



Full wwPDB EM Validation Report ⓘ

Sep 8, 2025 – 02:29 PM JST

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

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

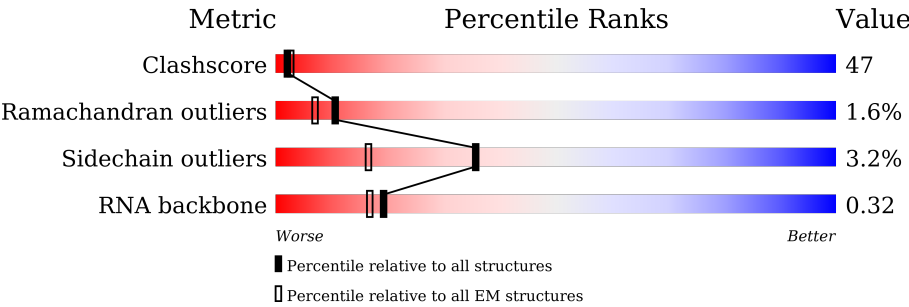
EMDB validation analysis : 0.0.1.dev126
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.45.1

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



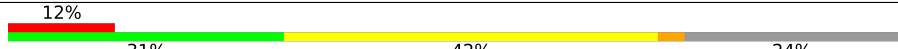
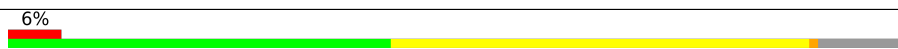
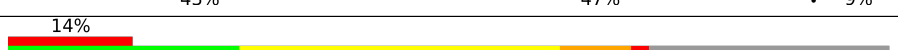
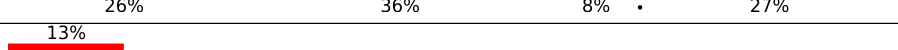
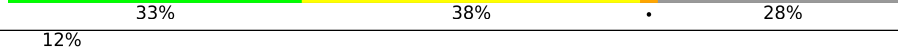
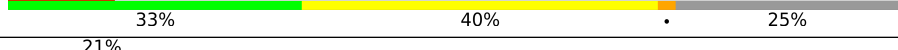
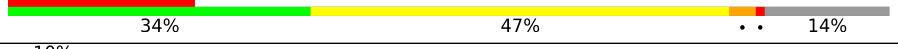
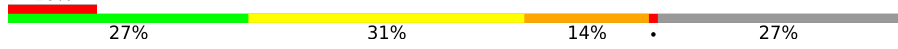
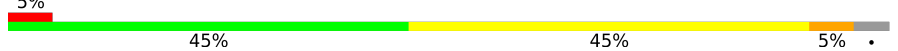
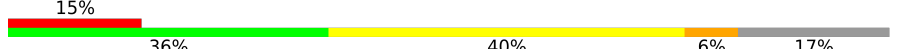
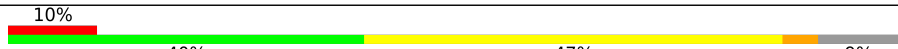
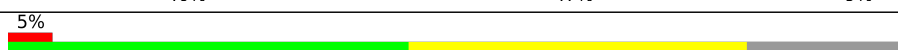
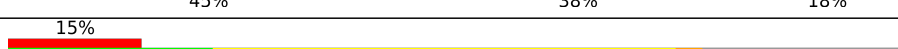
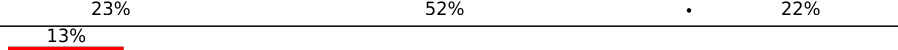
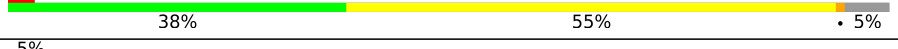
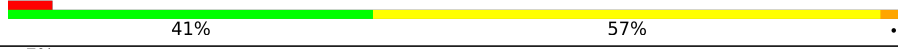
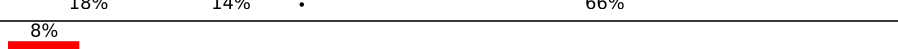
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	2810	11% 29% 44% 27%
2	C	106	6% 9% 48% 38% • •
3	B	121	• 12% 43% 41% •
4	L	191	• 35% 39% • • 23%
5	M	121	17% 51% 48% •
6	N	192	9% 28% 51% 11% • 8%
7	O	135	16% 42% 55% • •

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Mol	Chain	Length	Quality of chain
8	P	116	
9	Q	123	
10	R	156	
11	S	127	
12	T	201	
13	U	199	
14	V	122	
15	W	145	
16	X	137	
17	Y	77	
18	Z	109	
19	E	271	
20	b	56	
21	c	65	
22	d	60	
23	e	73	
24	f	37	
25	F	221	
26	G	243	
27	H	220	
28	I	182	
29	J	155	
30	g	142	
31	a	94	
32	h	116	

2 Entry composition

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

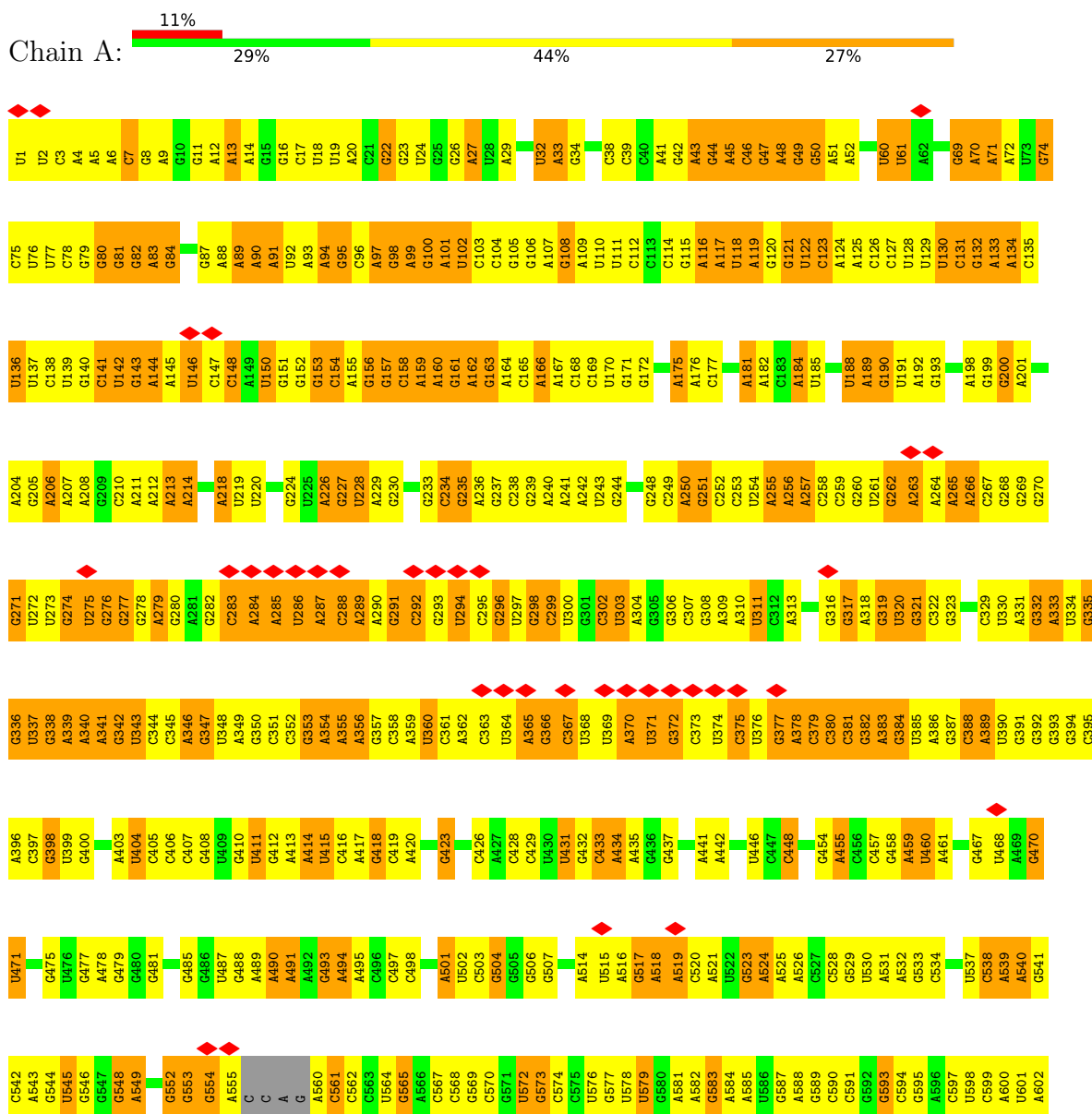
- Molecule 32 is a protein called 50S ribosomal protein 6, chloroplastic.

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

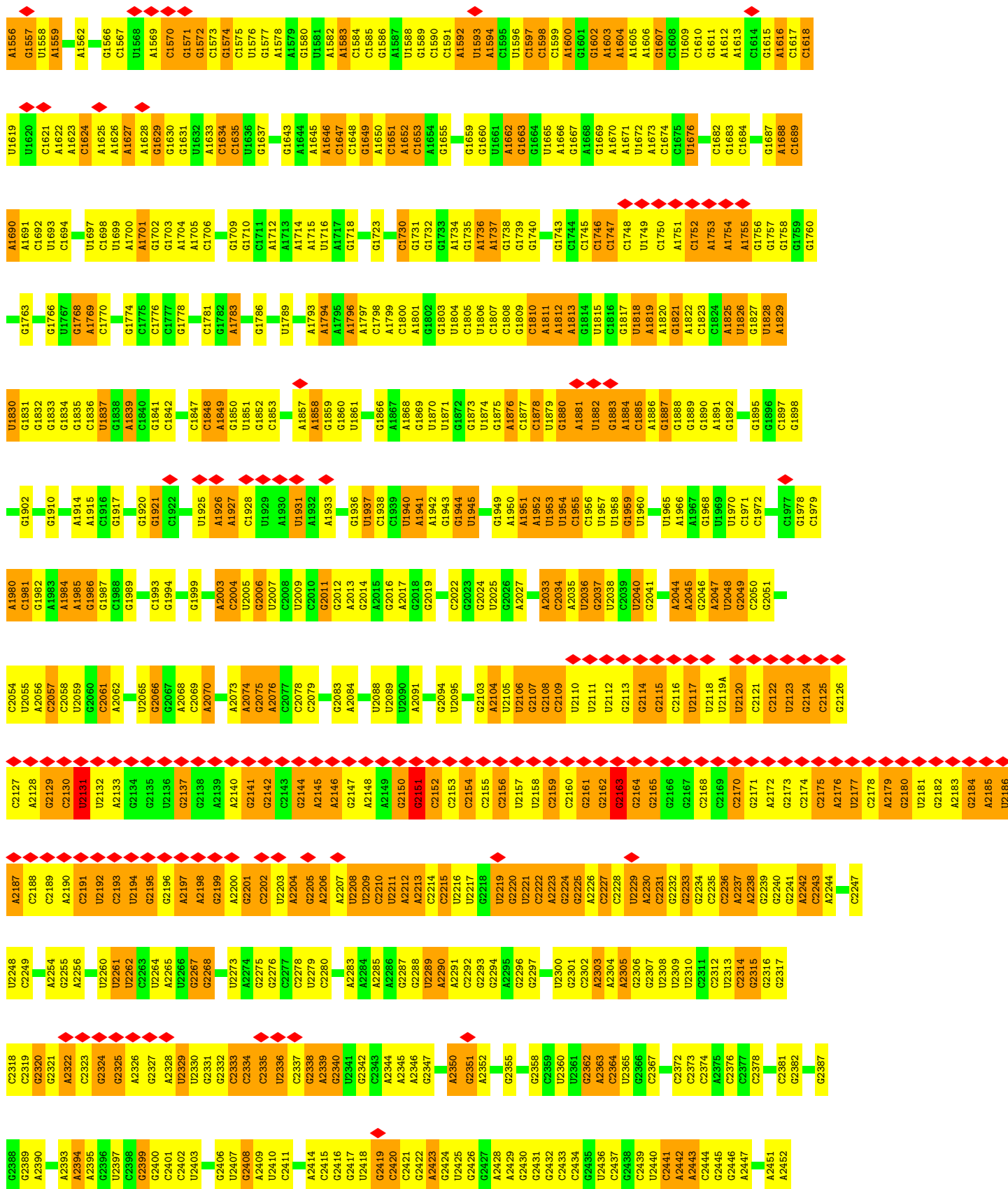
3 Residue-property plots

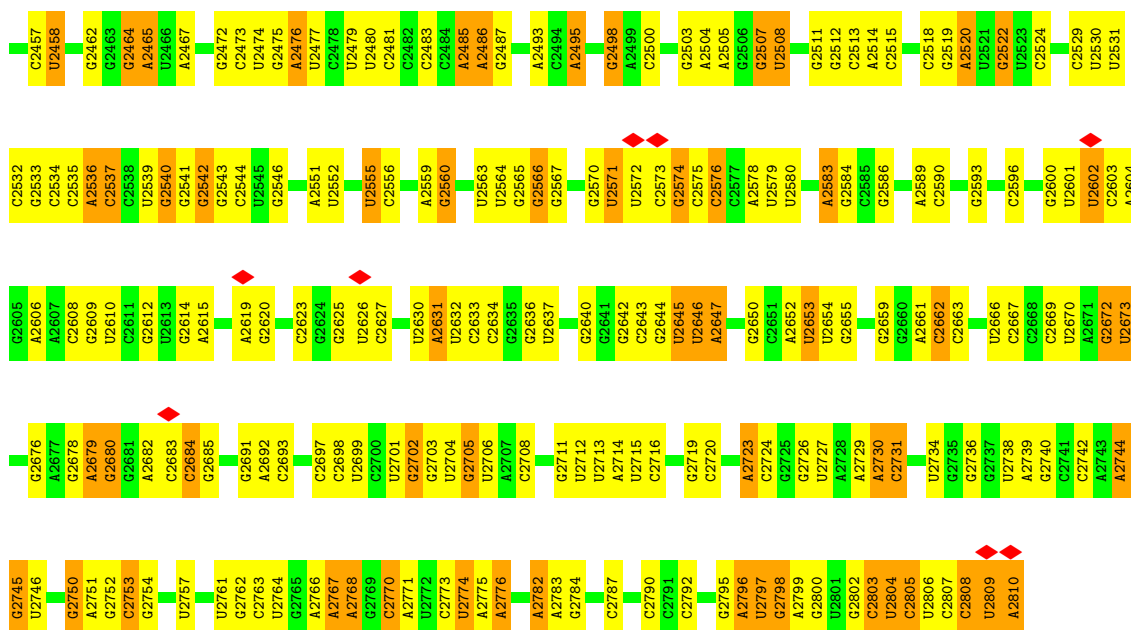
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: 23S rRNA

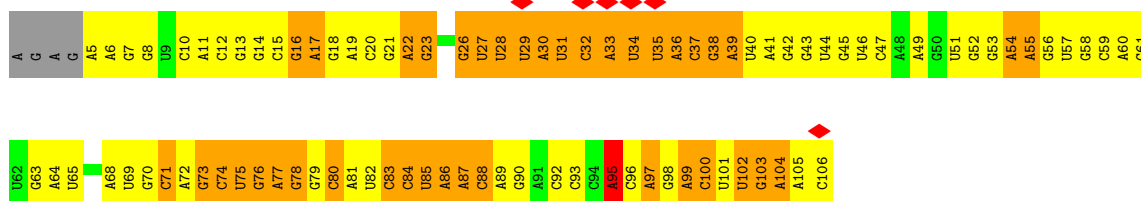


A1496	G603	U880	U942	G1070	C1130	U1193	C1338	C1428	A1496
A1497	G604	U881	C943	C1071	A1007	G1194	C1339	C1429	A1497
G1498	C805	U882	C944	A1072	A1008	G1195	C1340	C1430	G1498
G1499	C806	U883	C945	G1073	A1009	A1196	C1341	C1431	G1499
U1500	C807	U884	A946	A1074	C1010	A1197	A1342	C1432	U1500
G1501	U608	G885	A945	G1075	C1011	A1198	A1343	C1433	G1501
A1502	G609	U886	A947	G1076	G1012	A1199	G1344	C1434	A1502
C1503	G610	G887	U948	A1077	C1013	A1200	U1345	C1435	C1503
G1504	G611	C823	A949	A1078	G1016	A1201	U1346	U1436	G1504
C1505	U612	U824	A950	C1079	G1017	A1202	G1338	U1437	C1505
U1506	U613	U825	C951	C1080	G1018	A1203	A1139	G1438	U1506
G1507	G614	C826	A952	G1081	U1019	G1204	C1141	U1275	G1507
U	G615	G883	A953	A1082	C1020	G1205	G1142	A1276	U
U	U616	C827	G954	G1083	A1021	U1028	C1143	U1277	U
U	U617	G885	G955	G1084	C1022	A1032	C1144	G1278	U
U	A618	A886	G956	G1085	C1023	A1033	C1145	U1279	U
U	A619	A887	U957	G1086	A1024	U1034	C1146	G1280	U
U	G620	C888	C958	U958	G1025	C1035	U1147	A1281	U
U	U621	U889	A959	A959	A1028	A1036	U1148	G1282	U
A	A622	U890	U960	U960	A1029	U1037	G1150	U1283	A
G1515	A623	U891	G961	G961	G1030	G962	G1151	U1284	G1515
G1516	A624	G892	U963	U963	C1031	U964	G1152	U1285	G1516
G1517	C825	G893	U965	G900	C1032	U965	G1153	U1286	G1517
U1518	C826	U894	G966	C901	C1033	C1034	A1154	U1287	U1518
A1519	C827	G895	C967	G902	C1034	A1155	G1155	U1288	A1519
A1520	A628	U896	U967	G903	U1035	A1156	A1157	U1289	A1520
A1521	C829	C898	U968	G904	U1036	G1157	U1158	U1290	A1521
A1522	C830	G706	U969	U904	A1037	G1158	G1159	U1291	A1522
A1523	G631	G712	A774	A905	A1038	U970	A1160	U1292	A1523
A1524	G632	A713	A775	C906	A1039	U971	A1161	U1293	A1524
A1525	G633	G714	G781	C907	U1040	G972	C1162	U1294	A1525
A1526	G634	U715	G782	U908	A1041	A973	G1163	U1295	A1526
G1527	C835	G716	G785	A909	G1042	G974	G1164	U1296	G1527
U1528	C836	A717	A786	A910	C1043	A975	G1165	U1297	U1528
A1529	C837	G718	G787	C912	G1044	G976	G1166	U1298	A1529
G1530	C838	C719	G788	U911	U1045	G977	C1167	U1299	G1530
A1531	G640	U721	G789	C913	C1046	U978	U1168	U1300	A1531
G1532	A641	G722	G790	G915	U1047	U979	A1169	U1301	G1532
A1533	G642	U723	G791	A918	C1048	G980	G1170	U1302	A1533
A1534	A643	G724	G792	C917	A1049	G981	C1171	U1303	A1534
A1535	A644	U725	G793	A919	U1050	G982	G1172	U1304	A1535
A1536	A645	G726	A805	C918	C1051	G983	C1173	U1305	A1536
U1537	G648	C807	C806	A919	G1052	U984	G1174	U1306	U1537
G1538	A649	U871	U800	A920	U1053	U985	U1175	U1307	G1538
C1539	G650	C802	C802	U921	A1054	U986	C1176	U1308	C1539
C1540	C852	G724	C803	U922	U1055	A987	U1177	U1309	C1540
U1541	U654	U725	G803	C923	A1056	U988	G1178	U1310	U1541
C1542	U657	U726	A804	U924	U1057	C993	U1179	U1311	C1542
G1543	A858	G727	A805	A927	G1060	A994	U1180	A1182	G1543
U1544	G659	U728	C806	U928	G1061	G1062	G1181	A1183	U1544
G1545	G660	A728	C807	A932	U1063	U1064	U1182	G1184	G1545
C1546	C861	C807	C807	G933	U1065	G1066	U1183	C1185	C1546
A1547	G662	A729	A811	A934	G1067	U1069	U1184	U1186	A1547
U1548	A663	C730	G812	U935	U1068	U1069	U1185	G1187	U1548
G1551	A664	U731	C813	U936	U1069	U1069	U1186	U1188	G1551
U1552				U937			U1187	U1189	U1552
C1553				G938			U1188	G1189	C1553
G1555				C941			U1189	A1192	G1555

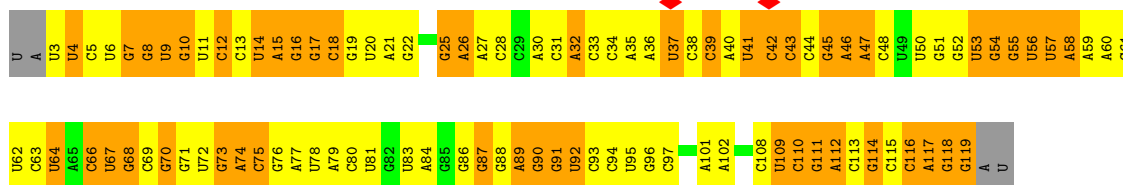




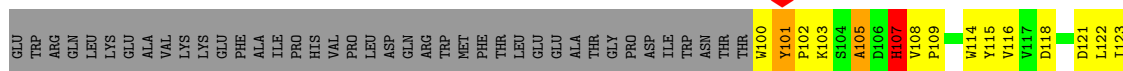
- Molecule 2: Spinach chloroplast 4.5S rRNA

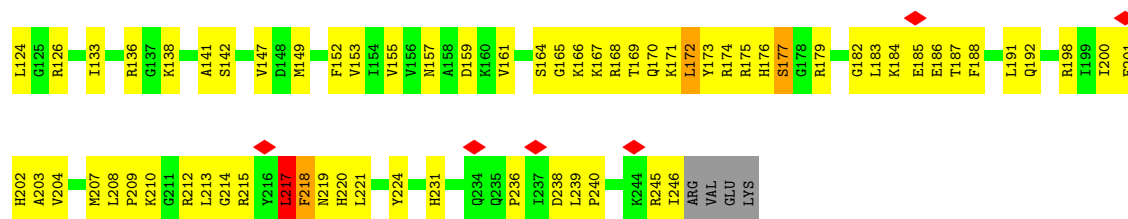


- Molecule 3: 5S rRNA

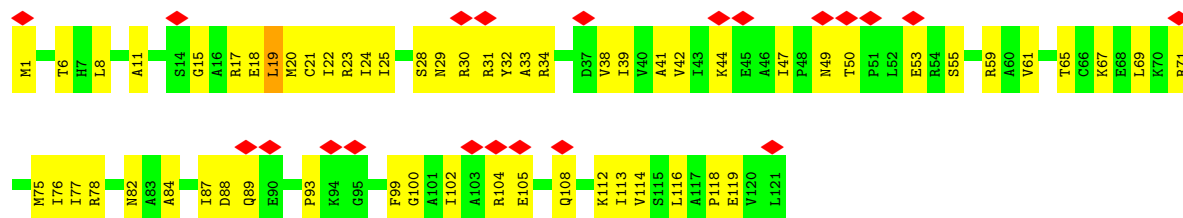


- Molecule 4: 50S ribosomal protein L13, chloroplastic

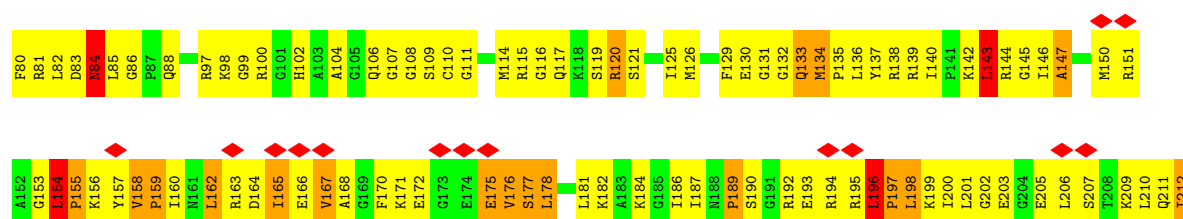




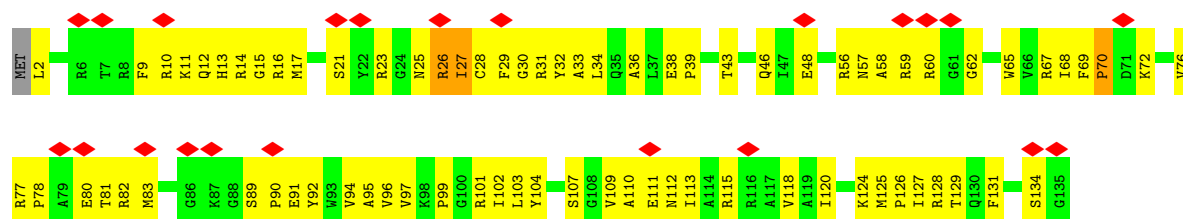
• Molecule 5: 50S ribosomal protein L14, chloroplastic



• Molecule 6: 50S ribosomal protein L15

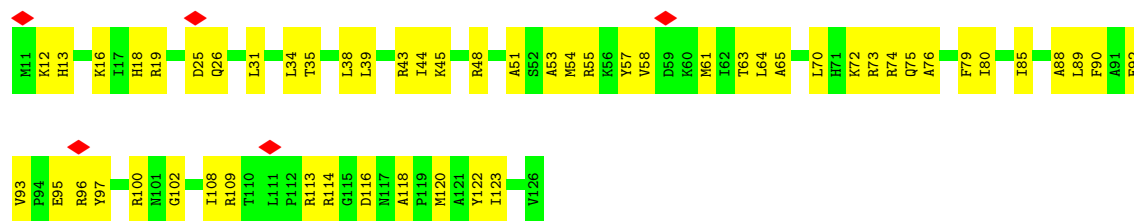


• Molecule 7: 50S ribosomal protein L16, chloroplastic

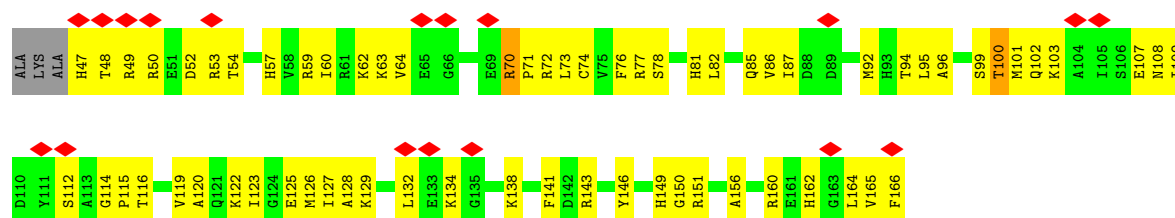


• Molecule 8: 50S ribosomal protein L17

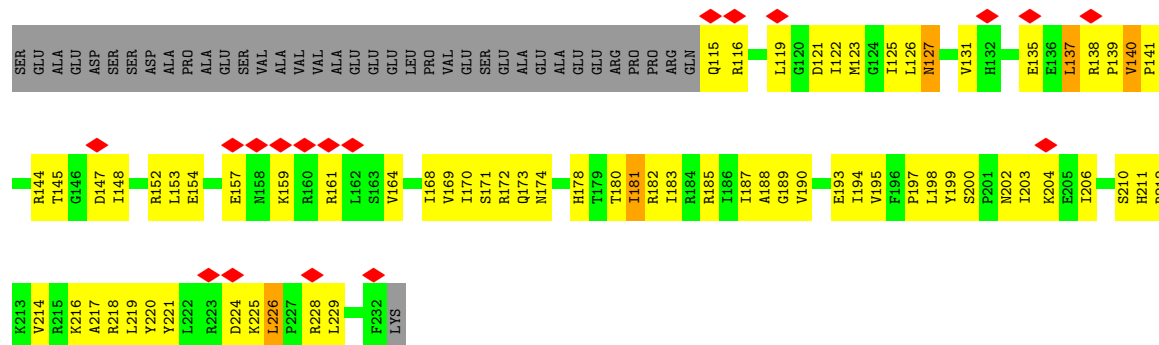




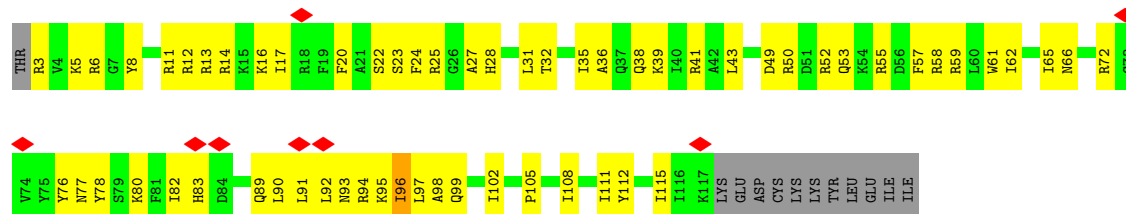
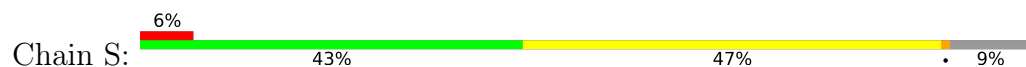
• Molecule 9: 50S ribosomal protein L18



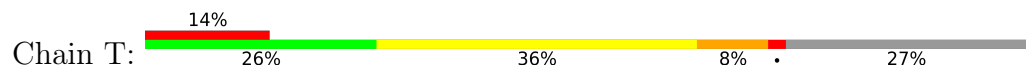
• Molecule 10: 50S ribosomal protein L19, chloroplastic

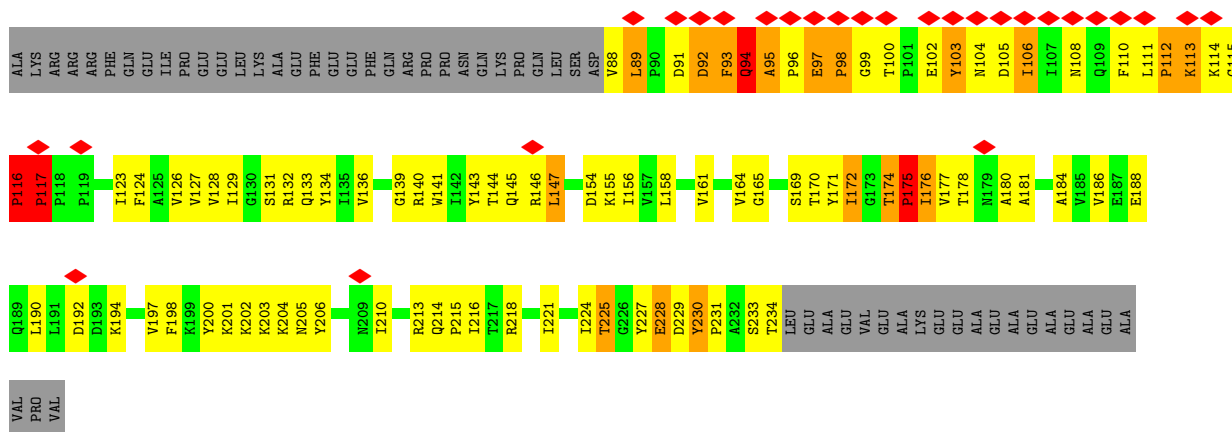


• Molecule 11: 50S ribosomal protein L20, chloroplastic

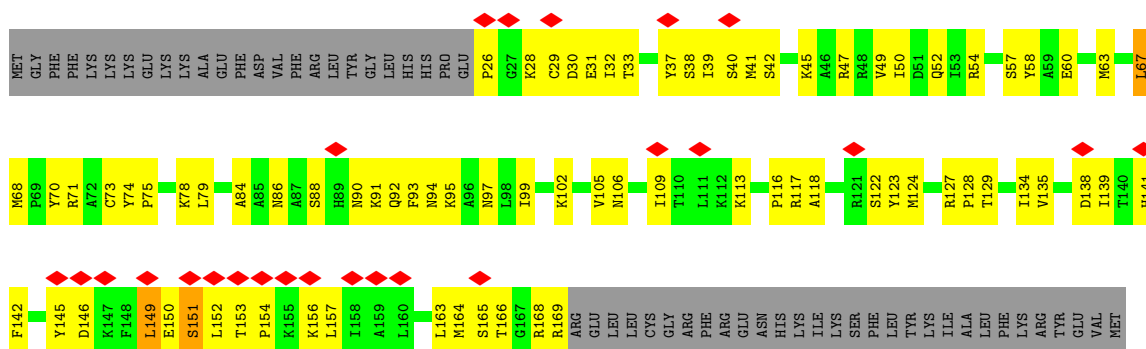


• Molecule 12: 50S ribosomal protein L21, chloroplastic

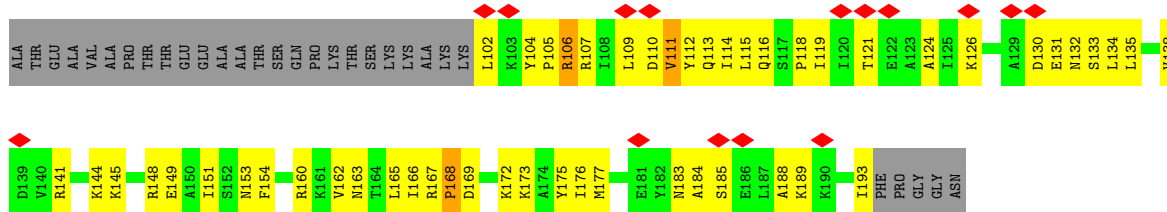




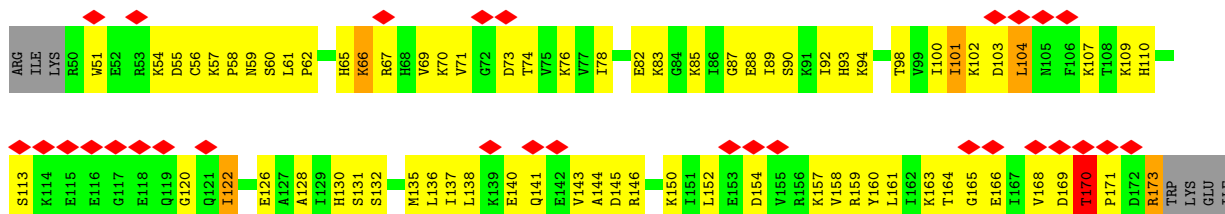
• Molecule 13: 50S ribosomal protein L22, chloroplastic



• Molecule 14: 50S ribosomal protein L23, chloroplastic



• Molecule 15: 50S ribosomal protein L24, chloroplastic



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

• Molecule 16: 50S ribosomal protein L27

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

ALA HIS LYS LYS GLY ALA GLY SER
T66 K67 N68 G69 R70 D71 S72 K73 G74 Q75 R76 L77 G78 V79 K80 I81 Y82 Q85 V86 A87 LYS
Y138 P139 R140 I74 E64 I41 I42 Q143 P144 E145 N146 P147 N148 A152 R153 K154 R155 E156 N157 F158 R159 L160 Q161 R162 E163 K164 K165
ALA ARG ARG GLU TYR PHE GLN PRO GLN LEU ILE LEU ALA SER ALA ALA THR ASP ASN ALA ASP GLU SER VAL CYS

• Molecule 17: 50S ribosomal protein L28

Chain Y: 5% 45% 45% 5%

R72 R73 C75 T78 G79 K80 K81 S82 N83 R87 N92 R93 K94 T95 K96 R97 L98 Q99 F100 V101 N102 L103 K106 R107 R115 F116 V117 R120 L121 S122 T123 K124 A125 L126 K127 T128 I129 E130 K131 N132 G133 V137 A138 G142 I143 D144 L145 ARG LYS GLU

• Molecule 18: 50S ribosomal protein L29

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

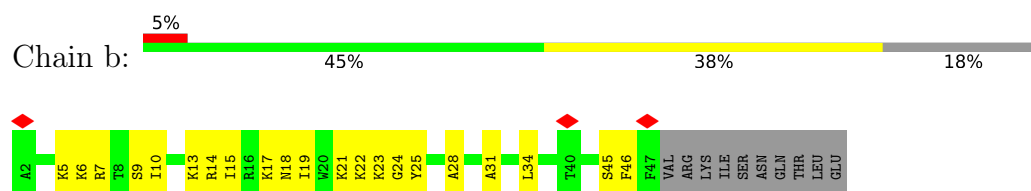
LYS LYS D63 E64 L65 L68 T72 W73 E74 Q75 L76 W77 E78 E79 L83 E86 L87 F88 M89 V101 N102 L103 K106 R107 R115 F116 V117 R120 L121 S122 T123 K124 A125 L126 K127 T128 I129 E130 K131 N132 G133 V137 A138 G142 I143 D144 L145 ARG LYS GLU
V128 G129 K130 R134 D137 K138 A139 W140 K141 R142 V146 R147 P148 P149 P150 S151 L152 LYS LYS LEU GLN GLU LYS ALA THR ALA GLU GLU GLU LYS ALA
V128 G129 K130 R134 D137 K138 A139 W140 K141 R142 V146 R147 P148 P149 P150 S151 L152 LYS LYS LEU GLN GLU LYS ALA THR ALA GLU GLU GLU LYS ALA

• Molecule 19: 50S ribosomal protein L2, chloroplastic

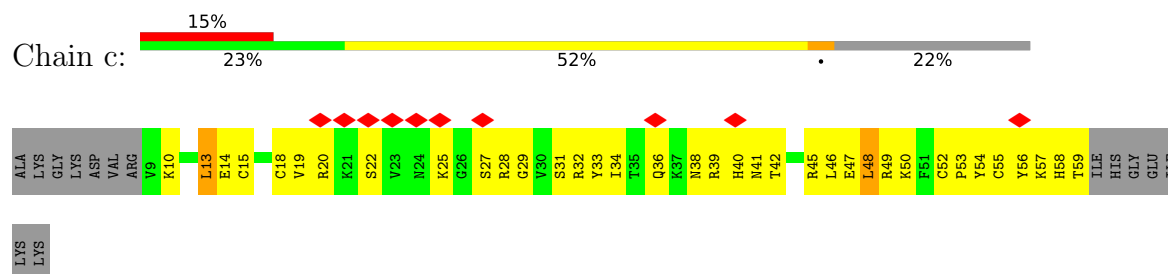
Chain E: 10% 40% 47% 9%

ALA ILE HIS LEU TYR LYS THR SER THR SER SER THR ARG ASN GLY VAL GLN VAL LYS SER N23 P24 R25 N26 I29 S30 G31 Q32 C35 G36 K37 G38 R39 N40 A41 R42 G43 I44 T45 T46 A47 R48 H49 R50 K55 R56 L57 Y58 R59 K60 I61 D62 F63 R64 R65 N66
E67 K68 D69 V75 T76 I77 D80 R83 N84 A85 Y86 I87 C88 L89 I90 H91 G95 E96 S97 R98 H102 P103 A106 V113 S114 G115 T116 E117 K121 M122 G123 N124 A125 L126 P127 T129 T130 M131 P132 L133 G134 T135 A136 I137 H138 M139 I140 F141 E141 I142 T143 L144
G145 R146 G147 G148 Q149 L150 A151 R152 A153 P227 G155 A156 V157 L160 L161 A162 K166 T169 L172 P173 S174 G175 E176 L179 I180 S181 K182 M183 C184 T187 Q190 V191 M197 Q198 K199 R200 L201 G202 R203 A204 G205 S206 W209 L210 G211 R212 K213 P214 V215 V216 T217
G218 V219 M220 M221 N222 P223 V224 H226 H228 G229 E232 P236 G238 R239 T243 T244 W246 G247 Y248 R253 R256 K257 R258 M259 K260 Y261 S262 D263 N264 F265 I266 I267 R268 R269 ARG SER LYS

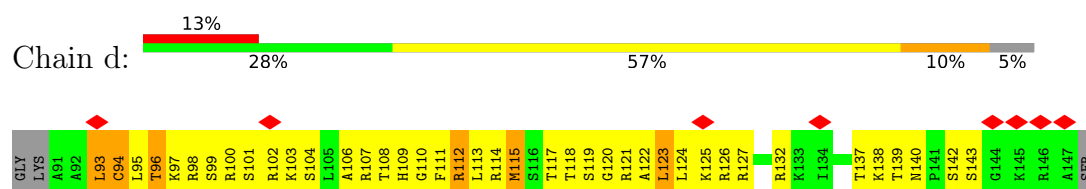
- Molecule 20: 50S ribosomal protein L32, chloroplastic



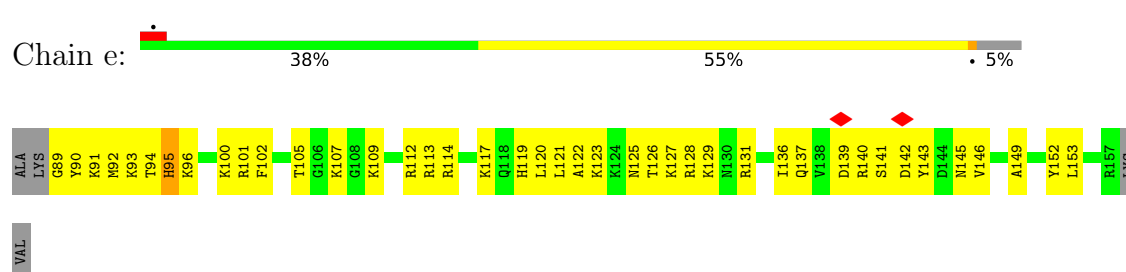
- Molecule 21: 50S ribosomal protein L33, chloroplastic



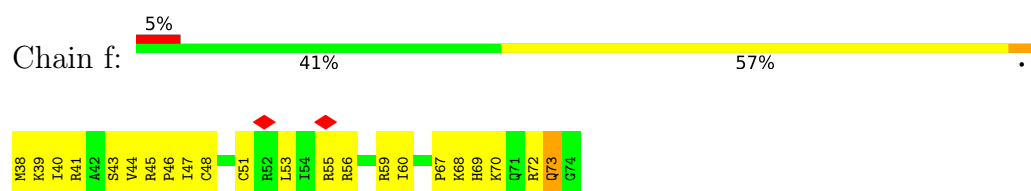
- Molecule 22: 50S ribosomal protein L34, chloroplastic



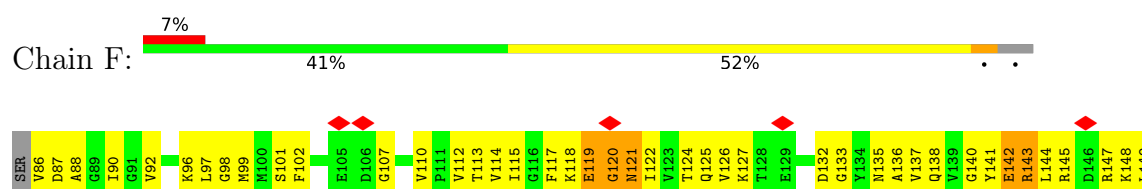
- Molecule 23: 50S ribosomal protein L35, chloroplastic

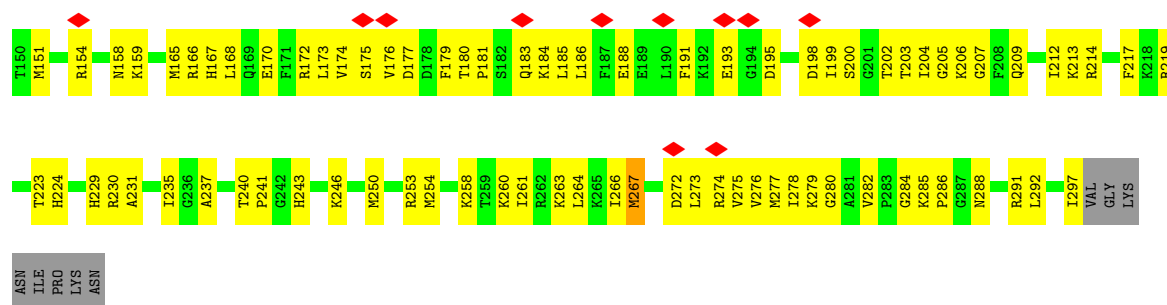


- Molecule 24: 50S ribosomal protein L36, chloroplastic

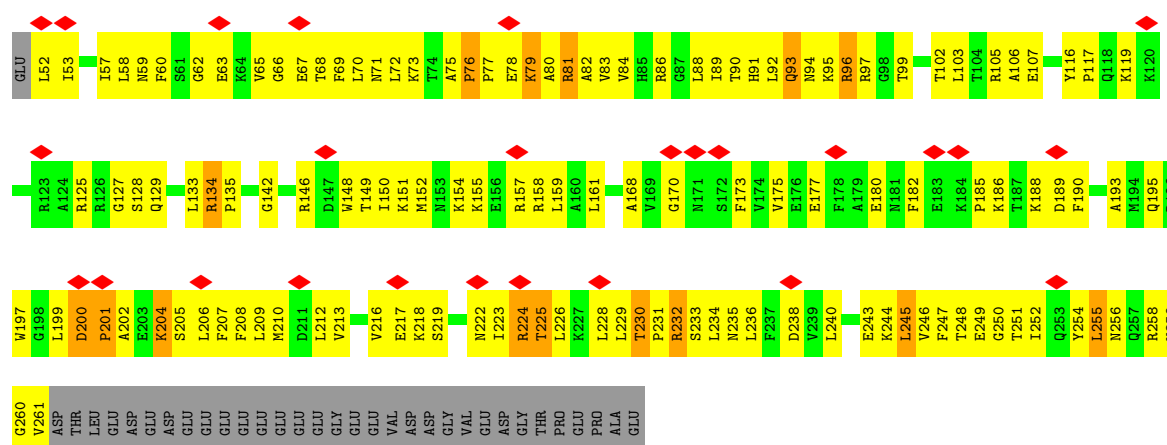


- Molecule 25: 50S ribosomal protein L3

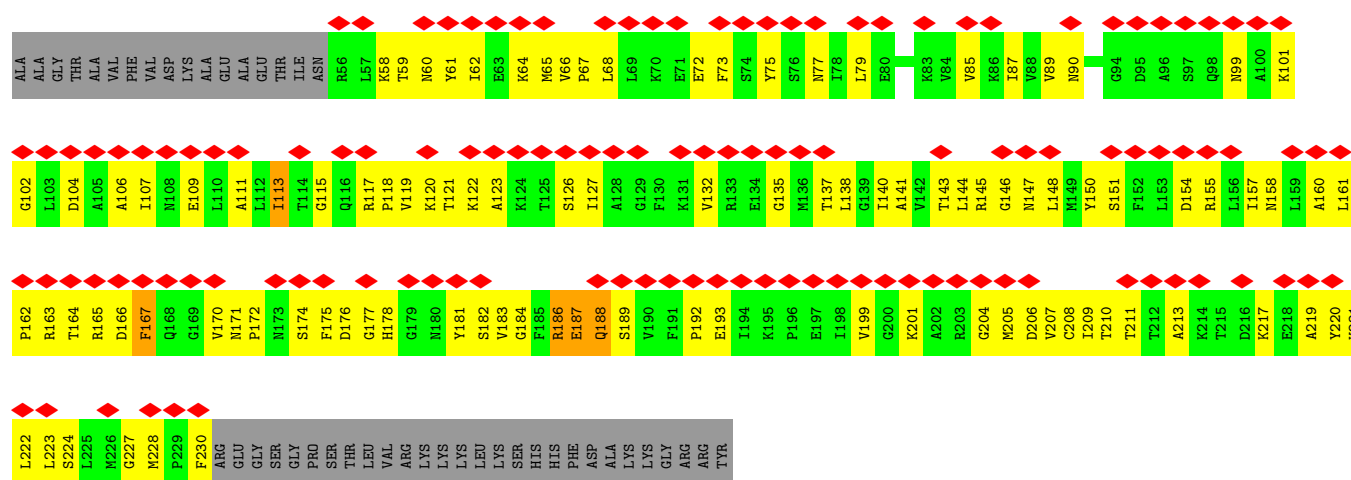




- Molecule 26: 50S ribosomal protein L4, chloroplastic

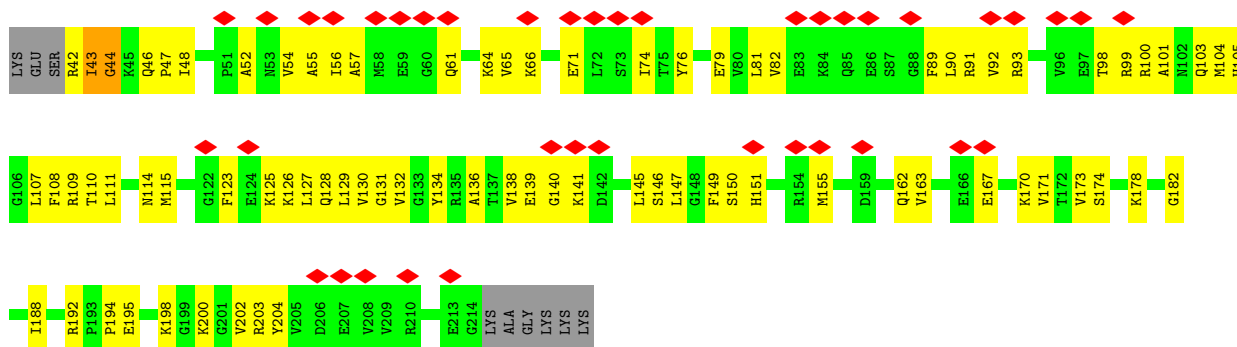


- Molecule 27: 50S ribosomal protein L5, chloroplastic

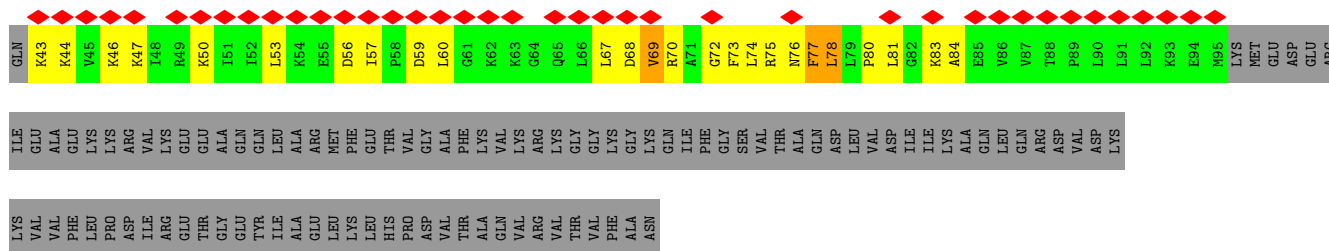


- Molecule 28: 50S ribosomal protein L6

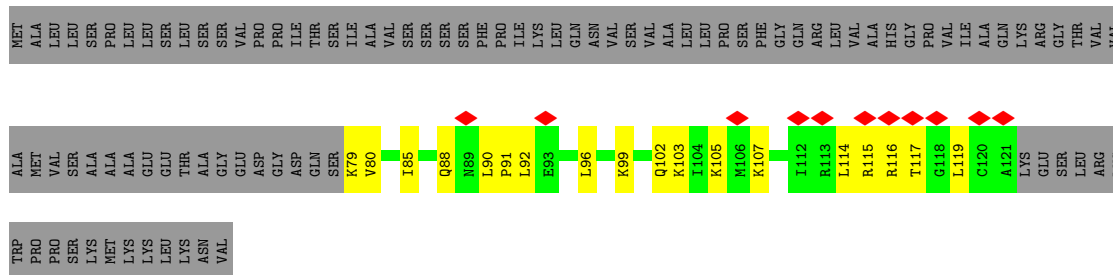




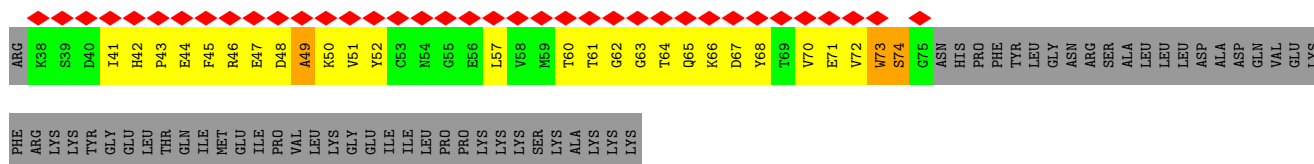
- Molecule 29: 50S ribosomal protein L9



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

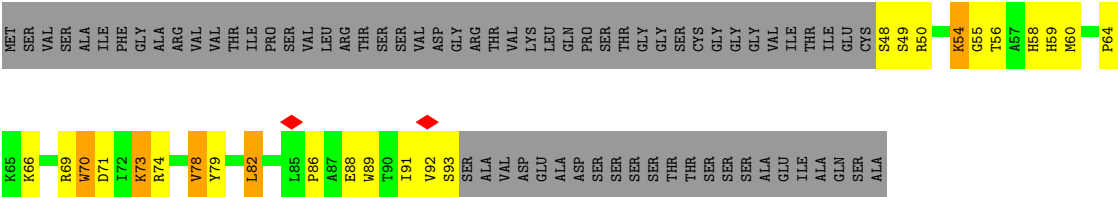


- Molecule 31: 50S ribosomal protein L31



- Molecule 32: 50S ribosomal protein 6, chloroplastic





4 Experimental information

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

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

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

All (28) bond length outliers are listed below:

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

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

All (93) bond angle outliers are listed below:

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

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

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

There are no chirality outliers.

All (16) planarity outliers are listed below:

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

5.2 Too-close contacts ⓘ

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

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

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

All (6942) close contacts within the same asymmetric unit are listed below, sorted by their clash

magnitude.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	L	145/191 (76%)	120 (83%)	21 (14%)	4 (3%)	4	27
5	M	119/121 (98%)	97 (82%)	22 (18%)	0	100	100
6	N	175/192 (91%)	156 (89%)	6 (3%)	13 (7%)	1	9
7	O	132/135 (98%)	107 (81%)	23 (17%)	2 (2%)	8	39
8	P	114/116 (98%)	96 (84%)	18 (16%)	0	100	100
9	Q	118/123 (96%)	99 (84%)	19 (16%)	0	100	100
10	R	116/156 (74%)	89 (77%)	26 (22%)	1 (1%)	14	49
11	S	113/127 (89%)	91 (80%)	22 (20%)	0	100	100
12	T	145/201 (72%)	108 (74%)	28 (19%)	9 (6%)	1	12
13	U	142/199 (71%)	117 (82%)	24 (17%)	1 (1%)	19	53

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	V	90/122 (74%)	79 (88%)	9 (10%)	2 (2%)	5	31
15	W	122/145 (84%)	95 (78%)	25 (20%)	2 (2%)	8	38
16	X	98/137 (72%)	87 (89%)	7 (7%)	4 (4%)	2	20
17	Y	72/77 (94%)	61 (85%)	11 (15%)	0	100	100
18	Z	88/109 (81%)	85 (97%)	3 (3%)	0	100	100
19	E	245/271 (90%)	187 (76%)	57 (23%)	1 (0%)	30	64
20	b	44/56 (79%)	35 (80%)	9 (20%)	0	100	100
21	c	49/65 (75%)	34 (69%)	15 (31%)	0	100	100
22	d	55/60 (92%)	47 (86%)	6 (11%)	2 (4%)	3	22
23	e	67/73 (92%)	50 (75%)	16 (24%)	1 (2%)	8	39
24	f	35/37 (95%)	30 (86%)	5 (14%)	0	100	100
25	F	210/221 (95%)	173 (82%)	37 (18%)	0	100	100
26	G	208/243 (86%)	166 (80%)	40 (19%)	2 (1%)	13	46
27	H	173/220 (79%)	145 (84%)	27 (16%)	1 (1%)	22	56
28	I	171/182 (94%)	142 (83%)	27 (16%)	2 (1%)	11	43
29	J	51/155 (33%)	41 (80%)	9 (18%)	1 (2%)	6	33
30	g	41/142 (29%)	36 (88%)	5 (12%)	0	100	100
31	a	36/94 (38%)	26 (72%)	9 (25%)	1 (3%)	4	27
32	h	44/116 (38%)	31 (70%)	12 (27%)	1 (2%)	5	31
All	All	3218/4086 (79%)	2630 (82%)	538 (17%)	50 (2%)	10	38

All (50) Ramachandran outliers are listed below:

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

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

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	L	125/165 (76%)	122 (98%)	3 (2%)	44	68
5	M	101/101 (100%)	98 (97%)	3 (3%)	36	63
6	N	135/144 (94%)	125 (93%)	10 (7%)	11	36
7	O	107/108 (99%)	105 (98%)	2 (2%)	52	73
8	P	96/96 (100%)	96 (100%)	0	100	100
9	Q	99/100 (99%)	99 (100%)	0	100	100
10	R	104/135 (77%)	100 (96%)	4 (4%)	28	57
11	S	102/114 (90%)	102 (100%)	0	100	100
12	T	129/174 (74%)	119 (92%)	10 (8%)	10	34
13	U	126/176 (72%)	124 (98%)	2 (2%)	58	76
14	V	81/103 (79%)	80 (99%)	1 (1%)	67	82
15	W	112/129 (87%)	108 (96%)	4 (4%)	30	59
16	X	85/111 (77%)	72 (85%)	13 (15%)	2	14
17	Y	64/67 (96%)	60 (94%)	4 (6%)	15	42
18	Z	83/97 (86%)	80 (96%)	3 (4%)	30	59
19	E	195/216 (90%)	187 (96%)	8 (4%)	26	55
20	b	39/49 (80%)	39 (100%)	0	100	100
21	c	48/59 (81%)	47 (98%)	1 (2%)	48	71
22	d	47/49 (96%)	44 (94%)	3 (6%)	14	41
23	e	59/62 (95%)	58 (98%)	1 (2%)	56	75
24	f	34/34 (100%)	34 (100%)	0	100	100
25	F	174/182 (96%)	170 (98%)	4 (2%)	45	69
26	G	176/205 (86%)	169 (96%)	7 (4%)	27	56
27	H	148/183 (81%)	145 (98%)	3 (2%)	50	72
28	I	147/154 (96%)	147 (100%)	0	100	100
29	J	47/134 (35%)	46 (98%)	1 (2%)	48	71

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
30	g	39/121 (32%)	39 (100%)	0	100	100
31	a	33/83 (40%)	32 (97%)	1 (3%)	36	63
32	h	40/96 (42%)	39 (98%)	1 (2%)	42	67
All	All	2775/3447 (80%)	2686 (97%)	89 (3%)	36	62

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

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

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

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

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

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

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

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

5.3.3 RNA ⓘ

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

All (1061) RNA backbone outliers are listed below:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Continued on next page...

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

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

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

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

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

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

All (115) RNA pucker outliers are listed below:

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

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

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

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

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

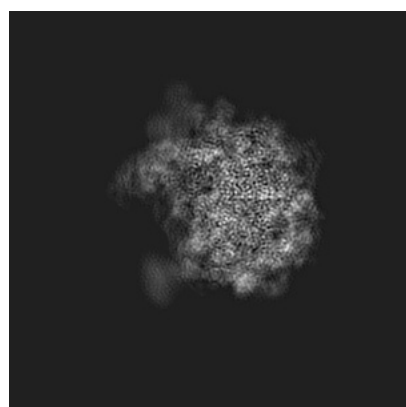
6 Map visualisation [i](#)

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

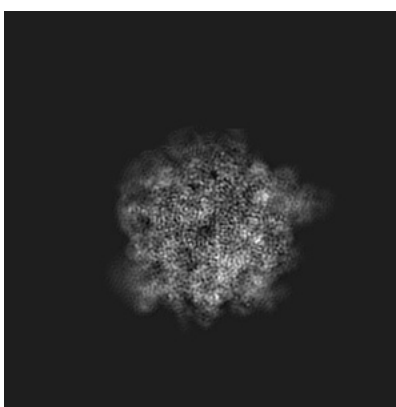
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

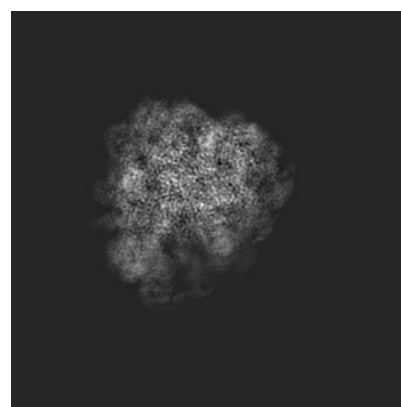
6.1.1 Primary map



X



Y

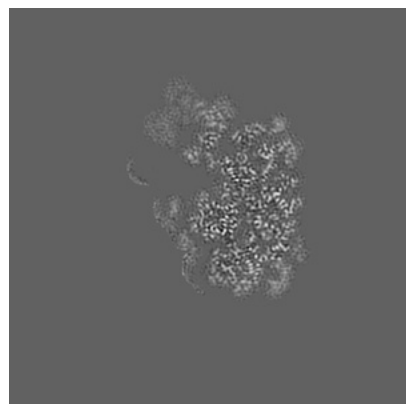


Z

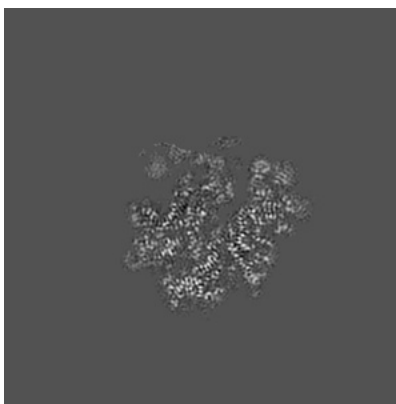
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

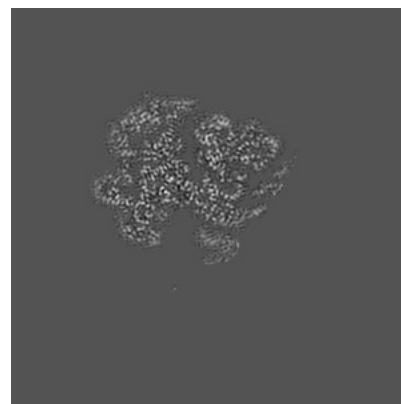
6.2.1 Primary map



X Index: 156



Y Index: 156

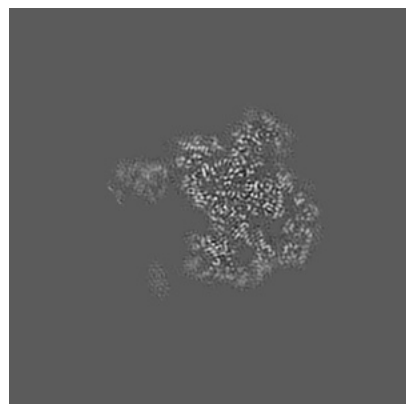


Z Index: 156

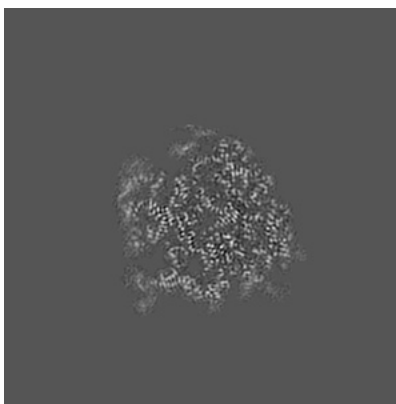
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

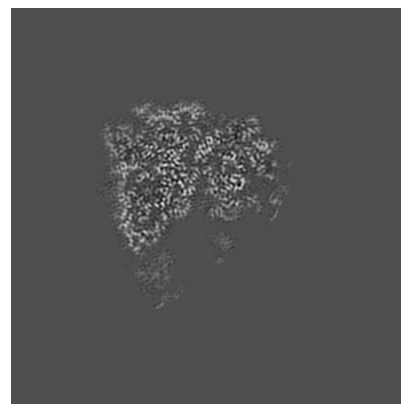
6.3.1 Primary map



X Index: 120



Y Index: 186

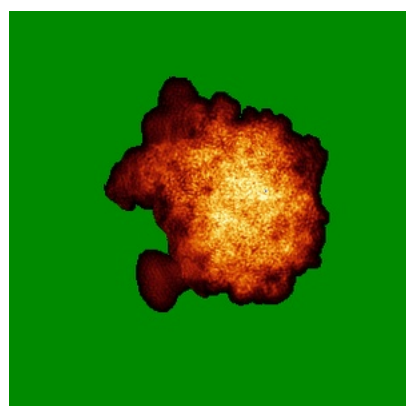


Z Index: 166

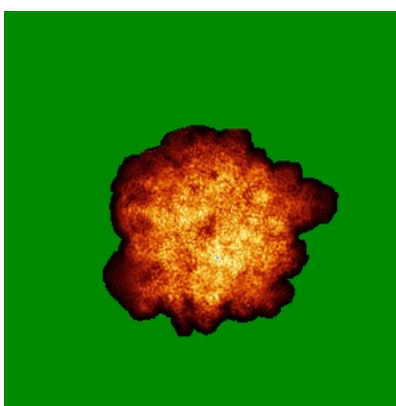
The images above show the largest variance slices of the map in three orthogonal directions.

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

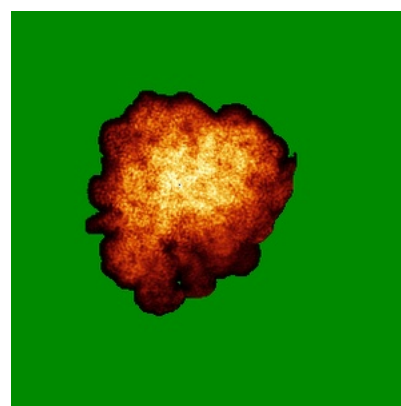
6.4.1 Primary map



X



Y

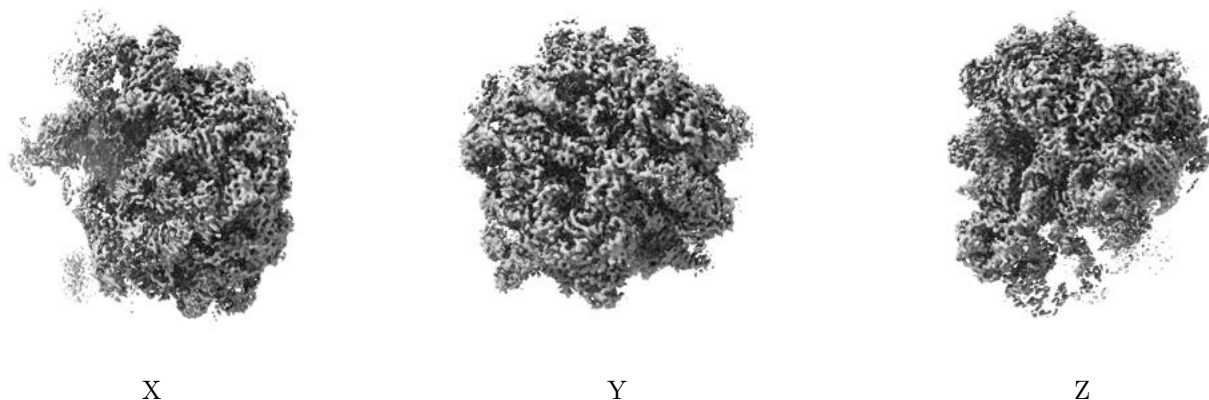


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



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

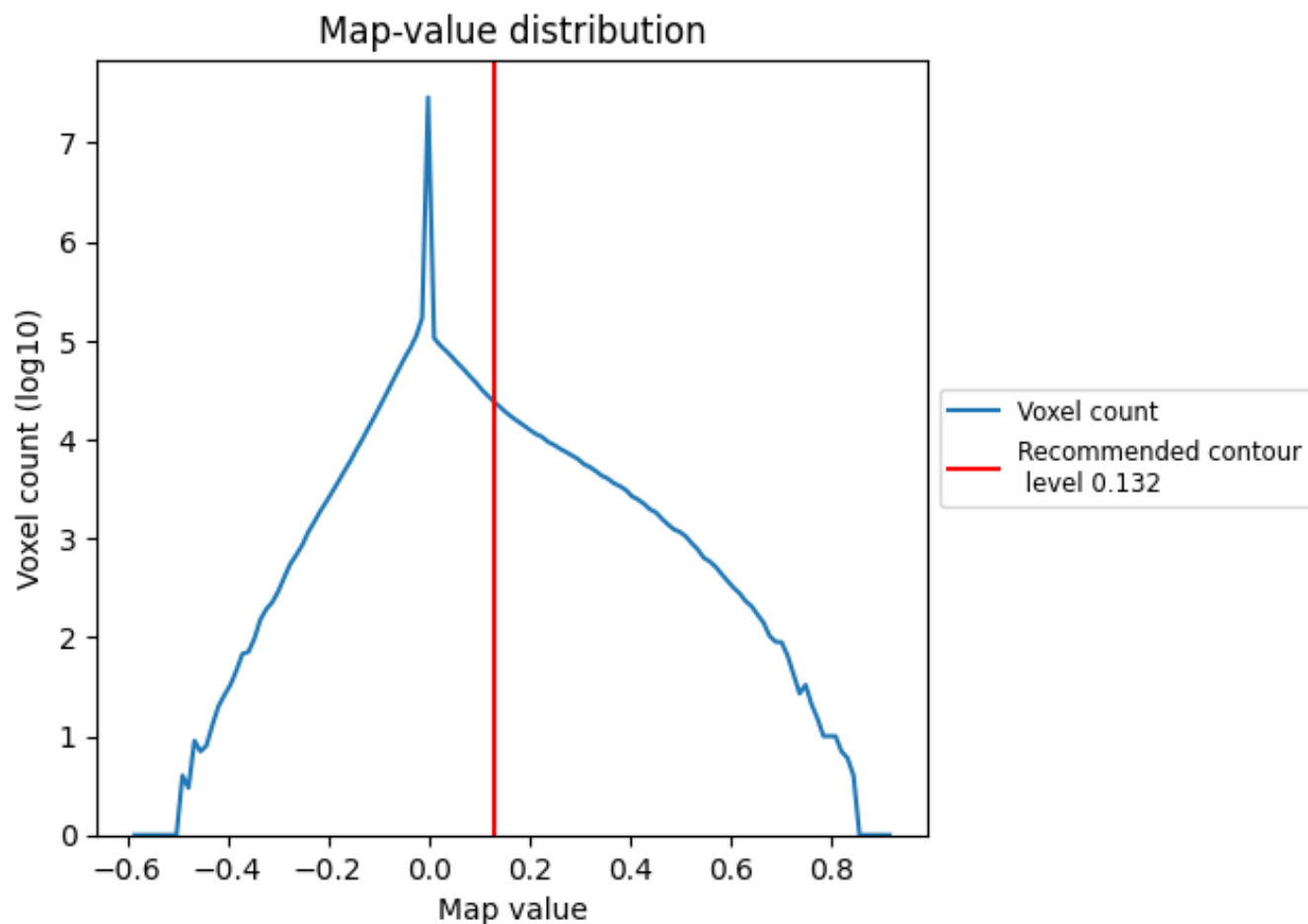
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

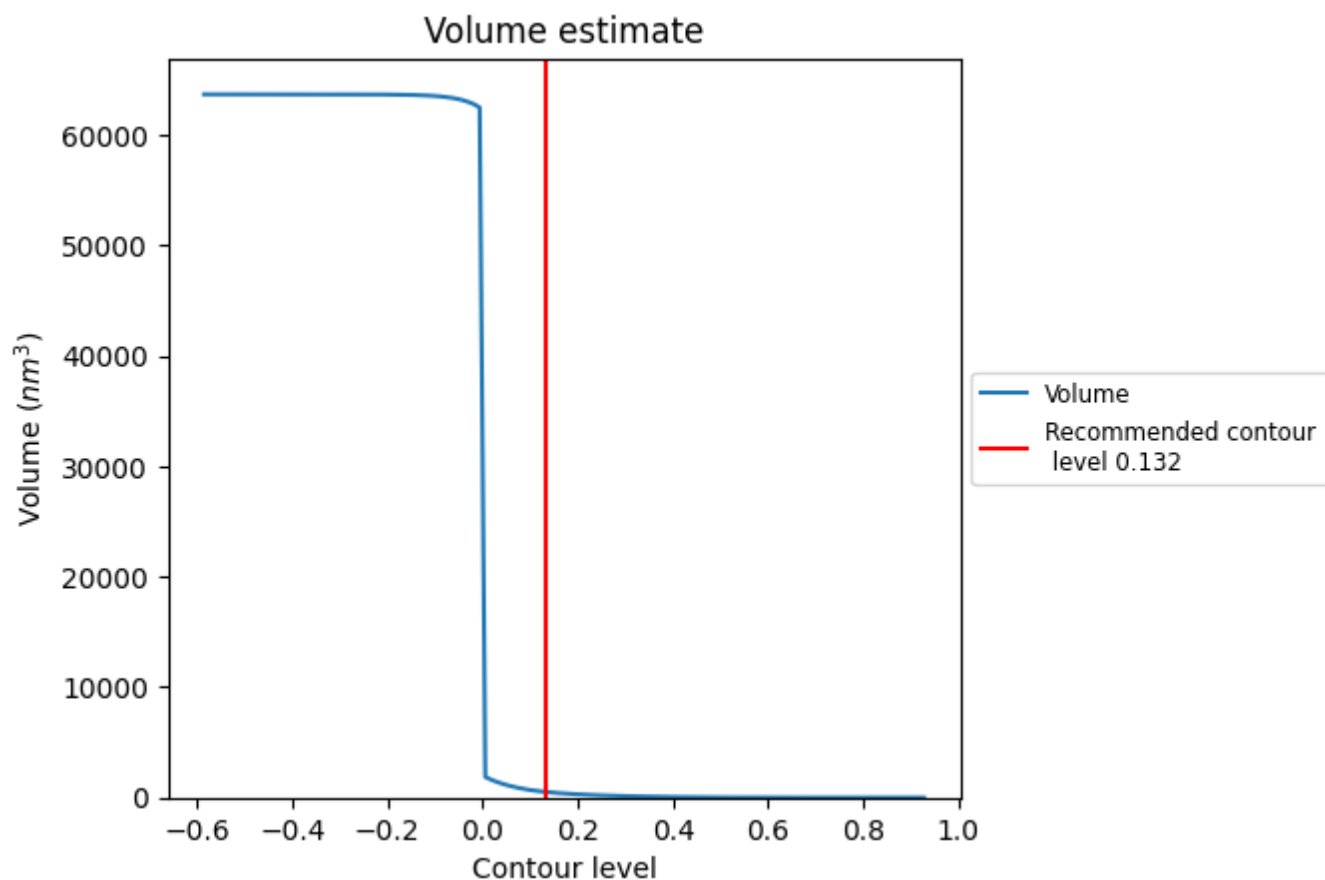
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

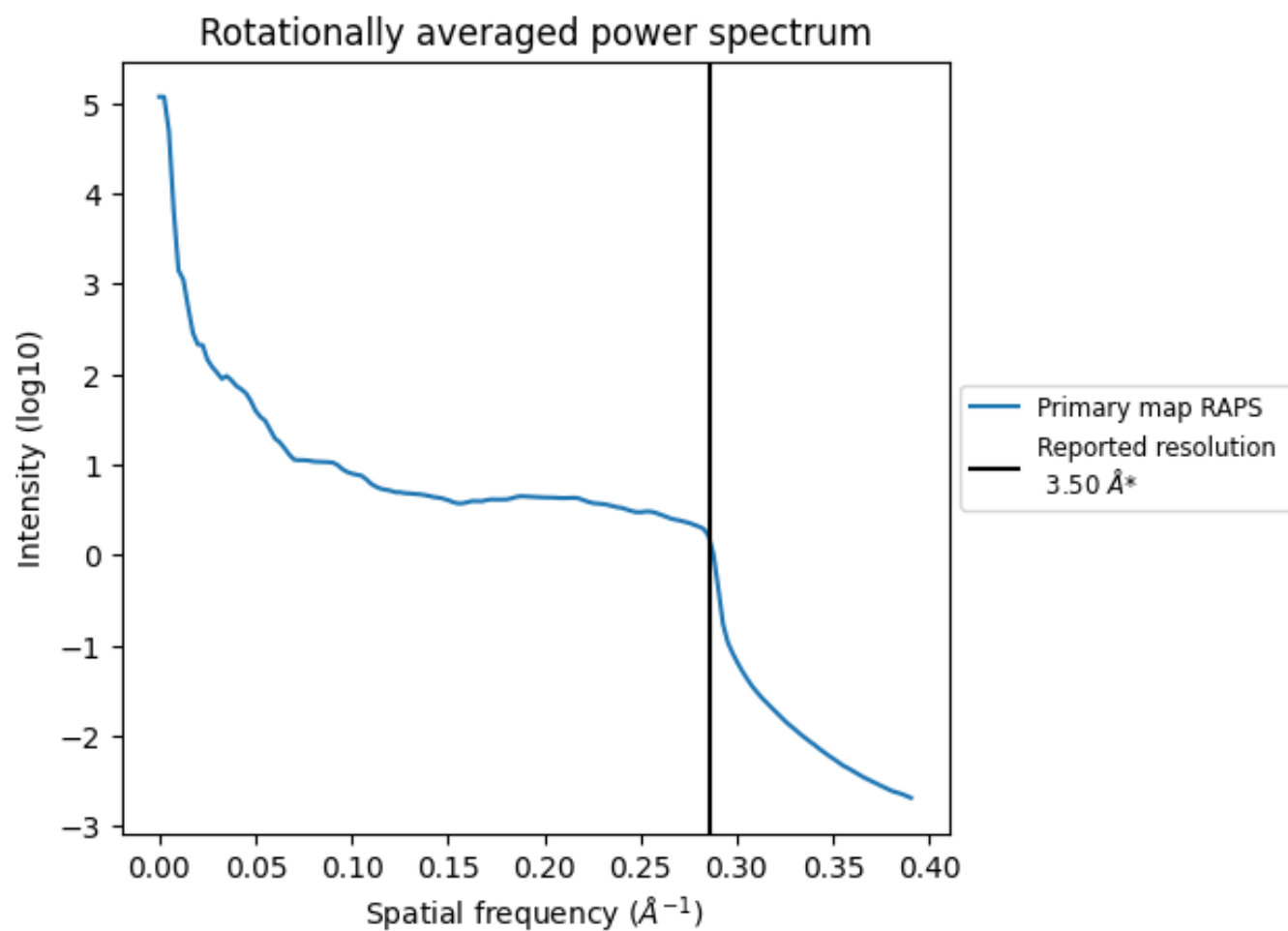
7.2 Volume estimate [i](#)



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

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

7.3 Rotationally averaged power spectrum [i](#)



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

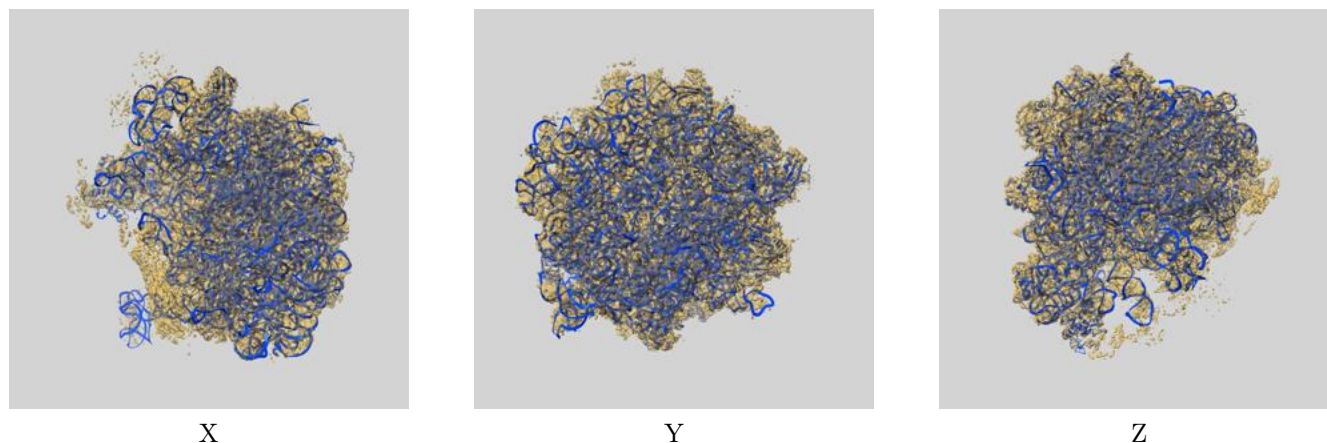
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

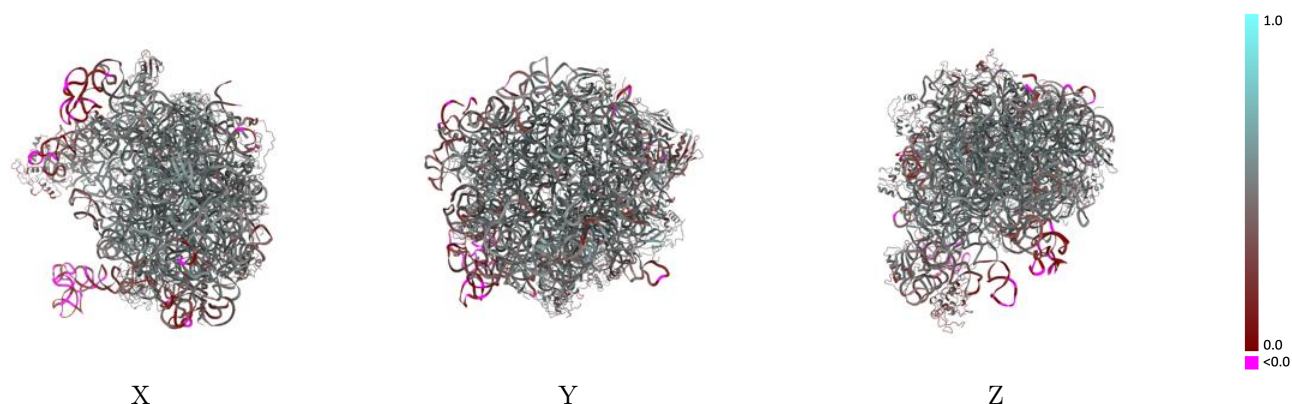
This section contains information regarding the fit between EMDB map EMD-9572 and PDB model 5H1S. Per-residue inclusion information can be found in section [3](#) on page [9](#).

9.1 Map-model overlay [i](#)



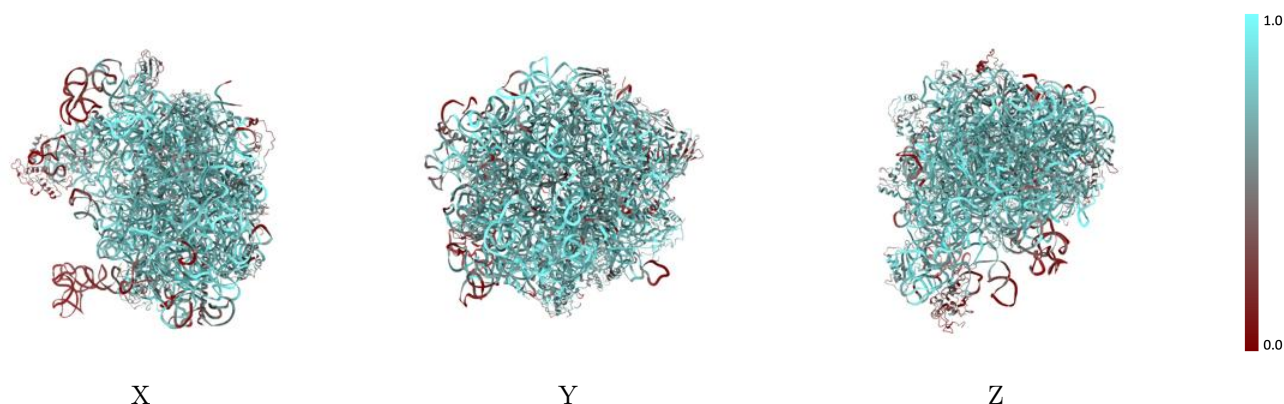
The images above show the 3D surface view of the map at the recommended contour level 0.132 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



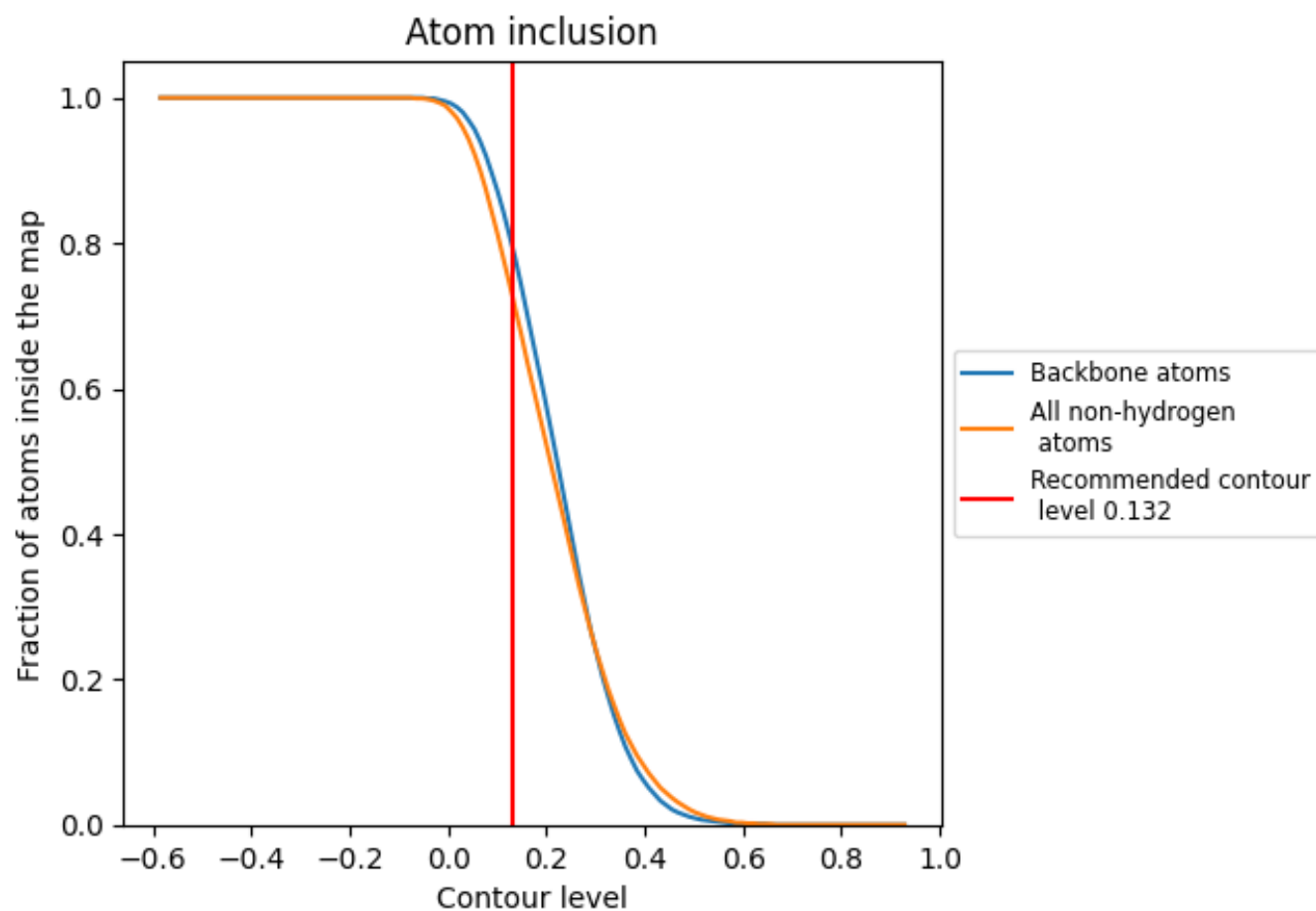
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



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

9.4 Atom inclusion [i](#)



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

9.5 Map-model fit summary ⓘ

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

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

