1:A:102:U:C2'	1:A:103:C:H5'	2.00	0.92
1:A:901:C:H2'	1:A:902:G:C4'	1.99	0.92
28:I:48:ILE:HG13	28:I:90:LEU:HB2	1.51	0.92
1:A:983:G:N2	7:O:82:ARG:HH12	1.53	0.92
1:A:1689:C:C5'	8:P:12:LYS:HE2	2.00	0.92
1:A:276:G:O6	1:A:433:C:N4	2.02	0.92
2:C:104:A:H2'	2:C:105:A:H8	1.29	0.92
11:S:91:LEU:HG	12:T:175:PRO:HA	1.47	0.92
11:S:91:LEU:CG	12:T:175:PRO:HB3	2.00	0.92
16:X:133:LYS:HE2	16:X:133:LYS:HA	1.49	0.92
27:H:161:LEU:HD11	31:a:73:TRP:CZ3	2.05	0.92
1:A:44:G:C8	1:A:200:G:C2'	2.52	0.92
1:A:1178:G:O4'	11:S:83:HIS:CD2	2.23	0.92
1:A:2316:G:H1	1:A:2334:C:H42	1.14	0.92
12:T:174:THR:O	12:T:176:ILE:N	2.02	0.92
13:U:151:SER:O	13:U:152:LEU:HD23	1.68	0.92
1:A:609:G:H5''	26:G:79:LYS:CE	2.00	0.92
1:A:860:C:H2'	1:A:861:A:H8	1.35	0.92
1:A:2764:U:O4	1:A:2774:U:O4	1.87	0.92
12:T:96:PRO:O	12:T:98:PRO:CD	2.17	0.92
1:A:858:G:H2'	1:A:859:A:H5'	1.49	0.92
1:A:1470:A:N1	1:A:1482:C:N3	2.17	0.92
1:A:2303:A:N6	21:c:34:ILE:HD13	1.85	0.92
1:A:2318:C:H2'	1:A:2319:C:C6	2.04	0.92
12:T:171:TYR:HE2	12:T:231:PRO:CB	1.73	0.92
1:A:295:C:H2'	1:A:296:G:C8	2.03	0.91
1:A:1833:G:OP1	19:E:50:ARG:NH1	2.03	0.91
1:A:2247:C:H1'	17:Y:102:ASN:HB3	1.50	0.91
12:T:169:SER:CB	12:T:233:SER:OG	2.18	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:122:U:C5	22:d:112:ARG:NH1	2.37	0.91
1:A:2116:C:H42	1:A:2201:G:H1	1.07	0.91
1:A:2219:U:HO2'	1:A:2229:U:H3	1.10	0.91
1:A:44:G:O2'	1:A:200:G:N7	1.99	0.91
1:A:131:C:N4	14:V:104:TYR:CD2	2.38	0.91
22:d:107:ARG:O	22:d:113:LEU:HD23	1.68	0.91
25:F:145:ARG:HH21	25:F:145:ARG:HG3	1.33	0.91
1:A:874:G:OP2	7:O:23:ARG:NH2	2.03	0.91
1:A:977:G:H4'	32:h:60:MET:HE1	1.49	0.91
1:A:1482:C:H2'	1:A:1483:G:H8	1.29	0.91
1:A:96:C:H2'	1:A:97:A:H8	1.31	0.91
1:A:822:U:C6	1:A:1272:A:C2	2.58	0.91
1:A:2114:G:O6	1:A:2204:A:C6	2.24	0.91
1:A:2322:A:H61	27:H:204:GLY:HA3	1.30	0.91
25:F:142:GLU:OE2	25:F:167:HIS:HE1	1.42	0.91
1:A:2151:G:C6	1:A:2152:C:N4	2.39	0.91
6:N:140:ILE:CD1	23:e:112:ARG:HD2	2.01	0.91
11:S:14:ARG:HD3	11:S:32:THR:HG21	1.52	0.91
12:T:91:ASP:HB2	13:U:142:PHE:CZ	2.05	0.91
1:A:47:G:N2	1:A:162:A:OP2	2.03	0.91
1:A:639:A:N7	6:N:201:LEU:HD12	1.86	0.91
6:N:154:LEU:H	6:N:155:PRO:HD2	1.33	0.91
13:U:153:THR:O	13:U:157:LEU:HG	1.69	0.91
1:A:387:G:H3'	1:A:388:C:H5''	1.52	0.91
1:A:2320:G:H2'	1:A:2321:G:H8	1.28	0.91
1:A:946:A:N6	1:A:950:A:H61	1.68	0.90
16:X:128:TYR:CA	16:X:134:LYS:HD3	2.01	0.90
27:H:158:ASN:OD1	31:a:70:VAL:HG21	1.69	0.90
1:A:381:C:O2	1:A:416:C:H5	1.45	0.90
1:A:951:C:H2'	1:A:952:A:C8	2.05	0.90
1:A:1159:G:N7	4:L:176:HIS:HE1	1.69	0.90
1:A:1278:U:O2'	26:G:135:PRO:HD3	1.71	0.90
3:B:35:A:C2	3:B:51:G:C4	2.60	0.90
6:N:136:LEU:CD1	23:e:142:ASP:CB	2.49	0.90
1:A:1002:G:H5'	12:T:201:LYS:HZ1	0.77	0.90
1:A:2220:G:N2	1:A:2236:C:O2	2.05	0.90
1:A:2236:C:H2'	1:A:2237:A:H5''	1.51	0.90
15:W:170:THR:CG2	15:W:171:PRO:HD3	2.01	0.90
1:A:243:U:O2	6:N:194:ARG:NH1	2.04	0.90
1:A:2213:A:C4	1:A:2242:A:N1	2.39	0.90
2:C:40:U:C2	2:C:87:A:N1	2.39	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:478:A:OP1	22:d:127:ARG:NH2	2.05	0.90
1:A:377:G:O2'	1:A:378:A:O5'	1.89	0.90
6:N:165:ILE:HD11	6:N:207:SER:H	1.37	0.90
15:W:109:LYS:O	15:W:122:ILE:HG23	1.70	0.90
1:A:135:C:C5	1:A:161:G:C6	2.60	0.90
3:B:36:A:C6	3:B:45:G:C5	2.59	0.90
16:X:122:LEU:HD11	16:X:140:ARG:HG3	0.91	0.90
1:A:919:A:H62	7:O:12:GLN:HA	1.35	0.90
1:A:44:G:H3'	1:A:45:A:C5'	2.02	0.90
1:A:624:A:C8	1:A:625:C:H5	1.90	0.90
1:A:2809:U:H2'	1:A:2810:A:C4'	2.00	0.90
12:T:96:PRO:HB2	12:T:98:PRO:CD	2.01	0.90
1:A:355:A:C2'	1:A:356:A:H5'	2.00	0.90
1:A:843:C:H4'	6:N:125:ILE:HD13	1.51	0.90
1:A:2117:U:O2	1:A:2200:A:N1	2.05	0.90
1:A:2124:G:N2	1:A:2194:U:C2	2.38	0.90
6:N:202:GLY:HA2	6:N:221:ALA:HA	1.52	0.90
15:W:173:ARG:HB3	15:W:173:ARG:NH2	1.86	0.90
1:A:599:C:H2'	1:A:600:A:H8	1.37	0.89
1:A:960:A:N1	16:X:154:LYS:NZ	2.19	0.89
3:B:36:A:N6	3:B:45:G:C8	2.41	0.89
6:N:175:GLU:HB3	6:N:213:LYS:HZ1	1.37	0.89
1:A:260:G:C6	1:A:268:G:N1	2.40	0.89
1:A:902:G:H2'	1:A:903:G:H5''	1.51	0.89
2:C:104:A:N1	2:C:105:A:N6	2.20	0.89
1:A:416:C:O2	1:A:418:G:C6	2.24	0.89
1:A:2647:A:H61	1:A:2806:U:H3	1.12	0.89
4:L:224:TYR:HH	4:L:231:HIS:HE2	1.20	0.89
6:N:159:PRO:HD3	6:N:199:LYS:O	1.69	0.89
12:T:88:VAL:O	12:T:89:LEU:HD23	1.73	0.89
1:A:1522:A:H2'	1:A:1523:A:C8	2.07	0.89
1:A:2213:A:N1	1:A:2242:A:C2	2.40	0.89
4:L:175:ARG:HH22	4:L:184:LYS:HZ1	1.14	0.89
12:T:96:PRO:CB	12:T:98:PRO:HD3	2.01	0.89
1:A:2647:A:N6	1:A:2806:U:H3	1.69	0.89
3:B:36:A:N6	3:B:45:G:C5	2.41	0.89
1:A:1024:A:OP2	12:T:132:ARG:HD2	1.71	0.89
1:A:1534:A:H2'	1:A:1535:A:H5''	1.52	0.89
1:A:2330:U:O4'	27:H:90:ASN:ND2	2.06	0.89
3:B:16:G:O6	3:B:111:G:N2	2.05	0.89
11:S:91:LEU:CG	12:T:175:PRO:CA	2.48	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:T:91:ASP:CB	13:U:142:PHE:CZ	2.56	0.89
31:a:48:ASP:CB	31:a:67:ASP:O	2.08	0.89
1:A:368:U:H2'	1:A:369:U:C6	2.07	0.89
1:A:624:A:N3	1:A:625:C:H6	1.69	0.89
1:A:2117:U:H2'	1:A:2118:U:C6	2.06	0.89
27:H:162:PRO:HG3	31:a:71:GLU:OE1	1.71	0.89
1:A:131:C:H5	14:V:104:TYR:CE2	1.90	0.89
1:A:160:A:N3	1:A:161:G:N7	2.21	0.89
1:A:1690:A:H5''	1:A:1690:A:N3	1.87	0.89
2:C:28:U:H1'	2:C:30:A:C8	2.07	0.89
6:N:106:GLN:O	6:N:110:CYS:HA	1.73	0.89
6:N:143:LEU:O	23:e:113:ARG:NH2	2.05	0.89
1:A:1532:G:N3	1:A:1611:G:H1'	1.87	0.89
6:N:195:ARG:O	6:N:197:PRO:HD3	1.73	0.89
22:d:112:ARG:HB3	22:d:112:ARG:NH2	1.86	0.89
1:A:285:A:O2'	1:A:286:U:OP1	1.90	0.88
1:A:981:G:OP2	7:O:16:ARG:CD	2.19	0.88
1:A:636:C:H2'	1:A:637:G:C8	2.08	0.88
1:A:1083:G:H1	1:A:1132:C:N4	1.71	0.88
1:A:1756:G:H2'	1:A:1757:G:H8	1.38	0.88
1:A:2114:G:O6	1:A:2204:A:N6	2.07	0.88
14:V:115:LEU:O	18:Z:91:ARG:NH2	2.06	0.88
15:W:67:ARG:HB3	15:W:67:ARG:NH1	1.88	0.88
26:G:234:LEU:HD23	26:G:235:ASN:N	1.89	0.88
1:A:329:C:C1'	26:G:222:ASN:ND2	2.35	0.88
1:A:2121:C:C4	1:A:2196:G:N2	2.41	0.88
6:N:201:LEU:C	6:N:221:ALA:HB2	1.99	0.88
13:U:150:GLU:O	13:U:152:LEU:N	2.06	0.88
1:A:291:G:O2'	1:A:292:C:H5'	1.74	0.88
1:A:1756:G:H2'	1:A:1757:G:C8	2.08	0.88
12:T:88:VAL:HG12	12:T:89:LEU:H	1.35	0.88
25:F:122:ILE:CG2	25:F:183:GLN:HA	2.03	0.88
1:A:858:G:H2'	1:A:859:A:C8	2.07	0.88
1:A:2213:A:C6	1:A:2242:A:N1	2.41	0.88
6:N:156:LYS:HZ3	6:N:215:ARG:HH11	0.91	0.88
1:A:1449:C:N4	1:A:1604:A:OP2	2.06	0.88
6:N:82:LEU:HD23	26:G:240:LEU:CD2	2.03	0.88
16:X:101:PHE:CD1	16:X:133:LYS:HB3	2.08	0.88
1:A:151:G:H2'	1:A:152:G:H8	1.38	0.88
1:A:274:G:N7	1:A:433:C:H5''	1.87	0.88
1:A:795:U:H5'	19:E:222:ASN:OD1	1.74	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1545:G:C8	1:A:1546:C:H5	1.92	0.88
1:A:1689:C:N4	8:P:19:ARG:NE	2.20	0.88
1:A:2113:G:H22	1:A:2204:A:H61	0.89	0.88
3:B:8:G:N2	3:B:116:C:C2	2.41	0.88
1:A:763:A:OP1	22:d:93:LEU:HD11	1.74	0.88
1:A:2324:G:N2	1:A:2328:A:C8	2.42	0.88
12:T:174:THR:HG23	12:T:175:PRO:HD2	1.54	0.88
16:X:145:GLU:OE1	16:X:145:GLU:N	2.06	0.88
25:F:117:PHE:O	25:F:274:ARG:NH2	2.06	0.88
31:a:46:ARG:CZ	31:a:64:THR:HA	2.03	0.88
1:A:265:A:H5''	1:A:266:A:C8	2.09	0.88
1:A:495:A:O4'	15:W:110:HIS:HB3	1.74	0.88
1:A:1651:C:OP2	1:A:1653:C:N4	2.05	0.88
6:N:198:LEU:HD22	6:N:214:ALA:HB1	1.54	0.88
18:Z:118:VAL:HG12	18:Z:122:ARG:NH2	1.89	0.88
26:G:75:ALA:HB2	26:G:159:LEU:HD21	1.55	0.88
1:A:295:C:O2'	1:A:296:G:H5'	1.74	0.88
16:X:128:TYR:HB2	16:X:134:LYS:HD3	0.90	0.88
28:I:46:GLN:OE1	28:I:109:ARG:CD	2.22	0.88
1:A:626:C:C5	1:A:627:C:C4	2.61	0.87
1:A:2351:G:C8	9:Q:64:VAL:HG21	2.08	0.87
6:N:210:LEU:N	6:N:230:CYS:HB2	1.89	0.87
15:W:161:LEU:HD12	15:W:168:VAL:HG23	1.54	0.87
1:A:121:G:H2'	1:A:122:U:H5'	1.53	0.87
1:A:910:A:O2'	1:A:911:U:H5'	1.74	0.87
1:A:1603:A:H5'	19:E:55:LYS:CD	2.02	0.87
22:d:93:LEU:O	22:d:95:LEU:N	2.07	0.87
1:A:1634:C:H5''	14:V:145:LYS:NZ	1.89	0.87
1:A:2205:G:H2'	1:A:2206:A:C8	2.07	0.87
1:A:2213:A:H62	1:A:2241:G:N2	1.68	0.87
28:I:91:ARG:HA	28:I:109:ARG:HH22	1.38	0.87
1:A:858:G:O2'	1:A:859:A:H5'	1.74	0.87
1:A:891:G:O2'	1:A:892:C:H5'	1.74	0.87
1:A:495:A:H1'	15:W:122:ILE:HG12	1.57	0.87
1:A:2322:A:N1	27:H:204:GLY:CA	2.37	0.87
6:N:205:GLU:CD	6:N:224:LYS:CE	2.47	0.87
11:S:91:LEU:CD1	12:T:175:PRO:CA	2.52	0.87
12:T:103:TYR:CD2	12:T:106:ILE:HD12	2.09	0.87
16:X:122:LEU:O	16:X:137:VAL:HA	1.72	0.87
19:E:226:HIS:CE1	19:E:228:HIS:CD2	2.60	0.87
1:A:363:C:H2'	1:A:364:U:C6	2.08	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1472:A:N6	1:A:1479:U:C5	2.42	0.87
1:A:1474:A:O2'	1:A:1475:U:OP1	1.92	0.87
1:A:1689:C:OP1	2:C:18:G:N1	2.06	0.87
4:L:175:ARG:HH22	4:L:184:LYS:HZ2	1.23	0.87
25:F:135:ASN:HD22	25:F:175:SER:HA	1.38	0.87
1:A:44:G:H8	1:A:200:G:H2'	1.40	0.87
1:A:49:G:O2'	18:Z:130:LYS:CD	2.23	0.87
1:A:287:A:H2'	1:A:288:C:C6	2.09	0.87
1:A:2417:G:O2'	21:c:28:ARG:HB2	1.74	0.87
3:B:93:C:O2'	3:B:94:C:H5'	1.74	0.87
1:A:381:C:O2	1:A:416:C:N4	2.08	0.87
1:A:823:C:HO2'	1:A:1247:A:HO2'	1.04	0.87
1:A:2331:G:N2	27:H:182:SER:OG	2.06	0.87
1:A:2495:A:P	24:f:39:LYS:HE2	2.14	0.87
1:A:292:C:H2'	1:A:293:G:H8	1.34	0.87
1:A:1219:U:O2	11:S:5:LYS:CE	2.23	0.87
1:A:1755:A:H2'	1:A:1756:G:H8	1.40	0.87
1:A:2322:A:O2'	1:A:2323:C:H5'	1.74	0.87
1:A:279:A:N7	1:A:379:C:C5	2.42	0.86
1:A:2117:U:O2	1:A:2200:A:C2	2.28	0.86
3:B:34:C:O2	3:B:52:G:C2	2.27	0.86
14:V:109:LEU:HD11	14:V:141:ARG:C	1.99	0.86
17:Y:87:ARG:HB3	17:Y:97:ARG:HE	1.40	0.86
27:H:106:ALA:HB1	27:H:140:ILE:HG21	1.57	0.86
1:A:103:C:O2'	1:A:104:C:H5'	1.74	0.86
1:A:143:G:C2'	1:A:144:A:H5'	2.05	0.86
1:A:553:G:H1	1:A:561:C:H42	1.23	0.86
25:F:144:LEU:CD1	25:F:166:ARG:HB2	2.04	0.86
1:A:2121:C:N4	1:A:2196:G:H22	1.72	0.86
28:I:42:ARG:HG3	28:I:44:GLY:H	1.37	0.86
1:A:909:A:H2'	1:A:910:A:C8	2.09	0.86
1:A:913:G:O2'	1:A:914:A:H5'	1.75	0.86
1:A:2109:C:H3'	1:A:2110:U:C5	2.09	0.86
2:C:85:U:O2'	2:C:86:A:H5'	1.76	0.86
6:N:159:PRO:CB	6:N:187:ILE:CD1	2.43	0.86
15:W:85:LYS:HD3	15:W:104:LEU:HD13	1.57	0.86
26:G:80:ALA:O	26:G:84:VAL:HG12	1.75	0.86
1:A:274:G:C2	1:A:433:C:H5	1.84	0.86
1:A:649:A:H5''	6:N:203:GLU:HB2	1.56	0.86
16:X:101:PHE:CD1	16:X:133:LYS:CB	2.59	0.86
16:X:101:PHE:CE1	16:X:133:LYS:CG	2.59	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:I:130:VAL:HG12	28:I:200:LYS:HG3	1.56	0.86
1:A:1529:A:N1	1:A:1537:U:C4	2.43	0.86
2:C:75:U:H3'	2:C:76:G:H5'	1.55	0.86
15:W:161:LEU:HD12	15:W:168:VAL:CG2	2.04	0.86
19:E:245:PRO:HG2	19:E:246:TRP:CE3	2.10	0.86
25:F:144:LEU:CD1	25:F:166:ARG:CZ	2.52	0.86
1:A:1829:A:OP1	19:E:151:ALA:HA	1.76	0.86
2:C:81:A:O2'	2:C:82:U:H5'	1.74	0.86
22:d:93:LEU:HD23	22:d:94:CYS:N	1.90	0.86
1:A:49:G:HO2'	18:Z:130:LYS:HD2	1.40	0.86
1:A:2154:C:C4	1:A:2165:G:N2	2.33	0.86
3:B:91:G:H22	7:O:38:GLU:CD	1.83	0.86
1:A:883:C:O4'	7:O:65:TRP:CZ3	2.29	0.86
2:C:72:A:H2'	2:C:73:G:H5'	1.57	0.86
6:N:182:LYS:HE2	6:N:189:PRO:HG2	1.57	0.86
12:T:96:PRO:CA	12:T:98:PRO:HD3	2.05	0.86
1:A:1:U:O2'	1:A:2:U:H5'	1.75	0.86
1:A:639:A:H62	6:N:201:LEU:CD1	1.87	0.86
1:A:2708:C:HO2'	2:C:75:U:HO2'	0.94	0.86
1:A:164:A:OP1	22:d:125:LYS:HE2	1.76	0.85
1:A:1287:G:O6	13:U:42:SER:OG	1.93	0.85
1:A:1529:A:C2	1:A:1537:U:N3	2.44	0.85
1:A:1751:A:N3	1:A:1753:A:N7	2.24	0.85
1:A:1879:U:C2	1:A:1887:G:N2	2.44	0.85
1:A:2556:C:C5'	24:f:40:ILE:HD12	2.06	0.85
4:L:177:SER:OG	4:L:182:GLY:HA3	1.76	0.85
1:A:671:C:H5''	26:G:150:ILE:HG23	1.57	0.85
1:A:856:U:O2'	1:A:857:G:OP1	1.94	0.85
1:A:1499:G:H1	1:A:1546:C:H42	0.89	0.85
2:C:103:G:O2'	2:C:104:A:H5'	1.76	0.85
17:Y:87:ARG:HD2	17:Y:97:ARG:HD3	1.57	0.85
31:a:46:ARG:NH2	31:a:65:GLN:N	2.24	0.85
1:A:890:G:O2'	1:A:891:G:H5'	1.76	0.85
1:A:898:G:C8	1:A:899:A:C8	2.64	0.85
4:L:100:TRP:CE3	4:L:101:TYR:HB2	2.10	0.85
5:M:15:GLY:HA3	5:M:50:THR:HG21	1.57	0.85
1:A:83:A:N3	1:A:101:A:N6	2.24	0.85
1:A:274:G:N7	1:A:433:C:C5'	2.39	0.85
1:A:855:C:H2'	1:A:856:U:O4'	1.75	0.85
1:A:1811:A:C6	19:E:261:TYR:OH	2.29	0.85
1:A:1887:G:H2'	1:A:1888:G:H8	1.41	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:N:140:ILE:HD13	23:e:112:ARG:HD2	1.58	0.85
12:T:123:ILE:HD11	12:T:227:TYR:CE1	2.11	0.85
1:A:6:A:O2'	1:A:7:C:H5'	1.74	0.85
1:A:119:A:H5'	1:A:133:A:OP2	1.77	0.85
1:A:270:G:H2'	1:A:271:G:H5'	1.56	0.85
1:A:670:A:H2'	1:A:671:C:C6	2.12	0.85
1:A:1039:A:C2	1:A:1178:G:C6	2.64	0.85
1:A:1812:A:O2'	1:A:1813:A:H5'	1.77	0.85
1:A:2475:G:H5'	32:h:49:SER:HA	1.58	0.85
3:B:34:C:C2	3:B:52:G:C2	2.63	0.85
10:R:127:ASN:O	10:R:131:VAL:HG23	1.75	0.85
1:A:903:G:H2'	1:A:904:U:C5'	2.07	0.85
1:A:1224:U:C1'	6:N:83:ASP:OD1	2.25	0.85
1:A:1885:C:N4	6:N:253:ALA:CB	2.39	0.85
1:A:2234:G:O2'	1:A:2235:C:H5'	1.76	0.85
1:A:2647:A:C4	2:C:98:G:C2	2.65	0.85
1:A:2684:C:C5	28:I:150:SER:CB	2.59	0.85
2:C:31:U:C2	2:C:38:G:N7	2.44	0.85
12:T:171:TYR:CD2	12:T:231:PRO:CA	2.57	0.85
27:H:161:LEU:HD12	31:a:73:TRP:CE2	2.12	0.85
1:A:1882:U:C5	1:A:1883:G:C5	2.65	0.85
3:B:35:A:H2	3:B:51:G:C4	1.94	0.85
12:T:169:SER:CA	12:T:233:SER:CB	2.54	0.85
1:A:3:C:O2'	1:A:4:A:H5'	1.76	0.85
1:A:622:G:H1'	1:A:628:A:H61	1.39	0.85
1:A:1159:G:C8	4:L:176:HIS:CE1	2.65	0.85
15:W:70:LYS:O	15:W:89:ILE:HD11	1.76	0.85
15:W:161:LEU:HD11	15:W:168:VAL:HG22	1.58	0.85
1:A:152:G:C2	1:A:153:G:N7	2.45	0.85
1:A:345:C:O2'	1:A:346:A:H5'	1.77	0.85
1:A:911:U:O2'	1:A:912:C:H5'	1.77	0.85
6:N:165:ILE:HD11	6:N:207:SER:OG	1.75	0.85
1:A:914:A:C2'	1:A:915:G:H5'	2.06	0.85
1:A:1516:G:N7	1:A:1517:G:C8	2.45	0.85
1:A:1527:G:O6	1:A:1539:C:N4	2.09	0.85
1:A:2151:G:O6	1:A:2152:C:N4	2.10	0.85
2:C:49:A:C6	2:C:76:G:N2	2.45	0.85
2:C:102:U:H2'	2:C:103:G:H5'	1.56	0.85
6:N:158:VAL:CG1	6:N:201:LEU:HG	2.06	0.85
15:W:159:ARG:HB2	15:W:168:VAL:HB	1.58	0.85
22:d:118:THR:HA	22:d:121:ARG:NH2	1.92	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:280:G:H22	1:A:376:U:H3	1.25	0.84
1:A:287:A:C2	1:A:288:C:N3	2.45	0.84
1:A:1535:A:C8	19:E:95:GLY:HA3	2.12	0.84
1:A:1596:U:H2'	1:A:1597:C:H5'	1.56	0.84
1:A:2767:A:O2'	28:I:103:GLN:OE1	1.93	0.84
2:C:102:U:C2'	2:C:103:G:H5'	2.07	0.84
3:B:32:A:C2'	3:B:33:C:H5'	2.06	0.84
4:L:102:PRO:HA	11:S:99:GLN:HE22	1.40	0.84
6:N:210:LEU:H	6:N:230:CYS:HB2	1.42	0.84
10:R:123:MET:HE3	25:F:98:GLY:HA3	1.58	0.84
15:W:58:PRO:HD2	15:W:61:LEU:O	1.75	0.84
1:A:274:G:C5	1:A:433:C:C6	2.65	0.84
1:A:877:C:H2'	1:A:878:U:C6	2.11	0.84
1:A:934:A:H1'	1:A:935:U:H5'	1.57	0.84
1:A:1080:C:H2'	1:A:1081:C:O4'	1.78	0.84
1:A:1408:A:OP1	30:g:85:ILE:O	1.95	0.84
1:A:2121:C:N4	1:A:2197:A:C2	2.45	0.84
3:B:7:G:O6	3:B:117:A:N1	2.09	0.84
1:A:279:A:C6	1:A:379:C:N4	2.45	0.84
1:A:2113:G:N2	1:A:2204:A:C6	2.34	0.84
1:A:2219:U:H3'	1:A:2220:G:H5'	1.57	0.84
1:A:2579:U:O2	5:M:23:ARG:NH2	2.10	0.84
1:A:252:C:O2'	1:A:253:C:H5'	1.76	0.84
1:A:1538:G:O2'	1:A:1539:C:H5'	1.77	0.84
1:A:1809:G:N7	19:E:172:LEU:HD13	1.93	0.84
2:C:38:G:N2	25:F:145:ARG:NH2	2.16	0.84
3:B:42:C:OP1	3:B:44:C:C5	2.29	0.84
6:N:158:VAL:CG1	6:N:201:LEU:HD21	2.06	0.84
10:R:123:MET:CE	25:F:97:LEU:C	2.49	0.84
19:E:226:HIS:ND1	19:E:228:HIS:HD2	1.75	0.84
28:I:46:GLN:HB3	28:I:109:ARG:CD	2.08	0.84
1:A:313:A:N1	1:A:323:G:O6	2.09	0.84
1:A:1021:A:H1'	12:T:214:GLN:HE21	1.40	0.84
1:A:1039:A:N1	1:A:1178:G:C6	2.45	0.84
1:A:1211:G:H5''	6:N:111:GLY:HA2	0.87	0.84
1:A:1470:A:H2	1:A:1482:C:O2	1.61	0.84
1:A:2049:G:H5'	1:A:2050:C:H5	1.41	0.84
1:A:2507:G:O6	32:h:48:SER:HB3	1.77	0.84
2:C:32:C:H1'	2:C:33:A:C5'	2.07	0.84
4:L:171:LYS:NZ	4:L:173:TYR:OH	2.11	0.84
14:V:104:TYR:HD1	18:Z:142:ARG:CD	1.90	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:134:LYS:NZ	16:X:134:LYS:HB3	1.91	0.84
1:A:267:C:H2'	1:A:268:G:C8	2.12	0.84
1:A:1471:A:O2'	1:A:1472:A:OP1	1.95	0.84
1:A:2202:C:H2'	1:A:2203:U:C6	2.12	0.84
3:B:37:U:O2'	3:B:38:C:H5'	1.76	0.84
12:T:116:PRO:HD2	12:T:117:PRO:HD3	1.58	0.84
13:U:79:LEU:HD22	13:U:134:ILE:HD12	1.58	0.84
3:B:30:A:H2'	3:B:31:C:C6	2.12	0.84
5:M:24:ILE:HG21	5:M:33:ALA:HB2	1.58	0.84
16:X:143:GLN:O	16:X:145:GLU:N	2.09	0.84
1:A:530:U:H5''	13:U:54:ARG:HH22	1.43	0.84
1:A:1552:U:H2'	1:A:1553:U:C6	2.13	0.84
1:A:1660:G:C5'	30:g:90:LEU:HD21	2.03	0.84
3:B:91:G:C2	7:O:38:GLU:OE2	2.30	0.84
6:N:165:ILE:HG13	6:N:206:LEU:C	2.03	0.84
6:N:197:PRO:CB	6:N:215:ARG:HD2	2.06	0.84
1:A:75:C:P	18:Z:110:LYS:HZ1	2.00	0.84
1:A:1023:C:C2	4:L:102:PRO:HD3	2.09	0.84
11:S:91:LEU:HD12	12:T:175:PRO:CA	2.06	0.84
1:A:83:A:C5	1:A:98:G:C6	2.66	0.84
1:A:2739:A:N1	2:C:77:A:N6	2.26	0.84
6:N:235:LEU:HD12	6:N:236:PRO:HD2	1.59	0.84
1:A:131:C:C5	14:V:104:TYR:CE2	2.65	0.83
1:A:350:G:O2'	1:A:351:C:H5'	1.77	0.83
1:A:902:G:C2'	1:A:903:G:H5''	2.07	0.83
1:A:946:A:N6	1:A:950:A:N6	2.26	0.83
1:A:1080:C:C3'	1:A:1081:C:H5''	2.07	0.83
1:A:1238:G:N2	1:A:1252:C:N3	2.26	0.83
1:A:2119(A):U:H3	1:A:2199:G:H1	1.21	0.83
2:C:38:G:H22	25:F:145:ARG:NH2	1.32	0.83
1:A:342:G:O2'	1:A:343:U:H5'	1.77	0.83
1:A:2124:G:C2	1:A:2194:U:O2	2.29	0.83
2:C:17:A:OP2	8:P:13:HIS:NE2	2.11	0.83
1:A:151:G:O2'	1:A:152:G:H5'	1.79	0.83
1:A:1219:U:O2	11:S:5:LYS:HE2	1.77	0.83
1:A:288:C:O2'	1:A:289:A:H5'	1.78	0.83
1:A:2188:C:O2'	1:A:2189:C:H5'	1.79	0.83
1:A:290:A:O2'	1:A:291:G:H5'	1.77	0.83
1:A:318:A:N6	1:A:339:A:N6	2.26	0.83
1:A:883:C:H2'	1:A:884:G:H8	1.43	0.83
1:A:919:A:N6	7:O:12:GLN:HA	1.92	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1176:C:C4	32:h:70:TRP:CZ2	2.65	0.83
1:A:1361:U:O4	14:V:168:PRO:CB	2.27	0.83
1:A:1470:A:H2	1:A:1482:C:C2	1.95	0.83
1:A:1504:C:H2'	1:A:1505:C:C5	2.13	0.83
1:A:2236:C:C2'	1:A:2237:A:H5''	2.08	0.83
1:A:2659:G:H5'	4:L:179:ARG:NH2	1.94	0.83
3:B:86:G:O2'	3:B:87:G:H5'	1.79	0.83
6:N:129:PHE:CE2	6:N:131:GLY:HA2	2.12	0.83
1:A:344:C:O2'	1:A:345:C:H5'	1.77	0.83
6:N:158:VAL:HG11	6:N:201:LEU:CD2	2.08	0.83
27:H:162:PRO:CB	31:a:71:GLU:CD	2.45	0.83
1:A:2393:A:C2	9:Q:166:PHE:CZ	2.66	0.83
2:C:77:A:C1'	8:P:16:LYS:HB2	2.04	0.83
12:T:176:ILE:CD1	32:h:86:PRO:HD3	2.08	0.83
12:T:177:VAL:HA	12:T:230:TYR:OH	1.78	0.83
14:V:109:LEU:HD11	14:V:141:ARG:CB	2.09	0.83
1:A:133:A:H2'	1:A:134:A:C8	2.13	0.83
1:A:1483:G:H2'	1:A:1484:G:H8	1.44	0.83
2:C:53:G:N2	10:R:144:ARG:NH1	2.26	0.83
10:R:137:LEU:HD12	10:R:137:LEU:O	1.78	0.83
1:A:144:A:N6	1:A:150:U:H3	1.76	0.83
1:A:289:A:O2'	1:A:290:A:H5'	1.78	0.83
1:A:302:C:O2'	1:A:303:U:H5'	1.78	0.83
1:A:914:A:O2'	1:A:915:G:H5'	1.78	0.83
22:d:106:ALA:O	22:d:110:GLY:N	2.11	0.83
31:a:46:ARG:C	31:a:62:GLY:HA2	2.04	0.83
1:A:121:G:C2'	1:A:122:U:H5'	2.08	0.82
1:A:253:C:O2	1:A:437:G:C2	2.31	0.82
1:A:702:C:P	19:E:213:ARG:NH1	2.52	0.82
1:A:880:U:C2'	1:A:881:U:H5'	2.09	0.82
1:A:2318:C:O2'	1:A:2319:C:H5'	1.79	0.82
2:C:35:U:O2'	2:C:36:A:OP1	1.96	0.82
3:B:34:C:O2	3:B:52:G:N3	2.11	0.82
4:L:172:LEU:CD2	4:L:185:GLU:OE2	2.27	0.82
31:a:46:ARG:NH2	31:a:64:THR:C	2.36	0.82
1:A:44:G:N7	1:A:200:G:C2'	2.42	0.82
1:A:181:A:N7	6:N:117:GLN:NE2	2.28	0.82
1:A:345:C:H2'	1:A:346:A:C8	2.14	0.82
1:A:2328:A:C4'	27:H:127:ILE:HD11	2.09	0.82
3:B:15:A:O2'	3:B:16:G:H5''	1.78	0.82
3:B:32:A:O2'	3:B:33:C:H5'	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:160:A:H2	1:A:161:G:N7	1.75	0.82
1:A:256:A:H8	1:A:380:C:HO2'	0.82	0.82
1:A:390:U:O2'	1:A:391:G:H5'	1.79	0.82
1:A:1536:A:H5''	1:A:1536:A:N3	1.93	0.82
1:A:1754:A:C8	1:A:1755:A:C8	2.67	0.82
1:A:2108:G:N3	1:A:2108:G:H5'	1.94	0.82
1:A:2154:C:H42	1:A:2165:G:H1	1.28	0.82
3:B:36:A:N6	3:B:45:G:N7	2.27	0.82
12:T:171:TYR:CD2	12:T:231:PRO:CB	2.59	0.82
1:A:139:U:C2	1:A:140:G:N7	2.47	0.82
1:A:861:A:O2'	1:A:862:U:H5'	1.80	0.82
1:A:1573:C:H2'	1:A:1574:G:H8	1.44	0.82
1:A:2764:U:O4	1:A:2774:U:C4	2.32	0.82
10:R:122:ILE:O	10:R:125:ILE:HG22	1.78	0.82
12:T:176:ILE:CD1	32:h:86:PRO:CD	2.57	0.82
31:a:48:ASP:HB2	31:a:67:ASP:O	1.73	0.82
32:h:55:GLY:O	32:h:56:THR:OG1	1.95	0.82
1:A:329:C:C2	26:G:222:ASN:ND2	2.48	0.82
1:A:329:C:H1'	26:G:222:ASN:HD21	1.42	0.82
1:A:671:C:O2'	1:A:672:U:H5'	1.80	0.82
1:A:1545:G:C8	1:A:1546:C:C5	2.68	0.82
4:L:173:TYR:HD1	4:L:202:HIS:HD1	1.26	0.82
7:O:70:PRO:HA	7:O:95:ALA:HB2	1.61	0.82
19:E:232:GLU:N	19:E:232:GLU:OE1	2.12	0.82
1:A:1545:G:H2'	1:A:1546:C:H6	1.42	0.82
1:A:2068:A:C2	20:b:5:LYS:HG3	2.15	0.82
16:X:101:PHE:HD1	16:X:133:LYS:HB3	1.43	0.82
1:A:2129:G:C1'	1:A:2180:G:H21	1.91	0.82
1:A:2804:U:OP1	25:F:159:LYS:CG	2.25	0.82
2:C:30:A:C6	2:C:83:C:O2'	2.33	0.82
15:W:56:CYS:O	15:W:62:PRO:HA	1.79	0.82
15:W:70:LYS:N	15:W:73:ASP:OD2	2.12	0.82
1:A:3:C:H2'	1:A:4:A:H8	1.42	0.82
1:A:83:A:C6	1:A:98:G:C6	2.67	0.82
1:A:626:C:C5	1:A:627:C:C5	2.68	0.82
1:A:1536:A:C2	1:A:1537:U:H5	1.98	0.82
1:A:1810:C:H4'	1:A:1811:A:C5'	2.09	0.82
1:A:1886:A:C2'	1:A:1887:G:H5'	2.09	0.82
1:A:2116:C:N4	1:A:2201:G:H22	1.78	0.82
1:A:2202:C:O2'	1:A:2203:U:H5'	1.80	0.82
12:T:170:THR:HG23	12:T:172:ILE:CD1	2.10	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1521:G:C4	1:A:1543:G:N2	2.47	0.82
24:f:59:ARG:NH1	24:f:73:GLN:O	2.11	0.82
1:A:123:C:O2	22:d:103:LYS:HG3	1.79	0.82
1:A:125:A:OP2	22:d:140:ASN:ND2	2.13	0.82
1:A:2730:A:H8	1:A:2731:C:H5'	1.45	0.82
26:G:73:LYS:N	26:G:261:VAL:O	2.13	0.82
32:h:54:LYS:O	32:h:58:HIS:N	2.11	0.82
1:A:1809:G:OP1	19:E:256:ARG:NH1	2.11	0.81
1:A:912:C:O2'	1:A:913:G:H5'	1.79	0.81
1:A:2035:A:P	20:b:9:SER:HG	2.02	0.81
1:A:2103:G:C2'	1:A:2104:A:H5'	2.11	0.81
1:A:2234:G:C2'	1:A:2235:C:H5'	2.09	0.81
12:T:169:SER:C	12:T:233:SER:HB3	2.04	0.81
13:U:154:PRO:HA	13:U:157:LEU:HD12	1.61	0.81
18:Z:76:LEU:HD12	18:Z:115:MET:HE1	1.60	0.81
1:A:989:G:C8	32:h:54:LYS:HD2	2.15	0.81
1:A:1135:A:O2'	1:A:1136:U:H5'	1.80	0.81
1:A:1689:C:H41	8:P:19:ARG:HE	1.26	0.81
1:A:2109:C:C6	1:A:2110:U:C6	2.67	0.81
1:A:2114:G:C6	1:A:2204:A:C6	2.68	0.81
1:A:2227:C:O2'	1:A:2228:C:H5'	1.80	0.81
1:A:2288:G:OP1	16:X:76:ARG:HA	1.79	0.81
6:N:81:ARG:CZ	26:G:243:GLU:HB2	2.09	0.81
18:Z:76:LEU:HD12	18:Z:115:MET:HE3	1.57	0.81
29:J:76:ASN:O	29:J:80:PRO:HG2	1.79	0.81
1:A:253:C:O2	1:A:437:G:N2	2.13	0.81
1:A:355:A:N7	1:A:356:A:C8	2.48	0.81
1:A:823:C:O2'	1:A:1247:A:O2'	1.86	0.81
1:A:1547:C:C2'	1:A:1548:A:H5'	2.11	0.81
1:A:2322:A:C6	27:H:204:GLY:HA2	2.14	0.81
6:N:198:LEU:HD23	6:N:199:LYS:N	1.95	0.81
1:A:856:U:O4	1:A:962:G:O6	1.99	0.81
1:A:2325:G:O6	1:A:2328:A:N6	2.12	0.81
11:S:91:LEU:HD12	12:T:175:PRO:CB	2.09	0.81
31:a:48:ASP:HB3	31:a:68:TYR:CD1	2.14	0.81
1:A:2:U:O2'	1:A:3:C:H5'	1.81	0.81
1:A:357:G:O2'	1:A:358:C:H5'	1.80	0.81
1:A:1501:G:O3'	1:A:1502:A:H4'	1.80	0.81
4:L:171:LYS:C	4:L:172:LEU:HD12	2.06	0.81
31:a:47:GLU:CG	31:a:61:THR:N	2.40	0.81
1:A:381:C:O2	1:A:416:C:C4	2.33	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2698:C:OP1	25:F:285:LYS:HD3	1.81	0.81
27:H:175:PHE:HD1	27:H:183:VAL:HG13	1.45	0.81
1:A:361:C:H2'	1:A:362:A:H8	1.43	0.81
1:A:862:U:O2'	1:A:863:C:H5'	1.79	0.81
1:A:917:C:O2'	1:A:918:A:H5'	1.81	0.81
1:A:1651:C:C6	13:U:116:PRO:HG3	2.15	0.81
1:A:2150:G:N1	1:A:2151:G:C2	2.49	0.81
6:N:159:PRO:HB3	6:N:187:ILE:HD13	1.63	0.81
6:N:224:LYS:HB2	6:N:224:LYS:NZ	1.96	0.81
26:G:208:PHE:CB	26:G:229:LEU:HB2	2.11	0.81
1:A:101:A:C6	1:A:102:U:C4	2.67	0.81
1:A:1516:G:C5	1:A:1517:G:C8	2.69	0.81
1:A:1547:C:O2'	1:A:1548:A:H5'	1.81	0.81
1:A:1650:A:P	1:A:1650:A:H8	2.04	0.81
31:a:48:ASP:CB	31:a:68:TYR:CD1	2.64	0.81
1:A:861:A:C2'	1:A:862:U:H5'	2.11	0.81
6:N:156:LYS:HZ3	6:N:215:ARG:NH1	1.47	0.81
1:A:829:G:N1	1:A:1209:U:OP2	2.14	0.80
1:A:955:G:H2'	1:A:956:G:H5'	1.62	0.80
1:A:1472:A:N6	1:A:1479:U:O4	2.14	0.80
1:A:1745:C:H2'	1:A:1746:C:C6	2.15	0.80
1:A:1879:U:H2'	1:A:1880:G:C8	2.16	0.80
2:C:78:G:O2'	2:C:79:G:H5'	1.79	0.80
2:C:103:G:H2'	2:C:104:A:H8	1.43	0.80
1:A:293:G:C2	1:A:294:U:C4	2.69	0.80
1:A:629:C:H5'	26:G:258:ARG:HH22	1.46	0.80
1:A:1090:U:H3	1:A:1104:C:H42	1.27	0.80
1:A:2107:G:C6	1:A:2242:A:H8	1.99	0.80
19:E:176:GLU:HA	19:E:268:ARG:HB2	1.62	0.80
1:A:337:U:O2	1:A:341:A:N6	2.15	0.80
1:A:932:A:H4'	16:X:85:GLN:NE2	1.94	0.80
1:A:1751:A:C2	1:A:1753:A:H8	1.98	0.80
1:A:1755:A:H2'	1:A:1756:G:C8	2.17	0.80
1:A:1879:U:O2	1:A:1887:G:N2	2.14	0.80
6:N:136:LEU:CD1	23:e:142:ASP:CG	2.53	0.80
1:A:262:G:H21	1:A:265:A:P	2.04	0.80
1:A:901:C:H2'	1:A:902:G:O4'	1.82	0.80
6:N:158:VAL:CG1	6:N:201:LEU:CG	2.59	0.80
1:A:111:U:P	18:Z:134:ARG:HH11	2.05	0.80
1:A:942:U:H2'	1:A:943:C:O4'	1.81	0.80
1:A:1483:G:H2'	1:A:1484:G:C8	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:238:C:OP2	23:e:93:LYS:HE3	1.82	0.80
1:A:274:G:O6	1:A:433:C:C4'	2.29	0.80
1:A:1879:U:C5	6:N:252:ARG:NH1	2.50	0.80
3:B:35:A:N1	3:B:51:G:N1	2.29	0.80
4:L:175:ARG:NH2	4:L:184:LYS:CE	2.45	0.80
1:A:635:C:O2'	1:A:636:C:H5'	1.82	0.80
1:A:1526:G:H2'	1:A:1527:G:O4'	1.80	0.80
1:A:2192:U:O2'	1:A:2193:C:O4'	1.99	0.80
1:A:2647:A:C8	2:C:98:G:C4	2.70	0.80
11:S:91:LEU:HD12	12:T:175:PRO:C	2.07	0.80
14:V:104:TYR:CD1	18:Z:142:ARG:CD	2.65	0.80
1:A:355:A:H2'	1:A:356:A:C5'	2.11	0.80
3:B:67:U:C4	3:B:109:U:C5	2.69	0.80
4:L:175:ARG:NH2	4:L:184:LYS:CD	2.45	0.80
12:T:177:VAL:CA	12:T:230:TYR:OH	2.29	0.80
26:G:193:ALA:O	26:G:197:TRP:CB	2.30	0.80
1:A:329:C:O2'	26:G:222:ASN:ND2	2.13	0.80
1:A:1745:C:O2'	1:A:1746:C:H5'	1.82	0.80
1:A:2154:C:N4	1:A:2165:G:N2	2.28	0.80
6:N:158:VAL:CG1	6:N:201:LEU:CD2	2.60	0.80
15:W:161:LEU:CD1	15:W:168:VAL:HG23	2.08	0.80
16:X:101:PHE:CE1	16:X:133:LYS:HG2	2.17	0.80
25:F:223:THR:HG22	25:F:224:HIS:H	1.45	0.80
1:A:389:A:C6	1:A:410:G:N1	2.50	0.80
1:A:624:A:C8	1:A:625:C:C5	2.69	0.80
1:A:1347:U:O4	1:A:1683:G:O2'	1.99	0.80
1:A:2074:A:N6	26:G:125:ARG:HH22	1.80	0.80
1:A:2653:U:H5'	25:F:170:GLU:OE2	1.82	0.80
2:C:104:A:O2'	2:C:105:A:H5'	1.81	0.80
16:X:122:LEU:HG	16:X:140:ARG:HB2	1.64	0.80
1:A:355:A:C8	1:A:356:A:N9	2.49	0.79
1:A:1745:C:N4	1:A:1746:C:N4	2.29	0.79
1:A:2753:C:H42	1:A:2787:C:H42	1.29	0.79
1:A:274:G:C5	1:A:433:C:H6	1.99	0.79
1:A:2156:C:C2	1:A:2164:G:N2	2.46	0.79
6:N:158:VAL:HG12	6:N:201:LEU:HG	1.63	0.79
12:T:169:SER:CB	12:T:233:SER:CB	2.59	0.79
1:A:80:G:H2'	1:A:81:G:C8	2.17	0.79
1:A:310:A:N1	1:A:342:G:O2'	2.14	0.79
1:A:878:U:O2'	1:A:879:G:H5'	1.81	0.79
1:A:1811:A:C5	19:E:261:TYR:OH	2.35	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2116:C:C2'	1:A:2117:U:H5'	2.12	0.79
1:A:2337:C:H5'	1:A:2350:A:N6	1.96	0.79
2:C:76:G:H3'	2:C:76:G:OP2	1.82	0.79
3:B:26:A:C2	3:B:27:A:C8	2.71	0.79
16:X:159:ARG:O	16:X:162:ARG:HG3	1.81	0.79
1:A:1751:A:H3'	1:A:1752:C:C4'	2.13	0.79
1:A:2157:U:H3	1:A:2162:G:H1	1.30	0.79
1:A:2643:C:O2'	1:A:2644:G:H5'	1.83	0.79
2:C:105:A:O2'	2:C:106:C:H5'	1.82	0.79
13:U:117:ARG:HD2	13:U:123:TYR:HE2	1.46	0.79
1:A:3:C:H2'	1:A:4:A:C8	2.17	0.79
5:M:17:ARG:HH11	5:M:47:ILE:HG12	1.48	0.79
6:N:165:ILE:CD1	6:N:207:SER:N	2.45	0.79
26:G:67:GLU:OE2	26:G:69:PHE:HB3	1.83	0.79
1:A:616:U:P	26:G:155:LYS:NZ	2.56	0.79
1:A:702:C:O5'	19:E:213:ARG:NH1	2.16	0.79
1:A:2247:C:H1'	17:Y:102:ASN:CB	2.12	0.79
2:C:38:G:H22	25:F:145:ARG:HH21	1.27	0.79
1:A:1885:C:H41	6:N:253:ALA:HB2	1.43	0.79
2:C:26:G:H2'	2:C:27:U:H5'	1.65	0.79
15:W:152:LEU:HD12	15:W:154:ASP:H	1.47	0.79
1:A:853:G:N1	1:A:965:G:C6	2.51	0.79
1:A:1176:C:H5	32:h:70:TRP:NE1	1.81	0.79
1:A:1832:G:OP1	19:E:212:LYS:NZ	2.14	0.79
28:I:46:GLN:HB3	28:I:109:ARG:HD2	1.65	0.79
1:A:294:U:H2'	1:A:295:C:C2	2.17	0.79
1:A:369:U:O2'	1:A:370:A:OP1	1.98	0.79
1:A:543:A:N6	1:A:2034:C:O2'	2.16	0.79
1:A:1393:U:HO2'	1:A:2230:A:H2'	1.47	0.79
10:R:173:GLN:HB2	10:R:180:THR:HG22	1.64	0.79
25:F:117:PHE:CA	25:F:141:TYR:OH	2.26	0.79
1:A:639:A:N7	6:N:201:LEU:HD11	1.98	0.79
1:A:2109:C:H3'	1:A:2110:U:C6	2.17	0.79
1:A:2803:C:O2'	1:A:2804:U:O5'	2.01	0.79
2:C:84:C:O2'	2:C:85:U:H5'	1.82	0.79
6:N:143:LEU:HG	6:N:146:ILE:CD1	2.05	0.79
1:A:228:U:OP1	23:e:96:LYS:NZ	2.12	0.78
1:A:822:U:C6	1:A:1272:A:N3	2.51	0.78
1:A:1237:C:P	11:S:11:ARG:HH21	2.07	0.78
4:L:107:HIS:ND1	4:L:107:HIS:O	2.16	0.78
25:F:98:GLY:H	25:F:286:PRO:HB3	1.48	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1830:U:C2	19:E:197:ASN:ND2	2.51	0.78
1:A:1878:C:N4	1:A:1887:G:O6	2.16	0.78
6:N:205:GLU:CD	6:N:224:LYS:CD	2.46	0.78
16:X:153:ARG:HG2	16:X:153:ARG:NH1	1.97	0.78
1:A:935:U:O2'	1:A:936:A:O5'	2.01	0.78
1:A:2196:G:H2'	1:A:2197:A:C8	2.19	0.78
1:A:2433:C:OP1	6:N:145:GLY:N	2.17	0.78
6:N:106:GLN:OE1	6:N:106:GLN:N	2.17	0.78
6:N:160:ILE:HG22	6:N:203:GLU:OE2	1.82	0.78
6:N:189:PRO:HB3	6:N:196:LEU:HD21	1.65	0.78
26:G:204:LYS:H	26:G:225:THR:HB	1.46	0.78
1:A:133:A:C6	1:A:162:A:H2	2.00	0.78
1:A:1879:U:N3	1:A:1887:G:N1	2.30	0.78
1:A:2319:C:O2'	1:A:2320:G:H5'	1.84	0.78
1:A:2798:G:H1	4:L:201:GLU:CD	1.91	0.78
3:B:91:G:N2	7:O:38:GLU:OE2	2.17	0.78
1:A:2129:G:C2'	1:A:2131:U:C5	2.63	0.78
1:A:2393:A:H2	9:Q:166:PHE:HZ	1.29	0.78
1:A:2684:C:H5	28:I:150:SER:CB	1.92	0.78
1:A:2752:G:H3'	1:A:2753:C:H4'	1.66	0.78
14:V:114:ILE:HG23	14:V:115:LEU:CD1	2.12	0.78
1:A:262:G:N2	1:A:265:A:OP2	2.17	0.78
1:A:296:G:H2'	1:A:297:U:C6	2.18	0.78
1:A:382:G:H3'	1:A:435:A:N7	1.97	0.78
1:A:883:C:C4'	7:O:65:TRP:CZ3	2.67	0.78
1:A:955:G:C2'	1:A:956:G:H5'	2.13	0.78
1:A:1479:U:H5''	1:A:1480:A:OP1	1.83	0.78
1:A:2320:G:O2'	1:A:2321:G:H5'	1.83	0.78
3:B:87:G:C2	3:B:93:C:O2	2.36	0.78
12:T:113:LYS:HA	12:T:113:LYS:CE	2.14	0.78
16:X:127:LYS:HA	16:X:132:LYS:O	1.83	0.78
1:A:394:G:N2	1:A:405:C:N3	2.31	0.78
3:B:8:G:OP2	9:Q:76:PHE:CE2	2.36	0.78
15:W:141:GLN:HG2	15:W:166:GLU:OE2	1.80	0.78
26:G:226:LEU:HD12	26:G:226:LEU:O	1.84	0.78
1:A:98:G:H4'	1:A:99:A:H5''	1.63	0.78
1:A:387:G:H5'	1:A:388:C:OP2	1.84	0.78
1:A:913:G:C4	1:A:914:A:N7	2.52	0.78
1:A:1235:A:N6	1:A:1254:U:O4	2.17	0.78
1:A:1754:A:N7	1:A:1755:A:N7	2.31	0.78
1:A:2219:U:O2'	1:A:2229:U:N3	2.04	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:68:G:N2	3:B:69:C:O2	2.17	0.78
13:U:33:THR:HG22	13:U:135:VAL:HG22	1.64	0.78
1:A:140:G:C6	1:A:155:A:C6	2.71	0.78
1:A:330:U:O2	26:G:218:LYS:CE	2.21	0.78
1:A:1153:G:C6	1:A:1154:A:N7	2.51	0.78
1:A:1161:A:O2'	1:A:1162:C:OP1	2.01	0.78
1:A:1522:A:N3	1:A:1523:A:C8	2.52	0.78
16:X:67:LYS:H	16:X:67:LYS:HD2	1.49	0.78
1:A:60:U:O3'	18:Z:94:ARG:NH1	2.01	0.77
1:A:140:G:H2'	1:A:141:C:H5'	1.65	0.77
1:A:152:G:C4	1:A:153:G:N7	2.52	0.77
1:A:621:G:H2'	1:A:622:G:H5'	1.66	0.77
1:A:634:G:O2'	1:A:635:C:H5'	1.84	0.77
1:A:1136:U:O2'	1:A:1137:C:H5'	1.84	0.77
1:A:1394:A:H5'	1:A:2230:A:H1'	1.65	0.77
1:A:2129:G:H1'	1:A:2180:G:H21	1.44	0.77
4:L:100:TRP:CZ3	4:L:101:TYR:HB2	2.19	0.77
1:A:133:A:N7	1:A:134:A:N6	2.31	0.77
1:A:669:C:H2'	1:A:670:A:H8	1.43	0.77
1:A:1178:G:C4'	11:S:83:HIS:HD2	1.97	0.77
1:A:1472:A:C6	1:A:1479:U:O4	2.37	0.77
1:A:1485:U:HO2'	1:A:1580:G:HO2'	1.28	0.77
1:A:1603:A:H5'	19:E:55:LYS:HD3	1.64	0.77
2:C:12:C:H5''	8:P:109:ARG:HH22	1.49	0.77
3:B:3:U:O2'	3:B:4:U:O5'	2.02	0.77
26:G:254:TYR:CZ	26:G:258:ARG:NE	2.44	0.77
1:A:137:U:C2	1:A:157:G:N2	2.50	0.77
1:A:1164:G:O2'	1:A:1165:G:H5'	1.83	0.77
1:A:1524:G:O2'	1:A:1525:G:H5'	1.85	0.77
1:A:2214:C:O2'	1:A:2215:C:H5'	1.85	0.77
1:A:2304:A:N6	1:A:2363:A:N6	2.32	0.77
1:A:2317:G:O6	1:A:2333:C:N3	2.18	0.77
1:A:2351:G:N9	9:Q:64:VAL:CG2	2.29	0.77
3:B:5:C:O2'	3:B:6:U:H5'	1.84	0.77
22:d:95:LEU:HD12	22:d:95:LEU:O	1.83	0.77
27:H:184:GLY:HA2	27:H:207:VAL:O	1.83	0.77
2:C:80:C:C5'	10:R:121:ASP:OD1	2.32	0.77
3:B:41:U:C5'	3:B:42:C:H5''	2.15	0.77
6:N:117:GLN:OE1	6:N:125:ILE:HG12	1.83	0.77
27:H:162:PRO:CB	31:a:71:GLU:CG	2.62	0.77
31:a:48:ASP:CA	31:a:68:TYR:CD1	2.53	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:293:G:O2'	1:A:294:U:H5'	1.84	0.77
1:A:1162:C:O2'	1:A:1163:G:OP1	2.03	0.77
1:A:1537:U:H2'	1:A:1538:G:C8	2.20	0.77
1:A:1545:G:N7	1:A:1546:C:H5	1.80	0.77
1:A:1551:G:O2'	1:A:1552:U:H5'	1.85	0.77
1:A:1926:A:N6	1:A:1931:U:N3	2.32	0.77
2:C:32:C:H1'	2:C:33:A:H5'	1.66	0.77
1:A:823:C:O2'	1:A:824:U:H5'	1.84	0.77
1:A:1519:A:C2	1:A:1520:A:N7	2.53	0.77
1:A:1634:C:H5''	14:V:145:LYS:HZ1	1.50	0.77
1:A:1689:C:O2'	1:A:1690:A:O5'	2.00	0.77
1:A:2103:G:H2'	1:A:2104:A:H5'	1.66	0.77
1:A:2107:G:C5	1:A:2242:A:H8	2.02	0.77
1:A:2112:U:H2'	1:A:2113:G:C8	2.19	0.77
1:A:2210:C:O2'	1:A:2211:U:OP1	2.01	0.77
1:A:2322:A:C4	27:H:186:ARG:CZ	2.67	0.77
3:B:41:U:HO2'	3:B:46:A:N6	1.80	0.77
6:N:172:GLU:HA	6:N:210:LEU:HD21	1.67	0.77
1:A:83:A:C6	1:A:98:G:C5	2.72	0.77
1:A:140:G:C5	1:A:155:A:N1	2.52	0.77
1:A:1039:A:OP1	11:S:77:ASN:HB3	1.85	0.77
1:A:2154:C:H42	1:A:2165:G:N2	1.83	0.77
1:A:2320:G:N2	1:A:2330:U:O2	2.17	0.77
12:T:147:LEU:HD13	12:T:215:PRO:HB2	1.67	0.77
1:A:136:U:C2	1:A:160:A:N1	2.53	0.77
1:A:161:G:H4'	1:A:162:A:OP1	1.83	0.77
1:A:1528:U:H2'	1:A:1529:A:C8	2.20	0.77
1:A:2653:U:H4'	25:F:170:GLU:OE2	1.85	0.77
6:N:156:LYS:HZ1	6:N:215:ARG:HH12	0.80	0.77
16:X:67:LYS:HA	16:X:67:LYS:HZ2	1.49	0.77
19:E:267:ILE:HG22	19:E:269:ARG:HB2	1.65	0.77
1:A:1689:C:N4	8:P:19:ARG:HE	1.81	0.77
1:A:2189:C:H2'	1:A:2190:A:H8	1.47	0.77
2:C:22:A:H3'	2:C:23:G:H5''	1.67	0.77
11:S:91:LEU:HD11	12:T:175:PRO:HB3	0.78	0.77
1:A:1361:U:C4	14:V:168:PRO:HD3	2.20	0.77
7:O:30:GLY:HA2	7:O:107:SER:HB3	1.66	0.77
26:G:200:ASP:O	26:G:202:ALA:N	2.13	0.77
1:A:648:G:N1	6:N:158:VAL:HG21	2.00	0.76
1:A:2109:C:C4	1:A:2110:U:N3	2.53	0.76
7:O:43:THR:OG1	7:O:46:GLN:OE1	2.03	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:128:TYR:HD2	16:X:132:LYS:HB2	1.49	0.76
1:A:7:C:H2'	1:A:8:G:O4'	1.85	0.76
1:A:1751:A:H3'	1:A:1752:C:H4'	1.67	0.76
2:C:36:A:H2	25:F:274:ARG:NH1	1.72	0.76
2:C:104:A:N1	2:C:105:A:C6	2.52	0.76
4:L:175:ARG:HH22	4:L:184:LYS:CE	1.97	0.76
19:E:142:ILE:HA	19:E:180:ILE:HD11	1.66	0.76
1:A:283:C:O2	1:A:372:G:N2	2.18	0.76
1:A:352:C:O2'	1:A:353:G:H5'	1.86	0.76
1:A:639:A:C5	6:N:201:LEU:HD11	2.19	0.76
1:A:903:G:C2'	1:A:904:U:H5''	2.14	0.76
1:A:1527:G:H3'	1:A:1528:U:C5	2.20	0.76
1:A:2393:A:C2	9:Q:166:PHE:CE2	2.73	0.76
3:B:32:A:N6	3:B:55:G:C6	2.53	0.76
16:X:128:TYR:HE2	16:X:132:LYS:HB2	1.47	0.76
1:A:495:A:H1'	15:W:122:ILE:CG1	2.15	0.76
1:A:1808:C:O2'	1:A:1812:A:H1'	1.85	0.76
1:A:2224:G:H5''	1:A:2225:G:C5'	2.16	0.76
3:B:7:G:C6	3:B:117:A:C2	2.73	0.76
6:N:176:VAL:O	6:N:177:SER:OG	2.02	0.76
9:Q:72:ARG:NH1	9:Q:87:ILE:HD11	2.00	0.76
12:T:96:PRO:O	12:T:98:PRO:N	2.19	0.76
18:Z:94:ARG:HG2	18:Z:101:LYS:HE3	1.66	0.76
1:A:140:G:C6	1:A:155:A:C2	2.72	0.76
1:A:495:A:O2'	15:W:120:GLY:O	2.02	0.76
1:A:1810:C:H4'	1:A:1811:A:O5'	1.86	0.76
6:N:165:ILE:HD11	6:N:207:SER:N	2.00	0.76
6:N:225:LEU:HG	6:N:230:CYS:SG	2.25	0.76
12:T:181:ALA:HB3	12:T:225:THR:CG2	2.16	0.76
25:F:284:GLY:HA3	25:F:288:ASN:HD21	1.50	0.76
1:A:278:G:H2'	1:A:279:A:H5''	1.67	0.76
1:A:317:G:H21	1:A:338:G:N2	1.81	0.76
1:A:1689:C:H5'	8:P:12:LYS:HE2	1.67	0.76
1:A:2035:A:P	20:b:9:SER:OG	2.44	0.76
16:X:133:LYS:HE2	16:X:133:LYS:CA	2.15	0.76
1:A:432:G:H2'	1:A:433:C:O4'	1.84	0.76
1:A:1164:G:C2'	1:A:1165:G:H5'	2.14	0.76
1:A:83:A:C5	1:A:98:G:O6	2.38	0.76
1:A:624:A:N3	1:A:625:C:C6	2.48	0.76
3:B:86:G:C2	3:B:87:G:N7	2.54	0.76
6:N:209:LYS:CA	6:N:230:CYS:HB3	2.16	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:N:243:LYS:HE3	6:N:245:SER:OG	1.85	0.76
7:O:68:ILE:HG21	7:O:101:ARG:HE	1.50	0.76
1:A:46:C:C2'	1:A:47:G:H5'	2.16	0.76
1:A:2186:U:P	1:A:2188:C:C5	2.78	0.76
1:A:2698:C:OP1	25:F:285:LYS:CD	2.34	0.76
6:N:102:HIS:CE1	12:T:205:ASN:HD22	2.02	0.76
6:N:165:ILE:CB	6:N:206:LEU:HA	2.16	0.76
10:R:116:ARG:HA	10:R:116:ARG:NE	2.00	0.76
14:V:132:ASN:HA	14:V:184:ALA:HB2	1.68	0.76
1:A:276:G:H4'	1:A:277:G:OP1	1.84	0.76
1:A:277:G:O6	1:A:381:C:N4	2.18	0.76
1:A:280:G:N2	1:A:376:U:H3	1.84	0.76
1:A:969:A:C6	1:A:970:G:C6	2.73	0.76
1:A:1268:A:C2	11:S:5:LYS:NZ	2.53	0.76
1:A:1472:A:C6	1:A:1479:U:C4	2.74	0.76
1:A:2011:G:C5'	25:F:219:ARG:NH2	2.48	0.76
1:A:2104:A:O2'	1:A:2105:U:H5'	1.85	0.76
1:A:2322:A:N6	27:H:204:GLY:CA	2.40	0.76
6:N:210:LEU:H	6:N:230:CYS:CB	1.99	0.76
1:A:158:C:H41	1:A:159:A:H62	1.32	0.75
1:A:858:G:C4	1:A:859:A:N7	2.53	0.75
1:A:2156:C:O2	1:A:2164:G:C2	2.39	0.75
1:A:2647:A:C4	2:C:98:G:N2	2.54	0.75
6:N:143:LEU:CD2	6:N:146:ILE:HG12	2.16	0.75
6:N:175:GLU:HB3	6:N:213:LYS:NZ	2.00	0.75
12:T:116:PRO:CD	12:T:117:PRO:HD3	2.16	0.75
26:G:79:LYS:O	26:G:83:VAL:HG23	1.84	0.75
27:H:115:GLY:HA3	27:H:148:LEU:HD23	1.68	0.75
1:A:263:A:N3	1:A:263:A:H5''	2.01	0.75
1:A:1178:G:C4'	11:S:83:HIS:CD2	2.69	0.75
4:L:100:TRP:HE3	4:L:101:TYR:HD2	1.33	0.75
17:Y:129:ILE:HD12	17:Y:130:GLU:N	2.01	0.75
1:A:279:A:N3	1:A:279:A:H5'	2.01	0.75
1:A:668:U:H2'	1:A:669:C:C6	2.22	0.75
1:A:869:G:H21	1:A:2285:A:H2	1.34	0.75
1:A:2211:U:O4	1:A:2241:G:C4	2.40	0.75
1:A:2223:A:H2'	1:A:2224:G:C8	2.20	0.75
2:C:77:A:H1'	8:P:16:LYS:CB	2.10	0.75
3:B:35:A:N1	3:B:51:G:C2	2.54	0.75
6:N:81:ARG:HH11	26:G:243:GLU:CB	1.96	0.75
1:A:902:G:C6	1:A:903:G:N7	2.54	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1586:G:N2	1:A:1586:G:OP2	2.19	0.75
1:A:2337:C:H5'	1:A:2350:A:C6	2.21	0.75
3:B:86:G:C2	3:B:87:G:C8	2.75	0.75
6:N:168:ALA:HB3	6:N:186:ILE:HD11	1.67	0.75
6:N:209:LYS:HA	6:N:230:CYS:HB3	1.66	0.75
24:f:47:ILE:HG13	24:f:69:HIS:HD2	1.52	0.75
1:A:352:C:C2'	1:A:353:G:H5'	2.16	0.75
1:A:1745:C:N3	1:A:1746:C:C4	2.54	0.75
1:A:1809:G:N7	19:E:172:LEU:CD1	2.50	0.75
1:A:1830:U:C5	19:E:197:ASN:ND2	2.39	0.75
3:B:35:A:N1	3:B:51:G:C6	2.54	0.75
16:X:122:LEU:CD1	16:X:140:ARG:CG	2.42	0.75
1:A:2409:A:C2	1:A:2441:C:N4	2.55	0.75
6:N:205:GLU:CD	6:N:224:LYS:HE2	2.11	0.75
12:T:176:ILE:HD13	32:h:86:PRO:CD	2.17	0.75
18:Z:152:LEU:O	18:Z:152:LEU:HD22	1.85	0.75
1:A:670:A:O2'	1:A:671:C:H5'	1.87	0.75
1:A:1268:A:H2	11:S:5:LYS:NZ	1.84	0.75
1:A:1475:U:C1'	8:P:70:LEU:HD13	2.14	0.75
1:A:1552:U:O2'	1:A:1553:U:H5'	1.85	0.75
3:B:16:G:C6	3:B:111:G:N3	2.53	0.75
8:P:25:ASP:OD1	8:P:26:GLN:N	2.17	0.75
10:R:123:MET:HE3	25:F:98:GLY:CA	2.16	0.75
12:T:171:TYR:C	12:T:172:ILE:HD12	2.11	0.75
31:a:47:GLU:N	31:a:62:GLY:HA2	2.02	0.75
1:A:2186:U:P	1:A:2188:C:H5	2.10	0.75
1:A:2237:A:H5'	1:A:2237:A:N3	2.01	0.75
1:A:280:G:N1	1:A:376:U:O4	2.19	0.75
1:A:649:A:OP1	6:N:202:GLY:N	2.20	0.75
1:A:670:A:H4'	26:G:151:LYS:O	1.86	0.75
1:A:900:G:O2'	1:A:901:C:H5''	1.86	0.75
1:A:1530:G:N3	1:A:1530:G:H2'	2.02	0.75
6:N:197:PRO:CB	6:N:215:ARG:CD	2.65	0.75
6:N:209:LYS:HB2	6:N:230:CYS:HA	1.69	0.75
25:F:122:ILE:HG22	25:F:183:GLN:HA	1.67	0.75
1:A:335:G:H2'	1:A:336:G:C8	2.22	0.74
1:A:415:U:H5''	1:A:416:C:OP1	1.87	0.74
1:A:615:G:H1'	1:A:668:U:O2'	1.87	0.74
1:A:1659:G:O2'	30:g:90:LEU:HD21	1.86	0.74
29:J:76:ASN:C	29:J:80:PRO:HD2	2.10	0.74
1:A:122:U:C6	22:d:112:ARG:NH1	2.55	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:624:A:C4	1:A:625:C:H5	1.93	0.74
1:A:1789:U:OP2	1:A:1794:A:N6	2.20	0.74
1:A:2109:C:C5	1:A:2110:U:C4	2.74	0.74
1:A:2186:U:OP2	1:A:2188:C:H5	1.69	0.74
18:Z:122:ARG:HA	18:Z:125:GLU:OE1	1.87	0.74
1:A:857:G:H1'	1:A:961:G:H22	1.51	0.74
1:A:902:G:C3'	1:A:903:G:H5''	2.16	0.74
1:A:2117:U:O2'	1:A:2118:U:H5'	1.86	0.74
1:A:2129:G:C1'	1:A:2180:G:N2	2.51	0.74
6:N:165:ILE:HG23	6:N:166:GLU:CD	2.12	0.74
1:A:208:A:H1'	1:A:433:C:O2'	1.87	0.74
1:A:504:G:H4'	13:U:37:TYR:CB	2.15	0.74
1:A:1178:G:H4'	11:S:83:HIS:HD2	1.51	0.74
1:A:2186:U:P	1:A:2188:C:N4	2.60	0.74
18:Z:76:LEU:HD11	18:Z:115:MET:HE3	1.69	0.74
22:d:106:ALA:O	22:d:110:GLY:CA	2.35	0.74
1:A:278:G:C2'	1:A:279:A:H5''	2.18	0.74
1:A:2224:G:H5''	1:A:2225:G:H5''	1.69	0.74
1:A:2556:C:H4'	24:f:40:ILE:CD1	2.18	0.74
6:N:143:LEU:HD21	6:N:146:ILE:HG12	1.69	0.74
16:X:128:TYR:CE2	16:X:132:LYS:HG2	2.22	0.74
31:a:48:ASP:C	31:a:68:TYR:HA	2.12	0.74
1:A:2221:U:H5'	1:A:2222:C:OP2	1.88	0.74
15:W:161:LEU:CD1	15:W:168:VAL:HG22	2.13	0.74
29:J:69:VAL:HG23	29:J:70:ARG:H	1.52	0.74
31:a:46:ARG:NH1	31:a:64:THR:C	2.45	0.74
1:A:381:C:C2	1:A:416:C:C5	2.76	0.74
1:A:612:U:C2'	1:A:613:U:H5''	2.17	0.74
1:A:1178:G:C1'	11:S:83:HIS:CD2	2.71	0.74
1:A:2236:C:C3'	1:A:2237:A:H5''	2.17	0.74
31:a:46:ARG:CZ	31:a:64:THR:C	2.60	0.74
1:A:2129:G:C2'	1:A:2180:G:H21	2.01	0.74
1:A:2322:A:C4	27:H:186:ARG:CD	2.49	0.74
26:G:254:TYR:OH	26:G:258:ARG:CZ	2.35	0.74
29:J:56:ASP:O	29:J:83:LYS:NZ	2.19	0.74
1:A:1667:G:N1	1:A:1670:A:OP2	2.19	0.74
1:A:1809:G:C5	19:E:172:LEU:HD13	2.23	0.74
1:A:2211:U:H5	1:A:2241:G:O6	1.71	0.74
1:A:2321:G:H5'	27:H:175:PHE:HB3	1.68	0.74
1:A:2764:U:C4	1:A:2774:U:O4	2.41	0.74
2:C:41:A:N6	2:C:86:A:N1	2.36	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:88:C:O2'	2:C:89:A:H5'	1.87	0.74
6:N:116:GLY:O	6:N:120:ARG:HG2	1.86	0.74
32:h:55:GLY:C	32:h:56:THR:HG1	1.96	0.74
1:A:795:U:C5'	19:E:222:ASN:OD1	2.35	0.74
1:A:1472:A:C5	1:A:1479:U:O4	2.41	0.74
26:G:129:GLN:CD	26:G:134:ARG:HH22	1.95	0.74
27:H:170:VAL:H	27:H:230:PHE:HB3	1.53	0.74
1:A:636:C:O2'	1:A:637:G:H5'	1.88	0.73
1:A:822:U:H5	1:A:1272:A:N1	1.85	0.73
1:A:2137:G:N2	1:A:2190:A:C6	2.56	0.73
12:T:123:ILE:CD1	12:T:227:TYR:CE1	2.70	0.73
14:V:110:ASP:O	14:V:111:VAL:HG22	1.88	0.73
16:X:145:GLU:H	16:X:145:GLU:CD	1.95	0.73
1:A:238:C:OP2	23:e:93:LYS:CD	2.35	0.73
1:A:288:C:H2'	1:A:289:A:H8	1.51	0.73
1:A:1139:A:H3'	1:A:1139:A:N3	2.03	0.73
1:A:1635:C:H4'	14:V:106:ARG:HH22	1.50	0.73
1:A:2213:A:C2	1:A:2214:C:N3	2.55	0.73
12:T:88:VAL:HG12	12:T:89:LEU:N	2.03	0.73
19:E:137:ILE:HD13	19:E:160:LEU:HD13	1.69	0.73
30:g:90:LEU:HB2	30:g:91:PRO:HD3	1.69	0.73
1:A:345:C:H2'	1:A:346:A:H8	1.52	0.73
1:A:1159:G:C8	4:L:176:HIS:HE1	2.05	0.73
1:A:1730:C:O2'	1:A:1731:G:N2	2.21	0.73
1:A:2338:G:O2'	1:A:2339:A:OP1	2.06	0.73
2:C:30:A:H3'	2:C:30:A:N3	2.03	0.73
3:B:67:U:O4	3:B:109:U:C5	2.41	0.73
6:N:224:LYS:HB2	6:N:224:LYS:HZ2	1.52	0.73
1:A:886:U:H2'	1:A:887:G:H1'	1.69	0.73
1:A:1189:G:H21	12:T:214:GLN:HE22	1.32	0.73
1:A:1533:A:H2'	1:A:1534:A:N3	2.03	0.73
1:A:1588:U:O2	1:A:1670:A:N7	2.21	0.73
1:A:133:A:H2'	1:A:134:A:H8	1.50	0.73
1:A:292:C:O2'	1:A:293:G:H5'	1.89	0.73
1:A:1028:A:OP2	1:A:1181:G:N1	2.18	0.73
1:A:1379:C:N4	1:A:1393:U:OP2	2.22	0.73
1:A:1534:A:H2'	1:A:1535:A:C5'	2.18	0.73
1:A:2195:G:H2'	1:A:2196:G:C8	2.22	0.73
1:A:373:C:H2'	1:A:374:U:C6	2.24	0.73
1:A:609:G:H5''	26:G:79:LYS:HE3	1.69	0.73
1:A:860:C:H2'	1:A:861:A:C8	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1023:C:N3	4:L:102:PRO:CD	2.44	0.73
1:A:1659:G:O2'	30:g:90:LEU:CD2	2.36	0.73
1:A:1690:A:OP1	1:A:1690:A:H4'	1.87	0.73
1:A:1836:C:H5''	19:E:219:VAL:HG23	1.69	0.73
1:A:2316:G:H1	1:A:2334:C:N4	1.86	0.73
1:A:2364:C:O2'	21:c:32:ARG:NH2	2.21	0.73
1:A:2752:G:O6	25:F:297:ILE:O	2.06	0.73
2:C:85:U:H2'	2:C:86:A:H8	1.51	0.73
10:R:197:PRO:HG2	10:R:200:SER:HB2	1.71	0.73
16:X:66:THR:OG1	16:X:67:LYS:HE2	1.89	0.73
1:A:140:G:N2	1:A:154:C:O2	2.16	0.73
1:A:288:C:C2'	1:A:289:A:H5'	2.19	0.73
1:A:1159:G:N9	4:L:176:HIS:CE1	2.56	0.73
1:A:1444:A:N1	1:A:1609:U:C4	2.56	0.73
1:A:1651:C:C6	13:U:116:PRO:CG	2.71	0.73
12:T:169:SER:C	12:T:233:SER:CB	2.61	0.73
1:A:612:U:O2'	1:A:613:U:H5''	1.88	0.73
1:A:1082:A:O2'	1:A:1083:G:H5'	1.89	0.73
1:A:1474:A:H4'	1:A:1475:U:OP2	1.86	0.73
1:A:1754:A:C8	1:A:1755:A:N7	2.57	0.73
1:A:1833:G:P	19:E:50:ARG:HH12	2.10	0.73
1:A:2105:U:OP2	1:A:2106:U:O2'	2.06	0.73
1:A:2646:U:H4'	1:A:2647:A:OP1	1.88	0.73
27:H:163:ARG:NH2	27:H:192:PRO:HD3	2.04	0.73
1:A:234:C:H5	6:N:142:LYS:NZ	1.86	0.73
1:A:1082:A:H2'	1:A:1083:G:C8	2.24	0.73
1:A:1197:A:OP1	16:X:165:LYS:HB2	1.89	0.73
1:A:2647:A:N9	2:C:98:G:C2	2.57	0.73
16:X:101:PHE:CD1	16:X:133:LYS:CG	2.72	0.73
1:A:470:G:O2'	22:d:132:ARG:HD3	1.89	0.73
1:A:888:C:H3'	1:A:889:G:C8	2.23	0.73
1:A:2653:U:H5'	25:F:170:GLU:CD	2.14	0.73
4:L:213:LEU:C	4:L:213:LEU:HD13	2.14	0.73
13:U:153:THR:HB	13:U:156:LYS:HB2	1.70	0.73
1:A:1550:U:H2'	1:A:1551:G:H5'	1.71	0.72
6:N:143:LEU:O	23:e:113:ARG:HD2	1.89	0.72
13:U:163:LEU:HD23	13:U:163:LEU:C	2.14	0.72
1:A:253:C:C2	1:A:437:G:N2	2.56	0.72
1:A:626:C:H3'	1:A:627:C:C6	2.24	0.72
1:A:1047:U:OP1	1:A:1063:U:O2'	2.05	0.72
1:A:1161:A:C8	1:A:2040:U:O2'	2.42	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1176:C:H5	32:h:70:TRP:CE2	2.06	0.72
1:A:1263:G:N2	6:N:83:ASP:CG	2.45	0.72
1:A:1528:U:H2'	1:A:1529:A:H8	1.52	0.72
1:A:1806:U:H2'	1:A:1807:C:H6	1.53	0.72
1:A:270:G:H2'	1:A:271:G:C5'	2.18	0.72
1:A:1501:G:H1'	1:A:1502:A:OP1	1.89	0.72
6:N:175:GLU:C	6:N:213:LYS:HZ3	1.97	0.72
14:V:116:GLN:HA	18:Z:91:ARG:CZ	2.18	0.72
19:E:245:PRO:HG2	19:E:246:TRP:CZ3	2.24	0.72
28:I:198:LYS:HG3	28:I:200:LYS:HB3	1.71	0.72
1:A:93:A:C2'	18:Z:102:PRO:HG2	2.16	0.72
1:A:139:U:C4	1:A:140:G:N7	2.58	0.72
1:A:936:A:H2'	1:A:937:U:O4'	1.89	0.72
1:A:1002:G:H5''	12:T:201:LYS:NZ	2.04	0.72
6:N:81:ARG:HH12	26:G:243:GLU:CG	2.02	0.72
13:U:41:MET:HE1	13:U:75:PRO:HG2	1.71	0.72
17:Y:129:ILE:O	17:Y:133:GLY:N	2.22	0.72
19:E:157:VAL:HG22	19:E:190:GLN:HB2	1.70	0.72
19:E:237:ILE:CD1	19:E:239:ARG:HB2	2.08	0.72
29:J:57:ILE:HG22	29:J:59:ASP:H	1.55	0.72
1:A:937:U:O2'	1:A:938:G:H5''	1.90	0.72
1:A:1651:C:O2'	1:A:1652:A:OP1	2.08	0.72
1:A:2117:U:C2	1:A:2200:A:N1	2.56	0.72
3:B:36:A:H2	3:B:50:U:O2	1.72	0.72
1:A:140:G:C5	1:A:155:A:C2	2.77	0.72
1:A:257:A:H3'	1:A:258:C:C5	2.24	0.72
1:A:410:G:H5''	1:A:2104:A:O4'	1.89	0.72
1:A:627:C:O2'	1:A:628:A:OP1	2.08	0.72
1:A:1090:U:H3	1:A:1104:C:N4	1.88	0.72
1:A:2192:U:O2'	1:A:2193:C:OP1	2.08	0.72
3:B:6:U:N3	3:B:118:G:N2	2.37	0.72
3:B:14:U:H5'	3:B:15:A:C8	2.24	0.72
14:V:109:LEU:CD1	14:V:141:ARG:C	2.61	0.72
1:A:317:G:N2	1:A:338:G:H21	1.84	0.72
1:A:884:G:H2'	1:A:885:G:H5'	1.72	0.72
1:A:1877:C:H2'	1:A:1878:C:H5''	1.72	0.72
1:A:1921:G:O6	1:A:1938:C:N4	2.23	0.72
1:A:2321:G:O2'	27:H:186:ARG:HB2	1.90	0.72
3:B:66:C:C5	3:B:110:C:C4	2.77	0.72
6:N:154:LEU:H	6:N:155:PRO:HD3	1.42	0.72
1:A:702:C:O2'	19:E:39:ARG:HD3	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2216:U:O2'	1:A:2217:U:H5'	1.88	0.72
1:A:2220:G:C5	1:A:2221:U:C5	2.78	0.72
1:A:2321:G:C5'	27:H:175:PHE:HB3	2.20	0.72
1:A:2579:U:H1'	5:M:23:ARG:NH1	2.03	0.72
1:A:2698:C:OP1	25:F:285:LYS:HE3	1.89	0.72
11:S:8:TYR:HE1	11:S:12:ARG:HE	1.37	0.72
12:T:170:THR:HG23	12:T:172:ILE:HD13	1.72	0.72
19:E:29:ILE:O	19:E:31:GLY:N	2.22	0.72
19:E:39:ARG:HB2	19:E:45:ILE:HD13	1.70	0.72
1:A:363:C:H2'	1:A:364:U:C5	2.23	0.72
1:A:377:G:HO2'	1:A:378:A:P	2.13	0.72
1:A:704:A:O2'	1:A:1374:A:N3	2.20	0.72
1:A:889:G:H2'	1:A:890:G:C8	2.25	0.72
1:A:1516:G:C3'	1:A:1517:G:H5''	2.19	0.72
2:C:103:G:C2'	2:C:104:A:H5'	2.20	0.72
12:T:116:PRO:N	12:T:117:PRO:CD	2.53	0.72
19:E:206:SER:HA	19:E:209:TRP:HD1	1.54	0.72
25:F:209:GLN:HE21	25:F:213:LYS:HE2	1.55	0.72
1:A:277:G:C2	1:A:278:G:N7	2.58	0.72
1:A:284:A:H1'	1:A:285:A:OP1	1.89	0.72
2:C:30:A:N6	2:C:83:C:C2'	2.53	0.72
4:L:100:TRP:CG	4:L:101:TYR:H	2.07	0.72
6:N:117:GLN:OE1	6:N:125:ILE:CG1	2.38	0.72
27:H:171:ASN:HB3	27:H:174:SER:HB2	1.72	0.72
1:A:1039:A:N1	1:A:1178:G:O6	2.23	0.71
1:A:1475:U:O2'	8:P:70:LEU:HD13	1.88	0.71
1:A:1532:G:O2'	1:A:1611:G:H4'	1.89	0.71
1:A:1603:A:H2'	1:A:1604:A:C8	2.24	0.71
1:A:1746:C:C2'	1:A:1747:C:H5'	2.19	0.71
1:A:1176:C:C5	32:h:70:TRP:CZ2	2.77	0.71
1:A:1496:A:C8	1:A:1497:A:C2	2.78	0.71
1:A:1548:A:O2'	1:A:1591:C:H4'	1.90	0.71
1:A:2192:U:H2'	1:A:2193:C:C6	2.24	0.71
3:B:25:G:H4'	3:B:26:A:N7	2.05	0.71
3:B:70:G:O2'	3:B:71:G:H5'	1.89	0.71
16:X:128:TYR:CE2	16:X:132:LYS:CG	2.73	0.71
21:c:10:LYS:H	21:c:38:ASN:HD21	1.36	0.71
21:c:45:ARG:HG2	21:c:56:TYR:H	1.55	0.71
23:e:142:ASP:HA	23:e:145:ASN:HD22	1.56	0.71
29:J:73:PHE:CE2	29:J:78:LEU:HD21	2.25	0.71
31:a:45:PHE:O	31:a:47:GLU:OE2	2.08	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:151:G:C4	1:A:152:G:C8	2.78	0.71
1:A:290:A:C2	1:A:291:G:C5	2.79	0.71
1:A:986:U:O4	7:O:17:MET:HE3	1.89	0.71
1:A:1284:U:OP1	20:b:13:LYS:NZ	2.22	0.71
1:A:2324:G:C2	1:A:2328:A:C8	2.78	0.71
1:A:2387:G:H21	21:c:48:LEU:HD22	1.55	0.71
6:N:209:LYS:HB2	6:N:230:CYS:CA	2.19	0.71
28:I:48:ILE:HG13	28:I:90:LEU:CB	2.20	0.71
1:A:124:A:OP2	22:d:111:PHE:N	2.22	0.71
1:A:553:G:H1	1:A:561:C:N4	1.87	0.71
1:A:583:G:N1	1:A:2045:A:OP1	2.20	0.71
1:A:635:C:H2'	1:A:636:C:C6	2.25	0.71
1:A:1021:A:H1'	12:T:214:GLN:NE2	2.06	0.71
1:A:2212:A:O2'	1:A:2213:A:OP1	2.07	0.71
2:C:29:U:H1'	2:C:30:A:OP1	1.88	0.71
3:B:26:A:C2	3:B:27:A:C5	2.77	0.71
6:N:212:ILE:N	6:N:212:ILE:HD12	2.06	0.71
16:X:66:THR:C	16:X:67:LYS:HZ3	1.98	0.71
28:I:48:ILE:HG13	28:I:90:LEU:C	2.14	0.71
31:a:46:ARG:HH22	31:a:64:THR:C	1.98	0.71
1:A:1:U:H2'	1:A:2:U:C6	2.25	0.71
1:A:234:C:H6	6:N:142:LYS:HZ1	0.74	0.71
1:A:278:G:N2	1:A:380:C:C2	2.59	0.71
1:A:361:C:H2'	1:A:362:A:C8	2.25	0.71
1:A:382:G:H3'	1:A:435:A:C5	2.24	0.71
1:A:858:G:O2'	1:A:859:A:C5'	2.38	0.71
1:A:1176:C:C5	32:h:70:TRP:CE2	2.79	0.71
1:A:1234:A:H62	1:A:1256:G:H22	1.38	0.71
1:A:2154:C:N4	1:A:2165:G:H1	1.88	0.71
2:C:72:A:C2'	2:C:73:G:H5'	2.20	0.71
3:B:63:C:O2'	3:B:64:U:H5'	1.90	0.71
3:B:118:G:O2'	3:B:119:G:OP1	2.08	0.71
6:N:175:GLU:C	6:N:213:LYS:NZ	2.48	0.71
17:Y:129:ILE:HD12	17:Y:129:ILE:C	2.16	0.71
22:d:108:THR:C	22:d:113:LEU:HD23	2.15	0.71
1:A:255:A:OP2	1:A:271:G:C2	2.44	0.71
1:A:609:G:C4'	26:G:79:LYS:HD2	2.19	0.71
1:A:2107:G:H2'	1:A:2108:G:H5''	1.73	0.71
1:A:2120:U:C4	1:A:2197:A:C2	2.79	0.71
2:C:77:A:O2'	8:P:16:LYS:HG3	1.90	0.71
12:T:127:VAL:HG12	12:T:161:VAL:HG22	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:158:C:C4	1:A:159:A:N7	2.59	0.71
1:A:298:G:H2'	1:A:299:C:H6	1.56	0.71
1:A:313:A:N1	1:A:323:G:C6	2.59	0.71
1:A:318:A:H62	1:A:339:A:N6	1.87	0.71
1:A:621:G:C2'	1:A:622:G:H5'	2.21	0.71
2:C:103:G:N3	2:C:104:A:C8	2.58	0.71
3:B:45:G:O2'	3:B:46:A:OP2	2.08	0.71
3:B:92:U:H2'	3:B:93:C:C6	2.25	0.71
12:T:96:PRO:O	12:T:98:PRO:HD3	1.81	0.71
15:W:161:LEU:HD11	15:W:168:VAL:CG2	2.14	0.71
16:X:134:LYS:HB3	16:X:134:LYS:HZ3	1.53	0.71
19:E:265:PHE:CE1	19:E:266:ILE:HD11	2.26	0.71
22:d:93:LEU:O	22:d:95:LEU:HG	1.91	0.71
1:A:351:C:H2'	1:A:352:C:C5	2.25	0.71
1:A:843:C:C4'	6:N:125:ILE:CD1	2.59	0.71
1:A:1538:G:H2'	1:A:1539:C:C6	2.24	0.71
1:A:2739:A:C6	2:C:77:A:N6	2.59	0.71
1:A:2770:C:H2'	1:A:2771:A:H5'	1.71	0.71
6:N:144:ARG:C	6:N:146:ILE:HD12	2.16	0.71
18:Z:152:LEU:HD13	18:Z:152:LEU:N	2.05	0.71
26:G:73:LYS:CB	26:G:261:VAL:O	2.38	0.71
27:H:145:ARG:HG2	27:H:146:GLY:H	1.55	0.71
1:A:1035:C:O3'	4:L:209:PRO:HB3	1.91	0.71
1:A:1809:G:OP1	19:E:256:ARG:HD3	1.91	0.71
2:C:53:G:H22	10:R:144:ARG:HH12	1.36	0.71
6:N:81:ARG:NH1	26:G:243:GLU:CG	2.53	0.71
14:V:160:ARG:NH2	14:V:177:MET:SD	2.63	0.71
17:Y:92:ASN:OD1	17:Y:94:LYS:NZ	2.23	0.71
1:A:548:G:HO2'	1:A:549:A:P	2.14	0.71
1:A:983:G:H22	7:O:82:ARG:NH1	1.85	0.71
1:A:1755:A:N3	1:A:1756:G:C8	2.59	0.71
1:A:2103:G:O2'	1:A:2104:A:H5'	1.91	0.71
19:E:142:ILE:HG22	19:E:149:GLN:HG3	1.73	0.71
1:A:289:A:N1	1:A:369:U:C2	2.59	0.70
1:A:2137:G:N2	1:A:2190:A:C2	2.59	0.70
1:A:2807:C:C5	2:C:97:A:C2	2.79	0.70
4:L:208:LEU:HD22	4:L:217:LEU:HD11	1.72	0.70
1:A:1521:G:C2	1:A:1544:A:N1	2.58	0.70
16:X:121:GLY:CA	16:X:138:TYR:O	2.37	0.70
16:X:127:LYS:HE3	16:X:133:LYS:HZ1	1.56	0.70
1:A:29:A:OP2	11:S:6:ARG:NH2	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1885:C:N4	6:N:253:ALA:CA	2.54	0.70
1:A:1886:A:H61	6:N:252:ARG:HH22	1.39	0.70
1:A:2647:A:C8	2:C:98:G:C2	2.78	0.70
3:B:32:A:C6	3:B:55:G:N1	2.60	0.70
4:L:172:LEU:HG	4:L:187:THR:HG22	1.73	0.70
12:T:176:ILE:HD13	32:h:86:PRO:HD2	1.72	0.70
23:e:139:ASP:OD1	23:e:140:ARG:N	2.23	0.70
1:A:335:G:C6	1:A:346:A:N1	2.59	0.70
1:A:530:U:H5''	13:U:54:ARG:NH2	2.07	0.70
1:A:1082:A:H2'	1:A:1083:G:H8	1.56	0.70
1:A:1755:A:C2	1:A:1756:G:C4	2.79	0.70
3:B:91:G:N2	7:O:38:GLU:CG	2.36	0.70
6:N:156:LYS:NZ	6:N:215:ARG:HH12	1.56	0.70
6:N:176:VAL:HG12	6:N:177:SER:N	2.01	0.70
1:A:2116:C:C4	1:A:2201:G:N2	2.43	0.70
15:W:70:LYS:HB2	15:W:70:LYS:NZ	2.07	0.70
25:F:144:LEU:HD11	25:F:166:ARG:HB2	1.73	0.70
1:A:2273:U:HO2'	16:X:66:THR:N	1.89	0.70
1:A:2770:C:C2'	1:A:2771:A:H5'	2.22	0.70
7:O:97:VAL:HG23	7:O:101:ARG:HD3	1.73	0.70
12:T:136:VAL:HG21	12:T:221:ILE:HG13	1.73	0.70
16:X:162:ARG:CZ	16:X:162:ARG:HB2	2.22	0.70
24:f:44:VAL:HG13	24:f:73:GLN:HE22	1.55	0.70
1:A:75:C:O2'	18:Z:117:THR:HG21	1.92	0.70
1:A:886:U:O3'	1:A:887:G:O4'	2.08	0.70
1:A:2107:G:OP1	29:J:72:GLY:N	2.25	0.70
2:C:40:U:C2	2:C:87:A:C2	2.79	0.70
21:c:14:GLU:HA	21:c:33:TYR:HA	1.71	0.70
1:A:943:C:H4'	1:A:943:C:OP1	1.90	0.70
1:A:2351:G:C8	9:Q:64:VAL:CG2	2.71	0.70
1:A:2522:G:N2	1:A:2627:C:O2	2.25	0.70
2:C:30:A:C6	2:C:83:C:C2'	2.74	0.70
3:B:26:A:C2	3:B:27:A:N7	2.60	0.70
6:N:177:SER:HB3	6:N:213:LYS:HG3	1.74	0.70
6:N:205:GLU:OE1	6:N:224:LYS:CG	2.40	0.70
23:e:125:ASN:OD1	23:e:126:THR:N	2.25	0.70
1:A:89:A:OP1	15:W:55:ASP:OD2	2.09	0.70
1:A:124:A:OP1	22:d:138:LYS:HG2	1.91	0.70
1:A:127:C:O2'	1:A:128:U:H5'	1.92	0.70
1:A:140:G:O6	1:A:155:A:C6	2.45	0.70
1:A:379:C:O2'	1:A:380:C:OP1	2.09	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2409:A:N1	1:A:2441:C:N3	2.40	0.70
4:L:175:ARG:HH21	4:L:184:LYS:CD	2.01	0.70
14:V:167:ARG:HG3	14:V:168:PRO:HD2	1.72	0.70
25:F:151:MET:SD	25:F:154:ARG:NH1	2.64	0.70
1:A:740:G:OP2	19:E:203:ARG:HD3	1.91	0.70
1:A:763:A:OP1	22:d:93:LEU:CD1	2.40	0.70
1:A:2236:C:C5	1:A:2237:A:C2	2.80	0.70
3:B:40:A:C2	3:B:45:G:C2	2.80	0.70
6:N:151:ARG:HA	6:N:151:ARG:HH11	1.55	0.70
1:A:165:C:OP1	22:d:125:LYS:HD2	1.92	0.69
1:A:297:U:C2'	1:A:298:G:H5'	2.20	0.69
1:A:332:G:N2	1:A:342:G:H1'	2.07	0.69
1:A:2644:G:O2'	1:A:2799:A:N1	2.22	0.69
2:C:80:C:H5'	10:R:121:ASP:OD1	1.93	0.69
12:T:174:THR:CG2	12:T:175:PRO:HD2	2.21	0.69
12:T:188:GLU:OE1	12:T:188:GLU:N	2.26	0.69
13:U:52:GLN:NE2	20:b:25:TYR:HA	2.06	0.69
21:c:33:TYR:CE1	23:e:122:ALA:HA	2.27	0.69
1:A:382:G:H1'	1:A:383:A:OP1	1.92	0.69
1:A:384:G:OP2	17:Y:131:LYS:CE	2.34	0.69
1:A:781:G:OP1	22:d:101:SER:HB3	1.92	0.69
1:A:910:A:C2'	1:A:911:U:H5'	2.22	0.69
1:A:1521:G:N9	1:A:1543:G:N2	2.39	0.69
1:A:1926:A:N6	1:A:1931:U:C2	2.60	0.69
1:A:2393:A:H2	9:Q:166:PHE:CE2	2.09	0.69
1:A:137:U:N3	1:A:157:G:N1	2.06	0.69
1:A:254:U:H2'	1:A:255:A:H5'	1.74	0.69
1:A:286:U:H2'	1:A:287:A:C8	2.27	0.69
1:A:287:A:C2	1:A:288:C:C2	2.80	0.69
1:A:356:A:C2	1:A:357:G:C5	2.80	0.69
1:A:889:G:H2'	1:A:890:G:H8	1.57	0.69
1:A:945:A:H2'	1:A:945:A:N3	2.05	0.69
1:A:1702:G:HO2'	5:M:6:THR:HG22	1.54	0.69
1:A:2109:C:C6	1:A:2110:U:C5	2.80	0.69
1:A:2219:U:H4'	1:A:2229:U:N3	2.07	0.69
1:A:2230:A:H2'	1:A:2230:A:N3	2.05	0.69
3:B:86:G:N1	3:B:87:G:C5	2.60	0.69
6:N:81:ARG:HH11	26:G:243:GLU:CA	2.05	0.69
1:A:291:G:H2'	1:A:292:C:C6	2.27	0.69
1:A:624:A:H3'	1:A:625:C:C5	2.27	0.69
1:A:2227:C:C5	1:A:2228:C:C4	2.81	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2302:C:H5	21:c:10:LYS:HZ3	1.39	0.69
3:B:86:G:C2	3:B:87:G:C5	2.81	0.69
11:S:52:ARG:HG2	11:S:55:ARG:HH11	1.56	0.69
1:A:296:G:O2'	1:A:297:U:H5'	1.92	0.69
1:A:624:A:C2	1:A:625:C:C6	2.80	0.69
1:A:2655:G:O2'	1:A:2796:A:N6	2.26	0.69
6:N:198:LEU:HD23	6:N:198:LEU:C	2.16	0.69
7:O:91:GLU:CD	7:O:92:TYR:H	1.99	0.69
21:c:38:ASN:O	21:c:39:ARG:NH2	2.26	0.69
1:A:2129:G:HO2'	1:A:2131:U:H5	1.32	0.69
1:A:2215:C:C2'	1:A:2216:U:H5'	2.22	0.69
1:A:2730:A:C8	1:A:2731:C:H5''	2.27	0.69
3:B:12:C:O2	3:B:112:A:H2	1.75	0.69
3:B:34:C:C2	3:B:52:G:N2	2.61	0.69
6:N:135:PRO:HD2	6:N:138:ARG:HB2	1.74	0.69
12:T:103:TYR:HD2	12:T:106:ILE:HD12	1.58	0.69
25:F:229:HIS:O	25:F:231:ALA:N	2.26	0.69
1:A:32:U:O4	1:A:458:G:O2'	2.07	0.69
1:A:2203:U:H2'	1:A:2204:A:O4'	1.92	0.69
3:B:110:C:O2'	3:B:111:G:OP2	2.07	0.69
15:W:71:VAL:HA	15:W:89:ILE:HD11	1.74	0.69
19:E:264:ASN:O	19:E:264:ASN:ND2	2.26	0.69
1:A:137:U:O2	1:A:157:G:N2	2.26	0.69
1:A:329:C:O2	26:G:222:ASN:CG	2.36	0.69
1:A:1159:G:N3	4:L:176:HIS:ND1	2.37	0.69
1:A:1175:U:OP2	32:h:70:TRP:HB2	1.93	0.69
1:A:1426:U:H2'	1:A:1427:A:H8	1.56	0.69
1:A:2107:G:C2'	1:A:2108:G:H5''	2.21	0.69
1:A:2280:C:OP2	16:X:73:LYS:HE3	1.92	0.69
6:N:182:LYS:HE2	6:N:189:PRO:HG3	1.75	0.69
10:R:137:LEU:HG	10:R:138:ARG:HG3	1.74	0.69
12:T:116:PRO:HD2	12:T:117:PRO:CD	2.22	0.69
19:E:176:GLU:HG2	19:E:267:ILE:O	1.92	0.69
26:G:234:LEU:HD23	26:G:234:LEU:C	2.17	0.69
1:A:89:A:OP1	15:W:55:ASP:CG	2.36	0.69
1:A:279:A:N3	1:A:279:A:H3'	2.08	0.69
1:A:385:U:O2'	1:A:386:A:H5'	1.93	0.69
1:A:898:G:N9	1:A:899:A:N7	2.40	0.69
1:A:1475:U:C4'	8:P:73:ARG:HH21	2.06	0.69
1:A:2011:G:C5'	25:F:219:ARG:HH21	2.05	0.69
1:A:2810:A:H3'	1:A:2810:A:N3	2.08	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Z:76:LEU:CD1	18:Z:115:MET:CE	2.59	0.69
1:A:38:C:O2	26:G:97:ARG:NH1	2.25	0.69
1:A:793:A:C2	19:E:221:MET:HG2	2.26	0.69
1:A:899:A:C4	1:A:900:G:C8	2.81	0.69
1:A:1062:G:H4'	24:f:55:ARG:NH1	2.08	0.69
1:A:1532:G:N2	1:A:1611:G:C2	2.61	0.69
1:A:1703:G:N2	1:A:2006:G:OP2	2.18	0.69
1:A:2213:A:N6	1:A:2241:G:C2	2.59	0.69
17:Y:124:LYS:O	17:Y:128:THR:CG2	2.38	0.69
28:I:48:ILE:O	28:I:89:PHE:CD1	2.45	0.69
1:A:253:C:C2	1:A:437:G:C2	2.81	0.68
1:A:879:G:N2	1:A:880:U:O2	2.26	0.68
1:A:946:A:H62	1:A:950:A:N6	1.88	0.68
1:A:1535:A:N3	1:A:1535:A:H3'	2.08	0.68
1:A:1951:A:O2'	1:A:1952:A:OP1	2.10	0.68
1:A:2213:A:C5	1:A:2242:A:C2	2.80	0.68
1:A:2213:A:H61	1:A:2241:G:N2	1.69	0.68
1:A:2483:C:H5''	24:f:43:SER:HB3	1.74	0.68
1:A:2556:C:H4'	24:f:40:ILE:HD12	1.75	0.68
6:N:143:LEU:HD23	6:N:143:LEU:N	2.06	0.68
25:F:99:MET:HG2	25:F:113:THR:HG22	1.73	0.68
25:F:140:GLY:HA3	25:F:165:MET:SD	2.33	0.68
1:A:136:U:N3	1:A:160:A:N1	2.14	0.68
1:A:257:A:N7	1:A:258:C:N4	2.41	0.68
1:A:342:G:C2'	1:A:343:U:H5'	2.22	0.68
1:A:362:A:H2'	1:A:363:C:C6	2.28	0.68
1:A:854:A:N1	1:A:964:C:N3	2.41	0.68
1:A:1521:G:N1	1:A:1544:A:C2	2.61	0.68
1:A:2116:C:N4	1:A:2201:G:H1	1.88	0.68
12:T:170:THR:O	12:T:233:SER:N	2.26	0.68
25:F:144:LEU:HD11	25:F:166:ARG:NE	2.08	0.68
27:H:89:VAL:HG22	27:H:207:VAL:HG22	1.75	0.68
1:A:100:G:O2'	1:A:101:A:OP2	2.11	0.68
1:A:368:U:N3	1:A:369:U:C5	2.61	0.68
1:A:1401:G:O2'	1:A:1603:A:N6	2.24	0.68
1:A:1524:G:H1'	30:g:116:ARG:HH11	1.57	0.68
1:A:1532:G:H2'	1:A:1533:A:H5'	1.76	0.68
1:A:2292:C:H1'	16:X:67:LYS:HD3	1.75	0.68
1:A:2652:A:O2'	25:F:170:GLU:OE1	2.09	0.68
1:A:2655:G:P	25:F:172:ARG:HH22	2.16	0.68
6:N:102:HIS:CD2	12:T:205:ASN:ND2	2.61	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:N:205:GLU:OE1	6:N:224:LYS:CE	2.41	0.68
16:X:161:GLN:OE1	16:X:161:GLN:HA	1.94	0.68
16:X:162:ARG:HG2	16:X:162:ARG:HH11	1.58	0.68
31:a:48:ASP:HA	31:a:68:TYR:HA	1.70	0.68
31:a:50:LYS:N	31:a:68:TYR:O	2.26	0.68
1:A:883:C:H4'	7:O:65:TRP:CZ3	2.27	0.68
1:A:1531:A:O2'	1:A:1532:G:OP1	2.08	0.68
4:L:168:ARG:NH2	4:L:192:GLN:OE1	2.27	0.68
6:N:198:LEU:HD22	6:N:214:ALA:CB	2.23	0.68
1:A:143:G:N2	1:A:2224:G:N1	2.42	0.68
1:A:858:G:C4	1:A:859:A:C8	2.82	0.68
1:A:1060:A:H4'	24:f:53:LEU:HD21	1.74	0.68
1:A:1167:C:OP2	4:L:167:LYS:NZ	2.26	0.68
1:A:2331:G:N2	27:H:182:SER:HG	1.90	0.68
1:A:2338:G:H3'	1:A:2338:G:N3	2.08	0.68
3:B:35:A:H8	3:B:35:A:P	2.16	0.68
1:A:256:A:O2'	1:A:257:A:OP1	2.12	0.68
1:A:263:A:N3	1:A:263:A:H3'	2.08	0.68
1:A:389:A:H2'	1:A:390:U:C6	2.28	0.68
1:A:1294:A:OP2	1:A:1682:C:N4	2.27	0.68
1:A:1449:C:H5	19:E:25:ARG:HH21	1.41	0.68
1:A:1499:G:C2	1:A:1546:C:N3	2.61	0.68
1:A:1525:G:O2'	1:A:1526:G:H5'	1.93	0.68
12:T:170:THR:CG2	12:T:172:ILE:HD11	2.23	0.68
15:W:67:ARG:NH2	15:W:92:ILE:CG1	2.54	0.68
24:f:59:ARG:HG3	24:f:72:ARG:HH21	1.59	0.68
1:A:812:G:C8	26:G:106:ALA:HB2	2.28	0.68
1:A:854:A:H2'	1:A:855:C:H5'	1.75	0.68
1:A:1531:A:N3	1:A:1531:A:H2'	2.07	0.68
1:A:2074:A:H62	26:G:125:ARG:NH2	1.85	0.68
1:A:2322:A:O4'	27:H:186:ARG:CD	2.40	0.68
2:C:40:U:C4	2:C:87:A:C6	2.81	0.68
3:B:86:G:N3	3:B:87:G:C8	2.61	0.68
25:F:145:ARG:HG3	25:F:145:ARG:NH2	2.09	0.68
29:J:75:ARG:O	29:J:80:PRO:HD3	1.93	0.68
1:A:255:A:OP2	1:A:271:G:N1	2.26	0.68
1:A:318:A:N3	1:A:338:G:O2'	2.26	0.68
1:A:616:U:P	26:G:155:LYS:HZ3	2.17	0.68
1:A:902:G:H3'	1:A:903:G:H5''	1.76	0.68
1:A:1806:U:H2'	1:A:1807:C:C6	2.29	0.68
1:A:2213:A:H2	1:A:2214:C:N1	1.79	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:26:A:N3	3:B:27:A:C8	2.62	0.68
3:B:32:A:C6	3:B:55:G:C6	2.82	0.68
18:Z:99:ASN:OD1	18:Z:101:LYS:NZ	2.27	0.68
27:H:119:VAL:N	27:H:141:ALA:O	2.26	0.68
28:I:46:GLN:HB3	28:I:109:ARG:NE	2.09	0.68
1:A:914:A:H2'	1:A:915:G:H5'	1.76	0.68
1:A:1362:G:H1'	14:V:163:ASN:HB3	1.74	0.68
1:A:1539:C:O2'	1:A:1540:C:H5'	1.93	0.68
1:A:2117:U:H3	1:A:2200:A:N6	1.92	0.68
1:A:2322:A:C1'	27:H:186:ARG:HD3	2.21	0.68
2:C:102:U:O2'	2:C:103:G:H5'	1.94	0.68
15:W:67:ARG:HD3	15:W:131:SER:OG	1.92	0.68
18:Z:101:LYS:O	18:Z:105:PHE:N	2.27	0.68
27:H:186:ARG:NH2	27:H:204:GLY:HA2	2.08	0.68
1:A:60:U:C2'	18:Z:94:ARG:NH1	2.56	0.68
1:A:114:C:O2'	1:A:124:A:N3	2.24	0.68
1:A:123:C:C2	22:d:103:LYS:HG3	2.29	0.68
1:A:352:C:H2'	1:A:353:G:H5'	1.75	0.68
1:A:355:A:N7	1:A:356:A:N9	2.40	0.68
1:A:1394:A:C5'	1:A:2230:A:H1'	2.23	0.68
1:A:1600:A:C2	19:E:209:TRP:CH2	2.82	0.68
1:A:2351:G:N3	9:Q:64:VAL:CG2	2.55	0.68
16:X:143:GLN:O	16:X:144:PRO:C	2.34	0.68
1:A:781:G:OP1	22:d:104:SER:OG	2.11	0.67
1:A:1497:A:H61	1:A:1547:C:N4	1.91	0.67
1:A:1745:C:C2	1:A:1746:C:C5	2.83	0.67
16:X:67:LYS:HD2	16:X:67:LYS:N	2.09	0.67
22:d:106:ALA:O	22:d:110:GLY:HA3	1.95	0.67
1:A:208:A:O2'	1:A:432:G:H1'	1.94	0.67
1:A:362:A:O2'	1:A:363:C:H5'	1.95	0.67
1:A:876:A:H2'	1:A:877:C:H5'	1.76	0.67
1:A:966:G:O2'	1:A:967:C:H5'	1.95	0.67
1:A:1236:A:N6	1:A:1253:G:N1	2.02	0.67
1:A:1273:G:OP2	11:S:14:ARG:NH2	2.27	0.67
1:A:1528:U:H3	1:A:1538:G:H1	1.42	0.67
1:A:2233:G:C2	1:A:2234:G:C5	2.82	0.67
1:A:2237:A:C2'	1:A:2238:A:H5'	2.24	0.67
12:T:177:VAL:HB	12:T:230:TYR:OH	1.93	0.67
1:A:5:A:O2'	1:A:6:A:O4'	2.09	0.67
1:A:276:G:C6	1:A:433:C:N4	2.62	0.67
1:A:988:A:N6	7:O:82:ARG:HH11	1.92	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1268:A:H2	11:S:5:LYS:HZ1	1.38	0.67
1:A:2119(A):U:H3	1:A:2199:G:H22	1.42	0.67
1:A:2320:G:H1	1:A:2330:U:H3	1.41	0.67
1:A:2324:G:H4'	1:A:2325:G:H5''	1.75	0.67
2:C:8:G:N1	2:C:92:C:N3	2.34	0.67
3:B:8:G:O6	3:B:115:C:N4	2.28	0.67
3:B:25:G:C5	3:B:57:U:C4	2.82	0.67
4:L:217:LEU:HD12	4:L:217:LEU:C	2.19	0.67
11:S:91:LEU:CG	12:T:175:PRO:CG	2.67	0.67
1:A:137:U:N3	1:A:157:G:N2	2.41	0.67
1:A:274:G:C5	1:A:433:C:C5	2.82	0.67
1:A:693:G:O3'	22:d:119:SER:OG	2.13	0.67
1:A:1545:G:N7	1:A:1546:C:C5	2.61	0.67
1:A:2108:G:O6	1:A:2210:C:N4	2.28	0.67
1:A:2123:U:H6	1:A:2123:U:O5'	1.77	0.67
1:A:2207:A:H2'	1:A:2208:U:C1'	2.25	0.67
25:F:144:LEU:HD12	25:F:166:ARG:HB2	1.76	0.67
28:I:46:GLN:OE1	28:I:109:ARG:HG2	1.90	0.67
1:A:9:A:H1'	2:C:99:A:C6	2.29	0.67
1:A:141:C:N3	1:A:153:G:C2	2.44	0.67
1:A:919:A:H2'	1:A:920:A:H5'	1.75	0.67
1:A:1136:U:C2'	1:A:1137:C:H5'	2.24	0.67
3:B:27:A:O2'	3:B:28:C:H5'	1.95	0.67
3:B:41:U:H5''	3:B:42:C:H5''	1.76	0.67
18:Z:120:ARG:O	18:Z:124:ILE:HG13	1.95	0.67
31:a:48:ASP:CG	31:a:66:LYS:C	2.62	0.67
1:A:75:C:N3	1:A:108:G:O6	2.26	0.67
1:A:161:G:N2	1:A:162:A:N3	2.43	0.67
1:A:268:G:C6	1:A:269:G:C6	2.82	0.67
1:A:1535:A:H8	19:E:95:GLY:HA3	1.54	0.67
1:A:1536:A:N3	1:A:1536:A:H3'	2.09	0.67
1:A:1755:A:C2	1:A:1756:G:C5	2.83	0.67
11:S:91:LEU:CB	12:T:175:PRO:HA	2.23	0.67
25:F:110:VAL:HG21	25:F:267:MET:HE1	1.76	0.67
1:A:277:G:H3'	1:A:277:G:N3	2.10	0.67
1:A:320:U:H1'	1:A:341:A:N9	2.10	0.67
1:A:644:A:OP1	6:N:151:ARG:NH1	2.28	0.67
1:A:891:G:C2	1:A:892:C:C2	2.82	0.67
1:A:1179:C:O5'	1:A:1179:C:H6	1.78	0.67
1:A:1238:G:H2'	1:A:1239:C:C5	2.30	0.67
1:A:1746:C:HO2'	1:A:1747:C:H5'	1.57	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:122:LEU:CG	16:X:140:ARG:CB	2.72	0.67
19:E:259:ASN:HD22	19:E:259:ASN:N	1.91	0.67
1:A:857:G:H1'	1:A:961:G:N2	2.10	0.67
1:A:863:C:O5'	1:A:863:C:H6	1.78	0.67
1:A:879:G:C2	1:A:880:U:C2	2.82	0.67
1:A:1080:C:H2'	1:A:1081:C:C4'	2.24	0.67
1:A:1526:G:C2	1:A:1540:C:O2	2.47	0.67
1:A:1830:U:H5'	1:A:1831:G:N7	2.09	0.67
1:A:1878:C:H2'	1:A:1879:U:C6	2.28	0.67
1:A:2231:C:H3'	1:A:2232:G:H8	1.59	0.67
1:A:2345:A:H2'	1:A:2346:A:C8	2.30	0.67
3:B:87:G:N1	3:B:93:C:N3	2.42	0.67
28:I:46:GLN:OE1	28:I:109:ARG:HD2	1.94	0.67
31:a:46:ARG:CZ	31:a:64:THR:CA	2.69	0.67
31:a:48:ASP:CG	31:a:67:ASP:N	2.52	0.67
1:A:152:G:C5	1:A:153:G:N7	2.63	0.67
1:A:545:U:C2'	11:S:49:ASP:OD2	2.43	0.67
1:A:1521:G:OP2	1:A:1541:U:OP2	2.13	0.67
1:A:2433:C:P	6:N:145:GLY:HA2	2.35	0.67
10:R:131:VAL:HG13	10:R:199:TYR:CE2	2.29	0.67
10:R:148:ILE:HD12	10:R:210:SER:HB2	1.77	0.67
23:e:114:ARG:HH21	23:e:136:ILE:HD13	1.59	0.67
1:A:1522:A:C2	1:A:1523:A:C5	2.83	0.67
1:A:2108:G:N3	1:A:2108:G:H3'	2.09	0.67
1:A:2322:A:C4	27:H:186:ARG:HD2	1.65	0.67
1:A:2480:U:C4	1:A:2504:A:N1	2.62	0.67
27:H:162:PRO:HB3	31:a:73:TRP:CD1	2.30	0.67
27:H:186:ARG:O	27:H:187:GLU:HB2	1.94	0.67
1:A:227:G:O2'	23:e:93:LYS:HA	1.95	0.66
1:A:524:A:H1'	11:S:11:ARG:NH2	2.09	0.66
3:B:68:G:C2	3:B:69:C:C2	2.83	0.66
11:S:91:LEU:HG	12:T:175:PRO:CD	2.24	0.66
15:W:67:ARG:NE	15:W:131:SER:OG	2.28	0.66
19:E:237:ILE:HG23	19:E:238:GLY:H	1.59	0.66
27:H:126:SER:OG	27:H:132:VAL:O	2.10	0.66
1:A:82:G:OP2	15:W:157:LYS:NZ	2.28	0.66
1:A:127:C:O5'	1:A:127:C:H6	1.78	0.66
1:A:160:A:H8	1:A:160:A:OP2	1.78	0.66
1:A:1153:G:H3'	1:A:1154:A:H5''	1.77	0.66
1:A:1882:U:C5	1:A:1883:G:N7	2.63	0.66
10:R:138:ARG:HH12	10:R:199:TYR:HA	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:T:176:ILE:HD11	32:h:86:PRO:HD3	1.76	0.66
16:X:156:GLU:OE1	16:X:157:ASN:N	2.28	0.66
31:a:48:ASP:OD2	31:a:66:LYS:C	2.38	0.66
1:A:976:C:O2	1:A:1012:G:O2'	2.13	0.66
1:A:1602:G:H4'	19:E:55:LYS:HB2	1.76	0.66
1:A:2330:U:C4'	27:H:90:ASN:HD22	2.08	0.66
1:A:2393:A:C2	9:Q:166:PHE:HZ	2.10	0.66
1:A:2421:C:O5'	1:A:2421:C:H6	1.78	0.66
1:A:2647:A:C8	2:C:98:G:C5	2.84	0.66
3:B:26:A:N1	3:B:27:A:C5	2.63	0.66
12:T:170:THR:CA	12:T:233:SER:HB3	2.20	0.66
1:A:111:U:P	18:Z:134:ARG:NH1	2.67	0.66
1:A:238:C:OP2	23:e:93:LYS:CE	2.43	0.66
1:A:298:G:C2	1:A:299:C:C4	2.83	0.66
1:A:368:U:N1	1:A:369:U:H5	1.91	0.66
1:A:902:G:C6	1:A:903:G:C8	2.84	0.66
1:A:942:U:O5'	1:A:942:U:H6	1.78	0.66
1:A:1361:U:O4	14:V:168:PRO:CG	2.43	0.66
1:A:1404:C:OP1	30:g:102:GLN:NE2	2.27	0.66
1:A:1525:G:N2	1:A:1541:U:N3	2.44	0.66
1:A:2740:G:O2'	8:P:13:HIS:O	2.13	0.66
1:A:2764:U:H3	1:A:2776:A:N6	1.92	0.66
2:C:40:U:N3	2:C:87:A:N6	2.40	0.66
3:B:8:G:O2'	3:B:9:U:O5'	2.13	0.66
5:M:75:MET:HE1	10:R:153:LEU:HD21	1.77	0.66
26:G:208:PHE:HB3	26:G:229:LEU:HB2	1.76	0.66
1:A:298:G:C2	1:A:299:C:C5	2.84	0.66
1:A:479:G:OP2	22:d:127:ARG:HD3	1.95	0.66
1:A:524:A:C2'	11:S:11:ARG:HH22	2.09	0.66
1:A:1361:U:O4	14:V:168:PRO:HD3	1.95	0.66
1:A:2157:U:C2	1:A:2163:G:C2	2.83	0.66
1:A:2312:C:O2	1:A:2355:G:N2	2.29	0.66
2:C:104:A:N3	2:C:105:A:N7	2.42	0.66
6:N:195:ARG:NE	6:N:195:ARG:HA	2.09	0.66
6:N:197:PRO:HB2	6:N:215:ARG:CD	2.26	0.66
10:R:187:ILE:HG22	10:R:188:ALA:H	1.60	0.66
12:T:93:PHE:O	12:T:94:GLN:HB2	1.96	0.66
12:T:177:VAL:CB	12:T:230:TYR:OH	2.43	0.66
13:U:32:ILE:HD11	13:U:93:PHE:HE2	1.61	0.66
15:W:159:ARG:HB3	15:W:168:VAL:HB	1.77	0.66
16:X:128:TYR:HE2	16:X:132:LYS:CG	2.08	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:F:121:ASN:HD22	25:F:121:ASN:N	1.93	0.66
1:A:318:A:N6	1:A:339:A:H62	1.90	0.66
1:A:1810:C:H4'	1:A:1811:A:H5'	1.76	0.66
1:A:1815:U:O2	19:E:46:THR:OG1	2.12	0.66
1:A:1878:C:O2'	1:A:1879:U:H5'	1.95	0.66
1:A:2322:A:O4'	27:H:186:ARG:HD3	1.95	0.66
1:A:2336:U:H6	1:A:2336:U:O5'	1.79	0.66
1:A:2479:U:C4	1:A:2505:A:N1	2.63	0.66
3:B:5:C:O5'	3:B:5:C:H6	1.79	0.66
15:W:89:ILE:HG22	15:W:101:ILE:HG22	1.77	0.66
15:W:141:GLN:HG3	15:W:166:GLU:OE2	1.93	0.66
19:E:237:ILE:C	19:E:237:ILE:HD12	2.19	0.66
21:c:28:ARG:HE	21:c:50:LYS:HZ3	1.43	0.66
25:F:87:ASP:OD1	25:F:88:ALA:N	2.29	0.66
1:A:266:A:H2'	1:A:267:C:C6	2.31	0.66
1:A:389:A:N6	1:A:410:G:C6	2.64	0.66
1:A:824:U:H2'	1:A:825:C:H6	1.60	0.66
1:A:1388:A:O2'	22:d:118:THR:HG21	1.95	0.66
1:A:2220:G:C6	1:A:2221:U:C4	2.84	0.66
1:A:2544:C:H5''	24:f:67:PRO:HB3	1.77	0.66
1:A:629:C:O5'	1:A:629:C:H6	1.78	0.66
1:A:857:G:C2	1:A:961:G:N3	2.60	0.66
1:A:1600:A:N3	19:E:209:TRP:CZ3	2.64	0.66
1:A:2141:G:O2'	1:A:2142:G:O4'	2.13	0.66
1:A:2188:C:O5'	1:A:2188:C:H6	1.79	0.66
1:A:2302:C:OP2	21:c:10:LYS:HD3	1.96	0.66
2:C:80:C:H2'	2:C:81:A:C8	2.31	0.66
2:C:101:U:H5'	2:C:102:U:OP2	1.94	0.66
3:B:93:C:O5'	3:B:93:C:H6	1.79	0.66
4:L:100:TRP:HE3	4:L:101:TYR:CD2	2.12	0.66
12:T:169:SER:CB	12:T:233:SER:HB2	2.22	0.66
12:T:201:LYS:HG2	12:T:206:TYR:HE2	1.59	0.66
27:H:175:PHE:HD1	27:H:183:VAL:CG1	2.09	0.66
1:A:60:U:C2'	18:Z:94:ARG:HH12	2.08	0.66
1:A:258:C:H6	1:A:258:C:O5'	1.79	0.66
1:A:294:U:H2'	1:A:295:C:C1'	2.26	0.66
1:A:475:G:N2	1:A:478:A:OP2	2.28	0.66
1:A:1220:U:O2	11:S:3:ARG:NH2	2.29	0.66
1:A:1519:A:C2	1:A:1520:A:C5	2.84	0.66
1:A:1582:A:H2'	1:A:1583:A:C8	2.31	0.66
1:A:2315:G:N2	1:A:2338:G:N7	2.44	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2320:G:C4'	27:H:175:PHE:HA	2.21	0.66
3:B:25:G:C8	3:B:57:U:C5	2.83	0.66
3:B:87:G:C2	3:B:93:C:C2	2.84	0.66
15:W:70:LYS:C	15:W:89:ILE:HD11	2.21	0.66
1:A:1393:U:O2'	1:A:2230:A:C2'	2.43	0.66
1:A:1886:A:H61	6:N:252:ARG:NH2	1.94	0.66
1:A:2529:C:H5''	25:F:217:PHE:HD1	1.60	0.66
6:N:212:ILE:HG22	6:N:214:ALA:H	1.60	0.66
7:O:77:ARG:NH1	7:O:78:PRO:O	2.29	0.66
19:E:80:ASP:HB2	19:E:87:ILE:HG12	1.78	0.66
26:G:129:GLN:CD	26:G:134:ARG:NH2	2.53	0.66
31:a:71:GLU:O	31:a:73:TRP:NE1	2.28	0.66
1:A:1538:G:H8	1:A:1538:G:O5'	1.79	0.65
1:A:1544:A:H2'	1:A:1545:G:O4'	1.96	0.65
1:A:2103:G:O6	1:A:2104:A:N6	2.30	0.65
3:B:40:A:O2'	3:B:47:A:N1	2.29	0.65
6:N:88:GLN:HG3	26:G:82:ALA:HB2	1.78	0.65
7:O:39:PRO:HB3	7:O:99:PRO:HD3	1.76	0.65
19:E:226:HIS:ND1	19:E:228:HIS:CD2	2.63	0.65
31:a:48:ASP:CB	31:a:68:TYR:HD1	2.04	0.65
1:A:206:A:H1'	1:A:218:A:H1'	1.77	0.65
1:A:1160:A:C8	4:L:174:ARG:HD2	2.31	0.65
1:A:1635:C:H4'	14:V:106:ARG:HH21	1.58	0.65
6:N:197:PRO:HB2	6:N:215:ARG:HD3	1.78	0.65
28:I:44:GLY:HA2	28:I:105:HIS:ND1	2.11	0.65
1:A:71:A:C2	18:Z:117:THR:HG23	2.30	0.65
1:A:166:A:H2'	1:A:167:A:C8	2.31	0.65
1:A:336:G:C2'	1:A:337:U:H5'	2.26	0.65
1:A:853:G:H1	1:A:964:C:H42	1.44	0.65
1:A:886:U:O5'	1:A:886:U:H6	1.79	0.65
1:A:1479:U:C4'	1:A:1480:A:H5''	2.20	0.65
1:A:1505:C:H6	1:A:1505:C:O5'	1.78	0.65
1:A:2107:G:C6	1:A:2242:A:C8	2.81	0.65
1:A:2337:C:H6	1:A:2337:C:O5'	1.78	0.65
6:N:197:PRO:HB3	6:N:215:ARG:CD	2.18	0.65
14:V:115:LEU:HD21	14:V:151:ILE:HD11	1.79	0.65
1:A:374:U:O5'	1:A:374:U:H6	1.80	0.65
1:A:843:C:C4'	6:N:125:ILE:HD11	2.20	0.65
1:A:1407:C:H2'	1:A:1408:A:H8	1.62	0.65
1:A:1524:G:N1	1:A:1525:G:C6	2.64	0.65
1:A:1756:G:C2	1:A:1757:G:C5	2.84	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2157:U:N3	1:A:2163:G:C2	2.64	0.65
1:A:2486:A:O2'	7:O:56:ARG:NE	2.29	0.65
3:B:36:A:C6	3:B:45:G:C6	2.83	0.65
3:B:38:C:O5'	3:B:38:C:H6	1.79	0.65
11:S:92:LEU:O	11:S:94:ARG:HG2	1.95	0.65
1:A:2:U:H2'	1:A:3:C:C6	2.32	0.65
1:A:300:U:O5'	1:A:300:U:H6	1.80	0.65
1:A:330:U:H3	26:G:218:LYS:HE3	1.58	0.65
1:A:669:C:O2'	1:A:670:A:H5'	1.97	0.65
1:A:899:A:H1'	1:A:900:G:O5'	1.96	0.65
1:A:1875:G:H8	1:A:1875:G:O5'	1.79	0.65
1:A:2310:U:OP1	9:Q:62:LYS:NZ	2.29	0.65
1:A:2643:C:O5'	1:A:2643:C:H6	1.79	0.65
2:C:12:C:H5''	8:P:109:ARG:NH2	2.10	0.65
2:C:84:C:O5'	2:C:84:C:H6	1.79	0.65
9:Q:73:LEU:HA	9:Q:85:GLN:O	1.96	0.65
13:U:117:ARG:HD2	13:U:123:TYR:CE2	2.31	0.65
19:E:175:GLY:O	19:E:268:ARG:HB3	1.94	0.65
1:A:1176:C:OP2	32:h:70:TRP:CD1	2.49	0.65
1:A:1540:C:O5'	1:A:1540:C:H6	1.79	0.65
4:L:172:LEU:HD12	4:L:172:LEU:N	2.10	0.65
14:V:162:VAL:HG12	14:V:176:ILE:HG22	1.79	0.65
26:G:71:ASN:HD22	26:G:72:LEU:N	1.95	0.65
27:H:58:LYS:O	27:H:62:ILE:HG12	1.96	0.65
1:A:352:C:O5'	1:A:352:C:H6	1.79	0.65
1:A:861:A:H2'	1:A:862:U:H5'	1.77	0.65
1:A:885:G:H2'	1:A:886:U:C6	2.31	0.65
1:A:917:C:O5'	1:A:917:C:H6	1.79	0.65
1:A:1495:C:C4	1:A:1548:A:N6	2.64	0.65
1:A:1808:C:H2'	1:A:1829:A:N6	2.05	0.65
1:A:2807:C:H42	2:C:98:G:H1	1.45	0.65
2:C:80:C:H2'	2:C:81:A:H8	1.62	0.65
3:B:8:G:N2	3:B:116:C:O2	2.30	0.65
3:B:43:C:H2'	3:B:44:C:C6	2.32	0.65
16:X:128:TYR:HA	16:X:134:LYS:HD3	1.77	0.65
1:A:218:A:H61	1:A:441:A:H61	1.43	0.65
1:A:887:G:H1	1:A:909:A:H61	1.42	0.65
1:A:2109:C:C5	1:A:2110:U:N1	2.64	0.65
1:A:2110:U:H6	1:A:2110:U:O5'	1.80	0.65
1:A:2593:G:O2'	1:A:2596:C:OP2	2.14	0.65
6:N:140:ILE:HD11	23:e:112:ARG:HD2	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:N:172:GLU:O	6:N:172:GLU:HG2	1.97	0.65
6:N:211:GLN:C	6:N:212:ILE:HD12	2.21	0.65
14:V:144:LYS:O	14:V:148:ARG:CB	2.44	0.65
19:E:267:ILE:CG2	19:E:269:ARG:HB2	2.27	0.65
25:F:198:ASP:OD1	25:F:263:LYS:N	2.30	0.65
26:G:59:ASN:OD1	26:G:62:GLY:N	2.26	0.65
1:A:626:C:H3'	1:A:627:C:C5	2.32	0.65
1:A:635:C:O5'	1:A:635:C:H6	1.78	0.65
1:A:1307:A:C6	1:A:1350:U:N3	2.64	0.65
1:A:2105:U:O5'	1:A:2105:U:H6	1.79	0.65
2:C:31:U:O2	2:C:38:G:N7	2.30	0.65
3:B:7:G:O6	3:B:117:A:C2	2.49	0.65
3:B:30:A:OP2	9:Q:78:SER:OG	2.14	0.65
3:B:35:A:H2'	3:B:36:A:C8	2.32	0.65
6:N:146:ILE:HD12	6:N:146:ILE:N	2.12	0.65
14:V:121:THR:HG23	14:V:124:ALA:H	1.61	0.65
25:F:199:ILE:HD11	25:F:282:VAL:HB	1.79	0.65
1:A:287:A:H2'	1:A:288:C:C5	2.32	0.65
1:A:988:A:H61	7:O:82:ARG:HH11	1.45	0.65
1:A:1926:A:N7	1:A:1931:U:O4	2.29	0.65
1:A:2113:G:O2'	1:A:2114:G:H5'	1.97	0.65
1:A:2213:A:C5	1:A:2242:A:C6	2.85	0.65
1:A:2322:A:H2'	1:A:2323:C:C6	2.31	0.65
2:C:82:U:O5'	2:C:82:U:H6	1.79	0.65
3:B:8:G:C2	3:B:116:C:O2	2.50	0.65
11:S:91:LEU:CD2	12:T:175:PRO:HG3	2.27	0.65
13:U:57:SER:OG	13:U:60:GLU:OE1	2.11	0.65
13:U:153:THR:C	13:U:157:LEU:HG	2.22	0.65
22:d:114:ARG:O	22:d:120:GLY:HA3	1.96	0.65
1:A:274:G:C4	1:A:433:C:H5	2.15	0.64
1:A:363:C:O5'	1:A:363:C:H6	1.79	0.64
1:A:382:G:H4'	1:A:383:A:OP2	1.96	0.64
1:A:1161:A:H1'	1:A:1162:C:P	2.36	0.64
2:C:85:U:H2'	2:C:86:A:C8	2.32	0.64
3:B:32:A:H2'	3:B:33:C:H5'	1.77	0.64
16:X:101:PHE:CD1	16:X:133:LYS:HG2	2.32	0.64
21:c:49:ARG:HG2	21:c:50:LYS:H	1.63	0.64
28:I:81:LEU:O	28:I:93:ARG:N	2.24	0.64
1:A:98:G:H4'	1:A:99:A:C5'	2.27	0.64
1:A:102:U:H2'	1:A:103:C:C5'	2.22	0.64
1:A:124:A:OP1	22:d:138:LYS:CG	2.46	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:276:G:C2	1:A:416:C:O2'	2.48	0.64
1:A:601:U:H1'	23:e:89:GLY:O	1.97	0.64
1:A:648:G:H1	6:N:158:VAL:HG21	1.61	0.64
1:A:1528:U:O5'	1:A:1528:U:H6	1.80	0.64
1:A:1879:U:C4	6:N:252:ARG:NH1	2.64	0.64
1:A:2141:G:O2'	1:A:2142:G:O5'	2.16	0.64
1:A:2316:G:N2	1:A:2334:C:N3	2.39	0.64
4:L:173:TYR:HD1	4:L:202:HIS:ND1	1.94	0.64
25:F:121:ASN:ND2	25:F:141:TYR:HD1	1.95	0.64
26:G:59:ASN:ND2	26:G:63:GLU:OE2	2.30	0.64
1:A:83:A:N6	1:A:98:G:C6	2.65	0.64
1:A:385:U:O5'	1:A:385:U:H6	1.80	0.64
1:A:560:A:O2'	1:A:561:C:OP1	2.13	0.64
1:A:858:G:C5	1:A:859:A:N7	2.65	0.64
1:A:934:A:H1'	1:A:935:U:O5'	1.97	0.64
1:A:937:U:H2'	1:A:938:G:H5'	1.80	0.64
1:A:989:G:C8	32:h:54:LYS:CD	2.80	0.64
1:A:1394:A:H5'	1:A:2230:A:C1'	2.27	0.64
1:A:1497:A:H3'	1:A:1498:G:H8	1.60	0.64
1:A:1545:G:C5	1:A:1546:C:C5	2.85	0.64
1:A:1866:G:H5''	29:J:43:LYS:HG3	1.79	0.64
1:A:1879:U:C4	6:N:252:ARG:CZ	2.80	0.64
1:A:2393:A:H1'	9:Q:160:ARG:HH12	1.62	0.64
3:B:38:C:H3'	3:B:39:C:O4'	1.97	0.64
26:G:86:ARG:HE	26:G:152:MET:HE1	1.62	0.64
27:H:162:PRO:CB	31:a:71:GLU:HG2	2.27	0.64
28:I:129:LEU:HG	28:I:202:VAL:HG22	1.80	0.64
1:A:297:U:O2'	1:A:298:G:H5'	1.98	0.64
1:A:853:G:N1	1:A:965:G:C5	2.65	0.64
1:A:854:A:C2'	1:A:855:C:H5'	2.27	0.64
1:A:1553:U:O5'	1:A:1553:U:H6	1.81	0.64
1:A:1763:G:N2	1:A:1766:G:OP2	2.31	0.64
1:A:1879:U:O5'	1:A:1879:U:H6	1.80	0.64
2:C:32:C:H1'	2:C:33:A:O5'	1.97	0.64
2:C:41:A:O2'	2:C:42:G:H5'	1.97	0.64
6:N:162:LEU:HD11	6:N:203:GLU:OE1	1.96	0.64
6:N:171:LYS:O	6:N:172:GLU:HB3	1.97	0.64
15:W:76:LYS:HE2	15:W:137:ILE:HD11	1.79	0.64
26:G:81:ARG:HB2	26:G:81:ARG:NH2	2.13	0.64
1:A:389:A:N6	1:A:410:G:N1	2.45	0.64
1:A:1345:G:O2'	1:A:1347:U:OP2	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1751:A:N6	1:A:1754:A:N7	2.45	0.64
1:A:2186:U:OP2	1:A:2188:C:C4	2.50	0.64
1:A:2319:C:N3	1:A:2332:G:N1	2.45	0.64
3:B:4:U:C5	3:B:5:C:C4	2.86	0.64
3:B:41:U:O2'	3:B:46:A:C6	2.49	0.64
3:B:90:G:C6	3:B:91:G:C6	2.86	0.64
17:Y:138:ALA:O	17:Y:142:GLY:N	2.27	0.64
19:E:155:GLY:H	19:E:191:VAL:HG13	1.61	0.64
31:a:42:HIS:ND1	31:a:42:HIS:O	2.31	0.64
1:A:9:A:H1'	2:C:99:A:N1	2.13	0.64
1:A:131:C:C5	14:V:104:TYR:CZ	2.85	0.64
1:A:135:C:C6	1:A:161:G:C6	2.85	0.64
1:A:318:A:C6	1:A:339:A:C6	2.85	0.64
1:A:616:U:P	26:G:155:LYS:HZ1	2.18	0.64
1:A:911:U:H2'	1:A:912:C:C5	2.33	0.64
1:A:1308:A:C8	8:P:113:ARG:NH2	2.65	0.64
1:A:1618:C:OP1	1:A:1621:C:N4	2.21	0.64
1:A:1634:C:H5''	14:V:145:LYS:HZ3	1.62	0.64
1:A:1811:A:N3	1:A:1811:A:H2'	2.10	0.64
1:A:1828:U:O2'	1:A:1829:A:OP2	2.13	0.64
3:B:87:G:H2'	3:B:88:G:C8	2.32	0.64
6:N:82:LEU:HD22	26:G:88:LEU:HD11	1.77	0.64
19:E:61:ILE:HD11	19:E:63:PHE:CZ	2.33	0.64
1:A:44:G:H3'	1:A:45:A:H5''	1.77	0.64
1:A:131:C:N4	14:V:104:TYR:CG	2.65	0.64
1:A:267:C:O5'	1:A:267:C:H6	1.79	0.64
1:A:354:A:H2'	1:A:356:A:H62	1.60	0.64
1:A:682:C:H5	1:A:820:G:H1	1.46	0.64
1:A:1248:G:N7	11:S:16:LYS:NZ	2.46	0.64
1:A:1385:G:O2'	1:A:1818:U:O4	2.14	0.64
1:A:2238:A:N3	1:A:2239:G:C8	2.66	0.64
1:A:2351:G:H4'	9:Q:57:HIS:CE1	2.33	0.64
12:T:154:ASP:OD1	12:T:155:LYS:N	2.30	0.64
1:A:78:C:O2'	1:A:355:A:H1'	1.98	0.64
1:A:373:C:O5'	1:A:373:C:H6	1.81	0.64
1:A:590:C:O2'	11:S:31:LEU:HD11	1.98	0.64
1:A:626:C:H6	1:A:626:C:O5'	1.79	0.64
1:A:822:U:C4	1:A:1272:A:C2	2.85	0.64
1:A:895:C:H3'	1:A:896:G:H8	1.62	0.64
1:A:999:C:OP2	1:A:1002:G:N2	2.30	0.64
1:A:1497:A:H3'	1:A:1498:G:C8	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2205:G:O2'	1:A:2206:A:H5'	1.98	0.64
3:B:36:A:C2	3:B:50:U:O2	2.50	0.64
5:M:28:SER:HA	5:M:30:ARG:NH2	2.13	0.64
7:O:31:ARG:NH2	7:O:32:TYR:OH	2.30	0.64
13:U:149:LEU:HD23	13:U:149:LEU:N	2.06	0.64
1:A:23:G:H2'	1:A:24:U:C6	2.32	0.64
1:A:152:G:C6	1:A:153:G:N7	2.66	0.64
1:A:1189:G:N2	12:T:214:GLN:HE22	1.95	0.64
1:A:1499:G:N1	1:A:1546:C:N4	2.27	0.64
1:A:1660:G:C5'	30:g:90:LEU:CD2	2.70	0.64
1:A:1747:C:O2'	1:A:1748:C:H5'	1.97	0.64
1:A:1880:G:H8	1:A:1880:G:O5'	1.81	0.64
1:A:2114:G:H2'	1:A:2115:G:C8	2.33	0.64
1:A:2212:A:H8	1:A:2212:A:O5'	1.81	0.64
1:A:2213:A:O2'	17:Y:106:LYS:NZ	2.31	0.64
1:A:2219:U:C3'	1:A:2220:G:C5'	2.75	0.64
1:A:2411:C:H5''	6:N:142:LYS:HE3	1.78	0.64
6:N:159:PRO:HB2	6:N:187:ILE:HD11	1.78	0.64
1:A:420:A:C4	1:A:432:G:N2	2.66	0.64
1:A:624:A:C2	1:A:625:C:H6	2.16	0.64
1:A:759:G:OP2	13:U:117:ARG:HD3	1.97	0.64
1:A:877:C:O2'	1:A:878:U:H5'	1.98	0.64
1:A:916:G:H4'	1:A:916:G:OP1	1.97	0.64
1:A:1600:A:N1	19:E:209:TRP:CH2	2.66	0.64
1:A:1648:C:H5''	22:d:97:LYS:HE3	1.80	0.64
1:A:2213:A:C4	1:A:2242:A:C2	2.85	0.64
1:A:2267:G:H1	7:O:82:ARG:CZ	2.11	0.64
4:L:173:TYR:O	4:L:186:GLU:HB3	1.98	0.64
4:L:201:GLU:HG3	4:L:218:PHE:HZ	1.62	0.64
4:L:208:LEU:HD22	4:L:217:LEU:CD1	2.28	0.64
6:N:82:LEU:HD23	26:G:240:LEU:HD23	1.79	0.64
6:N:209:LYS:CB	6:N:230:CYS:HB3	2.28	0.64
13:U:151:SER:C	13:U:152:LEU:HD23	2.23	0.64
15:W:67:ARG:CD	15:W:131:SER:OG	2.46	0.64
26:G:70:LEU:HD13	26:G:256:ASN:OD1	1.94	0.64
1:A:258:C:O2'	1:A:259:C:H5'	1.98	0.63
1:A:543:A:O2'	1:A:2035:A:N6	2.31	0.63
1:A:891:G:C2'	1:A:892:C:H5'	2.28	0.63
1:A:919:A:C2'	1:A:920:A:H5'	2.28	0.63
1:A:1474:A:H2'	1:A:1474:A:N3	2.13	0.63
1:A:2232:G:C2	1:A:2233:G:N7	2.66	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2330:U:H4'	27:H:90:ASN:HD22	1.60	0.63
1:A:2790:C:H5''	25:F:260:LYS:HG3	1.80	0.63
6:N:196:LEU:HD12	6:N:196:LEU:O	1.98	0.63
14:V:116:GLN:HA	18:Z:91:ARG:HH22	0.68	0.63
15:W:67:ARG:HB3	15:W:67:ARG:HH11	1.60	0.63
15:W:67:ARG:HD3	15:W:131:SER:CB	2.28	0.63
28:I:66:LYS:HA	28:I:71:GLU:HG2	1.80	0.63
1:A:261:U:H2'	1:A:262:G:H5'	1.80	0.63
1:A:1515:G:P	1:A:1515:G:H8	2.21	0.63
1:A:1532:G:C2'	1:A:1533:A:H5'	2.28	0.63
11:S:49:ASP:OD1	11:S:52:ARG:NH1	2.31	0.63
26:G:79:LYS:HB2	26:G:79:LYS:NZ	2.13	0.63
26:G:228:LEU:O	26:G:229:LEU:HD23	1.98	0.63
28:I:48:ILE:CG1	28:I:90:LEU:C	2.70	0.63
31:a:46:ARG:HH22	31:a:65:GLN:N	1.96	0.63
1:A:287:A:H8	1:A:287:A:O5'	1.81	0.63
1:A:1902:G:N2	1:A:1902:G:OP2	2.29	0.63
2:C:21:G:H3'	2:C:22:A:H5''	1.81	0.63
2:C:41:A:C6	2:C:86:A:N1	2.67	0.63
2:C:71:C:O2'	2:C:72:A:N7	2.30	0.63
11:S:28:HIS:HD2	11:S:38:GLN:CD	2.05	0.63
14:V:133:SER:HA	14:V:176:ILE:O	1.98	0.63
15:W:67:ARG:HD2	15:W:69:VAL:HB	1.80	0.63
16:X:162:ARG:HH11	16:X:162:ARG:CG	2.12	0.63
19:E:65:ARG:HD3	19:E:114:SER:HB3	1.80	0.63
25:F:132:ASP:OD1	25:F:133:GLY:N	2.30	0.63
1:A:260:G:N1	1:A:268:G:C6	2.66	0.63
1:A:573:G:O3'	11:S:41:ARG:NH2	2.31	0.63
1:A:1535:A:N3	1:A:1535:A:H5'	2.13	0.63
1:A:2211:U:C5	1:A:2241:G:N1	2.67	0.63
2:C:74:C:OP1	8:P:72:LYS:NZ	2.24	0.63
1:A:643:A:OP1	6:N:144:ARG:HD2	1.98	0.63
1:A:888:C:H41	1:A:908:A:H2	0.70	0.63
1:A:909:A:O5'	1:A:909:A:H8	1.81	0.63
1:A:1828:U:HO2'	1:A:1829:A:P	2.21	0.63
1:A:2224:G:O2'	1:A:2225:G:OP2	2.10	0.63
2:C:33:A:H1'	2:C:34:U:O5'	1.97	0.63
3:B:92:U:OP2	7:O:16:ARG:CZ	2.46	0.63
19:E:203:ARG:HH22	19:E:209:TRP:NE1	1.96	0.63
22:d:112:ARG:HH21	22:d:112:ARG:CB	2.00	0.63
1:A:351:C:O2'	1:A:352:C:H5'	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:381:C:C2	1:A:416:C:H5	2.15	0.63
1:A:1450:G:H2'	1:A:1451:G:H8	1.64	0.63
1:A:1472:A:H4'	1:A:1473:G:H5''	1.80	0.63
1:A:1475:U:O2	8:P:70:LEU:HD11	1.98	0.63
1:A:1751:A:N7	1:A:1754:A:N6	2.46	0.63
10:R:115:GLN:O	10:R:116:ARG:HB2	1.97	0.63
12:T:116:PRO:CD	12:T:117:PRO:CD	2.76	0.63
12:T:170:THR:CG2	12:T:172:ILE:CD1	2.77	0.63
16:X:79:VAL:HG22	16:X:94:ILE:HD12	1.81	0.63
25:F:119:GLU:HG3	25:F:143:ARG:HB3	1.80	0.63
28:I:82:VAL:HB	28:I:92:VAL:HG12	1.80	0.63
1:A:716:A:N6	1:A:737:G:H1'	2.14	0.63
1:A:1331:G:OP2	22:d:102:ARG:HD2	1.98	0.63
1:A:2120:U:C4	1:A:2197:A:H2	2.16	0.63
1:A:2190:A:H2'	1:A:2191:C:C1'	2.28	0.63
1:A:2275:G:O2'	1:A:2444:C:OP2	2.16	0.63
4:L:172:LEU:HD23	4:L:185:GLU:OE2	1.97	0.63
1:A:274:G:O6	1:A:433:C:C5'	2.47	0.63
1:A:298:G:N3	1:A:299:C:C5	2.67	0.63
1:A:341:A:H8	1:A:341:A:O5'	1.81	0.63
1:A:1161:A:C8	1:A:2040:U:H4'	2.34	0.63
2:C:37:C:O2	25:F:143:ARG:NH2	2.23	0.63
6:N:165:ILE:HD12	6:N:207:SER:H	1.61	0.63
9:Q:115:PRO:HB2	9:Q:151:ARG:CZ	2.29	0.63
1:A:278:G:C3'	1:A:279:A:H5''	2.27	0.63
1:A:910:A:C2	1:A:911:U:C2	2.86	0.63
1:A:927:A:N3	3:B:81:U:O2'	2.32	0.63
1:A:1603:A:H2'	1:A:1604:A:H8	1.63	0.63
1:A:1699:U:O2	1:A:2011:G:O6	2.17	0.63
1:A:2129:G:O2'	1:A:2131:U:H5	1.81	0.63
1:A:2207:A:C2	1:A:2208:U:N3	2.67	0.63
1:A:2211:U:H2'	1:A:2212:A:C8	2.34	0.63
1:A:2647:A:N9	2:C:98:G:N3	2.46	0.63
2:C:44:U:H5''	8:P:63:THR:HG21	1.79	0.63
2:C:49:A:N6	2:C:76:G:N2	2.46	0.63
13:U:68:MET:HB3	13:U:73:CYS:SG	2.39	0.63
15:W:60:SER:O	15:W:61:LEU:HD23	1.98	0.63
15:W:109:LYS:O	15:W:122:ILE:CG2	2.46	0.63
16:X:67:LYS:HA	16:X:67:LYS:NZ	2.13	0.63
21:c:10:LYS:HZ2	21:c:36:GLN:HB2	1.63	0.63
22:d:93:LEU:HD23	22:d:93:LEU:C	2.23	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:553:G:H3'	1:A:554:G:H5''	1.80	0.62
1:A:919:A:N3	7:O:13:HIS:CE1	2.67	0.62
1:A:1002:G:H5'	12:T:201:LYS:HZ2	1.59	0.62
1:A:1881:A:H8	1:A:1881:A:O5'	1.81	0.62
6:N:167:VAL:HG12	6:N:168:ALA:H	1.63	0.62
6:N:195:ARG:O	6:N:195:ARG:HD3	1.99	0.62
7:O:97:VAL:HG21	7:O:103:LEU:HD21	1.81	0.62
9:Q:49:ARG:HB2	9:Q:52:ASP:HB2	1.79	0.62
1:A:254:U:H5''	1:A:272:U:O4	1.98	0.62
1:A:2112:U:H6	1:A:2112:U:O5'	1.82	0.62
1:A:2123:U:C2	1:A:2195:G:N2	2.67	0.62
2:C:33:A:C1'	2:C:34:U:H5'	2.25	0.62
12:T:146:ARG:HE	32:h:89:TRP:CD1	2.17	0.62
28:I:167:GLU:HB3	28:I:170:LYS:HG2	1.80	0.62
1:A:1391:C:O2'	1:A:1821:G:O2'	2.18	0.62
1:A:2238:A:C2	1:A:2239:G:C5	2.88	0.62
1:A:2409:A:H2	1:A:2441:C:N4	1.95	0.62
1:A:2691:G:O3'	5:M:29:ASN:HB3	1.98	0.62
6:N:97:ARG:NH1	6:N:100:ARG:CD	2.62	0.62
29:J:78:LEU:HB3	29:J:84:ALA:HB3	1.81	0.62
1:A:355:A:N7	1:A:356:A:C4	2.67	0.62
1:A:845:C:H4'	23:e:141:SER:HB2	1.81	0.62
1:A:896:G:N3	1:A:896:G:H2'	2.14	0.62
1:A:2197:A:O5'	1:A:2197:A:H8	1.82	0.62
1:A:2351:G:C6	9:Q:64:VAL:HG22	2.35	0.62
1:A:2374:C:O2'	1:A:2376:C:OP2	2.15	0.62
2:C:68:A:O2'	2:C:69:U:H5'	1.99	0.62
10:R:147:ASP:OD1	10:R:211:HIS:ND1	2.27	0.62
14:V:144:LYS:O	14:V:148:ARG:HB2	1.99	0.62
19:E:237:ILE:HD11	19:E:239:ARG:CB	2.10	0.62
28:I:127:LEU:HA	28:I:204:TYR:HA	1.80	0.62
1:A:364:U:O5'	1:A:364:U:H6	1.80	0.62
1:A:983:G:N2	1:A:2267:G:H1	1.97	0.62
3:B:41:U:C5	3:B:44:C:OP2	2.52	0.62
24:f:39:LYS:NZ	24:f:68:LYS:O	2.31	0.62
1:A:156:G:N2	1:A:157:G:H1'	2.13	0.62
1:A:289:A:C2	1:A:369:U:H1'	2.33	0.62
1:A:313:A:H2	1:A:323:G:H1	0.70	0.62
1:A:853:G:H1	1:A:964:C:N4	1.97	0.62
1:A:901:C:H2'	1:A:902:G:H4'	1.81	0.62
1:A:917:C:C2'	1:A:918:A:H5'	2.28	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1798:C:H5''	19:E:220:VAL:HG11	1.82	0.62
1:A:1809:G:N2	1:A:1829:A:OP2	2.31	0.62
1:A:2387:G:N2	21:c:48:LEU:HD22	2.14	0.62
1:A:2659:G:C5'	4:L:179:ARG:NH2	2.63	0.62
3:B:5:C:H2'	3:B:6:U:C6	2.34	0.62
3:B:87:G:H2'	3:B:88:G:H8	1.64	0.62
6:N:175:GLU:CB	6:N:213:LYS:HZ1	2.12	0.62
7:O:115:ARG:HG2	7:O:131:PHE:CZ	2.34	0.62
8:P:92:GLU:OE2	8:P:96:ARG:NE	2.22	0.62
13:U:40:SER:OG	13:U:127:ARG:NH1	2.33	0.62
16:X:142:ILE:HG22	16:X:143:GLN:H	1.64	0.62
22:d:118:THR:O	22:d:121:ARG:HG2	2.00	0.62
1:A:415:U:O5'	1:A:415:U:H6	1.82	0.62
1:A:824:U:H2'	1:A:825:C:C6	2.35	0.62
1:A:859:A:O2'	1:A:860:C:H5'	2.00	0.62
1:A:1688:A:H8	1:A:1688:A:O5'	1.81	0.62
1:A:2303:A:H61	21:c:34:ILE:HD11	1.58	0.62
1:A:2529:C:H5''	25:F:217:PHE:CD1	2.35	0.62
2:C:37:C:O2'	2:C:38:G:OP1	2.17	0.62
9:Q:116:THR:H	9:Q:119:VAL:HG22	1.64	0.62
16:X:75:GLN:CD	16:X:76:ARG:H	2.08	0.62
16:X:101:PHE:CE1	16:X:133:LYS:HG3	2.33	0.62
1:A:152:G:C4	1:A:153:G:C8	2.87	0.62
1:A:274:G:N7	1:A:433:C:H5'	2.14	0.62
1:A:357:G:C2'	1:A:358:C:H5'	2.29	0.62
1:A:599:C:H2'	1:A:600:A:C8	2.26	0.62
1:A:909:A:H2'	1:A:910:A:H8	1.64	0.62
1:A:1830:U:C2	19:E:197:ASN:CG	2.78	0.62
1:A:2227:C:C2'	1:A:2228:C:H5'	2.29	0.62
1:A:2642:G:C5	1:A:2643:C:N3	2.68	0.62
6:N:82:LEU:HD23	26:G:240:LEU:HD22	1.78	0.62
9:Q:82:LEU:HD11	9:Q:115:PRO:HB3	1.81	0.62
12:T:116:PRO:O	12:T:117:PRO:O	2.18	0.62
16:X:66:THR:O	16:X:68:ASN:OD1	2.18	0.62
1:A:90:A:H2'	1:A:91:A:C8	2.34	0.62
1:A:226:A:H1'	1:A:228:U:C6	2.35	0.62
1:A:919:A:O2'	1:A:920:A:H5'	1.99	0.62
1:A:1376:G:OP1	19:E:35:CYS:SG	2.57	0.62
1:A:1496:A:C2	1:A:1497:A:H1'	2.35	0.62
1:A:1498:G:C6	1:A:1499:G:C6	2.88	0.62
1:A:1547:C:H2'	1:A:1548:A:H5'	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1950:A:H2	1:A:1957:U:H3	1.48	0.62
1:A:2125:C:N3	1:A:2159:C:O2	2.33	0.62
1:A:2647:A:C1'	2:C:98:G:N3	2.62	0.62
1:A:2808:C:OP1	1:A:2808:C:H4'	1.98	0.62
6:N:136:LEU:HD23	6:N:139:ARG:NH1	2.13	0.62
14:V:106:ARG:O	14:V:107:ARG:CG	2.41	0.62
25:F:159:LYS:HD3	25:F:159:LYS:C	2.24	0.62
25:F:237:ALA:HB3	25:F:241:PRO:HG3	1.81	0.62
26:G:204:LYS:N	26:G:225:THR:HB	2.15	0.62
26:G:206:LEU:HD11	26:G:229:LEU:HD12	1.81	0.62
1:A:390:U:O5'	1:A:390:U:H6	1.80	0.62
1:A:898:G:H2'	1:A:899:A:C8	2.35	0.62
1:A:1002:G:H5''	12:T:201:LYS:HZ3	1.64	0.62
1:A:2234:G:H2'	1:A:2235:C:H5'	1.81	0.62
13:U:30:ASP:OD1	13:U:138:ASP:O	2.18	0.62
19:E:261:TYR:O	19:E:262:SER:OG	2.14	0.62
28:I:48:ILE:HG13	28:I:90:LEU:CA	2.30	0.62
1:A:50:G:O2'	1:A:117:A:N6	2.32	0.61
1:A:389:A:O2'	1:A:390:U:H5'	2.00	0.61
1:A:886:U:H2'	1:A:887:G:C1'	2.29	0.61
1:A:899:A:HO2'	1:A:900:G:C5'	2.13	0.61
1:A:950:A:H5'	1:A:951:C:OP2	2.00	0.61
1:A:1057:A:OP1	7:O:128:ARG:NH1	2.32	0.61
1:A:1701:A:H1'	5:M:1:MET:HG2	1.80	0.61
1:A:1860:G:H2'	1:A:1861:U:C6	2.35	0.61
1:A:2129:G:C2'	1:A:2180:G:N2	2.59	0.61
2:C:61:G:N2	2:C:64:A:OP2	2.32	0.61
4:L:213:LEU:HD13	4:L:213:LEU:O	1.99	0.61
9:Q:108:ASN:OD1	9:Q:109:ILE:N	2.30	0.61
13:U:152:LEU:O	13:U:153:THR:OG1	2.16	0.61
18:Z:125:GLU:HG2	18:Z:126:GLN:N	2.15	0.61
21:c:19:VAL:HG23	21:c:20:ARG:H	1.65	0.61
22:d:123:LEU:HD12	22:d:126:ARG:NH1	2.15	0.61
28:I:61:GLN:HA	28:I:76:TYR:CD2	2.35	0.61
1:A:898:G:C4	1:A:899:A:N7	2.68	0.61
1:A:1479:U:H4'	1:A:1480:A:O5'	1.99	0.61
1:A:2121:C:H42	1:A:2196:G:N2	1.96	0.61
2:C:8:G:N2	2:C:92:C:O2	2.20	0.61
2:C:49:A:N6	2:C:76:G:H22	1.98	0.61
2:C:79:G:HO2'	10:R:121:ASP:CG	2.07	0.61
3:B:46:A:H8	27:H:145:ARG:HH11	1.47	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:W:82:GLU:HG3	15:W:104:LEU:HD11	1.81	0.61
18:Z:120:ARG:HH11	18:Z:120:ARG:CG	2.13	0.61
27:H:158:ASN:OD1	31:a:70:VAL:CG2	2.44	0.61
1:A:4:A:H2'	1:A:5:A:C8	2.35	0.61
1:A:17:C:O2'	1:A:564:U:OP1	2.19	0.61
1:A:553:G:N2	1:A:562:C:C2	2.68	0.61
1:A:1161:A:O5'	1:A:1162:C:N4	2.33	0.61
1:A:1211:G:P	6:N:109:SER:OG	2.58	0.61
1:A:1888:G:C6	1:A:1889:G:C5	2.88	0.61
1:A:2279:U:OP2	16:X:73:LYS:HB3	1.99	0.61
2:C:104:A:N3	2:C:105:A:C5	2.68	0.61
3:B:93:C:C2'	3:B:94:C:H5'	2.30	0.61
3:B:117:A:H8	3:B:117:A:O5'	1.83	0.61
4:L:167:LYS:O	4:L:170:GLN:N	2.33	0.61
6:N:144:ARG:O	6:N:146:ILE:HD12	2.00	0.61
8:P:44:ILE:HG22	8:P:123:ILE:HB	1.81	0.61
12:T:200:TYR:HB2	12:T:206:TYR:O	2.01	0.61
26:G:79:LYS:HB2	26:G:79:LYS:HZ3	1.66	0.61
26:G:255:LEU:CD1	26:G:259:TYR:CE2	2.82	0.61
1:A:306:G:OP1	15:W:66:LYS:NZ	2.33	0.61
1:A:471:U:OP2	1:A:481:G:N1	2.28	0.61
1:A:1137:C:H3'	1:A:1138:G:C8	2.35	0.61
1:A:1161:A:O2'	1:A:2041:G:H5'	1.99	0.61
1:A:1197:A:OP1	16:X:165:LYS:HD3	2.00	0.61
1:A:1499:G:O5'	1:A:1499:G:H8	1.83	0.61
1:A:1888:G:H8	1:A:1888:G:O5'	1.83	0.61
1:A:2068:A:C2	20:b:5:LYS:CG	2.82	0.61
1:A:2267:G:O6	7:O:82:ARG:NH2	2.30	0.61
1:A:2331:G:N3	27:H:182:SER:CB	2.64	0.61
2:C:36:A:N3	25:F:274:ARG:NH1	2.49	0.61
2:C:85:U:C2'	2:C:86:A:H5'	2.29	0.61
4:L:159:ASP:O	4:L:192:GLN:NE2	2.22	0.61
6:N:151:ARG:HA	6:N:151:ARG:NH1	2.16	0.61
11:S:91:LEU:HG	12:T:175:PRO:HG3	1.78	0.61
12:T:124:PHE:HB3	12:T:165:GLY:O	2.01	0.61
1:A:284:A:H1'	1:A:285:A:P	2.41	0.61
1:A:386:A:H2'	1:A:387:G:O4'	2.01	0.61
1:A:564:U:OP1	11:S:23:SER:HB3	2.01	0.61
1:A:966:G:H2'	1:A:967:C:C6	2.35	0.61
1:A:1036:U:O2'	1:A:1037:A:O5'	2.18	0.61
1:A:2672:G:N2	1:A:2682:A:OP2	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2711:G:H2'	1:A:2712:U:O4'	2.00	0.61
6:N:153:GLY:O	6:N:154:LEU:HG	2.00	0.61
25:F:235:ILE:HD12	25:F:250:MET:HE1	1.82	0.61
26:G:57:ILE:HD13	26:G:66:GLY:HA3	1.81	0.61
26:G:255:LEU:CD1	26:G:259:TYR:HE2	2.14	0.61
28:I:98:THR:HG23	28:I:101:ALA:H	1.65	0.61
31:a:48:ASP:CB	31:a:66:LYS:O	2.42	0.61
1:A:624:A:C5	1:A:625:C:C6	2.83	0.61
1:A:932:A:C5'	16:X:85:GLN:NE2	2.62	0.61
1:A:1153:G:C5	1:A:1154:A:N7	2.68	0.61
1:A:1168:U:H4'	1:A:1169:A:O4'	2.00	0.61
1:A:1516:G:N7	1:A:1517:G:H8	1.98	0.61
1:A:2206:A:O2'	1:A:2207:A:H5'	1.99	0.61
1:A:2213:A:C2	1:A:2214:C:C6	2.89	0.61
6:N:126:MET:HE1	23:e:95:HIS:CE1	2.35	0.61
6:N:209:LYS:HB2	6:N:230:CYS:CB	2.31	0.61
6:N:210:LEU:N	6:N:230:CYS:CB	2.59	0.61
12:T:194:LYS:HG2	12:T:213:ARG:HD3	1.83	0.61
28:I:195:GLU:HB2	28:I:198:LYS:HB3	1.83	0.61
1:A:622:G:H22	1:A:627:C:H3'	1.65	0.61
1:A:920:A:H2	1:A:2294:G:N3	1.98	0.61
1:A:1137:C:H2'	1:A:1138:G:C8	2.36	0.61
1:A:1270:C:N4	6:N:97:ARG:HD3	2.16	0.61
1:A:1501:G:H1'	1:A:1502:A:P	2.41	0.61
1:A:2103:G:C5	1:A:2104:A:N7	2.69	0.61
1:A:2229:U:O4	19:E:64:ARG:NH1	2.33	0.61
1:A:2580:U:H5'	5:M:30:ARG:NH1	2.15	0.61
2:C:75:U:C3'	2:C:76:G:H5'	2.30	0.61
2:C:80:C:O2'	2:C:81:A:H5'	2.01	0.61
5:M:93:PRO:HG3	5:M:113:ILE:HD13	1.82	0.61
6:N:192:ARG:HB3	6:N:195:ARG:HB3	1.83	0.61
19:E:141:GLU:HB2	19:E:184:CYS:HB3	1.83	0.61
23:e:89:GLY:O	23:e:90:TYR:HB3	2.00	0.61
1:A:888:C:H3'	1:A:889:G:H8	1.66	0.61
1:A:1688:A:H5''	1:A:1689:C:OP2	2.01	0.61
1:A:1885:C:C4	6:N:253:ALA:CB	2.75	0.61
3:B:8:G:H2'	3:B:9:U:C6	2.35	0.61
19:E:257:LYS:HE3	19:E:260:LYS:HD2	1.81	0.61
1:A:260:G:N1	1:A:268:G:N1	2.47	0.61
1:A:370:A:H4'	1:A:371:U:OP1	2.01	0.61
1:A:383:A:HO2'	17:Y:131:LYS:HE3	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:628:A:O2'	1:A:629:C:H5'	1.99	0.61
1:A:1516:G:H2'	1:A:1517:G:O4'	2.01	0.61
1:A:2074:A:N7	26:G:125:ARG:NH2	2.49	0.61
2:C:26:G:C6	2:C:27:U:C4	2.89	0.61
3:B:34:C:H2'	3:B:35:A:C8	2.36	0.61
3:B:86:G:C2'	3:B:87:G:H5'	2.30	0.61
6:N:126:MET:O	6:N:129:PHE:HB3	2.00	0.61
18:Z:152:LEU:HD13	18:Z:152:LEU:H	1.64	0.61
31:a:71:GLU:HG2	31:a:73:TRP:HD1	1.64	0.61
1:A:892:C:O2'	1:A:893:C:H5'	2.01	0.61
1:A:1522:A:N6	1:A:1544:A:H1'	2.16	0.61
1:A:1873:G:O2'	1:A:1874:U:H5'	2.01	0.61
2:C:28:U:O2'	2:C:30:A:OP2	2.19	0.61
2:C:31:U:O2'	2:C:32:C:H5'	2.01	0.61
2:C:37:C:H3'	2:C:38:G:H5'	1.83	0.61
2:C:73:G:H2'	2:C:74:C:C6	2.35	0.61
3:B:35:A:H8	3:B:35:A:O5'	1.83	0.61
9:Q:96:ALA:HB2	9:Q:134:LYS:HE3	1.83	0.61
10:R:170:ILE:HB	10:R:182:ARG:HG3	1.82	0.61
12:T:91:ASP:OD2	13:U:142:PHE:HZ	1.83	0.61
15:W:170:THR:HB	15:W:171:PRO:CD	2.30	0.61
1:A:248:G:O2'	1:A:441:A:N3	2.31	0.60
1:A:268:G:N1	1:A:269:G:N1	2.49	0.60
1:A:294:U:H2'	1:A:295:C:N1	2.15	0.60
1:A:887:G:O6	1:A:908:A:N6	2.31	0.60
1:A:977:G:C4'	32:h:60:MET:HE1	2.28	0.60
1:A:1194:G:C6	1:A:1204:A:N1	2.68	0.60
1:A:2647:A:C5	2:C:98:G:C2	2.89	0.60
1:A:2767:A:H5''	1:A:2768:A:H2'	1.81	0.60
2:C:30:A:C6	2:C:83:C:C2	2.89	0.60
2:C:75:U:H2'	2:C:76:G:C5'	2.31	0.60
3:B:87:G:N1	3:B:93:C:C2	2.69	0.60
6:N:143:LEU:O	23:e:113:ARG:CD	2.49	0.60
12:T:128:VAL:HG22	12:T:133:GLN:HG2	1.83	0.60
22:d:127:ARG:HE	22:d:132:ARG:HG3	1.66	0.60
31:a:57:LEU:CD2	31:a:70:VAL:HG11	2.31	0.60
31:a:71:GLU:O	31:a:73:TRP:HD1	1.79	0.60
1:A:119:A:H1'	1:A:132:G:C2	2.37	0.60
1:A:434:A:N6	1:A:435:A:N6	2.48	0.60
1:A:624:A:N9	1:A:625:C:C5	2.46	0.60
1:A:661:G:C2'	1:A:662:C:H5'	2.32	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:898:G:C5	1:A:899:A:N7	2.69	0.60
1:A:1451:G:N2	1:A:1598:C:O2	2.34	0.60
1:A:2103:G:H2'	1:A:2104:A:C5'	2.31	0.60
1:A:2752:G:C6	25:F:297:ILE:O	2.53	0.60
2:C:80:C:O5'	10:R:121:ASP:OD1	2.19	0.60
3:B:42:C:OP2	3:B:43:C:N4	2.34	0.60
6:N:154:LEU:O	6:N:155:PRO:C	2.44	0.60
13:U:52:GLN:HE22	20:b:25:TYR:HA	1.66	0.60
16:X:77:LEU:HD11	16:X:97:ARG:HH11	1.59	0.60
26:G:251:THR:O	26:G:255:LEU:HB2	2.01	0.60
1:A:663:A:OP1	23:e:107:LYS:HB3	2.01	0.60
1:A:671:C:C5'	26:G:150:ILE:HG23	2.28	0.60
1:A:1078:A:H3'	1:A:1079:G:H8	1.66	0.60
1:A:1091:G:O6	1:A:1103:C:N3	2.34	0.60
1:A:1136:U:H2'	1:A:1137:C:H5'	1.84	0.60
1:A:1476:G:O2'	1:A:1477:G:H5'	2.01	0.60
1:A:2288:G:OP1	16:X:76:ARG:CA	2.49	0.60
1:A:2322:A:N1	27:H:204:GLY:HA2	2.11	0.60
1:A:2322:A:N1	27:H:204:GLY:HA3	2.06	0.60
13:U:165:SER:O	13:U:166:THR:OG1	2.16	0.60
31:a:43:PRO:HA	31:a:63:GLY:HA2	1.83	0.60
1:A:156:G:H8	1:A:156:G:O5'	1.84	0.60
1:A:257:A:C8	1:A:258:C:C4	2.90	0.60
1:A:661:G:O2'	1:A:662:C:H5'	2.00	0.60
1:A:1507:G:N2	1:A:1515:G:P	2.74	0.60
1:A:1521:G:C2	1:A:1544:A:C2	2.89	0.60
1:A:2201:G:H8	1:A:2201:G:O5'	1.85	0.60
1:A:2318:C:H2'	1:A:2319:C:H6	1.63	0.60
3:B:43:C:OP2	27:H:117:ARG:NH2	2.34	0.60
6:N:81:ARG:HH11	26:G:243:GLU:HA	1.65	0.60
6:N:168:ALA:HB1	6:N:184:LYS:HE3	1.84	0.60
10:R:182:ARG:HA	10:R:194:ILE:O	2.01	0.60
26:G:146:ARG:HG3	26:G:148:TRP:CE3	2.36	0.60
1:A:291:G:C2'	1:A:292:C:H5'	2.31	0.60
1:A:322:C:H2'	1:A:323:G:H8	1.66	0.60
1:A:855:C:N3	1:A:856:U:C5	2.70	0.60
1:A:884:G:C2'	1:A:885:G:H5'	2.32	0.60
1:A:1321:A:H4'	1:A:1322:A:H5''	1.84	0.60
1:A:1825:A:H5''	19:E:37:LYS:NZ	2.16	0.60
1:A:2201:G:O2'	1:A:2202:C:H5'	2.01	0.60
1:A:2393:A:N3	9:Q:166:PHE:HE2	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:V:106:ARG:C	14:V:107:ARG:HG2	2.25	0.60
16:X:128:TYR:HB3	16:X:134:LYS:HB2	1.80	0.60
1:A:133:A:C5	1:A:134:A:C5	2.89	0.60
1:A:238:C:OP2	23:e:93:LYS:HD2	2.01	0.60
1:A:434:A:C6	1:A:435:A:N6	2.70	0.60
1:A:495:A:C4	15:W:122:ILE:HD11	2.36	0.60
1:A:2137:G:N2	1:A:2190:A:C5	2.69	0.60
1:A:2330:U:C4'	27:H:90:ASN:ND2	2.63	0.60
1:A:2408:G:OP2	23:e:123:LYS:HD3	2.00	0.60
2:C:29:U:H1'	2:C:30:A:P	2.41	0.60
14:V:109:LEU:HD11	14:V:141:ARG:HB3	1.82	0.60
14:V:126:LYS:O	14:V:130:ASP:HB2	2.02	0.60
26:G:250:GLY:O	26:G:254:TYR:HB3	2.01	0.60
1:A:1175:U:O5'	1:A:1175:U:H6	1.84	0.60
1:A:2464:G:H4'	1:A:2465:A:O5'	2.00	0.60
3:B:36:A:N6	3:B:45:G:C4	2.68	0.60
6:N:165:ILE:HG13	6:N:207:SER:N	2.16	0.60
8:P:18:HIS:HD2	8:P:53:ALA:HB2	1.66	0.60
9:Q:49:ARG:HG3	9:Q:53:ARG:HG3	1.84	0.60
21:c:54:TYR:CG	21:c:55:CYS:N	2.67	0.60
32:h:88:GLU:OE1	32:h:88:GLU:N	2.34	0.60
1:A:81:G:O2'	1:A:82:G:OP1	2.20	0.60
1:A:82:G:N1	1:A:100:G:C4	2.69	0.60
1:A:127:C:H2'	1:A:128:U:C6	2.36	0.60
1:A:579:U:H5''	1:A:832:A:C2	2.37	0.60
1:A:633:A:H2'	1:A:634:G:H5'	1.83	0.60
1:A:893:C:H2'	1:A:894:G:C1'	2.32	0.60
1:A:898:G:N7	1:A:899:A:N7	2.48	0.60
1:A:1428:C:H5	1:A:1631:G:H1	1.47	0.60
1:A:1809:G:C6	19:E:172:LEU:HD13	2.37	0.60
1:A:2212:A:H2'	1:A:2213:A:C8	2.37	0.60
1:A:2288:G:OP1	16:X:75:GLN:O	2.19	0.60
6:N:140:ILE:O	23:e:101:ARG:NH2	2.35	0.60
6:N:142:LYS:HB3	23:e:100:LYS:O	2.01	0.60
6:N:154:LEU:O	6:N:156:LYS:N	2.34	0.60
25:F:174:VAL:O	25:F:176:VAL:N	2.35	0.60
25:F:213:LYS:HG2	25:F:254:MET:HE1	1.83	0.60
28:I:76:TYR:HD1	28:I:108:PHE:CZ	2.18	0.60
31:a:71:GLU:CD	31:a:71:GLU:H	2.03	0.60
1:A:152:G:N1	1:A:153:G:N7	2.50	0.60
1:A:294:U:C5	1:A:295:C:N3	2.70	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:364:U:H2'	1:A:365:A:C8	2.37	0.60
1:A:614:G:C6	1:A:637:G:N1	2.70	0.60
1:A:2119(A):U:H3	1:A:2199:G:N2	2.00	0.60
1:A:2194:U:OP2	1:A:2195:G:OP2	2.19	0.60
3:B:70:G:H2'	3:B:71:G:H8	1.65	0.60
3:B:87:G:HO2'	3:B:88:G:H5'	1.67	0.60
7:O:91:GLU:OE1	7:O:92:TYR:N	2.31	0.60
18:Z:137:ASP:O	18:Z:141:LYS:HG2	2.00	0.60
19:E:264:ASN:C	19:E:264:ASN:HD22	2.10	0.60
29:J:60:LEU:HB2	29:J:67:LEU:HD22	1.81	0.60
31:a:46:ARG:HH12	31:a:64:THR:C	2.09	0.60
1:A:159:A:H4'	1:A:160:A:OP2	2.01	0.60
1:A:161:G:HO2'	1:A:162:A:C5'	2.13	0.60
1:A:1164:G:H2'	1:A:1165:G:H5'	1.83	0.60
1:A:1195:U:O2'	1:A:1196:A:O5'	2.20	0.60
1:A:1830:U:C6	19:E:197:ASN:ND2	2.69	0.60
3:B:7:G:N1	3:B:117:A:H2	2.00	0.60
5:M:32:TYR:OH	5:M:34:ARG:HD3	2.02	0.60
10:R:137:LEU:HD12	10:R:137:LEU:C	2.26	0.60
21:c:58:HIS:CG	21:c:59:THR:H	2.19	0.60
22:d:98:ARG:O	22:d:100:ARG:N	2.35	0.60
1:A:103:C:O5'	1:A:103:C:H6	1.84	0.59
1:A:163:G:C6	1:A:164:A:C6	2.90	0.59
1:A:1056:A:N3	1:A:2503:G:O2'	2.32	0.59
1:A:2229:U:C5	19:E:64:ARG:NH1	2.70	0.59
1:A:2708:C:O2'	2:C:75:U:O2'	1.85	0.59
16:X:142:ILE:HG22	16:X:143:GLN:N	2.16	0.59
26:G:208:PHE:HB2	26:G:229:LEU:HB2	1.83	0.59
27:H:73:PHE:HB3	27:H:75:TYR:CE2	2.37	0.59
1:A:48:A:N1	1:A:162:A:C8	2.62	0.59
1:A:570:C:H1'	11:S:52:ARG:CZ	2.32	0.59
1:A:623:A:O2'	1:A:624:A:OP1	2.20	0.59
1:A:702:C:P	19:E:213:ARG:HH12	2.19	0.59
1:A:702:C:O2'	19:E:39:ARG:CD	2.50	0.59
1:A:857:G:N2	1:A:961:G:C2	2.62	0.59
1:A:2115:G:H8	1:A:2115:G:O5'	1.83	0.59
1:A:2224:G:H4'	1:A:2225:G:OP2	2.02	0.59
1:A:2556:C:C4'	24:f:40:ILE:HD12	2.31	0.59
3:B:8:G:C2	3:B:116:C:C2	2.90	0.59
6:N:102:HIS:CE1	12:T:205:ASN:ND2	2.66	0.59
11:S:91:LEU:CG	12:T:175:PRO:HG3	2.31	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:E:39:ARG:HG3	19:E:40:ASN:CG	2.27	0.59
1:A:143:G:C3'	1:A:144:A:H5'	2.31	0.59
1:A:1047:U:H3	1:A:1169:A:H62	1.48	0.59
1:A:1085:A:N1	1:A:1109:U:O4	2.35	0.59
1:A:1567:C:O2	1:A:1572:G:N1	2.35	0.59
1:A:2061:C:H2'	1:A:2062:A:H8	1.65	0.59
1:A:2118:U:O5'	1:A:2118:U:H6	1.85	0.59
1:A:2310:U:H5'	9:Q:143:ARG:NH1	2.17	0.59
4:L:172:LEU:HD23	4:L:185:GLU:CD	2.28	0.59
15:W:113:SER:HB2	15:W:120:GLY:H	1.67	0.59
26:G:77:PRO:O	26:G:78:GLU:HB3	2.00	0.59
1:A:140:G:H2'	1:A:141:C:C5'	2.31	0.59
1:A:141:C:H2'	1:A:142:U:O4'	2.02	0.59
1:A:362:A:C2	1:A:363:C:N3	2.71	0.59
1:A:504:G:H5'	13:U:37:TYR:CD1	2.37	0.59
1:A:822:U:C3'	6:N:100:ARG:O	2.49	0.59
1:A:836:G:O2'	6:N:133:GLN:HG2	2.01	0.59
1:A:840:A:N7	1:A:2265:A:H5'	2.17	0.59
1:A:868:G:N2	1:A:929:A:N1	2.51	0.59
1:A:1136:U:H6	1:A:1136:U:O5'	1.86	0.59
1:A:2075:G:P	26:G:119:LYS:HE2	2.43	0.59
6:N:202:GLY:CA	6:N:221:ALA:CB	2.58	0.59
12:T:97:GLU:O	12:T:97:GLU:HG2	2.00	0.59
13:U:149:LEU:H	13:U:149:LEU:CD2	2.06	0.59
1:A:140:G:C4	1:A:155:A:C2	2.91	0.59
1:A:279:A:C8	1:A:379:C:C5	2.91	0.59
1:A:293:G:N1	1:A:294:U:O4	2.34	0.59
1:A:354:A:H8	1:A:354:A:O5'	1.86	0.59
1:A:897:A:N3	1:A:897:A:H2'	2.17	0.59
1:A:920:A:C8	7:O:9:PHE:CE2	2.91	0.59
1:A:1179:C:H2'	1:A:1180:C:H6	1.66	0.59
1:A:1448:A:H4'	1:A:1449:C:O4'	2.02	0.59
1:A:1522:A:N3	1:A:1523:A:N7	2.50	0.59
1:A:1745:C:H2'	1:A:1746:C:H6	1.64	0.59
1:A:2713:U:O4	1:A:2714:A:N6	2.36	0.59
2:C:41:A:H61	2:C:86:A:N6	2.00	0.59
2:C:84:C:H2'	2:C:85:U:C6	2.37	0.59
3:B:14:U:O2'	3:B:15:A:OP1	2.21	0.59
14:V:167:ARG:CG	14:V:168:PRO:HD2	2.33	0.59
16:X:141:GLU:C	16:X:142:ILE:HG13	2.26	0.59
28:I:134:TYR:HD1	28:I:147:LEU:HA	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:43:A:H8	1:A:43:A:OP2	1.84	0.59
1:A:685:G:OP1	26:G:105:ARG:NH2	2.33	0.59
1:A:1237:C:OP1	11:S:11:ARG:NH2	2.35	0.59
1:A:2049:G:H5'	1:A:2050:C:C5	2.31	0.59
1:A:2761:U:OP2	1:A:2773:C:N4	2.35	0.59
2:C:52:G:N2	2:C:71:C:O2'	2.34	0.59
14:V:109:LEU:O	14:V:110:ASP:HB3	2.02	0.59
15:W:113:SER:CB	15:W:120:GLY:H	2.16	0.59
16:X:143:GLN:C	16:X:145:GLU:N	2.60	0.59
19:E:265:PHE:CE1	19:E:266:ILE:CD1	2.85	0.59
26:G:204:LYS:HA	26:G:225:THR:O	2.02	0.59
1:A:82:G:C6	1:A:100:G:C5	2.91	0.59
1:A:255:A:P	1:A:271:G:H22	2.21	0.59
1:A:355:A:H8	1:A:356:A:O4'	1.85	0.59
1:A:820:G:C5	1:A:821:U:C4	2.91	0.59
1:A:952:A:O5'	1:A:952:A:H8	1.86	0.59
1:A:1750:C:H6	1:A:1750:C:O5'	1.85	0.59
5:M:20:MET:O	5:M:41:ALA:HA	2.03	0.59
6:N:156:LYS:CE	6:N:215:ARG:HH11	2.16	0.59
6:N:201:LEU:C	6:N:221:ALA:CB	2.73	0.59
1:A:6:A:C2'	1:A:7:C:H5'	2.32	0.59
1:A:1192:A:H2'	1:A:1193:U:C6	2.37	0.59
1:A:1426:U:H2'	1:A:1427:A:C8	2.36	0.59
1:A:1497:A:N6	1:A:1547:C:H42	2.01	0.59
1:A:2230:A:C2	1:A:2231:C:N4	2.71	0.59
1:A:2544:C:H5''	24:f:67:PRO:CB	2.33	0.59
6:N:97:ARG:HH11	6:N:100:ARG:HE	1.49	0.59
6:N:162:LEU:CG	6:N:203:GLU:OE1	2.50	0.59
14:V:109:LEU:HD11	14:V:141:ARG:HB2	1.84	0.59
19:E:39:ARG:HE	19:E:45:ILE:HD11	1.68	0.59
19:E:239:ARG:HH21	19:E:243:THR:HG21	1.68	0.59
23:e:146:VAL:O	23:e:149:ALA:N	2.36	0.59
26:G:254:TYR:OH	26:G:258:ARG:NH1	2.36	0.59
27:H:150:TYR:O	27:H:154:ASP:HB2	2.03	0.59
1:A:320:U:O2'	1:A:321:G:OP1	2.17	0.59
1:A:362:A:C2	1:A:363:C:C2	2.90	0.59
1:A:823:C:C2	1:A:1271:G:C2	2.91	0.59
1:A:1361:U:OP1	14:V:175:TYR:OH	2.21	0.59
1:A:1389:G:OP1	22:d:118:THR:OG1	2.20	0.59
1:A:1450:G:H2'	1:A:1451:G:C8	2.38	0.59
1:A:1689:C:H41	8:P:19:ARG:CD	2.15	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2744:A:O2'	1:A:2745:G:OP1	2.21	0.59
2:C:79:G:O2'	10:R:121:ASP:OD1	2.21	0.59
3:B:66:C:N4	3:B:110:C:C2	2.71	0.59
10:R:123:MET:HE2	25:F:97:LEU:C	2.25	0.59
11:S:105:PRO:O	11:S:108:ILE:HG22	2.03	0.59
14:V:102:LEU:HB3	18:Z:142:ARG:NH2	2.18	0.59
19:E:85:ALA:HB2	19:E:154:ALA:HA	1.85	0.59
25:F:86:VAL:N	25:F:172:ARG:HH11	2.00	0.59
25:F:180:THR:H	25:F:184:LYS:HD2	1.68	0.59
29:J:57:ILE:HG21	29:J:60:LEU:HG	1.85	0.59
32:h:66:LYS:HE2	32:h:71:ASP:CG	2.28	0.59
1:A:294:U:C6	1:A:295:C:N3	2.71	0.59
1:A:1088:U:C4	1:A:1116:A:N7	2.71	0.59
1:A:1516:G:H3'	1:A:1517:G:C5'	2.24	0.59
1:A:1524:G:H1'	30:g:116:ARG:NH1	2.18	0.59
1:A:1885:C:H41	6:N:253:ALA:CB	2.10	0.59
2:C:36:A:O2'	2:C:37:C:OP1	2.20	0.59
3:B:25:G:C4	3:B:57:U:C4	2.91	0.59
3:B:67:U:C4	3:B:109:U:H5	2.19	0.59
13:U:154:PRO:HA	13:U:157:LEU:CD1	2.32	0.59
16:X:128:TYR:HE2	16:X:132:LYS:HG2	1.64	0.59
1:A:46:C:H2'	1:A:47:G:C5'	2.25	0.58
1:A:75:C:P	18:Z:110:LYS:NZ	2.70	0.58
1:A:288:C:H2'	1:A:289:A:H5'	1.84	0.58
1:A:887:G:H22	1:A:909:A:N6	2.00	0.58
1:A:1430:C:H2'	1:A:1431:C:H6	1.68	0.58
1:A:1830:U:H4'	1:A:1831:G:N7	2.17	0.58
1:A:2565:G:H4'	5:M:31:ARG:NH2	2.18	0.58
1:A:94:A:H1'	18:Z:102:PRO:HB2	1.85	0.58
1:A:291:G:C2	1:A:292:C:C2	2.92	0.58
1:A:332:G:O2'	26:G:224:ARG:NH2	2.36	0.58
1:A:371:U:H4'	1:A:372:G:OP1	2.01	0.58
1:A:548:G:O2'	1:A:549:A:O5'	2.15	0.58
1:A:552:G:O5'	1:A:552:G:H8	1.86	0.58
1:A:644:A:OP1	6:N:151:ARG:HA	2.02	0.58
1:A:881:U:H4'	7:O:69:PHE:CD2	2.38	0.58
1:A:983:G:C2	7:O:82:ARG:NH1	2.64	0.58
1:A:2228:C:O5'	1:A:2228:C:H6	1.85	0.58
1:A:2345:A:H2'	1:A:2346:A:H8	1.68	0.58
1:A:2647:A:N6	1:A:2806:U:N3	2.31	0.58
6:N:225:LEU:HD23	6:N:232:VAL:CG2	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:O:104:TYR:HE2	7:O:125:MET:HE1	1.68	0.58
16:X:144:PRO:O	16:X:146:ASN:ND2	2.36	0.58
25:F:121:ASN:ND2	25:F:141:TYR:CD1	2.71	0.58
27:H:188:GLN:HA	27:H:188:GLN:NE2	2.00	0.58
28:I:48:ILE:HB	28:I:90:LEU:H	1.67	0.58
1:A:235:G:O6	1:A:398:G:N2	2.34	0.58
1:A:322:C:H2'	1:A:323:G:C8	2.39	0.58
1:A:332:G:H21	1:A:342:G:H1'	1.67	0.58
1:A:379:C:H4'	1:A:380:C:OP1	2.02	0.58
1:A:902:G:H3'	1:A:903:G:C5'	2.33	0.58
1:A:1573:C:H2'	1:A:1574:G:C8	2.33	0.58
1:A:1584:C:H2'	1:A:1585:C:C6	2.38	0.58
1:A:2196:G:O5'	1:A:2196:G:H8	1.84	0.58
2:C:84:C:H1'	8:P:102:GLY:O	2.03	0.58
1:A:159:A:C1'	1:A:160:A:OP1	2.48	0.58
1:A:299:C:H2'	1:A:300:U:H5'	1.86	0.58
1:A:1515:G:P	1:A:1515:G:C8	2.96	0.58
1:A:1543:G:OP1	30:g:119:LEU:HD11	2.03	0.58
1:A:2408:G:OP2	23:e:123:LYS:CD	2.51	0.58
3:B:36:A:C5	3:B:45:G:C6	2.92	0.58
27:H:162:PRO:HB3	31:a:71:GLU:HG2	1.84	0.58
1:A:3:C:O5'	1:A:3:C:H6	1.86	0.58
1:A:636:C:C2	1:A:637:G:N7	2.72	0.58
1:A:899:A:N3	1:A:900:G:C8	2.72	0.58
1:A:2108:G:N7	1:A:2210:C:N3	2.52	0.58
1:A:2125:C:O2	1:A:2161:G:N2	2.37	0.58
1:A:2190:A:H2'	1:A:2191:C:H1'	1.85	0.58
1:A:2325:G:H2'	1:A:2325:G:N3	2.18	0.58
1:A:2495:A:OP1	24:f:68:LYS:HD2	2.03	0.58
1:A:2559:A:H4'	1:A:2560:G:H5'	1.85	0.58
4:L:122:LEU:HD22	4:L:246:ILE:HG22	1.86	0.58
12:T:181:ALA:O	12:T:225:THR:HG22	2.04	0.58
14:V:111:VAL:HG23	18:Z:146:VAL:HG22	1.84	0.58
19:E:40:ASN:ND2	19:E:43:GLY:O	2.36	0.58
19:E:113:VAL:O	19:E:124:ASN:HB2	2.03	0.58
1:A:71:A:O4'	18:Z:116:LEU:HD12	2.03	0.58
1:A:79:G:O2'	1:A:355:A:H2	1.77	0.58
1:A:110:U:OP2	18:Z:130:LYS:HE2	2.04	0.58
1:A:140:G:O6	1:A:155:A:N6	2.37	0.58
1:A:274:G:C5	1:A:433:C:H5''	2.39	0.58
1:A:283:C:O2'	1:A:284:A:H5'	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:697:U:O2	22:d:98:ARG:O	2.20	0.58
1:A:890:G:C2	1:A:891:G:C5	2.91	0.58
1:A:1284:U:OP1	20:b:13:LYS:CD	2.51	0.58
1:A:1507:G:H21	1:A:1515:G:P	2.26	0.58
1:A:1519:A:N1	1:A:1520:A:C5	2.71	0.58
1:A:1751:A:N3	1:A:1751:A:H2'	2.17	0.58
1:A:2137:G:N2	1:A:2190:A:N1	2.51	0.58
1:A:2219:U:H1'	19:E:64:ARG:NH2	2.19	0.58
1:A:2351:G:C1'	9:Q:64:VAL:HG21	2.30	0.58
3:B:89:A:C6	3:B:90:G:C5	2.92	0.58
5:M:61:VAL:O	5:M:84:ALA:HA	2.03	0.58
6:N:97:ARG:NH1	6:N:100:ARG:HD2	2.19	0.58
6:N:158:VAL:HG11	6:N:201:LEU:CG	2.31	0.58
6:N:167:VAL:HG12	6:N:168:ALA:N	2.19	0.58
17:Y:87:ARG:HB3	17:Y:97:ARG:NE	2.16	0.58
20:b:28:ALA:O	20:b:31:ALA:N	2.36	0.58
26:G:75:ALA:HB2	26:G:159:LEU:CD2	2.29	0.58
27:H:87:ILE:HD11	27:H:144:LEU:HD11	1.84	0.58
29:J:76:ASN:HA	29:J:80:PRO:HG2	1.86	0.58
1:A:101:A:H2'	1:A:102:U:H5'	1.86	0.58
1:A:1088:U:O4	1:A:1116:A:N7	2.37	0.58
1:A:1174:G:H2'	1:A:1175:U:C6	2.38	0.58
1:A:1551:G:C2'	1:A:1552:U:H5'	2.33	0.58
1:A:2211:U:C5	1:A:2241:G:O6	2.51	0.58
1:A:2223:A:C2'	1:A:2224:G:C8	2.87	0.58
27:H:172:PRO:HG3	27:H:220:TYR:CZ	2.38	0.58
1:A:49:G:O2'	18:Z:130:LYS:CE	2.51	0.58
1:A:318:A:C5	1:A:339:A:C6	2.92	0.58
1:A:373:C:O2'	1:A:374:U:O4'	2.15	0.58
1:A:389:A:C5	1:A:390:U:C4	2.92	0.58
1:A:740:G:C5	19:E:203:ARG:O	2.57	0.58
1:A:885:G:O2'	1:A:886:U:H5'	2.02	0.58
1:A:1500:U:OP2	1:A:1501:G:H5''	2.04	0.58
1:A:2752:G:H8	1:A:2753:C:H4'	1.68	0.58
3:B:8:G:N1	3:B:116:C:N3	2.52	0.58
6:N:80:PHE:CD1	6:N:85:LEU:HD21	2.38	0.58
13:U:74:TYR:HB3	13:U:75:PRO:HD3	1.85	0.58
26:G:206:LEU:HD11	26:G:229:LEU:CD1	2.33	0.58
26:G:207:PHE:HA	26:G:246:VAL:HG22	1.85	0.58
1:A:32:U:O2'	1:A:33:A:N3	2.33	0.58
1:A:137:U:N3	1:A:157:G:C2	2.63	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:139:U:H2'	1:A:140:G:H8	1.68	0.58
1:A:266:A:H2'	1:A:267:C:C5	2.38	0.58
1:A:381:C:HO2'	1:A:416:C:H41	1.50	0.58
1:A:1069:U:O2	1:A:1142:G:O6	2.22	0.58
1:A:2200:A:H2'	1:A:2200:A:N3	2.17	0.58
1:A:2207:A:O3'	1:A:2208:U:O4'	2.22	0.58
1:A:2237:A:H2'	1:A:2238:A:H5'	1.84	0.58
1:A:2317:G:N1	1:A:2333:C:O2	2.34	0.58
1:A:2556:C:H5''	24:f:40:ILE:HD12	1.85	0.58
14:V:113:GLN:O	14:V:113:GLN:HG2	2.04	0.58
19:E:161:ILE:HB	19:E:169:THR:O	2.04	0.58
23:e:139:ASP:O	23:e:143:TYR:HB2	2.04	0.58
25:F:115:ILE:HB	25:F:276:VAL:HB	1.86	0.58
27:H:147:ASN:HA	27:H:150:TYR:HD2	1.68	0.58
31:a:48:ASP:OD2	31:a:67:ASP:CG	2.46	0.58
1:A:71:A:C2	18:Z:117:THR:CG2	2.87	0.58
1:A:128:U:H2'	1:A:129:U:O4'	2.03	0.58
1:A:133:A:C2'	1:A:134:A:C8	2.86	0.58
1:A:269:G:H8	1:A:269:G:O5'	1.86	0.58
1:A:603:G:H1'	23:e:92:MET:HE1	1.85	0.58
1:A:611:C:O2'	1:A:612:U:H5'	2.04	0.58
1:A:1334:U:O2'	1:A:1335:C:OP1	2.21	0.58
1:A:1502:A:H2'	1:A:1502:A:N3	2.19	0.58
1:A:1881:A:N7	6:N:255:GLU:CD	2.62	0.58
1:A:2340:G:O5'	1:A:2340:G:H8	1.86	0.58
1:A:2643:C:H2'	1:A:2644:G:C8	2.39	0.58
1:A:2763:C:O2'	28:I:182:GLY:HA3	2.03	0.58
3:B:11:U:O5'	3:B:11:U:H6	1.86	0.58
3:B:89:A:H8	3:B:89:A:O5'	1.87	0.58
3:B:92:U:O2'	3:B:93:C:H5'	2.04	0.58
4:L:155:VAL:HG11	4:L:200:ILE:HD13	1.86	0.58
6:N:143:LEU:CD2	23:e:100:LYS:O	2.51	0.58
10:R:144:ARG:O	10:R:145:THR:C	2.47	0.58
16:X:67:LYS:HZ3	16:X:67:LYS:N	2.02	0.58
25:F:199:ILE:HG12	25:F:261:ILE:HG22	1.85	0.58
1:A:19:U:H2'	1:A:20:A:H8	1.68	0.57
1:A:47:G:N1	1:A:162:A:OP2	2.37	0.57
1:A:267:C:O2'	1:A:268:G:H5'	2.04	0.57
1:A:554:G:H5''	1:A:554:G:N3	2.19	0.57
1:A:1056:A:H2'	1:A:1057:A:C8	2.39	0.57
1:A:1078:A:H3'	1:A:1079:G:C8	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1087:G:H1	1:A:1107:C:H42	1.51	0.57
1:A:1472:A:N7	1:A:1479:U:O4	2.37	0.57
1:A:1519:A:C2	1:A:1520:A:C8	2.91	0.57
1:A:1623:A:H2'	1:A:1624:C:C6	2.39	0.57
1:A:2129:G:O2'	1:A:2131:U:C5	2.55	0.57
1:A:2192:U:H4'	1:A:2193:C:OP1	2.04	0.57
1:A:2647:A:O4'	2:C:98:G:H1'	2.03	0.57
1:A:2662:C:H4'	1:A:2750:G:H2'	1.86	0.57
2:C:32:C:H1'	2:C:33:A:P	2.44	0.57
2:C:38:G:OP2	25:F:144:LEU:CD2	2.46	0.57
12:T:143:TYR:HD1	12:T:216:ILE:HD12	1.69	0.57
22:d:123:LEU:CD1	22:d:126:ARG:NH1	2.67	0.57
1:A:158:C:H41	1:A:159:A:N6	2.01	0.57
1:A:823:C:C2	1:A:1271:G:N1	2.72	0.57
1:A:1159:G:O6	1:A:2038:U:O2'	2.22	0.57
1:A:1236:A:N6	1:A:1253:G:C6	2.69	0.57
1:A:1361:U:O4	14:V:168:PRO:CD	2.52	0.57
1:A:1810:C:H5'	19:E:142:ILE:CD1	2.34	0.57
1:A:2219:U:C6	1:A:2220:G:H5'	2.39	0.57
5:M:65:THR:HA	5:M:82:ASN:HD22	1.68	0.57
6:N:162:LEU:O	6:N:166:GLU:HG2	2.05	0.57
6:N:197:PRO:O	6:N:198:LEU:HB3	2.02	0.57
25:F:200:SER:HB2	25:F:291:ARG:HB2	1.84	0.57
1:A:137:U:H3	1:A:157:G:H1	0.62	0.57
1:A:143:G:H2'	1:A:144:A:C5'	2.27	0.57
1:A:150:U:H3'	1:A:151:G:C8	2.39	0.57
1:A:554:G:OP1	1:A:554:G:H4'	2.03	0.57
1:A:1267:A:H2'	1:A:1268:A:O4'	2.03	0.57
1:A:1809:G:N2	1:A:1828:U:O2'	2.37	0.57
1:A:2151:G:C5	1:A:2152:C:C5	2.92	0.57
1:A:2206:A:H2'	1:A:2207:A:H8	1.62	0.57
9:Q:77:ARG:HG2	9:Q:146:TYR:CE2	2.39	0.57
18:Z:118:VAL:HG11	18:Z:122:ARG:NH2	2.18	0.57
1:A:143:G:H1'	1:A:2224:G:H1'	1.86	0.57
1:A:320:U:H1'	1:A:341:A:C8	2.39	0.57
1:A:822:U:C6	1:A:1272:A:C4	2.92	0.57
1:A:830:A:OP2	1:A:1208:G:N2	2.23	0.57
1:A:864:U:H2'	1:A:865:A:H8	1.70	0.57
1:A:920:A:N7	7:O:9:PHE:CD2	2.72	0.57
1:A:938:G:C2'	1:A:939:A:H5'	2.34	0.57
1:A:1233:G:O2'	1:A:1258:A:N1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1516:G:H2'	1:A:1517:G:C4'	2.34	0.57
1:A:1553:U:H2'	1:A:1554:C:C6	2.40	0.57
1:A:1853:C:OP1	19:E:253:ARG:NH1	2.38	0.57
1:A:2344:A:H2'	1:A:2345:A:C8	2.39	0.57
1:A:2351:G:H4'	9:Q:57:HIS:NE2	2.19	0.57
2:C:74:C:H4'	8:P:75:GLN:HE22	1.69	0.57
3:B:34:C:N3	3:B:52:G:C2	2.72	0.57
15:W:67:ARG:HD3	15:W:131:SER:HB3	1.87	0.57
26:G:129:GLN:CG	26:G:134:ARG:NH2	2.67	0.57
1:A:130:U:H5''	1:A:130:U:O2	2.04	0.57
1:A:274:G:O6	1:A:433:C:H6	1.62	0.57
1:A:336:G:H2'	1:A:337:U:H5'	1.85	0.57
1:A:893:C:H2'	1:A:894:G:H1'	1.86	0.57
1:A:1017:G:O2'	1:A:1018:A:O5'	2.21	0.57
1:A:2475:G:H1'	1:A:2476:A:N7	2.19	0.57
4:L:118:ASP:OD1	4:L:157:ASN:ND2	2.35	0.57
10:R:159:LYS:H	10:R:161:ARG:NH1	2.02	0.57
25:F:214:ARG:HA	25:F:254:MET:HE2	1.85	0.57
26:G:226:LEU:HD12	26:G:226:LEU:C	2.30	0.57
1:A:42:G:O6	1:A:43:A:N6	2.38	0.57
1:A:545:U:HO2'	11:S:49:ASP:CG	2.00	0.57
1:A:912:C:C2	1:A:913:G:N7	2.72	0.57
1:A:1291:C:H5''	1:A:1292:G:H5'	1.87	0.57
1:A:1529:A:C6	1:A:1537:U:N3	2.69	0.57
1:A:1533:A:H2'	1:A:1534:A:C4	2.39	0.57
1:A:1545:G:H2'	1:A:1546:C:C6	2.33	0.57
1:A:2328:A:O4'	27:H:127:ILE:HD12	1.98	0.57
2:C:72:A:H2'	2:C:73:G:C5'	2.32	0.57
3:B:88:G:N2	3:B:92:U:C2	2.73	0.57
6:N:82:LEU:CD2	26:G:240:LEU:CD2	2.81	0.57
28:I:127:LEU:HB2	28:I:171:VAL:HB	1.85	0.57
1:A:47:G:C2	1:A:162:A:OP2	2.58	0.57
1:A:297:U:O5'	1:A:297:U:H6	1.87	0.57
1:A:302:C:C2'	1:A:303:U:H5'	2.35	0.57
1:A:308:G:N2	1:A:350:G:O6	2.38	0.57
1:A:611:C:H2'	1:A:612:U:C6	2.40	0.57
1:A:622:G:H1'	1:A:628:A:N6	2.16	0.57
1:A:671:C:C2'	1:A:672:U:H5'	2.33	0.57
1:A:1495:C:C5	1:A:1548:A:N6	2.73	0.57
1:A:1754:A:N7	1:A:1755:A:C5	2.72	0.57
1:A:2201:G:C2	1:A:2202:C:C4	2.93	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2205:G:C6	1:A:2206:A:N6	2.73	0.57
1:A:2223:A:H2'	1:A:2224:G:N7	2.20	0.57
3:B:52:G:OP1	9:Q:112:SER:OG	2.20	0.57
3:B:89:A:N6	3:B:90:G:C6	2.73	0.57
6:N:205:GLU:OE2	6:N:224:LYS:CD	2.50	0.57
11:S:91:LEU:HD21	12:T:175:PRO:HG3	1.85	0.57
12:T:228:GLU:O	12:T:231:PRO:HD3	2.04	0.57
15:W:82:GLU:H	15:W:82:GLU:CD	2.12	0.57
24:f:44:VAL:HG22	24:f:45:ARG:H	1.68	0.57
1:A:291:G:N2	1:A:292:C:C2	2.73	0.57
1:A:612:U:H2'	1:A:613:U:H5''	1.86	0.57
1:A:629:C:OP1	26:G:158:ARG:CZ	2.52	0.57
1:A:1497:A:H61	1:A:1547:C:H42	1.52	0.57
1:A:1829:A:O2'	19:E:173:PRO:O	2.16	0.57
1:A:1882:U:C6	1:A:1883:G:N7	2.73	0.57
1:A:2150:G:C2	1:A:2151:G:C2	2.93	0.57
1:A:2215:C:H2'	1:A:2216:U:C6	2.40	0.57
1:A:2642:G:H2'	1:A:2643:C:C6	2.40	0.57
2:C:75:U:H3'	2:C:76:G:C5'	2.33	0.57
3:B:39:C:H42	3:B:45:G:H1	1.46	0.57
3:B:91:G:O5'	3:B:91:G:H8	1.88	0.57
19:E:83:ARG:HG3	19:E:84:ASN:H	1.68	0.57
19:E:116:THR:HA	19:E:127:PRO:HD2	1.86	0.57
1:A:71:A:C8	18:Z:116:LEU:CD1	2.88	0.57
1:A:589:G:H2'	1:A:590:C:C6	2.40	0.57
1:A:860:C:H6	1:A:860:C:O5'	1.88	0.57
1:A:874:G:H2'	1:A:875:C:C6	2.40	0.57
1:A:964:C:C4	1:A:965:G:N7	2.73	0.57
1:A:1540:C:O2'	1:A:1541:U:H5'	2.04	0.57
1:A:2129:G:HO2'	1:A:2180:G:N2	2.01	0.57
1:A:2214:C:H2'	1:A:2215:C:C6	2.39	0.57
1:A:2475:G:OP2	1:A:2475:G:N2	2.36	0.57
2:C:33:A:H1'	2:C:34:U:P	2.45	0.57
3:B:69:C:C5	3:B:70:G:N7	2.73	0.57
18:Z:72:THR:OG1	18:Z:75:GLN:OE1	2.22	0.57
18:Z:150:PRO:O	18:Z:152:LEU:HD12	2.05	0.57
26:G:206:LEU:O	26:G:245:LEU:HA	2.05	0.57
27:H:120:LYS:HB2	27:H:137:THR:HG21	1.87	0.57
1:A:410:G:C2	1:A:411:U:N3	2.72	0.57
1:A:899:A:H1'	1:A:900:G:P	2.44	0.57
1:A:934:A:H1'	1:A:935:U:P	2.45	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:949:A:N6	1:A:950:A:C2	2.73	0.57
1:A:951:C:C4	1:A:952:A:N6	2.73	0.57
1:A:1531:A:H4'	1:A:1532:G:OP1	2.05	0.57
1:A:1650:A:P	1:A:1650:A:C8	2.94	0.57
1:A:2078:C:O2'	1:A:2268:G:N2	2.37	0.57
2:C:104:A:C2	2:C:105:A:N7	2.73	0.57
3:B:43:C:H2'	3:B:44:C:H6	1.70	0.57
6:N:175:GLU:HA	6:N:175:GLU:OE2	2.05	0.57
6:N:237:GLY:O	6:N:238:ARG:HG3	2.05	0.57
12:T:123:ILE:HG12	12:T:224:ILE:HD12	1.87	0.57
17:Y:126:LEU:O	17:Y:129:ILE:HG13	2.05	0.57
18:Z:120:ARG:HH11	18:Z:120:ARG:HG2	1.68	0.57
19:E:75:VAL:O	19:E:76:THR:OG1	2.21	0.57
19:E:237:ILE:CD1	19:E:239:ARG:H	2.18	0.57
21:c:40:HIS:CG	21:c:41:ASN:N	2.72	0.57
23:e:128:ARG:HG3	23:e:131:ARG:NH1	2.20	0.57
1:A:253:C:N3	1:A:437:G:N1	2.52	0.56
1:A:257:A:C8	1:A:258:C:N4	2.73	0.56
1:A:882:U:C4	1:A:883:C:N4	2.73	0.56
1:A:897:A:H8	1:A:897:A:OP2	1.88	0.56
1:A:1622:A:H2'	1:A:1623:A:C8	2.40	0.56
1:A:2107:G:N2	1:A:2108:G:C5	2.73	0.56
1:A:2119(A):U:OP1	1:A:2119(A):U:H4'	2.05	0.56
1:A:2137:G:C2	1:A:2190:A:N1	2.73	0.56
1:A:2215:C:HO2'	1:A:2216:U:H5'	1.70	0.56
1:A:2261:U:O2'	1:A:2262:U:OP1	2.23	0.56
3:B:38:C:C5	3:B:39:C:C2	2.93	0.56
7:O:104:TYR:CE2	7:O:125:MET:HE1	2.39	0.56
26:G:93:GLN:NE2	26:G:150:ILE:HD11	2.20	0.56
1:A:356:A:O2'	1:A:357:G:H5'	2.05	0.56
1:A:389:A:C2	1:A:390:U:C2	2.92	0.56
1:A:668:U:H2'	1:A:669:C:C5	2.39	0.56
1:A:725:U:O2'	1:A:727:A:N7	2.34	0.56
1:A:822:U:H5	1:A:1272:A:C6	2.23	0.56
1:A:910:A:H8	1:A:910:A:O5'	1.88	0.56
1:A:1307:A:C6	1:A:1350:U:C4	2.93	0.56
1:A:2231:C:H3'	1:A:2232:G:C8	2.40	0.56
3:B:6:U:O5'	3:B:6:U:H6	1.88	0.56
5:M:53:GLU:OE1	5:M:53:GLU:N	2.38	0.56
11:S:111:ILE:HD13	12:T:172:ILE:HG12	1.85	0.56
12:T:181:ALA:HB3	12:T:225:THR:HG22	1.85	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:60:U:HO2'	18:Z:94:ARG:NH1	2.00	0.56
1:A:151:G:N3	1:A:152:G:C8	2.73	0.56
1:A:238:C:P	23:e:93:LYS:HE3	2.45	0.56
1:A:274:G:N3	1:A:433:C:H5	2.00	0.56
1:A:332:G:H5'	1:A:333:A:OP1	2.06	0.56
1:A:431:U:C2'	1:A:432:G:H5'	2.35	0.56
1:A:489:A:H2'	1:A:490:A:C8	2.41	0.56
1:A:528:C:OP1	20:b:13:LYS:NZ	2.28	0.56
1:A:627:C:H4'	1:A:628:A:OP1	2.05	0.56
1:A:840:A:N7	1:A:2264:U:O2'	2.38	0.56
1:A:887:G:H2'	1:A:888:C:C6	2.40	0.56
1:A:911:U:H2'	1:A:912:C:H6	1.65	0.56
1:A:1002:G:C5'	12:T:201:LYS:HZ3	2.09	0.56
1:A:1134:G:H8	1:A:1134:G:O5'	1.88	0.56
1:A:1394:A:H5'	1:A:2230:A:C2'	2.35	0.56
1:A:1481:U:C4	1:A:1482:C:N4	2.73	0.56
1:A:1524:G:N2	1:A:1525:G:C2	2.74	0.56
1:A:2107:G:N7	1:A:2242:A:C8	2.73	0.56
1:A:2194:U:P	1:A:2195:G:OP2	2.63	0.56
1:A:2215:C:N3	1:A:2240:G:C2	2.73	0.56
1:A:2224:G:C5'	1:A:2225:G:H5''	2.34	0.56
1:A:2338:G:N2	1:A:2339:A:C8	2.73	0.56
1:A:2645:U:H3'	1:A:2646:U:C5'	2.36	0.56
2:C:32:C:O2'	2:C:33:A:O5'	2.22	0.56
2:C:32:C:O2'	2:C:32:C:O2	2.23	0.56
3:B:4:U:C5	3:B:5:C:N4	2.73	0.56
6:N:144:ARG:N	6:N:146:ILE:HD11	2.20	0.56
9:Q:138:LYS:HA	9:Q:165:VAL:O	2.06	0.56
12:T:172:ILE:HD12	12:T:172:ILE:N	2.20	0.56
16:X:127:LYS:HB3	16:X:129:GLY:O	2.05	0.56
23:e:94:THR:O	23:e:96:LYS:N	2.38	0.56
26:G:255:LEU:HD12	26:G:259:TYR:CD2	2.40	0.56
28:I:82:VAL:HA	28:I:92:VAL:HA	1.87	0.56
1:A:668:U:C4	1:A:669:C:N4	2.73	0.56
1:A:1238:G:H2'	1:A:1239:C:H5	1.69	0.56
1:A:1659:G:O2'	30:g:90:LEU:CD1	2.53	0.56
1:A:2227:C:C6	1:A:2228:C:C5	2.94	0.56
4:L:239:LEU:HD22	4:L:240:PRO:HD2	1.88	0.56
10:R:138:ARG:NH1	10:R:199:TYR:HA	2.20	0.56
12:T:116:PRO:N	12:T:117:PRO:HD3	2.21	0.56
16:X:125:PHE:CD1	16:X:135:VAL:HG22	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:163:GLU:HA	16:X:163:GLU:OE1	2.06	0.56
23:e:142:ASP:OD1	23:e:142:ASP:N	2.36	0.56
26:G:202:ALA:C	26:G:225:THR:HG21	2.30	0.56
28:I:132:VAL:O	28:I:134:TYR:N	2.29	0.56
1:A:120:G:H2'	1:A:121:G:C8	2.41	0.56
1:A:151:G:H2'	1:A:152:G:C8	2.29	0.56
1:A:165:C:H5''	1:A:166:A:OP1	2.05	0.56
1:A:219:U:H5	1:A:442:A:N1	2.04	0.56
1:A:289:A:H2	1:A:369:U:H1'	1.70	0.56
1:A:823:C:O2	1:A:1271:G:C2	2.58	0.56
1:A:1501:G:C1'	1:A:1502:A:P	2.94	0.56
1:A:1504:C:C4	1:A:1505:C:N4	2.73	0.56
1:A:1754:A:N7	1:A:1755:A:C8	2.70	0.56
1:A:1873:G:C2'	1:A:1874:U:H5'	2.36	0.56
1:A:2608:C:H2'	1:A:2609:G:H8	1.68	0.56
3:B:14:U:H5'	3:B:15:A:N7	2.21	0.56
3:B:41:U:O2'	3:B:46:A:N1	2.39	0.56
4:L:152:PHE:HE1	4:L:220:HIS:CD2	2.23	0.56
6:N:84:ASN:HD22	6:N:85:LEU:H	1.53	0.56
6:N:97:ARG:HH11	6:N:100:ARG:NE	2.04	0.56
6:N:129:PHE:CE2	6:N:131:GLY:CA	2.85	0.56
6:N:210:LEU:O	6:N:230:CYS:HB2	2.05	0.56
15:W:65:HIS:O	15:W:66:LYS:HB2	2.04	0.56
19:E:176:GLU:CG	19:E:267:ILE:O	2.53	0.56
19:E:258:ARG:HA	19:E:258:ARG:NE	2.20	0.56
22:d:115:MET:HG2	22:d:124:LEU:HD11	1.88	0.56
26:G:95:LYS:O	26:G:96:ARG:O	2.23	0.56
1:A:166:A:OP2	1:A:167:A:OP2	2.24	0.56
1:A:288:C:H2'	1:A:289:A:C8	2.37	0.56
1:A:548:G:O2'	1:A:549:A:H8	1.88	0.56
1:A:609:G:OP1	26:G:79:LYS:HE3	2.05	0.56
1:A:1064:A:H3'	1:A:1065:G:H5''	1.86	0.56
1:A:1475:U:C2'	8:P:70:LEU:HD13	2.35	0.56
1:A:2201:G:C2	1:A:2202:C:N4	2.73	0.56
1:A:2318:C:H2'	1:A:2319:C:C5	2.41	0.56
8:P:35:THR:HG21	8:P:79:PHE:HE2	1.70	0.56
12:T:128:VAL:O	12:T:129:ILE:HD13	2.05	0.56
15:W:143:VAL:HG21	15:W:163:LYS:HZ3	1.70	0.56
1:A:614:G:N1	1:A:637:G:C6	2.73	0.56
1:A:859:A:C6	1:A:860:C:C4	2.94	0.56
1:A:986:U:O4	7:O:17:MET:CE	2.54	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:988:A:N6	7:O:82:ARG:NH1	2.53	0.56
1:A:1079:G:C6	1:A:1080:C:N4	2.73	0.56
1:A:1522:A:C4	1:A:1523:A:N7	2.74	0.56
1:A:1649:G:H3'	1:A:1650:A:C5'	2.35	0.56
1:A:2109:C:C4	1:A:2110:U:C4	2.93	0.56
3:B:118:G:H4'	3:B:119:G:OP1	2.04	0.56
4:L:100:TRP:CE3	4:L:101:TYR:CB	2.86	0.56
4:L:115:TYR:HB3	4:L:239:LEU:HB2	1.88	0.56
4:L:171:LYS:NZ	4:L:173:TYR:CZ	2.73	0.56
6:N:165:ILE:CD1	6:N:207:SER:OG	2.51	0.56
12:T:91:ASP:HB2	13:U:142:PHE:CE1	2.41	0.56
12:T:154:ASP:HB3	12:T:186:VAL:HB	1.88	0.56
1:A:151:G:C2'	1:A:152:G:H5'	2.36	0.56
1:A:1287:G:HO2'	1:A:1288:U:P	2.29	0.56
1:A:1336:C:H2'	1:A:1337:U:H6	1.71	0.56
1:A:1542:C:H4'	1:A:1543:G:H5'	1.88	0.56
1:A:2212:A:N3	29:J:76:ASN:HB2	2.20	0.56
2:C:13:G:OP1	8:P:48:ARG:NH1	2.39	0.56
2:C:26:G:H8	2:C:87:A:C2	2.24	0.56
2:C:40:U:C2'	2:C:41:A:H8	2.12	0.56
3:B:7:G:C1'	3:B:8:G:OP1	2.53	0.56
3:B:110:C:H4'	3:B:111:G:OP2	2.06	0.56
6:N:189:PRO:O	6:N:193:GLU:HG2	2.05	0.56
14:V:106:ARG:C	14:V:107:ARG:CG	2.79	0.56
25:F:117:PHE:N	25:F:117:PHE:CD2	2.73	0.56
25:F:272:ASP:OD1	25:F:273:LEU:N	2.38	0.56
29:J:74:LEU:HA	29:J:78:LEU:HB2	1.88	0.56
32:h:48:SER:O	32:h:49:SER:HB3	2.05	0.56
1:A:140:G:C2'	1:A:141:C:H5'	2.36	0.56
1:A:185:U:H4'	17:Y:92:ASN:O	2.06	0.56
1:A:643:A:OP1	6:N:144:ARG:CD	2.53	0.56
1:A:1475:U:C4'	8:P:73:ARG:NH2	2.69	0.56
1:A:1745:C:C4	1:A:1746:C:C4	2.90	0.56
1:A:1954:U:H5'	1:A:1955:C:OP1	2.05	0.56
2:C:103:G:H2'	2:C:104:A:C8	2.34	0.56
3:B:25:G:C6	3:B:57:U:C2	2.94	0.56
26:G:129:GLN:CG	26:G:134:ARG:HH21	2.19	0.56
26:G:230:THR:HG23	26:G:233:SER:H	1.70	0.56
1:A:133:A:C8	1:A:134:A:N7	2.73	0.56
1:A:287:A:N3	1:A:288:C:C2	2.74	0.56
1:A:351:C:O5'	1:A:351:C:H6	1.89	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:702:C:OP1	19:E:213:ARG:NH1	2.37	0.56
1:A:763:A:OP2	22:d:93:LEU:HG	2.05	0.56
1:A:823:C:O2	1:A:1271:G:N1	2.39	0.56
1:A:878:U:C2'	1:A:879:G:H5'	2.35	0.56
1:A:1307:A:N1	1:A:1350:U:C4	2.74	0.56
1:A:2107:G:C5	1:A:2242:A:N7	2.74	0.56
1:A:2213:A:H2'	1:A:2213:A:N3	2.20	0.56
1:A:2730:A:H2'	1:A:2731:C:H5''	1.86	0.56
3:B:7:G:C6	3:B:117:A:H2	2.24	0.56
11:S:50:ARG:O	11:S:53:GLN:HG2	2.05	0.56
18:Z:118:VAL:HG13	18:Z:122:ARG:HH21	1.67	0.56
20:b:21:LYS:O	20:b:24:GLY:N	2.39	0.56
26:G:146:ARG:HG3	26:G:148:TRP:CZ3	2.41	0.56
26:G:260:GLY:O	26:G:261:VAL:HG22	2.06	0.56
28:I:44:GLY:CA	28:I:105:HIS:ND1	2.66	0.56
1:A:143:G:N2	1:A:2224:G:C6	2.74	0.55
1:A:158:C:N4	1:A:159:A:H62	2.02	0.55
1:A:337:U:H4'	15:W:130:HIS:CD2	2.41	0.55
1:A:913:G:C6	1:A:914:A:N6	2.74	0.55
1:A:1161:A:C1'	1:A:1162:C:P	2.94	0.55
1:A:1500:U:H3'	1:A:1500:U:H6	1.72	0.55
1:A:2238:A:C2	1:A:2239:G:N7	2.74	0.55
1:A:2421:C:C2	1:A:2431:G:N2	2.74	0.55
3:B:7:G:H1'	3:B:8:G:OP1	2.05	0.55
5:M:112:LYS:HE3	5:M:116:LEU:HD11	1.88	0.55
6:N:189:PRO:CB	6:N:196:LEU:HD21	2.36	0.55
10:R:127:ASN:C	10:R:127:ASN:HD22	2.15	0.55
13:U:105:VAL:O	13:U:106:ASN:ND2	2.38	0.55
16:X:73:LYS:HD3	16:X:73:LYS:N	2.21	0.55
21:c:52:CYS:HB2	21:c:53:PRO:HD3	1.87	0.55
1:A:103:C:HO2'	1:A:104:C:H5'	1.71	0.55
1:A:137:U:H3	1:A:157:G:N2	2.04	0.55
1:A:160:A:H8	1:A:160:A:P	2.29	0.55
1:A:937:U:H2'	1:A:937:U:O2	2.06	0.55
1:A:1248:G:OP1	11:S:13:ARG:CZ	2.54	0.55
1:A:1308:A:OP1	8:P:114:ARG:O	2.24	0.55
1:A:1673:A:H2'	1:A:1674:C:C6	2.41	0.55
1:A:2070:A:O2'	20:b:5:LYS:HD3	2.06	0.55
16:X:159:ARG:HA	16:X:162:ARG:HG2	1.88	0.55
27:H:189:SER:HB2	27:H:205:MET:HE1	1.87	0.55
1:A:364:U:H2'	1:A:365:A:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:682:C:H2'	1:A:683:C:H6	1.71	0.55
1:A:857:G:O6	16:X:154:LYS:HD2	2.07	0.55
1:A:2199:G:H8	1:A:2199:G:OP2	1.89	0.55
1:A:2579:U:O2	5:M:23:ARG:CZ	2.54	0.55
1:A:2653:U:C5'	25:F:170:GLU:OE2	2.52	0.55
2:C:29:U:C1'	2:C:30:A:P	2.94	0.55
2:C:105:A:H2'	2:C:106:C:C6	2.42	0.55
3:B:31:C:C2	3:B:32:A:N7	2.74	0.55
5:M:25:ILE:HB	5:M:38:VAL:HG23	1.88	0.55
7:O:57:ASN:HD22	7:O:120:ILE:HD12	1.69	0.55
10:R:214:VAL:HG11	10:R:219:LEU:HD11	1.87	0.55
14:V:109:LEU:CD1	14:V:141:ARG:HB2	2.37	0.55
1:A:628:A:H2'	1:A:629:C:C6	2.40	0.55
1:A:950:A:C5	1:A:951:C:N3	2.75	0.55
1:A:1099:G:H1'	1:A:1117:G:H2'	1.89	0.55
1:A:1278:U:HO2'	26:G:135:PRO:HD3	1.70	0.55
1:A:1318:C:O2'	1:A:1323:A:N1	2.40	0.55
1:A:1521:G:N2	1:A:1544:A:C2	2.73	0.55
1:A:1596:U:H2'	1:A:1597:C:C5'	2.33	0.55
1:A:1745:C:C2'	1:A:1746:C:H5'	2.36	0.55
1:A:1749:U:H3	1:A:1756:G:N2	2.04	0.55
1:A:1750:C:H42	1:A:1755:A:N6	2.04	0.55
1:A:1886:A:N6	6:N:252:ARG:NH2	2.53	0.55
1:A:2113:G:H1	1:A:2204:A:H61	1.54	0.55
1:A:2123:U:O2	1:A:2195:G:N2	2.39	0.55
1:A:2212:A:H4'	1:A:2213:A:OP1	2.06	0.55
1:A:2233:G:N1	1:A:2234:G:C6	2.75	0.55
2:C:52:G:H8	10:R:217:ALA:HB2	1.72	0.55
2:C:52:G:C8	10:R:217:ALA:HB2	2.42	0.55
2:C:75:U:H2'	2:C:75:U:O2	2.07	0.55
2:C:80:C:O5'	2:C:80:C:H6	1.90	0.55
3:B:7:G:H1'	3:B:8:G:P	2.47	0.55
10:R:123:MET:CE	25:F:98:GLY:CA	2.84	0.55
12:T:188:GLU:OE2	12:T:218:ARG:NH1	2.40	0.55
23:e:105:THR:O	23:e:107:LYS:N	2.39	0.55
26:G:73:LYS:HB2	26:G:261:VAL:O	2.06	0.55
1:A:101:A:C2'	1:A:102:U:H5'	2.35	0.55
1:A:150:U:H2'	1:A:150:U:O2	2.07	0.55
1:A:256:A:H4'	1:A:256:A:OP1	2.05	0.55
1:A:259:C:H6	1:A:259:C:O5'	1.89	0.55
1:A:261:U:C2'	1:A:262:G:H5'	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:434:A:C6	1:A:435:A:C6	2.94	0.55
1:A:606:A:H2'	1:A:607:G:H8	1.72	0.55
1:A:806:C:H2'	1:A:807:C:C6	2.42	0.55
1:A:816:G:H1'	6:N:117:GLN:HE21	1.70	0.55
1:A:910:A:H2'	1:A:911:U:C6	2.42	0.55
1:A:2187:A:O2'	1:A:2188:C:H5'	2.06	0.55
1:A:2227:C:C5	1:A:2228:C:N4	2.74	0.55
1:A:2736:G:OP1	10:R:220:TYR:HD2	1.88	0.55
3:B:68:G:N2	3:B:69:C:C2	2.73	0.55
6:N:178:LEU:HD11	6:N:196:LEU:HD13	1.88	0.55
7:O:125:MET:HG3	7:O:126:PRO:HD2	1.88	0.55
10:R:154:GLU:HB2	10:R:204:LYS:HD3	1.89	0.55
12:T:156:ILE:HB	12:T:184:ALA:HB3	1.87	0.55
14:V:145:LYS:HD3	14:V:148:ARG:HH11	1.70	0.55
26:G:73:LYS:HA	26:G:261:VAL:C	2.25	0.55
26:G:249:GLU:OE1	26:G:249:GLU:N	2.39	0.55
27:H:87:ILE:HG22	27:H:209:ILE:HG12	1.89	0.55
27:H:115:GLY:HA2	31:a:41:ILE:HD13	1.88	0.55
28:I:48:ILE:O	28:I:89:PHE:HA	2.06	0.55
28:I:134:TYR:HA	28:I:146:SER:O	2.06	0.55
1:A:284:A:C1'	1:A:285:A:P	2.94	0.55
1:A:348:U:O2	1:A:348:U:H2'	2.06	0.55
1:A:781:G:H5'	22:d:104:SER:OG	2.06	0.55
1:A:863:C:O2'	1:A:864:U:H5'	2.07	0.55
1:A:891:G:N2	1:A:892:C:C2	2.75	0.55
1:A:1836:C:H5''	19:E:219:VAL:CG2	2.35	0.55
1:A:2227:C:H2'	1:A:2228:C:C6	2.41	0.55
1:A:2807:C:OP1	1:A:2807:C:H4'	2.07	0.55
1:A:103:C:H2'	1:A:104:C:C6	2.42	0.55
1:A:416:C:O2	1:A:418:G:C2	2.59	0.55
1:A:504:G:C5'	13:U:37:TYR:CD1	2.90	0.55
1:A:670:A:H2'	1:A:671:C:C5	2.41	0.55
1:A:977:G:H4'	32:h:60:MET:CE	2.31	0.55
1:A:1468:C:O2'	1:A:1578:A:N3	2.31	0.55
1:A:1651:C:H4'	1:A:1652:A:OP1	2.04	0.55
1:A:1822:A:C6	1:A:1823:C:N4	2.75	0.55
1:A:2303:A:N6	21:c:34:ILE:CG1	2.69	0.55
1:A:2331:G:C2	27:H:182:SER:OG	2.58	0.55
1:A:2647:A:N7	2:C:98:G:C6	2.75	0.55
2:C:103:G:C2	2:C:104:A:C8	2.94	0.55
6:N:225:LEU:HD23	6:N:232:VAL:HG22	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:S:89:GLN:O	12:T:174:THR:HA	2.06	0.55
27:H:58:LYS:O	27:H:61:TYR:HB3	2.06	0.55
1:A:734:G:H2'	1:A:735:U:C6	2.42	0.55
1:A:1169:A:H5'	4:L:245:ARG:CZ	2.37	0.55
1:A:2267:G:H1	7:O:82:ARG:NH2	2.04	0.55
1:A:2806:U:H4'	2:C:6:A:O4'	2.07	0.55
7:O:89:SER:N	7:O:90:PRO:HD2	2.21	0.55
12:T:103:TYR:CD2	12:T:106:ILE:CD1	2.85	0.55
18:Z:137:ASP:OD1	18:Z:141:LYS:HG2	2.06	0.55
21:c:33:TYR:HE1	23:e:122:ALA:HA	1.69	0.55
26:G:129:GLN:HG2	26:G:134:ARG:HH21	1.72	0.55
1:A:129:U:H2'	1:A:129:U:O2	2.07	0.55
1:A:140:G:C2	1:A:155:A:C2	2.95	0.55
1:A:335:G:N2	1:A:345:C:O2	2.37	0.55
1:A:967:C:O5'	1:A:967:C:H6	1.90	0.55
1:A:1020:C:H2'	1:A:1021:A:H8	1.72	0.55
1:A:1137:C:H3'	1:A:1138:G:H8	1.71	0.55
1:A:1317:C:OP1	1:A:2726:G:O2'	2.20	0.55
1:A:1651:C:C6	13:U:116:PRO:HG2	2.41	0.55
1:A:1704:A:N3	1:A:1706:C:N4	2.55	0.55
1:A:1799:A:H2'	1:A:1800:C:O4'	2.07	0.55
1:A:2109:C:C6	1:A:2110:U:N1	2.75	0.55
1:A:2207:A:H8	1:A:2207:A:O5'	1.90	0.55
1:A:2229:U:O4	19:E:64:ARG:NH2	2.40	0.55
1:A:2267:G:N1	7:O:82:ARG:CZ	2.70	0.55
1:A:2744:A:N3	5:M:67:LYS:NZ	2.52	0.55
4:L:100:TRP:CE3	4:L:101:TYR:N	2.75	0.55
25:F:96:LYS:NZ	25:F:284:GLY:O	2.40	0.55
25:F:144:LEU:CD1	25:F:166:ARG:NH1	2.70	0.55
1:A:123:C:O2'	22:d:139:THR:O	2.25	0.55
1:A:274:G:C4	1:A:433:C:C5	2.95	0.55
1:A:458:G:H5''	1:A:459:A:OP1	2.07	0.55
1:A:871:A:H2'	1:A:872:A:O4'	2.07	0.55
1:A:1536:A:C2	1:A:1537:U:C5	2.87	0.55
1:A:1650:A:H8	1:A:1650:A:O5'	1.89	0.55
1:A:1876:A:H5''	1:A:1877:C:OP2	2.06	0.55
1:A:1882:U:C6	1:A:1883:G:C8	2.95	0.55
1:A:2278:C:N4	16:X:71:ASP:HB3	2.21	0.55
1:A:2310:U:H5'	9:Q:143:ARG:HH11	1.71	0.55
1:A:2507:G:O6	32:h:48:SER:CB	2.52	0.55
1:A:2799:A:H5''	1:A:2800:G:H5'	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:26:G:C6	2:C:27:U:N3	2.75	0.55
2:C:28:U:O2	2:C:28:U:H2'	2.07	0.55
2:C:28:U:C1'	2:C:30:A:C8	2.86	0.55
6:N:160:ILE:HG22	6:N:203:GLU:O	2.07	0.55
16:X:162:ARG:HD3	16:X:163:GLU:OE1	2.07	0.55
26:G:152:MET:HB3	26:G:157:ARG:NH2	2.22	0.55
26:G:205:SER:OG	26:G:226:LEU:HB3	2.07	0.55
29:J:69:VAL:HG21	29:J:78:LEU:CD1	2.37	0.55
1:A:42:G:H1	1:A:448:C:H42	1.54	0.54
1:A:208:A:C1'	1:A:433:C:O2'	2.53	0.54
1:A:236:A:P	23:e:95:HIS:HE1	2.29	0.54
1:A:291:G:HO2'	1:A:292:C:H5'	1.72	0.54
1:A:626:C:C3'	1:A:627:C:H6	2.20	0.54
1:A:626:C:H2'	1:A:627:C:H6	1.72	0.54
1:A:1443:G:H22	1:A:1610:C:H5	1.54	0.54
1:A:1878:C:N3	1:A:1887:G:N1	2.55	0.54
1:A:2212:A:H2'	1:A:2213:A:H8	1.71	0.54
2:C:78:G:C2	2:C:79:G:N7	2.75	0.54
6:N:143:LEU:CD2	6:N:146:ILE:CG1	2.86	0.54
15:W:164:THR:CB	15:W:166:GLU:OE1	2.55	0.54
32:h:92:VAL:O	32:h:93:SER:OG	2.25	0.54
1:A:175:A:OP2	1:A:190:G:N2	2.31	0.54
1:A:434:A:H8	1:A:434:A:O5'	1.90	0.54
1:A:901:C:H3'	1:A:901:C:H6	1.72	0.54
1:A:1161:A:N7	1:A:2040:U:H4'	2.21	0.54
1:A:1175:U:O2'	1:A:1176:C:H5'	2.07	0.54
1:A:2003:A:O2'	1:A:2004:C:OP1	2.24	0.54
3:B:27:A:H2'	3:B:28:C:H6	1.72	0.54
3:B:47:A:H5'	3:B:48:C:OP2	2.06	0.54
6:N:97:ARG:NH1	6:N:100:ARG:HG3	2.22	0.54
11:S:43:LEU:HB3	12:T:198:PHE:HB3	1.89	0.54
14:V:118:PRO:HD2	18:Z:95:SER:OG	2.08	0.54
1:A:48:A:C2	1:A:162:A:N7	2.65	0.54
1:A:70:A:OP1	1:A:110:U:O2'	2.22	0.54
1:A:143:G:N2	1:A:2223:A:C2	2.76	0.54
1:A:793:A:H4'	1:A:794:A:O5'	2.07	0.54
1:A:859:A:C5	1:A:860:C:C4	2.95	0.54
1:A:981:G:H2'	1:A:982:G:H5''	1.88	0.54
1:A:1196:A:H61	1:A:1201:A:H61	0.66	0.54
1:A:1571:G:H5''	1:A:1572:G:C8	2.42	0.54
1:A:1748:C:H3'	1:A:1748:C:H6	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1825:A:O2'	1:A:1826:U:H4'	2.08	0.54
2:C:81:A:C2'	2:C:82:U:H5'	2.37	0.54
8:P:43:ARG:HA	8:P:123:ILE:O	2.07	0.54
11:S:91:LEU:HB2	12:T:175:PRO:HA	1.88	0.54
12:T:93:PHE:CD2	12:T:93:PHE:N	2.73	0.54
15:W:67:ARG:HB3	15:W:67:ARG:CZ	2.37	0.54
21:c:45:ARG:HE	21:c:55:CYS:HB3	1.73	0.54
1:A:137:U:C4	1:A:157:G:N1	2.66	0.54
1:A:213:A:C3'	6:N:239:LYS:O	2.51	0.54
1:A:887:G:H22	1:A:909:A:H61	1.55	0.54
1:A:1361:U:C5	14:V:168:PRO:HD3	2.42	0.54
1:A:2190:A:H2'	1:A:2191:C:O4'	2.07	0.54
1:A:2647:A:C8	2:C:98:G:N3	2.76	0.54
1:A:2676:G:N2	1:A:2678:G:H3'	2.22	0.54
6:N:154:LEU:N	6:N:155:PRO:HD2	2.00	0.54
6:N:165:ILE:CG1	6:N:207:SER:N	2.70	0.54
8:P:44:ILE:O	8:P:122:TYR:HA	2.08	0.54
13:U:168:ARG:O	13:U:169:ARG:HB2	2.06	0.54
17:Y:125:ALA:O	17:Y:129:ILE:HG23	2.07	0.54
19:E:226:HIS:HE1	19:E:228:HIS:CD2	2.21	0.54
23:e:126:THR:O	23:e:129:LYS:N	2.40	0.54
25:F:179:PHE:HA	25:F:184:LYS:NZ	2.23	0.54
26:G:251:THR:O	26:G:255:LEU:CB	2.56	0.54
1:A:27:A:H61	1:A:523:G:H1'	1.72	0.54
1:A:153:G:N2	1:A:154:C:C2	2.75	0.54
1:A:504:G:C4'	13:U:37:TYR:HB2	2.23	0.54
1:A:696:A:O2'	1:A:699:U:O4	2.25	0.54
1:A:1504:C:O2'	1:A:1505:C:H5'	2.07	0.54
1:A:1515:G:H2'	1:A:1515:G:N3	2.22	0.54
1:A:1603:A:O2'	1:A:1604:A:O5'	2.23	0.54
1:A:1687:G:C6	1:A:1688:A:C2	2.96	0.54
1:A:2224:G:H5''	1:A:2225:G:H5'	1.86	0.54
2:C:41:A:HO2'	2:C:42:G:H5'	1.72	0.54
3:B:25:G:C5	3:B:57:U:N3	2.76	0.54
3:B:32:A:C5	3:B:55:G:C2	2.95	0.54
6:N:157:TYR:HB2	6:N:196:LEU:CD2	2.38	0.54
6:N:200:ILE:HD12	6:N:217:PHE:CD1	2.42	0.54
12:T:110:PHE:C	12:T:110:PHE:CD1	2.85	0.54
12:T:156:ILE:HG13	12:T:186:VAL:HG23	1.90	0.54
12:T:174:THR:CG2	12:T:175:PRO:CD	2.85	0.54
13:U:84:ALA:HB1	13:U:95:LYS:HE3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:W:70:LYS:O	15:W:89:ILE:CD1	2.52	0.54
16:X:66:THR:OG1	16:X:67:LYS:CE	2.54	0.54
16:X:123:VAL:HA	16:X:136:SER:O	2.06	0.54
16:X:133:LYS:HA	16:X:133:LYS:CE	2.32	0.54
25:F:119:GLU:CD	25:F:120:GLY:H	2.15	0.54
1:A:169:C:H2'	1:A:170:U:H6	1.73	0.54
1:A:171:G:H2'	1:A:172:G:H8	1.72	0.54
1:A:317:G:N2	1:A:489:A:N7	2.54	0.54
1:A:817:C:O3'	1:A:841:G:N2	2.40	0.54
1:A:822:U:C5	1:A:1272:A:C6	2.96	0.54
1:A:951:C:C2'	1:A:952:A:C8	2.87	0.54
1:A:1495:C:C4	1:A:1548:A:C6	2.96	0.54
1:A:1980:A:H1'	1:A:2610:U:H5'	1.90	0.54
1:A:2219:U:H1'	19:E:64:ARG:HH22	1.72	0.54
1:A:2320:G:H4'	27:H:175:PHE:CA	2.30	0.54
6:N:82:LEU:CD2	26:G:240:LEU:HD22	2.36	0.54
11:S:22:SER:O	11:S:23:SER:OG	2.21	0.54
15:W:82:GLU:OE1	15:W:82:GLU:N	2.25	0.54
27:H:89:VAL:HA	27:H:206:ASP:O	2.07	0.54
27:H:123:ALA:HB3	27:H:135:GLY:H	1.73	0.54
28:I:57:ALA:HB3	28:I:64:LYS:O	2.08	0.54
1:A:1056:A:H2'	1:A:1057:A:H8	1.72	0.54
1:A:1196:A:N6	1:A:1201:A:N6	2.21	0.54
1:A:1522:A:C6	1:A:1544:A:N3	2.73	0.54
1:A:1634:C:C5'	14:V:145:LYS:HZ3	2.21	0.54
1:A:1634:C:C5'	14:V:145:LYS:NZ	2.68	0.54
1:A:2221:U:O2	1:A:2221:U:H2'	2.07	0.54
1:A:2393:A:C2	9:Q:166:PHE:HE2	2.25	0.54
1:A:2608:C:H2'	1:A:2609:G:C8	2.42	0.54
1:A:2684:C:C6	28:I:150:SER:OG	2.60	0.54
2:C:35:U:O2	2:C:35:U:H2'	2.07	0.54
2:C:99:A:H2'	2:C:100:C:H5'	1.90	0.54
4:L:116:VAL:HG23	4:L:236:PRO:HB2	1.90	0.54
4:L:172:LEU:HD21	4:L:185:GLU:OE2	2.06	0.54
6:N:99:GLY:HA2	6:N:107:GLY:HA2	1.90	0.54
12:T:141:TRP:HE3	12:T:218:ARG:HG2	1.73	0.54
1:A:610:G:OP1	26:G:79:LYS:HG2	2.08	0.54
1:A:1534:A:C3'	1:A:1535:A:C5'	2.86	0.54
1:A:1830:U:H5'	1:A:1831:G:C8	2.42	0.54
1:A:1936:G:H2'	1:A:1937:U:C6	2.43	0.54
1:A:2636:G:H5''	25:F:246:LYS:HB3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2644:G:N2	1:A:2795:G:OP2	2.41	0.54
2:C:88:C:C2'	2:C:89:A:H5'	2.38	0.54
3:B:34:C:O5'	3:B:34:C:H6	1.91	0.54
4:L:204:VAL:HG21	4:L:221:LEU:HD22	1.89	0.54
6:N:168:ALA:HB1	6:N:184:LYS:CE	2.38	0.54
6:N:172:GLU:HA	6:N:210:LEU:HD23	1.82	0.54
15:W:170:THR:CB	15:W:171:PRO:CD	2.85	0.54
28:I:43:ILE:O	28:I:43:ILE:HG22	2.07	0.54
1:A:410:G:C6	1:A:411:U:O4	2.61	0.54
1:A:635:C:OP2	6:N:190:SER:OG	2.18	0.54
1:A:1432:U:H2'	1:A:1433:U:C6	2.43	0.54
1:A:1885:C:O2'	1:A:1886:A:O4'	2.21	0.54
1:A:2188:C:C2'	1:A:2189:C:H5'	2.38	0.54
1:A:2495:A:H5''	24:f:68:LYS:CD	2.38	0.54
10:R:135:GLU:O	10:R:138:ARG:O	2.25	0.54
11:S:8:TYR:HE1	11:S:12:ARG:NE	2.04	0.54
12:T:91:ASP:O	12:T:92:ASP:HB2	2.08	0.54
15:W:70:LYS:HE3	15:W:159:ARG:NE	2.23	0.54
19:E:245:PRO:CG	19:E:246:TRP:CZ3	2.90	0.54
25:F:212:ILE:HG21	25:F:230:ARG:NH1	2.22	0.54
26:G:209:LEU:HD12	26:G:248:THR:HG21	1.89	0.54
28:I:55:ALA:HB3	28:I:66:LYS:HB2	1.89	0.54
31:a:47:GLU:HG3	31:a:60:THR:C	2.30	0.54
31:a:72:VAL:C	31:a:73:TRP:CG	2.86	0.54
1:A:152:G:N3	1:A:153:G:N7	2.52	0.54
1:A:242:A:H2	6:N:194:ARG:NH2	2.06	0.54
1:A:268:G:N2	1:A:269:G:C2	2.76	0.54
1:A:671:C:O5'	1:A:671:C:H6	1.90	0.54
1:A:856:U:H6	1:A:962:G:H22	0.59	0.54
1:A:890:G:C4	1:A:891:G:N7	2.76	0.54
1:A:896:G:H21	1:A:897:A:H4'	1.71	0.54
1:A:1444:A:C2	1:A:1609:U:H5	2.26	0.54
1:A:1847:C:O2'	1:A:1941:A:H1'	2.08	0.54
1:A:2033:A:OP1	20:b:7:ARG:HD3	2.07	0.54
1:A:2504:A:H2'	1:A:2505:A:C8	2.43	0.54
1:A:2684:C:H6	28:I:150:SER:H	1.55	0.54
3:B:38:C:C4	3:B:39:C:C2	2.96	0.54
25:F:154:ARG:HG2	25:F:158:ASN:OD1	2.08	0.54
26:G:102:THR:HG21	26:G:142:GLY:HA3	1.90	0.54
30:g:88:GLN:HE21	30:g:96:LEU:HG	1.72	0.54
1:A:16:G:O2'	11:S:25:ARG:HG3	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:145:A:H3'	1:A:146:U:C5'	2.28	0.53
1:A:856:U:C4	1:A:962:G:O6	2.42	0.53
1:A:1160:A:OP1	4:L:183:LEU:HD22	2.08	0.53
1:A:1432:U:H2'	1:A:1433:U:H6	1.74	0.53
1:A:1691:A:H8	1:A:1691:A:O5'	1.91	0.53
1:A:1804:U:H2'	1:A:1805:C:H6	1.73	0.53
1:A:1827:G:H5''	19:E:83:ARG:HE	1.72	0.53
1:A:1829:A:C4'	1:A:1830:U:H5'	2.30	0.53
1:A:1876:A:H8	1:A:1876:A:O5'	1.91	0.53
1:A:2209:U:H2'	1:A:2210:C:C6	2.43	0.53
7:O:10:ARG:NH2	7:O:90:PRO:HD3	2.22	0.53
26:G:175:VAL:HG23	26:G:246:VAL:HG12	1.90	0.53
1:A:299:C:H2'	1:A:299:C:O2	2.08	0.53
1:A:367:C:O2	1:A:367:C:H2'	2.08	0.53
1:A:731:U:O4	1:A:732:A:N6	2.40	0.53
1:A:790:U:H2'	1:A:791:G:O4'	2.08	0.53
1:A:804:A:O2'	1:A:805:A:OP2	2.21	0.53
1:A:884:G:N1	1:A:913:G:C6	2.76	0.53
1:A:934:A:C1'	1:A:935:U:H5'	2.34	0.53
1:A:1081:C:C2	1:A:1135:A:N1	2.76	0.53
1:A:1176:C:N4	32:h:70:TRP:CZ3	2.73	0.53
1:A:1534:A:H3'	1:A:1535:A:H5'	1.88	0.53
1:A:2236:C:O5'	1:A:2236:C:H6	1.90	0.53
1:A:2556:C:H5'	24:f:40:ILE:HD12	1.90	0.53
3:B:57:U:O2'	3:B:58:A:OP2	2.26	0.53
6:N:213:LYS:O	6:N:235:LEU:HB2	2.07	0.53
16:X:122:LEU:CG	16:X:140:ARG:HB2	2.37	0.53
19:E:67:GLU:O	19:E:114:SER:OG	2.27	0.53
19:E:142:ILE:HG23	19:E:143:THR:HG22	1.88	0.53
19:E:237:ILE:HG13	19:E:239:ARG:H	1.72	0.53
27:H:90:ASN:O	27:H:205:MET:HA	2.07	0.53
27:H:122:LYS:HG3	27:H:135:GLY:O	2.08	0.53
28:I:76:TYR:CD1	28:I:108:PHE:CZ	2.96	0.53
1:A:6:A:H8	1:A:6:A:O5'	1.92	0.53
1:A:140:G:N1	1:A:155:A:C2	2.76	0.53
1:A:199:G:H2'	1:A:200:G:C8	2.42	0.53
1:A:627:C:O2	1:A:627:C:H2'	2.08	0.53
1:A:903:G:H4'	1:A:903:G:OP1	2.08	0.53
1:A:1003:A:OP2	1:A:1003:A:H8	1.91	0.53
1:A:1161:A:H1'	1:A:1162:C:OP2	2.09	0.53
1:A:1197:A:OP1	16:X:165:LYS:CG	2.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1224:U:H3	1:A:1263:G:H1	1.57	0.53
1:A:1336:C:H2'	1:A:1337:U:C6	2.44	0.53
1:A:1522:A:C2	1:A:1523:A:N7	2.76	0.53
1:A:1603:A:H5'	19:E:55:LYS:HD2	1.88	0.53
1:A:2205:G:C4	1:A:2206:A:N7	2.76	0.53
3:B:7:G:H1'	3:B:8:G:C5'	2.37	0.53
4:L:175:ARG:NH2	4:L:184:LYS:HZ2	1.89	0.53
6:N:136:LEU:HD12	23:e:142:ASP:HB2	1.80	0.53
18:Z:88:PHE:C	18:Z:88:PHE:CD2	2.85	0.53
25:F:119:GLU:HG3	25:F:143:ARG:CB	2.38	0.53
28:I:48:ILE:O	28:I:89:PHE:HD1	1.86	0.53
1:A:13:A:O2'	1:A:14:A:O4'	2.26	0.53
1:A:260:G:C6	1:A:268:G:C6	2.96	0.53
1:A:339:A:H4'	1:A:340:A:OP1	2.08	0.53
1:A:420:A:C2	1:A:432:G:C2	2.96	0.53
1:A:860:C:O2'	1:A:861:A:H5'	2.08	0.53
1:A:888:C:O2	1:A:888:C:H2'	2.08	0.53
1:A:1200:A:H3'	1:A:1201:A:H8	1.73	0.53
1:A:1284:U:OP1	20:b:13:LYS:HD2	2.09	0.53
1:A:1399:A:H2'	1:A:1401:G:N7	2.24	0.53
1:A:1519:A:N1	1:A:1520:A:N7	2.56	0.53
1:A:1546:C:O2	1:A:1546:C:H2'	2.08	0.53
1:A:2214:C:H6	1:A:2214:C:O5'	1.92	0.53
1:A:2336:U:P	1:A:2336:U:H3'	2.49	0.53
1:A:2373:C:H4'	16:X:76:ARG:HD2	1.91	0.53
3:B:13:C:H1'	3:B:111:G:H22	1.73	0.53
12:T:177:VAL:HG23	12:T:177:VAL:O	2.07	0.53
15:W:138:LEU:HG	15:W:140:GLU:H	1.74	0.53
23:e:102:PHE:HE2	23:e:146:VAL:HG11	1.73	0.53
25:F:144:LEU:HD13	25:F:166:ARG:NH1	2.22	0.53
26:G:250:GLY:O	26:G:254:TYR:CB	2.56	0.53
27:H:162:PRO:HG2	31:a:71:GLU:OE1	1.93	0.53
30:g:115:ARG:HH12	30:g:119:LEU:HB2	1.73	0.53
31:a:46:ARG:NH1	31:a:64:THR:CB	2.71	0.53
1:A:97:A:OP1	18:Z:63:ASP:HB3	2.08	0.53
1:A:98:G:C2	1:A:100:G:N2	2.77	0.53
1:A:122:U:O2'	1:A:123:C:H5''	2.08	0.53
1:A:288:C:O5'	1:A:288:C:H6	1.91	0.53
1:A:297:U:H2'	1:A:298:G:H5'	1.89	0.53
1:A:411:U:OP2	17:Y:127:LYS:HE3	2.08	0.53
1:A:1066:G:N2	1:A:1146:U:O2	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1454:G:H1	1:A:1594:A:H62	1.56	0.53
1:A:1481:U:C5	1:A:1482:C:N4	2.76	0.53
1:A:1552:U:H2'	1:A:1553:U:H6	1.72	0.53
1:A:1966:A:OP2	5:M:55:SER:OG	2.16	0.53
1:A:2335:C:O3'	1:A:2336:U:H3'	2.09	0.53
1:A:2612:G:N2	1:A:2615:A:OP2	2.42	0.53
10:R:203:ILE:O	10:R:203:ILE:HG13	2.08	0.53
14:V:144:LYS:O	14:V:148:ARG:HB3	2.08	0.53
18:Z:86:GLU:O	18:Z:90:LEU:HG	2.08	0.53
23:e:90:TYR:CG	23:e:91:LYS:N	2.77	0.53
1:A:121:G:H8	1:A:121:G:O5'	1.91	0.53
1:A:133:A:C5	1:A:134:A:C6	2.96	0.53
1:A:154:C:N4	1:A:155:A:C6	2.77	0.53
1:A:426:C:O2'	1:A:1874:U:H1'	2.08	0.53
1:A:567:C:OP2	4:L:212:ARG:NH2	2.40	0.53
1:A:843:C:C5'	6:N:125:ILE:HD11	2.38	0.53
1:A:887:G:N2	1:A:909:A:C6	2.74	0.53
1:A:977:G:O2'	32:h:60:MET:HE1	2.09	0.53
1:A:1145:C:H2'	1:A:1146:U:C6	2.42	0.53
1:A:2033:A:H3'	1:A:2034:C:H5''	1.89	0.53
1:A:2106:U:H4'	1:A:2107:G:O5'	2.07	0.53
1:A:2186:U:H4'	1:A:2187:A:H5'	1.90	0.53
1:A:2647:A:C8	2:C:98:G:C6	2.97	0.53
2:C:75:U:C3'	2:C:76:G:C5'	2.86	0.53
3:B:31:C:O2	3:B:31:C:H2'	2.08	0.53
3:B:66:C:O2	3:B:66:C:H2'	2.08	0.53
12:T:91:ASP:OD2	13:U:142:PHE:CZ	2.61	0.53
18:Z:123:GLU:HG2	18:Z:128:VAL:HG21	1.91	0.53
25:F:119:GLU:OE1	25:F:119:GLU:HA	2.09	0.53
26:G:148:TRP:O	26:G:149:THR:OG1	2.25	0.53
1:A:44:G:C8	1:A:200:G:N9	2.77	0.53
1:A:153:G:H4'	1:A:154:C:OP1	2.09	0.53
1:A:576:U:O2'	1:A:820:G:OP2	2.23	0.53
1:A:613:U:H3'	1:A:613:U:H6	1.73	0.53
1:A:1334:U:OP2	1:A:1335:C:N4	2.38	0.53
1:A:1534:A:C2'	1:A:1535:A:C5'	2.86	0.53
1:A:2116:C:N4	1:A:2201:G:N2	2.52	0.53
1:A:2207:A:H2'	1:A:2208:U:N1	2.24	0.53
1:A:2475:G:O2'	1:A:2477:U:O4	2.26	0.53
1:A:2647:A:C5	2:C:98:G:N1	2.77	0.53
3:B:11:U:O4'	9:Q:92:MET:SD	2.67	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:822:U:H3	6:N:100:ARG:NH2	2.07	0.53
1:A:884:G:C2	1:A:913:G:N1	2.77	0.53
1:A:937:U:C2'	1:A:938:G:C5'	2.87	0.53
1:A:1879:U:H2'	1:A:1880:G:N7	2.24	0.53
1:A:2207:A:H2'	1:A:2208:U:C2	2.44	0.53
1:A:2542:G:H1	1:A:2555:U:H3	1.57	0.53
1:A:2650:G:H1	1:A:2803:C:N4	2.05	0.53
1:A:2773:C:C5	24:f:56:ARG:NH1	2.73	0.53
2:C:79:G:O2'	10:R:121:ASP:CG	2.52	0.53
2:C:103:G:C4	2:C:104:A:C8	2.96	0.53
3:B:5:C:N3	3:B:119:G:O6	2.42	0.53
3:B:7:G:N3	3:B:8:G:H5'	2.24	0.53
3:B:118:G:O2'	3:B:119:G:H5'	2.09	0.53
12:T:136:VAL:CG2	12:T:221:ILE:HG13	2.38	0.53
16:X:69:GLY:O	16:X:70:ARG:HB3	2.08	0.53
16:X:126:GLU:O	16:X:133:LYS:C	2.47	0.53
20:b:10:ILE:O	20:b:14:ARG:HG2	2.08	0.53
21:c:41:ASN:OD1	21:c:42:THR:N	2.42	0.53
28:I:42:ARG:O	28:I:43:ILE:HB	2.09	0.53
1:A:160:A:C2	1:A:161:G:C5	2.95	0.53
1:A:885:G:C5	1:A:886:U:C4	2.96	0.53
1:A:899:A:O2'	1:A:900:G:O5'	2.20	0.53
1:A:1007:A:C2	32:h:59:HIS:CD2	2.97	0.53
1:A:1197:A:OP1	16:X:165:LYS:CB	2.57	0.53
1:A:1496:A:N7	1:A:1497:A:C2	2.77	0.53
1:A:1596:U:C2'	1:A:1597:C:C5'	2.70	0.53
1:A:2563:U:O2'	1:A:2583:A:O2'	2.19	0.53
2:C:75:U:H2'	2:C:76:G:H5''	1.89	0.53
2:C:78:G:C2'	2:C:79:G:H5'	2.38	0.53
3:B:25:G:N7	3:B:57:U:C5	2.76	0.53
19:E:64:ARG:HG3	19:E:147:GLY:HA2	1.91	0.53
19:E:133:LEU:HD22	19:E:162:ALA:HA	1.90	0.53
23:e:119:HIS:CE1	23:e:120:LEU:HD13	2.44	0.53
29:J:77:PHE:O	29:J:81:LEU:HB2	2.09	0.53
1:A:420:A:C5	1:A:432:G:N2	2.77	0.53
1:A:697:U:O2'	22:d:96:THR:O	2.26	0.53
1:A:877:C:H2'	1:A:878:U:H6	1.71	0.53
1:A:950:A:C6	1:A:951:C:N3	2.76	0.53
1:A:1648:C:O2'	22:d:97:LYS:O	2.26	0.53
1:A:2228:C:H4'	1:A:2230:A:OP1	2.09	0.53
1:A:2233:G:C4	1:A:2234:G:N7	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2394:A:H2'	1:A:2395:A:C8	2.44	0.53
1:A:2684:C:C6	28:I:150:SER:CB	2.92	0.53
2:C:103:G:C4	2:C:104:A:N7	2.77	0.53
3:B:10:G:OP1	9:Q:63:LYS:CD	2.49	0.53
6:N:88:GLN:HE22	26:G:79:LYS:NZ	2.07	0.53
11:S:5:LYS:HG3	11:S:5:LYS:O	2.09	0.53
11:S:93:ASN:HB2	11:S:97:LEU:HD23	1.90	0.53
14:V:111:VAL:O	14:V:114:ILE:HG22	2.09	0.53
16:X:157:ASN:O	16:X:158:PHE:C	2.51	0.53
26:G:86:ARG:NE	26:G:152:MET:HE1	2.24	0.53
28:I:104:MET:HA	28:I:107:LEU:HB3	1.91	0.53
1:A:270:G:C2'	1:A:271:G:H5'	2.34	0.52
1:A:381:C:O2	1:A:381:C:O2'	2.26	0.52
1:A:389:A:N6	1:A:410:G:H1	2.06	0.52
1:A:581:A:O2'	1:A:583:G:H8	1.91	0.52
1:A:602:A:H2'	1:A:603:G:H8	1.72	0.52
1:A:824:U:O4'	1:A:1247:A:H1'	2.09	0.52
1:A:869:G:N2	1:A:2285:A:H2	2.05	0.52
1:A:984:G:N7	7:O:14:ARG:NH1	2.57	0.52
1:A:1007:A:H2	32:h:59:HIS:CD2	2.27	0.52
1:A:1413:A:H2'	1:A:1414:A:C8	2.44	0.52
1:A:1541:U:O5'	1:A:1541:U:H6	1.92	0.52
1:A:1877:C:H2'	1:A:1877:C:O2	2.08	0.52
1:A:2036:U:H4'	1:A:2037:G:OP1	2.09	0.52
1:A:2209:U:C4	1:A:2210:C:N4	2.73	0.52
1:A:2211:U:C4	1:A:2241:G:C6	2.97	0.52
2:C:56:G:H2'	2:C:57:U:C6	2.44	0.52
6:N:146:ILE:O	6:N:147:ALA:HB2	2.09	0.52
10:R:226:LEU:HD13	10:R:226:LEU:H	1.72	0.52
15:W:78:ILE:O	15:W:83:LYS:HG3	2.08	0.52
19:E:37:LYS:HE3	19:E:50:ARG:HD3	1.90	0.52
26:G:199:LEU:C	26:G:201:PRO:HD3	2.34	0.52
26:G:204:LYS:HA	26:G:225:THR:HB	1.90	0.52
1:A:14:A:C2	20:b:15:ILE:HD12	2.45	0.52
1:A:625:C:O2	1:A:625:C:H2'	2.08	0.52
1:A:740:G:O6	19:E:204:ALA:CB	2.39	0.52
1:A:841:G:N3	1:A:841:G:H2'	2.24	0.52
1:A:906:C:O5'	1:A:906:C:H6	1.91	0.52
1:A:1164:G:O5'	1:A:1164:G:H8	1.91	0.52
1:A:1344:G:H5''	13:U:113:LYS:HE2	1.90	0.52
1:A:2203:U:O5'	1:A:2203:U:H6	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2324:G:C2	1:A:2328:A:N7	2.77	0.52
1:A:2631:A:H8	1:A:2631:A:OP1	1.93	0.52
1:A:2647:A:H1'	2:C:98:G:N3	2.24	0.52
1:A:2654:U:H5''	25:F:172:ARG:NH2	2.24	0.52
2:C:31:U:O2	2:C:31:U:H2'	2.08	0.52
6:N:165:ILE:CG1	6:N:207:SER:H	2.19	0.52
15:W:67:ARG:CZ	15:W:67:ARG:CB	2.87	0.52
15:W:70:LYS:HE3	15:W:159:ARG:HE	1.74	0.52
18:Z:86:GLU:HA	18:Z:89:MET:HE3	1.90	0.52
25:F:135:ASN:HD21	25:F:177:ASP:H	1.57	0.52
26:G:230:THR:OG1	26:G:231:PRO:HD2	2.09	0.52
28:I:61:GLN:HA	28:I:76:TYR:HD2	1.74	0.52
30:g:79:LYS:HG3	30:g:80:VAL:HG23	1.91	0.52
1:A:71:A:C8	18:Z:116:LEU:HD12	2.44	0.52
1:A:116:A:O2'	1:A:163:G:OP1	2.26	0.52
1:A:545:U:H2'	1:A:546:G:C8	2.44	0.52
1:A:597:C:O2'	6:N:98:LYS:HD2	2.10	0.52
1:A:690:U:H2'	1:A:691:G:H8	1.74	0.52
1:A:902:G:H2'	1:A:903:G:C5'	2.32	0.52
1:A:1080:C:C3'	1:A:1081:C:C5'	2.86	0.52
1:A:1176:C:H2'	1:A:1177:U:O4'	2.09	0.52
1:A:1407:C:H2'	1:A:1408:A:C8	2.41	0.52
1:A:1534:A:H3'	1:A:1535:A:C5'	2.39	0.52
1:A:1633:A:H5''	1:A:1634:C:OP1	2.10	0.52
1:A:1691:A:C6	1:A:1692:C:C2	2.97	0.52
1:A:1800:C:H2'	1:A:1801:A:C8	2.44	0.52
1:A:2116:C:H2'	1:A:2116:C:O2	2.08	0.52
1:A:2229:U:C4	19:E:64:ARG:NH1	2.78	0.52
1:A:2339:A:H2'	1:A:2340:G:O4'	2.08	0.52
1:A:2420:C:O2	1:A:2420:C:H2'	2.08	0.52
1:A:2475:G:H8	1:A:2476:A:H62	1.56	0.52
2:C:85:U:HO2'	2:C:86:A:H5'	1.72	0.52
3:B:45:G:H1'	3:B:48:C:H42	1.74	0.52
6:N:176:VAL:CG1	6:N:177:SER:H	2.03	0.52
10:R:212:ARG:NH2	10:R:229:LEU:O	2.29	0.52
19:E:203:ARG:HH22	19:E:209:TRP:CD1	2.27	0.52
1:A:77:U:H2'	1:A:78:C:C6	2.45	0.52
1:A:122:U:C2	22:d:112:ARG:NH1	2.73	0.52
1:A:276:G:C5	1:A:433:C:N4	2.78	0.52
1:A:997:G:H2'	1:A:998:U:C6	2.43	0.52
1:A:1527:G:C2	1:A:1539:C:N3	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1651:C:C5	13:U:116:PRO:CG	2.92	0.52
1:A:1801:A:O2'	19:E:202:GLY:HA2	2.08	0.52
1:A:2113:G:H8	1:A:2113:G:O5'	1.92	0.52
1:A:2137:G:N2	1:A:2190:A:C4	2.77	0.52
1:A:2807:C:N4	2:C:98:G:H1	2.06	0.52
6:N:157:TYR:HD1	6:N:158:VAL:N	2.08	0.52
9:Q:47:HIS:ND1	9:Q:48:THR:HG23	2.24	0.52
11:S:76:TYR:O	11:S:77:ASN:ND2	2.43	0.52
12:T:113:LYS:HA	12:T:113:LYS:HE2	1.91	0.52
12:T:145:GLN:O	12:T:147:LEU:N	2.42	0.52
12:T:177:VAL:HG23	12:T:180:ALA:HB2	1.91	0.52
16:X:67:LYS:N	16:X:67:LYS:CD	2.73	0.52
16:X:101:PHE:HB3	16:X:135:VAL:HG23	1.92	0.52
1:A:98:G:H5'	1:A:99:A:O5'	2.09	0.52
1:A:101:A:C4	1:A:102:U:C5	2.97	0.52
1:A:124:A:OP1	22:d:138:LYS:HB3	2.09	0.52
1:A:256:A:C8	1:A:380:C:O2'	2.39	0.52
1:A:319:G:C4	1:A:339:A:C2	2.98	0.52
1:A:358:C:H2'	1:A:359:A:H8	1.74	0.52
1:A:858:G:N3	1:A:859:A:C8	2.77	0.52
1:A:1524:G:C1'	30:g:116:ARG:HH11	2.23	0.52
1:A:2338:G:N3	1:A:2338:G:C2'	2.73	0.52
1:A:2672:G:O2'	1:A:2673:U:O5'	2.26	0.52
3:B:86:G:C4	3:B:87:G:N7	2.78	0.52
6:N:143:LEU:CD2	6:N:143:LEU:N	2.73	0.52
6:N:144:ARG:N	6:N:146:ILE:CD1	2.73	0.52
17:Y:101:VAL:HG23	17:Y:103:LEU:HD12	1.90	0.52
17:Y:129:ILE:CD1	17:Y:130:GLU:N	2.73	0.52
25:F:229:HIS:C	25:F:231:ALA:H	2.18	0.52
27:H:175:PHE:CD1	27:H:183:VAL:CG1	2.91	0.52
1:A:902:G:C3'	1:A:903:G:C5'	2.86	0.52
1:A:922:U:O5'	1:A:922:U:H6	1.93	0.52
1:A:1530:G:N3	1:A:1530:G:C2'	2.73	0.52
1:A:1534:A:N3	1:A:1534:A:H5''	2.25	0.52
1:A:1829:A:OP1	19:E:152:ARG:N	2.42	0.52
1:A:1866:G:C5'	29:J:43:LYS:HG3	2.39	0.52
1:A:2238:A:C4	1:A:2239:G:C8	2.97	0.52
1:A:2319:C:C2'	1:A:2320:G:H5'	2.39	0.52
1:A:2652:A:H2'	1:A:2653:U:O4'	2.10	0.52
3:B:17:G:H22	3:B:70:G:H1'	0.62	0.52
9:Q:49:ARG:CG	9:Q:53:ARG:HG3	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:U:141:HIS:ND1	13:U:141:HIS:O	2.43	0.52
16:X:67:LYS:NZ	16:X:67:LYS:CA	2.73	0.52
19:E:140:ILE:HD11	19:E:150:LEU:HB2	1.91	0.52
26:G:206:LEU:HD13	26:G:207:PHE:N	2.24	0.52
29:J:77:PHE:CD1	29:J:81:LEU:HD12	2.44	0.52
1:A:82:G:P	15:W:157:LYS:NZ	2.82	0.52
1:A:268:G:N1	1:A:269:G:C6	2.78	0.52
1:A:298:G:C4	1:A:299:C:C5	2.97	0.52
1:A:355:A:H3'	1:A:356:A:H8	1.74	0.52
1:A:874:G:P	7:O:23:ARG:HH22	2.29	0.52
1:A:890:G:N3	1:A:891:G:N7	2.58	0.52
1:A:891:G:H2'	1:A:892:C:C6	2.44	0.52
1:A:895:C:O5'	1:A:895:C:H6	1.93	0.52
1:A:1180:C:H5'	11:S:78:TYR:HE2	1.74	0.52
1:A:1444:A:C2	1:A:1609:U:C5	2.97	0.52
1:A:2204:A:H2'	1:A:2205:G:H5'	1.92	0.52
1:A:2320:G:C6	1:A:2331:G:C6	2.98	0.52
1:A:2329:U:O3'	27:H:121:THR:HG21	2.09	0.52
1:A:2436:U:OP2	23:e:121:LEU:HD22	2.09	0.52
3:B:13:C:O2	3:B:111:G:N1	2.41	0.52
8:P:88:ALA:O	8:P:92:GLU:HB2	2.10	0.52
12:T:172:ILE:CD1	12:T:172:ILE:N	2.73	0.52
15:W:164:THR:HB	15:W:166:GLU:OE1	2.09	0.52
16:X:101:PHE:HA	16:X:133:LYS:HB2	1.91	0.52
16:X:162:ARG:NH1	16:X:162:ARG:CB	2.73	0.52
19:E:258:ARG:NE	19:E:258:ARG:CA	2.73	0.52
31:a:47:GLU:HG2	31:a:60:THR:OG1	2.10	0.52
1:A:276:G:N1	1:A:416:C:O2'	2.42	0.52
1:A:603:G:H1'	23:e:92:MET:CE	2.40	0.52
1:A:624:A:N7	1:A:625:C:C5	2.78	0.52
1:A:626:C:C2'	1:A:627:C:H6	2.23	0.52
1:A:1624:C:H2'	1:A:1625:A:C8	2.45	0.52
1:A:1651:C:O2	1:A:1651:C:H2'	2.09	0.52
1:A:1810:C:H1'	1:A:1811:A:OP2	2.09	0.52
1:A:1926:A:O2'	1:A:1927:A:H5'	2.10	0.52
1:A:2207:A:H5''	1:A:2208:U:OP2	2.10	0.52
1:A:2210:C:H2'	1:A:2210:C:O2	2.08	0.52
1:A:2319:C:HO2'	1:A:2320:G:H5'	1.71	0.52
4:L:208:LEU:HD13	4:L:217:LEU:HD11	1.90	0.52
10:R:202:ASN:HD21	25:F:107:GLY:HA3	1.73	0.52
13:U:42:SER:HA	13:U:128:PRO:HG2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:73:LYS:HD3	16:X:73:LYS:H	1.74	0.52
16:X:153:ARG:HH11	16:X:153:ARG:CG	2.12	0.52
19:E:175:GLY:O	19:E:268:ARG:O	2.27	0.52
21:c:48:LEU:HD12	21:c:52:CYS:O	2.10	0.52
27:H:61:TYR:HE1	27:H:222:LEU:HD11	1.75	0.52
31:a:47:GLU:CA	31:a:62:GLY:HA2	2.39	0.52
1:A:279:A:H62	1:A:379:C:H42	0.65	0.52
1:A:289:A:N1	1:A:369:U:O2	2.43	0.52
1:A:333:A:C6	1:A:334:U:C2	2.98	0.52
1:A:529:G:O5'	13:U:47:ARG:NH2	2.43	0.52
1:A:822:U:N3	6:N:100:ARG:NH2	2.58	0.52
1:A:823:C:N3	1:A:1271:G:C6	2.78	0.52
1:A:836:G:H2'	1:A:837:U:O4'	2.10	0.52
1:A:855:C:C4	1:A:856:U:C4	2.98	0.52
1:A:932:A:H5'	16:X:85:GLN:NE2	2.25	0.52
1:A:1139:A:N3	1:A:1139:A:C3'	2.73	0.52
1:A:1311:C:H2'	1:A:1312:A:H8	1.74	0.52
1:A:1536:A:N3	1:A:1536:A:C3'	2.73	0.52
1:A:1877:C:C2'	1:A:1878:C:H5''	2.40	0.52
1:A:2347:G:H21	16:X:98:GLY:CA	2.22	0.52
3:B:53:U:C2	3:B:54:G:H1'	2.45	0.52
3:B:66:C:C4	3:B:110:C:N3	2.78	0.52
6:N:212:ILE:N	6:N:212:ILE:CD1	2.73	0.52
13:U:39:ILE:HD12	13:U:41:MET:HE3	1.91	0.52
15:W:59:ASN:C	15:W:60:SER:OG	2.45	0.52
21:c:40:HIS:CG	21:c:41:ASN:H	2.27	0.52
26:G:57:ILE:HB	26:G:65:VAL:O	2.10	0.52
1:A:19:U:H2'	1:A:20:A:C8	2.44	0.52
1:A:27:A:N6	1:A:523:G:H1'	2.25	0.52
1:A:128:U:O5'	1:A:128:U:H6	1.93	0.52
1:A:279:A:N3	1:A:279:A:C3'	2.73	0.52
1:A:457:C:H2'	1:A:458:G:O4'	2.10	0.52
1:A:670:A:H5''	26:G:151:LYS:HE3	1.90	0.52
1:A:1112:A:N3	1:A:1133:U:O2'	2.40	0.52
1:A:1635:C:C4'	14:V:106:ARG:NH2	2.62	0.52
1:A:1650:A:N1	13:U:116:PRO:HB3	2.25	0.52
1:A:2303:A:N6	21:c:34:ILE:HG12	2.24	0.52
1:A:2736:G:H1'	2:C:51:U:H5''	1.92	0.52
1:A:2739:A:C2	2:C:77:A:C6	2.98	0.52
2:C:30:A:N3	2:C:30:A:C3'	2.73	0.52
3:B:87:G:O2'	3:B:88:G:C5'	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:Q:50:ARG:O	9:Q:54:THR:CB	2.58	0.52
23:e:121:LEU:HD12	23:e:121:LEU:N	2.24	0.52
27:H:162:PRO:HB2	31:a:71:GLU:HG3	1.88	0.52
1:A:61:U:O4	1:A:92:U:O2	2.28	0.51
1:A:263:A:N3	1:A:263:A:C3'	2.73	0.51
1:A:277:G:N3	1:A:277:G:C5'	2.73	0.51
1:A:350:G:C2'	1:A:351:C:H5'	2.41	0.51
1:A:1064:A:H3'	1:A:1065:G:C5'	2.41	0.51
1:A:1488:A:H2'	1:A:1489:A:C8	2.44	0.51
1:A:1848:C:H4'	1:A:1849:A:O5'	2.09	0.51
1:A:2198:A:O5'	1:A:2198:A:H8	1.93	0.51
1:A:2753:C:N4	1:A:2787:C:H42	2.03	0.51
1:A:2810:A:N3	1:A:2810:A:C3'	2.73	0.51
2:C:102:U:H2'	2:C:103:G:C5'	2.34	0.51
3:B:19:G:H2'	3:B:20:U:C6	2.45	0.51
3:B:36:A:C5	3:B:45:G:C5	2.98	0.51
3:B:86:G:H2'	3:B:87:G:H8	1.74	0.51
13:U:47:ARG:HA	13:U:50:ILE:HG22	1.90	0.51
27:H:221:LYS:HD2	27:H:224:SER:HB2	1.92	0.51
29:J:43:LYS:HG2	29:J:44:LYS:HG2	1.92	0.51
1:A:320:U:H1'	1:A:341:A:C4	2.45	0.51
1:A:350:G:H2'	1:A:351:C:C6	2.45	0.51
1:A:539:A:C6	1:A:2056:A:C5	2.99	0.51
1:A:554:G:N3	1:A:554:G:C5'	2.73	0.51
1:A:614:G:C2	1:A:615:G:C5	2.99	0.51
1:A:941:C:O2	1:A:956:G:C2	2.63	0.51
1:A:1179:C:H2'	1:A:1180:C:C6	2.45	0.51
1:A:1501:G:OP1	1:A:1501:G:H4'	2.10	0.51
1:A:1835:G:H2'	1:A:1836:C:C6	2.44	0.51
1:A:2108:G:N3	1:A:2108:G:C3'	2.73	0.51
1:A:2211:U:O2'	1:A:2212:A:OP1	2.28	0.51
1:A:2423:A:OP2	1:A:2428:A:N6	2.41	0.51
3:B:46:A:P	27:H:145:ARG:HH12	2.33	0.51
4:L:172:LEU:N	4:L:172:LEU:CD1	2.73	0.51
9:Q:120:ALA:HA	9:Q:123:ILE:HG22	1.91	0.51
16:X:132:LYS:CD	16:X:132:LYS:N	2.73	0.51
25:F:124:THR:O	25:F:125:GLN:HB2	2.09	0.51
1:A:133:A:H61	1:A:162:A:H2	0.53	0.51
1:A:274:G:C5	1:A:433:C:C5'	2.94	0.51
1:A:560:A:C6	1:A:561:C:C4	2.99	0.51
1:A:634:G:H2'	1:A:635:C:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:858:G:C6	1:A:859:A:C6	2.98	0.51
1:A:884:G:N1	1:A:913:G:N1	2.58	0.51
1:A:1021:A:OP1	11:S:50:ARG:NH1	2.33	0.51
1:A:1162:C:O2	1:A:1162:C:H2'	2.08	0.51
1:A:1189:G:H1'	12:T:145:GLN:NE2	2.25	0.51
1:A:1535:A:C5'	1:A:1535:A:N3	2.73	0.51
1:A:1562:A:C4	1:A:1578:A:N6	2.79	0.51
1:A:2061:C:H2'	1:A:2062:A:C8	2.44	0.51
1:A:2393:A:N3	9:Q:166:PHE:CE2	2.79	0.51
2:C:26:G:H8	2:C:87:A:H2	1.57	0.51
2:C:104:A:C6	2:C:105:A:N6	2.78	0.51
3:B:70:G:H2'	3:B:71:G:C8	2.43	0.51
3:B:91:G:N2	7:O:38:GLU:CD	2.59	0.51
5:M:88:ASP:OD1	5:M:89:GLN:N	2.43	0.51
8:P:61:MET:HE2	8:P:80:ILE:HG13	1.92	0.51
15:W:51:TRP:CD1	15:W:54:LYS:HZ2	2.29	0.51
16:X:133:LYS:HE2	16:X:133:LYS:N	2.25	0.51
19:E:228:HIS:CE1	19:E:237:ILE:HD13	2.45	0.51
26:G:236:LEU:HD21	26:G:240:LEU:HD13	1.92	0.51
26:G:243:GLU:OE1	26:G:244:LYS:N	2.43	0.51
27:H:87:ILE:HA	27:H:208:CYS:O	2.10	0.51
1:A:101:A:C2	1:A:102:U:C2	2.99	0.51
1:A:383:A:O2'	1:A:384:G:OP2	2.26	0.51
1:A:919:A:H2'	1:A:920:A:C5'	2.38	0.51
1:A:1036:U:HO2'	1:A:1037:A:P	2.33	0.51
1:A:1137:C:C3'	1:A:1138:G:H8	2.24	0.51
1:A:1444:A:N1	1:A:1609:U:C5	2.78	0.51
1:A:1575:C:H2'	1:A:1576:U:C6	2.45	0.51
1:A:1635:C:OP1	14:V:144:LYS:HG3	2.09	0.51
1:A:1810:C:C4'	1:A:1811:A:H5'	2.40	0.51
1:A:1847:C:O2'	1:A:1941:A:N3	2.35	0.51
1:A:2416:G:H2'	1:A:2417:G:C8	2.46	0.51
1:A:2433:C:OP1	6:N:145:GLY:CA	2.58	0.51
2:C:99:A:C3'	2:C:100:C:H5'	2.40	0.51
3:B:90:G:H4'	3:B:90:G:OP1	2.10	0.51
6:N:130:GLU:OE2	6:N:139:ARG:NH2	2.43	0.51
7:O:110:ALA:HB3	7:O:113:ILE:HD13	1.91	0.51
10:R:171:SER:HB3	10:R:218:ARG:HG3	1.92	0.51
11:S:65:ILE:HB	11:S:98:ALA:HB2	1.93	0.51
15:W:67:ARG:HH22	15:W:94:LYS:HA	1.76	0.51
21:c:28:ARG:CZ	21:c:50:LYS:HD3	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:H:178:HIS:CD2	27:H:181:TYR:HA	2.45	0.51
1:A:569:G:H21	11:S:52:ARG:HH22	1.59	0.51
1:A:626:C:H3'	1:A:627:C:H6	1.69	0.51
1:A:740:G:C6	19:E:203:ARG:O	2.64	0.51
1:A:1307:A:N6	1:A:1310:C:O2	2.43	0.51
1:A:1694:C:OP1	25:F:229:HIS:HE1	1.94	0.51
1:A:1886:A:C2'	1:A:1887:G:C5'	2.86	0.51
1:A:2035:A:OP1	20:b:9:SER:CB	2.59	0.51
1:A:2322:A:H5''	27:H:186:ARG:CB	2.40	0.51
1:A:2417:G:H4'	21:c:29:GLY:H	1.75	0.51
1:A:2445:G:H21	6:N:139:ARG:CZ	2.23	0.51
6:N:115:ARG:O	6:N:119:SER:HB3	2.10	0.51
6:N:136:LEU:CD2	6:N:139:ARG:NH1	2.73	0.51
25:F:144:LEU:HD11	25:F:166:ARG:NH2	2.21	0.51
26:G:79:LYS:NZ	26:G:79:LYS:CB	2.73	0.51
31:a:46:ARG:HH22	31:a:65:GLN:CA	2.24	0.51
1:A:347:G:C4	1:A:348:U:C5	2.98	0.51
1:A:820:G:C6	1:A:821:U:C4	2.98	0.51
1:A:957:U:C5	1:A:958:C:N4	2.79	0.51
1:A:1522:A:C2	1:A:1523:A:C8	2.98	0.51
1:A:2123:U:N3	1:A:2194:U:N3	2.59	0.51
1:A:2322:A:H5''	27:H:186:ARG:HG3	1.93	0.51
1:A:2645:U:O5'	1:A:2645:U:H6	1.94	0.51
1:A:2810:A:N3	1:A:2810:A:C5'	2.73	0.51
2:C:38:G:N2	25:F:145:ARG:HH21	1.95	0.51
3:B:37:U:C2'	3:B:38:C:H5'	2.40	0.51
3:B:92:U:O5'	3:B:92:U:H6	1.93	0.51
6:N:165:ILE:HG21	6:N:206:LEU:HA	1.93	0.51
6:N:202:GLY:HA2	6:N:221:ALA:N	2.24	0.51
1:A:90:A:O2'	1:A:91:A:O5'	2.28	0.51
1:A:124:A:O2'	1:A:125:A:H5'	2.11	0.51
1:A:144:A:N7	1:A:150:U:O4	2.44	0.51
1:A:218:A:H61	1:A:441:A:N6	2.08	0.51
1:A:355:A:N9	1:A:356:A:C8	2.76	0.51
1:A:670:A:H8	1:A:670:A:O5'	1.92	0.51
1:A:728:A:H2'	1:A:729:A:O4'	2.11	0.51
1:A:1002:G:H4'	1:A:1003:A:O5'	2.11	0.51
1:A:1159:G:N7	4:L:176:HIS:CE1	2.58	0.51
1:A:1457:G:O2'	1:A:1496:A:N1	2.44	0.51
1:A:1477:G:O5'	1:A:1477:G:H8	1.94	0.51
1:A:1760:G:N3	2:C:64:A:H2	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2157:U:N3	1:A:2163:G:N2	2.57	0.51
1:A:2362:G:H4'	1:A:2363:A:O5'	2.11	0.51
1:A:2692:A:H2'	1:A:2693:C:O4'	2.10	0.51
4:L:100:TRP:CG	4:L:101:TYR:N	2.75	0.51
16:X:133:LYS:N	16:X:133:LYS:HD2	2.26	0.51
21:c:10:LYS:H	21:c:38:ASN:ND2	2.05	0.51
1:A:320:U:C1'	1:A:341:A:C4	2.94	0.51
1:A:416:C:O2	1:A:418:G:N1	2.43	0.51
1:A:1083:G:N2	1:A:1132:C:C2	2.78	0.51
1:A:1187:G:H21	12:T:131:SER:HB2	1.74	0.51
1:A:1194:G:C2	1:A:1204:A:C2	2.99	0.51
1:A:1199:A:H2'	1:A:1200:A:O4'	2.10	0.51
1:A:1263:G:N2	6:N:83:ASP:HB3	2.26	0.51
1:A:2047:A:O2'	1:A:2048:U:OP1	2.28	0.51
4:L:133:ILE:HD11	4:L:138:LYS:HD3	1.92	0.51
14:V:154:PHE:CZ	18:Z:149:PRO:HD3	2.46	0.51
15:W:145:ASP:OD1	15:W:146:ARG:N	2.41	0.51
15:W:166:GLU:H	15:W:166:GLU:CD	2.10	0.51
18:Z:118:VAL:HG12	18:Z:122:ARG:HH21	1.56	0.51
27:H:107:ILE:O	27:H:111:ALA:CB	2.59	0.51
1:A:71:A:N6	1:A:109:A:O2'	2.41	0.51
1:A:84:G:P	15:W:71:VAL:HG22	2.51	0.51
1:A:102:U:O2'	1:A:103:C:H5'	2.10	0.51
1:A:274:G:C2'	1:A:275:U:OP2	2.58	0.51
1:A:277:G:N3	1:A:277:G:C3'	2.73	0.51
1:A:355:A:H3'	1:A:356:A:C8	2.46	0.51
1:A:388:C:H42	1:A:411:U:H3	1.58	0.51
1:A:863:C:H2'	1:A:864:U:C6	2.46	0.51
1:A:1076:A:H61	1:A:1139:A:C1'	2.23	0.51
1:A:1387:A:OP1	17:Y:72:ARG:HG2	2.10	0.51
1:A:1488:A:H2'	1:A:1489:A:H8	1.75	0.51
1:A:1597:C:H2'	1:A:1598:C:O4'	2.11	0.51
1:A:1879:U:C2	1:A:1887:G:C2	2.99	0.51
1:A:2109:C:H3'	1:A:2110:U:H5	1.70	0.51
1:A:2198:A:H2'	1:A:2199:G:C8	2.46	0.51
1:A:2338:G:N3	1:A:2338:G:C3'	2.73	0.51
12:T:88:VAL:CG1	12:T:89:LEU:H	2.14	0.51
12:T:96:PRO:O	12:T:97:GLU:C	2.54	0.51
12:T:180:ALA:HA	12:T:225:THR:O	2.11	0.51
13:U:60:GLU:HA	13:U:63:MET:HE3	1.92	0.51
27:H:186:ARG:CZ	27:H:204:GLY:HA2	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:161:G:O2'	1:A:162:A:O4'	2.29	0.51
1:A:345:C:O5'	1:A:345:C:H6	1.94	0.51
1:A:525:A:H2'	1:A:526:A:C8	2.46	0.51
1:A:1272:A:O2'	1:A:1274:A:OP2	2.20	0.51
1:A:2095:U:H5''	17:Y:87:ARG:HH11	1.76	0.51
1:A:2288:G:H2'	1:A:2289:U:C6	2.46	0.51
1:A:2290:A:H2'	1:A:2291:A:C8	2.46	0.51
2:C:88:C:O5'	2:C:88:C:H6	1.93	0.51
3:B:46:A:C4	3:B:47:A:C8	2.99	0.51
12:T:170:THR:HG21	12:T:172:ILE:HD11	1.93	0.51
19:E:49:HIS:HB2	19:E:213:ARG:HB3	1.92	0.51
19:E:172:LEU:HD11	19:E:176:GLU:OE1	2.11	0.51
23:e:102:PHE:CE2	23:e:146:VAL:HG11	2.45	0.51
25:F:174:VAL:O	25:F:176:VAL:HG22	2.11	0.51
1:A:420:A:C6	1:A:432:G:N1	2.79	0.50
1:A:504:G:H4'	13:U:37:TYR:CG	2.45	0.50
1:A:1081:C:O2	1:A:1135:A:C2	2.64	0.50
1:A:1197:A:H1'	1:A:1198:A:N7	2.25	0.50
1:A:1263:G:C2	6:N:83:ASP:OD2	2.51	0.50
1:A:1408:A:OP1	30:g:85:ILE:C	2.54	0.50
1:A:1535:A:N3	1:A:1535:A:C3'	2.73	0.50
1:A:2213:A:N3	1:A:2242:A:C2	2.79	0.50
1:A:2410:U:H5'	6:N:139:ARG:O	2.10	0.50
1:A:2578:A:H2'	1:A:2579:U:O4'	2.11	0.50
3:B:33:C:C4	3:B:34:C:N4	2.79	0.50
6:N:175:GLU:HB3	6:N:213:LYS:CE	2.41	0.50
12:T:100:THR:HG21	13:U:150:GLU:OE2	2.10	0.50
15:W:58:PRO:CD	15:W:61:LEU:O	2.55	0.50
1:A:4:A:C6	1:A:5:A:N6	2.78	0.50
1:A:343:U:OP1	1:A:344:C:N4	2.44	0.50
1:A:937:U:C2'	1:A:938:G:H5''	2.40	0.50
1:A:1590:C:N3	1:A:1591:C:N4	2.59	0.50
1:A:1971:C:H2'	1:A:1972:C:C6	2.47	0.50
1:A:1980:A:HO2'	1:A:1981:C:P	2.34	0.50
1:A:2764:U:O4	1:A:2774:U:C5	2.64	0.50
7:O:27:ILE:HD13	7:O:134:SER:HA	1.93	0.50
13:U:153:THR:O	13:U:157:LEU:N	2.34	0.50
14:V:185:SER:O	14:V:189:LYS:HG3	2.11	0.50
15:W:59:ASN:C	15:W:60:SER:HG	2.09	0.50
15:W:67:ARG:NH2	15:W:94:LYS:HA	2.26	0.50
16:X:68:ASN:OD1	16:X:68:ASN:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:102:HIS:CE1	16:X:132:LYS:HG3	2.46	0.50
1:A:626:C:C6	1:A:627:C:C6	2.99	0.50
1:A:688:C:O2'	1:A:2084:A:O2'	2.20	0.50
1:A:695:G:OP1	22:d:109:HIS:CD2	2.65	0.50
1:A:1178:G:O2'	11:S:83:HIS:CD2	2.65	0.50
1:A:1211:G:P	6:N:109:SER:HG	2.17	0.50
1:A:1256:G:H3'	1:A:1257:G:C8	2.46	0.50
1:A:1287:G:N2	1:A:2027:A:OP2	2.41	0.50
4:L:186:GLU:HG3	4:L:191:LEU:HD11	1.94	0.50
13:U:32:ILE:HD11	13:U:93:PHE:CE2	2.42	0.50
13:U:50:ILE:HG21	13:U:105:VAL:HG23	1.93	0.50
18:Z:152:LEU:N	18:Z:152:LEU:CD1	2.73	0.50
22:d:108:THR:O	22:d:113:LEU:HD23	2.10	0.50
25:F:147:ARG:C	25:F:149:LEU:H	2.19	0.50
26:G:83:VAL:HG11	26:G:159:LEU:CD2	2.41	0.50
1:A:42:G:C6	1:A:43:A:N6	2.79	0.50
1:A:348:U:O2'	1:A:349:A:H5'	2.11	0.50
1:A:855:C:N4	1:A:856:U:C4	2.79	0.50
1:A:2107:G:N2	1:A:2108:G:N7	2.59	0.50
1:A:2319:C:HO2'	27:H:177:GLY:C	2.19	0.50
1:A:2417:G:H8	1:A:2417:G:O5'	1.94	0.50
3:B:87:G:C6	3:B:93:C:N3	2.80	0.50
4:L:115:TYR:HB2	4:L:153:VAL:HG12	1.93	0.50
6:N:144:ARG:H	6:N:146:ILE:HD11	1.77	0.50
6:N:194:ARG:HG3	6:N:195:ARG:N	2.26	0.50
14:V:167:ARG:O	14:V:169:ASP:N	2.45	0.50
16:X:82:TYR:O	16:X:85:GLN:HG2	2.11	0.50
16:X:93:ILE:HD12	16:X:123:VAL:HG11	1.93	0.50
28:I:110:THR:O	28:I:114:ASN:ND2	2.45	0.50
1:A:205:G:N3	1:A:218:A:H2	2.10	0.50
1:A:291:G:C2	1:A:292:C:N3	2.80	0.50
1:A:345:C:HO2'	1:A:346:A:H5'	1.76	0.50
1:A:389:A:N6	1:A:410:G:O6	2.45	0.50
1:A:626:C:H2'	1:A:627:C:C6	2.46	0.50
1:A:648:G:C6	6:N:158:VAL:HG21	2.46	0.50
1:A:1158:U:O4	25:F:240:THR:O	2.30	0.50
1:A:1876:A:H62	1:A:1889:G:H21	1.59	0.50
1:A:2066:G:N3	25:F:243:HIS:HA	2.27	0.50
1:A:2075:G:O2'	1:A:2076:A:O5'	2.28	0.50
1:A:2507:G:O2'	1:A:2508:U:O5'	2.27	0.50
4:L:172:LEU:HA	4:L:186:GLU:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:M:1:MET:HA	5:M:32:TYR:CD1	2.47	0.50
6:N:84:ASN:HD22	6:N:85:LEU:N	2.09	0.50
6:N:165:ILE:CG2	6:N:206:LEU:HA	2.41	0.50
12:T:126:VAL:HA	12:T:134:TYR:O	2.12	0.50
17:Y:103:LEU:HD23	17:Y:120:ARG:HG2	1.93	0.50
27:H:166:ASP:OD1	27:H:167:PHE:N	2.45	0.50
1:A:152:G:N3	1:A:153:G:H8	2.06	0.50
1:A:169:C:H2'	1:A:170:U:C6	2.47	0.50
1:A:279:A:N3	1:A:279:A:C5'	2.73	0.50
1:A:287:A:N3	1:A:288:C:N3	2.59	0.50
1:A:919:A:N3	7:O:13:HIS:HE1	2.09	0.50
1:A:1081:C:N3	1:A:1135:A:N6	2.60	0.50
1:A:1651:C:C5	13:U:116:PRO:HG2	2.47	0.50
1:A:1879:U:C6	6:N:252:ARG:NH1	2.79	0.50
1:A:1926:A:N6	1:A:1931:U:H3	2.08	0.50
1:A:2213:A:H2'	1:A:2214:C:O5'	2.11	0.50
2:C:32:C:C1'	2:C:33:A:P	3.00	0.50
2:C:41:A:H61	2:C:86:A:H61	1.60	0.50
3:B:36:A:C6	3:B:45:G:N7	2.74	0.50
15:W:71:VAL:CA	15:W:89:ILE:HD11	2.40	0.50
19:E:63:PHE:CE1	19:E:152:ARG:HD2	2.46	0.50
19:E:139:ASN:OD1	19:E:140:ILE:N	2.45	0.50
26:G:90:THR:O	26:G:94:ASN:HB2	2.12	0.50
1:A:606:A:H2'	1:A:607:G:C8	2.47	0.50
1:A:854:A:C2	1:A:964:C:N3	2.80	0.50
1:A:913:G:N3	1:A:914:A:C8	2.79	0.50
1:A:1745:C:N3	1:A:1746:C:N4	2.51	0.50
1:A:1881:A:O2'	1:A:1882:U:OP1	2.17	0.50
1:A:2103:G:C2'	1:A:2104:A:C5'	2.85	0.50
1:A:2513:C:H2'	1:A:2514:A:O4'	2.12	0.50
2:C:37:C:H3'	2:C:38:G:C5'	2.41	0.50
2:C:40:U:O2	2:C:87:A:C2	2.64	0.50
3:B:7:G:H1'	3:B:8:G:H5'	1.93	0.50
3:B:32:A:N6	3:B:55:G:O6	2.44	0.50
3:B:110:C:H3'	3:B:110:C:H6	1.77	0.50
12:T:96:PRO:O	12:T:98:PRO:CG	2.60	0.50
12:T:192:ASP:HB3	12:T:216:ILE:HD13	1.93	0.50
15:W:57:LYS:HZ2	15:W:62:PRO:N	2.10	0.50
26:G:129:GLN:NE2	26:G:134:ARG:HH22	2.09	0.50
26:G:255:LEU:HD12	26:G:259:TYR:CE2	2.46	0.50
27:H:223:LEU:HB3	27:H:228:MET:HB2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:105:G:O3'	1:A:303:U:O2'	2.27	0.50
1:A:295:C:HO2'	1:A:296:G:H5'	1.77	0.50
1:A:414:A:H2'	1:A:415:U:O4'	2.12	0.50
1:A:836:G:O2'	6:N:133:GLN:CD	2.55	0.50
1:A:878:U:H2'	1:A:879:G:H8	1.77	0.50
1:A:913:G:N3	1:A:914:A:N7	2.59	0.50
1:A:944:C:H3'	1:A:944:C:H6	1.76	0.50
1:A:945:A:N3	1:A:945:A:C2'	2.74	0.50
1:A:1194:G:N1	1:A:1204:A:C2	2.80	0.50
1:A:1245:U:O2'	12:T:210:ILE:HG22	2.11	0.50
1:A:1748:C:O2'	1:A:1749:U:O5'	2.28	0.50
1:A:1801:A:C2	1:A:1839:A:H4'	2.47	0.50
1:A:2238:A:H2'	1:A:2239:G:H8	1.77	0.50
3:B:5:C:O2	3:B:119:G:C6	2.64	0.50
12:T:129:ILE:HD11	12:T:158:LEU:HD22	1.94	0.50
13:U:102:LYS:HG2	13:U:135:VAL:HB	1.94	0.50
14:V:105:PRO:O	14:V:107:ARG:N	2.45	0.50
21:c:15:CYS:O	21:c:31:SER:HA	2.12	0.50
1:A:642:G:N2	1:A:645:A:OP2	2.43	0.50
1:A:685:G:H4'	26:G:125:ARG:O	2.12	0.50
1:A:957:U:C4	1:A:958:C:N4	2.80	0.50
1:A:2033:A:C8	20:b:6:LYS:NZ	2.56	0.50
1:A:2109:C:C6	1:A:2110:U:C4	3.00	0.50
1:A:2322:A:C5	27:H:186:ARG:CZ	2.95	0.50
2:C:53:G:H8	2:C:70:G:N2	1.87	0.50
6:N:134:MET:HE3	6:N:138:ARG:HB3	1.94	0.50
7:O:56:ARG:O	7:O:59:ARG:HB2	2.12	0.50
9:Q:99:SER:C	9:Q:101:MET:H	2.19	0.50
15:W:113:SER:OG	15:W:120:GLY:HA2	2.11	0.50
21:c:10:LYS:HD2	21:c:36:GLN:HA	1.93	0.50
27:H:211:THR:HG22	27:H:213:ALA:H	1.76	0.50
1:A:311:U:OP2	15:W:146:ARG:NH1	2.44	0.49
1:A:525:A:H2'	1:A:526:A:H8	1.77	0.49
1:A:540:A:OP2	4:L:212:ARG:NE	2.40	0.49
1:A:907:C:O5'	1:A:907:C:H6	1.94	0.49
1:A:1532:G:O2'	1:A:1611:G:C4'	2.60	0.49
1:A:1566:G:H2'	1:A:1567:C:H6	1.77	0.49
1:A:2318:C:O5'	1:A:2318:C:H6	1.94	0.49
1:A:2401:C:OP1	16:X:111:LYS:HE3	2.12	0.49
3:B:72:U:H2'	3:B:73:G:C8	2.47	0.49
3:B:88:G:H8	3:B:88:G:O5'	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:O:69:PHE:CD1	7:O:70:PRO:HD2	2.47	0.49
9:Q:103:LYS:NZ	9:Q:107:GLU:HB3	2.27	0.49
12:T:91:ASP:CB	13:U:142:PHE:HZ	2.21	0.49
16:X:143:GLN:HA	16:X:145:GLU:OE1	2.12	0.49
29:J:53:LEU:HD22	29:J:57:ILE:HD11	1.94	0.49
31:a:46:ARG:NH2	31:a:65:GLN:CA	2.74	0.49
1:A:71:A:C8	18:Z:116:LEU:HD13	2.46	0.49
1:A:236:A:P	23:e:95:HIS:CE1	3.02	0.49
1:A:355:A:C8	1:A:356:A:C1'	2.95	0.49
1:A:374:U:H2'	1:A:375:C:C2	2.46	0.49
1:A:705:U:OP1	19:E:55:LYS:HE2	2.12	0.49
1:A:1650:A:C2	13:U:116:PRO:HB3	2.46	0.49
1:A:1980:A:O2'	1:A:1981:C:O5'	2.29	0.49
1:A:2006:G:N2	1:A:2009:U:H5	2.10	0.49
1:A:2570:G:C2	1:A:2571:U:H1'	2.47	0.49
11:S:52:ARG:CG	11:S:55:ARG:HH11	2.24	0.49
12:T:95:ALA:H	12:T:96:PRO:CD	2.25	0.49
12:T:96:PRO:C	12:T:98:PRO:N	2.63	0.49
14:V:144:LYS:NZ	14:V:162:VAL:O	2.36	0.49
15:W:101:ILE:HD11	15:W:104:LEU:HB2	1.94	0.49
15:W:113:SER:H	15:W:120:GLY:HA2	1.76	0.49
26:G:186:LYS:O	26:G:188:LYS:N	2.46	0.49
28:I:74:ILE:HD12	28:I:115:MET:SD	2.52	0.49
1:A:278:G:C3'	1:A:279:A:C5'	2.89	0.49
1:A:377:G:O2'	1:A:378:A:O4'	2.29	0.49
1:A:854:A:C2	1:A:964:C:C2	3.00	0.49
1:A:934:A:C1'	1:A:935:U:P	3.00	0.49
1:A:956:G:H2'	1:A:957:U:H5''	1.93	0.49
1:A:977:G:O6	1:A:978:A:N6	2.46	0.49
1:A:1469:G:C6	1:A:1483:G:N1	2.81	0.49
1:A:1496:A:N6	1:A:1549:A:C6	2.80	0.49
1:A:1885:C:C5	6:N:253:ALA:CB	2.85	0.49
2:C:10:C:C2	2:C:11:A:C8	3.01	0.49
3:B:3:U:C2	3:B:4:U:C4	3.01	0.49
6:N:84:ASN:ND2	6:N:85:LEU:N	2.60	0.49
7:O:26:ARG:HG3	7:O:27:ILE:N	2.12	0.49
12:T:102:GLU:HA	12:T:102:GLU:OE1	2.12	0.49
28:I:134:TYR:CD1	28:I:147:LEU:HA	2.47	0.49
1:A:77:U:H2'	1:A:78:C:H6	1.77	0.49
1:A:83:A:C2	1:A:101:A:N6	2.80	0.49
1:A:145:A:H8	1:A:145:A:O5'	1.96	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:154:C:N4	1:A:155:A:N6	2.60	0.49
1:A:158:C:N4	1:A:159:A:N6	2.60	0.49
1:A:329:C:C5	26:G:188:LYS:HD3	2.47	0.49
1:A:368:U:H6	1:A:368:U:O5'	1.94	0.49
1:A:375:C:O5'	1:A:375:C:H6	1.96	0.49
1:A:918:A:C6	1:A:921:C:C2	3.00	0.49
1:A:941:C:C5	1:A:942:U:C4	3.00	0.49
1:A:1136:U:C4	1:A:1137:C:N4	2.81	0.49
1:A:1550:U:C2'	1:A:1551:G:H5'	2.40	0.49
1:A:1693:U:H2'	1:A:1694:C:H6	1.77	0.49
1:A:1745:C:C2	1:A:1746:C:C4	3.00	0.49
1:A:1781:C:O2'	1:A:1796:A:H1'	2.12	0.49
1:A:1810:C:O2'	19:E:149:GLN:NE2	2.45	0.49
1:A:1834:G:O2'	19:E:244:THR:HG22	2.13	0.49
1:A:2151:G:C5	1:A:2152:C:N4	2.80	0.49
1:A:2318:C:C4	1:A:2319:C:N4	2.80	0.49
1:A:2771:A:H8	1:A:2771:A:O5'	1.95	0.49
2:C:31:U:O2'	2:C:32:C:H2'	2.12	0.49
13:U:37:TYR:CG	13:U:38:SER:N	2.80	0.49
15:W:100:ILE:O	15:W:100:ILE:HG13	2.11	0.49
22:d:93:LEU:C	22:d:93:LEU:CD2	2.85	0.49
29:J:77:PHE:CE1	29:J:81:LEU:CD1	2.95	0.49
1:A:160:A:P	1:A:160:A:C8	3.05	0.49
1:A:162:A:O2'	1:A:163:G:OP2	2.27	0.49
1:A:560:A:C2	1:A:561:C:C2	3.00	0.49
1:A:958:C:O5'	1:A:958:C:H6	1.95	0.49
1:A:1287:G:O2'	1:A:1288:U:OP2	2.23	0.49
1:A:2123:U:H5''	1:A:2124:G:OP2	2.12	0.49
1:A:2150:G:C6	1:A:2151:G:N1	2.80	0.49
1:A:2220:G:C6	1:A:2221:U:C5	3.01	0.49
1:A:2237:A:N3	1:A:2237:A:C5'	2.73	0.49
1:A:2322:A:C4	27:H:186:ARG:NE	2.80	0.49
2:C:97:A:H4'	2:C:97:A:OP1	2.12	0.49
12:T:97:GLU:N	12:T:98:PRO:HD3	2.20	0.49
15:W:89:ILE:HA	15:W:101:ILE:HA	1.94	0.49
19:E:39:ARG:HG3	19:E:40:ASN:ND2	2.27	0.49
19:E:89:LEU:HD23	19:E:90:ILE:N	2.28	0.49
28:I:98:THR:CG2	28:I:101:ALA:H	2.24	0.49
1:A:41:A:N6	1:A:42:G:C6	2.81	0.49
1:A:276:G:N2	1:A:416:C:HO2'	2.03	0.49
1:A:335:G:N1	1:A:346:A:C6	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:589:G:H2'	1:A:590:C:H6	1.78	0.49
1:A:953:G:H2'	1:A:954:G:C8	2.46	0.49
1:A:1527:G:C6	1:A:1539:C:N4	2.76	0.49
1:A:1874:U:O2'	1:A:1875:G:H5'	2.12	0.49
1:A:1966:A:H5'	5:M:55:SER:HB3	1.95	0.49
1:A:2238:A:C2	1:A:2239:G:C8	3.00	0.49
2:C:58:G:H2'	2:C:59:C:H6	1.78	0.49
4:L:209:PRO:O	4:L:214:GLY:HA3	2.12	0.49
6:N:97:ARG:HH11	6:N:100:ARG:CD	2.24	0.49
6:N:209:LYS:HB2	6:N:230:CYS:HB3	1.90	0.49
21:c:45:ARG:HE	21:c:55:CYS:CB	2.26	0.49
1:A:388:C:N4	1:A:410:G:C6	2.80	0.49
1:A:651:U:H2'	1:A:652:C:C6	2.47	0.49
1:A:1176:C:O5'	1:A:1176:C:H6	1.96	0.49
1:A:1263:G:N2	6:N:83:ASP:CB	2.75	0.49
1:A:2016:G:O6	1:A:2017:A:N6	2.46	0.49
4:L:213:LEU:C	4:L:213:LEU:CD1	2.85	0.49
5:M:105:GLU:O	5:M:108:GLN:HG2	2.13	0.49
12:T:103:TYR:O	12:T:104:ASN:HB2	2.13	0.49
12:T:201:LYS:HG2	12:T:206:TYR:CE2	2.42	0.49
13:U:38:SER:HB3	13:U:129:THR:HB	1.95	0.49
19:E:29:ILE:HG22	19:E:57:LEU:HD23	1.94	0.49
19:E:113:VAL:HG22	19:E:114:SER:O	2.13	0.49
25:F:159:LYS:C	25:F:159:LYS:CD	2.86	0.49
1:A:313:A:H2	1:A:323:G:C2	2.23	0.49
1:A:344:C:H2'	1:A:345:C:C6	2.47	0.49
1:A:543:A:H61	1:A:2034:C:H1'	1.76	0.49
1:A:899:A:C1'	1:A:900:G:P	3.00	0.49
1:A:1259:C:H2'	1:A:1260:G:O4'	2.13	0.49
1:A:1778:G:C6	1:A:1999:G:C6	3.01	0.49
1:A:1879:U:N3	1:A:1887:G:C2	2.80	0.49
1:A:2279:U:OP2	16:X:73:LYS:HB2	2.04	0.49
1:A:2308:U:H3	1:A:2358:G:H1	1.61	0.49
1:A:2389:G:H2'	1:A:2390:A:H8	1.76	0.49
1:A:2647:A:N7	2:C:98:G:N1	2.60	0.49
2:C:33:A:C1'	2:C:34:U:P	3.00	0.49
2:C:41:A:N6	2:C:86:A:C6	2.81	0.49
2:C:103:G:H2'	2:C:104:A:H5'	1.94	0.49
3:B:35:A:P	3:B:35:A:C8	3.04	0.49
6:N:251:ALA:O	6:N:254:ASP:HB2	2.13	0.49
9:Q:70:ARG:HB3	9:Q:71:PRO:CD	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:Q:129:LYS:HA	9:Q:132:LEU:HB3	1.94	0.49
12:T:230:TYR:O	12:T:230:TYR:HD1	1.95	0.49
15:W:70:LYS:HB2	15:W:70:LYS:HZ2	1.78	0.49
16:X:67:LYS:N	16:X:67:LYS:NZ	2.60	0.49
16:X:162:ARG:CG	16:X:162:ARG:NH1	2.72	0.49
19:E:75:VAL:HG21	19:E:91:HIS:CE1	2.48	0.49
25:F:138:GLN:HE21	25:F:168:LEU:HG	1.78	0.49
27:H:60:ASN:O	27:H:64:LYS:HG2	2.13	0.49
1:A:150:U:C4	1:A:151:G:C6	3.01	0.49
1:A:152:G:N1	1:A:153:G:C5	2.81	0.49
1:A:824:U:H4'	1:A:1246:G:O2'	2.12	0.49
1:A:1091:G:N1	1:A:1103:C:O2	2.37	0.49
1:A:1629:G:H2'	1:A:1630:G:C8	2.48	0.49
1:A:1689:C:H5''	8:P:12:LYS:HE2	1.91	0.49
1:A:1965:U:N3	1:A:1968:G:OP2	2.33	0.49
1:A:2055:U:O4	1:A:2056:A:N6	2.46	0.49
1:A:2150:G:H1	1:A:2151:G:N2	2.11	0.49
1:A:2650:G:H1	1:A:2803:C:H42	1.60	0.49
4:L:142:SER:HB3	4:L:149:MET:HE2	1.94	0.49
6:N:82:LEU:HD22	26:G:88:LEU:CD1	2.42	0.49
8:P:45:LYS:HD3	8:P:120:MET:HE2	1.93	0.49
11:S:61:TRP:O	11:S:65:ILE:HG22	2.12	0.49
14:V:109:LEU:HD21	14:V:141:ARG:HD2	1.95	0.49
14:V:167:ARG:NH2	14:V:173:LYS:HB2	2.28	0.49
19:E:140:ILE:CG1	19:E:150:LEU:HB2	2.42	0.49
25:F:195:ASP:HA	25:F:266:ILE:HG22	1.94	0.49
26:G:195:GLN:HA	26:G:200:ASP:HB2	1.93	0.49
26:G:254:TYR:HH	26:G:258:ARG:NE	2.04	0.49
1:A:140:G:C2'	1:A:141:C:C5'	2.91	0.49
1:A:270:G:H8	1:A:270:G:O5'	1.96	0.49
1:A:290:A:N3	1:A:291:G:N7	2.60	0.49
1:A:689:C:H2'	1:A:690:U:C6	2.48	0.49
1:A:1237:C:H42	1:A:1238:G:N2	2.09	0.49
1:A:1498:G:H2'	1:A:1499:G:C8	2.48	0.49
3:B:40:A:H8	3:B:40:A:O5'	1.96	0.49
15:W:103:ASP:HA	15:W:126:GLU:OE2	2.12	0.49
1:A:11:G:H2'	1:A:12:A:O4'	2.13	0.48
1:A:214:A:H1'	6:N:238:ARG:HH21	1.78	0.48
1:A:335:G:H2'	1:A:336:G:H8	1.71	0.48
1:A:381:C:H3'	1:A:381:C:OP2	2.12	0.48
1:A:898:G:N1	1:A:899:A:N6	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1070:G:C2	1:A:1142:G:C5	3.01	0.48
1:A:1099:G:O6	1:A:1119:G:O6	2.31	0.48
1:A:1362:G:H4'	14:V:165:LEU:HB3	1.94	0.48
1:A:1504:C:H2'	1:A:1505:C:H6	1.71	0.48
1:A:1747:C:N3	1:A:1758:G:N1	2.61	0.48
1:A:1891:A:H2'	1:A:1892:G:O4'	2.13	0.48
1:A:2137:G:C2	1:A:2190:A:C6	3.00	0.48
3:B:6:U:N3	3:B:118:G:C2	2.81	0.48
16:X:143:GLN:O	16:X:145:GLU:OE1	2.28	0.48
17:Y:107:ARG:HG2	17:Y:116:PHE:HB3	1.94	0.48
25:F:121:ASN:N	25:F:121:ASN:ND2	2.60	0.48
26:G:207:PHE:HD2	26:G:228:LEU:HD23	1.78	0.48
28:I:99:ARG:O	28:I:103:GLN:HG2	2.13	0.48
30:g:99:LYS:NZ	30:g:103:LYS:HE2	2.27	0.48
1:A:70:A:N3	1:A:72:A:N6	2.61	0.48
1:A:88:A:H5'	15:W:57:LYS:HZ3	1.78	0.48
1:A:366:G:OP2	1:A:366:G:H8	1.96	0.48
1:A:514:A:O2'	1:A:517:G:OP2	2.24	0.48
1:A:533:G:H2'	1:A:534:C:C6	2.48	0.48
1:A:1163:G:H2'	1:A:1164:G:C8	2.49	0.48
1:A:1438:G:H22	1:A:1616:A:H62	1.61	0.48
1:A:1718:G:P	1:A:1735:G:H22	2.35	0.48
1:A:2210:C:H4'	1:A:2211:U:OP1	2.13	0.48
1:A:2211:U:O4	1:A:2241:G:C5	2.66	0.48
1:A:2215:C:N3	1:A:2240:G:N2	2.61	0.48
1:A:2575:C:O2'	1:A:2576:C:N3	2.46	0.48
2:C:16:G:H4'	8:P:13:HIS:CD2	2.48	0.48
3:B:112:A:C2'	3:B:113:C:O5'	2.61	0.48
4:L:164:SER:OG	4:L:165:GLY:N	2.47	0.48
6:N:158:VAL:HG13	6:N:201:LEU:CD2	2.43	0.48
10:R:221:TYR:O	10:R:225:LYS:HG2	2.13	0.48
16:X:128:TYR:CD2	16:X:128:TYR:C	2.91	0.48
22:d:111:PHE:C	22:d:111:PHE:CD2	2.91	0.48
22:d:119:SER:O	22:d:122:ALA:HB3	2.14	0.48
1:A:101:A:N1	1:A:102:U:C4	2.81	0.48
1:A:265:A:C5'	1:A:266:A:C8	2.92	0.48
1:A:277:G:N3	1:A:277:G:H5''	2.28	0.48
1:A:296:G:H2'	1:A:297:U:C5	2.48	0.48
1:A:459:A:O2'	1:A:485:G:N7	2.31	0.48
1:A:560:A:N6	1:A:561:C:N4	2.60	0.48
1:A:635:C:H2'	1:A:636:C:H6	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1256:G:O2'	1:A:1257:G:OP1	2.28	0.48
1:A:1386:A:OP2	17:Y:73:ARG:HG3	2.13	0.48
1:A:1575:C:H2'	1:A:1576:U:H6	1.78	0.48
1:A:1592:A:H4'	1:A:1593:U:O5'	2.13	0.48
1:A:1600:A:C2	19:E:209:TRP:HZ3	2.22	0.48
1:A:2192:U:H2'	1:A:2193:C:N1	2.28	0.48
1:A:2260:U:H2'	1:A:2261:U:C6	2.48	0.48
1:A:2723:A:O2'	8:P:74:ARG:CD	2.50	0.48
2:C:34:U:O2	2:C:34:U:O2'	2.28	0.48
2:C:106:C:O5'	2:C:106:C:H6	1.95	0.48
3:B:8:G:O2'	3:B:9:U:O4'	2.31	0.48
28:I:128:GLN:HA	28:I:170:LYS:HA	1.94	0.48
1:A:143:G:C2	1:A:2224:G:C2	3.02	0.48
1:A:268:G:C2	1:A:269:G:C2	3.01	0.48
1:A:663:A:H2'	1:A:664:A:H5'	1.94	0.48
1:A:837:U:O2'	6:N:132:GLY:HA3	2.13	0.48
1:A:895:C:H3'	1:A:896:G:C8	2.46	0.48
1:A:932:A:C5'	16:X:85:GLN:HE22	2.20	0.48
1:A:962:G:H4'	1:A:962:G:OP1	2.13	0.48
1:A:1757:G:H8	1:A:1757:G:O5'	1.97	0.48
1:A:1810:C:H5'	19:E:142:ILE:HD12	1.94	0.48
1:A:2213:A:C2	1:A:2214:C:C4	3.00	0.48
1:A:2320:G:O6	1:A:2331:G:O6	2.31	0.48
15:W:164:THR:OG1	15:W:166:GLU:OE1	2.28	0.48
16:X:143:GLN:CA	16:X:145:GLU:OE1	2.61	0.48
24:f:43:SER:O	24:f:43:SER:OG	2.23	0.48
26:G:60:PHE:CZ	26:G:180:GLU:HA	2.49	0.48
1:A:42:G:C6	1:A:43:A:C6	3.02	0.48
1:A:71:A:H61	1:A:109:A:HO2'	1.58	0.48
1:A:101:A:C6	1:A:102:U:O4	2.66	0.48
1:A:133:A:N7	1:A:134:A:C6	2.81	0.48
1:A:226:A:O2'	1:A:227:G:O5'	2.28	0.48
1:A:598:U:H2'	1:A:599:C:C6	2.48	0.48
1:A:1268:A:O2'	1:A:1269:G:H5'	2.13	0.48
1:A:1548:A:O2'	1:A:1591:C:C4'	2.60	0.48
1:A:1558:U:H2'	1:A:1559:A:O4'	2.12	0.48
1:A:1971:C:H2'	1:A:1972:C:H6	1.77	0.48
1:A:2176:A:H5''	1:A:2185:A:H2'	1.95	0.48
1:A:2321:G:H5''	27:H:175:PHE:HB3	1.93	0.48
1:A:2606:A:N1	1:A:2623:C:N4	2.62	0.48
1:A:2715:U:H2'	1:A:2716:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:101:U:C5'	2:C:102:U:OP2	2.61	0.48
3:B:60:A:H2'	3:B:61:C:H6	1.78	0.48
5:M:69:LEU:H	5:M:76:ILE:HG23	1.79	0.48
15:W:87:GLY:HA3	15:W:101:ILE:HD13	1.95	0.48
16:X:140:ARG:O	16:X:140:ARG:HG2	2.12	0.48
17:Y:82:SER:HB3	17:Y:100:PHE:HB3	1.96	0.48
17:Y:87:ARG:HG2	17:Y:95:THR:OG1	2.13	0.48
19:E:65:ARG:CD	19:E:114:SER:HB3	2.43	0.48
19:E:135:THR:HG22	19:E:136:ALA:H	1.79	0.48
1:A:318:A:C6	1:A:339:A:N6	2.81	0.48
1:A:531:A:P	13:U:54:ARG:HH12	2.36	0.48
1:A:605:C:H2'	1:A:606:A:C8	2.48	0.48
1:A:680:G:H2'	1:A:680:G:N3	2.28	0.48
1:A:715:G:H1'	1:A:738:A:N6	2.28	0.48
1:A:793:A:N3	19:E:221:MET:HG2	2.29	0.48
1:A:1122:U:N3	1:A:1125:U:OP2	2.41	0.48
1:A:1169:A:H5'	4:L:245:ARG:NH2	2.27	0.48
1:A:1809:G:N7	19:E:172:LEU:HD11	2.29	0.48
1:A:1914:A:H1'	1:A:1984:A:H2'	1.96	0.48
1:A:2267:G:C6	7:O:82:ARG:NH2	2.81	0.48
1:A:2301:G:O2'	1:A:2305:A:N6	2.47	0.48
1:A:2320:G:O2'	27:H:175:PHE:CB	2.62	0.48
2:C:58:G:C6	2:C:68:A:C6	3.02	0.48
16:X:87:ALA:O	16:X:120:ASP:HA	2.14	0.48
16:X:127:LYS:HE3	16:X:133:LYS:NZ	2.27	0.48
18:Z:79:GLU:OE2	18:Z:111:ARG:NH1	2.46	0.48
20:b:10:ILE:HD11	20:b:14:ARG:HD3	1.95	0.48
1:A:583:G:C6	1:A:2044:A:H3'	2.48	0.48
1:A:626:C:C5	1:A:627:C:N4	2.81	0.48
1:A:994:A:H4'	1:A:2288:G:H22	1.77	0.48
1:A:1085:A:H2'	1:A:1086:G:H8	1.79	0.48
1:A:1524:G:C6	1:A:1525:G:C6	3.01	0.48
1:A:1885:C:H41	6:N:253:ALA:N	2.12	0.48
1:A:2199:G:C5	1:A:2200:A:C8	3.01	0.48
1:A:2304:A:C5	1:A:2306:G:C8	3.01	0.48
1:A:2364:C:OP1	21:c:46:LEU:HD11	2.14	0.48
2:C:13:G:H21	2:C:40:U:C1'	2.26	0.48
3:B:12:C:N3	3:B:112:A:N1	2.62	0.48
3:B:60:A:H2'	3:B:61:C:C6	2.49	0.48
4:L:217:LEU:C	4:L:217:LEU:CD1	2.85	0.48
5:M:19:LEU:HD13	5:M:41:ALA:CB	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:S:72:ARG:HG3	11:S:112:TYR:CE2	2.48	0.48
14:V:167:ARG:HH21	14:V:173:LYS:HB2	1.78	0.48
18:Z:120:ARG:CG	18:Z:120:ARG:NH1	2.72	0.48
22:d:113:LEU:HD12	22:d:113:LEU:O	2.14	0.48
24:f:38:MET:HE2	24:f:70:LYS:HG2	1.96	0.48
25:F:102:PHE:CD2	25:F:267:MET:HE2	2.49	0.48
26:G:60:PHE:HZ	26:G:180:GLU:HA	1.77	0.48
26:G:96:ARG:HB2	26:G:148:TRP:NE1	2.29	0.48
31:a:46:ARG:HG3	31:a:46:ARG:O	2.13	0.48
1:A:857:G:C2	1:A:961:G:C4	3.00	0.48
1:A:913:G:C2	1:A:914:A:C5	3.02	0.48
1:A:1287:G:O2'	1:A:1288:U:P	2.72	0.48
1:A:1469:G:C6	1:A:1483:G:C6	3.02	0.48
1:A:1605:A:H2'	1:A:1606:A:H8	1.79	0.48
1:A:2324:G:N2	1:A:2328:A:C2'	2.77	0.48
1:A:2330:U:C1'	27:H:90:ASN:HD21	2.27	0.48
1:A:2335:C:H3'	1:A:2335:C:H6	1.78	0.48
1:A:2479:U:H5	1:A:2505:A:H2	1.60	0.48
1:A:2486:A:H2'	1:A:2487:G:O4'	2.13	0.48
7:O:28:CYS:HB2	7:O:67:ARG:NH1	2.29	0.48
8:P:12:LYS:O	8:P:13:HIS:C	2.57	0.48
10:R:226:LEU:HD23	10:R:228:ARG:HB2	1.96	0.48
26:G:57:ILE:HD11	26:G:68:THR:HG23	1.96	0.48
1:A:454:G:N3	26:G:99:THR:OG1	2.45	0.48
1:A:537:U:O2'	1:A:2057:C:O2'	2.30	0.48
1:A:863:C:H2'	1:A:864:U:H6	1.79	0.48
1:A:950:A:C5	1:A:951:C:C2	3.01	0.48
1:A:1012:G:H5''	1:A:1013:C:OP2	2.14	0.48
1:A:1437:G:H2'	1:A:1438:G:H5''	1.96	0.48
1:A:1482:C:H3'	1:A:1482:C:H6	1.79	0.48
1:A:1524:G:H8	1:A:1524:G:O5'	1.96	0.48
1:A:1799:A:H5''	19:E:216:VAL:HA	1.96	0.48
1:A:2433:C:OP1	6:N:145:GLY:HA2	2.14	0.48
2:C:40:U:O5'	2:C:40:U:H6	1.97	0.48
2:C:68:A:H2'	2:C:69:U:C6	2.49	0.48
3:B:7:G:C1'	3:B:8:G:P	3.01	0.48
3:B:7:G:C4'	3:B:8:G:OP1	2.61	0.48
3:B:94:C:H2'	3:B:95:U:H6	1.79	0.48
10:R:172:ARG:NH2	10:R:174:ASN:HB3	2.29	0.48
11:S:72:ARG:HG3	11:S:112:TYR:CZ	2.49	0.48
15:W:85:LYS:HD3	15:W:104:LEU:CD1	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:141:GLU:C	16:X:142:ILE:CG1	2.85	0.48
24:f:48:CYS:HB3	24:f:69:HIS:CD2	2.48	0.48
1:A:320:U:O2	1:A:340:A:H2'	2.14	0.48
1:A:884:G:H8	1:A:884:G:O5'	1.97	0.48
1:A:938:G:H2'	1:A:939:A:H5'	1.94	0.48
1:A:1307:A:C2	1:A:1350:U:C4	3.02	0.48
1:A:1576:U:H2'	1:A:1577:G:O4'	2.14	0.48
2:C:33:A:C2'	2:C:33:A:N3	2.76	0.48
6:N:205:GLU:OE1	6:N:205:GLU:HA	2.14	0.48
15:W:113:SER:HB2	15:W:120:GLY:N	2.29	0.48
15:W:170:THR:CG2	15:W:171:PRO:CD	2.85	0.48
23:e:109:LYS:HD3	23:e:137:GLN:NE2	2.29	0.48
27:H:175:PHE:CD1	27:H:183:VAL:HG13	2.37	0.48
31:a:51:VAL:HG12	31:a:57:LEU:HB3	1.94	0.48
1:A:76:U:H2'	1:A:77:U:H6	1.79	0.47
1:A:389:A:C6	1:A:390:U:N3	2.81	0.47
1:A:431:U:H2'	1:A:432:G:H5'	1.95	0.47
1:A:614:G:H2'	1:A:615:G:C8	2.49	0.47
1:A:616:U:H3	1:A:634:G:H1	1.62	0.47
1:A:878:U:H2'	1:A:879:G:C8	2.49	0.47
1:A:1674:C:O2	1:A:2715:U:O2'	2.30	0.47
1:A:2187:A:H2'	1:A:2188:C:O4'	2.15	0.47
1:A:2247:C:H5''	17:Y:100:PHE:CE1	2.49	0.47
2:C:102:U:C2'	2:C:103:G:C5'	2.88	0.47
3:B:26:A:N3	3:B:26:A:H2'	2.28	0.47
3:B:86:G:N1	3:B:87:G:C6	2.82	0.47
6:N:81:ARG:HH11	26:G:243:GLU:HB2	1.51	0.47
6:N:255:GLU:C	6:N:256:TYR:CG	2.91	0.47
9:Q:115:PRO:HB2	9:Q:151:ARG:NE	2.29	0.47
9:Q:125:GLU:OE1	9:Q:162:HIS:NE2	2.43	0.47
9:Q:156:ALA:O	9:Q:160:ARG:HG3	2.14	0.47
16:X:128:TYR:CD2	16:X:132:LYS:HB3	2.46	0.47
21:c:58:HIS:CG	21:c:59:THR:N	2.80	0.47
26:G:182:PHE:HE2	26:G:190:PHE:HD1	1.61	0.47
27:H:161:LEU:CD1	31:a:73:TRP:CZ3	2.81	0.47
32:h:69:ARG:HG3	32:h:73:LYS:HE2	1.94	0.47
1:A:16:G:H2'	1:A:17:C:C6	2.49	0.47
1:A:182:A:H2	1:A:2451:A:H62	1.61	0.47
1:A:293:G:N1	1:A:294:U:C4	2.82	0.47
1:A:384:G:O2'	1:A:412:G:C6	2.51	0.47
1:A:460:U:O4	1:A:593:G:O2'	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:649:A:OP1	6:N:202:GLY:CA	2.61	0.47
1:A:659:G:H2'	1:A:660:G:O4'	2.13	0.47
1:A:1007:A:H4'	32:h:64:PRO:HD3	1.97	0.47
1:A:1196:A:H4'	1:A:1197:A:OP1	2.13	0.47
1:A:1269:G:C8	11:S:3:ARG:C	2.92	0.47
1:A:1287:G:OP2	20:b:17:LYS:NZ	2.45	0.47
1:A:1497:A:N6	1:A:1547:C:N4	2.57	0.47
1:A:1752:C:H3'	1:A:1752:C:H6	1.79	0.47
1:A:2107:G:C4	1:A:2242:A:N7	2.81	0.47
1:A:2191:C:O2'	1:A:2192:U:H5'	2.13	0.47
1:A:2505:A:OP2	32:h:48:SER:O	2.32	0.47
1:A:2559:A:H5''	1:A:2560:G:OP1	2.15	0.47
2:C:88:C:H6	2:C:88:C:P	2.37	0.47
2:C:92:C:H2'	2:C:93:C:H6	1.79	0.47
5:M:100:GLY:HA2	10:R:188:ALA:HB3	1.97	0.47
6:N:162:LEU:HG	6:N:203:GLU:CD	2.39	0.47
13:U:26:PRO:C	13:U:28:LYS:H	2.22	0.47
14:V:138:VAL:HG23	14:V:172:LYS:HB3	1.96	0.47
16:X:67:LYS:HZ2	16:X:67:LYS:CA	2.24	0.47
16:X:77:LEU:HD11	16:X:97:ARG:CZ	2.41	0.47
16:X:122:LEU:HG	16:X:140:ARG:HB3	1.88	0.47
19:E:267:ILE:HG22	19:E:269:ARG:CB	2.39	0.47
24:f:38:MET:CE	24:f:70:LYS:HG2	2.45	0.47
26:G:133:LEU:N	26:G:133:LEU:HD12	2.29	0.47
1:A:76:U:H2'	1:A:77:U:C6	2.49	0.47
1:A:124:A:OP2	22:d:110:GLY:C	2.56	0.47
1:A:1055:A:C2	1:A:2505:A:H5'	2.50	0.47
1:A:1234:A:N6	1:A:1256:G:H22	2.07	0.47
1:A:1524:G:C2'	1:A:1525:G:H5'	2.44	0.47
1:A:2213:A:N3	1:A:2242:A:H2	2.09	0.47
3:B:10:G:OP1	9:Q:59:ARG:NE	2.40	0.47
3:B:43:C:O2	27:H:143:THR:HB	2.14	0.47
3:B:46:A:O5'	27:H:145:ARG:NH1	2.48	0.47
3:B:86:G:N1	3:B:87:G:N7	2.61	0.47
5:M:78:ARG:O	10:R:193:GLU:HB3	2.13	0.47
12:T:176:ILE:HD12	32:h:86:PRO:HG3	1.96	0.47
13:U:113:LYS:O	13:U:124:MET:HA	2.14	0.47
16:X:128:TYR:CG	16:X:134:LYS:CG	2.66	0.47
19:E:61:ILE:HD11	19:E:63:PHE:CE1	2.49	0.47
1:A:164:A:H8	1:A:164:A:O5'	1.97	0.47
1:A:295:C:C2'	1:A:296:G:H5'	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:423:G:O2'	1:A:2423:A:N7	2.41	0.47
1:A:455:A:N6	26:G:92:LEU:O	2.48	0.47
1:A:593:G:O6	1:A:1278:U:O2	2.33	0.47
1:A:761:A:OP2	13:U:118:ALA:HB2	2.14	0.47
1:A:1168:U:OP1	4:L:123:ILE:HD12	2.14	0.47
1:A:1543:G:P	30:g:119:LEU:HD11	2.55	0.47
1:A:1662:A:O2'	1:A:1663:G:OP2	2.28	0.47
1:A:1755:A:C2	1:A:1756:G:C8	3.02	0.47
1:A:1841:G:C6	1:A:1989:G:N1	2.82	0.47
1:A:2117:U:H3	1:A:2200:A:H61	1.61	0.47
1:A:2191:C:C4	1:A:2192:U:C4	3.03	0.47
1:A:2193:C:N4	1:A:2194:U:O4	2.48	0.47
1:A:2230:A:N3	1:A:2230:A:C2'	2.77	0.47
1:A:2531:U:H2'	1:A:2532:C:C6	2.49	0.47
6:N:195:ARG:O	6:N:197:PRO:CD	2.56	0.47
7:O:25:ASN:HD22	7:O:101:ARG:HG3	1.79	0.47
7:O:72:LYS:HG2	7:O:94:VAL:O	2.14	0.47
13:U:163:LEU:C	13:U:163:LEU:CD2	2.85	0.47
14:V:111:VAL:CG2	14:V:112:TYR:N	2.78	0.47
15:W:71:VAL:HA	15:W:89:ILE:CD1	2.42	0.47
25:F:223:THR:HG22	25:F:224:HIS:N	2.22	0.47
27:H:85:VAL:HB	27:H:210:THR:OG1	2.15	0.47
29:J:73:PHE:CD2	29:J:78:LEU:HD11	2.50	0.47
1:A:115:G:OP2	1:A:117:A:O2'	2.23	0.47
1:A:119:A:C8	1:A:132:G:C6	3.02	0.47
1:A:241:A:H2'	1:A:242:A:C8	2.49	0.47
1:A:295:C:O5'	1:A:295:C:H6	1.97	0.47
1:A:369:U:O2'	1:A:369:U:O2	2.28	0.47
1:A:938:G:O2'	1:A:939:A:H5'	2.14	0.47
1:A:1077:C:O2	1:A:1141:C:O2'	2.25	0.47
1:A:1135:A:H2'	1:A:1136:U:C6	2.49	0.47
1:A:1144:U:H2'	1:A:1145:C:C6	2.49	0.47
1:A:1496:A:H62	1:A:1549:A:N6	2.12	0.47
1:A:1546:C:H2'	1:A:1547:C:H5'	1.97	0.47
1:A:2186:U:P	1:A:2188:C:C4	3.07	0.47
1:A:2315:G:N2	1:A:2338:G:C5	2.81	0.47
6:N:240:LYS:O	6:N:240:LYS:HG3	2.13	0.47
15:W:158:VAL:CG1	15:W:169:ASP:OD1	2.63	0.47
19:E:29:ILE:C	19:E:31:GLY:H	2.15	0.47
26:G:75:ALA:CB	26:G:159:LEU:HD21	2.37	0.47
31:a:47:GLU:OE2	31:a:62:GLY:HA2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:101:A:N1	1:A:102:U:N3	2.62	0.47
1:A:318:A:C6	1:A:339:A:C5	3.02	0.47
1:A:420:A:C6	1:A:432:G:C2	3.03	0.47
1:A:506:G:H1'	13:U:86:ASN:OD1	2.14	0.47
1:A:560:A:N1	1:A:561:C:N3	2.62	0.47
1:A:614:G:H2'	1:A:615:G:H8	1.79	0.47
1:A:623:A:H3'	1:A:623:A:OP2	2.13	0.47
1:A:679:G:H5'	1:A:680:G:OP2	2.14	0.47
1:A:1520:A:C2	1:A:1521:G:H1'	2.50	0.47
1:A:1603:A:C5'	19:E:55:LYS:CD	2.86	0.47
1:A:1723:G:N2	1:A:1738:G:C6	2.83	0.47
1:A:2602:U:O2'	1:A:2603:C:H5'	2.14	0.47
7:O:33:ALA:HB1	7:O:102:ILE:HG23	1.96	0.47
11:S:36:ALA:O	11:S:39:LYS:HB3	2.15	0.47
11:S:91:LEU:HD12	12:T:175:PRO:O	2.13	0.47
14:V:105:PRO:O	14:V:106:ARG:C	2.58	0.47
14:V:115:LEU:C	18:Z:91:ARG:HH22	2.22	0.47
15:W:70:LYS:HB2	15:W:70:LYS:HZ3	1.77	0.47
15:W:74:THR:HG22	15:W:88:GLU:OE1	2.15	0.47
15:W:158:VAL:HG12	15:W:169:ASP:OD1	2.15	0.47
19:E:179:LEU:HG	19:E:263:ASP:O	2.14	0.47
24:f:40:ILE:HG12	24:f:72:ARG:HD3	1.96	0.47
26:G:234:LEU:C	26:G:234:LEU:CD2	2.85	0.47
28:I:163:VAL:HG12	28:I:173:VAL:HG22	1.95	0.47
1:A:43:A:C2	1:A:44:G:C2	3.02	0.47
1:A:97:A:H8	1:A:97:A:O5'	1.97	0.47
1:A:228:U:OP2	1:A:239:G:N1	2.47	0.47
1:A:270:G:C2'	1:A:271:G:C5'	2.91	0.47
1:A:344:C:O5'	1:A:344:C:H6	1.98	0.47
1:A:428:C:H2'	1:A:429:C:C6	2.49	0.47
1:A:554:G:O6	1:A:560:A:N1	2.48	0.47
1:A:723:G:H2'	1:A:724:G:N9	2.29	0.47
1:A:866:G:H2'	1:A:867:G:C8	2.50	0.47
1:A:902:G:C5	1:A:903:G:C8	3.02	0.47
1:A:937:U:H2'	1:A:938:G:C5'	2.44	0.47
1:A:983:G:C2	7:O:82:ARG:CZ	2.64	0.47
1:A:1039:A:C2	1:A:1178:G:C5	3.01	0.47
1:A:1137:C:C3'	1:A:1138:G:C8	2.98	0.47
1:A:1237:C:N4	1:A:1238:G:C2	2.83	0.47
1:A:1437:G:C2	1:A:1618:C:H1'	2.50	0.47
1:A:1483:G:O2'	1:A:1484:G:H5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1506:U:H3'	1:A:1507:G:O4'	2.14	0.47
1:A:1750:C:H42	1:A:1755:A:H61	1.61	0.47
1:A:1841:G:H2'	1:A:1842:C:C6	2.49	0.47
1:A:1882:U:C5	1:A:1883:G:C6	3.02	0.47
1:A:2114:G:C5	1:A:2204:A:N1	2.83	0.47
1:A:2330:U:C1'	27:H:90:ASN:ND2	2.77	0.47
1:A:2473:C:N4	1:A:2474:U:O4	2.47	0.47
1:A:2705:G:N1	1:A:2738:U:OP2	2.24	0.47
1:A:2773:C:C4	24:f:56:ARG:NH1	2.82	0.47
2:C:30:A:C2	2:C:83:C:C6	3.03	0.47
2:C:39:A:C5	2:C:83:C:C5	3.03	0.47
2:C:58:G:H2'	2:C:59:C:C6	2.50	0.47
3:B:25:G:C8	3:B:57:U:C4	3.02	0.47
3:B:69:C:H2'	3:B:70:G:H5'	1.97	0.47
6:N:129:PHE:CZ	6:N:131:GLY:HA2	2.47	0.47
6:N:202:GLY:CA	6:N:221:ALA:CA	2.73	0.47
9:Q:50:ARG:O	9:Q:54:THR:HB	2.14	0.47
9:Q:57:HIS:HD2	9:Q:60:ILE:HB	1.80	0.47
14:V:134:LEU:O	14:V:176:ILE:HG12	2.15	0.47
16:X:133:LYS:N	16:X:133:LYS:CD	2.77	0.47
20:b:34:LEU:HD11	20:b:46:PHE:CZ	2.49	0.47
22:d:138:LYS:HE2	22:d:138:LYS:HB2	1.68	0.47
26:G:212:LEU:HD11	26:G:217:GLU:HB2	1.97	0.47
28:I:138:VAL:HG12	28:I:140:GLY:H	1.79	0.47
29:J:46:LYS:HG2	29:J:47:LYS:H	1.79	0.47
1:A:155:A:H2'	1:A:156:G:C8	2.50	0.47
1:A:274:G:C6	1:A:433:C:C5'	2.97	0.47
1:A:287:A:C4	1:A:288:C:C4	3.02	0.47
1:A:334:U:H2'	1:A:335:G:H8	1.80	0.47
1:A:434:A:H2'	1:A:435:A:C8	2.50	0.47
1:A:626:C:C3'	1:A:627:C:C6	2.93	0.47
1:A:825:C:O2'	1:A:1245:U:O2	2.32	0.47
1:A:852:U:C2	1:A:853:G:N7	2.83	0.47
1:A:856:U:H5''	1:A:856:U:O2	2.14	0.47
1:A:869:G:C8	1:A:869:G:OP2	2.68	0.47
1:A:1013:C:H4'	32:h:60:MET:HE2	1.97	0.47
1:A:1429:C:C2'	1:A:1430:C:H5'	2.44	0.47
1:A:2118:U:H2'	1:A:2119(A):U:O4'	2.14	0.47
1:A:2472:G:H2'	1:A:2473:C:H6	1.78	0.47
1:A:2666:U:H2'	1:A:2667:C:H6	1.80	0.47
1:A:2752:G:C6	25:F:297:ILE:C	2.92	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:8:G:OP2	9:Q:76:PHE:CE1	2.64	0.47
3:B:14:U:OP2	3:B:15:A:N6	2.48	0.47
4:L:147:VAL:HG23	4:L:149:MET:HG2	1.96	0.47
9:Q:128:ALA:O	9:Q:132:LEU:N	2.43	0.47
15:W:113:SER:N	15:W:120:GLY:HA2	2.30	0.47
16:X:162:ARG:HG3	16:X:163:GLU:N	2.30	0.47
19:E:172:LEU:HB2	19:E:173:PRO:HD2	1.97	0.47
25:F:119:GLU:CD	25:F:120:GLY:N	2.73	0.47
28:I:136:ALA:HB2	28:I:145:LEU:HD23	1.96	0.47
1:A:9:A:C1'	2:C:99:A:C6	2.96	0.47
1:A:26:G:H1'	1:A:524:A:N6	2.30	0.47
1:A:123:C:H5'	22:d:112:ARG:HG3	1.97	0.47
1:A:262:G:C2	1:A:266:A:N6	2.83	0.47
1:A:410:G:C6	1:A:411:U:C4	3.03	0.47
1:A:1080:C:C2'	1:A:1081:C:H5''	2.44	0.47
1:A:1474:A:HO2'	1:A:1475:U:P	2.34	0.47
1:A:1482:C:O2'	1:A:1483:G:H5'	2.15	0.47
1:A:1496:A:H62	1:A:1548:A:H2	1.63	0.47
1:A:1532:G:O6	1:A:1612:A:H8	1.98	0.47
1:A:1650:A:H8	1:A:1650:A:OP2	1.98	0.47
1:A:2075:G:C8	1:A:2520:A:H1'	2.49	0.47
1:A:2170:C:N4	1:A:2171:G:O6	2.48	0.47
1:A:2351:G:C2	9:Q:64:VAL:HG22	2.49	0.47
1:A:2579:U:H1'	5:M:23:ARG:CZ	2.44	0.47
1:A:2672:G:O2'	1:A:2673:U:P	2.72	0.47
1:A:2691:G:H2'	1:A:2692:A:C8	2.50	0.47
3:B:35:A:H2'	3:B:36:A:N9	2.29	0.47
3:B:73:G:O2'	3:B:74:A:O4'	2.22	0.47
7:O:57:ASN:ND2	7:O:120:ILE:HD12	2.29	0.47
12:T:91:ASP:HB3	13:U:142:PHE:CZ	2.46	0.47
19:E:224:VAL:HG13	19:E:225:ASP:OD1	2.15	0.47
26:G:70:LEU:HD11	26:G:256:ASN:OD1	2.01	0.47
26:G:103:LEU:HD13	26:G:107:GLU:OE1	2.15	0.47
27:H:157:ILE:HG23	27:H:227:GLY:HA3	1.96	0.47
1:A:143:G:C2'	1:A:144:A:C5'	2.86	0.47
1:A:290:A:N3	1:A:291:G:C8	2.83	0.47
1:A:881:U:O2	1:A:916:G:C6	2.68	0.47
1:A:969:A:N6	1:A:970:G:O6	2.48	0.47
1:A:1039:A:C2	1:A:1178:G:N1	2.83	0.47
1:A:1081:C:O2	1:A:1135:A:N1	2.47	0.47
1:A:1284:U:H5''	20:b:13:LYS:HD3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1718:G:OP2	1:A:1735:G:N2	2.40	0.47
1:A:2233:G:C2'	1:A:2234:G:H8	2.01	0.47
6:N:143:LEU:HD21	6:N:146:ILE:CG1	2.41	0.47
6:N:162:LEU:HG	6:N:203:GLU:OE1	2.15	0.47
6:N:197:PRO:CB	6:N:215:ARG:HD3	2.38	0.47
12:T:123:ILE:CD1	12:T:227:TYR:HE1	2.24	0.47
27:H:188:GLN:HE21	27:H:188:GLN:CA	2.00	0.47
1:A:87:G:O6	1:A:88:A:N6	2.47	0.46
1:A:109:A:O3'	18:Z:120:ARG:NH1	2.48	0.46
1:A:836:G:N3	6:N:133:GLN:HG3	2.30	0.46
1:A:946:A:O2'	1:A:947:A:N7	2.48	0.46
1:A:1318:C:OP1	1:A:2727:U:H4'	2.14	0.46
1:A:1472:A:C4'	1:A:1473:G:H5''	2.46	0.46
1:A:1739:G:H2'	1:A:1740:G:H8	1.80	0.46
1:A:1986:G:C2	1:A:1987:G:N7	2.82	0.46
1:A:2336:U:O3'	1:A:2337:C:H5	1.98	0.46
9:Q:47:HIS:HB2	9:Q:53:ARG:NH2	2.29	0.46
14:V:102:LEU:HB3	18:Z:142:ARG:HH21	1.78	0.46
15:W:67:ARG:HH22	15:W:92:ILE:CG1	2.28	0.46
18:Z:87:LEU:O	18:Z:91:ARG:HG3	2.15	0.46
19:E:26:ASN:ND2	19:E:89:LEU:HD11	2.29	0.46
19:E:166:LYS:HA	19:E:182:LYS:HD3	1.97	0.46
19:E:265:PHE:CE1	19:E:266:ILE:HG13	2.44	0.46
26:G:207:PHE:O	26:G:228:LEU:HA	2.14	0.46
31:a:47:GLU:H	31:a:47:GLU:CD	2.22	0.46
1:A:3:C:HO2'	1:A:4:A:H5'	1.76	0.46
1:A:87:G:O2'	15:W:57:LYS:NZ	2.24	0.46
1:A:176:A:H2'	1:A:177:C:C6	2.50	0.46
1:A:350:G:O5'	1:A:350:G:H8	1.98	0.46
1:A:636:C:H6	1:A:636:C:O5'	1.98	0.46
1:A:874:G:O2'	1:A:875:C:H5'	2.15	0.46
1:A:1156:G:N2	1:A:2533:G:H21	2.13	0.46
1:A:1194:G:O2'	1:A:1195:U:H2'	2.15	0.46
1:A:1284:U:H2'	1:A:1285:G:C8	2.50	0.46
1:A:1341:C:O2'	1:A:1342:A:O5'	2.31	0.46
1:A:1516:G:C3'	1:A:1517:G:C5'	2.88	0.46
1:A:2248:U:H2'	1:A:2249:C:H6	1.80	0.46
1:A:2360:U:O2'	1:A:2390:A:O2'	2.28	0.46
1:A:2540:G:N2	1:A:2782:A:N3	2.63	0.46
2:C:72:A:O2'	2:C:73:G:H5'	2.15	0.46
4:L:168:ARG:HH22	4:L:192:GLN:CD	2.22	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:P:93:VAL:C	8:P:95:GLU:N	2.72	0.46
14:V:131:GLU:HG2	14:V:131:GLU:O	2.14	0.46
19:E:265:PHE:CD1	19:E:266:ILE:CG1	2.86	0.46
21:c:49:ARG:HG2	21:c:50:LYS:N	2.27	0.46
25:F:193:GLU:OE1	25:F:193:GLU:N	2.48	0.46
26:G:75:ALA:HB1	26:G:76:PRO:HD2	1.96	0.46
1:A:146:U:H3	1:A:148:C:H41	1.64	0.46
1:A:252:C:C2'	1:A:253:C:H5'	2.45	0.46
1:A:545:U:O2'	11:S:49:ASP:CG	2.53	0.46
1:A:682:C:C2	6:N:121:SER:HB3	2.51	0.46
1:A:821:U:H2'	6:N:108:GLY:CA	2.44	0.46
1:A:854:A:C2	1:A:964:C:O2	2.69	0.46
1:A:1081:C:H2'	1:A:1082:A:C8	2.50	0.46
1:A:1234:A:C8	1:A:1258:A:H2	2.33	0.46
1:A:1254:U:H4'	1:A:1255:U:OP1	2.14	0.46
1:A:1336:C:O2'	1:A:1413:A:N3	2.39	0.46
1:A:1427:A:H2'	1:A:1428:C:O2	2.16	0.46
1:A:1596:U:O2'	1:A:1597:C:C5'	2.45	0.46
1:A:1836:C:C5'	19:E:219:VAL:HG23	2.40	0.46
1:A:2108:G:N3	1:A:2108:G:C5'	2.73	0.46
1:A:2195:G:O2'	1:A:2196:G:H5'	2.15	0.46
1:A:2479:U:H5	1:A:2505:A:C2	2.33	0.46
1:A:2637:U:H1'	25:F:250:MET:HB2	1.97	0.46
3:B:36:A:H2	3:B:50:U:C2	2.33	0.46
5:M:102:ILE:HD11	5:M:114:VAL:HA	1.96	0.46
6:N:195:ARG:NE	6:N:195:ARG:CA	2.73	0.46
15:W:170:THR:CB	15:W:171:PRO:HD3	2.43	0.46
16:X:145:GLU:C	16:X:146:ASN:ND2	2.73	0.46
20:b:15:ILE:O	20:b:19:ILE:HG12	2.15	0.46
21:c:10:LYS:HZ2	21:c:36:GLN:CB	2.27	0.46
25:F:97:LEU:O	25:F:114:VAL:HB	2.16	0.46
25:F:135:ASN:ND2	25:F:175:SER:HA	2.18	0.46
26:G:79:LYS:HA	26:G:79:LYS:HZ2	1.80	0.46
27:H:189:SER:HB2	27:H:205:MET:CE	2.44	0.46
28:I:48:ILE:CD1	28:I:109:ARG:NH2	2.54	0.46
1:A:288:C:N4	1:A:289:A:N6	2.63	0.46
1:A:618:A:H2'	1:A:619:A:C8	2.51	0.46
1:A:956:G:H2'	1:A:957:U:C5'	2.45	0.46
1:A:968:C:C3'	1:A:969:A:H5''	2.45	0.46
1:A:2106:U:N3	1:A:2243:C:OP2	2.45	0.46
1:A:2220:G:P	1:A:2221:U:OP2	2.73	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2806:U:O2'	2:C:5:A:C2	2.44	0.46
2:C:30:A:N1	2:C:83:C:O2'	2.45	0.46
3:B:17:G:N1	3:B:70:G:C4	2.77	0.46
7:O:2:LEU:HD12	7:O:48:GLU:OE2	2.15	0.46
12:T:204:LYS:N	12:T:204:LYS:HD2	2.31	0.46
16:X:73:LYS:H	16:X:73:LYS:CD	2.27	0.46
16:X:81:ILE:CG2	16:X:85:GLN:HB2	2.45	0.46
16:X:143:GLN:N	16:X:144:PRO:HD2	2.30	0.46
18:Z:65:LEU:HB3	18:Z:68:LEU:HD13	1.97	0.46
19:E:121:LYS:HB3	19:E:124:ASN:HD21	1.80	0.46
26:G:154:LYS:O	26:G:158:ARG:HG2	2.15	0.46
26:G:185:PRO:HB2	26:G:219:SER:OG	2.15	0.46
27:H:155:ARG:NH1	31:a:62:GLY:O	2.48	0.46
1:A:44:G:C8	1:A:200:G:C4	3.03	0.46
1:A:118:U:H4'	1:A:119:A:O5'	2.15	0.46
1:A:224:G:N2	1:A:244:G:O6	2.49	0.46
1:A:334:U:H2'	1:A:335:G:C8	2.50	0.46
1:A:504:G:H4'	13:U:37:TYR:CD1	2.50	0.46
1:A:614:G:C6	1:A:637:G:C6	3.03	0.46
1:A:749:G:N2	1:A:770:G:C4	2.83	0.46
1:A:898:G:C6	1:A:899:A:N6	2.73	0.46
1:A:1162:C:H4'	1:A:1163:G:OP1	2.12	0.46
1:A:1756:G:N3	1:A:1757:G:C8	2.84	0.46
1:A:2024:G:H5''	13:U:71:ARG:CB	2.45	0.46
1:A:2114:G:C6	1:A:2204:A:C2	3.02	0.46
1:A:2213:A:C2'	1:A:2214:C:O5'	2.64	0.46
1:A:2236:C:C5	1:A:2237:A:H2	2.31	0.46
1:A:2457:C:C5	1:A:2458:U:H1'	2.50	0.46
1:A:2541:G:H2'	1:A:2542:G:H5''	1.98	0.46
7:O:26:ARG:CG	7:O:27:ILE:H	2.15	0.46
7:O:31:ARG:HG3	7:O:134:SER:OG	2.16	0.46
13:U:139:ILE:O	13:U:139:ILE:HG23	2.15	0.46
17:Y:98:LEU:CD1	17:Y:100:PHE:HD2	2.28	0.46
21:c:48:LEU:HA	21:c:52:CYS:O	2.16	0.46
25:F:119:GLU:CG	25:F:143:ARG:HB3	2.43	0.46
26:G:81:ARG:HB2	26:G:81:ARG:HH21	1.79	0.46
31:a:41:ILE:HG13	31:a:43:PRO:HD3	1.98	0.46
1:A:159:A:C4'	1:A:160:A:OP2	2.64	0.46
1:A:192:A:H2'	1:A:193:G:O4'	2.16	0.46
1:A:227:G:N2	1:A:239:G:H2'	2.31	0.46
1:A:553:G:H3'	1:A:554:G:C5'	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:919:A:C2'	1:A:920:A:C5'	2.92	0.46
1:A:1009:A:N1	1:A:2041:G:O2'	2.40	0.46
1:A:1187:G:N2	12:T:131:SER:HB2	2.30	0.46
1:A:1333:U:H5'	1:A:1334:U:H5	1.81	0.46
1:A:1592:A:H5'	1:A:1594:A:H5''	1.95	0.46
1:A:1835:G:H2'	1:A:1836:C:H6	1.80	0.46
1:A:2292:C:O2'	7:O:83:MET:HG3	2.14	0.46
1:A:2419:G:H4'	1:A:2420:C:OP1	2.15	0.46
10:R:123:MET:HE3	25:F:98:GLY:C	2.41	0.46
12:T:228:GLU:CD	12:T:228:GLU:N	2.73	0.46
13:U:49:VAL:O	13:U:52:GLN:HB3	2.15	0.46
16:X:162:ARG:CZ	16:X:162:ARG:CB	2.89	0.46
19:E:117:GLU:OE1	19:E:117:GLU:N	2.48	0.46
19:E:144:LEU:HD12	19:E:184:CYS:SG	2.56	0.46
19:E:172:LEU:C	19:E:172:LEU:HD12	2.40	0.46
26:G:78:GLU:O	26:G:78:GLU:HG2	2.16	0.46
32:h:89:TRP:CH2	32:h:91:ILE:HG13	2.50	0.46
1:A:1:U:O5'	1:A:1:U:H6	1.99	0.46
1:A:46:C:C2'	1:A:47:G:C5'	2.88	0.46
1:A:211:A:H2'	1:A:214:A:H61	1.81	0.46
1:A:320:U:O4'	1:A:341:A:C4	2.69	0.46
1:A:380:C:H2'	1:A:381:C:O5'	2.16	0.46
1:A:623:A:HO2'	1:A:624:A:P	2.39	0.46
1:A:786:G:H4'	1:A:787:G:O5'	2.16	0.46
1:A:1475:U:O2	8:P:70:LEU:CD1	2.64	0.46
1:A:1567:C:N3	1:A:1572:G:O6	2.49	0.46
1:A:1629:G:H2'	1:A:1630:G:H8	1.81	0.46
1:A:1884:A:H2'	1:A:1885:C:O5'	2.16	0.46
1:A:2114:G:H2'	1:A:2115:G:H8	1.81	0.46
1:A:2122:C:N4	1:A:2195:G:N2	2.64	0.46
1:A:2273:U:O2'	16:X:66:THR:N	2.47	0.46
3:B:36:A:C5	3:B:45:G:O6	2.68	0.46
6:N:160:ILE:HA	6:N:201:LEU:HB2	1.98	0.46
11:S:89:GLN:O	12:T:175:PRO:HD2	2.16	0.46
12:T:91:ASP:CB	13:U:142:PHE:CE1	2.96	0.46
12:T:175:PRO:HG3	32:h:82:LEU:HD11	1.98	0.46
17:Y:144:ASP:OD1	17:Y:145:LEU:HG	2.16	0.46
19:E:26:ASN:HD21	19:E:89:LEU:HD11	1.78	0.46
19:E:245:PRO:HG2	19:E:246:TRP:CD2	2.49	0.46
25:F:173:LEU:HD23	25:F:174:VAL:O	2.15	0.46
26:G:182:PHE:CE2	26:G:190:PHE:HD1	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:G:208:PHE:HB2	26:G:229:LEU:O	2.16	0.46
27:H:217:LYS:O	27:H:221:LYS:N	2.28	0.46
30:g:114:LEU:O	30:g:117:THR:OG1	2.27	0.46
1:A:159:A:C1'	1:A:160:A:P	3.04	0.46
1:A:188:U:H5''	1:A:189:A:H5''	1.96	0.46
1:A:253:C:O5'	1:A:253:C:H6	1.99	0.46
1:A:254:U:C2'	1:A:255:A:H5'	2.44	0.46
1:A:270:G:H2'	1:A:271:G:O5'	2.16	0.46
1:A:532:A:N6	1:A:533:G:O6	2.49	0.46
1:A:574:C:OP1	11:S:41:ARG:NH2	2.49	0.46
1:A:773:U:H4'	1:A:774:G:O5'	2.16	0.46
1:A:873:A:H2'	1:A:874:G:H5'	1.98	0.46
1:A:919:A:C4	7:O:13:HIS:CE1	3.04	0.46
1:A:1219:U:O2	11:S:5:LYS:NZ	2.49	0.46
1:A:1516:G:C8	1:A:1517:G:H8	2.33	0.46
1:A:1525:G:C2	1:A:1541:U:O2	2.68	0.46
1:A:1536:A:N3	1:A:1536:A:C5'	2.73	0.46
1:A:1570:C:H5'	1:A:1571:G:C2	2.51	0.46
1:A:2480:U:O4	1:A:2504:A:C6	2.65	0.46
2:C:31:U:N3	2:C:38:G:N7	2.63	0.46
2:C:42:G:C2	2:C:85:U:N3	2.83	0.46
3:B:38:C:H42	3:B:50:U:H1'	1.81	0.46
4:L:123:ILE:HD11	4:L:126:ARG:HD2	1.98	0.46
4:L:152:PHE:CE1	4:L:220:HIS:CD2	3.04	0.46
8:P:88:ALA:O	8:P:92:GLU:CB	2.64	0.46
10:R:168:ILE:O	10:R:183:ILE:HA	2.16	0.46
14:V:109:LEU:HD21	14:V:141:ARG:CD	2.46	0.46
15:W:150:LYS:HE3	15:W:160:TYR:CD2	2.51	0.46
16:X:142:ILE:O	16:X:143:GLN:HB2	2.15	0.46
26:G:57:ILE:HD11	26:G:68:THR:CG2	2.46	0.46
26:G:70:LEU:HD22	26:G:252:ILE:HD11	1.98	0.46
27:H:151:SER:O	27:H:154:ASP:HB3	2.15	0.46
27:H:188:GLN:HG3	27:H:188:GLN:O	2.15	0.46
28:I:65:VAL:O	28:I:71:GLU:HA	2.16	0.46
31:a:48:ASP:OD2	31:a:67:ASP:CB	2.59	0.46
1:A:367:C:H3'	1:A:368:U:C6	2.50	0.46
1:A:1110:U:O2	1:A:1114:A:N1	2.49	0.46
1:A:1341:C:HO2'	1:A:1342:A:P	2.39	0.46
1:A:1385:G:H5''	17:Y:73:ARG:HD2	1.97	0.46
1:A:1479:U:H3'	1:A:1479:U:H6	1.81	0.46
1:A:1665:U:O4	1:A:1666:A:N6	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1702:G:H2'	1:A:1703:G:H5'	1.98	0.46
1:A:2209:U:C6	1:A:2210:C:H5	2.33	0.46
1:A:2213:A:C6	1:A:2242:A:C6	3.03	0.46
1:A:2324:G:N2	1:A:2328:A:O2'	2.49	0.46
1:A:2556:C:H4'	24:f:40:ILE:HD11	1.98	0.46
1:A:2669:C:H2'	1:A:2670:U:O4'	2.16	0.46
1:A:2798:G:N1	4:L:201:GLU:CD	2.61	0.46
3:B:35:A:C6	3:B:51:G:N1	2.84	0.46
4:L:108:VAL:HG21	4:L:149:MET:HE1	1.98	0.46
9:Q:60:ILE:O	9:Q:64:VAL:HG23	2.16	0.46
13:U:31:GLU:OE1	13:U:31:GLU:N	2.48	0.46
17:Y:98:LEU:HD12	17:Y:100:PHE:HD2	1.81	0.46
19:E:57:LEU:O	19:E:59:ARG:NH2	2.49	0.46
21:c:19:VAL:HG23	21:c:20:ARG:N	2.29	0.46
26:G:71:ASN:ND2	26:G:71:ASN:C	2.73	0.46
26:G:168:ALA:O	26:G:173:PHE:HB2	2.16	0.46
26:G:177:GLU:HG3	26:G:248:THR:HG22	1.98	0.46
1:A:268:G:C6	1:A:269:G:O6	2.69	0.46
1:A:306:G:N1	1:A:352:C:N3	2.63	0.46
1:A:493:G:O2'	1:A:518:A:N6	2.49	0.46
1:A:622:G:N2	1:A:627:C:H3'	2.31	0.46
1:A:1888:G:C4	1:A:1889:G:C8	3.04	0.46
1:A:2326:A:C6	1:A:2327:G:C6	3.04	0.46
1:A:2422:G:O2'	1:A:2429:A:N6	2.49	0.46
2:C:21:G:H3'	2:C:22:A:C5'	2.44	0.46
19:E:258:ARG:O	19:E:259:ASN:ND2	2.47	0.46
25:F:154:ARG:O	25:F:158:ASN:CG	2.58	0.46
26:G:161:LEU:HD23	26:G:161:LEU:HA	1.76	0.46
27:H:189:SER:CB	27:H:205:MET:CE	2.94	0.46
1:A:70:A:H4'	1:A:71:A:H5''	1.97	0.45
1:A:83:A:C2	1:A:100:G:C2	3.04	0.45
1:A:90:A:O2'	1:A:91:A:O4'	2.27	0.45
1:A:133:A:C2'	1:A:134:A:H8	2.23	0.45
1:A:293:G:C6	1:A:294:U:O4	2.69	0.45
1:A:493:G:O2'	1:A:494:A:P	2.74	0.45
1:A:526:A:H2	1:A:1282:C:H1'	1.81	0.45
1:A:908:A:H2'	1:A:909:A:C8	2.50	0.45
1:A:1305:A:H2'	1:A:1306:G:O4'	2.16	0.45
1:A:1769:A:H2'	1:A:1770:C:H6	1.81	0.45
1:A:2123:U:C2	1:A:2194:U:N3	2.84	0.45
1:A:2211:U:H2'	1:A:2212:A:H8	1.78	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2237:A:O2'	1:A:2238:A:H5'	2.15	0.45
1:A:2542:G:H2'	1:A:2543:G:H8	1.81	0.45
2:C:92:C:H2'	2:C:93:C:C6	2.51	0.45
2:C:99:A:C2'	2:C:100:C:H5'	2.45	0.45
3:B:6:U:C2	3:B:118:G:C2	2.99	0.45
3:B:31:C:O2	3:B:32:A:C8	2.70	0.45
3:B:31:C:H1'	3:B:58:A:H61	1.81	0.45
3:B:34:C:N3	3:B:52:G:N1	2.64	0.45
3:B:38:C:N4	3:B:39:C:N3	2.64	0.45
3:B:92:U:H2'	3:B:93:C:C5	2.50	0.45
4:L:114:TRP:HB3	4:L:236:PRO:HB3	1.98	0.45
4:L:136:ARG:NH1	4:L:209:PRO:HG3	2.32	0.45
6:N:156:LYS:CE	6:N:215:ARG:NH1	2.69	0.45
10:R:187:ILE:O	10:R:189:GLY:N	2.49	0.45
19:E:137:ILE:HG23	19:E:187:THR:O	2.16	0.45
24:f:45:ARG:HB2	24:f:46:PRO:HD2	1.96	0.45
25:F:145:ARG:NH2	25:F:145:ARG:CG	2.73	0.45
26:G:76:PRO:HG2	26:G:79:LYS:HB3	1.98	0.45
26:G:230:THR:CG2	26:G:233:SER:HB3	2.45	0.45
29:J:56:ASP:OD1	29:J:57:ILE:N	2.50	0.45
1:A:61:U:H5'	18:Z:94:ARG:HH12	1.81	0.45
1:A:100:G:HO2'	1:A:101:A:P	2.38	0.45
1:A:224:G:N2	1:A:244:G:C6	2.84	0.45
1:A:280:G:H2'	1:A:280:G:N3	2.31	0.45
1:A:292:C:C2'	1:A:293:G:H8	2.19	0.45
1:A:332:G:N2	1:A:342:G:C1'	2.78	0.45
1:A:651:U:H2'	1:A:652:C:H6	1.82	0.45
1:A:939:A:H2'	1:A:940:C:O4'	2.16	0.45
1:A:1004:G:O6	1:A:1016:G:N2	2.49	0.45
1:A:1060:A:H1'	24:f:60:ILE:CD1	2.46	0.45
1:A:1060:A:N1	1:A:1150:G:O6	2.50	0.45
1:A:1598:C:C5	1:A:1599:C:N4	2.84	0.45
1:A:2112:U:C2'	1:A:2113:G:C8	2.96	0.45
1:A:2752:G:C8	1:A:2753:C:H4'	2.50	0.45
2:C:17:A:OP1	25:F:205:GLY:N	2.48	0.45
2:C:17:A:P	8:P:13:HIS:HE2	2.38	0.45
2:C:103:G:C2	2:C:104:A:C5	3.04	0.45
3:B:31:C:N3	3:B:32:A:N7	2.64	0.45
3:B:108:C:O5'	3:B:108:C:H6	1.99	0.45
6:N:129:PHE:CE2	6:N:131:GLY:N	2.83	0.45
6:N:223:GLU:HA	6:N:223:GLU:OE2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:U:29:CYS:HB3	13:U:91:LYS:HE2	1.98	0.45
16:X:143:GLN:N	16:X:144:PRO:CD	2.80	0.45
17:Y:129:ILE:HD12	17:Y:130:GLU:CA	2.46	0.45
19:E:77:ILE:O	19:E:77:ILE:HG13	2.16	0.45
25:F:96:LYS:O	25:F:97:LEU:HD12	2.16	0.45
1:A:151:G:H8	1:A:151:G:O5'	2.00	0.45
1:A:252:C:HO2'	1:A:253:C:H5'	1.80	0.45
1:A:263:A:N3	1:A:263:A:C5'	2.73	0.45
1:A:386:A:O5'	1:A:386:A:H8	1.99	0.45
1:A:859:A:H2'	1:A:860:C:C6	2.51	0.45
1:A:1002:G:H8	1:A:1018:A:H62	1.62	0.45
1:A:1075:G:N2	1:A:1139:A:N7	2.64	0.45
1:A:1197:A:OP1	16:X:165:LYS:CD	2.65	0.45
1:A:1320:G:N1	1:A:1676:U:OP2	2.38	0.45
1:A:1467:C:H2'	1:A:1468:C:C6	2.52	0.45
1:A:1497:A:H2'	1:A:1498:G:OP1	2.17	0.45
1:A:1504:C:O5'	1:A:1504:C:H6	1.99	0.45
1:A:1540:C:H2'	1:A:1541:U:C6	2.51	0.45
1:A:2205:G:C6	1:A:2206:A:C6	3.04	0.45
1:A:2389:G:H2'	1:A:2390:A:C8	2.50	0.45
1:A:2579:U:C2'	5:M:23:ARG:NH1	2.78	0.45
1:A:2745:G:H2'	1:A:2746:U:O4'	2.16	0.45
6:N:162:LEU:O	6:N:166:GLU:HB2	2.16	0.45
10:R:122:ILE:HD13	10:R:122:ILE:N	2.31	0.45
14:V:154:PHE:CE1	18:Z:149:PRO:HD3	2.51	0.45
16:X:93:ILE:O	16:X:94:ILE:HD13	2.16	0.45
25:F:136:ALA:HB2	25:F:172:ARG:HA	1.97	0.45
26:G:189:ASP:OD1	26:G:190:PHE:N	2.48	0.45
1:A:120:G:OP1	1:A:133:A:O2'	2.35	0.45
1:A:124:A:OP1	22:d:138:LYS:CB	2.65	0.45
1:A:131:C:H4'	1:A:132:G:C4	2.51	0.45
1:A:161:G:HO2'	1:A:162:A:C4'	2.28	0.45
1:A:248:G:H2'	1:A:249:C:O4'	2.17	0.45
1:A:293:G:H22	1:A:365:A:H2	1.63	0.45
1:A:626:C:C2'	1:A:627:C:C6	2.99	0.45
1:A:690:U:H2'	1:A:691:G:C8	2.51	0.45
1:A:740:G:H5'	1:A:741:U:H5''	1.98	0.45
1:A:888:C:H2'	1:A:889:G:OP1	2.16	0.45
1:A:935:U:HO2'	1:A:936:A:P	2.36	0.45
1:A:1522:A:N6	1:A:1544:A:N3	2.64	0.45
1:A:1553:U:H2'	1:A:1554:C:H6	1.78	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1650:A:N1	13:U:122:SER:OG	2.49	0.45
1:A:2322:A:C2'	1:A:2323:C:H5'	2.46	0.45
1:A:2536:A:H4'	1:A:2537:C:O5'	2.16	0.45
1:A:2633:C:H2'	1:A:2634:C:H6	1.82	0.45
2:C:33:A:O2'	2:C:34:U:O5'	2.20	0.45
2:C:86:A:H2'	2:C:87:A:O5'	2.16	0.45
3:B:43:C:O2'	3:B:44:C:O4'	2.29	0.45
6:N:143:LEU:HD23	6:N:146:ILE:HG12	1.97	0.45
7:O:112:ASN:OD1	7:O:113:ILE:N	2.49	0.45
11:S:31:LEU:HD12	11:S:31:LEU:HA	1.72	0.45
13:U:149:LEU:N	13:U:149:LEU:CD2	2.73	0.45
14:V:105:PRO:C	14:V:107:ARG:N	2.71	0.45
18:Z:79:GLU:O	18:Z:83:LEU:HG	2.15	0.45
26:G:116:TYR:HB2	26:G:117:PRO:HD2	1.97	0.45
27:H:172:PRO:O	27:H:176:ASP:HB2	2.17	0.45
27:H:175:PHE:O	27:H:183:VAL:HG13	2.17	0.45
1:A:69:G:HO2'	1:A:70:A:P	2.40	0.45
1:A:83:A:H2'	1:A:84:G:H4'	1.98	0.45
1:A:171:G:H2'	1:A:172:G:C8	2.51	0.45
1:A:234:C:H5	6:N:142:LYS:HZ2	1.56	0.45
1:A:361:C:H5''	1:A:361:C:H6	1.82	0.45
1:A:374:U:H2'	1:A:375:C:N1	2.32	0.45
1:A:553:G:H5'	1:A:554:G:OP2	2.17	0.45
1:A:887:G:H2'	1:A:888:C:H6	1.79	0.45
1:A:1287:G:P	20:b:17:LYS:HZ3	2.39	0.45
1:A:1496:A:C5	1:A:1497:A:N3	2.84	0.45
1:A:1556:A:H5''	1:A:1557:G:OP1	2.16	0.45
1:A:2047:A:O2'	1:A:2048:U:P	2.75	0.45
1:A:2653:U:C4'	25:F:170:GLU:OE2	2.58	0.45
3:B:26:A:C2	3:B:27:A:C4	3.04	0.45
3:B:32:A:C6	3:B:55:G:C2	3.04	0.45
3:B:63:C:H2'	3:B:64:U:C6	2.51	0.45
12:T:91:ASP:CG	13:U:142:PHE:CZ	2.94	0.45
12:T:116:PRO:HD2	12:T:117:PRO:N	2.31	0.45
16:X:128:TYR:HE2	16:X:132:LYS:CB	2.04	0.45
17:Y:144:ASP:OD1	17:Y:145:LEU:N	2.49	0.45
28:I:162:GLN:HG3	28:I:174:SER:HB2	1.97	0.45
1:A:261:U:H3	1:A:266:A:N6	2.15	0.45
1:A:863:C:O2	1:A:934:A:C2	2.70	0.45
1:A:951:C:H6	1:A:951:C:H5''	1.81	0.45
1:A:957:U:C4	1:A:958:C:C4	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1406:A:OP1	30:g:99:LYS:CD	2.64	0.45
1:A:1459:U:C2	1:A:1460:A:C8	3.05	0.45
1:A:1590:C:C4	1:A:1591:C:N4	2.84	0.45
1:A:1659:G:O2'	30:g:90:LEU:HD11	2.17	0.45
1:A:1808:C:C2	1:A:1829:A:C6	3.05	0.45
1:A:2190:A:H8	1:A:2190:A:O5'	1.98	0.45
1:A:2227:C:C5	1:A:2228:C:C5	3.05	0.45
1:A:2307:G:H2'	1:A:2308:U:C6	2.51	0.45
1:A:2475:G:H5''	32:h:49:SER:H	1.81	0.45
1:A:2480:U:H5	1:A:2504:A:C2	2.35	0.45
2:C:7:G:H2'	2:C:8:G:O4'	2.17	0.45
2:C:80:C:H4'	10:R:119:LEU:HD13	1.99	0.45
3:B:43:C:C6	27:H:119:VAL:HG22	2.51	0.45
4:L:136:ARG:HD3	4:L:209:PRO:HD3	1.98	0.45
7:O:32:TYR:OH	7:O:111:GLU:OE2	2.33	0.45
12:T:214:GLN:OE1	12:T:215:PRO:HD2	2.17	0.45
13:U:58:TYR:CE2	13:U:95:LYS:HD3	2.52	0.45
14:V:126:LYS:O	14:V:130:ASP:CB	2.65	0.45
15:W:74:THR:OG1	15:W:137:ILE:O	2.33	0.45
25:F:266:ILE:HG13	25:F:267:MET:H	1.81	0.45
26:G:89:ILE:O	26:G:93:GLN:HB3	2.17	0.45
26:G:146:ARG:NH2	26:G:148:TRP:CE3	2.84	0.45
27:H:147:ASN:O	27:H:150:TYR:N	2.49	0.45
1:A:342:G:H2'	1:A:343:U:H5'	1.97	0.45
1:A:612:U:H6	1:A:612:U:O5'	1.99	0.45
1:A:890:G:C2	1:A:891:G:N7	2.85	0.45
1:A:913:G:C2'	1:A:914:A:H5'	2.46	0.45
1:A:920:A:N7	7:O:9:PHE:CE2	2.85	0.45
1:A:1062:G:C4'	24:f:55:ARG:NH1	2.78	0.45
1:A:1137:C:C6	1:A:1138:G:N7	2.85	0.45
1:A:1299:U:H3	1:A:1313:A:H61	1.65	0.45
1:A:1337:U:H2'	1:A:1338:C:H6	1.81	0.45
1:A:1494:G:N2	1:A:1551:G:O6	2.50	0.45
1:A:1549:A:C6	1:A:1550:U:C2	3.05	0.45
1:A:1749:U:H6	1:A:1749:U:H5''	1.82	0.45
1:A:1868:A:H2'	1:A:1869:G:O4'	2.17	0.45
1:A:2480:U:H5	1:A:2504:A:H2	1.65	0.45
2:C:37:C:HO2'	2:C:38:G:P	2.39	0.45
3:B:27:A:H2'	3:B:28:C:O4'	2.17	0.45
8:P:45:LYS:HG2	8:P:122:TYR:HD1	1.80	0.45
10:R:169:VAL:HG23	10:R:181:ILE:HG23	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:T:177:VAL:HB	12:T:230:TYR:HH	1.82	0.45
13:U:113:LYS:HB2	13:U:113:LYS:HE3	1.76	0.45
16:X:156:GLU:O	16:X:160:LEU:HG	2.17	0.45
19:E:76:THR:O	19:E:88:CYS:HA	2.17	0.45
21:c:18:CYS:O	21:c:49:ARG:NH2	2.50	0.45
26:G:71:ASN:ND2	26:G:72:LEU:N	2.63	0.45
27:H:68:LEU:O	27:H:72:GLU:HB2	2.17	0.45
28:I:155:MET:HG2	28:I:188:ILE:HD11	1.99	0.45
31:a:72:VAL:O	31:a:73:TRP:CG	2.70	0.45
32:h:66:LYS:HE2	32:h:71:ASP:OD2	2.17	0.45
1:A:18:U:H2'	1:A:19:U:C6	2.52	0.45
1:A:82:G:N1	1:A:100:G:C5	2.85	0.45
1:A:101:A:C5	1:A:102:U:C4	3.04	0.45
1:A:103:C:C2'	1:A:104:C:H5'	2.46	0.45
1:A:319:G:HO2'	1:A:320:U:P	2.39	0.45
1:A:658:A:H5''	1:A:659:G:OP2	2.16	0.45
1:A:767:A:H2'	1:A:768:G:O4'	2.17	0.45
1:A:1030:G:OP2	32:h:66:LYS:HD2	2.17	0.45
1:A:1176:C:N4	32:h:70:TRP:CE2	2.63	0.45
1:A:1178:G:H4'	11:S:83:HIS:CD2	2.37	0.45
1:A:1197:A:H1'	1:A:1198:A:C8	2.52	0.45
1:A:1219:U:H2'	1:A:1220:U:C6	2.52	0.45
1:A:1502:A:H3'	1:A:1503:C:C5'	2.47	0.45
1:A:1533:A:C2'	1:A:1534:A:N3	2.78	0.45
1:A:1534:A:C2'	1:A:1535:A:H5''	2.36	0.45
1:A:2201:G:C2'	1:A:2202:C:H5'	2.46	0.45
1:A:2201:G:N1	1:A:2202:C:N4	2.65	0.45
1:A:2329:U:O5'	1:A:2329:U:H6	1.99	0.45
1:A:2373:C:H2'	1:A:2374:C:O4'	2.17	0.45
1:A:2684:C:H2'	1:A:2685:G:O4'	2.16	0.45
1:A:2701:U:OP1	10:R:173:GLN:HG3	2.17	0.45
3:B:7:G:H1'	3:B:8:G:O5'	2.16	0.45
3:B:41:U:C3'	3:B:42:C:H5''	2.47	0.45
8:P:93:VAL:O	8:P:96:ARG:N	2.50	0.45
12:T:113:LYS:HE2	12:T:113:LYS:CA	2.46	0.45
12:T:230:TYR:O	12:T:230:TYR:CD1	2.70	0.45
19:E:175:GLY:O	19:E:268:ARG:CB	2.62	0.45
26:G:204:LYS:CA	26:G:225:THR:HB	2.47	0.45
27:H:147:ASN:HA	27:H:150:TYR:CD2	2.52	0.45
27:H:164:THR:HB	27:H:167:PHE:CZ	2.52	0.45
1:A:126:C:H6	1:A:126:C:H5''	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:161:G:N3	1:A:161:G:H2'	2.32	0.45
1:A:204:A:N3	1:A:219:U:O2'	2.39	0.45
1:A:262:G:O2'	1:A:263:A:H5''	2.17	0.45
1:A:489:A:H2'	1:A:490:A:H8	1.79	0.45
1:A:611:C:C2'	1:A:612:U:H5'	2.47	0.45
1:A:824:U:O2'	1:A:825:C:O4'	2.33	0.45
1:A:882:U:H5''	1:A:882:U:H6	1.82	0.45
1:A:1137:C:C2'	1:A:1138:G:C8	2.99	0.45
1:A:2209:U:H2'	1:A:2210:C:C5	2.52	0.45
1:A:2313:U:H5'	1:A:2314:C:OP1	2.16	0.45
1:A:2698:C:OP1	25:F:285:LYS:HE2	2.08	0.45
4:L:107:HIS:ND1	4:L:107:HIS:C	2.73	0.45
13:U:70:TYR:O	13:U:73:CYS:HB3	2.17	0.45
23:e:90:TYR:CZ	23:e:91:LYS:O	2.70	0.45
24:f:44:VAL:N	24:f:73:GLN:OE1	2.50	0.45
25:F:90:ILE:HD12	25:F:137:VAL:HG21	1.97	0.45
25:F:279:LYS:HG2	25:F:280:GLY:N	2.32	0.45
1:A:6:A:H2'	1:A:7:C:C6	2.52	0.45
1:A:376:U:O2'	1:A:377:G:OP2	2.27	0.45
1:A:380:C:N4	1:A:381:C:N4	2.64	0.45
1:A:394:G:H2'	1:A:395:C:O4'	2.17	0.45
1:A:533:G:O2'	1:A:552:G:O2'	2.35	0.45
1:A:950:A:C6	1:A:951:C:C2	3.05	0.45
1:A:1751:A:C2	1:A:1753:A:O5'	2.70	0.45
1:A:1885:C:N4	6:N:253:ALA:N	2.65	0.45
1:A:1888:G:C5	1:A:1889:G:N7	2.85	0.45
1:A:2024:G:H5''	13:U:71:ARG:HB3	1.99	0.45
1:A:2111:U:H6	1:A:2111:U:H5''	1.82	0.45
1:A:2142:G:O2'	1:A:2188:C:O4'	2.34	0.45
1:A:2472:G:H2'	1:A:2473:C:C6	2.52	0.45
1:A:2645:U:O5'	1:A:2645:U:C6	2.70	0.45
3:B:66:C:C5	3:B:110:C:N3	2.84	0.45
3:B:110:C:HO2'	3:B:111:G:P	2.36	0.45
8:P:39:LEU:C	8:P:85:ILE:HD11	2.41	0.45
10:R:147:ASP:O	10:R:169:VAL:HG12	2.17	0.45
11:S:27:ALA:HB1	11:S:31:LEU:HD23	1.98	0.45
11:S:111:ILE:O	11:S:115:ILE:HG12	2.16	0.45
14:V:104:TYR:CD1	18:Z:142:ARG:NE	2.85	0.45
18:Z:130:LYS:HD3	18:Z:134:ARG:NH2	2.32	0.45
19:E:49:HIS:CE1	19:E:215:VAL:HG12	2.51	0.45
19:E:75:VAL:HG21	19:E:91:HIS:HE1	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:E:135:THR:HB	19:E:137:ILE:HD11	1.99	0.45
27:H:163:ARG:CZ	27:H:192:PRO:HD3	2.46	0.45
1:A:160:A:C2	1:A:161:G:O6	2.71	0.44
1:A:210:C:H2'	1:A:211:A:O4'	2.17	0.44
1:A:276:G:C8	1:A:276:G:OP2	2.71	0.44
1:A:367:C:OP2	1:A:367:C:C6	2.70	0.44
1:A:371:U:C5	1:A:371:U:OP2	2.71	0.44
1:A:413:A:H2'	1:A:414:A:C8	2.52	0.44
1:A:640:G:H2'	1:A:641:C:C6	2.53	0.44
1:A:858:G:C6	1:A:859:A:C5	3.05	0.44
1:A:1020:C:H2'	1:A:1021:A:C8	2.50	0.44
1:A:1207:G:H2'	1:A:1208:G:O4'	2.17	0.44
1:A:1264:C:O2	6:N:83:ASP:O	2.35	0.44
1:A:1475:U:O4'	8:P:73:ARG:HD2	2.16	0.44
1:A:1495:C:N4	1:A:1548:A:C5	2.86	0.44
1:A:1515:G:H2'	1:A:1516:G:OP1	2.17	0.44
1:A:1804:U:H2'	1:A:1805:C:C6	2.52	0.44
1:A:2011:G:H5''	25:F:219:ARG:NH2	2.28	0.44
1:A:2109:C:H5'	1:A:2110:U:H5	1.82	0.44
1:A:2214:C:C6	1:A:2214:C:O5'	2.70	0.44
1:A:2267:G:N1	7:O:82:ARG:NH2	2.65	0.44
1:A:2672:G:HO2'	1:A:2673:U:P	2.40	0.44
2:C:79:G:C2	2:C:80:C:C2	3.05	0.44
2:C:80:C:O5'	2:C:80:C:C6	2.70	0.44
3:B:118:G:C2	3:B:119:G:O6	2.70	0.44
4:L:177:SER:OG	4:L:182:GLY:CA	2.58	0.44
6:N:203:GLU:CD	6:N:203:GLU:C	2.85	0.44
7:O:34:LEU:HD13	7:O:118:VAL:CG1	2.46	0.44
8:P:65:ALA:HB1	8:P:90:PHE:HA	1.99	0.44
14:V:114:ILE:CG2	14:V:115:LEU:HD12	2.23	0.44
16:X:75:GLN:CD	16:X:76:ARG:N	2.73	0.44
18:Z:137:ASP:OD1	18:Z:141:LYS:CG	2.65	0.44
25:F:143:ARG:HA	25:F:165:MET:HA	1.99	0.44
25:F:188:GLU:OE1	25:F:188:GLU:N	2.50	0.44
1:A:2:U:O5'	1:A:2:U:H6	2.00	0.44
1:A:84:G:OP2	15:W:71:VAL:HG22	2.17	0.44
1:A:145:A:O5'	1:A:145:A:C8	2.70	0.44
1:A:319:G:O2'	1:A:320:U:H3'	2.16	0.44
1:A:368:U:C4	1:A:369:U:O4	2.70	0.44
1:A:375:C:O5'	1:A:375:C:C6	2.70	0.44
1:A:416:C:C2	1:A:418:G:C4	3.02	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:428:C:H2'	1:A:429:C:H6	1.82	0.44
1:A:622:G:C8	1:A:622:G:OP2	2.70	0.44
1:A:640:G:H2'	1:A:641:C:H6	1.82	0.44
1:A:824:U:O2'	1:A:825:C:C5'	2.65	0.44
1:A:852:U:O2'	1:A:853:G:H5'	2.17	0.44
1:A:862:U:H2'	1:A:863:C:C6	2.52	0.44
1:A:944:C:C5	1:A:944:C:OP2	2.70	0.44
1:A:1155:A:N7	1:A:2505:A:O2'	2.47	0.44
1:A:1193:U:C2'	1:A:1194:G:H5'	2.47	0.44
1:A:1337:U:H2'	1:A:1338:C:C6	2.52	0.44
1:A:1472:A:O4'	1:A:1473:G:C8	2.71	0.44
1:A:1754:A:H2'	1:A:1755:A:O5'	2.16	0.44
1:A:2156:C:C2	1:A:2164:G:C2	3.03	0.44
1:A:2224:G:O3'	1:A:2225:G:C8	2.70	0.44
1:A:2236:C:O5'	1:A:2236:C:C6	2.70	0.44
1:A:2319:C:N3	1:A:2332:G:C6	2.85	0.44
1:A:2420:C:OP2	1:A:2420:C:C6	2.71	0.44
2:C:88:C:H2'	2:C:89:A:C8	2.53	0.44
3:B:18:C:C5	3:B:19:G:N7	2.85	0.44
3:B:88:G:N2	3:B:92:U:N3	2.65	0.44
7:O:80:GLU:O	7:O:81:THR:OG1	2.24	0.44
10:R:123:MET:HE1	25:F:114:VAL:HB	1.99	0.44
12:T:95:ALA:N	12:T:96:PRO:CD	2.79	0.44
12:T:106:ILE:H	12:T:106:ILE:HG13	1.61	0.44
15:W:82:GLU:HG2	15:W:82:GLU:O	2.17	0.44
18:Z:123:GLU:HG2	18:Z:128:VAL:CG2	2.47	0.44
19:E:260:LYS:O	19:E:261:TYR:CD2	2.70	0.44
20:b:22:LYS:O	20:b:25:TYR:N	2.50	0.44
25:F:202:THR:HA	25:F:258:LYS:HA	1.99	0.44
27:H:107:ILE:O	27:H:111:ALA:HB3	2.18	0.44
29:J:46:LYS:HG2	29:J:47:LYS:N	2.32	0.44
31:a:44:GLU:C	31:a:62:GLY:HA3	2.43	0.44
31:a:47:GLU:N	31:a:47:GLU:CD	2.73	0.44
31:a:57:LEU:HD22	31:a:70:VAL:HG11	1.98	0.44
1:A:32:U:O4	1:A:459:A:N7	2.50	0.44
1:A:95:G:C6	1:A:96:C:C4	3.06	0.44
1:A:355:A:C8	1:A:356:A:H8	2.16	0.44
1:A:386:A:C2	1:A:413:A:C4	3.06	0.44
1:A:390:U:H2'	1:A:391:G:C8	2.53	0.44
1:A:760:A:H61	1:A:764:A:H8	1.63	0.44
1:A:917:C:H2'	1:A:918:A:H5'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:922:U:O5'	1:A:922:U:C6	2.70	0.44
1:A:1008:A:N3	1:A:2051:G:O2'	2.40	0.44
1:A:1406:A:OP1	30:g:99:LYS:HE2	2.18	0.44
1:A:1870:U:H2'	1:A:1871:U:H6	1.82	0.44
1:A:2113:G:C8	1:A:2113:G:O5'	2.70	0.44
1:A:2278:C:C2	1:A:2297:G:N2	2.86	0.44
1:A:2394:A:O2'	9:Q:166:PHE:O	2.36	0.44
2:C:80:C:C2'	2:C:81:A:H5'	2.48	0.44
4:L:217:LEU:HD12	4:L:218:PHE:CA	2.46	0.44
6:N:165:ILE:CG2	6:N:166:GLU:N	2.79	0.44
6:N:200:ILE:HB	6:N:217:PHE:HB3	1.99	0.44
6:N:255:GLU:O	6:N:256:TYR:CG	2.70	0.44
12:T:229:ASP:O	12:T:230:TYR:CG	2.70	0.44
17:Y:129:ILE:O	17:Y:133:GLY:O	2.35	0.44
23:e:109:LYS:HB2	23:e:109:LYS:HE3	1.61	0.44
26:G:186:LYS:C	26:G:188:LYS:H	2.25	0.44
29:J:76:ASN:C	29:J:80:PRO:HG2	2.40	0.44
29:J:77:PHE:CE1	29:J:81:LEU:HD11	2.51	0.44
1:A:44:G:C3'	1:A:45:A:C5'	2.86	0.44
1:A:131:C:C4	14:V:104:TYR:CD2	3.04	0.44
1:A:253:C:C2	1:A:254:U:O2	2.70	0.44
1:A:253:C:N3	1:A:437:G:C2	2.86	0.44
1:A:919:A:N6	7:O:11:LYS:O	2.50	0.44
1:A:1050:G:O6	4:L:167:LYS:HE3	2.16	0.44
1:A:2103:G:H2'	1:A:2104:A:H8	1.83	0.44
1:A:2103:G:C4	1:A:2104:A:N7	2.86	0.44
1:A:2205:G:C2'	1:A:2206:A:H5'	2.47	0.44
1:A:2421:C:H2'	1:A:2422:G:O4'	2.18	0.44
1:A:2808:C:H3'	1:A:2808:C:H6	1.82	0.44
2:C:80:C:P	10:R:121:ASP:OD1	2.75	0.44
4:L:102:PRO:HA	11:S:99:GLN:NE2	2.21	0.44
5:M:59:ARG:O	5:M:87:ILE:HG22	2.18	0.44
8:P:51:ALA:HA	8:P:123:ILE:HD11	1.98	0.44
9:Q:123:ILE:O	9:Q:127:ILE:HG22	2.18	0.44
12:T:116:PRO:CD	12:T:117:PRO:N	2.81	0.44
13:U:154:PRO:HA	13:U:157:LEU:CG	2.47	0.44
19:E:116:THR:OG1	19:E:117:GLU:OE1	2.35	0.44
25:F:96:LYS:HD3	25:F:282:VAL:HG23	1.99	0.44
25:F:207:GLY:O	25:F:253:ARG:HA	2.18	0.44
26:G:52:LEU:HD13	26:G:71:ASN:ND2	2.32	0.44
26:G:79:LYS:HG3	26:G:83:VAL:HG23	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:G:152:MET:HB3	26:G:157:ARG:HH21	1.82	0.44
26:G:207:PHE:CD1	26:G:246:VAL:HG21	2.52	0.44
28:I:125:LYS:HB3	28:I:173:VAL:HB	1.98	0.44
29:J:43:LYS:HG2	29:J:44:LYS:HE2	1.99	0.44
1:A:139:U:O2	1:A:140:G:C8	2.67	0.44
1:A:145:A:C8	1:A:145:A:OP2	2.70	0.44
1:A:294:U:C2	1:A:295:C:O2	2.71	0.44
1:A:318:A:N6	1:A:339:A:C6	2.85	0.44
1:A:540:A:OP2	4:L:212:ARG:NH1	2.42	0.44
1:A:658:A:H2'	1:A:658:A:N3	2.32	0.44
1:A:703:C:H2'	1:A:704:A:H8	1.82	0.44
1:A:887:G:N2	1:A:909:A:H61	2.16	0.44
1:A:901:C:H2'	1:A:902:G:C5'	2.46	0.44
1:A:909:A:C8	1:A:909:A:OP2	2.70	0.44
1:A:948:U:C6	1:A:948:U:OP1	2.70	0.44
1:A:1264:C:H1'	6:N:83:ASP:O	2.17	0.44
1:A:1504:C:O5'	1:A:1504:C:C6	2.70	0.44
1:A:1694:C:OP1	25:F:229:HIS:CE1	2.70	0.44
1:A:1831:G:H5'	19:E:84:ASN:HD22	1.82	0.44
1:A:1874:U:O5'	1:A:1874:U:H6	2.01	0.44
1:A:2280:C:OP2	16:X:73:LYS:CE	2.63	0.44
1:A:2338:G:N3	1:A:2338:G:H2'	2.33	0.44
1:A:2382:G:N7	23:e:127:LYS:HE3	2.32	0.44
2:C:36:A:C2	25:F:274:ARG:NE	2.84	0.44
2:C:75:U:C2'	2:C:76:G:C5'	2.95	0.44
3:B:14:U:C5'	3:B:15:A:N7	2.81	0.44
8:P:34:LEU:HD23	8:P:54:MET:HE3	2.00	0.44
11:S:89:GLN:HB2	12:T:174:THR:HG23	1.99	0.44
11:S:91:LEU:CD1	12:T:175:PRO:HA	2.35	0.44
12:T:139:GLY:N	12:T:221:ILE:O	2.50	0.44
13:U:138:ASP:CG	13:U:139:ILE:N	2.72	0.44
16:X:132:LYS:N	16:X:132:LYS:HD2	2.32	0.44
17:Y:103:LEU:HA	17:Y:122:SER:HA	1.99	0.44
19:E:29:ILE:HG23	19:E:59:ARG:HG2	1.99	0.44
24:f:48:CYS:SG	24:f:51:CYS:N	2.91	0.44
1:A:74:G:H22	1:A:109:A:H2	1.65	0.44
1:A:329:C:H4'	1:A:331:A:N7	2.32	0.44
1:A:389:A:C6	1:A:410:G:C6	3.03	0.44
1:A:393:G:C6	1:A:394:G:N2	2.85	0.44
1:A:433:C:H2'	1:A:434:A:OP2	2.17	0.44
1:A:631:G:H3'	1:A:632:G:H21	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1084:G:N1	1:A:1130:C:OP2	2.37	0.44
1:A:1164:G:O5'	1:A:1164:G:C8	2.71	0.44
1:A:1170:A:N6	4:L:126:ARG:HA	2.33	0.44
1:A:1459:U:H2'	1:A:1460:A:H8	1.82	0.44
1:A:1748:C:C3'	1:A:1748:C:C6	3.01	0.44
1:A:2150:G:N1	1:A:2151:G:N2	2.66	0.44
1:A:2242:A:HO2'	1:A:2243:C:P	2.37	0.44
1:A:2324:G:N2	1:A:2328:A:N9	2.66	0.44
1:A:2324:G:O4'	1:A:2325:G:C4	2.70	0.44
1:A:2485:A:N7	1:A:2498:G:C6	2.85	0.44
2:C:20:C:O5'	2:C:20:C:H6	2.01	0.44
2:C:30:A:C6	2:C:83:C:N1	2.86	0.44
3:B:14:U:HO2'	3:B:15:A:P	2.39	0.44
3:B:87:G:C2'	3:B:88:G:H5'	2.45	0.44
4:L:167:LYS:O	4:L:169:THR:N	2.50	0.44
6:N:170:PHE:HZ	6:N:181:LEU:HD23	1.83	0.44
8:P:31:LEU:O	8:P:54:MET:HE1	2.17	0.44
10:R:172:ARG:NH1	10:R:174:ASN:HD22	2.16	0.44
15:W:165:GLY:N	15:W:166:GLU:OE1	2.50	0.44
16:X:67:LYS:C	16:X:69:GLY:H	2.25	0.44
19:E:237:ILE:CG1	19:E:239:ARG:H	2.30	0.44
25:F:127:LYS:HD2	25:F:132:ASP:OD2	2.16	0.44
26:G:127:GLY:O	26:G:128:SER:OG	2.26	0.44
31:a:72:VAL:O	31:a:73:TRP:CD2	2.70	0.44
1:A:16:G:H2'	1:A:17:C:H6	1.83	0.44
1:A:165:C:C6	1:A:165:C:O5'	2.70	0.44
1:A:861:A:C6	1:A:935:U:O4	2.69	0.44
1:A:941:C:C5	1:A:942:U:O4	2.70	0.44
1:A:1022:C:OP1	11:S:50:ARG:HD2	2.17	0.44
1:A:1479:U:C5	1:A:1479:U:OP2	2.71	0.44
1:A:1524:G:N2	1:A:1525:G:N3	2.65	0.44
1:A:1882:U:C6	1:A:1882:U:O5'	2.71	0.44
1:A:2123:U:H5''	1:A:2124:G:P	2.57	0.44
1:A:2205:G:O6	1:A:2206:A:N6	2.50	0.44
1:A:2209:U:H3'	1:A:2210:C:C5	2.53	0.44
1:A:2216:U:O5'	1:A:2216:U:H6	2.00	0.44
1:A:2647:A:O4'	2:C:98:G:C1'	2.65	0.44
1:A:2764:U:H3	1:A:2776:A:H62	1.64	0.44
2:C:88:C:OP2	2:C:88:C:C6	2.70	0.44
3:B:25:G:C6	3:B:57:U:N3	2.85	0.44
3:B:36:A:C5	3:B:45:G:N7	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:96:G:H2'	3:B:97:C:C6	2.52	0.44
6:N:168:ALA:HB3	6:N:186:ILE:CD1	2.42	0.44
7:O:125:MET:CG	7:O:126:PRO:HD2	2.48	0.44
9:Q:86:VAL:O	9:Q:95:LEU:N	2.51	0.44
26:G:83:VAL:HG11	26:G:159:LEU:HD22	1.99	0.44
31:a:51:VAL:N	31:a:57:LEU:HD23	2.33	0.44
1:A:184:A:H5'	1:A:185:U:OP2	2.18	0.44
1:A:262:G:O2'	1:A:263:A:C2	2.71	0.44
1:A:295:C:O5'	1:A:295:C:C6	2.70	0.44
1:A:347:G:H2'	1:A:348:U:H6	1.83	0.44
1:A:383:A:O2'	17:Y:131:LYS:CE	2.66	0.44
1:A:415:U:O3'	1:A:416:C:C6	2.71	0.44
1:A:716:A:H62	1:A:737:G:H1'	1.81	0.44
1:A:733:A:H2'	1:A:734:G:C8	2.53	0.44
1:A:740:G:O2'	1:A:774:G:H4'	2.17	0.44
1:A:883:C:H4'	7:O:65:TRP:CH2	2.53	0.44
1:A:980:G:H1	1:A:993:C:H5	1.65	0.44
1:A:1062:G:H2'	1:A:1063:U:O4'	2.18	0.44
1:A:1073:G:H5''	1:A:1075:G:N3	2.33	0.44
1:A:1651:C:OP2	1:A:1653:C:C4	2.70	0.44
1:A:1954:U:O2'	1:A:1956:C:N4	2.46	0.44
1:A:2058:C:H2'	1:A:2059:U:O4'	2.18	0.44
1:A:2248:U:H2'	1:A:2249:C:C6	2.53	0.44
1:A:2336:U:O3'	1:A:2337:C:C5	2.71	0.44
1:A:2534:C:C4	1:A:2559:A:C6	3.06	0.44
1:A:2565:G:H2'	1:A:2566:G:O4'	2.18	0.44
2:C:39:A:C4	2:C:83:C:C4	3.05	0.44
2:C:79:G:N2	2:C:80:C:O2	2.50	0.44
3:B:61:C:C2	3:B:62:U:C5	3.05	0.44
6:N:162:LEU:O	6:N:166:GLU:CG	2.65	0.44
6:N:255:GLU:O	6:N:256:TYR:CD2	2.70	0.44
9:Q:50:ARG:O	9:Q:54:THR:OG1	2.31	0.44
9:Q:164:LEU:HD23	9:Q:164:LEU:HA	1.77	0.44
10:R:187:ILE:O	10:R:188:ALA:C	2.61	0.44
12:T:114:LYS:HG2	12:T:115:GLY:N	2.31	0.44
12:T:227:TYR:CD2	12:T:228:GLU:OE2	2.70	0.44
15:W:93:HIS:HB2	15:W:98:THR:OG1	2.17	0.44
15:W:113:SER:OG	15:W:120:GLY:CA	2.66	0.44
16:X:134:LYS:CB	16:X:134:LYS:NZ	2.73	0.44
23:e:92:MET:O	23:e:152:TYR:HE2	2.01	0.44
25:F:122:ILE:HG12	25:F:185:LEU:HG	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:G:53:ILE:HG21	26:G:170:GLY:HA3	2.00	0.44
26:G:71:ASN:HD22	26:G:71:ASN:C	2.24	0.44
28:I:92:VAL:HG22	28:I:109:ARG:CZ	2.47	0.44
31:a:49:ALA:N	31:a:68:TYR:HA	2.33	0.44
1:A:354:A:H2'	1:A:355:A:OP2	2.18	0.44
1:A:404:U:O2	1:A:404:U:H2'	2.18	0.44
1:A:416:C:O4'	1:A:418:G:C8	2.71	0.44
1:A:495:A:N3	15:W:122:ILE:HD11	2.33	0.44
1:A:577:G:O6	12:T:203:LYS:HB3	2.18	0.44
1:A:851:U:H2'	1:A:852:U:C6	2.53	0.44
1:A:951:C:N4	1:A:952:A:N6	2.66	0.44
1:A:1289:A:H2'	1:A:1290:A:O4'	2.18	0.44
1:A:1476:G:H2'	1:A:1477:G:C8	2.53	0.44
1:A:1541:U:OP2	1:A:1541:U:C5	2.71	0.44
1:A:1582:A:H2'	1:A:1583:A:H8	1.76	0.44
1:A:1700:A:H2'	1:A:1700:A:N3	2.32	0.44
1:A:1837:U:OP2	19:E:217:ARG:HD2	2.18	0.44
1:A:2157:U:O2	1:A:2163:G:N2	2.46	0.44
1:A:2222:C:H2'	1:A:2223:A:C8	2.53	0.44
1:A:2320:G:C6	1:A:2331:G:O6	2.71	0.44
2:C:42:G:C4	2:C:43:G:C8	3.05	0.44
2:C:89:A:H8	2:C:89:A:O5'	2.01	0.44
3:B:35:A:C3'	3:B:36:A:C8	3.01	0.44
3:B:111:G:C2'	3:B:112:A:H5'	2.48	0.44
5:M:24:ILE:HD13	5:M:33:ALA:HB2	2.00	0.44
19:E:264:ASN:ND2	19:E:264:ASN:C	2.73	0.44
19:E:266:ILE:HG22	19:E:268:ARG:H	1.83	0.44
26:G:79:LYS:HZ2	26:G:79:LYS:CA	2.31	0.44
26:G:88:LEU:O	26:G:91:HIS:HB3	2.17	0.44
27:H:61:TYR:HA	27:H:65:MET:HG2	1.99	0.44
1:A:122:U:OP1	1:A:1397:C:O2'	2.34	0.43
1:A:133:A:H3'	1:A:134:A:N7	2.33	0.43
1:A:198:A:H2'	1:A:199:G:C8	2.53	0.43
1:A:290:A:HO2'	1:A:291:G:H5'	1.81	0.43
1:A:863:C:O2	1:A:934:A:N1	2.51	0.43
1:A:877:C:C4	1:A:878:U:O4	2.71	0.43
1:A:887:G:OP2	1:A:887:G:C8	2.70	0.43
1:A:1025:G:OP1	11:S:95:LYS:HD3	2.18	0.43
1:A:1307:A:N6	1:A:1310:C:C2	2.86	0.43
1:A:1480:A:H2	1:A:2720:C:HO2'	1.62	0.43
1:A:1493:C:O2'	1:A:1494:G:OP1	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1714:A:C4	1:A:1715:A:C8	3.05	0.43
1:A:1959:G:H2'	1:A:1960:U:O2	2.18	0.43
1:A:2006:G:C6	1:A:2011:G:C6	3.06	0.43
1:A:2189:C:O2'	1:A:2190:A:H5'	2.18	0.43
1:A:2190:A:C2	1:A:2191:C:O2	2.71	0.43
1:A:2213:A:H2	1:A:2214:C:C1'	2.30	0.43
1:A:2324:G:H4'	1:A:2325:G:O4'	2.17	0.43
1:A:2347:G:H21	16:X:98:GLY:HA2	1.81	0.43
1:A:2475:G:H2'	32:h:48:SER:OG	2.18	0.43
2:C:73:G:C2	2:C:74:C:O2	2.71	0.43
2:C:104:A:N3	2:C:105:A:C8	2.86	0.43
3:B:92:U:O5'	3:B:92:U:C6	2.71	0.43
5:M:18:GLU:HG3	5:M:44:LYS:HB3	1.99	0.43
5:M:19:LEU:HD13	5:M:41:ALA:HB1	2.00	0.43
5:M:71:ARG:HH12	5:M:104:ARG:HH21	1.64	0.43
8:P:72:LYS:O	8:P:75:GLN:HB2	2.18	0.43
11:S:94:ARG:O	11:S:96:ILE:HG12	2.18	0.43
12:T:108:ASN:O	12:T:112:PRO:HD2	2.04	0.43
12:T:188:GLU:HG2	12:T:190:LEU:HD12	2.00	0.43
15:W:67:ARG:NH2	15:W:92:ILE:HG13	2.31	0.43
15:W:69:VAL:CG1	15:W:89:ILE:HD13	2.48	0.43
19:E:161:ILE:HG22	19:E:162:ALA:H	1.83	0.43
19:E:265:PHE:CE1	19:E:266:ILE:CG1	3.01	0.43
25:F:135:ASN:HD21	25:F:177:ASP:HB3	1.83	0.43
25:F:261:ILE:HD12	25:F:261:ILE:HA	1.89	0.43
31:a:46:ARG:NH1	31:a:64:THR:HB	2.31	0.43
1:A:136:U:C2	1:A:160:A:C2	3.06	0.43
1:A:160:A:OP1	1:A:160:A:C8	2.70	0.43
1:A:163:G:C6	1:A:164:A:C5	3.06	0.43
1:A:252:C:H6	1:A:252:C:H5''	1.82	0.43
1:A:256:A:C8	1:A:381:C:OP1	2.71	0.43
1:A:265:A:H3'	1:A:266:A:C5'	2.48	0.43
1:A:318:A:H62	1:A:339:A:H62	1.57	0.43
1:A:723:G:H2'	1:A:724:G:C8	2.53	0.43
1:A:823:C:C2	1:A:1271:G:C6	3.06	0.43
1:A:901:C:C6	1:A:901:C:C3'	3.01	0.43
1:A:1187:G:N3	12:T:131:SER:CB	2.81	0.43
1:A:1200:A:H2'	1:A:1201:A:O4'	2.18	0.43
1:A:1451:G:C2	1:A:1598:C:O2	2.71	0.43
1:A:1603:A:C5'	19:E:55:LYS:HD3	2.41	0.43
1:A:1812:A:H2'	1:A:1813:A:H8	1.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1879:U:C5	6:N:252:ARG:CZ	2.98	0.43
1:A:2151:G:C5	1:A:2152:C:H5	2.36	0.43
1:A:2175:C:H4'	1:A:2187:A:P	2.58	0.43
1:A:2219:U:C2'	1:A:2229:U:H3	2.26	0.43
1:A:2319:C:O2'	27:H:177:GLY:C	2.62	0.43
1:A:2416:G:H2'	1:A:2417:G:H8	1.83	0.43
1:A:2579:U:C1'	5:M:23:ARG:NH1	2.78	0.43
3:B:26:A:N1	3:B:27:A:C6	2.86	0.43
4:L:210:LYS:HE2	4:L:210:LYS:HB2	1.87	0.43
7:O:77:ARG:HG2	7:O:78:PRO:O	2.18	0.43
9:Q:103:LYS:HB2	9:Q:126:MET:SD	2.58	0.43
10:R:216:LYS:HG3	10:R:217:ALA:H	1.84	0.43
15:W:130:HIS:CD2	15:W:132:SER:H	2.36	0.43
26:G:69:PHE:CD1	26:G:69:PHE:O	2.70	0.43
27:H:160:ALA:N	27:H:162:PRO:HD2	2.32	0.43
1:A:133:A:H3'	1:A:134:A:C8	2.53	0.43
1:A:333:A:H62	1:A:347:G:H21	1.65	0.43
1:A:355:A:C2'	1:A:356:A:C5'	2.85	0.43
1:A:357:G:H2'	1:A:358:C:H5'	2.01	0.43
1:A:614:G:N1	1:A:615:G:C6	2.86	0.43
1:A:649:A:OP1	6:N:202:GLY:HA3	2.19	0.43
1:A:888:C:H5'	1:A:889:G:C8	2.54	0.43
1:A:1444:A:C6	1:A:1609:U:O4	2.67	0.43
1:A:1480:A:N3	1:A:1480:A:C2'	2.82	0.43
1:A:1522:A:H62	1:A:1544:A:H1'	1.84	0.43
1:A:1603:A:O2'	1:A:1604:A:O4'	2.31	0.43
1:A:1812:A:C6	1:A:1813:A:N6	2.86	0.43
1:A:2291:A:O2'	1:A:2293:G:OP1	2.27	0.43
1:A:2647:A:N3	2:C:98:G:N2	2.66	0.43
2:C:43:G:H2'	2:C:44:U:H6	1.82	0.43
3:B:14:U:O2'	3:B:16:G:N2	2.50	0.43
3:B:30:A:C4	3:B:31:C:C5	3.06	0.43
4:L:141:ALA:O	11:S:102:ILE:HD12	2.18	0.43
7:O:29:PHE:H	7:O:67:ARG:NH1	2.16	0.43
7:O:62:GLY:HA3	7:O:109:VAL:HG23	1.99	0.43
9:Q:149:HIS:CG	9:Q:150:GLY:N	2.86	0.43
12:T:229:ASP:O	12:T:230:TYR:CD1	2.71	0.43
14:V:111:VAL:HG23	14:V:112:TYR:N	2.33	0.43
15:W:135:MET:SD	15:W:144:ALA:HB1	2.58	0.43
17:Y:75:CYS:HB3	17:Y:78:THR:O	2.18	0.43
25:F:118:LYS:N	25:F:141:TYR:OH	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:G:70:LEU:HD22	26:G:252:ILE:CD1	2.49	0.43
1:A:119:A:H2'	1:A:120:G:C8	2.53	0.43
1:A:213:A:O2'	1:A:214:A:OP2	2.28	0.43
1:A:278:G:H8	1:A:278:G:O5'	2.01	0.43
1:A:374:U:C5	1:A:374:U:OP2	2.71	0.43
1:A:488:G:N1	1:A:491:A:OP2	2.48	0.43
1:A:524:A:HO2'	11:S:11:ARG:NH2	2.12	0.43
1:A:668:U:O5'	1:A:668:U:C6	2.71	0.43
1:A:791:G:H21	1:A:794:A:H62	1.65	0.43
1:A:1406:A:OP1	30:g:99:LYS:HD3	2.19	0.43
1:A:1523:A:H3'	1:A:1524:G:C8	2.54	0.43
1:A:1532:G:C6	1:A:1612:A:H8	2.36	0.43
1:A:1538:G:H2'	1:A:1539:C:C5	2.53	0.43
1:A:1751:A:N1	1:A:1753:A:P	2.91	0.43
1:A:1851:U:C2	1:A:1852:G:C8	3.06	0.43
1:A:1876:A:N6	1:A:1889:G:H21	2.16	0.43
1:A:2075:G:P	26:G:119:LYS:CE	3.01	0.43
1:A:2187:A:C2'	1:A:2188:C:H5'	2.48	0.43
1:A:2193:C:C4	1:A:2194:U:O4	2.71	0.43
1:A:2644:G:H8	1:A:2644:G:O5'	2.01	0.43
2:C:10:C:H2'	2:C:11:A:O4'	2.17	0.43
2:C:44:U:O2'	2:C:45:G:H5'	2.17	0.43
3:B:13:C:O2	3:B:111:G:C2	2.71	0.43
3:B:62:U:H2'	3:B:63:C:H6	1.84	0.43
10:R:185:ARG:HE	10:R:187:ILE:HD11	1.83	0.43
12:T:146:ARG:HE	32:h:89:TRP:CG	2.36	0.43
21:c:15:CYS:HB3	21:c:57:LYS:HG2	2.00	0.43
25:F:209:GLN:NE2	25:F:213:LYS:HE2	2.28	0.43
26:G:230:THR:HG23	26:G:233:SER:HB3	2.01	0.43
28:I:79:GLU:OE2	28:I:100:ARG:NH2	2.51	0.43
1:A:71:A:N6	1:A:109:A:HO2'	2.17	0.43
1:A:273:U:C6	1:A:273:U:O5'	2.71	0.43
1:A:273:U:H2'	1:A:274:G:O4'	2.19	0.43
1:A:949:A:C2	1:A:950:A:H1'	2.53	0.43
1:A:969:A:N6	1:A:970:G:C6	2.87	0.43
1:A:1172:C:O2'	1:A:1173:G:H8	2.00	0.43
1:A:1496:A:N6	1:A:1549:A:N6	2.65	0.43
1:A:1822:A:N1	1:A:1823:C:C4	2.87	0.43
1:A:1940:U:O3'	1:A:1941:A:H8	2.02	0.43
1:A:2022:C:OP1	20:b:23:LYS:HE2	2.18	0.43
1:A:2103:G:C6	1:A:2104:A:C5	3.05	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2287:G:C4	1:A:2288:G:C8	3.06	0.43
1:A:2642:G:C6	1:A:2643:C:N3	2.86	0.43
1:A:2647:A:C8	2:C:98:G:N1	2.87	0.43
3:B:35:A:H2'	3:B:36:A:C1'	2.48	0.43
4:L:107:HIS:O	4:L:107:HIS:CG	2.70	0.43
5:M:21:CYS:O	5:M:22:ILE:HD13	2.19	0.43
6:N:120:ARG:HG2	6:N:120:ARG:H	1.64	0.43
6:N:129:PHE:HE2	6:N:131:GLY:HA2	1.77	0.43
8:P:85:ILE:O	8:P:89:LEU:HB2	2.18	0.43
15:W:100:ILE:HG22	15:W:128:ALA:HA	1.99	0.43
16:X:73:LYS:HG2	16:X:75:GLN:H	1.84	0.43
17:Y:129:ILE:HG22	17:Y:137:VAL:HG21	2.01	0.43
24:f:59:ARG:HG3	24:f:72:ARG:NH2	2.31	0.43
25:F:114:VAL:HG13	25:F:275:VAL:CG1	2.48	0.43
25:F:144:LEU:CD1	25:F:166:ARG:NE	2.76	0.43
1:A:218:A:N6	1:A:441:A:H61	2.12	0.43
1:A:538:C:C2	1:A:2797:U:C5	3.07	0.43
1:A:577:G:H8	1:A:577:G:O5'	2.01	0.43
1:A:671:C:H2'	1:A:672:U:C6	2.54	0.43
1:A:890:G:N3	1:A:891:G:C8	2.86	0.43
1:A:907:C:O5'	1:A:907:C:C6	2.70	0.43
1:A:1017:G:HO2'	1:A:1018:A:P	2.42	0.43
1:A:1136:U:H2'	1:A:1137:C:C5'	2.47	0.43
1:A:1175:U:OP2	32:h:70:TRP:CB	2.65	0.43
1:A:1225:G:H22	1:A:1262:A:H61	1.65	0.43
1:A:1500:U:H2'	1:A:1501:G:OP1	2.18	0.43
1:A:1875:G:OP1	6:N:243:LYS:NZ	2.51	0.43
1:A:2123:U:H4'	1:A:2124:G:OP1	2.18	0.43
1:A:2215:C:H2'	1:A:2216:U:H5'	1.99	0.43
1:A:2315:G:C2	1:A:2338:G:C6	3.06	0.43
1:A:2479:U:H2'	1:A:2480:U:O4'	2.18	0.43
3:B:15:A:H2'	3:B:16:G:OP2	2.19	0.43
3:B:77:A:H2'	3:B:78:U:C6	2.54	0.43
6:N:225:LEU:HD23	6:N:232:VAL:HG21	2.00	0.43
6:N:241:TYR:CD2	6:N:241:TYR:C	2.96	0.43
7:O:36:ALA:HA	7:O:129:THR:HG22	2.00	0.43
8:P:93:VAL:O	8:P:95:GLU:N	2.52	0.43
9:Q:125:GLU:HG3	9:Q:129:LYS:HE3	2.01	0.43
14:V:149:GLU:OE2	14:V:153:ASN:ND2	2.51	0.43
21:c:22:SER:OG	21:c:27:SER:OG	2.31	0.43
25:F:125:GLN:HB3	25:F:138:GLN:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:H:59:THR:O	27:H:62:ILE:N	2.46	0.43
28:I:48:ILE:HB	28:I:90:LEU:N	2.31	0.43
1:A:165:C:O5'	1:A:165:C:H6	2.02	0.43
1:A:389:A:H2'	1:A:390:U:H6	1.79	0.43
1:A:624:A:N3	1:A:624:A:H2'	2.33	0.43
1:A:836:G:O2'	6:N:133:GLN:CG	2.65	0.43
1:A:869:G:O2'	1:A:870:U:P	2.75	0.43
1:A:950:A:C2	1:A:951:C:O2	2.71	0.43
1:A:965:G:C2	1:A:966:G:C8	3.07	0.43
1:A:1211:G:OP1	6:N:111:GLY:N	2.50	0.43
1:A:1461:G:H2'	1:A:1462:G:C8	2.54	0.43
1:A:1598:C:C4	1:A:1599:C:N4	2.87	0.43
1:A:1793:A:N1	1:A:2604:A:H2'	2.34	0.43
1:A:1819:A:H2'	1:A:1820:A:C8	2.54	0.43
1:A:1849:A:H2'	1:A:1849:A:N3	2.34	0.43
1:A:1887:G:O2'	1:A:1888:G:H5'	2.18	0.43
1:A:2025:U:OP2	13:U:45:LYS:HE3	2.18	0.43
1:A:2088:U:H2'	1:A:2089:U:C6	2.53	0.43
1:A:2120:U:C4	1:A:2198:A:H2	2.37	0.43
1:A:2228:C:H5''	1:A:2229:U:H5'	2.01	0.43
1:A:2536:A:H3'	1:A:2536:A:OP2	2.18	0.43
3:B:32:A:C5	3:B:55:G:N1	2.86	0.43
4:L:175:ARG:NH2	4:L:184:LYS:HZ1	1.96	0.43
8:P:31:LEU:HD13	8:P:57:TYR:CE2	2.52	0.43
14:V:109:LEU:HD11	14:V:141:ARG:CA	2.49	0.43
14:V:119:ILE:HD12	14:V:135:LEU:HB3	2.01	0.43
16:X:123:VAL:O	16:X:124:LYS:HD2	2.19	0.43
19:E:226:HIS:C	19:E:228:HIS:H	2.24	0.43
1:A:158:C:H6	1:A:158:C:H5''	1.83	0.43
1:A:1134:G:O5'	1:A:1134:G:C8	2.70	0.43
1:A:1547:C:O5'	1:A:1547:C:H6	2.01	0.43
1:A:1650:A:C8	1:A:1650:A:OP2	2.71	0.43
1:A:2103:G:C6	1:A:2104:A:C6	3.07	0.43
1:A:2213:A:N1	1:A:2214:C:C4	2.86	0.43
1:A:2213:A:N7	1:A:2242:A:N6	2.67	0.43
1:A:2339:A:H8	1:A:2339:A:O5'	2.02	0.43
1:A:2682:A:N3	1:A:2682:A:H2'	2.34	0.43
2:C:37:C:O2'	2:C:38:G:H5''	2.18	0.43
2:C:71:C:C2	10:R:144:ARG:NH2	2.87	0.43
2:C:84:C:H2'	2:C:85:U:H6	1.80	0.43
3:B:3:U:O2'	3:B:4:U:C6	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:34:C:C2'	3:B:35:A:C8	3.01	0.43
3:B:42:C:H2'	3:B:43:C:OP1	2.19	0.43
3:B:62:U:C2	3:B:63:C:C5	3.07	0.43
3:B:71:G:H2'	3:B:72:U:H6	1.83	0.43
3:B:80:C:H2'	3:B:81:U:O4'	2.19	0.43
6:N:165:ILE:HD13	6:N:165:ILE:O	2.18	0.43
16:X:81:ILE:HG23	16:X:85:GLN:HB2	2.00	0.43
18:Z:88:PHE:CE2	18:Z:92:LEU:HD13	2.54	0.43
22:d:123:LEU:HD12	22:d:123:LEU:HA	1.83	0.43
23:e:90:TYR:CD2	23:e:91:LYS:N	2.87	0.43
25:F:266:ILE:HA	25:F:278:ILE:HD12	2.01	0.43
26:G:177:GLU:HB3	26:G:197:TRP:HZ2	1.84	0.43
27:H:90:ASN:ND2	27:H:206:ASP:HB2	2.33	0.43
1:A:5:A:H2'	1:A:6:A:H8	1.68	0.43
1:A:83:A:C2	1:A:101:A:N7	2.87	0.43
1:A:159:A:H1'	1:A:160:A:P	2.58	0.43
1:A:355:A:N7	1:A:356:A:C5	2.87	0.43
1:A:459:A:H4'	1:A:460:U:O5'	2.18	0.43
1:A:737:G:HO2'	1:A:738:A:P	2.42	0.43
1:A:749:G:N2	1:A:770:G:C5	2.87	0.43
1:A:946:A:O2'	1:A:947:A:C8	2.70	0.43
1:A:1013:C:C4'	32:h:60:MET:HE2	2.48	0.43
1:A:1047:U:O2'	1:A:1049:A:H2	2.02	0.43
1:A:1524:G:C2	1:A:1525:G:C5	3.07	0.43
1:A:1671:A:H2'	1:A:1672:U:O4'	2.18	0.43
1:A:1739:G:H2'	1:A:1740:G:C8	2.54	0.43
1:A:1827:G:H5''	19:E:83:ARG:NE	2.34	0.43
1:A:2180:G:O6	1:A:2184:G:O6	2.36	0.43
1:A:2202:C:C4	1:A:2203:U:O4	2.71	0.43
1:A:2242:A:O2'	1:A:2243:C:P	2.77	0.43
1:A:2654:U:C2	1:A:2800:G:C2	3.07	0.43
3:B:33:C:H6	3:B:33:C:O5'	2.01	0.43
4:L:201:GLU:HG3	4:L:218:PHE:CZ	2.48	0.43
4:L:238:ASP:OD1	4:L:238:ASP:N	2.50	0.43
7:O:58:ALA:O	7:O:60:ARG:N	2.52	0.43
8:P:64:LEU:HD23	8:P:76:ALA:HB2	2.01	0.43
8:P:97:TYR:HD1	8:P:100:ARG:HG3	1.84	0.43
8:P:116:ASP:HB2	8:P:118:ALA:HB2	2.00	0.43
10:R:123:MET:SD	25:F:114:VAL:HG21	2.59	0.43
11:S:58:ARG:O	11:S:59:ARG:C	2.62	0.43
12:T:202:LYS:O	12:T:203:LYS:C	2.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:T:233:SER:C	12:T:234:THR:HG23	2.43	0.43
19:E:40:ASN:HA	19:E:44:ILE:O	2.19	0.43
25:F:92:VAL:HG22	25:F:191:PHE:HE2	1.83	0.43
25:F:112:VAL:HG21	25:F:277:MET:HE3	2.01	0.43
28:I:194:PRO:HG3	28:I:203:ARG:HB3	2.00	0.43
1:A:341:A:N6	1:A:344:C:N3	2.67	0.43
1:A:470:G:O2'	1:A:481:G:O6	2.33	0.43
1:A:501:A:H2'	1:A:501:A:N3	2.34	0.43
1:A:517:G:O2'	1:A:518:A:P	2.77	0.43
1:A:572:U:H5''	1:A:573:G:OP2	2.18	0.43
1:A:821:U:H2'	6:N:108:GLY:HA2	2.00	0.43
1:A:1030:G:O3'	32:h:64:PRO:HB2	2.19	0.43
1:A:1483:G:H8	1:A:1483:G:O5'	2.01	0.43
1:A:1841:G:C6	1:A:1842:C:N4	2.86	0.43
1:A:2035:A:C5	11:S:25:ARG:NH2	2.82	0.43
1:A:2212:A:C2	29:J:77:PHE:HB2	2.54	0.43
1:A:2233:G:C6	1:A:2234:G:O6	2.72	0.43
1:A:2414:A:H2'	1:A:2415:C:C6	2.53	0.43
1:A:2433:C:H2'	1:A:2434:C:C6	2.53	0.43
1:A:2472:G:C4	1:A:2473:C:C5	3.07	0.43
2:C:51:U:H2'	2:C:52:G:O4'	2.18	0.43
2:C:73:G:C2	2:C:74:C:C2	3.07	0.43
3:B:16:G:O3'	3:B:17:G:O4'	2.37	0.43
3:B:18:C:H6	3:B:18:C:H5''	1.83	0.43
6:N:142:LYS:C	6:N:143:LEU:HD23	2.44	0.43
8:P:93:VAL:C	8:P:95:GLU:H	2.27	0.43
12:T:204:LYS:HD2	12:T:204:LYS:H	1.84	0.43
19:E:103:PRO:HG2	19:E:106:ALA:HB2	2.00	0.43
25:F:114:VAL:HA	25:F:276:VAL:O	2.19	0.43
25:F:199:ILE:HB	25:F:291:ARG:O	2.18	0.43
26:G:79:LYS:O	26:G:83:VAL:CG2	2.63	0.43
27:H:99:ASN:OD1	27:H:102:GLY:N	2.52	0.43
27:H:132:VAL:HG22	27:H:138:LEU:HD11	2.01	0.43
28:I:82:VAL:HA	28:I:91:ARG:O	2.18	0.43
1:A:391:G:C6	1:A:408:G:O6	2.72	0.42
1:A:609:G:C5'	26:G:79:LYS:CD	2.67	0.42
1:A:859:A:C4	1:A:860:C:C5	3.07	0.42
1:A:1009:A:H8	1:A:1010:C:C5	2.36	0.42
1:A:1307:A:N6	1:A:1350:U:N3	2.67	0.42
1:A:1478:U:H6	1:A:1478:U:H5''	1.84	0.42
1:A:1527:G:H3'	1:A:1528:U:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1527:G:H3'	1:A:1528:U:H5	1.76	0.42
1:A:1757:G:C8	1:A:1757:G:O5'	2.72	0.42
1:A:1852:G:H2'	1:A:1853:C:C6	2.54	0.42
1:A:1897:C:H2'	1:A:1898:G:O4'	2.19	0.42
1:A:2120:U:N3	1:A:2198:A:C2	2.87	0.42
1:A:2198:A:O5'	1:A:2198:A:C8	2.73	0.42
1:A:2229:U:O4	19:E:64:ARG:CZ	2.67	0.42
1:A:2308:U:H5'	1:A:2397:U:H1'	2.01	0.42
2:C:36:A:HO2'	2:C:37:C:P	2.41	0.42
3:B:36:A:P	3:B:36:A:H8	2.42	0.42
6:N:143:LEU:HG	6:N:144:ARG:H	1.84	0.42
9:Q:74:CYS:SG	9:Q:85:GLN:HB2	2.59	0.42
11:S:12:ARG:C	11:S:14:ARG:H	2.27	0.42
11:S:90:LEU:O	11:S:92:LEU:N	2.48	0.42
12:T:146:ARG:NE	32:h:89:TRP:CD1	2.87	0.42
15:W:140:GLU:OE1	15:W:141:GLN:HG2	2.19	0.42
20:b:6:LYS:HB3	20:b:6:LYS:HE2	1.81	0.42
1:A:297:U:H2'	1:A:298:G:C8	2.54	0.42
1:A:366:G:OP2	1:A:366:G:C8	2.72	0.42
1:A:387:G:C3'	1:A:388:C:H5''	2.38	0.42
1:A:524:A:C1'	11:S:11:ARG:HH22	2.31	0.42
1:A:609:G:H4'	26:G:79:LYS:HD2	1.99	0.42
1:A:610:G:P	26:G:79:LYS:HG2	2.59	0.42
1:A:881:U:C2	1:A:916:G:O6	2.71	0.42
1:A:903:G:C2'	1:A:904:U:C5'	2.86	0.42
1:A:1086:G:O6	1:A:1108:C:N3	2.52	0.42
1:A:1142:G:H2'	1:A:1143:C:O4'	2.20	0.42
1:A:1469:G:N1	1:A:1483:G:C6	2.87	0.42
1:A:1541:U:OP2	1:A:1541:U:H5	2.00	0.42
1:A:1603:A:H5'	19:E:55:LYS:CE	2.49	0.42
1:A:1850:G:C5	1:A:1851:U:C5	3.07	0.42
1:A:1870:U:H2'	1:A:1871:U:C6	2.54	0.42
1:A:1879:U:O2	1:A:1887:G:C2	2.71	0.42
1:A:2229:U:O2	1:A:2229:U:H5''	2.19	0.42
1:A:2278:C:H41	16:X:71:ASP:HB3	1.82	0.42
1:A:2381:C:H2'	1:A:2382:G:O4'	2.19	0.42
2:C:88:C:O5'	2:C:88:C:C6	2.70	0.42
3:B:10:G:C2	3:B:114:G:C2	3.07	0.42
3:B:56:U:H1'	27:H:79:LEU:HD21	2.01	0.42
3:B:118:G:OP1	9:Q:102:GLN:OE1	2.37	0.42
4:L:191:LEU:HD12	4:L:191:LEU:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L:198:ARG:HA	4:L:201:GLU:HB3	2.01	0.42
4:L:204:VAL:O	4:L:208:LEU:HG	2.18	0.42
5:M:29:ASN:CG	5:M:30:ARG:H	2.26	0.42
6:N:102:HIS:CD2	12:T:205:ASN:HD21	2.35	0.42
6:N:175:GLU:O	6:N:176:VAL:HB	2.19	0.42
7:O:91:GLU:OE1	7:O:92:TYR:CD2	2.72	0.42
8:P:43:ARG:HD2	8:P:122:TYR:CE2	2.53	0.42
9:Q:114:GLY:O	9:Q:119:VAL:HG21	2.18	0.42
12:T:143:TYR:CD1	12:T:216:ILE:HD12	2.51	0.42
12:T:144:THR:HG23	12:T:146:ARG:H	1.84	0.42
15:W:90:SER:CB	15:W:102:LYS:HD3	2.49	0.42
25:F:199:ILE:CD1	25:F:282:VAL:HB	2.48	0.42
26:G:89:ILE:HD12	26:G:89:ILE:HA	1.72	0.42
29:J:50:LYS:HG2	29:J:68:ASP:OD1	2.18	0.42
1:A:138:C:C2	1:A:157:G:N2	2.88	0.42
1:A:226:A:HO2'	1:A:227:G:P	2.42	0.42
1:A:320:U:O2'	1:A:340:A:O2'	2.36	0.42
1:A:387:G:C6	1:A:388:C:N3	2.88	0.42
1:A:682:C:H2'	1:A:683:C:C6	2.54	0.42
1:A:787:G:O2'	1:A:788:G:P	2.77	0.42
1:A:856:U:O2	1:A:856:U:H3'	2.20	0.42
1:A:898:G:C2	1:A:899:A:N6	2.87	0.42
1:A:934:A:O2'	1:A:935:U:O5'	2.20	0.42
1:A:957:U:C2'	1:A:958:C:H5'	2.49	0.42
1:A:980:G:H2'	1:A:981:G:O4'	2.18	0.42
1:A:1081:C:N3	1:A:1135:A:C6	2.88	0.42
1:A:1533:A:H2'	1:A:1534:A:O4'	2.19	0.42
1:A:1821:G:H2'	1:A:1822:A:H8	1.84	0.42
1:A:2006:G:N1	1:A:2009:U:O4	2.52	0.42
1:A:2078:C:H2'	1:A:2079:C:H6	1.84	0.42
1:A:2215:C:C2'	1:A:2216:U:C5'	2.97	0.42
1:A:2321:G:O2'	27:H:186:ARG:CB	2.65	0.42
1:A:2697:C:H2'	1:A:2698:C:C6	2.54	0.42
2:C:33:A:N3	2:C:33:A:H2'	2.34	0.42
2:C:104:A:C4	2:C:105:A:N7	2.86	0.42
3:B:33:C:H2'	3:B:34:C:C6	2.54	0.42
3:B:56:U:O2'	27:H:77:ASN:OD1	2.26	0.42
4:L:124:LEU:HD13	4:L:161:VAL:HG11	2.01	0.42
6:N:135:PRO:O	6:N:139:ARG:HG3	2.18	0.42
13:U:94:ASN:HB2	13:U:97:ASN:OD1	2.19	0.42
14:V:119:ILE:HG22	14:V:121:THR:HG22	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:d:142:SER:OG	22:d:143:SER:N	2.52	0.42
29:J:69:VAL:HG21	29:J:78:LEU:HD12	2.00	0.42
31:a:48:ASP:CB	31:a:66:LYS:C	2.91	0.42
1:A:101:A:C5	1:A:102:U:C5	3.07	0.42
1:A:121:G:O2'	1:A:122:U:H5'	2.19	0.42
1:A:379:C:H3'	1:A:379:C:O2	2.19	0.42
1:A:549:A:N6	1:A:565:G:O2'	2.52	0.42
1:A:913:G:C4	1:A:914:A:C8	3.07	0.42
1:A:1028:A:N6	1:A:1182:A:C8	2.87	0.42
1:A:1406:A:O2'	1:A:1417:U:O2	2.34	0.42
1:A:1876:A:O5'	1:A:1876:A:C8	2.70	0.42
1:A:2055:U:H2'	1:A:2056:A:C8	2.54	0.42
1:A:2103:G:C6	1:A:2104:A:N6	2.87	0.42
1:A:2242:A:O2'	1:A:2243:C:OP2	2.24	0.42
1:A:2243:C:H2'	1:A:2244:A:O4'	2.20	0.42
3:B:86:G:C6	3:B:87:G:N7	2.87	0.42
7:O:34:LEU:HD11	7:O:129:THR:OG1	2.19	0.42
13:U:57:SER:HA	13:U:99:ILE:HA	2.02	0.42
13:U:67:LEU:HD23	13:U:67:LEU:O	2.20	0.42
16:X:66:THR:C	16:X:68:ASN:OD1	2.62	0.42
16:X:76:ARG:O	16:X:77:LEU:HD23	2.19	0.42
19:E:131:MET:HB2	19:E:131:MET:HE3	1.77	0.42
19:E:206:SER:HA	19:E:209:TRP:CD1	2.43	0.42
19:E:266:ILE:HG22	19:E:268:ARG:N	2.34	0.42
25:F:264:LEU:HD11	25:F:280:GLY:HA3	2.00	0.42
26:G:58:LEU:HA	26:G:63:GLU:O	2.19	0.42
27:H:101:LYS:HA	27:H:104:ASP:HB2	2.02	0.42
1:A:6:A:C8	1:A:6:A:O5'	2.70	0.42
1:A:130:U:O2	1:A:130:U:H3'	2.19	0.42
1:A:176:A:H2'	1:A:177:C:H6	1.85	0.42
1:A:274:G:O6	1:A:433:C:C2'	2.58	0.42
1:A:288:C:C6	1:A:288:C:O5'	2.70	0.42
1:A:337:U:H3	1:A:341:A:H62	1.67	0.42
1:A:605:C:H2'	1:A:606:A:H8	1.84	0.42
1:A:906:C:O5'	1:A:906:C:C6	2.70	0.42
1:A:1168:U:OP1	4:L:123:ILE:CD1	2.68	0.42
1:A:1444:A:O2'	1:A:1534:A:H1'	2.20	0.42
1:A:1537:U:C4	1:A:1538:G:O6	2.72	0.42
1:A:2236:C:C3'	1:A:2237:A:C5'	2.93	0.42
2:C:37:C:C3'	2:C:38:G:C5'	2.98	0.42
6:N:142:LYS:HA	23:e:101:ARG:HD3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:Q:87:ILE:HG22	9:Q:94:THR:HG22	2.01	0.42
10:R:157:GLU:OE1	10:R:161:ARG:NH1	2.53	0.42
11:S:62:ILE:O	11:S:66:ASN:HB2	2.19	0.42
13:U:150:GLU:O	13:U:152:LEU:HG	2.19	0.42
17:Y:129:ILE:C	17:Y:129:ILE:CD1	2.86	0.42
19:E:42:ARG:HG2	19:E:43:GLY:H	1.84	0.42
25:F:119:GLU:OE1	25:F:120:GLY:N	2.42	0.42
1:A:144:A:O3'	1:A:145:A:O4'	2.36	0.42
1:A:319:G:C5	1:A:321:G:C6	3.07	0.42
1:A:420:A:N1	1:A:432:G:C2	2.88	0.42
1:A:478:A:H4'	22:d:123:LEU:HD21	2.01	0.42
1:A:591:C:C2	1:A:1281:G:N2	2.88	0.42
1:A:633:A:C2'	1:A:634:G:H5'	2.49	0.42
1:A:880:U:O2'	1:A:881:U:H5'	2.20	0.42
1:A:891:G:N2	1:A:892:C:O2	2.53	0.42
1:A:1429:C:H2'	1:A:1430:C:H5'	2.00	0.42
1:A:1500:U:C3'	1:A:1500:U:C6	3.02	0.42
1:A:1528:U:O2'	1:A:1529:A:H5'	2.19	0.42
1:A:1588:U:C2	1:A:1670:A:N7	2.85	0.42
1:A:1626:A:O2'	1:A:1627:A:N3	2.52	0.42
1:A:1697:U:C2	1:A:2014:G:N2	2.88	0.42
1:A:1812:A:C2'	1:A:1813:A:H5'	2.48	0.42
1:A:1825:A:H5''	19:E:37:LYS:HZ2	1.83	0.42
1:A:1828:U:H6	1:A:1828:U:O5'	2.03	0.42
3:B:17:G:C2	3:B:70:G:H1'	2.40	0.42
3:B:42:C:P	3:B:43:C:C5	3.13	0.42
4:L:121:ASP:O	4:L:122:LEU:HD23	2.20	0.42
4:L:203:ALA:O	4:L:207:MET:HG2	2.19	0.42
6:N:175:GLU:C	6:N:176:VAL:HG23	2.44	0.42
10:R:194:ILE:HG22	10:R:195:VAL:N	2.34	0.42
11:S:91:LEU:HD23	11:S:91:LEU:HA	1.86	0.42
12:T:233:SER:O	12:T:234:THR:HG23	2.18	0.42
16:X:67:LYS:O	16:X:69:GLY:N	2.47	0.42
16:X:75:GLN:OE1	16:X:76:ARG:N	2.47	0.42
18:Z:77:ASN:HD21	18:Z:140:TRP:HE1	1.66	0.42
19:E:42:ARG:NH2	19:E:44:ILE:HD13	2.34	0.42
19:E:140:ILE:HD13	19:E:180:ILE:HD13	2.02	0.42
21:c:47:GLU:HA	21:c:54:TYR:HB3	2.01	0.42
26:G:190:PHE:O	26:G:193:ALA:HB3	2.19	0.42
1:A:133:A:C6	1:A:162:A:C2	2.80	0.42
1:A:307:C:H2'	1:A:308:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:356:A:N3	1:A:357:G:C8	2.87	0.42
1:A:394:G:N2	1:A:405:C:C4	2.87	0.42
1:A:582:A:H5'	12:T:202:LYS:NZ	2.35	0.42
1:A:823:C:HO2'	1:A:824:U:H5'	1.80	0.42
1:A:845:C:C2	1:A:846:A:C8	3.07	0.42
1:A:878:U:H6	1:A:878:U:O5'	2.03	0.42
1:A:881:U:C2	1:A:916:G:C6	3.08	0.42
1:A:943:C:H6	1:A:943:C:H5''	1.85	0.42
1:A:964:C:C4	1:A:965:G:C8	3.07	0.42
1:A:1070:G:C2	1:A:1071:C:C2	3.08	0.42
1:A:1637:G:OP1	14:V:166:ILE:HG21	2.19	0.42
1:A:1691:A:H62	1:A:2019:G:N2	2.16	0.42
1:A:1804:U:C2	1:A:1805:C:C5	3.08	0.42
1:A:1882:U:O5'	1:A:1882:U:H6	2.03	0.42
1:A:2211:U:O4	1:A:2241:G:N3	2.53	0.42
1:A:2233:G:C2	1:A:2234:G:C6	3.07	0.42
1:A:2485:A:N6	1:A:2498:G:C5	2.88	0.42
1:A:2565:G:H4'	5:M:31:ARG:HH22	1.84	0.42
1:A:2804:U:C4	1:A:2805:C:C5	3.08	0.42
2:C:63:G:O5'	2:C:63:G:H8	2.02	0.42
2:C:78:G:C2	2:C:79:G:C8	3.08	0.42
3:B:75:C:H2'	3:B:76:G:O4'	2.20	0.42
3:B:119:G:OP1	9:Q:101:MET:HE2	2.20	0.42
6:N:97:ARG:NH1	6:N:100:ARG:CG	2.82	0.42
10:R:224:ASP:C	10:R:224:ASP:OD1	2.62	0.42
13:U:88:SER:O	13:U:92:GLN:HA	2.20	0.42
20:b:45:SER:HG	20:b:46:PHE:HD2	1.64	0.42
27:H:107:ILE:HA	27:H:118:PRO:HG3	2.00	0.42
31:a:51:VAL:HG22	31:a:52:TYR:N	2.35	0.42
1:A:131:C:C5	14:V:104:TYR:CD2	3.06	0.42
1:A:154:C:H5'	1:A:154:C:H6	1.85	0.42
1:A:167:A:H2'	1:A:168:C:H6	1.84	0.42
1:A:320:U:HO2'	1:A:321:G:P	2.36	0.42
1:A:419:C:H2'	1:A:420:A:H8	1.84	0.42
1:A:524:A:C1'	11:S:11:ARG:NH2	2.80	0.42
1:A:1192:A:H2'	1:A:1193:U:H6	1.83	0.42
1:A:1526:G:H8	1:A:1526:G:O5'	2.01	0.42
1:A:1691:A:O5'	1:A:1691:A:C8	2.70	0.42
1:A:1805:C:H2'	1:A:1806:U:C6	2.53	0.42
1:A:2033:A:OP2	1:A:2033:A:H8	2.03	0.42
1:A:2425:U:N3	1:A:2426:G:N7	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2600:G:H2'	1:A:2601:U:O4'	2.20	0.42
1:A:2678:G:H8	1:A:2678:G:OP2	2.03	0.42
2:C:74:C:H4'	8:P:75:GLN:NE2	2.34	0.42
3:B:79:A:H4'	7:O:21:SER:CB	2.50	0.42
5:M:8:LEU:HD12	5:M:8:LEU:N	2.34	0.42
5:M:11:ALA:O	5:M:99:PHE:N	2.34	0.42
6:N:157:TYR:HB2	6:N:196:LEU:HD22	2.01	0.42
8:P:38:LEU:HD22	8:P:58:VAL:HG21	2.02	0.42
11:S:91:LEU:CD2	32:h:82:LEU:HD21	2.50	0.42
21:c:48:LEU:HD12	21:c:48:LEU:HA	1.44	0.42
25:F:142:GLU:O	25:F:144:LEU:HG	2.20	0.42
26:G:58:LEU:HA	26:G:58:LEU:HD13	1.93	0.42
27:H:181:TYR:CE1	27:H:219:ALA:HB3	2.55	0.42
28:I:52:ALA:O	28:I:54:VAL:HG23	2.20	0.42
1:A:106:G:H2'	1:A:107:A:O4'	2.20	0.42
1:A:253:C:H2'	1:A:254:U:O2	2.20	0.42
1:A:354:A:O2'	1:A:355:A:O5'	2.37	0.42
1:A:632:G:C8	1:A:634:G:O6	2.73	0.42
1:A:679:G:H2'	1:A:681:A:H62	1.84	0.42
1:A:1278:U:HO2'	26:G:135:PRO:CD	2.32	0.42
1:A:1477:G:C2	1:A:1478:U:O2	2.73	0.42
1:A:1625:A:H3'	1:A:1626:A:C8	2.55	0.42
1:A:1852:G:H2'	1:A:1853:C:H6	1.85	0.42
1:A:2116:C:H42	1:A:2201:G:N2	2.17	0.42
1:A:2424:G:H2'	1:A:2425:U:C6	2.55	0.42
1:A:2442:A:H4'	1:A:2443:A:O5'	2.19	0.42
1:A:2574:G:O2'	1:A:2575:C:H5'	2.19	0.42
3:B:110:C:C3'	3:B:110:C:C6	3.03	0.42
12:T:110:PHE:HD1	12:T:111:LEU:HD23	1.84	0.42
16:X:120:ASP:OD1	16:X:120:ASP:N	2.53	0.42
24:f:44:VAL:C	24:f:73:GLN:HE22	2.28	0.42
29:J:76:ASN:O	29:J:80:PRO:CB	2.65	0.42
1:A:208:A:H4'	1:A:432:G:O2'	2.20	0.42
1:A:275:U:H3'	1:A:275:U:O2	2.19	0.42
1:A:289:A:HO2'	1:A:290:A:H5'	1.81	0.42
1:A:306:G:H2'	1:A:307:C:C6	2.55	0.42
1:A:613:U:C3'	1:A:613:U:C6	3.02	0.42
1:A:689:C:H2'	1:A:690:U:H6	1.85	0.42
1:A:1531:A:N3	1:A:1531:A:C2'	2.79	0.42
1:A:1736:A:H2'	1:A:1737:A:H5'	2.02	0.42
1:A:1803:G:H2'	1:A:1804:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1885:C:N4	6:N:253:ALA:HA	2.32	0.42
1:A:2220:G:C4	1:A:2221:U:C6	3.08	0.42
1:A:2308:U:H2'	1:A:2309:U:C6	2.55	0.42
1:A:2322:A:C5	27:H:186:ARG:CD	2.88	0.42
9:Q:122:LYS:O	9:Q:125:GLU:HB3	2.19	0.42
13:U:47:ARG:HH11	20:b:21:LYS:NZ	2.18	0.42
16:X:122:LEU:CD1	16:X:140:ARG:CB	2.98	0.42
19:E:258:ARG:HA	19:E:258:ARG:CZ	2.50	0.42
23:e:140:ARG:HA	23:e:143:TYR:HB3	2.01	0.42
24:f:44:VAL:HG13	24:f:73:GLN:NE2	2.30	0.42
24:f:48:CYS:SG	24:f:51:CYS:SG	3.12	0.42
25:F:147:ARG:O	25:F:149:LEU:N	2.53	0.42
28:I:123:PHE:CE1	28:I:178:LYS:HE3	2.55	0.42
1:A:127:C:H2'	1:A:128:U:H6	1.82	0.41
1:A:298:G:H2'	1:A:299:C:C6	2.46	0.41
1:A:497:C:H2'	1:A:498:C:C6	2.55	0.41
1:A:944:C:C3'	1:A:944:C:C6	3.02	0.41
1:A:963:U:O5'	1:A:963:U:H6	2.03	0.41
1:A:1065:G:O2'	1:A:1066:G:H8	2.03	0.41
1:A:1506:U:H2'	1:A:1507:G:O4'	2.20	0.41
1:A:1524:G:O5'	1:A:1524:G:C8	2.73	0.41
1:A:1693:U:OP1	25:F:229:HIS:O	2.38	0.41
1:A:1877:C:N3	1:A:1878:C:C5	2.88	0.41
1:A:1878:C:C4	1:A:1879:U:O4	2.72	0.41
1:A:1985:A:H1'	19:E:236:PRO:HB3	2.02	0.41
1:A:2142:G:O2'	1:A:2188:C:C4'	2.68	0.41
3:B:14:U:H3'	3:B:15:A:C8	2.54	0.41
3:B:15:A:O2'	3:B:16:G:C8	2.70	0.41
7:O:17:MET:SD	7:O:96:VAL:HG13	2.59	0.41
12:T:181:ALA:HB3	12:T:225:THR:HG21	1.99	0.41
30:g:107:LYS:HA	30:g:107:LYS:HD2	1.85	0.41
1:A:226:A:H1'	1:A:228:U:C5	2.54	0.41
1:A:278:G:O5'	1:A:278:G:C8	2.73	0.41
1:A:671:C:C4	1:A:672:U:O4	2.73	0.41
1:A:879:G:C2	1:A:880:U:O2	2.73	0.41
1:A:919:A:N6	1:A:920:A:N6	2.68	0.41
1:A:1134:G:O2'	1:A:1135:A:H5'	2.20	0.41
1:A:1482:C:C3'	1:A:1482:C:C6	3.03	0.41
1:A:1650:A:C8	1:A:1650:A:O5'	2.71	0.41
1:A:1651:C:OP2	1:A:1653:C:C5	2.73	0.41
1:A:1693:U:H2'	1:A:1694:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2075:G:C8	1:A:2518:C:O2'	2.72	0.41
1:A:2109:C:C5	1:A:2110:U:C6	3.05	0.41
1:A:2120:U:N3	1:A:2198:A:H2	2.18	0.41
1:A:2351:G:N3	9:Q:64:VAL:HG22	2.31	0.41
1:A:2479:U:C5	1:A:2505:A:C2	3.08	0.41
1:A:2524:C:C2	1:A:2600:G:C2	3.08	0.41
2:C:78:G:H2'	2:C:79:G:H8	1.84	0.41
6:N:144:ARG:C	6:N:146:ILE:CD1	2.88	0.41
6:N:158:VAL:HG11	6:N:201:LEU:HD11	2.02	0.41
7:O:72:LYS:HB2	7:O:72:LYS:HE3	1.87	0.41
8:P:61:MET:HE1	8:P:76:ALA:HA	2.02	0.41
9:Q:100:THR:O	9:Q:100:THR:HG22	2.21	0.41
11:S:80:LYS:HG3	11:S:83:HIS:ND1	2.35	0.41
13:U:168:ARG:HD3	13:U:168:ARG:HA	1.62	0.41
14:V:131:GLU:O	14:V:132:ASN:HB2	2.20	0.41
19:E:48:ARG:C	19:E:49:HIS:CG	2.98	0.41
19:E:115:GLY:O	19:E:127:PRO:HD3	2.20	0.41
26:G:97:ARG:O	26:G:99:THR:HG22	2.20	0.41
27:H:109:GLU:O	27:H:113:ILE:HD12	2.20	0.41
28:I:126:LYS:C	28:I:127:LEU:HD12	2.45	0.41
1:A:82:G:C6	1:A:100:G:C6	3.08	0.41
1:A:133:A:C4	1:A:134:A:N7	2.88	0.41
1:A:704:A:H2'	1:A:705:U:O4'	2.21	0.41
1:A:720:U:H2'	1:A:721:U:C6	2.55	0.41
1:A:822:U:O2	6:N:99:GLY:O	2.37	0.41
1:A:885:G:C2	1:A:886:U:C2	3.08	0.41
1:A:1065:G:HO2'	1:A:1066:G:C5'	2.33	0.41
1:A:1471:A:HO2'	1:A:1472:A:P	2.30	0.41
1:A:1539:C:H2'	1:A:1540:C:H6	1.70	0.41
1:A:1600:A:H5''	19:E:210:LEU:CD2	2.50	0.41
1:A:1698:C:O2'	1:A:2704:U:H5''	2.20	0.41
1:A:1993:C:O2'	1:A:1994:G:H5'	2.20	0.41
1:A:2211:U:C4	1:A:2241:G:N1	2.88	0.41
1:A:2324:G:H4'	1:A:2325:G:C5'	2.46	0.41
1:A:2422:G:HO2'	1:A:2423:A:P	2.42	0.41
3:B:35:A:C2'	3:B:36:A:C8	3.01	0.41
3:B:57:U:H4'	3:B:58:A:O5'	2.19	0.41
3:B:89:A:O5'	3:B:89:A:C8	2.70	0.41
5:M:1:MET:SD	5:M:32:TYR:HD1	2.42	0.41
6:N:80:PHE:CD1	6:N:85:LEU:CD2	3.03	0.41
6:N:153:GLY:O	6:N:154:LEU:CB	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:Q:81:HIS:O	9:Q:82:LEU:HD12	2.21	0.41
10:R:152:ARG:HH21	10:R:164:VAL:HG22	1.85	0.41
11:S:32:THR:HA	11:S:35:ILE:CG1	2.50	0.41
11:S:52:ARG:CD	11:S:55:ARG:HH11	2.32	0.41
14:V:132:ASN:OD1	14:V:183:ASN:HA	2.20	0.41
19:E:153:ALA:O	19:E:191:VAL:HG11	2.20	0.41
26:G:52:LEU:HD22	26:G:71:ASN:HA	2.02	0.41
26:G:238:ASP:OD1	26:G:238:ASP:N	2.52	0.41
29:J:74:LEU:HA	29:J:78:LEU:HD12	2.03	0.41
31:a:47:GLU:OE2	31:a:62:GLY:CA	2.69	0.41
1:A:95:G:OP1	18:Z:100:PHE:HE1	2.04	0.41
1:A:320:U:O4'	1:A:341:A:N3	2.53	0.41
1:A:381:C:N3	1:A:416:C:C5	2.88	0.41
1:A:393:G:N2	1:A:406:C:C2	2.88	0.41
1:A:795:U:H5''	19:E:222:ASN:OD1	2.17	0.41
1:A:873:A:C2'	1:A:874:G:H5'	2.50	0.41
1:A:891:G:C2	1:A:892:C:N3	2.88	0.41
1:A:1031:G:N2	1:A:1180:C:C2	2.89	0.41
1:A:1269:G:C8	11:S:3:ARG:HB3	2.54	0.41
1:A:1783:A:N7	1:A:1839:A:H1'	2.35	0.41
1:A:1830:U:C5'	1:A:1831:G:N7	2.82	0.41
1:A:1857:A:H4'	1:A:1858:A:C8	2.56	0.41
1:A:2335:C:C3'	1:A:2335:C:C6	3.03	0.41
1:A:2702:G:C2	1:A:2703:G:N7	2.89	0.41
2:C:53:G:H2'	2:C:70:G:N2	2.35	0.41
3:B:45:G:H1'	3:B:48:C:N4	2.35	0.41
3:B:111:G:H2'	3:B:112:A:H5'	2.02	0.41
6:N:162:LEU:O	6:N:166:GLU:CB	2.69	0.41
10:R:187:ILE:HD12	10:R:187:ILE:HG23	1.79	0.41
11:S:17:ILE:O	11:S:20:PHE:N	2.54	0.41
13:U:163:LEU:O	13:U:164:MET:SD	2.79	0.41
15:W:104:LEU:C	15:W:104:LEU:HD12	2.45	0.41
18:Z:120:ARG:HD2	18:Z:120:ARG:HA	1.58	0.41
19:E:83:ARG:HG3	19:E:84:ASN:N	2.34	0.41
19:E:129:THR:HG22	19:E:182:LYS:HB2	2.02	0.41
19:E:144:LEU:HD12	19:E:144:LEU:H	1.85	0.41
19:E:155:GLY:N	19:E:191:VAL:HG13	2.32	0.41
24:f:44:VAL:O	24:f:73:GLN:CD	2.63	0.41
26:G:69:PHE:CD1	26:G:69:PHE:C	2.97	0.41
26:G:146:ARG:CZ	26:G:148:TRP:CE3	3.03	0.41
28:I:56:ILE:HG21	28:I:90:LEU:HD21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:23:G:H2'	1:A:24:U:H6	1.83	0.41
1:A:229:A:H2'	1:A:230:G:O4'	2.20	0.41
1:A:236:A:H8	1:A:236:A:O5'	2.03	0.41
1:A:383:A:O2'	17:Y:131:LYS:NZ	2.52	0.41
1:A:539:A:H5'	4:L:212:ARG:NE	2.34	0.41
1:A:622:G:OP2	1:A:622:G:H8	2.02	0.41
1:A:634:G:OP1	6:N:190:SER:O	2.39	0.41
1:A:668:U:H3'	1:A:668:U:H6	1.85	0.41
1:A:856:U:O4	1:A:962:G:C6	2.61	0.41
1:A:964:C:H5''	1:A:964:C:H6	1.85	0.41
1:A:1076:A:H2'	1:A:1077:C:C6	2.54	0.41
1:A:1153:G:C5	1:A:1154:A:C8	3.08	0.41
1:A:1189:G:H1'	12:T:145:GLN:HE21	1.85	0.41
1:A:1669:G:C6	1:A:1671:A:C6	3.09	0.41
1:A:1808:C:C2	1:A:1829:A:N6	2.88	0.41
1:A:1949:G:H1'	1:A:1978:G:N2	2.36	0.41
1:A:2292:C:OP2	16:X:70:ARG:NE	2.53	0.41
1:A:2407:U:H5''	23:e:123:LYS:HD3	2.01	0.41
1:A:2742:C:OP1	25:F:206:LYS:NZ	2.37	0.41
1:A:2804:U:OP1	25:F:159:LYS:CB	2.68	0.41
2:C:32:C:H1'	2:C:33:A:OP1	2.20	0.41
2:C:69:U:H6	2:C:69:U:O5'	2.03	0.41
2:C:84:C:C2'	2:C:85:U:H5'	2.50	0.41
3:B:11:U:O5'	3:B:11:U:C6	2.71	0.41
3:B:19:G:H2'	3:B:20:U:H6	1.85	0.41
3:B:36:A:C2	3:B:50:U:C2	3.09	0.41
3:B:39:C:H3'	3:B:40:A:C8	2.54	0.41
3:B:86:G:H2'	3:B:87:G:H5'	2.02	0.41
3:B:118:G:O2'	3:B:119:G:P	2.79	0.41
4:L:168:ARG:HA	4:L:188:PHE:HD2	1.86	0.41
5:M:69:LEU:O	5:M:76:ILE:HA	2.20	0.41
6:N:165:ILE:HG23	6:N:166:GLU:N	2.34	0.41
11:S:92:LEU:HD13	11:S:94:ARG:NH1	2.34	0.41
13:U:39:ILE:O	13:U:41:MET:N	2.52	0.41
19:E:126:LEU:O	19:E:126:LEU:HD12	2.20	0.41
25:F:136:ALA:CB	25:F:172:ARG:HA	2.51	0.41
1:A:22:G:C4	1:A:529:G:N2	2.88	0.41
1:A:99:A:O5'	1:A:99:A:C8	2.73	0.41
1:A:490:A:N3	15:W:107:LYS:HE3	2.35	0.41
1:A:751:C:H5'	1:A:1794:A:H2'	2.01	0.41
1:A:858:G:C6	1:A:859:A:N6	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:861:A:C2	1:A:862:U:C2	3.08	0.41
1:A:899:A:C2	1:A:900:G:C8	3.09	0.41
1:A:910:A:C8	1:A:910:A:O5'	2.70	0.41
1:A:1060:A:H1'	24:f:60:ILE:HD13	2.01	0.41
1:A:1201:A:H2'	1:A:1202:A:H8	1.85	0.41
1:A:1311:C:H2'	1:A:1312:A:C8	2.53	0.41
1:A:1425:C:C2	1:A:1426:U:C5	3.08	0.41
1:A:1692:C:OP1	25:F:230:ARG:HD3	2.20	0.41
1:A:2176:A:OP1	1:A:2185:A:H2'	2.20	0.41
1:A:2223:A:N6	1:A:2233:G:N1	2.69	0.41
1:A:2247:C:H5''	17:Y:100:PHE:CD1	2.55	0.41
1:A:2430:G:H2'	1:A:2431:G:O4'	2.21	0.41
1:A:2654:U:C2	1:A:2800:G:N2	2.88	0.41
1:A:2806:U:H1'	2:C:5:A:H2	1.86	0.41
2:C:78:G:N3	2:C:79:G:C8	2.89	0.41
5:M:118:PRO:HG2	5:M:119:GLU:OE1	2.20	0.41
9:Q:128:ALA:HB1	9:Q:162:HIS:HB2	2.01	0.41
10:R:140:VAL:HG23	10:R:206:ILE:HG12	2.02	0.41
11:S:108:ILE:HA	11:S:108:ILE:HD12	1.85	0.41
15:W:67:ARG:HH22	15:W:92:ILE:HG12	1.86	0.41
16:X:143:GLN:C	16:X:145:GLU:H	2.26	0.41
16:X:162:ARG:HG3	16:X:163:GLU:H	1.86	0.41
26:G:210:MET:HG2	26:G:251:THR:HG23	2.02	0.41
28:I:198:LYS:HE2	28:I:200:LYS:HB3	2.03	0.41
1:A:143:G:N3	1:A:2224:G:C2	2.89	0.41
1:A:166:A:C2	1:A:446:U:H1'	2.55	0.41
1:A:493:G:O2'	1:A:494:A:OP2	2.39	0.41
1:A:899:A:H1'	1:A:900:G:OP1	2.21	0.41
1:A:1087:G:H1	1:A:1107:C:N4	2.15	0.41
1:A:1464:U:H2'	1:A:1465:A:O4'	2.20	0.41
1:A:1479:U:O2	1:A:2719:G:N2	2.54	0.41
1:A:2204:A:C2'	1:A:2205:G:H5'	2.50	0.41
1:A:2207:A:N3	1:A:2208:U:C2	2.89	0.41
1:A:2211:U:H6	1:A:2211:U:H5''	1.84	0.41
1:A:2403:U:H4'	16:X:112:ASP:HA	2.01	0.41
2:C:33:A:H1'	2:C:34:U:OP1	2.21	0.41
2:C:60:A:H2'	2:C:61:G:O4'	2.21	0.41
3:B:35:A:H3'	3:B:36:A:C8	2.55	0.41
3:B:90:G:H2'	3:B:91:G:O5'	2.21	0.41
3:B:112:A:O2'	3:B:113:C:O5'	2.38	0.41
10:R:126:LEU:HD23	10:R:126:LEU:HA	1.90	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:T:171:TYR:HE2	12:T:231:PRO:HB3	0.78	0.41
17:Y:129:ILE:CG1	17:Y:130:GLU:N	2.84	0.41
18:Z:68:LEU:HG	18:Z:115:MET:SD	2.61	0.41
22:d:124:LEU:O	22:d:125:LYS:C	2.63	0.41
24:f:47:ILE:HG13	24:f:69:HIS:CD2	2.43	0.41
25:F:126:VAL:HG12	25:F:181:PRO:HB3	2.03	0.41
30:g:105:LYS:HD2	30:g:105:LYS:HA	1.66	0.41
31:a:73:TRP:HB2	31:a:74:SER:H	1.65	0.41
1:A:501:A:N7	13:U:78:LYS:NZ	2.67	0.41
1:A:665:U:H2'	1:A:666:U:C5'	2.51	0.41
1:A:722:G:O6	1:A:732:A:C6	2.74	0.41
1:A:859:A:C6	1:A:860:C:N4	2.89	0.41
1:A:867:G:H2'	1:A:868:G:O4'	2.21	0.41
1:A:885:G:C6	1:A:886:U:N3	2.88	0.41
1:A:1082:A:C6	1:A:1134:G:C6	3.09	0.41
1:A:1307:A:N6	1:A:1350:U:C2	2.88	0.41
1:A:1750:C:O5'	1:A:1750:C:C6	2.71	0.41
1:A:1809:G:P	19:E:256:ARG:HD3	2.61	0.41
1:A:1886:A:C3'	1:A:1887:G:H5'	2.49	0.41
1:A:1888:G:O6	1:A:1889:G:C6	2.73	0.41
1:A:2012:G:H2'	1:A:2013:A:C8	2.55	0.41
1:A:2107:G:N2	1:A:2108:G:C8	2.89	0.41
1:A:2120:U:C4	1:A:2198:A:C2	3.09	0.41
1:A:2150:G:H22	1:A:2151:G:N2	2.19	0.41
1:A:2199:G:C6	1:A:2200:A:C8	3.08	0.41
1:A:2212:A:O2'	1:A:2213:A:P	2.79	0.41
1:A:2223:A:O3'	1:A:2224:G:H8	2.04	0.41
1:A:2227:C:H2'	1:A:2228:C:H5'	2.02	0.41
1:A:2242:A:H1'	1:A:2243:C:H5	1.86	0.41
1:A:2417:G:O2'	21:c:28:ARG:CB	2.58	0.41
1:A:2642:G:C4	1:A:2643:C:C2	3.09	0.41
2:C:13:G:H21	2:C:40:U:H1'	1.85	0.41
3:B:35:A:C8	3:B:35:A:O5'	2.70	0.41
6:N:198:LEU:HD23	6:N:199:LYS:CA	2.50	0.41
10:R:218:ARG:HD3	10:R:220:TYR:OH	2.20	0.41
11:S:57:PHE:HD1	11:S:57:PHE:HA	1.70	0.41
12:T:116:PRO:N	12:T:117:PRO:HD2	2.32	0.41
13:U:165:SER:C	13:U:166:THR:HG1	2.20	0.41
17:Y:82:SER:CB	17:Y:100:PHE:HB3	2.51	0.41
19:E:61:ILE:HG12	19:E:83:ARG:HH22	1.86	0.41
19:E:135:THR:HG22	19:E:136:ALA:N	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:F:179:PHE:HA	25:F:184:LYS:HZ3	1.85	0.41
25:F:240:THR:O	25:F:241:PRO:C	2.63	0.41
27:H:157:ILE:HD13	27:H:227:GLY:H	1.86	0.41
28:I:74:ILE:HD12	28:I:115:MET:CG	2.51	0.41
28:I:139:GLU:O	28:I:141:LYS:N	2.52	0.41
30:g:90:LEU:CB	30:g:91:PRO:HD3	2.45	0.41
1:A:17:C:C5'	11:S:25:ARG:HA	2.51	0.41
1:A:44:G:C8	1:A:200:G:O2'	2.41	0.41
1:A:151:G:C4	1:A:152:G:N7	2.88	0.41
1:A:261:U:N3	1:A:266:A:N6	2.68	0.41
1:A:274:G:N3	1:A:276:G:C8	2.89	0.41
1:A:290:A:C2	1:A:291:G:N7	2.88	0.41
1:A:341:A:C6	1:A:344:C:C4	3.08	0.41
1:A:355:A:C5	1:A:356:A:C5	3.09	0.41
1:A:359:A:C6	1:A:360:U:O4	2.74	0.41
1:A:367:C:OP2	1:A:367:C:H6	2.03	0.41
1:A:384:G:O3'	1:A:385:U:C6	2.73	0.41
1:A:434:A:O5'	1:A:434:A:C8	2.70	0.41
1:A:501:A:H62	13:U:78:LYS:NZ	2.19	0.41
1:A:627:C:O2'	1:A:628:A:P	2.79	0.41
1:A:897:A:OP2	1:A:897:A:C8	2.70	0.41
1:A:1030:G:OP1	32:h:66:LYS:HB2	2.21	0.41
1:A:1049:A:H62	1:A:1168:U:H3	1.67	0.41
1:A:1257:G:H5''	1:A:1258:A:OP1	2.21	0.41
1:A:1337:U:C2	1:A:1338:C:C5	3.09	0.41
1:A:1461:G:N1	1:A:1586:G:N7	2.69	0.41
1:A:1474:A:O2'	1:A:1475:U:P	2.79	0.41
1:A:1495:C:N4	1:A:1548:A:C6	2.88	0.41
1:A:1607:G:H2'	1:A:1607:G:N3	2.36	0.41
1:A:1752:C:C3'	1:A:1752:C:C6	3.03	0.41
1:A:1756:G:C8	1:A:1756:G:O5'	2.74	0.41
1:A:1756:G:N2	1:A:1757:G:C4	2.88	0.41
1:A:1829:A:H1'	1:A:1830:U:OP2	2.21	0.41
1:A:1876:A:H62	1:A:1889:G:N2	2.19	0.41
1:A:1944:G:O2'	1:A:1945:U:O5'	2.36	0.41
1:A:1966:A:N6	5:M:22:ILE:HD12	2.36	0.41
1:A:2061:C:O2'	2:C:19:A:N1	2.53	0.41
1:A:2113:G:H1	1:A:2204:A:N6	2.17	0.41
1:A:2150:G:N1	1:A:2151:G:N1	2.69	0.41
1:A:2210:C:O2'	1:A:2211:U:P	2.79	0.41
1:A:2222:C:H2'	1:A:2223:A:N9	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2229:U:H5	19:E:64:ARG:NH1	2.16	0.41
1:A:2303:A:N6	21:c:34:ILE:HD11	2.27	0.41
1:A:2320:G:C3'	27:H:175:PHE:HA	2.51	0.41
1:A:2808:C:C3'	1:A:2808:C:C6	3.04	0.41
2:C:75:U:O4	2:C:76:G:C6	2.74	0.41
2:C:88:C:H6	2:C:88:C:OP2	2.03	0.41
3:B:7:G:O4'	3:B:8:G:OP1	2.38	0.41
3:B:13:C:H1'	3:B:111:G:N2	2.36	0.41
3:B:14:U:O2'	3:B:15:A:P	2.79	0.41
3:B:36:A:N6	3:B:45:G:N9	2.68	0.41
3:B:38:C:C5	3:B:39:C:N3	2.89	0.41
4:L:103:LYS:HD3	11:S:102:ILE:HD13	2.01	0.41
4:L:176:HIS:CD2	4:L:177:SER:O	2.73	0.41
6:N:140:ILE:HG23	23:e:113:ARG:O	2.21	0.41
6:N:154:LEU:HD23	6:N:154:LEU:HA	1.94	0.41
7:O:89:SER:C	7:O:91:GLU:H	2.29	0.41
8:P:54:MET:O	8:P:55:ARG:C	2.64	0.41
9:Q:49:ARG:O	9:Q:53:ARG:N	2.52	0.41
16:X:133:LYS:CE	16:X:133:LYS:N	2.84	0.41
17:Y:78:THR:C	17:Y:80:LYS:H	2.29	0.41
17:Y:107:ARG:HA	17:Y:117:VAL:O	2.20	0.41
18:Z:105:PHE:HE2	18:Z:109:ARG:HE	1.67	0.41
18:Z:115:MET:HE3	18:Z:115:MET:HB3	1.74	0.41
19:E:42:ARG:O	19:E:44:ILE:N	2.54	0.41
25:F:241:PRO:C	25:F:243:HIS:H	2.28	0.41
26:G:148:TRP:CD1	26:G:148:TRP:C	2.98	0.41
26:G:177:GLU:HB3	26:G:197:TRP:CZ2	2.56	0.41
26:G:210:MET:HE3	26:G:210:MET:HB3	1.85	0.41
26:G:210:MET:C	26:G:212:LEU:H	2.29	0.41
26:G:213:VAL:O	26:G:216:VAL:HG22	2.21	0.41
27:H:199:VAL:HG12	27:H:201:LYS:H	1.86	0.41
27:H:217:LYS:HE3	27:H:217:LYS:HB3	1.86	0.41
29:J:70:ARG:HA	29:J:70:ARG:HD3	1.69	0.41
1:A:118:U:C5	1:A:133:A:C2	3.09	0.41
1:A:130:U:H2'	1:A:131:C:OP1	2.21	0.41
1:A:151:G:C8	1:A:151:G:O5'	2.73	0.41
1:A:165:C:H6	1:A:165:C:H3'	1.86	0.41
1:A:290:A:C2	1:A:291:G:C6	3.09	0.41
1:A:293:G:C2	1:A:366:G:C2	3.09	0.41
1:A:355:A:C8	1:A:356:A:O4'	2.70	0.41
1:A:389:A:C6	1:A:410:G:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:668:U:O5'	1:A:668:U:H6	2.04	0.41
1:A:828:C:O2'	1:A:850:G:OP1	2.35	0.41
1:A:1269:G:H8	11:S:3:ARG:HB3	1.84	0.41
1:A:1453:G:N2	1:A:1596:U:C2	2.89	0.41
1:A:1549:A:C6	1:A:1550:U:O2	2.74	0.41
1:A:1558:U:H2'	1:A:1559:A:C8	2.56	0.41
1:A:1603:A:OP1	19:E:25:ARG:NH2	2.52	0.41
1:A:1829:A:OP1	19:E:151:ALA:CA	2.59	0.41
1:A:1848:C:H5'	1:A:1849:A:OP1	2.21	0.41
1:A:2320:G:O2'	27:H:175:PHE:HB2	2.21	0.41
1:A:2363:A:OP2	1:A:2399:G:H5'	2.21	0.41
1:A:2433:C:H2'	1:A:2434:C:H6	1.85	0.41
3:B:35:A:N1	3:B:51:G:C5	2.89	0.41
3:B:88:G:C2	3:B:90:G:H5'	2.56	0.41
3:B:94:C:H2'	3:B:95:U:C6	2.56	0.41
4:L:136:ARG:HD3	4:L:209:PRO:CD	2.51	0.41
4:L:217:LEU:C	4:L:219:ASN:N	2.79	0.41
6:N:146:ILE:CD1	6:N:146:ILE:N	2.81	0.41
6:N:157:TYR:CD1	6:N:158:VAL:N	2.88	0.41
10:R:178:HIS:CD2	25:F:101:SER:HG	2.31	0.41
10:R:219:LEU:HD22	10:R:221:TYR:CE2	2.56	0.41
11:S:62:ILE:HD12	11:S:78:TYR:CZ	2.56	0.41
11:S:94:ARG:O	11:S:95:LYS:C	2.63	0.41
12:T:97:GLU:N	12:T:98:PRO:CD	2.81	0.41
12:T:123:ILE:HG23	12:T:224:ILE:HD12	2.02	0.41
15:W:136:LEU:O	15:W:144:ALA:HA	2.21	0.41
15:W:166:GLU:N	15:W:166:GLU:CD	2.73	0.41
16:X:128:TYR:CD1	16:X:134:LYS:HD2	2.55	0.41
17:Y:82:SER:HA	17:Y:100:PHE:HA	2.02	0.41
17:Y:115:ARG:NH1	17:Y:145:LEU:HD21	2.36	0.41
18:Z:117:THR:O	18:Z:121:GLU:HG3	2.21	0.41
18:Z:118:VAL:HG11	18:Z:122:ARG:HH22	1.84	0.41
23:e:117:LYS:O	23:e:121:LEU:HD21	2.20	0.41
26:G:81:ARG:H	26:G:81:ARG:HD3	1.86	0.41
26:G:204:LYS:O	26:G:205:SER:C	2.64	0.41
27:H:145:ARG:HG2	27:H:146:GLY:N	2.30	0.41
1:A:99:A:O5'	1:A:99:A:H8	2.04	0.40
1:A:150:U:C4	1:A:151:G:O6	2.74	0.40
1:A:274:G:H2'	1:A:275:U:OP2	2.22	0.40
1:A:288:C:N4	1:A:289:A:H62	2.19	0.40
1:A:291:G:C6	1:A:292:C:N4	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:600:A:H2'	1:A:601:U:C6	2.56	0.40
1:A:628:A:N7	1:A:629:C:C4	2.89	0.40
1:A:669:C:O5'	1:A:669:C:H6	2.04	0.40
1:A:715:G:H1'	1:A:738:A:H61	1.85	0.40
1:A:821:U:O2'	6:N:99:GLY:O	2.39	0.40
1:A:934:A:H1'	1:A:935:U:OP1	2.21	0.40
1:A:957:U:H2'	1:A:958:C:H5'	2.04	0.40
1:A:1270:C:N4	6:N:97:ARG:CD	2.84	0.40
1:A:1389:G:H2'	1:A:1390:G:H8	1.86	0.40
1:A:1497:A:N6	1:A:1547:C:C4	2.89	0.40
1:A:1646:A:H5'	1:A:1647:C:H5	1.86	0.40
1:A:1817:G:O2'	1:A:1819:A:N6	2.32	0.40
1:A:2128:A:OP2	1:A:2129:G:C6	2.73	0.40
1:A:2153:C:C2	1:A:2154:C:C5	3.08	0.40
1:A:2679:A:H3'	1:A:2680:G:O4'	2.22	0.40
1:A:2685:G:H1'	28:I:151:HIS:CE1	2.56	0.40
2:C:26:G:P	25:F:148:LYS:HD2	2.61	0.40
3:B:59:A:C6	3:B:60:A:C5	3.10	0.40
4:L:217:LEU:O	4:L:219:ASN:N	2.54	0.40
5:M:24:ILE:HG12	5:M:30:ARG:HG2	2.02	0.40
8:P:108:ILE:O	8:P:122:TYR:HB3	2.20	0.40
9:Q:57:HIS:O	9:Q:60:ILE:N	2.53	0.40
14:V:188:ALA:HB1	14:V:193:ILE:HB	2.02	0.40
17:Y:83:ASN:N	17:Y:99:GLN:O	2.25	0.40
18:Z:147:ARG:HG2	18:Z:148:PRO:O	2.21	0.40
19:E:138:HIS:ND1	19:E:139:ASN:N	2.68	0.40
25:F:127:LYS:O	25:F:135:ASN:HA	2.21	0.40
27:H:164:THR:HG22	27:H:165:ARG:N	2.36	0.40
1:A:51:A:H2'	1:A:52:A:H8	1.86	0.40
1:A:156:G:O5'	1:A:156:G:C8	2.71	0.40
1:A:169:C:C2	1:A:170:U:C5	3.09	0.40
1:A:294:U:P	1:A:295:C:OP2	2.79	0.40
1:A:410:G:H2'	1:A:411:U:C6	2.55	0.40
1:A:568:C:H2'	1:A:569:G:H8	1.86	0.40
1:A:665:U:O2'	1:A:666:U:O5'	2.30	0.40
1:A:909:A:H8	1:A:909:A:P	2.43	0.40
1:A:1062:G:O4'	24:f:55:ARG:NH2	2.54	0.40
1:A:1085:A:N1	1:A:1109:U:C4	2.88	0.40
1:A:1238:G:H2'	1:A:1239:C:C6	2.57	0.40
1:A:1519:A:N1	1:A:1520:A:C6	2.89	0.40
1:A:1524:G:C2	1:A:1525:G:C4	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1689:C:C5'	8:P:12:LYS:CE	2.86	0.40
1:A:1798:C:H2'	1:A:1799:A:O4'	2.21	0.40
1:A:2121:C:H6	1:A:2121:C:H5''	1.86	0.40
1:A:2192:U:O2'	1:A:2193:C:P	2.79	0.40
1:A:2408:G:H4'	1:A:2408:G:OP1	2.22	0.40
1:A:2567:G:C6	1:A:2576:C:H5	2.40	0.40
2:C:32:C:O2	2:C:33:A:H2'	2.20	0.40
2:C:104:A:H2	2:C:105:A:C5	2.25	0.40
3:B:17:G:N1	3:B:70:G:N3	2.69	0.40
4:L:166:LYS:O	4:L:167:LYS:C	2.64	0.40
6:N:175:GLU:C	6:N:213:LYS:HZ1	2.27	0.40
7:O:15:GLY:O	7:O:16:ARG:HB3	2.21	0.40
10:R:198:LEU:HD23	10:R:198:LEU:HA	1.88	0.40
12:T:140:ARG:HD3	12:T:141:TRP:H	1.85	0.40
15:W:78:ILE:HG12	15:W:135:MET:HG3	2.03	0.40
15:W:137:ILE:HG12	15:W:143:VAL:C	2.45	0.40
15:W:170:THR:HG22	15:W:171:PRO:CD	2.25	0.40
18:Z:100:PHE:CE2	18:Z:104:ASP:HB2	2.56	0.40
19:E:39:ARG:NH1	19:E:40:ASN:HD21	2.19	0.40
19:E:97:LYS:O	19:E:98:ARG:HD3	2.21	0.40
22:d:115:MET:HG2	22:d:124:LEU:CD1	2.50	0.40
22:d:117:THR:OG1	22:d:120:GLY:N	2.49	0.40
24:f:44:VAL:CG1	24:f:73:GLN:HE22	2.28	0.40
25:F:147:ARG:C	25:F:149:LEU:N	2.79	0.40
25:F:200:SER:HB2	25:F:291:ARG:HD3	2.02	0.40
25:F:203:THR:OG1	25:F:204:ILE:N	2.53	0.40
26:G:81:ARG:HH21	26:G:81:ARG:H	1.68	0.40
28:I:108:PHE:HA	28:I:111:LEU:HD12	2.02	0.40
30:g:88:GLN:HG3	30:g:92:LEU:HD23	2.04	0.40
1:A:94:A:H2'	1:A:95:G:O4'	2.21	0.40
1:A:142:U:O2	1:A:153:G:O6	2.38	0.40
1:A:308:G:H5''	1:A:309:A:OP1	2.21	0.40
1:A:415:U:O2'	1:A:416:C:C4	2.70	0.40
1:A:570:C:H1'	11:S:52:ARG:NH1	2.35	0.40
1:A:624:A:H2'	1:A:625:C:O5'	2.21	0.40
1:A:624:A:O2'	1:A:625:C:OP1	2.39	0.40
1:A:714:U:H2'	1:A:715:G:O4'	2.22	0.40
1:A:793:A:H2	19:E:225:ASP:OD2	2.04	0.40
1:A:946:A:H61	1:A:950:A:H61	1.58	0.40
1:A:1408:A:H5'	1:A:1488:A:H1'	2.02	0.40
1:A:1556:A:H4'	1:A:1558:U:H1'	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1625:A:H3'	1:A:1626:A:H8	1.86	0.40
1:A:1635:C:C4'	14:V:106:ARG:HH21	2.32	0.40
1:A:1649:G:C3'	1:A:1650:A:C5'	2.99	0.40
1:A:1651:C:O2'	1:A:1652:A:P	2.79	0.40
1:A:1700:A:C2	1:A:1701:A:C4	3.10	0.40
1:A:2058:C:O5'	1:A:2058:C:H6	2.04	0.40
1:A:2317:G:C6	1:A:2333:C:N3	2.87	0.40
1:A:2322:A:H5''	27:H:186:ARG:CG	2.51	0.40
2:C:14:G:H2'	2:C:15:C:C6	2.57	0.40
2:C:26:G:C2'	2:C:27:U:H5'	2.43	0.40
2:C:72:A:C2'	2:C:73:G:C5'	2.94	0.40
5:M:69:LEU:HB3	5:M:77:ILE:O	2.22	0.40
6:N:114:MET:O	6:N:115:ARG:HB2	2.21	0.40
6:N:117:GLN:OE1	6:N:125:ILE:HG13	2.18	0.40
6:N:157:TYR:HD2	6:N:196:LEU:HD23	1.86	0.40
7:O:58:ALA:C	7:O:60:ARG:H	2.28	0.40
10:R:116:ARG:NE	10:R:116:ARG:CA	2.73	0.40
12:T:155:LYS:O	32:h:93:SER:HB3	2.22	0.40
15:W:65:HIS:O	15:W:66:LYS:CB	2.69	0.40
25:F:159:LYS:HD3	25:F:159:LYS:O	2.22	0.40
26:G:58:LEU:HD13	26:G:63:GLU:O	2.21	0.40
26:G:252:ILE:HD12	26:G:252:ILE:HA	1.98	0.40
27:H:148:LEU:HD12	27:H:148:LEU:H	1.87	0.40
1:A:101:A:O2'	1:A:102:U:H5'	2.22	0.40
1:A:153:G:H21	1:A:154:C:C1'	2.34	0.40
1:A:477:G:OP1	22:d:137:THR:HG21	2.21	0.40
1:A:594:C:N4	1:A:595:G:C6	2.89	0.40
1:A:627:C:O2	26:G:232:ARG:NH1	2.49	0.40
1:A:945:A:O2'	1:A:946:A:O4'	2.36	0.40
1:A:1064:A:N6	1:A:1147:U:H3	2.19	0.40
1:A:1240:G:H2'	1:A:1242:G:H8	1.86	0.40
1:A:1298:A:C2	1:A:1315:G:C2	3.10	0.40
1:A:1320:G:H4'	1:A:1321:A:H5''	2.03	0.40
1:A:1322:A:O2'	1:A:1323:A:H2'	2.21	0.40
1:A:1332:G:O2'	1:A:1333:U:O5'	2.37	0.40
1:A:1465:A:C6	1:A:1466:G:C5	3.10	0.40
1:A:1746:C:H2'	1:A:1747:C:C6	2.57	0.40
1:A:1766:G:H4'	1:A:1768:G:H1'	2.04	0.40
1:A:1953:U:H3'	1:A:1954:U:H5''	2.03	0.40
1:A:2003:A:HO2'	1:A:2004:C:P	2.43	0.40
1:A:2103:G:C4	1:A:2104:A:C8	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2170:C:C4	1:A:2171:G:C6	3.10	0.40
1:A:2219:U:H1'	1:A:2229:U:O4	2.22	0.40
1:A:2393:A:N1	9:Q:141:PHE:CD2	2.90	0.40
1:A:2698:C:N3	1:A:2745:G:N2	2.69	0.40
2:C:12:C:H5''	8:P:109:ARG:CZ	2.52	0.40
3:B:5:C:H2'	3:B:6:U:H6	1.85	0.40
7:O:68:ILE:HG22	7:O:101:ARG:HH11	1.86	0.40
17:Y:106:LYS:HE3	17:Y:106:LYS:HB3	1.81	0.40
19:E:86:TYR:O	19:E:102:HIS:HD2	2.04	0.40
28:I:91:ARG:HA	28:I:109:ARG:NH2	2.19	0.40
28:I:149:PHE:CE1	28:I:192:ARG:HD3	2.57	0.40
1:A:97:A:C8	1:A:97:A:O5'	2.74	0.40
1:A:285:A:O2'	1:A:286:U:P	2.79	0.40
1:A:286:U:H3'	1:A:286:U:H6	1.86	0.40
1:A:288:C:C2'	1:A:289:A:C5'	2.97	0.40
1:A:294:U:C2'	1:A:295:C:C2	2.97	0.40
1:A:354:A:O2'	1:A:355:A:H5'	2.22	0.40
1:A:519:A:C8	13:U:109:ILE:HG13	2.57	0.40
1:A:661:G:H2'	1:A:662:C:H5'	2.03	0.40
1:A:670:A:C5'	26:G:151:LYS:HE3	2.52	0.40
1:A:749:G:C6	1:A:750:A:C2	3.09	0.40
1:A:854:A:H2	1:A:964:C:O2	2.04	0.40
1:A:1162:C:O2'	1:A:1163:G:P	2.79	0.40
1:A:1574:G:H2'	1:A:1575:C:C6	2.56	0.40
1:A:1624:C:H2'	1:A:1625:A:N7	2.36	0.40
1:A:1756:G:H8	1:A:1756:G:O5'	2.04	0.40
1:A:2207:A:C2'	1:A:2208:U:C1'	2.97	0.40
1:A:2211:U:O4	1:A:2241:G:C2	2.75	0.40
1:A:2211:U:C4	1:A:2241:G:C2	3.09	0.40
1:A:2507:G:HO2'	1:A:2508:U:P	2.44	0.40
1:A:2637:U:C1'	25:F:250:MET:HB2	2.52	0.40
2:C:35:U:O2'	2:C:36:A:P	2.79	0.40
2:C:45:G:H2'	2:C:46:U:C6	2.56	0.40
2:C:55:A:C6	2:C:56:G:C6	3.10	0.40
3:B:36:A:N7	3:B:45:G:N7	2.69	0.40
6:N:109:SER:O	6:N:110:CYS:CB	2.70	0.40
6:N:165:ILE:CG2	6:N:166:GLU:CD	2.88	0.40
6:N:165:ILE:HA	6:N:206:LEU:HD11	1.56	0.40
6:N:166:GLU:OE1	6:N:166:GLU:HA	2.22	0.40
6:N:202:GLY:CA	6:N:221:ALA:N	2.85	0.40
12:T:100:THR:HB	13:U:150:GLU:CD	2.46	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:T:164:VAL:HG21	12:T:227:TYR:HB3	2.04	0.40
12:T:174:THR:HG22	12:T:175:PRO:CD	2.52	0.40
16:X:67:LYS:O	16:X:68:ASN:HB2	2.22	0.40
21:c:13:LEU:HD13	21:c:34:ILE:O	2.22	0.40
21:c:56:TYR:O	21:c:56:TYR:CD1	2.74	0.40
24:f:41:ARG:HB2	24:f:44:VAL:HG12	2.02	0.40
25:F:199:ILE:HG22	25:F:292:LEU:HD12	2.03	0.40
26:G:206:LEU:HD22	26:G:207:PHE:H	1.86	0.40
26:G:247:PHE:HB3	26:G:251:THR:OG1	2.21	0.40
27:H:66:VAL:HB	27:H:67:PRO:HD3	2.04	0.40
27:H:111:ALA:HB2	27:H:118:PRO:HD3	2.04	0.40
28:I:131:GLY:HA2	28:I:200:LYS:HD2	2.02	0.40
31:a:47:GLU:O	31:a:68:TYR:CE1	2.74	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	
4	L	145/191 (76%)	120 (83%)	21 (14%)	4 (3%)	4	26
5	M	119/121 (98%)	97 (82%)	22 (18%)	0	100	100
6	N	175/192 (91%)	156 (89%)	6 (3%)	13 (7%)	1	9
7	O	132/135 (98%)	107 (81%)	23 (17%)	2 (2%)	8	37
8	P	114/116 (98%)	96 (84%)	18 (16%)	0	100	100
9	Q	118/123 (96%)	99 (84%)	19 (16%)	0	100	100
10	R	116/156 (74%)	89 (77%)	26 (22%)	1 (1%)	14	47
11	S	113/127 (89%)	91 (80%)	22 (20%)	0	100	100
12	T	145/201 (72%)	108 (74%)	28 (19%)	9 (6%)	1	12
13	U	142/199 (71%)	117 (82%)	24 (17%)	1 (1%)	18	51

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	V	90/122 (74%)	79 (88%)	9 (10%)	2 (2%)	5	30
15	W	122/145 (84%)	95 (78%)	25 (20%)	2 (2%)	7	36
16	X	98/137 (72%)	87 (89%)	7 (7%)	4 (4%)	2	19
17	Y	72/77 (94%)	61 (85%)	11 (15%)	0	100	100
18	Z	88/109 (81%)	85 (97%)	3 (3%)	0	100	100
19	E	245/271 (90%)	187 (76%)	57 (23%)	1 (0%)	30	62
20	b	44/56 (79%)	35 (80%)	9 (20%)	0	100	100
21	c	49/65 (75%)	34 (69%)	15 (31%)	0	100	100
22	d	55/60 (92%)	47 (86%)	6 (11%)	2 (4%)	2	22
23	e	67/73 (92%)	50 (75%)	16 (24%)	1 (2%)	8	37
24	f	35/37 (95%)	30 (86%)	5 (14%)	0	100	100
25	F	210/221 (95%)	173 (82%)	37 (18%)	0	100	100
26	G	208/243 (86%)	166 (80%)	40 (19%)	2 (1%)	12	44
27	H	173/220 (79%)	145 (84%)	27 (16%)	1 (1%)	21	54
28	I	171/182 (94%)	142 (83%)	27 (16%)	2 (1%)	10	41
29	J	51/155 (33%)	41 (80%)	9 (18%)	1 (2%)	6	32
30	g	41/142 (29%)	36 (88%)	5 (12%)	0	100	100
31	a	36/94 (38%)	26 (72%)	9 (25%)	1 (3%)	4	26
32	h	44/116 (38%)	31 (70%)	12 (27%)	1 (2%)	5	30
All	All	3218/4086 (79%)	2630 (82%)	538 (17%)	50 (2%)	10	36

All (50) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	L	107	HIS
6	N	143	LEU
6	N	147	ALA
6	N	154	LEU
6	N	155	PRO
6	N	176	VAL
6	N	254	ASP
12	T	94	GLN
12	T	97	GLU
12	T	116	PRO
12	T	117	PRO

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Mol	Chain	Res	Type
12	T	175	PRO
13	U	151	SER
15	W	66	LYS
15	W	170	THR
16	X	70	ARG
16	X	143	GLN
16	X	147	PRO
19	E	237	ILE
22	d	94	CYS
23	e	95	HIS
26	G	96	ARG
28	I	43	ILE
4	L	109	PRO
6	N	216	ALA
12	T	95	ALA
16	X	144	PRO
22	d	99	SER
31	a	49	ALA
6	N	159	PRO
6	N	177	SER
6	N	197	PRO
14	V	106	ARG
27	H	187	GLU
4	L	105	ALA
6	N	167	VAL
6	N	189	PRO
7	O	26	ARG
12	T	92	ASP
12	T	98	PRO
26	G	201	PRO
32	h	79	TYR
4	L	218	PHE
6	N	198	LEU
10	R	139	PRO
28	I	47	PRO
12	T	112	PRO
29	J	69	VAL
7	O	70	PRO
14	V	168	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 PDB entries followed by that with respect to all EM entries.

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	
4	L	125/165 (76%)	122 (98%)	3 (2%)	43	64
5	M	101/101 (100%)	98 (97%)	3 (3%)	36	60
6	N	135/144 (94%)	125 (93%)	10 (7%)	13	37
7	O	107/108 (99%)	105 (98%)	2 (2%)	50	68
8	P	96/96 (100%)	96 (100%)	0	100	100
9	Q	99/100 (99%)	99 (100%)	0	100	100
10	R	104/135 (77%)	100 (96%)	4 (4%)	29	55
11	S	102/114 (90%)	102 (100%)	0	100	100
12	T	129/174 (74%)	119 (92%)	10 (8%)	11	36
13	U	126/176 (72%)	124 (98%)	2 (2%)	55	70
14	V	81/103 (79%)	80 (99%)	1 (1%)	63	73
15	W	112/129 (87%)	108 (96%)	4 (4%)	31	57
16	X	85/111 (77%)	72 (85%)	13 (15%)	3	16
17	Y	64/67 (96%)	60 (94%)	4 (6%)	16	42
18	Z	83/97 (86%)	80 (96%)	3 (4%)	31	57
19	E	195/216 (90%)	187 (96%)	8 (4%)	27	53
20	b	39/49 (80%)	39 (100%)	0	100	100
21	c	48/59 (81%)	47 (98%)	1 (2%)	47	66
22	d	47/49 (96%)	44 (94%)	3 (6%)	16	42
23	e	59/62 (95%)	58 (98%)	1 (2%)	53	70
24	f	34/34 (100%)	34 (100%)	0	100	100
25	F	174/182 (96%)	170 (98%)	4 (2%)	44	64
26	G	176/205 (86%)	169 (96%)	7 (4%)	28	54
27	H	148/183 (81%)	145 (98%)	3 (2%)	48	67
28	I	147/154 (96%)	147 (100%)	0	100	100
29	J	47/134 (35%)	46 (98%)	1 (2%)	47	66

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
30	g	39/121 (32%)	39 (100%)	0	100	100
31	a	33/83 (40%)	32 (97%)	1 (3%)	36	60
32	h	40/96 (42%)	39 (98%)	1 (2%)	42	63
All	All	2775/3447 (80%)	2686 (97%)	89 (3%)	35	59

All (89) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	L	107	HIS
4	L	172	LEU
4	L	217	LEU
5	M	19	LEU
5	M	39	ILE
5	M	42	VAL
6	N	84	ASN
6	N	120	ARG
6	N	143	LEU
6	N	163	ARG
6	N	165	ILE
6	N	178	LEU
6	N	196	LEU
6	N	212	ILE
6	N	217	PHE
6	N	224	LYS
7	O	27	ILE
7	O	127	ILE
10	R	127	ASN
10	R	137	LEU
10	R	181	ILE
10	R	226	LEU
12	T	93	PHE
12	T	94	GLN
12	T	103	TYR
12	T	106	ILE
12	T	113	LYS
12	T	117	PRO
12	T	147	LEU
12	T	172	ILE
12	T	175	PRO
12	T	176	ILE
13	U	67	LEU

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Mol	Chain	Res	Type
13	U	149	LEU
14	V	111	VAL
15	W	101	ILE
15	W	104	LEU
15	W	170	THR
15	W	173	ARG
16	X	67	LYS
16	X	68	ASN
16	X	126	GLU
16	X	128	TYR
16	X	133	LYS
16	X	134	LYS
16	X	141	GLU
16	X	145	GLU
16	X	146	ASN
16	X	153	ARG
16	X	156	GLU
16	X	162	ARG
16	X	163	GLU
17	Y	103	LEU
17	Y	128	THR
17	Y	129	ILE
17	Y	131	LYS
18	Z	117	THR
18	Z	120	ARG
18	Z	152	LEU
19	E	44	ILE
19	E	61	ILE
19	E	87	ILE
19	E	232	GLU
19	E	237	ILE
19	E	258	ARG
19	E	259	ASN
19	E	264	ASN
21	c	13	LEU
22	d	93	LEU
22	d	112	ARG
22	d	123	LEU
23	e	153	LEU
25	F	119	GLU
25	F	121	ASN
25	F	143	ARG

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Mol	Chain	Res	Type
25	F	186	LEU
26	G	79	LYS
26	G	81	ARG
26	G	223	ILE
26	G	230	THR
26	G	232	ARG
26	G	245	LEU
26	G	255	LEU
27	H	113	ILE
27	H	186	ARG
27	H	188	GLN
29	J	77	PHE
31	a	73	TRP
32	h	82	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (73) such sidechains are listed below:

Mol	Chain	Res	Type
4	L	176	HIS
4	L	219	ASN
4	L	220	HIS
4	L	235	GLN
5	M	49	ASN
5	M	82	ASN
6	N	84	ASN
6	N	88	GLN
7	O	13	HIS
7	O	25	ASN
7	O	57	ASN
8	P	18	HIS
8	P	41	HIS
8	P	75	GLN
8	P	87	HIS
9	Q	102	GLN
10	R	127	ASN
10	R	174	ASN
10	R	202	ASN
11	S	28	HIS
11	S	38	GLN
11	S	77	ASN
11	S	83	HIS
11	S	99	GLN

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Mol	Chain	Res	Type
12	T	94	GLN
12	T	109	GLN
12	T	205	ASN
12	T	212	HIS
12	T	214	GLN
13	U	52	GLN
13	U	89	HIS
13	U	106	ASN
14	V	127	ASN
14	V	132	ASN
14	V	163	ASN
15	W	68	HIS
15	W	93	HIS
15	W	121	GLN
15	W	130	HIS
15	W	133	ASN
15	W	149	HIS
16	X	85	GLN
16	X	102	HIS
16	X	146	ASN
18	Z	77	ASN
19	E	54	HIS
19	E	124	ASN
19	E	149	GLN
19	E	228	HIS
19	E	259	ASN
20	b	18	ASN
21	c	36	GLN
21	c	38	ASN
21	c	58	HIS
22	d	140	ASN
23	e	95	HIS
23	e	119	HIS
23	e	145	ASN
24	f	69	HIS
25	F	135	ASN
25	F	138	GLN
25	F	167	HIS
25	F	209	GLN
25	F	229	HIS
25	F	288	ASN
26	G	71	ASN

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Mol	Chain	Res	Type
26	G	93	GLN
26	G	153	ASN
26	G	222	ASN
26	G	257	GLN
27	H	90	ASN
28	I	105	HIS
30	g	88	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2796/2810 (99%)	962 (34%)	106 (3%)
2	C	101/106 (95%)	45 (44%)	4 (3%)
3	B	116/121 (95%)	54 (46%)	5 (4%)
All	All	3013/3037 (99%)	1061 (35%)	115 (3%)

All (1061) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	7	C
1	A	13	A
1	A	22	G
1	A	27	A
1	A	32	U
1	A	33	A
1	A	34	G
1	A	39	C
1	A	43	A
1	A	44	G
1	A	45	A
1	A	46	C
1	A	47	G
1	A	48	A
1	A	49	G
1	A	50	G
1	A	60	U
1	A	61	U
1	A	70	A
1	A	71	A
1	A	74	G
1	A	81	G

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Mol	Chain	Res	Type
1	A	82	G
1	A	83	A
1	A	84	G
1	A	89	A
1	A	90	A
1	A	91	A
1	A	94	A
1	A	95	G
1	A	97	A
1	A	98	G
1	A	99	A
1	A	100	G
1	A	101	A
1	A	102	U
1	A	108	G
1	A	112	C
1	A	116	A
1	A	117	A
1	A	118	U
1	A	119	A
1	A	121	G
1	A	122	U
1	A	123	C
1	A	130	U
1	A	131	C
1	A	132	G
1	A	133	A
1	A	134	A
1	A	136	U
1	A	141	C
1	A	142	U
1	A	143	G
1	A	144	A
1	A	146	U
1	A	147	C
1	A	148	C
1	A	150	U
1	A	153	G
1	A	154	C
1	A	156	G
1	A	157	G
1	A	158	C

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Mol	Chain	Res	Type
1	A	160	A
1	A	161	G
1	A	162	A
1	A	163	G
1	A	166	A
1	A	175	A
1	A	181	A
1	A	184	A
1	A	188	U
1	A	189	A
1	A	190	G
1	A	191	U
1	A	200	G
1	A	201	A
1	A	206	A
1	A	207	A
1	A	213	A
1	A	214	A
1	A	218	A
1	A	220	U
1	A	226	A
1	A	227	G
1	A	228	U
1	A	233	G
1	A	234	C
1	A	235	G
1	A	237	G
1	A	240	A
1	A	250	A
1	A	251	G
1	A	255	A
1	A	256	A
1	A	257	A
1	A	262	G
1	A	263	A
1	A	264	A
1	A	265	A
1	A	266	A
1	A	271	G
1	A	274	G
1	A	275	U
1	A	276	G

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Mol	Chain	Res	Type
1	A	277	G
1	A	279	A
1	A	282	G
1	A	283	C
1	A	284	A
1	A	285	A
1	A	286	U
1	A	287	A
1	A	288	C
1	A	289	A
1	A	291	G
1	A	292	C
1	A	294	U
1	A	296	G
1	A	298	G
1	A	299	C
1	A	302	C
1	A	303	U
1	A	304	A
1	A	311	U
1	A	316	G
1	A	317	G
1	A	320	U
1	A	321	G
1	A	332	G
1	A	333	A
1	A	335	G
1	A	336	G
1	A	337	U
1	A	338	G
1	A	339	A
1	A	340	A
1	A	341	A
1	A	342	G
1	A	343	U
1	A	346	A
1	A	347	G
1	A	353	G
1	A	355	A
1	A	356	A
1	A	360	U
1	A	365	A

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Mol	Chain	Res	Type
1	A	366	G
1	A	367	C
1	A	370	A
1	A	371	U
1	A	372	G
1	A	375	C
1	A	377	G
1	A	378	A
1	A	379	C
1	A	380	C
1	A	381	C
1	A	382	G
1	A	383	A
1	A	384	G
1	A	388	C
1	A	389	A
1	A	392	G
1	A	396	A
1	A	397	C
1	A	398	G
1	A	399	U
1	A	400	G
1	A	403	A
1	A	404	U
1	A	407	C
1	A	411	U
1	A	414	A
1	A	415	U
1	A	417	A
1	A	418	G
1	A	423	G
1	A	431	U
1	A	433	C
1	A	434	A
1	A	448	C
1	A	455	A
1	A	460	U
1	A	461	A
1	A	467	G
1	A	468	U
1	A	470	G
1	A	471	U

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Mol	Chain	Res	Type
1	A	487	U
1	A	490	A
1	A	491	A
1	A	493	G
1	A	494	A
1	A	501	A
1	A	502	U
1	A	503	C
1	A	504	G
1	A	507	G
1	A	515	U
1	A	516	A
1	A	518	A
1	A	519	A
1	A	520	C
1	A	521	A
1	A	524	A
1	A	538	C
1	A	539	A
1	A	540	A
1	A	541	G
1	A	542	C
1	A	544	G
1	A	545	U
1	A	549	A
1	A	552	G
1	A	553	G
1	A	554	G
1	A	555	A
1	A	561	C
1	A	565	G
1	A	572	U
1	A	573	G
1	A	578	U
1	A	579	U
1	A	583	G
1	A	584	A
1	A	585	A
1	A	587	G
1	A	588	A
1	A	593	G
1	A	613	U

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Mol	Chain	Res	Type
1	A	614	G
1	A	615	G
1	A	622	G
1	A	623	A
1	A	624	A
1	A	625	C
1	A	627	C
1	A	628	A
1	A	649	A
1	A	654	U
1	A	657	U
1	A	658	A
1	A	659	G
1	A	665	U
1	A	666	U
1	A	667	G
1	A	672	U
1	A	680	G
1	A	681	A
1	A	687	A
1	A	688	C
1	A	695	G
1	A	696	A
1	A	697	U
1	A	701	U
1	A	706	G
1	A	712	G
1	A	718	G
1	A	725	U
1	A	726	G
1	A	728	A
1	A	730	C
1	A	741	U
1	A	747	C
1	A	750	A
1	A	751	C
1	A	758	U
1	A	763	A
1	A	764	A
1	A	774	G
1	A	775	A
1	A	782	G

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Mol	Chain	Res	Type
1	A	785	A
1	A	787	G
1	A	788	G
1	A	793	A
1	A	794	A
1	A	795	U
1	A	796	G
1	A	800	C
1	A	801	U
1	A	802	C
1	A	805	A
1	A	811	A
1	A	813	C
1	A	814	U
1	A	816	G
1	A	817	C
1	A	822	U
1	A	823	C
1	A	824	U
1	A	830	A
1	A	838	U
1	A	840	A
1	A	842	G
1	A	853	G
1	A	855	C
1	A	856	U
1	A	857	G
1	A	858	G
1	A	859	A
1	A	862	U
1	A	866	G
1	A	869	G
1	A	870	U
1	A	874	G
1	A	876	A
1	A	877	C
1	A	881	U
1	A	882	U
1	A	883	C
1	A	884	G
1	A	885	G
1	A	887	G

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Mol	Chain	Res	Type
1	A	888	C
1	A	889	G
1	A	891	G
1	A	893	C
1	A	894	G
1	A	896	G
1	A	898	G
1	A	900	G
1	A	901	C
1	A	902	G
1	A	903	G
1	A	904	U
1	A	905	A
1	A	906	C
1	A	907	C
1	A	909	A
1	A	910	A
1	A	911	U
1	A	912	C
1	A	913	G
1	A	914	A
1	A	916	G
1	A	918	A
1	A	919	A
1	A	920	A
1	A	921	C
1	A	922	U
1	A	924	U
1	A	935	U
1	A	936	A
1	A	938	G
1	A	940	C
1	A	941	C
1	A	943	C
1	A	945	A
1	A	946	A
1	A	947	A
1	A	950	A
1	A	951	C
1	A	952	A
1	A	953	G
1	A	954	G

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Mol	Chain	Res	Type
1	A	956	G
1	A	957	U
1	A	960	A
1	A	961	G
1	A	962	G
1	A	965	G
1	A	969	A
1	A	972	G
1	A	973	A
1	A	974	G
1	A	981	G
1	A	982	G
1	A	985	A
1	A	986	U
1	A	987	A
1	A	989	G
1	A	993	C
1	A	1001	A
1	A	1003	A
1	A	1011	A
1	A	1012	G
1	A	1013	C
1	A	1017	G
1	A	1018	A
1	A	1024	A
1	A	1033	C
1	A	1036	U
1	A	1037	A
1	A	1038	A
1	A	1039	A
1	A	1040	U
1	A	1041	G
1	A	1043	C
1	A	1045	G
1	A	1046	C
1	A	1047	U
1	A	1050	G
1	A	1051	U
1	A	1052	G
1	A	1053	A
1	A	1055	A
1	A	1061	G

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Mol	Chain	Res	Type
1	A	1064	A
1	A	1065	G
1	A	1066	G
1	A	1070	G
1	A	1073	G
1	A	1074	A
1	A	1075	G
1	A	1078	A
1	A	1079	G
1	A	1080	C
1	A	1081	C
1	A	1082	A
1	A	1085	A
1	A	1090	U
1	A	1097	A
1	A	1098	A
1	A	1099	G
1	A	1111	G
1	A	1116	A
1	A	1137	C
1	A	1139	A
1	A	1140	G
1	A	1154	A
1	A	1155	A
1	A	1158	U
1	A	1160	A
1	A	1161	A
1	A	1162	C
1	A	1163	G
1	A	1165	G
1	A	1169	A
1	A	1173	G
1	A	1175	U
1	A	1177	U
1	A	1182	A
1	A	1184	G
1	A	1186	U
1	A	1194	G
1	A	1195	U
1	A	1196	A
1	A	1197	A
1	A	1198	A

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Mol	Chain	Res	Type
1	A	1199	A
1	A	1203	C
1	A	1204	A
1	A	1207	G
1	A	1220	U
1	A	1225	G
1	A	1227	U
1	A	1231	G
1	A	1232	A
1	A	1233	G
1	A	1234	A
1	A	1235	A
1	A	1236	A
1	A	1237	C
1	A	1238	G
1	A	1239	C
1	A	1241	U
1	A	1242	G
1	A	1251	G
1	A	1254	U
1	A	1255	U
1	A	1256	G
1	A	1257	G
1	A	1259	C
1	A	1268	A
1	A	1271	G
1	A	1274	A
1	A	1276	U
1	A	1277	G
1	A	1283	U
1	A	1286	A
1	A	1287	G
1	A	1288	U
1	A	1290	A
1	A	1293	C
1	A	1294	A
1	A	1295	A
1	A	1296	A
1	A	1297	C
1	A	1307	A
1	A	1314	U
1	A	1321	A

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Mol	Chain	Res	Type
1	A	1322	A
1	A	1323	A
1	A	1333	U
1	A	1334	U
1	A	1335	C
1	A	1341	C
1	A	1342	A
1	A	1349	G
1	A	1351	C
1	A	1353	A
1	A	1361	U
1	A	1362	G
1	A	1366	C
1	A	1373	U
1	A	1379	C
1	A	1386	A
1	A	1389	G
1	A	1397	C
1	A	1399	A
1	A	1400	U
1	A	1406	A
1	A	1418	U
1	A	1430	C
1	A	1434	G
1	A	1436	U
1	A	1437	G
1	A	1438	G
1	A	1450	G
1	A	1451	G
1	A	1452	A
1	A	1454	G
1	A	1458	C
1	A	1460	A
1	A	1463	U
1	A	1466	G
1	A	1472	A
1	A	1473	G
1	A	1474	A
1	A	1475	U
1	A	1476	G
1	A	1480	A
1	A	1481	U

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Mol	Chain	Res	Type
1	A	1482	C
1	A	1486	U
1	A	1494	G
1	A	1495	C
1	A	1498	G
1	A	1501	G
1	A	1502	A
1	A	1503	C
1	A	1504	C
1	A	1506	U
1	A	1507	G
1	A	1516	G
1	A	1517	G
1	A	1518	U
1	A	1521	G
1	A	1522	A
1	A	1523	A
1	A	1527	G
1	A	1530	G
1	A	1531	A
1	A	1532	G
1	A	1533	A
1	A	1534	A
1	A	1535	A
1	A	1537	U
1	A	1541	U
1	A	1542	C
1	A	1543	G
1	A	1544	A
1	A	1548	A
1	A	1551	G
1	A	1552	U
1	A	1556	A
1	A	1557	G
1	A	1559	A
1	A	1569	A
1	A	1570	C
1	A	1571	G
1	A	1572	G
1	A	1574	G
1	A	1583	A
1	A	1589	G

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Mol	Chain	Res	Type
1	A	1592	A
1	A	1593	U
1	A	1594	A
1	A	1597	C
1	A	1598	C
1	A	1600	A
1	A	1602	G
1	A	1603	A
1	A	1604	A
1	A	1607	G
1	A	1613	A
1	A	1615	G
1	A	1616	A
1	A	1617	C
1	A	1618	C
1	A	1619	U
1	A	1624	C
1	A	1627	A
1	A	1628	A
1	A	1629	G
1	A	1634	C
1	A	1635	C
1	A	1643	G
1	A	1645	A
1	A	1646	A
1	A	1647	C
1	A	1649	G
1	A	1651	C
1	A	1652	A
1	A	1653	C
1	A	1655	G
1	A	1663	G
1	A	1676	U
1	A	1684	C
1	A	1688	A
1	A	1689	C
1	A	1690	A
1	A	1701	A
1	A	1705	A
1	A	1709	G
1	A	1710	G
1	A	1712	A

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Mol	Chain	Res	Type
1	A	1716	U
1	A	1730	C
1	A	1732	G
1	A	1734	A
1	A	1736	A
1	A	1737	A
1	A	1743	G
1	A	1746	C
1	A	1747	C
1	A	1752	C
1	A	1753	A
1	A	1754	A
1	A	1755	A
1	A	1768	G
1	A	1769	A
1	A	1774	G
1	A	1776	C
1	A	1783	A
1	A	1786	G
1	A	1794	A
1	A	1796	A
1	A	1797	A
1	A	1810	C
1	A	1811	A
1	A	1812	A
1	A	1813	A
1	A	1818	U
1	A	1819	A
1	A	1821	G
1	A	1825	A
1	A	1826	U
1	A	1829	A
1	A	1830	U
1	A	1837	U
1	A	1839	A
1	A	1849	A
1	A	1858	A
1	A	1859	G
1	A	1876	A
1	A	1878	C
1	A	1880	G
1	A	1881	A

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Mol	Chain	Res	Type
1	A	1882	U
1	A	1883	G
1	A	1884	A
1	A	1885	C
1	A	1887	G
1	A	1890	G
1	A	1895	G
1	A	1910	G
1	A	1915	A
1	A	1917	G
1	A	1920	G
1	A	1921	G
1	A	1925	U
1	A	1926	A
1	A	1927	A
1	A	1928	C
1	A	1931	U
1	A	1933	A
1	A	1937	U
1	A	1940	U
1	A	1941	A
1	A	1942	A
1	A	1943	G
1	A	1945	U
1	A	1951	A
1	A	1952	A
1	A	1953	U
1	A	1954	U
1	A	1955	C
1	A	1958	U
1	A	1959	G
1	A	1970	U
1	A	1979	C
1	A	1980	A
1	A	1981	C
1	A	1982	G
1	A	1984	A
1	A	1985	A
1	A	1986	G
1	A	2004	C
1	A	2005	U
1	A	2006	G

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Mol	Chain	Res	Type
1	A	2007	U
1	A	2011	G
1	A	2033	A
1	A	2034	C
1	A	2037	G
1	A	2040	U
1	A	2044	A
1	A	2045	A
1	A	2046	G
1	A	2047	A
1	A	2048	U
1	A	2049	G
1	A	2054	C
1	A	2057	C
1	A	2061	C
1	A	2065	U
1	A	2066	G
1	A	2069	C
1	A	2070	A
1	A	2073	A
1	A	2074	A
1	A	2075	G
1	A	2076	A
1	A	2083	G
1	A	2091	A
1	A	2094	G
1	A	2104	A
1	A	2107	G
1	A	2108	G
1	A	2109	C
1	A	2114	G
1	A	2115	G
1	A	2117	U
1	A	2120	U
1	A	2122	C
1	A	2124	G
1	A	2125	C
1	A	2126	G
1	A	2127	C
1	A	2129	G
1	A	2130	C
1	A	2131	U

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Mol	Chain	Res	Type
1	A	2132	U
1	A	2133	A
1	A	2137	G
1	A	2140	A
1	A	2141	G
1	A	2142	G
1	A	2145	A
1	A	2146	A
1	A	2147	G
1	A	2148	A
1	A	2150	G
1	A	2151	G
1	A	2159	C
1	A	2160	C
1	A	2161	G
1	A	2162	G
1	A	2163	G
1	A	2173	G
1	A	2174	C
1	A	2175	C
1	A	2176	A
1	A	2177	U
1	A	2178	C
1	A	2179	A
1	A	2181	U
1	A	2182	G
1	A	2183	A
1	A	2184	G
1	A	2185	A
1	A	2186	U
1	A	2187	A
1	A	2191	C
1	A	2192	U
1	A	2193	C
1	A	2194	U
1	A	2195	G
1	A	2197	A
1	A	2198	A
1	A	2199	G
1	A	2201	G
1	A	2202	C
1	A	2204	A

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Mol	Chain	Res	Type
1	A	2205	G
1	A	2206	A
1	A	2208	U
1	A	2209	U
1	A	2210	C
1	A	2211	U
1	A	2212	A
1	A	2213	A
1	A	2215	C
1	A	2219	U
1	A	2220	G
1	A	2221	U
1	A	2222	C
1	A	2223	A
1	A	2225	G
1	A	2226	A
1	A	2227	C
1	A	2229	U
1	A	2230	A
1	A	2231	C
1	A	2233	G
1	A	2236	C
1	A	2237	A
1	A	2238	A
1	A	2243	C
1	A	2254	A
1	A	2255	G
1	A	2256	A
1	A	2262	U
1	A	2267	G
1	A	2268	G
1	A	2276	G
1	A	2283	A
1	A	2290	A
1	A	2296	G
1	A	2300	U
1	A	2303	A
1	A	2305	A
1	A	2314	C
1	A	2315	G
1	A	2320	G
1	A	2322	A

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Mol	Chain	Res	Type
1	A	2324	G
1	A	2325	G
1	A	2329	U
1	A	2333	C
1	A	2334	C
1	A	2335	C
1	A	2336	U
1	A	2338	G
1	A	2339	A
1	A	2340	G
1	A	2342	G
1	A	2350	A
1	A	2351	G
1	A	2352	A
1	A	2362	G
1	A	2363	A
1	A	2364	C
1	A	2367	C
1	A	2372	C
1	A	2378	C
1	A	2394	A
1	A	2399	G
1	A	2400	G
1	A	2402	C
1	A	2406	G
1	A	2408	G
1	A	2418	U
1	A	2419	G
1	A	2420	C
1	A	2423	A
1	A	2437	C
1	A	2439	C
1	A	2440	U
1	A	2441	C
1	A	2442	A
1	A	2443	A
1	A	2446	G
1	A	2447	A
1	A	2452	A
1	A	2458	U
1	A	2462	G
1	A	2465	A

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Mol	Chain	Res	Type
1	A	2467	A
1	A	2476	A
1	A	2481	C
1	A	2485	A
1	A	2486	A
1	A	2493	A
1	A	2495	A
1	A	2498	G
1	A	2507	G
1	A	2508	U
1	A	2511	G
1	A	2512	G
1	A	2515	C
1	A	2519	G
1	A	2520	A
1	A	2522	G
1	A	2530	U
1	A	2535	C
1	A	2536	A
1	A	2537	C
1	A	2539	U
1	A	2540	G
1	A	2542	G
1	A	2546	G
1	A	2551	A
1	A	2552	U
1	A	2555	U
1	A	2560	G
1	A	2564	U
1	A	2566	G
1	A	2571	U
1	A	2572	U
1	A	2573	C
1	A	2574	G
1	A	2576	C
1	A	2583	A
1	A	2584	G
1	A	2586	G
1	A	2589	A
1	A	2590	C
1	A	2602	U
1	A	2614	G

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Mol	Chain	Res	Type
1	A	2619	A
1	A	2620	G
1	A	2625	G
1	A	2626	U
1	A	2630	U
1	A	2631	A
1	A	2632	U
1	A	2640	G
1	A	2645	U
1	A	2646	U
1	A	2647	A
1	A	2653	U
1	A	2661	A
1	A	2662	C
1	A	2663	C
1	A	2672	G
1	A	2673	U
1	A	2679	A
1	A	2680	G
1	A	2683	C
1	A	2684	C
1	A	2699	U
1	A	2702	G
1	A	2705	G
1	A	2706	U
1	A	2723	A
1	A	2724	C
1	A	2729	A
1	A	2730	A
1	A	2731	C
1	A	2734	U
1	A	2744	A
1	A	2745	G
1	A	2750	G
1	A	2751	A
1	A	2753	C
1	A	2754	G
1	A	2757	U
1	A	2762	G
1	A	2766	A
1	A	2767	A
1	A	2768	A

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Mol	Chain	Res	Type
1	A	2770	C
1	A	2775	A
1	A	2776	A
1	A	2782	A
1	A	2783	A
1	A	2784	G
1	A	2792	C
1	A	2796	A
1	A	2797	U
1	A	2798	G
1	A	2803	C
1	A	2804	U
1	A	2805	C
1	A	2808	C
1	A	2809	U
1	A	2810	A
2	C	16	G
2	C	17	A
2	C	22	A
2	C	23	G
2	C	26	G
2	C	27	U
2	C	28	U
2	C	29	U
2	C	30	A
2	C	31	U
2	C	32	C
2	C	33	A
2	C	34	U
2	C	35	U
2	C	36	A
2	C	37	C
2	C	38	G
2	C	39	A
2	C	47	C
2	C	54	A
2	C	55	A
2	C	65	U
2	C	71	C
2	C	73	G
2	C	74	C
2	C	75	U

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Mol	Chain	Res	Type
2	C	76	G
2	C	77	A
2	C	78	G
2	C	80	C
2	C	83	C
2	C	84	C
2	C	85	U
2	C	86	A
2	C	87	A
2	C	88	C
2	C	90	G
2	C	95	A
2	C	96	C
2	C	97	A
2	C	99	A
2	C	100	C
2	C	102	U
2	C	103	G
2	C	104	A
3	B	4	U
3	B	7	G
3	B	8	G
3	B	9	U
3	B	10	G
3	B	12	C
3	B	14	U
3	B	15	A
3	B	16	G
3	B	17	G
3	B	18	C
3	B	21	A
3	B	22	G
3	B	25	G
3	B	26	A
3	B	32	A
3	B	37	U
3	B	39	C
3	B	41	U
3	B	42	C
3	B	43	C
3	B	46	A
3	B	47	A

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Mol	Chain	Res	Type
3	B	53	U
3	B	54	G
3	B	55	G
3	B	56	U
3	B	58	A
3	B	64	U
3	B	66	C
3	B	67	U
3	B	68	G
3	B	70	G
3	B	73	G
3	B	74	A
3	B	75	C
3	B	83	U
3	B	84	A
3	B	87	G
3	B	89	A
3	B	90	G
3	B	91	G
3	B	92	U
3	B	101	A
3	B	102	A
3	B	109	U
3	B	110	C
3	B	111	G
3	B	112	A
3	B	114	G
3	B	116	C
3	B	117	A
3	B	118	G
3	B	119	G

All (115) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	69	G
1	A	80	G
1	A	81	G
1	A	90	A
1	A	118	U
1	A	153	G
1	A	159	A

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Mol	Chain	Res	Type
1	A	161	G
1	A	162	A
1	A	190	G
1	A	212	A
1	A	213	A
1	A	227	G
1	A	256	A
1	A	284	A
1	A	285	A
1	A	319	G
1	A	320	U
1	A	354	A
1	A	371	U
1	A	379	C
1	A	382	G
1	A	459	A
1	A	470	G
1	A	493	G
1	A	517	G
1	A	523	G
1	A	540	A
1	A	542	C
1	A	548	G
1	A	627	C
1	A	696	A
1	A	750	A
1	A	773	U
1	A	786	G
1	A	787	G
1	A	793	A
1	A	795	U
1	A	804	A
1	A	856	U
1	A	869	G
1	A	899	A
1	A	934	A
1	A	1002	G
1	A	1017	G
1	A	1036	U
1	A	1050	G
1	A	1161	A
1	A	1162	C

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Mol	Chain	Res	Type
1	A	1194	G
1	A	1219	U
1	A	1236	A
1	A	1254	U
1	A	1256	G
1	A	1287	G
1	A	1332	G
1	A	1333	U
1	A	1334	U
1	A	1341	C
1	A	1471	A
1	A	1474	A
1	A	1479	U
1	A	1493	C
1	A	1501	G
1	A	1531	A
1	A	1592	A
1	A	1651	C
1	A	1662	A
1	A	1689	C
1	A	1810	C
1	A	1818	U
1	A	1828	U
1	A	1829	A
1	A	1848	C
1	A	1944	G
1	A	1951	A
1	A	1954	U
1	A	1980	A
1	A	2003	A
1	A	2036	U
1	A	2047	A
1	A	2106	U
1	A	2123	U
1	A	2132	U
1	A	2141	G
1	A	2144	G
1	A	2172	A
1	A	2192	U
1	A	2210	C
1	A	2212	A
1	A	2224	G

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Mol	Chain	Res	Type
1	A	2242	A
1	A	2261	U
1	A	2289	U
1	A	2338	G
1	A	2362	G
1	A	2442	A
1	A	2464	G
1	A	2507	G
1	A	2536	A
1	A	2646	U
1	A	2672	G
1	A	2683	C
1	A	2744	A
1	A	2774	U
1	A	2802	G
2	C	29	U
2	C	32	C
2	C	33	A
2	C	35	U
3	B	7	G
3	B	45	G
3	B	57	U
3	B	110	C
3	B	118	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](#)

There are no ligands in this entry.

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.

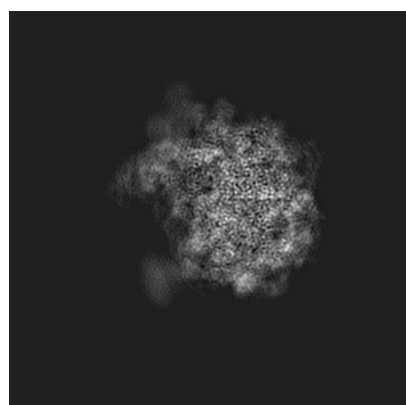
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-9572. These allow visual inspection of the internal detail of the map and identification of artifacts.

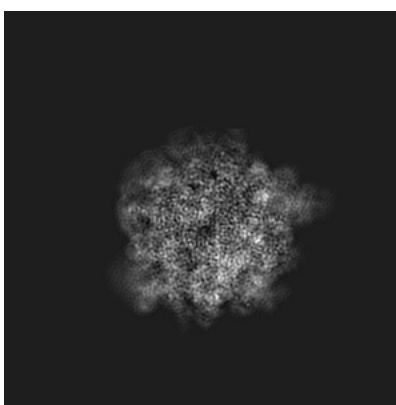
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

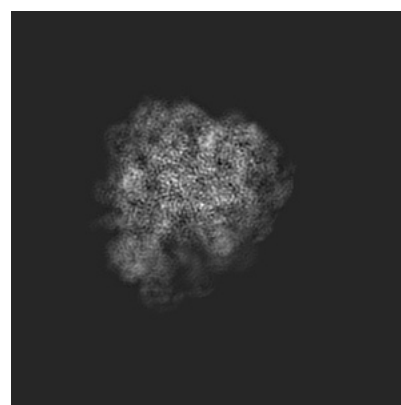
6.1.1 Primary map



X



Y

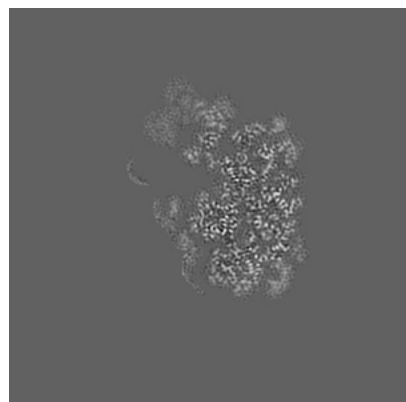


Z

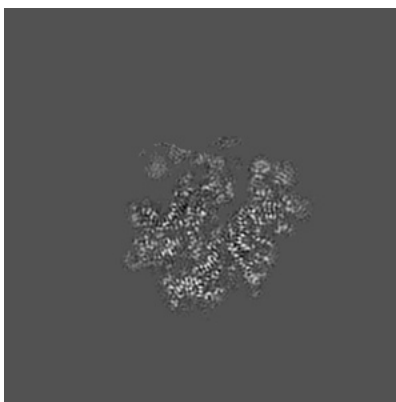
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

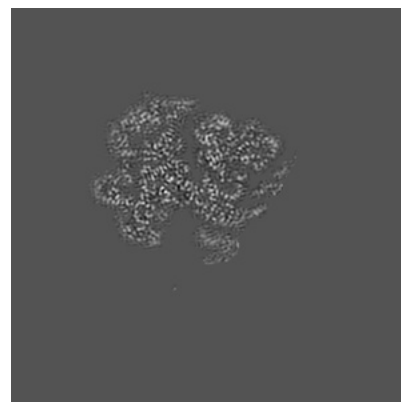
6.2.1 Primary map



X Index: 156



Y Index: 156

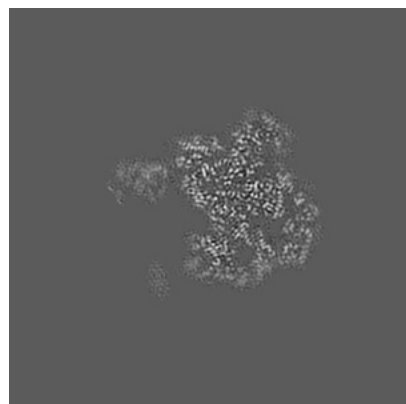


Z Index: 156

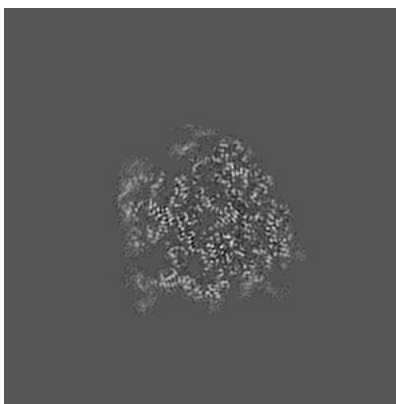
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

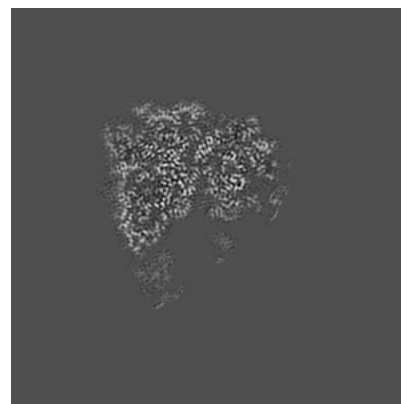
6.3.1 Primary map



X Index: 120



Y Index: 186

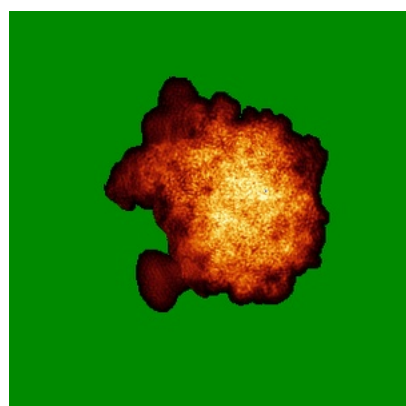


Z Index: 166

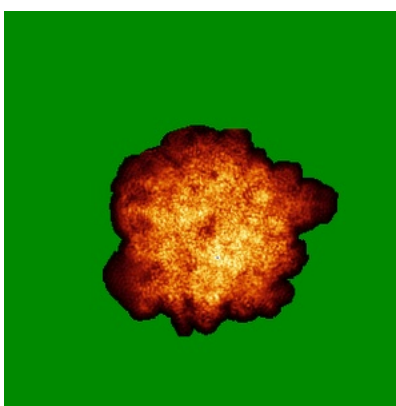
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

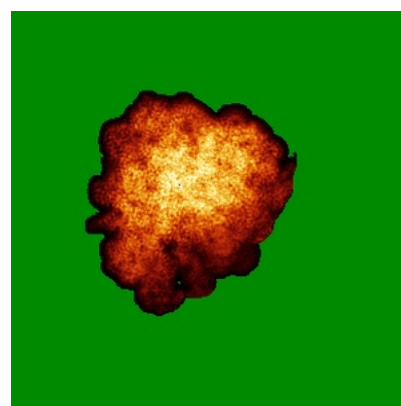
6.4.1 Primary map



X



Y

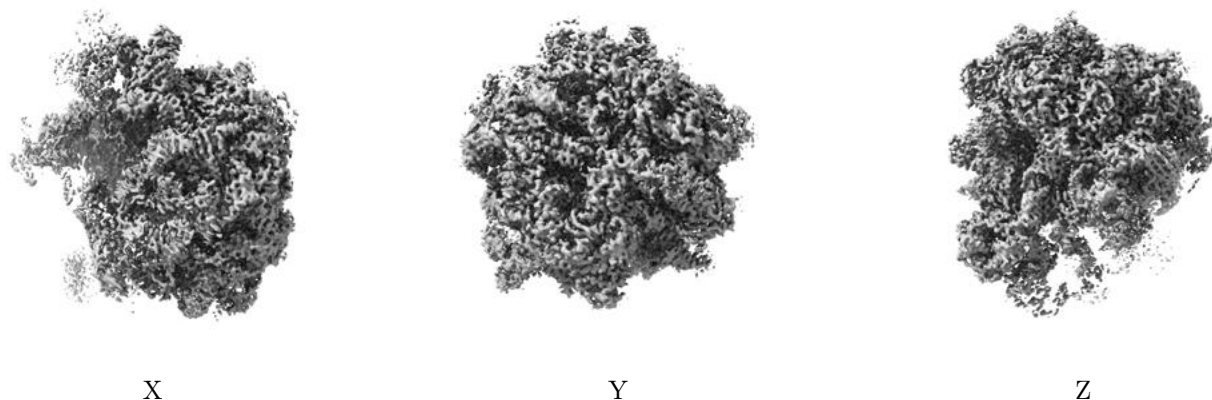


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.132. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

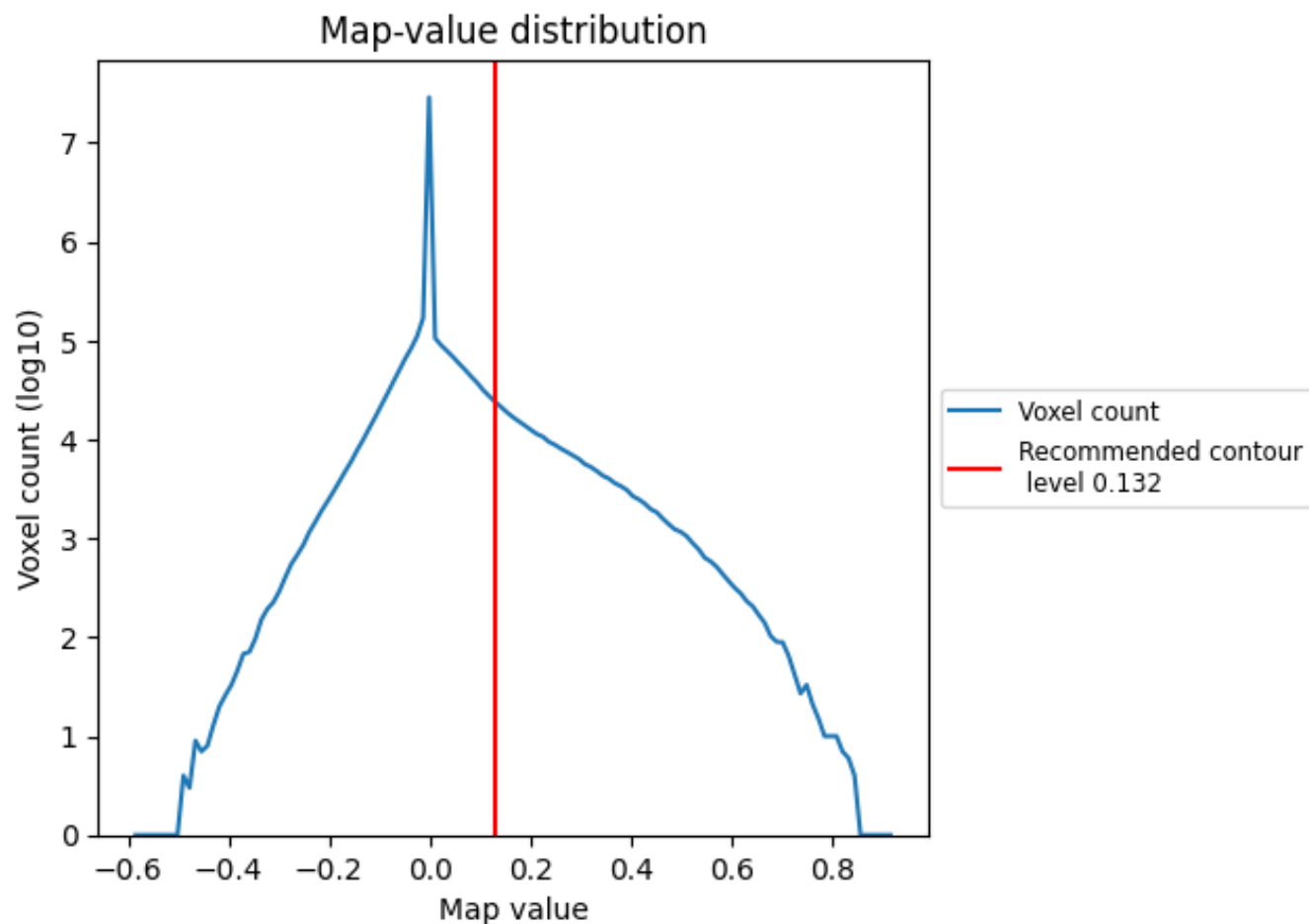
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

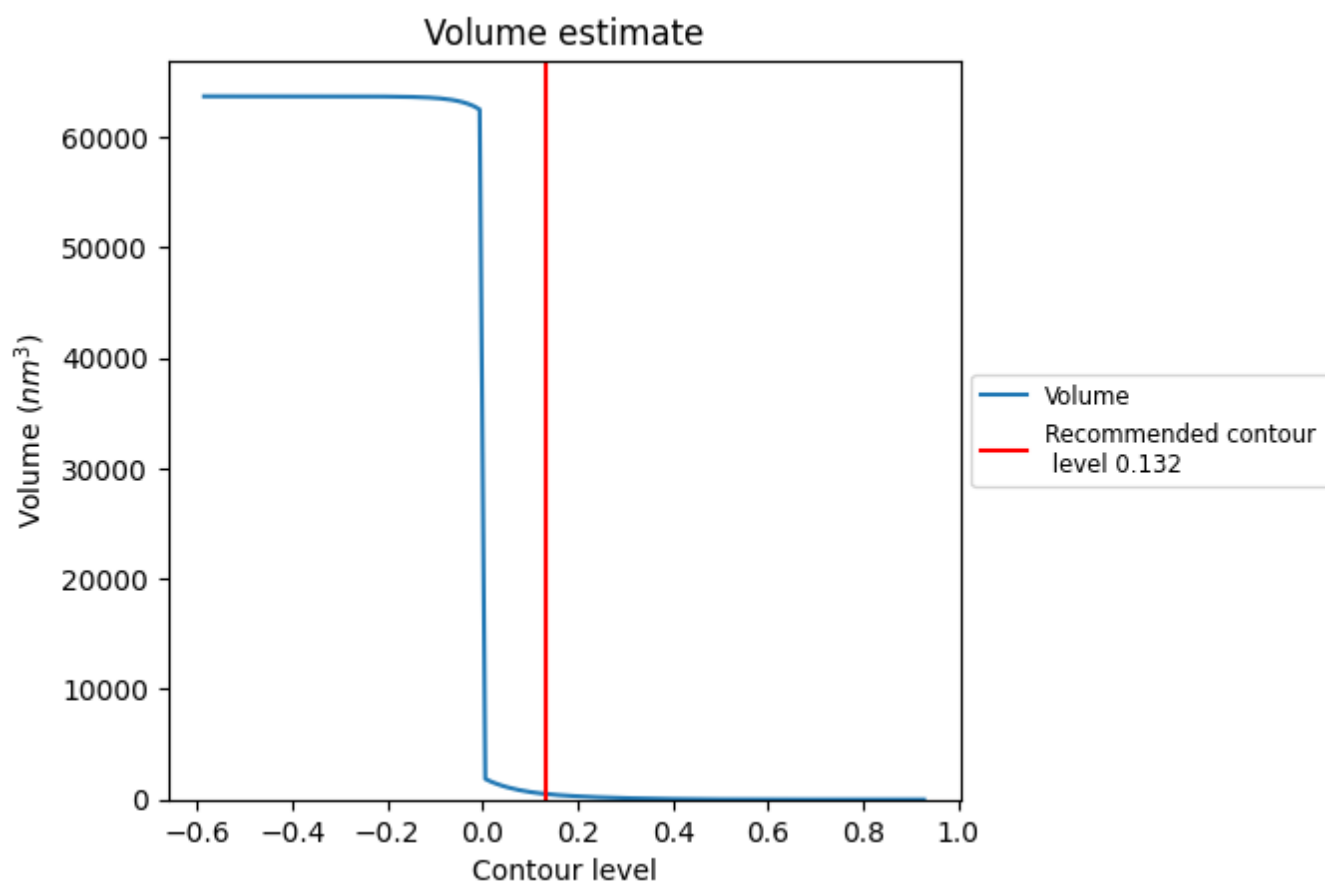
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

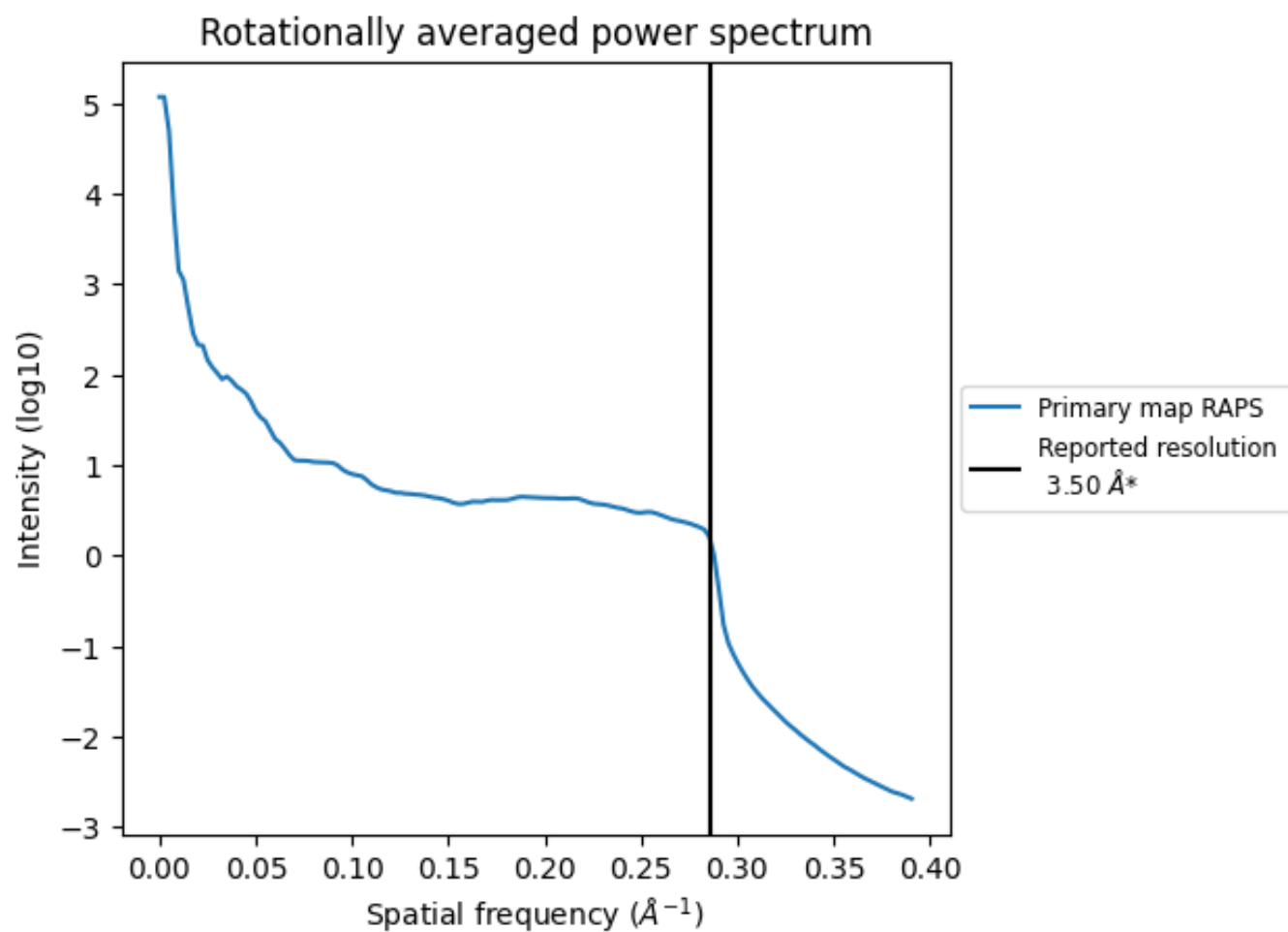
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 516 nm³; this corresponds to an approximate mass of 466 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.286 Å⁻¹

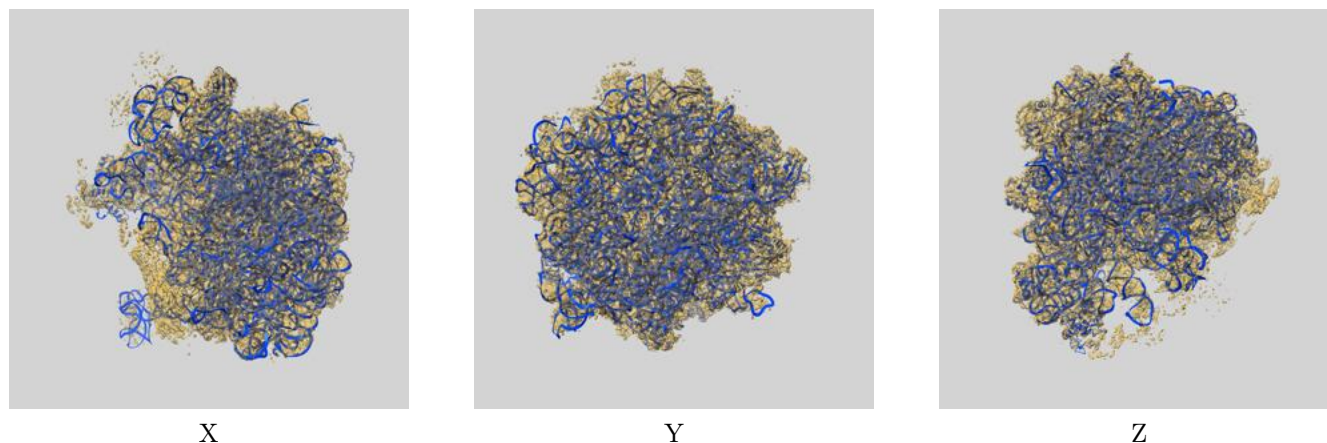
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

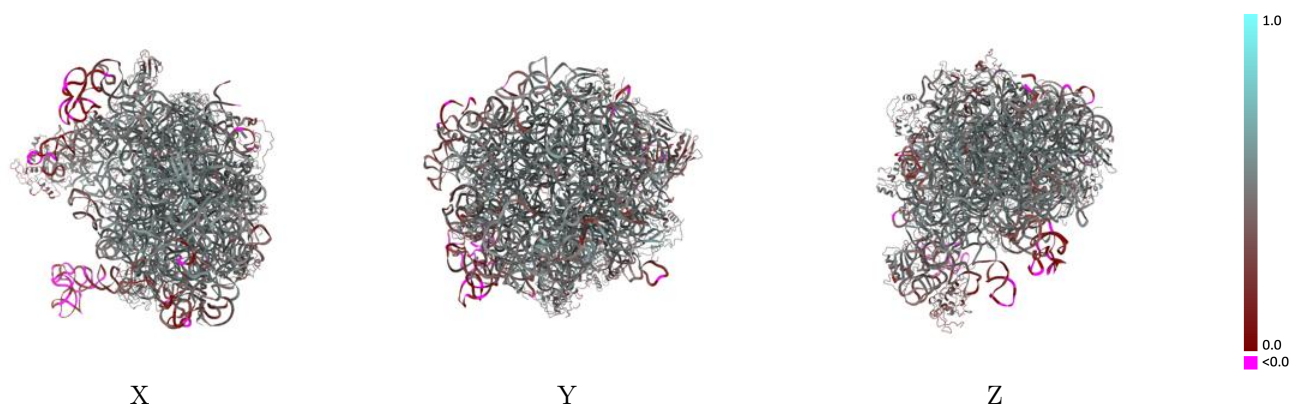
This section contains information regarding the fit between EMDB map EMD-9572 and PDB model 5H1S. Per-residue inclusion information can be found in section [3](#) on page [10](#).

9.1 Map-model overlay [i](#)



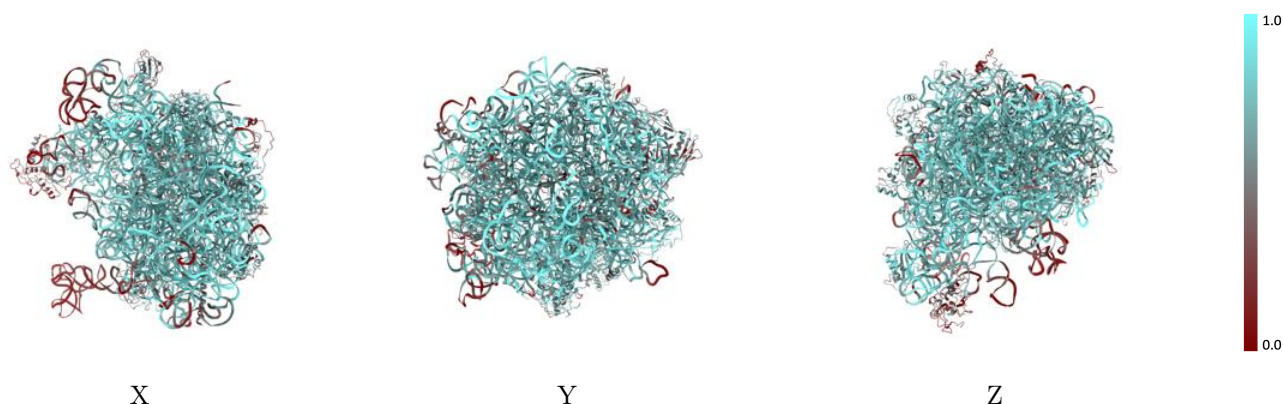
The images above show the 3D surface view of the map at the recommended contour level 0.132 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



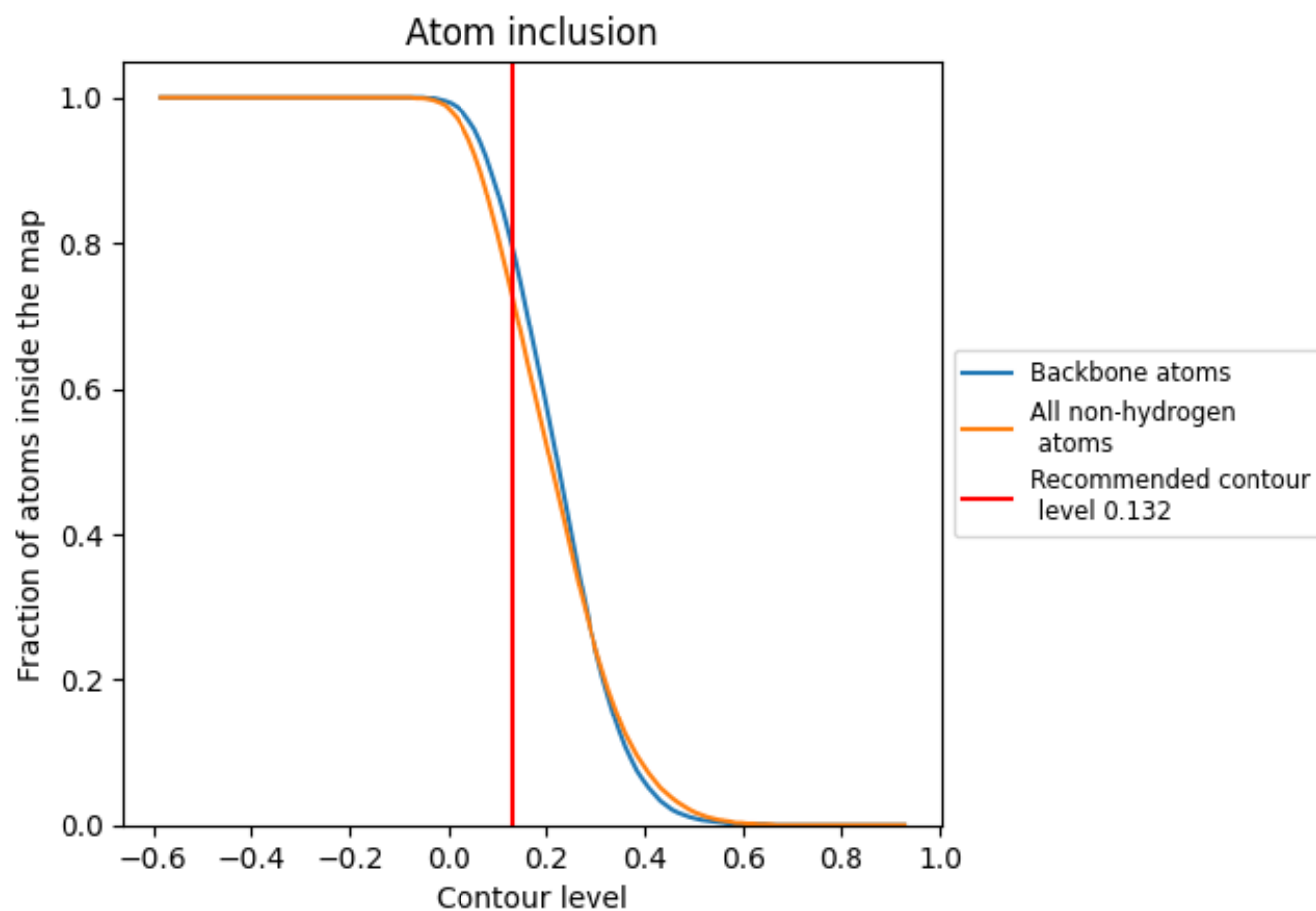
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.132).

9.4 Atom inclusion [i](#)



At the recommended contour level, 79% of all backbone atoms, 72% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.132) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7240	 0.4530
A	 0.7630	 0.4510
B	 0.8060	 0.4300
C	 0.8050	 0.4520
E	 0.6720	 0.4930
F	 0.6860	 0.4970
G	 0.6490	 0.4640
H	 0.2820	 0.3440
I	 0.5670	 0.4240
J	 0.2110	 0.3920
L	 0.7250	 0.5060
M	 0.5960	 0.4760
N	 0.6780	 0.4590
O	 0.6460	 0.4630
P	 0.7130	 0.5020
Q	 0.6240	 0.4310
R	 0.6100	 0.4800
S	 0.7360	 0.4770
T	 0.6270	 0.4750
U	 0.6060	 0.4530
V	 0.5720	 0.4870
W	 0.5730	 0.4400
X	 0.6440	 0.4660
Y	 0.6960	 0.4980
Z	 0.6040	 0.4490
a	 0.1020	 0.2240
b	 0.6790	 0.4930
c	 0.6150	 0.4100
d	 0.6820	 0.5020
e	 0.7360	 0.5200
f	 0.6840	 0.4880
g	 0.5570	 0.4140
h	 0.7260	 0.4920

