



Full wwPDB EM Validation Report ⓘ

Mar 30, 2026 – 05:39 AM UTC

PDB ID : 8YP6 / pdb_00008yp6
EMDB ID : EMD-39462
Title : Cryo-EM map of 30S ribosomal subunit in complex with MetAP1c of Mycobacterium smegmatis
Authors : Banerjee, A.; Srinivasan, K.; Sengupta, J.
Deposited on : 2024-03-15
Resolution : 4.70 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

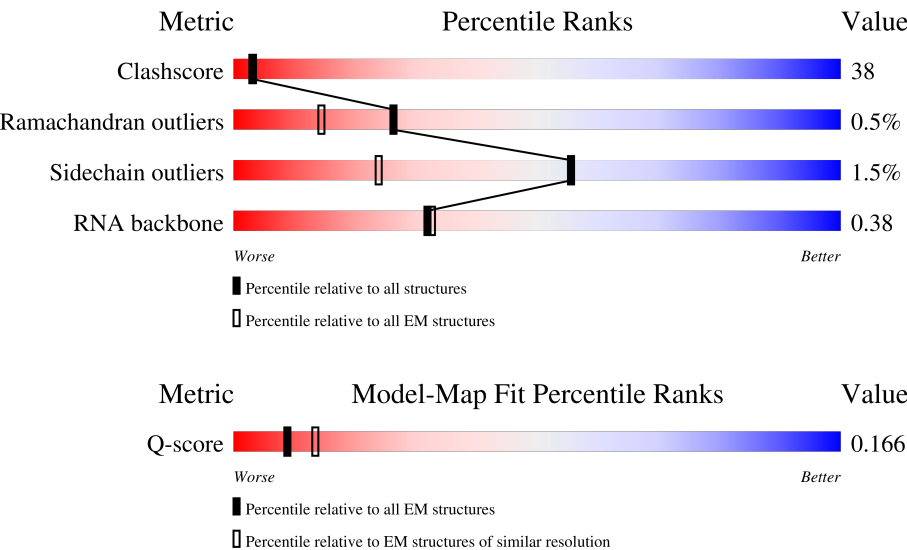
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance i

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

The reported resolution of this entry is 4.70 Å.

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



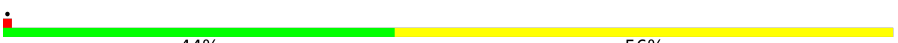
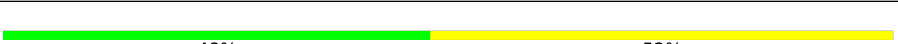
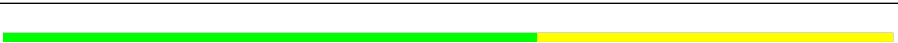
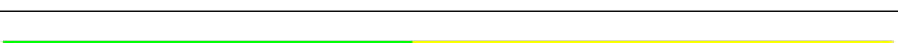
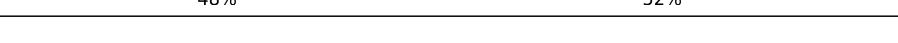
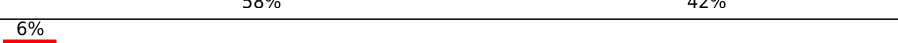
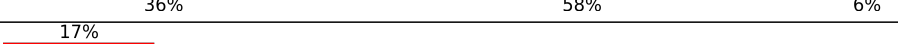
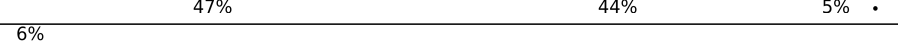
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	1989 (4.20 - 5.20)

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

Mol	Chain	Length	Quality of chain
1	a	1510	
2	c	210	
3	d	200	

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Mol	Chain	Length	Quality of chain
4	e	198	
5	f	96	
6	g	156	
7	h	130	
8	i	126	
9	j	97	
10	k	117	
11	l	122	
12	n	60	
13	o	87	
14	p	113	
15	q	92	
16	r	64	
17	t	84	
18	s	80	
19	A	296	
20	m	117	

2 Entry composition

There are 20 unique types of molecules in this entry. The entry contains 51445 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 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	a	1506	Total	C	N	O	P	0	0
			32341	14404	5921	10510	1506		

- Molecule 2 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	c	210	Total	C	N	O	S	0	0
			1672	1043	324	300	5		

- Molecule 3 is a protein called Small ribosomal subunit protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	d	200	Total	C	N	O	S	0	0
			1641	1028	316	295	2		

- Molecule 4 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	e	198	Total	C	N	O	S	0	0
			1433	885	282	262	4		

- Molecule 5 is a protein called Small ribosomal subunit protein bS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	f	96	Total	C	N	O	S	0	0
			771	486	138	145	2		

- Molecule 6 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	g	156	Total	C	N	O	S	0	0
			1240	773	242	222	3		

- Molecule 7 is a protein called Small ribosomal subunit protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	h	130	Total	C	N	O	S	0	0
			1003	629	188	185	1		

- Molecule 8 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	i	126	Total	C	N	O	S	0	0
			994	630	194	170			

- Molecule 9 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	j	97	Total	C	N	O	S	0	0
			775	488	143	141	3		

- Molecule 10 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	k	117	Total	C	N	O	S	0	0
			871	539	173	158	1		

- Molecule 11 is a protein called Small ribosomal subunit protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	l	122	Total	C	N	O	S	0	0
			958	594	197	165	2		

- Molecule 12 is a protein called Small ribosomal subunit protein uS14B.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	n	60	Total	C	N	O	S	0	0
			477	302	97	73	5		

- Molecule 13 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	o	87	Total	C	N	O	S	0	0
			709	443	143	123			

- Molecule 14 is a protein called Small ribosomal subunit protein bS16.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	p	113	Total	C	N	O	0	0
			891	570	162	159		

- Molecule 15 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	q	92	Total	C	N	O	S	0	0
			730	458	138	132	2		

- Molecule 16 is a protein called Small ribosomal subunit protein bS18B.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	r	64	Total	C	N	O	S	0	0
			512	319	102	88	3		

- Molecule 17 is a protein called Small ribosomal subunit protein bS20.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	t	84	Total	C	N	O	0	0
			655	399	138	118		

- Molecule 18 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	s	80	Total	C	N	O	S	0	0
			647	417	120	109	1		

- Molecule 19 is a protein called Methionine aminopeptidase.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	A	285	Total	C	N	O	S	0	0
			2185	1382	372	422	9		

There are 11 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	286	ALA	-	expression tag	UNP I7FJS2
A	287	ALA	-	expression tag	UNP I7FJS2
A	288	ALA	-	expression tag	UNP I7FJS2
A	289	LEU	-	expression tag	UNP I7FJS2
A	290	GLN	-	expression tag	UNP I7FJS2
A	291	HIS	-	expression tag	UNP I7FJS2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	292	HIS	-	expression tag	UNP I7FJS2
A	293	HIS	-	expression tag	UNP I7FJS2
A	294	HIS	-	expression tag	UNP I7FJS2
A	295	HIS	-	expression tag	UNP I7FJS2
A	296	HIS	-	expression tag	UNP I7FJS2

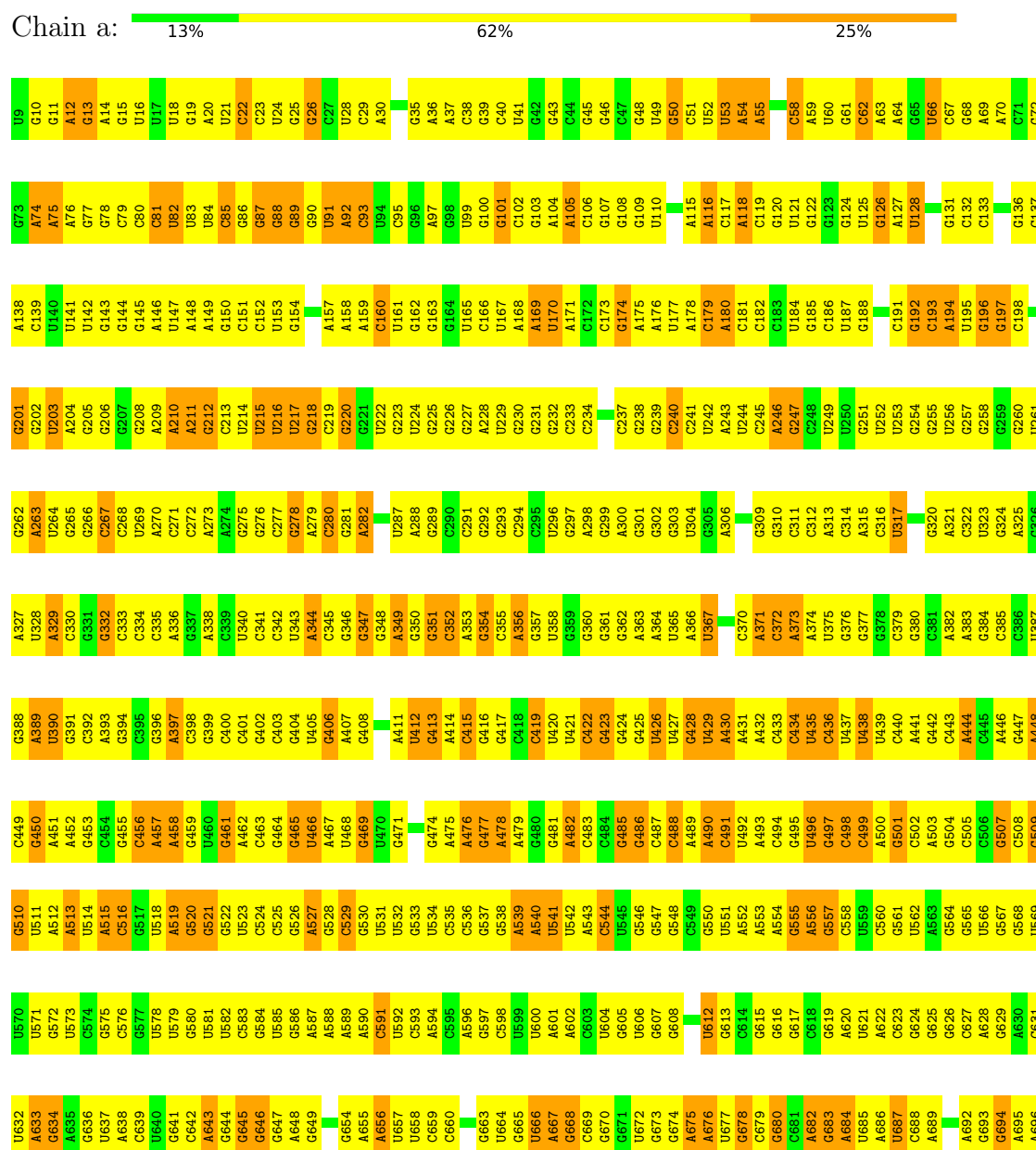
- Molecule 20 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	m	117	Total	C	N	O	S	0	0
			940	575	192	170	3		

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.

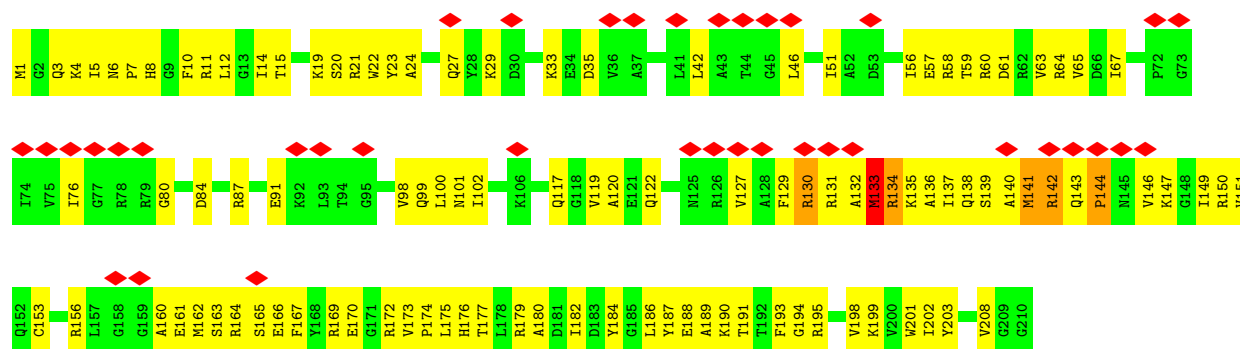
• Molecule 1: 16S rRNA



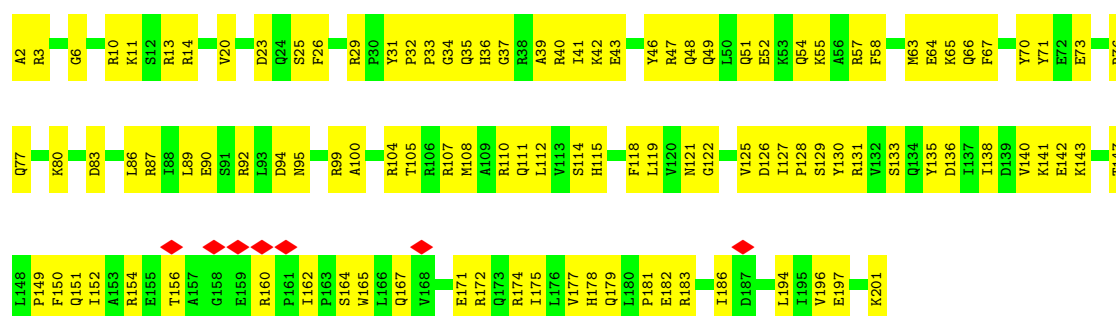
C1494	C1432	C1370	C1308	U1248	A1185	G1124	U1063	C1003	A940	C879	U819	A757	C697
U1495	C1433	C1371	C1309	G1249	U1186	G1125	G1064	G1004	A941	C880	C820	G758	A698
U1496	U1434	C1372	C1310	C1370	G1187	G1126	U1065	G1005	U942	C881	C821	C759	C699
A1497	U1435	U1373	G1311	G1251	U1188	A1127	U1066	U1006	U943	A882	U822	G760	
C1498	G1436	U1374	U1312	G1252	U1192	C1128	G1067	U1007	C944	A883	U	A761	G701
C1499	U1437	G1375	G1313	U1253	U1193	U1129	G1068	C1008	G945	C884	C	A762	G702
G1500	G1438	U1376	A1314	G1254	U1194	C1130	G1069	C1009	A946	C885	C	C763	G703
G1501	G1439	A1377	A1315	G1255	U1195	G1131	U1070	C1010	U947	C886	U	A764	U704
A1502	G1440	C1378	G1316	A1256	U1196	U1132	U1071	U1011		U887	G828	G765	G705
A1503	G1441	A1379	G1317	G1257	U1197	G1133	A1072	U1012	G955	A888	U827	G766	G706
G1504	G1442	C1380	C1384	C1258	C1198	A1134	A1073	G1013	A951	A889	G829	A767	G707
G1505	G1443	A1381	G1320	G1259	C1199	G1135	G1074	U1014	C952	G830	G830	A768	A708
U1506	A1444	C1382	G1322	A1260	A1200	A1136	U1075	G1015	G953	A831	A831	U769	A709
G1507	G1445	C1383	U1323	U1261	G1201	G1137	C1076	G1016	C954	U832	U832	G770	G710
C1508	C1446	C1384	C1324	A1262	G1202	A1138	C1077	C1017	G955	C833	C833	A771	G711
U1516	C1447	C1385	G1325	C1263	C1203	C1139	G1078	C1018	C961	A896	G834	A772	C712
G1509	G1448	C1386	C1326	C1264	C1204	G1145	G1079	U1019	A957	A896	G835	U773	G713
	U1449	U1387	U1327	U1265	U1205	G1141	C1080	G1020	G958	A897	U836	A774	G714
G1513	C1450	C1388	A1328	U1266	U1206	C1142	A1081	U1021	A959	U902	U841	G779	C719
G1514	C1451	U1389	G1329	U1267	C1207	C1143	A1082	G1022	A960	U903	A842	G780	U720
A1515	A1452	C1390	U1330	C1268	A1208	G1144	G1088	U1023	C966	G904	G843	U781	G721
U1516	A1453	A1391	A1331	A1269	C1209	G1145	G1084	G1024	C962	A901	G840	U778	U718
C1517	G1454	C1392	A1332	A1270	A1210	G1146	A1085	C1025	U963	U902	U841	G779	C719
A1518	G1455		U1333	A1271	C1211	G1147	G1086	G1026	U964	U903	A842	G780	U720
	U1456	C1395	C1334	G1272	A1212	U1148	C1087	G1027	A965	G904	G843	U781	G721
	G1457	A1396	G1335	C1273	U1213	C1149	G1088	U1028	C966	A905	U845	G782	G722
G1458	G1458	U1397	C1336	C1274	G1214	A1150	C1089	U1029	C967	C906	U845	G783	G723
G1459	G1459	G1398	A1337	G1275	C1215	A1151	A1090	U1030	U968	A846	U846	G783	
A1460	A1460	A1399	G1338	G1276	U1216	C1152	A1091	G1031	G969	G908	A847	A787	A725
U1461	U1461	A1400	A1339	U1277	A1217	U1153	C1092	U1032	G970	G909	C848	G788	G726
C1462	C1462	A1401	U1340	C1278	C1218	C1154	C1093	G1033	G971	G910	G849	G789	U727
G1463	G1463	G1402	C1341	U1279	A1219	G1155	C1094	C1034	U972	G911	C850	G790	A728
G1464	G1464	U1403	A1342	C1280	C1220	G1156	U1095	U1035	U973	C912	A851	C791	A729
C1465	C1465		G1343	A1281	U1221	A1157	U1096	A1036	U974	C913	U852	G792	C730
G1466	G1466		C1344	G1282	G1222	G1158	G1097	G1037	G975	C914	U853	U793	U731
	U1406	U1407	A1345	U1283	G1223	G1159	U1098	G1038	A976	C915	A854	A794	G732
U1469	A1408	A1408	A1346	U1284	C1224	A1160	C1099	C1039	C977	C916	A855	A795	A733
G1470	U1409	A1409	C1347	C1285	C1225	A1161	U1100	U1040	U978	A917	G856	A796	C734
G1471	C1410	C1410	G1348	C1286	G1226	G1162	C1101	C1041	U979	C918	U857	C797	G735
G1472	C1411	C1411	C1349	U1287	U1227	G1163	A1102	G980	C981	A919	A858	G798	C736
	C1412	C1412	U1350	A1288	U1228	U1164	U1103	C1043	C981	A920	C859	G799	U737
	C1413	C1413	G1351	U1289	A1229	G1165	G1104	G1044	A982	C921	C860	U800	G738
	C1414	C1414	C1352	C1290	C1230	G1166	U1105	U1045		C922	C861	G801	A739
A1476	A1476	C1415	G1353	G1291	A1231	G1167	U1106	C1046	G985	C923	C862	G802	G740
G1478	G1478	A1416	G1354	G1292	A1232	G1168	G1107	A1047	G986	G924	G863	G803	G741
U1479	U1479	U1355	G1293	A1417	A1233	A1169	C1108	G1048	A987	C925	C864	U804	A742
C1480	C1480	G1418	G1356	U1294	G1234	U1170	C1109	C1049	C988	G926	G865	A805	G743
G1481	G1481	C1419	A1357	U1295	G1235	G1171	A1110	U1050	G989	C927	U866	C806	C744
U1482	U1482	C1420	A1358	C1296	G1236	A1172	G1111	C1051		A928	G867	U807	G745
A1483	A1483	G1421	U1359	U1297	C1237	C1173	C1112	U1052	G992	G929	G868	A808	A746
A1484	A1484	G1422	A1360	G1298	U1238	G1174	G1115	G1053	G993	C930	G869	G809	A747
C1485	C1485	U1423	C1361	G1299	G1239	A1178		G1054	C994	A931	G870	G810	A748
A1486	A1486	G1424	G1362	A1300	C1240	A1177	U1116	U1055	A995	U932	A871	U811	G749
A1487	A1487	G1425	U1363	A1301	G1241	A1178	U1117	G1056	G996	C933	G872	G812	C750
G1488	G1488	C1426	U1364	C1302	A1242	G1179	A1118	C1057	A997	U934	U873	U813	G751
G1489	G1489	C1427	C1365	U1303	U1243	U1180	U1119	U1058	G998	U935	A874	G814	U752
U1490	U1490	A1428	C1366	G1304	G1244	U1181	G1120	G1059	A999	G936	C875	G815	G753
A1491	A1491	A1429	C1367	G1305	C1245	A1182	G1121	A1060	U1000	A937	G876	G816	G754
G1492	G1492	A1306	C1368	A1306	C1246	U1183	U1122	G1061	U938	G877	U817	G817	G755
C1493	C1493	C1421	C1369	C1307	C1247		C1123	A1062	U1002	U939	C878	U818	C756

● Molecule 2: Small ribosomal subunit protein uS3

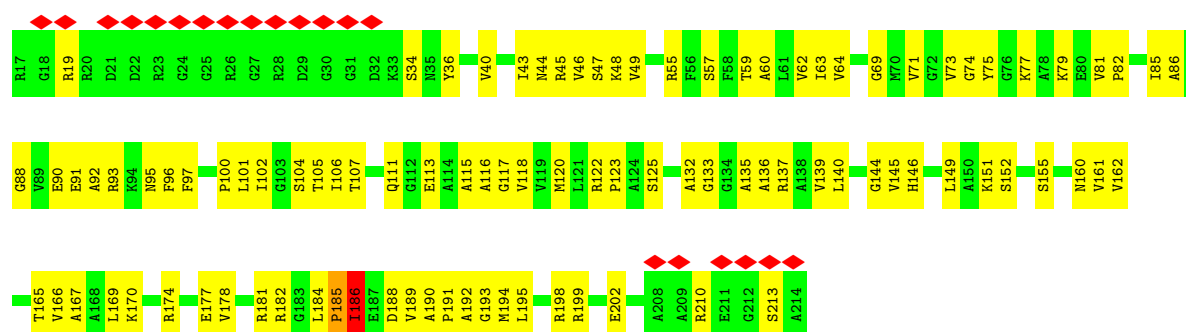




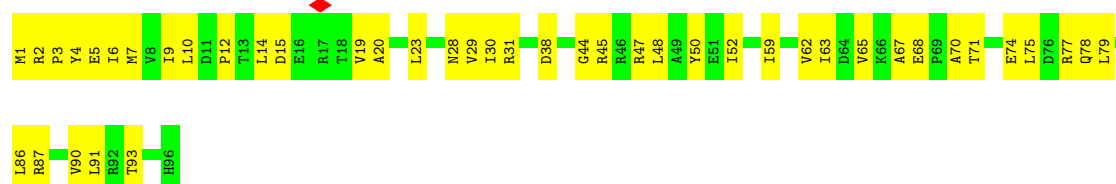
• Molecule 3: Small ribosomal subunit protein uS4



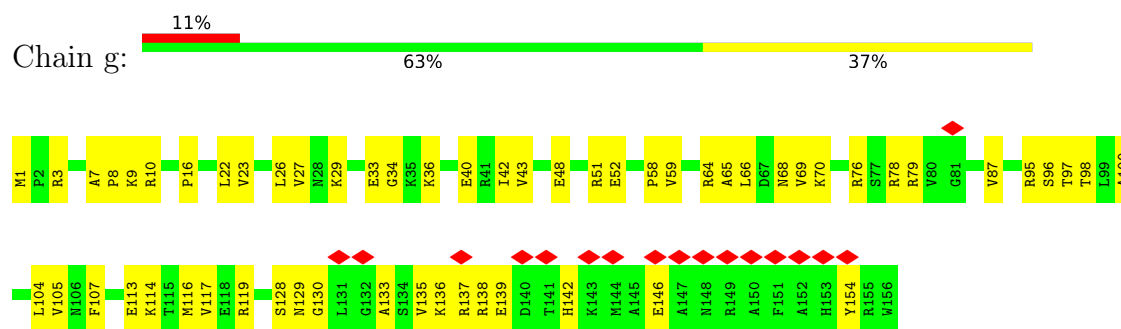
• Molecule 4: Small ribosomal subunit protein uS5



• Molecule 5: Small ribosomal subunit protein bS6



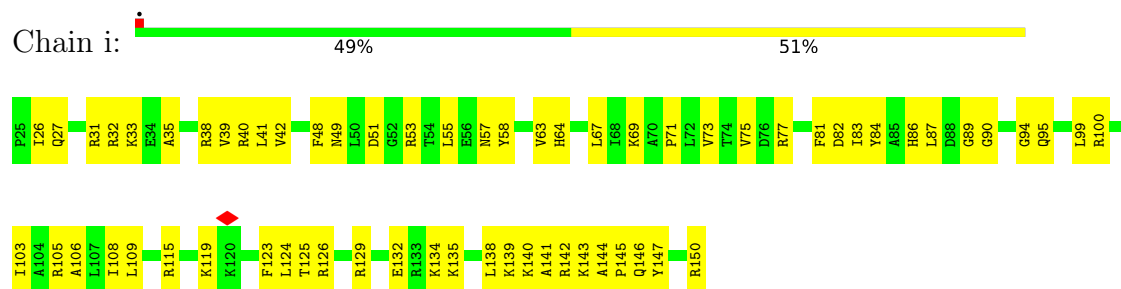
- Molecule 6: 30S ribosomal protein S7



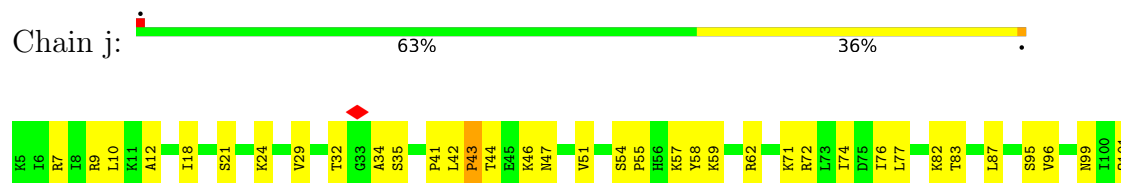
- Molecule 7: Small ribosomal subunit protein uS8



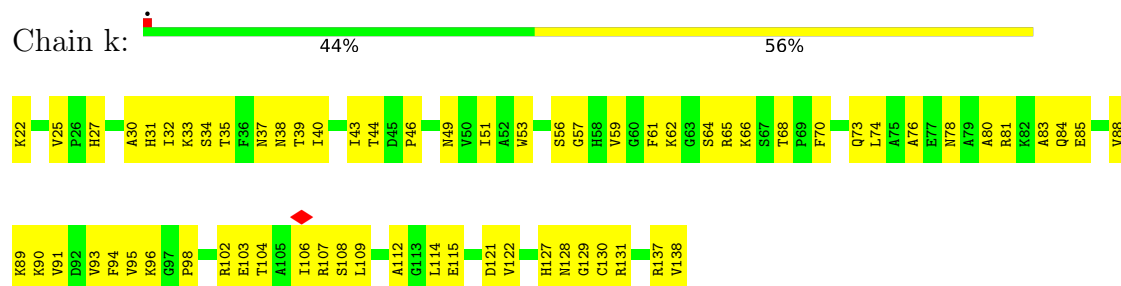
- Molecule 8: Small ribosomal subunit protein uS9



- Molecule 9: Small ribosomal subunit protein uS10



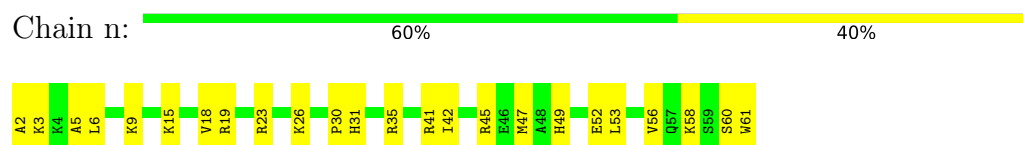
- Molecule 10: Small ribosomal subunit protein uS11



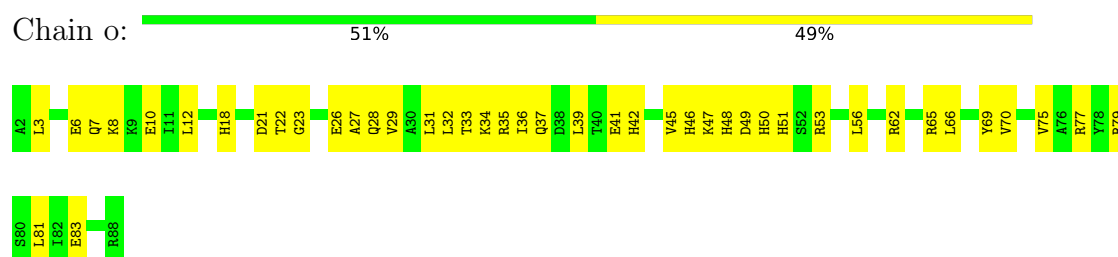
- Molecule 11: Small ribosomal subunit protein uS12



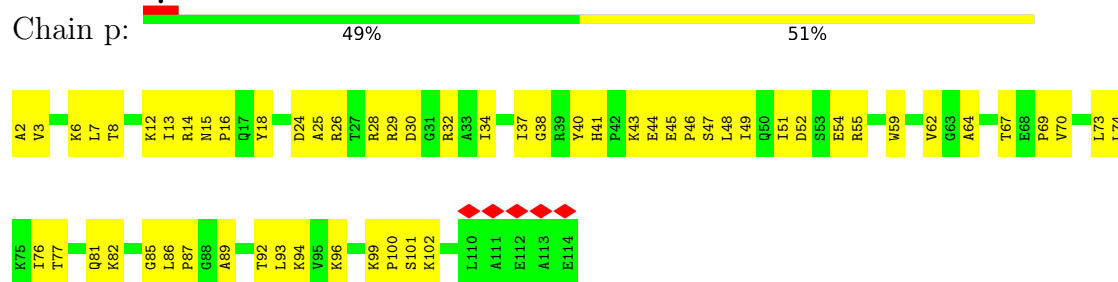
- Molecule 12: Small ribosomal subunit protein uS14B



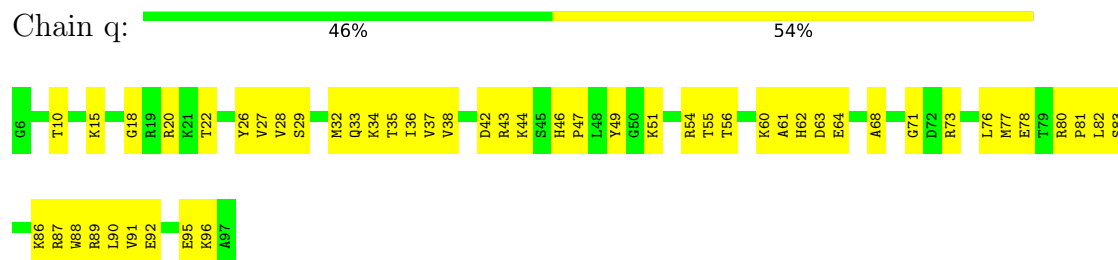
- Molecule 13: Small ribosomal subunit protein uS15



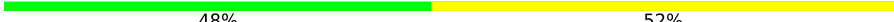
- Molecule 14: Small ribosomal subunit protein bS16



- Molecule 15: Small ribosomal subunit protein uS17



- Molecule 16: Small ribosomal subunit protein bS18B

Chain r:  48% 52%



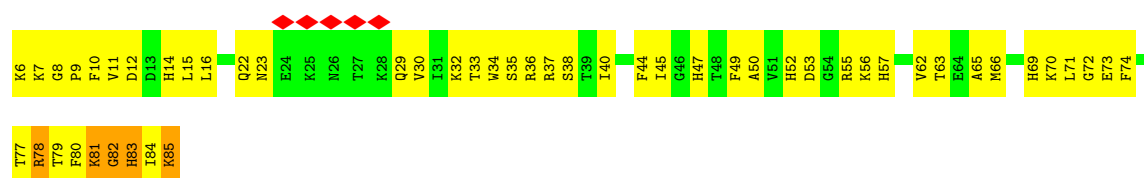
- Molecule 17: Small ribosomal subunit protein bS20

Chain t:  58% 42%



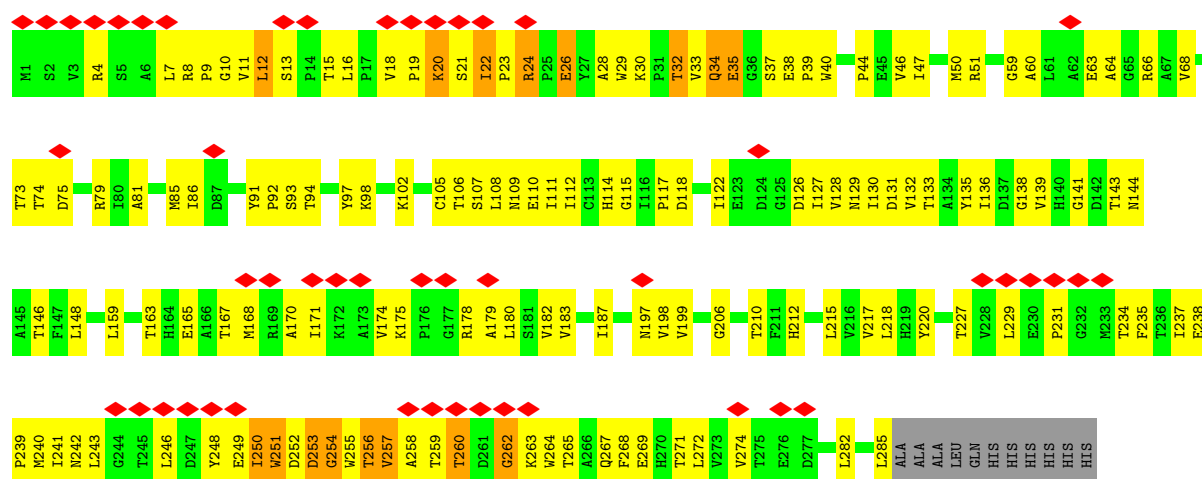
- Molecule 18: Small ribosomal subunit protein uS19

Chain s:  6% 36% 58% 6%



- Molecule 19: Methionine aminopeptidase

Chain A:  17% 47% 44% 5%



- Molecule 20: Small ribosomal subunit protein uS13

Chain m:  6% 31% 65% 2%



D69	L70	R71	R72	E73	V74	Q75	A76	D77	I78	R79	R80	K81	I82	E83	I84	G85	C86	Y87	Q88	G89	L90	R91	H92	R93
L96	P97	V98	R102	T103	K104	T105	N106	A107	R108	T109	R110	K111	G112	P113	K114	R115	T116	I117	A118					

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	50296	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20.7	Depositor
Minimum defocus (nm)	1800	Depositor
Maximum defocus (nm)	3300	Depositor
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.068	Depositor
Minimum map value	-0.009	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.005	Depositor
Map size ($\text{\AA}$)	374.50003, 374.50003, 374.50003	wwPDB
Map dimensions	350, 350, 350	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.07, 1.07, 1.07	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	0.18	0/36201	0.32	0/56488
2	c	0.17	0/1696	0.38	0/2276
3	d	0.15	0/1672	0.35	0/2251
4	e	0.20	0/1449	0.43	0/1949
5	f	0.18	0/782	0.37	0/1059
6	g	0.12	0/1260	0.31	0/1701
7	h	0.18	0/1018	0.40	0/1375
8	i	0.14	0/1012	0.36	0/1362
9	j	0.13	0/789	0.33	0/1069
10	k	0.18	0/889	0.44	0/1201
11	l	0.17	0/969	0.49	1/1294 (0.1%)
12	n	0.11	0/488	0.32	0/650
13	o	0.17	0/718	0.36	0/963
14	p	0.17	0/908	0.38	0/1226
15	q	0.22	0/741	0.47	0/993
16	r	0.14	0/517	0.41	0/691
17	t	0.18	0/658	0.41	0/875
18	s	0.21	0/664	0.54	0/893
19	A	0.22	0/2237	0.48	0/3057
20	m	0.24	0/947	0.51	0/1267
All	All	0.18	0/55615	0.36	1/82640 (0.0%)

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
3	d	0	1
7	h	0	1
All	All	0	2

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
11	l	37	VAL	N-CA-C	-6.24	106.43	112.29

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	d	63	MET	Peptide
7	h	55	ARG	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	32341	0	16271	2257	0
2	c	1672	0	1722	112	0
3	d	1641	0	1668	114	0
4	e	1433	0	1490	92	0
5	f	771	0	797	38	0
6	g	1240	0	1293	61	0
7	h	1003	0	1039	76	0
8	i	994	0	1050	68	0
9	j	775	0	808	41	0
10	k	871	0	885	67	0
11	l	958	0	1045	76	0
12	n	477	0	503	29	0
13	o	709	0	747	45	0
14	p	891	0	935	60	0
15	q	730	0	774	68	0
16	r	512	0	543	43	0
17	t	655	0	707	27	0
18	s	647	0	664	101	0
19	A	2185	0	2139	172	0
20	m	940	0	989	388	0
All	All	51445	0	36069	3203	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 38.

All (3203) 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:930:C:OP2	20:m:108:ARG:HG2	1.26	1.32
1:a:1289:U:H5''	20:m:110:ARG:CD	1.61	1.27
18:s:74:PHE:CD1	20:m:84:ILE:O	1.88	1.26
1:a:1292:G:H5'	20:m:77:ASP:CG	1.64	1.21
1:a:1291:G:C1'	20:m:74:VAL:HA	1.70	1.19
1:a:1284:U:C2	20:m:17:ILE:HD11	1.78	1.18
1:a:1302:C:O2'	20:m:88:GLN:N	1.77	1.18
1:a:930:C:P	20:m:108:ARG:H	1.66	1.17
1:a:1209:C:H5'	20:m:115:ARG:HG3	1.25	1.17
19:A:37:SER:HB2	19:A:40:TRP:CZ2	1.79	1.17
1:a:930:C:P	20:m:108:ARG:N	2.18	1.16
1:a:1283:U:H5'	20:m:21:TYR:HE1	1.00	1.16
19:A:37:SER:HB2	19:A:40:TRP:HZ2	1.04	1.15
1:a:930:C:OP2	20:m:108:ARG:CG	1.95	1.14
1:a:1291:G:C5'	20:m:78:ILE:HG13	1.77	1.14
18:s:66:MET:HA	20:m:84:ILE:HG22	1.19	1.14
1:a:1292:G:H5'	20:m:77:ASP:CB	1.78	1.14
1:a:927:G:H1	1:a:1217:A:N6	1.45	1.13
1:a:1278:C:H5''	20:m:44:ARG:HH12	1.09	1.13
1:a:930:C:OP1	20:m:108:ARG:N	1.82	1.13
18:s:66:MET:HA	20:m:84:ILE:CG2	1.79	1.12
1:a:1291:G:H1'	20:m:74:VAL:HA	1.25	1.12
1:a:1312:U:H4'	20:m:23:TYR:CD2	1.82	1.12
1:a:1289:U:H5''	20:m:110:ARG:NE	1.64	1.12
1:a:1283:U:H5'	20:m:21:TYR:CE1	1.85	1.11
2:c:130:ARG:NH2	2:c:131:ARG:HD3	1.66	1.10
1:a:1311:G:O2'	20:m:23:TYR:O	1.68	1.10
1:a:1289:U:H5''	20:m:110:ARG:CZ	1.82	1.10
1:a:1289:U:H4'	20:m:110:ARG:HD2	1.32	1.09
2:c:130:ARG:HH21	2:c:131:ARG:HD3	1.08	1.09
18:s:69:HIS:HB2	20:m:84:ILE:CD1	1.83	1.09
1:a:1339:A:N6	1:a:1348:G:H1	1.51	1.08
1:a:1396:A:C2	1:a:1471:G:N1	2.21	1.08
1:a:1289:U:C4'	20:m:110:ARG:HD2	1.83	1.07
1:a:448:A:N6	1:a:466:U:H3	1.51	1.07
1:a:1289:U:C5'	20:m:110:ARG:HD2	1.84	1.07
1:a:1289:U:H5''	20:m:110:ARG:HD2	1.34	1.06
1:a:930:C:OP1	20:m:109:THR:N	1.86	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1290:C:OP1	20:m:97:PRO:HA	1.55	1.05
1:a:1291:G:H5'	20:m:78:ILE:HG13	1.35	1.05
18:s:69:HIS:HB2	20:m:84:ILE:HD11	1.34	1.05
1:a:1291:G:OP1	20:m:92:HIS:HE1	1.40	1.04
1:a:930:C:H5''	20:m:110:ARG:HH12	1.22	1.03
1:a:1312:U:C5'	20:m:23:TYR:HA	1.88	1.02
1:a:1277:U:O2'	20:m:14:ARG:NE	1.93	1.02
1:a:1278:C:H5''	20:m:44:ARG:NH1	1.73	1.01
1:a:1302:C:H4'	20:m:88:GLN:HG3	1.37	1.01
1:a:1396:A:H2	1:a:1471:G:N1	1.53	1.01
1:a:654:G:H1	1:a:696:A:H61	1.01	1.01
1:a:1291:G:H5'	20:m:78:ILE:CG1	1.91	0.99
19:A:11:VAL:HA	20:m:115:ARG:CD	1.93	0.99
1:a:904:G:N2	1:a:1378:C:O2	1.94	0.99
1:a:1157:A:H61	1:a:1163:G:H1	1.09	0.98
1:a:1289:U:C5'	20:m:110:ARG:CD	2.40	0.98
1:a:1141:G:N1	1:a:1157:A:C2	2.32	0.98
1:a:1157:A:N6	1:a:1163:G:N1	2.12	0.98
1:a:83:U:O2	1:a:86:G:O6	1.79	0.97
1:a:1290:C:O2'	20:m:78:ILE:HD11	1.64	0.96
1:a:1157:A:N6	1:a:1163:G:H1	1.60	0.96
1:a:1292:G:C5'	20:m:77:ASP:CG	2.38	0.96
1:a:1283:U:H4'	20:m:21:TYR:OH	1.66	0.95
1:a:654:G:H1	1:a:696:A:N6	1.65	0.95
1:a:1224:C:H4'	20:m:27:ARG:HD3	1.46	0.95
1:a:1141:G:N1	1:a:1157:A:H2	1.64	0.95
1:a:1312:U:H5'	20:m:23:TYR:HA	1.48	0.95
1:a:1408:A:H2	1:a:1459:G:H1	1.03	0.94
18:s:74:PHE:CE1	20:m:84:ILE:O	2.21	0.94
1:a:1333:U:H3	1:a:1354:G:H1	0.96	0.93
19:A:11:VAL:HA	20:m:115:ARG:HD3	1.47	0.93
1:a:1289:U:C5'	20:m:110:ARG:NH1	2.31	0.93
1:a:1145:G:H1	1:a:1153:U:H3	1.15	0.93
1:a:816:G:H1	1:a:832:U:H3	1.10	0.93
1:a:321:A:H2	1:a:332:G:H1	1.13	0.93
1:a:1291:G:H1'	20:m:74:VAL:CA	1.98	0.93
1:a:1010:C:N4	1:a:1014:U:H3	1.66	0.93
1:a:1038:G:H1	1:a:1180:U:H3	1.02	0.93
1:a:573:U:H3	1:a:626:G:H1	1.09	0.92
1:a:153:U:H3	1:a:162:G:H1	1.14	0.92
1:a:136:G:H1	1:a:224:U:H3	0.96	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1302:C:H1'	20:m:86:CYS:SG	2.09	0.92
1:a:1312:U:OP1	20:m:22:ILE:O	1.87	0.92
19:A:11:VAL:HA	20:m:115:ARG:NE	1.84	0.92
19:A:37:SER:HA	19:A:210:THR:HG21	1.50	0.92
3:d:10:ARG:HG3	3:d:33:PRO:HG3	1.49	0.91
1:a:1398:G:H1	1:a:1469:U:H3	1.01	0.91
1:a:585:U:O2	1:a:613:G:O6	1.89	0.91
1:a:1302:C:HO2'	20:m:88:GLN:H	0.92	0.91
1:a:37:A:O2'	11:l:29:GLN:NE2	2.04	0.91
1:a:1284:U:P	20:m:13:LYS:HD2	2.12	0.91
1:a:1302:C:C1'	20:m:86:CYS:SG	2.59	0.90
1:a:1291:G:OP1	20:m:92:HIS:CE1	2.23	0.90
1:a:930:C:OP2	20:m:108:ARG:CB	2.18	0.90
1:a:1289:U:H5'	20:m:110:ARG:NH1	1.87	0.90
1:a:417:G:H1	1:a:426:U:H3	1.06	0.89
1:a:1284:U:H5'	20:m:17:ILE:HG23	1.55	0.89
1:a:1310:C:O3'	20:m:29:ARG:HB2	1.72	0.89
1:a:909:G:H1	1:a:1373:U:H3	1.10	0.89
1:a:819:U:H3	1:a:829:G:H1	1.21	0.89
1:a:1223:G:H1	1:a:1277:U:H3	0.91	0.89
1:a:1396:A:N1	1:a:1471:G:O6	2.06	0.89
1:a:979:U:H3	1:a:1024:G:H1	1.19	0.88
1:a:1292:G:C4'	20:m:77:ASP:OD2	2.21	0.88
1:a:1292:G:H1'	20:m:73:GLU:OE2	1.74	0.88
1:a:1290:C:O3'	20:m:92:HIS:NE2	2.06	0.88
1:a:924:G:H1	1:a:1323:U:H3	1.19	0.87
1:a:448:A:N7	1:a:466:U:O4	2.08	0.87
1:a:930:C:OP1	20:m:107:ALA:C	2.17	0.87
1:a:1312:U:H5''	20:m:23:TYR:HA	1.55	0.87
1:a:562:U:H3	1:a:739:A:N6	1.73	0.87
15:q:73:ARG:HB3	15:q:95:GLU:HB2	1.56	0.87
1:a:1292:G:C4	20:m:73:GLU:OE2	2.28	0.87
1:a:1014:U:H2'	1:a:1015:G:H8	1.38	0.87
1:a:1289:U:H4'	20:m:110:ARG:CD	2.04	0.87
1:a:1289:U:C5'	20:m:110:ARG:CZ	2.53	0.86
1:a:907:G:O2'	1:a:1487:A:N6	2.08	0.86
1:a:128:U:H3	1:a:231:G:H1	1.22	0.86
1:a:1284:U:C2	20:m:17:ILE:CD1	2.58	0.86
19:A:37:SER:CB	19:A:40:TRP:CZ2	2.57	0.86
1:a:1209:C:H1'	20:m:117:ILE:HD13	1.54	0.86
1:a:1095:U:H3	1:a:1166:G:H1	0.87	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1278:C:C5'	20:m:44:ARG:HH12	1.87	0.86
1:a:794:A:H5''	1:a:1495:G:H5'	1.57	0.86
1:a:1408:A:C2	1:a:1459:G:N1	2.44	0.86
1:a:1302:C:O2'	20:m:87:TYR:C	2.18	0.85
18:s:12:ASP:HB3	18:s:15:LEU:HB3	1.56	0.85
1:a:1434:U:O2	1:a:1436:G:C6	2.29	0.85
18:s:69:HIS:CB	20:m:84:ILE:HD11	2.07	0.85
1:a:403:C:H5''	3:d:128:PRO:HD2	1.57	0.85
1:a:1499:C:H2'	1:a:1500:G:C8	2.10	0.85
1:a:1292:G:H5'	20:m:77:ASP:OD2	1.75	0.85
11:l:83:ARG:HD3	11:l:98:ILE:HD11	1.58	0.85
1:a:1244:G:O6	1:a:1254:G:N2	2.08	0.85
1:a:1044:G:H1	1:a:1173:C:H42	1.25	0.85
19:A:115:GLY:HA2	19:A:256:THR:HA	1.59	0.85
1:a:1208:A:H4'	19:A:9:PRO:HB2	1.57	0.84
1:a:562:U:H3	1:a:739:A:H62	1.24	0.84
1:a:1291:G:H1'	20:m:74:VAL:HG22	1.58	0.84
19:A:37:SER:HA	19:A:210:THR:CG2	2.06	0.84
1:a:1284:U:N1	20:m:17:ILE:CD1	2.41	0.84
2:c:162:MET:HE3	2:c:163:SER:H	1.43	0.84
1:a:376:G:H1	1:a:387:U:H3	1.23	0.84
1:a:762:A:H62	1:a:780:G:H21	1.25	0.84
1:a:1199:C:H2'	1:a:1200:A:H8	1.43	0.84
1:a:1291:G:C5'	20:m:78:ILE:CG1	2.51	0.84
1:a:296:U:H3	1:a:301:G:H1	0.84	0.83
2:c:63:VAL:HG11	2:c:99:GLN:H	1.43	0.83
1:a:1355:U:OP1	8:i:94:GLY:N	2.12	0.83
1:a:1499:C:H2'	1:a:1500:G:H8	1.43	0.83
1:a:496:U:OP2	1:a:497:G:N2	2.10	0.83
1:a:932:U:C6	20:m:102:ARG:NH1	2.46	0.83
4:e:132:ALA:H	4:e:137:ARG:HH21	1.25	0.83
1:a:1311:G:H5''	20:m:25:ILE:HA	1.57	0.83
1:a:930:C:OP2	20:m:108:ARG:N	2.07	0.83
1:a:107:G:O6	1:a:330:C:N4	2.11	0.82
1:a:255:G:H5''	15:q:62:HIS:HE1	1.44	0.82
1:a:592:U:H3	1:a:608:G:H1	0.85	0.82
1:a:1284:U:O4	20:m:14:ARG:NH1	2.12	0.82
1:a:49:U:H3	1:a:396:G:H1	1.25	0.82
1:a:428:G:O2'	3:d:29:ARG:NH1	2.13	0.82
2:c:120:ALA:HB1	2:c:189:ALA:HB2	1.61	0.82
1:a:592:U:O2	1:a:608:G:N2	2.13	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:700:C:H5'	16:r:50:ALA:HA	1.60	0.82
1:a:704:G:OP1	1:a:812:G:N2	2.13	0.82
1:a:1339:A:H61	1:a:1348:G:H1	0.85	0.82
19:A:18:VAL:HG11	19:A:91:TYR:HD1	1.45	0.82
1:a:404:G:O6	1:a:479:A:N6	2.13	0.82
1:a:927:G:N2	1:a:1316:G:O2'	2.13	0.81
1:a:1157:A:N6	1:a:1163:G:C6	2.47	0.81
1:a:669:C:OP1	10:k:38:ASN:ND2	2.14	0.81
1:a:970:G:H1'	1:a:998:G:H22	1.45	0.81
1:a:986:G:N2	1:a:987:A:N3	2.28	0.81
1:a:1291:G:O3'	20:m:77:ASP:HB2	1.80	0.81
1:a:1338:G:H2'	1:a:1339:A:H8	1.44	0.81
1:a:1428:U:H3	1:a:1441:G:H1	0.83	0.81
1:a:749:G:H4'	1:a:1497:A:H4'	1.62	0.81
1:a:654:G:H2'	1:a:655:A:H8	1.46	0.81
1:a:1291:G:OP1	20:m:81:LYS:HD2	1.80	0.81
1:a:930:C:P	20:m:109:THR:H	2.03	0.81
1:a:1103:U:O2	1:a:1131:G:N1	2.14	0.80
1:a:1284:U:O4	20:m:14:ARG:CD	2.29	0.80
1:a:1010:C:H42	1:a:1014:U:H3	0.85	0.80
1:a:1284:U:O4'	20:m:17:ILE:HD12	1.81	0.80
1:a:933:G:N7	20:m:102:ARG:NH2	2.30	0.80
1:a:1207:C:H5'	18:s:80:PHE:CE1	2.16	0.80
1:a:1141:G:O6	1:a:1157:A:N1	2.14	0.80
1:a:1236:G:O2'	1:a:1239:G:N3	2.14	0.80
1:a:145:G:H1	1:a:171:A:H2	1.25	0.80
1:a:1292:G:N9	20:m:73:GLU:OE2	2.14	0.79
1:a:1410:C:H2'	1:a:1411:A:H8	1.47	0.79
11:l:114:ARG:NH1	11:l:114:ARG:O	2.15	0.79
1:a:1251:G:H2'	1:a:1252:G:H8	1.46	0.79
4:e:45:ARG:NH1	4:e:47:SER:OG	2.14	0.79
20:m:97:PRO:HD2	20:m:103:THR:HG22	1.64	0.79
1:a:297:G:N2	1:a:300:A:OP2	2.12	0.79
1:a:310:G:H4'	14:p:32:ARG:HH11	1.47	0.79
1:a:1232:A:H2'	1:a:1233:A:C8	2.16	0.79
19:A:165:GLU:HA	19:A:168:MET:SD	2.22	0.79
1:a:811:U:H3	1:a:837:G:H1	1.30	0.79
14:p:15:ASN:HA	14:p:43:LYS:HE3	1.63	0.79
1:a:417:G:N2	1:a:426:U:O2	2.16	0.79
1:a:1292:G:C1'	20:m:73:GLU:OE2	2.30	0.79
2:c:130:ARG:HH21	2:c:131:ARG:CD	1.91	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:68:G:O6	1:a:97:A:N6	2.16	0.79
1:a:1284:U:C4	20:m:14:ARG:HD3	2.17	0.79
18:s:50:ALA:HB1	18:s:57:HIS:HB3	1.63	0.79
1:a:187:U:O2	1:a:201:G:O6	2.00	0.79
1:a:579:U:O2	1:a:619:G:N2	2.13	0.79
1:a:583:C:H2'	1:a:584:G:H8	1.46	0.79
1:a:1303:U:C4'	20:m:87:TYR:CD2	2.66	0.78
1:a:1415:G:O2'	1:a:1452:A:N6	2.15	0.78
19:A:7:LEU:HB3	19:A:251:TRP:HZ2	1.48	0.78
1:a:1303:U:O4'	20:m:87:TYR:CD2	2.36	0.78
1:a:1361:C:N3	6:g:76:ARG:NH2	2.32	0.78
1:a:125:U:O2	1:a:232:G:N2	2.17	0.78
1:a:582:U:H3	1:a:616:G:H1	0.80	0.78
1:a:907:G:O6	1:a:1374:U:O2	2.01	0.78
1:a:49:U:H2'	1:a:50:G:H8	1.49	0.78
1:a:481:G:OP1	11:l:114:ARG:NH2	2.16	0.78
1:a:490:A:O2'	1:a:522:G:N3	2.16	0.78
18:s:12:ASP:O	18:s:16:LEU:N	2.15	0.78
1:a:562:U:N3	1:a:739:A:N6	2.28	0.78
1:a:1292:G:H1'	20:m:73:GLU:CD	2.08	0.77
18:s:69:HIS:HB2	20:m:84:ILE:HD12	1.66	0.77
19:A:248:TYR:HA	19:A:260:THR:H	1.49	0.77
1:a:631:C:N4	1:a:733:A:OP2	2.16	0.77
1:a:1408:A:H2	1:a:1459:G:N1	1.80	0.77
1:a:122:G:OP1	1:a:585:U:O2'	2.03	0.77
1:a:1289:U:H5''	20:m:110:ARG:NH1	1.98	0.77
1:a:590:A:H3'	1:a:591:C:H6	1.50	0.77
1:a:1219:A:N7	1:a:1283:U:O2	2.18	0.77
1:a:49:U:H2'	1:a:50:G:C8	2.20	0.77
1:a:818:U:H3	1:a:830:G:H1	0.80	0.77
1:a:928:A:H2'	1:a:929:G:H8	1.48	0.77
1:a:1044:G:H1	1:a:1173:C:N4	1.83	0.77
1:a:1284:U:OP1	20:m:13:LYS:HD2	1.82	0.77
1:a:439:U:H1'	3:d:115:HIS:HA	1.66	0.77
1:a:562:U:O4	1:a:739:A:N7	2.18	0.77
1:a:745:G:H1	1:a:792:G:HO2'	0.77	0.77
1:a:1224:C:H4'	20:m:27:ARG:CD	2.14	0.77
1:a:1068:G:N2	1:a:1148:U:O4	2.16	0.77
1:a:1284:U:N3	20:m:17:ILE:HD11	1.99	0.77
1:a:1302:C:HO2'	20:m:88:GLN:N	1.68	0.77
1:a:1279:U:OP1	20:m:12:ASP:O	2.02	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:s:69:HIS:NE2	20:m:81:LYS:HB3	2.00	0.77
1:a:75:A:N6	1:a:95:C:O2	2.18	0.77
1:a:985:G:N2	1:a:1019:U:O4	2.17	0.77
1:a:1292:G:C5'	20:m:77:ASP:OD2	2.32	0.77
1:a:884:G:H2'	1:a:885:G:C8	2.20	0.76
1:a:1284:U:C5'	20:m:17:ILE:HG23	2.15	0.76
1:a:1046:C:O2	1:a:1172:A:N6	2.17	0.76
18:s:73:GLU:OE1	20:m:87:TYR:CD1	2.38	0.76
11:l:99:ARG:HB3	11:l:106:GLY:HA2	1.67	0.76
1:a:1120:G:H4'	1:a:1121:G:H5'	1.68	0.76
1:a:1141:G:O6	1:a:1163:G:N2	2.16	0.76
1:a:1291:G:H1'	20:m:74:VAL:CG2	2.14	0.76
1:a:372:C:N4	1:a:388:G:OP2	2.19	0.76
1:a:1141:G:H1	1:a:1157:A:H2	0.84	0.76
19:A:24:ARG:HH21	19:A:28:ALA:H	1.34	0.76
20:m:14:ARG:NH1	20:m:16:GLU:OE2	2.18	0.76
1:a:413:G:O2'	1:a:430:A:N6	2.19	0.76
1:a:1053:U:O4	1:a:1064:G:N2	2.18	0.75
1:a:604:U:H2'	1:a:605:G:H8	1.51	0.75
1:a:928:A:H2'	1:a:929:G:C8	2.22	0.75
1:a:698:A:H5'	10:k:128:ASN:HD22	1.50	0.75
1:a:1219:A:N6	1:a:1283:U:O2'	2.18	0.75
1:a:1292:G:H5'	20:m:77:ASP:HB3	1.66	0.75
19:A:19:PRO:HD2	19:A:86:ILE:HD12	1.67	0.75
1:a:1396:A:N1	1:a:1471:G:C6	2.53	0.75
1:a:1397:U:H3	1:a:1470:G:H1	0.82	0.75
2:c:190:LYS:NZ	2:c:191:THR:O	2.19	0.75
1:a:1140:U:O2	1:a:1142:C:N4	2.19	0.75
1:a:758:G:H21	10:k:131:ARG:HD3	1.52	0.75
1:a:667:A:N1	1:a:680:G:O2'	2.20	0.75
1:a:665:G:N2	1:a:684:A:OP2	2.15	0.75
1:a:1311:G:O2'	20:m:70:LEU:HD13	1.87	0.75
7:h:41:LYS:HE3	7:h:42:ARG:HH11	1.52	0.74
1:a:312:C:H2'	1:a:313:A:C8	2.22	0.74
1:a:931:A:N7	20:m:106:ASN:CG	2.45	0.74
1:a:153:U:O2	1:a:162:G:N2	2.16	0.74
1:a:582:U:O2	1:a:616:G:N2	2.16	0.74
1:a:932:U:C5	20:m:102:ARG:CZ	2.71	0.74
1:a:1112:C:N4	1:a:1120:G:O6	2.20	0.74
1:a:1302:C:C4'	20:m:88:GLN:HG3	2.14	0.74
7:h:106:ILE:HG12	7:h:127:VAL:HG12	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:663:G:H1	1:a:687:U:H3	0.79	0.74
6:g:51:ARG:HB2	6:g:58:PRO:HG3	1.70	0.74
1:a:1396:A:H2	1:a:1471:G:H1	0.77	0.74
1:a:566:U:O2	1:a:735:G:O6	2.06	0.74
1:a:1284:U:N1	20:m:17:ILE:HD11	2.00	0.74
1:a:1284:U:O4	20:m:14:ARG:CZ	2.35	0.74
1:a:494:C:H2'	1:a:495:G:H8	1.53	0.74
20:m:16:GLU:OE1	20:m:31:ASN:ND2	2.20	0.74
1:a:932:U:C5	20:m:102:ARG:NH1	2.55	0.74
1:a:975:G:O2'	1:a:976:A:N7	2.18	0.74
1:a:1158:G:N2	1:a:1162:G:O6	2.20	0.73
8:i:35:ALA:HB2	8:i:90:GLY:HA3	1.68	0.73
20:m:33:ILE:HD11	20:m:64:LEU:HD22	1.70	0.73
1:a:485:G:H2'	1:a:486:G:C8	2.22	0.73
1:a:1284:U:N1	20:m:17:ILE:HD12	2.02	0.73
1:a:695:A:H2'	1:a:696:A:C8	2.23	0.73
1:a:748:A:H1'	1:a:1496:U:H1'	1.69	0.73
1:a:1042:U:OP2	2:c:3:GLN:NE2	2.22	0.73
4:e:186:ILE:HA	4:e:189:VAL:HB	1.71	0.73
10:k:102:ARG:NH2	10:k:121:ASP:OD1	2.20	0.73
1:a:193:C:H5	15:q:18:GLY:HA2	1.53	0.73
1:a:363:A:H1'	11:l:29:GLN:HE21	1.54	0.73
1:a:1046:C:C2	1:a:1172:A:N6	2.56	0.73
1:a:1291:G:C1'	20:m:74:VAL:HG22	2.18	0.73
1:a:705:G:OP1	1:a:835:G:N2	2.22	0.73
1:a:1228:U:H3	1:a:1272:G:H1	1.34	0.73
1:a:1330:U:O2	1:a:1357:A:N7	2.22	0.73
19:A:26:GLU:HB3	19:A:35:GLU:HG3	1.71	0.73
1:a:908:G:H3'	1:a:1487:A:H61	1.53	0.73
1:a:931:A:O2'	1:a:1346:A:OP2	2.06	0.73
1:a:793:U:OP2	1:a:796:A:N6	2.23	0.72
1:a:1408:A:N1	1:a:1459:G:O6	2.22	0.72
1:a:322:C:O2	1:a:329:A:N6	2.21	0.72
1:a:343:U:O2'	1:a:346:G:O6	2.08	0.72
1:a:922:C:O2'	6:g:33:GLU:OE2	2.06	0.72
1:a:562:U:OP2	1:a:738:G:N1	2.18	0.72
1:a:863:G:OP2	11:l:6:GLN:NE2	2.22	0.72
1:a:1180:U:H1'	9:j:55:PRO:HB2	1.71	0.72
3:d:164:SER:O	3:d:167:GLN:NE2	2.22	0.72
1:a:362:G:N2	1:a:365:U:OP2	2.16	0.72
1:a:583:C:H2'	1:a:584:G:C8	2.24	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1295:U:H2'	1:a:1296:C:C6	2.24	0.72
1:a:145:G:O6	1:a:171:A:N1	2.22	0.72
20:m:66:VAL:HG12	20:m:67:GLU:H	1.55	0.72
1:a:148:A:N7	1:a:167:U:O2	2.23	0.72
1:a:694:G:H2'	1:a:695:A:C8	2.25	0.72
1:a:989:G:N1	1:a:1006:U:N3	2.35	0.72
18:s:74:PHE:HE1	20:m:84:ILE:HG13	1.54	0.72
1:a:562:U:C2	1:a:739:A:N6	2.57	0.72
1:a:811:U:O2	1:a:837:G:N2	2.19	0.72
1:a:1277:U:HO2'	20:m:14:ARG:HE	1.37	0.72
1:a:1284:U:O4	20:m:14:ARG:HD3	1.89	0.72
1:a:1398:G:N2	1:a:1469:U:O2	2.21	0.72
1:a:142:U:H2'	1:a:143:G:H8	1.55	0.72
1:a:993:G:N1	1:a:1002:U:N3	2.37	0.72
1:a:1035:A:N6	1:a:1181:C:O2	2.22	0.72
1:a:535:C:H2'	1:a:536:C:C6	2.26	0.71
1:a:868:G:N2	1:a:893:U:O2	2.22	0.71
12:n:3:LYS:HB2	12:n:6:LEU:HG	1.71	0.71
1:a:40:C:H5''	11:l:120:LYS:HG2	1.70	0.71
1:a:142:U:O2	1:a:174:G:O6	2.07	0.71
1:a:1138:A:OP1	1:a:1139:C:N4	2.23	0.71
19:A:37:SER:CB	19:A:40:TRP:HZ2	1.91	0.71
1:a:567:G:OP1	7:h:86:ARG:NH2	2.24	0.71
1:a:1106:U:H6	1:a:1261:A:H2'	1.53	0.71
1:a:1125:G:H21	1:a:1127:A:H62	1.38	0.71
1:a:1284:U:C6	20:m:17:ILE:CD1	2.73	0.71
9:j:12:ALA:HB3	9:j:18:ILE:HB	1.71	0.71
1:a:456:C:O2'	1:a:457:A:N7	2.23	0.71
1:a:485:G:H2'	1:a:486:G:H8	1.56	0.71
1:a:909:G:H1'	1:a:1516:U:H4'	1.72	0.71
1:a:575:G:O2'	1:a:620:A:N6	2.24	0.71
1:a:1291:G:H5''	20:m:78:ILE:HG13	1.72	0.71
3:d:147:THR:HG22	3:d:149:PRO:HD2	1.71	0.71
4:e:181:ARG:NH2	7:h:132:TRP:O	2.22	0.71
1:a:933:G:O6	20:m:105:THR:HG21	1.91	0.71
1:a:1103:U:H1'	1:a:1131:G:H22	1.56	0.71
1:a:1223:G:N2	1:a:1277:U:O2	2.18	0.71
4:e:189:VAL:O	7:h:101:LEU:HA	1.90	0.71
10:k:83:ALA:HB1	10:k:88:VAL:HB	1.73	0.71
1:a:185:G:H1	1:a:203:U:H3	1.37	0.71
1:a:927:G:N2	1:a:1217:A:N1	2.35	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:141:LYS:HE3	3:d:143:LYS:HB2	1.73	0.71
16:r:57:CYS:SG	16:r:60:HIS:ND1	2.58	0.71
1:a:416:G:H2'	1:a:417:G:C8	2.26	0.71
1:a:1221:U:H3'	1:a:1222:G:H8	1.55	0.71
1:a:1291:G:H4'	20:m:74:VAL:O	1.91	0.71
15:q:34:LYS:O	15:q:86:LYS:NZ	2.22	0.71
1:a:501:G:N7	11:l:50:ARG:NH1	2.39	0.70
1:a:702:G:O2'	1:a:704:G:N7	2.21	0.70
1:a:1291:G:H2'	1:a:1292:G:H8	1.55	0.70
1:a:1363:U:H2'	6:g:3:ARG:HH12	1.56	0.70
1:a:1003:C:H2'	1:a:1004:G:H8	1.56	0.70
1:a:1278:C:C5'	20:m:44:ARG:HH22	2.04	0.70
20:m:34:LEU:HD22	20:m:39:ILE:HB	1.72	0.70
1:a:128:U:O2	1:a:231:G:N2	2.20	0.70
1:a:324:G:N1	1:a:327:A:OP2	2.24	0.70
1:a:978:A:N6	1:a:1025:C:O2	2.23	0.70
1:a:1054:G:O2'	1:a:1081:A:N1	2.22	0.70
1:a:1328:A:H61	1:a:1357:A:H3'	1.55	0.70
1:a:531:U:O2'	11:l:83:ARG:NH1	2.24	0.70
1:a:579:U:H3	1:a:619:G:H1	0.74	0.70
1:a:1291:G:H2'	1:a:1292:G:C8	2.27	0.70
1:a:1305:G:N3	1:a:1343:G:O2'	2.25	0.70
1:a:89:G:H3'	1:a:90:G:H8	1.55	0.70
1:a:321:A:N1	1:a:332:G:O6	2.25	0.70
3:d:49:GLN:HG2	3:d:194:LEU:HB3	1.74	0.70
3:d:47:ARG:NH1	3:d:51:GLN:OE1	2.23	0.70
12:n:26:LYS:NZ	12:n:47:MET:SD	2.65	0.70
18:s:53:ASP:HB2	18:s:77:THR:HG22	1.73	0.70
1:a:10:G:O6	4:e:125:SER:N	2.23	0.70
1:a:1208:A:H5''	19:A:8:ARG:HH12	1.57	0.70
9:j:51:VAL:HG13	12:n:41:ARG:HB2	1.72	0.70
1:a:321:A:C2	1:a:332:G:N1	2.57	0.70
1:a:492:U:H2'	1:a:493:A:H8	1.55	0.70
1:a:1287:G:H2'	1:a:1288:A:H8	1.57	0.70
1:a:121:U:O3'	1:a:613:G:N2	2.25	0.70
1:a:178:A:N3	1:a:180:A:N6	2.38	0.70
8:i:89:GLY:O	8:i:95:GLN:NE2	2.24	0.70
1:a:41:U:O2'	1:a:527:A:N1	2.23	0.70
1:a:761:A:H3'	1:a:762:A:H8	1.56	0.70
1:a:1279:U:H1'	1:a:1280:C:H5	1.56	0.70
1:a:1291:G:O2'	20:m:73:GLU:O	2.10	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:24:ALA:HB1	2:c:27:GLN:HB3	1.72	0.70
1:a:1209:C:OP1	20:m:115:ARG:CZ	2.40	0.69
8:i:41:LEU:HD12	8:i:81:PHE:CE2	2.27	0.69
1:a:416:G:H2'	1:a:417:G:H8	1.57	0.69
1:a:860:C:H2'	1:a:861:C:C6	2.26	0.69
8:i:108:ILE:HD11	8:i:124:LEU:HD22	1.72	0.69
19:A:7:LEU:HB3	19:A:251:TRP:CZ2	2.27	0.69
1:a:774:A:N1	1:a:1489:G:N2	2.40	0.69
20:m:14:ARG:HB2	20:m:17:ILE:HG12	1.74	0.69
1:a:87:G:H2'	1:a:88:G:H8	1.56	0.69
1:a:903:U:O2'	4:e:49:VAL:O	2.10	0.69
1:a:979:U:O2	1:a:1024:G:N2	2.25	0.69
1:a:1292:G:H1'	20:m:73:GLU:CG	2.22	0.69
18:s:74:PHE:HD1	20:m:85:GLY:C	2.01	0.69
1:a:136:G:N2	1:a:224:U:O2	2.25	0.69
1:a:416:G:N2	1:a:427:U:O2	2.24	0.69
1:a:1051:C:H2'	1:a:1052:G:C8	2.27	0.69
1:a:1051:C:H2'	1:a:1052:G:H8	1.58	0.69
1:a:1290:C:H5''	20:m:98:VAL:HB	1.72	0.69
1:a:1470:G:H2'	1:a:1471:G:C8	2.27	0.69
1:a:83:U:O2	1:a:86:G:C6	2.45	0.69
1:a:181:C:H2'	1:a:182:C:H6	1.56	0.69
1:a:405:U:OP2	3:d:3:ARG:NH1	2.26	0.69
5:f:6:ILE:HG12	5:f:90:VAL:HG22	1.75	0.69
1:a:448:A:H62	1:a:466:U:H3	0.77	0.69
1:a:492:U:H2'	1:a:493:A:C8	2.27	0.69
1:a:1035:A:OP1	1:a:1181:C:N4	2.26	0.69
13:o:26:GLU:HG3	13:o:81:LEU:HD22	1.74	0.69
1:a:733:A:OP1	13:o:69:TYR:OH	2.09	0.69
1:a:1170:U:OP1	12:n:58:LYS:NZ	2.26	0.69
20:m:109:THR:OG1	20:m:110:ARG:NH1	2.24	0.69
1:a:1291:G:O3'	20:m:77:ASP:CB	2.40	0.69
5:f:9:ILE:HD12	5:f:87:ARG:HB2	1.74	0.69
13:o:36:ILE:HD12	13:o:56:LEU:HD12	1.76	0.69
9:j:35:SER:HB3	9:j:77:LEU:HB2	1.75	0.68
10:k:76:ALA:HB1	10:k:109:LEU:HG	1.75	0.68
1:a:166:C:H2'	1:a:167:U:H6	1.57	0.68
1:a:402:G:H5'	1:a:601:A:H1'	1.74	0.68
1:a:694:G:N2	10:k:130:CYS:SG	2.65	0.68
1:a:746:A:N7	1:a:793:U:O4	2.26	0.68
1:a:818:U:O2	1:a:830:G:N2	2.21	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:942:U:H5	18:s:78:ARG:HD3	1.58	0.68
1:a:1337:A:H2'	1:a:1338:G:C8	2.28	0.68
18:s:22:GLN:NE2	18:s:29:GLN:O	2.26	0.68
1:a:40:C:O2'	11:l:114:ARG:NH2	2.24	0.68
1:a:413:G:N2	1:a:428:G:O3'	2.26	0.68
1:a:586:G:H21	1:a:612:U:H5'	1.58	0.68
1:a:698:A:C5	10:k:127:HIS:HB2	2.28	0.68
1:a:1443:G:H2'	1:a:1444:A:H8	1.58	0.68
18:s:66:MET:HA	20:m:84:ILE:HG21	1.75	0.68
1:a:909:G:H2'	1:a:910:G:C8	2.29	0.68
15:q:29:SER:HB3	15:q:37:VAL:HB	1.74	0.68
1:a:616:G:H2'	1:a:617:G:H8	1.59	0.68
1:a:406:G:N3	3:d:111:GLN:NE2	2.34	0.68
1:a:1311:G:H4'	20:m:24:GLY:C	2.19	0.68
1:a:148:A:N7	1:a:167:U:C2	2.61	0.68
1:a:1302:C:H4'	20:m:88:GLN:CG	2.18	0.68
1:a:211:A:O2'	1:a:220:G:N2	2.21	0.68
1:a:1289:U:H5'	20:m:110:ARG:HH11	1.57	0.68
1:a:375:U:H2'	1:a:376:G:H8	1.59	0.68
1:a:1292:G:H1'	20:m:73:GLU:HG3	1.76	0.68
1:a:1303:U:C4'	20:m:87:TYR:HD2	2.06	0.68
1:a:1251:G:H2'	1:a:1252:G:C8	2.29	0.68
1:a:1254:G:H2'	1:a:1255:G:C4	2.29	0.68
1:a:1416:A:OP2	1:a:1451:G:N1	2.23	0.68
16:r:49:ARG:HD3	16:r:53:VAL:HG11	1.75	0.68
1:a:206:G:O3'	17:t:52:HIS:NE2	2.27	0.67
1:a:1291:G:O4'	20:m:74:VAL:HG13	1.94	0.67
1:a:1406:G:H1	1:a:1461:U:H3	0.75	0.67
4:e:162:VAL:O	4:e:165:THR:OG1	2.11	0.67
1:a:592:U:H2'	1:a:593:C:C6	2.28	0.67
1:a:1311:G:H5''	20:m:25:ILE:CA	2.25	0.67
1:a:1312:U:H4'	20:m:23:TYR:CE2	2.27	0.67
10:k:38:ASN:HB3	10:k:66:LYS:HG2	1.76	0.67
18:s:69:HIS:CG	20:m:84:ILE:HD11	2.28	0.67
19:A:144:ASN:H	19:A:269:GLU:HB3	1.59	0.67
1:a:910:G:H2'	1:a:911:G:H8	1.58	0.67
1:a:1059:G:O2'	1:a:1060:A:O4'	2.11	0.67
1:a:1199:C:H2'	1:a:1200:A:C8	2.27	0.67
1:a:249:U:O2	1:a:275:G:O6	2.13	0.67
1:a:1310:C:O2	20:m:65:LYS:HD2	1.93	0.67
16:r:20:CYS:SG	16:r:21:VAL:N	2.68	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:415:C:N4	1:a:428:G:O6	2.27	0.67
1:a:669:C:H5''	10:k:38:ASN:HD21	1.58	0.67
1:a:804:U:H2'	1:a:805:A:H8	1.59	0.67
1:a:1096:U:O4	1:a:1165:G:O6	2.11	0.67
1:a:623:C:H2'	1:a:624:G:H8	1.60	0.67
1:a:1302:C:O2'	20:m:87:TYR:CA	2.42	0.67
1:a:1304:C:H5''	1:a:1345:A:H61	1.58	0.67
20:m:24:GLY:HA2	20:m:70:LEU:HD12	1.77	0.67
1:a:457:A:O2'	1:a:458:A:O5'	2.12	0.67
2:c:149:ILE:HG22	2:c:170:GLU:HB3	1.77	0.67
1:a:703:U:O2'	1:a:812:G:N2	2.28	0.67
1:a:909:G:H2'	1:a:910:G:H8	1.60	0.67
1:a:1003:C:H2'	1:a:1004:G:C8	2.30	0.67
14:p:28:ARG:HG3	14:p:30:ASP:H	1.60	0.67
1:a:636:G:O2'	13:o:28:GLN:OE1	2.11	0.67
1:a:1280:C:N4	6:g:114:LYS:O	2.28	0.67
19:A:170:ALA:HB1	19:A:183:VAL:HG13	1.77	0.67
1:a:725:A:OP1	1:a:833:C:O2'	2.11	0.66
15:q:76:LEU:HD22	15:q:88:TRP:HB3	1.77	0.66
19:A:112:ILE:HD12	19:A:257:VAL:HG11	1.75	0.66
19:A:9:PRO:HG2	19:A:252:ASP:HB3	1.77	0.66
1:a:1278:C:H5''	20:m:44:ARG:CZ	2.26	0.66
1:a:18:U:N3	1:a:21:U:OP2	2.24	0.66
1:a:832:U:H2'	1:a:833:C:C6	2.30	0.66
1:a:1106:U:O2	9:j:7:ARG:NH1	2.28	0.66
1:a:1508:C:OP1	10:k:131:ARG:NH2	2.28	0.66
10:k:89:LYS:NZ	10:k:115:GLU:OE1	2.28	0.66
1:a:655:A:H1'	10:k:127:HIS:CD2	2.30	0.66
1:a:1168:G:N3	12:n:60:SER:OG	2.27	0.66
1:a:1284:U:OP2	20:m:13:LYS:HD2	1.95	0.66
1:a:1291:G:O4'	20:m:74:VAL:HA	1.94	0.66
1:a:1311:G:OP1	20:m:29:ARG:CB	2.44	0.66
1:a:1397:U:O2	1:a:1470:G:N2	2.23	0.66
16:r:19:LYS:HB2	16:r:24:SER:HB3	1.78	0.66
1:a:165:U:H2'	1:a:166:C:C6	2.31	0.66
1:a:725:A:N1	1:a:726:G:O6	2.28	0.66
1:a:1033:G:H4'	1:a:1034:C:H5'	1.77	0.66
1:a:119:C:H2'	1:a:120:G:C8	2.31	0.66
1:a:393:A:OP1	14:p:14:ARG:NH2	2.29	0.66
1:a:1221:U:H3'	1:a:1222:G:C8	2.31	0.66
1:a:1284:U:OP1	20:m:13:LYS:CD	2.44	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:663:G:N2	1:a:687:U:O2	2.26	0.66
1:a:953:G:N2	1:a:1346:A:OP1	2.27	0.66
1:a:1311:G:O3'	20:m:23:TYR:O	2.14	0.66
20:m:22:ILE:HG22	20:m:24:GLY:H	1.61	0.66
1:a:106:C:O2'	14:p:26:ARG:O	2.14	0.66
1:a:312:C:H2'	1:a:313:A:H8	1.59	0.66
1:a:591:C:H2'	1:a:592:U:H6	1.59	0.66
1:a:656:A:H2'	1:a:657:U:C6	2.31	0.66
1:a:1200:A:OP1	12:n:19:ARG:NH2	2.23	0.66
1:a:1247:G:N2	1:a:1250:A:OP2	2.25	0.66
1:a:1282:G:N2	1:a:1283:U:O4	2.29	0.66
1:a:28:U:H2'	1:a:29:C:C6	2.31	0.66
1:a:674:G:H5''	10:k:64:SER:HB3	1.76	0.66
9:j:32:THR:O	9:j:82:LYS:NZ	2.28	0.66
1:a:497:G:H1'	1:a:510:G:H5''	1.78	0.65
1:a:1302:C:C1'	20:m:86:CYS:HG	2.04	0.65
6:g:130:GLY:HA2	6:g:135:VAL:HG21	1.78	0.65
1:a:1324:C:H2'	1:a:1325:G:C8	2.31	0.65
19:A:12:LEU:H	20:m:115:ARG:HD3	1.61	0.65
1:a:54:A:O2'	1:a:360:G:N2	2.30	0.65
2:c:59:THR:HG22	2:c:60:ARG:H	1.62	0.65
1:a:229:U:H2'	1:a:230:G:C8	2.32	0.65
1:a:665:G:N1	1:a:683:G:O2'	2.29	0.65
1:a:909:G:O2'	1:a:1516:U:O2'	2.13	0.65
1:a:929:G:O3'	20:m:109:THR:HG23	1.96	0.65
20:m:90:LEU:HD23	20:m:93:ARG:HD2	1.77	0.65
1:a:533:G:O2'	11:l:26:GLY:O	2.09	0.65
1:a:668:G:H4'	10:k:53:TRP:HH2	1.62	0.65
1:a:656:A:H2'	1:a:657:U:H6	1.61	0.65
1:a:1384:G:OP2	1:a:1386:C:N4	2.29	0.65
1:a:87:G:H2'	1:a:88:G:C8	2.32	0.65
1:a:147:U:H3	1:a:168:A:H62	1.45	0.65
1:a:166:C:H2'	1:a:167:U:C6	2.31	0.65
1:a:193:C:O2	1:a:194:A:N6	2.27	0.65
1:a:591:C:H2'	1:a:592:U:C6	2.31	0.65
1:a:914:C:H3'	6:g:3:ARG:HD2	1.79	0.65
1:a:1086:G:H2'	1:a:1087:C:C6	2.31	0.65
1:a:1303:U:H4'	20:m:87:TYR:CD2	2.31	0.65
1:a:1410:C:H2'	1:a:1411:A:C8	2.30	0.65
13:o:29:VAL:O	13:o:33:THR:OG1	2.11	0.65
1:a:1359:U:O4	6:g:10:ARG:NH1	2.24	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1454:G:H2'	1:a:1455:G:H8	1.60	0.65
4:e:45:ARG:HH11	4:e:47:SER:HG	1.45	0.65
9:j:29:VAL:HG13	9:j:34:ALA:HB3	1.77	0.65
1:a:181:C:H2'	1:a:182:C:C6	2.31	0.65
1:a:424:G:H2'	1:a:425:G:H8	1.61	0.65
1:a:461:G:O2'	1:a:463:C:N4	2.30	0.65
1:a:919:A:O2'	6:g:76:ARG:NE	2.21	0.65
1:a:1141:G:C6	1:a:1157:A:N1	2.65	0.65
1:a:1234:G:O6	1:a:1265:U:O2	2.15	0.65
1:a:1312:U:H5'	20:m:23:TYR:CA	2.24	0.65
2:c:156:ARG:HH21	2:c:193:PHE:HB3	1.60	0.65
1:a:522:G:H3'	3:d:10:ARG:HH21	1.62	0.64
19:A:60:ALA:HB3	19:A:132:VAL:HG11	1.79	0.64
1:a:142:U:H2'	1:a:143:G:C8	2.31	0.64
1:a:1220:A:H3'	6:g:116:MET:HE1	1.79	0.64
1:a:1378:C:H2'	1:a:1379:A:C8	2.32	0.64
1:a:296:U:O2'	1:a:536:C:O2	2.14	0.64
3:d:40:ARG:HH21	3:d:43:GLU:HB2	1.62	0.64
14:p:46:PRO:HG2	14:p:48:LEU:HB2	1.78	0.64
19:A:50:MET:HE2	19:A:271:THR:HG21	1.79	0.64
1:a:185:G:N2	1:a:203:U:O2	2.29	0.64
1:a:321:A:H2	1:a:332:G:N1	1.92	0.64
1:a:737:U:O2'	1:a:861:C:O2	2.15	0.64
1:a:1230:C:N4	1:a:1270:A:OP2	2.30	0.64
2:c:130:ARG:CZ	2:c:131:ARG:HD3	2.28	0.64
11:l:69:GLY:HA3	11:l:107:VAL:HG21	1.79	0.64
14:p:8:THR:OG1	14:p:30:ASP:OD1	2.16	0.64
1:a:590:A:H3'	1:a:591:C:C6	2.31	0.64
1:a:1170:U:O2'	2:c:176:HIS:O	2.13	0.64
1:a:1330:U:H2'	1:a:1331:A:H8	1.62	0.64
1:a:448:A:H2'	1:a:449:C:H6	1.63	0.64
1:a:1296:C:H2'	1:a:1297:U:H6	1.61	0.64
1:a:209:A:N3	1:a:222:U:O2'	2.26	0.64
1:a:404:G:OP1	3:d:114:SER:OG	2.15	0.64
1:a:1234:G:N2	1:a:1337:A:O3'	2.31	0.64
1:a:119:C:H2'	1:a:120:G:H8	1.63	0.64
1:a:658:U:H2'	1:a:659:C:C6	2.33	0.64
1:a:972:U:O4	1:a:1196:G:O6	2.15	0.64
19:A:240:MET:HE1	19:A:265:THR:HG21	1.79	0.64
1:a:21:U:H2'	1:a:22:C:C6	2.32	0.64
1:a:296:U:O2	1:a:301:G:N2	2.26	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1209:C:OP1	20:m:115:ARG:NE	2.30	0.64
1:a:1209:C:H2'	1:a:1210:A:H8	1.63	0.64
1:a:1438:G:H2'	1:a:1439:G:H8	1.62	0.64
1:a:776:C:H2'	1:a:777:C:C6	2.33	0.63
1:a:1337:A:H2'	1:a:1338:G:H8	1.62	0.63
1:a:636:G:OP1	13:o:62:ARG:NH2	2.31	0.63
1:a:932:U:OP2	20:m:102:ARG:HB2	1.98	0.63
1:a:1311:G:H1'	20:m:70:LEU:HD13	1.79	0.63
18:s:69:HIS:CD2	20:m:84:ILE:HD11	2.34	0.63
18:s:81:LYS:HE2	18:s:85:LYS:HD2	1.80	0.63
19:A:251:TRP:CE3	19:A:253:ASP:HB2	2.32	0.63
1:a:292:G:O2'	1:a:589:A:N6	2.31	0.63
1:a:931:A:N7	20:m:106:ASN:ND2	2.46	0.63
5:f:87:ARG:NH1	16:r:73:GLU:O	2.31	0.63
11:l:30:ARG:NE	11:l:59:SER:OG	2.31	0.63
12:n:2:ALA:HA	12:n:23:ARG:HH12	1.63	0.63
1:a:1443:G:H2'	1:a:1444:A:C8	2.33	0.63
4:e:181:ARG:NH1	7:h:73:SER:O	2.31	0.63
1:a:1291:G:OP2	20:m:98:VAL:HG11	1.98	0.63
2:c:130:ARG:NH2	2:c:131:ARG:CD	2.52	0.63
17:t:45:ASP:OD1	17:t:46:LYS:N	2.30	0.63
18:s:74:PHE:CE1	20:m:84:ILE:HG13	2.32	0.63
7:h:46:ILE:HG22	7:h:64:LEU:HD23	1.81	0.63
15:q:34:LYS:HG2	15:q:64:GLU:HA	1.81	0.63
20:m:26:GLY:O	20:m:30:SER:N	2.25	0.63
1:a:760:G:N1	1:a:781:U:OP2	2.26	0.63
1:a:972:U:O2'	1:a:976:A:OP1	2.16	0.63
8:i:26:ILE:HG13	8:i:41:LEU:HB2	1.81	0.63
1:a:25:G:H2'	1:a:26:G:C8	2.34	0.63
1:a:264:U:O3'	15:q:80:ARG:NH2	2.32	0.63
1:a:1289:U:OP1	20:m:110:ARG:NH2	2.31	0.63
4:e:192:ALA:HA	4:e:195:LEU:HB2	1.79	0.63
1:a:498:C:H5	1:a:509:G:H3'	1.63	0.63
1:a:993:G:N2	1:a:1002:U:O2	2.30	0.63
1:a:1089:C:OP2	1:a:1091:A:N6	2.32	0.63
7:h:49:TYR:HB2	7:h:60:LEU:HD11	1.79	0.63
19:A:251:TRP:HE3	19:A:253:ASP:HB2	1.62	0.63
1:a:293:G:O3'	1:a:590:A:O2'	2.17	0.62
1:a:380:G:N2	1:a:383:A:OP2	2.26	0.62
1:a:1105:U:O3'	9:j:7:ARG:NH2	2.30	0.62
7:h:53:ASP:OD1	7:h:58:LYS:NZ	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:A:237:ILE:HG22	19:A:239:PRO:HD3	1.80	0.62
1:a:598:C:N4	1:a:601:A:OP2	2.33	0.62
1:a:762:A:H62	1:a:780:G:N2	1.97	0.62
1:a:793:U:H5''	1:a:796:A:H62	1.64	0.62
1:a:964:U:O2	1:a:1203:G:N1	2.29	0.62
1:a:1363:U:H2'	6:g:3:ARG:NH1	2.14	0.62
15:q:22:THR:HA	15:q:76:LEU:O	1.99	0.62
16:r:50:ALA:HB3	16:r:53:VAL:HG23	1.80	0.62
1:a:136:G:O6	1:a:224:U:O4	2.17	0.62
1:a:401:C:O2'	1:a:601:A:N3	2.32	0.62
1:a:429:U:OP1	3:d:13:ARG:NH1	2.28	0.62
1:a:604:U:H2'	1:a:605:G:C8	2.33	0.62
1:a:956:A:H5'	12:n:31:HIS:HB3	1.82	0.62
2:c:7:PRO:HG2	2:c:184:TYR:HB2	1.81	0.62
2:c:91:GLU:HG2	2:c:98:VAL:H	1.65	0.62
1:a:407:A:O2'	3:d:108:MET:HE1	1.99	0.62
1:a:655:A:H1'	10:k:127:HIS:HD2	1.64	0.62
1:a:795:A:N7	1:a:1493:C:O2'	2.27	0.62
1:a:1129:U:O2	8:i:38:ARG:NH1	2.33	0.62
1:a:362:G:O3'	11:l:30:ARG:NH1	2.32	0.62
1:a:1288:A:O2'	20:m:109:THR:HG21	2.00	0.62
2:c:143:GLN:O	2:c:144:PRO:C	2.42	0.62
1:a:376:G:N2	1:a:387:U:O2	2.32	0.62
1:a:989:G:N2	1:a:1006:U:O2	2.33	0.62
1:a:1302:C:O4'	20:m:86:CYS:SG	2.57	0.62
19:A:111:ILE:HG23	19:A:257:VAL:H	1.64	0.62
1:a:417:G:O6	1:a:426:U:O4	2.18	0.62
1:a:704:G:O4'	16:r:51:ARG:NH1	2.32	0.62
1:a:1014:U:H2'	1:a:1015:G:C8	2.28	0.62
1:a:1088:G:OP2	2:c:175:LEU:N	2.32	0.62
1:a:1292:G:N2	20:m:65:LYS:NZ	2.48	0.62
1:a:1311:G:H4'	20:m:24:GLY:O	1.99	0.62
14:p:6:LYS:NZ	14:p:24:ASP:O	2.24	0.62
1:a:998:G:H2'	1:a:999:A:C8	2.34	0.62
1:a:1089:C:H2'	1:a:1090:A:H8	1.65	0.62
1:a:1312:U:C4'	20:m:23:TYR:CD2	2.72	0.62
5:f:70:ALA:O	5:f:74:GLU:HG2	2.00	0.62
7:h:106:ILE:HA	7:h:127:VAL:HA	1.80	0.62
1:a:424:G:H2'	1:a:425:G:C8	2.34	0.62
1:a:663:G:O6	1:a:687:U:O4	2.18	0.62
1:a:1242:A:OP2	1:a:1255:G:N2	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:139:LYS:HG2	8:i:145:PRO:HG3	1.81	0.62
15:q:81:PRO:HA	15:q:87:ARG:HG3	1.82	0.62
1:a:403:C:H5'	3:d:127:ILE:HG23	1.82	0.61
1:a:585:U:O2	1:a:613:G:C6	2.52	0.61
1:a:730:C:O2'	13:o:21:ASP:OD1	2.16	0.61
1:a:932:U:P	20:m:102:ARG:HB2	2.40	0.61
5:f:77:ARG:NE	5:f:78:GLN:OE1	2.30	0.61
19:A:26:GLU:OE2	19:A:34:GLN:HA	1.99	0.61
1:a:695:A:H2'	1:a:696:A:H8	1.63	0.61
1:a:975:G:N7	1:a:1194:A:N6	2.48	0.61
1:a:1209:C:C5'	20:m:115:ARG:HG3	2.16	0.61
8:i:139:LYS:HB2	8:i:143:LYS:HD3	1.81	0.61
1:a:148:A:H62	1:a:167:U:H1'	1.64	0.61
1:a:772:A:H4'	1:a:773:U:H5'	1.82	0.61
1:a:1104:G:O2'	1:a:1126:G:N1	2.33	0.61
1:a:1325:G:H4'	8:i:144:ALA:HB3	1.82	0.61
5:f:74:GLU:OE1	5:f:77:ARG:NH1	2.32	0.61
7:h:18:ASN:O	7:h:70:ARG:NH2	2.33	0.61
7:h:118:ALA:O	7:h:122:GLY:N	2.32	0.61
19:A:175:LYS:HB2	19:A:178:ARG:HD2	1.82	0.61
1:a:19:G:N2	1:a:1060:A:O2'	2.33	0.61
1:a:616:G:H2'	1:a:617:G:C8	2.35	0.61
1:a:1292:G:C5'	20:m:77:ASP:CB	2.68	0.61
3:d:151:GLN:HG2	3:d:154:ARG:HH21	1.64	0.61
1:a:53:U:H3	1:a:362:G:H1'	1.65	0.61
3:d:86:LEU:HD11	3:d:183:ARG:HG3	1.82	0.61
1:a:354:G:N2	1:a:388:G:O2'	2.28	0.61
1:a:696:A:H2'	1:a:697:C:C6	2.35	0.61
1:a:909:G:N2	1:a:1373:U:O2	2.25	0.61
1:a:910:G:H2'	1:a:911:G:C8	2.36	0.61
1:a:1035:A:H1'	2:c:156:ARG:HH11	1.65	0.61
1:a:1192:U:H5''	1:a:1193:U:H4'	1.82	0.61
14:p:40:TYR:HE1	14:p:47:SER:HB3	1.64	0.61
1:a:775:C:OP2	1:a:776:C:N4	2.33	0.61
1:a:969:G:H2'	1:a:970:G:C8	2.35	0.61
1:a:1091:A:H2'	1:a:1092:C:C2	2.36	0.61
1:a:722:G:H2'	1:a:723:G:H8	1.66	0.61
1:a:756:G:H4'	1:a:757:A:C8	2.36	0.61
1:a:864:C:O2'	1:a:865:C:H5'	2.01	0.61
1:a:920:A:O2'	6:g:95:ARG:NH2	2.34	0.61
1:a:927:G:H1	1:a:1217:A:H61	0.69	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1201:G:H4'	18:s:36:ARG:HD3	1.82	0.61
14:p:7:LEU:HG	14:p:70:VAL:HG22	1.82	0.61
1:a:139:C:O2'	1:a:210:A:N1	2.28	0.61
1:a:185:G:N1	1:a:203:U:N3	2.45	0.61
1:a:725:A:H2'	1:a:726:G:C8	2.36	0.61
1:a:1080:C:N4	1:a:1083:C:OP1	2.33	0.61
1:a:1291:G:OP1	20:m:81:LYS:CD	2.47	0.61
1:a:99:U:OP1	17:t:12:ARG:NH1	2.34	0.61
1:a:959:A:N6	1:a:1205:U:O4'	2.33	0.61
1:a:1037:G:H3'	1:a:1038:G:H8	1.65	0.61
1:a:1385:C:O2'	1:a:1386:C:OP1	2.19	0.61
1:a:1391:A:N6	1:a:1479:U:O2'	2.34	0.61
5:f:75:LEU:O	5:f:79:LEU:N	2.34	0.61
7:h:79:ARG:NH2	7:h:81:SER:O	2.29	0.61
19:A:46:VAL:HG13	19:A:139:VAL:HG12	1.83	0.61
1:a:269:U:H2'	1:a:270:A:C8	2.36	0.60
1:a:877:G:N1	1:a:887:U:N3	2.48	0.60
1:a:967:C:H2'	1:a:968:U:C6	2.35	0.60
1:a:1106:U:OP1	9:j:7:ARG:NH1	2.32	0.60
14:p:54:GLU:OE1	14:p:82:LYS:NZ	2.34	0.60
18:s:66:MET:SD	20:m:84:ILE:HB	2.40	0.60
20:m:97:PRO:HD3	20:m:107:ALA:HB1	1.83	0.60
1:a:645:G:O6	1:a:704:G:N2	2.28	0.60
1:a:907:G:O6	1:a:1374:U:C2	2.54	0.60
1:a:1060:A:H5''	4:e:46:VAL:HG13	1.82	0.60
1:a:1089:C:H2'	1:a:1090:A:C8	2.36	0.60
1:a:1457:G:H2'	1:a:1458:G:C8	2.35	0.60
1:a:309:G:O2'	1:a:587:A:N1	2.34	0.60
1:a:694:G:H2'	1:a:695:A:H8	1.65	0.60
1:a:1088:G:H5'	2:c:176:HIS:HB2	1.81	0.60
2:c:42:LEU:HB3	2:c:46:LEU:HD22	1.83	0.60
4:e:69:GLY:HA2	4:e:144:GLY:N	2.15	0.60
1:a:561:G:N2	1:a:739:A:OP2	2.34	0.60
1:a:904:G:N1	1:a:1378:C:N3	2.49	0.60
1:a:1110:A:O3'	8:i:40:ARG:NH1	2.33	0.60
1:a:1115:G:H1'	1:a:1121:G:N2	2.16	0.60
1:a:1150:A:H2'	1:a:1151:A:C8	2.36	0.60
1:a:1290:C:OP1	20:m:97:PRO:CA	2.41	0.60
1:a:1376:U:O2	1:a:1378:C:N4	2.35	0.60
1:a:54:A:N1	1:a:360:G:O2'	2.30	0.60
1:a:589:A:H2'	1:a:590:A:H5'	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:998:G:H4'	12:n:15:LYS:HZ2	1.66	0.60
1:a:1284:U:OP2	20:m:21:TYR:OH	2.13	0.60
1:a:1287:G:H1	1:a:1313:G:H1'	1.66	0.60
1:a:1338:G:H2'	1:a:1339:A:C8	2.31	0.60
1:a:60:U:H2'	1:a:61:G:C8	2.36	0.60
1:a:254:G:O2'	15:q:33:GLN:O	2.19	0.60
1:a:645:G:N3	1:a:712:C:H2'	2.16	0.60
1:a:1095:U:H2'	1:a:1096:U:C6	2.36	0.60
1:a:1403:U:H3	1:a:1464:G:H1	1.41	0.60
2:c:10:PHE:HD2	2:c:11:ARG:HH11	1.47	0.60
18:s:12:ASP:OD1	18:s:35:SER:OG	2.19	0.60
19:A:50:MET:HE1	19:A:141:GLY:HA2	1.82	0.60
1:a:224:U:H2'	1:a:225:G:H8	1.66	0.60
1:a:300:A:H3'	1:a:301:G:H8	1.67	0.60
1:a:375:U:H2'	1:a:376:G:C8	2.37	0.60
1:a:694:G:H5'	1:a:756:G:H5'	1.84	0.60
1:a:920:A:H2'	1:a:921:G:C8	2.37	0.60
1:a:930:C:H5''	20:m:110:ARG:NH1	2.06	0.60
1:a:930:C:C5'	20:m:110:ARG:HH12	2.08	0.60
1:a:988:C:H2'	1:a:989:G:O4'	2.01	0.60
1:a:1057:G:N2	1:a:1060:A:OP2	2.34	0.60
1:a:333:C:H2'	1:a:334:C:H6	1.66	0.60
1:a:487:C:H3'	1:a:488:C:H2'	1.84	0.60
1:a:523:U:H5''	3:d:14:ARG:HG2	1.84	0.60
1:a:622:A:C5	7:h:109:SER:HA	2.37	0.60
1:a:771:G:H1'	1:a:1481:G:H5''	1.83	0.60
19:A:180:LEU:HD21	19:A:217:VAL:HG22	1.83	0.60
20:m:66:VAL:H	20:m:69:ASP:HB3	1.67	0.60
1:a:28:U:HO2'	1:a:504:G:HO2'	1.46	0.60
1:a:724:C:H2'	1:a:725:A:C8	2.37	0.60
1:a:1104:G:N2	1:a:1105:U:O4	2.35	0.60
1:a:1329:G:N2	1:a:1357:A:OP2	2.30	0.60
2:c:141:MET:O	2:c:142:ARG:C	2.44	0.60
1:a:411:A:H1'	1:a:412:U:H4'	1.83	0.60
1:a:622:A:N7	7:h:109:SER:HA	2.17	0.60
1:a:1226:G:H2'	1:a:1227:G:C8	2.37	0.60
1:a:808:A:OP1	7:h:22:HIS:NE2	2.29	0.59
1:a:849:G:H21	1:a:855:A:H2	1.50	0.59
1:a:1284:U:C6	20:m:17:ILE:HD12	2.37	0.59
1:a:1414:C:H2'	1:a:1415:G:O4'	2.03	0.59
1:a:1434:U:O2	1:a:1436:G:O6	2.20	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1504:G:H2'	1:a:1505:G:H5'	1.84	0.59
7:h:85:LEU:HD13	11:l:4:ILE:HD13	1.82	0.59
10:k:33:LYS:HD3	10:k:40:ILE:HD12	1.82	0.59
19:A:51:ARG:HG2	19:A:282:LEU:HD22	1.83	0.59
19:A:112:ILE:HG12	19:A:240:MET:HE2	1.83	0.59
20:m:78:ILE:O	20:m:82:ILE:HD12	2.02	0.59
1:a:492:U:O4'	3:d:36:HIS:NE2	2.35	0.59
1:a:625:G:O2'	15:q:43:ARG:NH2	2.35	0.59
1:a:818:U:O4	1:a:830:G:O6	2.19	0.59
1:a:954:C:O2	9:j:57:LYS:HD3	2.02	0.59
1:a:1311:G:O2'	20:m:23:TYR:CD1	2.55	0.59
1:a:1447:C:H2'	1:a:1448:G:H8	1.67	0.59
4:e:178:VAL:HG22	4:e:181:ARG:HH21	1.67	0.59
18:s:37:ARG:O	18:s:70:LYS:HD3	2.03	0.59
1:a:185:G:H2'	1:a:186:C:C6	2.36	0.59
1:a:930:C:P	20:m:108:ARG:CA	2.90	0.59
1:a:934:U:H2'	1:a:935:G:H8	1.67	0.59
1:a:946:A:N3	9:j:57:LYS:NZ	2.37	0.59
1:a:1177:A:O2'	1:a:1178:A:OP1	2.20	0.59
8:i:69:LYS:O	8:i:73:VAL:N	2.35	0.59
16:r:71:ALA:HA	16:r:74:VAL:HG12	1.84	0.59
1:a:276:G:O3'	15:q:60:LYS:NZ	2.24	0.59
1:a:438:U:N3	1:a:476:A:C8	2.67	0.59
1:a:474:G:H21	1:a:476:A:H2'	1.68	0.59
1:a:1108:C:O2'	8:i:38:ARG:NH2	2.36	0.59
1:a:1111:G:H22	1:a:1125:G:H4'	1.66	0.59
1:a:1183:U:H5	9:j:55:PRO:HB3	1.68	0.59
1:a:1263:C:H2'	1:a:1264:C:C6	2.37	0.59
1:a:1269:A:H2	1:a:1335:G:H1'	1.68	0.59
1:a:1302:C:O2'	20:m:87:TYR:N	2.36	0.59
1:a:1406:G:O6	1:a:1461:U:O4	2.20	0.59
1:a:1443:G:H5''	17:t:22:GLN:NE2	2.16	0.59
2:c:174:PRO:HB2	2:c:177:THR:HB	1.83	0.59
8:i:32:ARG:HG3	8:i:33:LYS:H	1.67	0.59
19:A:8:ARG:HG2	19:A:9:PRO:HD2	1.84	0.59
19:A:108:LEU:H	19:A:111:ILE:HD12	1.67	0.59
1:a:229:U:H2'	1:a:230:G:H8	1.66	0.59
1:a:264:U:H2'	1:a:265:G:O4'	2.03	0.59
1:a:320:G:H2'	1:a:321:A:C8	2.37	0.59
1:a:534:U:H2'	1:a:535:C:C6	2.37	0.59
1:a:793:U:H5''	1:a:796:A:N6	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:924:G:N2	1:a:1323:U:O2	2.31	0.59
1:a:1057:G:H21	1:a:1059:G:H8	1.51	0.59
1:a:1502:A:H2'	1:a:1503:A:C8	2.36	0.59
2:c:173:VAL:HG13	2:c:203:TYR:HB2	1.84	0.59
10:k:56:SER:HB3	10:k:61:PHE:HB2	1.83	0.59
20:m:112:GLY:HA3	20:m:115:ARG:NH2	2.18	0.59
1:a:816:G:N2	1:a:832:U:O2	2.28	0.59
1:a:1365:C:O3'	6:g:79:ARG:NH2	2.33	0.59
2:c:7:PRO:HG3	2:c:201:TRP:CD1	2.38	0.59
7:h:55:ARG:HE	7:h:56:VAL:H	1.50	0.59
14:p:40:TYR:O	14:p:41:HIS:ND1	2.36	0.59
1:a:192:G:H1	1:a:195:U:P	2.25	0.59
10:k:73:GLN:HB2	10:k:108:SER:HB2	1.83	0.59
18:s:36:ARG:HA	18:s:71:LEU:HD22	1.84	0.59
20:m:81:LYS:HD2	20:m:92:HIS:HE1	1.68	0.59
1:a:108:G:OP2	14:p:28:ARG:NH2	2.35	0.59
1:a:782:A:H3'	1:a:783:G:H8	1.67	0.59
1:a:1203:G:H5''	18:s:78:ARG:HG2	1.85	0.59
1:a:1231:A:H2'	1:a:1232:A:C8	2.37	0.59
1:a:1292:G:C1'	20:m:73:GLU:HG3	2.31	0.59
1:a:1311:G:OP1	20:m:29:ARG:HB3	2.02	0.59
3:d:142:GLU:OE2	3:d:172:ARG:NH2	2.36	0.59
18:s:36:ARG:HB3	18:s:72:GLY:HA2	1.85	0.59
1:a:64:A:OP1	1:a:107:G:N2	2.35	0.59
1:a:125:U:H3	1:a:232:G:H1	1.48	0.59
1:a:483:C:O2'	1:a:490:A:N1	2.31	0.59
1:a:521:G:H2'	1:a:522:G:H8	1.66	0.59
1:a:561:G:OP1	13:o:65:ARG:NH2	2.36	0.59
1:a:907:G:H2'	1:a:909:G:H5'	1.85	0.59
1:a:924:G:O6	1:a:1323:U:O4	2.20	0.59
1:a:937:A:H2	18:s:80:PHE:CE2	2.21	0.59
1:a:1303:U:O4	18:s:72:GLY:HA3	2.02	0.59
1:a:1308:C:N3	1:a:1309:C:N4	2.50	0.59
1:a:1483:A:H2'	1:a:1484:A:C8	2.37	0.59
3:d:197:GLU:OE2	4:e:137:ARG:NH2	2.36	0.59
5:f:12:PRO:HA	5:f:45:ARG:NH2	2.18	0.59
19:A:159:LEU:HD22	19:A:243:LEU:HG	1.85	0.59
1:a:63:A:H5''	1:a:387:U:H5''	1.84	0.59
1:a:507:G:O6	11:l:46:ASN:ND2	2.35	0.59
1:a:710:G:O2'	1:a:794:A:N6	2.36	0.59
1:a:753:G:O6	1:a:787:A:N6	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1292:G:N2	20:m:65:LYS:HZ2	2.01	0.59
4:e:100:PRO:HB3	4:e:174:ARG:HH11	1.68	0.59
8:i:48:PHE:CG	8:i:55:LEU:HD22	2.38	0.59
16:r:20:CYS:O	16:r:24:SER:OG	2.13	0.59
1:a:150:G:N2	1:a:165:U:O2	2.30	0.58
1:a:634:G:N2	1:a:735:G:H5'	2.17	0.58
1:a:702:G:H8	16:r:51:ARG:HH11	1.51	0.58
1:a:1360:A:N7	6:g:9:LYS:NZ	2.50	0.58
1:a:533:G:H2'	1:a:534:U:C6	2.38	0.58
1:a:643:A:N1	1:a:722:G:N2	2.50	0.58
1:a:885:G:H2'	1:a:886:C:H6	1.68	0.58
1:a:1095:U:O2	1:a:1166:G:N2	2.23	0.58
1:a:1202:G:H4'	18:s:77:THR:HG21	1.83	0.58
1:a:1284:U:C4	20:m:14:ARG:NH1	2.69	0.58
10:k:65:ARG:HD2	10:k:68:THR:HG21	1.84	0.58
1:a:60:U:H2'	1:a:61:G:H8	1.66	0.58
1:a:938:U:H5'	18:s:85:LYS:HD3	1.84	0.58
1:a:1202:G:H2'	1:a:1203:G:C8	2.37	0.58
1:a:1208:A:H5''	19:A:8:ARG:NH1	2.16	0.58
1:a:1278:C:OP1	20:m:44:ARG:NH2	2.36	0.58
1:a:1305:G:H2'	1:a:1306:A:O4'	2.04	0.58
1:a:1469:U:H2'	1:a:1470:G:C8	2.37	0.58
11:l:6:GLN:HG3	11:l:9:ARG:HH11	1.67	0.58
1:a:992:G:H2'	1:a:993:G:C8	2.38	0.58
1:a:1291:G:P	20:m:92:HIS:CE1	2.95	0.58
1:a:1292:G:O4'	20:m:77:ASP:OD2	2.21	0.58
8:i:41:LEU:HD12	8:i:81:PHE:HE2	1.66	0.58
14:p:51:ILE:HD12	14:p:77:THR:HG21	1.85	0.58
16:r:16:LYS:HA	16:r:55:GLY:HA3	1.83	0.58
1:a:179:C:O2'	1:a:180:A:H5''	2.03	0.58
1:a:443:C:H2'	1:a:444:A:C8	2.38	0.58
1:a:693:G:H2'	1:a:694:G:C8	2.39	0.58
1:a:994:C:H2'	1:a:995:A:C8	2.38	0.58
1:a:1099:C:OP2	8:i:31:ARG:NH1	2.35	0.58
1:a:1290:C:HO2'	20:m:78:ILE:HD11	1.65	0.58
4:e:102:ILE:HD11	4:e:107:THR:HG23	1.84	0.58
20:m:71:ARG:O	20:m:75:GLN:HG3	2.04	0.58
1:a:321:A:N6	1:a:329:A:OP1	2.35	0.58
1:a:372:C:H41	1:a:387:U:H2'	1.67	0.58
1:a:1285:C:H3'	1:a:1286:G:H8	1.68	0.58
1:a:406:G:N7	1:a:475:A:O2'	2.26	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:427:U:OP2	3:d:29:ARG:NH1	2.37	0.58
1:a:564:G:H2'	1:a:565:G:C8	2.39	0.58
1:a:1096:U:H3	1:a:1165:G:H1	0.73	0.58
1:a:1201:G:H2'	1:a:1202:G:C8	2.39	0.58
1:a:1303:U:H3'	1:a:1304:C:H2'	1.83	0.58
1:a:1408:A:N1	1:a:1459:G:C6	2.71	0.58
13:o:45:VAL:HG13	13:o:46:HIS:ND1	2.19	0.58
20:m:81:LYS:HD2	20:m:92:HIS:CE1	2.39	0.58
1:a:55:A:N7	1:a:110:U:O2'	2.32	0.58
1:a:735:G:P	13:o:65:ARG:HD3	2.43	0.58
1:a:906:C:H2'	1:a:1375:G:H22	1.68	0.58
1:a:980:G:H2'	1:a:981:C:C6	2.39	0.58
1:a:1290:C:C3'	20:m:92:HIS:HE2	2.16	0.58
1:a:1429:A:N1	1:a:1430:A:N6	2.52	0.58
4:e:71:VAL:O	4:e:97:PHE:N	2.35	0.58
4:e:188:ASP:HA	7:h:116:ARG:HD2	1.85	0.58
1:a:493:A:H2'	1:a:494:C:C6	2.38	0.58
1:a:803:G:H2'	1:a:804:U:C6	2.39	0.58
1:a:931:A:OP2	20:m:107:ALA:N	2.37	0.58
1:a:1159:G:O2'	1:a:1161:A:N7	2.30	0.58
1:a:1284:U:OP2	20:m:21:TYR:CZ	2.56	0.58
1:a:1311:G:C2'	20:m:23:TYR:O	2.52	0.58
1:a:1311:G:C3'	20:m:23:TYR:O	2.52	0.58
5:f:9:ILE:O	5:f:86:LEU:N	2.36	0.58
14:p:37:ILE:O	14:p:52:ASP:N	2.36	0.58
20:m:112:GLY:HA3	20:m:115:ARG:HH21	1.68	0.58
1:a:525:C:H5''	3:d:64:GLU:HG2	1.85	0.58
1:a:561:G:H1	1:a:739:A:P	2.27	0.58
1:a:704:G:H2'	1:a:705:G:C8	2.39	0.58
1:a:19:G:N2	4:e:47:SER:O	2.30	0.57
1:a:989:G:O6	1:a:1006:U:O4	2.22	0.57
1:a:1095:U:H2'	1:a:1096:U:H6	1.69	0.57
1:a:1248:U:N3	1:a:1309:C:O2'	2.37	0.57
1:a:1298:G:N1	1:a:1301:A:OP2	2.36	0.57
1:a:1310:C:OP1	20:m:28:THR:HG21	2.03	0.57
15:q:62:HIS:HD2	15:q:89:ARG:HH12	1.51	0.57
17:t:9:LYS:HA	17:t:12:ARG:HE	1.68	0.57
1:a:108:G:OP1	14:p:28:ARG:NE	2.34	0.57
1:a:788:C:OP1	13:o:47:LYS:NZ	2.22	0.57
1:a:795:A:H8	1:a:1494:C:H5'	1.69	0.57
1:a:1311:G:P	20:m:29:ARG:HB2	2.44	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:65:VAL:O	2:c:101:ASN:HB2	2.03	0.57
5:f:45:ARG:HH12	5:f:59:ILE:HD11	1.68	0.57
13:o:79:ARG:NH2	13:o:83:GLU:OE2	2.36	0.57
1:a:209:A:O2'	1:a:210:A:O5'	2.20	0.57
1:a:1155:G:H2'	1:a:1156:G:H8	1.69	0.57
5:f:1:MET:HA	5:f:68:GLU:HA	1.87	0.57
19:A:11:VAL:HA	20:m:115:ARG:CZ	2.35	0.57
1:a:252:U:H2'	1:a:253:U:C6	2.39	0.57
1:a:533:G:H2'	1:a:534:U:H6	1.68	0.57
1:a:634:G:H21	1:a:735:G:H5'	1.70	0.57
1:a:859:C:H2'	1:a:860:C:C6	2.39	0.57
1:a:1085:A:H2'	1:a:1086:G:C8	2.39	0.57
1:a:1143:C:H2'	1:a:1144:G:C8	2.39	0.57
19:A:163:THR:HA	19:A:241:ILE:HD12	1.86	0.57
1:a:522:G:O2'	3:d:14:ARG:NH2	2.37	0.57
1:a:1226:G:H2'	1:a:1227:G:H8	1.69	0.57
1:a:1233:A:H2	1:a:1337:A:H1'	1.69	0.57
16:r:18:ARG:NH2	16:r:24:SER:OG	2.37	0.57
19:A:16:LEU:HD11	19:A:79:ARG:HA	1.86	0.57
1:a:264:U:O2'	15:q:80:ARG:NE	2.37	0.57
1:a:871:A:N6	1:a:890:A:OP2	2.35	0.57
20:m:44:ARG:HB3	20:m:46:LYS:HG2	1.87	0.57
1:a:363:A:OP2	11:l:31:ARG:NE	2.37	0.57
1:a:698:A:N1	16:r:45:ARG:NH1	2.53	0.57
1:a:774:A:H2'	1:a:775:C:C6	2.39	0.57
1:a:971:G:O6	1:a:1198:C:N4	2.37	0.57
1:a:1255:G:O2'	1:a:1256:A:O4'	2.22	0.57
1:a:1289:U:C5'	20:m:110:ARG:HH11	2.10	0.57
19:A:253:ASP:HB3	19:A:256:THR:OG1	2.05	0.57
1:a:481:G:H2'	1:a:482:A:C8	2.40	0.57
1:a:508:C:N4	11:l:46:ASN:OD1	2.38	0.57
1:a:827:U:H2'	1:a:828:G:H8	1.69	0.57
1:a:929:G:OP1	20:m:113:PRO:HA	2.05	0.57
1:a:1130:C:N4	1:a:1131:G:O6	2.38	0.57
1:a:1131:G:H21	9:j:41:PRO:HD2	1.69	0.57
1:a:1141:G:N7	1:a:1162:G:N1	2.52	0.57
1:a:1208:A:C2	20:m:117:ILE:HD12	2.40	0.57
1:a:1291:G:C1'	20:m:74:VAL:CA	2.61	0.57
1:a:1332:A:H1'	6:g:33:GLU:HB3	1.86	0.57
1:a:1504:G:C2'	1:a:1505:G:H5'	2.35	0.57
2:c:142:ARG:O	2:c:143:GLN:C	2.47	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:98:PRO:HA	10:k:102:ARG:HH11	1.70	0.57
14:p:99:LYS:HG2	14:p:100:PRO:HD2	1.87	0.57
1:a:14:A:H2'	1:a:15:G:H8	1.68	0.57
1:a:187:U:C2	1:a:201:G:O6	2.57	0.57
1:a:646:G:H2'	1:a:647:G:C8	2.40	0.57
1:a:699:C:N3	16:r:72:ARG:NH1	2.52	0.57
1:a:877:G:C2	1:a:887:U:O2	2.58	0.57
1:a:969:G:H2'	1:a:970:G:H8	1.69	0.57
1:a:1349:C:O2'	9:j:62:ARG:NH1	2.38	0.57
10:k:22:LYS:NZ	10:k:85:GLU:OE2	2.35	0.57
19:A:74:THR:HG21	19:A:108:LEU:HD11	1.85	0.57
1:a:494:C:H2'	1:a:495:G:C8	2.38	0.57
1:a:646:G:N2	1:a:720:U:O2	2.38	0.57
1:a:776:C:H2'	1:a:777:C:H6	1.70	0.57
1:a:1301:A:H4'	18:s:70:LYS:HE3	1.87	0.57
19:A:30:LYS:HB3	19:A:33:VAL:HG13	1.87	0.57
1:a:578:U:H2'	1:a:579:U:C6	2.40	0.56
1:a:654:G:N2	1:a:696:A:N1	2.42	0.56
1:a:737:U:H2'	1:a:738:G:O4'	2.05	0.56
1:a:1185:A:H2'	1:a:1186:U:O4'	2.04	0.56
2:c:129:PHE:CE2	2:c:133:MET:HE3	2.40	0.56
11:l:52:VAL:HG12	11:l:66:TYR:HD1	1.70	0.56
20:m:91:ARG:HA	20:m:96:LEU:HD12	1.86	0.56
1:a:204:A:H2'	1:a:205:G:H8	1.70	0.56
1:a:573:U:O4	1:a:626:G:O6	2.24	0.56
1:a:593:C:H2'	1:a:594:A:C8	2.41	0.56
1:a:833:C:H2'	1:a:834:C:C6	2.40	0.56
1:a:1447:C:H2'	1:a:1448:G:C8	2.40	0.56
7:h:33:LYS:HA	7:h:36:ILE:HD12	1.87	0.56
1:a:333:C:H2'	1:a:334:C:C6	2.40	0.56
1:a:543:A:H1'	1:a:547:G:H5'	1.86	0.56
8:i:42:VAL:O	8:i:82:ASP:HB2	2.05	0.56
8:i:87:LEU:HD13	8:i:95:GLN:NE2	2.21	0.56
19:A:18:VAL:HG21	19:A:92:PRO:HD2	1.87	0.56
19:A:97:TYR:OH	19:A:212:HIS:ND1	2.33	0.56
1:a:144:G:H2'	1:a:145:G:H8	1.69	0.56
1:a:162:G:H2'	1:a:163:G:C8	2.39	0.56
1:a:223:G:H2'	1:a:224:U:C6	2.40	0.56
1:a:519:A:H2'	1:a:520:G:C8	2.40	0.56
1:a:521:G:H2'	1:a:522:G:C8	2.40	0.56
1:a:987:A:N6	1:a:1008:C:H1'	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1050:U:H2'	1:a:1051:C:H6	1.69	0.56
1:a:1097:G:O2'	8:i:126:ARG:NE	2.39	0.56
1:a:1288:A:O2'	20:m:109:THR:CG2	2.53	0.56
1:a:1428:U:O2	1:a:1441:G:N2	2.24	0.56
19:A:168:MET:HA	19:A:171:ILE:HD12	1.88	0.56
1:a:173:C:H2'	1:a:174:G:H5''	1.87	0.56
1:a:631:C:H2'	1:a:632:U:C6	2.40	0.56
1:a:880:G:N2	1:a:884:G:N7	2.53	0.56
1:a:937:A:H2'	1:a:938:U:C6	2.41	0.56
1:a:979:U:O4	1:a:1024:G:O6	2.22	0.56
1:a:994:C:H2'	1:a:995:A:H8	1.71	0.56
1:a:1040:U:H2'	1:a:1041:G:H8	1.71	0.56
1:a:1250:A:H3'	1:a:1251:G:C8	2.40	0.56
1:a:1300:A:N3	18:s:37:ARG:HD2	2.20	0.56
1:a:1300:A:N6	12:n:18:VAL:HG21	2.20	0.56
1:a:1469:U:H2'	1:a:1470:G:H8	1.68	0.56
17:t:37:GLU:HA	17:t:40:ASP:OD2	2.05	0.56
1:a:120:G:H2'	1:a:121:U:C6	2.40	0.56
1:a:741:G:H2'	1:a:742:A:H8	1.70	0.56
1:a:1051:C:OP1	4:e:55:ARG:NH2	2.27	0.56
1:a:1234:G:O6	1:a:1265:U:C2	2.58	0.56
1:a:1287:G:H2'	1:a:1288:A:C8	2.40	0.56
1:a:1400:A:OP2	1:a:1466:G:N2	2.33	0.56
6:g:116:MET:HA	6:g:119:ARG:HB2	1.88	0.56
19:A:111:ILE:HD13	19:A:256:THR:CG2	2.35	0.56
1:a:72:G:N2	1:a:149:A:O2'	2.38	0.56
1:a:579:U:O4	1:a:619:G:O6	2.23	0.56
1:a:637:U:H1'	13:o:23:GLY:HA2	1.88	0.56
1:a:1037:G:H3'	1:a:1038:G:C8	2.41	0.56
1:a:1159:G:N2	1:a:1162:G:OP2	2.37	0.56
1:a:1277:U:O2'	20:m:42:ASN:OD1	2.09	0.56
1:a:1305:G:O2'	1:a:1344:C:O2'	2.23	0.56
1:a:335:C:H2'	1:a:336:A:H8	1.70	0.56
1:a:483:C:OP1	11:l:116:ARG:NH1	2.37	0.56
1:a:647:G:H2'	1:a:648:A:C8	2.40	0.56
4:e:177:GLU:OE1	4:e:177:GLU:N	2.36	0.56
1:a:90:G:H2'	1:a:91:U:H5'	1.88	0.56
1:a:487:C:OP2	3:d:42:LYS:NZ	2.37	0.56
1:a:657:U:H2'	1:a:658:U:C6	2.40	0.56
1:a:907:G:N2	1:a:1515:A:O2'	2.39	0.56
1:a:1158:G:OP2	8:i:119:LYS:NZ	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1341:C:OP2	12:n:35:ARG:NE	2.39	0.56
5:f:3:PRO:O	5:f:93:THR:OG1	2.23	0.56
11:l:36:ARG:CZ	11:l:38:TYR:HB2	2.36	0.56
19:A:115:GLY:CA	19:A:256:THR:HG23	2.35	0.56
1:a:16:U:O2	1:a:26:G:O6	2.24	0.56
1:a:66:U:O2	1:a:101:G:O6	2.24	0.56
1:a:704:G:H2'	1:a:705:G:H8	1.71	0.56
1:a:980:G:N1	1:a:1023:U:N3	2.54	0.56
1:a:1222:G:H2'	1:a:1223:G:H8	1.71	0.56
1:a:1292:G:C5'	20:m:77:ASP:HB3	2.33	0.56
1:a:127:A:H5'	15:q:80:ARG:HH11	1.71	0.55
1:a:144:G:H2'	1:a:145:G:C8	2.41	0.55
1:a:951:A:H2'	1:a:952:C:C6	2.40	0.55
1:a:992:G:H2'	1:a:993:G:H8	1.70	0.55
1:a:1291:G:C4'	20:m:78:ILE:HG13	2.34	0.55
4:e:198:ARG:NH2	4:e:202:GLU:OE2	2.40	0.55
7:h:37:ALA:HA	7:h:40:LEU:HD12	1.87	0.55
8:i:100:ARG:HE	8:i:123:PHE:HE1	1.55	0.55
11:l:29:GLN:HG3	11:l:81:LEU:HD11	1.87	0.55
15:q:20:ARG:HD3	15:q:78:GLU:O	2.06	0.55
19:A:9:PRO:HA	19:A:251:TRP:CZ3	2.41	0.55
1:a:88:G:H2'	1:a:89:G:C8	2.41	0.55
1:a:186:C:H2'	1:a:187:U:C6	2.41	0.55
1:a:420:U:O2'	1:a:423:G:O6	2.20	0.55
1:a:655:A:H3'	1:a:656:A:H8	1.70	0.55
1:a:813:U:O2	1:a:835:G:O6	2.23	0.55
1:a:930:C:O2'	1:a:1347:C:N4	2.39	0.55
1:a:954:C:OP2	9:j:59:LYS:NZ	2.36	0.55
1:a:1070:U:H2'	1:a:1071:U:C6	2.41	0.55
1:a:1230:C:H41	1:a:1269:A:H3'	1.72	0.55
1:a:1379:A:H5'	1:a:1380:C:C5	2.41	0.55
1:a:1494:C:O2	1:a:1509:G:N2	2.39	0.55
7:h:39:ILE:HA	7:h:42:ARG:HB2	1.86	0.55
7:h:105:ILE:O	7:h:128:LEU:N	2.36	0.55
1:a:678:G:O4'	1:a:778:U:O2'	2.24	0.55
1:a:976:A:C4	1:a:1197:U:H4'	2.41	0.55
1:a:1240:C:O2'	1:a:1264:C:O2	2.18	0.55
1:a:1378:C:H1'	1:a:1381:A:H1'	1.88	0.55
6:g:70:LYS:HA	6:g:100:ALA:HB2	1.88	0.55
1:a:902:U:H2'	1:a:903:U:C6	2.41	0.55
1:a:1075:U:H2'	1:a:1076:C:C6	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1221:U:H5'	6:g:42:ILE:HD11	1.88	0.55
1:a:1432:C:H2'	1:a:1433:C:C6	2.41	0.55
10:k:35:THR:HG22	10:k:37:ASN:H	1.72	0.55
11:l:105:GLN:OE1	11:l:106:GLY:N	2.39	0.55
1:a:162:G:H2'	1:a:163:G:H8	1.72	0.55
1:a:449:C:H3'	1:a:450:G:H8	1.71	0.55
1:a:566:U:O2	1:a:735:G:C6	2.59	0.55
1:a:623:C:H2'	1:a:624:G:C8	2.42	0.55
1:a:664:U:H1'	10:k:49:ASN:HB3	1.88	0.55
1:a:1032:U:H3	1:a:1187:G:H1	1.53	0.55
1:a:1082:A:H2'	1:a:1083:C:H6	1.71	0.55
1:a:1157:A:H2'	1:a:1158:G:C8	2.42	0.55
1:a:1211:C:H2'	1:a:1212:A:C8	2.41	0.55
1:a:1286:G:N2	1:a:1316:G:O6	2.39	0.55
1:a:1383:C:H5''	1:a:1385:C:N4	2.22	0.55
2:c:130:ARG:HH21	2:c:131:ARG:HA	1.72	0.55
14:p:16:PRO:HD2	14:p:43:LYS:HB2	1.89	0.55
19:A:9:PRO:O	20:m:115:ARG:NH1	2.40	0.55
1:a:83:U:H1'	1:a:86:G:H1	1.72	0.55
1:a:1279:U:OP1	20:m:12:ASP:CG	2.50	0.55
1:a:1284:U:C1'	20:m:17:ILE:HD12	2.36	0.55
1:a:864:C:H2'	1:a:865:C:C6	2.42	0.55
1:a:930:C:OP1	20:m:108:ARG:CA	2.55	0.55
4:e:140:LEU:HB3	4:e:145:VAL:HG21	1.87	0.55
8:i:135:LYS:HE2	8:i:142:ARG:H	1.71	0.55
15:q:36:ILE:HG13	15:q:61:ALA:HB3	1.89	0.55
18:s:71:LEU:HA	18:s:74:PHE:CD2	2.41	0.55
1:a:137:C:H2'	1:a:138:A:C8	2.42	0.55
1:a:941:A:C4	1:a:1203:G:H1'	2.41	0.55
1:a:985:G:H2'	1:a:986:G:C5	2.42	0.55
1:a:1168:G:OP1	8:i:135:LYS:NZ	2.40	0.55
1:a:1311:G:OP1	20:m:29:ARG:N	2.37	0.55
1:a:1361:C:OP1	6:g:7:ALA:N	2.40	0.55
1:a:1483:A:H5''	1:a:1490:U:H5	1.71	0.55
1:a:148:A:OP2	1:a:166:C:N4	2.40	0.55
1:a:360:G:H2'	1:a:361:G:H8	1.72	0.55
1:a:1086:G:H5''	2:c:172:ARG:HG2	1.87	0.55
1:a:1279:U:OP1	20:m:12:ASP:C	2.50	0.55
1:a:1290:C:O3'	20:m:92:HIS:CE1	2.59	0.55
1:a:1292:G:H4'	20:m:77:ASP:OD2	2.03	0.55
3:d:57:ARG:HH11	3:d:64:GLU:N	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:69:GLY:HA2	4:e:144:GLY:H	1.70	0.55
19:A:115:GLY:HA2	19:A:256:THR:CA	2.33	0.55
1:a:206:G:H4'	17:t:52:HIS:CD2	2.42	0.55
1:a:389:A:H3'	1:a:390:U:C6	2.42	0.55
1:a:593:C:H2'	1:a:594:A:H8	1.72	0.55
1:a:731:U:H5'	13:o:21:ASP:OD1	2.06	0.55
1:a:958:G:OP2	1:a:1340:U:O2'	2.24	0.55
1:a:964:U:OP2	12:n:23:ARG:NH2	2.39	0.55
1:a:1128:C:H2'	1:a:1129:U:C6	2.42	0.55
1:a:1184:C:H2'	1:a:1185:A:C8	2.42	0.55
1:a:1291:G:H5''	20:m:78:ILE:CG1	2.31	0.55
1:a:176:A:H2'	1:a:177:U:C6	2.41	0.54
1:a:710:G:N2	1:a:746:A:OP1	2.39	0.54
1:a:1028:G:OP1	12:n:5:ALA:N	2.28	0.54
1:a:1260:A:OP1	9:j:99:ASN:ND2	2.40	0.54
1:a:1328:A:H1'	8:i:129:ARG:HH21	1.71	0.54
1:a:1336:C:H2'	1:a:1337:A:H8	1.72	0.54
7:h:121:GLN:HE22	7:h:123:VAL:HB	1.71	0.54
1:a:196:G:H2'	1:a:197:G:H8	1.72	0.54
1:a:417:G:N1	1:a:426:U:N3	2.25	0.54
1:a:1277:U:H4'	20:m:42:ASN:HD21	1.72	0.54
1:a:1420:C:H2'	1:a:1421:G:C8	2.42	0.54
4:e:188:ASP:HA	7:h:116:ARG:CD	2.36	0.54
10:k:32:ILE:HD12	10:k:95:VAL:HG12	1.88	0.54
16:r:51:ARG:HB3	16:r:52:ARG:HH11	1.72	0.54
1:a:588:A:H2'	1:a:589:A:O4'	2.07	0.54
1:a:592:U:O4	1:a:608:G:O6	2.25	0.54
1:a:996:G:N2	1:a:999:A:OP2	2.37	0.54
1:a:1116:U:O2	1:a:1117:U:N3	2.40	0.54
1:a:1143:C:H2'	1:a:1144:G:H8	1.72	0.54
1:a:1288:A:N6	1:a:1313:G:O4'	2.40	0.54
1:a:1375:G:H21	1:a:1486:A:H8	1.54	0.54
1:a:1500:G:H1	1:a:1503:A:P	2.31	0.54
5:f:9:ILE:HG22	5:f:86:LEU:HD12	1.89	0.54
7:h:15:ARG:NH1	7:h:77:LEU:O	2.40	0.54
18:s:83:HIS:CD2	19:A:254:GLY:N	2.75	0.54
1:a:932:U:OP2	20:m:102:ARG:HD3	2.07	0.54
1:a:1209:C:H2'	1:a:1210:A:C8	2.43	0.54
1:a:1368:G:H2'	1:a:1369:G:C8	2.41	0.54
1:a:19:G:O4'	1:a:1379:A:O2'	2.22	0.54
1:a:74:A:H2	1:a:76:A:H62	1.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:526:G:H4'	1:a:528:G:H4'	1.88	0.54
1:a:535:C:H2'	1:a:536:C:H6	1.71	0.54
1:a:544:C:OP1	11:l:12:ARG:NE	2.39	0.54
1:a:573:U:O2	1:a:626:G:N2	2.31	0.54
1:a:865:C:H2'	1:a:866:U:C6	2.43	0.54
1:a:930:C:OP2	20:m:108:ARG:HB2	2.06	0.54
1:a:1050:U:H2'	1:a:1051:C:C6	2.43	0.54
1:a:1232:A:H1'	1:a:1353:G:H5'	1.88	0.54
1:a:1287:G:N1	1:a:1313:G:N3	2.56	0.54
1:a:1291:G:H1'	20:m:74:VAL:CB	2.37	0.54
1:a:1403:U:O2	1:a:1464:G:N2	2.40	0.54
3:d:57:ARG:HH11	3:d:64:GLU:H	1.55	0.54
20:m:9:LEU:HD22	20:m:18:ALA:HB1	1.90	0.54
1:a:534:U:H2'	1:a:535:C:H6	1.73	0.54
1:a:666:U:O2	10:k:53:TRP:NE1	2.37	0.54
1:a:698:A:OP1	1:a:701:G:N2	2.37	0.54
1:a:931:A:H2'	1:a:932:U:C6	2.43	0.54
1:a:964:U:N3	1:a:1204:C:O2	2.40	0.54
1:a:1245:C:H2'	1:a:1246:C:C6	2.42	0.54
1:a:1311:G:C1'	20:m:70:LEU:HD13	2.37	0.54
1:a:1406:G:N2	1:a:1461:U:O2	2.29	0.54
9:j:42:LEU:HB2	9:j:71:LYS:HB2	1.89	0.54
13:o:3:LEU:HG	13:o:35:ARG:HD2	1.90	0.54
1:a:14:A:H2'	1:a:15:G:C8	2.43	0.54
1:a:223:G:H2'	1:a:224:U:H6	1.71	0.54
1:a:252:U:H2'	1:a:253:U:H6	1.72	0.54
1:a:701:G:OP2	16:r:51:ARG:N	2.41	0.54
1:a:1076:C:H2'	1:a:1077:C:C6	2.42	0.54
1:a:1147:G:O2'	1:a:1150:A:N6	2.39	0.54
1:a:1410:C:O2	1:a:1458:G:N2	2.41	0.54
2:c:140:ALA:O	2:c:141:MET:C	2.49	0.54
3:d:90:GLU:O	3:d:99:ARG:NH1	2.28	0.54
4:e:194:MET:HE1	7:h:101:LEU:HG	1.90	0.54
15:q:95:GLU:O	15:q:96:LYS:HE2	2.07	0.54
19:A:112:ILE:HG23	19:A:240:MET:HE2	1.89	0.54
1:a:276:G:H4'	15:q:60:LYS:HE3	1.90	0.54
1:a:627:C:H2'	1:a:628:A:C8	2.42	0.54
1:a:701:G:H5'	1:a:702:G:C4	2.42	0.54
1:a:804:U:H2'	1:a:805:A:C8	2.41	0.54
8:i:27:GLN:HA	8:i:39:VAL:O	2.08	0.54
1:a:619:G:H2'	1:a:620:A:C8	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1311:G:H5''	20:m:24:GLY:O	2.08	0.54
3:d:133:SER:N	3:d:136:ASP:OD2	2.41	0.54
6:g:22:LEU:HD13	6:g:66:LEU:HD13	1.90	0.54
19:A:217:VAL:HG21	19:A:235:PHE:CD2	2.43	0.54
1:a:70:A:O3'	1:a:213:C:H4'	2.07	0.54
1:a:197:G:H2'	1:a:198:C:H6	1.73	0.54
1:a:213:C:H2'	1:a:214:U:O4'	2.08	0.54
1:a:668:G:H5''	10:k:57:GLY:C	2.33	0.54
1:a:698:A:N7	10:k:127:HIS:HB2	2.23	0.54
1:a:1091:A:O2'	2:c:179:ARG:NH2	2.40	0.54
1:a:1137:G:H21	1:a:1160:A:H61	1.56	0.54
1:a:1284:U:C5	20:m:17:ILE:HG13	2.43	0.54
1:a:1292:G:C1'	20:m:73:GLU:CG	2.85	0.54
1:a:1334:C:H2'	1:a:1335:G:C8	2.41	0.54
5:f:31:ARG:HH21	5:f:38:ASP:HB2	1.73	0.54
1:a:442:G:H2'	1:a:443:C:C6	2.43	0.53
1:a:490:A:H1'	1:a:522:G:H21	1.73	0.53
1:a:805:A:O2'	7:h:13:ARG:NH2	2.39	0.53
1:a:1047:A:H4'	1:a:1048:G:H5'	1.90	0.53
1:a:1285:C:H3'	1:a:1286:G:C8	2.43	0.53
1:a:1297:U:H2'	1:a:1298:G:O4'	2.07	0.53
2:c:162:MET:HE3	2:c:163:SER:N	2.20	0.53
1:a:29:C:H2'	1:a:30:A:H8	1.73	0.53
1:a:83:U:C4	1:a:85:C:N4	2.76	0.53
1:a:260:G:H2'	1:a:261:U:C6	2.43	0.53
1:a:543:A:H4'	1:a:546:G:O2'	2.09	0.53
1:a:555:G:H4'	1:a:556:A:H5''	1.90	0.53
1:a:794:A:H2'	1:a:796:A:H5'	1.91	0.53
1:a:937:A:H2	18:s:80:PHE:HE2	1.54	0.53
1:a:1278:C:H5''	20:m:44:ARG:NH2	2.23	0.53
1:a:1358:A:N7	6:g:10:ARG:NH2	2.56	0.53
1:a:1373:U:H2'	1:a:1374:U:C6	2.43	0.53
11:l:114:ARG:HH21	11:l:121:LYS:HD3	1.73	0.53
1:a:360:G:H2'	1:a:361:G:C8	2.43	0.53
1:a:582:U:O4	1:a:616:G:O6	2.26	0.53
1:a:725:A:C6	1:a:726:G:O6	2.61	0.53
1:a:858:A:H2'	1:a:859:C:C6	2.43	0.53
1:a:1277:U:O2'	20:m:14:ARG:CD	2.55	0.53
3:d:71:TYR:HE1	3:d:196:VAL:HA	1.73	0.53
3:d:92:ARG:HH21	3:d:129:SER:HA	1.74	0.53
20:m:97:PRO:HB3	20:m:110:ARG:HH21	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:148:A:C5	1:a:167:U:O2	2.61	0.53
1:a:525:C:OP2	3:d:57:ARG:NH2	2.41	0.53
1:a:578:U:H2'	1:a:579:U:H6	1.74	0.53
1:a:926:G:N2	1:a:1321:A:OP2	2.42	0.53
1:a:1224:C:H4'	20:m:27:ARG:NE	2.23	0.53
14:p:44:GLU:HG3	14:p:46:PRO:HD2	1.91	0.53
19:A:105:CYS:HB2	19:A:131:ASP:HB3	1.90	0.53
1:a:600:U:O2	3:d:127:ILE:HG21	2.09	0.53
1:a:646:G:H2'	1:a:647:G:H8	1.73	0.53
1:a:646:G:H5'	1:a:706:C:O2'	2.08	0.53
1:a:1362:G:N2	1:a:1364:U:O4	2.39	0.53
3:d:13:ARG:HB2	3:d:33:PRO:HD3	1.89	0.53
4:e:181:ARG:HD2	7:h:73:SER:HA	1.90	0.53
6:g:116:MET:HA	6:g:119:ARG:HD2	1.90	0.53
11:l:54:ARG:HD2	11:l:64:THR:HG23	1.91	0.53
1:a:167:U:O2	1:a:168:A:N6	2.41	0.53
1:a:718:U:H2'	1:a:719:C:C6	2.44	0.53
1:a:885:G:H2'	1:a:886:C:C6	2.44	0.53
1:a:1250:A:H3'	1:a:1251:G:H8	1.74	0.53
1:a:1396:A:H2	1:a:1471:G:C2	2.25	0.53
6:g:113:GLU:HB2	6:g:119:ARG:HG3	1.90	0.53
7:h:121:GLN:OE1	7:h:123:VAL:N	2.41	0.53
20:m:39:ILE:HD12	20:m:56:LEU:HD13	1.90	0.53
1:a:215:U:H1'	1:a:216:U:H2'	1.91	0.53
1:a:254:G:OP1	15:q:83:SER:OG	2.27	0.53
1:a:380:G:N2	1:a:382:A:H3'	2.23	0.53
1:a:1237:C:O2'	1:a:1259:G:O6	2.24	0.53
1:a:299:G:H2'	1:a:300:A:C8	2.43	0.53
1:a:748:A:C4	1:a:749:G:C8	2.97	0.53
1:a:1388:G:H4'	1:a:1502:A:H1'	1.91	0.53
2:c:129:PHE:CZ	2:c:166:GLU:HG2	2.44	0.53
3:d:3:ARG:HE	3:d:110:ARG:HG2	1.73	0.53
1:a:20:A:C2	1:a:1060:A:H1'	2.44	0.53
1:a:443:C:H2'	1:a:444:A:H8	1.74	0.53
1:a:840:G:H3'	1:a:851:A:H61	1.73	0.53
1:a:1006:U:H2'	1:a:1007:U:O4'	2.09	0.53
1:a:1056:C:N4	1:a:1057:G:O6	2.42	0.53
1:a:1218:C:OP1	1:a:1285:C:O2'	2.26	0.53
1:a:1255:G:HO2'	1:a:1256:A:H8	1.56	0.53
3:d:23:ASP:HB3	3:d:26:PHE:HB3	1.91	0.53
4:e:161:VAL:O	4:e:165:THR:HG23	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:g:116:MET:N	6:g:116:MET:SD	2.73	0.53
7:h:55:ARG:O	7:h:57:GLY:N	2.42	0.53
19:A:167:THR:HA	19:A:239:PRO:HG3	1.89	0.53
20:m:29:ARG:NE	20:m:64:LEU:HD13	2.24	0.53
1:a:157:A:H1'	1:a:344:A:C8	2.44	0.53
1:a:174:G:H2'	1:a:175:A:O4'	2.09	0.53
1:a:527:A:OP2	3:d:2:ALA:N	2.42	0.53
1:a:777:C:H2'	1:a:778:U:C6	2.44	0.53
1:a:1044:G:H5'	1:a:1046:C:H5'	1.90	0.53
1:a:168:A:H2'	1:a:169:A:C8	2.44	0.52
1:a:906:C:H2'	1:a:1375:G:N2	2.23	0.52
1:a:1235:G:OP1	9:j:47:ASN:ND2	2.42	0.52
1:a:1339:A:N1	1:a:1348:G:N2	2.47	0.52
1:a:1409:A:H2'	1:a:1410:C:H6	1.74	0.52
7:h:107:SER:HA	7:h:112:LEU:HD13	1.90	0.52
18:s:80:PHE:CE1	18:s:82:GLY:HA3	2.43	0.52
19:A:20:LYS:O	19:A:21:SER:C	2.51	0.52
1:a:265:G:H4'	15:q:82:LEU:C	2.35	0.52
1:a:498:C:C5	1:a:509:G:H3'	2.44	0.52
1:a:647:G:H2'	1:a:648:A:H8	1.74	0.52
1:a:842:A:H3'	1:a:843:G:H8	1.75	0.52
1:a:942:U:H4'	1:a:943:U:H5''	1.90	0.52
1:a:996:G:O2'	1:a:998:G:O6	2.24	0.52
1:a:1151:A:H3'	1:a:1152:C:C6	2.43	0.52
1:a:1209:C:O5'	20:m:115:ARG:HD2	2.09	0.52
1:a:1335:G:H2'	1:a:1336:C:C6	2.43	0.52
4:e:151:LYS:HG2	4:e:152:SER:H	1.74	0.52
7:h:98:LEU:HB3	7:h:101:LEU:HB2	1.90	0.52
19:A:112:ILE:HD11	19:A:248:TYR:CG	2.45	0.52
20:m:112:GLY:CA	20:m:115:ARG:HH21	2.23	0.52
1:a:88:G:C6	1:a:89:G:C6	2.98	0.52
1:a:145:G:N1	1:a:171:A:C2	2.65	0.52
1:a:180:A:N1	1:a:208:G:N2	2.53	0.52
1:a:271:C:H2'	1:a:272:C:C6	2.44	0.52
1:a:494:C:C2	1:a:495:G:C8	2.98	0.52
1:a:1221:U:C6	6:g:116:MET:HE2	2.45	0.52
1:a:1228:U:O4	1:a:1272:G:O6	2.27	0.52
1:a:1288:A:O2'	20:m:109:THR:OG1	2.10	0.52
6:g:16:PRO:HG3	8:i:63:VAL:HG13	1.91	0.52
8:i:41:LEU:HG	8:i:106:ALA:HB1	1.91	0.52
11:l:34:CYS:HB3	11:l:80:VAL:HG21	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:r:20:CYS:HB3	16:r:23:CYS:HB2	1.92	0.52
1:a:99:U:H2'	1:a:100:G:O4'	2.10	0.52
1:a:254:G:O2'	15:q:35:THR:OG1	2.24	0.52
1:a:383:A:H5''	1:a:455:G:H5''	1.90	0.52
1:a:513:A:O2'	1:a:516:C:N4	2.43	0.52
1:a:639:C:N3	1:a:727:U:O4	2.42	0.52
1:a:838:C:H2'	1:a:839:C:C6	2.45	0.52
1:a:909:G:OP1	1:a:1487:A:N6	2.41	0.52
1:a:930:C:OP1	20:m:108:ARG:C	2.51	0.52
1:a:1027:G:O2'	1:a:1196:G:O2'	2.13	0.52
1:a:1231:A:C2	1:a:1353:G:H1'	2.45	0.52
1:a:1292:G:C2	20:m:65:LYS:NZ	2.77	0.52
6:g:66:LEU:HD11	6:g:97:THR:HG23	1.91	0.52
19:A:11:VAL:CA	20:m:115:ARG:HD3	2.31	0.52
1:a:544:C:OP2	11:l:12:ARG:NH2	2.32	0.52
1:a:664:U:H2'	1:a:665:G:O4'	2.10	0.52
1:a:710:G:H2'	1:a:746:A:H5'	1.92	0.52
1:a:749:G:OP1	1:a:783:G:O2'	2.26	0.52
1:a:1086:G:O2'	2:c:169:ARG:NH2	2.42	0.52
1:a:1387:C:O2'	1:a:1501:G:N2	2.42	0.52
7:h:41:LYS:HG2	7:h:49:TYR:CD1	2.45	0.52
1:a:109:G:H2'	1:a:110:U:C6	2.44	0.52
1:a:127:A:N6	1:a:233:C:O2'	2.41	0.52
1:a:743:G:H2'	1:a:744:C:C6	2.44	0.52
1:a:972:U:N3	1:a:1196:G:N1	2.58	0.52
1:a:999:A:O2'	1:a:1198:C:O2	2.25	0.52
1:a:1129:U:H3'	1:a:1130:C:C6	2.45	0.52
1:a:1147:G:O2'	1:a:1151:A:N6	2.42	0.52
1:a:1155:G:H2'	1:a:1156:G:C8	2.44	0.52
1:a:1242:A:H62	1:a:1255:G:H1'	1.75	0.52
1:a:1284:U:O4	20:m:14:ARG:NE	2.41	0.52
1:a:1296:C:H2'	1:a:1297:U:C6	2.41	0.52
1:a:1424:G:C2'	1:a:1444:A:H61	2.22	0.52
2:c:130:ARG:CZ	2:c:134:ARG:HG3	2.39	0.52
14:p:86:LEU:HB2	14:p:87:PRO:HD3	1.90	0.52
19:A:24:ARG:NH2	19:A:28:ALA:H	2.06	0.52
1:a:185:G:H2'	1:a:186:C:H6	1.73	0.52
1:a:674:G:H2'	1:a:675:A:C8	2.45	0.52
1:a:1047:A:N6	1:a:1089:C:H5'	2.24	0.52
1:a:1098:U:H2'	1:a:1099:C:C6	2.44	0.52
1:a:1383:C:H5''	1:a:1385:C:H42	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:j:54:SER:O	12:n:41:ARG:NH2	2.43	0.52
19:A:199:VAL:HG23	19:A:242:ASN:HD21	1.75	0.52
19:A:240:MET:HE3	19:A:242:ASN:OD1	2.09	0.52
20:m:96:LEU:HD22	20:m:103:THR:HB	1.92	0.52
1:a:329:A:H2'	1:a:332:G:N7	2.25	0.52
1:a:544:C:P	11:l:12:ARG:HE	2.32	0.52
1:a:724:C:H2'	1:a:725:A:H8	1.74	0.52
1:a:1234:G:H3'	1:a:1235:G:H8	1.75	0.52
1:a:1402:G:O6	1:a:1466:G:N2	2.42	0.52
14:p:8:THR:O	14:p:18:TYR:HA	2.10	0.52
15:q:62:HIS:CD2	15:q:64:GLU:HG3	2.44	0.52
15:q:83:SER:OG	15:q:86:LYS:HB3	2.10	0.52
19:A:180:LEU:N	19:A:227:THR:O	2.41	0.52
1:a:89:G:H2'	1:a:90:G:C8	2.45	0.52
1:a:467:A:H2'	1:a:468:U:O4'	2.10	0.52
1:a:722:G:H2'	1:a:723:G:C8	2.44	0.52
1:a:924:G:N1	1:a:1323:U:N3	2.37	0.52
1:a:995:A:N6	1:a:1001:G:O6	2.43	0.52
1:a:1333:U:O2	1:a:1354:G:N2	2.36	0.52
1:a:1409:A:H2'	1:a:1410:C:C6	2.45	0.52
2:c:19:LYS:HD2	12:n:52:GLU:HG2	1.92	0.52
2:c:133:MET:O	2:c:134:ARG:C	2.53	0.52
18:s:9:PRO:HG3	18:s:40:ILE:HG12	1.90	0.52
18:s:69:HIS:CD2	20:m:81:LYS:HB3	2.45	0.52
19:A:98:LYS:HB2	19:A:255:TRP:CH2	2.45	0.52
1:a:127:A:OP1	15:q:80:ARG:HB3	2.10	0.52
1:a:255:G:H5''	15:q:62:HIS:CE1	2.34	0.52
1:a:310:G:H5''	14:p:32:ARG:HD3	1.91	0.52
1:a:638:A:H5''	13:o:8:LYS:HE2	1.92	0.52
1:a:911:G:H2'	1:a:912:C:C6	2.45	0.52
1:a:973:U:O2	1:a:975:G:H8	1.91	0.52
1:a:1197:U:H5''	12:n:5:ALA:HB2	1.92	0.52
1:a:1310:C:O2'	20:m:64:LEU:HD11	2.10	0.52
1:a:1490:U:C4	1:a:1505:G:H5''	2.45	0.52
2:c:150:ARG:HB2	2:c:201:TRP:HB2	1.91	0.52
4:e:86:ALA:O	4:e:90:GLU:HG2	2.10	0.52
10:k:25:VAL:HB	10:k:88:VAL:HG22	1.91	0.52
11:l:36:ARG:HH11	11:l:36:ARG:C	2.17	0.52
19:A:110:GLU:HB3	19:A:259:THR:H	1.75	0.52
1:a:76:A:H2'	1:a:77:G:H8	1.74	0.51
1:a:390:U:H2'	1:a:391:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:404:G:H5''	3:d:114:SER:HB3	1.92	0.51
1:a:543:A:OP1	1:a:546:G:N2	2.43	0.51
1:a:669:C:N4	1:a:670:G:O6	2.44	0.51
1:a:677:U:H1'	1:a:766:G:H1'	1.91	0.51
1:a:940:A:H1'	1:a:967:C:H1'	1.92	0.51
1:a:1110:A:O2'	8:i:40:ARG:HG3	2.11	0.51
1:a:1497:A:H2'	1:a:1498:C:C6	2.45	0.51
8:i:105:ARG:HA	8:i:108:ILE:HD12	1.91	0.51
10:k:65:ARG:HA	10:k:68:THR:HG23	1.92	0.51
16:r:20:CYS:HB2	16:r:57:CYS:H	1.74	0.51
1:a:446:A:H2'	1:a:447:G:O4'	2.11	0.51
1:a:486:G:H2'	1:a:487:C:C6	2.45	0.51
1:a:525:C:P	3:d:54:GLN:HE22	2.32	0.51
1:a:719:C:H1'	13:o:46:HIS:CE1	2.45	0.51
1:a:779:G:H2'	1:a:780:G:O4'	2.09	0.51
1:a:795:A:C8	1:a:1494:C:H5'	2.44	0.51
1:a:846:A:H5''	4:e:115:ALA:HB1	1.92	0.51
1:a:922:C:H2'	1:a:923:G:C8	2.46	0.51
1:a:930:C:OP2	20:m:108:ARG:CA	2.57	0.51
6:g:70:LYS:HG3	6:g:96:SER:HB2	1.91	0.51
9:j:12:ALA:HB2	9:j:96:VAL:HG22	1.93	0.51
11:l:57:LEU:HD11	11:l:82:VAL:HB	1.91	0.51
13:o:66:LEU:O	13:o:70:VAL:HG23	2.10	0.51
14:p:24:ASP:OD1	14:p:25:ALA:N	2.43	0.51
15:q:42:ASP:OD1	15:q:44:LYS:NZ	2.43	0.51
1:a:118:A:H2'	1:a:119:C:C6	2.45	0.51
1:a:392:C:H5'	14:p:13:ILE:HD11	1.91	0.51
1:a:623:C:C2	1:a:624:G:C8	2.99	0.51
1:a:868:G:C2	1:a:893:U:O2	2.62	0.51
1:a:1277:U:H4'	20:m:42:ASN:OD1	2.09	0.51
1:a:1334:C:H2'	1:a:1335:G:H8	1.74	0.51
11:l:27:SER:OG	11:l:29:GLN:O	2.26	0.51
19:A:251:TRP:C	19:A:253:ASP:N	2.67	0.51
1:a:87:G:O2'	1:a:88:G:H5'	2.10	0.51
1:a:293:G:O6	1:a:304:U:C4	2.64	0.51
1:a:300:A:H2'	1:a:301:G:O4'	2.11	0.51
1:a:415:C:H2'	1:a:416:G:O4'	2.11	0.51
1:a:492:U:C1'	3:d:36:HIS:HE2	2.24	0.51
1:a:698:A:H5'	10:k:128:ASN:ND2	2.23	0.51
1:a:1015:G:H2'	1:a:1016:G:C8	2.45	0.51
1:a:1209:C:P	20:m:115:ARG:HD2	2.50	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1252:G:H2'	1:a:1253:U:H6	1.75	0.51
17:t:28:LEU:HD22	17:t:58:LEU:HD23	1.93	0.51
1:a:85:C:C2	1:a:86:G:O6	2.63	0.51
1:a:187:U:H2'	1:a:188:G:H8	1.76	0.51
1:a:217:U:H3'	1:a:218:G:H4'	1.92	0.51
1:a:448:A:H2'	1:a:449:C:C6	2.43	0.51
1:a:665:G:H2'	1:a:666:U:C6	2.46	0.51
1:a:936:G:H21	1:a:1208:A:N6	2.09	0.51
1:a:1428:U:O4	1:a:1441:G:O6	2.28	0.51
6:g:29:LYS:HB3	6:g:105:VAL:HG21	1.92	0.51
19:A:249:GLU:HG2	19:A:259:THR:C	2.36	0.51
1:a:78:G:N2	1:a:91:U:O2'	2.43	0.51
1:a:167:U:H2'	1:a:168:A:N7	2.25	0.51
1:a:462:A:H2'	1:a:463:C:O4'	2.11	0.51
1:a:598:C:O2	14:p:12:LYS:NZ	2.38	0.51
1:a:625:G:H4'	15:q:43:ARG:HH22	1.75	0.51
1:a:658:U:H2'	1:a:659:C:H6	1.72	0.51
1:a:782:A:H3'	1:a:783:G:C8	2.45	0.51
1:a:933:G:N3	1:a:952:C:O2'	2.41	0.51
1:a:1038:G:N2	1:a:1180:U:O2	2.31	0.51
1:a:1099:C:H2'	1:a:1100:U:H6	1.76	0.51
1:a:1291:G:C2'	20:m:74:VAL:HA	2.37	0.51
3:d:183:ARG:H	3:d:183:ARG:HD2	1.75	0.51
4:e:181:ARG:HH12	7:h:75:ALA:HB2	1.76	0.51
6:g:129:ASN:OD1	6:g:130:GLY:N	2.43	0.51
18:s:69:HIS:NE2	20:m:81:LYS:HE2	2.26	0.51
20:m:25:ILE:HG23	20:m:29:ARG:HG3	1.92	0.51
1:a:426:U:OP1	3:d:31:TYR:OH	2.26	0.51
1:a:876:G:H2'	1:a:877:G:O4'	2.10	0.51
1:a:1222:G:H2'	1:a:1223:G:C8	2.45	0.51
1:a:1265:U:OP2	1:a:1266:U:O2'	2.13	0.51
1:a:1284:U:H5'	20:m:17:ILE:CG2	2.35	0.51
1:a:1423:U:H3	1:a:1445:G:H1	1.58	0.51
13:o:45:VAL:HG13	13:o:46:HIS:HD1	1.76	0.51
15:q:34:LYS:HD3	15:q:62:HIS:CE1	2.46	0.51
20:m:86:CYS:SG	20:m:88:GLN:HB2	2.50	0.51
1:a:1038:G:H5''	2:c:186:LEU:HD11	1.92	0.51
1:a:1156:G:H2'	1:a:1157:A:C8	2.46	0.51
1:a:1171:G:H4'	2:c:176:HIS:NE2	2.26	0.51
1:a:1231:A:H4'	8:i:89:GLY:HA2	1.93	0.51
1:a:1296:C:H5	18:s:6:LYS:N	2.08	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1325:G:H2'	1:a:1326:C:C6	2.46	0.51
1:a:1450:C:H2'	1:a:1451:G:O4'	2.11	0.51
1:a:1490:U:O4	1:a:1505:G:H5''	2.10	0.51
3:d:125:VAL:HG11	3:d:130:TYR:HB2	1.92	0.51
6:g:68:ASN:OD1	6:g:138:ARG:NH2	2.44	0.51
1:a:210:A:N3	1:a:222:U:H1'	2.26	0.51
1:a:493:A:H2'	1:a:494:C:H6	1.76	0.51
1:a:935:G:H2'	1:a:936:G:H8	1.75	0.51
7:h:21:TYR:HA	7:h:70:ARG:NH2	2.26	0.51
1:a:214:U:H1'	1:a:218:G:N2	2.26	0.51
1:a:550:G:H1'	1:a:800:U:C4	2.46	0.51
1:a:654:G:H2'	1:a:655:A:C8	2.36	0.51
1:a:702:G:C6	1:a:704:G:C2	2.99	0.51
1:a:830:G:H2'	1:a:831:A:C8	2.46	0.51
1:a:944:C:H2'	1:a:945:G:C8	2.46	0.51
1:a:1263:C:H2'	1:a:1264:C:H6	1.76	0.51
20:m:34:LEU:HB3	20:m:39:ILE:O	2.11	0.51
1:a:61:G:H2'	1:a:62:C:C6	2.44	0.50
1:a:225:G:H21	15:q:10:THR:HG21	1.76	0.50
1:a:302:G:H2'	1:a:303:G:H8	1.76	0.50
1:a:1279:U:C2	6:g:114:LYS:HE2	2.46	0.50
4:e:182:ARG:C	4:e:184:LEU:H	2.19	0.50
11:l:64:THR:O	11:l:95:TYR:HB2	2.10	0.50
19:A:12:LEU:N	20:m:115:ARG:HB3	2.26	0.50
20:m:33:ILE:HG12	20:m:59:TYR:HE2	1.76	0.50
1:a:154:G:N2	1:a:161:U:O2	2.44	0.50
1:a:208:G:H5''	17:t:60:LYS:HG3	1.93	0.50
1:a:302:G:H2'	1:a:303:G:C8	2.46	0.50
1:a:442:G:H2'	1:a:443:C:H6	1.77	0.50
1:a:659:C:H2'	1:a:660:C:C6	2.46	0.50
1:a:697:C:H4'	10:k:128:ASN:ND2	2.26	0.50
1:a:781:U:H2'	1:a:782:A:C8	2.46	0.50
1:a:1357:A:OP1	6:g:36:LYS:NZ	2.41	0.50
4:e:63:ILE:HD12	4:e:73:VAL:HG12	1.92	0.50
7:h:21:TYR:HA	7:h:70:ARG:HH21	1.76	0.50
16:r:25:LYS:O	16:r:26:LYS:HG2	2.11	0.50
19:A:136:ILE:O	19:A:139:VAL:HG22	2.10	0.50
1:a:179:C:O2	1:a:179:C:H2'	2.11	0.50
1:a:310:G:H4'	14:p:32:ARG:NH1	2.22	0.50
1:a:840:G:H3'	1:a:851:A:N6	2.27	0.50
1:a:1151:A:H3'	1:a:1152:C:H6	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1471:G:H2'	1:a:1472:G:C8	2.46	0.50
1:a:587:A:H2'	1:a:588:A:C8	2.47	0.50
1:a:688:C:H2'	1:a:689:A:C8	2.47	0.50
1:a:858:A:O3'	7:h:78:ARG:NH1	2.35	0.50
1:a:967:C:H2'	1:a:968:U:H6	1.75	0.50
1:a:1250:A:HO2'	1:a:1307:C:HO2'	1.55	0.50
1:a:1310:C:H4'	20:m:29:ARG:HE	1.75	0.50
2:c:119:VAL:HG13	2:c:133:MET:HE1	1.91	0.50
2:c:139:SER:HA	2:c:142:ARG:NE	2.26	0.50
7:h:55:ARG:HE	7:h:56:VAL:HG23	1.75	0.50
14:p:7:LEU:HD22	14:p:18:TYR:HB3	1.93	0.50
16:r:42:ILE:HD12	16:r:46:GLY:HA2	1.93	0.50
1:a:1133:G:O4'	9:j:72:ARG:NH2	2.45	0.50
1:a:1230:C:N4	1:a:1269:A:H3'	2.27	0.50
2:c:156:ARG:NE	2:c:193:PHE:O	2.44	0.50
3:d:92:ARG:HB2	3:d:95:ASN:HB2	1.93	0.50
14:p:12:LYS:HG3	14:p:15:ASN:OD1	2.11	0.50
20:m:9:LEU:HB3	20:m:18:ALA:HB1	1.93	0.50
1:a:70:A:P	1:a:70:A:H8	2.35	0.50
1:a:118:A:H2'	1:a:119:C:H6	1.76	0.50
1:a:687:U:H2'	1:a:688:C:H6	1.76	0.50
1:a:877:G:N1	1:a:887:U:C2	2.80	0.50
1:a:1216:U:O2'	1:a:1286:G:O3'	2.29	0.50
1:a:1497:A:C6	1:a:1507:G:C6	3.00	0.50
2:c:8:HIS:O	2:c:12:LEU:HB3	2.12	0.50
20:m:77:ASP:HA	20:m:80:ARG:HB3	1.93	0.50
1:a:21:U:H5''	4:e:44:ASN:ND2	2.26	0.50
1:a:291:C:H2'	1:a:292:G:H8	1.77	0.50
1:a:363:A:H5'	11:l:31:ARG:HG2	1.94	0.50
1:a:1167:G:H21	12:n:61:TRP:C	2.20	0.50
1:a:1397:U:O4	1:a:1470:G:O6	2.29	0.50
1:a:1413:C:H2'	1:a:1414:C:C6	2.47	0.50
3:d:171:GLU:HG3	3:d:172:ARG:HD2	1.94	0.50
4:e:34:SER:O	4:e:36:TYR:N	2.45	0.50
4:e:40:VAL:HG21	4:e:85:ILE:HD12	1.93	0.50
5:f:10:LEU:HB2	5:f:59:ILE:HB	1.94	0.50
18:s:83:HIS:CD2	19:A:253:ASP:C	2.90	0.50
1:a:146:A:H2'	1:a:147:U:H6	1.77	0.50
1:a:150:G:H1	1:a:165:U:H3	1.60	0.50
1:a:159:A:C5	1:a:160:C:H1'	2.47	0.50
1:a:498:C:H6	1:a:510:G:H5'	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:993:G:O6	1:a:1002:U:O4	2.30	0.50
1:a:1000:U:H2'	1:a:1001:G:C8	2.47	0.50
1:a:1086:G:H2'	1:a:1087:C:H6	1.73	0.50
1:a:1138:A:H62	1:a:1161:A:H3'	1.77	0.50
1:a:1207:C:H5'	18:s:80:PHE:CD1	2.45	0.50
1:a:1331:A:H1'	1:a:1357:A:C6	2.46	0.50
1:a:1333:U:O4	1:a:1354:G:O6	2.29	0.50
8:i:134:LYS:HA	8:i:141:ALA:HB2	1.94	0.50
10:k:43:ILE:HG23	10:k:51:ILE:HG13	1.94	0.50
10:k:104:THR:O	10:k:107:ARG:HD3	2.11	0.50
19:A:174:VAL:HG13	19:A:229:LEU:HD13	1.94	0.50
1:a:255:G:H4'	15:q:34:LYS:HD2	1.93	0.50
1:a:323:U:O2	1:a:327:A:N7	2.45	0.50
1:a:518:U:H5''	11:l:111:LYS:HZ3	1.77	0.50
1:a:672:U:H2'	1:a:674:G:OP2	2.12	0.50
1:a:699:C:H1'	16:r:47:LYS:HD2	1.93	0.50
1:a:719:C:H2'	1:a:720:U:O4'	2.12	0.50
1:a:751:G:H2'	1:a:752:U:C6	2.47	0.50
1:a:928:A:O2'	1:a:1315:A:N3	2.40	0.50
1:a:1040:U:H2'	1:a:1041:G:C8	2.47	0.50
1:a:1162:G:H1'	1:a:1163:G:C4	2.46	0.50
1:a:1204:C:P	18:s:78:ARG:HE	2.35	0.50
1:a:1291:G:H5'	20:m:78:ILE:HG12	1.90	0.50
3:d:40:ARG:NH2	3:d:43:GLU:OE1	2.45	0.50
14:p:59:TRP:HA	14:p:62:VAL:HG22	1.94	0.50
19:A:12:LEU:HD23	19:A:118:ASP:HB3	1.94	0.50
19:A:98:LYS:HB2	19:A:255:TRP:HH2	1.77	0.50
1:a:321:A:N1	1:a:332:G:C6	2.79	0.49
1:a:349:A:H2'	1:a:350:G:H8	1.76	0.49
1:a:582:U:H2'	1:a:583:C:C6	2.47	0.49
1:a:860:C:H5''	7:h:83:PRO:HB2	1.94	0.49
1:a:899:G:H2'	1:a:900:A:C8	2.47	0.49
1:a:1201:G:H2'	1:a:1202:G:H8	1.76	0.49
1:a:1219:A:N7	1:a:1283:U:C2	2.79	0.49
1:a:1296:C:P	18:s:7:LYS:HG3	2.52	0.49
1:a:1326:C:HO2'	1:a:1330:U:HO2'	1.56	0.49
1:a:1515:A:H2'	1:a:1516:U:C6	2.48	0.49
4:e:74:GLY:HA3	4:e:88:GLY:O	2.12	0.49
16:r:43:SER:HB3	16:r:49:ARG:HH22	1.76	0.49
19:A:127:ILE:HD11	19:A:264:TRP:HB3	1.94	0.49
1:a:520:G:H21	3:d:35:GLN:CD	2.19	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:543:A:H2'	1:a:547:G:C8	2.47	0.49
1:a:575:G:N3	1:a:576:C:N4	2.60	0.49
1:a:1421:G:H2'	1:a:1422:G:H8	1.77	0.49
16:r:42:ILE:HD13	16:r:77:LEU:HD22	1.94	0.49
20:m:15:MET:HB2	20:m:43:MET:SD	2.52	0.49
1:a:407:A:H2'	1:a:408:G:C8	2.47	0.49
1:a:931:A:C8	20:m:106:ASN:CG	2.90	0.49
1:a:1277:U:H4'	20:m:42:ASN:ND2	2.27	0.49
1:a:1310:C:H4'	20:m:29:ARG:NE	2.28	0.49
13:o:33:THR:HG22	13:o:37:GLN:NE2	2.27	0.49
15:q:62:HIS:O	15:q:89:ARG:NH2	2.45	0.49
19:A:248:TYR:HB2	19:A:258:ALA:O	2.12	0.49
1:a:321:A:H2'	1:a:322:C:C6	2.47	0.49
1:a:321:A:H2'	1:a:322:C:H6	1.77	0.49
1:a:323:U:H5'	17:t:18:ARG:HB3	1.93	0.49
1:a:557:G:H2'	1:a:558:C:C6	2.48	0.49
1:a:762:A:OP1	1:a:1506:U:H1'	2.11	0.49
1:a:803:G:H2'	1:a:804:U:H6	1.76	0.49
1:a:819:U:H2'	1:a:820:C:C6	2.47	0.49
1:a:969:G:N2	1:a:998:G:H21	2.10	0.49
1:a:992:G:O2'	1:a:993:G:H5'	2.13	0.49
1:a:1156:G:H2'	1:a:1157:A:H8	1.77	0.49
1:a:1311:G:O5'	20:m:26:GLY:N	2.45	0.49
1:a:1330:U:H2'	1:a:1331:A:C8	2.45	0.49
1:a:1351:G:H5''	8:i:134:LYS:HB3	1.94	0.49
13:o:32:LEU:O	13:o:36:ILE:HG12	2.12	0.49
19:A:9:PRO:HB3	19:A:253:ASP:CG	2.38	0.49
19:A:133:THR:HA	19:A:141:GLY:O	2.11	0.49
20:m:4:LEU:HD22	20:m:9:LEU:HD11	1.93	0.49
1:a:487:C:OP2	1:a:488:C:O2'	2.26	0.49
1:a:590:A:H2'	1:a:590:A:N3	2.27	0.49
1:a:644:G:N2	1:a:721:G:H1	2.11	0.49
1:a:694:G:H5''	1:a:755:G:O2'	2.13	0.49
4:e:132:ALA:H	4:e:137:ARG:NH2	2.03	0.49
14:p:41:HIS:O	14:p:44:GLU:HG2	2.12	0.49
20:m:54:THR:HG23	20:m:57:ARG:HH21	1.77	0.49
1:a:26:G:H4'	1:a:867:G:C8	2.47	0.49
1:a:771:G:H21	1:a:1481:G:H2'	1.77	0.49
1:a:1032:U:O4	1:a:1187:G:O6	2.31	0.49
1:a:1291:G:H21	20:m:73:GLU:CD	2.20	0.49
2:c:139:SER:HA	2:c:142:ARG:CZ	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:66:GLN:OE1	3:d:92:ARG:NH2	2.46	0.49
4:e:43:ILE:HG23	4:e:59:THR:H	1.77	0.49
5:f:19:VAL:HG21	5:f:59:ILE:HD13	1.94	0.49
7:h:121:GLN:OE1	7:h:123:VAL:HG12	2.12	0.49
16:r:51:ARG:HB3	16:r:52:ARG:HD3	1.94	0.49
18:s:36:ARG:NH1	18:s:72:GLY:O	2.45	0.49
19:A:73:THR:HG22	19:A:75:ASP:H	1.76	0.49
19:A:112:ILE:H	19:A:257:VAL:HB	1.78	0.49
19:A:206:GLY:N	19:A:215:LEU:O	2.35	0.49
20:m:16:GLU:HA	20:m:30:SER:HB3	1.93	0.49
1:a:58:C:H2'	1:a:352:C:H41	1.78	0.49
1:a:254:G:C6	1:a:273:A:C6	3.01	0.49
1:a:397:A:N7	1:a:527:A:O2'	2.36	0.49
1:a:485:G:O2'	1:a:486:G:OP1	2.25	0.49
1:a:659:C:H2'	1:a:660:C:H6	1.77	0.49
1:a:1000:U:H2'	1:a:1001:G:H8	1.77	0.49
1:a:1277:U:C4'	20:m:42:ASN:HD21	2.26	0.49
3:d:99:ARG:NH2	3:d:165:TRP:HE1	2.11	0.49
7:h:18:ASN:ND2	7:h:74:ILE:HB	2.28	0.49
11:l:39:THR:HG23	11:l:50:ARG:O	2.12	0.49
14:p:54:GLU:HB2	14:p:55:ARG:HH12	1.78	0.49
19:A:218:LEU:HD12	19:A:220:TYR:HE1	1.77	0.49
1:a:356:A:H3'	1:a:357:G:H8	1.77	0.49
1:a:768:U:H2'	1:a:769:U:O4'	2.12	0.49
1:a:770:A:H2'	1:a:771:G:C4	2.47	0.49
1:a:895:A:H4'	1:a:896:A:O5'	2.12	0.49
1:a:976:A:N6	1:a:1027:G:O2'	2.45	0.49
1:a:1241:G:N2	1:a:1256:A:OP2	2.44	0.49
2:c:80:GLY:HA2	2:c:84:ASP:HB2	1.94	0.49
3:d:131:ARG:H	3:d:131:ARG:HD3	1.78	0.49
11:l:73:ASN:HB3	11:l:105:GLN:H	1.78	0.49
15:q:34:LYS:HE2	15:q:64:GLU:HG2	1.95	0.49
18:s:22:GLN:OE1	18:s:47:HIS:ND1	2.46	0.49
1:a:46:G:O2'	1:a:602:A:N1	2.44	0.49
1:a:82:U:O2	1:a:87:G:O6	2.30	0.49
1:a:212:G:H2'	1:a:213:C:C6	2.48	0.49
1:a:247:G:C6	1:a:278:G:C6	3.00	0.49
1:a:315:A:H5''	1:a:317:U:OP1	2.13	0.49
1:a:340:U:H2'	1:a:341:C:C6	2.48	0.49
1:a:672:U:H1'	1:a:675:A:N7	2.28	0.49
1:a:698:A:C8	10:k:127:HIS:HB2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:718:U:OP1	5:f:4:TYR:OH	2.31	0.49
1:a:980:G:O6	1:a:1023:U:O4	2.31	0.49
1:a:1035:A:O2'	2:c:161:GLU:O	2.21	0.49
1:a:1302:C:C5	18:s:70:LYS:HB2	2.48	0.49
2:c:131:ARG:O	2:c:132:ALA:C	2.55	0.49
2:c:137:ILE:HG12	2:c:151:VAL:HG21	1.95	0.49
11:l:36:ARG:NH1	11:l:38:TYR:HB2	2.27	0.49
1:a:76:A:H2'	1:a:77:G:C8	2.48	0.49
1:a:202:G:H2'	1:a:203:U:O4'	2.13	0.49
1:a:648:A:N3	13:o:46:HIS:HD2	2.09	0.49
1:a:747:A:H2'	1:a:748:A:O4'	2.13	0.49
1:a:933:G:H21	1:a:952:C:H2'	1.78	0.49
1:a:1105:U:C2	1:a:1107:G:C8	3.00	0.49
1:a:1292:G:H21	20:m:65:LYS:NZ	2.11	0.49
2:c:14:ILE:HG22	2:c:15:THR:HG23	1.95	0.49
3:d:152:ILE:O	3:d:156:THR:OG1	2.27	0.49
18:s:44:PHE:HA	18:s:47:HIS:HD2	1.78	0.49
19:A:115:GLY:HA2	19:A:256:THR:HG23	1.95	0.49
1:a:224:U:H2'	1:a:225:G:C8	2.48	0.48
1:a:264:U:O2	15:q:81:PRO:HG2	2.13	0.48
1:a:687:U:H2'	1:a:688:C:C6	2.48	0.48
1:a:697:C:H5''	1:a:714:G:OP2	2.13	0.48
1:a:758:G:N2	10:k:131:ARG:HD3	2.25	0.48
1:a:806:C:H4'	7:h:13:ARG:HG3	1.95	0.48
1:a:860:C:H2'	1:a:861:C:H6	1.77	0.48
1:a:1465:C:H3'	1:a:1466:G:H8	1.78	0.48
2:c:153:CYS:SG	2:c:198:VAL:HG22	2.53	0.48
3:d:48:GLN:O	3:d:52:GLU:HG2	2.13	0.48
6:g:27:VAL:HA	6:g:43:VAL:HG21	1.94	0.48
15:q:64:GLU:H	15:q:89:ARG:NH2	2.11	0.48
1:a:70:A:H5''	1:a:213:C:O2'	2.13	0.48
1:a:240:C:H2'	1:a:241:C:H6	1.79	0.48
1:a:422:C:H4'	1:a:423:G:O5'	2.12	0.48
1:a:522:G:H5''	3:d:33:PRO:HG2	1.95	0.48
1:a:679:C:H2'	1:a:680:G:H8	1.78	0.48
1:a:710:G:H21	1:a:746:A:P	2.36	0.48
1:a:748:A:H4'	1:a:1507:G:N2	2.28	0.48
1:a:1209:C:OP1	20:m:115:ARG:CD	2.60	0.48
1:a:1234:G:H5'	9:j:46:LYS:H	1.78	0.48
1:a:1297:U:OP1	18:s:7:LYS:NZ	2.37	0.48
11:l:79:MET:O	11:l:79:MET:HG2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:m:102:ARG:NE	20:m:104:LYS:HB3	2.27	0.48
1:a:624:G:C4	1:a:625:G:C8	3.01	0.48
1:a:863:G:OP2	11:l:9:ARG:NH1	2.46	0.48
1:a:1139:C:H3'	1:a:1139:C:O2	2.13	0.48
1:a:1284:U:C6	20:m:17:ILE:HD11	2.45	0.48
1:a:1292:G:H21	20:m:65:LYS:HZ1	1.60	0.48
1:a:1332:A:N7	8:i:140:LYS:NZ	2.61	0.48
2:c:67:ILE:HD11	2:c:102:ILE:HG12	1.94	0.48
10:k:30:ALA:HB3	10:k:93:VAL:HA	1.95	0.48
17:t:30:THR:HA	17:t:33:ARG:HG2	1.95	0.48
19:A:251:TRP:CE3	19:A:256:THR:HG21	2.48	0.48
20:m:66:VAL:HG12	20:m:67:GLU:N	2.27	0.48
1:a:67:C:O2'	1:a:380:G:H4'	2.13	0.48
1:a:526:G:OP1	3:d:65:LYS:HG2	2.13	0.48
1:a:528:G:O2'	1:a:529:C:H5'	2.12	0.48
1:a:585:U:C2	1:a:613:G:O6	2.65	0.48
1:a:812:G:H2'	1:a:812:G:N3	2.27	0.48
1:a:1096:U:H2'	1:a:1097:G:O4'	2.13	0.48
1:a:1312:U:C4'	20:m:23:TYR:CE2	2.95	0.48
1:a:1486:A:H5'	1:a:1488:G:O6	2.14	0.48
3:d:167:GLN:OE1	3:d:178:HIS:ND1	2.45	0.48
4:e:135:ALA:O	4:e:139:VAL:HG23	2.14	0.48
8:i:51:ASP:OD1	8:i:86:HIS:ND1	2.46	0.48
19:A:112:ILE:HG12	19:A:240:MET:CE	2.43	0.48
1:a:227:G:N2	14:p:62:VAL:O	2.33	0.48
1:a:736:C:H2'	1:a:737:U:C6	2.48	0.48
1:a:884:G:H2'	1:a:885:G:H8	1.74	0.48
1:a:938:U:HO2'	18:s:81:LYS:H	1.58	0.48
1:a:1367:C:H2'	1:a:1368:G:C8	2.48	0.48
3:d:105:THR:O	3:d:108:MET:HB2	2.12	0.48
4:e:191:PRO:HD2	4:e:194:MET:SD	2.53	0.48
7:h:107:SER:N	7:h:126:GLU:O	2.46	0.48
14:p:99:LYS:HD3	14:p:100:PRO:O	2.13	0.48
1:a:89:G:C3'	1:a:90:G:H8	2.23	0.48
1:a:132:C:H2'	14:p:2:ALA:HB2	1.95	0.48
1:a:323:U:H2'	1:a:324:G:N9	2.28	0.48
1:a:1082:A:H2'	1:a:1083:C:C6	2.49	0.48
1:a:1160:A:OP2	8:i:115:ARG:NH2	2.47	0.48
1:a:1311:G:P	20:m:29:ARG:CB	3.02	0.48
1:a:1335:G:H2'	1:a:1336:C:H6	1.78	0.48
1:a:1432:C:N3	1:a:1439:G:N1	2.62	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:g:23:VAL:HG21	6:g:59:VAL:HG12	1.94	0.48
11:l:3:THR:O	11:l:6:GLN:N	2.46	0.48
1:a:20:A:H5'	4:e:45:ARG:NH1	2.28	0.48
1:a:66:U:H1'	1:a:379:C:H1'	1.94	0.48
1:a:152:C:H2'	1:a:153:U:H6	1.77	0.48
1:a:723:G:H2'	1:a:724:C:C6	2.48	0.48
1:a:1096:U:H2'	1:a:1097:G:C8	2.49	0.48
1:a:1274:C:H2'	1:a:1275:G:C8	2.49	0.48
1:a:1333:U:H2'	1:a:1334:C:C6	2.48	0.48
3:d:108:MET:HA	3:d:108:MET:HE2	1.96	0.48
14:p:101:SER:OG	14:p:102:LYS:N	2.46	0.48
19:A:11:VAL:HG13	20:m:115:ARG:HG2	1.96	0.48
19:A:12:LEU:N	20:m:115:ARG:HD3	2.27	0.48
20:m:69:ASP:OD1	20:m:72:ARG:NE	2.47	0.48
1:a:175:A:C2	1:a:176:A:C8	3.02	0.48
1:a:431:A:H2'	1:a:432:A:H8	1.78	0.48
1:a:551:U:H5'	1:a:799:G:N7	2.29	0.48
1:a:965:A:O2'	1:a:1029:U:O3'	2.29	0.48
1:a:995:A:H2'	1:a:996:G:O4'	2.14	0.48
1:a:1179:G:H2'	1:a:1180:U:C6	2.49	0.48
1:a:1291:G:N9	20:m:74:VAL:HG22	2.29	0.48
1:a:1298:G:N2	1:a:1300:A:H3'	2.28	0.48
3:d:99:ARG:CZ	3:d:165:TRP:HE1	2.27	0.48
14:p:41:HIS:O	14:p:47:SER:HA	2.14	0.48
15:q:35:THR:N	15:q:63:ASP:OD1	2.47	0.48
1:a:197:G:H2'	1:a:198:C:C6	2.49	0.48
1:a:203:U:H2'	1:a:204:A:C8	2.48	0.48
1:a:204:A:H2'	1:a:205:G:C8	2.49	0.48
1:a:280:C:H42	15:q:56:THR:HG23	1.79	0.48
1:a:436:C:H2'	1:a:437:U:C6	2.49	0.48
1:a:437:U:H5'	3:d:147:THR:HG23	1.94	0.48
1:a:498:C:O2	11:l:47:SER:HB2	2.14	0.48
1:a:743:G:H2'	1:a:744:C:H6	1.77	0.48
1:a:872:G:O3'	1:a:888:A:N6	2.47	0.48
1:a:909:G:H5''	1:a:1487:A:H62	1.79	0.48
1:a:935:G:H2'	1:a:936:G:C8	2.49	0.48
1:a:1086:G:H4'	2:c:172:ARG:HG2	1.96	0.48
1:a:1251:G:C4	1:a:1252:G:N7	2.82	0.48
1:a:1284:U:C4	20:m:17:ILE:HD11	2.49	0.48
1:a:1291:G:O2'	20:m:74:VAL:HA	2.14	0.48
1:a:1301:A:N6	1:a:1343:G:H1'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1427:C:H2'	1:a:1428:U:C6	2.48	0.48
2:c:175:LEU:HD23	2:c:182:ILE:HD13	1.95	0.48
2:c:188:GLU:OE1	2:c:195:ARG:NH2	2.39	0.48
6:g:87:VAL:HG22	6:g:154:TYR:HD2	1.78	0.48
12:n:23:ARG:HA	12:n:30:PRO:HA	1.95	0.48
13:o:27:ALA:O	13:o:31:LEU:HG	2.14	0.48
19:A:248:TYR:C	19:A:260:THR:HG23	2.39	0.48
20:m:88:GLN:HG2	20:m:98:VAL:HG22	1.95	0.48
1:a:63:A:H1'	1:a:354:G:N2	2.29	0.48
1:a:413:G:H22	1:a:429:U:P	2.37	0.48
1:a:479:A:O2'	1:a:526:G:N2	2.46	0.48
1:a:704:G:H5''	16:r:51:ARG:NH2	2.29	0.48
1:a:880:G:O2'	1:a:883:A:N6	2.43	0.48
1:a:928:A:N3	1:a:1315:A:H2	2.12	0.48
1:a:934:U:H5	20:m:104:LYS:HZ3	1.58	0.48
1:a:1173:C:OP1	2:c:150:ARG:NH2	2.44	0.48
1:a:1275:G:H2'	1:a:1276:G:H8	1.79	0.48
1:a:1407:U:H2'	1:a:1408:A:C8	2.48	0.48
1:a:1458:G:H2'	1:a:1459:G:O4'	2.14	0.48
15:q:86:LYS:C	15:q:87:ARG:HD2	2.39	0.48
18:s:10:PHE:HB3	18:s:38:SER:HB2	1.96	0.48
19:A:33:VAL:O	19:A:34:GLN:C	2.57	0.48
1:a:176:A:H2'	1:a:177:U:H6	1.78	0.47
1:a:938:U:O2'	18:s:81:LYS:N	2.43	0.47
1:a:1138:A:N6	1:a:1161:A:H3'	2.29	0.47
1:a:1249:G:N3	1:a:1308:C:O2'	2.40	0.47
1:a:1252:G:H2'	1:a:1253:U:C6	2.49	0.47
1:a:1253:U:H3'	1:a:1254:G:C8	2.49	0.47
1:a:1300:A:H5''	18:s:8:GLY:O	2.14	0.47
1:a:1398:G:H3'	1:a:1399:A:H8	1.79	0.47
6:g:48:GLU:O	6:g:52:GLU:OE1	2.31	0.47
11:l:8:VAL:HG22	15:q:49:TYR:HD2	1.79	0.47
18:s:11:VAL:HG22	18:s:16:LEU:HD22	1.96	0.47
19:A:254:GLY:O	19:A:255:TRP:C	2.55	0.47
1:a:10:G:O2'	1:a:298:A:H1'	2.14	0.47
1:a:11:G:H5''	4:e:149:LEU:HD21	1.96	0.47
1:a:28:U:H2'	1:a:29:C:H6	1.75	0.47
1:a:193:C:H1'	1:a:194:A:N7	2.29	0.47
1:a:592:U:H2'	1:a:593:C:H6	1.76	0.47
1:a:741:G:H2'	1:a:742:A:C8	2.49	0.47
1:a:1054:G:C6	1:a:1055:U:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1136:A:H2'	1:a:1137:G:O4'	2.14	0.47
1:a:1303:U:OP2	1:a:1304:C:O2'	2.26	0.47
3:d:83:ASP:C	3:d:183:ARG:HH21	2.22	0.47
5:f:47:ARG:HH22	16:r:39:ARG:HH22	1.62	0.47
6:g:133:ALA:HA	6:g:136:LYS:HE3	1.94	0.47
7:h:84:GLY:O	15:q:51:LYS:HD3	2.14	0.47
7:h:89:ALA:O	7:h:125:GLY:N	2.47	0.47
15:q:27:VAL:O	15:q:71:GLY:N	2.46	0.47
19:A:4:ARG:NH1	19:A:126:ASP:OD1	2.46	0.47
20:m:81:LYS:HD3	20:m:88:GLN:HB3	1.95	0.47
1:a:341:C:H2'	1:a:342:C:C6	2.49	0.47
1:a:427:U:H2'	1:a:428:G:N7	2.30	0.47
1:a:540:A:H8	1:a:540:A:OP1	1.97	0.47
1:a:642:C:O2'	1:a:815:G:O3'	2.31	0.47
1:a:827:U:H5''	16:r:24:SER:HA	1.96	0.47
1:a:930:C:P	20:m:109:THR:N	2.76	0.47
1:a:1099:C:H2'	1:a:1100:U:C6	2.49	0.47
1:a:1494:C:H2'	1:a:1495:G:C8	2.48	0.47
4:e:167:ALA:HA	4:e:170:LYS:HE2	1.97	0.47
6:g:1:MET:SD	6:g:1:MET:N	2.75	0.47
7:h:51:THR:HG22	7:h:58:LYS:HE3	1.95	0.47
9:j:83:THR:O	9:j:87:LEU:HG	2.14	0.47
19:A:231:PRO:HA	19:A:274:VAL:HB	1.95	0.47
1:a:85:C:H1'	1:a:86:G:N7	2.28	0.47
1:a:191:C:H2'	1:a:192:G:O4'	2.15	0.47
1:a:534:U:C2	1:a:535:C:C5	3.03	0.47
1:a:543:A:H5'	1:a:546:G:C2	2.49	0.47
1:a:704:G:H5''	16:r:51:ARG:HH22	1.79	0.47
1:a:841:U:C2	1:a:842:A:C8	3.02	0.47
2:c:76:ILE:HD11	2:c:102:ILE:HB	1.97	0.47
5:f:5:GLU:OE1	5:f:93:THR:OG1	2.33	0.47
19:A:38:GLU:HB3	19:A:39:PRO:HD2	1.97	0.47
1:a:186:C:H2'	1:a:187:U:H6	1.80	0.47
1:a:782:A:H2'	1:a:783:G:O4'	2.14	0.47
1:a:849:G:O2'	1:a:855:A:N6	2.39	0.47
1:a:1291:G:C4'	20:m:74:VAL:O	2.62	0.47
1:a:1440:A:H5''	1:a:1441:G:C8	2.49	0.47
1:a:1465:C:H2'	1:a:1466:G:O4'	2.14	0.47
3:d:71:TYR:CE1	3:d:196:VAL:HA	2.49	0.47
3:d:89:LEU:O	3:d:95:ASN:ND2	2.47	0.47
4:e:113:GLU:HA	4:e:117:GLY:O	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:178:VAL:HG12	4:e:182:ARG:HD2	1.97	0.47
10:k:65:ARG:HH12	10:k:70:PHE:HB2	1.79	0.47
15:q:68:ALA:HA	15:q:96:LYS:NZ	2.29	0.47
16:r:20:CYS:SG	16:r:22:PHE:N	2.71	0.47
19:A:260:THR:C	19:A:262:GLY:H	2.22	0.47
20:m:37:THR:HG21	20:m:56:LEU:HD12	1.96	0.47
20:m:87:TYR:O	20:m:91:ARG:HG2	2.15	0.47
1:a:75:A:H61	1:a:95:C:H1'	1.80	0.47
1:a:174:G:C6	1:a:175:A:C5	3.02	0.47
1:a:399:G:H2'	1:a:400:C:H6	1.79	0.47
1:a:525:C:O3'	3:d:65:LYS:NZ	2.46	0.47
1:a:687:U:H5''	10:k:31:HIS:HB3	1.95	0.47
1:a:1438:G:H2'	1:a:1439:G:C8	2.45	0.47
5:f:7:MET:SD	5:f:62:VAL:HG22	2.54	0.47
6:g:64:ARG:HH21	6:g:128:SER:HB3	1.80	0.47
9:j:21:SER:O	9:j:24:LYS:HG2	2.15	0.47
1:a:80:C:C4	1:a:81:C:N4	2.82	0.47
1:a:90:G:C2'	1:a:91:U:H5'	2.45	0.47
1:a:137:C:H2'	1:a:138:A:H8	1.78	0.47
1:a:209:A:OP1	17:t:60:LYS:NZ	2.45	0.47
1:a:225:G:O2'	15:q:10:THR:N	2.44	0.47
1:a:431:A:H2'	1:a:432:A:C8	2.49	0.47
1:a:439:U:H3'	1:a:440:C:H6	1.79	0.47
1:a:526:G:H5'	3:d:65:LYS:NZ	2.30	0.47
1:a:668:G:C6	1:a:680:G:N1	2.83	0.47
1:a:688:C:H2'	1:a:689:A:H8	1.80	0.47
1:a:699:C:O2'	16:r:47:LYS:HB3	2.15	0.47
1:a:746:A:N6	1:a:793:U:N3	2.61	0.47
1:a:800:U:H4'	1:a:801:G:OP2	2.14	0.47
1:a:819:U:H2'	1:a:820:C:H6	1.80	0.47
1:a:905:A:H2'	1:a:906:C:C6	2.49	0.47
1:a:942:U:C5	1:a:1206:U:H1'	2.50	0.47
1:a:980:G:O6	1:a:1023:U:C4	2.67	0.47
1:a:1094:C:H2'	1:a:1095:U:H6	1.79	0.47
1:a:1100:U:H2'	1:a:1101:C:C6	2.50	0.47
1:a:1109:C:C4	1:a:1120:G:C4	3.03	0.47
1:a:1160:A:H2'	1:a:1161:A:C8	2.50	0.47
1:a:1211:C:H2'	1:a:1212:A:H8	1.79	0.47
1:a:1218:C:H4'	1:a:1282:G:H22	1.79	0.47
1:a:1248:U:C2	1:a:1309:C:H4'	2.50	0.47
1:a:1292:G:C4'	20:m:77:ASP:CG	2.84	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1502:A:H2'	1:a:1503:A:H8	1.80	0.47
2:c:153:CYS:O	2:c:165:SER:HA	2.14	0.47
4:e:102:ILE:O	4:e:105:THR:OG1	2.25	0.47
5:f:67:ALA:HB1	5:f:71:THR:OG1	2.15	0.47
10:k:34:SER:HA	10:k:39:THR:HA	1.96	0.47
10:k:70:PHE:HA	10:k:73:GLN:NE2	2.30	0.47
18:s:35:SER:O	18:s:71:LEU:HD22	2.15	0.47
18:s:71:LEU:HA	18:s:74:PHE:CE2	2.49	0.47
19:A:180:LEU:HG	19:A:217:VAL:HG13	1.97	0.47
19:A:251:TRP:C	19:A:253:ASP:H	2.22	0.47
20:m:4:LEU:HG	20:m:5:VAL:H	1.79	0.47
20:m:10:PRO:HG2	20:m:21:TYR:HE2	1.79	0.47
1:a:265:G:O3'	15:q:83:SER:HA	2.14	0.47
1:a:357:G:OP1	1:a:367:U:H5''	2.14	0.47
1:a:497:G:O2'	1:a:510:G:H4'	2.14	0.47
1:a:736:C:OP2	13:o:65:ARG:NH1	2.48	0.47
1:a:1057:G:H2'	1:a:1059:G:OP2	2.14	0.47
1:a:1313:G:OP1	20:m:23:TYR:HD2	1.98	0.47
3:d:125:VAL:HG12	3:d:127:ILE:H	1.80	0.47
6:g:107:PHE:CZ	6:g:137:ARG:HG3	2.49	0.47
13:o:7:GLN:O	13:o:10:GLU:HG3	2.14	0.47
19:A:59:GLY:HA2	19:A:285:LEU:HD11	1.97	0.47
1:a:222:U:H2'	1:a:223:G:H8	1.80	0.47
1:a:240:C:H2'	1:a:241:C:C6	2.50	0.47
1:a:518:U:H5''	11:l:111:LYS:NZ	2.29	0.47
1:a:606:U:H2'	1:a:607:G:C8	2.50	0.47
1:a:714:G:H2'	1:a:715:G:H8	1.80	0.47
1:a:838:C:H2'	1:a:839:C:H6	1.80	0.47
1:a:920:A:H2'	1:a:921:G:H8	1.78	0.47
1:a:1052:G:C6	1:a:1084:G:C2	3.03	0.47
3:d:99:ARG:HG2	3:d:160:ARG:CZ	2.45	0.47
8:i:48:PHE:CD1	8:i:55:LEU:HD22	2.50	0.47
10:k:93:VAL:HG12	10:k:95:VAL:HG13	1.96	0.47
15:q:38:VAL:HG21	15:q:76:LEU:HD11	1.97	0.47
17:t:75:LYS:O	17:t:79:LEU:HG	2.15	0.47
18:s:55:ARG:HE	18:s:56:LYS:NZ	2.13	0.47
18:s:69:HIS:CD2	20:m:84:ILE:CD1	2.98	0.47
19:A:11:VAL:CA	20:m:115:ARG:NE	2.68	0.47
19:A:109:ASN:ND2	19:A:126:ASP:OD1	2.42	0.47
19:A:187:ILE:HG22	19:A:198:VAL:HG21	1.95	0.47
1:a:356:A:O3'	1:a:367:U:H2'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:466:U:H3'	1:a:467:A:H8	1.80	0.47
1:a:579:U:O2'	7:h:124:GLY:O	2.25	0.47
1:a:716:U:H2'	1:a:717:C:H6	1.80	0.47
1:a:1137:G:N2	1:a:1160:A:H61	2.13	0.47
1:a:1198:C:H2'	1:a:1199:C:C6	2.50	0.47
1:a:1209:C:OP1	20:m:115:ARG:HD2	2.15	0.47
3:d:126:ASP:OD1	3:d:126:ASP:N	2.47	0.47
7:h:96:ARG:HB2	7:h:100:GLY:CA	2.45	0.47
9:j:7:ARG:HB3	9:j:101:GLN:HB3	1.97	0.47
11:l:36:ARG:NH1	11:l:36:ARG:O	2.46	0.47
14:p:81:GLN:O	14:p:85:GLY:HA2	2.15	0.47
20:m:29:ARG:HD2	20:m:33:ILE:HG13	1.97	0.47
20:m:33:ILE:HD13	20:m:60:ILE:HG22	1.97	0.47
20:m:78:ILE:O	20:m:81:LYS:HG2	2.15	0.47
1:a:80:C:N4	1:a:81:C:N4	2.63	0.46
1:a:170:U:C6	1:a:212:G:H1'	2.50	0.46
1:a:261:U:H2'	1:a:263:A:OP2	2.15	0.46
1:a:584:G:C6	1:a:585:U:C2	3.04	0.46
1:a:692:A:H2'	1:a:693:G:C8	2.50	0.46
1:a:1291:G:O2'	20:m:73:GLU:C	2.57	0.46
1:a:1471:G:H2'	1:a:1472:G:H8	1.79	0.46
1:a:1477:A:H1'	1:a:1478:G:H8	1.79	0.46
10:k:27:HIS:O	10:k:46:PRO:HD3	2.14	0.46
20:m:16:GLU:CD	20:m:41:LYS:HB2	2.40	0.46
1:a:105:A:O2'	14:p:26:ARG:NH2	2.47	0.46
1:a:301:G:H2'	1:a:302:G:C8	2.50	0.46
1:a:313:A:H2'	1:a:314:C:C6	2.50	0.46
1:a:889:A:H2'	1:a:890:A:O4'	2.15	0.46
1:a:1097:G:N2	1:a:1161:A:N3	2.63	0.46
1:a:1301:A:C8	1:a:1305:G:C5	3.04	0.46
1:a:1395:C:H2'	1:a:1396:A:C8	2.50	0.46
1:a:1436:G:H3'	1:a:1436:G:OP2	2.16	0.46
14:p:45:GLU:OE1	14:p:96:LYS:HD3	2.15	0.46
18:s:44:PHE:HB2	18:s:62:VAL:HG11	1.97	0.46
1:a:254:G:O3'	15:q:86:LYS:NZ	2.38	0.46
1:a:448:A:N6	1:a:466:U:N3	2.30	0.46
1:a:538:G:OP2	1:a:539:A:O2'	2.27	0.46
1:a:720:U:O3'	13:o:39:LEU:HD21	2.16	0.46
1:a:921:G:H2'	1:a:922:C:C6	2.50	0.46
1:a:926:G:H22	1:a:1320:G:H3'	1.79	0.46
1:a:1427:C:H2'	1:a:1428:U:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:117:GLN:HA	2:c:187:TYR:CD2	2.50	0.46
2:c:153:CYS:HB2	2:c:166:GLU:HG3	1.98	0.46
3:d:99:ARG:HG2	3:d:160:ARG:NH2	2.30	0.46
4:e:186:ILE:HD12	4:e:195:LEU:HD21	1.96	0.46
9:j:10:LEU:HD23	9:j:10:LEU:H	1.81	0.46
11:l:15:LYS:HG3	11:l:16:ILE:H	1.80	0.46
1:a:23:C:OP1	4:e:160:ASN:ND2	2.38	0.46
1:a:37:A:O2'	1:a:363:A:N3	2.43	0.46
1:a:296:U:O4	1:a:301:G:O6	2.33	0.46
1:a:485:G:HO2'	1:a:486:G:P	2.37	0.46
1:a:749:G:H4'	1:a:1497:A:C4'	2.40	0.46
1:a:777:C:H2'	1:a:778:U:H6	1.81	0.46
1:a:1118:A:H1'	1:a:1119:U:C2	2.51	0.46
10:k:80:ALA:HB2	10:k:109:LEU:HD23	1.97	0.46
11:l:50:ARG:HG3	11:l:90:LEU:HD21	1.97	0.46
1:a:220:G:H2'	1:a:220:G:N3	2.30	0.46
1:a:262:G:H2'	1:a:263:A:C8	2.51	0.46
1:a:529:C:H2'	1:a:530:G:C8	2.50	0.46
1:a:560:C:H2'	1:a:561:G:O4'	2.16	0.46
1:a:698:A:H2	16:r:47:LYS:HZ2	1.61	0.46
1:a:761:A:C8	1:a:762:A:C8	3.04	0.46
1:a:857:U:H1'	7:h:16:ASN:HD21	1.80	0.46
1:a:885:G:C4	1:a:886:C:C5	3.03	0.46
1:a:1145:G:N2	1:a:1153:U:O2	2.34	0.46
1:a:1162:G:H4'	1:a:1163:G:H5'	1.96	0.46
1:a:1324:C:H2'	1:a:1325:G:H8	1.77	0.46
1:a:1330:U:C2	1:a:1357:A:N7	2.82	0.46
4:e:93:ARG:HA	4:e:96:PHE:CZ	2.51	0.46
7:h:81:SER:OG	7:h:126:GLU:OE2	2.28	0.46
10:k:62:LYS:HA	10:k:66:LYS:HB2	1.97	0.46
18:s:73:GLU:HG2	18:s:77:THR:HG23	1.97	0.46
1:a:39:G:H5''	11:l:100:GLY:O	2.16	0.46
1:a:101:G:N2	1:a:379:C:O3'	2.49	0.46
1:a:255:G:N1	1:a:272:C:N3	2.64	0.46
1:a:404:G:O2'	1:a:478:A:N1	2.33	0.46
1:a:1039:C:H2'	1:a:1040:U:H6	1.80	0.46
1:a:1298:G:N2	1:a:1301:A:O5'	2.38	0.46
3:d:87:ARG:CZ	3:d:183:ARG:HH22	2.29	0.46
8:i:48:PHE:HB3	8:i:55:LEU:HD13	1.97	0.46
8:i:71:PRO:HB2	8:i:103:ILE:HG22	1.97	0.46
15:q:46:HIS:CG	15:q:47:PRO:HD2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:A:8:ARG:HG2	19:A:9:PRO:CD	2.46	0.46
19:A:8:ARG:HH21	20:m:111:LYS:HB2	1.81	0.46
19:A:122:ILE:HD13	19:A:128:VAL:HG21	1.98	0.46
20:m:114:LYS:C	20:m:115:ARG:HG2	2.39	0.46
1:a:20:A:O2'	1:a:1060:A:H4'	2.15	0.46
1:a:80:C:C4	1:a:81:C:C4	3.04	0.46
1:a:320:G:H2'	1:a:321:A:H8	1.81	0.46
1:a:392:C:OP2	14:p:13:ILE:HG13	2.15	0.46
1:a:569:U:H5''	7:h:30:SER:HB2	1.97	0.46
1:a:627:C:H2'	1:a:628:A:H8	1.78	0.46
1:a:686:A:H5'	10:k:33:LYS:HD2	1.96	0.46
1:a:808:A:H62	1:a:840:G:H21	1.64	0.46
4:e:166:VAL:HA	4:e:169:LEU:HD12	1.97	0.46
6:g:51:ARG:HE	6:g:58:PRO:HD3	1.81	0.46
14:p:82:LYS:HB2	14:p:89:ALA:HB2	1.98	0.46
15:q:42:ASP:OD1	15:q:55:THR:N	2.30	0.46
16:r:22:PHE:CD1	16:r:28:GLN:HB3	2.51	0.46
18:s:32:LYS:HA	18:s:50:ALA:HB3	1.97	0.46
19:A:11:VAL:N	20:m:115:ARG:CZ	2.78	0.46
1:a:39:G:C6	1:a:40:C:C4	3.04	0.46
1:a:91:U:H2'	1:a:92:A:C2	2.51	0.46
1:a:152:C:H2'	1:a:153:U:C6	2.50	0.46
1:a:254:G:O6	1:a:273:A:N6	2.49	0.46
1:a:349:A:H2'	1:a:350:G:C8	2.51	0.46
1:a:406:G:O6	1:a:475:A:H2'	2.15	0.46
1:a:979:U:N3	1:a:980:G:N7	2.63	0.46
1:a:1359:U:H5'	6:g:98:THR:HG21	1.97	0.46
1:a:1513:G:O2'	1:a:1514:G:OP1	2.31	0.46
7:h:41:LYS:HE2	7:h:49:TYR:HE1	1.81	0.46
19:A:18:VAL:HG13	19:A:86:ILE:HD11	1.97	0.46
1:a:145:G:C6	1:a:171:A:N1	2.83	0.46
1:a:485:G:H4'	1:a:514:U:C4	2.50	0.46
1:a:580:G:H5''	7:h:91:SER:OG	2.16	0.46
1:a:645:G:H2'	1:a:712:C:O2	2.16	0.46
1:a:703:U:N3	1:a:837:G:H4'	2.31	0.46
1:a:1092:C:H1'	2:c:179:ARG:NE	2.30	0.46
1:a:1200:A:C2	18:s:52:HIS:HE1	2.33	0.46
3:d:32:PRO:O	3:d:37:GLY:HA3	2.16	0.46
4:e:91:GLU:O	4:e:95:ASN:N	2.35	0.46
4:e:104:SER:HB2	4:e:146:HIS:HB2	1.98	0.46
1:a:20:A:N3	1:a:1060:A:O2'	2.42	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:565:G:H2'	1:a:566:U:O4'	2.15	0.46
1:a:744:C:H2'	1:a:745:G:O4'	2.15	0.46
1:a:1131:G:O2'	9:j:41:PRO:O	2.21	0.46
1:a:1206:U:O4	1:a:1207:C:N4	2.49	0.46
1:a:1247:G:H2'	1:a:1249:G:N7	2.31	0.46
1:a:1251:G:C6	1:a:1252:G:O6	2.69	0.46
1:a:1381:A:H5''	1:a:1383:C:H5	1.81	0.46
11:l:107:VAL:HB	11:l:117:TYR:HB3	1.97	0.46
15:q:63:ASP:HA	15:q:90:LEU:HD22	1.97	0.46
20:m:10:PRO:HG2	20:m:21:TYR:CE2	2.51	0.46
20:m:77:ASP:HB3	20:m:80:ARG:NH2	2.31	0.46
20:m:111:LYS:HB3	20:m:111:LYS:HE3	1.38	0.46
1:a:148:A:P	1:a:166:C:H42	2.39	0.45
1:a:255:G:H2'	1:a:256:U:C6	2.51	0.45
1:a:270:A:H2'	1:a:271:C:C6	2.50	0.45
1:a:373:A:H4'	1:a:451:A:H62	1.81	0.45
1:a:632:U:H2'	1:a:732:G:N1	2.31	0.45
1:a:837:G:H2'	1:a:838:C:C6	2.52	0.45
1:a:1167:G:H2'	1:a:1168:G:O4'	2.16	0.45
1:a:1294:G:N2	1:a:1308:C:C2	2.84	0.45
5:f:30:ILE:HD11	5:f:75:LEU:HD13	1.97	0.45
5:f:52:ILE:HD13	5:f:87:ARG:HE	1.80	0.45
7:h:38:GLU:O	7:h:41:LYS:HG3	2.16	0.45
1:a:20:A:H5'	4:e:45:ARG:HH12	1.81	0.45
1:a:257:G:O6	1:a:270:A:N6	2.48	0.45
1:a:265:G:N2	1:a:267:C:O4'	2.49	0.45
1:a:280:C:C4	15:q:55:THR:HA	2.51	0.45
1:a:438:U:O2'	1:a:439:U:O2	2.33	0.45
1:a:518:U:H2'	1:a:519:A:C8	2.51	0.45
1:a:648:A:H2'	1:a:649:G:C8	2.50	0.45
1:a:791:C:C4	1:a:792:G:C6	3.05	0.45
1:a:841:U:H2'	1:a:842:A:O4'	2.16	0.45
1:a:877:G:C2	1:a:887:U:C2	3.03	0.45
1:a:880:G:N2	1:a:883:A:O5'	2.49	0.45
1:a:1047:A:H1'	1:a:1048:G:C8	2.50	0.45
1:a:1232:A:N3	1:a:1352:C:O2'	2.46	0.45
1:a:1244:G:H1	1:a:1253:U:H3	1.64	0.45
1:a:1454:G:H2'	1:a:1455:G:C8	2.46	0.45
3:d:36:HIS:HB3	3:d:39:ALA:HB3	1.98	0.45
7:h:41:LYS:HG2	7:h:49:TYR:HD1	1.80	0.45
8:i:39:VAL:HG12	8:i:41:LEU:HD22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:s:73:GLU:CG	18:s:77:THR:HG23	2.46	0.45
18:s:83:HIS:HD2	19:A:252:ASP:O	1.99	0.45
1:a:633:A:OP1	7:h:55:ARG:NH2	2.48	0.45
1:a:1166:G:H2'	1:a:1167:G:C8	2.51	0.45
1:a:1203:G:H2'	1:a:1204:C:C6	2.52	0.45
1:a:1379:A:H5'	1:a:1380:C:C4	2.52	0.45
2:c:129:PHE:HZ	2:c:166:GLU:HG2	1.80	0.45
12:n:42:ILE:HG23	12:n:45:ARG:HH21	1.80	0.45
14:p:67:THR:HG22	14:p:69:PRO:HD2	1.98	0.45
15:q:77:MET:HE2	15:q:89:ARG:HG2	1.97	0.45
18:s:69:HIS:CE1	20:m:81:LYS:HE2	2.52	0.45
19:A:129:ASN:ND2	19:A:267:GLN:O	2.49	0.45
1:a:584:G:C6	1:a:615:G:N1	2.84	0.45
1:a:801:G:H2'	1:a:802:G:H8	1.82	0.45
1:a:952:C:H42	8:i:150:ARG:HD2	1.80	0.45
1:a:966:C:H2'	1:a:967:C:C6	2.51	0.45
1:a:972:U:C4	1:a:1196:G:O6	2.69	0.45
1:a:1138:A:N6	1:a:1159:G:H21	2.14	0.45
1:a:1309:C:H2'	1:a:1310:C:C6	2.51	0.45
1:a:1386:C:O2'	1:a:1483:A:N6	2.49	0.45
2:c:162:MET:HB3	2:c:164:ARG:NH2	2.31	0.45
4:e:182:ARG:NH2	7:h:103:VAL:HB	2.32	0.45
10:k:80:ALA:O	10:k:84:GLN:HG2	2.17	0.45
19:A:250:ILE:HG12	19:A:257:VAL:HG13	1.99	0.45
19:A:253:ASP:O	19:A:255:TRP:N	2.50	0.45
1:a:39:G:H2'	1:a:40:C:C6	2.52	0.45
1:a:81:C:C5	1:a:82:U:C4	3.05	0.45
1:a:92:A:H2	1:a:93:C:H41	1.62	0.45
1:a:103:G:C2	1:a:104:A:H1'	2.52	0.45
1:a:126:G:H22	15:q:15:LYS:HE2	1.81	0.45
1:a:143:G:C4	1:a:174:G:C6	3.05	0.45
1:a:212:G:H2'	1:a:213:C:H6	1.81	0.45
1:a:746:A:N7	1:a:793:U:C4	2.84	0.45
1:a:757:A:H2'	1:a:758:G:O4'	2.17	0.45
1:a:807:U:H5''	7:h:22:HIS:CE1	2.51	0.45
1:a:819:U:C2	1:a:830:G:C2	3.05	0.45
1:a:1153:U:H2'	1:a:1154:C:C6	2.52	0.45
1:a:1200:A:O2'	18:s:34:TRP:HB2	2.17	0.45
1:a:1284:U:P	20:m:13:LYS:CD	2.95	0.45
1:a:1291:G:C5'	20:m:78:ILE:HG12	2.44	0.45
1:a:1291:G:O2'	20:m:77:ASP:OD2	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:5:ILE:HG21	12:n:58:LYS:NZ	2.32	0.45
2:c:180:ALA:HB1	2:c:182:ILE:HG13	1.99	0.45
1:a:157:A:H2'	1:a:158:A:C8	2.52	0.45
1:a:513:A:O2'	1:a:515:A:OP2	2.31	0.45
1:a:745:G:C6	1:a:792:G:C4	3.04	0.45
1:a:812:G:C6	1:a:837:G:C5	3.05	0.45
1:a:833:C:H2'	1:a:834:C:H6	1.81	0.45
1:a:842:A:H2'	1:a:843:G:O4'	2.16	0.45
1:a:882:A:H2'	1:a:883:A:O4'	2.16	0.45
1:a:884:G:N1	1:a:885:G:C6	2.85	0.45
1:a:1036:U:H2'	1:a:1037:G:C8	2.52	0.45
1:a:1066:U:H5''	1:a:1372:C:H5''	1.97	0.45
1:a:1242:A:N6	1:a:1255:G:H1'	2.31	0.45
1:a:1278:C:H5'	20:m:44:ARG:HH22	1.80	0.45
1:a:1331:A:OP1	8:i:143:LYS:HB2	2.16	0.45
3:d:182:GLU:O	3:d:186:ILE:HG13	2.17	0.45
8:i:51:ASP:O	8:i:53:ARG:NH2	2.50	0.45
8:i:64:HIS:HA	8:i:67:LEU:HB2	1.98	0.45
17:t:8:ILE:HA	17:t:11:ILE:HD12	1.97	0.45
17:t:46:LYS:HE3	17:t:50:LEU:HD11	1.98	0.45
18:s:74:PHE:CD1	20:m:85:GLY:C	2.88	0.45
1:a:147:U:O4	1:a:168:A:N7	2.50	0.45
1:a:679:C:H2'	1:a:680:G:C8	2.51	0.45
1:a:987:A:H2'	1:a:988:C:C6	2.52	0.45
1:a:1088:G:H3'	1:a:1089:C:C6	2.52	0.45
1:a:1157:A:H2'	1:a:1158:G:H8	1.81	0.45
1:a:1253:U:C4	1:a:1254:G:C2	3.05	0.45
1:a:1311:G:C5'	20:m:24:GLY:O	2.65	0.45
1:a:1325:G:OP1	8:i:147:TYR:OH	2.32	0.45
3:d:14:ARG:HA	3:d:32:PRO:HB3	1.98	0.45
5:f:20:ALA:O	5:f:23:LEU:HB2	2.17	0.45
10:k:59:VAL:HG11	10:k:74:LEU:HB3	1.99	0.45
13:o:12:LEU:HG	13:o:31:LEU:HD21	1.99	0.45
14:p:49:ILE:HG22	14:p:51:ILE:HG13	1.98	0.45
14:p:76:ILE:O	14:p:92:THR:HB	2.17	0.45
19:A:111:ILE:HG12	19:A:257:VAL:O	2.15	0.45
19:A:249:GLU:O	19:A:258:ALA:HB3	2.17	0.45
1:a:180:A:H5'	1:a:181:C:OP2	2.17	0.45
1:a:184:U:OP1	17:t:77:SER:OG	2.33	0.45
1:a:273:A:H1'	15:q:32:MET:HE1	1.97	0.45
1:a:575:G:HO2'	1:a:620:A:N6	2.14	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:787:A:H2'	1:a:788:C:C6	2.52	0.45
1:a:960:A:C5	1:a:1301:A:C2	3.05	0.45
1:a:1011:U:O2'	1:a:1012:U:O4'	2.33	0.45
1:a:1075:U:OP1	1:a:1088:G:N1	2.38	0.45
1:a:1283:U:H2'	1:a:1285:C:C6	2.52	0.45
1:a:1358:A:H2'	1:a:1359:U:C6	2.51	0.45
3:d:104:ARG:HG2	3:d:108:MET:CG	2.47	0.45
4:e:43:ILE:HG13	4:e:60:ALA:HA	1.99	0.45
15:q:76:LEU:HB3	15:q:88:TRP:CE3	2.51	0.45
19:A:127:ILE:HG22	19:A:148:LEU:HD23	1.98	0.45
1:a:38:C:H2'	1:a:39:G:H8	1.82	0.45
1:a:58:C:O2	1:a:358:U:N3	2.50	0.45
1:a:271:C:H2'	1:a:272:C:H6	1.82	0.45
1:a:355:C:C4	1:a:356:A:N7	2.85	0.45
1:a:374:A:C6	1:a:375:U:C4	3.05	0.45
1:a:432:A:C2	1:a:433:C:H1'	2.52	0.45
1:a:439:U:OP2	1:a:440:C:N4	2.40	0.45
1:a:498:C:H2'	1:a:510:G:C4	2.52	0.45
1:a:518:U:OP2	11:l:112:GLN:HB2	2.16	0.45
1:a:596:A:H2'	1:a:597:G:C8	2.51	0.45
1:a:682:A:H5''	1:a:683:G:N7	2.32	0.45
1:a:686:A:C4	1:a:687:U:C5	3.05	0.45
1:a:687:U:H4'	10:k:31:HIS:CG	2.52	0.45
1:a:942:U:H1'	1:a:1204:C:H5'	1.98	0.45
1:a:1087:C:OP1	2:c:172:ARG:NH2	2.50	0.45
1:a:1301:A:H4'	18:s:70:LYS:CE	2.47	0.45
5:f:5:GLU:HG2	5:f:91:LEU:HB2	1.98	0.45
19:A:44:PRO:HA	19:A:47:ILE:HB	1.98	0.45
19:A:105:CYS:HB3	19:A:114:HIS:HA	1.99	0.45
20:m:14:ARG:O	20:m:18:ALA:N	2.41	0.45
1:a:180:A:H2	1:a:181:C:C6	2.35	0.45
1:a:589:A:C5	1:a:590:A:H8	2.35	0.45
1:a:747:A:C4	1:a:748:A:C8	3.05	0.45
1:a:996:G:H2'	1:a:998:G:N7	2.32	0.45
1:a:1059:G:HO2'	1:a:1060:A:C1'	2.26	0.45
6:g:26:LEU:HD13	6:g:104:LEU:HD23	1.98	0.45
9:j:41:PRO:HB3	9:j:72:ARG:NH1	2.32	0.45
19:A:93:SER:H	19:A:133:THR:HG23	1.82	0.45
19:A:179:ALA:O	19:A:182:VAL:HG12	2.17	0.45
1:a:23:C:H2'	1:a:24:U:H6	1.82	0.44
1:a:23:C:H5''	4:e:116:ALA:CB	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:439:U:H3'	1:a:440:C:C6	2.52	0.44
1:a:440:C:H2'	1:a:441:A:O4'	2.17	0.44
1:a:526:G:OP2	3:d:57:ARG:NH1	2.50	0.44
1:a:1068:G:H2'	1:a:1069:G:H8	1.82	0.44
1:a:1099:C:OP1	8:i:105:ARG:NH1	2.51	0.44
1:a:1108:C:H4'	8:i:38:ARG:HH22	1.82	0.44
19:A:11:VAL:CA	20:m:115:ARG:CZ	2.95	0.44
19:A:74:THR:HB	19:A:106:THR:HG21	1.99	0.44
20:m:78:ILE:HG12	20:m:92:HIS:CE1	2.52	0.44
20:m:82:ILE:HG23	20:m:93:ARG:NE	2.32	0.44
1:a:212:G:N2	1:a:220:G:O2'	2.50	0.44
1:a:503:A:N1	11:l:89:ASP:HB2	2.31	0.44
1:a:668:G:C6	1:a:669:C:C4	3.05	0.44
1:a:1034:C:OP2	1:a:1177:A:O2'	2.33	0.44
1:a:1119:U:N3	1:a:1121:G:O4'	2.51	0.44
1:a:1183:U:C5	9:j:55:PRO:HB3	2.49	0.44
1:a:1196:G:H2'	1:a:1197:U:O4'	2.16	0.44
1:a:1233:A:H62	1:a:1268:C:N4	2.16	0.44
1:a:1285:C:H2'	1:a:1286:G:O4'	2.18	0.44
1:a:1333:U:H2'	1:a:1334:C:H6	1.82	0.44
1:a:1442:G:H2'	1:a:1443:G:H8	1.82	0.44
1:a:1477:A:H1'	1:a:1478:G:C8	2.52	0.44
1:a:1505:G:H2'	1:a:1506:U:C6	2.53	0.44
2:c:122:GLN:O	2:c:127:VAL:HG22	2.17	0.44
5:f:48:LEU:HD13	5:f:52:ILE:HD12	2.00	0.44
9:j:59:LYS:HE2	9:j:62:ARG:CZ	2.47	0.44
1:a:78:G:H2'	1:a:79:C:C6	2.52	0.44
1:a:436:C:H4'	3:d:149:PRO:HD3	1.98	0.44
1:a:593:C:OP2	3:d:76:ARG:NH2	2.51	0.44
1:a:670:G:N1	1:a:678:G:C6	2.86	0.44
1:a:762:A:H5''	1:a:1505:G:H21	1.81	0.44
1:a:858:A:O2'	7:h:8:ALA:HB1	2.17	0.44
1:a:1291:G:C3'	20:m:77:ASP:HB2	2.46	0.44
1:a:1332:A:C2	6:g:34:GLY:HA2	2.52	0.44
1:a:1500:G:C6	1:a:1504:G:C6	3.05	0.44
2:c:199:LYS:HD3	2:c:201:TRP:CH2	2.53	0.44
4:e:195:LEU:HB3	4:e:199:ARG:CZ	2.48	0.44
20:m:115:ARG:HB2	20:m:116:THR:H	1.53	0.44
1:a:88:G:N1	1:a:89:G:C6	2.85	0.44
1:a:115:A:H4'	1:a:116:A:C8	2.52	0.44
1:a:439:U:O5'	1:a:440:C:H5	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:452:A:C6	14:p:94:LYS:HD2	2.53	0.44
1:a:495:G:H2'	1:a:496:U:H6	1.82	0.44
1:a:529:C:H2'	1:a:530:G:H8	1.82	0.44
1:a:939:U:H5'	18:s:81:LYS:HZ1	1.83	0.44
1:a:1033:G:N2	1:a:1037:G:OP2	2.51	0.44
1:a:1194:A:O2'	1:a:1195:U:H2'	2.17	0.44
1:a:1308:C:H2'	1:a:1309:C:C5	2.53	0.44
2:c:20:SER:HB3	2:c:22:TRP:CZ3	2.53	0.44
2:c:129:PHE:CZ	2:c:133:MET:HE3	2.53	0.44
12:n:53:LEU:HB2	12:n:56:VAL:HG12	1.99	0.44
13:o:47:LYS:O	13:o:53:ARG:NH2	2.50	0.44
20:m:111:LYS:O	20:m:115:ARG:NH2	2.50	0.44
1:a:142:U:O2	1:a:174:G:C6	2.70	0.44
1:a:335:C:H2'	1:a:336:A:C8	2.50	0.44
1:a:527:A:H4'	1:a:528:G:O5'	2.18	0.44
1:a:716:U:H2'	1:a:717:C:C6	2.52	0.44
1:a:844:C:H1'	1:a:856:G:H5'	2.00	0.44
1:a:1161:A:O2'	1:a:1165:G:H1'	2.18	0.44
1:a:1172:A:H3'	1:a:1173:C:C5	2.52	0.44
1:a:1256:A:H3'	1:a:1257:G:C8	2.52	0.44
1:a:1261:A:P	9:j:9:ARG:HH12	2.40	0.44
1:a:1271:A:H2	1:a:1355:U:H4'	1.82	0.44
1:a:1291:G:OP1	20:m:81:LYS:NZ	2.51	0.44
1:a:1329:G:H1'	1:a:1330:U:H5	1.82	0.44
1:a:1333:U:H1'	6:g:34:GLY:HA3	2.00	0.44
1:a:1337:A:C4	1:a:1351:G:N2	2.85	0.44
1:a:1490:U:O2	10:k:137:ARG:NH2	2.48	0.44
6:g:135:VAL:O	6:g:139:GLU:HG2	2.18	0.44
19:A:8:ARG:NH1	19:A:9:PRO:O	2.51	0.44
19:A:22:ILE:HG21	19:A:91:TYR:N	2.32	0.44
19:A:257:VAL:HG12	19:A:258:ALA:H	1.81	0.44
1:a:157:A:H61	1:a:347:G:H1'	1.82	0.44
1:a:340:U:H2'	1:a:341:C:H6	1.83	0.44
1:a:341:C:H2'	1:a:342:C:H6	1.83	0.44
1:a:363:A:H62	11:l:25:LYS:NZ	2.16	0.44
1:a:419:C:H3'	1:a:420:U:H6	1.82	0.44
1:a:624:G:H2'	1:a:625:G:O4'	2.16	0.44
1:a:636:G:H5''	13:o:62:ARG:CZ	2.48	0.44
1:a:728:A:N3	1:a:729:A:N7	2.66	0.44
1:a:730:C:H1'	13:o:22:THR:O	2.17	0.44
1:a:1024:G:C6	1:a:1025:C:H1'	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1067:G:C6	1:a:1079:G:N1	2.85	0.44
1:a:1086:G:C5'	2:c:172:ARG:HG2	2.48	0.44
1:a:1092:C:O2	2:c:177:THR:HG23	2.18	0.44
1:a:1281:A:C8	1:a:1283:U:H1'	2.52	0.44
1:a:1332:A:H2'	1:a:1333:U:C6	2.53	0.44
1:a:1426:C:H2'	1:a:1427:C:C6	2.53	0.44
1:a:1496:U:O2'	1:a:1497:A:H5'	2.18	0.44
2:c:179:ARG:HD3	2:c:208:VAL:HG22	2.00	0.44
7:h:7:ILE:O	7:h:10:PHE:HB3	2.18	0.44
1:a:74:A:H4'	1:a:75:A:H5'	2.00	0.44
1:a:402:G:O2'	3:d:127:ILE:HD12	2.17	0.44
1:a:526:G:H5'	3:d:65:LYS:HZ3	1.82	0.44
1:a:861:C:H2'	1:a:862:C:C6	2.52	0.44
1:a:931:A:C8	20:m:106:ASN:OD1	2.70	0.44
1:a:1336:C:H2'	1:a:1337:A:C8	2.51	0.44
1:a:1356:G:H5'	6:g:36:LYS:HD3	2.00	0.44
1:a:1420:C:H2'	1:a:1421:G:H8	1.81	0.44
1:a:1421:G:H2'	1:a:1422:G:C8	2.53	0.44
1:a:1436:G:C2	1:a:1438:G:C4	3.05	0.44
3:d:94:ASP:N	3:d:94:ASP:OD1	2.50	0.44
7:h:11:LEU:HD12	7:h:79:ARG:HB2	1.99	0.44
13:o:18:HIS:CE1	13:o:21:ASP:HB2	2.52	0.44
15:q:27:VAL:HG21	15:q:68:ALA:HB1	2.00	0.44
17:t:25:LYS:HD3	17:t:67:ILE:HD11	2.00	0.44
18:s:81:LYS:HB3	18:s:85:LYS:HG2	1.99	0.44
19:A:243:LEU:HB2	19:A:263:LYS:HB3	2.00	0.44
1:a:29:C:H5'	1:a:504:G:O2'	2.18	0.44
1:a:79:C:H2'	1:a:80:C:C6	2.52	0.44
1:a:180:A:N1	1:a:208:G:N1	2.65	0.44
1:a:404:G:H5''	3:d:114:SER:CB	2.48	0.44
1:a:495:G:C2	1:a:496:U:C5	3.05	0.44
1:a:515:A:H3'	1:a:516:C:C5	2.52	0.44
1:a:557:G:C8	1:a:796:A:C6	3.06	0.44
1:a:831:A:H2'	1:a:832:U:O4'	2.18	0.44
1:a:930:C:P	20:m:108:ARG:CB	3.04	0.44
1:a:1026:A:H3'	1:a:1027:G:H8	1.83	0.44
1:a:1077:C:H2'	1:a:1078:C:C6	2.53	0.44
1:a:1203:G:H5''	18:s:78:ARG:CG	2.47	0.44
1:a:1287:G:H22	1:a:1313:G:H1'	1.83	0.44
1:a:1385:C:HO2'	1:a:1386:C:P	2.40	0.44
2:c:29:LYS:O	2:c:33:LYS:HG2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:74:GLU:CD	5:f:77:ARG:HH12	2.21	0.44
8:i:135:LYS:HB2	8:i:138:LEU:HD12	1.98	0.44
10:k:78:ASN:C	10:k:78:ASN:HD22	2.26	0.44
18:s:74:PHE:HA	20:m:85:GLY:O	2.18	0.44
19:A:251:TRP:H	19:A:257:VAL:HA	1.82	0.44
1:a:177:U:H2'	1:a:178:A:H5'	1.99	0.44
1:a:287:U:H2'	1:a:288:A:C8	2.53	0.44
1:a:373:A:O2'	1:a:451:A:N6	2.51	0.44
1:a:433:C:C2	1:a:434:C:C5	3.06	0.44
1:a:867:G:H2'	1:a:868:G:H8	1.83	0.44
1:a:898:G:H2'	1:a:899:G:C8	2.53	0.44
1:a:942:U:C5	18:s:78:ARG:HD3	2.46	0.44
1:a:1004:G:H3'	1:a:1005:G:H8	1.82	0.44
1:a:1137:G:H21	1:a:1160:A:N6	2.15	0.44
1:a:1250:A:N3	1:a:1308:C:H1'	2.33	0.44
1:a:1416:A:H2'	1:a:1417:A:C8	2.52	0.44
2:c:91:GLU:HG3	2:c:98:VAL:HB	1.99	0.44
2:c:167:PHE:CZ	2:c:169:ARG:HB3	2.53	0.44
3:d:6:GLY:O	3:d:107:ARG:NH2	2.51	0.44
19:A:171:ILE:HG12	19:A:272:LEU:HD21	1.99	0.44
1:a:18:U:O2'	1:a:20:A:N7	2.47	0.43
1:a:149:A:C8	1:a:150:G:C8	3.06	0.43
1:a:481:G:H2'	1:a:482:A:H8	1.80	0.43
1:a:513:A:H8	1:a:513:A:OP2	2.01	0.43
1:a:765:G:C4	1:a:766:G:C8	3.05	0.43
1:a:916:C:O2	1:a:920:A:N6	2.43	0.43
1:a:1026:A:N6	1:a:1192:U:H1'	2.33	0.43
1:a:1251:G:O2'	1:a:1296:C:H5'	2.18	0.43
1:a:1292:G:H3'	1:a:1293:G:H8	1.83	0.43
4:e:190:ALA:HA	4:e:194:MET:SD	2.58	0.43
5:f:74:GLU:HB3	5:f:77:ARG:HH22	1.83	0.43
6:g:64:ARG:HE	6:g:128:SER:HB3	1.83	0.43
7:h:32:LEU:H	7:h:32:LEU:HD12	1.83	0.43
10:k:44:THR:HG23	10:k:49:ASN:C	2.43	0.43
11:l:107:VAL:N	11:l:117:TYR:O	2.44	0.43
14:p:93:LEU:HG	14:p:94:LYS:O	2.18	0.43
1:a:176:A:C4	1:a:177:U:C5	3.06	0.43
1:a:238:G:H2'	1:a:239:G:C8	2.52	0.43
1:a:347:G:C2	1:a:348:G:C4	3.07	0.43
1:a:384:G:H2'	1:a:385:C:C6	2.53	0.43
1:a:424:G:C4	1:a:425:G:C8	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:488:C:H4'	3:d:46:TYR:CE2	2.53	0.43
1:a:490:A:OP1	3:d:41:ILE:HG23	2.18	0.43
1:a:498:C:H4'	1:a:499:C:O5'	2.18	0.43
1:a:520:G:H3'	1:a:521:G:H8	1.83	0.43
1:a:534:U:OP1	11:l:21:THR:OG1	2.24	0.43
1:a:699:C:O2	16:r:72:ARG:NH2	2.43	0.43
1:a:746:A:N6	1:a:793:U:C2	2.86	0.43
1:a:934:U:H2'	1:a:935:G:C8	2.50	0.43
1:a:997:A:N7	1:a:998:G:N1	2.65	0.43
1:a:1270:A:H2'	1:a:1271:A:C8	2.52	0.43
1:a:1281:A:O2'	1:a:1282:G:O5'	2.34	0.43
1:a:1300:A:H61	12:n:18:VAL:HG21	1.83	0.43
2:c:160:ALA:HB3	2:c:164:ARG:HH12	1.83	0.43
7:h:32:LEU:O	7:h:36:ILE:HG13	2.18	0.43
7:h:47:SER:N	7:h:63:GLN:O	2.45	0.43
10:k:91:VAL:HG21	10:k:114:LEU:HD13	1.98	0.43
18:s:23:ASN:HB3	18:s:47:HIS:CE1	2.53	0.43
1:a:561:G:N2	1:a:741:G:C6	2.86	0.43
1:a:988:C:H4'	1:a:1019:U:C6	2.53	0.43
1:a:1197:U:H5''	12:n:5:ALA:CB	2.47	0.43
1:a:1261:A:OP1	9:j:9:ARG:NH1	2.51	0.43
1:a:1372:C:H2'	1:a:1373:U:C6	2.53	0.43
1:a:1425:G:P	1:a:1426:C:H41	2.40	0.43
2:c:57:GLU:O	2:c:64:ARG:HB3	2.18	0.43
3:d:135:TYR:N	3:d:177:VAL:HG23	2.34	0.43
4:e:136:ALA:O	4:e:140:LEU:HD13	2.18	0.43
5:f:28:ASN:OD1	5:f:29:VAL:N	2.51	0.43
6:g:65:ALA:O	6:g:69:VAL:HG23	2.18	0.43
19:A:34:GLN:HE21	19:A:34:GLN:HB2	1.59	0.43
19:A:112:ILE:HD12	19:A:257:VAL:CG1	2.47	0.43
1:a:59:A:C2	1:a:60:U:H1'	2.53	0.43
1:a:144:G:C2	1:a:145:G:C5	3.07	0.43
1:a:413:G:H5''	1:a:414:A:O4'	2.18	0.43
1:a:467:A:H3'	1:a:468:U:C6	2.54	0.43
1:a:515:A:H3'	1:a:516:C:H5	1.83	0.43
1:a:781:U:H2'	1:a:782:A:H8	1.81	0.43
1:a:906:C:H1'	1:a:1382:C:OP2	2.18	0.43
1:a:961:C:O2'	12:n:19:ARG:NH2	2.51	0.43
1:a:988:C:H3'	1:a:989:G:C8	2.53	0.43
1:a:1068:G:H2'	1:a:1069:G:C8	2.54	0.43
1:a:1200:A:H2'	1:a:1201:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1307:C:H2'	1:a:1308:C:C6	2.53	0.43
3:d:138:ILE:HD12	3:d:175:ILE:HB	2.00	0.43
4:e:186:ILE:HB	4:e:190:ALA:HB3	2.00	0.43
5:f:63:ILE:HG22	5:f:65:VAL:HG23	2.00	0.43
13:o:75:VAL:O	13:o:79:ARG:HG2	2.19	0.43
14:p:38:GLY:HA2	14:p:51:ILE:HA	1.99	0.43
19:A:26:GLU:HA	19:A:29:TRP:HE3	1.83	0.43
20:m:13:LYS:HG3	20:m:21:TYR:HE2	1.83	0.43
1:a:68:G:H4'	1:a:69:A:H5''	1.99	0.43
1:a:104:A:O3'	1:a:106:C:N4	2.52	0.43
1:a:128:U:H1'	1:a:263:A:C2	2.54	0.43
1:a:219:C:C2	1:a:220:G:H1'	2.54	0.43
1:a:776:C:H5''	10:k:138:VAL:HB	2.00	0.43
1:a:810:G:H2'	1:a:811:U:C6	2.54	0.43
1:a:969:G:H21	1:a:998:G:H21	1.67	0.43
1:a:1207:C:H5'	18:s:80:PHE:CZ	2.53	0.43
2:c:143:GLN:O	2:c:146:VAL:HB	2.18	0.43
3:d:80:LYS:H	3:d:80:LYS:HG2	1.64	0.43
3:d:165:TRP:HH2	3:d:186:ILE:HA	1.84	0.43
4:e:81:VAL:O	4:e:85:ILE:HG12	2.19	0.43
5:f:20:ALA:O	5:f:23:LEU:N	2.45	0.43
6:g:42:ILE:HG21	6:g:116:MET:HG2	2.00	0.43
11:l:4:ILE:O	11:l:8:VAL:HG23	2.18	0.43
14:p:54:GLU:HB2	14:p:55:ARG:NH1	2.33	0.43
15:q:34:LYS:HA	15:q:63:ASP:O	2.19	0.43
17:t:45:ASP:O	17:t:49:GLU:HG2	2.19	0.43
19:A:143:THR:OG1	19:A:269:GLU:O	2.33	0.43
20:m:69:ASP:O	20:m:72:ARG:HG3	2.18	0.43
1:a:150:G:H2'	1:a:151:C:O4'	2.19	0.43
1:a:268:C:H2'	1:a:269:U:C6	2.54	0.43
1:a:444:A:N6	1:a:471:G:O6	2.51	0.43
1:a:561:G:O6	1:a:738:G:H3'	2.18	0.43
1:a:647:G:HO2'	13:o:51:HIS:HD1	1.63	0.43
1:a:699:C:OP2	1:a:700:C:N4	2.30	0.43
1:a:1033:G:N2	1:a:1038:G:O6	2.52	0.43
1:a:1110:A:N6	1:a:1127:A:N7	2.67	0.43
1:a:1129:U:H1'	8:i:38:ARG:HD3	2.00	0.43
1:a:1217:A:O2'	1:a:1316:G:N2	2.52	0.43
1:a:1289:U:N3	1:a:1312:U:O2	2.52	0.43
2:c:156:ARG:HD3	2:c:194:GLY:HA3	1.99	0.43
4:e:192:ALA:O	4:e:193:GLY:C	2.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:h:96:ARG:HB2	7:h:100:GLY:HA2	2.00	0.43
8:i:55:LEU:HD12	8:i:55:LEU:HA	1.86	0.43
11:l:50:ARG:HB3	11:l:66:TYR:HE1	1.83	0.43
13:o:79:ARG:HA	13:o:79:ARG:HH11	1.84	0.43
18:s:10:PHE:CD2	18:s:37:ARG:HB2	2.54	0.43
19:A:94:THR:HG23	19:A:133:THR:HG21	2.00	0.43
19:A:130:ILE:O	19:A:144:ASN:HA	2.18	0.43
20:m:29:ARG:HA	20:m:29:ARG:HD3	1.93	0.43
1:a:80:C:H2'	1:a:81:C:C6	2.54	0.43
1:a:193:C:C5	15:q:18:GLY:HA2	2.43	0.43
1:a:370:C:H2'	1:a:371:A:C8	2.54	0.43
1:a:430:A:C6	1:a:431:A:HI'	2.54	0.43
1:a:567:G:N1	1:a:735:G:N7	2.67	0.43
1:a:593:C:C2	1:a:608:G:C2	3.07	0.43
1:a:600:U:H2'	1:a:601:A:O4'	2.18	0.43
1:a:619:G:H2'	1:a:620:A:H8	1.83	0.43
1:a:759:C:H2'	1:a:760:G:O4'	2.19	0.43
1:a:918:C:HI'	1:a:1366:C:C4	2.53	0.43
1:a:966:C:H2'	1:a:967:C:H6	1.83	0.43
1:a:1166:G:H2'	1:a:1167:G:H8	1.84	0.43
1:a:1199:C:OP2	12:n:9:LYS:HD2	2.19	0.43
1:a:1503:A:OP2	1:a:1504:G:C8	2.71	0.43
2:c:6:ASN:HD22	12:n:49:HIS:HB3	1.84	0.43
2:c:134:ARG:H	2:c:134:ARG:HG2	1.52	0.43
3:d:90:GLU:HG3	3:d:186:ILE:HD13	2.00	0.43
3:d:100:ALA:HA	3:d:162:ILE:HG23	2.01	0.43
4:e:36:TYR:HB3	4:e:64:VAL:HG22	1.99	0.43
10:k:70:PHE:HA	10:k:73:GLN:HE22	1.84	0.43
14:p:73:LEU:HA	14:p:76:ILE:HD12	2.01	0.43
19:A:9:PRO:HA	19:A:251:TRP:CH2	2.54	0.43
19:A:249:GLU:O	19:A:250:ILE:C	2.62	0.43
1:a:64:A:H2	1:a:377:G:H21	1.65	0.43
1:a:658:U:C2	1:a:659:C:C5	3.07	0.43
1:a:672:U:O2'	1:a:674:G:N7	2.48	0.43
1:a:708:A:H2'	1:a:709:A:C8	2.54	0.43
1:a:746:A:H2'	1:a:747:A:O4'	2.19	0.43
1:a:762:A:H3'	1:a:763:C:H6	1.84	0.43
1:a:933:G:H2'	1:a:934:U:C6	2.53	0.43
1:a:1172:A:OP1	2:c:4:LYS:HG2	2.19	0.43
1:a:1275:G:H2'	1:a:1276:G:C8	2.53	0.43
1:a:1310:C:H2'	1:a:1311:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:20:VAL:HB	3:d:23:ASP:HB2	2.00	0.43
3:d:67:PHE:O	3:d:70:TYR:HB2	2.19	0.43
5:f:23:LEU:HD23	5:f:23:LEU:HA	1.81	0.43
8:i:32:ARG:HB3	8:i:35:ALA:HB3	2.00	0.43
9:j:74:ILE:O	9:j:76:ILE:HD12	2.19	0.43
1:a:25:G:H2'	1:a:26:G:H8	1.80	0.43
1:a:124:G:C2	1:a:234:C:C2	3.07	0.43
1:a:532:U:O2'	11:l:28:PRO:O	2.21	0.43
1:a:698:A:P	1:a:700:C:H42	2.39	0.43
1:a:772:A:N1	1:a:1482:U:H5'	2.34	0.43
1:a:820:C:C2	1:a:829:G:C2	3.06	0.43
1:a:898:G:H2'	1:a:899:G:H8	1.82	0.43
1:a:1048:G:H5''	1:a:1371:C:H5'	2.01	0.43
1:a:1231:A:N7	1:a:1269:A:C8	2.87	0.43
1:a:1298:G:H1	1:a:1301:A:P	2.41	0.43
1:a:1495:G:H2'	1:a:1496:U:C6	2.53	0.43
7:h:49:TYR:C	7:h:50:ARG:HD3	2.44	0.43
9:j:29:VAL:HG21	9:j:76:ILE:HG12	2.00	0.43
19:A:64:ALA:O	19:A:68:VAL:HG23	2.18	0.43
20:m:102:ARG:HD2	20:m:104:LYS:H	1.84	0.43
1:a:23:C:H2'	1:a:24:U:C6	2.54	0.43
1:a:39:G:H2'	1:a:40:C:H6	1.84	0.43
1:a:355:C:O2'	1:a:388:G:N3	2.41	0.43
1:a:684:A:C5	1:a:685:U:C6	3.07	0.43
1:a:959:A:O2'	1:a:963:U:N3	2.44	0.43
1:a:976:A:C5	1:a:1197:U:H4'	2.54	0.43
1:a:997:A:H2	18:s:52:HIS:CE1	2.37	0.43
1:a:1039:C:H2'	1:a:1040:U:C6	2.54	0.43
1:a:1208:A:H5'	19:A:9:PRO:HG2	2.01	0.43
1:a:1218:C:H4'	1:a:1282:G:N2	2.33	0.43
1:a:1253:U:H2'	1:a:1254:G:O4'	2.19	0.43
1:a:1304:C:H4'	1:a:1305:G:H5''	2.01	0.43
1:a:1384:G:H3'	1:a:1385:C:C5	2.54	0.43
4:e:102:ILE:HG12	4:e:198:ARG:HD3	2.01	0.43
6:g:1:MET:SD	6:g:8:PRO:HD2	2.58	0.43
8:i:48:PHE:HB2	8:i:55:LEU:HB2	2.01	0.43
11:l:24:LEU:HD23	11:l:24:LEU:HA	1.85	0.43
19:A:16:LEU:CD1	19:A:79:ARG:HA	2.47	0.43
20:m:10:PRO:HB2	20:m:13:LYS:HG2	2.00	0.43
20:m:66:VAL:N	20:m:69:ASP:HB3	2.34	0.43
20:m:87:TYR:HA	20:m:90:LEU:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:74:A:H8	1:a:74:A:OP2	2.02	0.42
1:a:254:G:N3	15:q:32:MET:HE2	2.34	0.42
1:a:270:A:H2'	1:a:271:C:H6	1.84	0.42
1:a:298:A:H2'	1:a:299:G:O4'	2.19	0.42
1:a:380:G:C2	1:a:384:G:C6	3.07	0.42
1:a:413:G:O5'	1:a:414:A:H5'	2.19	0.42
1:a:540:A:H5''	1:a:541:U:H3'	2.01	0.42
1:a:587:A:H2'	1:a:588:A:H8	1.83	0.42
1:a:672:U:H1'	1:a:675:A:H62	1.84	0.42
1:a:761:A:H4'	1:a:1506:U:O2'	2.19	0.42
1:a:975:G:N2	1:a:978:A:H62	2.17	0.42
1:a:1057:G:N2	1:a:1059:G:H3'	2.34	0.42
1:a:1131:G:O3'	9:j:43:PRO:HA	2.18	0.42
1:a:1170:U:H4'	2:c:10:PHE:CZ	2.54	0.42
1:a:1251:G:O2'	1:a:1295:U:O2'	2.21	0.42
1:a:1278:C:P	20:m:44:ARG:HH22	2.42	0.42
1:a:1284:U:C4	20:m:14:ARG:CD	2.90	0.42
1:a:1303:U:H4'	20:m:87:TYR:CE2	2.54	0.42
1:a:1303:U:O2'	18:s:78:ARG:NH2	2.52	0.42
2:c:35:ASP:OD1	2:c:56:ILE:HD12	2.19	0.42
2:c:87:ARG:HE	2:c:100:LEU:H	1.67	0.42
2:c:87:ARG:NH2	2:c:100:LEU:O	2.49	0.42
4:e:40:VAL:HG22	4:e:62:VAL:HG22	2.01	0.42
4:e:191:PRO:O	4:e:192:ALA:C	2.62	0.42
11:l:32:GLY:HA3	11:l:57:LEU:HA	2.01	0.42
11:l:99:ARG:HB2	11:l:117:TYR:C	2.44	0.42
19:A:11:VAL:HG22	20:m:115:ARG:NH2	2.34	0.42
1:a:222:U:H2'	1:a:223:G:C8	2.54	0.42
1:a:414:A:H2'	1:a:414:A:N3	2.34	0.42
1:a:450:G:H5''	1:a:451:A:H3'	2.01	0.42
1:a:476:A:H5'	1:a:477:G:OP2	2.19	0.42
1:a:524:C:H2'	1:a:525:C:C6	2.53	0.42
1:a:600:U:C2	3:d:127:ILE:HG21	2.54	0.42
1:a:643:A:N6	1:a:722:G:H1	2.17	0.42
1:a:936:G:O6	1:a:937:A:N6	2.52	0.42
1:a:1016:G:H2'	1:a:1017:C:O4'	2.19	0.42
1:a:1093:C:H2'	1:a:1094:C:H6	1.83	0.42
1:a:1094:C:H2'	1:a:1095:U:C6	2.53	0.42
1:a:1171:G:H4'	2:c:176:HIS:CE1	2.54	0.42
1:a:1208:A:H4'	19:A:9:PRO:CB	2.38	0.42
1:a:1278:C:C5'	20:m:44:ARG:NH2	2.75	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1287:G:H8	1:a:1287:G:OP2	2.02	0.42
1:a:1291:G:O4'	20:m:74:VAL:CA	2.66	0.42
1:a:1385:C:H2'	1:a:1386:C:C6	2.54	0.42
2:c:1:MET:SD	2:c:1:MET:N	2.75	0.42
2:c:141:MET:HE2	2:c:141:MET:HB3	1.75	0.42
7:h:46:ILE:C	7:h:65:LYS:HB2	2.44	0.42
10:k:27:HIS:HA	10:k:90:LYS:O	2.19	0.42
11:l:54:ARG:HB3	11:l:62:GLU:OE2	2.19	0.42
17:t:39:VAL:HG11	17:t:82:ALA:HB1	2.01	0.42
19:A:167:THR:OG1	19:A:268:PHE:HB2	2.19	0.42
20:m:108:ARG:HB3	20:m:113:PRO:HA	2.00	0.42
1:a:50:G:C6	1:a:396:G:C6	3.07	0.42
1:a:80:C:H2'	1:a:81:C:C1'	2.50	0.42
1:a:86:G:C4	1:a:87:G:H1'	2.54	0.42
1:a:131:G:H2'	1:a:132:C:O4'	2.18	0.42
1:a:188:G:C5	1:a:201:G:C6	3.06	0.42
1:a:374:A:H5'	1:a:451:A:C8	2.54	0.42
1:a:692:A:H2'	1:a:693:G:H8	1.84	0.42
1:a:793:U:H5	1:a:796:A:N1	2.17	0.42
1:a:875:C:H2'	1:a:876:G:C8	2.54	0.42
1:a:878:C:H2'	1:a:879:C:C6	2.55	0.42
1:a:954:C:N4	1:a:955:G:O6	2.53	0.42
1:a:1076:C:O2	1:a:1151:A:O2'	2.24	0.42
1:a:1129:U:H3'	1:a:1130:C:H6	1.84	0.42
1:a:1146:G:H3'	1:a:1147:G:H8	1.84	0.42
1:a:1295:U:H2'	1:a:1296:C:H6	1.81	0.42
1:a:1332:A:H2'	1:a:1333:U:H6	1.83	0.42
2:c:23:TYR:HB2	9:j:95:SER:O	2.19	0.42
4:e:185:PRO:HB2	4:e:186:ILE:H	1.64	0.42
7:h:35:ASN:HA	7:h:38:GLU:HB3	2.01	0.42
13:o:34:LYS:HA	13:o:37:GLN:OE1	2.18	0.42
14:p:76:ILE:O	14:p:93:LEU:N	2.53	0.42
18:s:33:THR:HG21	18:s:49:PHE:HB3	1.99	0.42
18:s:63:THR:O	18:s:66:MET:HB3	2.19	0.42
1:a:78:G:H22	1:a:91:U:H1'	1.84	0.42
1:a:101:G:N2	1:a:380:G:OP1	2.52	0.42
1:a:462:A:O5'	1:a:462:A:H8	2.01	0.42
1:a:513:A:C6	1:a:516:C:C2	3.07	0.42
1:a:720:U:O2'	1:a:721:G:H5'	2.20	0.42
1:a:735:G:OP1	13:o:65:ARG:HD3	2.19	0.42
1:a:756:G:O2'	1:a:758:G:N7	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:835:G:H2'	1:a:836:U:O4'	2.19	0.42
1:a:895:A:H1'	1:a:896:A:OP2	2.19	0.42
1:a:937:A:H2'	1:a:938:U:H6	1.83	0.42
1:a:1038:G:H2'	1:a:1039:C:O4'	2.19	0.42
1:a:1098:U:H2'	1:a:1099:C:H6	1.82	0.42
1:a:1309:C:H2'	1:a:1310:C:O4'	2.19	0.42
2:c:119:VAL:HG22	2:c:136:ALA:HB3	2.02	0.42
3:d:119:LEU:HD21	3:d:122:GLY:HA2	2.02	0.42
3:d:140:VAL:HG11	3:d:150:PHE:CE2	2.54	0.42
4:e:191:PRO:HB3	7:h:116:ARG:NH1	2.34	0.42
8:i:82:ASP:C	8:i:83:ILE:HG13	2.44	0.42
9:j:55:PRO:HG3	12:n:45:ARG:HH22	1.85	0.42
11:l:54:ARG:NE	11:l:64:THR:OG1	2.52	0.42
14:p:3:VAL:HG13	14:p:64:ALA:HA	2.01	0.42
16:r:39:ARG:CZ	16:r:77:LEU:HD23	2.48	0.42
19:A:135:TYR:HE1	19:A:138:GLY:HA2	1.84	0.42
1:a:184:U:C2	1:a:185:G:N7	2.88	0.42
1:a:237:C:H2'	1:a:238:G:C8	2.54	0.42
1:a:309:G:C6	1:a:310:G:N7	2.87	0.42
1:a:373:A:H1'	1:a:461:G:O4'	2.19	0.42
1:a:399:G:H2'	1:a:400:C:C6	2.54	0.42
1:a:502:C:N4	11:l:46:ASN:HD21	2.17	0.42
1:a:673:G:H2'	1:a:674:G:C8	2.54	0.42
1:a:762:A:N6	1:a:780:G:H21	2.04	0.42
1:a:774:A:H1'	1:a:1490:U:O4	2.20	0.42
1:a:1115:G:H22	1:a:1119:U:H3	1.67	0.42
1:a:1290:C:C5'	20:m:98:VAL:HB	2.47	0.42
1:a:1291:G:OP1	20:m:98:VAL:HG21	2.18	0.42
1:a:1300:A:H4'	18:s:10:PHE:N	2.34	0.42
1:a:1302:C:N4	18:s:36:ARG:O	2.45	0.42
1:a:1308:C:C2	1:a:1309:C:C5	3.07	0.42
1:a:1482:U:O3'	1:a:1503:A:N1	2.53	0.42
7:h:128:LEU:HD23	7:h:128:LEU:HA	1.88	0.42
11:l:74:LEU:HD23	11:l:74:LEU:H	1.85	0.42
13:o:48:HIS:HA	13:o:50:HIS:CE1	2.54	0.42
18:s:81:LYS:HE2	18:s:81:LYS:HB2	1.63	0.42
18:s:83:HIS:CD2	19:A:252:ASP:O	2.73	0.42
1:a:61:G:H2'	1:a:62:C:H6	1.83	0.42
1:a:90:G:H2'	1:a:90:G:N3	2.34	0.42
1:a:254:G:H2'	1:a:255:G:H8	1.85	0.42
1:a:481:G:N1	1:a:525:C:N3	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:584:G:H2'	1:a:585:U:O4'	2.20	0.42
1:a:638:A:H5''	13:o:8:LYS:CE	2.49	0.42
1:a:641:G:H2'	1:a:642:C:C6	2.54	0.42
1:a:646:G:C6	1:a:721:G:C5	3.07	0.42
1:a:933:G:H2'	1:a:934:U:H6	1.85	0.42
1:a:946:A:H4'	1:a:1179:G:H4'	2.00	0.42
1:a:1047:A:H2'	1:a:1073:A:H4'	2.02	0.42
1:a:1062:A:C6	1:a:1063:U:C4	3.08	0.42
1:a:1506:U:OP1	10:k:137:ARG:NH2	2.53	0.42
4:e:75:TYR:HE2	4:e:77:LYS:HE2	1.85	0.42
7:h:38:GLU:HG3	7:h:42:ARG:NH1	2.35	0.42
13:o:12:LEU:HD23	13:o:27:ALA:HB1	2.02	0.42
13:o:41:GLU:O	13:o:45:VAL:HG12	2.20	0.42
19:A:12:LEU:H	20:m:115:ARG:HB3	1.85	0.42
19:A:107:SER:HB2	19:A:129:ASN:HB3	2.01	0.42
1:a:49:U:C2	1:a:50:G:N7	2.88	0.42
1:a:463:C:H3'	1:a:464:G:H8	1.85	0.42
1:a:485:G:O2'	1:a:486:G:P	2.78	0.42
1:a:571:U:H2'	1:a:572:G:C8	2.54	0.42
1:a:582:U:H2'	1:a:583:C:H6	1.85	0.42
1:a:672:U:C1'	1:a:675:A:H62	2.32	0.42
1:a:877:G:C6	1:a:878:C:C4	3.08	0.42
1:a:1064:G:H2'	1:a:1065:U:C5	2.54	0.42
1:a:1270:A:H2'	1:a:1271:A:H8	1.85	0.42
1:a:1475:G:N2	1:a:1477:A:H62	2.18	0.42
2:c:6:ASN:O	2:c:10:PHE:N	2.53	0.42
14:p:13:ILE:HG23	14:p:14:ARG:H	1.84	0.42
14:p:69:PRO:O	14:p:73:LEU:HG	2.19	0.42
18:s:81:LYS:CE	18:s:85:LYS:HD2	2.48	0.42
19:A:102:LYS:HG3	19:A:117:PRO:HD2	2.01	0.42
19:A:234:THR:HA	19:A:272:LEU:O	2.20	0.42
19:A:238:GLU:HA	19:A:268:PHE:O	2.20	0.42
20:m:13:LYS:HA	20:m:13:LYS:HD3	1.88	0.42
1:a:67:C:H4'	1:a:380:G:O2'	2.20	0.42
1:a:192:G:H2'	1:a:194:A:OP2	2.19	0.42
1:a:458:A:H4'	1:a:459:G:O4'	2.19	0.42
1:a:596:A:C6	1:a:605:G:C6	3.08	0.42
1:a:756:G:H4'	1:a:757:A:H8	1.83	0.42
1:a:789:G:C6	1:a:790:C:C5	3.07	0.42
1:a:867:G:C2	1:a:868:G:C8	3.08	0.42
1:a:922:C:H1'	1:a:1357:A:H2	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1133:G:P	9:j:72:ARG:HH12	2.42	0.42
1:a:1291:G:O2'	20:m:77:ASP:HB2	2.19	0.42
1:a:1295:U:H3'	1:a:1295:U:OP2	2.20	0.42
1:a:1354:G:OP2	8:i:33:LYS:HE2	2.20	0.42
3:d:73:GLU:O	3:d:77:GLN:HG3	2.20	0.42
3:d:181:PRO:HB2	3:d:186:ILE:HD11	2.01	0.42
6:g:142:HIS:O	6:g:146:GLU:HG2	2.20	0.42
8:i:105:ARG:O	8:i:109:LEU:HG	2.20	0.42
19:A:114:HIS:O	19:A:255:TRP:HB3	2.19	0.42
19:A:163:THR:OG1	19:A:241:ILE:HB	2.20	0.42
20:m:96:LEU:HA	20:m:111:LYS:HZ1	1.85	0.42
1:a:213:C:H2'	1:a:214:U:C6	2.54	0.42
1:a:351:G:OP1	17:t:3:ASN:N	2.53	0.42
1:a:356:A:H2'	1:a:357:G:O4'	2.20	0.42
1:a:357:G:H5'	1:a:367:U:H3'	2.01	0.42
1:a:462:A:H8	1:a:462:A:P	2.42	0.42
1:a:638:A:N1	1:a:728:A:H2	2.18	0.42
1:a:815:G:H2'	1:a:816:G:O4'	2.20	0.42
1:a:828:G:O5'	16:r:19:LYS:HE2	2.20	0.42
1:a:841:U:H2'	1:a:842:A:C8	2.55	0.42
1:a:926:G:C2	1:a:1322:G:C6	3.07	0.42
1:a:965:A:H5'	1:a:966:C:OP2	2.19	0.42
1:a:1290:C:C4'	20:m:92:HIS:HE2	2.32	0.42
1:a:1364:U:H1'	6:g:78:ARG:NH2	2.35	0.42
1:a:1505:G:C6	1:a:1506:U:C4	3.08	0.42
2:c:7:PRO:HG3	2:c:201:TRP:HD1	1.82	0.42
4:e:132:ALA:N	4:e:137:ARG:HH21	2.06	0.42
11:l:110:ARG:HB3	11:l:119:ALA:HB2	2.01	0.42
14:p:29:ARG:HD2	14:p:30:ASP:OD1	2.20	0.42
16:r:39:ARG:HA	16:r:42:ILE:HG12	2.00	0.42
19:A:131:ASP:CG	19:A:144:ASN:HB3	2.45	0.42
20:m:112:GLY:C	20:m:115:ARG:HH21	2.27	0.42
1:a:87:G:C4	1:a:88:G:C8	3.07	0.42
1:a:209:A:H1'	1:a:222:U:O2'	2.19	0.42
1:a:276:G:H2'	1:a:277:C:C6	2.55	0.42
1:a:448:A:C5	1:a:467:A:N1	2.88	0.42
1:a:1075:U:P	1:a:1088:G:H1	2.39	0.42
1:a:1217:A:OP1	1:a:1286:G:H5''	2.20	0.42
1:a:1232:A:N7	1:a:1268:C:C4	2.88	0.42
1:a:1250:A:O2'	1:a:1307:C:O2'	2.27	0.42
1:a:1311:G:O2'	20:m:70:LEU:CD1	2.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1324:C:O2'	8:i:146:GLN:HA	2.19	0.42
1:a:1383:C:OP2	1:a:1488:G:N2	2.51	0.42
1:a:1417:A:H2'	1:a:1418:G:O4'	2.19	0.42
3:d:165:TRP:HB2	3:d:179:GLN:O	2.20	0.42
6:g:42:ILE:HA	6:g:117:VAL:HG22	2.01	0.42
11:l:34:CYS:SG	11:l:78:SER:HB2	2.60	0.42
14:p:45:GLU:HB3	14:p:96:LYS:HZ2	1.85	0.42
17:t:48:SER:HA	17:t:83:LEU:HD22	2.01	0.42
19:A:13:SER:C	19:A:102:LYS:HZ1	2.26	0.42
1:a:253:U:H2'	1:a:254:G:C8	2.55	0.41
1:a:301:G:C2	1:a:302:G:C4	3.07	0.41
1:a:384:G:P	1:a:455:G:H4'	2.59	0.41
1:a:592:U:C2	1:a:593:C:C5	3.08	0.41
1:a:762:A:H5''	1:a:1505:G:N2	2.35	0.41
1:a:792:G:H4'	1:a:793:U:O4'	2.20	0.41
1:a:1087:C:H5''	2:c:174:PRO:N	2.35	0.41
1:a:1110:A:C5	1:a:1111:G:C8	3.08	0.41
1:a:1136:A:H3'	1:a:1137:G:H8	1.85	0.41
1:a:1332:A:H2	6:g:34:GLY:HA2	1.85	0.41
3:d:112:LEU:HD13	3:d:118:PHE:HZ	1.85	0.41
4:e:116:ALA:C	4:e:155:SER:HB3	2.45	0.41
4:e:122:ARG:HG3	4:e:123:PRO:HD2	2.02	0.41
4:e:182:ARG:HH22	4:e:188:ASP:CG	2.28	0.41
8:i:75:VAL:HB	8:i:77:ARG:NH1	2.34	0.41
11:l:6:GLN:HA	11:l:9:ARG:HD3	2.01	0.41
11:l:7:LEU:HB3	15:q:49:TYR:CZ	2.55	0.41
19:A:81:ALA:O	19:A:85:MET:HG3	2.20	0.41
1:a:314:C:O2'	1:a:315:A:H5'	2.20	0.41
1:a:360:G:C6	1:a:361:G:C6	3.09	0.41
1:a:485:G:N7	1:a:515:A:C4	2.88	0.41
1:a:498:C:C6	1:a:510:G:H5'	2.53	0.41
1:a:572:G:C6	1:a:628:A:C6	3.08	0.41
1:a:655:A:N1	10:k:129:GLY:HA3	2.35	0.41
1:a:730:C:H2'	1:a:731:U:C6	2.54	0.41
1:a:790:C:C4	1:a:791:C:C5	3.08	0.41
1:a:859:C:O2'	1:a:860:C:H5'	2.19	0.41
1:a:896:A:H2'	1:a:897:A:O4'	2.18	0.41
1:a:1116:U:H1'	1:a:1117:U:C4	2.56	0.41
1:a:1308:C:H2'	1:a:1309:C:C6	2.55	0.41
1:a:1311:G:H1'	20:m:70:LEU:CD1	2.47	0.41
1:a:1314:A:C4	1:a:1315:A:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1486:A:N3	1:a:1486:A:H2'	2.35	0.41
3:d:138:ILE:O	3:d:174:ARG:HA	2.20	0.41
3:d:151:GLN:HA	3:d:154:ARG:HG2	2.02	0.41
10:k:81:ARG:HH21	10:k:84:GLN:HG3	1.85	0.41
10:k:81:ARG:HH22	10:k:112:ALA:C	2.28	0.41
17:t:33:ARG:O	17:t:37:GLU:OE1	2.38	0.41
1:a:66:U:O2'	1:a:379:C:O2	2.30	0.41
1:a:127:A:N6	1:a:233:C:HO2'	2.18	0.41
1:a:136:G:C6	1:a:225:G:C6	3.09	0.41
1:a:225:G:O2'	15:q:10:THR:O	2.34	0.41
1:a:310:G:C6	1:a:311:C:C4	3.08	0.41
1:a:348:G:H2'	1:a:349:A:H8	1.86	0.41
1:a:365:U:O3'	1:a:366:A:H8	2.02	0.41
1:a:400:C:H2'	1:a:401:C:C6	2.56	0.41
1:a:413:G:H2'	1:a:428:G:N2	2.35	0.41
1:a:568:G:C4	1:a:569:U:C5	3.08	0.41
1:a:581:U:H2'	1:a:582:U:C6	2.55	0.41
1:a:676:A:H2'	1:a:677:U:C6	2.55	0.41
1:a:718:U:H2'	1:a:719:C:H6	1.84	0.41
1:a:723:G:H2'	1:a:724:C:H6	1.85	0.41
1:a:854:A:O2'	1:a:855:A:H3'	2.21	0.41
1:a:1067:G:C2	1:a:1079:G:C2	3.08	0.41
1:a:1217:A:H2	1:a:1316:G:H1'	1.85	0.41
1:a:1234:G:C6	1:a:1265:U:O2	2.73	0.41
1:a:1277:U:H4'	20:m:42:ASN:CG	2.46	0.41
1:a:1291:G:C4	20:m:74:VAL:HG22	2.55	0.41
1:a:1359:U:OP1	6:g:98:THR:OG1	2.24	0.41
1:a:1389:U:H1'	1:a:1501:G:H1'	2.01	0.41
1:a:1444:A:H2'	1:a:1445:G:O4'	2.19	0.41
1:a:1497:A:C5	1:a:1507:G:C6	3.08	0.41
19:A:23:PRO:HB2	19:A:135:TYR:OH	2.21	0.41
1:a:102:C:O2'	1:a:379:C:H5''	2.20	0.41
1:a:329:A:C5	1:a:332:G:C5	3.08	0.41
1:a:362:G:H2'	1:a:364:A:OP2	2.21	0.41
1:a:426:U:H4'	3:d:34:GLY:N	2.36	0.41
1:a:536:C:H2'	1:a:537:G:C8	2.55	0.41
1:a:668:G:C6	1:a:680:G:C6	3.09	0.41
1:a:813:U:O2	1:a:835:G:C6	2.74	0.41
1:a:827:U:H4'	16:r:24:SER:HA	2.03	0.41
1:a:929:G:H4'	1:a:1314:A:H2	1.86	0.41
1:a:932:U:H2'	1:a:933:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:995:A:C6	1:a:1001:G:C6	3.08	0.41
1:a:1156:G:C4	1:a:1157:A:C8	3.09	0.41
1:a:1197:U:H2'	1:a:1198:C:C6	2.56	0.41
1:a:1241:G:O2'	1:a:1256:A:N6	2.48	0.41
1:a:1398:G:H2'	1:a:1399:A:O4'	2.21	0.41
2:c:46:LEU:HB3	2:c:51:ILE:HB	2.01	0.41
2:c:182:ILE:HA	2:c:202:ILE:O	2.21	0.41
3:d:11:LYS:HD3	3:d:58:PHE:CG	2.56	0.41
4:e:132:ALA:O	4:e:137:ARG:NH2	2.53	0.41
10:k:31:HIS:CE1	10:k:94:PHE:HD2	2.38	0.41
13:o:42:HIS:NE2	13:o:49:ASP:OD2	2.50	0.41
18:s:65:ALA:O	20:m:83:GLU:OE2	2.38	0.41
19:A:30:LYS:O	19:A:33:VAL:HG22	2.20	0.41
19:A:197:ASN:HB3	19:A:246:LEU:HD21	2.01	0.41
19:A:198:VAL:HA	19:A:240:MET:O	2.19	0.41
1:a:23:C:H5''	4:e:116:ALA:HB3	2.02	0.41
1:a:105:A:N3	1:a:105:A:H2'	2.36	0.41
1:a:228:A:H2'	1:a:229:U:C6	2.56	0.41
1:a:241:C:H2'	1:a:242:U:C6	2.56	0.41
1:a:241:C:H2'	1:a:242:U:H6	1.86	0.41
1:a:246:A:C2	1:a:282:A:C5	3.09	0.41
1:a:367:U:C2	1:a:394:G:C2	3.08	0.41
1:a:562:U:C2	1:a:740:G:C6	3.09	0.41
1:a:566:U:H2'	1:a:567:G:C8	2.55	0.41
1:a:761:A:OP2	1:a:780:G:N1	2.52	0.41
1:a:939:U:H5'	18:s:81:LYS:NZ	2.35	0.41
1:a:1061:G:H5'	4:e:48:LYS:HG3	2.02	0.41
1:a:1102:A:H2'	1:a:1103:U:O4'	2.20	0.41
1:a:1160:A:H8	1:a:1160:A:OP1	2.03	0.41
1:a:1359:U:H2'	1:a:1360:A:C8	2.56	0.41
2:c:59:THR:O	2:c:61:ASP:N	2.43	0.41
2:c:174:PRO:HD2	2:c:203:TYR:CE1	2.56	0.41
8:i:53:ARG:HG2	8:i:57:ASN:HD22	1.85	0.41
17:t:34:GLY:HA2	17:t:37:GLU:OE1	2.19	0.41
18:s:53:ASP:CB	18:s:77:THR:HG22	2.46	0.41
1:a:254:G:H1'	15:q:32:MET:HG2	2.01	0.41
1:a:321:A:H5'	1:a:1418:G:O2'	2.21	0.41
1:a:444:A:C6	1:a:471:G:C6	3.09	0.41
1:a:615:G:N1	1:a:616:G:C5	2.88	0.41
1:a:698:A:N1	16:r:45:ARG:NH2	2.69	0.41
1:a:821:C:C4	1:a:828:G:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1278:C:H5''	20:m:44:ARG:HH22	1.77	0.41
1:a:1302:C:O2'	20:m:86:CYS:SG	2.56	0.41
1:a:1303:U:O4'	20:m:87:TYR:CG	2.72	0.41
1:a:1327:U:H4'	1:a:1328:A:H5''	2.02	0.41
1:a:1342:A:OP2	12:n:35:ARG:NH2	2.53	0.41
1:a:1507:G:C6	1:a:1508:C:C4	3.09	0.41
2:c:21:ARG:O	2:c:57:GLU:HG2	2.21	0.41
3:d:83:ASP:O	3:d:86:LEU:HG	2.21	0.41
4:e:111:GLN:NE2	4:e:120:MET:SD	2.94	0.41
7:h:48:ASP:O	7:h:50:ARG:NH1	2.54	0.41
13:o:6:GLU:OE1	13:o:6:GLU:N	2.45	0.41
19:A:4:ARG:HD3	19:A:109:ASN:ND2	2.36	0.41
19:A:74:THR:HG22	19:A:122:ILE:HD11	2.01	0.41
1:a:346:G:N3	1:a:346:G:H3'	2.36	0.41
1:a:655:A:C2	10:k:129:GLY:HA3	2.56	0.41
1:a:845:U:O2'	1:a:847:A:N6	2.41	0.41
1:a:846:A:H5'	4:e:115:ALA:O	2.20	0.41
1:a:868:G:N1	1:a:869:G:C5	2.89	0.41
1:a:875:C:H2'	1:a:876:G:H8	1.84	0.41
1:a:881:C:C2	1:a:882:A:C8	3.08	0.41
1:a:1035:A:N7	1:a:1181:C:N3	2.69	0.41
1:a:1197:U:H2'	1:a:1198:C:C5	2.55	0.41
1:a:1252:G:C4	1:a:1253:U:C5	3.09	0.41
1:a:1292:G:N3	20:m:73:GLU:OE2	2.51	0.41
1:a:1442:G:H2'	1:a:1443:G:C8	2.54	0.41
4:e:57:SER:HA	4:e:79:LYS:HA	2.03	0.41
4:e:113:GLU:HG2	4:e:118:VAL:HG22	2.01	0.41
4:e:210:ARG:O	4:e:213:SER:OG	2.36	0.41
5:f:44:GLY:HA2	5:f:59:ILE:HA	2.03	0.41
8:i:99:LEU:O	8:i:103:ILE:HG13	2.21	0.41
10:k:96:LYS:HA	10:k:122:VAL:O	2.21	0.41
10:k:104:THR:HG23	10:k:107:ARG:NH2	2.36	0.41
19:A:10:GLY:C	20:m:115:ARG:NH1	2.78	0.41
19:A:16:LEU:HD23	19:A:16:LEU:HA	1.73	0.41
19:A:115:GLY:HA3	19:A:256:THR:HG23	2.03	0.41
1:a:12:A:H1'	4:e:133:GLY:HA2	2.03	0.41
1:a:83:U:O2'	1:a:84:U:H2'	2.21	0.41
1:a:107:G:H8	1:a:107:G:O5'	2.03	0.41
1:a:143:G:C2	1:a:144:G:C4	3.09	0.41
1:a:352:C:O2'	1:a:354:G:OP1	2.21	0.41
1:a:397:A:C6	1:a:528:G:N7	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:491:C:O2'	1:a:492:U:H5''	2.20	0.41
1:a:562:U:C4	1:a:739:A:N7	2.88	0.41
1:a:762:A:H3'	1:a:763:C:C6	2.56	0.41
1:a:886:C:H2'	1:a:887:U:C6	2.55	0.41
1:a:960:A:N6	1:a:1300:A:N7	2.68	0.41
1:a:1323:U:H2'	1:a:1324:C:C6	2.56	0.41
1:a:1329:G:OP2	8:i:129:ARG:HG2	2.21	0.41
3:d:112:LEU:HD13	3:d:118:PHE:CZ	2.55	0.41
4:e:64:VAL:HG12	4:e:92:ALA:HB1	2.02	0.41
5:f:15:ASP:OD1	5:f:15:ASP:N	2.43	0.41
5:f:74:GLU:HA	5:f:77:ARG:NH1	2.35	0.41
8:i:49:ASN:HB2	8:i:84:TYR:HD1	1.85	0.41
11:l:25:LYS:HG3	11:l:27:SER:HB2	2.01	0.41
11:l:78:SER:HB3	11:l:103:ASP:CG	2.45	0.41
13:o:77:ARG:H	13:o:77:ARG:HG3	1.66	0.41
18:s:50:ALA:CB	18:s:57:HIS:HB3	2.43	0.41
1:a:103:G:O6	17:t:10:ARG:NE	2.54	0.41
1:a:131:G:C6	1:a:325:A:N1	2.89	0.41
1:a:151:C:H2'	1:a:152:C:C6	2.56	0.41
1:a:157:A:N6	1:a:347:G:H1'	2.35	0.41
1:a:229:U:H5''	14:p:34:ILE:HD13	2.01	0.41
1:a:296:U:H1'	1:a:536:C:H1'	2.03	0.41
1:a:413:G:H2'	1:a:428:G:C2	2.55	0.41
1:a:465:G:O2'	1:a:466:U:H5''	2.21	0.41
1:a:500:A:N6	1:a:513:A:H61	2.18	0.41
1:a:703:U:C4	1:a:837:G:H4'	2.55	0.41
1:a:749:G:H2'	1:a:750:C:C6	2.56	0.41
1:a:1151:A:OP2	1:a:1151:A:H8	2.04	0.41
1:a:1178:A:OP2	1:a:1178:A:H3'	2.20	0.41
1:a:1284:U:O5'	20:m:17:ILE:HG23	2.21	0.41
1:a:1320:G:H2'	1:a:1321:A:C8	2.56	0.41
1:a:1330:U:OP1	8:i:132:GLU:HG2	2.20	0.41
1:a:1483:A:H4'	1:a:1504:G:H4'	2.02	0.41
2:c:131:ARG:NH2	4:e:19:ARG:HD2	2.35	0.41
2:c:160:ALA:HB3	2:c:164:ARG:NH1	2.35	0.41
3:d:41:ILE:HG21	3:d:47:ARG:CD	2.50	0.41
5:f:50:TYR:CZ	16:r:75:ALA:HB2	2.56	0.41
13:o:12:LEU:HD21	13:o:31:LEU:HD11	2.02	0.41
14:p:45:GLU:HB3	14:p:96:LYS:NZ	2.36	0.41
15:q:26:TYR:O	15:q:28:VAL:HG13	2.21	0.41
15:q:43:ARG:HH21	15:q:54:ARG:NH1	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:q:91:VAL:HG12	15:q:92:GLU:CD	2.45	0.41
16:r:49:ARG:HB3	16:r:53:VAL:HB	2.02	0.41
17:t:35:PHE:CD2	17:t:79:LEU:HD22	2.55	0.41
19:A:63:GLU:O	19:A:66:ARG:HG2	2.21	0.41
19:A:106:THR:HG23	19:A:117:PRO:HG3	2.03	0.41
1:a:254:G:H4'	15:q:35:THR:OG1	2.21	0.41
1:a:429:U:OP2	3:d:25:SER:HB3	2.21	0.41
1:a:497:G:H8	1:a:510:G:OP1	2.04	0.41
1:a:667:A:N1	1:a:684:A:C5	2.89	0.41
1:a:874:A:H2'	1:a:875:C:O4'	2.21	0.41
1:a:1085:A:H2'	1:a:1086:G:H8	1.83	0.41
1:a:1252:G:C2	1:a:1253:U:C4	3.08	0.41
1:a:1351:G:OP2	8:i:134:LYS:NZ	2.47	0.41
1:a:1366:C:H2'	1:a:1367:C:C6	2.56	0.41
2:c:190:LYS:HA	2:c:190:LYS:HD2	1.83	0.41
3:d:121:ASN:HD21	3:d:136:ASP:CG	2.28	0.41
4:e:182:ARG:C	4:e:184:LEU:N	2.79	0.41
6:g:66:LEU:O	6:g:70:LYS:N	2.52	0.41
12:n:47:MET:HE2	12:n:47:MET:N	2.36	0.41
14:p:74:LEU:O	14:p:77:THR:OG1	2.25	0.41
16:r:61:GLN:HG3	16:r:62:ARG:HH21	1.86	0.41
18:s:69:HIS:CB	20:m:84:ILE:CD1	2.71	0.41
19:A:30:LYS:HE3	19:A:32:THR:OG1	2.21	0.41
20:m:81:LYS:HA	20:m:84:ILE:HG12	2.03	0.41
1:a:753:G:C6	1:a:787:A:C6	3.09	0.40
1:a:988:C:H3'	1:a:989:G:H8	1.85	0.40
1:a:1160:A:O2'	8:i:125:THR:HG23	2.21	0.40
1:a:1278:C:O4'	20:m:14:ARG:HD2	2.21	0.40
1:a:1432:C:C2	1:a:1439:G:C2	3.09	0.40
1:a:1495:G:H2'	1:a:1496:U:O4'	2.21	0.40
2:c:156:ARG:HH12	2:c:161:GLU:CD	2.29	0.40
11:l:50:ARG:HB3	11:l:66:TYR:CE1	2.56	0.40
18:s:30:VAL:O	18:s:30:VAL:HG13	2.22	0.40
18:s:80:PHE:CZ	18:s:82:GLY:HA3	2.57	0.40
20:m:80:ARG:O	20:m:83:GLU:HG3	2.21	0.40
1:a:12:A:C5	3:d:201:LYS:HD2	2.56	0.40
1:a:126:G:H5''	1:a:127:A:H3'	2.03	0.40
1:a:218:G:H2'	1:a:219:C:O4'	2.21	0.40
1:a:272:C:H2'	1:a:273:A:C8	2.56	0.40
1:a:468:U:H3'	1:a:469:G:H8	1.86	0.40
1:a:502:C:H41	11:l:50:ARG:NH2	2.19	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:625:G:H2'	1:a:626:G:H8	1.86	0.40
1:a:658:U:H1'	1:a:757:A:O2'	2.21	0.40
1:a:726:G:C2	1:a:727:U:C4	3.09	0.40
1:a:772:A:N6	1:a:1482:U:H5'	2.37	0.40
1:a:858:A:O5'	7:h:15:ARG:NH2	2.54	0.40
1:a:935:G:C6	1:a:1210:A:C6	3.10	0.40
1:a:1022:G:H2'	1:a:1023:U:C6	2.56	0.40
1:a:1135:G:H2'	1:a:1136:A:C8	2.57	0.40
1:a:1206:U:OP2	20:m:103:THR:OG1	2.36	0.40
1:a:1283:U:C4'	20:m:21:TYR:OH	2.52	0.40
10:k:25:VAL:HG21	10:k:51:ILE:HD13	2.03	0.40
17:t:24:VAL:HG11	17:t:66:VAL:HG21	2.03	0.40
20:m:22:ILE:H	20:m:22:ILE:HG13	1.66	0.40
20:m:82:ILE:HG23	20:m:93:ARG:HE	1.86	0.40
20:m:88:GLN:CG	20:m:98:VAL:HG22	2.51	0.40
1:a:150:G:C6	1:a:151:C:C4	3.09	0.40
1:a:157:A:H2'	1:a:158:A:O4'	2.21	0.40
1:a:360:G:C2	1:a:361:G:C4	3.09	0.40
1:a:433:C:H2'	1:a:434:C:C6	2.56	0.40
1:a:564:G:H2'	1:a:565:G:H8	1.82	0.40
1:a:568:G:C6	1:a:569:U:C4	3.09	0.40
1:a:593:C:C2	1:a:594:A:C8	3.09	0.40
1:a:718:U:OP1	5:f:2:ARG:NH1	2.54	0.40
1:a:918:C:H1'	1:a:1366:C:N4	2.37	0.40
1:a:951:A:H4'	9:j:57:LYS:HE3	2.03	0.40
1:a:997:A:H5'	18:s:14:HIS:NE2	2.36	0.40
1:a:1045:U:H3	2:c:176:HIS:CD2	2.39	0.40
1:a:1172:A:O3'	2:c:150:ARG:NH2	2.54	0.40
1:a:1291:G:O3'	20:m:77:ASP:HB3	2.18	0.40
1:a:1382:C:H2'	1:a:1488:G:O6	2.20	0.40
4:e:101:LEU:HD22	4:e:106:ILE:HA	2.03	0.40
4:e:189:VAL:O	7:h:101:LEU:HD23	2.21	0.40
5:f:14:LEU:H	5:f:14:LEU:HD23	1.86	0.40
6:g:40:GLU:CD	8:i:63:VAL:HG21	2.47	0.40
9:j:54:SER:HB2	9:j:58:TYR:HB2	2.03	0.40
11:l:12:ARG:HD3	11:l:12:ARG:HA	1.89	0.40
14:p:15:ASN:HB2	14:p:43:LYS:HG2	2.03	0.40
1:a:13:G:OP2	4:e:151:LYS:NZ	2.46	0.40
1:a:40:C:H2'	1:a:41:U:H6	1.86	0.40
1:a:45:G:H2'	1:a:46:G:C8	2.57	0.40
1:a:53:U:N3	1:a:362:G:H1'	2.32	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:127:A:C8	15:q:80:ARG:HB2	2.57	0.40
1:a:146:A:H2'	1:a:147:U:C6	2.56	0.40
1:a:447:G:H3'	1:a:465:G:N2	2.37	0.40
1:a:489:A:H5'	3:d:47:ARG:HB2	2.03	0.40
1:a:493:A:C2	1:a:494:C:C2	3.09	0.40
1:a:547:G:H2'	1:a:548:G:O4'	2.21	0.40
1:a:568:G:C6	1:a:733:A:C8	3.09	0.40
1:a:647:G:H4'	13:o:51:HIS:CE1	2.56	0.40
1:a:857:U:H2'	7:h:12:THR:HG23	2.03	0.40
1:a:932:U:C5	20:m:106:ASN:OD1	2.74	0.40
1:a:1234:G:OP1	9:j:44:THR:HG23	2.21	0.40
1:a:1300:A:O2'	18:s:10:PHE:HB2	2.21	0.40
1:a:1332:A:OP1	8:i:143:LYS:HE2	2.21	0.40
2:c:22:TRP:CE3	2:c:58:ARG:HG2	2.57	0.40
3:d:51:GLN:HB3	3:d:55:LYS:HE3	2.02	0.40
4:e:81:VAL:CG2	4:e:82:PRO:HD3	2.51	0.40
8:i:69:LYS:O	8:i:73:VAL:HG23	2.21	0.40
10:k:56:SER:HB2	10:k:66:LYS:HG2	2.03	0.40
18:s:45:ILE:HA	18:s:62:VAL:HB	2.04	0.40
18:s:85:LYS:HB3	18:s:85:LYS:HE3	1.45	0.40
19:A:249:GLU:HG2	19:A:260:THR:N	2.36	0.40
1:a:158:A:H2'	1:a:159:A:O4'	2.22	0.40
1:a:165:U:H2'	1:a:166:C:H6	1.85	0.40
1:a:179:C:OP1	1:a:179:C:H4'	2.21	0.40
1:a:264:U:C4	1:a:265:G:C5	3.10	0.40
1:a:426:U:H4'	3:d:34:GLY:C	2.47	0.40
1:a:427:U:H5'	1:a:522:G:OP1	2.22	0.40
1:a:434:C:H2'	1:a:435:U:C6	2.56	0.40
1:a:543:A:H5'	1:a:546:G:N3	2.36	0.40
1:a:624:G:H21	15:q:43:ARG:HH11	1.69	0.40
1:a:645:G:C8	1:a:705:G:N2	2.90	0.40
1:a:828:G:OP1	16:r:19:LYS:HG3	2.22	0.40
1:a:919:A:H1'	6:g:76:ARG:HH21	1.86	0.40
1:a:1008:C:N4	1:a:1015:G:O6	2.55	0.40
1:a:1208:A:H5'	19:A:252:ASP:HB3	2.04	0.40
1:a:1291:G:P	20:m:81:LYS:HZ2	2.44	0.40
1:a:1303:U:O3'	20:m:91:ARG:NH2	2.54	0.40
1:a:1359:U:C5'	6:g:98:THR:HG21	2.50	0.40
1:a:1378:C:H1'	1:a:1381:A:C1'	2.51	0.40
2:c:137:ILE:O	2:c:140:ALA:HB3	2.22	0.40
2:c:147:LYS:HE3	2:c:172:ARG:HD3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:53:ARG:HE	8:i:58:TYR:HD1	1.68	0.40
10:k:103:GLU:HA	10:k:106:ILE:HB	2.04	0.40
11:l:81:LEU:HB2	11:l:102:LEU:HD12	2.03	0.40
14:p:40:TYR:HB2	14:p:49:ILE:HG12	2.04	0.40
17:t:68:HIS:CG	17:t:69:PRO:HD2	2.57	0.40
19:A:24:ARG:HE	19:A:24:ARG:HB3	1.54	0.40
19:A:146:THR:OG1	19:A:267:GLN:O	2.32	0.40
19:A:250:ILE:HA	19:A:257:VAL:CG1	2.52	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	
2	c	208/210 (99%)	180 (86%)	25 (12%)	3 (1%)	9	39
3	d	198/200 (99%)	185 (93%)	13 (7%)	0	100	100
4	e	196/198 (99%)	172 (88%)	22 (11%)	2 (1%)	12	47
5	f	94/96 (98%)	92 (98%)	2 (2%)	0	100	100
6	g	154/156 (99%)	148 (96%)	6 (4%)	0	100	100
7	h	128/130 (98%)	112 (88%)	15 (12%)	1 (1%)	16	53
8	i	124/126 (98%)	111 (90%)	13 (10%)	0	100	100
9	j	95/97 (98%)	88 (93%)	6 (6%)	1 (1%)	11	45
10	k	115/117 (98%)	99 (86%)	16 (14%)	0	100	100
11	l	120/122 (98%)	103 (86%)	17 (14%)	0	100	100
12	n	58/60 (97%)	54 (93%)	4 (7%)	0	100	100
13	o	85/87 (98%)	80 (94%)	5 (6%)	0	100	100
14	p	111/113 (98%)	107 (96%)	4 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	q	90/92 (98%)	79 (88%)	11 (12%)	0	100	100
16	r	62/64 (97%)	54 (87%)	8 (13%)	0	100	100
17	t	82/84 (98%)	79 (96%)	3 (4%)	0	100	100
18	s	78/80 (98%)	65 (83%)	11 (14%)	2 (3%)	4	25
19	A	283/296 (96%)	256 (90%)	25 (9%)	2 (1%)	18	55
20	m	115/117 (98%)	100 (87%)	13 (11%)	2 (2%)	7	35
All	All	2396/2445 (98%)	2164 (90%)	219 (9%)	13 (0%)	26	63

All (13) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	c	144	PRO
4	e	186	ILE
19	A	254	GLY
20	m	116	THR
2	c	133	MET
2	c	142	ARG
4	e	185	PRO
18	s	84	ILE
20	m	113	PRO
19	A	262	GLY
7	h	56	VAL
9	j	43	PRO
18	s	82	GLY

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	c	171/171 (100%)	165 (96%)	6 (4%)	32	54
3	d	175/175 (100%)	175 (100%)	0	100	100
4	e	139/139 (100%)	138 (99%)	1 (1%)	76	79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	f	85/85 (100%)	85 (100%)	0	100	100
6	g	132/132 (100%)	132 (100%)	0	100	100
7	h	106/106 (100%)	106 (100%)	0	100	100
8	i	102/102 (100%)	102 (100%)	0	100	100
9	j	88/88 (100%)	88 (100%)	0	100	100
10	k	91/91 (100%)	91 (100%)	0	100	100
11	l	103/103 (100%)	103 (100%)	0	100	100
12	n	49/49 (100%)	49 (100%)	0	100	100
13	o	75/75 (100%)	75 (100%)	0	100	100
14	p	92/92 (100%)	92 (100%)	0	100	100
15	q	78/78 (100%)	78 (100%)	0	100	100
16	r	55/55 (100%)	55 (100%)	0	100	100
17	t	69/69 (100%)	69 (100%)	0	100	100
18	s	71/71 (100%)	66 (93%)	5 (7%)	14	36
19	A	234/242 (97%)	219 (94%)	15 (6%)	16	38
20	m	99/99 (100%)	95 (96%)	4 (4%)	28	49
All	All	2014/2022 (100%)	1983 (98%)	31 (2%)	55	71

All (31) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	c	130	ARG
2	c	133	MET
2	c	134	ARG
2	c	135	LYS
2	c	138	GLN
2	c	141	MET
4	e	186	ILE
18	s	78	ARG
18	s	79	THR
18	s	81	LYS
18	s	83	HIS
18	s	85	LYS
19	A	12	LEU
19	A	15	THR
19	A	20	LYS

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Mol	Chain	Res	Type
19	A	22	ILE
19	A	24	ARG
19	A	26	GLU
19	A	32	THR
19	A	34	GLN
19	A	35	GLU
19	A	250	ILE
19	A	251	TRP
19	A	253	ASP
19	A	256	THR
19	A	257	VAL
19	A	260	THR
20	m	111	LYS
20	m	115	ARG
20	m	116	THR
20	m	117	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
3	d	54	GLN
3	d	115	HIS
5	f	80	ASN
5	f	82	ASN
8	i	57	ASN
10	k	128	ASN
11	l	29	GLN
13	o	48	HIS
14	p	81	GLN
16	r	61	GLN
17	t	84	ASN
18	s	52	HIS
18	s	83	HIS
19	A	34	GLN
19	A	114	HIS
19	A	129	ASN
20	m	92	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	a	1504/1510 (99%)	452 (30%)	0

All (452) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	a	12	A
1	a	13	G
1	a	22	C
1	a	26	G
1	a	35	G
1	a	36	A
1	a	43	G
1	a	48	G
1	a	50	G
1	a	51	C
1	a	52	U
1	a	53	U
1	a	54	A
1	a	55	A
1	a	58	C
1	a	62	C
1	a	66	U
1	a	74	A
1	a	75	A
1	a	81	C
1	a	82	U
1	a	85	C
1	a	87	G
1	a	88	G
1	a	89	G
1	a	91	U
1	a	92	A
1	a	93	C
1	a	101	G
1	a	105	A
1	a	116	A
1	a	117	C
1	a	118	A
1	a	126	G
1	a	128	U
1	a	133	C
1	a	141	U
1	a	160	C

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Mol	Chain	Res	Type
1	a	169	A
1	a	170	U
1	a	174	G
1	a	179	C
1	a	180	A
1	a	192	G
1	a	193	C
1	a	194	A
1	a	196	G
1	a	197	G
1	a	201	G
1	a	203	U
1	a	210	A
1	a	211	A
1	a	212	G
1	a	215	U
1	a	216	U
1	a	217	U
1	a	218	G
1	a	220	G
1	a	226	G
1	a	240	C
1	a	243	A
1	a	244	U
1	a	245	C
1	a	246	A
1	a	247	G
1	a	251	G
1	a	258	G
1	a	263	A
1	a	266	G
1	a	267	C
1	a	278	G
1	a	279	A
1	a	280	C
1	a	281	G
1	a	282	A
1	a	289	G
1	a	294	C
1	a	306	A
1	a	316	C
1	a	317	U

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Mol	Chain	Res	Type
1	a	328	U
1	a	329	A
1	a	332	G
1	a	338	A
1	a	344	A
1	a	345	C
1	a	347	G
1	a	349	A
1	a	351	G
1	a	352	C
1	a	353	A
1	a	354	G
1	a	356	A
1	a	367	U
1	a	371	A
1	a	372	C
1	a	373	A
1	a	389	A
1	a	390	U
1	a	397	A
1	a	398	C
1	a	406	G
1	a	412	U
1	a	413	G
1	a	415	C
1	a	419	C
1	a	421	U
1	a	422	C
1	a	423	G
1	a	426	U
1	a	428	G
1	a	429	U
1	a	430	A
1	a	434	C
1	a	435	U
1	a	436	C
1	a	438	U
1	a	444	A
1	a	448	A
1	a	450	G
1	a	453	G
1	a	456	C

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Mol	Chain	Res	Type
1	a	457	A
1	a	458	A
1	a	461	G
1	a	465	G
1	a	466	U
1	a	469	G
1	a	476	A
1	a	477	G
1	a	478	A
1	a	482	A
1	a	485	G
1	a	486	G
1	a	488	C
1	a	490	A
1	a	491	C
1	a	496	U
1	a	497	G
1	a	498	C
1	a	499	C
1	a	501	G
1	a	505	C
1	a	507	G
1	a	509	G
1	a	510	G
1	a	511	U
1	a	512	A
1	a	513	A
1	a	515	A
1	a	516	C
1	a	519	A
1	a	520	G
1	a	521	G
1	a	527	A
1	a	529	C
1	a	539	A
1	a	540	A
1	a	541	U
1	a	542	U
1	a	544	C
1	a	552	A
1	a	553	A
1	a	554	A

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Mol	Chain	Res	Type
1	a	555	G
1	a	556	A
1	a	557	G
1	a	591	C
1	a	612	U
1	a	621	U
1	a	629	G
1	a	633	A
1	a	634	G
1	a	643	A
1	a	645	G
1	a	646	G
1	a	656	A
1	a	666	U
1	a	667	A
1	a	668	G
1	a	675	A
1	a	676	A
1	a	678	G
1	a	680	G
1	a	682	A
1	a	683	G
1	a	684	A
1	a	687	U
1	a	694	G
1	a	700	C
1	a	701	G
1	a	702	G
1	a	704	G
1	a	711	G
1	a	713	G
1	a	727	U
1	a	729	A
1	a	732	G
1	a	734	C
1	a	735	G
1	a	739	A
1	a	757	A
1	a	761	A
1	a	765	G
1	a	766	G
1	a	771	G

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Mol	Chain	Res	Type
1	a	772	A
1	a	773	U
1	a	774	A
1	a	776	C
1	a	782	A
1	a	789	G
1	a	792	G
1	a	794	A
1	a	795	A
1	a	796	A
1	a	797	C
1	a	798	G
1	a	799	G
1	a	801	G
1	a	806	C
1	a	808	A
1	a	810	G
1	a	812	G
1	a	816	G
1	a	817	U
1	a	818	U
1	a	822	U
1	a	828	G
1	a	832	U
1	a	840	G
1	a	841	U
1	a	851	A
1	a	853	U
1	a	854	A
1	a	855	A
1	a	860	C
1	a	865	C
1	a	869	G
1	a	871	A
1	a	896	A
1	a	908	G
1	a	909	G
1	a	913	C
1	a	914	C
1	a	915	G
1	a	916	C
1	a	917	A

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Mol	Chain	Res	Type
1	a	924	G
1	a	927	G
1	a	932	U
1	a	938	U
1	a	940	A
1	a	942	U
1	a	943	U
1	a	947	U
1	a	950	A
1	a	951	A
1	a	953	G
1	a	956	A
1	a	957	A
1	a	959	A
1	a	964	U
1	a	971	G
1	a	973	U
1	a	974	U
1	a	975	G
1	a	976	A
1	a	978	A
1	a	981	C
1	a	982	A
1	a	985	G
1	a	986	G
1	a	993	G
1	a	1003	C
1	a	1008	C
1	a	1011	U
1	a	1012	U
1	a	1013	G
1	a	1014	U
1	a	1019	U
1	a	1020	G
1	a	1022	G
1	a	1024	G
1	a	1025	C
1	a	1030	G
1	a	1033	G
1	a	1034	C
1	a	1036	U
1	a	1045	U

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Mol	Chain	Res	Type
1	a	1047	A
1	a	1048	G
1	a	1050	U
1	a	1057	G
1	a	1075	U
1	a	1077	C
1	a	1081	A
1	a	1084	G
1	a	1085	A
1	a	1088	G
1	a	1090	A
1	a	1092	C
1	a	1098	U
1	a	1104	G
1	a	1105	U
1	a	1108	C
1	a	1109	C
1	a	1112	C
1	a	1115	G
1	a	1116	U
1	a	1117	U
1	a	1118	A
1	a	1120	G
1	a	1123	G
1	a	1127	A
1	a	1128	C
1	a	1129	U
1	a	1131	G
1	a	1138	A
1	a	1139	C
1	a	1140	U
1	a	1146	G
1	a	1149	C
1	a	1150	A
1	a	1151	A
1	a	1162	G
1	a	1164	U
1	a	1165	G
1	a	1168	G
1	a	1171	G
1	a	1174	G
1	a	1177	A

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Mol	Chain	Res	Type
1	a	1178	A
1	a	1181	C
1	a	1182	A
1	a	1183	U
1	a	1187	G
1	a	1193	U
1	a	1194	A
1	a	1205	U
1	a	1206	U
1	a	1207	C
1	a	1208	A
1	a	1214	G
1	a	1217	A
1	a	1219	A
1	a	1221	U
1	a	1222	G
1	a	1229	A
1	a	1231	A
1	a	1234	G
1	a	1237	C
1	a	1238	U
1	a	1239	G
1	a	1241	G
1	a	1247	G
1	a	1248	U
1	a	1254	G
1	a	1258	C
1	a	1261	A
1	a	1265	U
1	a	1266	U
1	a	1267	U
1	a	1268	C
1	a	1269	A
1	a	1279	U
1	a	1282	G
1	a	1283	U
1	a	1284	U
1	a	1286	G
1	a	1287	G
1	a	1289	U
1	a	1294	G
1	a	1295	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	a	1297	U
1	a	1301	A
1	a	1302	C
1	a	1304	C
1	a	1305	G
1	a	1309	C
1	a	1310	C
1	a	1311	G
1	a	1313	G
1	a	1320	G
1	a	1328	A
1	a	1329	G
1	a	1330	U
1	a	1342	A
1	a	1343	G
1	a	1344	C
1	a	1345	A
1	a	1346	A
1	a	1347	C
1	a	1351	G
1	a	1357	A
1	a	1364	U
1	a	1375	G
1	a	1376	U
1	a	1377	A
1	a	1378	C
1	a	1379	A
1	a	1380	C
1	a	1381	A
1	a	1382	C
1	a	1383	C
1	a	1384	G
1	a	1385	C
1	a	1386	C
1	a	1387	C
1	a	1388	G
1	a	1391	A
1	a	1392	C
1	a	1395	C
1	a	1402	G
1	a	1407	U
1	a	1423	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	a	1425	G
1	a	1429	A
1	a	1431	C
1	a	1433	C
1	a	1434	U
1	a	1435	U
1	a	1436	G
1	a	1438	G
1	a	1441	G
1	a	1463	G
1	a	1464	G
1	a	1481	G
1	a	1482	U
1	a	1483	A
1	a	1484	A
1	a	1486	A
1	a	1487	A
1	a	1488	G
1	a	1489	G
1	a	1490	U
1	a	1491	A
1	a	1493	C
1	a	1494	C
1	a	1495	G
1	a	1498	C
1	a	1501	G
1	a	1502	A
1	a	1503	A
1	a	1504	G
1	a	1505	G
1	a	1507	G
1	a	1509	G
1	a	1513	G
1	a	1514	G
1	a	1516	U
1	a	1518	A

There are no RNA pucker outliers to report.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

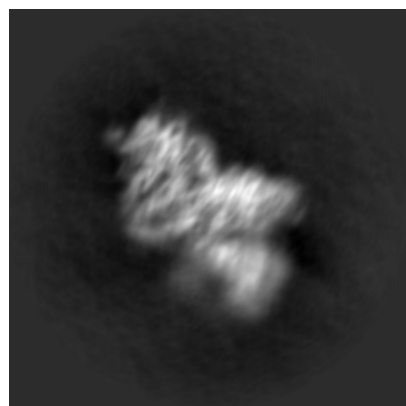
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-39462. These allow visual inspection of the internal detail of the map and identification of artifacts.

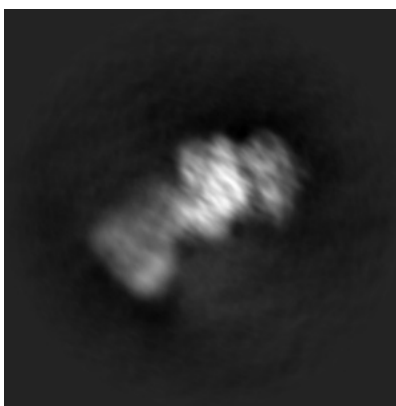
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

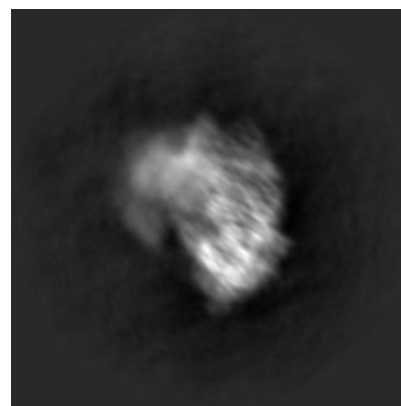
6.1.1 Primary map



X

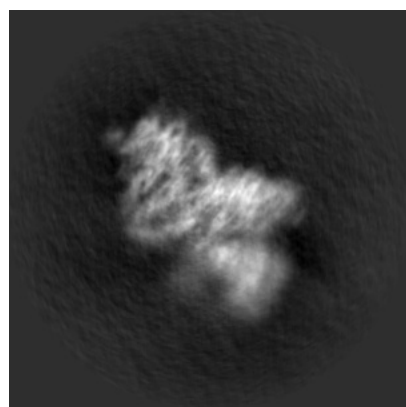


Y

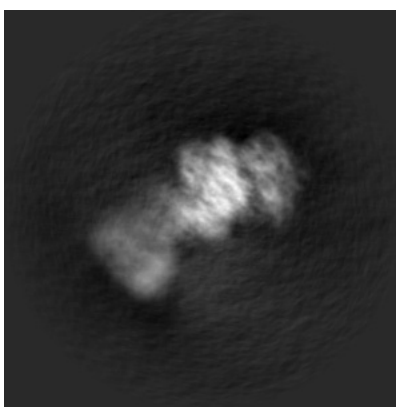


Z

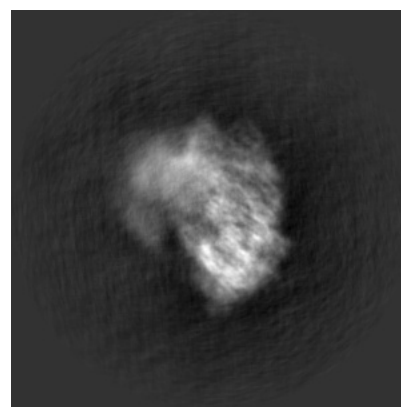
6.1.2 Raw map



X



Y

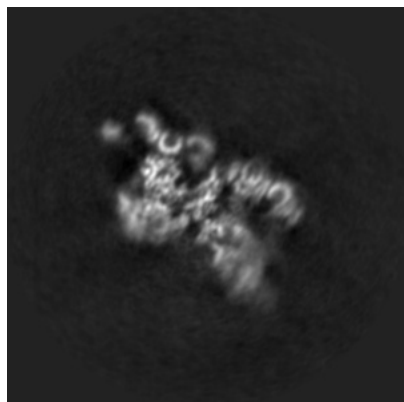


Z

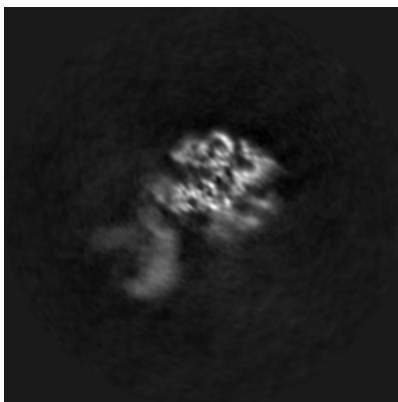
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

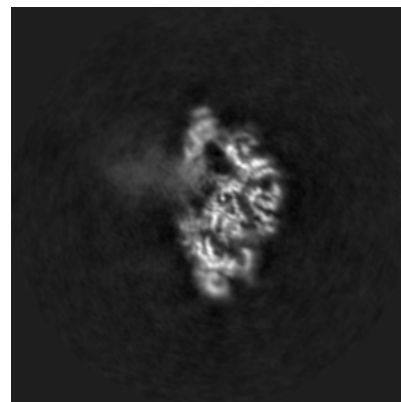
6.2.1 Primary map



X Index: 175

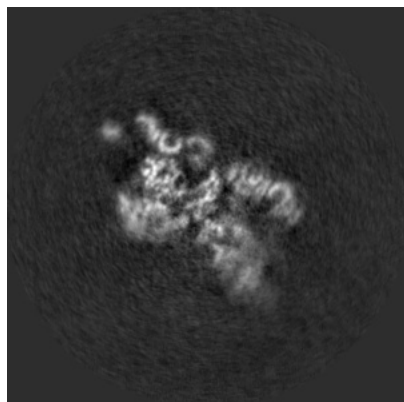


Y Index: 175

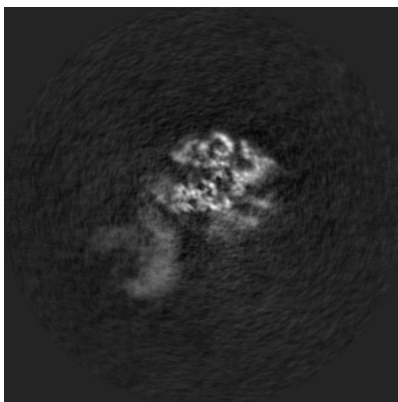


Z Index: 175

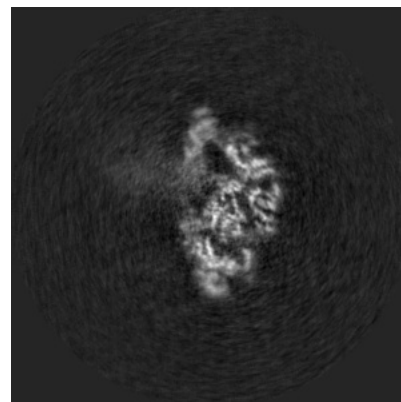
6.2.2 Raw map



X Index: 175



Y Index: 175

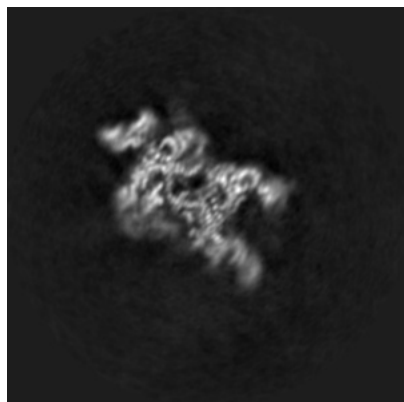


Z Index: 175

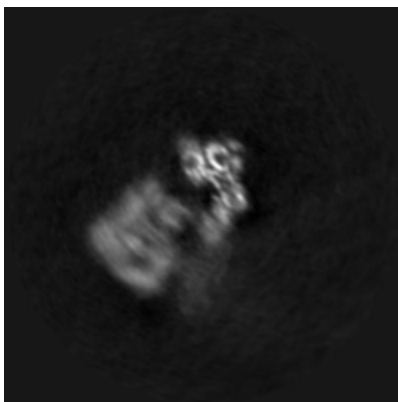
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

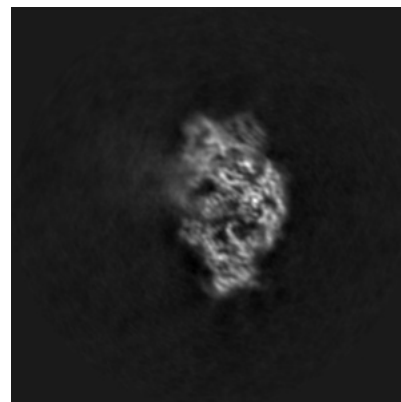
6.3.1 Primary map



X Index: 185

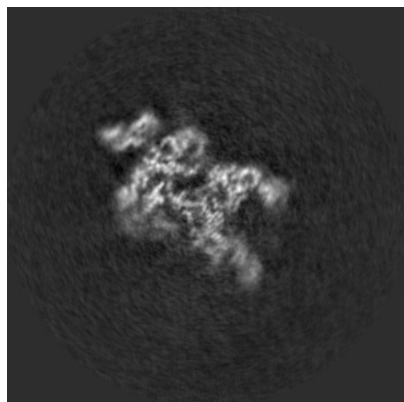


Y Index: 209

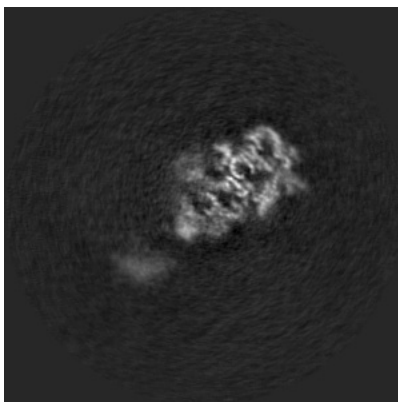


Z Index: 190

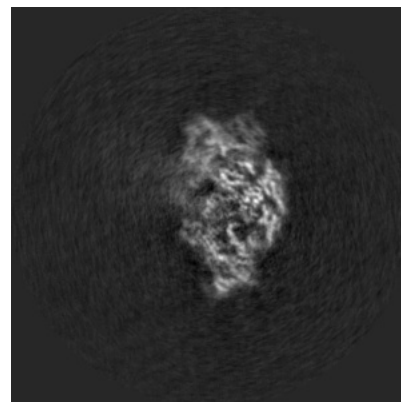
6.3.2 Raw map



X Index: 184



Y Index: 148

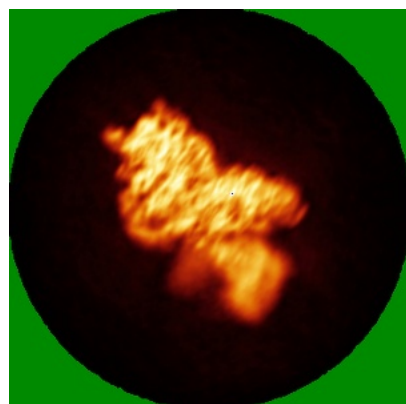


Z Index: 189

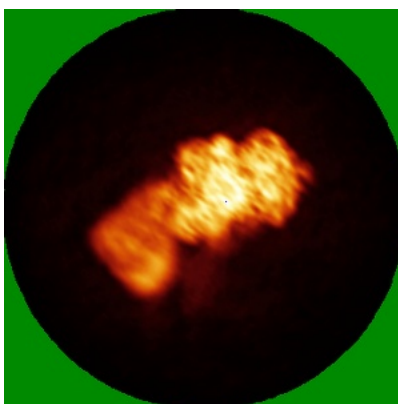
The images above show the largest variance slices of the map in three orthogonal directions.

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

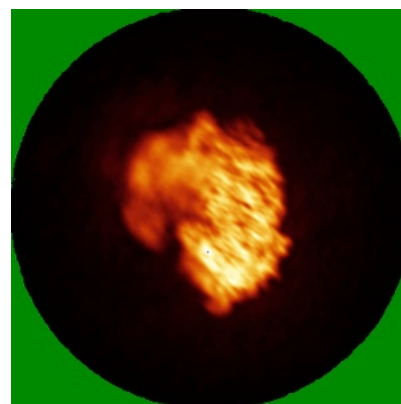
6.4.1 Primary map



X

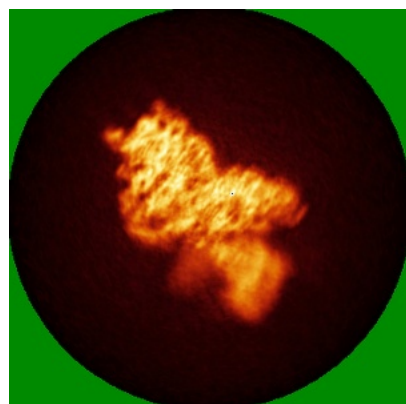


Y

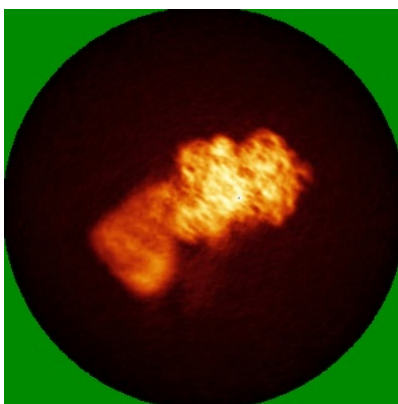


Z

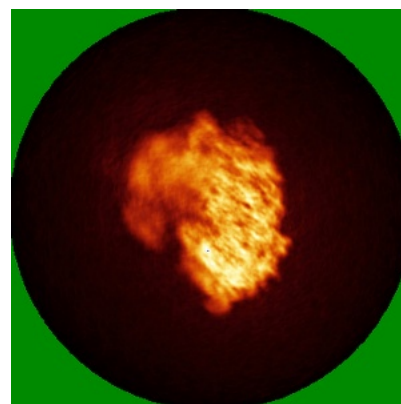
6.4.2 Raw map



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.

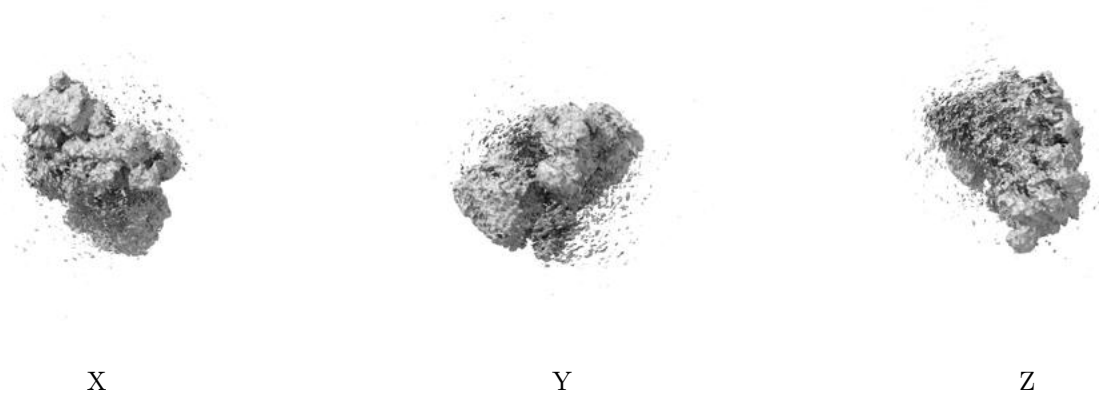
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.005. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

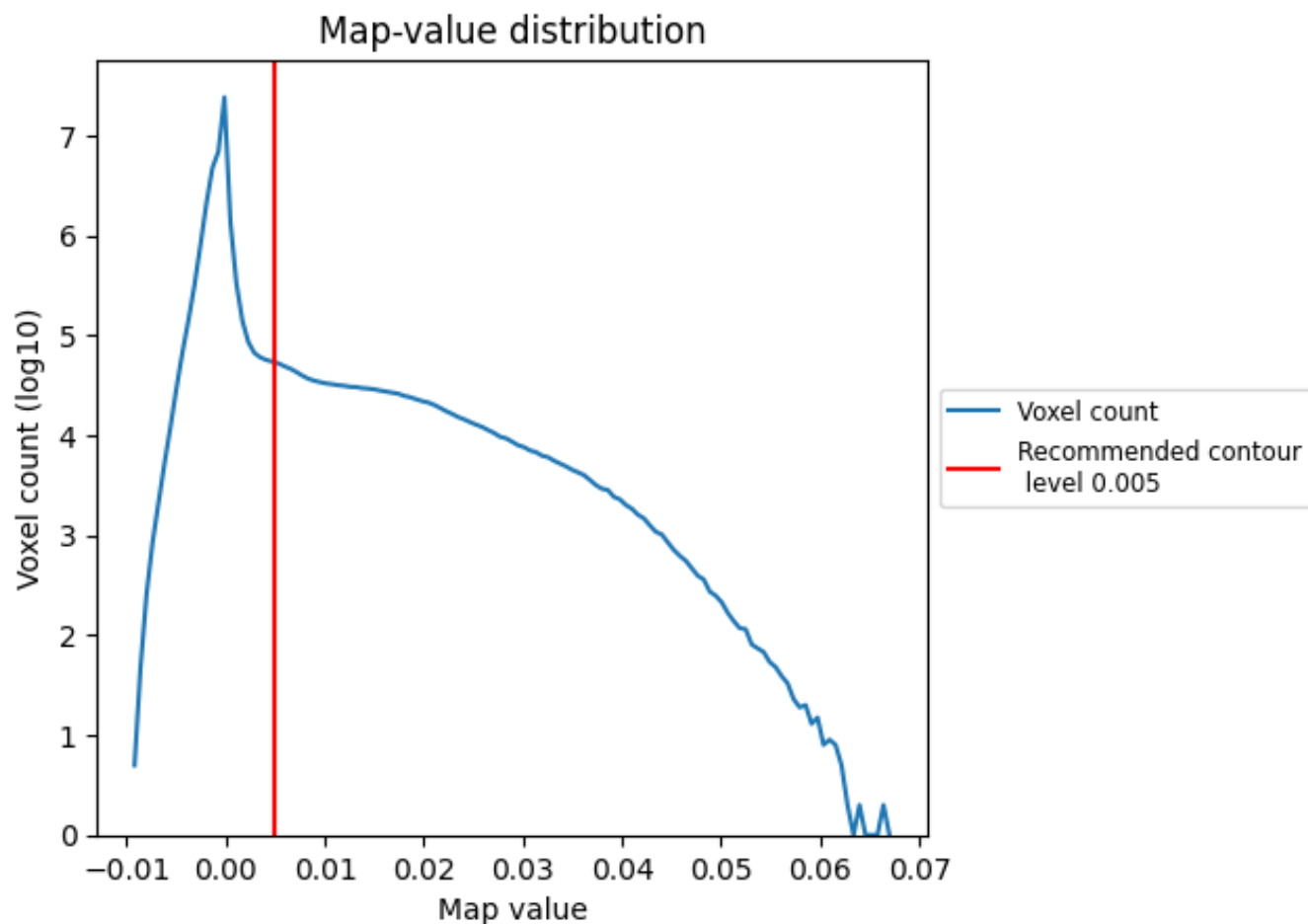
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

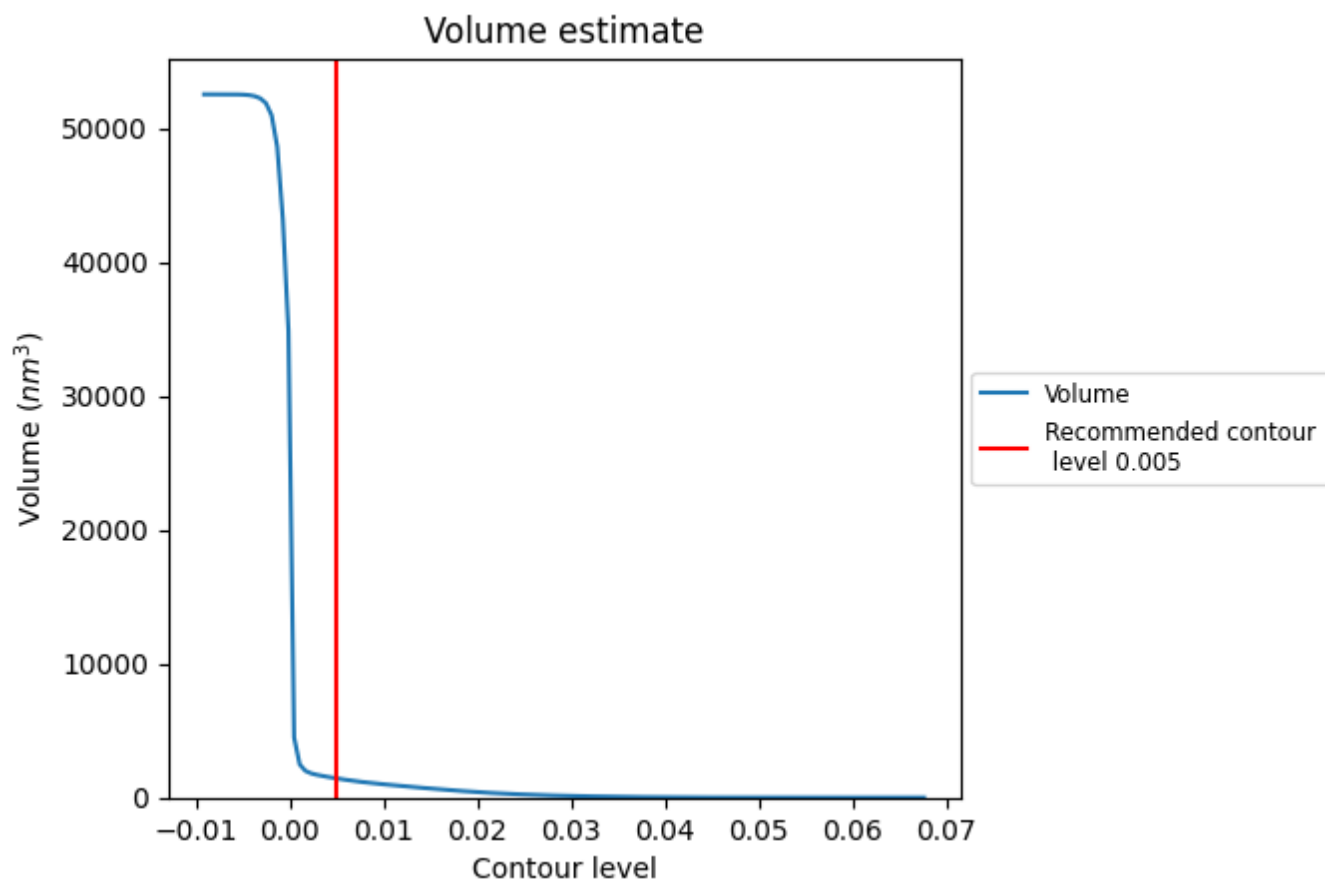
This section contains the results of statistical analysis of the map.

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.

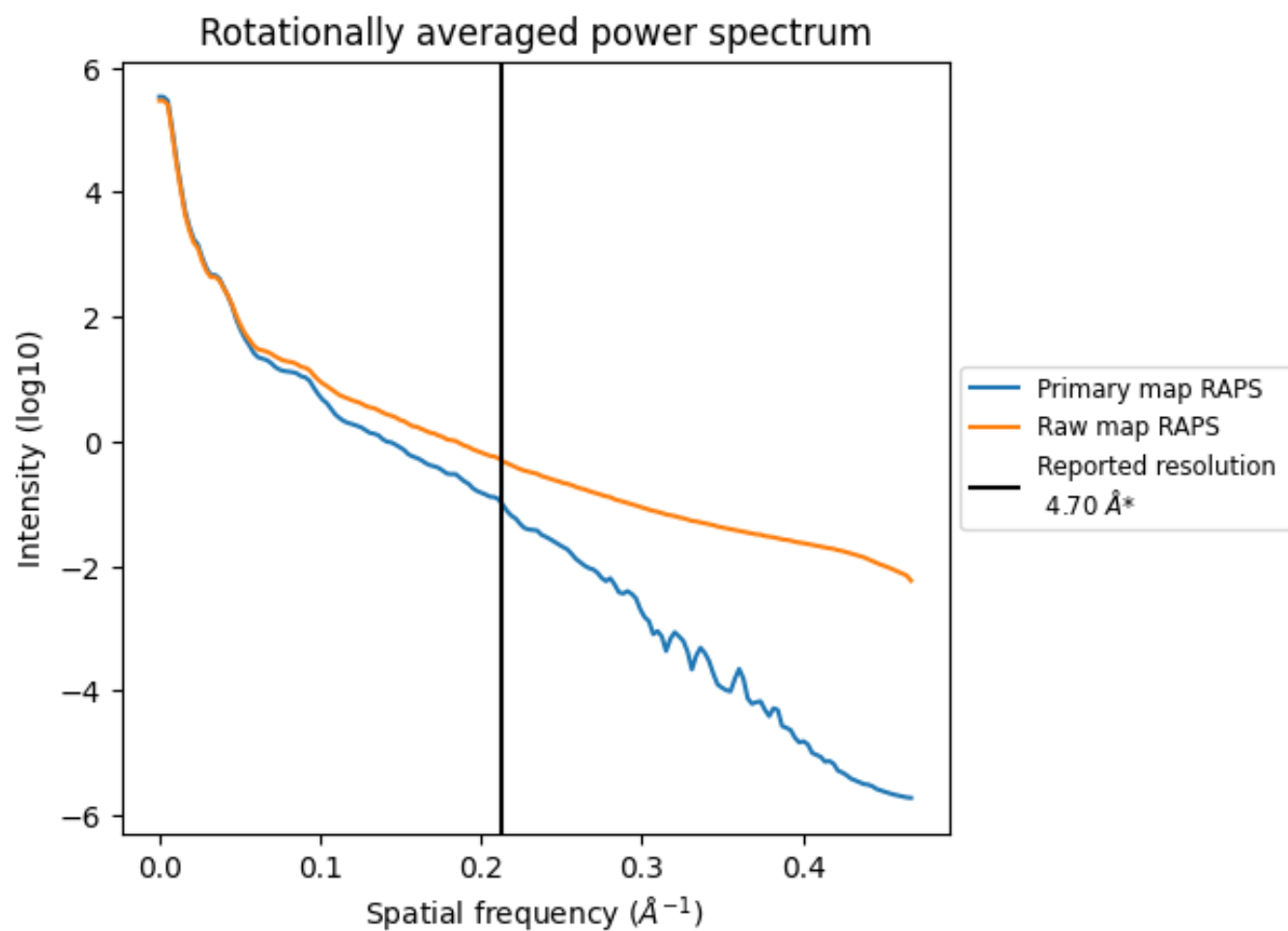
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1429 nm³; this corresponds to an approximate mass of 1291 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

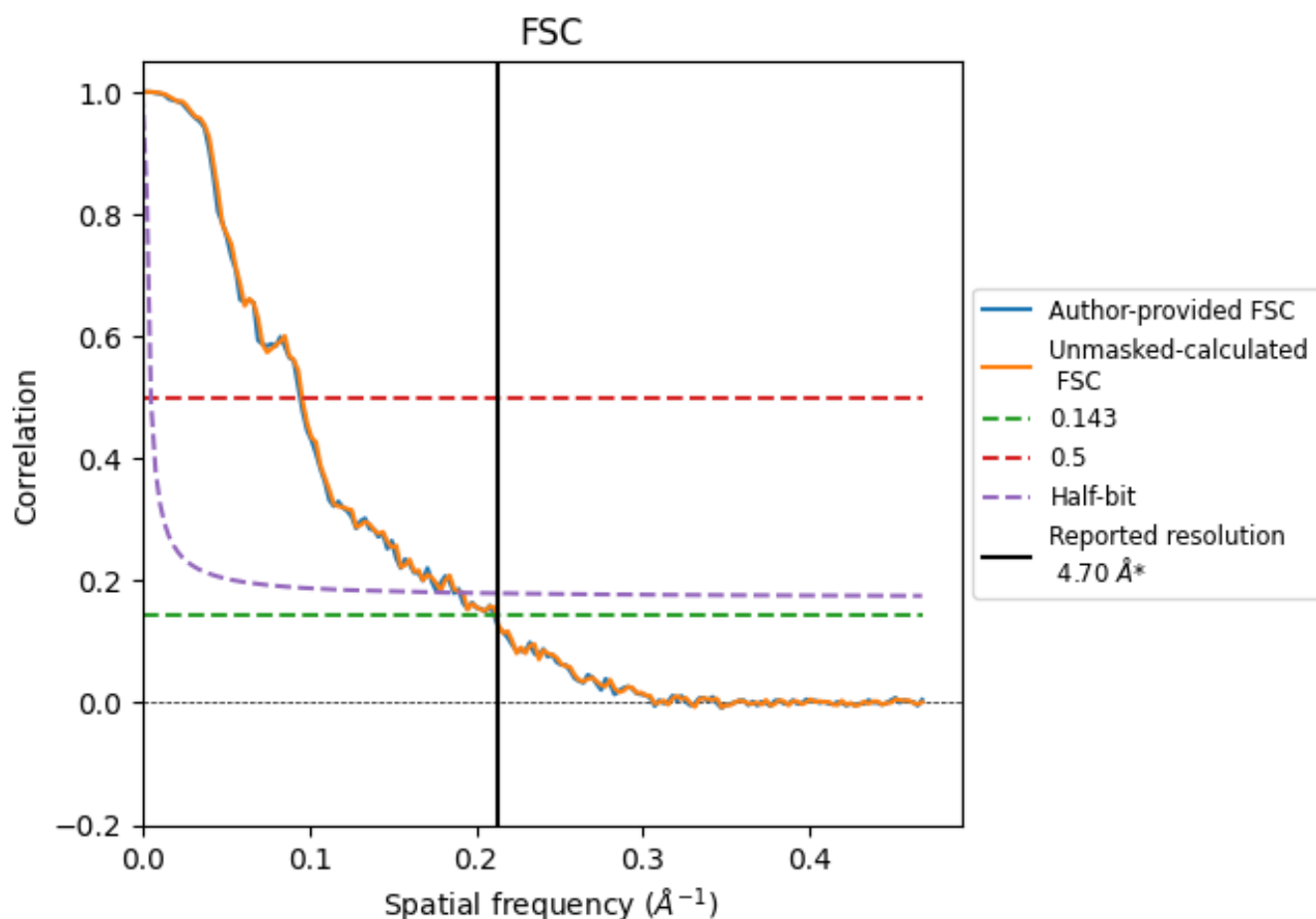


*Reported resolution corresponds to spatial frequency of 0.213 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.213 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

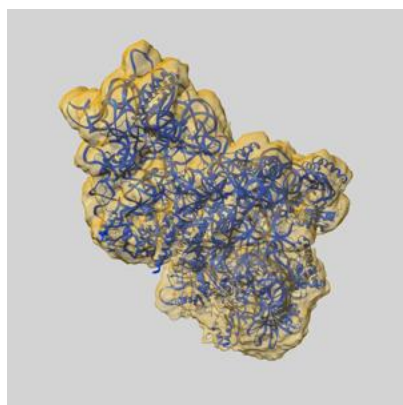
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.70	-	-
Author-provided FSC curve	4.74	10.57	5.35
Unmasked-calculated*	4.71	10.44	5.21

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

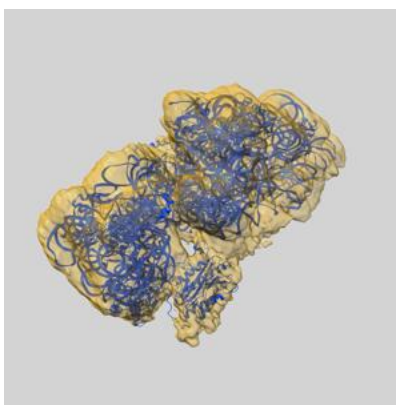
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-39462 and PDB model 8YP6. Per-residue inclusion information can be found in section [3](#) on page [8](#).

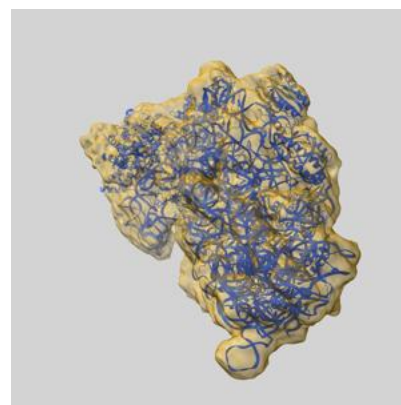
9.1 Map-model overlay [i](#)



X



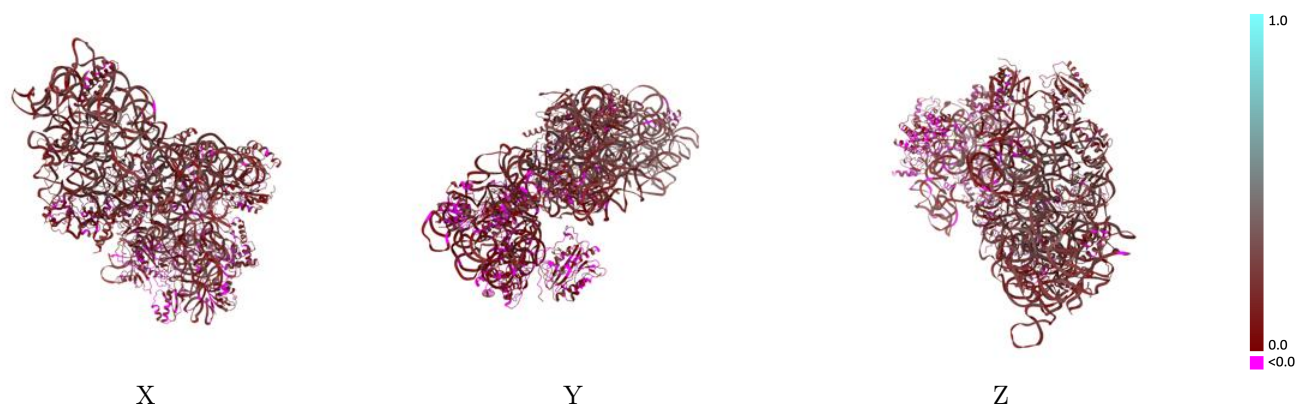
Y



Z

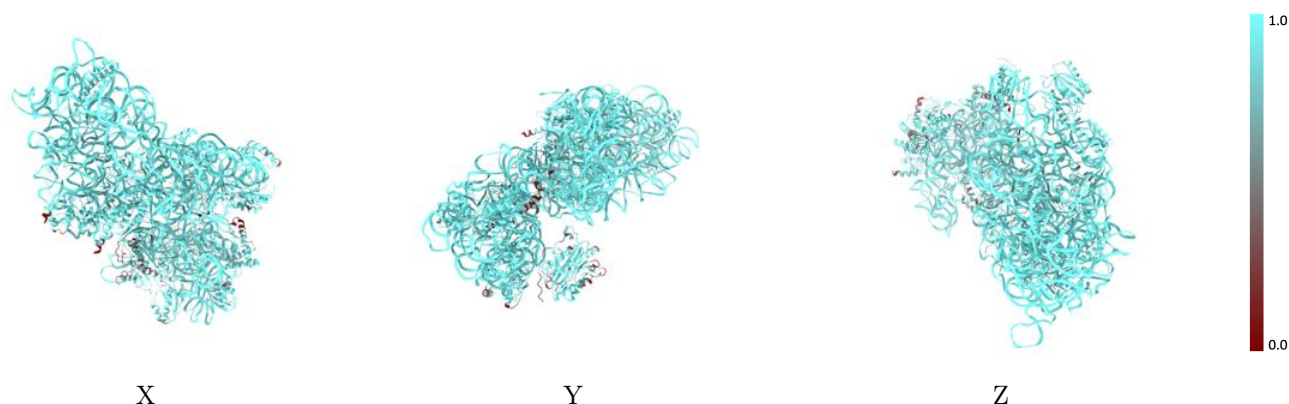
The images above show the 3D surface view of the map at the recommended contour level 0.005 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



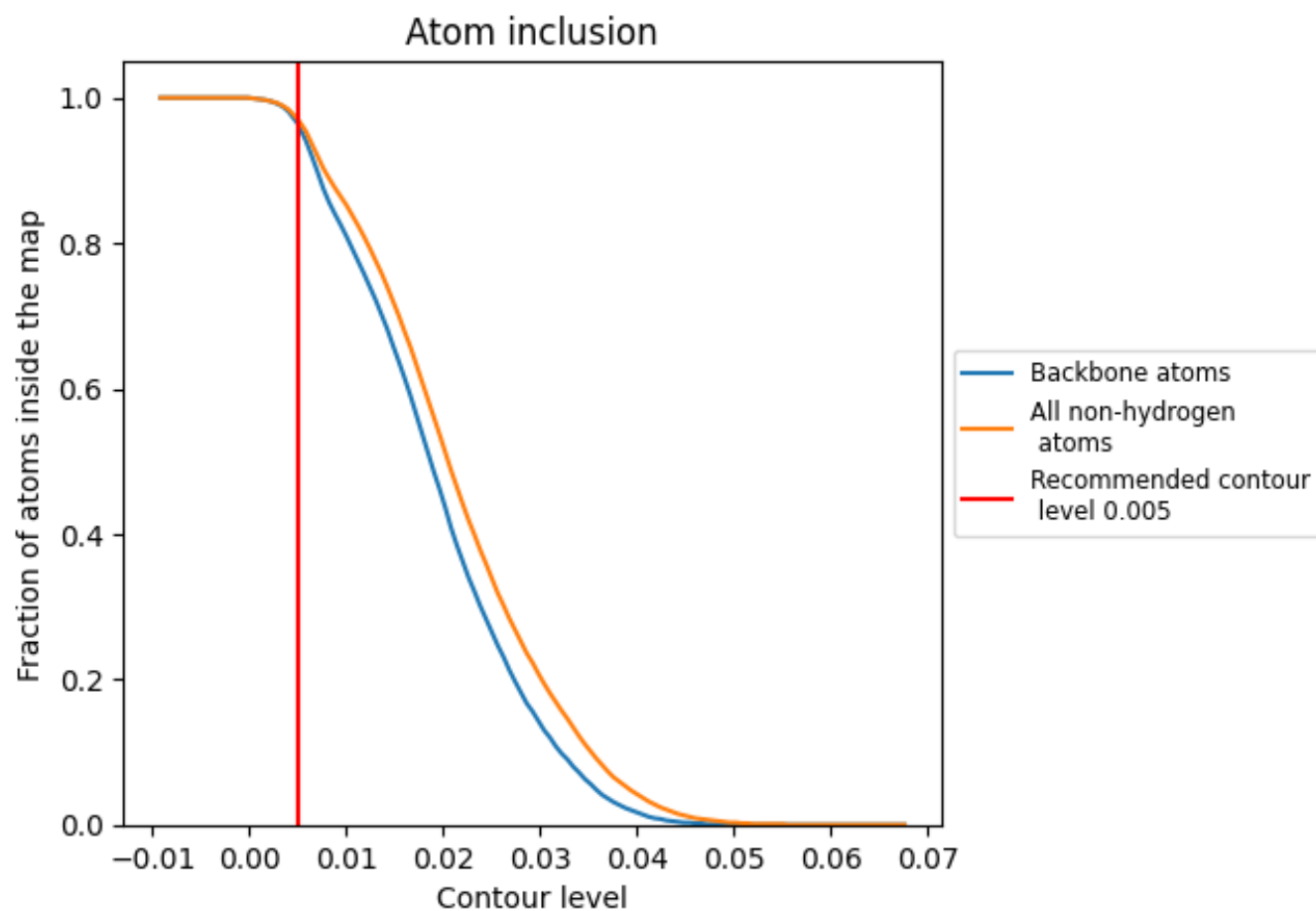
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.005).

9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 97% 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 (0.005) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9700	 0.1660
A	 0.8000	 0.0580
a	 0.9970	 0.1940
c	 0.7840	 0.0750
d	 0.9410	 0.0870
e	 0.8940	 0.1760
f	 0.9610	 0.1940
g	 0.8860	 0.0780
h	 0.9960	 0.2110
i	 0.9870	 0.0690
j	 0.9590	 0.0210
k	 0.9700	 0.1180
l	 0.9880	 0.2020
m	 0.9320	 0.0550
n	 1.0000	 0.0530
o	 1.0000	 0.2060
p	 0.9560	 0.1840
q	 0.9920	 0.2210
r	 0.9960	 0.1670
s	 0.9230	 0.0490
t	 0.9980	 0.2010

