



Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 09:34 AM UTC

PDB ID : 4D5L / pdb_00004d5l
EMDB ID : EMD-2810
Title : Cryo-EM structures of ribosomal 80S complexes with termination factors and cricket paralysis virus IRES reveal the IRES in the translocated state
Authors : Muhs, M.; Hilal, T.; Mielke, T.; Skabkin, M.A.; Sanbonmatsu, K.Y.; Pestova, T.V.; Spahn, C.M.T.
Deposited on : 2014-11-05
Resolution : 9.00 Å (reported)
Based on initial model : 4CXC

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:

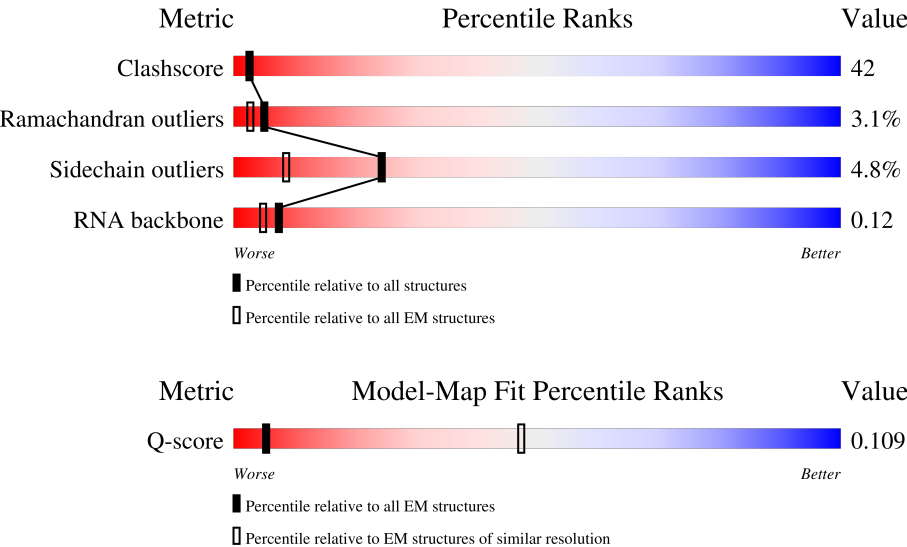
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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 9.00 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.



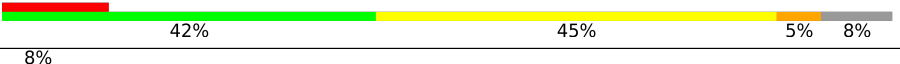
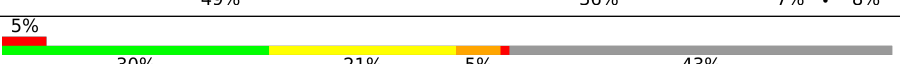
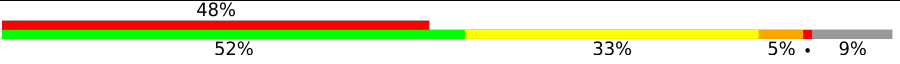
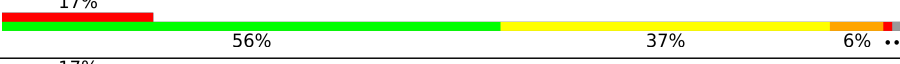
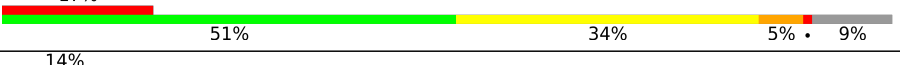
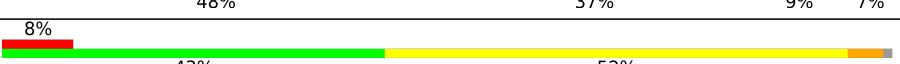
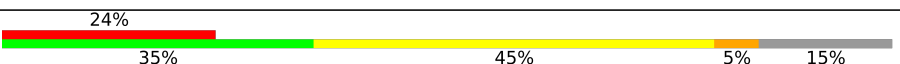
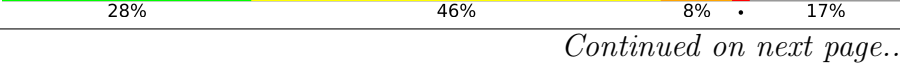
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	282 (8.20 - 9.20)

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	1	1869	6% 38% 47% 7%
2	A	295	38% 40% 31% 26%
3	B	264	11% 31% 40% 8% 19%

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Mol	Chain	Length	Quality of chain
4	C	293	
5	D	243	
6	E	263	
7	F	204	
8	G	249	
9	H	194	
10	I	208	
11	J	194	
12	K	165	
13	L	158	
14	M	132	
15	N	151	
16	O	151	
17	P	145	
18	Q	146	
19	R	135	
20	S	152	
21	T	145	
22	U	119	
23	V	83	
24	W	130	
25	X	142	
26	Y	133	
27	Z	125	
28	a	115	

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Mol	Chain	Length	Quality of chain
29	b	84	29%54%38%•5%
30	c	69	19%41%42%7%10%
31	d	56	5%36%54%••5%
32	e	59	31%56%29%•14%
33	f	156	14%20%18%•61%
34	g	317	30%58%38%••

2 Entry composition

There are 34 unique types of molecules in this entry. The entry contains 75320 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 18S RRNA 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	1742	Total	C	N	O	P	0	0
			37159	16589	6665	12164	1741		

- Molecule 2 is a protein called 40S RIBOSOMAL PROTEIN ES26.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	218	Total	C	N	O	S	0	0
			1719	1091	301	319	8		

- Molecule 3 is a protein called 40S RIBOSOMAL PROTEIN ES27.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	B	213	Total	C	N	O	S	0	0
			1729	1098	309	308	14		

- Molecule 4 is a protein called 40S RIBOSOMAL PROTEIN ES28.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	C	222	Total	C	N	O	S	0	0
			1724	1114	296	304	10		

- Molecule 5 is a protein called 40S RIBOSOMAL PROTEIN US14.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	D	212	Total	C	N	O	S	0	0
			1646	1050	299	290	7		

- Molecule 6 is a protein called 40S RIBOSOMAL PROTEIN ES30.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	E	257	Total	C	N	O	S	0	0
			2031	1298	381	344	8		

- Molecule 7 is a protein called 40S RIBOSOMAL PROTEIN ES31.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	F	188	Total	C	N	O	S	0	0
			1486	930	283	266	7		

- Molecule 8 is a protein called 40S RIBOSOMAL PROTEIN RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	G	232	Total	C	N	O	S	0	0
			1884	1176	379	322	7		

- Molecule 9 is a protein called 40S RIBOSOMAL PROTEIN ES7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	H	191	Total	C	N	O	S	0	0
			1535	978	282	274	1		

- Molecule 10 is a protein called 40S RIBOSOMAL PROTEIN ES8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	I	207	Total	C	N	O	S	0	0
			1695	1064	334	292	5		

- Molecule 11 is a protein called 40S RIBOSOMAL PROTEIN US4.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	J	179	Total	C	N	O	S	0	0
			1495	953	299	241	2		

- Molecule 12 is a protein called 40S RIBOSOMAL PROTEIN ES10.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	K	94	Total	C	N	O	S	0	0
			791	519	138	129	5		

- Molecule 13 is a protein called 40S RIBOSOMAL PROTEIN US17.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	L	146	Total	C	N	O	S	0	0
			1199	764	224	205	6		

- Molecule 14 is a protein called 40S RIBOSOMAL PROTEIN ES12.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	M	120	Total	C	N	O	S	0	0
			931	584	164	174	9		

- Molecule 15 is a protein called 40S RIBOSOMAL PROTEIN US15.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	N	150	Total	C	N	O	S	0	0
			1207	773	229	204	1		

- Molecule 16 is a protein called 40S RIBOSOMAL PROTEIN US11.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	O	137	Total	C	N	O	S	0	0
			1023	627	200	190	6		

- Molecule 17 is a protein called 40S RIBOSOMAL PROTEIN US19.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	P	118	Total	C	N	O	S	0	0
			981	625	183	166	7		

- Molecule 18 is a protein called 40S RIBOSOMAL PROTEIN US9.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Q	139	Total	C	N	O	S	0	0
			1108	704	210	191	3		

- Molecule 19 is a protein called 40S RIBOSOMAL PROTEIN ES17.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	R	109	Total	C	N	O	S	0	0
			893	561	170	159	3		

- Molecule 20 is a protein called 40S RIBOSOMAL PROTEIN US13.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	S	142	Total	C	N	O	S	0	0
			1172	736	236	199	1		

- Molecule 21 is a protein called 40S RIBOSOMAL PROTEIN ES19.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	T	143	Total	C	N	O	S	0	0
			1112	697	214	198	3		

- Molecule 22 is a protein called 40S RIBOSOMAL PROTEIN US10.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	U	101	Total	C	N	O	S	0	0
			803	502	153	144	4		

- Molecule 23 is a protein called 40S RIBOSOMAL PROTEIN ES21.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	V	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

- Molecule 24 is a protein called 40S RIBOSOMAL PROTEIN US8.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	W	129	Total	C	N	O	S	0	0
			1033	659	193	175	6		

- Molecule 25 is a protein called 40S RIBOSOMAL PROTEIN US12.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	X	134	Total	C	N	O	S	0	0
			1046	663	205	176	2		

- Molecule 26 is a protein called 40S RIBOSOMAL PROTEIN ES24.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Y	122	Total	C	N	O	S	0	0
			1002	635	196	166	5		

- Molecule 27 is a protein called 40S RIBOSOMAL PROTEIN ES25.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Z	76	Total	C	N	O	S	0	0
			605	387	112	105	1		

- Molecule 28 is a protein called 40S RIBOSOMAL PROTEIN US2.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	a	96	Total	C	N	O	S	0	0
			767	476	159	127	5		

- Molecule 29 is a protein called 40S RIBOSOMAL PROTEIN ES1.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	b	80	Total	C	N	O	S	0	0
			625	391	116	111	7		

- Molecule 30 is a protein called 40S RIBOSOMAL PROTEIN US5.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	c	62	Total	C	N	O	S	0	0
			490	298	99	91	2		

- Molecule 31 is a protein called 40S RIBOSOMAL PROTEIN US3.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	d	53	Total	C	N	O	S	0	0
			444	278	90	71	5		

- Molecule 32 is a protein called 40S RIBOSOMAL PROTEIN ES4.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	e	51	Total	C	N	O	S	0	0
			412	258	90	63	1		

- Molecule 33 is a protein called 40S RIBOSOMAL PROTEIN US7.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	f	61	Total	C	N	O	S	0	0
			497	312	94	84	7		

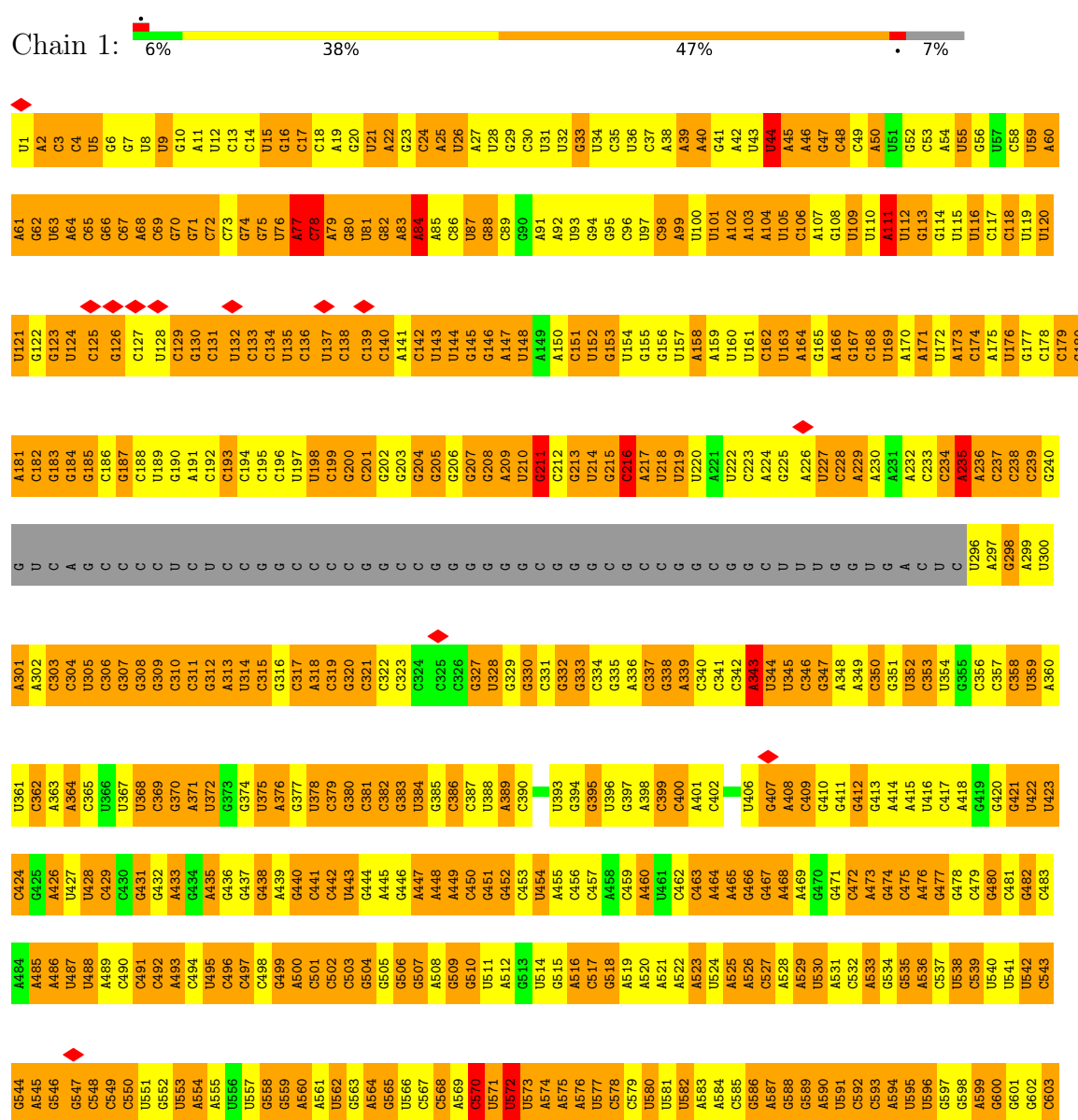
- Molecule 34 is a protein called 40S RIBOSOMAL PROTEIN ES6.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	g	314	Total	C	N	O	S	0	0
			2440	1537	425	466	12		

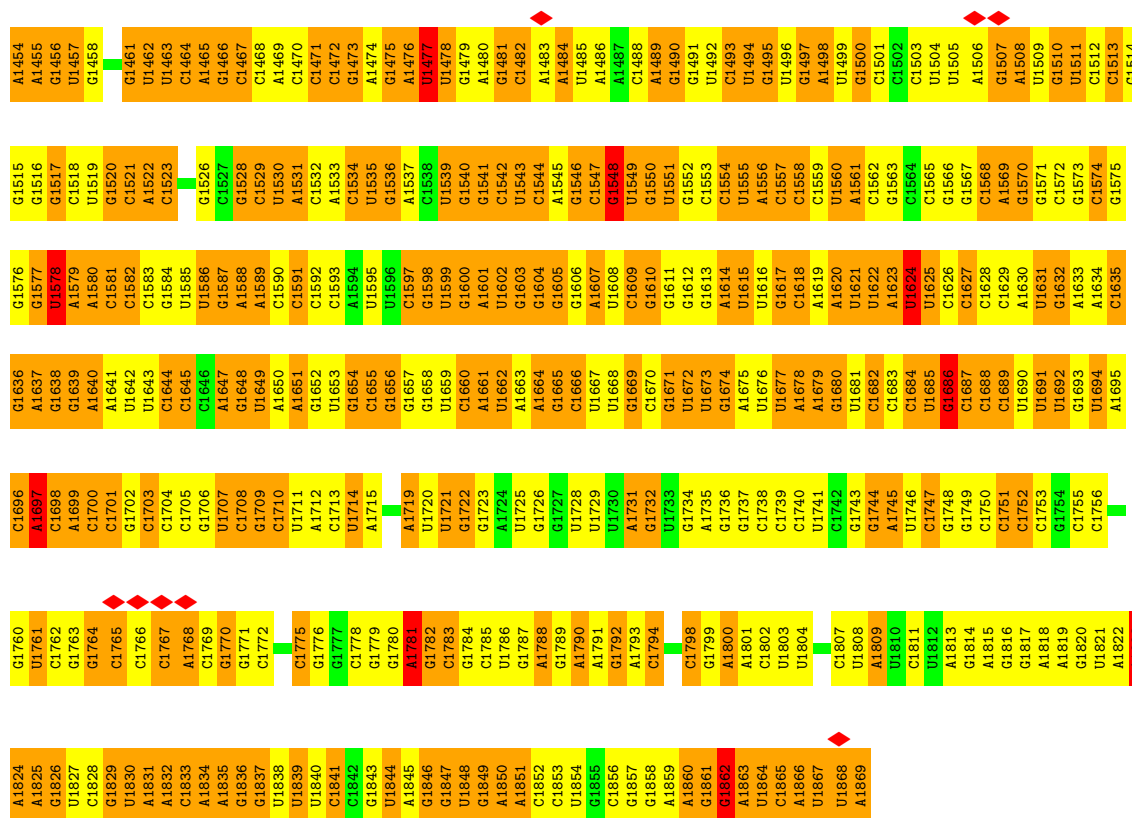
3 Residue-property plots

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.

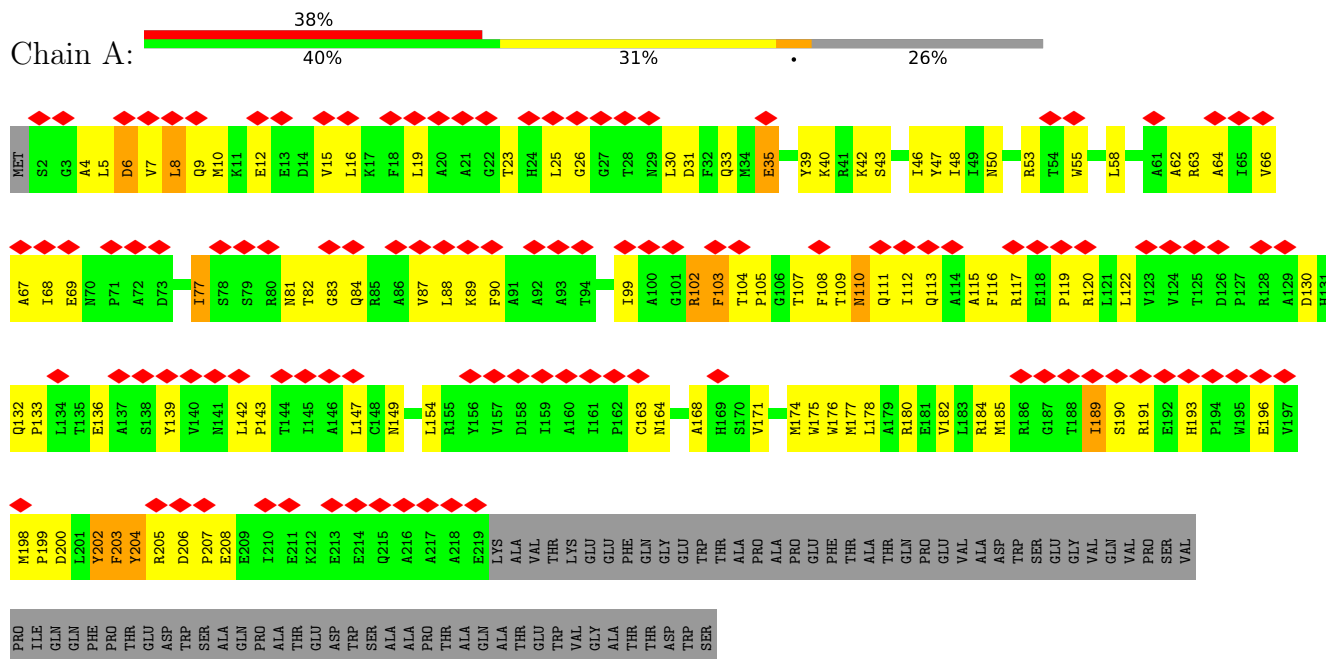
• Molecule 1: 18S RRNA 2



G1394	A1392	G1270	G1210	A1150	C1090	A1028	U966	C905	U844	G	A	A664	A604
A1395	U1333	C1271	G1211	G1151	C1091	G1029	U967	U906	G845	C	C	G665	A605
C1396	G1335	C1273	C1213	U1152	G1092	A1030	U968	A908	G846	G	C	U666	G606
G1398	G1336	G1274	A1214	U1154	C1093	A1031	U969	A908	A847	G	C	U667	U607
C1397	C1337	G1275	C1215	U1155	C1094	C1032	G970	C911	U848	G	C	A668	C608
U1400	G1338	A1276	C1216	U1156	C1095	G1033	G971	C912	A849	C	C	A669	U609
A1401	U1339	C1277	G1217	G1157	G1096	A1034	A972	C913	C850	C	C	A670	G610
A1402	U1340	A1278	C1218	G1158	G1097	A1035	C973	A913	C851	C	G	A671	C611
C1403	C1341	C1279	G1219	G1159	C1098	A1036	G974	C914	G852	U	U	A672	U612
U1404	U1342	G1280	A1220	U1160	G1099	G1037	G975	G915	C853	C	C	G673	G613
A1405	U1343	G1281	G1220	U1161	A1100	U1038	G976	A916	A854	C	C	C674	C614
G1406	A1344	A1282	G1222	C1162	U1101	C1039	C977	U917	G855	C	C	U675	C615
U1407	G1345	C1283	C1223	G1163	G1102	G1040	G978	U918	C856	C	C	C676	A616
U1408	U1346	G1284	G1224	C1164	C1103	G1041	C979	A919	U857	C	G	G737	G617
A1409	U1347	A1284	A1225	G1165	G1104	A1042	A980	A920	A858	C	C	U678	C618
C1410	G1348	G1285	G1226	G1166	G1105	G1043	A981	G921	G859	C	C	A679	A619
G1411	G1349	A1287	G1227	G1167	C1106	A1044	G982	A922	C860	C	C	G680	G620
G1412	U1350	U1288	A1228	G1168	G1107	U1045	A983	G923	A861	C	C	U681	C621
A1414	G1351	U1289	C1229	G1169	C1108	U1046	C984	G924	A862	C	C	U682	C622
C1415	A1352	G1290	C1230	A1170	G1109	C1047	G985	G925	U863	C	C	G683	G623
C1416	A1353	A1291	C1231	G1171	G1110	A1048	A987	C927	A864	C	C	G684	C624
C1417	G1354	C1292	U1232	U1172	U1111	A1049	C988	G928	U866	C	C	U686	G626
C1418	C1355	U1293	G1233	A1173	U1112	A1050	C989	G929	G867	C	C	G687	G627
C1419	A1357	U1297	G1234	U1174	A1113	G1051	A990	C930	G868	C	C	U688	A628
G1420	U1358	C1298	G1235	G1175	U1114	A1052	G991	C931	A869	C	C	C748	A629
A1421	U1359	U1299	C1237	G1176	U1115	C1053	A992	G932	A870	C	C	U749	U630
G1422	G1360	A1299	U1238	U1177	C1116	G1054	G993	G933	U871	C	C	G751	U631
A1301	C1361	U1300	U1239	U1178	C1117	A1055	C994	G934	A872	C	C	G752	C632
C1423	G1362	G1301	U1239	U1179	U1118	U1056	G995	G935	G873	C	C	G753	C633
G1424	C1363	G1302	A1240	C1180	A1119	C1057	C996	C936	G874	C	C	A693	A634
G1425	U1364	C1303	A1241	A1181	U1120	A1058	C999	C937	A875	C	C	G754	G635
U1426	C1365	U1304	U1242	A1182	G1121	A1060	C1000	A938	C876	C	C	C755	C636
C1427	U1368	C1305	U1243	A1183	A1122	U1061	U1002	U939	C877	C	C	G	U637
G1428	A1369	U1306	U1244	A1184	C1123	A1062	U1003	U940	G878	C	C	C	C638
G1429	U1370	U1307	G1245	C1185	C1124	C1063	U1004	G942	C879	C	C	C	C639
C1430	A1371	U1308	A1246	U1186	C1125	U1064	G1005	A943	G880	C	C	C	A640
G1431	U1372	C1309	C1247	A1187	G1126	G1065	G1006	U944	C	C	C	C	A641
U1432	C1373	U1310	C1252	A1188	C1127	U1066	C1007	U945	U883	C	C	C	U642
C1433	G1374	G1312	A1251	C1191	G1129	C1127	A1008	G947	C884	C	C	C	A643
C1435	A1376	A1313	U1253	U1192	C1130	U1069	U1009	U946	U885	C	C	C	C644
C1436	U1377	C1315	C1254	A1194	G1131	A1070	G1010	C948	A886	C	C	C	C645
C1437	A1378	C1316	G1255	A1195	C1132	G1071	A1011	G949	U887	C	C	C	C646
A1438	U1379	G1317	G1256	A1196	U1133	U1071	A1012	U949	U888	C	C	C	U647
A1439	C1380	G1318	G1257	G1197	U1134	G1076	U1013	G947	U889	C	C	C	A648
C1440	G1381	U1319	G1258	G1198	U1135	C1077	U1015	C953	G891	C	C	C	U649
U1441	A1382	G1320	A1259	A1199	U1136	C1078	U1016	U954	U892	C	C	C	A650
U1442	C1383	G1321	C1260	A1200	U1137	A1080	U1017	A955	G893	C	C	C	U651
C1443	G1384	G1322	C1261	U1201	C1138	U1081	U1018	G956	G894	C	C	C	A653
U1444	U1385	U1323	C1262	U1202	G1140	A1082	C1019	A957	U895	C	C	C	G654
U1445	A1386	G1324	U1263	G1203	U1141	A1083	U1021	G958	U896	C	C	C	U649
A1446	G1387	C1325	C1264	A1204	G1142	A1084	U1022	G959	U897	C	C	C	A654
G1447	A1388	G1326	A1265	C1205	A1143	A1084	U1022	U960	U898	C	C	C	G655
A1448	U1389	G1327	C1266	G1206	A1144	C1085	A1023	G961	U899	C	C	C	U657
G1449	U1390	G1328	C1267	G1207	G1145	G1086	A1024	A962	C900	C	C	C	G659
C1450	C1391	U1329	C1268	G1208	U1146	A1087	U1025	A963	G901	C	C	C	C660
A1452	G1393	G1330	U1392	A1208	C1147	U1088	C1026	A964	G902	C	C	C	U661
		C1331	G1269	A1209	A148	G1089	A1027	U965	A904	C	C	C	G662
					A149					C	C	C	C663



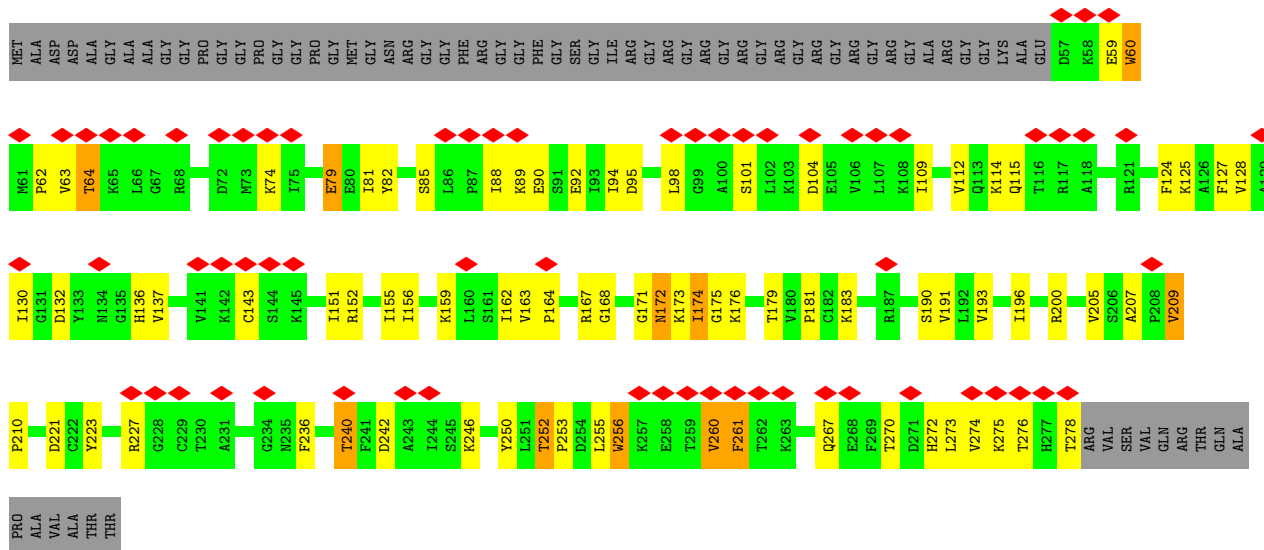
• Molecule 2: 40S RIBOSOMAL PROTEIN ES26



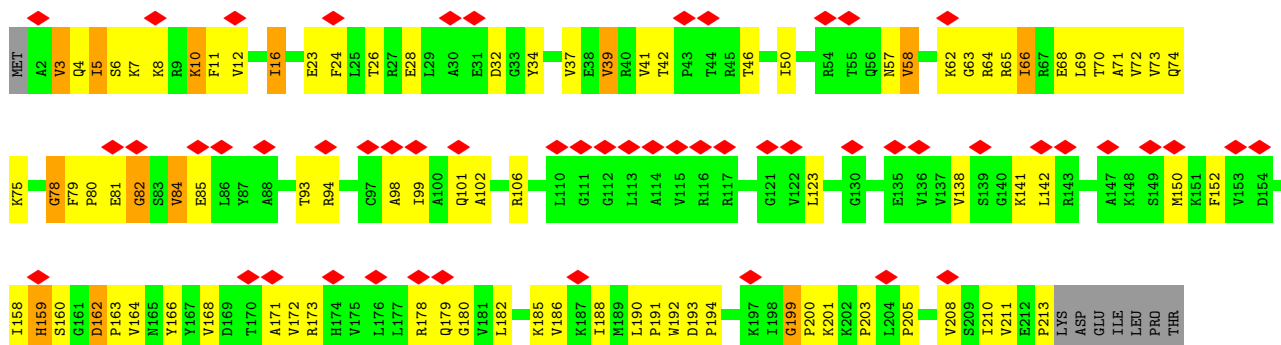
• Molecule 3: 40S RIBOSOMAL PROTEIN ES27



- Molecule 4: 40S RIBOSOMAL PROTEIN ES28



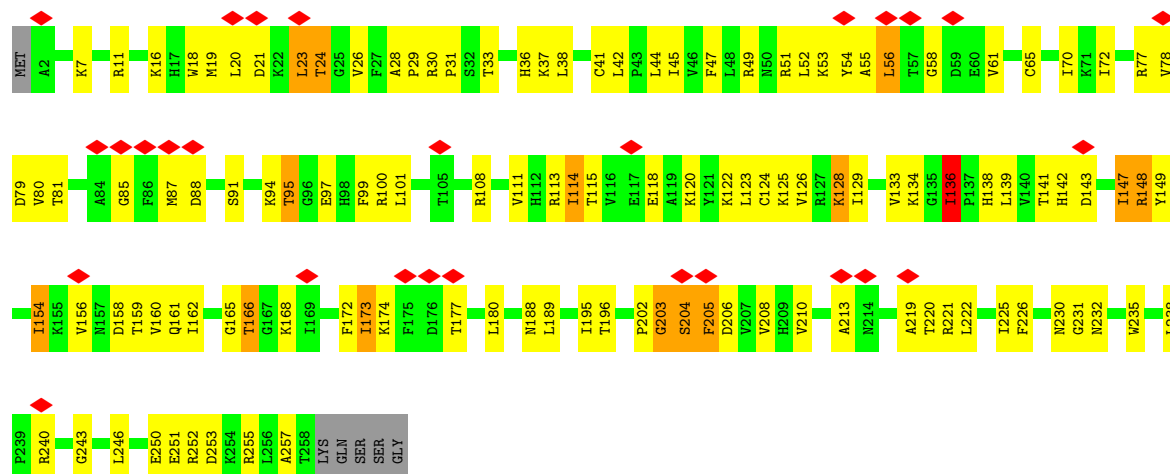
- Molecule 5: 40S RIBOSOMAL PROTEIN US14



THR
PRO
ILE
SER
GLU
GLN
LYS
GLY
GLY
LYS
LYS
PRO
GLU
PRO
PRO
ALA
MET
MET
GLN
PRO
VAL
THR
ALA

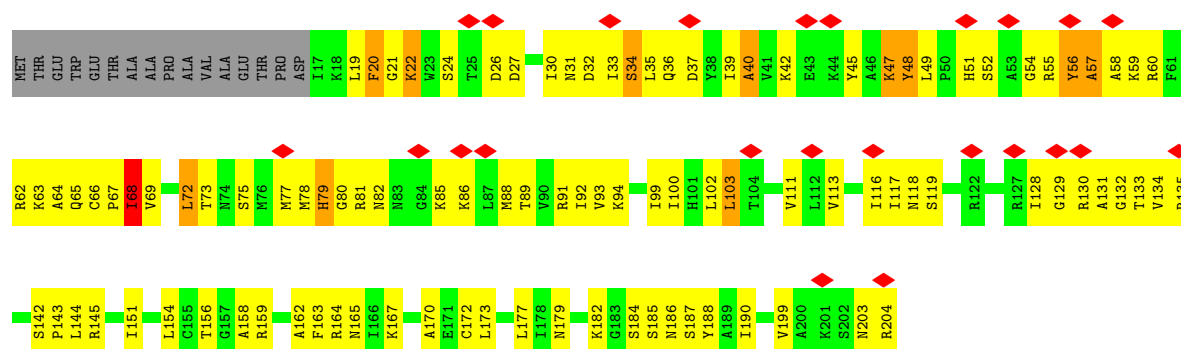
• Molecule 6: 40S RIBOSOMAL PROTEIN ES30

Chain E: 



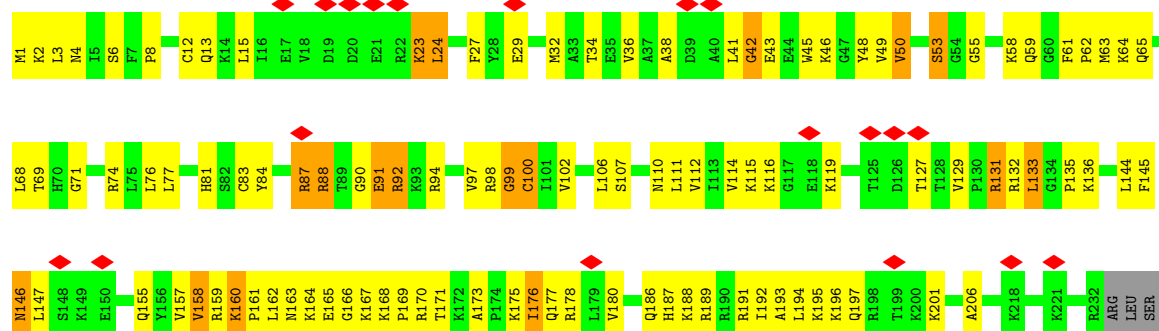
• Molecule 7: 40S RIBOSOMAL PROTEIN ES31

Chain F: 



• Molecule 8: 40S RIBOSOMAL PROTEIN RACK1

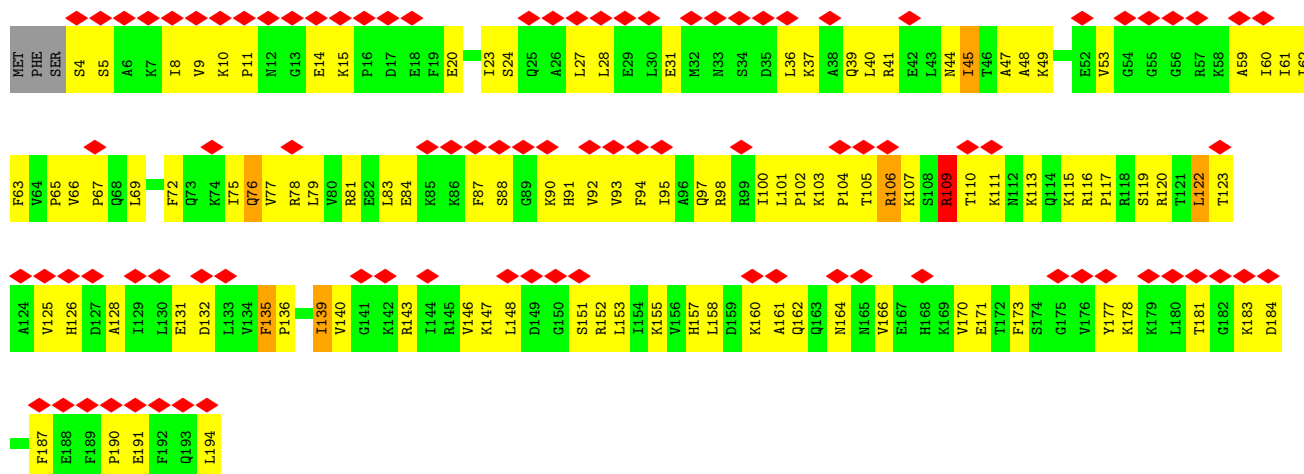
Chain G: 



SER
LEU
ARG
ALA
SER
THR
SER
LYS
GLU
SER
GLN
LYS

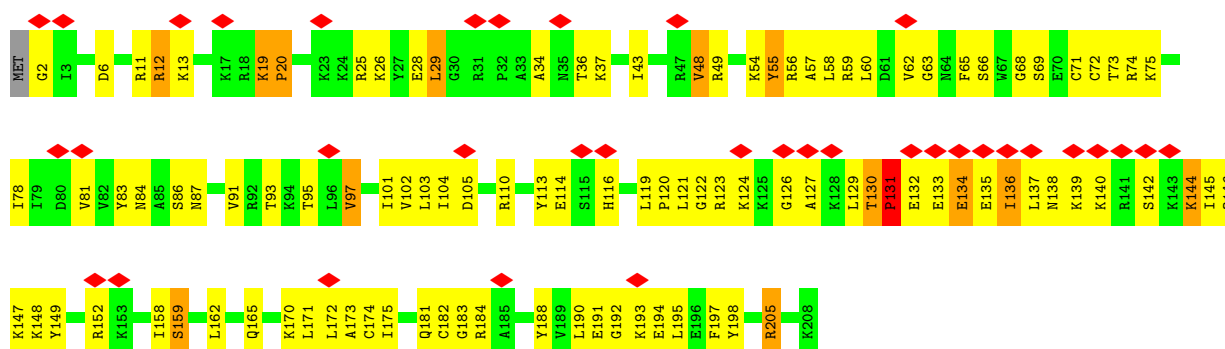
• Molecule 9: 40S RIBOSOMAL PROTEIN ES7

Chain H: 47% 43% 52%



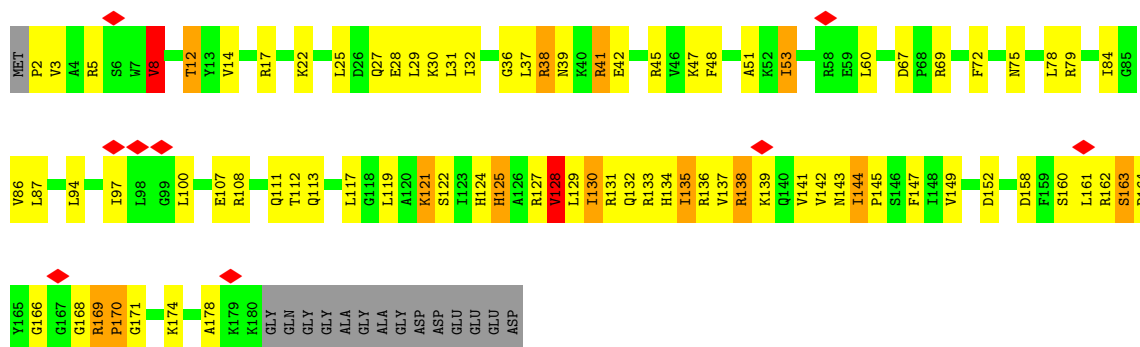
• Molecule 10: 40S RIBOSOMAL PROTEIN ES8

Chain I: 17% 49% 44% 6%

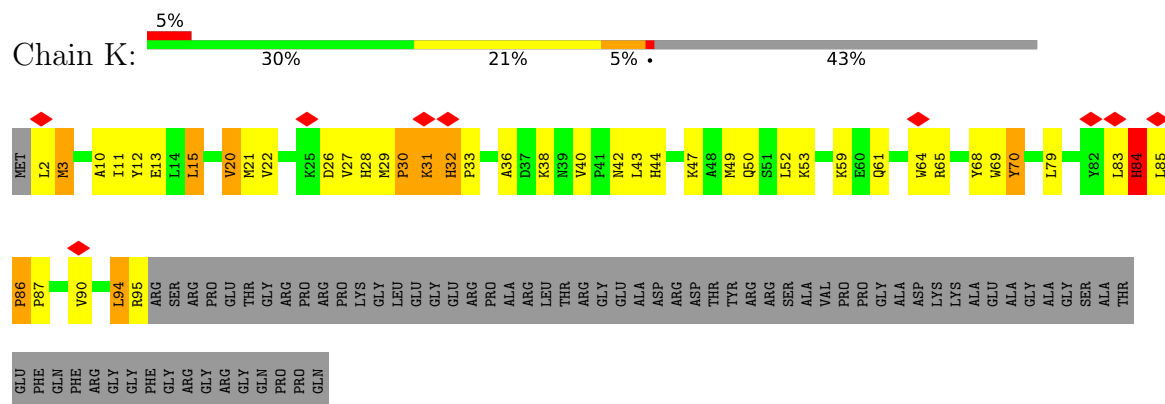


• Molecule 11: 40S RIBOSOMAL PROTEIN US4

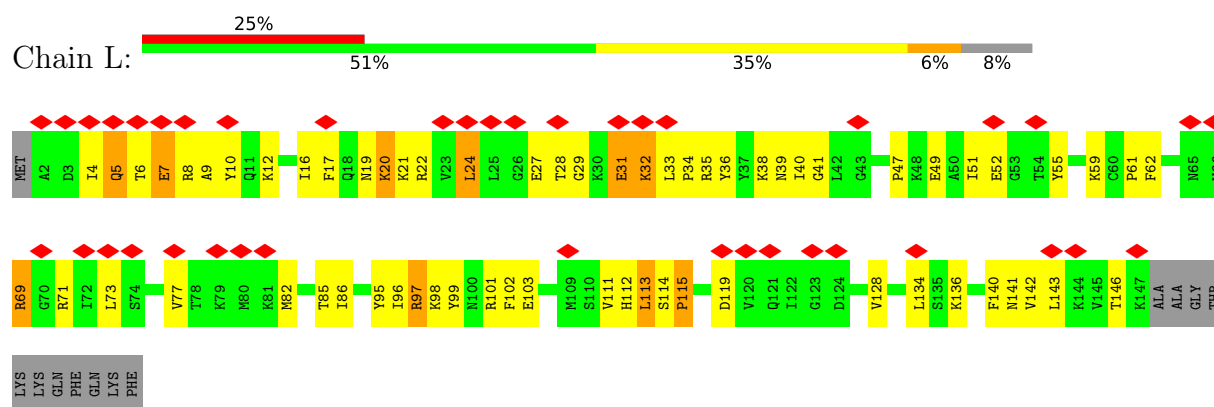
Chain J: 5% 49% 36% 7% 8%



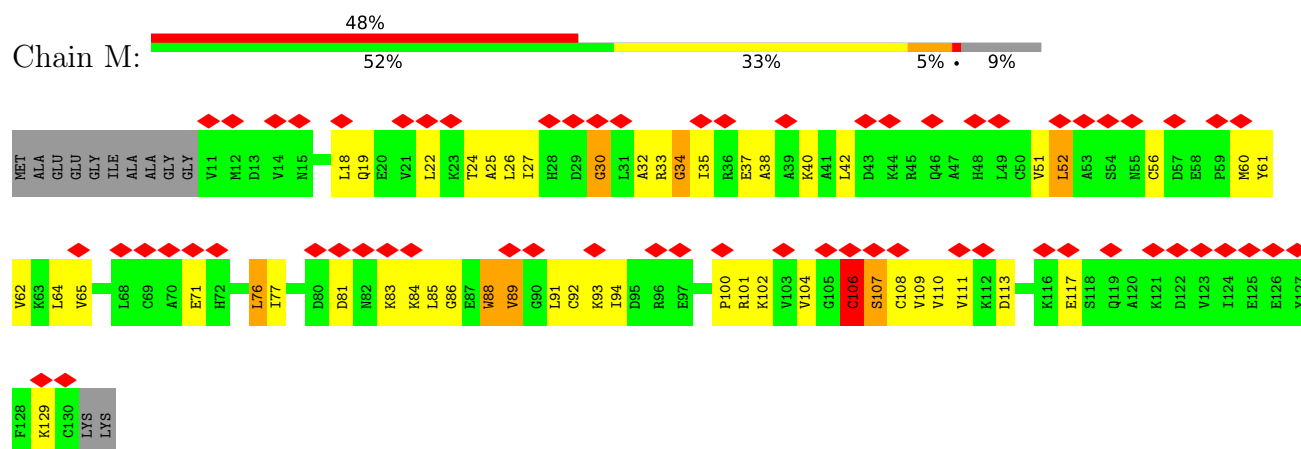
• Molecule 12: 40S RIBOSOMAL PROTEIN ES10



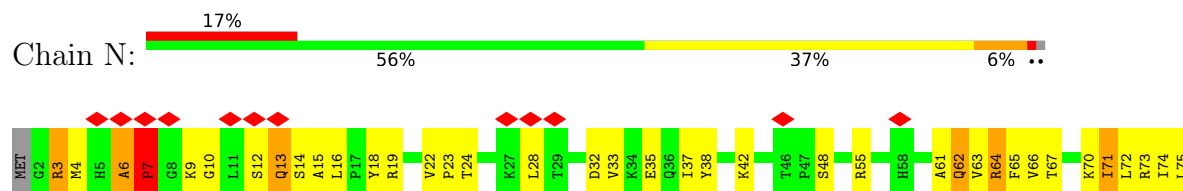
• Molecule 13: 40S RIBOSOMAL PROTEIN US17

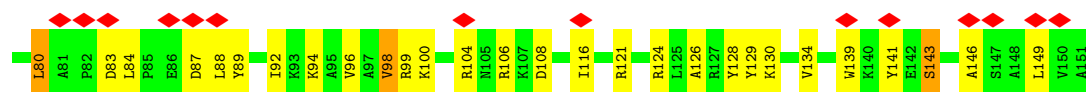


• Molecule 14: 40S RIBOSOMAL PROTEIN ES12

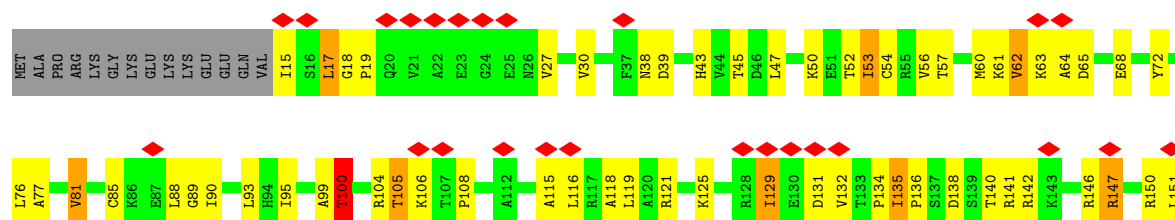


• Molecule 15: 40S RIBOSOMAL PROTEIN US15

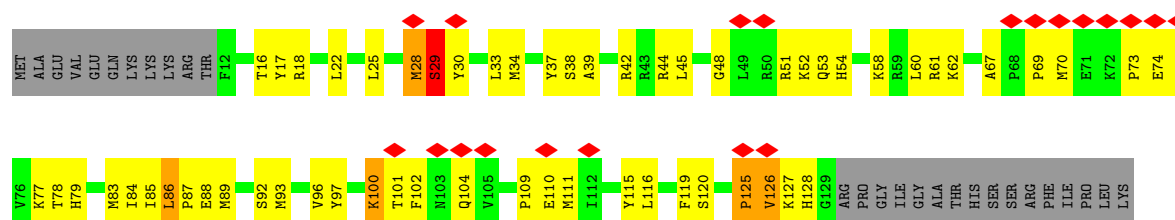




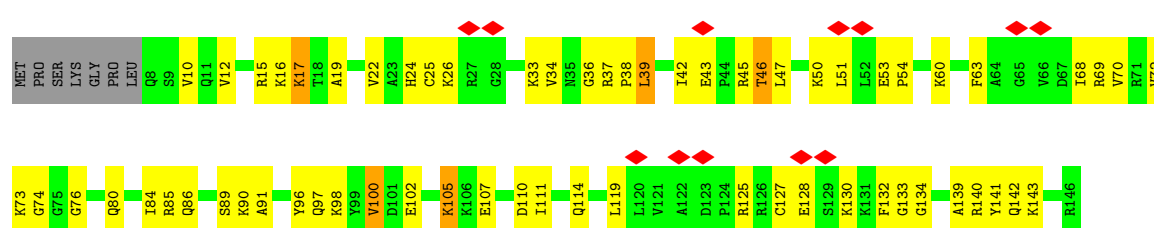
• Molecule 16: 40S RIBOSOMAL PROTEIN US11



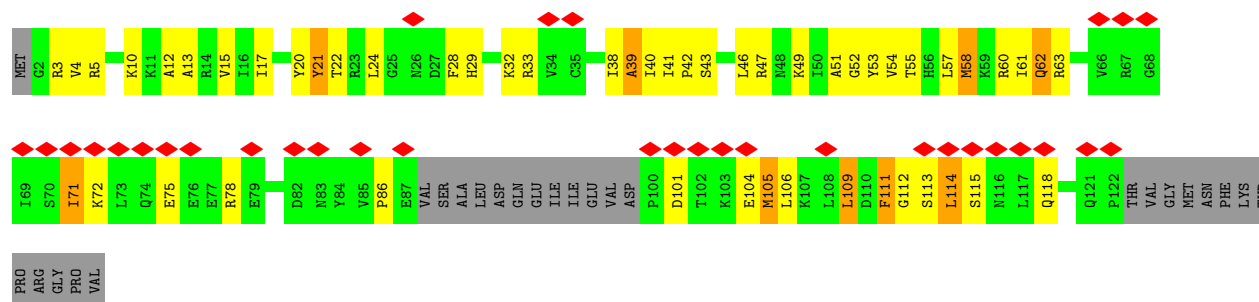
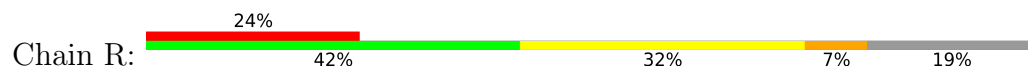
• Molecule 17: 40S RIBOSOMAL PROTEIN US19



• Molecule 18: 40S RIBOSOMAL PROTEIN US9



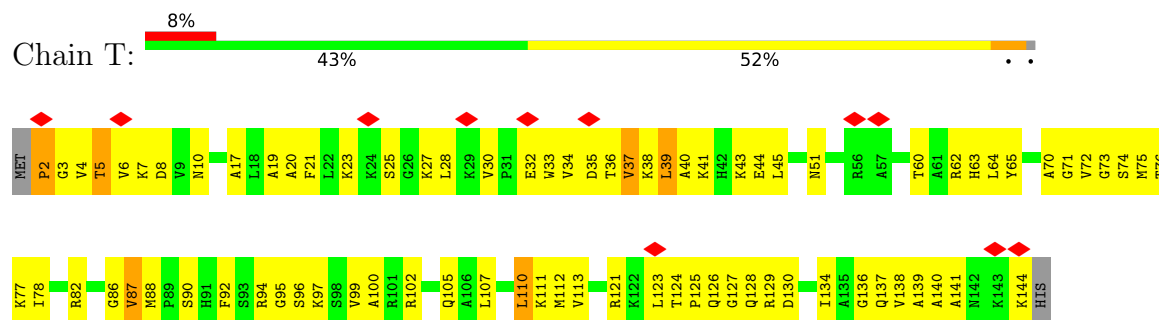
• Molecule 19: 40S RIBOSOMAL PROTEIN ES17



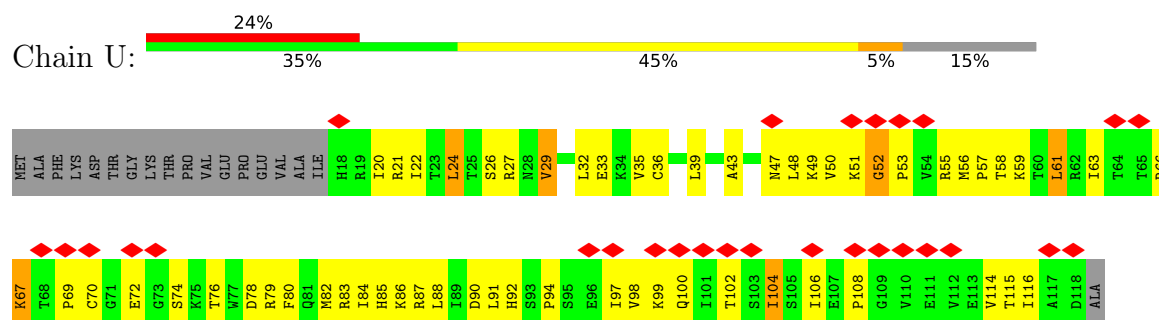
- Molecule 20: 40S RIBOSOMAL PROTEIN US13



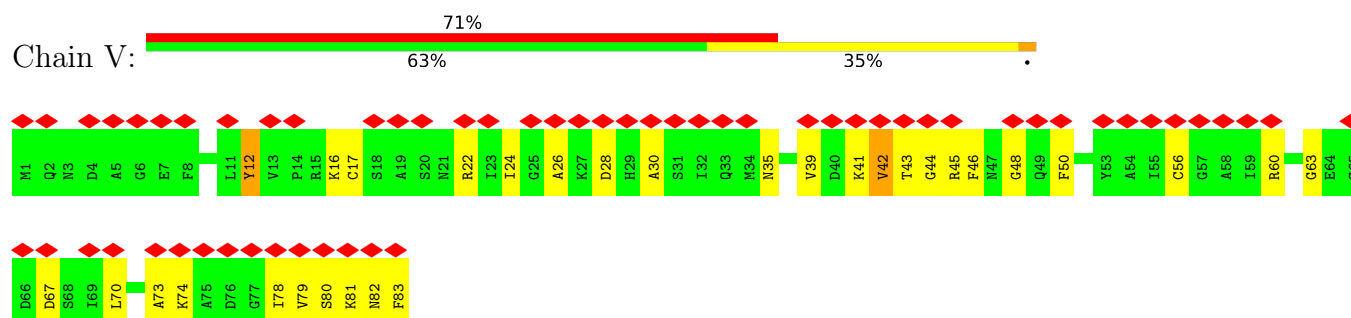
- Molecule 21: 40S RIBOSOMAL PROTEIN ES19



- Molecule 22: 40S RIBOSOMAL PROTEIN US10

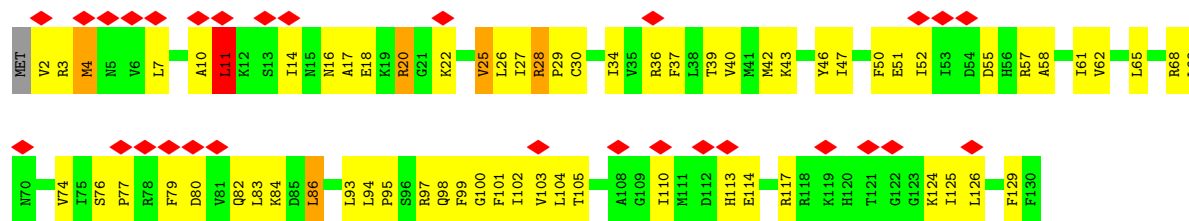


- Molecule 23: 40S RIBOSOMAL PROTEIN ES21

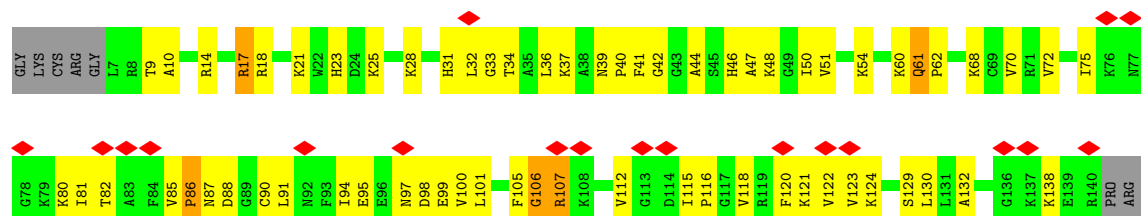


- Molecule 24: 40S RIBOSOMAL PROTEIN US8

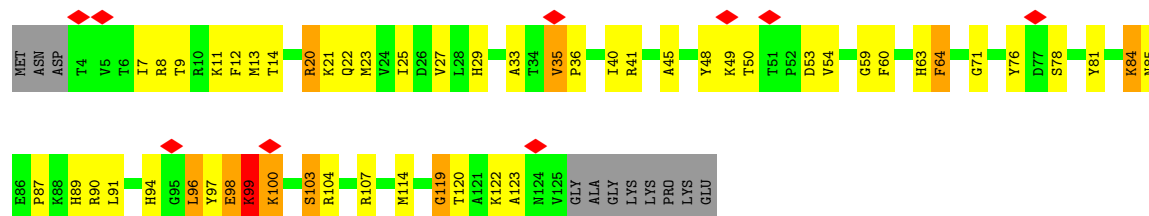




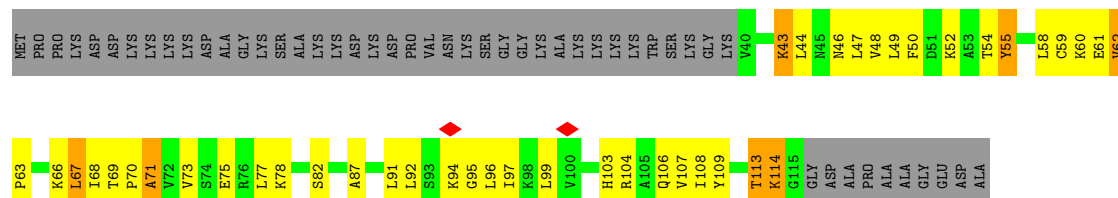
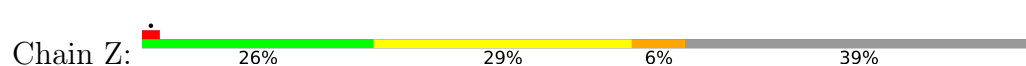
• Molecule 25: 40S RIBOSOMAL PROTEIN US12



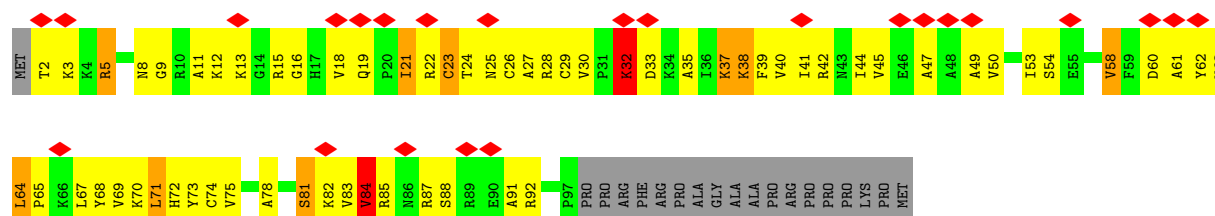
• Molecule 26: 40S RIBOSOMAL PROTEIN ES24



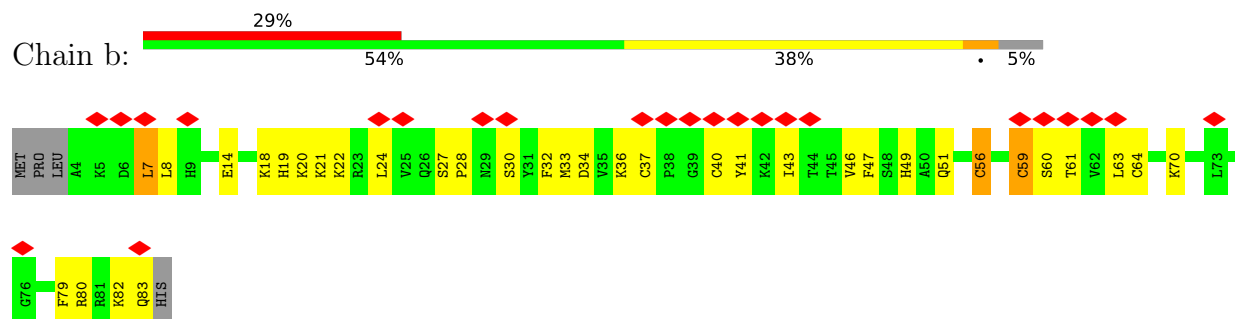
• Molecule 27: 40S RIBOSOMAL PROTEIN ES25



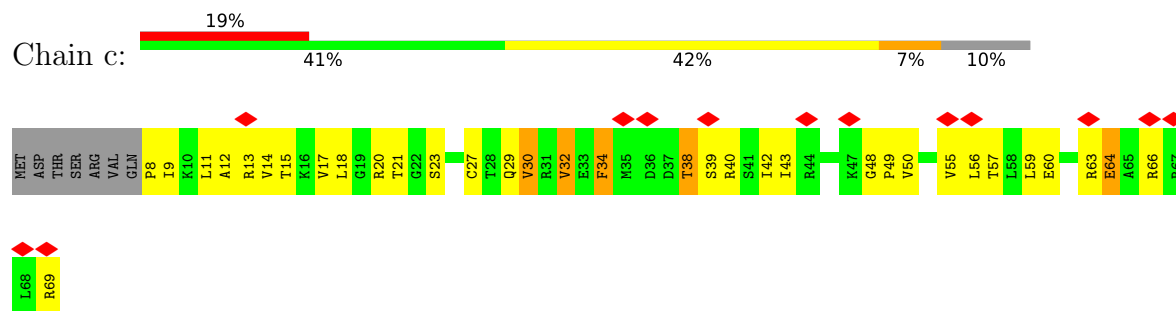
• Molecule 28: 40S RIBOSOMAL PROTEIN US2



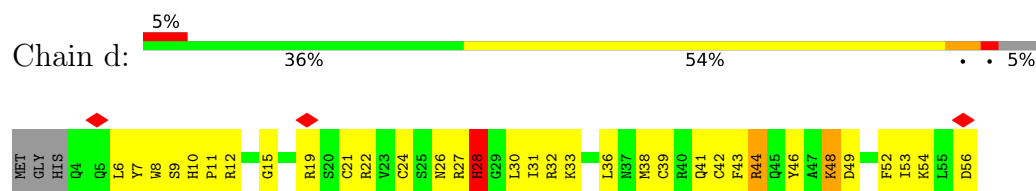
- Molecule 29: 40S RIBOSOMAL PROTEIN ES1



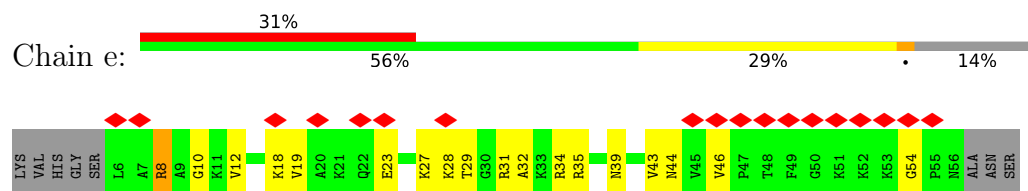
- Molecule 30: 40S RIBOSOMAL PROTEIN US5



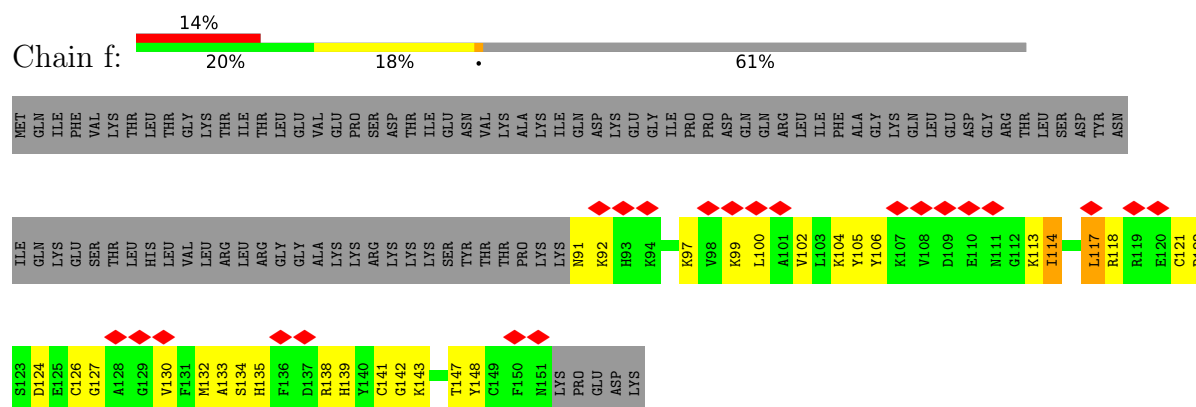
- Molecule 31: 40S RIBOSOMAL PROTEIN US3



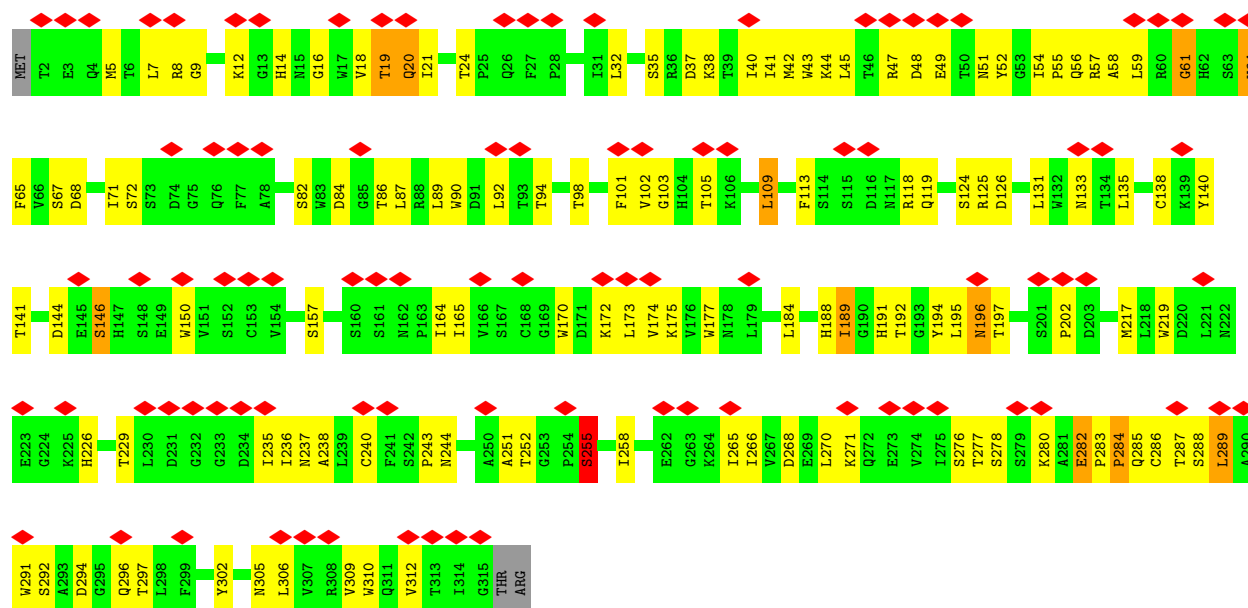
- Molecule 32: 40S RIBOSOMAL PROTEIN ES4



- Molecule 33: 40S RIBOSOMAL PROTEIN US7



● Molecule 34: 40S RIBOSOMAL PROTEIN ES6



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	109596	Depositor
Resolution determination method	Not provided	
CTF correction method	DEFOCUS GROUP	Depositor
Microscope	FEI TECNAI F20	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20	Depositor
Minimum defocus (nm)	2000	Depositor
Maximum defocus (nm)	4000	Depositor
Magnification	65520	Depositor
Image detector	KODAK SO-163 FILM	Depositor
Maximum map value	12.036	Depositor
Minimum map value	-3.841	Depositor
Average map value	0.203	Depositor
Map value standard deviation	0.880	Depositor
Recommended contour level	2.5	Depositor
Map size ($\text{\AA}$)	467.99997, 467.99997, 467.99997	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.56, 1.56, 1.56	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	1	0.31	0/41550	0.66	11/64763 (0.0%)
2	A	0.89	4/1756 (0.2%)	1.16	11/2386 (0.5%)
3	B	0.83	0/1756	1.20	13/2350 (0.6%)
4	C	0.69	0/1761	1.10	5/2379 (0.2%)
5	D	0.63	0/1672	1.15	9/2250 (0.4%)
6	E	0.72	0/2072	1.16	10/2793 (0.4%)
7	F	0.68	0/1507	1.15	10/2026 (0.5%)
8	G	0.77	1/1907 (0.1%)	1.23	10/2538 (0.4%)
9	H	0.75	0/1558	1.26	12/2087 (0.6%)
10	I	0.75	0/1724	1.12	6/2298 (0.3%)
11	J	0.74	0/1520	1.25	13/2030 (0.6%)
12	K	0.77	0/815	1.10	5/1101 (0.5%)
13	L	0.69	0/1220	1.16	8/1633 (0.5%)
14	M	0.74	0/941	1.19	3/1264 (0.2%)
15	N	0.69	0/1231	1.21	12/1656 (0.7%)
16	O	0.73	0/1036	1.16	6/1391 (0.4%)
17	P	0.66	0/1000	1.07	2/1335 (0.1%)
18	Q	0.69	0/1125	1.10	3/1506 (0.2%)
19	R	0.69	0/904	1.11	6/1208 (0.5%)
20	S	0.69	0/1190	1.14	5/1594 (0.3%)
21	T	0.68	0/1131	1.10	3/1515 (0.2%)
22	U	0.76	0/813	1.17	3/1092 (0.3%)
23	V	0.70	0/643	1.16	2/860 (0.2%)
24	W	0.69	0/1050	1.12	6/1406 (0.4%)
25	X	0.76	0/1063	1.11	1/1421 (0.1%)
26	Y	0.71	0/1019	1.12	5/1354 (0.4%)
27	Z	0.68	0/611	1.14	3/820 (0.4%)
28	a	0.78	0/778	1.19	7/1041 (0.7%)
29	b	0.70	0/637	1.09	2/854 (0.2%)
30	c	0.71	0/492	1.15	5/657 (0.8%)
31	d	0.73	0/454	1.10	1/603 (0.2%)
32	e	0.70	0/417	1.09	0/548
33	f	0.76	0/507	1.33	5/673 (0.7%)
34	g	0.69	0/2497	1.06	7/3399 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.55	5/80357 (0.0%)	0.91	210/116831 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	1	0	24

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	203	PHE	CA-C	6.94	1.60	1.52
2	A	203	PHE	C-N	5.73	1.40	1.33
2	A	204	TYR	N-CA	5.64	1.53	1.46
8	G	131	ARG	C-N	-5.24	1.27	1.33
2	A	202	TYR	CA-C	5.06	1.59	1.53

All (210) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	37	ALA	N-CA-C	11.17	123.46	111.28
33	f	124	ASP	N-CA-C	-10.45	97.14	111.56
5	D	58	VAL	N-CA-C	10.33	120.34	110.42
15	N	24	THR	N-CA-C	9.81	121.73	111.14
4	C	60	TRP	N-CA-C	9.67	121.42	111.07
6	E	136	ILE	N-CA-C	9.67	118.43	107.89
9	H	9	VAL	N-CA-C	9.62	120.43	110.62
15	N	6	ALA	N-CA-C	-9.08	96.41	110.58
11	J	53	ILE	N-CA-C	9.04	119.03	110.53
4	C	260	VAL	N-CA-C	8.69	119.48	110.62
7	F	68	ILE	N-CA-C	8.66	118.74	110.42
28	a	58	VAL	N-CA-C	8.42	119.67	111.67
14	M	89	VAL	N-CA-C	8.11	118.91	110.72
13	L	28	THR	N-CA-C	8.05	120.06	111.28
13	L	32	LYS	N-CA-C	8.05	120.13	111.36
21	T	44	GLU	N-CA-C	7.85	119.83	111.28
13	L	31	GLU	N-CA-C	7.79	119.56	111.14
12	K	94	LEU	N-CA-C	7.75	119.37	111.07
4	C	275	LYS	N-CA-C	7.27	118.85	111.07
10	I	140	LYS	N-CA-C	7.27	120.25	111.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	R	38	ILE	N-CA-C	7.25	118.04	110.72
18	Q	98	LYS	N-CA-C	7.22	119.23	111.36
26	Y	103	SER	N-CA-C	7.20	121.33	112.54
5	D	82	GLY	N-CA-C	-7.19	105.30	115.30
34	g	67	SER	N-CA-C	7.16	119.16	111.36
11	J	135	ILE	N-CA-C	7.16	118.19	108.17
34	g	196	ASN	N-CA-C	7.06	119.06	111.36
28	a	13	LYS	N-CA-C	7.00	118.99	111.36
17	P	54	HIS	N-CA-C	6.92	118.48	111.07
3	B	35	ALA	CA-C-N	6.92	126.88	120.03
3	B	35	ALA	C-N-CA	6.92	126.88	120.03
7	F	57	ALA	N-CA-C	6.89	118.79	111.28
1	1	1781	A	C2'-C3'-O3'	6.88	119.82	109.50
16	O	147	ARG	N-CA-C	6.87	118.77	111.28
16	O	17	LEU	N-CA-C	-6.85	103.81	111.28
20	S	26	ILE	N-CA-C	6.84	116.99	110.42
9	H	15	LYS	CA-C-N	6.84	126.76	119.85
9	H	15	LYS	C-N-CA	6.84	126.76	119.85
15	N	13	GLN	N-CA-C	6.75	119.94	109.07
3	B	46	LYS	N-CA-C	6.71	119.27	109.07
2	A	77	ILE	N-CA-C	6.70	117.48	108.11
24	W	93	LEU	N-CA-C	6.68	118.64	111.36
25	X	72	VAL	N-CA-C	6.61	117.37	108.11
21	T	32	GLU	N-CA-C	6.57	118.09	111.07
12	K	84	HIS	CA-CB-CG	6.54	120.34	113.80
15	N	71	ILE	N-CA-C	6.52	116.68	110.42
6	E	26	VAL	N-CA-C	6.43	117.22	110.72
10	I	130	THR	CA-C-N	6.43	127.88	119.84
10	I	130	THR	C-N-CA	6.43	127.88	119.84
6	E	94	LYS	N-CA-C	6.42	118.28	111.28
26	Y	104	ARG	N-CA-C	6.40	117.92	111.07
8	G	61	PHE	CA-C-N	6.35	126.26	119.85
8	G	61	PHE	C-N-CA	6.35	126.26	119.85
9	H	122	LEU	N-CA-C	6.32	117.83	111.07
22	U	67	LYS	N-CA-C	6.31	118.24	111.36
20	S	67	VAL	N-CA-C	6.30	117.09	110.72
6	E	24	THR	N-CA-C	6.30	118.15	111.28
9	H	106	ARG	N-CA-C	6.28	118.82	109.59
11	J	128	VAL	CB-CA-C	-6.27	103.57	112.22
2	A	204	TYR	N-CA-C	6.26	118.06	108.42
9	H	76	GLN	N-CA-C	6.26	118.10	111.28
13	L	24	LEU	N-CA-C	6.26	118.10	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	H	23	ILE	N-CA-C	6.23	116.40	110.42
22	U	29	VAL	N-CA-C	6.21	116.96	110.62
31	d	28	HIS	N-CA-C	6.20	118.03	111.28
24	W	46	TYR	N-CA-C	6.19	118.03	111.28
8	G	42	GLY	N-CA-C	6.16	120.65	112.77
11	J	8	VAL	N-CA-C	6.13	116.69	107.80
13	L	51	ILE	N-CA-C	6.09	116.27	110.42
9	H	45	ILE	N-CA-C	6.09	116.64	107.75
18	Q	46	THR	N-CA-C	6.08	117.90	111.28
33	f	117	LEU	N-CA-C	6.08	117.98	111.36
7	F	65	GLN	N-CA-C	6.07	117.89	111.28
27	Z	71	ALA	N-CA-C	6.05	117.55	111.07
14	M	85	LEU	N-CA-C	6.03	117.85	111.28
27	Z	55	TYR	N-CA-C	6.01	117.50	111.07
30	c	30	VAL	N-CA-C	6.01	117.42	108.46
1	1	1697	A	C2'-C3'-O3'	6.00	118.50	109.50
19	R	21	TYR	N-CA-C	5.96	117.78	111.28
24	W	25	VAL	N-CA-C	5.94	116.43	108.11
19	R	111	PHE	N-CA-C	-5.94	105.35	112.59
12	K	42	ASN	N-CA-C	5.92	117.73	111.28
8	G	23	LYS	N-CA-C	5.90	117.72	111.28
18	Q	73	LYS	N-CA-C	-5.90	105.39	112.59
20	S	103	LEU	N-CA-C	5.90	117.38	111.07
26	Y	89	HIS	N-CA-C	5.88	117.69	111.28
1	1	799	U	C2'-C3'-O3'	5.88	118.31	109.50
34	g	244	ASN	N-CA-C	5.85	117.74	111.36
16	O	95	ILE	N-CA-C	5.85	116.29	107.75
9	H	140	VAL	N-CA-C	5.85	116.03	110.42
9	H	161	ALA	N-CA-C	5.84	117.65	111.28
2	A	102	ARG	N-CA-CB	5.84	118.65	109.83
6	E	56	LEU	N-CA-C	5.82	117.70	111.36
30	c	34	PHE	N-CA-C	5.81	118.88	109.40
2	A	193	HIS	N-CA-C	5.81	117.02	109.64
11	J	125	HIS	CB-CA-C	-5.81	101.15	110.79
24	W	86	LEU	N-CA-C	5.81	117.61	111.28
20	S	12	ILE	N-CA-C	5.79	116.22	108.11
3	B	35	ALA	N-CA-C	5.79	117.98	110.40
1	1	1401	A	C2'-C3'-O3'	5.78	118.17	109.50
7	F	119	SER	N-CA-C	5.77	120.16	113.18
15	N	18	TYR	N-CA-C	5.76	117.56	111.28
13	L	5	GLN	N-CA-C	5.76	117.23	111.07
5	D	79	PHE	CA-C-N	5.76	125.43	119.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	D	79	PHE	C-N-CA	5.76	125.43	119.56
2	A	198	MET	CA-C-N	5.75	125.86	119.87
2	A	198	MET	C-N-CA	5.75	125.86	119.87
8	G	53	SER	N-CA-C	5.74	117.62	111.36
14	M	34	GLY	N-CA-C	5.72	118.69	112.29
6	E	136	ILE	N-CA-CB	-5.71	105.50	111.61
8	G	131	ARG	N-CA-C	-5.70	101.84	110.28
12	K	20	VAL	N-CA-C	5.70	116.89	108.45
5	D	168	VAL	N-CA-C	5.70	116.08	108.11
9	H	109	ARG	N-CA-CB	5.67	120.08	110.49
10	I	205	ARG	N-CA-C	5.67	117.46	111.28
3	B	121	ILE	N-CA-C	5.66	116.03	108.11
3	B	62	LEU	N-CA-C	5.65	119.43	112.54
6	E	70	ILE	N-CA-C	5.63	115.99	108.11
15	N	55	ARG	CB-CA-C	-5.62	102.02	110.90
1	1	1477	U	C2'-C3'-O3'	5.62	117.93	109.50
5	D	10	LYS	N-CA-C	5.61	117.47	111.36
34	g	282	GLU	N-CA-C	5.61	117.75	109.50
3	B	91	VAL	N-CA-C	5.60	116.18	108.12
29	b	64	CYS	N-CA-C	5.56	118.28	109.50
3	B	59	SER	N-CA-C	5.55	117.33	111.28
19	R	39	ALA	N-CA-C	5.55	117.42	109.14
11	J	38	ARG	N-CA-C	5.55	117.41	111.36
20	S	15	VAL	N-CA-C	5.53	116.09	108.12
8	G	158	VAL	N-CA-C	5.53	116.70	108.46
1	1	78	C	C2'-C3'-O3'	5.52	117.78	109.50
6	E	147	ILE	N-CA-C	5.51	115.83	108.11
9	H	139	ILE	N-CA-C	5.50	115.87	108.17
11	J	121	LYS	CB-CA-C	5.50	119.92	110.79
13	L	20	LYS	N-CA-CB	-5.50	101.75	110.22
3	B	132	GLY	N-CA-C	5.49	126.20	113.18
23	V	12	TYR	CA-C-N	-5.49	118.87	122.60
23	V	12	TYR	C-N-CA	-5.49	118.87	122.60
7	F	64	ALA	N-CA-C	5.49	117.26	111.28
2	A	23	THR	N-CA-C	5.49	117.26	111.28
2	A	35	GLU	N-CA-C	5.47	117.25	111.28
15	N	98	VAL	N-CA-C	5.47	116.20	110.62
7	F	188	TYR	N-CA-C	-5.46	105.33	111.28
10	I	131	PRO	N-CA-C	5.46	123.71	112.47
15	N	7	PRO	N-CA-C	5.45	123.69	112.47
26	Y	35	VAL	N-CA-C	5.44	114.28	108.95
16	O	89	GLY	N-CA-C	-5.44	107.27	115.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1430	C	O4'-C1'-C2'	-5.44	102.16	107.60
7	F	24	SER	N-CA-C	5.42	118.09	109.96
15	N	7	PRO	N-CA-CB	-5.42	97.56	103.25
5	D	39	VAL	N-CA-C	5.40	115.90	108.12
28	a	5	ARG	N-CA-CB	-5.39	101.49	111.52
3	B	214	LYS	N-CA-C	5.38	118.20	109.06
6	E	154	ILE	N-CA-C	5.38	115.69	108.17
11	J	178	ALA	N-CA-C	5.37	117.22	111.36
34	g	49	GLU	N-CA-C	5.37	117.14	111.28
17	P	100	LYS	N-CA-C	-5.36	100.58	108.99
26	Y	99	LYS	N-CA-C	5.35	118.20	110.28
16	O	62	VAL	N-CA-C	5.33	115.80	108.12
11	J	144	ILE	CA-C-N	5.33	125.15	119.28
11	J	144	ILE	C-N-CA	5.33	125.15	119.28
19	R	78	ARG	N-CA-C	5.33	117.09	111.28
22	U	43	ALA	N-CA-C	5.31	117.15	111.36
1	1	1406	G	C2'-C3'-O3'	5.31	117.46	109.50
15	N	12	SER	N-CA-C	-5.29	103.41	110.55
24	W	84	LYS	N-CA-C	5.29	117.05	111.28
30	c	8	PRO	N-CA-CB	5.28	108.81	103.00
11	J	2	PRO	N-CA-CB	5.28	108.80	103.00
8	G	50	VAL	N-CA-C	5.27	115.70	108.12
7	F	58	ALA	N-CA-C	5.26	117.01	111.28
30	c	66	ARG	N-CA-C	5.25	117.63	108.76
28	a	54	SER	N-CA-C	5.25	117.00	111.28
33	f	122	PRO	CA-C-N	-5.24	115.80	122.77
33	f	122	PRO	C-N-CA	-5.24	115.80	122.77
29	b	8	LEU	N-CA-C	5.24	117.07	111.36
12	K	31	LYS	N-CA-C	5.23	116.98	111.28
30	c	15	THR	N-CA-C	5.23	116.79	111.14
1	1	211	G	O4'-C1'-C2'	-5.23	102.37	107.60
10	I	181	GLN	N-CA-C	5.21	117.04	111.36
11	J	168	GLY	N-CA-C	5.21	118.63	111.54
15	N	64	ARG	CB-CA-C	-5.21	102.14	110.79
16	O	81	VAL	N-CA-C	5.21	115.94	110.62
19	R	62	GLN	N-CA-C	-5.21	105.61	111.28
11	J	152	ASP	N-CA-C	5.20	116.95	111.28
4	C	79	GLU	N-CA-C	-5.17	105.64	111.28
7	F	182	LYS	N-CA-C	-5.17	101.77	109.11
28	a	32	LYS	N-CA-C	5.17	116.91	111.28
21	T	2	PRO	N-CA-CB	5.15	108.67	103.00
28	a	47	ALA	N-CA-C	5.14	116.58	111.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	g	109	LEU	N-CA-C	5.14	116.97	111.36
2	A	196	GLU	N-CA-C	5.13	116.88	111.28
24	W	11	LEU	N-CA-C	5.13	116.56	111.07
1	1	1862	G	C1'-C2'-O2'	-5.11	104.13	111.80
2	A	189	ILE	N-CA-C	5.10	116.06	108.46
6	E	213	ALA	N-CA-C	5.10	116.84	111.28
15	N	83	ASP	N-CA-C	5.10	116.84	111.28
1	1	343	A	C2'-C3'-O3'	5.09	117.14	109.50
7	F	118	ASN	N-CA-C	5.09	116.91	111.36
2	A	103	PHE	N-CA-C	5.08	116.82	111.28
8	G	100	CYS	N-CA-C	5.05	116.79	111.28
3	B	36	PRO	CA-C-N	5.05	127.05	120.28
3	B	36	PRO	C-N-CA	5.05	127.05	120.28
13	L	97	ARG	N-CA-C	5.04	116.78	111.28
27	Z	61	GLU	N-CA-C	5.04	117.19	109.62
28	a	25	ASN	N-CA-C	5.04	116.63	111.03
5	D	159	HIS	N-CA-C	5.04	116.86	111.36
5	D	199	GLY	N-CA-C	5.03	122.61	112.34
8	G	99	GLY	N-CA-C	5.03	117.72	111.93
4	C	60	TRP	N-CA-CB	-5.03	102.72	110.01
33	f	127	GLY	N-CA-C	5.03	118.76	112.73
34	g	19	THR	N-CA-C	5.01	117.85	111.69

There are no chirality outliers.

All (24) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	1	111	A	Sidechain
1	1	1120	U	Sidechain
1	1	1288	U	Sidechain
1	1	1308	U	Sidechain
1	1	1414	A	Sidechain
1	1	1548	G	Sidechain
1	1	1578	U	Sidechain
1	1	1624	U	Sidechain
1	1	1686	G	Sidechain
1	1	1823	A	Sidechain
1	1	216	C	Sidechain
1	1	235	A	Sidechain
1	1	44	U	Sidechain
1	1	570	C	Sidechain
1	1	572	U	Sidechain

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Mol	Chain	Res	Type	Group
1	1	643	A	Sidechain
1	1	645	C	Sidechain
1	1	747	U	Sidechain
1	1	77	A	Sidechain
1	1	799	U	Sidechain
1	1	84	A	Sidechain
1	1	867	G	Sidechain
1	1	88	G	Sidechain
1	1	897	U	Sidechain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	37159	0	18780	3755	0
2	A	1719	0	1717	132	0
3	B	1729	0	1803	143	0
4	C	1724	0	1808	65	0
5	D	1646	0	1737	87	0
6	E	2031	0	2138	118	0
7	F	1486	0	1545	109	0
8	G	1884	0	2044	156	0
9	H	1535	0	1632	133	0
10	I	1695	0	1785	116	0
11	J	1495	0	1615	94	0
12	K	791	0	811	53	0
13	L	1199	0	1269	74	0
14	M	931	0	961	44	0
15	N	1207	0	1294	67	0
16	O	1023	0	1050	61	0
17	P	981	0	1026	56	0
18	Q	1108	0	1174	78	0
19	R	893	0	946	65	0
20	S	1172	0	1229	77	0
21	T	1112	0	1146	117	0
22	U	803	0	866	80	0
23	V	636	0	637	43	0
24	W	1033	0	1080	65	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	X	1046	0	1110	69	0
26	Y	1002	0	1075	66	0
27	Z	605	0	665	57	0
28	a	767	0	816	101	0
29	b	625	0	642	38	0
30	c	490	0	520	35	0
31	d	444	0	442	53	0
32	e	412	0	463	36	0
33	f	497	0	497	36	0
34	g	2440	0	2396	120	0
All	All	75320	0	58719	5599	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 42.

All (5599) 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)
1:1:1431:G:H2'	1:1:1432:U:C6	1.77	1.18
1:1:377:G:H4'	10:I:97:VAL:HG13	1.24	1.18
1:1:571:U:H3'	1:1:572:U:C5'	1.77	1.15
1:1:569:A:H2'	1:1:570:C:H5''	1.24	1.14
1:1:1547:C:H3'	1:1:1548:G:H5''	1.29	1.14
1:1:1416:C:H3'	1:1:1417:C:H5''	1.29	1.12
1:1:180:G:H1'	1:1:181:A:H5'	1.16	1.11
1:1:1631:U:H6	1:1:1631:U:H5'	1.16	1.10
1:1:179:C:H3'	1:1:180:G:H5''	1.17	1.10
1:1:797:C:H2'	1:1:798:G:H5''	1.28	1.10
1:1:561:A:H3'	1:1:562:U:H5''	1.23	1.09
1:1:1684:C:H2'	1:1:1685:U:H5'	1.19	1.09
1:1:181:A:H3'	1:1:182:C:H5''	1.29	1.08
1:1:1101:U:H2'	1:1:1102:G:C8	1.88	1.08
1:1:751:G:H2'	1:1:752:G:H8	1.17	1.08
1:1:1330:G:H4'	1:1:1331:C:H5'	1.29	1.08
1:1:211:G:H2'	1:1:212:C:H6	1.14	1.07
1:1:1258:A:H3'	1:1:1258:A:N3	1.69	1.07
1:1:1833:C:H6	1:1:1833:C:H5'	1.18	1.07
1:1:571:U:H3'	1:1:572:U:C4'	1.84	1.06
1:1:475:C:H6	1:1:475:C:H5'	1.20	1.06
1:1:527:C:H3'	1:1:528:A:C8	1.89	1.06
1:1:112:U:H5''	1:1:113:G:H5'	1.37	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:211:G:H2'	1:1:212:C:C6	1.91	1.05
1:1:211:G:H5'	1:1:211:G:H8	1.20	1.05
1:1:1768:A:H2'	1:1:1769:C:H5'	1.37	1.05
1:1:527:C:H4'	11:J:125:HIS:HB2	1.34	1.05
1:1:302:A:H2'	1:1:303:C:H5''	1.31	1.04
1:1:618:C:H1'	1:1:632:C:H5'	1.35	1.04
1:1:1659:U:H5''	31:d:30:LEU:HD11	1.38	1.04
1:1:594:A:H1'	1:1:643:A:N6	1.72	1.04
1:1:500:A:H2'	1:1:501:C:H5''	1.39	1.03
1:1:929:G:H21	1:1:1104:G:H4'	1.23	1.03
1:1:43:U:H5'	1:1:44:U:H5	1.20	1.03
10:I:69:SER:HB3	13:L:24:LEU:HD11	1.37	1.03
1:1:900:C:H2'	1:1:901:G:C8	1.93	1.02
1:1:1441:U:H2'	1:1:1442:U:H4'	1.06	1.02
1:1:384:U:H2'	1:1:385:G:H5''	1.35	1.02
1:1:557:U:H3'	1:1:558:G:C8	1.94	1.02
1:1:1637:A:H4'	1:1:1638:G:C5'	1.88	1.02
1:1:76:U:H2'	1:1:77:A:H3'	1.40	1.01
1:1:302:A:C2'	1:1:303:C:H5''	1.90	1.01
1:1:689:U:H3'	1:1:690:G:C8	1.96	1.00
1:1:1442:U:H5'	1:1:1443:C:H6	1.22	1.00
1:1:307:G:H4'	1:1:308:G:H5''	1.41	1.00
1:1:1684:C:C2'	1:1:1685:U:H5'	1.90	1.00
1:1:1589:A:H4'	21:T:82:ARG:HD3	1.43	1.00
1:1:1682:C:H1'	30:c:23:SER:HA	1.43	1.00
1:1:1698:C:H4'	1:1:1699:A:C8	1.97	0.99
1:1:572:U:H2'	1:1:573:U:C4	1.97	0.99
1:1:1258:A:H2'	1:1:1259:A:H4'	1.44	0.99
1:1:193:C:H4'	1:1:209:A:N6	1.79	0.98
1:1:1286:G:H1'	14:M:34:GLY:CA	1.92	0.98
1:1:1461:G:H21	1:1:1465:A:H62	1.01	0.98
1:1:683:G:H1'	1:1:1023:A:C2	1.99	0.98
1:1:1520:G:H5'	1:1:1521:C:C5	1.97	0.98
1:1:301:A:H2'	1:1:302:A:C8	1.97	0.98
1:1:655:A:H4'	1:1:656:G:H3'	1.45	0.98
1:1:1257:G:H4'	1:1:1258:A:OP2	1.63	0.98
1:1:235:A:HO2'	1:1:236:A:H8	1.00	0.97
2:A:6:ASP:HB3	23:V:42:VAL:HG13	1.43	0.97
1:1:525:A:H2	1:1:561:A:H61	1.11	0.97
1:1:1414:A:H2'	1:1:1415:C:C1'	1.94	0.97
1:1:1695:A:H2'	1:1:1696:C:O4'	1.65	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1692:U:H2'	1:1:1693:G:C8	1.99	0.97
1:1:229:A:N1	1:1:900:C:H1'	1.80	0.97
1:1:184:G:H8	1:1:185:G:H4'	1.26	0.96
1:1:746:C:H1'	1:1:747:U:N3	1.79	0.96
1:1:1286:G:H1'	14:M:34:GLY:HA2	1.43	0.96
1:1:168:C:H4'	8:G:131:ARG:HD2	1.46	0.96
1:1:571:U:H3'	1:1:572:U:H5''	1.45	0.96
1:1:175:A:H3'	1:1:176:U:H5''	1.47	0.96
1:1:746:C:H1'	1:1:747:U:C4	2.01	0.96
1:1:694:G:H2'	1:1:695:C:C6	2.01	0.96
1:1:179:C:H3'	1:1:180:G:C5'	1.96	0.95
1:1:794:A:C2	1:1:795:A:H1'	2.01	0.95
1:1:1442:U:C5	1:1:1443:C:H1'	2.01	0.95
1:1:193:C:H2'	1:1:194:C:C6	2.01	0.95
1:1:559:G:H3'	1:1:560:A:H5''	1.47	0.95
1:1:561:A:H3'	1:1:562:U:C5'	1.95	0.95
20:S:45:LEU:HD23	20:S:52:LEU:HG	1.47	0.95
1:1:929:G:N2	1:1:1104:G:H4'	1.81	0.95
1:1:1253:A:H4'	1:1:1254:C:H5''	1.47	0.95
1:1:1832:A:H2'	1:1:1833:C:H5''	1.46	0.95
1:1:475:C:H5'	1:1:475:C:C6	2.02	0.95
1:1:1402:A:H2'	1:1:1403:C:C4	2.02	0.94
1:1:134:C:H3'	1:1:135:U:H4'	1.49	0.94
1:1:693:A:H3'	1:1:694:G:C4'	1.98	0.94
1:1:570:C:C2'	1:1:571:U:H5''	1.98	0.94
1:1:1750:C:H2'	1:1:1751:C:H5'	1.48	0.94
1:1:794:A:H2'	1:1:795:A:H4'	1.47	0.94
18:Q:12:VAL:HG21	18:Q:91:ALA:HA	1.47	0.93
1:1:926:A:H2'	1:1:927:C:O4'	1.69	0.93
1:1:1309:C:H1'	33:f:133:ALA:CB	1.98	0.93
1:1:302:A:H1'	10:I:73:THR:HB	1.49	0.93
1:1:1621:U:H2'	1:1:1622:U:H5'	1.49	0.93
1:1:573:U:H2'	1:1:576:A:C2	2.04	0.93
1:1:609:U:H2'	1:1:610:G:H8	1.34	0.93
1:1:1766:C:H3'	1:1:1767:C:C5	2.04	0.93
6:E:129:ILE:HG22	6:E:156:VAL:HG22	1.50	0.93
1:1:990:A:H62	1:1:992:A:H1'	1.31	0.93
1:1:754:G:H2'	1:1:755:C:C6	2.02	0.93
1:1:942:G:H2'	1:1:943:U:C6	2.04	0.92
1:1:1330:G:C4'	1:1:1331:C:H5'	1.98	0.92
1:1:570:C:H2'	1:1:571:U:H5''	1.51	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:551:U:H5''	32:e:39:ASN:HB3	1.51	0.92
13:L:40:ILE:HG21	13:L:143:LEU:HD11	1.52	0.92
33:f:121:CYS:SG	33:f:141:CYS:HB2	2.09	0.92
1:1:574:A:H5'	1:1:575:A:N7	1.85	0.91
1:1:794:A:H2'	1:1:795:A:C4'	1.99	0.91
1:1:1276:A:H5'	1:1:1277:C:H5	1.34	0.91
1:1:210:U:H2'	1:1:211:G:H5''	1.52	0.91
1:1:751:G:H2'	1:1:752:G:C8	2.05	0.91
1:1:1546:G:H21	1:1:1670:C:H1'	1.32	0.91
1:1:1441:U:C2'	1:1:1442:U:H4'	1.98	0.91
6:E:19:MET:HE3	6:E:108:ARG:HG2	1.50	0.91
1:1:1666:C:H3'	1:1:1667:U:H6	1.36	0.91
1:1:804:U:H2'	1:1:805:U:C6	2.04	0.91
1:1:1602:U:H2'	1:1:1603:G:H2'	1.52	0.91
1:1:75:G:H1'	1:1:76:U:C5	2.06	0.91
8:G:53:SER:HB2	8:G:112:VAL:HG23	1.51	0.91
1:1:604:A:H2	1:1:605:A:C2	1.88	0.91
1:1:1280:G:H2'	1:1:1281:G:H8	1.36	0.91
1:1:1397:U:H4'	1:1:1398:G:H21	1.34	0.91
1:1:60:A:H3'	1:1:501:C:H41	1.34	0.90
11:J:86:VAL:HG12	11:J:87:LEU:HD12	1.51	0.90
1:1:314:U:OP1	1:1:314:U:H4'	1.70	0.90
1:1:558:G:P	1:1:558:G:H8	1.94	0.90
1:1:184:G:C8	1:1:185:G:H4'	2.06	0.90
1:1:590:A:H1'	32:e:27:LYS:HG2	1.53	0.90
1:1:1631:U:H5'	1:1:1631:U:C6	2.06	0.90
1:1:1491:G:H2'	1:1:1492:U:C6	2.05	0.90
1:1:557:U:C3'	1:1:558:G:C8	2.55	0.90
1:1:798:G:H8	1:1:867:G:N2	1.69	0.90
1:1:958:G:OP1	1:1:958:G:H4'	1.69	0.90
1:1:744:G:H4'	9:H:102:PRO:HG3	1.53	0.89
1:1:1157:G:H5''	1:1:1157:G:N3	1.87	0.89
5:D:158:ILE:HG22	5:D:164:VAL:HG22	1.54	0.89
1:1:58:C:H5''	1:1:499:G:H21	1.36	0.89
1:1:806:U:H2'	1:1:807:G:H5'	1.53	0.89
16:O:125:LYS:HG2	28:a:58:VAL:HG11	1.52	0.89
1:1:1441:U:H2'	1:1:1442:U:C4'	1.99	0.89
1:1:1431:G:H2'	1:1:1432:U:C5	2.07	0.89
1:1:1531:A:H4'	1:1:1605:G:H4'	1.54	0.89
1:1:609:U:H2'	1:1:610:G:C8	2.08	0.89
1:1:222:U:H2'	1:1:223:C:H6	1.36	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:383:G:H3'	1:1:384:U:C6	2.07	0.89
1:1:569:A:C2'	1:1:570:C:H5''	2.02	0.89
1:1:444:G:H22	1:1:447:A:H5''	1.38	0.88
1:1:1330:G:H4'	1:1:1331:C:C5'	2.01	0.88
21:T:39:LEU:HD11	21:T:43:LYS:HB2	1.55	0.88
1:1:310:C:H4'	1:1:311:C:OP2	1.73	0.88
4:C:174:ILE:HG22	4:C:175:GLY:H	1.38	0.88
1:1:339:A:H2'	1:1:340:C:C6	2.08	0.88
1:1:1308:U:H1'	1:1:1309:C:C6	2.08	0.88
15:N:92:ILE:HG21	15:N:149:LEU:HD13	1.55	0.88
1:1:1138:C:H5''	1:1:1139:C:OP1	1.74	0.88
1:1:1518:C:H5''	1:1:1519:U:H5'	1.56	0.88
1:1:1638:G:N3	1:1:1638:G:H5'	1.89	0.88
3:B:28:LYS:HD3	3:B:48:LEU:HD13	1.55	0.88
17:P:34:MET:HG3	17:P:45:LEU:HD22	1.52	0.88
1:1:229:A:C6	1:1:900:C:H1'	2.09	0.88
19:R:109:LEU:HD13	19:R:111:PHE:H	1.38	0.88
1:1:529:A:H2'	1:1:530:U:C6	2.08	0.87
1:1:1692:U:H2'	1:1:1693:G:H8	1.38	0.87
1:1:66:G:H2'	8:G:132:ARG:O	1.74	0.87
34:g:175:LYS:HB3	34:g:184:LEU:HD21	1.54	0.87
1:1:1405:A:C2	1:1:1442:U:H6	1.92	0.87
1:1:1556:A:P	1:1:1556:A:H3'	2.14	0.87
1:1:76:U:H3'	1:1:77:A:H5''	1.57	0.87
1:1:1765:C:H2'	1:1:1766:C:O4'	1.74	0.87
1:1:851:C:H4'	1:1:852:G:C2	2.08	0.87
1:1:68:A:H4'	1:1:69:C:O5'	1.74	0.87
1:1:222:U:H2'	1:1:223:C:C6	2.09	0.87
1:1:193:C:H2'	1:1:194:C:H6	1.37	0.87
1:1:1690:U:H2'	1:1:1691:U:H5'	1.56	0.87
1:1:1768:A:C2'	1:1:1769:C:H5'	2.05	0.87
1:1:106:C:H5''	1:1:431:G:H1'	1.56	0.86
1:1:131:C:N4	1:1:215:G:H5'	1.89	0.86
1:1:1079:C:H4'	1:1:1181:A:N6	1.91	0.86
1:1:1298:G:H4'	17:P:78:THR:HA	1.57	0.86
1:1:1284:A:C5	1:1:1286:G:H5'	2.10	0.86
1:1:192:C:H42	1:1:207:G:H1	1.23	0.86
1:1:211:G:H5'	1:1:211:G:C8	2.10	0.86
1:1:184:G:H3'	1:1:185:G:H4'	1.55	0.86
1:1:1340:U:H5''	1:1:1341:C:H2'	1.56	0.86
1:1:181:A:C3'	1:1:182:C:H5''	2.05	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:748:C:H42	1:1:860:G:P	1.97	0.86
1:1:690:G:H2'	1:1:691:G:C8	2.11	0.86
1:1:1082:A:H2'	1:1:1084:A:H5''	1.57	0.86
19:R:109:LEU:HD11	19:R:111:PHE:HB2	1.57	0.86
1:1:1276:A:H5'	1:1:1277:C:C5	2.10	0.86
1:1:1390:U:H2'	1:1:1391:C:C6	2.11	0.86
1:1:1697:A:H1'	1:1:1698:C:OP2	1.75	0.86
7:F:144:LEU:HD23	30:c:49:PRO:HB2	1.57	0.86
1:1:1255:G:H5''	1:1:1256:G:H8	1.41	0.86
1:1:1416:C:N4	1:1:1431:G:C2	2.44	0.86
1:1:1442:U:H3'	1:1:1443:C:C5'	2.04	0.85
1:1:1554:C:H3'	1:1:1555:U:H5'	1.57	0.85
1:1:1832:A:C2'	1:1:1833:C:H5''	2.06	0.85
1:1:84:A:HO2'	1:1:85:A:H8	0.89	0.85
1:1:1261:C:H4'	1:1:1261:C:OP1	1.75	0.85
1:1:1424:G:H3'	1:1:1425:G:O4'	1.76	0.85
1:1:172:U:H3'	1:1:173:A:H5''	1.56	0.85
1:1:526:A:H2'	1:1:526:A:N3	1.90	0.85
1:1:1101:U:H2'	1:1:1102:G:H8	1.39	0.85
1:1:1825:A:H2'	1:1:1826:G:H5''	1.59	0.85
1:1:573:U:H2'	1:1:576:A:H2	1.42	0.85
1:1:1781:A:H1'	1:1:1782:G:OP2	1.77	0.85
1:1:1766:C:H3'	1:1:1767:C:C6	2.12	0.85
1:1:222:U:H5''	13:L:17:PHE:O	1.77	0.85
1:1:576:A:OP1	1:1:577:U:H3'	1.76	0.85
1:1:797:C:C2'	1:1:798:G:H5''	2.06	0.85
1:1:1684:C:H2'	1:1:1685:U:C5'	2.05	0.85
1:1:1093:A:H5'	24:W:3:ARG:HE	1.39	0.84
1:1:1217:A:H2'	1:1:1218:C:C6	2.11	0.84
1:1:1079:C:H4'	1:1:1181:A:H61	1.40	0.84
1:1:1402:A:H2'	1:1:1403:C:C5	2.12	0.84
1:1:1016:U:H1'	1:1:1017:U:H5''	1.58	0.84
1:1:1049:A:H2	1:1:1069:U:H3	1.24	0.84
1:1:1476:A:H4'	1:1:1477:U:C5'	2.07	0.84
1:1:210:U:C2'	1:1:211:G:H5''	2.08	0.84
1:1:377:G:H4'	10:I:97:VAL:CG1	2.05	0.84
1:1:606:G:C8	32:e:54:GLY:HA3	2.11	0.84
1:1:1308:U:H5''	33:f:135:HIS:HA	1.59	0.84
1:1:1476:A:H4'	1:1:1477:U:H5'	1.60	0.84
1:1:20:G:H4'	1:1:620:G:C2	2.12	0.84
1:1:162:C:H2'	1:1:163:U:O4'	1.76	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1579:A:H3'	1:1:1579:A:N3	1.92	0.84
34:g:236:ILE:HG12	34:g:252:THR:HG22	1.59	0.84
1:1:193:C:H4'	1:1:209:A:C6	2.13	0.84
1:1:398:A:H4'	1:1:399:C:H3'	1.60	0.84
1:1:447:A:H5'	10:I:26:LYS:HD2	1.60	0.84
1:1:1015:U:H5'	29:b:20:LYS:HE3	1.60	0.84
1:1:1021:U:H5''	15:N:128:TYR:CE1	2.12	0.84
1:1:1542:C:H6	1:1:1542:C:H5''	1.43	0.84
1:1:855:G:H2'	1:1:856:C:H5'	1.60	0.83
1:1:1280:G:H2'	1:1:1281:G:C8	2.13	0.83
1:1:1418:C:H5''	21:T:129:ARG:CB	2.07	0.83
1:1:893:U:H2'	1:1:894:G:C8	2.12	0.83
1:1:1418:C:H2'	1:1:1419:C:C6	2.13	0.83
1:1:216:C:H2'	1:1:217:A:C8	2.12	0.83
1:1:693:A:H3'	1:1:694:G:H4'	1.61	0.83
1:1:890:U:H3'	1:1:891:G:H5''	1.60	0.83
1:1:979:C:O2'	1:1:980:A:H5'	1.76	0.83
1:1:1103:C:H2'	1:1:1104:G:H5'	1.59	0.83
1:1:1257:G:H5''	1:1:1257:G:H8	1.44	0.83
6:E:141:THR:HG22	6:E:143:ASP:H	1.42	0.83
1:1:199:C:H4'	1:1:200:G:OP2	1.79	0.83
1:1:798:G:C8	1:1:867:G:N2	2.47	0.83
1:1:1214:A:H2'	1:1:1215:C:H5'	1.57	0.83
1:1:1483:A:H4'	5:D:160:SER:CB	2.08	0.83
1:1:1554:C:H3'	1:1:1555:U:C5'	2.09	0.83
1:1:1484:A:H5''	5:D:159:HIS:HB3	1.61	0.83
1:1:1491:G:H2'	1:1:1492:U:H6	1.40	0.83
22:U:94:PRO:HD2	22:U:97:ILE:HD12	1.60	0.83
8:G:135:PRO:HG3	8:G:144:LEU:HD13	1.61	0.83
1:1:1440:C:H2'	1:1:1441:U:C5	2.14	0.83
1:1:992:A:N6	28:a:12:LYS:HA	1.94	0.83
1:1:797:C:H4'	9:H:109:ARG:CB	2.07	0.82
1:1:1417:C:H2'	1:1:1418:C:C6	2.13	0.82
11:J:128:VAL:O	11:J:132:GLN:HG2	1.78	0.82
1:1:59:U:C2'	1:1:60:A:H5''	2.09	0.82
1:1:1103:C:C2'	1:1:1104:G:H5'	2.09	0.82
1:1:1276:A:H4'	1:1:1277:C:O5'	1.78	0.82
1:1:1445:U:O2'	1:1:1446:A:H5'	1.80	0.82
1:1:1557:C:H3'	1:1:1557:C:OP2	1.79	0.82
1:1:640:A:H5''	11:J:25:LEU:HD11	1.59	0.82
33:f:121:CYS:SG	33:f:132:MET:HG2	2.18	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:70:G:H2'	1:1:71:G:H4'	1.61	0.82
1:1:1098:C:H2'	1:1:1099:G:C8	2.13	0.82
1:1:1416:C:C3'	1:1:1417:C:H5''	2.08	0.82
1:1:1775:C:H2'	1:1:1776:G:H8	1.42	0.82
2:A:30:LEU:HD21	2:A:35:GLU:HA	1.62	0.82
1:1:569:A:H2'	1:1:570:C:C5'	2.08	0.82
1:1:95:G:H1	1:1:435:A:H61	1.26	0.82
1:1:1405:A:C2'	1:1:1406:G:H5''	2.09	0.82
10:I:130:THR:HG22	10:I:136:ILE:HA	1.62	0.82
25:X:87:ASN:HB2	25:X:90:CYS:SG	2.19	0.82
1:1:302:A:H2'	1:1:303:C:C5'	2.08	0.82
1:1:1016:U:H1'	1:1:1017:U:C5'	2.10	0.82
1:1:1133:A:H2'	1:1:1134:G:C8	2.15	0.82
1:1:1666:C:H3'	1:1:1667:U:C6	2.15	0.82
33:f:132:MET:HE2	33:f:139:HIS:HB3	1.62	0.82
1:1:1313:A:N1	14:M:104:VAL:HG21	1.94	0.82
1:1:1534:C:H4'	1:1:1535:U:H5'	1.61	0.82
2:A:6:ASP:HB2	23:V:42:VAL:HG22	1.62	0.82
1:1:1405:A:H2'	1:1:1406:G:H5''	1.62	0.81
3:B:103:MET:HB3	3:B:215:VAL:HG12	1.60	0.81
1:1:175:A:C2	1:1:176:U:H1'	2.16	0.81
1:1:691:G:C2'	1:1:692:G:H5'	2.10	0.81
1:1:1403:C:H3'	1:1:1404:U:C6	2.16	0.81
8:G:98:ARG:HD3	8:G:106:LEU:HD11	1.60	0.81
10:I:158:ILE:O	10:I:162:LEU:HB2	1.79	0.81
17:P:126:VAL:HG13	17:P:127:LYS:H	1.44	0.81
1:1:1214:A:C6	1:1:1686:G:C2	2.69	0.81
1:1:364:A:OP1	1:1:364:A:H4'	1.79	0.81
1:1:1456:G:H5''	1:1:1456:G:H8	1.45	0.81
1:1:1834:A:H2	1:1:1837:G:H22	1.26	0.81
1:1:559:G:H3'	1:1:560:A:C5'	2.10	0.81
1:1:920:A:H2'	1:1:922:A:H8	1.46	0.81
1:1:186:C:H2'	1:1:187:G:H8	1.46	0.81
1:1:1411:G:H4'	1:1:1412:C:OP1	1.81	0.81
1:1:1578:U:H4'	1:1:1578:U:OP2	1.80	0.81
12:K:30:PRO:O	31:d:8:TRP:HB2	1.80	0.81
1:1:527:C:C3'	1:1:528:A:C8	2.63	0.81
1:1:952:G:H2'	1:1:953:C:O4'	1.81	0.81
1:1:380:G:H2'	1:1:382:C:H5	1.46	0.81
1:1:795:A:H2'	1:1:796:G:H8	1.46	0.81
1:1:1337:C:H2'	1:1:1338:G:C8	2.15	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:12:CYS:SG	8:G:127:THR:HB	2.21	0.81
15:N:42:LYS:HE3	15:N:80:LEU:HD23	1.63	0.81
27:Z:69:THR:HG22	27:Z:70:PRO:HD2	1.63	0.81
1:1:217:A:H4'	1:1:341:C:H5'	1.61	0.80
1:1:804:U:H2'	1:1:805:U:H6	1.42	0.80
1:1:886:A:P	1:1:886:A:H3'	2.21	0.80
1:1:1413:G:O2'	1:1:1414:A:H5'	1.81	0.80
1:1:1442:U:O5'	1:1:1443:C:H5''	1.81	0.80
1:1:1648:G:H4'	1:1:1649:U:OP2	1.81	0.80
1:1:306:C:H2'	10:I:43:ILE:O	1.81	0.80
26:Y:35:VAL:HG23	26:Y:40:ILE:HD11	1.61	0.80
1:1:66:G:H1'	8:G:160:LYS:HG2	1.61	0.80
1:1:84:A:H5'	26:Y:123:ALA:HB2	1.62	0.80
1:1:406:U:H4'	1:1:407:G:N2	1.97	0.80
1:1:1133:A:H2'	1:1:1134:G:H8	1.43	0.80
6:E:45:ILE:HD12	6:E:61:VAL:HG21	1.62	0.80
1:1:215:G:H2'	1:1:216:C:C6	2.15	0.80
1:1:822:U:H5'	1:1:822:U:H6	1.46	0.80
1:1:1307:U:C2'	1:1:1308:U:H5'	2.12	0.80
1:1:1307:U:H2'	1:1:1308:U:H5'	1.64	0.80
20:S:66:ARG:O	20:S:70:ILE:HG12	1.82	0.80
1:1:796:G:H22	1:1:797:C:H5	1.29	0.80
1:1:971:G:H4'	1:1:972:A:O5'	1.82	0.80
1:1:1253:A:H4'	1:1:1254:C:C5'	2.11	0.80
9:H:79:LEU:HD22	9:H:94:PHE:HZ	1.46	0.80
19:R:21:TYR:CE1	19:R:61:ILE:HG21	2.17	0.80
1:1:203:G:H2'	1:1:204:G:C8	2.16	0.80
1:1:576:A:OP2	1:1:577:U:H5'	1.82	0.80
1:1:690:G:H2'	1:1:691:G:H8	1.46	0.80
1:1:1405:A:H8	1:1:1405:A:O5'	1.65	0.80
1:1:67:C:H41	8:G:163:ASN:HA	1.46	0.80
1:1:106:C:H2'	1:1:107:A:C8	2.17	0.80
1:1:1442:U:H5'	1:1:1443:C:C6	2.12	0.80
1:1:1833:C:H5'	1:1:1833:C:C6	2.10	0.80
11:J:130:ILE:HG22	11:J:135:ILE:HD12	1.63	0.80
1:1:889:U:H3'	1:1:890:U:H5''	1.63	0.80
1:1:1348:G:N2	1:1:1381:G:H22	1.78	0.80
1:1:745:C:H4'	1:1:746:C:C6	2.17	0.79
1:1:1030:A:H2'	1:1:1031:A:H8	1.46	0.79
1:1:1634:A:H3'	1:1:1635:C:H6	1.47	0.79
1:1:500:A:H2'	1:1:501:C:C5'	2.12	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1769:C:H2'	1:1:1770:G:C8	2.17	0.79
1:1:184:G:H2'	1:1:185:G:O3'	1.82	0.79
1:1:558:G:H2'	1:1:559:G:H5''	1.64	0.79
1:1:795:A:C2'	1:1:796:G:H5'	2.11	0.79
1:1:1326:U:H4'	1:1:1327:G:O5'	1.82	0.79
1:1:1743:G:H1'	1:1:1792:G:N2	1.97	0.79
25:X:61:GLN:HB3	25:X:62:PRO:CD	2.13	0.79
1:1:125:C:H4'	6:E:136:ILE:HA	1.63	0.79
1:1:1203:G:C8	1:1:1699:A:C2	2.70	0.79
1:1:1593:C:H5	27:Z:104:ARG:HH21	1.30	0.79
1:1:317:C:H3'	1:1:318:A:H5''	1.64	0.79
1:1:944:A:H1'	16:O:136:PRO:HB3	1.65	0.79
1:1:1547:C:H3'	1:1:1548:G:C5'	2.10	0.79
1:1:1049:A:H2	1:1:1069:U:N3	1.80	0.79
1:1:1176:G:H2'	1:1:1177:U:C6	2.18	0.79
1:1:1604:G:C2'	1:1:1605:G:H5'	2.12	0.79
6:E:18:TRP:HE3	6:E:20:LEU:HD11	1.47	0.79
6:E:21:ASP:HB2	6:E:24:THR:OG1	1.83	0.79
22:U:55:ARG:HD2	22:U:87:ARG:CZ	2.13	0.79
1:1:1442:U:C4	18:Q:22:VAL:HG22	2.18	0.79
4:C:167:ARG:HA	4:C:181:PRO:HD3	1.65	0.79
17:P:60:LEU:HD21	17:P:92:SER:HB3	1.62	0.79
1:1:1257:G:H5'	1:1:1258:A:C8	2.18	0.79
1:1:1427:C:H2'	1:1:1428:G:O4'	1.83	0.79
1:1:1699:A:H8	1:1:1699:A:O5'	1.66	0.79
1:1:64:A:H2	1:1:84:A:N6	1.81	0.78
1:1:179:C:H2'	1:1:180:G:C2	2.18	0.78
1:1:747:U:H1'	1:1:748:C:H2'	1.63	0.78
1:1:618:C:H1'	1:1:632:C:C5'	2.12	0.78
1:1:1659:U:H5''	31:d:30:LEU:CD1	2.13	0.78
1:1:1698:C:H4'	1:1:1699:A:H8	1.49	0.78
34:g:197:THR:HG21	34:g:238:ALA:HA	1.64	0.78
1:1:309:G:H4'	1:1:310:C:OP1	1.81	0.78
1:1:740:C:H2'	1:1:741:C:C6	2.18	0.78
1:1:1476:A:C4'	1:1:1477:U:H5'	2.14	0.78
1:1:1638:G:H5'	1:1:1638:G:C4	2.18	0.78
1:1:1647:A:O2'	1:1:1648:G:H5'	1.82	0.78
7:F:143:PRO:HD3	30:c:56:LEU:HD13	1.63	0.78
1:1:331:C:H3'	1:1:332:G:H5''	1.66	0.78
1:1:1630:A:H2'	1:1:1631:U:H5''	1.64	0.78
5:D:8:LYS:HG2	22:U:61:LEU:HD21	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:22:LEU:HD21	17:P:109:PRO:HB3	1.64	0.78
1:1:376:A:H2'	1:1:377:G:C8	2.17	0.78
1:1:934:G:H5'	1:1:993:G:N2	1.99	0.78
7:F:49:LEU:HD21	18:Q:46:THR:HG22	1.63	0.78
1:1:300:U:H2'	1:1:301:A:C8	2.18	0.78
1:1:1016:U:H4'	1:1:1017:U:OP1	1.81	0.78
1:1:1309:C:H1'	33:f:133:ALA:HB2	1.62	0.78
1:1:1654:G:H3'	1:1:1655:C:H5	1.48	0.78
1:1:42:A:H2'	1:1:43:U:H5''	1.66	0.78
1:1:550:C:H4'	32:e:43:VAL:CG2	2.13	0.78
1:1:1456:G:H5''	1:1:1456:G:C8	2.18	0.78
1:1:179:C:OP2	1:1:179:C:H6	1.67	0.78
1:1:1413:G:C2'	1:1:1414:A:H5'	2.14	0.78
1:1:1473:G:H2'	1:1:1475:G:N7	1.99	0.78
1:1:1769:C:H2'	1:1:1770:G:H8	1.46	0.78
12:K:90:VAL:HG13	12:K:94:LEU:HD23	1.64	0.78
1:1:4:C:H2'	1:1:5:U:C6	2.19	0.78
1:1:1310:U:H4'	33:f:142:GLY:HA3	1.64	0.78
1:1:1625:U:H2'	1:1:1626:C:C6	2.19	0.78
1:1:91:A:H5''	1:1:92:A:H5''	1.66	0.77
1:1:815:U:H2'	1:1:816:A:C8	2.18	0.77
1:1:1203:G:C8	1:1:1699:A:H2	2.02	0.77
1:1:1833:C:H6	1:1:1833:C:C5'	1.97	0.77
1:1:304:C:H4'	1:1:305:U:OP2	1.84	0.77
1:1:1276:A:H4'	1:1:1277:C:C5'	2.14	0.77
1:1:1536:G:H2'	1:1:1537:A:C8	2.19	0.77
1:1:1787:G:H2'	1:1:1788:A:C8	2.19	0.77
1:1:527:C:C4'	11:J:125:HIS:HB2	2.14	0.77
1:1:639:C:H2'	1:1:640:A:H8	1.48	0.77
1:1:797:C:H5''	9:H:106:ARG:O	1.85	0.77
1:1:315:C:N3	1:1:336:A:H2	1.81	0.77
1:1:1442:U:O2	1:1:1442:U:H2'	1.83	0.77
16:O:72:TYR:CE2	16:O:76:LEU:HD11	2.19	0.77
1:1:1848:U:O2'	1:1:1849:G:H5'	1.84	0.77
1:1:655:A:C5	1:1:657:U:H5	2.03	0.77
1:1:1100:A:H2'	1:1:1101:U:H5'	1.67	0.77
1:1:179:C:H5''	1:1:180:G:N2	1.99	0.77
1:1:525:A:H2	1:1:561:A:N6	1.81	0.77
1:1:911:C:H3'	1:1:912:C:C6	2.20	0.77
1:1:1217:A:H1'	1:1:1685:U:O2	1.85	0.77
1:1:1429:G:H5''	1:1:1430:C:OP2	1.85	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:746:C:H5''	9:H:104:PRO:O	1.84	0.76
1:1:1629:C:H5'	20:S:39:ARG:HH21	1.49	0.76
10:I:131:PRO:HG2	10:I:138:ASN:CG	2.10	0.76
31:d:38:MET:SD	31:d:43:PHE:HA	2.25	0.76
1:1:1095:C:H5''	24:W:22:LYS:NZ	2.00	0.76
9:H:84:GLU:OE2	9:H:91:HIS:HA	1.85	0.76
1:1:794:A:C2'	1:1:795:A:H4'	2.14	0.76
1:1:1241:A:H1'	1:1:1267:C:H1'	1.67	0.76
1:1:1574:C:H2'	1:1:1575:G:H5'	1.67	0.76
1:1:142:C:H4'	1:1:143:U:H4'	1.66	0.76
1:1:1166:G:H1	1:1:1193:U:H3	1.33	0.76
1:1:1417:C:O2'	1:1:1418:C:H5'	1.86	0.76
1:1:1725:U:H2'	1:1:1726:G:C8	2.20	0.76
8:G:32:MET:HE2	8:G:65:GLN:HB2	1.68	0.76
1:1:313:A:H2'	8:G:191:ARG:NH2	2.00	0.76
1:1:1418:C:H2'	1:1:1419:C:C5	2.21	0.76
18:Q:22:VAL:O	18:Q:70:VAL:HA	1.86	0.76
28:a:5:ARG:CD	28:a:8:ASN:HA	2.15	0.76
1:1:147:A:H61	1:1:170:A:H8	1.33	0.76
1:1:658:U:H5''	1:1:659:G:C5	2.21	0.76
1:1:1260:A:C2	1:1:1620:A:H1'	2.21	0.76
1:1:1287:A:H3'	1:1:1312:G:H22	1.50	0.76
1:1:798:G:H8	1:1:867:G:H22	1.30	0.76
1:1:1637:A:H4'	1:1:1638:G:H5''	1.68	0.76
1:1:855:G:C2'	1:1:856:C:H5'	2.14	0.76
1:1:1755:C:H2'	1:1:1756:C:C6	2.21	0.76
1:1:81:U:H6	1:1:81:U:H5''	1.50	0.76
1:1:900:C:H2'	1:1:901:G:N7	1.99	0.76
1:1:959:G:H1	16:O:65:ASP:HB3	1.50	0.76
1:1:989:C:H1'	28:a:32:LYS:HD3	1.67	0.76
1:1:557:U:H3'	1:1:558:G:N7	2.00	0.75
1:1:745:C:C2	1:1:750:C:H5''	2.21	0.75
1:1:1079:C:C2'	1:1:1080:A:H5'	2.16	0.75
1:1:59:U:H2'	1:1:60:A:H5''	1.66	0.75
1:1:933:G:O6	1:1:992:A:H2	1.69	0.75
1:1:1039:C:H2'	1:1:1040:G:C8	2.20	0.75
1:1:1461:G:H21	1:1:1465:A:N6	1.82	0.75
1:1:1483:A:H4'	5:D:160:SER:HB3	1.67	0.75
3:B:82:ARG:HG2	3:B:103:MET:HE1	1.67	0.75
1:1:380:G:N1	1:1:382:C:H3'	2.02	0.75
1:1:590:A:H4'	1:1:591:U:OP1	1.86	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:131:ASP:HB3	3:B:180:ASP:OD2	1.87	0.75
1:1:1079:C:H2'	1:1:1080:A:H5'	1.69	0.75
1:1:1680:G:H4'	30:c:20:ARG:NH1	2.01	0.75
15:N:22:VAL:HG12	15:N:66:VAL:HA	1.68	0.75
17:P:30:TYR:HA	17:P:33:LEU:HD21	1.69	0.75
1:1:32:U:H1'	1:1:516:A:C2	2.21	0.75
1:1:193:C:H6	1:1:193:C:H5'	1.50	0.75
1:1:301:A:H2'	1:1:302:A:H8	1.47	0.75
1:1:587:A:H2'	1:1:592:C:N4	2.01	0.75
1:1:689:U:H3'	1:1:690:G:H8	1.50	0.75
1:1:1040:G:H2'	1:1:1041:G:C8	2.20	0.75
1:1:1075:C:H2'	1:1:1076:G:C8	2.21	0.75
1:1:1353:A:H2'	1:1:1354:G:H5''	1.66	0.75
1:1:43:U:H5'	1:1:44:U:C5	2.13	0.75
1:1:44:U:H5'	1:1:44:U:C6	2.20	0.75
1:1:91:A:H5''	1:1:92:A:C5'	2.17	0.75
1:1:111:A:H4'	1:1:112:U:OP1	1.86	0.75
1:1:444:G:H21	1:1:446:G:H3'	1.51	0.75
1:1:606:G:C3'	1:1:607:U:H4'	2.16	0.75
5:D:41:VAL:HG22	5:D:46:THR:HG23	1.69	0.75
1:1:64:A:C2	1:1:84:A:N6	2.54	0.75
1:1:589:G:H1'	1:1:590:A:OP1	1.85	0.75
1:1:990:A:N6	1:1:992:A:H1'	2.01	0.75
6:E:220:THR:HG23	6:E:225:ILE:HD11	1.66	0.75
6:E:253:ASP:O	6:E:257:ALA:HA	1.86	0.75
22:U:63:ILE:HD12	31:d:52:PHE:CE2	2.22	0.75
1:1:444:G:N2	1:1:447:A:H5''	2.01	0.75
1:1:749:U:H2'	1:1:750:C:C6	2.22	0.75
1:1:1116:C:O2	1:1:1116:C:H2'	1.87	0.75
1:1:1575:G:H2'	1:1:1576:G:C8	2.22	0.75
1:1:130:G:H3'	1:1:131:C:H5''	1.69	0.75
1:1:207:G:H1'	1:1:208:G:N7	2.02	0.75
1:1:308:G:H4'	1:1:309:G:O5'	1.85	0.75
1:1:342:C:N4	1:1:343:A:H62	1.85	0.75
1:1:560:A:H3'	11:J:171:GLY:HA3	1.68	0.75
1:1:1225:U:H2'	1:1:1226:G:H5'	1.67	0.75
1:1:1261:C:C6	1:1:1261:C:H5''	2.21	0.75
1:1:1518:C:H5''	1:1:1519:U:C5'	2.15	0.75
1:1:84:A:H4'	26:Y:119:GLY:O	1.85	0.74
1:1:120:U:H2'	1:1:121:U:O4'	1.86	0.74
1:1:186:C:H2'	1:1:187:G:C8	2.22	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1406:G:HO2'	1:1:1408:U:H5	1.36	0.74
1:1:1039:C:H2'	1:1:1040:G:H8	1.51	0.74
1:1:1164:G:H3'	1:1:1165:G:N2	2.02	0.74
1:1:1296:U:H2'	1:1:1297:U:H5'	1.69	0.74
1:1:1439:A:H2'	1:1:1440:C:C6	2.21	0.74
3:B:62:LEU:O	3:B:65:ARG:HG3	1.86	0.74
1:1:10:G:C8	1:1:1697:A:C2	2.76	0.74
1:1:454:U:H2'	1:1:455:A:C8	2.23	0.74
1:1:1331:C:H5''	1:1:1331:C:O2	1.87	0.74
1:1:1644:C:H4'	1:1:1645:C:OP1	1.88	0.74
1:1:574:A:H3'	1:1:575:A:H8	1.53	0.74
1:1:1016:U:C5	1:1:1017:U:C5	2.75	0.74
1:1:987:A:H3'	1:1:988:C:C5	2.22	0.74
34:g:251:ALA:HB2	34:g:289:LEU:HD22	1.70	0.74
1:1:112:U:H5''	1:1:113:G:C5'	2.17	0.74
1:1:112:U:C5'	1:1:113:G:H5'	2.15	0.74
1:1:683:G:H1'	1:1:1023:A:H2	1.48	0.74
1:1:1117:C:H3'	1:1:1118:C:H5''	1.69	0.74
1:1:1412:C:H2'	1:1:1414:A:OP1	1.88	0.74
1:1:1825:A:H8	1:1:1825:A:O5'	1.70	0.74
3:B:49:VAL:HG11	3:B:58:ALA:HB2	1.69	0.74
8:G:77:LEU:O	8:G:92:ARG:HA	1.88	0.74
1:1:169:U:H1'	8:G:133:LEU:HD12	1.69	0.74
1:1:886:A:H3'	1:1:886:A:OP2	1.87	0.74
1:1:952:G:H1'	16:O:52:THR:HB	1.70	0.74
1:1:1286:G:H1'	14:M:34:GLY:HA3	1.68	0.74
1:1:1403:C:H3'	1:1:1404:U:H6	1.51	0.74
1:1:1771:G:H2'	1:1:1772:C:C6	2.23	0.74
19:R:71:ILE:HD13	19:R:75:GLU:HB2	1.69	0.74
22:U:80:PHE:CG	31:d:52:PHE:HB3	2.22	0.74
1:1:384:U:C2'	1:1:385:G:H5''	2.14	0.74
1:1:571:U:H3'	1:1:572:U:O4'	1.87	0.74
1:1:899:U:H2'	1:1:900:C:C6	2.22	0.74
1:1:1516:G:H2'	1:1:1517:G:H5'	1.68	0.74
2:A:6:ASP:O	23:V:83:PHE:HB3	1.88	0.74
4:C:193:VAL:HG11	4:C:240:THR:HG23	1.70	0.74
1:1:368:U:H4'	1:1:369:C:OP1	1.87	0.74
1:1:815:U:H2'	1:1:816:A:H8	1.51	0.74
1:1:838:G:N7	26:Y:8:ARG:HA	2.02	0.74
1:1:812:A:H2'	1:1:813:A:H8	1.53	0.73
1:1:1070:A:H2'	1:1:1071:G:O4'	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1285:G:OP2	33:f:102:VAL:HG22	1.87	0.73
1:1:193:C:H4'	1:1:209:A:H61	1.51	0.73
1:1:1427:C:H3'	1:1:1427:C:H6	1.51	0.73
1:1:1851:A:H5''	1:1:1851:A:H8	1.53	0.73
1:1:399:C:H4'	1:1:400:C:OP2	1.89	0.73
1:1:672:A:H2	1:1:1162:C:HO2'	1.36	0.73
1:1:834:C:H4'	1:1:835:C:O5'	1.86	0.73
1:1:1370:A:H2'	1:1:1372:U:H5'	1.70	0.73
1:1:338:G:H2'	1:1:339:A:C8	2.23	0.73
1:1:1567:G:H2'	1:1:1568:C:H5'	1.68	0.73
1:1:1787:G:H2'	1:1:1788:A:H8	1.52	0.73
1:1:491:C:H5''	1:1:574:A:N1	2.04	0.73
1:1:528:A:H2'	1:1:529:A:O4'	1.89	0.73
1:1:884:C:O2'	1:1:885:U:H5'	1.86	0.73
1:1:1643:U:H1'	18:Q:142:GLN:OE1	1.88	0.73
5:D:72:VAL:HG13	12:K:68:TYR:CD1	2.24	0.73
1:1:738:C:H2'	1:1:739:C:C6	2.24	0.73
1:1:1378:A:C4	2:A:105:PRO:HB3	2.24	0.73
9:H:79:LEU:HD22	9:H:94:PHE:CZ	2.24	0.73
17:P:33:LEU:HD22	17:P:87:PRO:HG2	1.70	0.73
1:1:574:A:H5'	1:1:575:A:C8	2.23	0.73
1:1:849:A:H2'	1:1:850:C:H6	1.52	0.73
1:1:1542:C:H5''	1:1:1542:C:C6	2.23	0.73
1:1:1606:G:OP2	1:1:1606:G:H8	1.72	0.73
1:1:58:C:N4	1:1:88:G:C2	2.57	0.73
1:1:60:A:H5'	1:1:501:C:H5	1.53	0.73
1:1:65:C:C2'	1:1:66:G:H3'	2.19	0.73
1:1:582:U:H3'	1:1:583:A:H8	1.54	0.73
1:1:1123:C:H5''	3:B:149:GLN:HE22	1.54	0.73
1:1:1272:C:H1'	31:d:7:TYR:OH	1.88	0.73
1:1:487:U:H1'	1:1:488:U:OP1	1.87	0.73
1:1:798:G:H1'	1:1:867:G:H21	1.53	0.73
1:1:1807:C:H2'	1:1:1808:U:C6	2.24	0.73
2:A:9:GLN:HB2	23:V:83:PHE:CD2	2.23	0.73
1:1:1308:U:H4'	33:f:134:SER:O	1.89	0.73
1:1:1543:U:H1'	1:1:1544:C:O5'	1.87	0.73
1:1:35:C:H2'	1:1:36:U:C6	2.24	0.72
1:1:184:G:H8	1:1:185:G:C4'	1.99	0.72
1:1:1217:A:O2'	1:1:1685:U:H1'	1.89	0.72
1:1:1815:A:H3'	1:1:1816:G:H8	1.54	0.72
12:K:32:HIS:H	12:K:33:PRO:HD3	1.53	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:32:HIS:N	12:K:33:PRO:HD3	2.04	0.72
1:1:15:U:C2'	1:1:16:G:H5'	2.19	0.72
1:1:70:G:H2'	1:1:71:G:C4'	2.18	0.72
1:1:673:G:H1'	1:1:1084:A:C4	2.23	0.72
1:1:862:A:N3	24:W:105:THR:HG22	2.03	0.72
1:1:1567:G:C2'	1:1:1568:C:H5'	2.19	0.72
1:1:553:U:H3'	1:1:554:A:H5''	1.71	0.72
1:1:1176:G:H2'	1:1:1177:U:H6	1.54	0.72
1:1:1576:G:C2'	1:1:1577:G:H5'	2.19	0.72
13:L:71:ARG:HH12	13:L:73:LEU:HD11	1.54	0.72
1:1:1503:C:H2'	1:1:1504:U:C6	2.24	0.72
3:B:63:LYS:O	3:B:88:THR:HB	1.89	0.72
24:W:16:ASN:O	24:W:20:ARG:HD2	1.90	0.72
26:Y:91:LEU:HD22	26:Y:96:LEU:HD11	1.72	0.72
27:Z:58:LEU:HD13	27:Z:77:LEU:HD22	1.70	0.72
1:1:312:G:H4'	1:1:313:A:OP1	1.88	0.72
1:1:933:G:O6	1:1:992:A:C2	2.43	0.72
1:1:1731:A:H2'	1:1:1732:G:C8	2.24	0.72
1:1:29:G:H4'	25:X:129:SER:CB	2.20	0.72
1:1:571:U:C3'	1:1:572:U:C4'	2.65	0.72
1:1:1338:G:H4'	22:U:74:SER:H	1.54	0.72
11:J:29:LEU:HA	11:J:32:ILE:HD12	1.70	0.72
17:P:83:MET:HB3	17:P:116:LEU:HD12	1.71	0.72
1:1:65:C:H4'	8:G:133:LEU:HD22	1.70	0.72
1:1:957:A:H4'	1:1:973:C:H1'	1.72	0.72
1:1:1082:A:H2'	1:1:1084:A:C5'	2.19	0.72
1:1:1416:C:H3'	1:1:1417:C:C5'	2.13	0.72
6:E:95:THR:HB	6:E:97:GLU:OE2	1.90	0.72
1:1:1255:G:H3'	1:1:1256:G:C5'	2.20	0.72
1:1:217:A:H4'	1:1:341:C:C5'	2.19	0.72
1:1:741:C:H3'	1:1:742:U:O3'	1.89	0.72
1:1:1481:G:H4'	31:d:56:ASP:HB2	1.70	0.72
28:a:38:LYS:O	28:a:71:LEU:HB2	1.89	0.72
1:1:604:A:C2	1:1:605:A:C2	2.76	0.72
1:1:747:U:C2	1:1:748:C:H2'	2.25	0.72
1:1:1203:G:H8	1:1:1699:A:C2	2.08	0.72
1:1:1414:A:H2'	1:1:1415:C:O4'	1.89	0.72
1:1:1555:U:H4'	1:1:1556:A:OP1	1.89	0.72
1:1:743:U:H4'	1:1:744:G:OP2	1.88	0.71
1:1:1036:A:H8	1:1:1036:A:O5'	1.73	0.71
1:1:1579:A:H2'	1:1:1580:A:O4'	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1704:C:H1'	1:1:1832:A:N1	2.05	0.71
1:1:184:G:N7	1:1:185:G:H1'	2.05	0.71
1:1:350:C:N4	1:1:351:G:C2	2.58	0.71
1:1:606:G:H8	32:e:54:GLY:CA	2.01	0.71
8:G:64:LYS:HE2	8:G:97:VAL:HG11	1.73	0.71
22:U:79:ARG:HB3	31:d:56:ASP:OD1	1.90	0.71
1:1:84:A:O2'	1:1:85:A:H8	1.67	0.71
1:1:433:A:H5''	10:I:25:ARG:HH21	1.53	0.71
1:1:1405:A:H3'	1:1:1406:G:C5'	2.20	0.71
27:Z:62:VAL:HG12	27:Z:68:ILE:HG13	1.72	0.71
1:1:321:C:H2'	1:1:322:C:C6	2.25	0.71
1:1:370:G:H5'	1:1:370:G:C8	2.25	0.71
1:1:414:A:H8	1:1:414:A:O5'	1.73	0.71
1:1:1552:G:H2'	5:D:3:VAL:HG21	1.72	0.71
1:1:1659:U:C5'	31:d:30:LEU:HD11	2.18	0.71
6:E:124:CYS:SG	6:E:160:VAL:HG23	2.31	0.71
1:1:341:C:O5'	1:1:341:C:H6	1.73	0.71
1:1:736:C:H2'	1:1:737:G:C8	2.26	0.71
1:1:912:C:H2'	1:1:912:C:OP2	1.90	0.71
1:1:1426:U:H3'	1:1:1427:C:H5'	1.71	0.71
2:A:63:ARG:HG2	23:V:46:PHE:CZ	2.25	0.71
6:E:38:LEU:HA	6:E:41:CYS:SG	2.30	0.71
10:I:36:THR:O	10:I:95:THR:HA	1.89	0.71
11:J:133:ARG:O	11:J:162:ARG:HD2	1.89	0.71
1:1:750:C:H2'	1:1:751:G:H8	1.54	0.71
1:1:180:G:C1'	1:1:181:A:H5'	2.08	0.71
1:1:958:G:H3'	1:1:959:G:C8	2.26	0.71
1:1:1021:U:H1'	1:1:1022:U:OP2	1.90	0.71
1:1:442:C:H42	1:1:449:A:H62	1.36	0.71
1:1:1396:A:H2	1:1:1449:G:H1	1.35	0.71
1:1:408:A:H2'	1:1:409:C:H4'	1.72	0.71
1:1:992:A:OP1	1:1:1133:A:H1'	1.91	0.71
1:1:1144:A:H1'	1:1:1199:A:O2'	1.89	0.71
1:1:1308:U:H4'	33:f:134:SER:C	2.15	0.71
1:1:1853:C:H2'	1:1:1854:U:C6	2.25	0.71
7:F:40:ALA:HB3	7:F:68:ILE:HG13	1.73	0.71
1:1:808:A:O5'	1:1:808:A:H8	1.74	0.71
8:G:161:PRO:HA	8:G:170:ARG:O	1.91	0.71
33:f:121:CYS:HG	33:f:141:CYS:HB2	1.52	0.71
1:1:77:A:H4'	1:1:78:C:C5	2.26	0.70
1:1:77:A:N3	1:1:77:A:H2'	2.04	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:319:C:H4'	1:1:320:G:OP2	1.90	0.70
1:1:1493:C:C3'	1:1:1494:U:H5'	2.21	0.70
25:X:51:VAL:HG13	25:X:70:VAL:HG13	1.73	0.70
1:1:95:G:H1	1:1:435:A:N6	1.90	0.70
1:1:465:A:H1'	1:1:466:G:OP2	1.90	0.70
1:1:527:C:H5'	11:J:122:SER:CB	2.21	0.70
1:1:745:C:H4'	1:1:746:C:C5	2.27	0.70
1:1:747:U:H5''	1:1:795:A:N6	2.06	0.70
1:1:1276:A:N6	1:1:1317:C:H42	1.89	0.70
1:1:1405:A:C3'	1:1:1406:G:H5''	2.22	0.70
1:1:1468:C:H2'	1:1:1469:A:H8	1.56	0.70
1:1:1469:A:H2'	1:1:1470:C:C6	2.26	0.70
1:1:1522:A:C2	17:P:128:HIS:HB2	2.25	0.70
1:1:1784:G:H2'	1:1:1785:C:C6	2.26	0.70
4:C:81:ILE:HG21	4:C:88:ILE:HD11	1.72	0.70
1:1:550:C:H1'	32:e:44:ASN:HB3	1.73	0.70
1:1:1087:A:H3'	1:1:1088:U:H5'	1.71	0.70
1:1:1408:U:H2'	1:1:1409:A:O4'	1.91	0.70
1:1:1440:C:H2'	1:1:1441:U:C6	2.26	0.70
1:1:1565:C:H2'	1:1:1566:G:H5'	1.72	0.70
1:1:331:C:H2'	1:1:332:G:O4'	1.92	0.70
1:1:376:A:H2'	1:1:377:G:H8	1.54	0.70
1:1:528:A:P	1:1:528:A:H8	2.14	0.70
1:1:738:C:H2'	1:1:739:C:H6	1.55	0.70
1:1:1208:A:OP2	1:1:1208:A:H4'	1.90	0.70
5:D:73:VAL:HG11	5:D:84:VAL:HG21	1.73	0.70
9:H:102:PRO:HB2	9:H:105:THR:CB	2.21	0.70
1:1:62:G:H2'	1:1:63:U:O4'	1.92	0.70
1:1:105:U:H2'	1:1:106:C:O4'	1.92	0.70
1:1:412:G:H5'	1:1:413:G:C8	2.26	0.70
1:1:1129:G:H3'	1:1:1130:G:C8	2.25	0.70
13:L:99:TYR:CE1	25:X:14:ARG:HA	2.26	0.70
1:1:96:C:H1'	1:1:474:G:H5'	1.71	0.70
1:1:216:C:H2'	1:1:217:A:H8	1.54	0.70
1:1:558:G:C2'	1:1:559:G:H5''	2.21	0.70
1:1:1120:U:H6	1:1:1120:U:H5''	1.54	0.70
2:A:67:ALA:HA	23:V:50:PHE:CE1	2.26	0.70
1:1:1030:A:H2'	1:1:1031:A:C8	2.25	0.70
1:1:1287:A:H4'	1:1:1312:G:N1	2.07	0.70
1:1:1348:G:H8	1:1:1348:G:O5'	1.74	0.70
1:1:1736:G:H2'	1:1:1737:G:C8	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:11:PHE:CE1	22:U:27:ARG:HB2	2.27	0.70
1:1:131:C:C4	1:1:215:G:H5'	2.26	0.70
1:1:332:G:H4'	1:1:333:G:OP1	1.92	0.70
1:1:444:G:N2	1:1:446:G:H3'	2.07	0.70
1:1:1476:A:H4'	1:1:1477:U:O5'	1.92	0.70
12:K:84:HIS:CD2	12:K:85:LEU:H	2.10	0.70
1:1:1520:G:H5'	1:1:1521:C:H5	1.53	0.70
1:1:1764:G:H3'	1:1:1764:G:N3	2.06	0.70
1:1:1833:C:OP1	1:1:1840:U:H4'	1.92	0.70
13:L:96:ILE:HD11	13:L:103:GLU:OE1	1.91	0.70
1:1:528:A:P	11:J:122:SER:HB2	2.32	0.70
1:1:606:G:C8	32:e:54:GLY:CA	2.75	0.70
1:1:606:G:H3'	1:1:607:U:H4'	1.73	0.70
1:1:1060:A:H1'	1:1:1061:U:OP2	1.92	0.70
1:1:1558:C:H2'	1:1:1559:C:C6	2.27	0.70
1:1:1599:U:OP1	1:1:1599:U:H4'	1.92	0.70
1:1:1840:U:H2'	1:1:1841:C:C6	2.26	0.70
1:1:845:G:H4'	6:E:255:ARG:HH12	1.57	0.69
1:1:890:U:H3'	1:1:891:G:C5'	2.19	0.69
13:L:99:TYR:CZ	25:X:14:ARG:HA	2.27	0.69
29:b:56:CYS:SG	29:b:59:CYS:N	2.65	0.69
1:1:86:C:H3'	1:1:87:U:H5''	1.73	0.69
1:1:334:C:H2'	1:1:335:G:C8	2.27	0.69
1:1:351:G:H3'	1:1:351:G:C8	2.27	0.69
1:1:1483:A:H4'	5:D:160:SER:HB2	1.72	0.69
1:1:1700:C:H4'	1:1:1701:C:H5'	1.73	0.69
1:1:1814:G:H8	1:1:1814:G:O5'	1.75	0.69
1:1:215:G:H3'	1:1:215:G:OP2	1.93	0.69
1:1:1536:G:H2'	1:1:1537:A:H8	1.57	0.69
2:A:82:THR:HA	2:A:204:TYR:O	1.90	0.69
3:B:125:VAL:HG11	3:B:172:MET:HB3	1.73	0.69
1:1:78:C:H1'	1:1:79:A:OP2	1.93	0.69
1:1:144:U:C6	8:G:180:VAL:HG22	2.27	0.69
1:1:749:U:O2	1:1:795:A:C2	2.46	0.69
1:1:890:U:O2	1:1:890:U:H2'	1.90	0.69
34:g:45:LEU:HD22	34:g:52:TYR:HE2	1.57	0.69
1:1:176:U:H3'	1:1:177:G:C8	2.27	0.69
1:1:203:G:H2'	1:1:204:G:H8	1.55	0.69
1:1:448:A:N7	10:I:26:LYS:HA	2.06	0.69
1:1:1425:G:H2'	1:1:1426:U:C6	2.28	0.69
1:1:1477:U:H1'	1:1:1478:U:OP2	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1493:C:C6	1:1:1493:C:H5''	2.27	0.69
1:1:1606:G:N2	1:1:1632:G:H2'	2.07	0.69
8:G:68:LEU:HD23	8:G:100:CYS:HB3	1.75	0.69
13:L:20:LYS:HE3	13:L:21:LYS:NZ	2.08	0.69
1:1:313:A:H2	1:1:315:C:N4	1.91	0.69
1:1:1092:G:H2'	1:1:1093:A:H8	1.58	0.69
3:B:79:VAL:HG11	3:B:82:ARG:HD3	1.74	0.69
12:K:15:LEU:HD23	12:K:21:MET:HG2	1.75	0.69
1:1:688:U:H1'	1:1:689:U:H6	1.57	0.69
1:1:1389:C:H2'	1:1:1389:C:OP2	1.92	0.69
20:S:43:VAL:HG22	21:T:37:VAL:HB	1.74	0.69
28:a:38:LYS:H	28:a:71:LEU:HB3	1.57	0.69
1:1:795:A:C4	1:1:796:G:C8	2.81	0.69
1:1:1100:A:C2'	1:1:1101:U:H5'	2.22	0.69
1:1:1257:G:H5''	1:1:1257:G:C8	2.27	0.69
1:1:1281:G:N2	1:1:1317:C:H1'	2.08	0.69
1:1:1284:A:N7	1:1:1286:G:H5'	2.07	0.69
1:1:1634:A:H3'	1:1:1635:C:C6	2.27	0.69
1:1:1663:A:H2	1:1:1664:A:C6	2.10	0.69
27:Z:44:LEU:HD21	27:Z:78:LYS:HG2	1.74	0.69
1:1:181:A:H4'	1:1:182:C:OP2	1.93	0.69
1:1:380:G:H1	1:1:383:G:P	2.15	0.69
1:1:1456:G:H2'	1:1:1457:U:C6	2.28	0.69
1:1:1690:U:C2'	1:1:1691:U:H5'	2.22	0.69
1:1:1750:C:C2'	1:1:1751:C:H5'	2.23	0.69
9:H:102:PRO:HB2	9:H:105:THR:HB	1.74	0.69
1:1:65:C:H2'	1:1:66:G:H3'	1.75	0.69
1:1:187:G:H2'	1:1:188:C:C6	2.27	0.68
1:1:1331:C:H6	1:1:1489:A:N6	1.90	0.68
1:1:1383:A:H8	1:1:1383:A:O5'	1.76	0.68
1:1:1453:C:H4'	19:R:49:LYS:HA	1.75	0.68
20:S:6:PRO:HD3	27:Z:52:LYS:HD3	1.75	0.68
28:a:15:ARG:HD2	28:a:18:VAL:HG22	1.74	0.68
1:1:12:U:H2'	1:1:13:C:C6	2.28	0.68
1:1:210:U:C3'	1:1:211:G:H5''	2.22	0.68
1:1:673:G:H8	1:1:673:G:OP1	1.76	0.68
1:1:907:G:H2'	1:1:908:A:H8	1.58	0.68
1:1:1397:U:O3'	1:1:1398:G:H2'	1.93	0.68
22:U:24:LEU:HD11	22:U:36:CYS:SG	2.32	0.68
1:1:65:C:O2'	1:1:66:G:H3'	1.93	0.68
1:1:170:A:H2'	1:1:171:A:C8	2.28	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:227:U:H1'	1:1:228:C:OP2	1.92	0.68
1:1:374:G:H2'	1:1:375:U:C6	2.27	0.68
1:1:377:G:H2'	1:1:378:U:C6	2.29	0.68
1:1:795:A:N3	1:1:796:G:C8	2.62	0.68
1:1:1512:C:H2'	1:1:1513:C:C6	2.28	0.68
3:B:66:VAL:HG22	3:B:85:LYS:HE3	1.75	0.68
5:D:75:LYS:HB3	12:K:22:VAL:HG11	1.75	0.68
1:1:66:G:H4'	1:1:67:C:OP2	1.93	0.68
1:1:124:U:H6	1:1:124:U:H3'	1.57	0.68
1:1:140:C:H3'	1:1:140:C:OP1	1.94	0.68
1:1:298:G:H2'	1:1:299:A:H8	1.57	0.68
1:1:693:A:C5	1:1:694:G:H1'	2.28	0.68
1:1:1228:A:H2'	1:1:1229:G:C8	2.28	0.68
3:B:63:LYS:HE3	3:B:91:VAL:CG2	2.23	0.68
1:1:1397:U:H4'	1:1:1398:G:N2	2.08	0.68
1:1:1602:U:H2'	1:1:1603:G:H8	1.58	0.68
1:1:1630:A:C2'	1:1:1631:U:H5''	2.23	0.68
1:1:448:A:H4'	1:1:449:A:O5'	1.93	0.68
1:1:808:A:H2'	1:1:809:A:C8	2.29	0.68
1:1:912:C:O2'	1:1:913:A:H4'	1.93	0.68
1:1:1016:U:C6	1:1:1017:U:H5	2.12	0.68
1:1:1396:A:C2	1:1:1449:G:N1	2.59	0.68
1:1:1591:C:H5'	7:F:85:LYS:HE3	1.75	0.68
1:1:1630:A:H2'	1:1:1631:U:C5'	2.23	0.68
1:1:59:U:H2'	1:1:60:A:C5'	2.24	0.68
1:1:310:C:H2'	1:1:340:C:H5'	1.75	0.68
1:1:550:C:H4'	32:e:43:VAL:HG21	1.75	0.68
1:1:1247:C:H4'	1:1:1248:U:OP1	1.93	0.68
1:1:1286:G:N3	1:1:1286:G:H2'	2.09	0.68
1:1:1519:U:C6	1:1:1519:U:H5''	2.29	0.68
1:1:1750:C:H2'	1:1:1751:C:C5'	2.23	0.68
21:T:41:LYS:HG2	21:T:95:GLY:HA2	1.76	0.68
1:1:164:A:H3'	1:1:165:G:C8	2.28	0.68
1:1:845:G:H5''	6:E:108:ARG:HH12	1.58	0.68
1:1:1405:A:H3'	1:1:1405:A:C8	2.28	0.68
1:1:1587:G:H21	21:T:75:MET:HA	1.59	0.68
1:1:1648:G:H2'	18:Q:127:CYS:CA	2.24	0.68
13:L:5:GLN:HE22	13:L:12:LYS:H	1.42	0.68
1:1:1561:A:C4'	1:1:1583:C:H4'	2.23	0.68
1:1:1639:G:H2'	1:1:1639:G:N3	2.09	0.68
9:H:109:ARG:CG	9:H:113:LYS:HA	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:465:A:H4'	1:1:466:G:O5'	1.94	0.68
1:1:522:A:N1	1:1:643:A:H5'	2.09	0.68
1:1:746:C:O5'	9:H:105:THR:HA	1.94	0.68
1:1:877:C:H2'	1:1:878:G:H8	1.59	0.68
1:1:901:G:H8	1:1:901:G:O5'	1.77	0.68
1:1:1053:C:O2	1:1:1053:C:H2'	1.94	0.68
1:1:1285:G:H4'	1:1:1286:G:O5'	1.93	0.68
1:1:1405:A:C2	1:1:1442:U:C6	2.80	0.68
1:1:1516:G:C2'	1:1:1517:G:H5'	2.24	0.68
1:1:380:G:C2	1:1:382:C:H3'	2.29	0.67
1:1:529:A:H2'	1:1:530:U:C5	2.29	0.67
1:1:691:G:H2'	1:1:692:G:H5'	1.76	0.67
1:1:1109:C:O2	1:1:1109:C:H3'	1.94	0.67
1:1:1696:C:O2'	1:1:1697:A:H5''	1.94	0.67
1:1:1721:U:H4'	1:1:1722:G:O5'	1.94	0.67
1:1:1780:G:P	1:1:1781:A:H5''	2.33	0.67
17:P:97:TYR:HB2	17:P:102:PHE:CE2	2.28	0.67
18:Q:34:VAL:HA	18:Q:70:VAL:O	1.94	0.67
23:V:70:LEU:HD12	23:V:79:VAL:HG23	1.76	0.67
1:1:795:A:H2'	1:1:796:G:H5'	1.76	0.67
1:1:907:G:H2'	1:1:908:A:C8	2.29	0.67
1:1:1240:A:H2'	1:1:1267:C:O2'	1.94	0.67
1:1:67:C:H5	8:G:163:ASN:N	1.91	0.67
1:1:124:U:H3'	1:1:124:U:C6	2.29	0.67
1:1:911:C:H2'	1:1:912:C:C2	2.29	0.67
1:1:1328:G:H2'	1:1:1329:U:C6	2.29	0.67
1:1:1622:U:OP2	1:1:1623:A:H5'	1.94	0.67
1:1:1648:G:C8	18:Q:125:ARG:HA	2.29	0.67
4:C:174:ILE:HG22	4:C:175:GLY:N	2.09	0.67
10:I:34:ALA:HB2	10:I:56:ARG:HD3	1.75	0.67
20:S:25:LYS:HE3	20:S:52:LEU:O	1.94	0.67
1:1:358:C:H5'	1:1:358:C:H6	1.59	0.67
1:1:943:U:H3'	1:1:944:A:H8	1.59	0.67
1:1:1204:A:H2'	1:1:1205:C:O4'	1.93	0.67
1:1:1468:C:H2'	1:1:1469:A:C8	2.29	0.67
1:1:1746:U:H2'	1:1:1747:C:C6	2.30	0.67
7:F:103:LEU:HD21	27:Z:67:LEU:HD11	1.75	0.67
7:F:187:SER:OG	7:F:190:ILE:HG12	1.94	0.67
34:g:45:LEU:HD22	34:g:52:TYR:CE2	2.28	0.67
1:1:195:C:H2'	1:1:196:C:C6	2.29	0.67
1:1:384:U:O5'	1:1:384:U:H6	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:794:A:N3	1:1:795:A:H1'	2.08	0.67
1:1:797:C:H4'	9:H:109:ARG:HB2	1.74	0.67
1:1:1005:G:H2'	1:1:1006:C:C6	2.29	0.67
1:1:124:U:H5'	6:E:148:ARG:HB3	1.74	0.67
1:1:371:A:H5''	10:I:11:ARG:HB2	1.76	0.67
1:1:399:C:H5''	1:1:400:C:C5	2.30	0.67
1:1:559:G:H5'	1:1:560:A:H5''	1.76	0.67
1:1:576:A:P	1:1:577:U:H3'	2.34	0.67
1:1:746:C:C5	1:1:749:U:H4'	2.29	0.67
1:1:1663:A:C2	1:1:1664:A:C6	2.83	0.67
25:X:100:VAL:CG1	25:X:122:VAL:HG13	2.24	0.67
1:1:380:G:H2'	1:1:382:C:C5	2.28	0.67
1:1:636:C:O5'	1:1:636:C:H6	1.77	0.67
1:1:1296:U:C2'	1:1:1297:U:H5'	2.24	0.67
3:B:120:MET:HE2	3:B:122:GLU:OE2	1.95	0.67
18:Q:15:ARG:HA	18:Q:19:ALA:O	1.95	0.67
1:1:817:G:H8	1:1:817:G:O5'	1.77	0.67
1:1:1008:A:H2'	1:1:1009:A:O4'	1.94	0.67
1:1:1016:U:C5	1:1:1017:U:H5	2.13	0.67
1:1:1408:U:H5'	18:Q:69:ARG:NH2	2.10	0.67
1:1:1427:C:H3'	1:1:1427:C:C6	2.30	0.67
1:1:1587:G:N2	21:T:75:MET:HA	2.10	0.67
1:1:1673:U:H6	1:1:1673:U:C5'	2.06	0.67
9:H:109:ARG:HA	9:H:113:LYS:H	1.59	0.67
1:1:217:A:H4'	1:1:341:C:C4'	2.25	0.67
1:1:527:C:H5'	11:J:122:SER:HB3	1.77	0.67
1:1:1023:A:H5''	15:N:124:ARG:NH2	2.09	0.67
1:1:1688:C:O2	1:1:1688:C:H2'	1.94	0.67
1:1:42:A:C2'	1:1:43:U:H5''	2.24	0.67
1:1:381:C:H6	1:1:381:C:O5'	1.77	0.67
1:1:535:G:HO2'	1:1:536:A:H8	1.42	0.67
1:1:1076:G:H5'	15:N:106:ARG:NH1	2.09	0.67
1:1:1191:C:H2'	1:1:1192:U:C6	2.29	0.67
1:1:1284:A:N6	1:1:1313:A:C2	2.63	0.67
1:1:1391:C:H2'	1:1:1392:U:O4'	1.95	0.67
1:1:1401:A:H1'	1:1:1402:A:OP1	1.95	0.67
1:1:1442:U:C4	1:1:1443:C:H1'	2.29	0.67
7:F:158:ALA:HB1	7:F:173:LEU:HA	1.76	0.67
1:1:130:G:H1'	1:1:181:A:N1	2.10	0.66
1:1:172:U:OP1	1:1:314:U:H2'	1.94	0.66
1:1:428:U:H4'	1:1:429:C:OP1	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:805:U:N3	1:1:858:A:C2	2.62	0.66
1:1:1298:G:H1'	17:P:79:HIS:HB2	1.77	0.66
1:1:1534:C:H2'	1:1:1599:U:C4	2.30	0.66
1:1:1676:U:O5'	1:1:1676:U:H6	1.78	0.66
20:S:5:ILE:CG1	20:S:6:PRO:HD2	2.25	0.66
1:1:1048:G:H8	1:1:1048:G:O5'	1.79	0.66
1:1:1230:C:C2'	1:1:1231:C:H5'	2.24	0.66
7:F:72:LEU:HD11	7:F:116:ILE:HD11	1.77	0.66
21:T:72:VAL:HG12	21:T:97:LYS:HE3	1.77	0.66
1:1:235:A:O2'	1:1:236:A:H8	1.76	0.66
1:1:338:G:H8	1:1:338:G:H5''	1.60	0.66
3:B:97:LEU:HG	3:B:232:HIS:NE2	2.10	0.66
3:B:186:ASN:O	3:B:190:PRO:HD2	1.95	0.66
11:J:27:GLN:OE1	11:J:30:LYS:HE2	1.96	0.66
24:W:30:CYS:SG	24:W:61:ILE:HD12	2.36	0.66
34:g:14:HIS:O	34:g:305:ASN:HB3	1.95	0.66
1:1:172:U:C3'	1:1:173:A:H5''	2.26	0.66
1:1:795:A:C2'	1:1:796:G:H8	2.09	0.66
1:1:1160:U:O2'	1:1:1161:U:H5'	1.95	0.66
1:1:1361:G:H5'	1:1:1379:A:OP2	1.95	0.66
19:R:109:LEU:O	19:R:109:LEU:HD22	1.94	0.66
20:S:24:ARG:HA	27:Z:48:VAL:HG11	1.77	0.66
21:T:34:VAL:HG22	21:T:99:VAL:HG12	1.78	0.66
34:g:44:LYS:HG3	34:g:56:GLN:CG	2.24	0.66
1:1:640:A:H2'	1:1:641:A:C8	2.30	0.66
1:1:1167:G:H2'	1:1:1168:G:O4'	1.96	0.66
1:1:1389:C:H5'	5:D:205:PRO:HB3	1.77	0.66
1:1:1721:U:H1'	1:1:1722:G:OP2	1.96	0.66
2:A:176:TRP:CD2	2:A:199:PRO:HB3	2.31	0.66
1:1:107:A:H2'	1:1:108:G:C8	2.31	0.66
1:1:312:G:H22	8:G:195:LYS:HB2	1.61	0.66
1:1:658:U:H5''	1:1:659:G:N7	2.11	0.66
1:1:1377:U:O2'	1:1:1378:A:H4'	1.96	0.66
1:1:1410:C:P	1:1:1413:G:H5''	2.35	0.66
1:1:1624:U:O2	1:1:1624:U:H2'	1.94	0.66
1:1:1684:C:C2'	1:1:1685:U:C5'	2.70	0.66
2:A:6:ASP:C	23:V:83:PHE:HB3	2.20	0.66
1:1:224:A:N1	1:1:297:A:N1	2.43	0.66
1:1:348:A:H2'	1:1:349:A:O4'	1.95	0.66
1:1:540:U:N3	1:1:542:U:H5''	2.10	0.66
1:1:799:U:H1'	1:1:800:U:C6	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:915:G:H2'	1:1:916:A:H5'	1.76	0.66
1:1:1000:C:H41	28:a:16:GLY:H	1.44	0.66
1:1:1135:C:H2'	1:1:1136:U:C6	2.30	0.66
3:B:30:TRP:CZ3	16:O:19:PRO:HB3	2.30	0.66
3:B:71:LEU:HD13	3:B:72:ALA:N	2.10	0.66
8:G:58:LYS:HA	8:G:107:SER:HB2	1.78	0.66
1:1:307:G:H4'	1:1:308:G:C5'	2.21	0.66
1:1:421:G:N2	1:1:653:A:H5'	2.11	0.66
1:1:582:U:H3'	1:1:583:A:C8	2.31	0.66
1:1:797:C:C6	9:H:106:ARG:HB3	2.30	0.66
1:1:1557:C:O2	1:1:1557:C:H2'	1.95	0.66
11:J:111:GLN:NE2	11:J:130:ILE:HD12	2.10	0.66
1:1:572:U:H3'	1:1:573:U:N3	2.11	0.66
18:Q:37:ARG:HB3	21:T:7:LYS:HG3	1.77	0.66
23:V:35:ASN:OD1	23:V:50:PHE:HB3	1.96	0.66
34:g:173:LEU:CD2	34:g:189:ILE:HG23	2.26	0.66
1:1:305:U:H2'	10:I:60:LEU:CD2	2.26	0.66
1:1:370:G:H5'	1:1:370:G:H8	1.60	0.66
1:1:849:A:H2'	1:1:850:C:C6	2.31	0.66
1:1:869:A:C2	1:1:915:G:H1'	2.31	0.66
1:1:1389:C:H2'	1:1:1389:C:P	2.36	0.66
1:1:473:A:H8	1:1:473:A:H5''	1.62	0.65
1:1:1215:C:H4'	1:1:1216:C:OP1	1.96	0.65
1:1:1439:A:H2'	1:1:1440:C:N1	2.11	0.65
1:1:1866:A:N1	28:a:84:VAL:HG13	2.10	0.65
17:P:34:MET:CG	17:P:45:LEU:HD22	2.26	0.65
25:X:46:HIS:HB3	25:X:101:LEU:HD11	1.77	0.65
25:X:51:VAL:HG22	25:X:70:VAL:HG11	1.79	0.65
1:1:346:C:H3'	1:1:346:C:H6	1.61	0.65
1:1:413:G:H5'	1:1:814:U:O2	1.96	0.65
1:1:575:A:H5''	1:1:576:A:N6	2.10	0.65
1:1:1214:A:N1	1:1:1686:G:N3	2.44	0.65
7:F:111:VAL:HG12	7:F:177:LEU:HD21	1.78	0.65
1:1:526:A:C8	11:J:128:VAL:HG13	2.32	0.65
1:1:656:G:H5'	1:1:662:G:N2	2.10	0.65
1:1:796:G:N2	1:1:797:C:C5	2.65	0.65
1:1:1431:G:H2'	1:1:1432:U:H6	1.54	0.65
1:1:1557:C:H3'	1:1:1557:C:P	2.36	0.65
4:C:210:PRO:HG3	4:C:236:PHE:CE2	2.31	0.65
6:E:154:ILE:HG23	6:E:158:ASP:OD2	1.95	0.65
9:H:194:LEU:HD11	29:b:83:GLN:HB3	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:185:G:H2'	1:1:186:C:H5	1.61	0.65
1:1:305:U:O2	10:I:43:ILE:HD11	1.97	0.65
1:1:350:C:H2'	1:1:351:G:H5'	1.77	0.65
1:1:505:G:C2'	1:1:506:G:H5'	2.26	0.65
1:1:1287:A:N3	1:1:1287:A:H2'	2.09	0.65
3:B:97:LEU:HG	3:B:232:HIS:CE1	2.31	0.65
3:B:153:THR:HB	3:B:155:TYR:CE2	2.31	0.65
1:1:39:A:H1'	1:1:518:G:H22	1.62	0.65
1:1:229:A:N6	1:1:900:C:H1'	2.12	0.65
1:1:298:G:H2'	1:1:299:A:C8	2.31	0.65
1:1:790:C:H2'	1:1:791:C:C6	2.32	0.65
1:1:879:C:H2'	1:1:880:G:H8	1.61	0.65
1:1:1060:A:H4'	1:1:1061:U:O5'	1.96	0.65
1:1:1201:U:H6	1:1:1201:U:O5'	1.79	0.65
1:1:1556:A:H3'	1:1:1556:A:OP2	1.95	0.65
1:1:1649:U:N3	1:1:1675:A:H2	1.93	0.65
1:1:1775:C:H2'	1:1:1776:G:C8	2.30	0.65
1:1:448:A:C8	10:I:26:LYS:N	2.65	0.65
1:1:549:C:H2'	1:1:550:C:C6	2.31	0.65
1:1:639:C:H2'	1:1:640:A:C8	2.31	0.65
1:1:928:G:HO2'	1:1:929:G:H8	1.43	0.65
1:1:1034:A:C2'	1:1:1035:A:H5'	2.27	0.65
1:1:1648:G:H8	18:Q:125:ARG:HA	1.62	0.65
1:1:1840:U:H2'	1:1:1841:C:H6	1.61	0.65
7:F:35:LEU:HD12	7:F:39:ILE:HD11	1.78	0.65
18:Q:102:GLU:HB2	34:g:57:ARG:HA	1.79	0.65
25:X:112:VAL:HB	25:X:115:ILE:HD13	1.78	0.65
1:1:167:G:H5'	8:G:8:PRO:O	1.97	0.65
1:1:197:U:N3	1:1:198:U:C5	2.65	0.65
1:1:806:U:C2'	1:1:807:G:H5'	2.26	0.65
1:1:955:A:H4'	16:O:60:MET:HE3	1.77	0.65
1:1:1217:A:H2'	1:1:1218:C:C5	2.31	0.65
1:1:1303:C:H2'	1:1:1304:U:C6	2.32	0.65
1:1:1408:U:H5'	18:Q:69:ARG:HH21	1.62	0.65
1:1:1778:C:H2'	1:1:1779:G:C8	2.31	0.65
1:1:77:A:N6	8:G:155:GLN:HB3	2.12	0.65
1:1:131:C:O3'	1:1:132:U:H4'	1.96	0.65
1:1:385:G:H4'	1:1:386:C:H5''	1.79	0.65
1:1:1340:U:C5'	1:1:1341:C:H2'	2.27	0.65
1:1:1743:G:H1'	1:1:1792:G:H22	1.61	0.65
1:1:1767:C:C2'	1:1:1768:A:H5'	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:109:U:O2'	1:1:855:G:H1'	1.97	0.65
1:1:234:C:H2'	1:1:235:A:H8	1.61	0.65
1:1:551:U:H5''	32:e:39:ASN:CB	2.25	0.65
1:1:1258:A:N3	1:1:1258:A:C3'	2.55	0.65
1:1:1515:G:C8	1:1:1515:G:H5''	2.30	0.65
1:1:62:G:H5'	1:1:172:U:C4	2.32	0.65
1:1:207:G:H4'	1:1:208:G:OP1	1.97	0.65
1:1:1016:U:C6	1:1:1017:U:C5	2.85	0.65
1:1:1372:U:H5''	1:1:1386:A:N3	2.12	0.65
1:1:1446:A:N3	22:U:55:ARG:HG3	2.12	0.65
2:A:9:GLN:HB2	23:V:83:PHE:HA	1.78	0.65
1:1:526:A:N3	1:1:526:A:C2'	2.59	0.64
1:1:1603:G:H3'	1:1:1603:G:OP2	1.97	0.64
1:1:1673:U:C5'	1:1:1673:U:C6	2.80	0.64
1:1:1778:C:H2'	1:1:1779:G:H8	1.62	0.64
4:C:128:VAL:HG11	4:C:155:ILE:HG12	1.79	0.64
6:E:129:ILE:CG2	6:E:156:VAL:HG22	2.26	0.64
14:M:52:LEU:HD13	14:M:62:VAL:HG13	1.79	0.64
1:1:36:U:O2	1:1:36:U:H2'	1.97	0.64
1:1:747:U:H5''	1:1:795:A:H62	1.60	0.64
1:1:988:C:O5'	1:1:988:C:H6	1.79	0.64
1:1:1587:G:C6	21:T:74:SER:HB3	2.31	0.64
13:L:96:ILE:HD13	25:X:14:ARG:HD2	1.78	0.64
23:V:73:ALA:HB1	23:V:78:ILE:HG13	1.79	0.64
28:a:23:CYS:SG	28:a:26:CYS:N	2.69	0.64
1:1:148:U:H5''	1:1:148:U:H6	1.61	0.64
1:1:215:G:H2'	1:1:216:C:H6	1.62	0.64
1:1:821:G:H1	11:J:147:PHE:HE1	1.44	0.64
1:1:1034:A:H2'	1:1:1035:A:H5'	1.78	0.64
1:1:1326:U:H4'	1:1:1327:G:C5'	2.28	0.64
1:1:1413:G:H2'	1:1:1414:A:O4'	1.96	0.64
1:1:1642:U:O2'	1:1:1643:U:H5'	1.97	0.64
1:1:1654:G:H2'	1:1:1655:C:C5	2.33	0.64
2:A:8:LEU:O	2:A:55:TRP:HZ2	1.80	0.64
21:T:70:ALA:HB3	21:T:121:ARG:HE	1.62	0.64
1:1:331:C:H3'	1:1:332:G:C5'	2.27	0.64
1:1:383:G:H3'	1:1:384:U:C5	2.32	0.64
1:1:539:C:H2'	1:1:540:U:C6	2.33	0.64
1:1:746:C:C5'	9:H:105:THR:HA	2.27	0.64
1:1:1203:G:H2'	1:1:1699:A:C2	2.33	0.64
1:1:1340:U:H3'	1:1:1341:C:C6	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:38:LYS:HG2	12:K:40:VAL:HG23	1.78	0.64
21:T:34:VAL:CG2	21:T:99:VAL:HG12	2.27	0.64
1:1:736:C:H2'	1:1:737:G:H8	1.61	0.64
1:1:1013:U:H1'	1:1:1104:G:H1'	1.80	0.64
1:1:1493:C:H3'	1:1:1494:U:C5'	2.27	0.64
7:F:73:THR:HG22	7:F:93:VAL:HG21	1.77	0.64
28:a:38:LYS:O	28:a:40:VAL:HG23	1.97	0.64
34:g:283:PRO:N	34:g:284:PRO:HD2	2.13	0.64
1:1:103:A:H2'	1:1:105:U:OP1	1.98	0.64
1:1:342:C:H42	1:1:343:A:N6	1.96	0.64
1:1:343:A:H4'	6:E:128:LYS:NZ	2.13	0.64
1:1:562:U:H4'	11:J:132:GLN:OE1	1.98	0.64
1:1:576:A:OP2	1:1:576:A:H3'	1.98	0.64
1:1:1287:A:C3'	1:1:1312:G:H22	2.10	0.64
1:1:1337:C:H2'	1:1:1338:G:H8	1.60	0.64
1:1:1861:G:H5'	1:1:1861:G:N3	2.13	0.64
33:f:105:TYR:HA	33:f:117:LEU:HD12	1.80	0.64
1:1:525:A:C8	1:1:525:A:H3'	2.32	0.64
1:1:577:U:H4'	1:1:578:C:O5'	1.96	0.64
1:1:797:C:H2'	1:1:798:G:C5'	2.16	0.64
1:1:1332:A:H5'	1:1:1332:A:H8	1.63	0.64
1:1:1565:C:C2'	1:1:1566:G:H5'	2.27	0.64
24:W:86:LEU:HD22	24:W:113:HIS:HE1	1.63	0.64
26:Y:35:VAL:CG2	26:Y:40:ILE:HD11	2.28	0.64
34:g:109:LEU:CD2	34:g:125:ARG:HG3	2.28	0.64
1:1:209:A:H4'	1:1:210:U:OP1	1.97	0.64
1:1:520:A:C8	1:1:521:A:C8	2.86	0.64
1:1:911:C:O2'	1:1:912:C:H5'	1.97	0.64
1:1:1120:U:H2'	1:1:1121:G:H5'	1.77	0.64
1:1:1204:A:H8	1:1:1204:A:O5'	1.81	0.64
1:1:1330:G:H4'	1:1:1331:C:C4'	2.27	0.64
1:1:1500:G:H2'	1:1:1501:C:O4'	1.97	0.64
1:1:1648:G:H2'	18:Q:127:CYS:C	2.23	0.64
1:1:1700:C:H4'	1:1:1701:C:OP2	1.97	0.64
2:A:63:ARG:HG2	23:V:46:PHE:CE2	2.32	0.64
10:I:174:CYS:HB2	10:I:190:LEU:HD21	1.80	0.64
18:Q:89:SER:CB	18:Q:119:LEU:HB3	2.28	0.64
1:1:370:G:H4'	1:1:371:A:OP1	1.97	0.64
1:1:558:G:C8	1:1:558:G:P	2.84	0.64
1:1:559:G:C3'	1:1:560:A:H5''	2.25	0.64
1:1:571:U:C3'	1:1:572:U:O4'	2.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:615:C:H2'	1:1:616:A:H5'	1.80	0.64
1:1:744:G:H4'	9:H:102:PRO:CG	2.26	0.64
1:1:1292:C:O5'	1:1:1292:C:H6	1.80	0.64
1:1:1798:C:H4'	10:I:2:GLY:O	1.98	0.64
13:L:5:GLN:NE2	13:L:12:LYS:H	1.95	0.64
14:M:71:GLU:OE2	33:f:113:LYS:HA	1.98	0.64
22:U:32:LEU:CD2	22:U:85:HIS:HB2	2.28	0.64
1:1:5:U:O2'	1:1:602:G:H4'	1.98	0.64
1:1:498:C:H5'	6:E:7:LYS:HD3	1.77	0.64
1:1:670:A:H1'	1:1:1164:G:O4'	1.98	0.64
1:1:838:G:C8	26:Y:9:THR:N	2.63	0.64
1:1:1587:G:H1	21:T:70:ALA:HB1	1.63	0.64
1:1:215:G:O2'	1:1:216:C:H5'	1.98	0.63
1:1:222:U:H4'	13:L:21:LYS:HE2	1.80	0.63
1:1:464:A:H4'	1:1:465:A:OP2	1.96	0.63
1:1:519:A:H2	1:1:520:A:C2	2.16	0.63
1:1:1284:A:C5	1:1:1286:G:C5'	2.81	0.63
1:1:1399:C:H6	1:1:1399:C:H5'	1.63	0.63
1:1:1484:A:H2'	1:1:1485:U:O4'	1.98	0.63
1:1:1484:A:H4'	5:D:159:HIS:CB	2.28	0.63
1:1:1556:A:H2	1:1:1557:C:H5	1.46	0.63
1:1:1864:U:O2'	1:1:1866:A:H2	1.81	0.63
2:A:48:ILE:HG21	19:R:105:MET:SD	2.38	0.63
15:N:129:TYR:O	15:N:134:VAL:HG12	1.98	0.63
1:1:572:U:H3'	1:1:572:U:H6	1.62	0.63
1:1:587:A:H2'	1:1:592:C:H41	1.62	0.63
1:1:789:G:H2'	1:1:790:C:C6	2.33	0.63
1:1:1103:C:O5'	1:1:1103:C:H6	1.81	0.63
1:1:1130:G:N2	1:1:1131:G:C8	2.66	0.63
1:1:1443:C:H2'	1:1:1444:U:H5'	1.79	0.63
4:C:98:LEU:CD2	4:C:101:SER:HB2	2.28	0.63
1:1:455:A:H2'	1:1:456:C:C6	2.34	0.63
1:1:574:A:H3'	1:1:575:A:C8	2.34	0.63
1:1:1597:C:H5''	1:1:1598:G:OP2	1.98	0.63
1:1:1643:U:H2'	1:1:1644:C:C6	2.32	0.63
4:C:242:ASP:OD1	4:C:246:LYS:HE3	1.98	0.63
1:1:67:C:C5	8:G:162:LEU:C	2.77	0.63
1:1:185:G:H2'	1:1:186:C:C5	2.33	0.63
1:1:1214:A:C2'	1:1:1215:C:H5'	2.28	0.63
1:1:1454:A:N6	1:1:1467:C:C5	2.67	0.63
1:1:1861:G:H4'	28:a:2:THR:O	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:31:TYR:CE2	3:B:94:LYS:HA	2.33	0.63
4:C:210:PRO:HG3	4:C:236:PHE:CZ	2.34	0.63
6:E:36:HIS:CD2	6:E:85:GLY:HA3	2.33	0.63
8:G:193:ALA:O	8:G:197:GLN:HG2	1.98	0.63
9:H:4:SER:N	9:H:24:SER:HG	1.95	0.63
1:1:1375:G:H2'	1:1:1376:A:H5'	1.80	0.63
1:1:1835:A:N3	1:1:1835:A:H2'	2.14	0.63
13:L:61:PRO:HD3	13:L:141:ASN:ND2	2.13	0.63
21:T:39:LEU:HD11	21:T:43:LYS:CB	2.28	0.63
26:Y:91:LEU:HB3	26:Y:97:TYR:HB2	1.79	0.63
1:1:380:G:C6	1:1:382:C:H5''	2.33	0.63
1:1:496:C:H2'	1:1:497:C:C6	2.33	0.63
1:1:753:C:H3'	1:1:754:G:C4'	2.29	0.63
1:1:1085:C:H1'	1:1:1086:G:H3'	1.81	0.63
1:1:1284:A:C8	1:1:1286:G:C5'	2.82	0.63
1:1:1677:U:O2	1:1:1677:U:H2'	1.98	0.63
4:C:167:ARG:CA	4:C:181:PRO:HD3	2.27	0.63
8:G:188:LYS:HA	8:G:191:ARG:NH2	2.14	0.63
21:T:4:VAL:HG21	21:T:139:ALA:CB	2.27	0.63
34:g:191:HIS:CB	34:g:195:LEU:HD21	2.28	0.63
1:1:685:A:H2'	1:1:686:U:H5'	1.81	0.63
1:1:885:U:O2'	1:1:886:A:H2'	1.99	0.63
1:1:983:A:C2'	1:1:984:C:H5'	2.28	0.63
1:1:1454:A:N6	1:1:1467:C:H5	1.96	0.63
1:1:1825:A:O5'	1:1:1825:A:C8	2.52	0.63
5:D:74:GLN:O	5:D:78:GLY:HA2	1.98	0.63
10:I:68:GLY:C	13:L:21:LYS:HE3	2.23	0.63
11:J:136:ARG:HB3	11:J:158:ASP:O	1.97	0.63
21:T:112:MET:HG2	21:T:127:GLY:HA2	1.81	0.63
25:X:61:GLN:HB3	25:X:62:PRO:HD3	1.80	0.63
34:g:44:LYS:HG3	34:g:56:GLN:HG3	1.80	0.63
1:1:38:A:H4'	11:J:5:ARG:HE	1.64	0.63
1:1:60:A:H2'	1:1:60:A:N3	2.14	0.63
1:1:312:G:C4	8:G:191:ARG:HD3	2.34	0.63
1:1:313:A:H5''	8:G:191:ARG:NH1	2.13	0.63
1:1:1384:C:C2'	1:1:1385:G:H5'	2.29	0.63
1:1:1493:C:C4'	1:1:1494:U:H5'	2.28	0.63
20:S:98:VAL:HG21	20:S:103:LEU:HD13	1.81	0.63
28:a:21:ILE:HD11	28:a:32:LYS:HB3	1.80	0.63
33:f:100:LEU:HD23	33:f:100:LEU:H	1.63	0.63
1:1:69:C:H6	1:1:69:C:H5''	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:71:G:H22	1:1:80:G:H22	1.47	0.63
1:1:353:C:H5'	13:L:71:ARG:NH2	2.14	0.63
1:1:1057:C:H2'	1:1:1059:G:N7	2.14	0.63
34:g:144:ASP:HB3	34:g:177:TRP:CZ3	2.34	0.63
1:1:35:C:C3'	1:1:36:U:H6	2.12	0.62
1:1:305:U:H2'	10:I:60:LEU:HD23	1.79	0.62
1:1:902:G:H2'	1:1:903:A:H8	1.64	0.62
1:1:1135:C:H2'	1:1:1136:U:H6	1.64	0.62
1:1:1562:C:H5'	21:T:71:GLY:HA3	1.81	0.62
2:A:205:ARG:H	2:A:208:GLU:HB3	1.64	0.62
1:1:431:G:H2'	1:1:432:G:H8	1.62	0.62
1:1:591:U:O2	1:1:591:U:H2'	1.99	0.62
1:1:1260:A:H2	1:1:1620:A:H1'	1.62	0.62
1:1:1351:G:H8	1:1:1351:G:H5''	1.63	0.62
1:1:1404:U:H4'	1:1:1405:A:OP2	1.99	0.62
1:1:1734:G:O5'	1:1:1734:G:H8	1.82	0.62
11:J:39:ASN:HA	32:e:34:ARG:CZ	2.29	0.62
34:g:292:SER:HB2	34:g:297:THR:O	1.99	0.62
1:1:132:U:H5'	1:1:133:C:C5	2.34	0.62
1:1:190:G:H4'	10:I:116:HIS:O	1.99	0.62
1:1:745:C:C5'	9:H:105:THR:HG23	2.28	0.62
1:1:812:A:H2'	1:1:813:A:C8	2.33	0.62
1:1:1462:U:O2'	1:1:1463:U:H3'	1.99	0.62
1:1:1587:G:C5	21:T:74:SER:HB3	2.35	0.62
1:1:1587:G:N3	21:T:78:ILE:HB	2.15	0.62
3:B:63:LYS:HE3	3:B:91:VAL:HG23	1.81	0.62
18:Q:134:GLY:HA3	18:Q:140:ARG:HA	1.82	0.62
1:1:313:A:C2	1:1:315:C:N4	2.67	0.62
1:1:438:G:H2'	1:1:439:A:C8	2.33	0.62
1:1:682:U:H3	1:1:1023:A:H61	1.47	0.62
1:1:693:A:C3'	1:1:694:G:H4'	2.28	0.62
1:1:1162:C:H2'	1:1:1163:C:C6	2.33	0.62
1:1:1287:A:C8	33:f:99:LYS:HB3	2.34	0.62
1:1:1672:U:H2'	1:1:1673:U:H5''	1.80	0.62
3:B:171:ILE:HD13	3:B:197:ILE:HD13	1.82	0.62
8:G:48:TYR:CD2	8:G:116:LYS:HA	2.35	0.62
9:H:162:GLN:O	9:H:166:VAL:HB	2.00	0.62
1:1:172:U:H3'	1:1:173:A:C5'	2.29	0.62
1:1:582:U:H2'	1:1:583:A:O4'	2.00	0.62
1:1:657:U:H3'	1:1:657:U:H6	1.64	0.62
1:1:693:A:C4	1:1:694:G:H1'	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:920:A:C8	1:1:922:A:C8	2.87	0.62
1:1:928:G:O2'	1:1:929:G:H8	1.81	0.62
1:1:1023:A:H5'	15:N:3:ARG:HH21	1.64	0.62
1:1:1037:G:H4'	1:1:1845:A:H4'	1.82	0.62
1:1:1113:A:C2	1:1:1120:U:O4	2.53	0.62
1:1:1307:U:C2'	1:1:1308:U:C5'	2.77	0.62
1:1:39:A:OP2	11:J:3:VAL:HG13	2.00	0.62
1:1:76:U:H3'	1:1:77:A:C5'	2.27	0.62
1:1:310:C:H2'	1:1:340:C:C5'	2.30	0.62
1:1:412:G:N7	1:1:413:G:H1'	2.14	0.62
1:1:1307:U:H2'	1:1:1308:U:C5'	2.29	0.62
1:1:1389:C:O2'	1:1:1390:U:H6	1.83	0.62
1:1:1402:A:C2'	1:1:1403:C:C5	2.82	0.62
1:1:1714:U:H3'	1:1:1715:A:C8	2.34	0.62
3:B:134:LEU:HD12	3:B:219:LYS:HB2	1.82	0.62
3:B:205:TYR:CG	3:B:206:PRO:HD2	2.34	0.62
10:I:120:PRO:HG2	10:I:126:GLY:O	2.00	0.62
1:1:71:G:N2	1:1:72:C:H1'	2.15	0.62
1:1:367:U:H5'	1:1:367:U:H6	1.64	0.62
1:1:547:G:H4'	1:1:548:C:OP2	2.00	0.62
1:1:886:A:H1'	1:1:887:U:H5'	1.80	0.62
1:1:1016:U:H1'	1:1:1017:U:O5'	1.99	0.62
1:1:1679:A:H3'	30:c:20:ARG:HH12	1.64	0.62
1:1:192:C:H2'	1:1:193:C:H5'	1.82	0.62
1:1:567:C:H2'	1:1:568:C:H5''	1.82	0.62
1:1:1225:U:C2'	1:1:1226:G:H5'	2.29	0.62
1:1:1291:A:H8	1:1:1291:A:O5'	1.81	0.62
1:1:1402:A:OP2	22:U:51:LYS:HB3	1.99	0.62
1:1:1566:G:O6	21:T:97:LYS:HB2	2.00	0.62
1:1:1648:G:H8	18:Q:125:ARG:CA	2.12	0.62
2:A:4:ALA:HB1	23:V:82:ASN:HB3	1.82	0.62
1:1:77:A:H1'	1:1:78:C:OP1	1.99	0.62
1:1:565:G:H2'	1:1:565:G:N3	2.14	0.62
1:1:571:U:H2'	1:1:572:U:O4'	1.99	0.62
1:1:746:C:C6	1:1:749:U:H4'	2.35	0.62
1:1:1093:A:H5'	24:W:3:ARG:NE	2.13	0.62
1:1:1101:U:H2'	1:1:1102:G:N7	2.15	0.62
1:1:1397:U:H6	1:1:1397:U:H3'	1.65	0.62
1:1:1414:A:H2'	1:1:1415:C:H1'	1.79	0.62
1:1:1767:C:O2'	1:1:1768:A:H5'	1.98	0.62
1:1:1865:C:C6	28:a:92:ARG:HB3	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:5:ILE:HG13	20:S:6:PRO:HD2	1.81	0.62
1:1:350:C:H42	1:1:351:G:N2	1.98	0.62
1:1:649:U:H2'	1:1:650:A:C8	2.34	0.62
1:1:1404:U:H2'	1:1:1406:G:N7	2.14	0.62
9:H:87:PHE:CD1	9:H:90:LYS:HE2	2.35	0.62
9:H:148:LEU:HA	24:W:42:MET:HG2	1.82	0.62
11:J:107:GLU:HA	11:J:112:THR:HG21	1.80	0.62
11:J:117:LEU:HB3	11:J:119:LEU:HD13	1.82	0.62
24:W:10:ALA:O	24:W:14:ILE:HG12	1.99	0.62
1:1:168:C:H4'	8:G:131:ARG:CD	2.26	0.61
1:1:351:G:H3'	1:1:351:G:H8	1.62	0.61
1:1:681:U:H4'	25:X:9:THR:HB	1.81	0.61
1:1:869:A:N3	1:1:915:G:H1'	2.14	0.61
1:1:1148:A:N3	1:1:1148:A:H5'	2.15	0.61
1:1:1287:A:H4'	1:1:1312:G:C2	2.35	0.61
1:1:1414:A:C2'	1:1:1415:C:O4'	2.46	0.61
1:1:1673:U:H6	1:1:1673:U:H5''	1.64	0.61
13:L:47:PRO:HD2	13:L:62:PHE:CE1	2.34	0.61
20:S:6:PRO:HD3	27:Z:52:LYS:CE	2.30	0.61
25:X:132:ALA:O	25:X:138:LYS:HB2	1.99	0.61
28:a:44:ILE:HG13	28:a:45:VAL:HG23	1.81	0.61
28:a:87:ARG:HG2	28:a:91:ALA:HB3	1.81	0.61
1:1:145:G:H2'	1:1:145:G:N3	2.14	0.61
1:1:320:G:C8	1:1:320:G:OP1	2.53	0.61
1:1:1023:A:H5'	15:N:3:ARG:NH2	2.15	0.61
1:1:1214:A:N1	1:1:1217:A:C4	2.68	0.61
1:1:1387:G:H2'	1:1:1388:A:O4'	2.00	0.61
1:1:1463:U:H2'	1:1:1464:C:C6	2.35	0.61
2:A:180:ARG:HG2	2:A:184:ARG:NH1	2.13	0.61
4:C:167:ARG:HA	4:C:181:PRO:CD	2.30	0.61
13:L:20:LYS:HE3	13:L:21:LYS:HZ2	1.65	0.61
1:1:60:A:H4'	1:1:61:A:O5'	1.99	0.61
1:1:367:U:H5'	1:1:367:U:C6	2.35	0.61
1:1:569:A:C5	1:1:570:C:C5	2.88	0.61
1:1:659:G:H2'	1:1:659:G:N3	2.14	0.61
1:1:684:G:C5	1:1:920:A:C8	2.88	0.61
1:1:795:A:H2'	1:1:796:G:C8	2.33	0.61
1:1:1445:U:C2'	1:1:1446:A:H5'	2.29	0.61
1:1:1576:G:O2'	1:1:1577:G:H5'	2.01	0.61
1:1:1808:U:H2'	1:1:1809:A:C8	2.35	0.61
2:A:6:ASP:CB	23:V:42:VAL:HG22	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:48:TYR:CE1	18:Q:50:LYS:HG3	2.36	0.61
11:J:169:ARG:N	11:J:170:PRO:HD3	2.15	0.61
24:W:77:PRO:HG2	24:W:79:PHE:CE1	2.35	0.61
34:g:109:LEU:HD21	34:g:125:ARG:HG3	1.82	0.61
1:1:54:A:H3'	1:1:55:U:C5'	2.30	0.61
1:1:360:A:OP1	1:1:360:A:H2'	2.00	0.61
1:1:526:A:C2'	11:J:128:VAL:HG22	2.29	0.61
1:1:1529:C:H2'	1:1:1530:U:H5'	1.81	0.61
1:1:1540:G:H5'	1:1:1540:G:H8	1.65	0.61
1:1:1567:G:H8	1:1:1567:G:OP1	1.83	0.61
1:1:1771:G:H2'	1:1:1772:C:H6	1.66	0.61
6:E:173:ILE:HD13	6:E:230:ASN:HB2	1.82	0.61
24:W:14:ILE:HD13	24:W:25:VAL:HG11	1.82	0.61
1:1:213:G:H2'	1:1:214:U:H6	1.66	0.61
1:1:321:C:H2'	1:1:322:C:H6	1.63	0.61
1:1:332:G:C8	8:G:186:GLN:HB2	2.36	0.61
1:1:602:G:H3'	1:1:603:C:H5''	1.80	0.61
1:1:1254:C:OP1	1:1:1254:C:H4'	2.00	0.61
1:1:1378:A:C2	2:A:105:PRO:HB3	2.36	0.61
1:1:1398:G:H2'	1:1:1398:G:N3	2.14	0.61
1:1:1604:G:H2'	1:1:1605:G:H5'	1.81	0.61
2:A:205:ARG:HG3	2:A:207:PRO:HD2	1.81	0.61
8:G:2:LYS:HE3	8:G:15:LEU:HD11	1.81	0.61
9:H:132:ASP:O	9:H:135:PHE:HB2	2.00	0.61
1:1:10:G:N7	1:1:1697:A:C2	2.69	0.61
1:1:606:G:H8	32:e:54:GLY:HA2	1.65	0.61
1:1:751:G:C4	1:1:752:G:C8	2.88	0.61
1:1:753:C:N4	1:1:754:G:C2	2.69	0.61
1:1:1036:A:C2	1:1:1844:U:H4'	2.36	0.61
1:1:1147:C:H3'	1:1:1147:C:C6	2.36	0.61
1:1:1348:G:H2'	1:1:1349:G:C8	2.36	0.61
1:1:1375:G:C2'	1:1:1376:A:H5'	2.30	0.61
1:1:1389:C:O2'	1:1:1390:U:C6	2.52	0.61
1:1:747:U:C1'	1:1:748:C:H2'	2.30	0.61
1:1:806:U:O5'	1:1:806:U:H6	1.84	0.61
1:1:884:C:H2'	1:1:885:U:H6	1.66	0.61
1:1:987:A:H3'	1:1:988:C:C6	2.36	0.61
1:1:1442:U:H3'	1:1:1443:C:H5''	1.82	0.61
1:1:1620:A:H2'	1:1:1624:U:C4	2.35	0.61
10:I:165:GLN:HE21	10:I:172:LEU:HD23	1.65	0.61
1:1:25:A:H2'	1:1:26:U:C6	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:925:G:H1	1:1:1017:U:H3	1.48	0.61
1:1:1405:A:H2	1:1:1442:U:H6	1.41	0.61
1:1:1443:C:C2'	1:1:1444:U:H5'	2.31	0.61
1:1:1700:C:H4'	1:1:1701:C:C5'	2.29	0.61
1:1:1741:U:O4	1:1:1793:A:C2	2.54	0.61
6:E:148:ARG:H	6:E:148:ARG:HD3	1.65	0.61
7:F:30:ILE:CD1	7:F:39:ILE:HD12	2.30	0.61
33:f:126:CYS:O	33:f:130:VAL:HB	2.01	0.61
1:1:572:U:P	26:Y:59:GLY:N	2.74	0.61
1:1:796:G:N2	1:1:797:C:H5	1.96	0.61
1:1:990:A:H5'	28:a:33:ASP:HA	1.82	0.61
1:1:1092:G:H2'	1:1:1093:A:C8	2.36	0.61
1:1:1255:G:C5'	1:1:1256:G:H8	2.11	0.61
1:1:1298:G:H4'	17:P:78:THR:CA	2.28	0.61
1:1:1549:U:C2'	1:1:1550:G:H5'	2.30	0.61
1:1:1800:A:H3'	1:1:1801:A:H8	1.66	0.61
1:1:1820:G:H2'	1:1:1821:U:C6	2.36	0.61
1:1:1863:A:H2'	1:1:1863:A:N3	2.15	0.61
2:A:81:ASN:OD1	2:A:205:ARG:HD2	1.99	0.61
6:E:87:MET:HE2	6:E:123:LEU:HB2	1.83	0.61
8:G:164:LYS:HG2	8:G:166:GLY:H	1.66	0.61
22:U:79:ARG:O	31:d:54:LYS:HA	2.01	0.61
1:1:124:U:C6	1:1:124:U:C3'	2.84	0.61
1:1:175:A:C2	1:1:176:U:C1'	2.83	0.61
1:1:398:A:C4'	1:1:399:C:H3'	2.29	0.61
1:1:532:C:H2'	1:1:533:A:O4'	2.01	0.61
1:1:694:G:C2'	1:1:695:C:C6	2.83	0.61
1:1:746:C:P	1:1:746:C:H2'	2.41	0.61
1:1:1335:G:C2'	1:1:1336:C:H5'	2.31	0.61
1:1:1416:C:C4	1:1:1431:G:N2	2.68	0.61
2:A:40:LYS:NZ	19:R:101:ASP:HA	2.16	0.61
18:Q:24:HIS:O	18:Q:68:ILE:HA	2.01	0.61
19:R:51:ALA:HA	19:R:54:VAL:HG12	1.83	0.61
31:d:24:CYS:HB3	31:d:42:CYS:SG	2.41	0.61
1:1:867:G:P	1:1:867:G:H8	2.24	0.60
1:1:1202:U:C3'	1:1:1203:G:H5''	2.31	0.60
1:1:1214:A:C2	1:1:1217:A:C8	2.89	0.60
1:1:1253:A:N3	1:1:1253:A:H5''	2.15	0.60
1:1:1493:C:H5''	1:1:1493:C:H6	1.65	0.60
1:1:1529:C:C2'	1:1:1530:U:H5'	2.31	0.60
1:1:1577:G:H1'	1:1:1582:C:O2	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1859:A:H2'	1:1:1860:A:O4'	2.01	0.60
21:T:41:LYS:CG	21:T:95:GLY:HA2	2.31	0.60
1:1:24:C:H42	1:1:650:A:H61	1.49	0.60
1:1:593:C:H1'	1:1:594:A:O5'	2.01	0.60
1:1:863:U:O5'	1:1:863:U:H6	1.84	0.60
1:1:913:A:H61	9:H:119:SER:C	2.08	0.60
1:1:1124:C:O5'	1:1:1124:C:H6	1.84	0.60
1:1:1277:C:H3'	1:1:1278:A:H8	1.66	0.60
1:1:1415:C:H42	1:1:1431:G:H1	1.49	0.60
1:1:1420:G:H8	1:1:1420:G:OP2	1.84	0.60
1:1:1678:A:H2'	1:1:1679:A:H5'	1.82	0.60
7:F:111:VAL:HG12	7:F:177:LEU:CD2	2.32	0.60
10:I:131:PRO:HG2	10:I:138:ASN:OD1	2.00	0.60
12:K:27:VAL:O	12:K:28:HIS:HB3	2.01	0.60
21:T:27:LYS:HD3	21:T:110:LEU:HD11	1.82	0.60
1:1:131:C:H4'	1:1:132:U:O5'	2.01	0.60
1:1:237:C:H1'	1:1:238:C:H5'	1.83	0.60
1:1:435:A:N3	1:1:450:C:H5	1.98	0.60
1:1:862:A:H2'	1:1:863:U:C6	2.36	0.60
1:1:879:C:H2'	1:1:880:G:C8	2.35	0.60
1:1:1065:G:C2	1:1:1066:U:H1'	2.36	0.60
1:1:1351:G:H5''	1:1:1351:G:C8	2.36	0.60
1:1:1393:G:H5''	1:1:1394:G:OP2	2.02	0.60
1:1:1540:G:H2'	1:1:1541:G:O4'	2.00	0.60
1:1:1561:A:O4'	1:1:1583:C:H4'	2.00	0.60
1:1:1832:A:C3'	1:1:1833:C:H5''	2.29	0.60
1:1:1849:G:C2'	1:1:1850:A:H5'	2.31	0.60
22:U:21:ARG:HE	22:U:88:LEU:HB3	1.65	0.60
22:U:63:ILE:HD12	31:d:52:PHE:HE2	1.65	0.60
24:W:11:LEU:HD11	24:W:37:PHE:CE2	2.36	0.60
1:1:15:U:H2'	1:1:16:G:H5'	1.83	0.60
1:1:741:C:C4	1:1:744:G:N1	2.70	0.60
1:1:869:A:C2	1:1:915:G:C1'	2.84	0.60
1:1:1515:G:H5''	1:1:1515:G:H8	1.65	0.60
1:1:1654:G:C3'	1:1:1655:C:H5	2.14	0.60
2:A:58:LEU:HD21	2:A:177:MET:HG2	1.83	0.60
3:B:114:VAL:HG22	3:B:120:MET:SD	2.42	0.60
5:D:94:ARG:HG2	5:D:101:GLN:NE2	2.16	0.60
10:I:194:GLU:OE1	13:L:20:LYS:HD3	2.01	0.60
18:Q:36:GLY:O	21:T:7:LYS:HG2	2.01	0.60
1:1:96:C:O4'	1:1:474:G:H4'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:605:A:H3'	1:1:607:U:OP2	2.02	0.60
7:F:75:SER:O	7:F:78:MET:HE3	2.01	0.60
7:F:102:LEU:HB3	27:Z:67:LEU:HD22	1.84	0.60
22:U:49:LYS:HB3	22:U:92:HIS:HB3	1.83	0.60
22:U:80:PHE:HA	31:d:53:ILE:O	2.01	0.60
1:1:43:U:H3'	1:1:44:U:C5'	2.30	0.60
1:1:181:A:H3'	1:1:182:C:C5'	2.19	0.60
1:1:342:C:H42	1:1:343:A:H62	1.48	0.60
1:1:525:A:H3'	1:1:525:A:H8	1.65	0.60
1:1:562:U:H2'	1:1:563:G:C8	2.36	0.60
1:1:587:A:H8	1:1:587:A:OP2	1.85	0.60
1:1:655:A:C8	1:1:657:U:H5	2.20	0.60
1:1:688:U:H5''	9:H:103:LYS:HD2	1.84	0.60
1:1:1309:C:H1'	33:f:133:ALA:HB1	1.82	0.60
1:1:1663:A:H2	1:1:1664:A:N6	1.99	0.60
1:1:1714:U:H3'	1:1:1715:A:H8	1.66	0.60
6:E:173:ILE:HG21	6:E:230:ASN:HB2	1.83	0.60
11:J:117:LEU:CB	11:J:119:LEU:HD13	2.31	0.60
14:M:61:TYR:HE1	14:M:107:SER:CB	2.13	0.60
24:W:50:PHE:HB2	24:W:62:VAL:O	2.01	0.60
26:Y:84:LYS:HE2	26:Y:85:ASN:OD1	2.01	0.60
27:Z:94:LYS:O	27:Z:96:LEU:N	2.33	0.60
1:1:69:C:H5''	1:1:69:C:C6	2.36	0.60
1:1:184:G:H3'	1:1:185:G:C4'	2.30	0.60
1:1:193:C:H1'	1:1:208:G:C2	2.37	0.60
1:1:577:U:H4'	1:1:578:C:C4'	2.32	0.60
1:1:683:G:C2	1:1:1023:A:C5	2.89	0.60
1:1:1320:G:C2	1:1:1321:G:H1'	2.36	0.60
1:1:1489:A:H5'	1:1:1490:G:H5'	1.84	0.60
1:1:1494:U:H1'	1:1:1495:G:OP2	2.01	0.60
1:1:1522:A:C2	17:P:128:HIS:CB	2.85	0.60
1:1:1614:A:H2'	1:1:1615:U:H6	1.66	0.60
2:A:62:ALA:O	2:A:66:VAL:HG23	2.01	0.60
3:B:112:SER:HB2	28:a:68:TYR:CD2	2.37	0.60
5:D:190:LEU:HB3	5:D:200:PRO:HD3	1.83	0.60
7:F:32:ASP:HB2	7:F:117:ILE:CG2	2.32	0.60
11:J:138:ARG:HG2	11:J:139:LYS:H	1.67	0.60
16:O:118:ALA:O	16:O:121:ARG:HG2	2.02	0.60
34:g:219:TRP:CZ3	34:g:226:HIS:HB2	2.37	0.60
1:1:102:A:H4'	1:1:103:A:O5'	2.02	0.60
1:1:300:U:H2'	1:1:301:A:H8	1.63	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:746:C:H3'	1:1:746:C:OP2	2.01	0.60
1:1:1021:U:H5''	15:N:128:TYR:HE1	1.63	0.60
1:1:1121:G:H2'	1:1:1122:A:C8	2.37	0.60
1:1:1223:A:C2	1:1:1224:G:H1'	2.37	0.60
1:1:1251:A:H2'	1:1:1252:C:H5'	1.83	0.60
1:1:1699:A:C8	1:1:1699:A:O5'	2.52	0.60
29:b:37:CYS:SG	29:b:41:TYR:N	2.75	0.60
1:1:439:A:H4'	1:1:1799:G:H4'	1.84	0.60
1:1:1208:A:H61	1:1:1691:U:H3	1.49	0.60
1:1:1322:G:H8	1:1:1322:G:O5'	1.85	0.60
1:1:1331:C:O2	1:1:1331:C:H2'	2.00	0.60
1:1:1418:C:H5''	21:T:129:ARG:HB3	1.83	0.60
1:1:1513:C:O5'	1:1:1513:C:H6	1.84	0.60
1:1:1587:G:O2'	21:T:77:LYS:HB3	2.01	0.60
1:1:1655:C:H2'	1:1:1656:G:C8	2.37	0.60
10:I:130:THR:OG1	10:I:131:PRO:HD2	2.02	0.60
20:S:70:ILE:HD13	20:S:77:TYR:CD1	2.37	0.60
28:a:22:ARG:NH1	28:a:29:CYS:HB3	2.16	0.60
1:1:195:C:H2'	1:1:196:C:H6	1.67	0.60
1:1:479:C:C2'	1:1:480:G:H5'	2.32	0.60
1:1:483:C:H5''	25:X:48:LYS:HG3	1.84	0.60
1:1:571:U:C1'	26:Y:60:PHE:H	2.15	0.60
1:1:600:G:H5''	1:1:601:G:OP2	2.02	0.60
1:1:743:U:H5'	1:1:744:G:N7	2.16	0.60
1:1:1038:U:H1'	1:1:1181:A:C2	2.37	0.60
1:1:1196:A:H2'	1:1:1197:G:O4'	2.02	0.60
1:1:1325:G:C2'	1:1:1326:U:H5''	2.32	0.60
1:1:1348:G:H2'	1:1:1349:G:H8	1.67	0.60
1:1:1445:U:H4'	22:U:57:PRO:HB3	1.82	0.60
1:1:1561:A:H4'	1:1:1583:C:H4'	1.83	0.60
1:1:1755:C:H2'	1:1:1756:C:H6	1.67	0.60
11:J:53:ILE:HG23	11:J:97:ILE:HD11	1.83	0.60
14:M:35:ILE:HD11	14:M:61:TYR:CZ	2.36	0.60
28:a:30:VAL:HG11	28:a:35:ALA:HB2	1.84	0.60
30:c:12:ALA:HB1	30:c:32:VAL:HG13	1.83	0.60
1:1:77:A:N7	8:G:155:GLN:HA	2.15	0.59
1:1:130:G:H5'	8:G:195:LYS:NZ	2.17	0.59
1:1:158:A:H2'	1:1:159:A:O4'	2.02	0.59
1:1:1331:C:H6	1:1:1489:A:H62	1.49	0.59
1:1:1348:G:H8	1:1:1348:G:P	2.25	0.59
1:1:1636:G:H1'	7:F:164:ARG:HH22	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1782:G:N3	1:1:1783:C:N4	2.49	0.59
8:G:8:PRO:CG	8:G:112:VAL:HG13	2.32	0.59
19:R:105:MET:HG2	19:R:106:LEU:N	2.17	0.59
1:1:16:G:H2'	1:1:17:C:C6	2.37	0.59
1:1:211:G:H8	1:1:211:G:C5'	2.06	0.59
1:1:450:C:H2'	1:1:451:G:H4'	1.84	0.59
1:1:486:A:O5'	1:1:486:A:H8	1.85	0.59
1:1:671:A:C8	1:1:671:A:H5''	2.36	0.59
1:1:797:C:H4'	9:H:109:ARG:HB3	1.83	0.59
1:1:897:U:O2'	1:1:898:U:H5''	2.03	0.59
1:1:1206:G:C2	1:1:1208:A:C8	2.90	0.59
1:1:1416:C:N4	1:1:1417:C:C2	2.70	0.59
1:1:1534:C:H1'	1:1:1535:U:OP2	2.01	0.59
1:1:1549:U:H2'	1:1:1550:G:H8	1.67	0.59
1:1:1616:U:O2	1:1:1616:U:H2'	2.02	0.59
1:1:1683:C:O5'	1:1:1683:C:H6	1.85	0.59
1:1:1687:C:H3'	1:1:1688:C:H6	1.65	0.59
10:I:55:TYR:N	10:I:55:TYR:CD1	2.70	0.59
21:T:39:LEU:CD1	21:T:43:LYS:HB2	2.30	0.59
25:X:105:PHE:CZ	25:X:121:LYS:HD2	2.37	0.59
28:a:38:LYS:C	28:a:71:LEU:HB2	2.27	0.59
34:g:24:THR:HB	34:g:71:ILE:CG2	2.32	0.59
1:1:66:G:C8	8:G:160:LYS:HD2	2.36	0.59
1:1:101:U:O5'	1:1:101:U:H6	1.85	0.59
1:1:130:G:P	1:1:130:G:H8	2.25	0.59
1:1:144:U:C5	8:G:180:VAL:HG22	2.37	0.59
1:1:311:C:OP1	1:1:311:C:H2'	2.02	0.59
1:1:315:C:H6	1:1:315:C:H5''	1.66	0.59
1:1:380:G:C2	1:1:382:C:C6	2.89	0.59
1:1:407:G:C5	25:X:36:LEU:HD13	2.36	0.59
1:1:508:A:N3	1:1:508:A:H2'	2.17	0.59
1:1:945:U:H3'	1:1:946:U:C6	2.37	0.59
1:1:1016:U:C1'	1:1:1017:U:H5''	2.32	0.59
1:1:1021:U:H2'	1:1:1021:U:OP2	2.03	0.59
1:1:1466:G:C6	1:1:1467:C:C4	2.90	0.59
1:1:1617:G:H2'	1:1:1619:A:OP2	2.03	0.59
1:1:1658:G:H2'	1:1:1659:U:H5'	1.84	0.59
20:S:25:LYS:HE2	20:S:27:ALA:HB3	1.82	0.59
27:Z:62:VAL:N	27:Z:63:PRO:CD	2.64	0.59
1:1:18:C:H5'	1:1:1194:A:N6	2.17	0.59
1:1:43:U:H3'	1:1:44:U:H5'	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:316:G:H2'	1:1:317:C:C6	2.37	0.59
1:1:374:G:H2'	1:1:375:U:H6	1.67	0.59
1:1:606:G:N7	32:e:54:GLY:HA3	2.17	0.59
1:1:957:A:C4'	1:1:973:C:H1'	2.32	0.59
1:1:1230:C:H2'	1:1:1231:C:H5'	1.83	0.59
1:1:1389:C:HO2'	1:1:1390:U:H6	1.41	0.59
1:1:1601:A:O2'	1:1:1602:U:H5''	2.02	0.59
1:1:1848:U:H4'	1:1:1849:G:OP1	2.02	0.59
2:A:12:GLU:HA	2:A:15:VAL:HG22	1.84	0.59
2:A:180:ARG:HG2	2:A:184:ARG:HH12	1.65	0.59
8:G:2:LYS:CE	8:G:15:LEU:HD11	2.32	0.59
20:S:86:ARG:NH2	20:S:107:LEU:HD21	2.17	0.59
22:U:56:MET:HG3	22:U:57:PRO:HD2	1.84	0.59
1:1:858:A:C2	1:1:859:G:C5	2.90	0.59
1:1:999:G:OP1	1:1:1034:A:H1'	2.02	0.59
1:1:1014:G:H2'	1:1:1015:U:C6	2.37	0.59
1:1:1049:A:H2'	1:1:1050:A:C5'	2.33	0.59
1:1:1401:A:H1'	1:1:1402:A:P	2.43	0.59
1:1:1473:G:H8	1:1:1475:G:OP2	1.85	0.59
1:1:1751:C:C2'	1:1:1752:C:H5'	2.32	0.59
10:I:104:ILE:HB	10:I:171:LEU:HB3	1.83	0.59
34:g:82:SER:HB3	34:g:84:ASP:OD1	2.02	0.59
1:1:1461:G:N2	1:1:1466:G:C4	2.70	0.59
1:1:1684:C:C3'	1:1:1685:U:H5'	2.32	0.59
1:1:1834:A:C2	1:1:1837:G:N2	2.70	0.59
2:A:110:ASN:C	2:A:110:ASN:HD22	2.11	0.59
2:A:163:CYS:SG	2:A:174:MET:HE1	2.43	0.59
3:B:103:MET:CB	3:B:215:VAL:HG12	2.31	0.59
12:K:32:HIS:H	12:K:33:PRO:CD	2.13	0.59
22:U:51:LYS:HB2	22:U:90:ASP:HB2	1.85	0.59
28:a:21:ILE:HD11	28:a:32:LYS:CB	2.33	0.59
31:d:26:ASN:O	31:d:39:CYS:SG	2.60	0.59
33:f:118:ARG:HD2	33:f:134:SER:OG	2.03	0.59
1:1:46:A:O5'	1:1:47:G:H5''	2.03	0.59
1:1:514:U:H3'	1:1:515:G:C8	2.38	0.59
1:1:667:U:H5''	1:1:1087:A:C2	2.38	0.59
1:1:684:G:H2'	1:1:685:A:C8	2.38	0.59
1:1:959:G:N1	16:O:65:ASP:HB3	2.17	0.59
1:1:1411:G:H2'	1:1:1411:G:N3	2.17	0.59
1:1:1784:G:H2'	1:1:1785:C:H6	1.67	0.59
15:N:42:LYS:HE3	15:N:80:LEU:CD2	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:28:MET:O	17:P:29:SER:HB3	2.00	0.59
1:1:96:C:H1'	1:1:474:G:C5'	2.33	0.59
1:1:184:G:H3'	1:1:185:G:C5'	2.33	0.59
1:1:184:G:H3'	1:1:185:G:H5''	1.85	0.59
1:1:1157:G:H1'	24:W:76:SER:HB2	1.85	0.59
1:1:1310:U:C4'	33:f:142:GLY:HA3	2.31	0.59
1:1:1398:G:C6	34:g:61:GLY:HA2	2.38	0.59
1:1:1488:C:O2'	1:1:1489:A:H4'	2.03	0.59
11:J:141:VAL:HG13	11:J:162:ARG:NH2	2.18	0.59
1:1:158:A:O4'	1:1:464:A:C8	2.56	0.59
1:1:223:C:H2'	1:1:224:A:H8	1.66	0.59
1:1:468:A:H2'	1:1:469:A:O4'	2.02	0.59
1:1:602:G:H8	1:1:602:G:O5'	1.86	0.59
1:1:965:U:O5'	1:1:965:U:H6	1.85	0.59
1:1:1127:C:O2'	1:1:1128:C:H5'	2.02	0.59
1:1:1534:C:H2'	1:1:1599:U:O4	2.03	0.59
1:1:1551:U:O2	1:1:1551:U:H3'	2.03	0.59
3:B:127:VAL:HG22	3:B:128:LYS:H	1.68	0.59
18:Q:50:LYS:HG2	18:Q:85:ARG:HD2	1.85	0.59
20:S:24:ARG:O	20:S:55:ARG:HD3	2.02	0.59
25:X:41:PHE:HE1	25:X:120:PHE:CE1	2.21	0.59
34:g:24:THR:HB	34:g:71:ILE:HG21	1.85	0.59
1:1:76:U:H2'	1:1:77:A:C3'	2.25	0.59
1:1:133:C:C5	1:1:134:C:H1'	2.38	0.59
1:1:167:G:H5''	1:1:168:C:OP2	2.03	0.59
1:1:382:C:H2'	1:1:383:G:N2	2.18	0.59
1:1:428:U:H2'	1:1:429:C:C6	2.36	0.59
1:1:522:A:H8	1:1:522:A:O5'	1.85	0.59
1:1:1344:A:N3	1:1:1345:G:H1'	2.18	0.59
1:1:1405:A:C3'	1:1:1405:A:C8	2.86	0.59
5:D:68:GLU:O	5:D:72:VAL:HG23	2.02	0.59
34:g:59:LEU:HD22	34:g:90:TRP:CE3	2.37	0.59
34:g:283:PRO:C	34:g:285:GLN:H	2.10	0.59
1:1:170:A:H3'	1:1:171:A:C8	2.38	0.58
1:1:747:U:C2	1:1:748:C:C2'	2.86	0.58
1:1:940:U:O2	1:1:940:U:H2'	2.02	0.58
1:1:991:G:H2'	1:1:991:G:N3	2.16	0.58
1:1:1276:A:H4'	1:1:1277:C:H5''	1.85	0.58
1:1:1380:C:H2'	1:1:1381:G:C1'	2.33	0.58
1:1:1439:A:P	1:1:1439:A:H8	2.25	0.58
1:1:1513:C:H5''	31:d:10:HIS:CD2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1520:G:C4	1:1:1520:G:H5''	2.38	0.58
1:1:1649:U:H3'	1:1:1649:U:H6	1.68	0.58
4:C:82:TYR:CE1	4:C:164:PRO:HD3	2.38	0.58
5:D:191:PRO:O	5:D:200:PRO:HD2	2.03	0.58
18:Q:134:GLY:HA3	18:Q:139:ALA:O	2.02	0.58
28:a:88:SER:O	28:a:92:ARG:HG3	2.03	0.58
1:1:39:A:H8	1:1:39:A:O5'	1.85	0.58
1:1:111:A:N6	1:1:351:G:N3	2.51	0.58
1:1:184:G:C8	1:1:185:G:C4'	2.78	0.58
1:1:312:G:H22	8:G:195:LYS:CB	2.15	0.58
1:1:900:C:C2'	1:1:901:G:C8	2.78	0.58
1:1:1542:C:C6	1:1:1542:C:C5'	2.85	0.58
1:1:1598:G:H4'	1:1:1600:G:O6	2.02	0.58
7:F:60:ARG:HH21	30:c:49:PRO:HA	1.69	0.58
11:J:36:GLY:HA2	11:J:124:HIS:CE1	2.39	0.58
19:R:17:ILE:HG21	19:R:61:ILE:HD11	1.85	0.58
22:U:49:LYS:HB3	22:U:92:HIS:CB	2.33	0.58
34:g:133:ASN:HB2	34:g:138:CYS:HB2	1.86	0.58
1:1:20:G:H2'	1:1:21:U:H5'	1.85	0.58
1:1:84:A:O3'	26:Y:119:GLY:HA3	2.03	0.58
1:1:169:U:H6	1:1:169:U:H5''	1.67	0.58
1:1:535:G:O2'	1:1:536:A:H8	1.86	0.58
1:1:1089:G:H2'	1:1:1090:C:C6	2.38	0.58
1:1:1102:G:H1	1:1:1130:G:H22	1.50	0.58
1:1:1160:U:C2'	1:1:1161:U:H5'	2.33	0.58
1:1:1242:U:O2'	1:1:1518:C:H4'	2.03	0.58
3:B:47:THR:HB	3:B:65:ARG:NH1	2.18	0.58
9:H:102:PRO:HB2	9:H:105:THR:OG1	2.03	0.58
21:T:25:SER:HB3	21:T:27:LYS:HG3	1.84	0.58
28:a:5:ARG:HG3	28:a:8:ASN:HA	1.84	0.58
1:1:340:C:O5'	1:1:340:C:H6	1.87	0.58
1:1:360:A:H4'	1:1:361:U:O5'	2.04	0.58
1:1:577:U:H4'	1:1:578:C:O4'	2.03	0.58
1:1:750:C:H2'	1:1:751:G:C8	2.37	0.58
1:1:981:A:H8	1:1:981:A:O5'	1.85	0.58
1:1:1141:G:O4'	1:1:1151:G:H4'	2.02	0.58
1:1:1301:A:H3'	1:1:1301:A:N3	2.17	0.58
1:1:1334:G:H2'	1:1:1335:G:O4'	2.04	0.58
1:1:1506:A:H5'	1:1:1508:A:N7	2.18	0.58
1:1:1701:C:OP2	1:1:1701:C:H4'	2.02	0.58
2:A:111:GLN:OE1	4:C:89:LYS:HG2	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:31:TYR:OH	3:B:91:VAL:HG13	2.03	0.58
27:Z:62:VAL:N	27:Z:63:PRO:HD2	2.18	0.58
29:b:82:LYS:O	29:b:83:GLN:HG3	2.04	0.58
1:1:130:G:N7	1:1:131:C:C2	2.72	0.58
1:1:167:G:H3'	1:1:168:C:H5''	1.86	0.58
1:1:215:G:OP2	1:1:216:C:H5	1.86	0.58
1:1:216:C:H5''	6:E:134:LYS:CE	2.33	0.58
1:1:573:U:O2	1:1:573:U:H3'	2.03	0.58
1:1:672:A:H2	1:1:1162:C:O2'	1.85	0.58
1:1:1002:U:C2'	1:1:1003:U:H5'	2.34	0.58
1:1:1311:C:H5''	14:M:40:LYS:HZ1	1.69	0.58
1:1:1325:G:H2'	1:1:1326:U:H5''	1.86	0.58
1:1:1405:A:N3	1:1:1442:U:C6	2.71	0.58
1:1:1497:G:H4'	1:1:1498:A:OP2	2.03	0.58
1:1:1604:G:H2'	1:1:1605:G:O4'	2.03	0.58
1:1:1607:A:C2'	1:1:1608:U:H5'	2.33	0.58
1:1:1653:U:H2'	1:1:1654:G:C8	2.39	0.58
1:1:1698:C:H3'	1:1:1699:A:H5'	1.84	0.58
6:E:125:LYS:HB2	6:E:226:PHE:CE1	2.39	0.58
17:P:75:VAL:HG21	17:P:104:GLN:HG2	1.86	0.58
21:T:77:LYS:NZ	21:T:94:ARG:HE	2.01	0.58
24:W:102:ILE:HB	24:W:113:HIS:HB2	1.83	0.58
1:1:10:G:OP1	1:1:1697:A:H5'	2.04	0.58
1:1:593:C:OP2	1:1:593:C:C6	2.56	0.58
1:1:822:U:H5'	1:1:822:U:C6	2.34	0.58
1:1:1079:C:C4'	1:1:1181:A:H61	2.14	0.58
1:1:1431:G:C2	1:1:1432:U:N3	2.71	0.58
1:1:1864:U:H2'	28:a:5:ARG:HH12	1.68	0.58
7:F:36:GLN:O	7:F:37:ASP:HB2	2.02	0.58
9:H:109:ARG:CA	9:H:113:LYS:H	2.16	0.58
28:a:38:LYS:N	28:a:71:LEU:HB3	2.19	0.58
1:1:543:C:H3'	1:1:543:C:H6	1.69	0.58
1:1:1002:U:H2'	1:1:1003:U:H5'	1.84	0.58
1:1:1180:C:H3'	1:1:1180:C:H6	1.68	0.58
1:1:1271:C:OP1	1:1:1303:C:H1'	2.03	0.58
1:1:1828:C:H3'	1:1:1829:G:H8	1.68	0.58
4:C:253:PRO:HD3	24:W:68:ARG:NH2	2.18	0.58
9:H:109:ARG:HG3	9:H:113:LYS:HA	1.84	0.58
12:K:47:LYS:O	12:K:50:GLN:HG2	2.03	0.58
1:1:77:A:H4'	1:1:78:C:C4	2.39	0.58
1:1:420:G:H1'	1:1:661:U:H3	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:604:A:H5'	11:J:22:LYS:HB2	1.85	0.58
1:1:746:C:C5'	9:H:104:PRO:C	2.77	0.58
1:1:827:A:C5'	11:J:8:VAL:HG13	2.34	0.58
1:1:871:U:O2	1:1:871:U:H2'	2.03	0.58
1:1:1311:C:H5''	1:1:1311:C:H6	1.68	0.58
1:1:1311:C:C5'	1:1:1311:C:H6	2.17	0.58
1:1:1685:U:C5	1:1:1686:G:N7	2.71	0.58
1:1:1686:G:C6	1:1:1687:C:C4	2.92	0.58
1:1:1839:U:H3	1:1:1860:A:H61	1.51	0.58
19:R:12:ALA:O	19:R:15:VAL:HG12	2.04	0.58
28:a:44:ILE:HG22	28:a:67:LEU:HG	1.86	0.58
29:b:59:CYS:HB2	29:b:61:THR:HG23	1.84	0.58
1:1:164:A:H2'	1:1:165:G:C8	2.39	0.58
1:1:894:G:H2'	1:1:895:G:H8	1.69	0.58
1:1:1104:G:H2'	1:1:1105:G:O4'	2.04	0.58
1:1:1375:G:H8	1:1:1375:G:O5'	1.87	0.58
1:1:1438:A:H3'	1:1:1439:A:C8	2.39	0.58
1:1:1861:G:P	28:a:3:LYS:HA	2.43	0.58
1:1:1864:U:O2'	1:1:1866:A:C2	2.56	0.58
2:A:81:ASN:OD1	2:A:205:ARG:HA	2.04	0.58
20:S:6:PRO:HD3	27:Z:52:LYS:CD	2.34	0.58
24:W:55:ASP:HB3	24:W:58:ALA:O	2.03	0.58
34:g:172:LYS:HE2	34:g:192:THR:O	2.04	0.58
34:g:240:CYS:HB3	34:g:291:TRP:CD1	2.39	0.58
1:1:67:C:H2'	8:G:162:LEU:HD23	1.86	0.58
1:1:134:C:H3'	1:1:135:U:C4'	2.28	0.58
1:1:307:G:H4'	1:1:308:G:OP1	2.02	0.58
1:1:528:A:H8	1:1:528:A:O5'	1.87	0.58
1:1:528:A:O4'	11:J:121:LYS:HB3	2.04	0.58
1:1:830:A:H3'	1:1:830:A:N3	2.19	0.58
1:1:988:C:O5'	1:1:988:C:C6	2.57	0.58
1:1:1244:U:H2'	1:1:1245:G:C8	2.39	0.58
1:1:1336:C:H4'	31:d:44:ARG:HH22	1.69	0.58
1:1:1385:G:H5''	5:D:160:SER:OG	2.04	0.58
1:1:1389:C:H5''	19:R:43:SER:HB2	1.84	0.58
1:1:1404:U:H2'	1:1:1406:G:C5	2.39	0.58
1:1:1544:C:H4'	18:Q:80:GLN:HE22	1.68	0.58
1:1:1800:A:H5''	1:1:1801:A:OP2	2.04	0.58
1:1:1860:A:C2	1:1:1862:G:O4'	2.57	0.58
9:H:109:ARG:HA	9:H:113:LYS:N	2.18	0.58
20:S:23:ARG:HD3	20:S:23:ARG:H	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Y:59:GLY:O	26:Y:71:GLY:HA2	2.03	0.58
1:1:229:A:H2'	1:1:888:U:O2	2.04	0.57
1:1:454:U:H5''	8:G:76:LEU:HD22	1.85	0.57
1:1:606:G:H3'	1:1:607:U:C4'	2.33	0.57
1:1:655:A:C5	1:1:657:U:C5	2.89	0.57
1:1:913:A:H2'	1:1:913:A:N3	2.19	0.57
1:1:1101:U:H5''	3:B:151:ARG:HD2	1.86	0.57
1:1:1263:U:H3'	1:1:1264:C:H6	1.69	0.57
10:I:103:LEU:HA	10:I:171:LEU:O	2.04	0.57
16:O:77:ALA:O	16:O:81:VAL:HG23	2.03	0.57
25:X:123:VAL:O	25:X:130:LEU:HG	2.05	0.57
34:g:19:THR:O	34:g:288:SER:HB2	2.03	0.57
1:1:1026:C:O2'	1:1:1161:U:H4'	2.04	0.57
1:1:1286:G:N2	1:1:1312:G:O6	2.37	0.57
1:1:1335:G:H2'	1:1:1336:C:H5'	1.85	0.57
1:1:1403:C:C5	1:1:1404:U:C2	2.93	0.57
3:B:24:PRO:O	3:B:28:LYS:HG3	2.04	0.57
7:F:32:ASP:CB	7:F:117:ILE:HG23	2.34	0.57
8:G:160:LYS:HD3	8:G:161:PRO:O	2.04	0.57
12:K:84:HIS:CG	12:K:85:LEU:H	2.22	0.57
1:1:67:C:C5	8:G:163:ASN:C	2.82	0.57
1:1:455:A:H2'	1:1:456:C:H6	1.68	0.57
1:1:510:G:OP2	1:1:510:G:H8	1.87	0.57
1:1:745:C:H5'	9:H:105:THR:HG23	1.86	0.57
1:1:876:C:H2'	1:1:877:C:C6	2.39	0.57
1:1:999:G:H2'	1:1:1000:C:C6	2.39	0.57
1:1:1310:U:H4'	33:f:142:GLY:CA	2.34	0.57
1:1:1354:G:H2'	1:1:1356:G:N7	2.19	0.57
1:1:1576:G:H2'	1:1:1577:G:O4'	2.04	0.57
1:1:1656:G:H2'	1:1:1657:G:C8	2.38	0.57
2:A:130:ASP:O	2:A:133:PRO:HD2	2.05	0.57
3:B:107:ARG:HG3	16:O:131:ASP:O	2.04	0.57
7:F:163:PHE:CD2	7:F:164:ARG:HG3	2.39	0.57
9:H:63:PHE:CE2	9:H:95:ILE:HD11	2.39	0.57
14:M:32:ALA:HB3	14:M:110:VAL:HG22	1.86	0.57
1:1:143:U:O4	1:1:328:U:H4'	2.04	0.57
1:1:206:G:H2'	1:1:207:G:H8	1.67	0.57
1:1:301:A:C2'	1:1:302:A:H8	2.17	0.57
1:1:893:U:H2'	1:1:894:G:H8	1.68	0.57
1:1:933:G:H22	28:a:15:ARG:HD3	1.68	0.57
1:1:1340:U:H3'	1:1:1341:C:C5	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1401:A:C1'	1:1:1402:A:OP1	2.53	0.57
1:1:1520:G:C5'	1:1:1521:C:C5	2.82	0.57
1:1:1696:C:H6	1:1:1696:C:O5'	1.87	0.57
2:A:33:GLN:HB2	2:A:154:LEU:HD12	1.86	0.57
3:B:46:LYS:NZ	16:O:27:VAL:HA	2.19	0.57
8:G:8:PRO:HG2	8:G:112:VAL:HG13	1.86	0.57
12:K:38:LYS:HE3	12:K:40:VAL:HG21	1.84	0.57
17:P:33:LEU:O	17:P:37:TYR:HD1	1.88	0.57
23:V:41:LYS:C	23:V:43:THR:H	2.13	0.57
1:1:60:A:C5'	1:1:501:C:H5	2.16	0.57
1:1:184:G:C3'	1:1:185:G:H4'	2.29	0.57
1:1:337:C:O2	1:1:337:C:C2'	2.53	0.57
1:1:636:C:H2'	1:1:637:U:O4'	2.04	0.57
1:1:636:C:H2'	1:1:637:U:C6	2.39	0.57
1:1:743:U:H5	9:H:97:GLN:HE22	1.51	0.57
1:1:1161:U:H6	1:1:1161:U:H3'	1.69	0.57
3:B:63:LYS:HE3	3:B:91:VAL:HB	1.86	0.57
9:H:158:LEU:HD11	9:H:187:PHE:CD2	2.40	0.57
20:S:42:HIS:HA	20:S:45:LEU:HD22	1.87	0.57
27:Z:58:LEU:CD1	27:Z:77:LEU:HD22	2.35	0.57
1:1:130:G:H1'	1:1:181:A:C2	2.39	0.57
1:1:186:C:O5'	1:1:186:C:H6	1.88	0.57
1:1:319:C:H1'	1:1:320:G:OP1	2.04	0.57
1:1:435:A:C2	1:1:474:G:OP2	2.58	0.57
1:1:492:C:H42	1:1:508:A:H62	1.52	0.57
1:1:980:A:H2'	1:1:981:A:C8	2.40	0.57
1:1:987:A:H3'	1:1:988:C:H5	1.69	0.57
1:1:1311:C:C4	1:1:1312:G:O6	2.57	0.57
1:1:1413:G:N2	1:1:1414:A:H1'	2.20	0.57
1:1:1513:C:C5'	31:d:9:SER:HB2	2.34	0.57
1:1:1535:U:H6	7:F:82:ASN:OD1	1.88	0.57
2:A:39:TYR:CE2	2:A:50:ASN:HB2	2.40	0.57
5:D:210:ILE:HG12	19:R:39:ALA:CB	2.34	0.57
9:H:44:ASN:O	9:H:65:PRO:HD2	2.05	0.57
11:J:94:LEU:O	11:J:97:ILE:HG22	2.04	0.57
15:N:87:ASP:HB2	15:N:129:TYR:OH	2.04	0.57
20:S:26:ILE:HA	20:S:56:ALA:HB2	1.85	0.57
20:S:134:GLN:HG2	20:S:135:HIS:N	2.19	0.57
34:g:173:LEU:HD21	34:g:189:ILE:HG23	1.86	0.57
1:1:124:U:H5'	6:E:148:ARG:CB	2.35	0.57
1:1:129:C:H1'	1:1:182:C:N4	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:176:U:H2'	1:1:177:G:O4'	2.05	0.57
1:1:1017:U:H5''	1:1:1017:U:H6	1.70	0.57
1:1:1432:U:C5	1:1:1432:U:OP2	2.57	0.57
1:1:1575:G:H2'	1:1:1576:G:H8	1.70	0.57
1:1:1607:A:H2'	1:1:1608:U:H5'	1.86	0.57
1:1:1641:A:H8	1:1:1641:A:H5''	1.68	0.57
1:1:1648:G:H8	18:Q:125:ARG:CB	2.18	0.57
1:1:1654:G:H3'	1:1:1655:C:C5	2.35	0.57
1:1:1828:C:H3'	1:1:1829:G:C8	2.39	0.57
1:1:1834:A:H2	1:1:1837:G:N2	2.00	0.57
21:T:121:ARG:O	21:T:121:ARG:HD2	2.04	0.57
24:W:39:THR:HG22	24:W:43:LYS:HE3	1.86	0.57
1:1:27:A:H2'	1:1:28:U:C6	2.40	0.57
1:1:67:C:H41	8:G:163:ASN:CA	2.16	0.57
1:1:379:C:H2'	1:1:379:C:O2	2.04	0.57
1:1:590:A:H2'	1:1:590:A:N3	2.19	0.57
1:1:1208:A:OP2	1:1:1835:A:C2	2.57	0.57
1:1:1231:C:H2'	1:1:1232:U:C6	2.40	0.57
1:1:1378:A:C5	2:A:105:PRO:HB3	2.40	0.57
1:1:1405:A:C3'	1:1:1406:G:C5'	2.82	0.57
1:1:1471:C:H3'	1:1:1472:C:C6	2.39	0.57
1:1:1686:G:C2	1:1:1687:C:C2	2.92	0.57
8:G:63:MET:HE1	8:G:102:VAL:HG22	1.87	0.57
11:J:122:SER:HB3	11:J:125:HIS:H	1.68	0.57
12:K:90:VAL:HG11	12:K:95:ARG:HG2	1.87	0.57
17:P:17:TYR:O	20:S:91:LYS:HB3	2.03	0.57
25:X:68:LYS:HB2	25:X:85:VAL:HB	1.87	0.57
1:1:179:C:H5''	1:1:180:G:H21	1.66	0.57
1:1:346:C:H3'	1:1:346:C:C6	2.40	0.57
1:1:471:G:H4'	1:1:472:C:OP1	2.05	0.57
1:1:745:C:O2	1:1:750:C:H5''	2.04	0.57
1:1:839:C:H42	26:Y:49:LYS:HB2	1.69	0.57
1:1:931:C:O5'	1:1:931:C:H6	1.87	0.57
1:1:941:C:H2'	1:1:942:G:O4'	2.03	0.57
1:1:1307:U:C3'	1:1:1308:U:H5'	2.33	0.57
1:1:1414:A:C2	1:1:1415:C:N3	2.72	0.57
1:1:1579:A:H2'	1:1:1580:A:C4'	2.35	0.57
7:F:102:LEU:O	27:Z:66:LYS:HE2	2.04	0.57
14:M:26:LEU:HG	14:M:89:VAL:O	2.05	0.57
16:O:116:LEU:HD22	28:a:53:ILE:CD1	2.34	0.57
1:1:67:C:H6	8:G:162:LEU:HD23	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:187:G:H2'	1:1:188:C:H6	1.69	0.57
1:1:189:U:H6	1:1:189:U:O5'	1.87	0.57
1:1:435:A:C2	1:1:450:C:H5	2.22	0.57
1:1:567:C:H3'	1:1:568:C:H5'	1.87	0.57
1:1:572:U:H5	1:1:576:A:H62	1.52	0.57
1:1:1289:U:O2	1:1:1289:U:H3'	2.05	0.57
1:1:1442:U:C6	1:1:1443:C:H1'	2.38	0.57
1:1:1586:U:H2'	1:1:1587:G:O5'	2.05	0.57
13:L:82:MET:HE3	13:L:85:THR:CG2	2.34	0.57
15:N:75:LEU:HA	15:N:80:LEU:HD12	1.86	0.57
19:R:13:ALA:HB1	19:R:54:VAL:HB	1.87	0.57
22:U:67:LYS:HD3	22:U:76:THR:HG21	1.87	0.57
28:a:19:GLN:HB3	28:a:32:LYS:NZ	2.18	0.57
28:a:50:VAL:O	28:a:53:ILE:HB	2.04	0.57
1:1:67:C:H5'	8:G:162:LEU:HD23	1.87	0.56
1:1:77:A:C6	8:G:155:GLN:HB3	2.40	0.56
1:1:306:C:O2'	1:1:307:G:H5'	2.05	0.56
1:1:604:A:H1'	1:1:605:A:OP1	2.04	0.56
1:1:797:C:O2'	9:H:109:ARG:HD2	2.05	0.56
1:1:928:G:H4'	29:b:51:GLN:O	2.05	0.56
1:1:986:G:H5''	28:a:19:GLN:HG2	1.86	0.56
1:1:1426:U:C4	1:1:1427:C:C4	2.93	0.56
1:1:1426:U:C4	1:1:1427:C:C5	2.93	0.56
1:1:1579:A:C8	22:U:56:MET:HG2	2.40	0.56
1:1:1600:G:H2'	1:1:1600:G:N3	2.19	0.56
9:H:100:ILE:HD13	9:H:122:LEU:HA	1.87	0.56
15:N:139:TRP:HH2	15:N:149:LEU:HD21	1.70	0.56
16:O:18:GLY:H	16:O:19:PRO:HD2	1.70	0.56
16:O:57:THR:OG1	16:O:60:MET:HG3	2.04	0.56
17:P:30:TYR:HA	17:P:33:LEU:CD2	2.33	0.56
19:R:60:ARG:O	19:R:63:ARG:HB2	2.05	0.56
19:R:113:SER:O	19:R:114:LEU:HG	2.05	0.56
21:T:76:THR:HG22	21:T:95:GLY:H	1.70	0.56
25:X:32:LEU:C	25:X:34:THR:H	2.14	0.56
30:c:21:THR:O	30:c:27:CYS:HB2	2.03	0.56
34:g:255:SER:OG	34:g:271:LYS:HA	2.04	0.56
1:1:15:U:H6	1:1:15:U:O5'	1.88	0.56
1:1:35:C:O5'	1:1:35:C:H6	1.88	0.56
1:1:396:U:H2'	1:1:397:G:O4'	2.05	0.56
1:1:656:G:H4'	1:1:657:U:OP2	2.03	0.56
1:1:694:G:H2'	1:1:695:C:C5	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:748:C:N4	1:1:860:G:P	2.76	0.56
1:1:876:C:C6	1:1:877:C:C5	2.93	0.56
1:1:1095:C:H5''	24:W:22:LYS:HZ3	1.69	0.56
1:1:1143:A:H2'	1:1:1144:A:C8	2.40	0.56
1:1:1351:G:C8	1:1:1351:G:C5'	2.88	0.56
1:1:1418:C:H5''	21:T:129:ARG:HB2	1.85	0.56
1:1:1418:C:O2'	1:1:1419:C:H5'	2.05	0.56
1:1:1599:U:H3	7:F:165:ASN:C	2.13	0.56
1:1:1631:U:C4	1:1:1632:G:C2	2.93	0.56
1:1:1768:A:H2'	1:1:1769:C:C5'	2.22	0.56
5:D:74:GLN:NE2	5:D:80:PRO:HA	2.20	0.56
6:E:205:PHE:CE1	6:E:221:ARG:HD3	2.41	0.56
7:F:103:LEU:CD2	27:Z:67:LEU:HD11	2.34	0.56
28:a:87:ARG:HG2	28:a:91:ALA:CB	2.35	0.56
1:1:81:U:H5'	1:1:82:G:OP2	2.05	0.56
1:1:99:A:H2'	1:1:100:U:O4'	2.06	0.56
1:1:125:C:H6	1:1:125:C:P	2.28	0.56
1:1:327:G:H4'	1:1:328:U:OP1	2.05	0.56
1:1:365:C:O2	1:1:365:C:H2'	2.04	0.56
1:1:525:A:H4'	32:e:31:ARG:HB3	1.86	0.56
1:1:539:C:C6	1:1:539:C:H3'	2.40	0.56
1:1:547:G:O5'	1:1:548:C:H5''	2.05	0.56
1:1:691:G:O2'	1:1:692:G:H5'	2.05	0.56
1:1:798:G:H1'	1:1:867:G:N2	2.20	0.56
1:1:893:U:O5'	1:1:893:U:H6	1.88	0.56
1:1:911:C:H3'	1:1:912:C:C5	2.39	0.56
1:1:983:A:H2'	1:1:984:C:H5'	1.87	0.56
1:1:1130:G:H4'	15:N:10:GLY:CA	2.36	0.56
1:1:1216:C:H3'	1:1:1217:A:C5'	2.35	0.56
1:1:1255:G:H3'	1:1:1256:G:H5'	1.86	0.56
1:1:1384:C:H2'	1:1:1385:G:H5'	1.87	0.56
1:1:1495:G:O6	22:U:69:PRO:HB3	2.05	0.56
1:1:1621:U:H2'	1:1:1622:U:C5'	2.32	0.56
1:1:1783:C:O2	1:1:1783:C:H2'	2.05	0.56
1:1:1802:C:H2'	1:1:1803:U:O4'	2.05	0.56
4:C:200:ARG:HA	4:C:221:ASP:OD2	2.06	0.56
6:E:173:ILE:HD13	6:E:230:ASN:CB	2.35	0.56
9:H:177:TYR:CZ	9:H:181:THR:HG21	2.40	0.56
10:I:192:GLY:HA3	13:L:20:LYS:CB	2.36	0.56
11:J:48:PHE:O	11:J:51:ALA:HB3	2.06	0.56
20:S:77:TYR:O	20:S:78:LYS:HB2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:77:A:N7	8:G:155:GLN:CA	2.69	0.56
1:1:125:C:H3'	6:E:149:TYR:OH	2.05	0.56
1:1:426:A:H2'	1:1:426:A:N3	2.20	0.56
1:1:1016:U:C5	15:N:14:SER:HB2	2.41	0.56
1:1:1410:C:OP1	1:1:1413:G:H5''	2.05	0.56
1:1:1602:U:H3'	1:1:1602:U:H6	1.70	0.56
1:1:1624:U:C6	1:1:1624:U:O5'	2.59	0.56
1:1:1644:C:H2'	1:1:1645:C:C6	2.40	0.56
1:1:1698:C:C4'	1:1:1699:A:C8	2.83	0.56
3:B:71:LEU:HD13	3:B:71:LEU:C	2.31	0.56
3:B:134:LEU:HB2	3:B:219:LYS:HB2	1.86	0.56
7:F:42:LYS:HB2	7:F:45:TYR:CD1	2.41	0.56
8:G:38:ALA:HB1	8:G:41:LEU:HD12	1.87	0.56
10:I:158:ILE:O	10:I:158:ILE:HG13	2.05	0.56
1:1:23:G:H2'	1:1:24:C:C6	2.41	0.56
1:1:170:A:C3'	1:1:171:A:H8	2.19	0.56
1:1:217:A:H4'	1:1:341:C:H4'	1.88	0.56
1:1:359:U:O5'	1:1:359:U:H6	1.88	0.56
1:1:482:G:H22	1:1:485:A:H2	1.53	0.56
1:1:797:C:C4'	9:H:109:ARG:HB2	2.34	0.56
1:1:869:A:C4	1:1:915:G:H1'	2.41	0.56
1:1:924:G:H2'	1:1:925:G:H8	1.70	0.56
1:1:1116:C:O2	1:1:1116:C:C2'	2.52	0.56
1:1:1125:C:H4'	2:A:43:SER:O	2.05	0.56
1:1:1214:A:N1	1:1:1686:G:C2	2.74	0.56
1:1:1230:C:O2'	1:1:1231:C:H5'	2.05	0.56
1:1:1284:A:N7	1:1:1286:G:C5'	2.68	0.56
1:1:1618:C:H6	1:1:1618:C:H5''	1.69	0.56
7:F:19:LEU:HD11	7:F:22:LYS:HD3	1.86	0.56
9:H:83:LEU:CB	9:H:92:VAL:HG21	2.36	0.56
12:K:50:GLN:HA	12:K:53:LYS:HE2	1.86	0.56
24:W:28:ARG:HB3	24:W:29:PRO:CD	2.36	0.56
1:1:133:C:H3'	1:1:134:C:H4'	1.85	0.56
1:1:370:G:C4'	1:1:371:A:OP1	2.53	0.56
1:1:684:G:C5	1:1:920:A:N7	2.74	0.56
1:1:1405:A:N3	1:1:1442:U:C5	2.73	0.56
1:1:1499:U:O2'	1:1:1500:G:H5'	2.06	0.56
1:1:1681:U:H6	1:1:1681:U:O5'	1.89	0.56
6:E:95:THR:HB	6:E:97:GLU:CD	2.30	0.56
22:U:78:ASP:HB3	22:U:80:PHE:CZ	2.41	0.56
1:1:58:C:H5''	1:1:499:G:N2	2.13	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:93:U:H2'	1:1:94:G:O4'	2.06	0.56
1:1:97:U:H5'	1:1:98:C:OP2	2.04	0.56
1:1:209:A:O2'	1:1:210:U:H5''	2.05	0.56
1:1:423:U:H5''	1:1:424:C:OP2	2.05	0.56
1:1:549:C:H2'	1:1:550:C:H6	1.71	0.56
1:1:583:A:H2'	1:1:584:A:C8	2.41	0.56
1:1:688:U:H1'	1:1:689:U:C6	2.39	0.56
1:1:1043:G:O5'	1:1:1043:G:H8	1.88	0.56
1:1:1276:A:N6	1:1:1317:C:N4	2.54	0.56
1:1:1394:G:H2'	1:1:1395:C:H5'	1.87	0.56
1:1:1396:A:H2	1:1:1449:G:H22	1.53	0.56
1:1:1476:A:C3'	1:1:1477:U:H5'	2.35	0.56
1:1:1667:U:H5''	18:Q:141:TYR:OH	2.05	0.56
1:1:1821:U:H2'	1:1:1822:A:C8	2.41	0.56
3:B:65:ARG:HG2	16:O:50:LYS:HD2	1.88	0.56
6:E:87:MET:HE1	6:E:123:LEU:HD12	1.88	0.56
22:U:29:VAL:O	22:U:33:GLU:HG2	2.06	0.56
1:1:61:A:H1'	1:1:62:G:P	2.45	0.56
1:1:67:C:H5	8:G:162:LEU:C	2.13	0.56
1:1:84:A:O2'	1:1:85:A:C8	2.49	0.56
1:1:155:G:H2'	1:1:156:G:C8	2.40	0.56
1:1:372:U:H3'	1:1:372:U:C6	2.41	0.56
1:1:385:G:H4'	1:1:386:C:C5'	2.35	0.56
1:1:1242:U:H4'	1:1:1243:U:O5'	2.04	0.56
1:1:1579:A:C8	22:U:86:LYS:HD3	2.40	0.56
1:1:1830:U:H1'	1:1:1831:A:OP2	2.06	0.56
1:1:1865:C:C5	28:a:92:ARG:HB3	2.41	0.56
1:1:1866:A:P	28:a:9:GLY:HA2	2.45	0.56
6:E:120:LYS:HZ3	6:E:165:GLY:H	1.54	0.56
6:E:124:CYS:HG	6:E:160:VAL:HG23	1.69	0.56
22:U:22:ILE:HD11	22:U:91:LEU:HD11	1.88	0.56
22:U:82:MET:HE3	22:U:84:ILE:HD11	1.88	0.56
28:a:40:VAL:O	28:a:69:VAL:HG12	2.06	0.56
1:1:65:C:H4'	8:G:133:LEU:CD2	2.36	0.56
1:1:193:C:H1'	1:1:208:G:N1	2.21	0.56
1:1:457:C:O4'	1:1:1801:A:H4'	2.06	0.56
1:1:584:A:H8	1:1:584:A:P	2.29	0.56
1:1:672:A:O2'	1:1:673:G:H5''	2.06	0.56
1:1:693:A:H3'	1:1:694:G:O4'	2.05	0.56
1:1:1261:C:H3'	1:1:1262:C:H5''	1.88	0.56
1:1:1361:G:H1'	1:1:1380:C:H41	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1387:G:O5'	1:1:1387:G:H8	1.89	0.56
1:1:1405:A:C8	1:1:1406:G:H5'	2.40	0.56
1:1:1557:C:H42	1:1:1661:A:C4'	2.19	0.56
1:1:1599:U:N3	7:F:165:ASN:N	2.54	0.56
1:1:1649:U:H3'	1:1:1649:U:C6	2.41	0.56
1:1:1653:U:H3	1:1:1671:G:H1	1.54	0.56
1:1:1686:G:H3'	1:1:1687:C:H6	1.71	0.56
2:A:81:ASN:HA	2:A:84:GLN:HB2	1.88	0.56
2:A:120:ARG:O	2:A:143:PRO:HD2	2.06	0.56
3:B:81:PHE:O	3:B:82:ARG:HB2	2.06	0.56
12:K:32:HIS:N	12:K:33:PRO:CD	2.68	0.56
34:g:72:SER:HA	34:g:113:PHE:CZ	2.40	0.56
34:g:202:PRO:HG2	34:g:243:PRO:HA	1.88	0.56
1:1:125:C:H3'	6:E:149:TYR:CZ	2.41	0.56
1:1:381:C:H5''	10:I:48:VAL:HG22	1.88	0.56
1:1:386:C:O2	1:1:386:C:H2'	2.05	0.56
1:1:408:A:C2'	1:1:409:C:H4'	2.36	0.56
1:1:952:G:H1'	16:O:52:THR:CB	2.36	0.56
1:1:1011:A:H8	1:1:1011:A:O5'	1.89	0.56
1:1:1113:A:C2	1:1:1120:U:C4	2.93	0.56
1:1:1362:U:H4'	1:1:1363:C:OP2	2.06	0.56
1:1:1520:G:H4'	1:1:1521:C:OP2	2.04	0.56
1:1:1739:C:O5'	1:1:1739:C:H6	1.89	0.56
5:D:32:ASP:HB3	5:D:57:ASN:HB2	1.88	0.56
9:H:160:LYS:HE3	9:H:191:GLU:N	2.21	0.56
11:J:141:VAL:HG22	11:J:162:ARG:HH22	1.71	0.56
12:K:12:TYR:CE1	12:K:52:LEU:HD11	2.41	0.56
24:W:77:PRO:HG2	24:W:79:PHE:CZ	2.41	0.56
1:1:59:U:H5''	1:1:502:C:H5'	1.88	0.55
1:1:130:G:C1'	1:1:181:A:N1	2.68	0.55
1:1:136:C:H1'	1:1:137:U:OP1	2.06	0.55
1:1:576:A:OP2	1:1:576:A:C8	2.58	0.55
1:1:1130:G:H4'	15:N:10:GLY:HA2	1.88	0.55
1:1:1272:C:H2'	1:1:1273:C:C6	2.42	0.55
1:1:1461:G:N2	1:1:1466:G:C5	2.74	0.55
1:1:1549:U:O2'	1:1:1550:G:H5'	2.06	0.55
2:A:110:ASN:HD21	2:A:113:GLN:HB2	1.70	0.55
14:M:65:VAL:HG21	14:M:108:CYS:SG	2.46	0.55
20:S:5:ILE:O	20:S:6:PRO:C	2.49	0.55
21:T:63:HIS:CE1	21:T:78:ILE:HD13	2.40	0.55
1:1:302:A:H4'	10:I:73:THR:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:504:G:C2'	1:1:505:G:H5'	2.36	0.55
1:1:753:C:H3'	1:1:754:G:O4'	2.07	0.55
1:1:1054:G:O5'	1:1:1054:G:H8	1.89	0.55
1:1:1180:C:H2'	1:1:1181:A:H5'	1.87	0.55
1:1:1431:G:N2	1:1:1432:U:C2	2.74	0.55
1:1:1791:A:H2'	1:1:1792:G:O4'	2.06	0.55
3:B:68:GLU:OE2	3:B:83:LYS:HE2	2.06	0.55
5:D:64:ARG:O	5:D:68:GLU:HG3	2.05	0.55
9:H:87:PHE:CE1	9:H:90:LYS:HE2	2.41	0.55
14:M:71:GLU:HG3	33:f:114:ILE:HG12	1.88	0.55
16:O:142:ARG:HG3	28:a:22:ARG:CZ	2.36	0.55
19:R:63:ARG:HA	34:g:280:LYS:HE2	1.88	0.55
28:a:5:ARG:CG	28:a:8:ASN:HA	2.36	0.55
1:1:39:A:P	11:J:3:VAL:HG13	2.46	0.55
1:1:59:U:H3'	1:1:59:U:H6	1.70	0.55
1:1:197:U:O5'	1:1:197:U:H6	1.89	0.55
1:1:215:G:H8	1:1:215:G:O5'	1.89	0.55
1:1:343:A:H8	1:1:343:A:O5'	1.89	0.55
1:1:351:G:C8	1:1:351:G:C3'	2.87	0.55
1:1:429:C:O2	1:1:429:C:H2'	2.05	0.55
1:1:805:U:N3	1:1:858:A:H2	2.05	0.55
1:1:902:G:H2'	1:1:903:A:C8	2.41	0.55
1:1:915:G:C2'	1:1:916:A:H5'	2.36	0.55
2:A:205:ARG:HG3	2:A:206:ASP:N	2.21	0.55
10:I:194:GLU:HG2	10:I:195:LEU:N	2.19	0.55
11:J:87:LEU:HD11	11:J:100:LEU:HD11	1.87	0.55
16:O:27:VAL:HG12	16:O:90:ILE:HG12	1.88	0.55
20:S:8:LYS:O	20:S:8:LYS:HD3	2.06	0.55
22:U:50:VAL:HG22	22:U:91:LEU:HD22	1.86	0.55
24:W:22:LYS:O	24:W:65:LEU:HD12	2.05	0.55
27:Z:69:THR:CG2	27:Z:70:PRO:HD2	2.34	0.55
1:1:29:G:H4'	25:X:129:SER:HB3	1.86	0.55
1:1:544:G:H4'	1:1:545:A:OP1	2.05	0.55
1:1:636:C:O5'	1:1:636:C:C6	2.59	0.55
1:1:1472:C:O2	1:1:1472:C:C2'	2.54	0.55
3:B:153:THR:HB	3:B:155:TYR:CD2	2.41	0.55
1:1:635:G:H2'	1:1:636:C:H6	1.71	0.55
1:1:743:U:O2	9:H:100:ILE:HB	2.07	0.55
1:1:819:G:H2'	1:1:820:U:C6	2.42	0.55
1:1:951:C:N3	1:1:975:G:O6	2.38	0.55
1:1:989:C:H1'	28:a:32:LYS:CD	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1637:A:H4'	1:1:1638:G:O5'	1.94	0.55
1:1:1835:A:N3	1:1:1835:A:C2'	2.69	0.55
2:A:77:ILE:HG12	2:A:99:ILE:CG2	2.36	0.55
12:K:29:MET:N	12:K:30:PRO:HD3	2.21	0.55
1:1:46:A:H4'	1:1:47:G:H5'	1.89	0.55
1:1:235:A:N6	1:1:894:G:C2	2.75	0.55
1:1:838:G:H8	26:Y:9:THR:H	1.45	0.55
1:1:1410:C:H3'	1:1:1411:G:H3'	1.88	0.55
1:1:1578:U:H4'	1:1:1579:A:OP2	2.06	0.55
3:B:116:LYS:HE2	3:B:117:TRP:CZ3	2.41	0.55
9:H:102:PRO:HG2	9:H:105:THR:HB	1.88	0.55
11:J:37:LEU:O	32:e:34:ARG:HD3	2.06	0.55
28:a:75:VAL:HA	28:a:78:ALA:HB3	1.89	0.55
1:1:72:C:H2'	1:1:73:C:O4'	2.06	0.55
1:1:125:C:O4'	6:E:136:ILE:HG22	2.07	0.55
1:1:628:A:N6	5:D:179:GLN:HE22	2.04	0.55
1:1:905:C:H2'	1:1:906:U:C6	2.41	0.55
1:1:1383:A:O5'	1:1:1383:A:C8	2.59	0.55
1:1:1413:G:H2'	1:1:1414:A:C8	2.42	0.55
1:1:1443:C:C3'	1:1:1444:U:H5'	2.36	0.55
1:1:1677:U:O2	1:1:1678:A:H8	1.89	0.55
7:F:56:TYR:O	7:F:62:ARG:HG3	2.06	0.55
10:I:122:GLY:O	10:I:124:LYS:N	2.40	0.55
17:P:17:TYR:HB3	17:P:25:LEU:HD11	1.88	0.55
20:S:38:ARG:O	20:S:42:HIS:HD2	1.90	0.55
1:1:26:U:H6	1:1:26:U:O5'	1.90	0.55
1:1:29:G:H4'	25:X:129:SER:HB2	1.89	0.55
1:1:83:A:O2'	26:Y:123:ALA:HB1	2.07	0.55
1:1:743:U:H2'	9:H:100:ILE:O	2.07	0.55
1:1:743:U:H3'	1:1:744:G:H8	1.71	0.55
1:1:900:C:H2'	1:1:901:G:C5	2.41	0.55
1:1:927:C:H2'	1:1:928:G:H5'	1.88	0.55
1:1:1214:A:C6	1:1:1217:A:C4	2.94	0.55
1:1:1266:C:H2'	1:1:1267:C:C6	2.41	0.55
1:1:1277:C:H3'	1:1:1278:A:C8	2.42	0.55
1:1:1415:C:C2'	1:1:1416:C:H5'	2.37	0.55
1:1:1473:G:C8	1:1:1475:G:OP2	2.59	0.55
1:1:1669:G:H5'	18:Q:130:LYS:HB3	1.88	0.55
1:1:1790:A:C2'	1:1:1791:A:H5'	2.35	0.55
7:F:39:ILE:HG23	7:F:68:ILE:HG21	1.88	0.55
11:J:113:GLN:O	11:J:117:LEU:HG	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:W:36:ARG:CG	24:W:110:ILE:HD12	2.37	0.55
25:X:32:LEU:HD22	25:X:34:THR:HB	1.89	0.55
1:1:86:C:C3'	1:1:87:U:H5''	2.36	0.55
1:1:572:U:H3'	1:1:572:U:C6	2.42	0.55
1:1:573:U:C2'	1:1:576:A:C2	2.86	0.55
1:1:581:U:H5''	26:Y:64:PHE:CE1	2.42	0.55
1:1:646:G:C8	1:1:646:G:H5''	2.42	0.55
1:1:684:G:C6	1:1:920:A:C8	2.95	0.55
1:1:1164:G:H3'	1:1:1165:G:C2	2.41	0.55
1:1:1493:C:H3'	1:1:1494:U:H5'	1.85	0.55
1:1:1698:C:H5'	1:1:1699:A:C8	2.41	0.55
5:D:39:VAL:O	22:U:108:PRO:HB3	2.07	0.55
11:J:41:ARG:HD3	11:J:42:GLU:N	2.21	0.55
1:1:4:C:H5	1:1:655:A:OP1	1.90	0.55
1:1:36:U:C2	1:1:520:A:C2	2.95	0.55
1:1:144:U:H6	8:G:180:VAL:HG22	1.69	0.55
1:1:571:U:H1'	26:Y:60:PHE:H	1.72	0.55
1:1:798:G:N3	1:1:798:G:H5'	2.22	0.55
1:1:1168:G:C2'	1:1:1169:G:H5'	2.37	0.55
1:1:1534:C:OP2	1:1:1599:U:H5	1.90	0.55
1:1:1539:U:H2'	1:1:1540:G:H5'	1.89	0.55
1:1:1578:U:C5	5:D:5:ILE:HA	2.42	0.55
1:1:1672:U:C2'	1:1:1673:U:H5''	2.37	0.55
6:E:149:TYR:CZ	8:G:206:ALA:HA	2.42	0.55
18:Q:33:LYS:HE3	18:Q:36:GLY:HA2	1.88	0.55
24:W:36:ARG:HG2	24:W:110:ILE:HD12	1.87	0.55
1:1:153:G:H1	1:1:165:G:H22	1.52	0.54
1:1:214:U:O2	1:1:214:U:H2'	2.07	0.54
1:1:305:U:O2	1:1:305:U:C2'	2.55	0.54
1:1:526:A:N9	11:J:128:VAL:HG13	2.23	0.54
1:1:751:G:C2'	1:1:752:G:H8	2.04	0.54
1:1:808:A:H4'	6:E:219:ALA:O	2.06	0.54
1:1:888:U:H3'	1:1:888:U:C6	2.43	0.54
1:1:919:A:N1	15:N:64:ARG:HD3	2.22	0.54
1:1:970:G:H1'	1:1:971:G:OP1	2.06	0.54
1:1:1202:U:H3'	1:1:1203:G:H5''	1.88	0.54
1:1:1204:A:O5'	1:1:1204:A:C8	2.60	0.54
1:1:1579:A:N6	22:U:88:LEU:HD22	2.22	0.54
2:A:89:LYS:HB2	2:A:202:TYR:CE2	2.42	0.54
2:A:185:MET:HG2	23:V:46:PHE:CE1	2.42	0.54
2:A:205:ARG:HG3	2:A:206:ASP:H	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:51:HIS:CD2	7:F:86:LYS:HD3	2.42	0.54
11:J:28:GLU:O	11:J:32:ILE:HG13	2.07	0.54
1:1:178:C:N3	8:G:173:ALA:HB3	2.22	0.54
1:1:175:A:H3'	1:1:176:U:C5'	2.31	0.54
1:1:307:G:O6	1:1:1788:A:H4'	2.07	0.54
1:1:478:G:H8	1:1:478:G:O5'	1.91	0.54
1:1:572:U:P	26:Y:59:GLY:H	2.29	0.54
1:1:586:G:C2	1:1:587:A:H1'	2.42	0.54
1:1:798:G:N1	1:1:799:U:C4	2.75	0.54
1:1:808:A:H5''	6:E:188:ASN:HD21	1.72	0.54
1:1:902:G:O2'	1:1:903:A:H5'	2.05	0.54
1:1:1012:A:H4'	1:1:1130:G:O2'	2.07	0.54
1:1:1178:U:H1'	1:1:1184:G:N2	2.22	0.54
1:1:1214:A:N6	1:1:1217:A:C2	2.75	0.54
1:1:1513:C:H4'	31:d:9:SER:OG	2.06	0.54
1:1:1534:C:H5'	1:1:1536:G:C1'	2.37	0.54
1:1:1556:A:C2	1:1:1557:C:C5	2.96	0.54
1:1:1557:C:O2	1:1:1557:C:C2'	2.56	0.54
1:1:1746:U:H2'	1:1:1747:C:H6	1.70	0.54
10:I:101:ILE:HD11	10:I:198:TYR:CD1	2.42	0.54
19:R:109:LEU:HD13	19:R:111:PHE:N	2.16	0.54
1:1:10:G:H1'	4:C:115:GLN:OE1	2.08	0.54
1:1:476:A:H3'	1:1:477:G:H8	1.72	0.54
1:1:664:A:H61	1:1:1163:C:H42	1.55	0.54
1:1:674:C:H2'	1:1:675:U:C6	2.43	0.54
1:1:789:G:H2'	1:1:790:C:H6	1.73	0.54
1:1:1000:C:H42	28:a:15:ARG:HB2	1.71	0.54
1:1:1023:A:H8	1:1:1023:A:O5'	1.91	0.54
1:1:1332:A:H1'	5:D:141:LYS:NZ	2.22	0.54
1:1:1452:A:C5	1:1:1475:G:C6	2.96	0.54
1:1:1494:U:H1'	1:1:1495:G:P	2.47	0.54
1:1:1644:C:O5'	1:1:1644:C:H6	1.90	0.54
1:1:1654:G:H4'	21:T:82:ARG:NH2	2.22	0.54
15:N:67:THR:HG21	15:N:74:ILE:HD11	1.89	0.54
18:Q:33:LYS:HD3	18:Q:69:ARG:HD3	1.89	0.54
26:Y:87:PRO:HD2	26:Y:90:ARG:HD2	1.90	0.54
27:Z:43:LYS:HG3	27:Z:44:LEU:O	2.07	0.54
1:1:91:A:H5''	1:1:92:A:H5'	1.90	0.54
1:1:345:U:C6	1:1:345:U:H3'	2.42	0.54
1:1:689:U:H5'	1:1:690:G:OP2	2.08	0.54
1:1:746:C:H5''	9:H:104:PRO:C	2.32	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:992:A:N6	28:a:12:LYS:CA	2.69	0.54
1:1:1033:G:H5''	1:1:1034:A:OP1	2.07	0.54
1:1:1422:G:H2'	1:1:1422:G:N3	2.21	0.54
1:1:1461:G:N2	1:1:1465:A:H62	1.86	0.54
1:1:1689:C:H2'	1:1:1690:U:C6	2.42	0.54
3:B:197:ILE:O	3:B:201:CYS:HB2	2.07	0.54
6:E:45:ILE:HD12	6:E:61:VAL:CG2	2.33	0.54
10:I:66:SER:HA	10:I:73:THR:HA	1.89	0.54
25:X:90:CYS:O	25:X:94:ILE:HG13	2.08	0.54
1:1:448:A:N7	10:I:26:LYS:N	2.56	0.54
1:1:460:A:H2	1:1:469:A:H61	1.56	0.54
1:1:569:A:C6	1:1:570:C:C4	2.95	0.54
1:1:811:A:H1'	1:1:812:A:C8	2.42	0.54
1:1:1284:A:C8	1:1:1284:A:P	3.01	0.54
1:1:1416:C:N4	1:1:1431:G:N2	2.55	0.54
1:1:1454:A:H5'	19:R:5:ARG:NH2	2.23	0.54
2:A:5:LEU:O	2:A:6:ASP:HB2	2.07	0.54
3:B:91:VAL:HG22	3:B:96:CYS:HB2	1.89	0.54
21:T:124:THR:HB	21:T:125:PRO:HD2	1.89	0.54
1:1:35:C:H2'	1:1:36:U:H6	1.72	0.54
1:1:211:G:C4	1:1:212:C:C5	2.96	0.54
1:1:223:C:H2'	1:1:224:A:C8	2.42	0.54
1:1:380:G:H1	1:1:382:C:H3'	1.71	0.54
1:1:399:C:H5''	1:1:400:C:H5	1.71	0.54
1:1:465:A:C4'	1:1:466:G:O5'	2.56	0.54
1:1:656:G:C4'	1:1:657:U:OP2	2.55	0.54
1:1:686:U:O2'	1:1:687:C:H5'	2.06	0.54
1:1:823:U:OP1	1:1:823:U:H3'	2.07	0.54
1:1:1086:G:N3	1:1:1086:G:H2'	2.22	0.54
1:1:1287:A:C8	33:f:99:LYS:CB	2.91	0.54
1:1:1288:U:P	1:1:1311:C:N3	2.81	0.54
1:1:1866:A:C6	28:a:84:VAL:HG22	2.42	0.54
3:B:81:PHE:CD2	3:B:82:ARG:HG3	2.42	0.54
8:G:136:LYS:O	8:G:176:ILE:HG22	2.08	0.54
22:U:32:LEU:HD23	22:U:85:HIS:HB2	1.90	0.54
23:V:24:ILE:HG23	23:V:28:ASP:HB2	1.90	0.54
24:W:76:SER:HB3	24:W:77:PRO:HD3	1.89	0.54
24:W:86:LEU:HD22	24:W:113:HIS:CE1	2.43	0.54
34:g:89:LEU:HD23	34:g:98:THR:HB	1.89	0.54
34:g:283:PRO:O	34:g:285:GLN:N	2.41	0.54
1:1:172:U:O2	1:1:172:U:H2'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:317:C:H3'	1:1:318:A:C5'	2.38	0.54
1:1:350:C:N4	1:1:351:G:N2	2.55	0.54
1:1:386:C:P	13:L:136:LYS:HD3	2.48	0.54
1:1:428:U:H2'	1:1:429:C:H6	1.71	0.54
1:1:448:A:C5	10:I:26:LYS:HA	2.43	0.54
1:1:854:A:O5'	1:1:854:A:H8	1.91	0.54
1:1:866:U:O5'	1:1:866:U:H6	1.91	0.54
1:1:986:G:H5''	28:a:19:GLN:CG	2.37	0.54
1:1:1068:G:H2'	1:1:1069:U:C5	2.43	0.54
1:1:1120:U:C2'	1:1:1121:G:H5'	2.38	0.54
1:1:1137:U:OP2	1:1:1137:U:H6	1.90	0.54
1:1:1280:G:C2	1:1:1281:G:C5	2.95	0.54
1:1:1286:G:N2	1:1:1312:G:C6	2.75	0.54
1:1:1380:C:H2'	1:1:1381:G:C8	2.43	0.54
1:1:1419:C:H2'	1:1:1420:G:C8	2.43	0.54
1:1:1490:G:H2'	1:1:1490:G:N3	2.22	0.54
1:1:1552:G:C8	1:1:1578:U:O4	2.60	0.54
1:1:1743:G:H21	1:1:1791:A:H62	1.56	0.54
3:B:193:ILE:O	3:B:197:ILE:HG12	2.08	0.54
5:D:12:VAL:HG13	31:d:36:LEU:HD11	1.89	0.54
7:F:100:ILE:HA	7:F:103:LEU:HD12	1.90	0.54
9:H:148:LEU:HA	24:W:42:MET:SD	2.47	0.54
11:J:137:VAL:HB	11:J:142:VAL:HG23	1.88	0.54
18:Q:51:LEU:HD11	18:Q:84:ILE:HG22	1.89	0.54
1:1:528:A:OP1	11:J:122:SER:HB2	2.06	0.54
1:1:611:G:N2	1:1:633:C:H1'	2.22	0.54
1:1:655:A:C4	1:1:657:U:H5	2.25	0.54
1:1:1440:C:H6	1:1:1440:C:O5'	1.89	0.54
1:1:1508:A:H8	1:1:1508:A:OP2	1.91	0.54
1:1:1598:G:H4'	1:1:1600:G:N7	2.23	0.54
1:1:1686:G:H5'	1:1:1687:C:OP2	2.07	0.54
1:1:1691:U:O2'	1:1:1692:U:C6	2.59	0.54
7:F:34:SER:C	7:F:36:GLN:H	2.16	0.54
11:J:60:LEU:HB2	11:J:94:LEU:HD11	1.88	0.54
28:a:19:GLN:HB3	28:a:32:LYS:HZ3	1.72	0.54
1:1:558:G:H8	1:1:558:G:O5'	1.89	0.54
1:1:847:A:H2'	1:1:847:A:N3	2.22	0.54
1:1:963:A:H2'	1:1:964:A:O4'	2.08	0.54
1:1:1165:G:H4'	1:1:1166:G:C5'	2.38	0.54
1:1:1472:C:O2	1:1:1472:C:H2'	2.06	0.54
3:B:59:SER:O	3:B:63:LYS:HD3	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:63:LYS:HE3	3:B:91:VAL:CB	2.38	0.54
6:E:49:ARG:HA	6:E:55:ALA:O	2.07	0.54
9:H:135:PHE:HB3	9:H:136:PRO:HD3	1.89	0.54
16:O:129:ILE:HD13	28:a:65:PRO:HG3	1.89	0.54
20:S:81:ASP:HB2	20:S:95:TYR:CD1	2.43	0.54
22:U:53:PRO:HB2	22:U:55:ARG:HH12	1.73	0.54
27:Z:103:HIS:CG	27:Z:104:ARG:H	2.26	0.54
28:a:63:VAL:C	28:a:64:LEU:HG	2.33	0.54
1:1:37:C:H3'	1:1:38:A:H5''	1.90	0.54
1:1:133:C:C4	1:1:134:C:H1'	2.43	0.54
1:1:170:A:C3'	1:1:171:A:C8	2.91	0.54
1:1:192:C:N4	1:1:207:G:H1	1.99	0.54
1:1:490:C:O5'	1:1:490:C:H6	1.91	0.54
1:1:505:G:H2'	1:1:506:G:H5'	1.90	0.54
1:1:609:U:O5'	1:1:609:U:H6	1.91	0.54
1:1:635:G:H2'	1:1:636:C:C6	2.43	0.54
1:1:684:G:C8	1:1:920:A:C6	2.96	0.54
1:1:921:G:C2	29:b:21:LYS:O	2.61	0.54
1:1:1101:U:C6	1:1:1101:U:H3'	2.44	0.54
1:1:1426:U:O4	1:1:1427:C:C4	2.61	0.54
1:1:1662:U:H2'	1:1:1663:A:H5'	1.90	0.54
1:1:1714:U:O5'	1:1:1714:U:H6	1.91	0.54
3:B:35:ALA:HB1	3:B:36:PRO:HD2	1.88	0.54
7:F:33:ILE:O	7:F:34:SER:HB3	2.08	0.54
17:P:53:GLN:OE1	17:P:83:MET:HG3	2.08	0.54
22:U:99:LYS:HA	22:U:102:THR:OG1	2.07	0.54
25:X:39:ASN:OD1	25:X:41:PHE:HB2	2.08	0.54
28:a:5:ARG:HD2	28:a:8:ASN:HA	1.89	0.54
30:c:59:LEU:HD23	30:c:60:GLU:HG3	1.90	0.54
1:1:35:C:C2'	1:1:36:U:H6	2.21	0.53
1:1:369:C:C2'	1:1:370:G:H5''	2.38	0.53
1:1:465:A:H4'	1:1:466:G:O4'	2.09	0.53
1:1:804:U:H2'	1:1:805:U:C5	2.40	0.53
1:1:1035:A:C8	1:1:1035:A:OP2	2.60	0.53
1:1:1129:G:C3'	1:1:1130:G:C8	2.92	0.53
1:1:1221:G:H2'	1:1:1222:G:C8	2.43	0.53
1:1:1649:U:C6	1:1:1649:U:O5'	2.61	0.53
5:D:208:VAL:HG13	19:R:40:ILE:O	2.08	0.53
6:E:195:ILE:HA	6:E:210:VAL:HG12	1.89	0.53
7:F:162:ALA:HB2	7:F:172:CYS:HB2	1.89	0.53
9:H:148:LEU:HA	24:W:42:MET:CG	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:33:LYS:CE	18:Q:36:GLY:HA2	2.38	0.53
34:g:173:LEU:HD23	34:g:189:ILE:HG23	1.89	0.53
1:1:148:U:H6	1:1:148:U:C5'	2.21	0.53
1:1:169:U:H1'	8:G:133:LEU:CD1	2.36	0.53
1:1:358:C:H5'	1:1:358:C:C6	2.40	0.53
1:1:448:A:N7	10:I:25:ARG:C	2.66	0.53
1:1:525:A:C8	1:1:525:A:C3'	2.90	0.53
1:1:1035:A:C8	1:1:1035:A:H3'	2.43	0.53
1:1:1165:G:H4'	1:1:1166:G:H5''	1.90	0.53
1:1:1274:G:N2	1:1:1510:G:H21	2.06	0.53
1:1:1350:U:O2'	2:A:110:ASN:HB2	2.09	0.53
1:1:1403:C:C5	1:1:1404:U:N1	2.75	0.53
1:1:1492:U:H4'	22:U:70:CYS:SG	2.48	0.53
1:1:1631:U:H6	1:1:1631:U:C5'	2.05	0.53
4:C:98:LEU:HD23	4:C:101:SER:HB2	1.90	0.53
7:F:60:ARG:HH11	7:F:60:ARG:HG2	1.72	0.53
7:F:128:ILE:HG22	7:F:130:ARG:HG2	1.90	0.53
9:H:123:THR:HA	9:H:126:HIS:CE1	2.44	0.53
12:K:29:MET:N	12:K:30:PRO:CD	2.71	0.53
15:N:61:ALA:HB2	29:b:32:PHE:HZ	1.72	0.53
18:Q:97:GLN:HB2	18:Q:105:LYS:HE3	1.90	0.53
1:1:193:C:H1'	1:1:208:G:N2	2.24	0.53
1:1:448:A:N7	10:I:26:LYS:CA	2.71	0.53
1:1:530:U:H2'	1:1:531:A:O4'	2.09	0.53
1:1:618:C:O4'	1:1:632:C:H4'	2.08	0.53
1:1:833:C:H4'	1:1:834:C:OP2	2.07	0.53
1:1:851:C:H4'	1:1:852:G:N2	2.22	0.53
1:1:1047:C:H1'	16:O:141:ARG:HG2	1.91	0.53
1:1:1512:C:H2'	1:1:1513:C:C5	2.44	0.53
1:1:1533:A:N3	1:1:1533:A:H2'	2.22	0.53
2:A:9:GLN:CB	23:V:83:PHE:HA	2.38	0.53
2:A:77:ILE:HD12	2:A:122:LEU:HD11	1.91	0.53
2:A:177:MET:HG3	2:A:180:ARG:HH12	1.72	0.53
5:D:24:PHE:HE1	5:D:72:VAL:HG11	1.73	0.53
34:g:9:GLY:O	34:g:309:VAL:HG22	2.09	0.53
1:1:201:C:H3'	1:1:201:C:O2	2.08	0.53
1:1:557:U:C2'	1:1:558:G:C8	2.91	0.53
1:1:562:U:H3'	1:1:562:U:H6	1.72	0.53
1:1:795:A:C2	1:1:796:G:N9	2.77	0.53
1:1:800:U:H6	1:1:800:U:C5'	2.21	0.53
1:1:862:A:H2'	1:1:863:U:H6	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:919:A:N3	1:1:919:A:H2'	2.23	0.53
1:1:951:C:H1'	1:1:976:G:C2	2.43	0.53
1:1:1004:U:O5'	1:1:1004:U:H6	1.92	0.53
1:1:1131:G:H2'	1:1:1132:C:C6	2.43	0.53
1:1:1170:A:O3'	1:1:1171:G:H4'	2.08	0.53
1:1:1752:C:C2'	1:1:1753:C:H5'	2.39	0.53
5:D:166:TYR:CD1	5:D:200:PRO:HB3	2.44	0.53
9:H:102:PRO:HG3	9:H:105:THR:HG21	1.90	0.53
10:I:69:SER:CB	13:L:24:LEU:HD11	2.25	0.53
16:O:43:HIS:CE1	16:O:52:THR:HG23	2.43	0.53
20:S:47:LYS:HE2	20:S:79:ILE:CG1	2.38	0.53
24:W:14:ILE:HD11	24:W:27:ILE:HD11	1.91	0.53
24:W:37:PHE:CD1	24:W:103:VAL:HG21	2.43	0.53
30:c:34:PHE:CZ	30:c:42:ILE:HD12	2.43	0.53
1:1:66:G:C1'	8:G:160:LYS:HG2	2.33	0.53
1:1:213:G:H2'	1:1:214:U:O4'	2.07	0.53
1:1:301:A:C2'	1:1:302:A:C8	2.84	0.53
1:1:562:U:H4'	1:1:562:U:OP1	2.08	0.53
1:1:657:U:H3'	1:1:657:U:C6	2.43	0.53
1:1:684:G:C8	1:1:920:A:C5	2.96	0.53
1:1:743:U:O2	1:1:743:U:H5''	2.08	0.53
1:1:803:C:H4'	24:W:80:ASP:OD2	2.09	0.53
1:1:803:C:H2'	1:1:804:U:C6	2.44	0.53
1:1:850:C:H2'	1:1:851:C:H5''	1.90	0.53
1:1:886:A:O2'	1:1:887:U:H5'	2.08	0.53
1:1:1043:G:H4'	1:1:1044:G:OP1	2.09	0.53
1:1:1425:G:H2'	1:1:1426:U:C1'	2.38	0.53
1:1:1602:U:H2'	1:1:1603:G:C8	2.43	0.53
1:1:1822:A:C6	1:1:1823:A:C6	2.97	0.53
6:E:97:GLU:HB3	6:E:99:PHE:CE2	2.44	0.53
8:G:164:LYS:HG2	8:G:165:GLU:N	2.24	0.53
9:H:75:ILE:HG22	9:H:75:ILE:O	2.08	0.53
10:I:57:ALA:HB2	10:I:183:GLY:HA2	1.91	0.53
12:K:3:MET:SD	12:K:47:LYS:HD3	2.48	0.53
18:Q:96:TYR:HA	18:Q:100:VAL:HG23	1.90	0.53
24:W:26:LEU:HD22	29:b:7:LEU:HD12	1.89	0.53
25:X:36:LEU:O	25:X:42:GLY:HA2	2.09	0.53
28:a:30:VAL:CG1	28:a:35:ALA:HB2	2.38	0.53
30:c:14:VAL:HG13	30:c:30:VAL:HB	1.91	0.53
1:1:39:A:C2	1:1:517:C:H1'	2.44	0.53
1:1:307:G:C4'	1:1:308:G:H5''	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:316:G:C2	1:1:335:G:C2	2.97	0.53
1:1:563:G:C4	1:1:564:A:C8	2.97	0.53
1:1:587:A:OP2	1:1:587:A:C8	2.62	0.53
1:1:890:U:O2	1:1:890:U:C2'	2.55	0.53
1:1:958:G:H5'	1:1:959:G:N7	2.24	0.53
1:1:1102:G:H22	1:1:1130:G:N2	2.06	0.53
1:1:1413:G:C2	1:1:1414:A:C4	2.97	0.53
1:1:1414:A:H2'	1:1:1415:C:N1	2.22	0.53
1:1:1461:G:H5''	1:1:1462:U:OP2	2.09	0.53
1:1:1493:C:H4'	1:1:1494:U:H5'	1.90	0.53
1:1:1621:U:O2	1:1:1621:U:H3'	2.08	0.53
1:1:1825:A:H2'	1:1:1826:G:C5'	2.34	0.53
5:D:99:ILE:HG12	5:D:171:ALA:HB2	1.89	0.53
15:N:28:LEU:HD11	15:N:32:ASP:CB	2.38	0.53
29:b:18:LYS:HB3	29:b:22:LYS:HB2	1.89	0.53
34:g:119:GLN:HB3	34:g:131:LEU:HD21	1.91	0.53
34:g:191:HIS:CG	34:g:195:LEU:HD21	2.44	0.53
1:1:96:C:H2'	1:1:97:U:O4'	2.08	0.53
1:1:153:G:H1	1:1:165:G:N2	2.06	0.53
1:1:344:U:H2'	1:1:345:U:N1	2.23	0.53
1:1:527:C:H5''	1:1:528:A:OP2	2.09	0.53
1:1:546:G:H1'	1:1:548:C:H5	1.74	0.53
1:1:577:U:C4'	1:1:578:C:O4'	2.56	0.53
1:1:1215:C:H5'	1:1:1217:A:H62	1.74	0.53
1:1:1282:A:H2'	1:1:1283:C:H5'	1.88	0.53
1:1:1313:A:C5'	1:1:1314:U:H5	2.22	0.53
1:1:1549:U:H6	1:1:1549:U:O5'	1.92	0.53
7:F:142:SER:OG	30:c:50:VAL:HB	2.08	0.53
21:T:4:VAL:CG2	21:T:136:GLY:HA2	2.38	0.53
25:X:82:THR:OG1	25:X:118:VAL:HG22	2.09	0.53
34:g:174:VAL:HG13	34:g:188:HIS:HB2	1.91	0.53
1:1:36:U:C2	1:1:520:A:N1	2.77	0.53
1:1:164:A:C3'	1:1:165:G:C8	2.91	0.53
1:1:452:G:H2'	1:1:453:C:H6	1.74	0.53
1:1:523:A:H8	1:1:523:A:O5'	1.91	0.53
1:1:553:U:H3'	1:1:554:A:C5'	2.38	0.53
1:1:613:G:O2'	1:1:626:G:H4'	2.09	0.53
1:1:747:U:N1	1:1:748:C:H2'	2.24	0.53
1:1:799:U:C6	1:1:800:U:C2	2.96	0.53
1:1:970:G:H4'	1:1:971:G:OP2	2.08	0.53
1:1:1504:U:H6	1:1:1504:U:O5'	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1571:G:C2	1:1:1572:C:H1'	2.44	0.53
1:1:1592:C:H2'	1:1:1593:C:C6	2.43	0.53
2:A:40:LYS:HD2	19:R:104:GLU:HB2	1.90	0.53
5:D:98:ALA:CA	5:D:188:ILE:HD12	2.38	0.53
8:G:46:LYS:HB2	8:G:119:LYS:HG2	1.91	0.53
9:H:105:THR:O	9:H:105:THR:HG22	2.09	0.53
10:I:113:TYR:HE2	10:I:119:LEU:HD23	1.74	0.53
25:X:95:GLU:HB2	25:X:98:ASP:OD2	2.09	0.53
28:a:44:ILE:HA	28:a:67:LEU:CD1	2.37	0.53
29:b:14:GLU:OE1	29:b:18:LYS:HE2	2.09	0.53
34:g:268:ASP:OD1	34:g:270:LEU:HG	2.09	0.53
1:1:28:U:H4'	25:X:124:LYS:NZ	2.23	0.53
1:1:172:U:O2	1:1:172:U:C2'	2.57	0.53
1:1:1406:G:O4'	1:1:1407:U:H5'	2.08	0.53
1:1:1419:C:O2'	21:T:3:GLY:HA2	2.09	0.53
1:1:1457:U:H2'	1:1:1458:G:C8	2.44	0.53
1:1:1663:A:C2	1:1:1664:A:N1	2.77	0.53
7:F:116:ILE:HD13	7:F:154:LEU:HD12	1.90	0.53
9:H:170:VAL:HG13	9:H:187:PHE:CD1	2.44	0.53
12:K:11:ILE:CG1	12:K:38:LYS:HE2	2.39	0.53
13:L:82:MET:HE3	13:L:85:THR:HG21	1.89	0.53
1:1:91:A:P	1:1:446:G:H22	2.32	0.53
1:1:526:A:O2'	11:J:124:HIS:O	2.25	0.53
1:1:589:G:C1'	1:1:590:A:OP1	2.54	0.53
1:1:602:G:H3'	1:1:603:C:C5'	2.39	0.53
1:1:604:A:H4'	1:1:605:A:OP2	2.09	0.53
1:1:675:U:O5'	1:1:675:U:H6	1.92	0.53
1:1:1050:A:OP1	1:1:1846:G:N2	2.40	0.53
1:1:1344:A:O2'	1:1:1345:G:C8	2.62	0.53
1:1:1396:A:H2	1:1:1449:G:N1	2.00	0.53
1:1:1428:G:H5''	1:1:1428:G:H8	1.74	0.53
1:1:1648:G:H3'	1:1:1648:G:N3	2.23	0.53
1:1:1700:C:C2	1:1:1834:A:N6	2.77	0.53
2:A:110:ASN:OD1	2:A:113:GLN:HG2	2.08	0.53
3:B:177:GLN:O	3:B:177:GLN:HG2	2.09	0.53
9:H:83:LEU:HB2	9:H:92:VAL:HG21	1.90	0.53
9:H:102:PRO:CG	9:H:105:THR:HB	2.39	0.53
9:H:158:LEU:HD11	9:H:187:PHE:HD2	1.73	0.53
10:I:81:VAL:O	10:I:91:VAL:HG13	2.09	0.53
10:I:192:GLY:HA3	13:L:20:LYS:HA	1.91	0.53
14:M:33:ARG:HH21	14:M:91:LEU:HD23	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:55:THR:O	19:R:58:MET:HB2	2.09	0.53
20:S:15:VAL:O	20:S:19:ASN:HB2	2.09	0.53
24:W:104:LEU:CD2	24:W:125:ILE:HG12	2.39	0.53
34:g:44:LYS:HE3	34:g:56:GLN:CD	2.34	0.53
1:1:314:U:O2	1:1:314:U:C2'	2.57	0.52
1:1:336:A:C2	1:1:337:C:H5	2.27	0.52
1:1:655:A:N7	1:1:657:U:H5	2.06	0.52
1:1:747:U:O2	1:1:748:C:H3'	2.09	0.52
1:1:918:U:C5	1:1:919:A:C8	2.97	0.52
1:1:1152:U:O5'	1:1:1152:U:H6	1.92	0.52
1:1:1265:A:N3	1:1:1265:A:H2'	2.24	0.52
1:1:1497:G:H4'	1:1:1498:A:H5'	1.91	0.52
1:1:1606:G:H21	1:1:1632:G:H2'	1.70	0.52
1:1:1682:C:H2'	1:1:1683:C:C6	2.44	0.52
3:B:31:TYR:CZ	3:B:91:VAL:HG13	2.44	0.52
3:B:33:VAL:HG11	3:B:67:PHE:CZ	2.43	0.52
4:C:82:TYR:CZ	4:C:164:PRO:HD3	2.44	0.52
5:D:7:LYS:HD3	5:D:10:LYS:HE2	1.91	0.52
6:E:238:LEU:HD23	6:E:238:LEU:H	1.74	0.52
11:J:32:ILE:HD13	32:e:34:ARG:NH1	2.25	0.52
11:J:111:GLN:HE22	11:J:130:ILE:HD12	1.74	0.52
22:U:78:ASP:HB3	22:U:80:PHE:CE2	2.43	0.52
1:1:138:C:OP1	1:1:138:C:H4'	2.09	0.52
1:1:151:C:OP1	26:Y:120:THR:HA	2.09	0.52
1:1:188:C:H2'	1:1:189:U:C6	2.44	0.52
1:1:314:U:H2'	1:1:314:U:O2	2.08	0.52
1:1:640:A:H5''	11:J:25:LEU:CD1	2.33	0.52
1:1:745:C:C5	9:H:107:LYS:HD3	2.44	0.52
1:1:1000:C:N4	28:a:16:GLY:H	2.07	0.52
1:1:1049:A:H2'	1:1:1050:A:H5'	1.91	0.52
1:1:1095:C:H5''	24:W:22:LYS:HZ1	1.75	0.52
1:1:1415:C:H2'	1:1:1416:C:H5'	1.91	0.52
1:1:1635:C:H6	1:1:1635:C:O5'	1.92	0.52
1:1:1815:A:H3'	1:1:1816:G:C8	2.40	0.52
22:U:80:PHE:CD1	31:d:52:PHE:HB3	2.44	0.52
25:X:88:ASP:OD1	32:e:10:GLY:HA2	2.10	0.52
31:d:30:LEU:O	31:d:39:CYS:HA	2.08	0.52
1:1:10:G:H2'	1:1:11:A:C8	2.44	0.52
1:1:302:A:C4'	10:I:73:THR:O	2.58	0.52
1:1:595:U:H2'	1:1:596:U:C6	2.45	0.52
1:1:599:A:H5''	1:1:600:G:OP1	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:746:C:H5'	9:H:104:PRO:C	2.34	0.52
1:1:1221:G:O2'	1:1:1222:G:H5'	2.09	0.52
1:1:1266:C:H2'	1:1:1267:C:H6	1.75	0.52
1:1:1414:A:H2'	1:1:1415:C:C6	2.44	0.52
1:1:1602:U:C2'	1:1:1603:G:H2'	2.34	0.52
1:1:1619:A:H2'	1:1:1619:A:N3	2.23	0.52
1:1:1747:C:H2'	1:1:1748:G:C8	2.44	0.52
8:G:23:LYS:HD3	8:G:41:LEU:HD23	1.90	0.52
8:G:55:GLY:O	8:G:62:PRO:HA	2.08	0.52
9:H:147:LYS:HE3	9:H:153:LEU:HD11	1.90	0.52
10:I:119:LEU:HG	10:I:121:LEU:HD12	1.91	0.52
22:U:50:VAL:HG22	22:U:91:LEU:CD2	2.39	0.52
31:d:26:ASN:HD21	31:d:28:HIS:CD2	2.27	0.52
1:1:67:C:C6	8:G:164:LYS:HB2	2.45	0.52
1:1:178:C:H3'	1:1:179:C:C6	2.44	0.52
1:1:571:U:H1'	26:Y:60:PHE:N	2.23	0.52
1:1:748:C:H5''	1:1:749:U:C5	2.44	0.52
1:1:829:C:H4'	1:1:830:A:OP1	2.08	0.52
1:1:1000:C:N4	28:a:15:ARG:HB2	2.25	0.52
1:1:1148:A:N3	1:1:1148:A:C5'	2.72	0.52
1:1:1161:U:H3'	1:1:1161:U:C6	2.44	0.52
1:1:1239:U:H2'	1:1:1241:A:OP2	2.10	0.52
1:1:1410:C:OP2	1:1:1413:G:H5''	2.10	0.52
1:1:1442:U:H3'	1:1:1443:C:C4'	2.39	0.52
1:1:1622:U:H3'	1:1:1622:U:H6	1.73	0.52
3:B:179:ASN:O	3:B:180:ASP:HB2	2.10	0.52
5:D:16:ILE:HG13	31:d:36:LEU:HD23	1.91	0.52
5:D:28:GLU:HG2	12:K:61:GLN:HG3	1.90	0.52
8:G:91:GLU:O	8:G:91:GLU:HG2	2.08	0.52
18:Q:86:GLN:HE21	18:Q:90:LYS:NZ	2.07	0.52
1:1:39:A:H1'	1:1:518:G:N2	2.23	0.52
1:1:84:A:H5'	26:Y:123:ALA:CB	2.37	0.52
1:1:550:C:O2'	32:e:43:VAL:HG13	2.08	0.52
1:1:557:U:H2'	1:1:558:G:C8	2.45	0.52
1:1:571:U:C2'	1:1:572:U:O4'	2.56	0.52
1:1:591:U:O2	1:1:591:U:C2'	2.57	0.52
1:1:693:A:C8	1:1:694:G:H1'	2.44	0.52
1:1:740:C:H2'	1:1:741:C:H6	1.69	0.52
1:1:835:C:O2	1:1:835:C:C2'	2.57	0.52
1:1:1272:C:O2'	1:1:1273:C:H5'	2.10	0.52
1:1:1368:U:H2'	1:1:1370:A:OP2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1420:G:H1'	21:T:3:GLY:N	2.24	0.52
1:1:1495:G:C5	31:d:41:GLN:HB3	2.44	0.52
1:1:1530:U:H4'	21:T:86:GLY:O	2.10	0.52
1:1:1673:U:C6	1:1:1673:U:H5'	2.44	0.52
3:B:129:THR:HG22	3:B:176:VAL:HG12	1.91	0.52
10:I:191:GLU:C	13:L:20:LYS:HB2	2.35	0.52
21:T:102:ARG:HA	21:T:105:GLN:OE1	2.10	0.52
1:1:65:C:H2'	1:1:66:G:C3'	2.40	0.52
1:1:315:C:O2'	1:1:316:G:H5'	2.10	0.52
1:1:495:U:H2'	1:1:496:C:O4'	2.09	0.52
1:1:847:A:H3'	1:1:848:U:H6	1.75	0.52
1:1:1174:U:O5'	1:1:1174:U:H6	1.93	0.52
1:1:1389:C:O5'	1:1:1389:C:H6	1.92	0.52
1:1:1430:C:O2'	21:T:5:THR:HB	2.09	0.52
1:1:1440:C:H2'	1:1:1441:U:H5	1.69	0.52
1:1:1705:C:H2'	1:1:1706:G:C8	2.45	0.52
4:C:74:LYS:HG3	4:C:272:HIS:CD2	2.45	0.52
6:E:72:ILE:HB	6:E:77:ARG:HG3	1.91	0.52
11:J:37:LEU:HD23	11:J:127:ARG:NH2	2.23	0.52
12:K:15:LEU:O	12:K:15:LEU:HD22	2.09	0.52
14:M:24:THR:O	14:M:27:ILE:HG12	2.10	0.52
15:N:61:ALA:HB2	29:b:32:PHE:CZ	2.45	0.52
16:O:93:LEU:HD12	16:O:119:LEU:HD23	1.90	0.52
29:b:7:LEU:O	29:b:24:LEU:HD11	2.09	0.52
34:g:40:ILE:HB	34:g:59:LEU:HB2	1.92	0.52
1:1:20:G:H4'	1:1:620:G:N1	2.25	0.52
1:1:550:C:H4'	32:e:43:VAL:HG22	1.91	0.52
1:1:901:G:C5	1:1:902:G:N7	2.78	0.52
1:1:1016:U:C4'	1:1:1017:U:OP1	2.53	0.52
1:1:1161:U:H2'	1:1:1162:C:O5'	2.10	0.52
1:1:1402:A:C8	1:1:1403:C:H5	2.27	0.52
1:1:1427:C:C6	1:1:1427:C:C3'	2.89	0.52
27:Z:70:PRO:HD3	27:Z:107:VAL:HB	1.92	0.52
1:1:37:C:O5'	1:1:37:C:H6	1.91	0.52
1:1:301:A:H1'	10:I:71:CYS:O	2.09	0.52
1:1:499:G:N2	1:1:502:C:C4	2.78	0.52
1:1:552:G:O5'	1:1:552:G:H8	1.93	0.52
1:1:564:A:N6	1:1:586:G:H1	2.07	0.52
1:1:904:A:H2'	1:1:905:C:H6	1.73	0.52
1:1:914:U:H6	1:1:914:U:H5''	1.74	0.52
1:1:920:A:C8	1:1:922:A:N7	2.78	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1203:G:H2'	1:1:1699:A:H2	1.74	0.52
1:1:1324:G:H2'	1:1:1325:G:C8	2.44	0.52
1:1:1556:A:C2	1:1:1557:C:H5	2.26	0.52
1:1:1588:A:H2'	1:1:1589:A:C8	2.44	0.52
1:1:1603:G:H4'	1:1:1604:G:OP2	2.04	0.52
1:1:1607:A:H1'	1:1:1633:A:C2	2.45	0.52
1:1:1648:G:O2'	18:Q:127:CYS:HA	2.10	0.52
4:C:104:ASP:HB3	4:C:130:ILE:HG22	1.92	0.52
8:G:133:LEU:N	8:G:133:LEU:HD23	2.25	0.52
21:T:111:LYS:O	21:T:126:GLN:HB2	2.08	0.52
21:T:129:ARG:HG3	21:T:130:ASP:N	2.24	0.52
24:W:26:LEU:HB2	29:b:7:LEU:HD12	1.92	0.52
27:Z:97:ILE:HD12	27:Z:109:TYR:CG	2.44	0.52
1:1:19:A:O2'	1:1:621:C:H1'	2.09	0.52
1:1:48:C:H2'	1:1:49:C:O4'	2.09	0.52
1:1:345:U:H2'	1:1:346:C:C5'	2.40	0.52
1:1:791:C:H2'	1:1:792:C:C6	2.45	0.52
1:1:877:C:H2'	1:1:878:G:C8	2.42	0.52
1:1:904:A:H2'	1:1:905:C:C6	2.45	0.52
1:1:1403:C:C4	1:1:1404:U:H1'	2.44	0.52
1:1:1446:A:O2'	1:1:1447:G:H5''	2.10	0.52
1:1:1562:C:H5'	21:T:71:GLY:CA	2.40	0.52
1:1:1655:C:O5'	1:1:1655:C:H6	1.92	0.52
1:1:1672:U:C3'	1:1:1673:U:H5''	2.40	0.52
1:1:1853:C:H2'	1:1:1854:U:H6	1.71	0.52
3:B:58:ALA:O	3:B:63:LYS:HG3	2.10	0.52
5:D:3:VAL:HG13	5:D:5:ILE:HG13	1.91	0.52
6:E:158:ASP:OD1	6:E:174:LYS:HG2	2.09	0.52
12:K:26:ASP:OD2	12:K:33:PRO:HG2	2.09	0.52
16:O:136:PRO:HB2	16:O:138:ASP:O	2.09	0.52
25:X:18:ARG:O	25:X:21:LYS:HB3	2.10	0.52
1:1:170:A:C2'	1:1:171:A:C8	2.93	0.52
1:1:313:A:H2'	8:G:191:ARG:HH21	1.74	0.52
1:1:475:C:C6	1:1:475:C:C5'	2.86	0.52
1:1:572:U:C6	1:1:572:U:C3'	2.93	0.52
1:1:850:C:H2'	1:1:850:C:O2	2.10	0.52
1:1:1017:U:H2'	1:1:1018:U:O4'	2.10	0.52
1:1:1557:C:N3	1:1:1661:A:H4'	2.25	0.52
1:1:1630:A:H5''	20:S:37:GLY:N	2.25	0.52
1:1:1654:G:O5'	1:1:1654:G:H8	1.93	0.52
1:1:1761:U:H3	1:1:1771:G:H1	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:53:SER:HB3	8:G:110:ASN:C	2.34	0.52
12:K:27:VAL:HG23	12:K:30:PRO:HD3	1.92	0.52
15:N:92:ILE:O	15:N:96:VAL:HG23	2.10	0.52
17:P:18:ARG:NH2	17:P:38:SER:HB2	2.24	0.52
20:S:30:ILE:HG22	20:S:36:VAL:HG11	1.92	0.52
21:T:39:LEU:HD21	21:T:43:LYS:H	1.74	0.52
34:g:294:ASP:OD2	34:g:296:GLN:HB3	2.10	0.52
1:1:138:C:OP2	1:1:139:C:H5''	2.10	0.51
1:1:529:A:C2'	1:1:530:U:C6	2.88	0.51
1:1:889:U:H3'	1:1:890:U:C5'	2.36	0.51
1:1:913:A:C6	9:H:120:ARG:HB3	2.45	0.51
1:1:973:C:H3'	1:1:973:C:H6	1.75	0.51
1:1:1042:A:H2'	1:1:1043:G:O5'	2.09	0.51
1:1:1132:C:O5'	1:1:1132:C:H6	1.93	0.51
1:1:1311:C:C5	1:1:1311:C:OP2	2.64	0.51
1:1:1534:C:H3'	1:1:1534:C:OP1	2.09	0.51
1:1:1534:C:C1'	1:1:1535:U:OP2	2.59	0.51
1:1:1562:C:C5'	21:T:71:GLY:HA3	2.40	0.51
1:1:1567:G:H1'	21:T:38:LYS:HG3	1.91	0.51
1:1:1696:C:O2'	1:1:1697:A:C8	2.58	0.51
1:1:1782:G:P	1:1:1782:G:O4'	2.68	0.51
2:A:30:LEU:HD22	2:A:35:GLU:OE1	2.10	0.51
2:A:189:ILE:HG22	2:A:190:SER:O	2.10	0.51
4:C:94:ILE:HD13	4:C:159:LYS:O	2.10	0.51
5:D:94:ARG:HG2	5:D:101:GLN:HE22	1.75	0.51
5:D:106:ARG:HH12	5:D:173:ARG:CB	2.24	0.51
5:D:194:PRO:HA	5:D:201:LYS:HA	1.92	0.51
20:S:4:VAL:HG12	20:S:5:ILE:O	2.10	0.51
27:Z:92:LEU:HD13	27:Z:109:TYR:HE1	1.75	0.51
29:b:30:SER:HB2	29:b:47:PHE:CZ	2.45	0.51
1:1:39:A:H2'	1:1:40:A:O4'	2.09	0.51
1:1:83:A:H2'	26:Y:123:ALA:CB	2.40	0.51
1:1:310:C:C2'	1:1:340:C:H5'	2.41	0.51
1:1:455:A:C8	1:1:455:A:H3'	2.46	0.51
1:1:797:C:P	9:H:109:ARG:H	2.33	0.51
1:1:1549:U:H3	1:1:1584:G:N2	2.08	0.51
1:1:1567:G:OP1	1:1:1567:G:C8	2.62	0.51
1:1:1694:U:O2'	1:1:1834:A:H5''	2.11	0.51
1:1:1868:U:H4'	1:1:1868:U:OP1	2.02	0.51
2:A:8:LEU:HG	2:A:191:ARG:NE	2.26	0.51
4:C:209:VAL:HB	4:C:210:PRO:HD3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:252:THR:OG1	4:C:253:PRO:HD2	2.10	0.51
4:C:260:VAL:O	4:C:261:PHE:HB2	2.10	0.51
4:C:267:GLN:HE22	23:V:35:ASN:HB2	1.75	0.51
7:F:51:HIS:HA	7:F:86:LYS:NZ	2.25	0.51
8:G:45:TRP:HA	8:G:48:TYR:CE1	2.44	0.51
9:H:109:ARG:HG3	9:H:113:LYS:HD2	1.92	0.51
12:K:65:ARG:NE	31:d:22:ARG:HA	2.26	0.51
34:g:16:GLY:H	34:g:37:ASP:HB3	1.74	0.51
34:g:197:THR:HG21	34:g:238:ALA:CA	2.38	0.51
1:1:368:U:OP1	1:1:369:C:H4'	2.10	0.51
1:1:452:G:H2'	1:1:453:C:C6	2.46	0.51
1:1:643:A:H4'	1:1:644:G:H5'	1.92	0.51
1:1:934:G:H5'	1:1:993:G:H22	1.75	0.51
1:1:944:A:H2'	1:1:944:A:N3	2.25	0.51
1:1:1362:U:H3'	1:1:1363:C:C2	2.46	0.51
1:1:1500:G:O4'	5:D:180:GLY:HA2	2.11	0.51
16:O:30:VAL:HG21	16:O:47:LEU:HA	1.92	0.51
18:Q:24:HIS:HB3	18:Q:69:ARG:H	1.74	0.51
19:R:109:LEU:CD1	19:R:111:PHE:HB2	2.36	0.51
21:T:4:VAL:HG21	21:T:139:ALA:HB3	1.92	0.51
24:W:52:ILE:HG12	24:W:61:ILE:HG12	1.92	0.51
34:g:302:TYR:HH	34:g:310:TRP:HH2	1.58	0.51
1:1:111:A:C4'	1:1:112:U:OP1	2.56	0.51
1:1:438:G:N2	1:1:439:A:C6	2.78	0.51
1:1:547:G:OP2	1:1:548:C:C5	2.64	0.51
1:1:551:U:O5'	1:1:551:U:H6	1.93	0.51
1:1:571:U:C2'	1:1:572:U:C4'	2.89	0.51
1:1:746:C:H1'	1:1:747:U:C2	2.42	0.51
1:1:894:G:H2'	1:1:895:G:C8	2.46	0.51
1:1:1099:G:C2	1:1:1134:G:N2	2.79	0.51
1:1:1349:G:H2'	1:1:1350:U:C6	2.46	0.51
1:1:1461:G:C2	1:1:1466:G:C6	2.99	0.51
1:1:1548:G:O6	1:1:1584:G:C2	2.64	0.51
1:1:1559:C:O5'	1:1:1559:C:H6	1.92	0.51
1:1:1767:C:C6	1:1:1767:C:H3'	2.46	0.51
1:1:1865:C:C6	28:a:5:ARG:HB3	2.46	0.51
3:B:144:LYS:HB2	3:B:208:HIS:HB2	1.92	0.51
4:C:167:ARG:C	4:C:181:PRO:HD3	2.35	0.51
9:H:103:LYS:HB2	9:H:104:PRO:HD3	1.91	0.51
16:O:99:ALA:CB	16:O:108:PRO:HA	2.41	0.51
16:O:104:ARG:HA	16:O:142:ARG:NH1	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:X:122:VAL:O	25:X:130:LEU:HD11	2.11	0.51
28:a:41:ILE:HG13	28:a:41:ILE:O	2.10	0.51
1:1:35:C:C2'	1:1:36:U:C6	2.92	0.51
1:1:88:G:C2	1:1:89:C:C2	2.99	0.51
1:1:369:C:H2'	1:1:370:G:H5'	1.93	0.51
1:1:448:A:H4'	1:1:449:A:C5'	2.41	0.51
1:1:547:G:OP2	1:1:548:C:C6	2.63	0.51
1:1:1005:G:H2'	1:1:1006:C:H6	1.73	0.51
1:1:1109:C:O2	1:1:1109:C:C3'	2.59	0.51
1:1:1117:C:H5''	1:1:1118:C:OP2	2.11	0.51
1:1:1130:G:C5'	15:N:10:GLY:HA2	2.41	0.51
1:1:1132:C:C5	1:1:1132:C:OP2	2.64	0.51
1:1:1138:C:H5''	1:1:1139:C:P	2.49	0.51
1:1:1413:G:H2'	1:1:1414:A:H8	1.74	0.51
1:1:1649:U:C6	1:1:1649:U:C3'	2.93	0.51
1:1:1678:A:C2'	1:1:1679:A:H5'	2.40	0.51
1:1:1709:G:H8	1:1:1709:G:OP2	1.94	0.51
1:1:1790:A:O2'	1:1:1791:A:H5'	2.11	0.51
5:D:70:THR:O	5:D:74:GLN:HG3	2.11	0.51
6:E:180:LEU:HD13	6:E:232:ASN:H	1.75	0.51
7:F:89:THR:O	7:F:93:VAL:HG23	2.10	0.51
17:P:44:ARG:HD3	17:P:44:ARG:C	2.36	0.51
17:P:85:ILE:HD13	17:P:111:MET:HB3	1.93	0.51
21:T:138:VAL:O	21:T:141:ALA:HB3	2.11	0.51
22:U:58:THR:HG23	22:U:84:ILE:O	2.10	0.51
1:1:181:A:H2'	1:1:181:A:N3	2.24	0.51
1:1:584:A:O2'	1:1:585:C:H5'	2.11	0.51
1:1:671:A:H5''	1:1:671:A:H8	1.76	0.51
1:1:1133:A:C2	1:1:1134:G:C5	2.98	0.51
1:1:1214:A:C2	1:1:1686:G:N3	2.79	0.51
1:1:1279:C:O2'	1:1:1280:G:H5'	2.10	0.51
1:1:1356:G:H2'	1:1:1357:A:C8	2.46	0.51
1:1:1426:U:C3'	1:1:1427:C:H5'	2.39	0.51
1:1:1597:C:H3'	1:1:1598:G:C8	2.46	0.51
2:A:63:ARG:HG2	23:V:46:PHE:HZ	1.74	0.51
3:B:112:SER:HB2	28:a:68:TYR:CE2	2.46	0.51
5:D:3:VAL:HG13	5:D:5:ILE:CG1	2.41	0.51
18:Q:102:GLU:HB3	34:g:56:GLN:C	2.35	0.51
22:U:104:ILE:HD13	22:U:106:ILE:HG22	1.93	0.51
1:1:45:A:H8	1:1:45:A:OP1	1.93	0.51
1:1:191:A:C2	1:1:192:C:N1	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:198:U:H6	1:1:198:U:H5''	1.76	0.51
1:1:587:A:C2'	1:1:592:C:N4	2.71	0.51
1:1:601:G:H5''	1:1:602:G:OP2	2.10	0.51
1:1:924:G:H2'	1:1:925:G:C8	2.45	0.51
1:1:994:C:H2'	1:1:995:G:O4'	2.11	0.51
1:1:1427:C:C4	1:1:1428:G:C8	2.99	0.51
1:1:1635:C:C6	1:1:1635:C:O5'	2.64	0.51
1:1:1673:U:H3'	1:1:1674:G:H8	1.74	0.51
2:A:200:ASP:HB3	19:R:86:PRO:HB2	1.92	0.51
8:G:160:LYS:O	8:G:160:LYS:HG3	2.06	0.51
9:H:28:LEU:O	9:H:31:GLU:HG2	2.10	0.51
9:H:72:PHE:CZ	9:H:94:PHE:HB2	2.45	0.51
21:T:96:SER:O	21:T:99:VAL:HG22	2.10	0.51
1:1:111:A:N6	1:1:351:G:H21	2.09	0.51
1:1:519:A:C2	1:1:520:A:C2	2.98	0.51
1:1:572:U:C3'	1:1:573:U:N3	2.73	0.51
1:1:890:U:C3'	1:1:891:G:H5''	2.38	0.51
1:1:956:G:O5'	16:O:60:MET:HA	2.10	0.51
1:1:992:A:H8	1:1:992:A:O5'	1.94	0.51
1:1:1130:G:H5'	15:N:10:GLY:HA2	1.91	0.51
1:1:1370:A:H62	19:R:4:VAL:HB	1.76	0.51
1:1:1618:C:H5'	1:1:1619:A:OP2	2.10	0.51
2:A:110:ASN:HD21	2:A:113:GLN:CG	2.23	0.51
3:B:208:HIS:O	3:B:209:ASP:HB2	2.10	0.51
6:E:125:LYS:HB3	6:E:142:HIS:ND1	2.26	0.51
11:J:147:PHE:CE2	11:J:149:VAL:HG22	2.46	0.51
20:S:24:ARG:HG3	20:S:25:LYS:H	1.75	0.51
22:U:32:LEU:O	22:U:35:VAL:HG12	2.10	0.51
34:g:35:SER:HB3	34:g:37:ASP:OD1	2.11	0.51
34:g:146:SER:HB3	34:g:177:TRP:CH2	2.46	0.51
1:1:337:C:O2	1:1:337:C:H2'	2.10	0.51
1:1:346:C:C6	1:1:346:C:C3'	2.94	0.51
1:1:482:G:N2	1:1:485:A:H2	2.09	0.51
1:1:590:A:N7	32:e:28:LYS:HB2	2.25	0.51
1:1:660:C:C2	13:L:98:LYS:O	2.64	0.51
1:1:678:U:C6	1:1:678:U:O5'	2.64	0.51
1:1:888:U:C6	1:1:888:U:C3'	2.94	0.51
1:1:1147:C:C6	1:1:1147:C:C3'	2.94	0.51
1:1:1217:A:H2'	1:1:1218:C:H6	1.71	0.51
1:1:1415:C:C3'	1:1:1416:C:H5'	2.41	0.51
1:1:1506:A:C5'	1:1:1508:A:N7	2.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1531:A:H2'	1:1:1532:C:C6	2.46	0.51
1:1:1864:U:HO2'	1:1:1866:A:H2	1.51	0.51
2:A:58:LEU:HD11	2:A:178:LEU:HB2	1.93	0.51
10:I:68:GLY:HA3	13:L:21:LYS:HE3	1.93	0.51
26:Y:91:LEU:CB	26:Y:97:TYR:HB2	2.41	0.51
1:1:67:C:C2	8:G:164:LYS:HB2	2.45	0.51
1:1:412:G:H5'	1:1:413:G:H8	1.72	0.51
1:1:428:U:C2'	1:1:429:C:H6	2.24	0.51
1:1:571:U:H2'	1:1:572:U:C4'	2.41	0.51
1:1:752:G:N2	1:1:753:C:C5	2.79	0.51
1:1:1283:C:H6	1:1:1283:C:O5'	1.94	0.51
1:1:1284:A:C8	1:1:1284:A:OP2	2.64	0.51
1:1:1359:U:OP2	1:1:1359:U:H6	1.93	0.51
1:1:1417:C:H2'	1:1:1418:C:O4'	2.09	0.51
1:1:1484:A:O2'	1:1:1485:U:H5'	2.11	0.51
1:1:1569:A:H5''	1:1:1570:G:OP2	2.10	0.51
2:A:33:GLN:NE2	23:V:63:GLY:HA3	2.25	0.51
4:C:124:PHE:O	4:C:143:CYS:HA	2.10	0.51
11:J:86:VAL:HG12	11:J:87:LEU:CD1	2.34	0.51
12:K:84:HIS:CG	12:K:85:LEU:N	2.79	0.51
29:b:14:GLU:O	29:b:18:LYS:HD3	2.10	0.51
1:1:83:A:C2'	26:Y:123:ALA:HB1	2.42	0.50
1:1:210:U:C3'	1:1:211:G:C5'	2.89	0.50
1:1:571:U:C3'	1:1:572:U:H5''	2.31	0.50
1:1:743:U:C4	9:H:98:ARG:O	2.63	0.50
1:1:1018:U:H1'	15:N:48:SER:OG	2.11	0.50
1:1:1049:A:C2	1:1:1069:U:N3	2.71	0.50
1:1:1089:G:H2'	1:1:1090:C:H6	1.74	0.50
1:1:1135:C:O2'	1:1:1136:U:H5'	2.10	0.50
1:1:1788:A:H2'	1:1:1788:A:N3	2.26	0.50
4:C:63:VAL:O	4:C:64:THR:CB	2.59	0.50
5:D:24:PHE:CE1	5:D:72:VAL:HG11	2.46	0.50
5:D:213:PRO:HD3	19:R:20:TYR:CZ	2.46	0.50
8:G:135:PRO:HG3	8:G:144:LEU:CD1	2.39	0.50
9:H:5:SER:HA	9:H:8:ILE:HD12	1.93	0.50
9:H:170:VAL:HA	9:H:173:PHE:CD2	2.46	0.50
13:L:22:ARG:HG3	13:L:27:GLU:O	2.11	0.50
20:S:41:ALA:O	20:S:45:LEU:HD13	2.11	0.50
34:g:197:THR:HB	34:g:237:ASN:O	2.11	0.50
34:g:217:MET:HG3	34:g:229:THR:HG22	1.92	0.50
1:1:11:A:O5'	1:1:11:A:H8	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:65:C:O3'	8:G:133:LEU:HD22	2.11	0.50
1:1:73:C:O2'	1:1:74:G:H5'	2.12	0.50
1:1:100:U:H2'	1:1:101:U:O5'	2.11	0.50
1:1:148:U:H5''	1:1:148:U:C6	2.43	0.50
1:1:193:C:H4'	1:1:209:A:N1	2.27	0.50
1:1:222:U:C4'	13:L:21:LYS:HE2	2.40	0.50
1:1:797:C:C2'	1:1:798:G:C5'	2.82	0.50
1:1:867:G:H8	1:1:867:G:O5'	1.94	0.50
1:1:978:G:C6	1:1:979:C:N4	2.79	0.50
1:1:1479:G:H2'	1:1:1479:G:N3	2.25	0.50
1:1:1648:G:H2'	18:Q:127:CYS:HA	1.93	0.50
1:1:1704:C:C1'	1:1:1832:A:N1	2.75	0.50
7:F:79:HIS:O	7:F:81:ARG:N	2.44	0.50
11:J:169:ARG:H	11:J:170:PRO:HD3	1.77	0.50
15:N:84:LEU:HD23	15:N:89:TYR:HD2	1.75	0.50
27:Z:73:VAL:HG13	27:Z:77:LEU:HD12	1.94	0.50
34:g:196:ASN:HD21	34:g:235:ILE:HD11	1.75	0.50
1:1:53:C:H2'	1:1:54:A:H5'	1.92	0.50
1:1:76:U:C2'	1:1:77:A:H3'	2.27	0.50
1:1:499:G:H2'	1:1:499:G:N3	2.25	0.50
1:1:798:G:C2	1:1:799:U:C4	2.99	0.50
1:1:925:G:H1'	15:N:87:ASP:OD1	2.12	0.50
1:1:1202:U:H4'	4:C:114:LYS:HE3	1.93	0.50
1:1:1217:A:C1'	1:1:1685:U:O2	2.58	0.50
1:1:1397:U:C3'	1:1:1397:U:C6	2.95	0.50
1:1:1523:C:O5'	1:1:1523:C:H6	1.94	0.50
1:1:1547:C:H4'	1:1:1547:C:OP1	2.12	0.50
1:1:1586:U:C2'	1:1:1587:G:O5'	2.59	0.50
10:I:191:GLU:HG3	13:L:20:LYS:HD2	1.92	0.50
15:N:63:VAL:HB	15:N:71:ILE:HD11	1.94	0.50
16:O:15:ILE:O	16:O:15:ILE:HG13	2.10	0.50
19:R:5:ARG:O	19:R:10:LYS:HE2	2.11	0.50
25:X:50:ILE:HG23	25:X:97:ASN:HA	1.93	0.50
29:b:34:ASP:OD2	29:b:82:LYS:HE3	2.11	0.50
1:1:75:G:N2	1:1:78:C:H4'	2.26	0.50
1:1:197:U:N3	1:1:198:U:H5	2.07	0.50
1:1:411:G:N2	1:1:412:G:H1'	2.27	0.50
1:1:649:U:H2'	1:1:650:A:H8	1.74	0.50
1:1:794:A:N3	1:1:795:A:C1'	2.72	0.50
1:1:808:A:O5'	1:1:808:A:C8	2.59	0.50
1:1:876:C:C6	1:1:876:C:P	3.04	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1231:C:H1'	1:1:1528:G:N2	2.27	0.50
1:1:1255:G:OP2	1:1:1256:G:N7	2.44	0.50
1:1:1452:A:H4'	1:1:1453:C:O5'	2.11	0.50
1:1:1454:A:O2'	1:1:1455:A:C8	2.64	0.50
1:1:1574:C:C2'	1:1:1575:G:H5'	2.39	0.50
1:1:1622:U:H3'	1:1:1623:A:C5'	2.40	0.50
1:1:1648:G:C2'	18:Q:127:CYS:HA	2.42	0.50
2:A:39:TYR:CE2	19:R:109:LEU:HG	2.46	0.50
5:D:213:PRO:HD3	19:R:20:TYR:CE1	2.46	0.50
8:G:53:SER:CB	8:G:112:VAL:HG23	2.34	0.50
9:H:102:PRO:CB	9:H:105:THR:HB	2.38	0.50
12:K:12:TYR:HB3	12:K:79:LEU:HD22	1.94	0.50
12:K:31:LYS:O	12:K:32:HIS:HB2	2.12	0.50
25:X:86:PRO:HB3	25:X:121:LYS:HZ2	1.76	0.50
34:g:109:LEU:HD22	34:g:109:LEU:N	2.27	0.50
1:1:132:U:OP1	1:1:133:C:H5	1.94	0.50
1:1:369:C:H2'	1:1:370:G:C5'	2.42	0.50
1:1:525:A:O2'	1:1:526:A:C8	2.61	0.50
1:1:684:G:C2	1:1:920:A:O4'	2.65	0.50
1:1:1016:U:C4	1:1:1017:U:C5	2.99	0.50
1:1:1101:U:H5''	3:B:151:ARG:CD	2.40	0.50
1:1:1203:G:C2'	1:1:1699:A:C2	2.95	0.50
1:1:1243:U:H2'	1:1:1244:U:O4'	2.12	0.50
1:1:1649:U:O2'	1:1:1650:A:H5'	2.11	0.50
1:1:1664:A:H4'	1:1:1664:A:OP1	2.09	0.50
1:1:1700:C:H5''	1:1:1701:C:H5'	1.93	0.50
1:1:1818:A:H8	1:1:1818:A:O5'	1.94	0.50
2:A:40:LYS:HZ3	19:R:101:ASP:HA	1.77	0.50
2:A:168:ALA:HB3	2:A:203:PHE:CE1	2.46	0.50
5:D:98:ALA:HA	5:D:188:ILE:HD12	1.93	0.50
9:H:37:LYS:HE2	9:H:41:ARG:NH2	2.27	0.50
10:I:83:TYR:HD1	10:I:205:ARG:HD2	1.76	0.50
11:J:12:THR:O	11:J:45:ARG:HA	2.11	0.50
21:T:107:LEU:HB3	21:T:113:VAL:CG2	2.42	0.50
25:X:61:GLN:HB3	25:X:62:PRO:HD2	1.90	0.50
29:b:37:CYS:SG	29:b:40:CYS:N	2.85	0.50
34:g:258:ILE:HD12	34:g:268:ASP:HB3	1.93	0.50
1:1:142:C:H2'	1:1:142:C:O2	2.11	0.50
1:1:443:U:C6	1:1:443:U:H5'	2.47	0.50
1:1:525:A:H2'	1:1:526:A:OP2	2.11	0.50
1:1:543:C:H3'	1:1:543:C:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1013:U:H6	1:1:1013:U:O5'	1.94	0.50
1:1:1869:A:O5'	1:1:1869:A:H8	1.93	0.50
2:A:9:GLN:CA	23:V:83:PHE:HA	2.41	0.50
4:C:85:SER:HA	23:V:26:ALA:O	2.11	0.50
4:C:104:ASP:CB	4:C:130:ILE:HG22	2.41	0.50
6:E:42:LEU:CD1	6:E:47:PHE:HB2	2.42	0.50
7:F:116:ILE:HD13	7:F:154:LEU:CD1	2.42	0.50
8:G:38:ALA:HB3	8:G:48:TYR:HB2	1.94	0.50
14:M:38:ALA:O	14:M:42:LEU:HG	2.12	0.50
18:Q:89:SER:HB2	18:Q:119:LEU:HB3	1.93	0.50
19:R:5:ARG:HH11	19:R:53:TYR:HB2	1.75	0.50
20:S:36:VAL:HG13	20:S:40:TYR:HD1	1.76	0.50
34:g:44:LYS:HE3	34:g:56:GLN:NE2	2.26	0.50
1:1:44:U:H5'	1:1:44:U:H6	1.69	0.50
1:1:70:G:H3'	1:1:71:G:H5''	1.94	0.50
1:1:204:G:C2'	1:1:205:G:H5'	2.42	0.50
1:1:214:U:O5'	1:1:214:U:C6	2.64	0.50
1:1:369:C:H2'	1:1:370:G:H8	1.75	0.50
1:1:382:C:C6	1:1:382:C:OP2	2.65	0.50
1:1:498:C:H5''	1:1:499:G:OP2	2.12	0.50
1:1:840:C:O2	26:Y:14:THR:HG23	2.10	0.50
1:1:1373:C:H2'	1:1:1374:C:H6	1.76	0.50
1:1:1397:U:H3'	1:1:1397:U:C6	2.47	0.50
1:1:1452:A:C6	1:1:1475:G:C5	3.00	0.50
2:A:83:GLY:O	2:A:87:VAL:HG23	2.12	0.50
3:B:132:GLY:HA3	3:B:221:PRO:HB3	1.94	0.50
6:E:252:ARG:NH1	6:E:252:ARG:HB3	2.26	0.50
12:K:65:ARG:HE	31:d:22:ARG:HA	1.76	0.50
13:L:35:ARG:HG2	13:L:36:TYR:N	2.27	0.50
17:P:75:VAL:HG23	17:P:93:MET:HG3	1.94	0.50
20:S:118:ARG:HA	20:S:123:LEU:HD11	1.92	0.50
23:V:22:ARG:HH21	23:V:56:CYS:HB2	1.76	0.50
24:W:26:LEU:HD22	29:b:7:LEU:CD1	2.41	0.50
27:Z:50:PHE:CE2	27:Z:55:TYR:CD1	2.99	0.50
28:a:44:ILE:HA	28:a:67:LEU:HD12	1.94	0.50
34:g:41:ILE:HD13	34:g:58:ALA:HA	1.93	0.50
1:1:131:C:N3	1:1:215:G:O4'	2.45	0.50
1:1:809:A:C6	1:1:810:A:N6	2.80	0.50
1:1:834:C:H5'	1:1:836:G:OP2	2.12	0.50
1:1:867:G:N2	1:1:868:G:C2	2.79	0.50
1:1:973:C:H5	1:1:974:C:C4	2.30	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1038:U:H1'	1:1:1181:A:H2	1.75	0.50
1:1:1132:C:C6	1:1:1132:C:O5'	2.65	0.50
1:1:1180:C:C2'	1:1:1181:A:H5'	2.40	0.50
1:1:1234:C:H4'	1:1:1246:A:N1	2.27	0.50
1:1:1442:U:O2	1:1:1442:U:C2'	2.57	0.50
1:1:1606:G:H5'	21:T:86:GLY:CA	2.42	0.50
1:1:1685:U:C4	1:1:1686:G:N7	2.80	0.50
2:A:33:GLN:CB	2:A:154:LEU:HD12	2.41	0.50
30:c:38:THR:HG23	30:c:39:SER:N	2.26	0.50
1:1:15:U:O4'	1:1:668:A:C2	2.64	0.50
1:1:77:A:H5''	1:1:78:C:H41	1.77	0.50
1:1:504:G:H2'	1:1:505:G:H5'	1.94	0.50
1:1:661:U:H5'	1:1:662:G:H3'	1.94	0.50
1:1:695:C:C5	1:1:695:C:OP2	2.65	0.50
1:1:752:G:O2'	1:1:753:C:H5'	2.12	0.50
1:1:928:G:O2'	1:1:929:G:H5''	2.12	0.50
1:1:1132:C:OP2	1:1:1132:C:H5	1.95	0.50
1:1:1191:C:O2'	1:1:1192:U:H5'	2.12	0.50
1:1:1195:A:C2	1:1:1196:A:C5	3.00	0.50
1:1:1446:A:H5''	22:U:58:THR:OG1	2.11	0.50
1:1:1546:G:N2	1:1:1670:C:H1'	2.14	0.50
1:1:1676:U:O5'	1:1:1676:U:C6	2.61	0.50
2:A:7:VAL:HG23	2:A:191:ARG:HG2	1.94	0.50
3:B:218:LEU:HD22	3:B:219:LYS:H	1.77	0.50
5:D:172:VAL:HG22	5:D:185:LYS:HG2	1.93	0.50
10:I:57:ALA:HB1	10:I:60:LEU:HD21	1.92	0.50
11:J:129:LEU:O	11:J:134:HIS:HB2	2.12	0.50
12:K:10:ALA:C	12:K:38:LYS:HZ3	2.20	0.50
14:M:93:LYS:HE2	14:M:101:ARG:HH21	1.77	0.50
18:Q:60:LYS:HB2	18:Q:60:LYS:NZ	2.27	0.50
25:X:100:VAL:HA	25:X:124:LYS:O	2.12	0.50
1:1:37:C:C3'	1:1:38:A:H5''	2.42	0.49
1:1:61:A:H4'	1:1:62:G:OP2	2.12	0.49
1:1:872:A:H2'	1:1:874:G:N2	2.26	0.49
1:1:1157:G:H1'	24:W:76:SER:CB	2.41	0.49
1:1:1308:U:H1'	1:1:1309:C:N1	2.27	0.49
1:1:1447:G:P	22:U:87:ARG:HH22	2.35	0.49
1:1:1762:C:H2'	1:1:1763:G:C8	2.47	0.49
2:A:110:ASN:O	2:A:116:PHE:HD1	1.95	0.49
3:B:71:LEU:HD22	3:B:75:GLN:HB2	1.93	0.49
7:F:91:ARG:HA	7:F:91:ARG:HE	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:15:LEU:HD13	8:G:15:LEU:C	2.37	0.49
8:G:23:LYS:HE2	8:G:42:GLY:H	1.77	0.49
9:H:109:ARG:CG	9:H:110:THR:N	2.74	0.49
28:a:44:ILE:HG13	28:a:45:VAL:N	2.26	0.49
34:g:87:LEU:HB2	34:g:101:PHE:HB2	1.94	0.49
1:1:4:C:H2'	1:1:5:U:H6	1.71	0.49
1:1:219:U:C6	1:1:219:U:C5'	2.95	0.49
1:1:387:C:H2'	1:1:388:U:C6	2.47	0.49
1:1:655:A:C8	1:1:657:U:C5	3.00	0.49
1:1:973:C:C5	1:1:974:C:C4	2.99	0.49
1:1:1075:C:H2'	1:1:1076:G:H8	1.75	0.49
1:1:1196:A:C2'	1:1:1197:G:H5'	2.42	0.49
1:1:1350:U:O2'	2:A:112:ILE:HB	2.12	0.49
1:1:1452:A:C6	1:1:1476:A:C6	3.00	0.49
1:1:1477:U:H1'	1:1:1478:U:P	2.52	0.49
1:1:1483:A:H2'	1:1:1483:A:N3	2.27	0.49
1:1:1624:U:O2	1:1:1624:U:C2'	2.58	0.49
1:1:1860:A:C4	1:1:1862:G:C8	2.99	0.49
1:1:1861:G:H4'	28:a:2:THR:C	2.36	0.49
2:A:67:ALA:HA	23:V:50:PHE:CZ	2.47	0.49
3:B:30:TRP:HE1	16:O:17:LEU:CD2	2.24	0.49
3:B:140:VAL:O	3:B:210:VAL:HA	2.11	0.49
8:G:6:SER:O	8:G:8:PRO:HD3	2.13	0.49
9:H:109:ARG:CG	9:H:110:THR:H	2.23	0.49
14:M:32:ALA:HB3	14:M:110:VAL:CG2	2.42	0.49
15:N:33:VAL:HG12	15:N:37:ILE:CD1	2.41	0.49
24:W:114:GLU:O	24:W:117:ARG:HG2	2.12	0.49
1:1:22:A:C2	1:1:653:A:C2	3.00	0.49
1:1:350:C:C2'	1:1:351:G:H5'	2.43	0.49
1:1:682:U:H3	1:1:1023:A:N6	2.08	0.49
1:1:985:G:H8	1:1:985:G:OP2	1.93	0.49
1:1:1168:G:H2'	1:1:1169:G:H5'	1.94	0.49
1:1:1260:A:H8	1:1:1260:A:O5'	1.95	0.49
1:1:1406:G:C4'	1:1:1407:U:C5'	2.90	0.49
1:1:1656:G:H2'	1:1:1657:G:H8	1.76	0.49
3:B:35:ALA:HB3	3:B:42:ARG:HA	1.94	0.49
4:C:256:TRP:NE1	24:W:68:ARG:HD3	2.27	0.49
6:E:23:LEU:O	6:E:23:LEU:HG	2.08	0.49
24:W:18:GLU:OE2	24:W:65:LEU:HD22	2.12	0.49
25:X:123:VAL:HA	25:X:130:LEU:CD1	2.42	0.49
28:a:23:CYS:O	28:a:27:ALA:HA	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:181:A:C8	8:G:196:LYS:HB2	2.48	0.49
1:1:500:A:H2	1:1:502:C:O5'	1.96	0.49
1:1:559:G:H2'	1:1:561:A:H1'	1.94	0.49
1:1:743:U:H2'	9:H:100:ILE:H	1.77	0.49
1:1:746:C:C1'	1:1:747:U:C4	2.88	0.49
1:1:813:A:H2'	1:1:814:U:H5'	1.93	0.49
1:1:860:G:C6	1:1:861:A:N1	2.80	0.49
1:1:1416:C:C5	1:1:1417:C:C6	3.00	0.49
1:1:1431:G:C2	1:1:1432:U:C2	3.00	0.49
1:1:1453:C:O2	1:1:1453:C:H3'	2.12	0.49
1:1:1555:U:O2'	1:1:1556:A:H5'	2.11	0.49
1:1:1579:A:H62	22:U:88:LEU:HD22	1.75	0.49
1:1:1707:U:C2'	1:1:1708:C:H5'	2.42	0.49
1:1:1731:A:H2'	1:1:1732:G:H8	1.75	0.49
6:E:133:VAL:O	6:E:136:ILE:HG23	2.12	0.49
10:I:146:GLN:O	10:I:149:TYR:HB2	2.12	0.49
13:L:59:LYS:HD3	13:L:134:LEU:HD23	1.94	0.49
29:b:36:LYS:HG2	29:b:43:ILE:HG12	1.94	0.49
29:b:59:CYS:O	29:b:60:SER:HB3	2.13	0.49
1:1:36:U:O2	1:1:520:A:H2	1.93	0.49
1:1:59:U:C3'	1:1:60:A:H5''	2.40	0.49
1:1:79:A:N3	1:1:79:A:H2'	2.27	0.49
1:1:219:U:H6	1:1:219:U:H5''	1.78	0.49
1:1:234:C:H2'	1:1:235:A:C8	2.45	0.49
1:1:380:G:H3'	1:1:382:C:OP2	2.11	0.49
1:1:435:A:H2	1:1:474:G:OP2	1.96	0.49
1:1:440:G:H2'	1:1:441:C:O4'	2.13	0.49
1:1:683:G:C4	1:1:1023:A:N1	2.80	0.49
1:1:684:G:O4'	1:1:920:A:C2	2.66	0.49
1:1:1198:G:N3	1:1:1198:G:H2'	2.26	0.49
1:1:1241:A:C1'	1:1:1267:C:H1'	2.40	0.49
1:1:1284:A:C8	1:1:1286:G:H5''	2.47	0.49
1:1:1589:A:H2'	1:1:1653:U:O2'	2.13	0.49
1:1:1658:G:C6	1:1:1659:U:N3	2.80	0.49
3:B:128:LYS:HB2	3:B:134:LEU:CD2	2.43	0.49
11:J:163:SER:N	11:J:164:PRO:HD2	2.26	0.49
12:K:84:HIS:HD2	14:M:27:ILE:HD12	1.77	0.49
16:O:56:VAL:HG21	16:O:81:VAL:HG22	1.93	0.49
34:g:105:THR:HB	34:g:126:ASP:CB	2.42	0.49
1:1:71:G:H1	1:1:80:G:H1	1.60	0.49
1:1:83:A:H2'	26:Y:123:ALA:HB1	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:313:A:C8	8:G:191:ARG:NE	2.81	0.49
1:1:343:A:C2	1:1:344:U:C2	3.00	0.49
1:1:372:U:C6	1:1:372:U:C3'	2.95	0.49
1:1:527:C:O2'	11:J:121:LYS:HB2	2.12	0.49
1:1:672:A:H3'	1:1:672:A:OP2	2.11	0.49
1:1:751:G:N3	1:1:752:G:C8	2.80	0.49
1:1:858:A:C2	1:1:859:G:C6	3.01	0.49
1:1:1191:C:H2'	1:1:1192:U:H6	1.74	0.49
1:1:1196:A:H2'	1:1:1197:G:C5'	2.42	0.49
1:1:1432:U:H6	1:1:1432:U:O5'	1.95	0.49
1:1:1493:C:C3'	1:1:1494:U:C5'	2.86	0.49
1:1:1597:C:H4'	1:1:1603:G:O6	2.12	0.49
1:1:1614:A:H2'	1:1:1615:U:C6	2.47	0.49
1:1:1635:C:O2	1:1:1635:C:H2'	2.11	0.49
4:C:270:THR:HA	4:C:273:LEU:HD12	1.95	0.49
17:P:111:MET:HG2	17:P:119:PHE:CE1	2.47	0.49
19:R:29:HIS:CG	34:g:65:PHE:HE2	2.30	0.49
29:b:20:LYS:HE2	29:b:28:PRO:HA	1.94	0.49
1:1:89:C:H5''	1:1:89:C:H6	1.77	0.49
1:1:539:C:C6	1:1:539:C:C3'	2.95	0.49
1:1:586:G:N2	1:1:587:A:H1'	2.27	0.49
1:1:794:A:C2	1:1:795:A:C1'	2.88	0.49
1:1:893:U:H2'	1:1:894:G:O4'	2.12	0.49
1:1:1418:C:C2'	1:1:1419:C:C6	2.92	0.49
1:1:1558:C:H2'	1:1:1559:C:H6	1.76	0.49
1:1:1823:A:H4'	1:1:1824:A:O5'	2.11	0.49
1:1:1851:A:H5''	1:1:1851:A:C8	2.41	0.49
7:F:32:ASP:HB3	7:F:117:ILE:HG23	1.95	0.49
8:G:186:GLN:HA	8:G:189:ARG:NH2	2.27	0.49
11:J:161:LEU:HA	11:J:166:GLY:HA3	1.94	0.49
21:T:73:GLY:O	21:T:76:THR:HB	2.13	0.49
22:U:26:SER:HB2	22:U:32:LEU:HB2	1.95	0.49
23:V:74:LYS:HA	23:V:79:VAL:HG12	1.94	0.49
1:1:76:U:O2'	1:1:77:A:H2'	2.13	0.49
1:1:211:G:C8	1:1:211:G:C5'	2.88	0.49
1:1:331:C:C3'	1:1:332:G:H5''	2.40	0.49
1:1:359:U:H2'	1:1:362:C:H5	1.78	0.49
1:1:442:C:C3'	1:1:443:U:H5''	2.43	0.49
1:1:508:A:H3'	1:1:509:G:H8	1.77	0.49
1:1:571:U:O3'	26:Y:59:GLY:HA2	2.13	0.49
1:1:572:U:H3'	1:1:573:U:C2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1016:U:C6	15:N:14:SER:OG	2.60	0.49
1:1:1415:C:N3	1:1:1416:C:C5	2.80	0.49
1:1:1583:C:N4	1:1:1584:G:C6	2.80	0.49
2:A:77:ILE:HG12	2:A:99:ILE:HG22	1.95	0.49
7:F:144:LEU:HD23	30:c:49:PRO:CB	2.36	0.49
10:I:191:GLU:CG	13:L:20:LYS:HD2	2.43	0.49
10:I:197:PHE:HE1	13:L:10:TYR:O	1.96	0.49
12:K:50:GLN:HA	12:K:53:LYS:HG2	1.94	0.49
19:R:58:MET:HE2	19:R:58:MET:HA	1.94	0.49
19:R:111:PHE:CD1	19:R:114:LEU:HD11	2.48	0.49
34:g:48:ASP:HB2	34:g:51:ASN:O	2.13	0.49
1:1:71:G:C2	1:1:72:C:H1'	2.48	0.49
1:1:96:C:C1'	1:1:474:G:H4'	2.43	0.49
1:1:125:C:H6	1:1:125:C:OP2	1.96	0.49
1:1:238:C:O2'	1:1:239:C:C6	2.63	0.49
1:1:312:G:H22	8:G:195:LYS:HG3	1.76	0.49
1:1:345:U:H2'	1:1:346:C:O5'	2.13	0.49
1:1:370:G:O4'	1:1:371:A:C8	2.66	0.49
1:1:483:C:OP1	25:X:47:ALA:HA	2.13	0.49
1:1:668:A:H1'	1:1:1198:G:H1'	1.95	0.49
1:1:990:A:H1'	1:1:991:G:N2	2.28	0.49
1:1:1052:A:H5''	1:1:1053:C:OP2	2.13	0.49
1:1:1087:A:H3'	1:1:1088:U:C5'	2.42	0.49
1:1:1113:A:H2	1:1:1120:U:C4	2.30	0.49
1:1:1206:G:H1'	1:1:1834:A:N3	2.28	0.49
1:1:1419:C:H2'	1:1:1420:G:H8	1.78	0.49
1:1:1469:A:C2	1:1:1470:C:C2	3.01	0.49
1:1:1482:C:C5	1:1:1483:A:H8	2.30	0.49
1:1:1687:C:O2	1:1:1687:C:H2'	2.12	0.49
16:O:27:VAL:CG1	16:O:90:ILE:HG12	2.42	0.49
18:Q:24:HIS:NE2	18:Q:26:LYS:HD3	2.27	0.49
20:S:37:GLY:H	20:S:40:TYR:HB3	1.76	0.49
20:S:43:VAL:HG22	21:T:37:VAL:CB	2.41	0.49
22:U:80:PHE:HB3	31:d:52:PHE:HB3	1.95	0.49
24:W:101:PHE:HB3	24:W:129:PHE:CZ	2.48	0.49
1:1:540:U:C2	1:1:542:U:H5''	2.48	0.49
1:1:563:G:H2'	1:1:564:A:H8	1.78	0.49
1:1:572:U:H2'	1:1:573:U:N3	2.26	0.49
1:1:593:C:OP2	1:1:593:C:H6	1.96	0.49
1:1:884:C:H2'	1:1:885:U:C6	2.47	0.49
1:1:1000:C:H41	28:a:16:GLY:N	2.10	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1020:A:O5'	1:1:1020:A:H8	1.96	0.49
1:1:1129:G:C3'	1:1:1130:G:H8	2.26	0.49
1:1:1406:G:O2'	1:1:1408:U:H5	1.95	0.49
1:1:1576:G:H2'	1:1:1577:G:H5'	1.94	0.49
1:1:1607:A:N6	1:1:1632:G:H1'	2.28	0.49
2:A:103:PHE:CD2	2:A:132:GLN:HB2	2.47	0.49
3:B:31:TYR:CZ	3:B:94:LYS:HA	2.47	0.49
4:C:62:PRO:HA	4:C:90:GLU:OE2	2.13	0.49
12:K:12:TYR:CD1	12:K:52:LEU:HD11	2.47	0.49
20:S:74:PRO:CG	20:S:84:LEU:HD21	2.43	0.49
25:X:61:GLN:CB	25:X:62:PRO:CD	2.89	0.49
34:g:289:LEU:N	34:g:289:LEU:HD23	2.28	0.49
1:1:130:G:H4'	1:1:181:A:H61	1.77	0.48
1:1:213:G:H2'	1:1:214:U:C6	2.48	0.48
1:1:563:G:O6	1:1:592:C:N3	2.46	0.48
1:1:933:G:H2'	1:1:993:G:N2	2.28	0.48
1:1:1407:U:OP2	1:1:1408:U:C6	2.66	0.48
1:1:1448:A:H2'	1:1:1449:G:H8	1.77	0.48
1:1:1483:A:N3	1:1:1483:A:C2'	2.75	0.48
1:1:1560:U:H2'	1:1:1561:A:H8	1.78	0.48
1:1:1866:A:OP1	1:1:1866:A:C4'	2.61	0.48
8:G:167:LYS:O	8:G:167:LYS:HG2	2.13	0.48
12:K:31:LYS:O	12:K:32:HIS:CB	2.61	0.48
13:L:101:ARG:C	25:X:10:ALA:HB2	2.38	0.48
15:N:33:VAL:HG12	15:N:37:ILE:HD11	1.95	0.48
1:1:67:C:H1'	8:G:164:LYS:HD2	1.94	0.48
1:1:129:C:C3'	1:1:130:G:C8	2.96	0.48
1:1:154:U:C4'	8:G:13:GLN:HB3	2.43	0.48
1:1:421:G:H21	1:1:653:A:H5'	1.76	0.48
1:1:986:G:H5''	28:a:19:GLN:CD	2.38	0.48
1:1:1120:U:H6	1:1:1120:U:C5'	2.24	0.48
1:1:1590:C:O4'	1:1:1653:U:H4'	2.13	0.48
1:1:1606:G:OP2	1:1:1606:G:C8	2.61	0.48
1:1:1643:U:C4	1:1:1644:C:N4	2.81	0.48
2:A:25:LEU:O	2:A:164:ASN:HB2	2.13	0.48
2:A:185:MET:HG2	23:V:46:PHE:CD1	2.48	0.48
3:B:30:TRP:NE1	3:B:48:LEU:HB3	2.28	0.48
8:G:90:GLY:C	8:G:92:ARG:H	2.20	0.48
8:G:194:LEU:HA	8:G:197:GLN:HB2	1.94	0.48
9:H:20:GLU:HG2	9:H:48:ALA:HB3	1.94	0.48
12:K:65:ARG:HG3	31:d:22:ARG:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:64:LEU:HD22	33:f:106:TYR:HB2	1.93	0.48
18:Q:37:ARG:HB3	21:T:7:LYS:HE2	1.94	0.48
18:Q:37:ARG:CB	21:T:7:LYS:HG3	2.41	0.48
19:R:106:LEU:HB3	19:R:112:GLY:HA2	1.95	0.48
25:X:54:LYS:HD2	25:X:91:LEU:HD11	1.94	0.48
1:1:106:C:H2'	1:1:107:A:H8	1.72	0.48
1:1:332:G:N7	8:G:186:GLN:HB2	2.27	0.48
1:1:380:G:N3	1:1:382:C:C5	2.81	0.48
1:1:380:G:N2	1:1:382:C:C6	2.81	0.48
1:1:562:U:C4'	11:J:132:GLN:OE1	2.60	0.48
1:1:657:U:C6	1:1:657:U:C3'	2.95	0.48
1:1:751:G:O2'	1:1:752:G:H5'	2.12	0.48
1:1:1214:A:C4	1:1:1686:G:N2	2.81	0.48
1:1:1280:G:N2	1:1:1318:G:C4	2.81	0.48
1:1:1439:A:P	1:1:1439:A:C8	3.05	0.48
1:1:1654:G:H4'	21:T:82:ARG:CZ	2.43	0.48
2:A:63:ARG:HA	23:V:46:PHE:CE2	2.47	0.48
4:C:79:GLU:OE1	23:V:12:TYR:HD1	1.97	0.48
7:F:179:ASN:CB	7:F:187:SER:HB3	2.43	0.48
8:G:195:LYS:HD3	8:G:195:LYS:C	2.38	0.48
17:P:125:PRO:O	17:P:126:VAL:HB	2.13	0.48
25:X:25:LYS:O	25:X:28:LYS:HB3	2.14	0.48
25:X:51:VAL:HG13	25:X:70:VAL:CG1	2.43	0.48
33:f:92:LYS:HB2	33:f:92:LYS:NZ	2.27	0.48
34:g:18:VAL:HG11	34:g:21:ILE:HD11	1.94	0.48
1:1:59:U:OP2	1:1:59:U:H4'	2.13	0.48
1:1:102:A:C5	1:1:408:A:C2	3.01	0.48
1:1:193:C:C4'	1:1:209:A:C6	2.93	0.48
1:1:345:U:C6	1:1:345:U:C3'	2.96	0.48
1:1:431:G:H2'	1:1:432:G:C8	2.47	0.48
1:1:564:A:H61	1:1:586:G:H1	1.60	0.48
1:1:616:A:H8	1:1:616:A:O5'	1.96	0.48
1:1:740:C:O5'	1:1:740:C:H6	1.97	0.48
1:1:905:C:H2'	1:1:906:U:H6	1.78	0.48
1:1:990:A:H2'	1:1:991:G:O5'	2.13	0.48
1:1:1187:G:O5'	1:1:1187:G:H8	1.97	0.48
1:1:1208:A:N6	1:1:1691:U:H3	2.11	0.48
1:1:1281:G:N1	1:1:1282:A:C6	2.82	0.48
1:1:1286:G:N3	1:1:1286:G:C2'	2.76	0.48
1:1:1401:A:C1'	1:1:1402:A:P	3.01	0.48
1:1:1425:G:C5	1:1:1426:U:C4	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1678:A:H2	1:1:1680:G:P	2.36	0.48
6:E:49:ARG:HH21	6:E:58:GLY:CA	2.26	0.48
7:F:26:ASP:O	7:F:27:ASP:HB2	2.11	0.48
18:Q:107:GLU:O	18:Q:111:ILE:HG12	2.13	0.48
22:U:39:LEU:HD13	22:U:39:LEU:C	2.38	0.48
34:g:165:ILE:HG13	34:g:177:TRP:HB2	1.96	0.48
1:1:4:C:H4'	4:C:207:ALA:HB2	1.94	0.48
1:1:60:A:H5'	1:1:501:C:C5	2.42	0.48
1:1:77:A:N3	1:1:77:A:C2'	2.74	0.48
1:1:92:A:N7	1:1:446:G:H2'	2.28	0.48
1:1:191:A:OP1	10:I:147:LYS:N	2.47	0.48
1:1:232:A:OP2	1:1:890:U:H1'	2.12	0.48
1:1:691:G:H2'	1:1:692:G:H8	1.78	0.48
1:1:911:C:H2'	1:1:912:C:N3	2.29	0.48
1:1:1036:A:H2'	1:1:1037:G:H5'	1.94	0.48
1:1:1060:A:C8	1:1:1062:A:C5	3.02	0.48
1:1:1135:C:C2'	1:1:1136:U:H5'	2.43	0.48
1:1:1261:C:C5	1:1:1619:A:N6	2.81	0.48
1:1:1373:C:H2'	1:1:1374:C:C6	2.48	0.48
1:1:1402:A:H3'	1:1:1403:C:C5	2.48	0.48
1:1:1404:U:C6	1:1:1404:U:OP2	2.66	0.48
1:1:1418:C:H5''	21:T:129:ARG:CA	2.43	0.48
1:1:1420:G:H1'	21:T:3:GLY:H	1.78	0.48
1:1:1548:G:O6	1:1:1584:G:N3	2.47	0.48
1:1:1613:G:H2'	1:1:1614:A:O5'	2.13	0.48
1:1:1781:A:C4	1:1:1782:G:N2	2.80	0.48
1:1:1836:G:OP1	1:1:1839:U:H4'	2.12	0.48
3:B:83:LYS:HD2	3:B:106:THR:HG22	1.95	0.48
5:D:37:VAL:HG12	5:D:50:ILE:HG12	1.95	0.48
9:H:109:ARG:NE	9:H:113:LYS:HD3	2.28	0.48
9:H:178:LYS:HE2	9:H:184:ASP:OD1	2.13	0.48
21:T:25:SER:HB3	21:T:27:LYS:HE3	1.94	0.48
24:W:83:LEU:O	24:W:86:LEU:HG	2.13	0.48
26:Y:98:GLU:HG2	26:Y:99:LYS:N	2.29	0.48
34:g:282:GLU:HB3	34:g:284:PRO:HD2	1.96	0.48
1:1:319:C:H4'	1:1:319:C:OP1	2.14	0.48
1:1:385:G:H5'	1:1:386:C:C5	2.48	0.48
1:1:550:C:H2'	1:1:551:U:C6	2.48	0.48
1:1:560:A:O3'	1:1:561:A:H8	1.97	0.48
1:1:743:U:C2'	9:H:100:ILE:O	2.61	0.48
1:1:754:G:H2'	1:1:755:C:H6	1.73	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:793:G:H2'	1:1:794:A:O4'	2.14	0.48
1:1:794:A:H2'	1:1:795:A:O4'	2.12	0.48
1:1:978:G:H2'	1:1:979:C:C6	2.49	0.48
1:1:1225:U:H6	1:1:1225:U:O5'	1.96	0.48
1:1:1261:C:H3'	1:1:1262:C:C5'	2.42	0.48
1:1:1351:G:C4'	2:A:110:ASN:HB3	2.44	0.48
1:1:1396:A:H2	1:1:1449:G:N2	2.12	0.48
1:1:1535:U:C6	7:F:82:ASN:OD1	2.67	0.48
1:1:1648:G:H21	18:Q:128:GLU:HG3	1.78	0.48
1:1:1677:U:O2	1:1:1677:U:C2'	2.62	0.48
6:E:91:SER:HA	6:E:97:GLU:O	2.14	0.48
9:H:109:ARG:HG3	9:H:113:LYS:CD	2.43	0.48
16:O:18:GLY:H	16:O:19:PRO:CD	2.26	0.48
16:O:125:LYS:HG2	28:a:58:VAL:CG1	2.36	0.48
17:P:22:LEU:HA	17:P:25:LEU:HD12	1.95	0.48
20:S:42:HIS:NE2	21:T:45:LEU:HD11	2.28	0.48
21:T:34:VAL:HG22	21:T:99:VAL:CG1	2.43	0.48
22:U:20:ILE:CD1	22:U:116:ILE:HG12	2.43	0.48
22:U:83:ARG:HB3	22:U:85:HIS:CE1	2.49	0.48
28:a:21:ILE:HB	28:a:72:HIS:CE1	2.48	0.48
29:b:40:CYS:O	29:b:41:TYR:HB3	2.13	0.48
1:1:24:C:O5'	1:1:24:C:H6	1.96	0.48
1:1:63:U:H5''	1:1:63:U:H6	1.79	0.48
1:1:79:A:H3'	1:1:80:G:C8	2.49	0.48
1:1:232:A:OP2	1:1:890:U:C6	2.66	0.48
1:1:369:C:C2'	1:1:370:G:C5'	2.92	0.48
1:1:527:C:H3'	1:1:528:A:N7	2.25	0.48
1:1:741:C:N4	1:1:744:G:H22	2.11	0.48
1:1:836:G:O6	26:Y:9:THR:O	2.32	0.48
1:1:1169:G:OP2	1:1:1170:A:H2'	2.14	0.48
1:1:1258:A:N7	1:1:1259:A:N3	2.62	0.48
1:1:1432:U:N3	1:1:1433:C:N4	2.62	0.48
1:1:1647:A:C5	7:F:57:ALA:HB1	2.48	0.48
1:1:1649:U:H5	1:1:1674:G:N2	2.10	0.48
1:1:1649:U:C5	1:1:1674:G:N2	2.82	0.48
2:A:5:LEU:HD22	2:A:8:LEU:CD1	2.44	0.48
2:A:5:LEU:HD21	23:V:39:VAL:HG11	1.96	0.48
2:A:40:LYS:HB2	19:R:105:MET:HA	1.96	0.48
6:E:136:ILE:O	6:E:136:ILE:HG12	2.12	0.48
9:H:31:GLU:CD	9:H:40:LEU:HD22	2.39	0.48
9:H:143:ARG:HD3	24:W:51:GLU:OE2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:138:ASN:OD1	10:I:144:LYS:HE3	2.13	0.48
10:I:193:LYS:HE2	13:L:5:GLN:OE1	2.14	0.48
11:J:67:ASP:OD1	11:J:69:ARG:HB3	2.14	0.48
19:R:24:LEU:HB3	19:R:58:MET:SD	2.53	0.48
19:R:106:LEU:HA	19:R:109:LEU:HD12	1.96	0.48
21:T:123:LEU:HD12	21:T:128:GLN:OE1	2.13	0.48
26:Y:94:HIS:HB3	26:Y:96:LEU:HD23	1.95	0.48
27:Z:113:THR:O	27:Z:113:THR:HG22	2.14	0.48
1:1:46:A:H4'	1:1:47:G:C5'	2.43	0.48
1:1:69:C:N4	1:1:82:G:N3	2.62	0.48
1:1:159:A:H8	1:1:159:A:O5'	1.97	0.48
1:1:218:U:H2'	1:1:219:U:O4'	2.14	0.48
1:1:224:A:H61	1:1:297:A:H61	1.62	0.48
1:1:377:G:H2'	1:1:378:U:H6	1.75	0.48
1:1:426:A:OP1	1:1:426:A:C8	2.67	0.48
1:1:455:A:H2'	1:1:456:C:O4'	2.13	0.48
1:1:558:G:C2	1:1:559:G:N7	2.82	0.48
1:1:572:U:H3'	1:1:573:U:H3	1.77	0.48
1:1:886:A:P	1:1:886:A:C3'	3.00	0.48
1:1:929:G:H5'	1:1:930:C:OP2	2.14	0.48
1:1:1166:G:C2	1:1:1167:G:C8	3.02	0.48
1:1:1587:G:H4'	1:1:1588:A:OP2	2.14	0.48
1:1:1663:A:O2'	1:1:1664:A:H5''	2.14	0.48
1:1:1704:C:H1'	1:1:1832:A:C6	2.48	0.48
2:A:6:ASP:HB3	23:V:42:VAL:CG1	2.27	0.48
5:D:138:VAL:CG1	5:D:182:LEU:HD11	2.44	0.48
6:E:11:ARG:HD3	6:E:28:ALA:HB2	1.95	0.48
7:F:48:TYR:HD1	7:F:49:LEU:H	1.61	0.48
7:F:52:SER:C	7:F:54:GLY:H	2.21	0.48
7:F:156:THR:HA	7:F:159:ARG:NH1	2.28	0.48
8:G:36:VAL:HB	8:G:50:VAL:O	2.14	0.48
12:K:49:MET:HE2	12:K:69:TRP:CE3	2.49	0.48
15:N:70:LYS:HG3	15:N:73:ARG:HB2	1.96	0.48
27:Z:69:THR:HG22	27:Z:70:PRO:CD	2.39	0.48
32:e:27:LYS:HG3	32:e:28:LYS:H	1.78	0.48
1:1:120:U:H5'	1:1:120:U:H6	1.78	0.48
1:1:170:A:H3'	1:1:171:A:H8	1.79	0.48
1:1:332:G:C4'	1:1:333:G:OP1	2.60	0.48
1:1:342:C:N4	1:1:343:A:N6	2.55	0.48
1:1:343:A:H4'	6:E:128:LYS:HZ3	1.78	0.48
1:1:382:C:H2'	1:1:383:G:C2	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:467:G:C2'	1:1:468:A:H5'	2.43	0.48
1:1:504:G:O2'	1:1:505:G:H5'	2.14	0.48
1:1:633:C:H2'	1:1:634:A:C8	2.49	0.48
1:1:693:A:C8	1:1:694:G:C1'	2.97	0.48
1:1:795:A:H3'	1:1:796:G:C8	2.48	0.48
1:1:798:G:N2	1:1:799:U:C2	2.82	0.48
1:1:838:G:H21	1:1:838:G:P	2.36	0.48
1:1:906:U:H2'	1:1:907:G:C8	2.49	0.48
1:1:976:G:H2'	1:1:977:C:C6	2.49	0.48
1:1:1061:U:O4	1:1:1849:G:H5''	2.14	0.48
1:1:1083:A:C2'	1:1:1858:G:H21	2.26	0.48
1:1:1417:C:C4	1:1:1418:C:C4	3.01	0.48
1:1:1419:C:H1'	21:T:3:GLY:HA3	1.94	0.48
1:1:1625:U:H4'	1:1:1663:A:H4'	1.94	0.48
3:B:77:ASP:O	3:B:78:GLU:HB2	2.13	0.48
13:L:71:ARG:NH2	13:L:140:PHE:HZ	2.11	0.48
14:M:86:GLY:HA2	14:M:91:LEU:HB2	1.95	0.48
17:P:48:GLY:O	17:P:52:LYS:HE2	2.14	0.48
21:T:62:ARG:O	21:T:65:TYR:HB3	2.14	0.48
22:U:20:ILE:HG21	22:U:98:VAL:CG2	2.44	0.48
24:W:28:ARG:HB3	24:W:29:PRO:HD3	1.96	0.48
25:X:86:PRO:HB3	25:X:121:LYS:NZ	2.29	0.48
29:b:33:MET:HA	29:b:80:ARG:O	2.14	0.48
33:f:139:HIS:O	33:f:147:THR:HA	2.13	0.48
1:1:1:U:O2	1:1:1:U:H3'	2.14	0.48
1:1:35:C:N3	1:1:520:A:N6	2.62	0.48
1:1:78:C:H1'	1:1:79:A:P	2.53	0.48
1:1:216:C:H5''	6:E:134:LYS:HE3	1.95	0.48
1:1:305:U:O2	1:1:305:U:H3'	2.13	0.48
1:1:338:G:H5''	1:1:338:G:C8	2.46	0.48
1:1:524:U:H5	32:e:31:ARG:HD3	1.79	0.48
1:1:1142:G:O5'	1:1:1142:G:H8	1.96	0.48
1:1:1206:G:C6	1:1:1208:A:N7	2.82	0.48
1:1:1557:C:P	1:1:1557:C:C3'	3.02	0.48
1:1:1678:A:H2	1:1:1679:A:O3'	1.96	0.48
1:1:1822:A:N1	1:1:1823:A:C6	2.82	0.48
2:A:107:THR:HG23	2:A:115:ALA:O	2.14	0.48
3:B:135:LEU:HD12	3:B:215:VAL:HG21	1.96	0.48
7:F:66:CYS:SG	7:F:67:PRO:HD2	2.54	0.48
8:G:4:ASN:HB3	8:G:110:ASN:OD1	2.13	0.48
8:G:131:ARG:HB2	8:G:131:ARG:NH1	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:6:ASP:HB3	10:I:28:GLU:CD	2.38	0.48
16:O:125:LYS:HB3	28:a:58:VAL:HG21	1.96	0.48
17:P:119:PHE:CE1	20:S:117:ILE:HG23	2.48	0.48
21:T:60:THR:HG23	21:T:121:ARG:HH12	1.79	0.48
21:T:70:ALA:HB3	21:T:121:ARG:NE	2.28	0.48
22:U:67:LYS:O	31:d:44:ARG:HG3	2.13	0.48
25:X:100:VAL:HG13	25:X:122:VAL:HG13	1.94	0.48
32:e:28:LYS:O	32:e:28:LYS:HG2	2.14	0.48
1:1:33:G:H2'	1:1:34:U:H6	1.78	0.47
1:1:59:U:H3'	1:1:59:U:C6	2.48	0.47
1:1:62:G:H5'	1:1:172:U:N3	2.29	0.47
1:1:158:A:H62	8:G:59:GLN:HE21	1.62	0.47
1:1:345:U:H2'	1:1:346:C:H5'	1.94	0.47
1:1:836:G:H8	1:1:836:G:OP1	1.96	0.47
1:1:1051:G:OP1	1:1:1847:G:H4'	2.14	0.47
1:1:1053:C:O2	1:1:1053:C:C2'	2.61	0.47
1:1:1439:A:H8	1:1:1439:A:O5'	1.97	0.47
2:A:48:ILE:CG2	19:R:105:MET:SD	3.02	0.47
2:A:108:PHE:HD2	2:A:136:GLU:OE1	1.97	0.47
3:B:116:LYS:HZ2	28:a:37:LYS:HE2	1.79	0.47
4:C:98:LEU:HG	4:C:101:SER:HB2	1.95	0.47
8:G:24:LEU:HA	8:G:27:PHE:CD2	2.49	0.47
10:I:84:ASN:OD1	10:I:86:SER:HB2	2.13	0.47
11:J:60:LEU:CB	11:J:94:LEU:HD11	2.43	0.47
24:W:18:GLU:HG3	24:W:69:LEU:HB2	1.96	0.47
27:Z:103:HIS:CG	27:Z:104:ARG:N	2.82	0.47
29:b:40:CYS:HB3	29:b:59:CYS:N	2.29	0.47
1:1:14:C:H5'	4:C:190:SER:OG	2.14	0.47
1:1:158:A:O4'	1:1:464:A:H8	1.95	0.47
1:1:305:U:H2'	1:1:305:U:O2	2.15	0.47
1:1:358:C:H6	1:1:358:C:C5'	2.27	0.47
1:1:396:U:O2'	1:1:397:G:H5'	2.14	0.47
1:1:659:G:N3	1:1:659:G:C2'	2.77	0.47
1:1:827:A:H2'	1:1:828:G:H5'	1.96	0.47
1:1:899:U:H2'	1:1:900:C:N1	2.29	0.47
1:1:911:C:H5''	1:1:912:C:C4	2.48	0.47
1:1:1013:U:C1'	1:1:1104:G:H1'	2.44	0.47
1:1:1016:U:C5	15:N:14:SER:CB	2.97	0.47
1:1:1161:U:H2'	1:1:1162:C:C5'	2.44	0.47
1:1:1214:A:C5	1:1:1217:A:C6	3.03	0.47
1:1:1351:G:C5'	2:A:110:ASN:HB3	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1388:A:H2'	1:1:1389:C:O5'	2.13	0.47
1:1:1743:G:O2'	1:1:1744:G:H5'	2.14	0.47
1:1:1751:C:H2'	1:1:1752:C:H5'	1.96	0.47
2:A:5:LEU:CD2	23:V:44:GLY:HA2	2.44	0.47
2:A:58:LEU:HD11	2:A:178:LEU:CA	2.44	0.47
7:F:113:VAL:O	7:F:117:ILE:HD13	2.14	0.47
10:I:192:GLY:HA3	13:L:20:LYS:CA	2.45	0.47
11:J:161:LEU:O	11:J:161:LEU:HG	2.14	0.47
20:S:6:PRO:HD3	27:Z:52:LYS:HE2	1.95	0.47
22:U:97:ILE:O	22:U:100:GLN:HB3	2.14	0.47
25:X:48:LYS:HD3	25:X:99:GLU:OE2	2.14	0.47
27:Z:92:LEU:HD13	27:Z:109:TYR:CE1	2.48	0.47
34:g:5:MET:HG2	34:g:312:VAL:HA	1.96	0.47
1:1:18:C:H6	1:1:18:C:O5'	1.97	0.47
1:1:63:U:OP1	1:1:315:C:H4'	2.14	0.47
1:1:75:G:H22	1:1:78:C:H4'	1.78	0.47
1:1:189:U:H6	1:1:189:U:P	2.37	0.47
1:1:525:A:C4	1:1:588:G:O6	2.66	0.47
1:1:545:A:C8	1:1:545:A:H3'	2.50	0.47
1:1:1344:A:H5''	1:1:1370:A:H4'	1.96	0.47
1:1:1396:A:H2'	1:1:1397:U:H5'	1.96	0.47
3:B:171:ILE:HG12	3:B:174:ARG:HH22	1.80	0.47
5:D:80:PRO:C	5:D:82:GLY:H	2.21	0.47
7:F:162:ALA:HB2	7:F:172:CYS:SG	2.54	0.47
8:G:189:ARG:O	8:G:192:ILE:HG22	2.14	0.47
9:H:109:ARG:HG2	9:H:113:LYS:HA	1.97	0.47
24:W:4:MET:HE3	24:W:4:MET:HB3	1.82	0.47
26:Y:11:LYS:O	26:Y:23:MET:HA	2.14	0.47
29:b:40:CYS:SG	29:b:59:CYS:SG	3.12	0.47
1:1:157:U:H5'	8:G:58:LYS:O	2.14	0.47
1:1:186:C:O5'	1:1:186:C:C6	2.66	0.47
1:1:450:C:H5''	1:1:450:C:H6	1.80	0.47
1:1:684:G:H2'	1:1:685:A:H8	1.79	0.47
1:1:795:A:O2'	1:1:796:G:H5'	2.14	0.47
1:1:1114:U:H1'	1:1:1115:U:H2'	1.96	0.47
1:1:1307:U:H4'	1:1:1308:U:OP1	2.15	0.47
1:1:1308:U:C5'	33:f:135:HIS:HA	2.36	0.47
1:1:1336:C:H2'	1:1:1337:C:O4'	2.13	0.47
1:1:1357:A:O2'	4:C:112:VAL:HB	2.14	0.47
1:1:1398:G:N1	34:g:61:GLY:HA2	2.29	0.47
1:1:1649:U:N3	1:1:1675:A:C2	2.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1698:C:H4'	1:1:1699:A:OP2	2.13	0.47
1:1:1859:A:O5'	1:1:1859:A:H8	1.97	0.47
3:B:65:ARG:HG2	16:O:50:LYS:CE	2.44	0.47
4:C:125:LYS:HE2	4:C:127:PHE:CZ	2.50	0.47
6:E:52:LEU:O	6:E:53:LYS:HB2	2.13	0.47
7:F:167:LYS:HA	27:Z:71:ALA:CB	2.44	0.47
8:G:63:MET:HE3	8:G:99:GLY:O	2.14	0.47
9:H:181:THR:HG22	9:H:183:LYS:HD3	1.97	0.47
15:N:94:LYS:O	15:N:98:VAL:HG23	2.14	0.47
19:R:28:PHE:HE1	19:R:52:GLY:N	2.12	0.47
20:S:61:GLU:O	20:S:64:VAL:HB	2.13	0.47
23:V:41:LYS:O	23:V:43:THR:N	2.46	0.47
30:c:43:ILE:O	30:c:64:GLU:HA	2.14	0.47
34:g:118:ARG:NH2	34:g:133:ASN:HD21	2.11	0.47
1:1:125:C:P	1:1:125:C:C6	3.08	0.47
1:1:167:G:H4'	8:G:8:PRO:O	2.15	0.47
1:1:520:A:H8	1:1:521:A:C8	2.33	0.47
1:1:746:C:H5'	9:H:105:THR:N	2.30	0.47
1:1:841:G:H8	26:Y:12:PHE:CE2	2.33	0.47
1:1:1392:U:O2	1:1:1392:U:H2'	2.13	0.47
1:1:1417:C:C2'	1:1:1418:C:H5'	2.44	0.47
1:1:1428:G:H5''	1:1:1428:G:C8	2.49	0.47
1:1:1580:A:H3'	1:1:1581:C:C5'	2.45	0.47
1:1:1681:U:H5''	30:c:20:ARG:HG3	1.96	0.47
1:1:1698:C:O2	1:1:1698:C:C2'	2.61	0.47
1:1:1825:A:C8	1:1:1825:A:H3'	2.49	0.47
3:B:134:LEU:HD12	3:B:219:LYS:CB	2.44	0.47
3:B:197:ILE:HG13	3:B:210:VAL:HG11	1.97	0.47
5:D:37:VAL:CG1	5:D:50:ILE:HG12	2.45	0.47
11:J:131:ARG:HB3	11:J:131:ARG:NH1	2.29	0.47
13:L:36:TYR:CE2	13:L:38:LYS:HB2	2.49	0.47
18:Q:102:GLU:CB	34:g:57:ARG:HA	2.43	0.47
25:X:100:VAL:HG11	25:X:122:VAL:HG13	1.94	0.47
28:a:32:LYS:HB3	28:a:32:LYS:NZ	2.29	0.47
28:a:44:ILE:CG2	28:a:67:LEU:HG	2.45	0.47
28:a:84:VAL:O	28:a:84:VAL:HG12	2.14	0.47
31:d:24:CYS:SG	31:d:26:ASN:HB3	2.54	0.47
34:g:47:ARG:HG2	34:g:47:ARG:O	2.15	0.47
1:1:93:U:H3'	1:1:94:G:H8	1.80	0.47
1:1:100:U:H2'	1:1:101:U:C5'	2.45	0.47
1:1:125:C:H5'	6:E:136:ILE:HB	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:172:U:C5	1:1:337:C:H1'	2.50	0.47
1:1:567:C:C3'	1:1:568:C:H5'	2.44	0.47
1:1:641:A:H2'	1:1:642:U:H5'	1.97	0.47
1:1:1060:A:H2'	1:1:1060:A:N3	2.29	0.47
1:1:1087:A:N7	1:1:1861:G:C6	2.83	0.47
1:1:1091:C:O2'	1:1:1092:G:H5'	2.15	0.47
1:1:1179:G:H8	1:1:1179:G:O5'	1.98	0.47
1:1:1285:G:C4'	1:1:1286:G:O5'	2.61	0.47
1:1:1330:G:C5'	1:1:1331:C:H5'	2.45	0.47
1:1:1481:G:H8	1:1:1481:G:O5'	1.97	0.47
1:1:1559:C:C6	1:1:1559:C:O5'	2.66	0.47
1:1:1617:G:H2'	1:1:1618:C:H5'	1.96	0.47
1:1:1678:A:C2	1:1:1679:A:O3'	2.67	0.47
1:1:1693:G:H2'	1:1:1694:U:O4'	2.15	0.47
1:1:1771:G:O2'	1:1:1772:C:H5'	2.14	0.47
1:1:1824:A:N3	1:1:1824:A:H5''	2.29	0.47
3:B:49:VAL:HG21	3:B:58:ALA:HB2	1.96	0.47
5:D:106:ARG:HH12	5:D:173:ARG:HB2	1.78	0.47
6:E:122:LYS:O	6:E:162:ILE:HG22	2.14	0.47
7:F:163:PHE:CE2	7:F:164:ARG:HG3	2.49	0.47
9:H:78:ARG:O	9:H:81:ARG:HB3	2.15	0.47
14:M:76:LEU:HB3	14:M:129:LYS:O	2.14	0.47
16:O:115:ALA:O	16:O:119:LEU:HD13	2.14	0.47
18:Q:12:VAL:HG11	18:Q:91:ALA:N	2.29	0.47
27:Z:50:PHE:HE2	27:Z:55:TYR:CD1	2.32	0.47
34:g:197:THR:CG2	34:g:238:ALA:HA	2.40	0.47
1:1:23:G:C5	1:1:24:C:C4	3.02	0.47
1:1:36:U:N3	1:1:520:A:N1	2.63	0.47
1:1:125:C:C6	1:1:125:C:OP1	2.68	0.47
1:1:159:A:H8	1:1:159:A:P	2.38	0.47
1:1:181:A:O5'	1:1:182:C:C5'	2.63	0.47
1:1:192:C:C2'	1:1:193:C:H5'	2.43	0.47
1:1:380:G:N2	1:1:382:C:H3'	2.30	0.47
1:1:515:G:H8	1:1:515:G:O5'	1.98	0.47
1:1:527:C:H6	1:1:527:C:C5'	2.28	0.47
1:1:583:A:C3'	1:1:584:A:C8	2.97	0.47
1:1:684:G:C4	1:1:920:A:C8	3.03	0.47
1:1:841:G:C8	26:Y:12:PHE:CZ	3.02	0.47
1:1:884:C:C2'	1:1:885:U:H5'	2.45	0.47
1:1:912:C:O2'	1:1:913:A:C4'	2.61	0.47
1:1:934:G:H5'	1:1:993:G:H21	1.75	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:993:G:C2'	1:1:994:C:H5'	2.45	0.47
1:1:1015:U:C5	15:N:13:GLN:O	2.68	0.47
1:1:1074:C:H2'	1:1:1075:C:C6	2.49	0.47
1:1:1195:A:C2	1:1:1196:A:N7	2.83	0.47
1:1:1245:G:H2'	1:1:1246:A:C8	2.49	0.47
1:1:1356:G:H8	1:1:1356:G:O5'	1.96	0.47
1:1:1361:G:N7	1:1:1362:U:C5	2.83	0.47
1:1:1547:C:H6	1:1:1547:C:H5''	1.79	0.47
1:1:1624:U:C5	1:1:1624:U:OP2	2.67	0.47
1:1:1649:U:C2'	1:1:1650:A:H5'	2.44	0.47
1:1:1704:C:O5'	1:1:1704:C:H6	1.97	0.47
1:1:1714:U:C3'	1:1:1715:A:H8	2.27	0.47
1:1:1867:U:H1'	1:1:1868:U:O5'	2.14	0.47
2:A:5:LEU:HD22	2:A:8:LEU:HD12	1.97	0.47
2:A:110:ASN:HD21	2:A:113:GLN:CB	2.28	0.47
3:B:71:LEU:HA	3:B:74:LEU:HB3	1.97	0.47
3:B:160:GLN:HE21	3:B:204:ILE:CG2	2.28	0.47
4:C:255:LEU:O	4:C:255:LEU:HG	2.14	0.47
6:E:87:MET:CE	6:E:123:LEU:HD12	2.45	0.47
9:H:53:VAL:HG11	9:H:171:GLU:HG3	1.97	0.47
14:M:30:GLY:HA3	14:M:113:ASP:OD1	2.15	0.47
18:Q:39:LEU:O	18:Q:42:ILE:HG13	2.14	0.47
18:Q:96:TYR:HA	18:Q:100:VAL:CG2	2.44	0.47
19:R:5:ARG:HB2	19:R:10:LYS:HE2	1.96	0.47
20:S:27:ALA:HB1	20:S:41:ALA:HB1	1.97	0.47
26:Y:59:GLY:O	26:Y:71:GLY:CA	2.62	0.47
27:Z:94:LYS:C	27:Z:96:LEU:H	2.23	0.47
1:1:475:C:H6	1:1:475:C:C5'	2.07	0.47
1:1:691:G:C4	1:1:692:G:C8	3.02	0.47
1:1:888:U:H5'	1:1:889:U:OP2	2.14	0.47
1:1:949:G:H8	1:1:949:G:O5'	1.98	0.47
1:1:985:G:H3'	28:a:19:GLN:NE2	2.30	0.47
1:1:1208:A:C6	1:1:1692:U:O2	2.68	0.47
1:1:1216:C:H1'	18:Q:143:LYS:HZ2	1.80	0.47
1:1:1357:A:HO2'	4:C:112:VAL:HB	1.79	0.47
3:B:71:LEU:HD22	3:B:71:LEU:O	2.15	0.47
3:B:124:HIS:HB3	3:B:138:PHE:CE2	2.50	0.47
6:E:114:ILE:HG23	6:E:118:GLU:HB2	1.94	0.47
8:G:87:ARG:O	8:G:88:ARG:HB3	2.15	0.47
10:I:48:VAL:HG21	10:I:54:LYS:HD3	1.97	0.47
16:O:85:CYS:HA	16:O:88:LEU:HD12	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:46:ARG:CZ	21:T:37:VAL:HG22	2.44	0.47
26:Y:41:ARG:HH12	26:Y:94:HIS:CD2	2.32	0.47
1:1:78:C:C1'	1:1:79:A:OP2	2.61	0.47
1:1:298:G:O2'	1:1:299:A:H5'	2.14	0.47
1:1:521:A:N6	1:1:522:A:C2	2.83	0.47
1:1:558:G:C8	1:1:558:G:OP2	2.68	0.47
1:1:563:G:C5	1:1:564:A:N7	2.83	0.47
1:1:869:A:N7	9:H:115:LYS:HB3	2.30	0.47
1:1:876:C:H2'	1:1:877:C:H6	1.79	0.47
1:1:953:C:H2'	1:1:954:U:O4'	2.15	0.47
1:1:1208:A:P	1:1:1835:A:C2	3.08	0.47
1:1:1411:G:N3	1:1:1411:G:C2'	2.77	0.47
1:1:1689:C:H2'	1:1:1690:U:H6	1.79	0.47
1:1:1769:C:O5'	1:1:1769:C:C6	2.67	0.47
3:B:57:ILE:HG22	3:B:59:SER:H	1.78	0.47
4:C:63:VAL:O	4:C:64:THR:HB	2.15	0.47
6:E:124:CYS:HB2	6:E:141:THR:CG2	2.45	0.47
7:F:40:ALA:O	7:F:42:LYS:HG3	2.14	0.47
10:I:158:ILE:O	10:I:159:SER:O	2.33	0.47
15:N:100:LYS:HG2	15:N:104:ARG:NH1	2.29	0.47
21:T:41:LYS:HG2	21:T:94:ARG:O	2.15	0.47
24:W:99:PHE:O	24:W:101:PHE:N	2.48	0.47
25:X:106:GLY:O	25:X:107:ARG:O	2.33	0.47
26:Y:100:LYS:HG2	26:Y:100:LYS:O	2.14	0.47
30:c:18:LEU:HD12	30:c:29:GLN:HG2	1.97	0.47
34:g:32:LEU:CB	34:g:71:ILE:HD11	2.45	0.47
1:1:178:C:H2'	1:1:179:C:C1'	2.44	0.47
1:1:215:G:H3'	1:1:215:G:P	2.55	0.47
1:1:462:C:H2'	1:1:463:C:O5'	2.15	0.47
1:1:525:A:C2	1:1:561:A:N6	2.71	0.47
1:1:673:G:H1'	1:1:1084:A:N3	2.30	0.47
1:1:743:U:H5''	1:1:743:U:C2	2.50	0.47
1:1:745:C:H3'	9:H:105:THR:HG23	1.98	0.47
1:1:919:A:H2	15:N:64:ARG:NH1	2.12	0.47
1:1:1017:U:C5	1:1:1018:U:C5	3.03	0.47
1:1:1161:U:C6	1:1:1161:U:C3'	2.98	0.47
1:1:1298:G:H1'	17:P:79:HIS:CB	2.43	0.47
1:1:1352:G:H5''	2:A:139:TYR:CZ	2.50	0.47
1:1:1618:C:H5''	1:1:1618:C:C6	2.49	0.47
1:1:1638:G:C5	1:1:1638:G:OP2	2.68	0.47
1:1:1709:G:H2'	1:1:1710:C:H5''	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1829:G:C8	1:1:1829:G:O5'	2.68	0.47
3:B:105:LEU:HD11	3:B:109:LYS:HG2	1.97	0.47
3:B:140:VAL:HB	3:B:213:ARG:HH12	1.80	0.47
3:B:160:GLN:NE2	3:B:204:ILE:HG23	2.29	0.47
6:E:173:ILE:HG21	6:E:230:ASN:HD22	1.78	0.47
9:H:125:VAL:O	9:H:128:ALA:HB3	2.15	0.47
10:I:48:VAL:HG21	10:I:54:LYS:CD	2.44	0.47
17:P:22:LEU:HD11	17:P:109:PRO:CG	2.45	0.47
22:U:47:ASN:C	22:U:48:LEU:HD12	2.40	0.47
1:1:28:U:H4'	25:X:124:LYS:HZ1	1.80	0.46
1:1:67:C:N4	8:G:168:LYS:O	2.46	0.46
1:1:109:U:HO2'	1:1:855:G:H1'	1.78	0.46
1:1:305:U:C6	1:1:305:U:OP1	2.68	0.46
1:1:388:U:H3'	1:1:389:A:H8	1.81	0.46
1:1:526:A:O3'	11:J:124:HIS:HB3	2.14	0.46
1:1:664:A:N3	1:1:664:A:H2'	2.29	0.46
1:1:944:A:H4'	16:O:134:PRO:HB2	1.95	0.46
1:1:1006:C:H6	1:1:1006:C:O5'	1.98	0.46
1:1:1426:U:C5	1:1:1427:C:C5	3.02	0.46
1:1:1512:C:H5'	12:K:29:MET:SD	2.55	0.46
1:1:1534:C:H5'	1:1:1536:G:H1'	1.97	0.46
1:1:1654:G:C3'	1:1:1655:C:C5	2.98	0.46
2:A:171:VAL:O	2:A:175:TRP:HD1	1.97	0.46
4:C:60:TRP:C	4:C:60:TRP:CD1	2.93	0.46
4:C:82:TYR:CD1	23:V:26:ALA:HB1	2.50	0.46
10:I:131:PRO:HG3	10:I:147:LYS:HE3	1.96	0.46
11:J:122:SER:O	11:J:125:HIS:HB3	2.14	0.46
13:L:22:ARG:HD2	13:L:27:GLU:CD	2.41	0.46
17:P:84:ILE:HD11	17:P:115:TYR:CE2	2.50	0.46
22:U:22:ILE:HG12	22:U:114:VAL:HG12	1.96	0.46
27:Z:44:LEU:HD22	27:Z:46:ASN:OD1	2.14	0.46
30:c:42:ILE:HG22	30:c:43:ILE:N	2.29	0.46
1:1:61:A:H3'	1:1:61:A:P	2.55	0.46
1:1:311:C:O2	1:1:311:C:C2'	2.63	0.46
1:1:474:G:H8	1:1:474:G:OP1	1.97	0.46
1:1:543:C:C6	1:1:543:C:C3'	2.97	0.46
1:1:684:G:H2'	1:1:685:A:O4'	2.15	0.46
1:1:927:C:C2'	1:1:928:G:H5'	2.46	0.46
1:1:1137:U:OP2	1:1:1137:U:C6	2.68	0.46
1:1:1282:A:C2'	1:1:1283:C:H5'	2.45	0.46
1:1:1304:U:H6	1:1:1304:U:O5'	1.99	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1495:G:C6	31:d:41:GLN:HB3	2.50	0.46
1:1:1529:C:H6	1:1:1529:C:O5'	1.99	0.46
1:1:1610:G:H2'	1:1:1611:G:O4'	2.15	0.46
1:1:1803:U:H2'	1:1:1804:U:C6	2.50	0.46
3:B:22:VAL:O	3:B:23:ASP:C	2.57	0.46
6:E:44:LEU:HD12	6:E:79:ASP:O	2.16	0.46
14:M:35:ILE:HD11	14:M:61:TYR:OH	2.15	0.46
16:O:56:VAL:HG12	16:O:77:ALA:HB1	1.97	0.46
17:P:60:LEU:HD13	17:P:60:LEU:C	2.40	0.46
20:S:4:VAL:HG21	27:Z:49:LEU:HD11	1.97	0.46
23:V:67:ASP:O	23:V:70:LEU:HB3	2.16	0.46
25:X:68:LYS:CB	25:X:85:VAL:HB	2.45	0.46
1:1:20:G:H4'	1:1:620:G:N2	2.28	0.46
1:1:173:A:H2'	1:1:174:C:C6	2.50	0.46
1:1:197:U:C4	1:1:198:U:H5	2.33	0.46
1:1:417:C:H5'	1:1:418:A:OP2	2.15	0.46
1:1:590:A:H1'	32:e:27:LYS:CG	2.36	0.46
1:1:852:G:N3	1:1:852:G:H2'	2.29	0.46
1:1:985:G:C3'	1:1:986:G:H5'	2.45	0.46
1:1:1085:C:H4'	1:1:1086:G:H21	1.79	0.46
1:1:1153:C:O2	1:1:1153:C:H2'	2.14	0.46
1:1:1202:U:H3	1:1:1697:A:H61	1.62	0.46
1:1:1220:A:N6	1:1:1221:G:C6	2.83	0.46
1:1:1284:A:H3'	1:1:1285:G:C4'	2.46	0.46
1:1:1398:G:C2	34:g:61:GLY:O	2.69	0.46
1:1:1406:G:O4'	1:1:1407:U:C5'	2.64	0.46
1:1:1767:C:C6	1:1:1767:C:C3'	2.99	0.46
3:B:63:LYS:C	3:B:65:ARG:H	2.23	0.46
8:G:8:PRO:HG3	8:G:112:VAL:HG13	1.97	0.46
9:H:131:GLU:OE2	9:H:139:ILE:HD11	2.15	0.46
10:I:65:PHE:O	10:I:73:THR:HA	2.15	0.46
11:J:136:ARG:HD2	11:J:160:SER:HB2	1.97	0.46
13:L:4:ILE:HG21	13:L:55:TYR:HA	1.95	0.46
15:N:15:ALA:N	29:b:20:LYS:HZ1	2.13	0.46
17:P:111:MET:HG2	17:P:119:PHE:CZ	2.50	0.46
18:Q:33:LYS:HD3	18:Q:69:ARG:CD	2.45	0.46
24:W:25:VAL:O	24:W:62:VAL:HA	2.15	0.46
34:g:72:SER:HA	34:g:113:PHE:CE1	2.50	0.46
1:1:77:A:H5''	1:1:78:C:N4	2.30	0.46
1:1:130:G:H5'	8:G:195:LYS:HZ1	1.79	0.46
1:1:331:C:C3'	1:1:332:G:C5'	2.92	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:423:U:C4	1:1:424:C:C5	3.04	0.46
1:1:520:A:H2'	1:1:521:A:O4'	2.14	0.46
1:1:668:A:C1'	1:1:1198:G:H1'	2.45	0.46
1:1:743:U:H5	9:H:97:GLN:NE2	2.12	0.46
1:1:805:U:C6	1:1:805:U:O5'	2.68	0.46
1:1:856:C:C2'	1:1:857:U:H5'	2.45	0.46
1:1:1076:G:H5'	15:N:106:ARG:HH11	1.78	0.46
1:1:1085:C:H1'	1:1:1086:G:H5''	1.96	0.46
1:1:1288:U:OP2	1:1:1311:C:C2	2.68	0.46
1:1:1332:A:OP1	1:1:1332:A:H3'	2.16	0.46
1:1:1338:G:H4'	22:U:74:SER:N	2.27	0.46
1:1:1414:A:C6	1:1:1415:C:N4	2.84	0.46
1:1:1521:C:H2'	20:S:136:THR:OG1	2.16	0.46
1:1:1555:U:C2'	1:1:1556:A:H5'	2.45	0.46
3:B:46:LYS:HZ2	16:O:27:VAL:HA	1.79	0.46
6:E:18:TRP:HB3	6:E:20:LEU:HG	1.98	0.46
6:E:133:VAL:O	6:E:136:ILE:CG2	2.63	0.46
15:N:70:LYS:HE3	15:N:73:ARG:NH1	2.29	0.46
17:P:17:TYR:CB	17:P:25:LEU:HD11	2.45	0.46
17:P:85:ILE:CD1	17:P:111:MET:HB3	2.46	0.46
21:T:82:ARG:HG3	21:T:90:SER:OG	2.16	0.46
34:g:188:HIS:HB3	34:g:219:TRP:CZ2	2.49	0.46
1:1:78:C:O3'	8:G:175:LYS:HG2	2.15	0.46
1:1:395:G:C8	1:1:395:G:O5'	2.69	0.46
1:1:577:U:O2	1:1:577:U:O4'	2.33	0.46
1:1:958:G:C6	1:1:959:G:C2	3.03	0.46
1:1:989:C:O2	28:a:32:LYS:HE2	2.16	0.46
1:1:1043:G:H1'	1:1:1044:G:O5'	2.15	0.46
1:1:1284:A:C4	1:1:1286:G:H5''	2.50	0.46
1:1:1286:G:C1'	14:M:34:GLY:HA3	2.43	0.46
1:1:1447:G:H1'	22:U:55:ARG:HE	1.80	0.46
1:1:1607:A:C2	1:1:1608:U:H1'	2.50	0.46
1:1:1697:A:O2'	1:1:1698:C:P	2.73	0.46
1:1:1740:C:H5''	10:I:58:LEU:HD11	1.97	0.46
1:1:1862:G:H4'	1:1:1863:A:OP1	2.15	0.46
2:A:12:GLU:O	2:A:15:VAL:HG22	2.16	0.46
2:A:12:GLU:HB3	19:R:115:SER:HB2	1.98	0.46
3:B:30:TRP:CD1	3:B:48:LEU:HB3	2.50	0.46
3:B:51:ARG:C	3:B:53:GLN:H	2.22	0.46
4:C:109:ILE:HD11	4:C:151:ILE:HD11	1.96	0.46
6:E:108:ARG:NH2	6:E:240:ARG:HH12	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:100:ILE:CD1	7:F:177:LEU:HD22	2.46	0.46
8:G:62:PRO:HG2	8:G:83:CYS:SG	2.55	0.46
14:M:25:ALA:HB1	14:M:111:VAL:HG13	1.97	0.46
18:Q:34:VAL:O	18:Q:37:ARG:HG2	2.15	0.46
20:S:39:ARG:HH11	21:T:39:LEU:H	1.63	0.46
28:a:26:CYS:SG	28:a:28:ARG:HB3	2.55	0.46
1:1:2:A:H3'	1:1:3:C:H5'	1.98	0.46
1:1:438:G:H8	1:1:438:G:O5'	1.99	0.46
1:1:522:A:C6	1:1:643:A:H5'	2.50	0.46
1:1:593:C:C6	1:1:593:C:P	3.09	0.46
1:1:751:G:C4	1:1:752:G:N7	2.84	0.46
1:1:920:A:H2'	1:1:922:A:C8	2.37	0.46
1:1:1142:G:N2	1:1:1145:A:OP2	2.48	0.46
1:1:1175:G:H2'	1:1:1176:G:C8	2.51	0.46
1:1:1432:U:C4	1:1:1433:C:N4	2.83	0.46
1:1:1473:G:H5'	1:1:1474:A:OP2	2.15	0.46
1:1:1529:C:H5'	1:1:1666:C:OP1	2.16	0.46
1:1:1539:U:H2'	1:1:1540:G:C5'	2.46	0.46
1:1:1668:U:H5''	18:Q:132:PHE:HA	1.98	0.46
1:1:1688:C:C2	1:1:1689:C:C5	3.04	0.46
1:1:1712:A:H2'	1:1:1713:C:C6	2.50	0.46
1:1:1766:C:O2	1:1:1766:C:H2'	2.15	0.46
7:F:78:MET:O	7:F:79:HIS:HB3	2.15	0.46
7:F:92:ILE:HG23	7:F:170:ALA:HB2	1.97	0.46
13:L:20:LYS:HE3	13:L:21:LYS:HZ3	1.80	0.46
20:S:91:LYS:HE3	20:S:113:ARG:HH12	1.81	0.46
22:U:24:LEU:N	22:U:24:LEU:HD23	2.30	0.46
28:a:39:PHE:CD2	28:a:70:LYS:HA	2.51	0.46
28:a:81:SER:O	28:a:82:LYS:HB2	2.14	0.46
1:1:21:U:H3	1:1:654:A:H2	1.64	0.46
1:1:39:A:N6	1:1:515:G:H21	2.14	0.46
1:1:42:A:H4'	1:1:98:C:OP2	2.16	0.46
1:1:105:U:C4	1:1:106:C:C4	3.03	0.46
1:1:217:A:C2'	1:1:218:U:H5'	2.46	0.46
1:1:440:G:H5''	1:1:1798:C:O2'	2.15	0.46
1:1:467:G:C8	1:1:467:G:OP2	2.68	0.46
1:1:564:A:H2'	1:1:565:G:OP1	2.15	0.46
1:1:891:G:H8	1:1:891:G:O5'	1.98	0.46
1:1:1058:A:C2'	1:1:1059:G:H5'	2.46	0.46
1:1:1253:A:N7	1:1:1666:C:H4'	2.30	0.46
1:1:1387:G:H2'	1:1:1388:A:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1431:G:C4	1:1:1432:U:C4	3.04	0.46
1:1:1601:A:N1	1:1:1635:C:C4	2.84	0.46
2:A:8:LEU:HG	2:A:191:ARG:CZ	2.46	0.46
3:B:77:ASP:O	3:B:78:GLU:CB	2.63	0.46
3:B:84:PHE:CD1	3:B:100:PHE:CE2	3.04	0.46
6:E:88:ASP:HA	6:E:122:LYS:HE3	1.97	0.46
10:I:83:TYR:N	10:I:91:VAL:HG21	2.31	0.46
10:I:144:LYS:O	10:I:147:LYS:HG2	2.16	0.46
15:N:62:GLN:CG	15:N:65:PHE:HD1	2.29	0.46
17:P:34:MET:O	17:P:42:ARG:HG2	2.16	0.46
20:S:60:THR:O	20:S:63:GLU:HB2	2.14	0.46
34:g:174:VAL:CG1	34:g:188:HIS:HB2	2.45	0.46
1:1:67:C:C5	8:G:162:LEU:HG	2.51	0.46
1:1:74:G:H2'	1:1:74:G:N3	2.31	0.46
1:1:175:A:C6	1:1:176:U:C6	3.04	0.46
1:1:342:C:C6	1:1:342:C:H5''	2.51	0.46
1:1:369:C:O2'	1:1:370:G:H5''	2.15	0.46
1:1:371:A:C5'	10:I:11:ARG:HB2	2.44	0.46
1:1:441:C:C5	1:1:448:A:N3	2.84	0.46
1:1:572:U:C2'	1:1:573:U:C4	2.85	0.46
1:1:600:G:C2	1:1:601:G:C5	3.04	0.46
1:1:604:A:H3'	1:1:604:A:OP2	2.16	0.46
1:1:615:C:C2'	1:1:616:A:H5'	2.45	0.46
1:1:935:G:C2	1:1:1008:A:C2	3.03	0.46
1:1:984:C:H2'	1:1:985:G:C8	2.51	0.46
1:1:1288:U:C2	1:1:1315:U:H1'	2.50	0.46
1:1:1350:U:H4'	2:A:112:ILE:HD13	1.98	0.46
1:1:1352:G:OP1	2:A:109:THR:HB	2.16	0.46
1:1:1387:G:H2'	1:1:1388:A:C8	2.51	0.46
1:1:1406:G:H4'	1:1:1407:U:C5'	2.46	0.46
1:1:1416:C:C3'	1:1:1417:C:C5'	2.86	0.46
1:1:1507:G:C2	33:f:91:ASN:HA	2.51	0.46
6:E:246:LEU:HD23	6:E:250:GLU:HB3	1.97	0.46
9:H:105:THR:O	9:H:105:THR:CG2	2.64	0.46
14:M:89:VAL:CG1	14:M:91:LEU:HG	2.46	0.46
20:S:24:ARG:HA	27:Z:48:VAL:CG1	2.43	0.46
32:e:31:ARG:HG3	32:e:32:ALA:N	2.31	0.46
1:1:316:G:C6	1:1:317:C:N4	2.84	0.46
1:1:346:C:H5''	6:E:38:LEU:CD1	2.46	0.46
1:1:532:C:C5	1:1:533:A:C8	3.04	0.46
1:1:594:A:Cl'	1:1:643:A:N6	2.62	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:656:G:H4'	1:1:657:U:H5'	1.98	0.46
1:1:745:C:O5'	9:H:105:THR:HG23	2.15	0.46
1:1:798:G:N3	1:1:798:G:H3'	2.31	0.46
1:1:901:G:O2'	1:1:902:G:H5'	2.15	0.46
1:1:1079:C:C3'	1:1:1080:A:H5'	2.46	0.46
1:1:1225:U:O5'	1:1:1225:U:C6	2.69	0.46
1:1:1375:G:C8	1:1:1375:G:H3'	2.50	0.46
1:1:1454:A:H61	1:1:1467:C:H41	1.62	0.46
1:1:1552:G:H2'	5:D:3:VAL:CG2	2.44	0.46
1:1:1556:A:H2	1:1:1557:C:C5	2.26	0.46
1:1:1623:A:HO2'	1:1:1624:U:H6	1.62	0.46
1:1:1778:C:O5'	1:1:1778:C:H6	1.99	0.46
22:U:66:ARG:H	22:U:66:ARG:HD2	1.80	0.46
27:Z:54:THR:HB	27:Z:58:LEU:HD11	1.97	0.46
1:1:154:U:O4'	8:G:13:GLN:HB3	2.16	0.46
1:1:215:G:O5'	1:1:215:G:C8	2.68	0.46
1:1:570:C:C3'	1:1:571:U:H5''	2.41	0.46
1:1:685:A:H8	1:1:685:A:O5'	1.99	0.46
1:1:797:C:H41	9:H:104:PRO:HA	1.81	0.46
1:1:831:G:H2'	1:1:832:G:H8	1.81	0.46
1:1:991:G:H5'	28:a:11:ALA:CB	2.46	0.46
1:1:1341:C:O5'	1:1:1341:C:H6	1.98	0.46
1:1:1348:G:N2	1:1:1381:G:N2	2.56	0.46
1:1:1403:C:C6	1:1:1404:U:C6	3.04	0.46
1:1:1465:A:C5	1:1:1466:G:H1'	2.50	0.46
1:1:1616:U:O2	1:1:1616:U:C2'	2.64	0.46
1:1:1628:C:H2'	1:1:1629:C:C6	2.51	0.46
1:1:1695:A:H3'	1:1:1696:C:C6	2.51	0.46
1:1:1752:C:O2'	1:1:1753:C:H5'	2.15	0.46
1:1:1808:U:O5'	1:1:1808:U:H6	1.99	0.46
1:1:1850:A:H8	1:1:1850:A:O5'	1.99	0.46
2:A:62:ALA:HB1	2:A:185:MET:SD	2.56	0.46
5:D:190:LEU:CB	5:D:200:PRO:HD3	2.46	0.46
10:I:191:GLU:HG3	13:L:20:LYS:HB2	1.98	0.46
26:Y:41:ARG:NH2	26:Y:53:ASP:HA	2.31	0.46
34:g:109:LEU:HD23	34:g:125:ARG:HG3	1.97	0.46
1:1:77:A:C4'	1:1:78:C:C5	2.99	0.45
1:1:235:A:C4	1:1:236:A:C8	3.04	0.45
1:1:302:A:O2'	10:I:74:ARG:HA	2.16	0.45
1:1:538:U:H5''	1:1:539:C:OP2	2.16	0.45
1:1:681:U:O5'	1:1:681:U:H6	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:743:U:O2	1:1:743:U:H2'	2.15	0.45
1:1:1082:A:H2'	1:1:1084:A:O5'	2.16	0.45
1:1:1203:G:C2'	1:1:1699:A:H2	2.29	0.45
1:1:1280:G:O2'	1:1:1281:G:H5'	2.16	0.45
1:1:1348:G:H22	1:1:1381:G:H1	1.65	0.45
1:1:1348:G:C2	1:1:1382:A:C2	3.03	0.45
1:1:1454:A:H5''	19:R:3:ARG:HD2	1.96	0.45
1:1:1721:U:C4'	1:1:1722:G:O5'	2.64	0.45
1:1:1780:G:OP2	1:1:1781:A:C8	2.69	0.45
7:F:145:ARG:HB2	30:c:48:GLY:HA3	1.98	0.45
8:G:106:LEU:HD22	8:G:106:LEU:H	1.81	0.45
8:G:114:VAL:HG12	8:G:115:LYS:HG3	1.99	0.45
9:H:147:LYS:HD2	9:H:151:SER:HB2	1.97	0.45
16:O:61:LYS:HD3	16:O:76:LEU:HD13	1.98	0.45
20:S:9:PHE:CD2	27:Z:49:LEU:HD22	2.50	0.45
26:Y:97:TYR:O	26:Y:98:GLU:CB	2.63	0.45
1:1:84:A:H3'	26:Y:122:LYS:HD2	1.98	0.45
1:1:179:C:OP2	1:1:179:C:C6	2.58	0.45
1:1:193:C:H6	1:1:193:C:C5'	2.24	0.45
1:1:332:G:H1'	1:1:333:G:N7	2.31	0.45
1:1:569:A:C3'	1:1:570:C:H5''	2.46	0.45
1:1:667:U:H2'	1:1:668:A:H5''	1.96	0.45
1:1:681:U:H2'	1:1:682:U:H5'	1.98	0.45
1:1:831:G:H2'	1:1:832:G:C8	2.51	0.45
1:1:1035:A:C8	1:1:1035:A:C3'	2.99	0.45
1:1:1204:A:O2'	1:1:1699:A:H2'	2.16	0.45
1:1:1284:A:N7	1:1:1286:G:OP2	2.49	0.45
1:1:1394:G:C6	1:1:1474:A:C2	3.05	0.45
1:1:1395:C:O2'	1:1:1396:A:H5'	2.16	0.45
1:1:1512:C:H1'	31:d:7:TYR:CE2	2.51	0.45
1:1:1534:C:H3'	1:1:1534:C:P	2.56	0.45
1:1:1600:G:P	27:Z:43:LYS:HD2	2.56	0.45
1:1:1602:U:H3'	1:1:1602:U:C6	2.50	0.45
1:1:1622:U:H3'	1:1:1622:U:C6	2.50	0.45
1:1:1630:A:C6	1:1:1631:U:C4	3.04	0.45
1:1:1647:A:O2'	1:1:1648:G:C5'	2.61	0.45
1:1:1648:G:H21	18:Q:128:GLU:CB	2.29	0.45
1:1:1695:A:C6	1:1:1696:C:O2	2.69	0.45
1:1:1738:C:O5'	1:1:1738:C:H6	1.99	0.45
2:A:39:TYR:CZ	2:A:50:ASN:HB2	2.51	0.45
2:A:178:LEU:O	2:A:182:VAL:HG23	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:58:VAL:HA	5:D:65:ARG:HD3	1.97	0.45
9:H:27:LEU:O	9:H:40:LEU:HD11	2.17	0.45
9:H:146:VAL:O	24:W:42:MET:HE1	2.15	0.45
11:J:75:ASN:O	11:J:79:ARG:HB2	2.16	0.45
20:S:27:ALA:HB2	20:S:45:LEU:HD21	1.97	0.45
20:S:70:ILE:HD13	20:S:77:TYR:CE1	2.52	0.45
20:S:73:ASN:HD22	20:S:76:GLN:HB2	1.81	0.45
20:S:74:PRO:HG2	20:S:84:LEU:HD21	1.96	0.45
21:T:40:ALA:O	21:T:41:LYS:HB2	2.15	0.45
24:W:94:LEU:HD12	24:W:97:ARG:HH22	1.80	0.45
34:g:251:ALA:HB2	34:g:289:LEU:CD2	2.44	0.45
1:1:381:C:H5''	10:I:48:VAL:CG2	2.46	0.45
1:1:386:C:OP2	13:L:136:LYS:HD3	2.16	0.45
1:1:446:G:OP1	10:I:49:ARG:O	2.34	0.45
1:1:567:C:H2'	1:1:568:C:C5'	2.44	0.45
1:1:621:C:H2'	1:1:621:C:O2	2.15	0.45
1:1:683:G:C1'	1:1:1023:A:C2	2.86	0.45
1:1:850:C:H2'	1:1:851:C:C5'	2.45	0.45
1:1:899:U:C2'	1:1:900:C:C6	2.98	0.45
1:1:1101:U:C6	1:1:1101:U:C3'	2.98	0.45
1:1:1132:C:H6	1:1:1132:C:C5'	2.30	0.45
1:1:1201:U:O5'	1:1:1201:U:C6	2.67	0.45
1:1:1260:A:O5'	1:1:1260:A:C8	2.70	0.45
1:1:1277:C:O2	1:1:1277:C:H2'	2.16	0.45
1:1:1289:U:C5	1:1:1311:C:O2	2.70	0.45
1:1:1415:C:C6	1:1:1415:C:H5''	2.52	0.45
1:1:1532:C:H3'	1:1:1637:A:H62	1.81	0.45
1:1:1579:A:N7	22:U:56:MET:HG2	2.32	0.45
1:1:1593:C:H5	27:Z:104:ARG:NH2	2.05	0.45
1:1:1639:G:N3	1:1:1639:G:C2'	2.79	0.45
1:1:1654:G:C2'	1:1:1655:C:C5	2.99	0.45
1:1:1814:G:O5'	1:1:1814:G:C8	2.62	0.45
1:1:1866:A:C5	28:a:84:VAL:HG22	2.51	0.45
2:A:40:LYS:HB2	19:R:105:MET:CA	2.46	0.45
12:K:59:LYS:HB2	12:K:70:TYR:CD2	2.51	0.45
16:O:106:LYS:HE3	16:O:135:ILE:HG22	1.97	0.45
18:Q:45:ARG:HH21	21:T:10:ASN:HD21	1.65	0.45
1:1:428:U:C3'	1:1:429:C:H6	2.28	0.45
1:1:559:G:C5'	1:1:560:A:H5''	2.46	0.45
1:1:598:G:C8	1:1:598:G:O5'	2.69	0.45
1:1:685:A:C8	1:1:685:A:O5'	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:794:A:H8	1:1:794:A:O5'	2.00	0.45
1:1:794:A:O2'	1:1:795:A:H4'	2.16	0.45
1:1:1120:U:O4	1:1:1121:G:C5	2.69	0.45
1:1:1322:G:C8	1:1:1322:G:H3'	2.51	0.45
1:1:1338:G:H2'	1:1:1339:U:C6	2.51	0.45
1:1:1413:G:C4	1:1:1414:A:C8	3.05	0.45
1:1:1484:A:C5'	5:D:159:HIS:HB3	2.37	0.45
1:1:1586:U:O2	1:1:1587:G:C8	2.69	0.45
3:B:176:VAL:O	3:B:178:THR:N	2.50	0.45
6:E:49:ARG:HH21	6:E:58:GLY:HA2	1.82	0.45
8:G:127:THR:CG2	8:G:129:VAL:HG23	2.46	0.45
21:T:110:LEU:HB3	21:T:112:MET:HG3	1.99	0.45
27:Z:54:THR:O	27:Z:58:LEU:HG	2.16	0.45
28:a:82:LYS:HE2	30:c:69:ARG:HD2	1.97	0.45
34:g:5:MET:CG	34:g:312:VAL:HG22	2.47	0.45
34:g:294:ASP:C	34:g:296:GLN:H	2.24	0.45
1:1:69:C:C6	1:1:69:C:C3'	2.99	0.45
1:1:93:U:H3'	1:1:94:G:C8	2.52	0.45
1:1:100:U:H2'	1:1:101:U:H5'	1.99	0.45
1:1:133:C:H3'	1:1:134:C:C5'	2.47	0.45
1:1:143:U:C2	8:G:180:VAL:HG11	2.52	0.45
1:1:313:A:H5''	8:G:191:ARG:HH12	1.81	0.45
1:1:494:C:O2'	1:1:495:U:H5'	2.16	0.45
1:1:694:G:H4'	1:1:694:G:OP1	2.16	0.45
1:1:901:G:H8	1:1:901:G:P	2.38	0.45
1:1:1177:U:H2'	1:1:1178:U:H6	1.80	0.45
1:1:1210:G:H4'	28:a:85:ARG:CZ	2.47	0.45
1:1:1292:C:O5'	1:1:1292:C:C6	2.65	0.45
1:1:1326:U:O2	1:1:1326:U:O4'	2.35	0.45
1:1:1395:C:H2'	1:1:1396:A:O4'	2.16	0.45
1:1:1632:G:H4'	1:1:1632:G:OP1	2.17	0.45
1:1:1765:C:H2'	1:1:1766:C:C1'	2.46	0.45
1:1:1782:G:C2	1:1:1783:C:N4	2.84	0.45
3:B:158:HIS:O	3:B:161:VAL:HB	2.17	0.45
5:D:162:ASP:N	5:D:163:PRO:HD2	2.32	0.45
6:E:125:LYS:H	6:E:142:HIS:CE1	2.34	0.45
7:F:184:SER:O	7:F:186:ASN:N	2.49	0.45
9:H:69:LEU:C	9:H:69:LEU:HD13	2.42	0.45
14:M:19:GLN:HA	14:M:88:TRP:CD1	2.51	0.45
14:M:61:TYR:CE1	14:M:107:SER:CB	2.98	0.45
22:U:32:LEU:HD21	22:U:87:ARG:HG2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Y:20:ARG:HD2	26:Y:20:ARG:C	2.41	0.45
26:Y:103:SER:HB2	26:Y:107:ARG:CG	2.46	0.45
34:g:86:THR:CG2	34:g:102:VAL:HG22	2.47	0.45
34:g:251:ALA:HB1	34:g:286:CYS:HB2	1.98	0.45
1:1:381:C:H6	1:1:381:C:C5'	2.30	0.45
1:1:422:U:O2	1:1:652:U:H5''	2.17	0.45
1:1:840:C:H4'	1:1:841:G:OP2	2.17	0.45
1:1:1013:U:C4'	1:1:1129:G:H21	2.29	0.45
1:1:1188:A:H4'	1:1:1188:A:OP1	2.17	0.45
1:1:1195:A:H5''	1:1:1195:A:H8	1.81	0.45
1:1:1394:G:C2'	1:1:1395:C:H5'	2.46	0.45
1:1:1494:U:C1'	1:1:1495:G:OP2	2.65	0.45
1:1:1518:C:H5''	1:1:1519:U:H5''	1.97	0.45
1:1:1849:G:H2'	1:1:1850:A:H5'	1.99	0.45
2:A:42:LYS:HB3	2:A:46:ILE:H	1.82	0.45
3:B:84:PHE:CE1	3:B:100:PHE:HE2	2.35	0.45
3:B:172:MET:O	3:B:176:VAL:HG23	2.16	0.45
6:E:99:PHE:CD1	6:E:111:VAL:HB	2.51	0.45
7:F:55:ARG:C	7:F:57:ALA:H	2.25	0.45
8:G:84:TYR:OH	8:G:91:GLU:HB3	2.15	0.45
19:R:63:ARG:HA	34:g:280:LYS:CE	2.46	0.45
34:g:86:THR:HG22	34:g:102:VAL:HG22	1.97	0.45
1:1:67:C:C4	8:G:164:LYS:N	2.85	0.45
1:1:104:A:H62	1:1:352:U:H5	1.63	0.45
1:1:133:C:C6	1:1:134:C:H4'	2.51	0.45
1:1:178:C:H2'	1:1:179:C:O4'	2.15	0.45
1:1:184:G:C8	1:1:185:G:H1'	2.51	0.45
1:1:203:G:H8	1:1:203:G:O5'	1.99	0.45
1:1:374:G:O6	1:1:385:G:O6	2.35	0.45
1:1:548:C:O2	1:1:548:C:H2'	2.17	0.45
1:1:753:C:N4	1:1:754:G:N3	2.65	0.45
1:1:753:C:C4	1:1:754:G:C4	3.04	0.45
1:1:1083:A:C2	1:1:1861:G:C4	3.04	0.45
1:1:1277:C:H5''	1:1:1277:C:C6	2.52	0.45
1:1:1377:U:O2	1:1:1379:A:H5'	2.17	0.45
1:1:1401:A:H4'	22:U:52:GLY:HA3	1.99	0.45
1:1:1420:G:O2'	21:T:2:PRO:HA	2.16	0.45
1:1:1639:G:H4'	1:1:1639:G:OP1	2.17	0.45
1:1:1643:U:H1'	18:Q:142:GLN:CD	2.41	0.45
1:1:1684:C:C3'	1:1:1685:U:C5'	2.95	0.45
10:I:68:GLY:CA	13:L:21:LYS:HE3	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:101:ARG:CB	25:X:10:ALA:HB2	2.47	0.45
13:L:128:VAL:HG12	13:L:142:VAL:HA	1.98	0.45
15:N:99:ARG:HH12	15:N:143:SER:HA	1.82	0.45
19:R:105:MET:CG	19:R:106:LEU:N	2.79	0.45
21:T:113:VAL:HG13	21:T:121:ARG:HB2	1.99	0.45
26:Y:7:ILE:HG23	26:Y:25:ILE:HG23	1.98	0.45
28:a:26:CYS:SG	28:a:28:ARG:CB	3.04	0.45
1:1:189:U:C6	1:1:189:U:P	3.10	0.45
1:1:336:A:N3	1:1:337:C:H5	2.15	0.45
1:1:594:A:H1'	1:1:643:A:H62	1.75	0.45
1:1:1206:G:N3	1:1:1834:A:H1'	2.32	0.45
1:1:1420:G:OP2	1:1:1420:G:C8	2.68	0.45
1:1:1565:C:H2'	1:1:1566:G:C5'	2.45	0.45
1:1:1602:U:C6	1:1:1602:U:C3'	3.00	0.45
1:1:1608:U:H5''	20:S:130:ARG:NH1	2.32	0.45
1:1:1661:A:C5	1:1:1662:U:N3	2.85	0.45
1:1:1676:U:H3'	1:1:1677:U:H5''	1.98	0.45
1:1:1750:C:C6	1:1:1750:C:O5'	2.70	0.45
3:B:135:LEU:HD13	3:B:217:MET:HE1	1.99	0.45
5:D:62:LYS:HB3	12:K:94:LEU:O	2.16	0.45
6:E:29:PRO:HB3	6:E:45:ILE:HG21	1.99	0.45
6:E:52:LEU:HB3	6:E:54:TYR:CD2	2.51	0.45
7:F:20:PHE:CD2	7:F:21:GLY:N	2.81	0.45
7:F:40:ALA:C	7:F:42:LYS:N	2.75	0.45
7:F:162:ALA:HB2	7:F:172:CYS:CB	2.47	0.45
8:G:32:MET:CE	8:G:65:GLN:HB2	2.43	0.45
14:M:18:LEU:O	14:M:22:LEU:HD13	2.17	0.45
15:N:141:TYR:CE1	15:N:146:ALA:HB2	2.51	0.45
18:Q:53:GLU:HB3	18:Q:54:PRO:HD3	1.99	0.45
21:T:76:THR:CG2	21:T:95:GLY:H	2.29	0.45
24:W:17:ALA:CB	24:W:25:VAL:HG22	2.46	0.45
25:X:98:ASP:O	25:X:100:VAL:HG23	2.16	0.45
26:Y:29:HIS:CG	26:Y:35:VAL:HG13	2.51	0.45
31:d:15:GLY:O	31:d:19:ARG:HG2	2.16	0.45
1:1:23:G:H2'	1:1:24:C:O4'	2.17	0.45
1:1:157:U:O5'	1:1:157:U:H6	1.99	0.45
1:1:181:A:P	1:1:182:C:H5'	2.57	0.45
1:1:190:G:C4'	10:I:116:HIS:O	2.64	0.45
1:1:212:C:O2	1:1:212:C:H2'	2.15	0.45
1:1:411:G:C2	1:1:412:G:H1'	2.52	0.45
1:1:746:C:OP2	1:1:746:C:C3'	2.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1214:A:C5	1:1:1686:G:C2	3.04	0.45
1:1:1406:G:C1'	1:1:1407:U:O5'	2.65	0.45
1:1:1452:A:C6	1:1:1475:G:C6	3.05	0.45
1:1:1598:G:H4'	1:1:1600:G:C6	2.51	0.45
1:1:1603:G:H5'	20:S:38:ARG:NE	2.32	0.45
1:1:1635:C:H3'	1:1:1636:G:C5'	2.47	0.45
1:1:1833:C:C6	1:1:1833:C:C5'	2.85	0.45
8:G:159:ARG:HB3	8:G:171:THR:CG2	2.47	0.45
8:G:177:GLN:O	8:G:178:ARG:HB2	2.17	0.45
18:Q:16:LYS:HD3	18:Q:17:LYS:HG2	1.97	0.45
22:U:80:PHE:CB	31:d:52:PHE:HB3	2.46	0.45
28:a:71:LEU:HD21	28:a:73:TYR:HE2	1.82	0.45
30:c:13:ARG:HA	30:c:55:VAL:HA	1.99	0.45
31:d:33:LYS:O	31:d:33:LYS:HG2	2.17	0.45
34:g:20:GLN:HG3	34:g:68:ASP:CG	2.42	0.45
34:g:283:PRO:N	34:g:284:PRO:CD	2.79	0.45
1:1:35:C:C3'	1:1:36:U:C6	2.97	0.45
1:1:36:U:H5'	1:1:580:U:O2'	2.17	0.45
1:1:133:C:C2	1:1:179:C:OP1	2.69	0.45
1:1:191:A:OP1	10:I:147:LYS:HB3	2.17	0.45
1:1:519:A:N1	1:1:520:A:C6	2.85	0.45
1:1:870:A:C6	1:1:916:A:C5	3.05	0.45
1:1:1028:A:H3'	1:1:1029:G:C8	2.52	0.45
1:1:1087:A:H4'	1:1:1088:U:OP2	2.16	0.45
1:1:1230:C:H2'	1:1:1231:C:C5'	2.46	0.45
1:1:1315:U:H6	1:1:1315:U:O5'	2.00	0.45
1:1:1370:A:C5	1:1:1372:U:O4'	2.70	0.45
1:1:1418:C:H5''	21:T:129:ARG:HA	1.99	0.45
1:1:1484:A:H4'	5:D:159:HIS:HB3	1.99	0.45
1:1:1532:C:OP1	1:1:1533:A:H1'	2.16	0.45
1:1:1561:A:N6	1:1:1575:G:C4	2.85	0.45
1:1:1576:G:H2'	1:1:1577:G:C8	2.52	0.45
1:1:1605:G:H21	1:1:1634:A:H62	1.65	0.45
1:1:1641:A:H5''	1:1:1641:A:C8	2.50	0.45
2:A:120:ARG:NE	2:A:120:ARG:HA	2.32	0.45
2:A:203:PHE:HE2	2:A:208:GLU:OE1	2.00	0.45
3:B:62:LEU:HD23	3:B:65:ARG:HH21	1.81	0.45
3:B:186:ASN:O	3:B:190:PRO:CD	2.63	0.45
6:E:16:LYS:O	6:E:19:MET:HE2	2.16	0.45
7:F:91:ARG:HA	7:F:91:ARG:NE	2.31	0.45
8:G:194:LEU:O	8:G:197:GLN:HB2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:47:ALA:O	9:H:63:PHE:HD1	2.00	0.45
10:I:37:LYS:HB2	10:I:59:ARG:HG2	1.98	0.45
19:R:5:ARG:HG3	19:R:53:TYR:CD1	2.52	0.45
24:W:80:ASP:OD1	24:W:124:LYS:HG2	2.16	0.45
1:1:95:G:O2'	1:1:96:C:H5'	2.17	0.44
1:1:845:G:H5''	6:E:108:ARG:NH1	2.28	0.44
1:1:876:C:C6	1:1:877:C:H5	2.35	0.44
1:1:969:U:H1'	1:1:971:G:O6	2.17	0.44
1:1:1034:A:C6	1:1:1082:A:C4	3.05	0.44
1:1:1071:G:H8	1:1:1071:G:O5'	2.00	0.44
1:1:1375:G:H2'	1:1:1376:A:C5'	2.46	0.44
1:1:1547:C:H42	1:1:1656:G:H4'	1.82	0.44
1:1:1655:C:H2'	1:1:1656:G:H8	1.78	0.44
1:1:1665:G:C2	21:T:87:VAL:HB	2.51	0.44
1:1:1854:U:H5''	16:O:150:ARG:HH22	1.81	0.44
2:A:142:LEU:O	2:A:142:LEU:HD12	2.16	0.44
3:B:66:VAL:HA	3:B:86:LEU:O	2.17	0.44
3:B:131:ASP:H	3:B:180:ASP:CG	2.24	0.44
4:C:98:LEU:CG	4:C:101:SER:HB2	2.47	0.44
6:E:30:ARG:HG3	6:E:30:ARG:O	2.17	0.44
8:G:38:ALA:O	8:G:41:LEU:HB2	2.17	0.44
9:H:83:LEU:HB3	9:H:92:VAL:HG21	1.98	0.44
10:I:68:GLY:HA3	13:L:21:LYS:NZ	2.32	0.44
13:L:71:ARG:HH12	13:L:73:LEU:CD1	2.28	0.44
15:N:4:MET:HE1	15:N:121:ARG:HG3	2.00	0.44
18:Q:60:LYS:HA	18:Q:63:PHE:CE1	2.52	0.44
20:S:25:LYS:HD2	20:S:28:PHE:H	1.82	0.44
21:T:6:VAL:HG22	21:T:65:TYR:CE2	2.52	0.44
31:d:36:LEU:N	31:d:36:LEU:HD12	2.32	0.44
1:1:59:U:C3'	1:1:59:U:C6	3.00	0.44
1:1:174:C:H5''	1:1:174:C:H6	1.83	0.44
1:1:311:C:H2'	1:1:311:C:O2	2.18	0.44
1:1:338:G:H2'	1:1:339:A:N7	2.32	0.44
1:1:525:A:C5'	32:e:31:ARG:HB3	2.48	0.44
1:1:573:U:O2	1:1:573:U:C3'	2.65	0.44
1:1:611:G:H8	1:1:611:G:O5'	2.01	0.44
1:1:1081:U:C2'	1:1:1082:A:H5'	2.47	0.44
1:1:1127:C:C2'	1:1:1128:C:H5'	2.48	0.44
1:1:1130:G:C8	1:1:1130:G:O5'	2.71	0.44
1:1:1196:A:O2'	1:1:1197:G:H5'	2.16	0.44
1:1:1321:G:N2	1:1:1322:G:C4	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1340:U:H3'	1:1:1341:C:H6	1.77	0.44
1:1:1417:C:C4	1:1:1418:C:N4	2.85	0.44
1:1:1695:A:C5	1:1:1696:C:C2	3.05	0.44
1:1:1846:G:H3'	1:1:1847:G:H8	1.81	0.44
2:A:9:GLN:HG3	2:A:10:MET:N	2.32	0.44
8:G:64:LYS:O	8:G:100:CYS:HB2	2.18	0.44
10:I:130:THR:O	10:I:132:GLU:N	2.50	0.44
15:N:28:LEU:HD11	15:N:32:ASP:HB3	1.99	0.44
34:g:124:SER:HB3	34:g:126:ASP:OD1	2.17	0.44
1:1:130:G:O6	1:1:131:C:C5	2.71	0.44
1:1:190:G:H8	1:1:190:G:O5'	2.01	0.44
1:1:574:A:N7	1:1:575:A:H1'	2.33	0.44
1:1:746:C:H2'	1:1:746:C:OP2	2.17	0.44
1:1:1099:G:O5'	1:1:1099:G:H8	2.00	0.44
1:1:1120:U:H3'	1:1:1120:U:C6	2.52	0.44
1:1:1280:G:C2	1:1:1281:G:C6	3.06	0.44
1:1:1348:G:O5'	1:1:1348:G:C8	2.62	0.44
1:1:1417:C:C5	1:1:1418:C:N4	2.85	0.44
1:1:1544:C:H4'	18:Q:80:GLN:NE2	2.32	0.44
1:1:1561:A:C6	1:1:1575:G:N3	2.85	0.44
1:1:1579:A:N3	1:1:1579:A:C3'	2.71	0.44
1:1:1609:C:C5'	1:1:1609:C:C6	3.00	0.44
1:1:1620:A:H5'	17:P:115:TYR:OH	2.17	0.44
1:1:1679:A:OP2	1:1:1679:A:C4'	2.65	0.44
4:C:163:VAL:HB	4:C:164:PRO:HD2	1.99	0.44
6:E:251:GLU:O	6:E:255:ARG:HG3	2.17	0.44
9:H:31:GLU:HB3	9:H:40:LEU:HD13	1.98	0.44
13:L:95:TYR:HB2	13:L:102:PHE:CE2	2.52	0.44
14:M:26:LEU:HD13	14:M:26:LEU:C	2.42	0.44
21:T:6:VAL:HG22	21:T:65:TYR:HE2	1.82	0.44
21:T:41:LYS:HG2	21:T:94:ARG:C	2.42	0.44
22:U:20:ILE:HG21	22:U:98:VAL:HG22	1.99	0.44
1:1:125:C:H4'	6:E:136:ILE:CA	2.40	0.44
1:1:571:U:C2'	1:1:572:U:H4'	2.47	0.44
1:1:578:C:OP2	1:1:578:C:C6	2.71	0.44
1:1:749:U:O2	1:1:795:A:N1	2.50	0.44
1:1:824:C:O2	11:J:144:ILE:HG21	2.17	0.44
1:1:946:U:H2'	1:1:947:G:O4'	2.17	0.44
1:1:1214:A:H61	1:1:1685:U:H3	1.64	0.44
1:1:1371:U:O2'	1:1:1372:U:P	2.76	0.44
1:1:1378:A:N3	2:A:105:PRO:HB3	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1403:C:H2'	1:1:1404:U:O5'	2.17	0.44
1:1:1407:U:OP2	1:1:1408:U:C5	2.71	0.44
1:1:1416:C:C6	1:1:1417:C:H5''	2.53	0.44
1:1:1631:U:H2'	1:1:1632:G:O4'	2.17	0.44
2:A:82:THR:HG22	2:A:205:ARG:HB2	1.99	0.44
2:A:205:ARG:HD2	2:A:205:ARG:HA	1.88	0.44
6:E:160:VAL:HG12	6:E:172:PHE:HB3	1.99	0.44
6:E:177:THR:HG23	6:E:196:THR:O	2.18	0.44
9:H:63:PHE:CD2	9:H:95:ILE:HD11	2.51	0.44
9:H:117:PRO:HD2	9:H:120:ARG:HD3	1.99	0.44
10:I:68:GLY:HA3	13:L:21:LYS:CE	2.46	0.44
14:M:51:VAL:HG22	14:M:109:VAL:O	2.16	0.44
34:g:170:TRP:HB3	34:g:194:TYR:HD2	1.83	0.44
1:1:9:U:O2	1:1:12:U:H5	2.00	0.44
1:1:33:G:H2'	1:1:34:U:C6	2.53	0.44
1:1:181:A:C3'	1:1:182:C:C5'	2.87	0.44
1:1:308:G:OP1	1:1:308:G:N3	2.51	0.44
1:1:312:G:H22	8:G:195:LYS:CG	2.31	0.44
1:1:528:A:C8	1:1:528:A:P	3.04	0.44
1:1:743:U:C5	9:H:98:ARG:O	2.70	0.44
1:1:1043:G:O2'	1:1:1044:G:H8	2.01	0.44
1:1:1103:C:H2'	1:1:1104:G:H8	1.82	0.44
1:1:1223:A:O2'	1:1:1651:A:H4'	2.18	0.44
1:1:1242:U:H4'	1:1:1243:U:C5'	2.48	0.44
1:1:1314:U:H3	12:K:2:LEU:HD11	1.82	0.44
1:1:1402:A:C8	1:1:1403:C:C5	3.05	0.44
1:1:1769:C:O5'	1:1:1769:C:H6	2.00	0.44
1:1:1782:G:O2'	1:1:1783:C:C6	2.68	0.44
5:D:74:GLN:O	5:D:78:GLY:CA	2.64	0.44
5:D:192:TRP:CD1	5:D:203:PRO:HA	2.53	0.44
6:E:21:ASP:HB2	6:E:24:THR:HG1	1.78	0.44
8:G:74:ARG:HB3	8:G:94:ARG:HE	1.83	0.44
10:I:83:TYR:CD1	10:I:205:ARG:HD2	2.53	0.44
12:K:11:ILE:HG12	12:K:38:LYS:HE2	1.99	0.44
17:P:29:SER:O	17:P:33:LEU:HD23	2.17	0.44
17:P:62:LYS:C	17:P:62:LYS:HD3	2.43	0.44
17:P:126:VAL:HG13	17:P:127:LYS:N	2.23	0.44
21:T:36:THR:O	21:T:37:VAL:HB	2.17	0.44
31:d:21:CYS:SG	31:d:38:MET:HA	2.58	0.44
31:d:27:ARG:HA	31:d:31:ILE:HD11	1.99	0.44
34:g:32:LEU:HD11	34:g:40:ILE:CG2	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:g:140:TYR:O	34:g:141:THR:C	2.60	0.44
34:g:177:TRP:CE2	34:g:184:LEU:HD23	2.52	0.44
34:g:282:GLU:C	34:g:284:PRO:HD2	2.43	0.44
1:1:398:A:H4'	1:1:399:C:C3'	2.41	0.44
1:1:479:C:O2'	1:1:480:G:H5'	2.17	0.44
1:1:525:A:H5'	32:e:31:ARG:H	1.83	0.44
1:1:663:C:C2	1:1:664:A:C8	3.05	0.44
1:1:746:C:H4'	1:1:747:U:OP1	2.17	0.44
1:1:999:G:H2'	1:1:1000:C:H6	1.81	0.44
1:1:1196:A:C2	1:1:1197:G:H1'	2.53	0.44
1:1:1348:G:H22	1:1:1381:G:H22	1.63	0.44
1:1:1363:C:O2	1:1:1363:C:O4'	2.34	0.44
1:1:1495:G:N7	22:U:69:PRO:HB2	2.32	0.44
1:1:1657:G:H1	1:1:1667:U:H3	1.66	0.44
1:1:1696:C:O2	1:1:1697:A:C8	2.71	0.44
1:1:1739:C:O5'	1:1:1739:C:C6	2.70	0.44
3:B:66:VAL:HG22	3:B:85:LYS:HG3	2.00	0.44
8:G:50:VAL:HG11	8:G:111:LEU:HB3	1.99	0.44
10:I:26:LYS:O	10:I:29:LEU:HD23	2.17	0.44
11:J:117:LEU:HB2	11:J:119:LEU:HD13	2.00	0.44
12:K:27:VAL:HG21	12:K:29:MET:HE3	1.99	0.44
15:N:35:GLU:HA	15:N:38:TYR:CE2	2.52	0.44
15:N:38:TYR:HB2	15:N:80:LEU:HD22	2.00	0.44
15:N:84:LEU:HD11	15:N:88:LEU:HD23	2.00	0.44
18:Q:17:LYS:HG3	18:Q:17:LYS:O	2.18	0.44
21:T:30:VAL:HG11	21:T:35:ASP:OD1	2.17	0.44
21:T:75:MET:HA	21:T:78:ILE:HG22	1.98	0.44
21:T:107:LEU:HB3	21:T:113:VAL:HG23	1.98	0.44
22:U:53:PRO:HB2	22:U:55:ARG:NH1	2.32	0.44
28:a:74:CYS:O	28:a:78:ALA:HB2	2.18	0.44
34:g:43:TRP:CZ3	34:g:55:PRO:HD3	2.52	0.44
1:1:66:G:H1'	1:1:67:C:OP1	2.18	0.44
1:1:181:A:C8	8:G:192:ILE:HG13	2.53	0.44
1:1:343:A:H4'	6:E:128:LYS:HZ1	1.79	0.44
1:1:360:A:N3	1:1:362:C:H3'	2.33	0.44
1:1:497:C:H2'	1:1:498:C:C6	2.53	0.44
1:1:505:G:O2'	1:1:506:G:H5'	2.18	0.44
1:1:528:A:C2'	1:1:529:A:H5'	2.47	0.44
1:1:572:U:H6	1:1:572:U:C3'	2.27	0.44
1:1:876:C:H3'	1:1:876:C:H6	1.81	0.44
1:1:1149:A:O2'	1:1:1150:A:H3'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1214:A:C6	1:1:1217:A:C2	3.05	0.44
1:1:1481:G:H4'	31:d:56:ASP:CB	2.46	0.44
1:1:1579:A:C3'	1:1:1580:A:H5''	2.47	0.44
1:1:1665:G:N2	21:T:87:VAL:HB	2.33	0.44
1:1:1680:G:H4'	30:c:20:ARG:HH12	1.80	0.44
1:1:1790:A:H4'	8:G:81:HIS:CE1	2.52	0.44
2:A:204:TYR:HA	2:A:208:GLU:HG2	2.00	0.44
3:B:65:ARG:HA	16:O:50:LYS:NZ	2.33	0.44
3:B:66:VAL:CG2	3:B:85:LYS:HE3	2.47	0.44
3:B:173:THR:O	3:B:177:GLN:NE2	2.51	0.44
6:E:252:ARG:HH11	11:J:72:PHE:HD1	1.64	0.44
7:F:59:LYS:HB3	7:F:62:ARG:HG2	2.00	0.44
7:F:158:ALA:CB	7:F:173:LEU:HA	2.47	0.44
8:G:1:MET:HE1	8:G:106:LEU:O	2.18	0.44
8:G:59:GLN:O	8:G:59:GLN:HG2	2.18	0.44
9:H:115:LYS:O	9:H:117:PRO:HD3	2.18	0.44
10:I:29:LEU:HD21	10:I:49:ARG:HD3	1.98	0.44
10:I:131:PRO:HG3	10:I:147:LYS:HZ1	1.83	0.44
10:I:173:ALA:HB1	10:I:188:TYR:O	2.17	0.44
11:J:84:ILE:CG2	11:J:108:ARG:HG3	2.48	0.44
14:M:56:CYS:SG	14:M:61:TYR:CD1	3.09	0.44
19:R:105:MET:HG2	19:R:106:LEU:H	1.82	0.44
1:1:502:C:H1'	1:1:503:C:O5'	2.18	0.44
1:1:573:U:N3	1:1:576:A:C5	2.86	0.44
1:1:644:G:H2'	1:1:645:C:C6	2.51	0.44
1:1:906:U:H2'	1:1:907:G:H8	1.82	0.44
1:1:1256:G:C5	1:1:1257:G:H1'	2.53	0.44
1:1:1425:G:C6	1:1:1426:U:O4	2.71	0.44
1:1:1510:G:OP2	1:1:1510:G:C8	2.71	0.44
1:1:1512:C:H1'	31:d:7:TYR:CD2	2.53	0.44
1:1:1598:G:C4'	1:1:1600:G:O6	2.66	0.44
1:1:1664:A:HO2'	1:1:1666:C:H5	1.64	0.44
1:1:1831:A:C2'	1:1:1832:A:H5'	2.48	0.44
2:A:88:LEU:C	2:A:88:LEU:HD13	2.43	0.44
8:G:195:LYS:HD3	8:G:195:LYS:O	2.17	0.44
12:K:13:GLU:OE1	12:K:83:LEU:HD13	2.17	0.44
14:M:51:VAL:HG12	14:M:77:ILE:CG1	2.48	0.44
16:O:18:GLY:N	16:O:19:PRO:CD	2.80	0.44
22:U:94:PRO:CD	22:U:97:ILE:HD12	2.38	0.44
23:V:74:LYS:HD3	23:V:74:LYS:C	2.43	0.44
24:W:74:VAL:HG13	24:W:126:LEU:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:315:C:H6	1:1:315:C:C5'	2.31	0.44
1:1:334:C:H2'	1:1:335:G:H8	1.76	0.44
1:1:389:A:N3	1:1:389:A:H2'	2.33	0.44
1:1:746:C:OP1	9:H:105:THR:C	2.61	0.44
1:1:899:U:H3'	1:1:900:C:C6	2.52	0.44
1:1:1016:U:O2'	1:1:1017:U:H5''	2.17	0.44
1:1:1115:U:O3'	1:1:1116:C:H3'	2.18	0.44
1:1:1317:C:O5'	1:1:1506:A:N6	2.51	0.44
1:1:1670:C:O5'	1:1:1670:C:H6	2.01	0.44
1:1:1762:C:H2'	1:1:1763:G:H8	1.82	0.44
3:B:179:ASN:HB2	3:B:183:GLU:HB2	2.00	0.44
3:B:180:ASP:HB3	3:B:181:LEU:H	1.57	0.44
6:E:203:GLY:O	6:E:204:SER:HB2	2.17	0.44
7:F:39:ILE:HG23	7:F:68:ILE:HG12	2.00	0.44
7:F:48:TYR:CD1	7:F:49:LEU:N	2.86	0.44
9:H:31:GLU:HB3	9:H:40:LEU:HD22	2.00	0.44
13:L:55:TYR:CD2	13:L:115:PRO:HG2	2.53	0.44
13:L:82:MET:HG2	13:L:85:THR:CG2	2.48	0.44
13:L:86:ILE:HG13	13:L:111:VAL:HG13	2.00	0.44
18:Q:12:VAL:CG1	18:Q:90:LYS:HB2	2.48	0.44
18:Q:89:SER:OG	18:Q:119:LEU:HD13	2.18	0.44
19:R:33:ARG:HG3	34:g:150:TRP:CH2	2.52	0.44
26:Y:13:MET:HE3	26:Y:22:GLN:OE1	2.17	0.44
28:a:24:THR:HB	28:a:73:TYR:CE1	2.52	0.44
34:g:68:ASP:HB2	34:g:109:LEU:O	2.18	0.44
1:1:67:C:C5	8:G:164:LYS:HB2	2.53	0.43
1:1:125:C:O2'	1:1:126:G:H5''	2.18	0.43
1:1:317:C:OP1	1:1:317:C:H4'	2.19	0.43
1:1:593:C:C4'	1:1:594:A:OP1	2.66	0.43
1:1:795:A:C2	1:1:796:G:H1'	2.53	0.43
1:1:1109:C:O2	1:1:1109:C:C2'	2.66	0.43
1:1:1221:G:H2'	1:1:1222:G:O4'	2.17	0.43
1:1:1237:C:H2'	1:1:1238:U:O4'	2.18	0.43
1:1:1406:G:C4'	1:1:1407:U:H5'	2.48	0.43
1:1:1447:G:OP1	22:U:85:HIS:ND1	2.51	0.43
1:1:1471:C:O5'	1:1:1471:C:H6	2.01	0.43
1:1:1533:A:C5	1:1:1604:G:O4'	2.71	0.43
1:1:1745:A:H3'	1:1:1745:A:N3	2.32	0.43
1:1:1767:C:H3'	1:1:1767:C:H6	1.80	0.43
2:A:77:ILE:HG12	2:A:99:ILE:HG21	1.99	0.43
3:B:47:THR:HB	3:B:65:ARG:HH11	1.81	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:66:VAL:CG2	3:B:85:LYS:HG3	2.48	0.43
3:B:129:THR:HB	3:B:180:ASP:HA	1.99	0.43
4:C:191:VAL:HA	4:C:227:ARG:O	2.17	0.43
6:E:36:HIS:CG	6:E:85:GLY:HA3	2.53	0.43
7:F:99:ILE:HD11	27:Z:106:GLN:OE1	2.18	0.43
7:F:131:ALA:O	7:F:133:THR:N	2.51	0.43
11:J:137:VAL:HB	11:J:142:VAL:CG2	2.48	0.43
17:P:58:LYS:HG2	17:P:61:ARG:HH21	1.83	0.43
17:P:100:LYS:O	17:P:101:THR:HB	2.18	0.43
18:Q:110:ASP:O	18:Q:114:GLN:HG2	2.18	0.43
26:Y:12:PHE:HA	26:Y:22:GLN:O	2.18	0.43
28:a:83:VAL:O	28:a:84:VAL:HB	2.18	0.43
34:g:236:ILE:HG23	34:g:251:ALA:O	2.17	0.43
1:1:10:G:C8	1:1:1697:A:H2	2.32	0.43
1:1:69:C:C6	1:1:69:C:H3'	2.53	0.43
1:1:401:A:N7	1:1:402:C:C5	2.85	0.43
1:1:438:G:H2'	1:1:439:A:H8	1.77	0.43
1:1:448:A:C8	10:I:25:ARG:C	2.95	0.43
1:1:805:U:OP1	24:W:82:GLN:HG3	2.18	0.43
1:1:900:C:C4	1:1:901:G:O6	2.71	0.43
1:1:973:C:H3'	1:1:973:C:C6	2.53	0.43
1:1:1050:A:H2'	1:1:1051:G:C5'	2.48	0.43
1:1:1311:C:OP1	33:f:143:LYS:HE3	2.17	0.43
1:1:1347:U:O2	1:1:1347:U:H2'	2.17	0.43
1:1:1418:C:C5'	21:T:129:ARG:HA	2.49	0.43
1:1:1511:U:H2'	1:1:1512:C:O4'	2.18	0.43
1:1:1571:G:H2'	1:1:1572:C:O4'	2.18	0.43
1:1:1654:G:H5'	21:T:82:ARG:NH2	2.33	0.43
1:1:1829:G:H8	1:1:1829:G:O5'	2.01	0.43
3:B:109:LYS:O	3:B:113:MET:HG2	2.18	0.43
3:B:112:SER:O	3:B:115:LYS:HE2	2.18	0.43
4:C:60:TRP:CD1	4:C:92:GLU:OE1	2.71	0.43
7:F:100:ILE:HD11	7:F:177:LEU:HD22	2.00	0.43
7:F:204:ARG:HH11	30:c:63:ARG:HG3	1.83	0.43
16:O:116:LEU:HD22	28:a:53:ILE:HD13	2.00	0.43
17:P:60:LEU:HD21	17:P:92:SER:CB	2.43	0.43
25:X:41:PHE:HB3	25:X:44:ALA:HB3	1.99	0.43
26:Y:45:ALA:HB1	26:Y:50:THR:O	2.18	0.43
1:1:20:G:C2'	1:1:21:U:H5'	2.48	0.43
1:1:92:A:C8	1:1:446:G:H2'	2.53	0.43
1:1:123:G:H4'	1:1:123:G:OP1	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:153:G:H21	8:G:13:GLN:CD	2.26	0.43
1:1:164:A:H3'	1:1:165:G:H8	1.81	0.43
1:1:165:G:O2'	1:1:166:A:H5'	2.18	0.43
1:1:313:A:C6	8:G:187:HIS:NE2	2.86	0.43
1:1:659:G:H3'	25:X:17:ARG:HH21	1.82	0.43
1:1:1043:G:O5'	1:1:1043:G:C8	2.71	0.43
1:1:1083:A:H2'	1:1:1858:G:H21	1.83	0.43
1:1:1106:C:OP1	29:b:70:LYS:HG2	2.17	0.43
1:1:1404:U:H6	1:1:1404:U:OP2	1.99	0.43
1:1:1442:U:C5'	1:1:1443:C:H5''	2.47	0.43
1:1:1606:G:H5'	21:T:86:GLY:HA3	1.99	0.43
3:B:75:GLN:O	3:B:76:ASN:CB	2.66	0.43
10:I:19:LYS:HA	10:I:20:PRO:HD3	1.85	0.43
10:I:102:VAL:HG12	10:I:103:LEU:N	2.33	0.43
10:I:104:ILE:HG22	10:I:105:ASP:N	2.33	0.43
14:M:19:GLN:HB3	14:M:88:TRP:CE2	2.53	0.43
18:Q:10:VAL:HB	18:Q:25:CYS:HB3	1.98	0.43
19:R:51:ALA:CA	19:R:54:VAL:HG12	2.46	0.43
20:S:77:TYR:O	20:S:78:LYS:CB	2.66	0.43
21:T:75:MET:HB2	21:T:121:ARG:NH2	2.33	0.43
23:V:17:CYS:SG	23:V:56:CYS:N	2.91	0.43
24:W:7:LEU:HA	24:W:34:ILE:HG12	2.00	0.43
25:X:123:VAL:HA	25:X:130:LEU:HD12	2.00	0.43
30:c:42:ILE:HG23	30:c:64:GLU:HB2	2.00	0.43
31:d:28:HIS:ND1	31:d:28:HIS:N	2.64	0.43
1:1:29:G:C5'	25:X:129:SER:HB3	2.47	0.43
1:1:99:A:H2'	1:1:100:U:C6	2.53	0.43
1:1:118:C:H2'	1:1:119:U:O4'	2.18	0.43
1:1:164:A:C2'	1:1:165:G:C8	3.01	0.43
1:1:428:U:H3'	1:1:429:C:C5	2.53	0.43
1:1:441:C:H41	1:1:448:A:H1'	1.82	0.43
1:1:493:A:O2'	1:1:494:C:H5'	2.18	0.43
1:1:502:C:O2'	1:1:503:C:C6	2.71	0.43
1:1:835:C:O2	1:1:835:C:H2'	2.18	0.43
1:1:992:A:C2	28:a:15:ARG:HB3	2.54	0.43
1:1:1043:G:N3	1:1:1044:G:C8	2.86	0.43
1:1:1120:U:C6	1:1:1120:U:C3'	3.00	0.43
1:1:1122:A:H4'	3:B:205:TYR:CD1	2.53	0.43
1:1:1265:A:N3	1:1:1265:A:C2'	2.81	0.43
1:1:1275:G:O6	1:1:1506:A:H8	2.01	0.43
1:1:1311:C:OP2	1:1:1311:C:C6	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1341:C:C6	1:1:1341:C:O5'	2.71	0.43
1:1:1353:A:C2'	1:1:1354:G:H5''	2.45	0.43
1:1:1679:A:C8	30:c:20:ARG:NH1	2.87	0.43
1:1:1700:C:C4'	1:1:1701:C:OP2	2.67	0.43
2:A:50:ASN:HD21	2:A:53:ARG:CG	2.32	0.43
2:A:90:PHE:CZ	2:A:178:LEU:HD22	2.53	0.43
3:B:68:GLU:CD	3:B:83:LYS:HE2	2.43	0.43
6:E:123:LEU:HD23	6:E:161:GLN:HA	2.00	0.43
7:F:49:LEU:HD22	18:Q:47:LEU:HD23	2.00	0.43
7:F:59:LYS:HB3	7:F:62:ARG:CG	2.49	0.43
7:F:69:VAL:O	7:F:72:LEU:HB2	2.18	0.43
7:F:129:GLY:HA2	7:F:134:VAL:HG12	1.99	0.43
8:G:162:LEU:HG	8:G:163:ASN:N	2.32	0.43
9:H:47:ALA:H	9:H:63:PHE:HB2	1.84	0.43
10:I:133:GLU:O	10:I:134:GLU:C	2.62	0.43
11:J:38:ARG:O	32:e:34:ARG:HD2	2.18	0.43
13:L:95:TYR:CE2	13:L:97:ARG:HA	2.53	0.43
14:M:65:VAL:CG2	14:M:108:CYS:SG	3.07	0.43
18:Q:38:PRO:HD2	21:T:7:LYS:O	2.19	0.43
19:R:51:ALA:HA	19:R:54:VAL:CG1	2.48	0.43
21:T:123:LEU:HD23	21:T:123:LEU:H	1.83	0.43
23:V:78:ILE:HB	23:V:81:LYS:NZ	2.34	0.43
28:a:82:LYS:HE2	30:c:69:ARG:NH1	2.34	0.43
30:c:11:LEU:HD23	30:c:57:THR:HA	2.00	0.43
34:g:240:CYS:HB3	34:g:291:TRP:NE1	2.34	0.43
1:1:67:C:C4	8:G:164:LYS:HB2	2.53	0.43
1:1:133:C:O5'	1:1:133:C:H6	2.01	0.43
1:1:136:C:H4'	1:1:137:U:OP2	2.17	0.43
1:1:313:A:OP1	1:1:313:A:H4'	2.18	0.43
1:1:338:G:H8	1:1:338:G:C5'	2.30	0.43
1:1:380:G:C2	1:1:382:C:H6	2.34	0.43
1:1:435:A:H2'	1:1:450:C:C6	2.54	0.43
1:1:557:U:H2'	1:1:558:G:N9	2.34	0.43
1:1:583:A:O3'	1:1:584:A:H8	2.01	0.43
1:1:621:C:H5''	1:1:622:C:OP2	2.19	0.43
1:1:692:G:O2'	1:1:693:A:H5'	2.19	0.43
1:1:951:C:O2	1:1:975:G:N1	2.51	0.43
1:1:977:C:C6	1:1:977:C:OP2	2.71	0.43
1:1:1094:C:C2'	1:1:1095:C:H5'	2.49	0.43
1:1:1217:A:N3	1:1:1685:U:O2	2.51	0.43
1:1:1431:G:C2'	1:1:1432:U:C6	2.73	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1453:C:H2'	1:1:1454:A:O3'	2.18	0.43
1:1:1547:C:H42	1:1:1656:G:C4'	2.31	0.43
1:1:1622:U:C6	1:1:1622:U:C3'	3.01	0.43
1:1:1747:C:H2'	1:1:1748:G:H8	1.82	0.43
1:1:1829:G:H1'	1:1:1850:A:H2	1.84	0.43
3:B:90:ASP:OD1	3:B:97:LEU:HB2	2.19	0.43
3:B:135:LEU:N	3:B:135:LEU:HD23	2.34	0.43
3:B:137:LEU:HB3	3:B:215:VAL:HG23	2.01	0.43
7:F:165:ASN:ND2	7:F:167:LYS:HB2	2.33	0.43
8:G:36:VAL:O	8:G:49:VAL:HA	2.18	0.43
10:I:103:LEU:HD23	10:I:170:LYS:HB2	1.99	0.43
10:I:190:LEU:HD22	10:I:194:GLU:HG3	2.01	0.43
23:V:79:VAL:HG13	23:V:80:SER:N	2.33	0.43
27:Z:87:ALA:O	27:Z:91:LEU:HD13	2.18	0.43
34:g:12:LYS:HB3	34:g:306:LEU:HG	2.00	0.43
1:1:28:U:H2'	1:1:29:G:H8	1.82	0.43
1:1:65:C:C4'	8:G:133:LEU:HD22	2.46	0.43
1:1:152:U:OP2	1:1:152:U:C6	2.71	0.43
1:1:562:U:C3'	1:1:562:U:C6	3.01	0.43
1:1:827:A:O5'	11:J:8:VAL:HG13	2.19	0.43
1:1:901:G:C4	1:1:902:G:C8	3.07	0.43
1:1:941:C:H2'	1:1:942:G:C8	2.53	0.43
1:1:985:G:H4'	1:1:986:G:H5'	2.00	0.43
1:1:1066:U:H2'	1:1:1067:C:C6	2.54	0.43
1:1:1188:A:H3'	1:1:1189:A:C8	2.53	0.43
1:1:1668:U:H3'	1:1:1669:G:H5''	1.99	0.43
1:1:1700:C:N3	1:1:1834:A:N6	2.66	0.43
1:1:1794:C:O5'	1:1:1794:C:H6	2.00	0.43
1:1:1815:A:H8	1:1:1815:A:O5'	2.01	0.43
1:1:1861:G:H5''	28:a:2:THR:C	2.44	0.43
3:B:49:VAL:HG22	3:B:65:ARG:NH2	2.33	0.43
3:B:54:GLY:O	3:B:55:THR:HB	2.19	0.43
3:B:86:LEU:HB3	3:B:98:THR:OG1	2.19	0.43
5:D:82:GLY:O	5:D:85:GLU:HB2	2.18	0.43
5:D:205:PRO:O	19:R:42:PRO:HG2	2.18	0.43
5:D:210:ILE:HG12	19:R:39:ALA:HB1	2.00	0.43
7:F:94:LYS:C	7:F:94:LYS:HD3	2.43	0.43
7:F:143:PRO:HD3	30:c:56:LEU:CD1	2.42	0.43
19:R:62:GLN:C	34:g:280:LYS:HE2	2.44	0.43
20:S:24:ARG:HE	20:S:29:ALA:HA	1.84	0.43
20:S:86:ARG:HH22	20:S:107:LEU:HD21	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:V:30:ALA:HB1	23:V:60:ARG:HD3	2.01	0.43
26:Y:119:GLY:HA2	26:Y:122:LYS:HB3	2.01	0.43
34:g:177:TRP:CD2	34:g:184:LEU:HD23	2.54	0.43
1:1:116:U:H3	1:1:347:G:H1	1.67	0.43
1:1:211:G:H2'	1:1:212:C:C5	2.48	0.43
1:1:331:C:H41	8:G:189:ARG:HH12	1.66	0.43
1:1:360:A:H4'	1:1:361:U:C5'	2.49	0.43
1:1:465:A:OP2	1:1:465:A:H8	2.02	0.43
1:1:616:A:N3	32:e:12:VAL:HG21	2.34	0.43
1:1:751:G:C2'	1:1:752:G:C8	2.90	0.43
1:1:1086:G:C2	1:1:1086:G:OP1	2.71	0.43
1:1:1173:A:C6	1:1:1188:A:C8	3.06	0.43
1:1:1216:C:H1'	18:Q:143:LYS:NZ	2.33	0.43
1:1:1377:U:C5	2:A:102:ARG:HD3	2.54	0.43
1:1:1398:G:C2	1:1:1398:G:OP1	2.71	0.43
1:1:1438:A:OP1	1:1:1438:A:C4'	2.67	0.43
1:1:1494:U:C1'	1:1:1495:G:P	3.06	0.43
1:1:1535:U:H1'	7:F:88:MET:SD	2.59	0.43
1:1:1627:C:H2'	1:1:1628:C:C6	2.53	0.43
1:1:1638:G:C5'	1:1:1638:G:N3	2.73	0.43
1:1:1648:G:H8	18:Q:125:ARG:HB2	1.82	0.43
1:1:1703:C:C4	1:1:1704:C:C4	3.06	0.43
1:1:1830:U:O5'	1:1:1830:U:C6	2.72	0.43
3:B:84:PHE:CZ	3:B:103:MET:SD	3.12	0.43
4:C:98:LEU:HD21	4:C:132:ASP:CG	2.44	0.43
5:D:65:ARG:O	5:D:69:LEU:HG	2.19	0.43
7:F:32:ASP:CB	7:F:117:ILE:CG2	2.94	0.43
7:F:72:LEU:HD22	7:F:151:ILE:HG12	2.00	0.43
8:G:127:THR:HG23	8:G:129:VAL:HG23	2.01	0.43
12:K:85:LEU:O	12:K:86:PRO:C	2.62	0.43
19:R:41:ILE:HG21	19:R:47:ARG:HB2	2.00	0.43
25:X:32:LEU:O	25:X:34:THR:N	2.51	0.43
31:d:6:LEU:HG	31:d:6:LEU:O	2.18	0.43
33:f:100:LEU:HG	33:f:100:LEU:O	2.19	0.43
34:g:238:ALA:HB3	34:g:289:LEU:HD21	1.99	0.43
1:1:77:A:C5	8:G:155:GLN:HB3	2.53	0.43
1:1:474:G:N2	1:1:507:G:O2'	2.51	0.43
1:1:493:A:H1'	1:1:573:U:O3'	2.18	0.43
1:1:526:A:O2'	11:J:128:VAL:HG22	2.19	0.43
1:1:560:A:O3'	1:1:561:A:C8	2.72	0.43
1:1:571:U:O2'	26:Y:59:GLY:HA2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:587:A:C2'	1:1:592:C:H41	2.27	0.43
1:1:952:G:C2	1:1:975:G:N1	2.86	0.43
1:1:982:G:H5'	1:1:1044:G:OP1	2.19	0.43
1:1:1412:C:C4	1:1:1414:A:H5''	2.53	0.43
1:1:1416:C:C4	1:1:1417:C:O4'	2.71	0.43
1:1:1543:U:C4'	1:1:1544:C:OP1	2.66	0.43
1:1:1561:A:H1'	1:1:1583:C:H5'	2.00	0.43
1:1:1597:C:OP2	27:Z:82:SER:HB3	2.19	0.43
1:1:1620:A:C2	1:1:1624:U:H1'	2.54	0.43
1:1:1647:A:H1'	1:1:1649:U:O4'	2.19	0.43
4:C:261:PHE:HE1	23:V:16:LYS:O	2.02	0.43
5:D:166:TYR:CE1	5:D:200:PRO:HB3	2.54	0.43
6:E:139:LEU:HD22	6:E:147:ILE:HD12	2.01	0.43
6:E:208:VAL:HG11	6:E:225:ILE:CD1	2.49	0.43
9:H:10:LYS:N	9:H:11:PRO:HD3	2.34	0.43
10:I:63:GLY:O	10:I:75:LYS:HD2	2.19	0.43
14:M:81:ASP:OD1	14:M:84:LYS:HB2	2.19	0.43
20:S:41:ALA:O	20:S:44:VAL:HB	2.17	0.43
22:U:51:LYS:HE3	22:U:90:ASP:CB	2.48	0.43
28:a:44:ILE:HG22	28:a:67:LEU:CG	2.49	0.43
28:a:60:ASP:O	28:a:62:TYR:N	2.45	0.43
34:g:170:TRP:HB3	34:g:194:TYR:CD2	2.53	0.43
1:1:25:A:C8	1:1:25:A:H3'	2.53	0.43
1:1:52:G:H8	1:1:52:G:O5'	2.02	0.43
1:1:77:A:H62	8:G:155:GLN:HB3	1.84	0.43
1:1:426:A:N3	1:1:426:A:C2'	2.82	0.43
1:1:439:A:C2'	1:1:440:G:H5'	2.48	0.43
1:1:571:U:O5'	1:1:572:U:H5''	2.19	0.43
1:1:678:U:H3'	1:1:678:U:H6	1.83	0.43
1:1:810:A:C8	1:1:810:A:H3'	2.54	0.43
1:1:863:U:O5'	1:1:863:U:C6	2.69	0.43
1:1:876:C:O2'	1:1:877:C:H5'	2.19	0.43
1:1:1031:A:H1'	15:N:116:ILE:CD1	2.48	0.43
1:1:1129:G:H3'	1:1:1130:G:N7	2.33	0.43
1:1:1325:G:OP2	1:1:1325:G:H8	2.02	0.43
1:1:1416:C:N4	1:1:1417:C:N1	2.67	0.43
1:1:1438:A:OP1	1:1:1438:A:H4'	2.17	0.43
1:1:1575:G:C2	1:1:1576:G:C6	3.06	0.43
1:1:1589:A:H2'	1:1:1590:C:C6	2.54	0.43
1:1:1829:G:C4	1:1:1830:U:H5	2.37	0.43
4:C:173:LYS:HD2	4:C:173:LYS:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:126:VAL:HG13	6:E:139:LEU:HG	2.00	0.43
7:F:179:ASN:HB2	7:F:187:SER:HB3	2.00	0.43
8:G:50:VAL:HG13	8:G:112:VAL:O	2.19	0.43
10:I:12:ARG:HG3	10:I:13:LYS:N	2.34	0.43
15:N:84:LEU:HD23	15:N:89:TYR:CD2	2.53	0.43
21:T:134:ILE:O	21:T:137:GLN:HG2	2.19	0.43
24:W:28:ARG:CB	24:W:29:PRO:CD	2.96	0.43
25:X:41:PHE:CE1	25:X:120:PHE:CE1	3.06	0.43
1:1:43:U:C5'	1:1:44:U:H5	2.08	0.43
1:1:361:U:H4'	1:1:362:C:H5'	2.01	0.43
1:1:500:A:C2'	1:1:501:C:C5'	2.91	0.43
1:1:558:G:C8	1:1:558:G:O5'	2.70	0.43
1:1:618:C:C1'	1:1:632:C:H5'	2.25	0.43
1:1:684:G:C4	1:1:920:A:C4	3.07	0.43
1:1:853:C:O2	1:1:853:C:O4'	2.36	0.43
1:1:875:A:O3'	1:1:876:C:C6	2.71	0.43
1:1:878:G:N2	1:1:908:A:C2	2.87	0.43
1:1:924:G:H5''	15:N:3:ARG:HD2	2.01	0.43
1:1:936:G:H2'	1:1:937:C:C6	2.53	0.43
1:1:1102:G:N2	1:1:1130:G:N2	2.66	0.43
1:1:1130:G:C2	1:1:1131:G:C8	3.07	0.43
1:1:1130:G:C4'	15:N:10:GLY:HA2	2.49	0.43
1:1:1177:U:H2'	1:1:1178:U:C6	2.53	0.43
1:1:1218:C:C2'	1:1:1219:C:H5'	2.48	0.43
1:1:1261:C:O2	1:1:1261:C:H2'	2.18	0.43
1:1:1292:C:H1'	33:f:147:THR:OG1	2.18	0.43
1:1:1507:G:N1	33:f:91:ASN:HA	2.34	0.43
1:1:1689:C:H2'	1:1:1690:U:O4'	2.19	0.43
6:E:56:LEU:HB2	26:Y:22:GLN:HE22	1.84	0.43
7:F:77:MET:HB3	7:F:89:THR:OG1	2.19	0.43
10:I:97:VAL:O	10:I:175:ILE:HD11	2.18	0.43
15:N:16:LEU:H	24:W:57:ARG:HH21	1.67	0.43
25:X:60:LYS:O	25:X:61:GLN:HB2	2.19	0.43
26:Y:78:SER:HB3	26:Y:81:TYR:CD2	2.54	0.43
29:b:34:ASP:HB3	29:b:43:ILE:CG2	2.48	0.43
1:1:22:A:H1'	11:J:17:ARG:HH11	1.83	0.42
1:1:217:A:O2'	1:1:218:U:H5'	2.18	0.42
1:1:401:A:H2'	1:1:402:C:H5'	2.01	0.42
1:1:527:C:C1'	11:J:125:HIS:ND1	2.82	0.42
1:1:792:C:H2'	1:1:793:G:C8	2.54	0.42
1:1:839:C:C4	26:Y:48:TYR:O	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:911:C:H5''	1:1:912:C:N4	2.34	0.42
1:1:992:A:N6	28:a:12:LYS:C	2.77	0.42
1:1:1115:U:H4'	1:1:1116:C:OP2	2.17	0.42
1:1:1313:A:O5'	1:1:1314:U:H5	2.02	0.42
1:1:1387:G:C4	1:1:1388:A:C8	3.07	0.42
1:1:1430:C:O2	1:1:1430:C:H2'	2.19	0.42
1:1:1719:A:H8	1:1:1719:A:O5'	2.02	0.42
1:1:1764:G:N3	1:1:1764:G:C3'	2.80	0.42
1:1:1766:C:H5'	1:1:1767:C:OP2	2.18	0.42
3:B:183:GLU:HG3	3:B:187:LYS:HE3	2.01	0.42
4:C:136:HIS:HB3	4:C:162:ILE:HD11	2.01	0.42
5:D:23:GLU:CG	31:d:46:TYR:HE1	2.32	0.42
6:E:124:CYS:SG	6:E:162:ILE:HB	2.59	0.42
8:G:64:LYS:HE2	8:G:97:VAL:CG1	2.44	0.42
8:G:165:GLU:C	8:G:167:LYS:H	2.27	0.42
8:G:197:GLN:O	8:G:201:LYS:HG3	2.18	0.42
9:H:59:ALA:CB	9:H:91:HIS:HB2	2.49	0.42
9:H:101:LEU:HB2	9:H:116:ARG:HG3	2.01	0.42
11:J:125:HIS:NE2	11:J:129:LEU:HD11	2.33	0.42
16:O:53:ILE:HG22	16:O:54:CYS:N	2.34	0.42
20:S:118:ARG:HA	20:S:123:LEU:CD1	2.49	0.42
27:Z:43:LYS:HE3	27:Z:44:LEU:O	2.19	0.42
28:a:71:LEU:HD22	28:a:71:LEU:HA	1.83	0.42
30:c:40:ARG:HD3	30:c:42:ILE:HD11	2.01	0.42
1:1:148:U:C4	1:1:169:U:C4	3.06	0.42
1:1:346:C:O4'	6:E:33:THR:HG22	2.19	0.42
1:1:409:C:H5	1:1:426:A:H5'	1.84	0.42
1:1:527:C:O2'	11:J:121:LYS:HE3	2.18	0.42
1:1:553:U:C3'	1:1:554:A:H5''	2.46	0.42
1:1:797:C:C5	9:H:106:ARG:HB3	2.53	0.42
1:1:905:C:H6	1:1:905:C:O5'	2.02	0.42
1:1:1092:G:H1'	24:W:2:VAL:O	2.18	0.42
1:1:1165:G:N2	25:X:23:HIS:CG	2.87	0.42
1:1:1180:C:H3'	1:1:1180:C:C6	2.49	0.42
1:1:1181:A:H2'	1:1:1182:A:O4'	2.19	0.42
1:1:1456:G:C8	1:1:1456:G:C5'	2.96	0.42
1:1:1637:A:H4'	1:1:1638:G:H5'	1.91	0.42
1:1:1711:U:H2'	1:1:1712:A:C8	2.54	0.42
1:1:1746:U:O5'	1:1:1746:U:H6	2.02	0.42
1:1:1781:A:O2'	1:1:1782:G:P	2.76	0.42
2:A:30:LEU:HD23	2:A:31:ASP:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:111:VAL:HG12	14:M:113:ASP:O	2.19	0.42
17:P:110:GLU:OE1	20:S:113:ARG:HG3	2.19	0.42
19:R:51:ALA:O	19:R:54:VAL:HG12	2.19	0.42
20:S:43:VAL:HA	21:T:37:VAL:HG21	2.00	0.42
22:U:55:ARG:HD2	22:U:87:ARG:NH1	2.34	0.42
28:a:42:ARG:O	28:a:67:LEU:HB2	2.19	0.42
29:b:40:CYS:HB3	29:b:59:CYS:CB	2.49	0.42
30:c:12:ALA:HB1	30:c:32:VAL:CG1	2.49	0.42
31:d:10:HIS:O	31:d:11:PRO:C	2.60	0.42
34:g:255:SER:HB3	34:g:270:LEU:O	2.18	0.42
1:1:95:G:C2'	1:1:96:C:H5'	2.49	0.42
1:1:129:C:H3'	1:1:130:G:C8	2.55	0.42
1:1:169:U:C1'	8:G:133:LEU:HD12	2.44	0.42
1:1:180:G:H2'	1:1:180:G:N3	2.34	0.42
1:1:343:A:O5'	1:1:343:A:C8	2.71	0.42
1:1:444:G:H22	1:1:447:A:C5'	2.22	0.42
1:1:534:G:H2'	1:1:535:G:C4'	2.49	0.42
1:1:550:C:HO2'	32:e:43:VAL:HG13	1.84	0.42
1:1:650:A:H3'	1:1:651:U:H6	1.84	0.42
1:1:659:G:H3'	25:X:17:ARG:NH2	2.34	0.42
1:1:672:A:OP2	1:1:673:G:H5'	2.19	0.42
1:1:837:A:N3	1:1:837:A:H5'	2.34	0.42
1:1:838:G:H8	26:Y:9:THR:OG1	2.01	0.42
1:1:867:G:OP2	1:1:867:G:C8	2.72	0.42
1:1:1065:G:N3	1:1:1065:G:H2'	2.34	0.42
1:1:1261:C:H5''	1:1:1261:C:H6	1.79	0.42
1:1:1276:A:O5'	1:1:1276:A:N3	2.52	0.42
1:1:1334:G:C2'	1:1:1335:G:H5'	2.49	0.42
1:1:1421:A:H3'	1:1:1422:G:C8	2.54	0.42
1:1:1456:G:H2'	1:1:1457:U:H6	1.82	0.42
1:1:1548:G:C6	1:1:1584:G:N2	2.87	0.42
1:1:1578:U:C6	5:D:6:SER:N	2.88	0.42
1:1:1588:A:C6	1:1:1589:A:C6	3.06	0.42
2:A:117:ARG:HG2	2:A:119:PRO:HD3	2.01	0.42
3:B:65:ARG:HG2	16:O:50:LYS:CD	2.49	0.42
4:C:94:ILE:HG13	4:C:95:ASP:N	2.31	0.42
4:C:128:VAL:HG11	4:C:155:ILE:CG1	2.49	0.42
9:H:177:TYR:HE2	9:H:183:LYS:HB2	1.84	0.42
10:I:114:GLU:OE2	10:I:129:LEU:HD13	2.19	0.42
18:Q:38:PRO:HG2	21:T:8:ASP:HA	2.01	0.42
19:R:63:ARG:HA	34:g:280:LYS:NZ	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:W:104:LEU:O	24:W:110:ILE:HG23	2.20	0.42
27:Z:113:THR:O	27:Z:114:LYS:HB3	2.19	0.42
30:c:34:PHE:CE2	30:c:42:ILE:HD12	2.55	0.42
33:f:104:LYS:O	33:f:104:LYS:HD2	2.19	0.42
34:g:42:MET:HG3	34:g:92:LEU:HG	2.01	0.42
34:g:283:PRO:C	34:g:285:GLN:N	2.74	0.42
1:1:67:C:C5	8:G:163:ASN:N	2.79	0.42
1:1:211:G:C8	1:1:211:G:H3'	2.55	0.42
1:1:486:A:O5'	1:1:486:A:C8	2.70	0.42
1:1:559:G:H3'	1:1:560:A:C4'	2.49	0.42
1:1:616:A:N1	1:1:632:C:H1'	2.35	0.42
1:1:790:C:H2'	1:1:791:C:H6	1.81	0.42
1:1:798:G:C5'	1:1:798:G:N3	2.81	0.42
1:1:813:A:H2'	1:1:814:U:C5'	2.49	0.42
1:1:1122:A:H2'	1:1:1123:C:H5'	2.01	0.42
1:1:1195:A:H2'	1:1:1196:A:H8	1.85	0.42
1:1:1227:G:N7	1:1:1638:G:C8	2.87	0.42
1:1:1331:C:O2	1:1:1331:C:C2'	2.65	0.42
1:1:1520:G:H5''	1:1:1520:G:N3	2.34	0.42
2:A:180:ARG:NH1	2:A:180:ARG:HB3	2.34	0.42
2:A:200:ASP:O	19:R:86:PRO:HG2	2.19	0.42
3:B:128:LYS:HB2	3:B:134:LEU:HD23	2.00	0.42
5:D:26:THR:HB	5:D:34:TYR:OH	2.18	0.42
5:D:106:ARG:HH22	5:D:173:ARG:HG3	1.84	0.42
5:D:210:ILE:HG12	19:R:39:ALA:HB2	2.01	0.42
10:I:145:ILE:HA	10:I:148:LYS:CE	2.49	0.42
11:J:171:GLY:O	11:J:174:LYS:HB2	2.18	0.42
13:L:96:ILE:HD12	25:X:10:ALA:HB1	2.01	0.42
17:P:86:LEU:CD1	17:P:88:GLU:HB3	2.50	0.42
18:Q:80:GLN:O	18:Q:84:ILE:HG13	2.20	0.42
20:S:86:ARG:NH1	20:S:98:VAL:HG11	2.35	0.42
21:T:124:THR:HB	21:T:125:PRO:CD	2.50	0.42
26:Y:27:VAL:HG11	26:Y:35:VAL:HG21	2.01	0.42
26:Y:63:HIS:O	26:Y:64:PHE:C	2.62	0.42
31:d:48:LYS:HD2	31:d:49:ASP:N	2.34	0.42
1:1:33:G:O6	1:1:522:A:H2	2.03	0.42
1:1:168:C:H2'	1:1:169:U:C6	2.54	0.42
1:1:175:A:C3'	1:1:176:U:H5''	2.34	0.42
1:1:317:C:C6	1:1:317:C:H5''	2.55	0.42
1:1:662:G:H4'	1:1:663:C:O5'	2.20	0.42
1:1:682:U:C2	1:1:1024:A:N1	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:745:C:O2'	9:H:107:LYS:HB3	2.19	0.42
1:1:746:C:OP2	1:1:746:C:C2'	2.67	0.42
1:1:823:U:H5'	26:Y:64:PHE:HD2	1.84	0.42
1:1:883:U:O5'	1:1:883:U:H6	2.02	0.42
1:1:1139:C:O2	1:1:1139:C:O4'	2.37	0.42
1:1:1215:C:C5'	1:1:1217:A:H62	2.32	0.42
1:1:1258:A:OP2	1:1:1258:A:C4	2.73	0.42
1:1:1270:G:O2'	1:1:1301:A:N7	2.52	0.42
1:1:1288:U:OP2	1:1:1311:C:N3	2.52	0.42
1:1:1378:A:C6	2:A:105:PRO:HB3	2.54	0.42
1:1:1587:G:H1'	21:T:78:ILE:HB	2.01	0.42
1:1:1643:U:H4'	18:Q:143:LYS:O	2.19	0.42
1:1:1647:A:C6	7:F:57:ALA:CB	3.02	0.42
1:1:1649:U:H6	1:1:1649:U:O5'	2.03	0.42
2:A:62:ALA:CB	2:A:185:MET:HE1	2.50	0.42
3:B:34:LYS:HD2	3:B:95:ASN:OD1	2.20	0.42
3:B:72:ALA:HB1	3:B:79:VAL:O	2.20	0.42
3:B:158:HIS:HA	3:B:161:VAL:HB	2.01	0.42
4:C:168:GLY:N	4:C:179:THR:O	2.47	0.42
5:D:71:ALA:HB3	12:K:20:VAL:HG21	2.01	0.42
7:F:47:LYS:CE	7:F:67:PRO:HG2	2.49	0.42
8:G:132:ARG:C	8:G:133:LEU:HD23	2.44	0.42
8:G:160:LYS:HE2	8:G:161:PRO:HD2	2.01	0.42
9:H:152:ARG:HD3	9:H:152:ARG:N	2.35	0.42
12:K:43:LEU:HD23	12:K:44:HIS:H	1.85	0.42
13:L:9:ALA:CB	13:L:12:LYS:HE2	2.49	0.42
13:L:31:GLU:HG2	13:L:32:LYS:N	2.35	0.42
20:S:27:ALA:HB1	20:S:41:ALA:CB	2.49	0.42
20:S:113:ARG:O	20:S:117:ILE:HG13	2.20	0.42
33:f:121:CYS:SG	33:f:132:MET:CG	3.02	0.42
34:g:44:LYS:HB2	34:g:44:LYS:NZ	2.34	0.42
1:1:10:G:H2'	1:1:11:A:H8	1.84	0.42
1:1:16:G:H5''	1:1:669:A:N1	2.34	0.42
1:1:35:C:H3'	1:1:36:U:C6	2.54	0.42
1:1:296:U:C2	1:1:297:A:C8	3.08	0.42
1:1:428:U:C3'	1:1:429:C:C6	3.02	0.42
1:1:500:A:C2'	1:1:501:C:H5''	2.30	0.42
1:1:572:U:C2'	1:1:573:U:N3	2.83	0.42
1:1:616:A:H4'	32:e:8:ARG:O	2.20	0.42
1:1:876:C:C5	1:1:876:C:OP2	2.73	0.42
1:1:913:A:N6	9:H:120:ARG:HA	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1124:C:C5'	3:B:150:ILE:HG12	2.50	0.42
1:1:1161:U:C5	1:1:1162:C:C5	3.08	0.42
1:1:1245:G:H2'	1:1:1246:A:H8	1.84	0.42
1:1:1255:G:C5'	1:1:1256:G:C8	2.98	0.42
1:1:1332:A:H1'	5:D:141:LYS:HZ1	1.82	0.42
1:1:1425:G:C2'	1:1:1426:U:C6	3.01	0.42
1:1:1519:U:C6	1:1:1623:A:N6	2.87	0.42
1:1:1659:U:H6	1:1:1660:C:O2	2.03	0.42
1:1:1698:C:C5'	1:1:1699:A:C8	3.03	0.42
1:1:1750:C:C2'	1:1:1751:C:C5'	2.92	0.42
1:1:1766:C:C5	1:1:1767:C:N4	2.88	0.42
2:A:147:LEU:HB3	2:A:163:CYS:SG	2.59	0.42
4:C:183:LYS:CE	24:W:95:PRO:HA	2.50	0.42
6:E:97:GLU:HG3	6:E:113:ARG:CZ	2.49	0.42
6:E:133:VAL:O	6:E:134:LYS:HB2	2.20	0.42
6:E:202:PRO:C	6:E:204:SER:N	2.77	0.42
7:F:31:ASN:OD1	7:F:117:ILE:HG21	2.18	0.42
7:F:69:VAL:O	7:F:73:THR:HG23	2.19	0.42
11:J:136:ARG:HB2	11:J:162:ARG:NH2	2.33	0.42
12:K:3:MET:CG	12:K:47:LYS:HD3	2.50	0.42
13:L:16:ILE:CG1	13:L:36:TYR:HD1	2.33	0.42
14:M:33:ARG:HE	14:M:91:LEU:HD21	1.84	0.42
17:P:96:VAL:HB	17:P:120:SER:HB2	2.01	0.42
19:R:33:ARG:HG2	34:g:125:ARG:HH11	1.83	0.42
20:S:39:ARG:NH1	21:T:39:LEU:H	2.16	0.42
21:T:36:THR:O	21:T:37:VAL:CB	2.67	0.42
22:U:48:LEU:HD21	22:U:97:ILE:HG21	2.02	0.42
25:X:41:PHE:HE1	25:X:120:PHE:CD1	2.38	0.42
30:c:59:LEU:O	30:c:60:GLU:HB2	2.20	0.42
31:d:12:ARG:HG2	31:d:12:ARG:O	2.20	0.42
31:d:24:CYS:CB	31:d:42:CYS:SG	3.07	0.42
1:1:474:G:C6	1:1:475:C:N4	2.88	0.42
1:1:485:A:H5''	1:1:486:A:OP1	2.19	0.42
1:1:561:A:C3'	1:1:562:U:C5'	2.84	0.42
1:1:670:A:N3	1:1:1164:G:H1'	2.34	0.42
1:1:746:C:C6	1:1:749:U:C4'	3.02	0.42
1:1:846:G:H2'	6:E:19:MET:SD	2.60	0.42
1:1:1023:A:H5''	15:N:124:ARG:HH21	1.84	0.42
1:1:1106:C:H2'	1:1:1107:G:C8	2.54	0.42
1:1:1130:G:H2'	1:1:1131:G:H5''	2.01	0.42
1:1:1214:A:C6	1:1:1686:G:N1	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1442:U:C6	1:1:1443:C:C1'	3.02	0.42
1:1:1455:A:H5''	1:1:1456:G:OP2	2.18	0.42
1:1:1458:G:N1	1:1:1469:A:C6	2.88	0.42
1:1:1484:A:H4'	5:D:159:HIS:HB2	2.01	0.42
1:1:1500:G:H4'	5:D:178:ARG:O	2.20	0.42
1:1:1576:G:H2'	1:1:1577:G:H8	1.85	0.42
1:1:1591:C:H2'	1:1:1591:C:O2	2.18	0.42
1:1:1782:G:H1'	1:1:1783:C:C5	2.54	0.42
1:1:1849:G:O2'	1:1:1850:A:H5'	2.18	0.42
2:A:69:GLU:HB2	4:C:270:THR:HG21	2.02	0.42
6:E:80:VAL:HG13	6:E:81:THR:HG23	2.02	0.42
6:E:136:ILE:HD11	6:E:138:HIS:CE1	2.55	0.42
8:G:45:TRP:HA	8:G:48:TYR:CD1	2.54	0.42
11:J:137:VAL:O	11:J:138:ARG:HB3	2.19	0.42
17:P:77:LYS:HD3	17:P:102:PHE:CD1	2.54	0.42
21:T:102:ARG:O	21:T:102:ARG:HD3	2.20	0.42
24:W:36:ARG:O	24:W:40:VAL:HG23	2.20	0.42
24:W:47:ILE:HG22	24:W:69:LEU:HD11	2.01	0.42
28:a:23:CYS:HB2	28:a:74:CYS:HB3	2.01	0.42
29:b:19:HIS:HB3	29:b:22:LYS:HG2	2.00	0.42
34:g:7:LEU:HD12	34:g:309:VAL:O	2.19	0.42
1:1:49:C:O2	1:1:49:C:H2'	2.19	0.42
1:1:54:A:O2'	1:1:451:G:N1	2.47	0.42
1:1:166:A:H2'	1:1:167:G:C8	2.55	0.42
1:1:500:A:N1	1:1:502:C:OP2	2.52	0.42
1:1:618:C:C1'	1:1:632:C:C5'	2.91	0.42
1:1:827:A:C2'	1:1:828:G:H5'	2.49	0.42
1:1:977:C:OP2	1:1:977:C:H6	2.03	0.42
1:1:1035:A:OP2	1:1:1035:A:H8	2.02	0.42
1:1:1212:G:N1	1:1:1688:C:C2	2.88	0.42
1:1:1282:A:H2'	1:1:1283:C:C5'	2.50	0.42
1:1:1402:A:C3'	1:1:1403:C:C5	3.03	0.42
1:1:1404:U:H3	1:1:1440:C:N4	2.18	0.42
1:1:1543:U:H4'	1:1:1544:C:OP1	2.19	0.42
1:1:1549:U:H2'	1:1:1550:G:C8	2.51	0.42
1:1:1604:G:O2'	1:1:1605:G:H5'	2.17	0.42
1:1:1822:A:C3'	1:1:1823:A:H5''	2.49	0.42
1:1:1860:A:C2	1:1:1862:G:C8	3.08	0.42
4:C:196:ILE:HB	4:C:223:TYR:HB2	2.01	0.42
5:D:24:PHE:HE1	5:D:72:VAL:CG1	2.32	0.42
5:D:123:LEU:HD11	5:D:152:PHE:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:149:TYR:CE2	8:G:206:ALA:HA	2.55	0.42
6:E:203:GLY:O	6:E:204:SER:CB	2.67	0.42
7:F:47:LYS:HE3	7:F:67:PRO:HG2	2.02	0.42
8:G:2:LYS:HE2	8:G:15:LEU:HD11	2.02	0.42
9:H:76:GLN:HG3	9:H:77:VAL:N	2.33	0.42
11:J:133:ARG:HA	11:J:143:ASN:HD22	1.84	0.42
15:N:6:ALA:HB1	15:N:7:PRO:HD2	2.01	0.42
18:Q:133:GLY:C	18:Q:140:ARG:HG2	2.45	0.42
19:R:13:ALA:HB1	19:R:54:VAL:CB	2.48	0.42
20:S:4:VAL:HG21	27:Z:49:LEU:CD1	2.49	0.42
22:U:51:LYS:HE3	22:U:90:ASP:HB3	2.01	0.42
27:Z:58:LEU:HD22	27:Z:77:LEU:HD22	2.01	0.42
34:g:105:THR:HB	34:g:126:ASP:HB2	2.01	0.42
1:1:37:C:H2'	1:1:38:A:H5''	2.01	0.42
1:1:179:C:H2'	1:1:180:G:N3	2.34	0.42
1:1:190:G:C2	1:1:191:A:C8	3.08	0.42
1:1:222:U:H6	1:1:222:U:O5'	2.03	0.42
1:1:991:G:H5'	28:a:11:ALA:HB3	2.02	0.42
1:1:1057:C:O2	1:1:1057:C:O4'	2.38	0.42
1:1:1227:G:H2'	1:1:1227:G:N3	2.35	0.42
1:1:1284:A:H4'	1:1:1287:A:N6	2.35	0.42
1:1:1311:C:H5''	14:M:40:LYS:NZ	2.34	0.42
1:1:1353:A:H2'	1:1:1354:G:C5'	2.43	0.42
1:1:1578:U:C2	5:D:4:GLN:O	2.73	0.42
1:1:1628:C:O5'	1:1:1628:C:H6	2.02	0.42
1:1:1682:C:H3'	1:1:1682:C:H6	1.83	0.42
1:1:1839:U:H1'	1:1:1863:A:N7	2.35	0.42
2:A:30:LEU:HB2	2:A:47:TYR:CE2	2.55	0.42
3:B:223:PHE:HE1	3:B:225:LEU:HD13	1.85	0.42
6:E:133:VAL:O	6:E:136:ILE:HD13	2.19	0.42
7:F:20:PHE:HD2	7:F:21:GLY:H	1.58	0.42
7:F:40:ALA:CB	7:F:67:PRO:HA	2.50	0.42
9:H:143:ARG:HB2	9:H:155:LYS:O	2.20	0.42
9:H:157:HIS:HD1	9:H:190:PRO:HG3	1.85	0.42
10:I:191:GLU:HG3	13:L:20:LYS:CG	2.49	0.42
22:U:20:ILE:HG13	22:U:98:VAL:CG2	2.50	0.42
27:Z:43:LYS:NZ	27:Z:44:LEU:H	2.17	0.42
34:g:105:THR:HB	34:g:126:ASP:HB3	2.01	0.42
1:1:71:G:C2	1:1:72:C:C1'	3.03	0.42
1:1:142:C:H4'	1:1:143:U:O5'	2.20	0.42
1:1:239:C:C4	1:1:240:G:N7	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:342:C:H5''	1:1:342:C:H6	1.84	0.42
1:1:441:C:O2	1:1:441:C:H2'	2.20	0.42
1:1:746:C:O5'	1:1:746:C:H2'	2.20	0.42
1:1:950:C:O2	1:1:950:C:H2'	2.20	0.42
1:1:973:C:C6	1:1:973:C:C3'	3.03	0.42
1:1:1139:C:H2'	1:1:1140:G:C5'	2.49	0.42
1:1:1204:A:C2	1:1:1205:C:C2	3.08	0.42
1:1:1236:G:H3'	1:1:1237:C:H6	1.85	0.42
1:1:1478:U:H2'	1:1:1479:G:O4'	2.20	0.42
1:1:1630:A:H2'	1:1:1631:U:H5'	2.01	0.42
1:1:1686:G:H5'	1:1:1687:C:P	2.60	0.42
1:1:1688:C:O2	1:1:1688:C:C2'	2.60	0.42
1:1:1703:C:H3'	1:1:1704:C:C5	2.54	0.42
1:1:1848:U:H3'	1:1:1848:U:C6	2.55	0.42
3:B:82:ARG:CG	3:B:103:MET:HE1	2.44	0.42
4:C:59:GLU:HG2	4:C:60:TRP:N	2.35	0.42
6:E:173:ILE:CD1	6:E:235:TRP:HZ2	2.33	0.42
7:F:21:GLY:O	7:F:22:LYS:HB2	2.20	0.42
12:K:31:LYS:HE3	31:d:12:ARG:HE	1.83	0.42
13:L:111:VAL:HG23	13:L:140:PHE:C	2.45	0.42
15:N:80:LEU:H	15:N:80:LEU:HG	1.70	0.42
16:O:56:VAL:HG21	16:O:81:VAL:CG2	2.50	0.42
16:O:61:LYS:HD3	16:O:76:LEU:HB3	2.02	0.42
16:O:99:ALA:O	16:O:100:THR:C	2.63	0.42
19:R:29:HIS:O	19:R:32:LYS:HG2	2.20	0.42
21:T:72:VAL:HG13	21:T:100:ALA:HB1	2.02	0.42
21:T:126:GLN:HA	21:T:129:ARG:HG2	2.02	0.42
27:Z:43:LYS:HZ1	27:Z:44:LEU:H	1.68	0.42
31:d:38:MET:SD	31:d:43:PHE:CA	3.04	0.42
32:e:27:LYS:HG3	32:e:28:LYS:N	2.34	0.42
1:1:4:C:H2'	1:1:5:U:C5	2.53	0.41
1:1:15:U:O2'	1:1:16:G:H5'	2.20	0.41
1:1:85:A:OP1	26:Y:119:GLY:N	2.52	0.41
1:1:125:C:H42	1:1:129:C:P	2.43	0.41
1:1:343:A:H8	1:1:343:A:P	2.43	0.41
1:1:389:A:H2'	1:1:390:C:C6	2.55	0.41
1:1:527:C:OP1	11:J:124:HIS:HB2	2.20	0.41
1:1:683:G:C4	1:1:1023:A:C6	3.08	0.41
1:1:688:U:O2	1:1:688:U:O4'	2.37	0.41
1:1:942:G:H8	1:1:942:G:OP2	2.03	0.41
1:1:1025:U:H2'	1:1:1026:C:O5'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1081:U:O2'	1:1:1082:A:H5'	2.19	0.41
1:1:1180:C:C6	1:1:1180:C:C3'	3.02	0.41
1:1:1398:G:C2	34:g:61:GLY:HA2	2.55	0.41
1:1:1402:A:H3'	1:1:1403:C:C6	2.55	0.41
1:1:1403:C:C5	1:1:1404:U:C1'	3.03	0.41
1:1:1475:G:OP2	1:1:1475:G:H8	2.03	0.41
1:1:1554:C:C3'	1:1:1555:U:C5'	2.89	0.41
1:1:1570:G:H8	1:1:1570:G:O5'	2.03	0.41
1:1:1599:U:C5	7:F:164:ARG:HA	2.55	0.41
1:1:1739:C:H2'	1:1:1740:C:O4'	2.19	0.41
2:A:30:LEU:HD23	2:A:30:LEU:C	2.45	0.41
3:B:151:ARG:CZ	3:B:153:THR:OG1	2.68	0.41
6:E:173:ILE:HD12	6:E:235:TRP:HZ2	1.84	0.41
7:F:22:LYS:HG3	7:F:22:LYS:O	2.20	0.41
7:F:30:ILE:HD13	7:F:39:ILE:HD12	2.02	0.41
7:F:130:ARG:O	7:F:131:ALA:HB3	2.20	0.41
7:F:199:VAL:HG13	7:F:203:ASN:ND2	2.35	0.41
16:O:62:VAL:HG12	16:O:64:ALA:H	1.85	0.41
21:T:82:ARG:HA	21:T:82:ARG:HD2	1.86	0.41
21:T:144:LYS:O	21:T:144:LYS:HG2	2.20	0.41
32:e:23:GLU:OE2	32:e:27:LYS:HE2	2.20	0.41
1:1:59:U:C5	1:1:501:C:H2'	2.55	0.41
1:1:61:A:C1'	1:1:62:G:P	3.08	0.41
1:1:145:G:N2	1:1:146:G:N7	2.68	0.41
1:1:213:G:O5'	1:1:213:G:C8	2.73	0.41
1:1:330:G:H2'	1:1:330:G:N3	2.35	0.41
1:1:526:A:H2	1:1:527:C:C6	2.38	0.41
1:1:571:U:O3'	26:Y:59:GLY:N	2.53	0.41
1:1:659:G:C2	1:1:663:C:C4	3.08	0.41
1:1:746:C:O5'	1:1:746:C:C2'	2.68	0.41
1:1:795:A:C2	1:1:796:G:C8	3.08	0.41
1:1:820:U:H3	1:1:828:G:H1	1.67	0.41
1:1:845:G:H4'	6:E:255:ARG:NH1	2.31	0.41
1:1:870:A:C6	1:1:916:A:C6	3.08	0.41
1:1:872:A:N3	1:1:872:A:H5''	2.36	0.41
1:1:1043:G:C4	1:1:1044:G:C8	3.08	0.41
1:1:1089:G:C2'	1:1:1090:C:H5'	2.50	0.41
1:1:1214:A:C2	1:1:1217:A:C5	3.08	0.41
1:1:1263:U:C6	1:1:1264:C:C6	3.08	0.41
1:1:1406:G:H1'	1:1:1407:U:O5'	2.20	0.41
1:1:1561:A:N1	1:1:1575:G:H1'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1567:G:C3'	1:1:1568:C:H5'	2.50	0.41
3:B:89:GLU:HG3	3:B:223:PHE:CE2	2.55	0.41
3:B:115:LYS:H	3:B:118:GLN:HE21	1.68	0.41
3:B:126:ASP:O	3:B:127:VAL:HB	2.20	0.41
4:C:250:TYR:HE2	24:W:99:PHE:CZ	2.37	0.41
5:D:66:ILE:C	5:D:66:ILE:HD13	2.45	0.41
8:G:165:GLU:C	8:G:167:LYS:N	2.79	0.41
10:I:135:GLU:O	10:I:135:GLU:HG2	2.19	0.41
13:L:6:THR:O	13:L:7:GLU:C	2.62	0.41
15:N:126:ALA:O	15:N:130:LYS:HG3	2.20	0.41
22:U:55:ARG:HD2	22:U:87:ARG:NE	2.34	0.41
27:Z:68:ILE:HG23	27:Z:73:VAL:HG23	2.01	0.41
27:Z:97:ILE:HD12	27:Z:109:TYR:CD1	2.55	0.41
34:g:72:SER:HA	34:g:113:PHE:HZ	1.84	0.41
1:1:214:U:O2	1:1:214:U:C2'	2.67	0.41
1:1:300:U:C2'	1:1:301:A:C8	2.98	0.41
1:1:323:C:O5'	1:1:323:C:H6	2.03	0.41
1:1:454:U:H5''	8:G:76:LEU:CD2	2.50	0.41
1:1:586:G:C2	1:1:587:A:C1'	3.03	0.41
1:1:586:G:N3	1:1:586:G:H2'	2.35	0.41
1:1:694:G:H3'	1:1:695:C:C5	2.56	0.41
1:1:1130:G:H4'	15:N:9:LYS:O	2.20	0.41
1:1:1204:A:O4'	1:1:1699:A:C2	2.73	0.41
1:1:1411:G:C2'	1:1:1412:C:H5''	2.50	0.41
1:1:1426:U:O2	1:1:1426:U:H2'	2.21	0.41
1:1:1609:C:C5'	1:1:1609:C:H6	2.33	0.41
1:1:1690:U:N3	1:1:1691:U:C5	2.89	0.41
2:A:64:ALA:O	2:A:67:ALA:HB3	2.21	0.41
3:B:93:GLY:O	3:B:94:LYS:HB2	2.20	0.41
6:E:65:CYS:O	6:E:78:VAL:HG12	2.21	0.41
10:I:84:ASN:HB3	10:I:87:ASN:O	2.20	0.41
12:K:2:LEU:O	12:K:44:HIS:HE1	2.03	0.41
16:O:147:ARG:HH12	16:O:150:ARG:HH11	1.68	0.41
17:P:34:MET:O	17:P:37:TYR:HB2	2.20	0.41
21:T:137:GLN:O	21:T:140:ALA:HB3	2.21	0.41
28:a:45:VAL:HG12	28:a:49:ALA:HB3	2.03	0.41
1:1:45:A:N6	1:1:481:C:H4'	2.35	0.41
1:1:98:C:H4'	1:1:99:A:OP1	2.21	0.41
1:1:190:G:C2	1:1:191:A:N7	2.88	0.41
1:1:193:C:OP1	10:I:139:LYS:HE2	2.20	0.41
1:1:211:G:C8	1:1:211:G:C3'	3.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:358:C:H2'	1:1:359:U:O5'	2.21	0.41
1:1:359:U:H2'	1:1:362:C:C5	2.55	0.41
1:1:494:C:C2'	1:1:495:U:H5'	2.50	0.41
1:1:495:U:H6	1:1:495:U:OP2	2.03	0.41
1:1:912:C:C6	1:1:912:C:OP2	2.73	0.41
1:1:944:A:H5'	16:O:134:PRO:CB	2.51	0.41
1:1:954:U:N3	1:1:971:G:N2	2.69	0.41
1:1:1120:U:C6	1:1:1120:U:C4'	3.03	0.41
1:1:1205:C:O2	1:1:1205:C:H2'	2.19	0.41
1:1:1260:A:C5	1:1:1619:A:N1	2.89	0.41
1:1:1283:C:O3'	1:1:1284:A:C8	2.74	0.41
1:1:1342:U:H4'	1:1:1343:U:OP1	2.20	0.41
1:1:1397:U:H6	1:1:1397:U:C3'	2.30	0.41
1:1:1431:G:C2'	1:1:1432:U:C5	2.92	0.41
1:1:1447:G:H1'	22:U:55:ARG:HH21	1.85	0.41
1:1:1631:U:N3	1:1:1632:G:N2	2.67	0.41
1:1:1673:U:H3'	1:1:1674:G:C8	2.54	0.41
1:1:1685:U:C6	1:1:1686:G:C8	3.08	0.41
1:1:1835:A:H5''	1:1:1863:A:H1'	2.02	0.41
3:B:116:LYS:NZ	28:a:37:LYS:HE2	2.34	0.41
6:E:206:ASP:HB2	6:E:222:LEU:CD1	2.51	0.41
8:G:69:THR:C	8:G:71:GLY:H	2.28	0.41
9:H:49:LYS:O	9:H:60:ILE:HD12	2.19	0.41
11:J:28:GLU:O	11:J:31:LEU:HB3	2.20	0.41
12:K:11:ILE:HA	12:K:38:LYS:HE2	2.02	0.41
13:L:40:ILE:HD13	13:L:143:LEU:HD11	2.02	0.41
20:S:46:ARG:NH1	21:T:37:VAL:HG22	2.35	0.41
25:X:32:LEU:CD2	25:X:34:THR:HB	2.49	0.41
29:b:40:CYS:HB3	29:b:59:CYS:CA	2.49	0.41
1:1:36:U:O2	1:1:520:A:C2	2.72	0.41
1:1:66:G:N2	8:G:158:VAL:HG21	2.35	0.41
1:1:130:G:H3'	1:1:131:C:C5'	2.46	0.41
1:1:132:U:OP1	1:1:133:C:C5	2.73	0.41
1:1:157:U:O5'	1:1:157:U:C6	2.73	0.41
1:1:206:G:O5'	1:1:206:G:H8	2.02	0.41
1:1:378:U:H6	1:1:378:U:O5'	2.03	0.41
1:1:527:C:H1'	11:J:125:HIS:ND1	2.36	0.41
1:1:569:A:O2'	26:Y:36:PRO:HA	2.21	0.41
1:1:790:C:C6	1:1:790:C:O5'	2.73	0.41
1:1:795:A:C3'	1:1:796:G:H8	2.33	0.41
1:1:885:U:O3'	1:1:886:A:H2'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1483:A:N3	1:1:1483:A:H3'	2.35	0.41
1:1:1639:G:OP1	1:1:1639:G:C4'	2.68	0.41
1:1:1643:U:C2	1:1:1644:C:C5	3.08	0.41
1:1:1686:G:C5	1:1:1687:C:C5	3.08	0.41
1:1:1745:A:C2	1:1:1746:U:C5	3.08	0.41
1:1:1748:G:H1	1:1:1786:U:H3	1.67	0.41
1:1:1861:G:H4'	28:a:2:THR:N	2.35	0.41
5:D:102:ALA:HB2	5:D:186:VAL:HG21	2.02	0.41
6:E:166:THR:OG1	6:E:168:LYS:HG3	2.20	0.41
8:G:23:LYS:HB3	8:G:41:LEU:HD23	2.03	0.41
8:G:145:PHE:O	8:G:146:ASN:CB	2.68	0.41
10:I:83:TYR:H	10:I:91:VAL:HG21	1.85	0.41
13:L:59:LYS:HB2	13:L:112:HIS:CE1	2.56	0.41
17:P:51:ARG:O	17:P:51:ARG:HG2	2.21	0.41
17:P:69:PRO:O	17:P:70:MET:HB2	2.20	0.41
20:S:52:LEU:HD12	20:S:52:LEU:N	2.36	0.41
21:T:20:ALA:O	21:T:23:LYS:HB2	2.20	0.41
22:U:63:ILE:HD11	31:d:32:ARG:NH2	2.34	0.41
25:X:39:ASN:HB2	25:X:40:PRO:HD2	2.02	0.41
29:b:33:MET:HG2	29:b:46:VAL:O	2.21	0.41
33:f:121:CYS:HA	33:f:132:MET:SD	2.60	0.41
34:g:37:ASP:O	34:g:38:LYS:HB2	2.20	0.41
1:1:476:A:H3'	1:1:477:G:C8	2.53	0.41
1:1:534:G:H2'	1:1:535:G:H4'	2.02	0.41
1:1:740:C:C4	1:1:741:C:N4	2.88	0.41
1:1:750:C:O5'	1:1:750:C:H6	2.03	0.41
1:1:790:C:H6	1:1:790:C:O5'	2.04	0.41
1:1:958:G:OP2	16:O:39:ASP:HB3	2.21	0.41
1:1:1057:C:C6	1:1:1059:G:OP2	2.74	0.41
1:1:1214:A:N6	1:1:1686:G:C6	2.88	0.41
1:1:1257:G:C8	1:1:1257:G:C5'	2.99	0.41
1:1:1451:G:H5'	34:g:64:HIS:CE1	2.54	0.41
1:1:1528:G:OP2	18:Q:142:GLN:HG2	2.21	0.41
1:1:1675:A:H2'	1:1:1676:U:O4'	2.20	0.41
1:1:1829:G:H2'	1:1:1829:G:N3	2.35	0.41
1:1:1868:U:O2'	1:1:1869:A:P	2.78	0.41
3:B:153:THR:HB	3:B:155:TYR:HE2	1.85	0.41
3:B:183:GLU:O	3:B:186:ASN:HB3	2.21	0.41
4:C:152:ARG:O	4:C:156:ILE:HG12	2.20	0.41
6:E:159:THR:HG23	6:E:226:PHE:CE1	2.56	0.41
9:H:109:ARG:HD3	9:H:110:THR:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:39:ASN:C	13:L:41:GLY:N	2.75	0.41
15:N:33:VAL:O	15:N:37:ILE:HG13	2.19	0.41
20:S:111:LEU:HD23	20:S:114:LEU:HD12	2.03	0.41
26:Y:7:ILE:HG12	26:Y:27:VAL:HG22	2.02	0.41
1:1:9:U:O2	1:1:12:U:C5	2.73	0.41
1:1:25:A:C2	1:1:649:U:O2	2.74	0.41
1:1:393:U:H4'	1:1:394:G:OP1	2.21	0.41
1:1:466:G:H3'	1:1:466:G:N3	2.36	0.41
1:1:467:G:H8	1:1:467:G:H5''	1.85	0.41
1:1:526:A:H1'	11:J:128:VAL:HG13	2.02	0.41
1:1:545:A:C8	1:1:545:A:C3'	3.03	0.41
1:1:600:G:H2'	1:1:601:G:C8	2.55	0.41
1:1:1142:G:H8	1:1:1142:G:P	2.44	0.41
1:1:1239:U:O5'	1:1:1239:U:H6	2.04	0.41
1:1:1312:G:C8	14:M:37:GLU:CG	3.04	0.41
1:1:1469:A:C5	1:1:1470:C:C4	3.09	0.41
1:1:1492:U:C4'	22:U:70:CYS:SG	3.09	0.41
1:1:1568:C:N4	1:1:1569:A:C6	2.89	0.41
1:1:1636:G:OP1	1:1:1638:G:N2	2.53	0.41
1:1:1649:U:C2	1:1:1675:A:H2	2.39	0.41
1:1:1666:C:H5'	1:1:1667:U:OP2	2.21	0.41
1:1:1672:U:H2'	1:1:1673:U:H6	1.86	0.41
1:1:1743:G:C2'	1:1:1744:G:H5'	2.51	0.41
5:D:70:THR:HG23	5:D:84:VAL:O	2.20	0.41
6:E:124:CYS:HB2	6:E:141:THR:HG23	2.02	0.41
7:F:55:ARG:O	7:F:57:ALA:N	2.53	0.41
9:H:31:GLU:HA	9:H:36:LEU:HB2	2.03	0.41
9:H:66:VAL:N	9:H:67:PRO:CD	2.83	0.41
12:K:83:LEU:O	12:K:84:HIS:HB3	2.21	0.41
13:L:77:VAL:HG22	13:L:86:ILE:HD12	2.02	0.41
14:M:92:CYS:SG	14:M:94:ILE:HG23	2.60	0.41
16:O:38:ASN:O	16:O:68:GLU:HG3	2.21	0.41
17:P:86:LEU:HB2	17:P:87:PRO:HD2	2.03	0.41
21:T:87:VAL:HG23	21:T:88:MET:H	1.86	0.41
21:T:123:LEU:HD23	21:T:123:LEU:N	2.35	0.41
1:1:23:G:H2'	1:1:24:C:H6	1.85	0.41
1:1:29:G:H5''	25:X:129:SER:HB3	2.02	0.41
1:1:50:A:OP2	1:1:472:C:N4	2.54	0.41
1:1:93:U:O2	1:1:93:U:O4'	2.38	0.41
1:1:158:A:O5'	1:1:158:A:H8	2.04	0.41
1:1:176:U:C4	1:1:177:G:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:191:A:H4'	10:I:147:LYS:NZ	2.35	0.41
1:1:313:A:OP1	1:1:313:A:C4'	2.68	0.41
1:1:402:C:O5'	1:1:402:C:C6	2.74	0.41
1:1:422:U:C6	1:1:422:U:C5'	3.04	0.41
1:1:504:G:H2'	1:1:505:G:C5'	2.51	0.41
1:1:567:C:C3'	1:1:568:C:C5'	2.99	0.41
1:1:583:A:C2'	1:1:584:A:C8	3.04	0.41
1:1:601:G:H1	1:1:621:C:H42	1.69	0.41
1:1:655:A:C4	1:1:657:U:C5	3.08	0.41
1:1:813:A:C5	1:1:814:U:C5	3.08	0.41
1:1:986:G:H22	16:O:135:ILE:HD12	1.85	0.41
1:1:1122:A:C2'	1:1:1123:C:H5'	2.49	0.41
1:1:1206:G:C6	1:1:1693:G:C2	3.08	0.41
1:1:1265:A:C2	1:1:1266:C:C6	3.08	0.41
1:1:1322:G:H2'	1:1:1323:U:O4'	2.21	0.41
1:1:1391:C:H2'	1:1:1392:U:C1'	2.51	0.41
1:1:1439:A:C8	1:1:1439:A:OP2	2.73	0.41
1:1:1484:A:C2'	1:1:1485:U:H5'	2.51	0.41
1:1:1579:A:H3'	1:1:1580:A:H5''	2.03	0.41
1:1:1663:A:O2'	1:1:1664:A:N3	2.51	0.41
2:A:103:PHE:CD1	2:A:133:PRO:HG3	2.55	0.41
2:A:205:ARG:O	2:A:208:GLU:HB3	2.21	0.41
6:E:252:ARG:HB3	6:E:252:ARG:HH11	1.84	0.41
9:H:37:LYS:HE2	9:H:41:ARG:HH21	1.86	0.41
9:H:61:ILE:HG22	9:H:93:VAL:CG2	2.50	0.41
9:H:62:ILE:HG22	9:H:93:VAL:O	2.21	0.41
11:J:14:VAL:CG2	11:J:48:PHE:HD1	2.33	0.41
13:L:33:LEU:HB2	13:L:34:PRO:HD3	2.02	0.41
14:M:106:CYS:O	14:M:107:SER:CB	2.69	0.41
15:N:19:ARG:NH2	15:N:23:PRO:HA	2.36	0.41
17:P:67:ALA:HB2	17:P:73:PRO:HB3	2.03	0.41
20:S:47:LYS:HE2	20:S:79:ILE:HG13	2.01	0.41
21:T:19:ALA:O	21:T:23:LYS:HG3	2.21	0.41
34:g:191:HIS:HB2	34:g:195:LEU:HD21	2.00	0.41
1:1:93:U:C5	1:1:94:G:H1'	2.56	0.41
1:1:172:U:P	1:1:314:U:H2'	2.61	0.41
1:1:186:C:O2'	1:1:187:G:H5'	2.21	0.41
1:1:301:A:O2'	10:I:72:CYS:HA	2.21	0.41
1:1:319:C:C4'	1:1:320:G:OP2	2.64	0.41
1:1:353:C:C5'	13:L:71:ARG:NH2	2.82	0.41
1:1:382:C:C2'	1:1:383:G:N2	2.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:450:C:H2'	1:1:451:G:C4'	2.48	0.41
1:1:522:A:N1	1:1:643:A:C5'	2.82	0.41
1:1:563:G:H8	1:1:563:G:O5'	2.04	0.41
1:1:571:U:O3'	26:Y:59:GLY:CA	2.69	0.41
1:1:574:A:C5'	1:1:575:A:N7	2.69	0.41
1:1:576:A:P	1:1:576:A:H3'	2.61	0.41
1:1:679:A:H2'	1:1:680:G:H5'	2.03	0.41
1:1:679:A:C2'	1:1:680:G:H5'	2.51	0.41
1:1:690:G:C2	1:1:691:G:C5	3.09	0.41
1:1:693:A:P	1:1:694:G:H5''	2.61	0.41
1:1:830:A:C6	1:1:845:G:C2	3.09	0.41
1:1:1024:A:H2'	1:1:1025:U:C6	2.56	0.41
1:1:1066:U:H2'	1:1:1067:C:H6	1.85	0.41
1:1:1113:A:N1	1:1:1120:U:O4	2.54	0.41
1:1:1204:A:C6	1:1:1205:C:C4	3.09	0.41
1:1:1216:C:OP1	1:1:1217:A:C8	2.74	0.41
1:1:1222:G:H8	1:1:1222:G:O5'	2.02	0.41
1:1:1250:A:H4'	1:1:1251:A:OP2	2.20	0.41
1:1:1251:A:C2'	1:1:1252:C:H5'	2.49	0.41
1:1:1285:G:OP1	1:1:1286:G:N7	2.53	0.41
1:1:1313:A:H5''	1:1:1314:U:H5	1.86	0.41
1:1:1344:A:N6	1:1:1386:A:H5'	2.36	0.41
1:1:1350:U:O3'	2:A:110:ASN:HB2	2.20	0.41
1:1:1491:G:C4	1:1:1492:U:C5	3.09	0.41
1:1:1513:C:H5'	31:d:9:SER:HB2	2.01	0.41
1:1:1518:C:OP1	1:1:1520:G:H8	2.03	0.41
1:1:1556:A:P	1:1:1556:A:C3'	2.98	0.41
1:1:1599:U:O2'	1:1:1600:G:H5''	2.21	0.41
1:1:1614:A:O2'	1:1:1615:U:H5'	2.21	0.41
1:1:1636:G:H1'	7:F:164:ARG:NH2	2.34	0.41
1:1:1731:A:C6	1:1:1732:G:C6	3.09	0.41
1:1:1781:A:C2	1:1:1782:G:N2	2.89	0.41
1:1:1862:G:O2'	1:1:1863:A:P	2.78	0.41
1:1:1865:C:H2'	28:a:92:ARG:O	2.21	0.41
2:A:120:ARG:HA	2:A:120:ARG:HE	1.86	0.41
3:B:131:ASP:HB3	3:B:180:ASP:CG	2.45	0.41
4:C:171:GLY:O	4:C:172:ASN:CB	2.69	0.41
5:D:158:ILE:CG2	5:D:164:VAL:HG22	2.39	0.41
6:E:31:PRO:HG2	6:E:38:LEU:HG	2.02	0.41
6:E:125:LYS:O	6:E:141:THR:HA	2.21	0.41
9:H:8:ILE:HG23	9:H:45:ILE:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:126:GLY:HA2	10:I:135:GLU:CD	2.46	0.41
11:J:130:ILE:HD11	11:J:145:PRO:HB3	2.03	0.41
13:L:22:ARG:HD2	13:L:27:GLU:HB3	2.03	0.41
15:N:62:GLN:HG2	15:N:65:PHE:CD1	2.56	0.41
15:N:92:ILE:CG2	15:N:149:LEU:HD13	2.39	0.41
16:O:30:VAL:CG2	16:O:47:LEU:HA	2.51	0.41
22:U:35:VAL:HG21	22:U:106:ILE:HD13	2.02	0.41
23:V:43:THR:HG22	23:V:45:ARG:CB	2.51	0.41
24:W:39:THR:O	24:W:43:LYS:HG3	2.20	0.41
25:X:80:LYS:H	25:X:80:LYS:HG3	1.71	0.41
26:Y:99:LYS:H	26:Y:99:LYS:HG3	1.63	0.41
27:Z:107:VAL:CG1	27:Z:109:TYR:HE2	2.34	0.41
29:b:27:SER:HB2	29:b:28:PRO:HD2	2.01	0.41
29:b:34:ASP:O	29:b:79:PHE:HA	2.21	0.41
30:c:42:ILE:CG2	30:c:43:ILE:N	2.83	0.41
30:c:43:ILE:H	30:c:64:GLU:HG3	1.85	0.41
32:e:35:ARG:HG2	32:e:39:ASN:ND2	2.36	0.41
34:g:8:ARG:NE	34:g:8:ARG:HA	2.36	0.41
1:1:168:C:C4	1:1:169:U:O4	2.74	0.41
1:1:183:G:O2'	1:1:184:G:H5'	2.21	0.41
1:1:302:A:C3'	1:1:303:C:H5''	2.49	0.41
1:1:569:A:C4	1:1:570:C:C6	3.09	0.41
1:1:635:G:H5'	32:e:19:VAL:HB	2.03	0.41
1:1:673:G:C8	1:1:1084:A:C6	3.10	0.41
1:1:679:A:H3'	1:1:680:G:H8	1.86	0.41
1:1:743:U:O4'	1:1:743:U:P	2.78	0.41
1:1:754:G:C5	1:1:755:C:C4	3.09	0.41
1:1:1102:G:C2'	1:1:1103:C:H5'	2.51	0.41
1:1:1519:U:H5''	1:1:1519:U:H6	1.80	0.41
1:1:1530:U:O2'	1:1:1531:A:H8	2.03	0.41
1:1:1580:A:H3'	1:1:1581:C:H5'	2.03	0.41
1:1:1647:A:H1'	1:1:1649:U:C1'	2.51	0.41
1:1:1663:A:C2	1:1:1664:A:N6	2.86	0.41
6:E:100:ARG:NH2	6:E:118:GLU:HB3	2.36	0.41
7:F:34:SER:O	7:F:35:LEU:HB2	2.21	0.41
9:H:39:GLN:HG3	9:H:75:ILE:HB	2.03	0.41
9:H:65:PRO:C	9:H:67:PRO:HD2	2.46	0.41
10:I:119:LEU:HD12	10:I:127:ALA:O	2.21	0.41
15:N:22:VAL:HB	15:N:23:PRO:HD2	2.02	0.41
21:T:65:TYR:CE1	21:T:128:GLN:OE1	2.73	0.41
28:a:30:VAL:HG21	28:a:74:CYS:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:g:283:PRO:CD	34:g:284:PRO:HD2	2.50	0.41
1:1:189:U:C5	1:1:189:U:OP2	2.74	0.40
1:1:491:C:H2'	1:1:492:C:O4'	2.20	0.40
1:1:495:U:OP2	1:1:495:U:C6	2.74	0.40
1:1:510:G:O2'	1:1:511:U:H5'	2.21	0.40
1:1:540:U:H3	1:1:542:U:H5''	1.85	0.40
1:1:591:U:N3	32:e:28:LYS:HA	2.36	0.40
1:1:593:C:H4'	1:1:594:A:OP1	2.21	0.40
1:1:641:A:C2'	1:1:642:U:H5'	2.50	0.40
1:1:796:G:H2'	1:1:797:C:C5'	2.51	0.40
1:1:847:A:H5'	1:1:848:U:OP2	2.21	0.40
1:1:969:U:H4'	1:1:969:U:OP1	2.21	0.40
1:1:990:A:C1'	1:1:991:G:N2	2.84	0.40
1:1:1013:U:O2'	1:1:1104:G:H1'	2.21	0.40
1:1:1016:U:P	29:b:28:PRO:HB3	2.61	0.40
1:1:1021:U:H4'	1:1:1022:U:O5'	2.21	0.40
1:1:1284:A:H4'	1:1:1287:A:C6	2.56	0.40
1:1:1305:C:H2'	1:1:1306:U:C6	2.56	0.40
1:1:1350:U:C6	1:1:1350:U:O5'	2.73	0.40
1:1:1411:G:C2	1:1:1412:C:H5	2.39	0.40
1:1:1427:C:C5	1:1:1428:G:C8	3.09	0.40
1:1:1798:C:H2'	1:1:1799:G:O4'	2.21	0.40
2:A:16:LEU:HD13	2:A:16:LEU:C	2.46	0.40
7:F:36:GLN:O	7:F:37:ASP:CB	2.68	0.40
9:H:11:PRO:HA	9:H:14:GLU:O	2.21	0.40
10:I:110:ARG:HG3	10:I:120:PRO:O	2.21	0.40
11:J:131:ARG:C	11:J:133:ARG:H	2.27	0.40
13:L:113:LEU:HD22	13:L:114:SER:N	2.37	0.40
16:O:151:LEU:HD23	16:O:151:LEU:C	2.46	0.40
21:T:77:LYS:O	21:T:92:PHE:HZ	2.04	0.40
27:Z:59:CYS:SG	27:Z:60:LYS:HD2	2.61	0.40
27:Z:106:GLN:OE1	27:Z:108:ILE:HD11	2.20	0.40
28:a:82:LYS:HE2	30:c:69:ARG:HH11	1.86	0.40
33:f:135:HIS:HB3	33:f:138:ARG:H	1.86	0.40
34:g:144:ASP:HB3	34:g:177:TRP:CE3	2.55	0.40
1:1:31:U:H2'	1:1:32:U:O5'	2.21	0.40
1:1:36:U:O2	1:1:36:U:C2'	2.63	0.40
1:1:59:U:H5	1:1:501:C:H2'	1.86	0.40
1:1:201:C:O2	1:1:201:C:C3'	2.69	0.40
1:1:211:G:C8	1:1:211:G:C4'	3.04	0.40
1:1:212:C:C5	1:1:212:C:OP2	2.74	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:300:U:C2'	1:1:301:A:H8	2.31	0.40
1:1:527:C:H5'	11:J:122:SER:HB2	2.00	0.40
1:1:559:G:H5'	1:1:560:A:OP2	2.21	0.40
1:1:745:C:C6	9:H:107:LYS:HD3	2.56	0.40
1:1:753:C:OP2	1:1:754:G:H8	2.04	0.40
1:1:840:C:H1'	26:Y:14:THR:OG1	2.21	0.40
1:1:870:A:C5	1:1:916:A:C6	3.09	0.40
1:1:925:G:H2'	1:1:925:G:N3	2.36	0.40
1:1:958:G:C5'	1:1:959:G:N7	2.84	0.40
1:1:979:C:OP2	1:1:979:C:H6	2.04	0.40
1:1:1002:U:O2'	1:1:1003:U:H5'	2.21	0.40
1:1:1020:A:O2'	1:1:1021:U:P	2.79	0.40
1:1:1102:G:H1	1:1:1130:G:N2	2.17	0.40
1:1:1139:C:H2'	1:1:1140:G:H5'	2.03	0.40
1:1:1180:C:C5	1:1:1181:A:C5	3.09	0.40
1:1:1285:G:H5''	1:1:1286:G:C8	2.57	0.40
1:1:1287:A:N3	1:1:1287:A:C2'	2.82	0.40
1:1:1320:G:H2'	1:1:1321:G:O4'	2.20	0.40
1:1:1325:G:C8	1:1:1325:G:OP2	2.74	0.40
1:1:1442:U:N3	18:Q:22:VAL:HG22	2.35	0.40
1:1:1454:A:H61	1:1:1467:C:N4	2.19	0.40
1:1:1562:C:P	21:T:71:GLY:HA3	2.61	0.40
1:1:1621:U:O2	1:1:1621:U:C3'	2.68	0.40
1:1:1639:G:C5'	1:1:1640:A:OP2	2.69	0.40
1:1:1698:C:C3'	1:1:1699:A:H5'	2.50	0.40
1:1:1825:A:C8	1:1:1825:A:C3'	3.04	0.40
1:1:1865:C:C5	28:a:92:ARG:HD3	2.56	0.40
2:A:9:GLN:CB	23:V:83:PHE:CD2	2.99	0.40
5:D:160:SER:C	5:D:164:VAL:HG21	2.47	0.40
6:E:246:LEU:HB3	6:E:250:GLU:HB2	2.03	0.40
10:I:138:ASN:ND2	10:I:139:LYS:H	2.19	0.40
10:I:182:CYS:O	10:I:184:ARG:HG3	2.22	0.40
14:M:56:CYS:SG	14:M:61:TYR:CE1	3.10	0.40
15:N:64:ARG:NH1	15:N:64:ARG:HB3	2.36	0.40
17:P:34:MET:HA	17:P:37:TYR:CD1	2.56	0.40
1:1:24:C:O2'	1:1:415:A:H4'	2.21	0.40
1:1:78:C:O2	1:1:78:C:C2'	2.69	0.40
1:1:156:G:H3'	1:1:157:U:C5	2.56	0.40
1:1:437:G:C5	1:1:438:G:C5	3.10	0.40
1:1:654:A:C5	1:1:655:A:N1	2.90	0.40
1:1:742:U:H6	9:H:49:LYS:HZ2	1.66	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:795:A:C2	1:1:796:G:C1'	3.04	0.40
1:1:928:G:H2'	1:1:928:G:O5'	2.21	0.40
1:1:992:A:H5''	1:1:1132:C:O2	2.21	0.40
1:1:1036:A:C2'	1:1:1037:G:H5'	2.51	0.40
1:1:1330:G:H4'	1:1:1331:C:H4'	2.00	0.40
1:1:1403:C:H6	1:1:1403:C:O5'	2.04	0.40
1:1:1489:A:C3'	1:1:1490:G:H5'	2.52	0.40
1:1:1543:U:C2	18:Q:43:GLU:HG2	2.55	0.40
1:1:1673:U:P	18:Q:76:GLY:HA3	2.61	0.40
1:1:1686:G:N3	1:1:1686:G:H2'	2.35	0.40
2:A:26:GLY:HA2	2:A:149:ASN:HD21	1.86	0.40
2:A:39:TYR:CD2	2:A:50:ASN:HA	2.56	0.40
2:A:108:PHE:HB2	2:A:136:GLU:HB3	2.03	0.40
3:B:71:LEU:HD11	3:B:79:VAL:HG21	2.04	0.40
3:B:135:LEU:HD23	3:B:135:LEU:H	1.85	0.40
3:B:223:PHE:CE1	3:B:225:LEU:HD13	2.56	0.40
7:F:60:ARG:HG2	7:F:60:ARG:NH1	2.36	0.40
13:L:99:TYR:OH	25:X:17:ARG:HB2	2.20	0.40
16:O:104:ARG:HG2	16:O:105:THR:N	2.37	0.40
22:U:22:ILE:HD11	22:U:91:LEU:CD1	2.50	0.40
26:Y:114:MET:HG3	26:Y:122:LYS:HG3	2.02	0.40
1:1:60:A:N3	1:1:60:A:C2'	2.83	0.40
1:1:69:C:H6	1:1:69:C:C5'	2.32	0.40
1:1:190:G:C6	1:1:191:A:N7	2.89	0.40
1:1:193:C:H5'	1:1:193:C:C6	2.41	0.40
1:1:219:U:C5'	1:1:219:U:H6	2.33	0.40
1:1:235:A:O2'	1:1:236:A:P	2.80	0.40
1:1:439:A:O2'	1:1:440:G:H5'	2.21	0.40
1:1:528:A:O2'	1:1:529:A:H5'	2.21	0.40
1:1:558:G:H4'	1:1:559:G:OP1	2.22	0.40
1:1:741:C:N4	1:1:744:G:H1	2.19	0.40
1:1:746:C:O2'	1:1:747:U:C2	2.65	0.40
1:1:980:A:OP2	1:1:980:A:H8	2.03	0.40
1:1:1016:U:O2'	1:1:1017:U:C5'	2.70	0.40
1:1:1050:A:H2'	1:1:1051:G:O5'	2.22	0.40
1:1:1208:A:C2	1:1:1209:A:C5	3.09	0.40
1:1:1232:U:H3	1:1:1526:G:H1	1.69	0.40
1:1:1316:C:H6	1:1:1316:C:O5'	2.05	0.40
1:1:1405:A:N3	1:1:1442:U:H5	2.17	0.40
1:1:1430:C:O5'	1:1:1430:C:C6	2.75	0.40
1:1:1448:A:H2'	1:1:1449:G:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:148:LYS:HB3	10:I:152:ARG:HE	1.87	0.40
13:L:49:GLU:HA	13:L:52:GLU:OE2	2.21	0.40
13:L:69:ARG:H	13:L:69:ARG:HD3	1.87	0.40
15:N:64:ARG:HB3	15:N:64:ARG:HH11	1.85	0.40
19:R:54:VAL:O	19:R:57:LEU:HB2	2.21	0.40
20:S:2:SER:HB2	27:Z:50:PHE:CE1	2.57	0.40
20:S:98:VAL:CG2	20:S:103:LEU:HD13	2.48	0.40
21:T:17:ALA:HB1	21:T:21:PHE:HE2	1.85	0.40
21:T:27:LYS:HD3	21:T:110:LEU:CD1	2.49	0.40
26:Y:20:ARG:HB3	26:Y:76:TYR:CD2	2.57	0.40
32:e:31:ARG:HG3	32:e:32:ALA:H	1.87	0.40
1:1:59:U:H2'	1:1:60:A:H5'	2.02	0.40
1:1:79:A:H3'	1:1:80:G:H8	1.85	0.40
1:1:164:A:C3'	1:1:165:G:H8	2.33	0.40
1:1:181:A:C4'	1:1:182:C:OP2	2.67	0.40
1:1:227:U:H1'	1:1:228:C:P	2.61	0.40
1:1:301:A:C1'	10:I:71:CYS:O	2.70	0.40
1:1:337:C:O2	1:1:337:C:H3'	2.21	0.40
1:1:343:A:O2'	1:1:344:U:P	2.79	0.40
1:1:514:U:H3'	1:1:515:G:H8	1.82	0.40
1:1:573:U:C4	1:1:576:A:C5	3.08	0.40
1:1:1015:U:H1'	29:b:49:HIS:ND1	2.37	0.40
1:1:1221:G:H2'	1:1:1222:G:H8	1.85	0.40
1:1:1428:G:C6	1:1:1429:G:C5	3.10	0.40
1:1:1587:G:C6	21:T:74:SER:CB	3.03	0.40
1:1:1699:A:H8	1:1:1699:A:P	2.45	0.40
1:1:1726:G:H1	1:1:1808:U:H3	1.70	0.40
5:D:78:GLY:C	5:D:80:PRO:HD3	2.47	0.40
5:D:205:PRO:HA	19:R:42:PRO:HG2	2.03	0.40
8:G:3:LEU:O	8:G:15:LEU:HD22	2.21	0.40
10:I:144:LYS:HE2	10:I:144:LYS:HB2	1.87	0.40
11:J:12:THR:CG2	11:J:45:ARG:HG3	2.52	0.40
13:L:61:PRO:HD3	13:L:141:ASN:HD21	1.83	0.40
15:N:72:LEU:O	15:N:72:LEU:HD13	2.21	0.40
17:P:83:MET:SD	17:P:89:MET:SD	3.20	0.40
20:S:23:ARG:HD3	20:S:23:ARG:N	2.36	0.40
22:U:24:LEU:HG	22:U:87:ARG:HB2	2.02	0.40
27:Z:71:ALA:O	27:Z:75:GLU:HG2	2.20	0.40
31:d:24:CYS:SG	31:d:42:CYS:SG	3.15	0.40
33:f:130:VAL:HG11	33:f:141:CYS:SG	2.61	0.40
34:g:277:THR:HB	34:g:278:SER:H	1.63	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	
2	A	216/295 (73%)	209 (97%)	5 (2%)	2 (1%)	14	51
3	B	211/264 (80%)	176 (83%)	18 (8%)	17 (8%)	1	9
4	C	220/293 (75%)	213 (97%)	2 (1%)	5 (2%)	5	28
5	D	210/243 (86%)	201 (96%)	4 (2%)	5 (2%)	4	27
6	E	255/263 (97%)	237 (93%)	13 (5%)	5 (2%)	6	31
7	F	186/204 (91%)	163 (88%)	13 (7%)	10 (5%)	1	15
8	G	230/249 (92%)	216 (94%)	5 (2%)	9 (4%)	2	19
9	H	189/194 (97%)	178 (94%)	7 (4%)	4 (2%)	5	30
10	I	205/208 (99%)	184 (90%)	14 (7%)	7 (3%)	3	21
11	J	177/194 (91%)	168 (95%)	6 (3%)	3 (2%)	7	36
12	K	92/165 (56%)	84 (91%)	1 (1%)	7 (8%)	1	10
13	L	144/158 (91%)	133 (92%)	5 (4%)	6 (4%)	2	17
14	M	118/132 (89%)	111 (94%)	1 (1%)	6 (5%)	1	15
15	N	148/151 (98%)	138 (93%)	5 (3%)	5 (3%)	3	21
16	O	135/151 (89%)	129 (96%)	3 (2%)	3 (2%)	5	29
17	P	116/145 (80%)	106 (91%)	5 (4%)	5 (4%)	2	17
18	Q	137/146 (94%)	129 (94%)	6 (4%)	2 (2%)	8	40
19	R	105/135 (78%)	99 (94%)	4 (4%)	2 (2%)	6	32
20	S	140/152 (92%)	125 (89%)	7 (5%)	8 (6%)	1	14
21	T	141/145 (97%)	135 (96%)	4 (3%)	2 (1%)	9	40
22	U	99/119 (83%)	95 (96%)	3 (3%)	1 (1%)	12	49
23	V	81/83 (98%)	78 (96%)	1 (1%)	2 (2%)	4	26

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	W	127/130 (98%)	118 (93%)	7 (6%)	2 (2%)	7	38
25	X	132/142 (93%)	120 (91%)	5 (4%)	7 (5%)	1	15
26	Y	120/133 (90%)	114 (95%)	2 (2%)	4 (3%)	3	21
27	Z	74/125 (59%)	71 (96%)	0	3 (4%)	2	18
28	a	94/115 (82%)	85 (90%)	5 (5%)	4 (4%)	2	17
29	b	78/84 (93%)	70 (90%)	8 (10%)	0	100	100
30	c	60/69 (87%)	57 (95%)	1 (2%)	2 (3%)	3	21
31	d	51/56 (91%)	44 (86%)	7 (14%)	0	100	100
32	e	49/59 (83%)	43 (88%)	5 (10%)	1 (2%)	6	31
33	f	59/156 (38%)	53 (90%)	6 (10%)	0	100	100
34	g	312/317 (98%)	291 (93%)	14 (4%)	7 (2%)	5	29
All	All	4711/5475 (86%)	4373 (93%)	192 (4%)	146 (3%)	5	22

All (146) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	B	76	ASN
3	B	132	GLY
3	B	148	ASN
3	B	154	SER
3	B	176	VAL
3	B	177	GLN
3	B	207	LEU
3	B	221	PRO
4	C	64	THR
4	C	172	ASN
4	C	176	LYS
5	D	78	GLY
5	D	199	GLY
6	E	204	SER
6	E	205	PHE
7	F	20	PHE
7	F	22	LYS
7	F	40	ALA
7	F	48	TYR
7	F	80	GLY
7	F	132	GLY
7	F	185	SER

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Mol	Chain	Res	Type
8	G	43	GLU
8	G	146	ASN
8	G	147	LEU
8	G	169	PRO
9	H	88	SER
9	H	135	PHE
10	I	123	ARG
10	I	131	PRO
10	I	134	GLU
10	I	142	SER
10	I	159	SER
12	K	30	PRO
12	K	32	HIS
12	K	36	ALA
12	K	84	HIS
12	K	87	PRO
13	L	8	ARG
13	L	19	ASN
15	N	7	PRO
15	N	108	ASP
16	O	100	THR
16	O	146	ARG
17	P	29	SER
17	P	126	VAL
19	R	72	LYS
20	S	78	LYS
20	S	79	ILE
20	S	134	GLN
21	T	37	VAL
22	U	52	GLY
23	V	42	VAL
24	W	100	GLY
25	X	61	GLN
25	X	106	GLY
25	X	107	ARG
25	X	116	PRO
26	Y	33	ALA
26	Y	98	GLU
27	Z	95	GLY
34	g	255	SER
34	g	284	PRO
2	A	6	ASP

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Mol	Chain	Res	Type
3	B	52	THR
3	B	78	GLU
3	B	127	VAL
3	B	209	ASP
4	C	174	ILE
5	D	81	GLU
6	E	231	GLY
6	E	243	GLY
7	F	34	SER
7	F	56	TYR
8	G	87	ARG
8	G	157	VAL
9	H	164	ASN
12	K	64	TRP
13	L	119	ASP
14	M	30	GLY
14	M	60	MET
14	M	106	CYS
14	M	107	SER
15	N	143	SER
19	R	114	LEU
20	S	24	ARG
20	S	31	THR
20	S	90	VAL
20	S	92	ASP
23	V	48	GLY
28	a	61	ALA
34	g	276	SER
3	B	49	VAL
3	B	213	ARG
5	D	142	LEU
6	E	203	GLY
7	F	79	HIS
8	G	91	GLU
8	G	92	ARG
9	H	109	ARG
13	L	7	GLU
14	M	102	LYS
15	N	3	ARG
18	Q	17	LYS
18	Q	74	GLY
25	X	33	GLY

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Mol	Chain	Res	Type
25	X	86	PRO
26	Y	64	PHE
27	Z	113	THR
28	a	81	SER
30	c	38	THR
15	N	62	GLN
17	P	39	ALA
24	W	28	ARG
25	X	75	ILE
26	Y	119	GLY
30	c	64	GLU
34	g	146	SER
4	C	261	PHE
8	G	88	ARG
11	J	138	ARG
11	J	169	ARG
13	L	115	PRO
17	P	28	MET
17	P	125	PRO
21	T	51	ASN
27	Z	114	LYS
28	a	38	LYS
32	e	8	ARG
2	A	104	THR
3	B	23	ASP
3	B	210	VAL
10	I	12	ARG
20	S	6	PRO
28	a	84	VAL
3	B	64	GLY
11	J	170	PRO
12	K	86	PRO
13	L	29	GLY
14	M	100	PRO
34	g	103	GLY
10	I	20	PRO
16	O	53	ILE
34	g	61	GLY
34	g	265	ILE
5	D	63	GLY

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	
2	A	181/243 (74%)	177 (98%)	4 (2%)	45	64
3	B	194/231 (84%)	182 (94%)	12 (6%)	16	38
4	C	188/225 (84%)	179 (95%)	9 (5%)	23	44
5	D	175/202 (87%)	164 (94%)	11 (6%)	16	37
6	E	220/225 (98%)	207 (94%)	13 (6%)	18	39
7	F	158/170 (93%)	152 (96%)	6 (4%)	29	50
8	G	202/218 (93%)	196 (97%)	6 (3%)	36	57
9	H	171/174 (98%)	170 (99%)	1 (1%)	78	83
10	I	179/180 (99%)	167 (93%)	12 (7%)	15	36
11	J	160/168 (95%)	152 (95%)	8 (5%)	22	43
12	K	85/136 (62%)	81 (95%)	4 (5%)	23	45
13	L	133/142 (94%)	130 (98%)	3 (2%)	44	64
14	M	102/108 (94%)	96 (94%)	6 (6%)	18	39
15	N	130/131 (99%)	128 (98%)	2 (2%)	57	72
16	O	107/119 (90%)	99 (92%)	8 (8%)	12	33
17	P	107/130 (82%)	103 (96%)	4 (4%)	30	51
18	Q	115/121 (95%)	111 (96%)	4 (4%)	32	53
19	R	99/122 (81%)	92 (93%)	7 (7%)	13	35
20	S	123/132 (93%)	115 (94%)	8 (6%)	15	37
21	T	113/115 (98%)	106 (94%)	7 (6%)	16	38
22	U	93/107 (87%)	87 (94%)	6 (6%)	15	37
23	V	67/67 (100%)	67 (100%)	0	100	100
24	W	112/113 (99%)	108 (96%)	4 (4%)	31	52
25	X	108/114 (95%)	104 (96%)	4 (4%)	30	51
26	Y	107/115 (93%)	100 (94%)	7 (6%)	15	37
27	Z	67/103 (65%)	62 (92%)	5 (8%)	12	33

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
28	a	83/98 (85%)	76 (92%)	7 (8%)	10	30
29	b	72/76 (95%)	68 (94%)	4 (6%)	19	40
30	c	55/62 (89%)	52 (94%)	3 (6%)	19	41
31	d	47/49 (96%)	44 (94%)	3 (6%)	16	37
32	e	42/48 (88%)	39 (93%)	3 (7%)	13	35
33	f	54/140 (39%)	51 (94%)	3 (6%)	19	40
34	g	272/275 (99%)	260 (96%)	12 (4%)	25	47
All	All	4121/4659 (88%)	3925 (95%)	196 (5%)	24	44

All (196) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	8	LEU
2	A	19	LEU
2	A	68	ILE
2	A	110	ASN
3	B	23	ASP
3	B	30	TRP
3	B	46	LYS
3	B	71	LEU
3	B	79	VAL
3	B	97	LEU
3	B	131	ASP
3	B	148	ASN
3	B	176	VAL
3	B	177	GLN
3	B	216	LYS
3	B	218	LEU
4	C	137	VAL
4	C	205	VAL
4	C	209	VAL
4	C	240	THR
4	C	252	THR
4	C	256	TRP
4	C	274	VAL
4	C	276	THR
4	C	278	THR
5	D	3	VAL
5	D	5	ILE
5	D	16	ILE

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Mol	Chain	Res	Type
5	D	42	THR
5	D	66	ILE
5	D	84	VAL
5	D	93	THR
5	D	150	MET
5	D	162	ASP
5	D	193	ASP
5	D	211	VAL
6	E	23	LEU
6	E	37	LYS
6	E	51	ARG
6	E	95	THR
6	E	101	LEU
6	E	114	ILE
6	E	115	THR
6	E	128	LYS
6	E	136	ILE
6	E	148	ARG
6	E	166	THR
6	E	173	ILE
6	E	189	LEU
7	F	47	LYS
7	F	63	LYS
7	F	68	ILE
7	F	72	LEU
7	F	103	LEU
7	F	135	ARG
8	G	24	LEU
8	G	29	GLU
8	G	34	THR
8	G	133	LEU
8	G	160	LYS
8	G	176	ILE
9	H	111	LYS
10	I	19	LYS
10	I	29	LEU
10	I	48	VAL
10	I	55	TYR
10	I	62	VAL
10	I	78	ILE
10	I	93	THR
10	I	97	VAL

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Mol	Chain	Res	Type
10	I	131	PRO
10	I	136	ILE
10	I	137	LEU
10	I	144	LYS
11	J	8	VAL
11	J	12	THR
11	J	41	ARG
11	J	47	LYS
11	J	78	LEU
11	J	128	VAL
11	J	130	ILE
11	J	163	SER
12	K	3	MET
12	K	15	LEU
12	K	70	TYR
12	K	84	HIS
13	L	69	ARG
13	L	113	LEU
13	L	146	THR
14	M	52	LEU
14	M	76	LEU
14	M	83	LYS
14	M	88	TRP
14	M	106	CYS
14	M	117	GLU
15	N	7	PRO
15	N	80	LEU
16	O	45	THR
16	O	63	LYS
16	O	100	THR
16	O	105	THR
16	O	129	ILE
16	O	132	VAL
16	O	135	ILE
16	O	140	THR
17	P	16	THR
17	P	29	SER
17	P	74	GLU
17	P	86	LEU
18	Q	39	LEU
18	Q	72	VAL
18	Q	100	VAL

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Mol	Chain	Res	Type
18	Q	105	LYS
19	R	22	THR
19	R	46	LEU
19	R	58	MET
19	R	71	ILE
19	R	105	MET
19	R	109	LEU
19	R	118	GLN
20	S	3	LEU
20	S	5	ILE
20	S	8	LYS
20	S	31	THR
20	S	45	LEU
20	S	60	THR
20	S	99	LEU
20	S	139	THR
21	T	5	THR
21	T	28	LEU
21	T	33	TRP
21	T	39	LEU
21	T	64	LEU
21	T	87	VAL
21	T	110	LEU
22	U	24	LEU
22	U	59	LYS
22	U	61	LEU
22	U	72	GLU
22	U	104	ILE
22	U	115	THR
24	W	4	MET
24	W	11	LEU
24	W	20	ARG
24	W	98	GLN
25	X	17	ARG
25	X	31	HIS
25	X	37	LYS
25	X	81	ILE
26	Y	20	ARG
26	Y	21	LYS
26	Y	54	VAL
26	Y	84	LYS
26	Y	96	LEU

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Mol	Chain	Res	Type
26	Y	99	LYS
26	Y	100	LYS
27	Z	43	LYS
27	Z	47	LEU
27	Z	62	VAL
27	Z	67	LEU
27	Z	99	LEU
28	a	21	ILE
28	a	23	CYS
28	a	32	LYS
28	a	37	LYS
28	a	64	LEU
28	a	71	LEU
28	a	84	VAL
29	b	7	LEU
29	b	56	CYS
29	b	59	CYS
29	b	63	LEU
30	c	9	ILE
30	c	17	VAL
30	c	32	VAL
31	d	28	HIS
31	d	44	ARG
31	d	48	LYS
32	e	18	LYS
32	e	29	THR
32	e	46	VAL
33	f	97	LYS
33	f	114	ILE
33	f	148	TYR
34	g	20	GLN
34	g	54	ILE
34	g	64	HIS
34	g	94	THR
34	g	135	LEU
34	g	157	SER
34	g	164	ILE
34	g	189	ILE
34	g	255	SER
34	g	266	ILE
34	g	287	THR
34	g	289	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (101) such sidechains are listed below:

Mol	Chain	Res	Type
2	A	50	ASN
2	A	70	ASN
2	A	110	ASN
2	A	131	HIS
2	A	193	HIS
2	A	215	GLN
3	B	40	ASN
3	B	53	GLN
3	B	148	ASN
3	B	149	GLN
3	B	157	GLN
3	B	160	GLN
3	B	177	GLN
4	C	115	GLN
4	C	136	HIS
4	C	267	GLN
4	C	277	HIS
5	D	4	GLN
5	D	56	GLN
5	D	57	ASN
5	D	101	GLN
5	D	179	GLN
6	E	36	HIS
6	E	138	HIS
6	E	188	ASN
6	E	197	ASN
6	E	201	HIS
6	E	230	ASN
7	F	29	GLN
7	F	95	HIS
7	F	107	ASN
7	F	203	ASN
8	G	65	GLN
8	G	81	HIS
8	G	105	ASN
8	G	186	GLN
9	H	25	GLN
9	H	97	GLN
9	H	112	ASN
9	H	168	HIS
9	H	193	GLN

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Mol	Chain	Res	Type
10	I	22	HIS
10	I	87	ASN
11	J	124	HIS
12	K	32	HIS
12	K	44	HIS
12	K	50	GLN
12	K	84	HIS
13	L	5	GLN
13	L	19	ASN
13	L	94	HIS
13	L	112	HIS
14	M	19	GLN
15	N	62	GLN
16	O	32	HIS
16	O	43	HIS
16	O	103	ASN
17	P	35	GLN
18	Q	48	GLN
18	Q	86	GLN
19	R	26	ASN
19	R	62	GLN
20	S	73	ASN
20	S	85	ASN
20	S	87	GLN
21	T	51	ASN
21	T	63	HIS
21	T	91	HIS
21	T	126	GLN
21	T	137	GLN
22	U	100	GLN
23	V	2	GLN
24	W	56	HIS
24	W	82	GLN
24	W	90	GLN
24	W	113	HIS
25	X	61	GLN
25	X	73	GLN
25	X	77	ASN
26	Y	19	GLN
26	Y	22	GLN
26	Y	29	HIS
27	Z	89	GLN

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Mol	Chain	Res	Type
27	Z	103	HIS
28	a	19	GLN
28	a	43	ASN
28	a	86	ASN
30	c	24	GLN
30	c	45	ASN
31	d	5	GLN
31	d	16	GLN
31	d	26	ASN
31	d	41	GLN
32	e	22	GLN
32	e	44	ASN
34	g	20	GLN
34	g	26	GLN
34	g	64	HIS
34	g	117	ASN
34	g	196	ASN
34	g	226	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	1738/1869 (92%)	1041 (59%)	152 (8%)

All (1041) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	2	A
1	1	3	C
1	1	4	C
1	1	5	U
1	1	6	G
1	1	7	G
1	1	8	U
1	1	9	U
1	1	15	U
1	1	16	G
1	1	17	C
1	1	21	U
1	1	22	A
1	1	24	C

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Mol	Chain	Res	Type
1	1	25	A
1	1	26	U
1	1	30	C
1	1	33	G
1	1	39	A
1	1	40	A
1	1	41	G
1	1	44	U
1	1	45	A
1	1	46	A
1	1	47	G
1	1	48	C
1	1	50	A
1	1	55	U
1	1	56	G
1	1	59	U
1	1	60	A
1	1	61	A
1	1	62	G
1	1	63	U
1	1	64	A
1	1	65	C
1	1	66	G
1	1	67	C
1	1	68	A
1	1	69	C
1	1	70	G
1	1	71	G
1	1	72	C
1	1	74	G
1	1	75	G
1	1	76	U
1	1	77	A
1	1	78	C
1	1	79	A
1	1	80	G
1	1	81	U
1	1	82	G
1	1	83	A
1	1	84	A
1	1	87	U
1	1	98	C

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Mol	Chain	Res	Type
1	1	99	A
1	1	101	U
1	1	103	A
1	1	104	A
1	1	105	U
1	1	106	C
1	1	109	U
1	1	110	U
1	1	111	A
1	1	112	U
1	1	113	G
1	1	114	G
1	1	115	U
1	1	116	U
1	1	117	C
1	1	118	C
1	1	120	U
1	1	121	U
1	1	122	G
1	1	123	G
1	1	124	U
1	1	125	C
1	1	126	G
1	1	127	C
1	1	128	U
1	1	129	C
1	1	130	G
1	1	131	C
1	1	132	U
1	1	133	C
1	1	134	C
1	1	135	U
1	1	136	C
1	1	137	U
1	1	138	C
1	1	139	C
1	1	140	C
1	1	141	A
1	1	142	C
1	1	143	U
1	1	144	U
1	1	145	G

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Mol	Chain	Res	Type
1	1	146	G
1	1	147	A
1	1	148	U
1	1	150	A
1	1	151	C
1	1	152	U
1	1	153	G
1	1	158	A
1	1	160	U
1	1	161	U
1	1	162	C
1	1	163	U
1	1	164	A
1	1	166	A
1	1	167	G
1	1	168	C
1	1	169	U
1	1	171	A
1	1	173	A
1	1	174	C
1	1	176	U
1	1	179	C
1	1	180	G
1	1	181	A
1	1	182	C
1	1	183	G
1	1	184	G
1	1	185	G
1	1	187	G
1	1	193	C
1	1	198	U
1	1	199	C
1	1	200	G
1	1	201	C
1	1	202	G
1	1	204	G
1	1	205	G
1	1	207	G
1	1	208	G
1	1	209	A
1	1	210	U
1	1	211	G

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Mol	Chain	Res	Type
1	1	213	G
1	1	214	U
1	1	215	G
1	1	216	C
1	1	217	A
1	1	218	U
1	1	219	U
1	1	220	U
1	1	225	G
1	1	226	A
1	1	227	U
1	1	228	C
1	1	229	A
1	1	230	A
1	1	233	C
1	1	234	C
1	1	235	A
1	1	236	A
1	1	237	C
1	1	238	C
1	1	239	C
1	1	298	G
1	1	301	A
1	1	303	C
1	1	304	C
1	1	305	U
1	1	306	C
1	1	307	G
1	1	308	G
1	1	309	G
1	1	310	C
1	1	311	C
1	1	312	G
1	1	313	A
1	1	314	U
1	1	315	C
1	1	317	C
1	1	318	A
1	1	319	C
1	1	320	G
1	1	321	C
1	1	327	G

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Mol	Chain	Res	Type
1	1	328	U
1	1	329	G
1	1	330	G
1	1	332	G
1	1	333	G
1	1	337	C
1	1	338	G
1	1	339	A
1	1	343	A
1	1	344	U
1	1	345	U
1	1	346	C
1	1	347	G
1	1	350	C
1	1	352	U
1	1	353	C
1	1	354	U
1	1	356	C
1	1	357	C
1	1	358	C
1	1	359	U
1	1	362	C
1	1	363	A
1	1	364	A
1	1	368	U
1	1	369	C
1	1	370	G
1	1	371	A
1	1	372	U
1	1	375	U
1	1	376	A
1	1	378	U
1	1	379	C
1	1	380	G
1	1	381	C
1	1	382	C
1	1	383	G
1	1	384	U
1	1	386	C
1	1	389	A
1	1	395	G
1	1	399	C

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Mol	Chain	Res	Type
1	1	400	C
1	1	407	G
1	1	408	A
1	1	409	C
1	1	410	G
1	1	412	G
1	1	416	U
1	1	421	G
1	1	422	U
1	1	423	U
1	1	424	C
1	1	426	A
1	1	427	U
1	1	429	C
1	1	431	G
1	1	433	A
1	1	435	A
1	1	436	G
1	1	438	G
1	1	440	G
1	1	441	C
1	1	442	C
1	1	443	U
1	1	445	A
1	1	447	A
1	1	448	A
1	1	449	A
1	1	450	C
1	1	451	G
1	1	452	G
1	1	454	U
1	1	459	C
1	1	460	A
1	1	463	C
1	1	464	A
1	1	465	A
1	1	466	G
1	1	467	G
1	1	468	A
1	1	472	C
1	1	473	A
1	1	474	G

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Mol	Chain	Res	Type
1	1	475	C
1	1	476	A
1	1	477	G
1	1	480	G
1	1	482	G
1	1	485	A
1	1	487	U
1	1	488	U
1	1	489	A
1	1	491	C
1	1	492	C
1	1	493	A
1	1	495	U
1	1	496	C
1	1	497	C
1	1	499	G
1	1	500	A
1	1	501	C
1	1	502	C
1	1	503	C
1	1	504	G
1	1	506	G
1	1	507	G
1	1	509	G
1	1	510	G
1	1	512	A
1	1	516	A
1	1	517	C
1	1	518	G
1	1	523	A
1	1	525	A
1	1	526	A
1	1	527	C
1	1	529	A
1	1	530	U
1	1	533	A
1	1	535	G
1	1	536	A
1	1	537	C
1	1	538	U
1	1	539	C
1	1	541	U

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Mol	Chain	Res	Type
1	1	542	U
1	1	543	C
1	1	544	G
1	1	545	A
1	1	546	G
1	1	547	G
1	1	548	C
1	1	549	C
1	1	550	C
1	1	553	U
1	1	554	A
1	1	555	A
1	1	559	G
1	1	560	A
1	1	562	U
1	1	564	A
1	1	565	G
1	1	566	U
1	1	568	C
1	1	570	C
1	1	571	U
1	1	572	U
1	1	573	U
1	1	574	A
1	1	575	A
1	1	576	A
1	1	577	U
1	1	578	C
1	1	579	C
1	1	580	U
1	1	582	U
1	1	586	G
1	1	587	A
1	1	588	G
1	1	589	G
1	1	590	A
1	1	591	U
1	1	592	C
1	1	593	C
1	1	594	A
1	1	595	U
1	1	596	U

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Mol	Chain	Res	Type
1	1	597	G
1	1	599	A
1	1	600	G
1	1	603	C
1	1	604	A
1	1	605	A
1	1	606	G
1	1	607	U
1	1	608	C
1	1	609	U
1	1	612	U
1	1	613	G
1	1	614	C
1	1	617	G
1	1	619	A
1	1	620	G
1	1	621	C
1	1	623	G
1	1	624	C
1	1	627	U
1	1	628	A
1	1	629	A
1	1	630	U
1	1	631	U
1	1	634	A
1	1	638	C
1	1	643	A
1	1	644	G
1	1	645	C
1	1	647	U
1	1	648	A
1	1	650	A
1	1	651	U
1	1	652	U
1	1	654	A
1	1	655	A
1	1	656	G
1	1	657	U
1	1	658	U
1	1	659	G
1	1	660	C
1	1	661	U

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Mol	Chain	Res	Type
1	1	663	C
1	1	664	A
1	1	665	G
1	1	666	U
1	1	668	A
1	1	669	A
1	1	671	A
1	1	672	A
1	1	673	G
1	1	674	C
1	1	675	U
1	1	676	C
1	1	677	G
1	1	679	A
1	1	680	G
1	1	681	U
1	1	683	G
1	1	684	G
1	1	686	U
1	1	688	U
1	1	689	U
1	1	692	G
1	1	694	G
1	1	695	C
1	1	742	U
1	1	743	U
1	1	744	G
1	1	745	C
1	1	746	C
1	1	747	U
1	1	748	C
1	1	749	U
1	1	750	C
1	1	754	G
1	1	755	C
1	1	793	G
1	1	795	A
1	1	796	G
1	1	797	C
1	1	798	G
1	1	799	U
1	1	800	U

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Mol	Chain	Res	Type
1	1	801	U
1	1	802	A
1	1	803	C
1	1	804	U
1	1	807	G
1	1	810	A
1	1	812	A
1	1	815	U
1	1	816	A
1	1	818	A
1	1	819	G
1	1	820	U
1	1	821	G
1	1	822	U
1	1	823	U
1	1	825	A
1	1	827	A
1	1	829	C
1	1	830	A
1	1	831	G
1	1	834	C
1	1	835	C
1	1	837	A
1	1	838	G
1	1	839	C
1	1	840	C
1	1	841	G
1	1	842	C
1	1	844	U
1	1	845	G
1	1	847	A
1	1	848	U
1	1	851	C
1	1	852	G
1	1	856	C
1	1	861	A
1	1	862	A
1	1	863	U
1	1	865	A
1	1	869	A
1	1	870	A
1	1	873	G

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Mol	Chain	Res	Type
1	1	874	G
1	1	875	A
1	1	876	C
1	1	886	A
1	1	887	U
1	1	888	U
1	1	889	U
1	1	890	U
1	1	891	G
1	1	896	U
1	1	897	U
1	1	898	U
1	1	899	U
1	1	900	C
1	1	911	C
1	1	912	C
1	1	913	A
1	1	914	U
1	1	915	G
1	1	917	U
1	1	918	U
1	1	919	A
1	1	920	A
1	1	921	G
1	1	924	G
1	1	930	C
1	1	933	G
1	1	937	C
1	1	938	A
1	1	943	U
1	1	946	U
1	1	950	C
1	1	951	C
1	1	953	C
1	1	955	A
1	1	956	G
1	1	957	A
1	1	958	G
1	1	959	G
1	1	960	U
1	1	961	G
1	1	962	A

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Mol	Chain	Res	Type
1	1	963	A
1	1	966	U
1	1	967	C
1	1	968	U
1	1	969	U
1	1	970	G
1	1	971	G
1	1	972	A
1	1	975	G
1	1	977	C
1	1	979	C
1	1	980	A
1	1	984	C
1	1	985	G
1	1	988	C
1	1	990	A
1	1	991	G
1	1	995	G
1	1	999	G
1	1	1000	C
1	1	1004	U
1	1	1006	C
1	1	1007	C
1	1	1009	A
1	1	1011	A
1	1	1015	U
1	1	1016	U
1	1	1017	U
1	1	1018	U
1	1	1019	C
1	1	1020	A
1	1	1021	U
1	1	1022	U
1	1	1023	A
1	1	1024	A
1	1	1029	G
1	1	1033	G
1	1	1034	A
1	1	1035	A
1	1	1036	A
1	1	1040	G
1	1	1044	G

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Mol	Chain	Res	Type
1	1	1045	U
1	1	1049	A
1	1	1050	A
1	1	1051	G
1	1	1052	A
1	1	1053	C
1	1	1055	A
1	1	1057	C
1	1	1058	A
1	1	1060	A
1	1	1061	U
1	1	1062	A
1	1	1064	C
1	1	1065	G
1	1	1067	C
1	1	1076	G
1	1	1083	A
1	1	1084	A
1	1	1085	C
1	1	1086	G
1	1	1087	A
1	1	1088	U
1	1	1089	G
1	1	1090	C
1	1	1096	G
1	1	1097	G
1	1	1101	U
1	1	1104	G
1	1	1108	G
1	1	1109	C
1	1	1110	G
1	1	1112	U
1	1	1114	U
1	1	1115	U
1	1	1116	C
1	1	1117	C
1	1	1118	C
1	1	1120	U
1	1	1121	G
1	1	1124	C
1	1	1131	G
1	1	1132	C

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Mol	Chain	Res	Type
1	1	1133	A
1	1	1136	U
1	1	1137	U
1	1	1139	C
1	1	1140	G
1	1	1141	G
1	1	1143	A
1	1	1144	A
1	1	1147	C
1	1	1148	A
1	1	1149	A
1	1	1150	A
1	1	1151	G
1	1	1153	C
1	1	1154	U
1	1	1155	U
1	1	1157	G
1	1	1158	G
1	1	1161	U
1	1	1163	C
1	1	1164	G
1	1	1165	G
1	1	1166	G
1	1	1169	G
1	1	1170	A
1	1	1171	G
1	1	1176	G
1	1	1182	A
1	1	1183	A
1	1	1186	U
1	1	1189	A
1	1	1194	A
1	1	1195	A
1	1	1198	G
1	1	1199	A
1	1	1200	A
1	1	1203	G
1	1	1205	C
1	1	1206	G
1	1	1207	G
1	1	1215	C
1	1	1216	C

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Mol	Chain	Res	Type
1	1	1217	A
1	1	1218	C
1	1	1219	C
1	1	1221	G
1	1	1223	A
1	1	1224	G
1	1	1235	G
1	1	1236	G
1	1	1237	C
1	1	1242	U
1	1	1243	U
1	1	1245	G
1	1	1246	A
1	1	1247	C
1	1	1248	U
1	1	1249	C
1	1	1251	A
1	1	1253	A
1	1	1254	C
1	1	1255	G
1	1	1256	G
1	1	1257	G
1	1	1258	A
1	1	1259	A
1	1	1260	A
1	1	1261	C
1	1	1262	C
1	1	1263	U
1	1	1264	C
1	1	1265	A
1	1	1266	C
1	1	1267	C
1	1	1268	C
1	1	1269	G
1	1	1270	G
1	1	1273	C
1	1	1274	G
1	1	1275	G
1	1	1276	A
1	1	1277	C
1	1	1278	A
1	1	1279	C

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Mol	Chain	Res	Type
1	1	1282	A
1	1	1284	A
1	1	1285	G
1	1	1286	G
1	1	1287	A
1	1	1288	U
1	1	1289	U
1	1	1297	U
1	1	1300	U
1	1	1301	A
1	1	1302	G
1	1	1303	C
1	1	1307	U
1	1	1308	U
1	1	1309	C
1	1	1310	U
1	1	1311	C
1	1	1312	G
1	1	1313	A
1	1	1314	U
1	1	1315	U
1	1	1317	C
1	1	1318	G
1	1	1323	U
1	1	1324	G
1	1	1325	G
1	1	1326	U
1	1	1327	G
1	1	1330	G
1	1	1331	C
1	1	1332	A
1	1	1333	U
1	1	1335	G
1	1	1343	U
1	1	1344	A
1	1	1345	G
1	1	1347	U
1	1	1349	G
1	1	1351	G
1	1	1352	G
1	1	1354	G
1	1	1357	A

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Mol	Chain	Res	Type
1	1	1358	U
1	1	1359	U
1	1	1360	U
1	1	1363	C
1	1	1364	U
1	1	1368	U
1	1	1369	A
1	1	1371	U
1	1	1372	U
1	1	1378	A
1	1	1381	G
1	1	1382	A
1	1	1384	C
1	1	1389	C
1	1	1390	U
1	1	1392	U
1	1	1393	G
1	1	1394	G
1	1	1395	C
1	1	1397	U
1	1	1399	C
1	1	1401	A
1	1	1402	A
1	1	1403	C
1	1	1404	U
1	1	1405	A
1	1	1406	G
1	1	1407	U
1	1	1408	U
1	1	1409	A
1	1	1410	C
1	1	1411	G
1	1	1412	C
1	1	1413	G
1	1	1415	C
1	1	1416	C
1	1	1417	C
1	1	1419	C
1	1	1420	G
1	1	1421	A
1	1	1422	G
1	1	1423	C

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Mol	Chain	Res	Type
1	1	1424	G
1	1	1425	G
1	1	1426	U
1	1	1427	C
1	1	1428	G
1	1	1429	G
1	1	1430	C
1	1	1431	G
1	1	1432	U
1	1	1433	C
1	1	1434	C
1	1	1435	C
1	1	1436	C
1	1	1437	C
1	1	1438	A
1	1	1440	C
1	1	1441	U
1	1	1442	U
1	1	1443	C
1	1	1444	U
1	1	1445	U
1	1	1446	A
1	1	1447	G
1	1	1448	A
1	1	1451	G
1	1	1453	C
1	1	1454	A
1	1	1455	A
1	1	1456	G
1	1	1457	U
1	1	1461	G
1	1	1462	U
1	1	1463	U
1	1	1464	C
1	1	1465	A
1	1	1466	G
1	1	1467	C
1	1	1471	C
1	1	1472	C
1	1	1473	G
1	1	1475	G
1	1	1476	A

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Mol	Chain	Res	Type
1	1	1477	U
1	1	1478	U
1	1	1480	A
1	1	1481	G
1	1	1482	C
1	1	1484	A
1	1	1486	A
1	1	1489	A
1	1	1490	G
1	1	1493	C
1	1	1494	U
1	1	1495	G
1	1	1496	U
1	1	1498	A
1	1	1500	G
1	1	1505	U
1	1	1507	G
1	1	1508	A
1	1	1509	U
1	1	1510	G
1	1	1511	U
1	1	1513	C
1	1	1514	G
1	1	1517	G
1	1	1520	G
1	1	1521	C
1	1	1522	A
1	1	1523	C
1	1	1528	G
1	1	1529	C
1	1	1530	U
1	1	1531	A
1	1	1535	U
1	1	1536	G
1	1	1539	U
1	1	1540	G
1	1	1541	G
1	1	1542	C
1	1	1543	U
1	1	1544	C
1	1	1545	A
1	1	1546	G

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Mol	Chain	Res	Type
1	1	1547	C
1	1	1548	G
1	1	1549	U
1	1	1550	G
1	1	1551	U
1	1	1553	C
1	1	1554	C
1	1	1555	U
1	1	1556	A
1	1	1557	C
1	1	1558	C
1	1	1560	U
1	1	1561	A
1	1	1563	G
1	1	1568	C
1	1	1569	A
1	1	1570	G
1	1	1573	G
1	1	1574	C
1	1	1577	G
1	1	1578	U
1	1	1579	A
1	1	1580	A
1	1	1581	C
1	1	1582	C
1	1	1585	U
1	1	1586	U
1	1	1587	G
1	1	1588	A
1	1	1589	A
1	1	1591	C
1	1	1595	U
1	1	1597	C
1	1	1598	G
1	1	1599	U
1	1	1600	G
1	1	1601	A
1	1	1602	U
1	1	1603	G
1	1	1604	G
1	1	1605	G
1	1	1607	A

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Mol	Chain	Res	Type
1	1	1609	C
1	1	1610	G
1	1	1612	G
1	1	1614	A
1	1	1615	U
1	1	1617	G
1	1	1618	C
1	1	1620	A
1	1	1621	U
1	1	1622	U
1	1	1623	A
1	1	1624	U
1	1	1625	U
1	1	1627	C
1	1	1631	U
1	1	1632	G
1	1	1635	C
1	1	1636	G
1	1	1637	A
1	1	1638	G
1	1	1639	G
1	1	1640	A
1	1	1644	C
1	1	1645	C
1	1	1647	A
1	1	1648	G
1	1	1649	U
1	1	1651	A
1	1	1652	G
1	1	1654	G
1	1	1655	C
1	1	1656	G
1	1	1660	C
1	1	1661	A
1	1	1662	U
1	1	1664	A
1	1	1665	G
1	1	1666	C
1	1	1669	G
1	1	1671	G
1	1	1672	U
1	1	1673	U

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Mol	Chain	Res	Type
1	1	1674	G
1	1	1677	U
1	1	1678	A
1	1	1679	A
1	1	1680	G
1	1	1682	C
1	1	1684	C
1	1	1685	U
1	1	1686	G
1	1	1687	C
1	1	1688	C
1	1	1689	C
1	1	1691	U
1	1	1692	U
1	1	1694	U
1	1	1696	C
1	1	1697	A
1	1	1698	C
1	1	1699	A
1	1	1700	C
1	1	1701	C
1	1	1702	G
1	1	1703	C
1	1	1707	U
1	1	1708	C
1	1	1709	G
1	1	1710	C
1	1	1714	U
1	1	1719	A
1	1	1720	U
1	1	1721	U
1	1	1722	G
1	1	1723	G
1	1	1728	U
1	1	1729	U
1	1	1731	A
1	1	1732	G
1	1	1735	A
1	1	1744	G
1	1	1745	A
1	1	1747	C
1	1	1749	G

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Mol	Chain	Res	Type
1	1	1751	C
1	1	1752	C
1	1	1760	G
1	1	1761	U
1	1	1764	G
1	1	1765	C
1	1	1767	C
1	1	1768	A
1	1	1770	G
1	1	1775	C
1	1	1781	A
1	1	1782	G
1	1	1783	C
1	1	1788	A
1	1	1789	G
1	1	1790	A
1	1	1792	G
1	1	1794	C
1	1	1798	C
1	1	1800	A
1	1	1809	A
1	1	1811	C
1	1	1813	A
1	1	1817	G
1	1	1819	A
1	1	1823	A
1	1	1824	A
1	1	1825	A
1	1	1826	G
1	1	1827	U
1	1	1829	G
1	1	1831	A
1	1	1832	A
1	1	1833	C
1	1	1834	A
1	1	1835	A
1	1	1836	G
1	1	1837	G
1	1	1838	U
1	1	1839	U
1	1	1841	C
1	1	1843	G

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Mol	Chain	Res	Type
1	1	1844	U
1	1	1846	G
1	1	1847	G
1	1	1849	G
1	1	1850	A
1	1	1851	A
1	1	1852	C
1	1	1856	C
1	1	1857	G
1	1	1860	A
1	1	1861	G
1	1	1862	G
1	1	1863	A
1	1	1864	U
1	1	1865	C
1	1	1866	A
1	1	1867	U
1	1	1868	U
1	1	1869	A

All (152) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	24	C
1	1	44	U
1	1	61	A
1	1	64	A
1	1	66	G
1	1	68	A
1	1	77	A
1	1	78	C
1	1	102	A
1	1	111	A
1	1	113	G
1	1	124	U
1	1	131	C
1	1	136	C
1	1	139	C
1	1	140	C
1	1	147	A
1	1	162	C
1	1	181	A

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Mol	Chain	Res	Type
1	1	183	G
1	1	199	C
1	1	200	G
1	1	207	G
1	1	209	A
1	1	227	U
1	1	304	C
1	1	307	G
1	1	308	G
1	1	310	C
1	1	312	G
1	1	317	C
1	1	319	C
1	1	332	G
1	1	338	G
1	1	356	C
1	1	363	A
1	1	368	U
1	1	370	G
1	1	383	G
1	1	399	C
1	1	428	U
1	1	448	A
1	1	465	A
1	1	475	C
1	1	486	A
1	1	487	U
1	1	501	C
1	1	517	C
1	1	544	G
1	1	546	G
1	1	547	G
1	1	558	G
1	1	577	U
1	1	578	C
1	1	589	G
1	1	590	A
1	1	593	C
1	1	604	A
1	1	656	G
1	1	662	G
1	1	671	A

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Mol	Chain	Res	Type
1	1	687	C
1	1	743	U
1	1	799	U
1	1	811	A
1	1	821	G
1	1	822	U
1	1	833	C
1	1	834	C
1	1	840	C
1	1	899	U
1	1	913	A
1	1	970	G
1	1	971	G
1	1	1015	U
1	1	1016	U
1	1	1020	A
1	1	1021	U
1	1	1043	G
1	1	1060	A
1	1	1088	U
1	1	1108	G
1	1	1114	U
1	1	1115	U
1	1	1138	C
1	1	1150	A
1	1	1164	G
1	1	1198	G
1	1	1215	C
1	1	1242	U
1	1	1247	C
1	1	1250	A
1	1	1253	A
1	1	1257	G
1	1	1259	A
1	1	1261	C
1	1	1264	C
1	1	1277	C
1	1	1285	G
1	1	1301	A
1	1	1307	U
1	1	1308	U
1	1	1311	C

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Mol	Chain	Res	Type
1	1	1313	A
1	1	1326	U
1	1	1342	U
1	1	1351	G
1	1	1362	U
1	1	1401	A
1	1	1404	U
1	1	1406	G
1	1	1411	G
1	1	1456	G
1	1	1476	A
1	1	1477	U
1	1	1494	U
1	1	1497	G
1	1	1508	A
1	1	1520	G
1	1	1534	C
1	1	1542	C
1	1	1543	U
1	1	1555	U
1	1	1556	A
1	1	1578	U
1	1	1586	U
1	1	1603	G
1	1	1624	U
1	1	1631	U
1	1	1635	C
1	1	1637	A
1	1	1638	G
1	1	1644	C
1	1	1648	G
1	1	1654	G
1	1	1655	C
1	1	1673	U
1	1	1697	A
1	1	1698	C
1	1	1700	C
1	1	1721	U
1	1	1781	A
1	1	1823	A
1	1	1824	A
1	1	1830	U

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Mol	Chain	Res	Type
1	1	1833	C
1	1	1834	A
1	1	1836	G
1	1	1848	U
1	1	1860	A
1	1	1862	G
1	1	1867	U

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 [i](#)

There are no chain breaks in this entry.

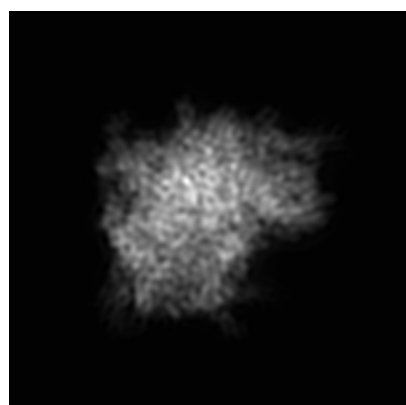
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-2810. These allow visual inspection of the internal detail of the map and identification of artifacts.

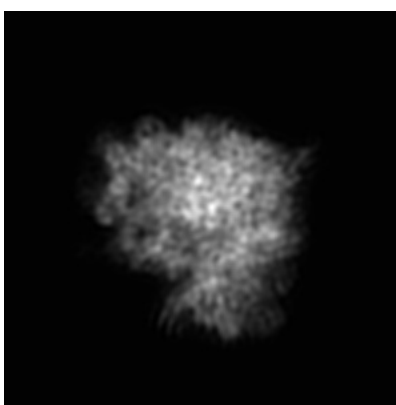
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

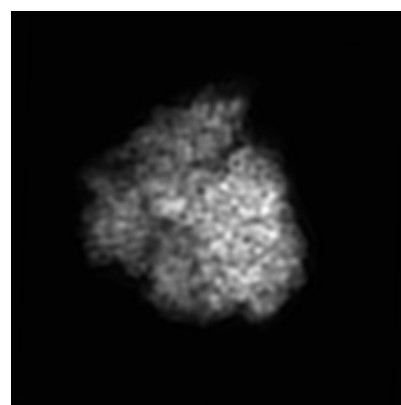
6.1.1 Primary map



X



Y

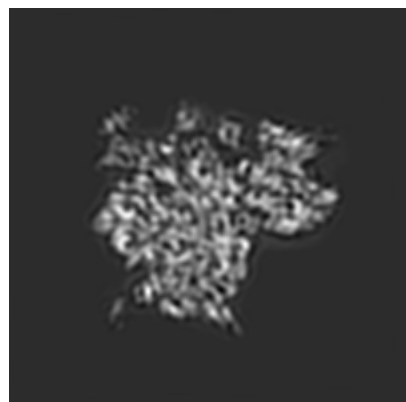


Z

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

6.2 Central slices [i](#)

6.2.1 Primary map



X Index: 150



Y Index: 150



Z Index: 150

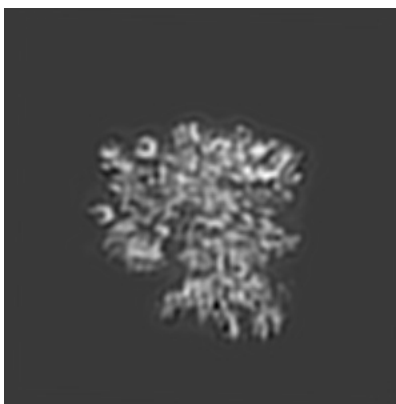
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 173



Y Index: 149

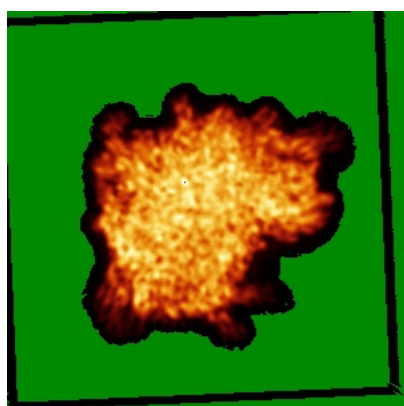


Z Index: 154

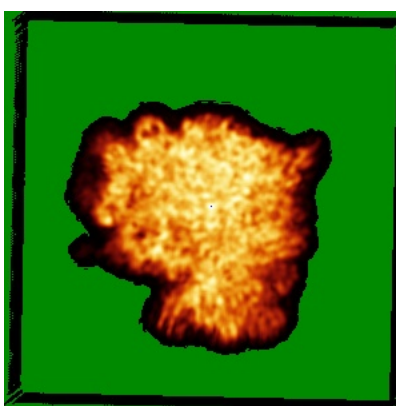
The images above show the largest variance slices of the map in three orthogonal directions.

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

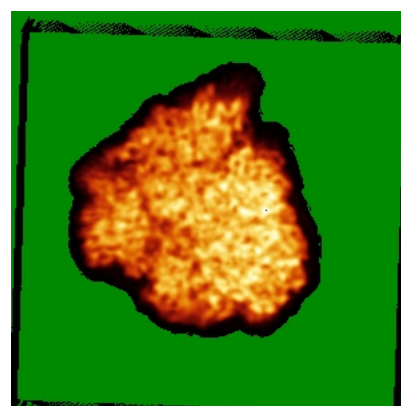
6.4.1 Primary map



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

This section was not generated.

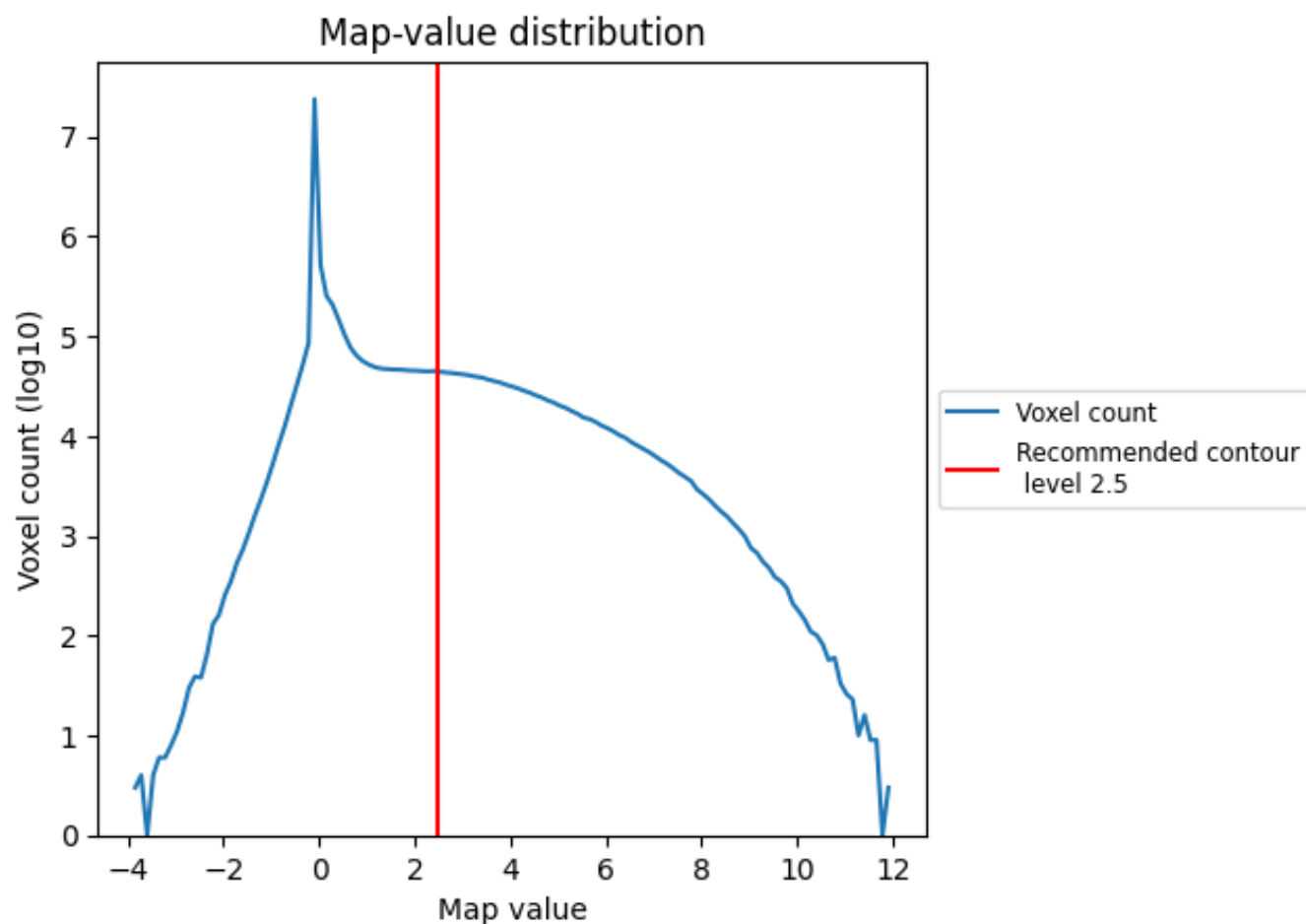
6.6 Mask visualisation

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

7 Map analysis [i](#)

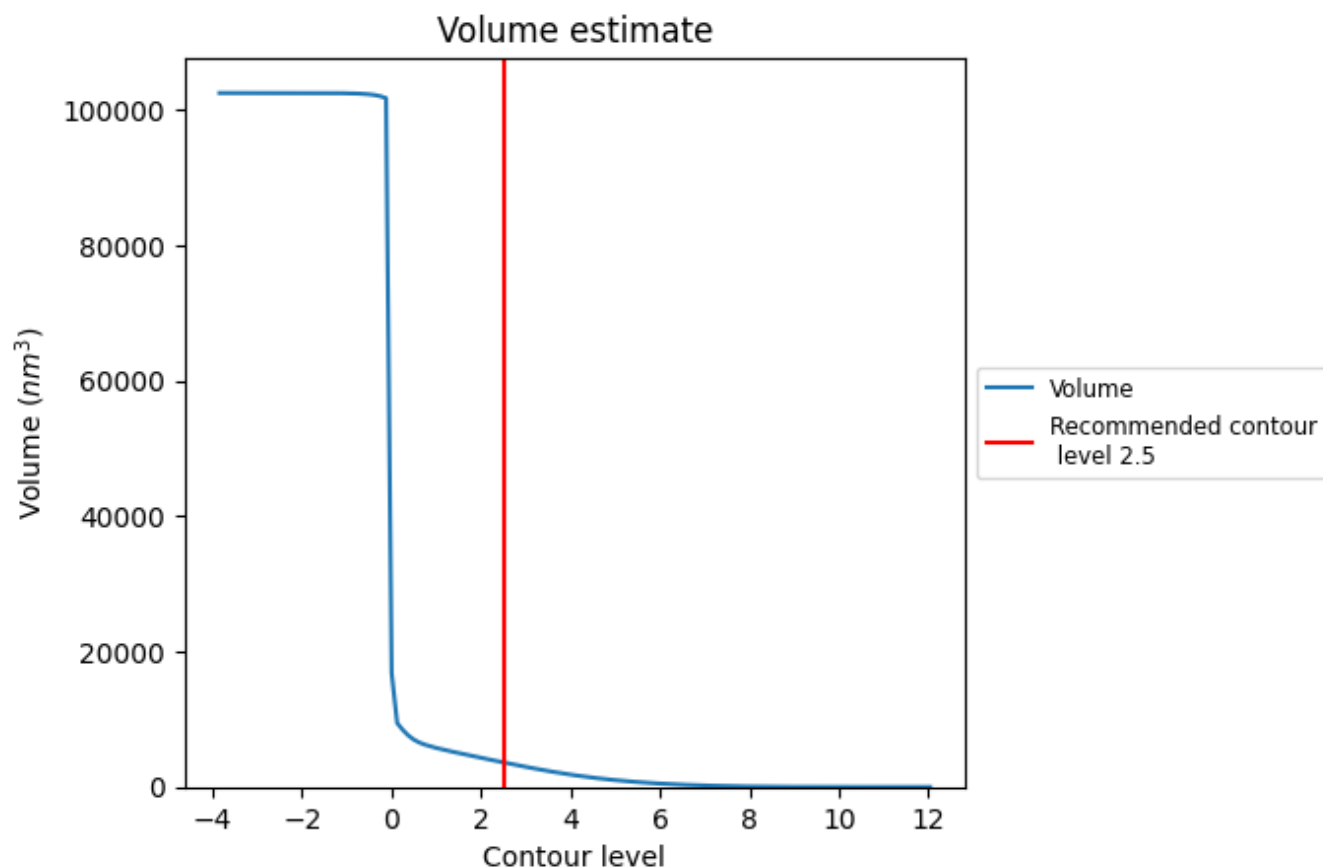
This section contains the results of statistical analysis of the map.

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.

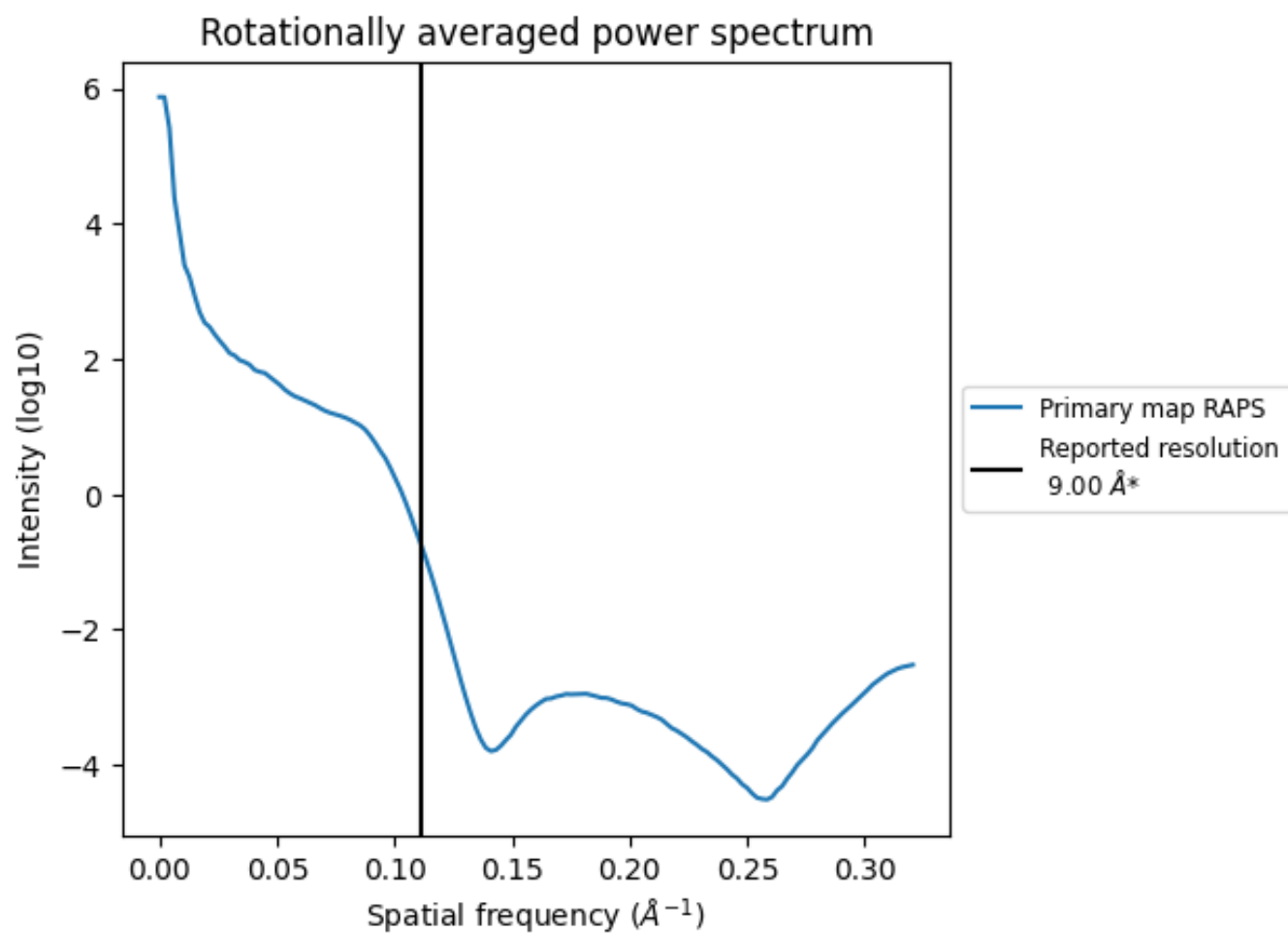
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3628 nm^3 ; this corresponds to an approximate mass of 3277 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 ⓘ



*Reported resolution corresponds to spatial frequency of 0.111 Å⁻¹

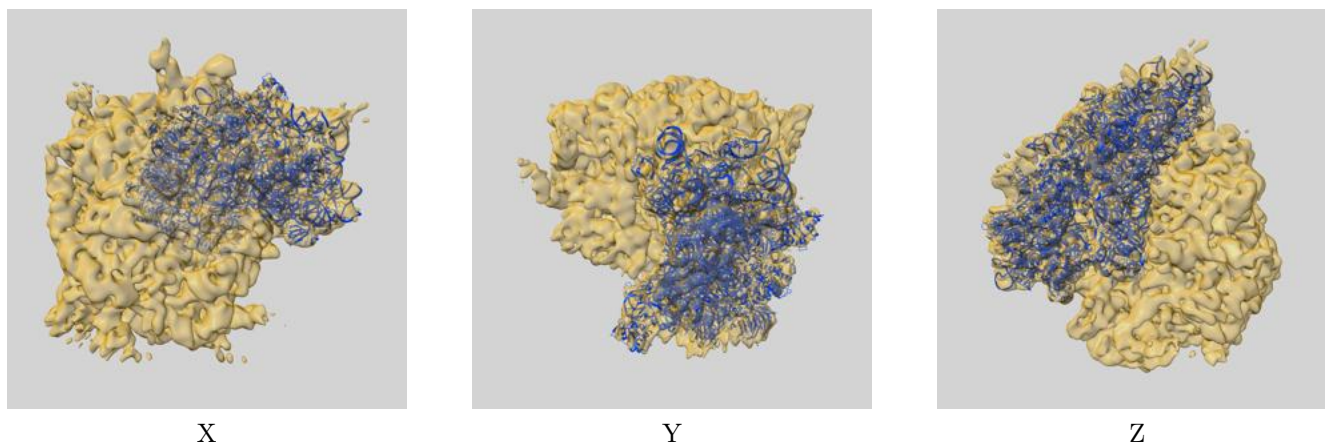
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

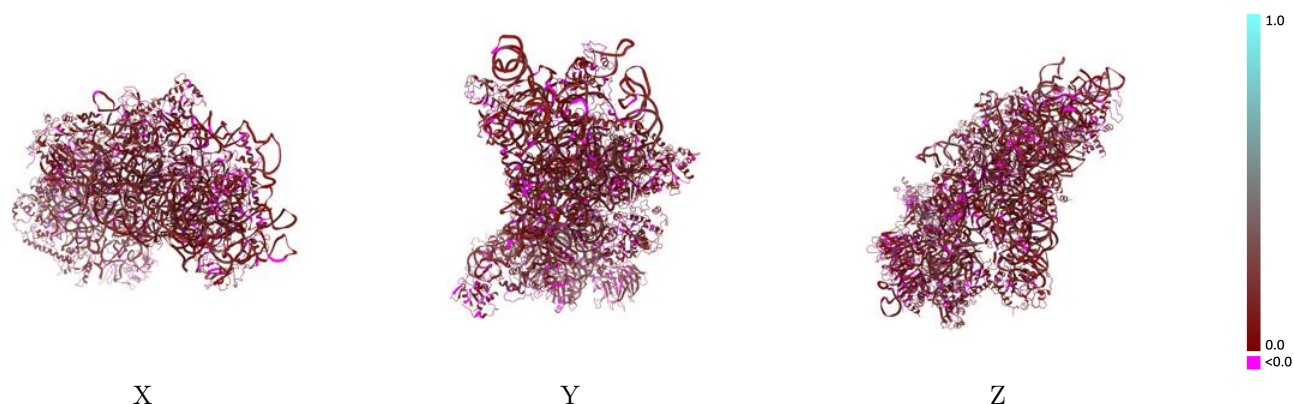
This section contains information regarding the fit between EMDB map EMD-2810 and PDB model 4D5L. Per-residue inclusion information can be found in section [3](#) on page [10](#).

9.1 Map-model overlay [i](#)



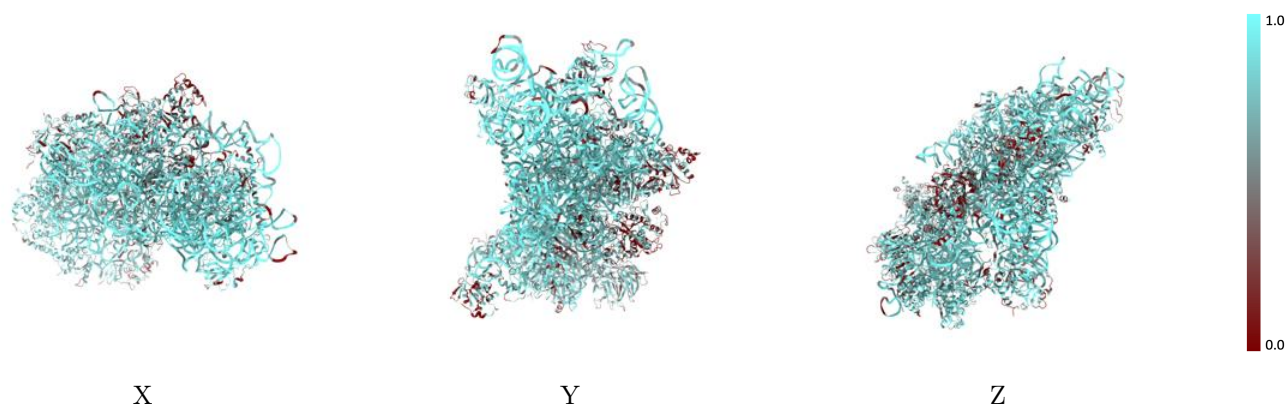
The images above show the 3D surface view of the map at the recommended contour level 2.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



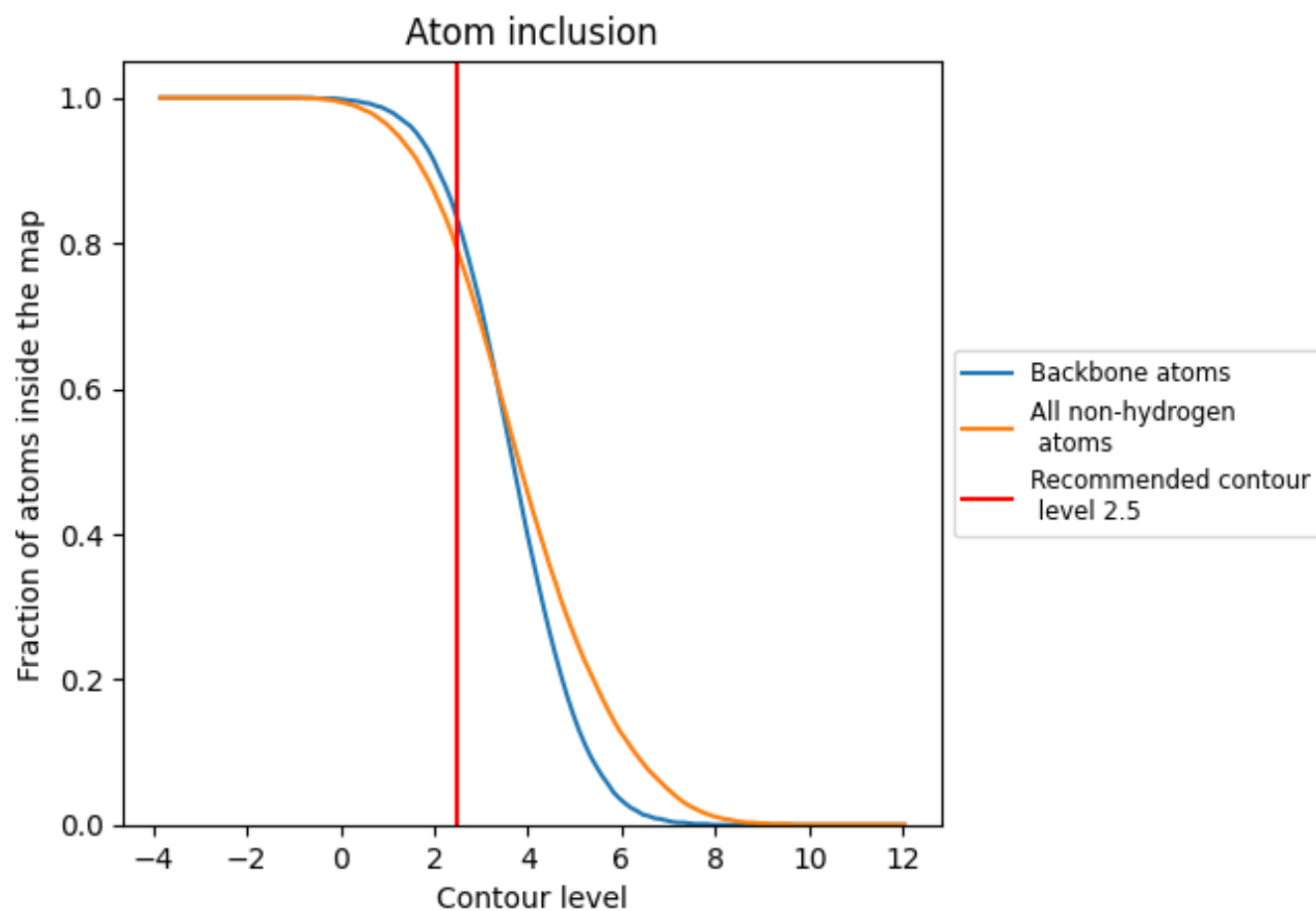
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (2.5).

9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 79% 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 (2.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7890	 0.1090
1	 0.9130	 0.1300
A	 0.4630	 0.0870
B	 0.7130	 0.1180
C	 0.5850	 0.1000
D	 0.6490	 0.0960
E	 0.7460	 0.0850
F	 0.7590	 0.1020
G	 0.8000	 0.0860
H	 0.4120	 0.0890
I	 0.6990	 0.0840
J	 0.7900	 0.0940
K	 0.7740	 0.0990
L	 0.6190	 0.0850
M	 0.4350	 0.0490
N	 0.6890	 0.1010
O	 0.6840	 0.0880
P	 0.7300	 0.1050
Q	 0.7810	 0.0790
R	 0.5800	 0.0950
S	 0.7630	 0.0980
T	 0.7910	 0.0900
U	 0.6140	 0.0550
V	 0.3070	 0.0670
W	 0.6500	 0.0720
X	 0.6990	 0.0900
Y	 0.8120	 0.0920
Z	 0.8360	 0.1260
a	 0.6580	 0.0570
b	 0.6180	 0.0960
c	 0.6850	 0.0880
d	 0.8100	 0.0640
e	 0.5950	 0.0640
f	 0.5510	 0.0420
g	 0.6050	 0.0890

