



Full wwPDB EM Validation Report ⓘ

Mar 9, 2026 – 02:59 AM UTC

PDB ID : 6S13 / pdb_00006s13
EMDB ID : EMD-10079
Title : Erythromycin Resistant Staphylococcus aureus 70S ribosome (delta R88 A89 uL22).
Authors : Halfon, Y.; Matozv, D.; Eyal, Z.; Bashan, A.; Zimmerman, E.; Kjeldgaard, J.; Ingmer, H.; Yonath, A.
Deposited on : 2019-06-18
Resolution : 3.58 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 : **NOT EXECUTED**
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

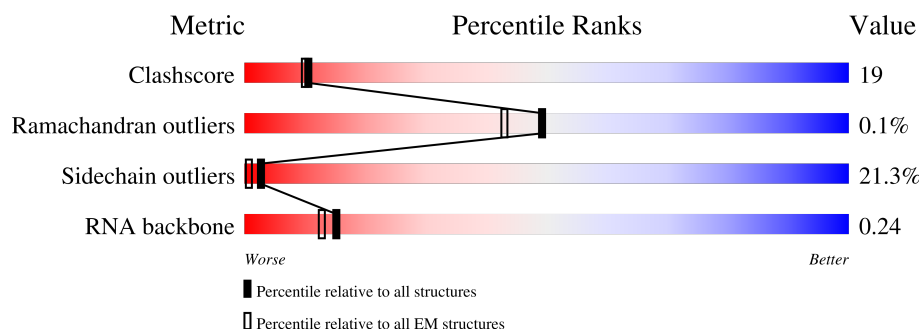
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.58 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	229148	23984
Ramachandran outliers	224038	23583
Sidechain outliers	223484	23102
RNA backbone	8273	3508

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	2905	
2	B	115	
3	C	274	
4	D	215	
5	E	206	
6	F	175	
7	G	175	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
8	H	145	
9	I	122	
10	J	146	
11	K	137	
12	L	120	
13	M	119	
14	N	114	
15	O	116	
16	P	102	
17	Q	110	
18	R	89	
19	S	103	
20	T	94	
21	U	82	
22	V	58	
23	W	67	
24	X	58	
25	Y	59	
26	Z	48	
27	1	47	
28	2	43	
29	3	64	
30	4	37	
31	a	1539	
32	b	226	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
33	c	202	
34	d	198	
35	e	156	
36	f	95	
37	g	152	
38	h	131	
39	i	127	
40	j	97	
41	k	114	
42	l	135	
43	m	104	
44	n	60	
45	o	88	
46	p	89	
47	q	80	
48	r	54	
49	s	80	
50	t	81	
51	u	52	
52	v	162	

2 Entry composition

There are 52 unique types of molecules in this entry. The entry contains 233957 atoms, of which 93218 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	2905	Total	C	H	N	O	P	0	0
			93564	27803	31287	11387	20182	2905		

- Molecule 2 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	B	115	Total	C	H	N	O	P	0	0
			3685	1094	1240	436	801	114		

- Molecule 3 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	C	274	Total	C	H	N	O	S	0	0
			4291	1301	2201	415	369	5		

- Molecule 4 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms						AltConf	Trace
4	D	215	Total	C	H	N	O	S	0	0
			3294	1018	1667	299	305	5		

- Molecule 5 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms						AltConf	Trace
5	E	206	Total	C	H	N	O	S	0	0
			3192	986	1620	288	296	2		

- Molecule 6 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	F	175	Total	C	H	N	O	S	0	0
			2667	837	1342	227	255	6		

- Molecule 7 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	G	175	Total	C	H	N	O	S	0	0
			2488	790	1225	239	231	3		

- Molecule 8 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms						AltConf	Trace
8	H	145	Total	C	H	N	O	S	0	0
			2277	714	1134	208	218	3		

- Molecule 9 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms						AltConf	Trace
9	I	122	Total	C	H	N	O	S	0	0
			1899	572	981	174	168	4		

- Molecule 10 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	J	146	Total	C	H	N	O	S	0	0
			2211	674	1125	214	197	1		

- Molecule 11 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms						AltConf	Trace
11	K	137	Total	C	H	N	O	S	0	0
			2194	689	1123	203	175	4		

- Molecule 12 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms						AltConf	Trace
12	L	120	Total	C	H	N	O	S	0	0
			1915	576	983	182	173	1		

- Molecule 13 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms						AltConf	Trace
13	M	119	Total	C	H	N	O	S	0	0
			1816	557	925	174	159	1		

- Molecule 14 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	114	Total	C	H	N	O	0	0
			1826	563	937	175	151		

- Molecule 15 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms						AltConf	Trace
15	O	116	Total	C	H	N	O	S	0	0
			1956	593	1014	189	156	4		

- Molecule 16 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms						AltConf	Trace
16	P	102	Total	C	H	N	O	S	0	0
			1620	503	830	142	144	1		

- Molecule 17 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms						AltConf	Trace
17	Q	110	Total	C	H	N	O	S	0	0
			1724	523	887	158	153	3		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	?	-	ARG	deletion	UNP A0A077UKF9
Q	?	-	ALA	deletion	UNP A0A077UKF9

- Molecule 18 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms						AltConf	Trace
18	R	89	Total	C	H	N	O	S	0	0
			1463	453	748	127	131	4		

- Molecule 19 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace	
19	S	103	Total	C	H	N	O	S	0	0
			1579	486	809	142	141	1		

- Molecule 20 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	94	Total	C	H	N	O	0	0
			1488	463	766	130	129		

- Molecule 21 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	82	Total	C	H	N	O	0	0
			1265	385	643	122	115		

- Molecule 22 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	58	Total	C	H	N	O	0	0
			911	277	466	96	72		

- Molecule 23 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	67	Total	C	H	N	O	0	0
			1104	333	563	102	106		

- Molecule 24 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	58	Total	C	H	N	O	0	0
			940	280	491	85	84		

- Molecule 25 is a protein called 50S ribosomal protein L31 type B.

Mol	Chain	Residues	Atoms					AltConf	Trace	
25	Y	59	Total	C	H	N	O	S	0	0
			613	225	243	68	76	1		

- Molecule 26 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace	
26	Z	48	Total	C	H	N	O	S	0	0
			718	222	358	77	59	2		

- Molecule 27 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms						AltConf	Trace
27	1	47	Total	C	H	N	O	S	0	0
			784	238	394	78	70	4		

- Molecule 28 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms						AltConf	Trace
28	2	43	Total	C	H	N	O	S	0	0
			782	225	415	89	52	1		

- Molecule 29 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms						AltConf	Trace
29	3	64	Total	C	H	N	O	S	0	0
			1107	324	586	113	82	2		

- Molecule 30 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms						AltConf	Trace
30	4	37	Total	C	H	N	O	S	0	0
			635	186	340	60	44	5		

- Molecule 31 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
31	a	1539	Total	C	H	N	O	P	0	0
			49563	14719	16594	6017	10694	1539		

- Molecule 32 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms						AltConf	Trace
32	b	226	Total	C	H	N	O	S	0	0
			3705	1159	1886	317	335	8		

- Molecule 33 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms						AltConf	Trace
33	c	202	Total	C	H	N	O	S	0	0
			2965	945	1464	284	271	1		

- Molecule 34 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms						AltConf	Trace
34	d	198	Total	C	H	N	O	S	0	0
			2946	952	1449	275	268	2		

- Molecule 35 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms						AltConf	Trace
35	e	156	Total	C	H	N	O	S	0	0
			2347	723	1202	211	209	2		

- Molecule 36 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms						AltConf	Trace
36	f	95	Total	C	H	N	O	S	0	0
			1553	493	775	138	145	2		

- Molecule 37 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms						AltConf	Trace
37	g	152	Total	C	H	N	O	S	0	0
			2326	722	1165	218	217	4		

- Molecule 38 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms						AltConf	Trace
38	h	131	Total	C	H	N	O	S	0	0
			2103	650	1077	183	189	4		

- Molecule 39 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms						AltConf	Trace
39	i	127	Total	C	H	N	O	S	0	0
			1812	576	890	179	166	1		

- Molecule 40 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms						AltConf	Trace
40	j	97	Total	C	H	N	O	S	0	0
			1527	475	775	140	136	1		

- Molecule 41 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms						AltConf	Trace
41	k	114	Total	C	H	N	O	S	0	0
			1594	498	784	151	159	2		

- Molecule 42 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms						AltConf	Trace
42	l	135	Total	C	H	N	O	S	0	0
			2128	646	1091	211	178	2		

- Molecule 43 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms						AltConf	Trace
43	m	104	Total	C	H	N	O	S	0	0
			1401	453	674	139	135			

- Molecule 44 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms						AltConf	Trace
44	n	60	Total	C	H	N	O	S	0	0
			979	307	492	98	77	5		

- Molecule 45 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms						AltConf	Trace
45	o	88	Total	C	H	N	O	S	0	0
			1475	448	752	150	124	1		

- Molecule 46 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	p	89	Total	C	H	N	O	S	0	0
			1403	436	709	128	129	1		

- Molecule 47 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms						AltConf	Trace
47	q	80	Total	C	H	N	O	S	0	0
			1237	392	616	112	117			

- Molecule 48 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms						AltConf	Trace
48	r	54	Total	C	H	N	O	S	0	0
			927	284	482	86	73	2		

- Molecule 49 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms						AltConf	Trace
49	s	80	Total	C	H	N	O	S	0	0
			1262	410	626	113	111	2		

- Molecule 50 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms						AltConf	Trace
50	t	81	Total	C	H	N	O	S	0	0
			1207	358	616	117	115	1		

- Molecule 51 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	u	52	Total	C	H	N	O		
			807	249	407	79	72	0	0

- Molecule 52 is a protein called Ribosome hibernation promoting factor.

Mol	Chain	Residues	Atoms						AltConf	Trace
52	v	162	Total	C	H	N	O	S	0	0
			2682	835	1349	242	254	2		

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
v	?	-	GLU	deletion	UNP W8USK0
v	?	-	VAL	deletion	UNP W8USK0
v	?	-	PHE	deletion	UNP W8USK0
v	?	-	VAL	deletion	UNP W8USK0
v	?	-	ALA	deletion	UNP W8USK0
v	?	-	GLU	deletion	UNP W8USK0
v	?	-	LEU	deletion	UNP W8USK0
v	?	-	GLN	deletion	UNP W8USK0
v	?	-	GLU	deletion	UNP W8USK0
v	?	-	MET	deletion	UNP W8USK0
v	?	-	GLN	deletion	UNP W8USK0
v	?	-	GLU	deletion	UNP W8USK0

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
v	?	-	THR	deletion	UNP W8USK0
v	?	-	GLN	deletion	UNP W8USK0
v	?	-	VAL	deletion	UNP W8USK0
v	?	-	ASP	deletion	UNP W8USK0
v	?	-	ASN	deletion	UNP W8USK0
v	?	-	ASP	deletion	UNP W8USK0
v	?	-	ALA	deletion	UNP W8USK0
v	?	-	TYR	deletion	UNP W8USK0
v	?	-	ASP	deletion	UNP W8USK0
v	?	-	ASP	deletion	UNP W8USK0
v	?	-	ASN	deletion	UNP W8USK0
v	?	-	GLU	deletion	UNP W8USK0

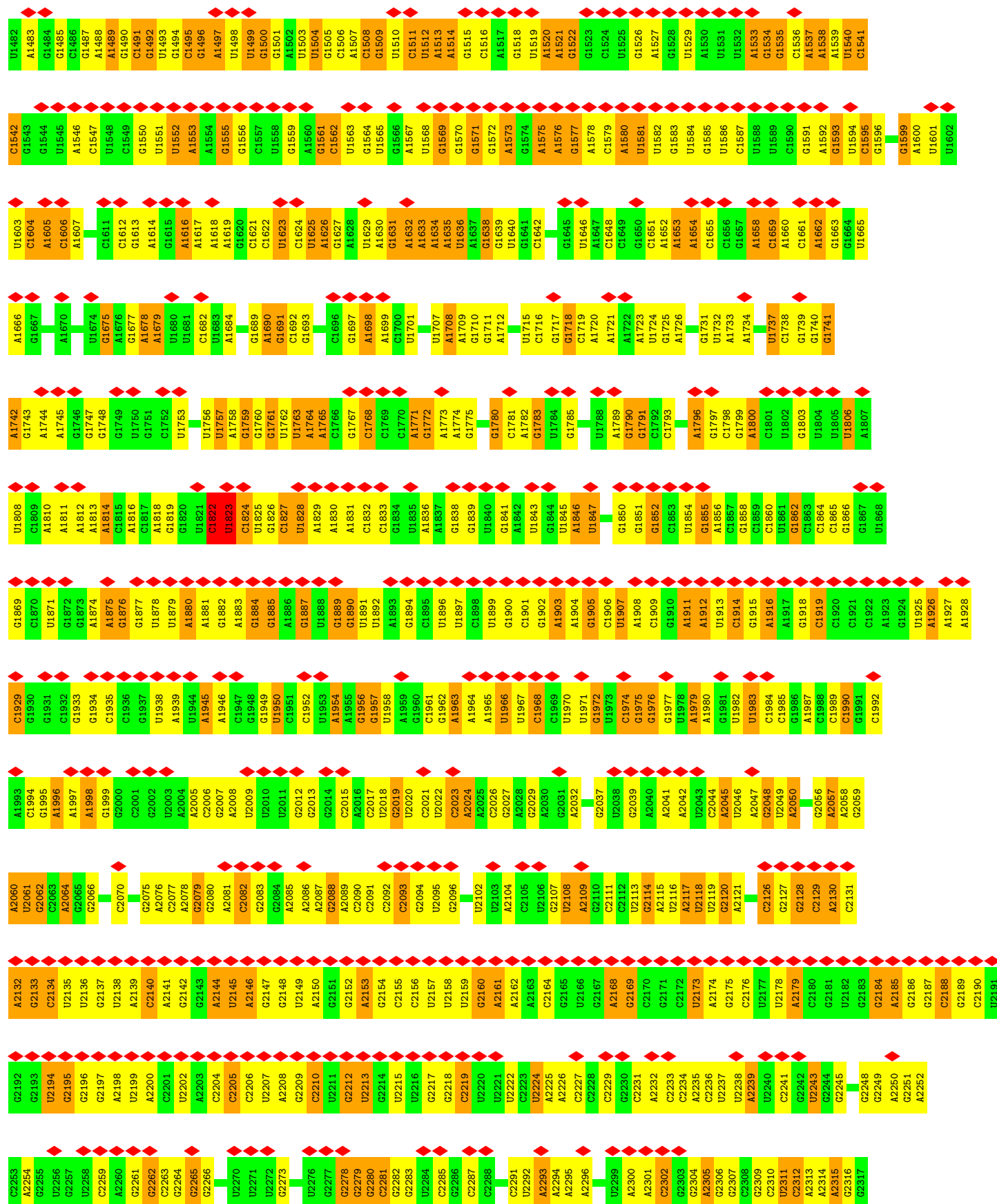
3 Residue-property plots

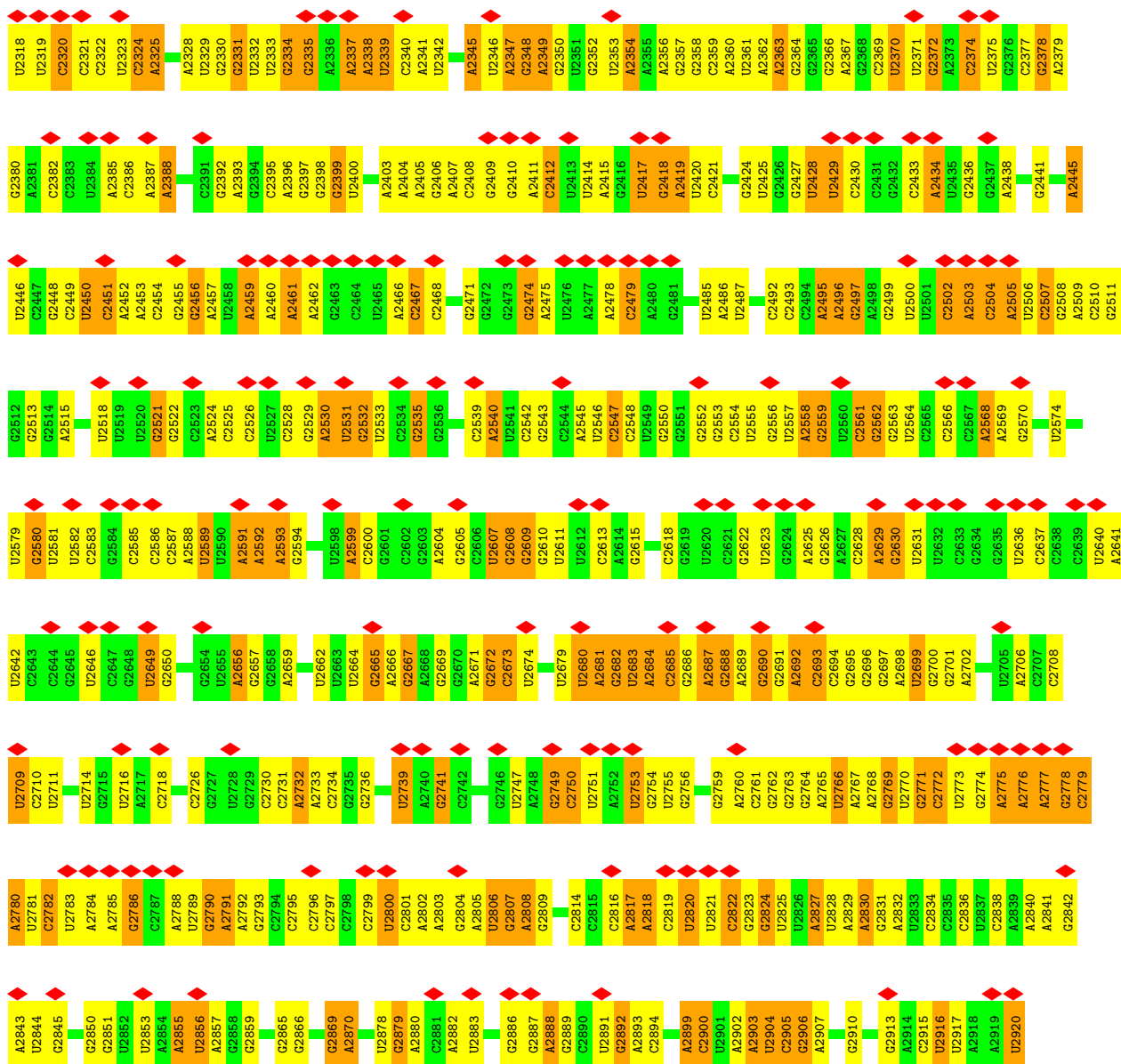
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

• Molecule 1: 23S ribosomal RNA

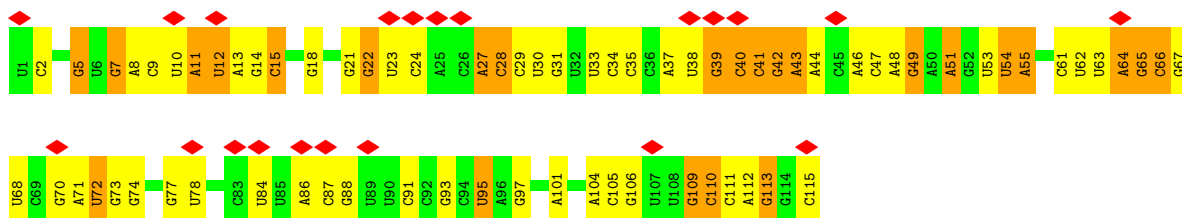


U1416	G1417	G1418	A1419	U1420	A1421	A1422	C1423	A1424	G1425	G1426	U1427	U1428	G1429	A1430	U1431	A1432	U1433	U1434	C1435	U1439	A1440	C1441	U1445	U1446	A1447	U1448	A1449	A1450	U1451	G1452	G1453	U1454	U1455	U1456	U1457	A1458	A1459	U1460	C1461	G1462	A1463	U1464	G1465	G1466	G1467	G1468	G1469	G1470	A1471	C1472	A1475	A1476	G1479	G1480	A1481			
U1350	C1351	C1352	A1353	G1354	A1355	G1356	C1357	A1358	G1359	G1360	G1361	C1362	U1363	U1366	G1369	C1370	U1371	C1372	G1375	G1376	U1377	U1378	A1379	G1380	U1381	C1382	G1383	U1384	G1385	U1386	C1387	C1388	U1389	A1390	A1391	G1392	C1393	U1394	G1395	A1396	C1400	A1401	A1402	C1403	A1404	G1405	G1406	G1407	G1408	U1409	G1412	G1413	G1414	A1415				
A1285	G1286	U1287	G1288	A1289	G1290	A1291	A1292	U1293	G1294	G1298	U1299	G1300	G1302	A1303	G1304	U1305	A1306	G1307	C1308	G1309	G1310	A1311	A1312	G1313	A1314	C1315	G1316	U1319	G1320	A1321	G1322	A1323	A1324	U1325	C1326	U1330	C1331	C1332	A1333	C1334	G1335	A1337	A1338	U1339	G1340	A1341	C1342	U1343	A1344	A1345	G1346	G1347	U1348	U1349				
U1212	C1213	C1214	U1215	U1216	U1217	G1218	G1219	A1220	C1221	A1222	A1223	U1224	G1225	U1226	U1227	A1228	G1229	U1230	G1234	C1235	G1236	U1237	U1238	C1239	U1240	A1241	A1242	G1243	G1244	G1245	U1248	U1249	G1250	G1253	A1258	G1261	U1262	A1263	A1264	G1265	A1267	U1270	G1271	G1274	A1275	G1276	C1277	A1282	A1284									
U1145	C1146	A1147	C1148	U1149	A1150	G1151	U1152	C1153	G1154	A1155	G1156	U1157	G1158	A1159	C1160	A1161	C1162	U1163	G1164	C1165	G1166	C1167	C1168	G1169	A1170	A1171	A1172	A1173	U1174	G1175	U1176	C1178	C1179	G1180	G1181	G1182	G1183	G1184	U1185	A1186	A1187	A1188	A1189	A1190	U1191	A1192	A1195	G1198	A1199	A1200	G1201	A1208	U1209	U1210	G1211			
U1085	G1086	C1087	C1088	C1089	A1090	G1091	A1092	C1093	A1094	A1095	C1096	U1097	A1098	G1099	G1100	A1101	U1102	G1103	U1105	G1106	G1107	C1108	U1109	U1110	A1111	A1112	A1113	A1114	G1115	C1116	A1117	G1118	C1119	C1120	A1121	U1122	C1123	A1124	U1125	U1126	U1127	A1128	A1129	A1130	G1131	A1132	G1133	U1134	G1135	C1136	G1137	U1138	A1139	U1140	U1141	A1142	G1143	C1144
G1016	A1017	A1018	A1019	G1022	A1023	A1024	A1025	C1026	A1027	G1028	C1029	C1030	A1031	A1032	G1033	A1034	C1035	C1036	C1037	C1038	C1039	A1040	U1043	U1044	A1045	G1046	U1047	U1048	A1053	A1054	A1055	U1056	A1057	U1058	A1059	U1060	G1061	G1068	G1069	A1070	A1071	A1072	A1073	G1074	G1075	A1076	U1077	U1078	U1079	G1080	G1081	C1082	G1083	U1084				
C943	G944	A945	A946	U947	U948	C949	A950	G951	A952	C953	A954	A955	C957	U958	C959	C960	G961	A962	A963	U964	G965	C966	C967	A968	A969	U970	U971	A972	A973	U974	U975	U976	A977	G983	G984	A985	G986	U987	C988	A989	G990	C993	G997	G1000	A1001	A1002	A1003	A1004	G1005	G1006	U1007	C1008	U1013					
U871	U872	U873	A874	G875	G876	G877	C878	U879	A880	G881	C882	A887	G888	U889	C890	A891	U892	G893	A894	U895	U896	A897	U898	G900	G903	G904	U905	A908	G909	C910	A911	C912	U913	G914	U915	U916	U917	G918	G919	A920	C921	G922	A923	G924	G925	G926	G927	C928	C929	G937	G938	U939	U940	A941	C942			
A810	C811	U812	G813	G816	G817	U818	A819	G820	C821	G822	G823	A824	G825	A826	A827	A828	U829	C831	C832	A833	A834	U835	C836	G837	A838	A839	C840	C841	U842	G843	G844	A845	G846	A847	U848	A849	G850	C851	U852	G853	G854	U855	U856	C857	U858	C859	U860	C861	C862	G863	A864	A865	A866	U867	A868	C870		
A750	A751	G752	U753	U754	C755	A756	G757	G758	U759	A760	C762	A763	G764	U765	G766	A767	U768	U769	G770	G771	A772	G773	G774	A775	C776	G777	G778	A779	A780	C781	G782	G783	A784	C785	U786	U787	A788	C789	G790	U791	U792	G793	A794	A795	A796	A797	G798	U799	G800	U801	G802	C803	G804	G805	A806	U807	G808	A809
C680	G681	G682	U683	U684	C685	U686	G687	A688	A689	U690	A691	G692	G693	C694	G695	G696	U697	U698	U699	A700	G701	U702	G708	U709	U712	A713	G714	A715	C716	C717	G718	G719	A720	C724	U728	G729	A730	U731	C732	U733	A734	C735	U736	C737	U738	U739	A801	G741	U742	C743	A744	U745	U748	G749				
G614	A615	G616	A617	A618	U619	G620	A621	A622	C623	C624	G625	G628	A629	U630	G631	U632	A633	C634	G635	A636	U637	U638	U639	G643	C644	A645	A646	G647	G648	U649	U650	A651	A652	G656	U657	A658	A659	A660	U661	G664	G665	A666	G667	G670	U671	A672	C673	G674	G675	A676	A677	A678	G679					



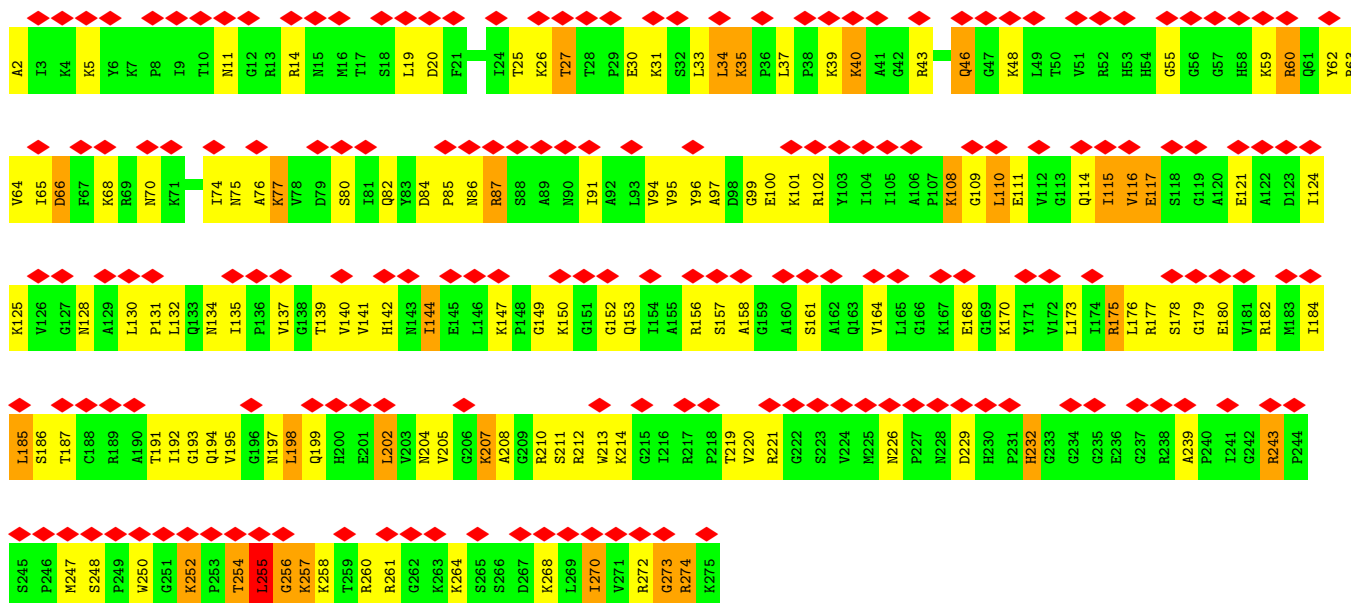


• Molecule 2: 5S ribosomal RNA

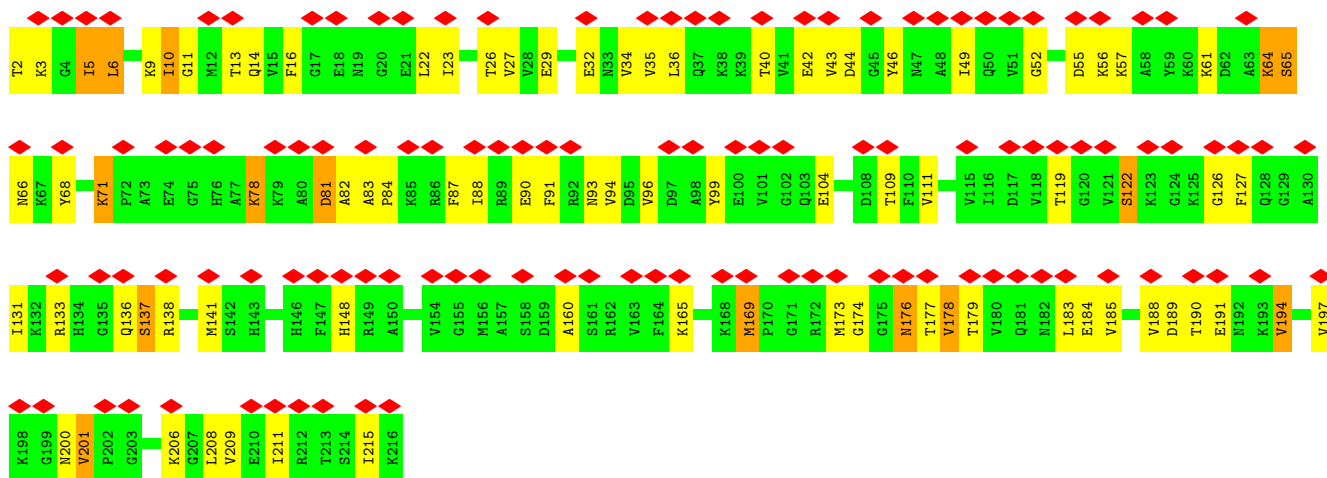


• Molecule 3: 50S ribosomal protein L2

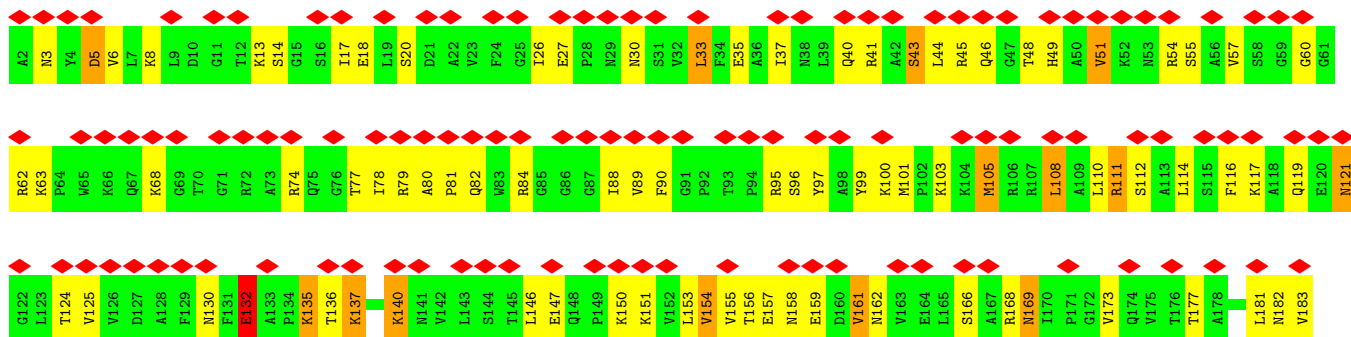


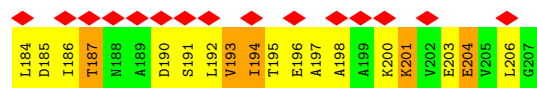


• Molecule 4: 50S ribosomal protein L3

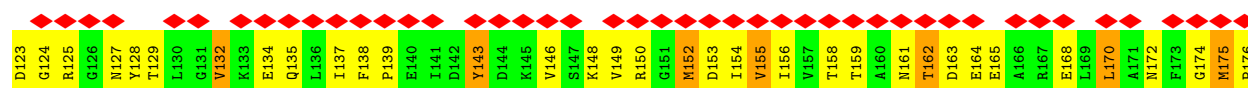
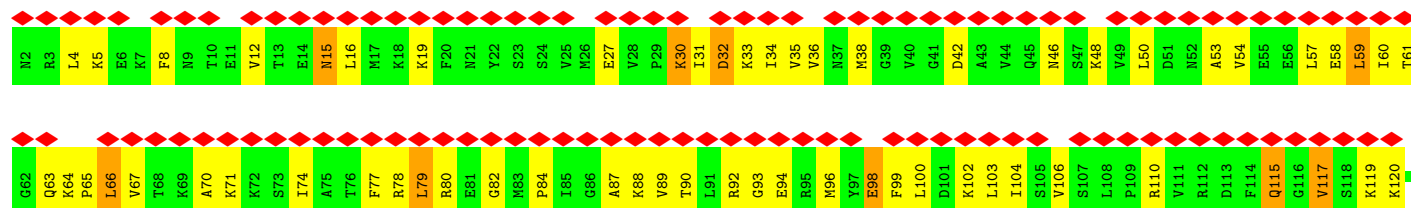
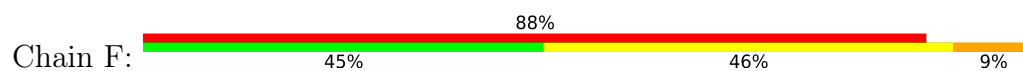


• Molecule 5: 50S ribosomal protein L4

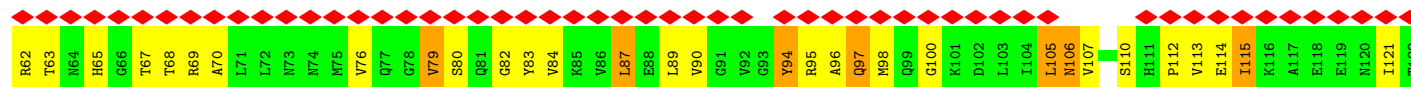
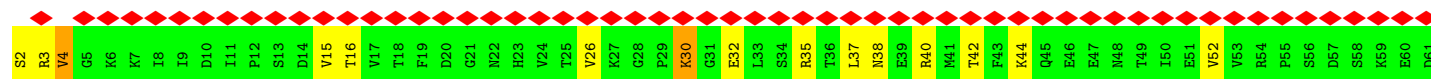




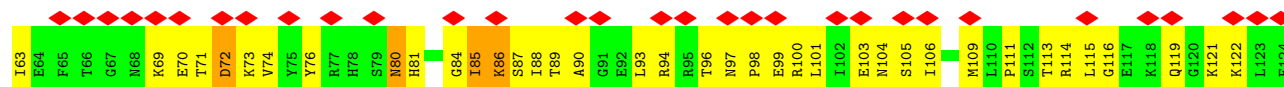
• Molecule 6: 50S ribosomal protein L5



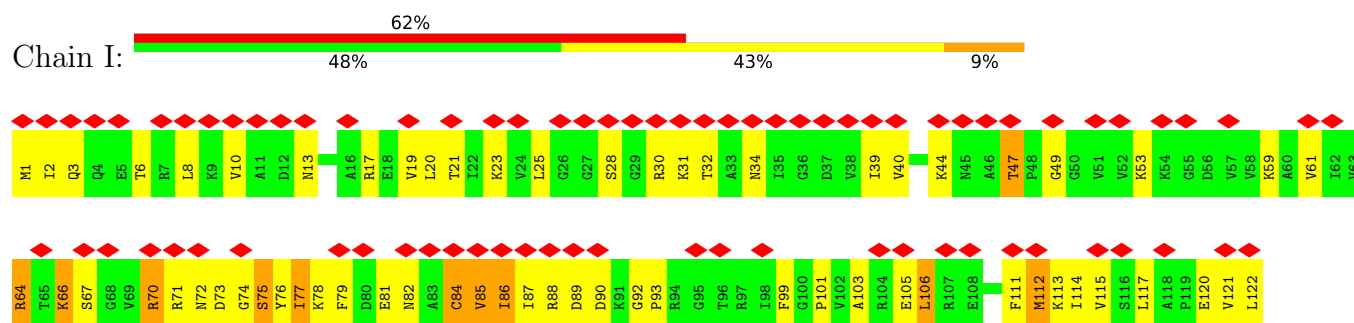
• Molecule 7: 50S ribosomal protein L6



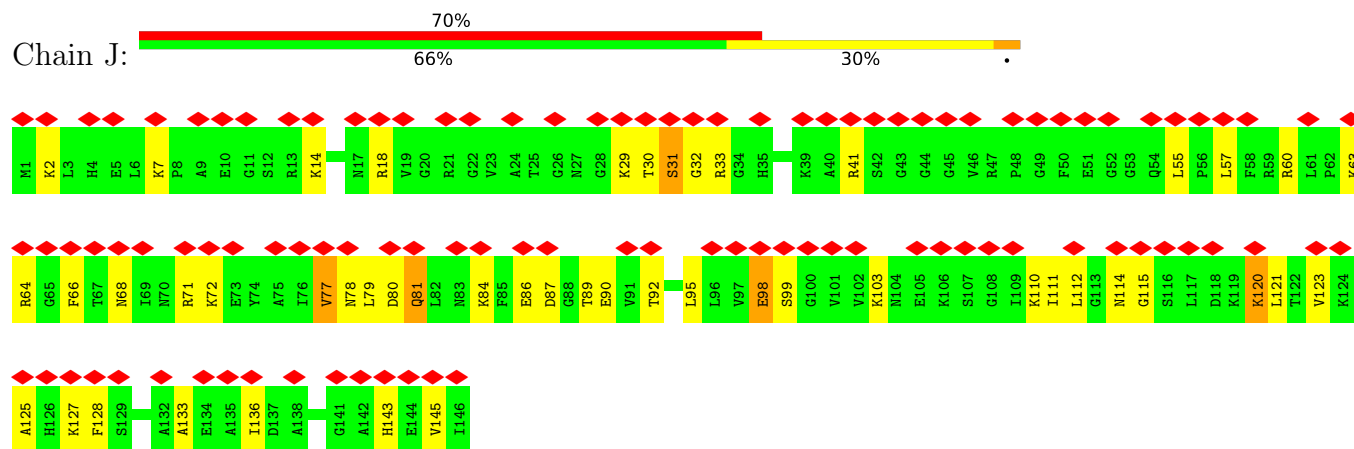
• Molecule 8: 50S ribosomal protein L13



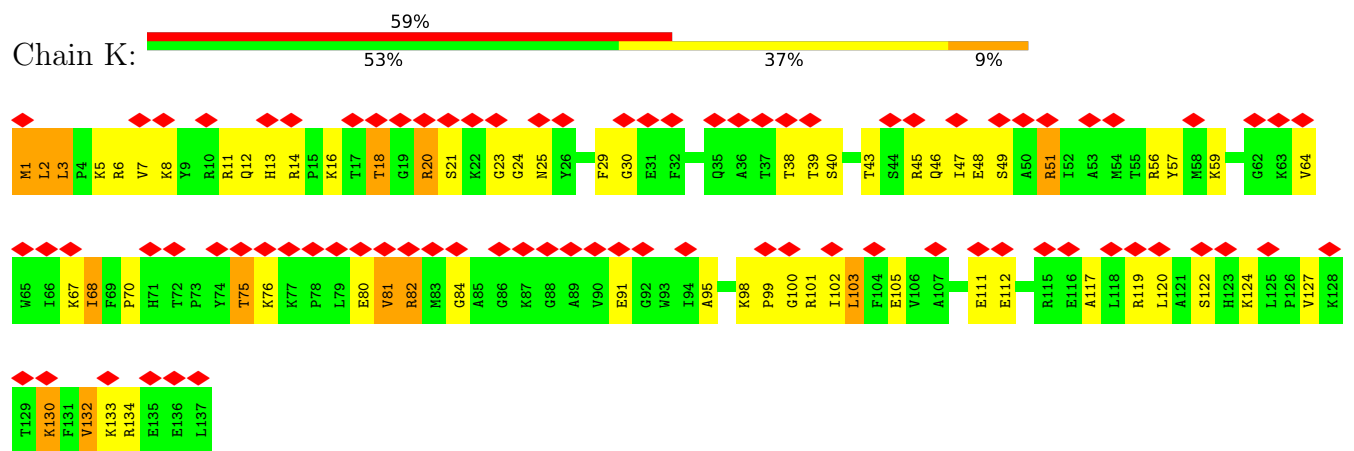
• Molecule 9: 50S ribosomal protein L14



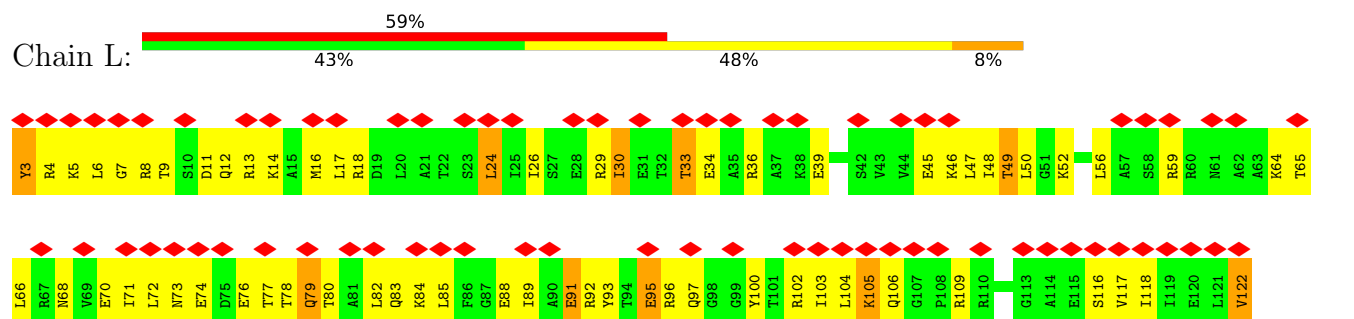
• Molecule 10: 50S ribosomal protein L15



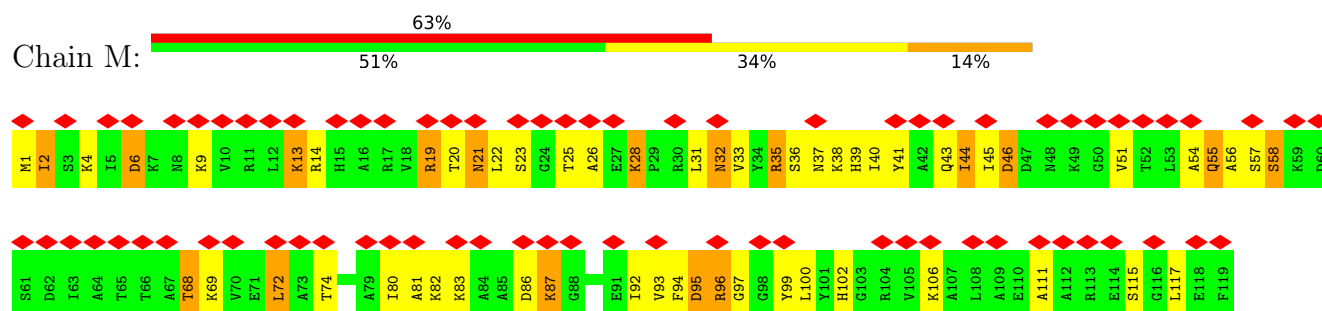
• Molecule 11: 50S ribosomal protein L16



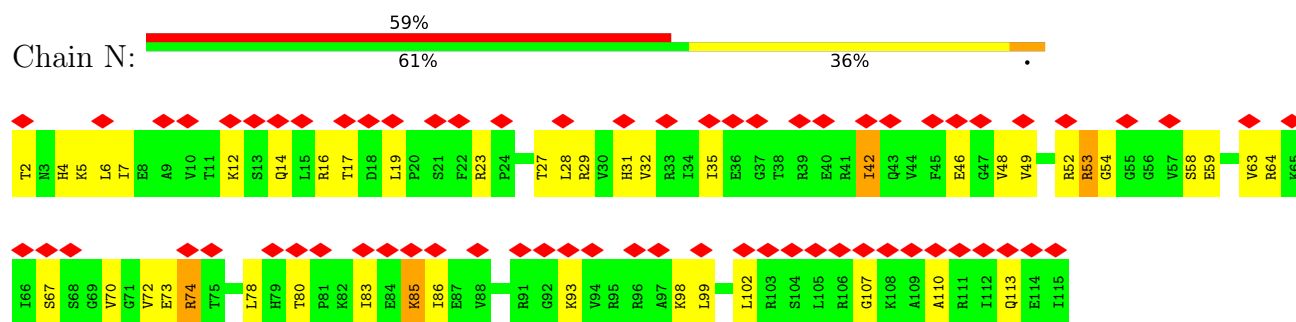
• Molecule 12: 50S ribosomal protein L17



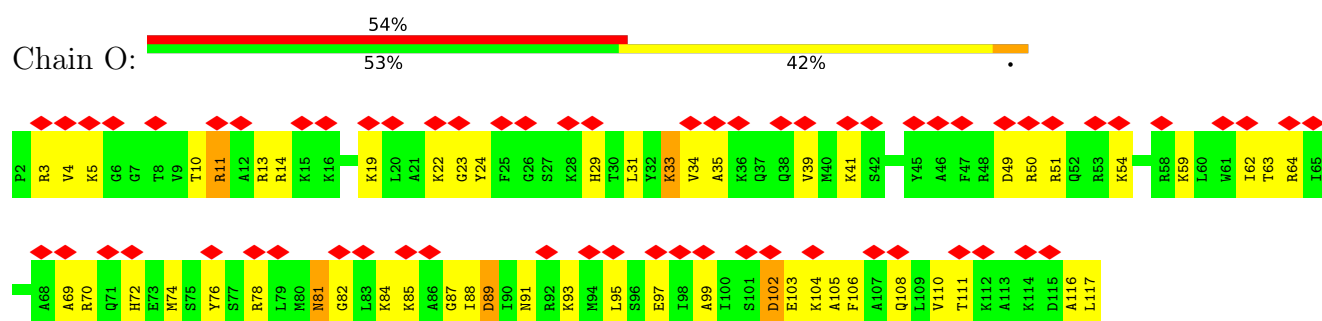
- Molecule 13: 50S ribosomal protein L18



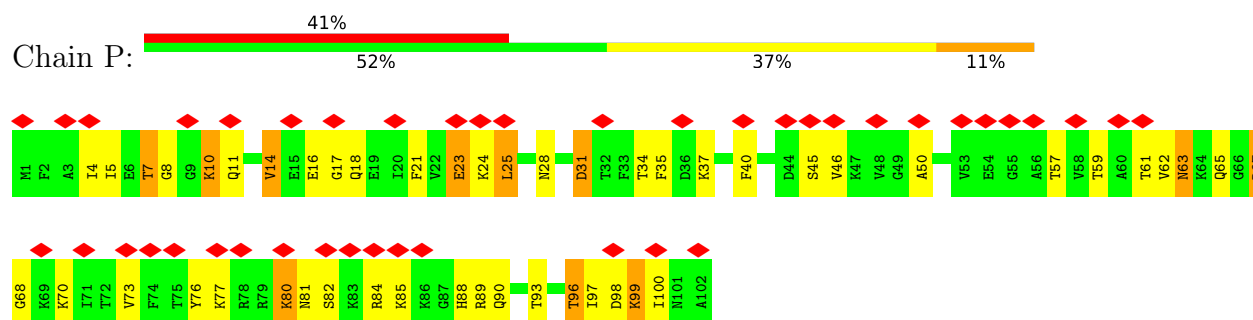
- Molecule 14: 50S ribosomal protein L19



- Molecule 15: 50S ribosomal protein L20

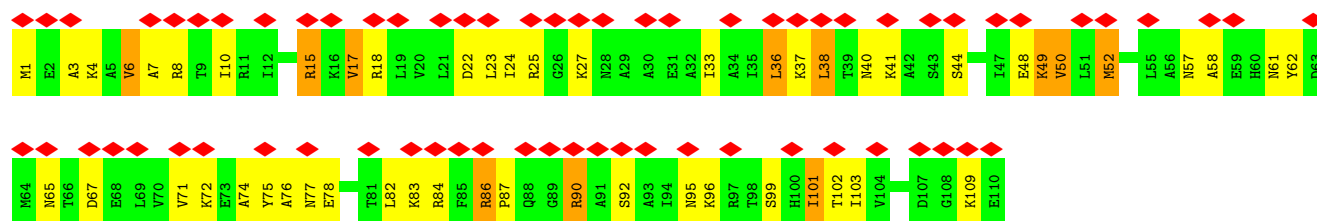


- Molecule 16: 50S ribosomal protein L21

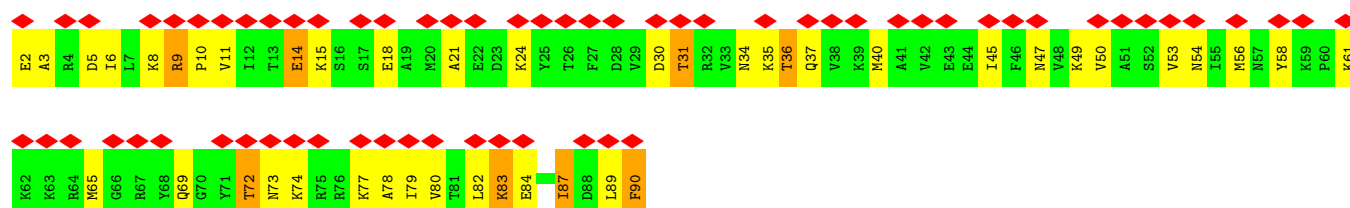
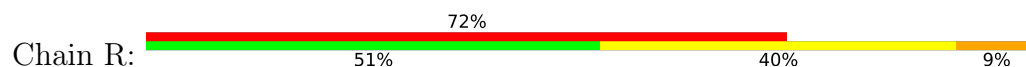


- Molecule 17: 50S ribosomal protein L22

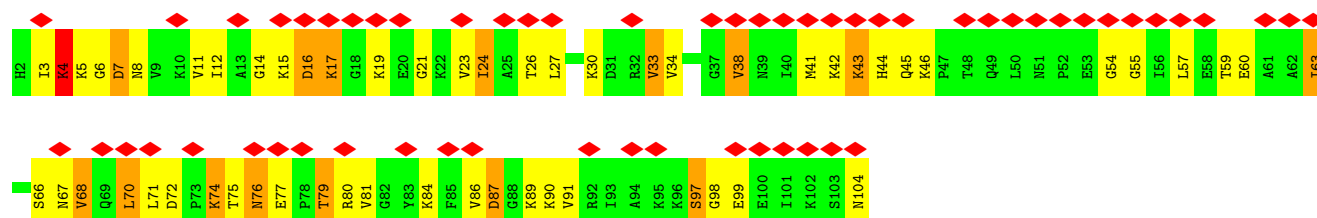




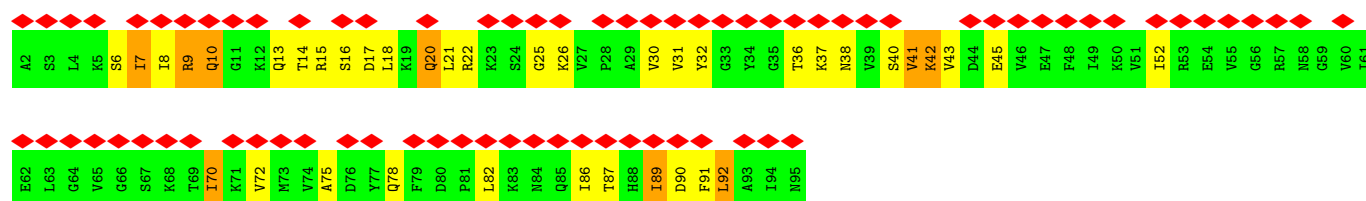
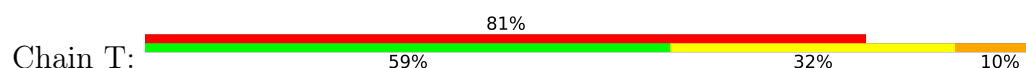
• Molecule 18: 50S ribosomal protein L23



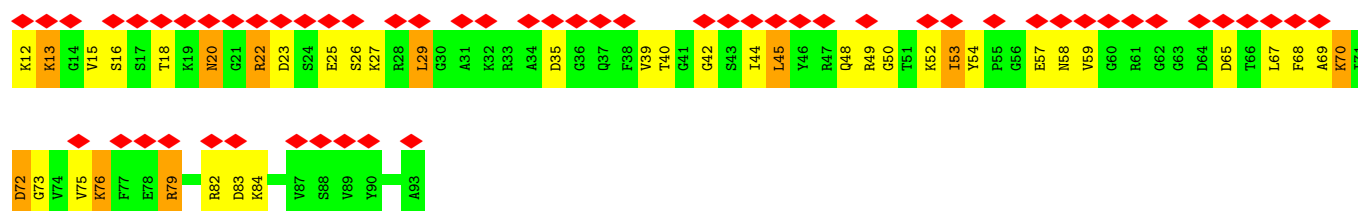
• Molecule 19: 50S ribosomal protein L24



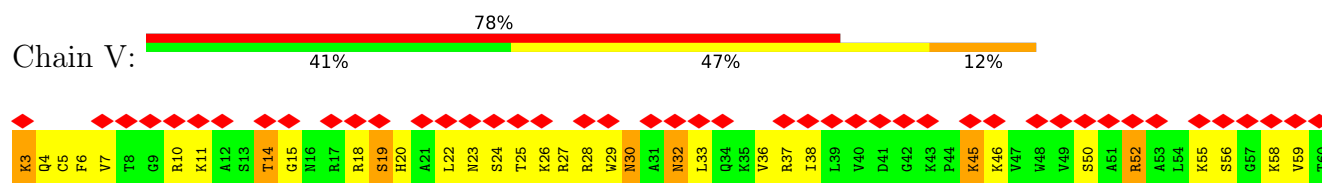
• Molecule 20: 50S ribosomal protein L25



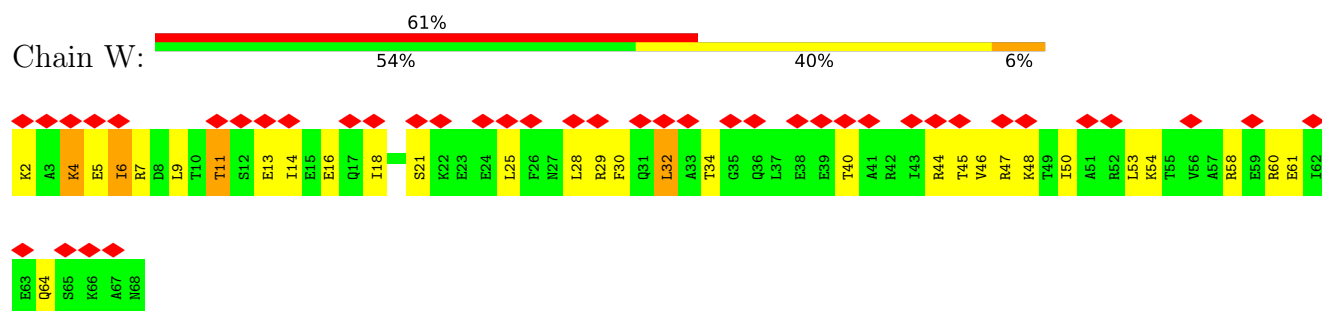
• Molecule 21: 50S ribosomal protein L27



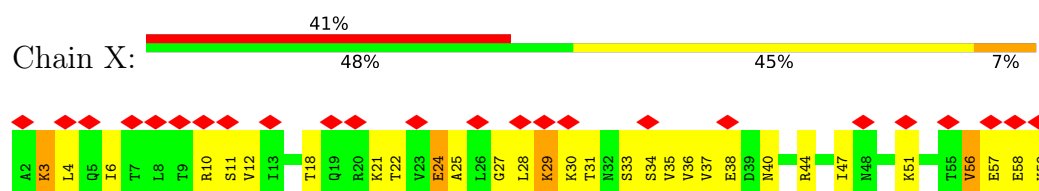
- Molecule 22: 50S ribosomal protein L28



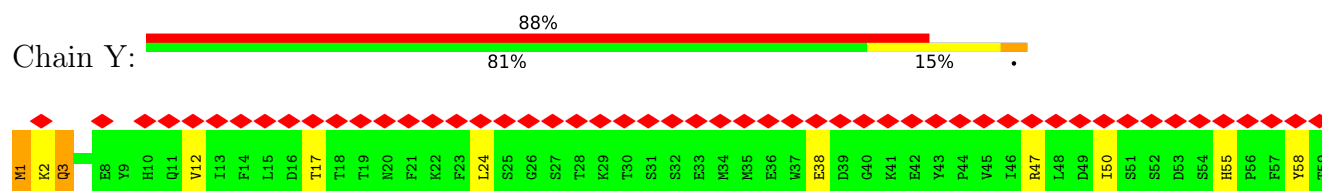
- Molecule 23: 50S ribosomal protein L29



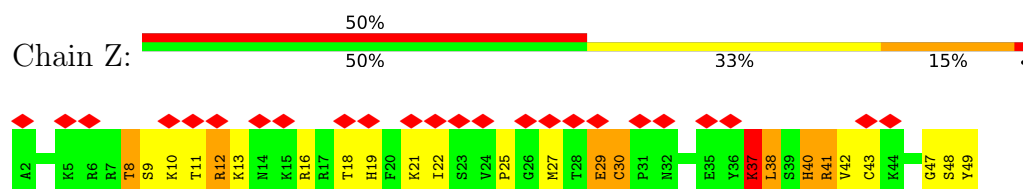
- Molecule 24: 50S ribosomal protein L30



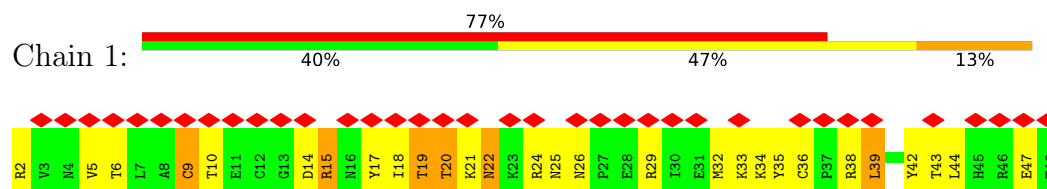
- Molecule 25: 50S ribosomal protein L31 type B



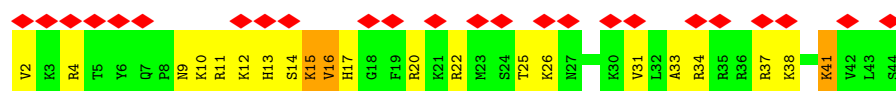
- Molecule 26: 50S ribosomal protein L32



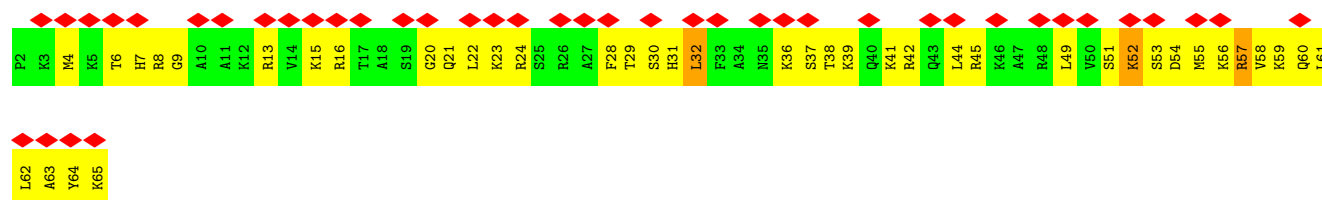
- Molecule 27: 50S ribosomal protein L33



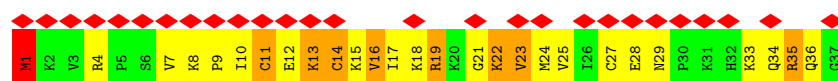
- Molecule 28: 50S ribosomal protein L34



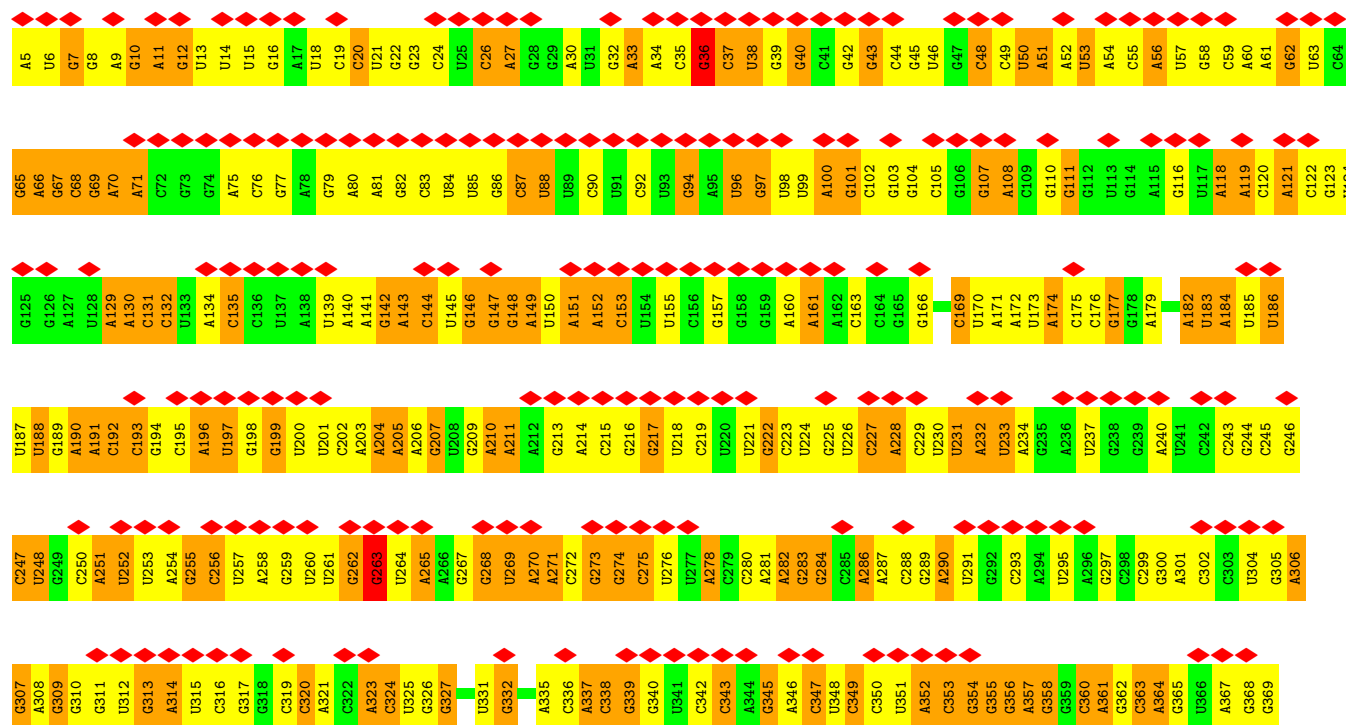
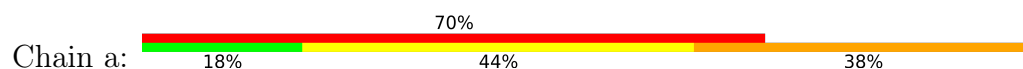
• Molecule 29: 50S ribosomal protein L35



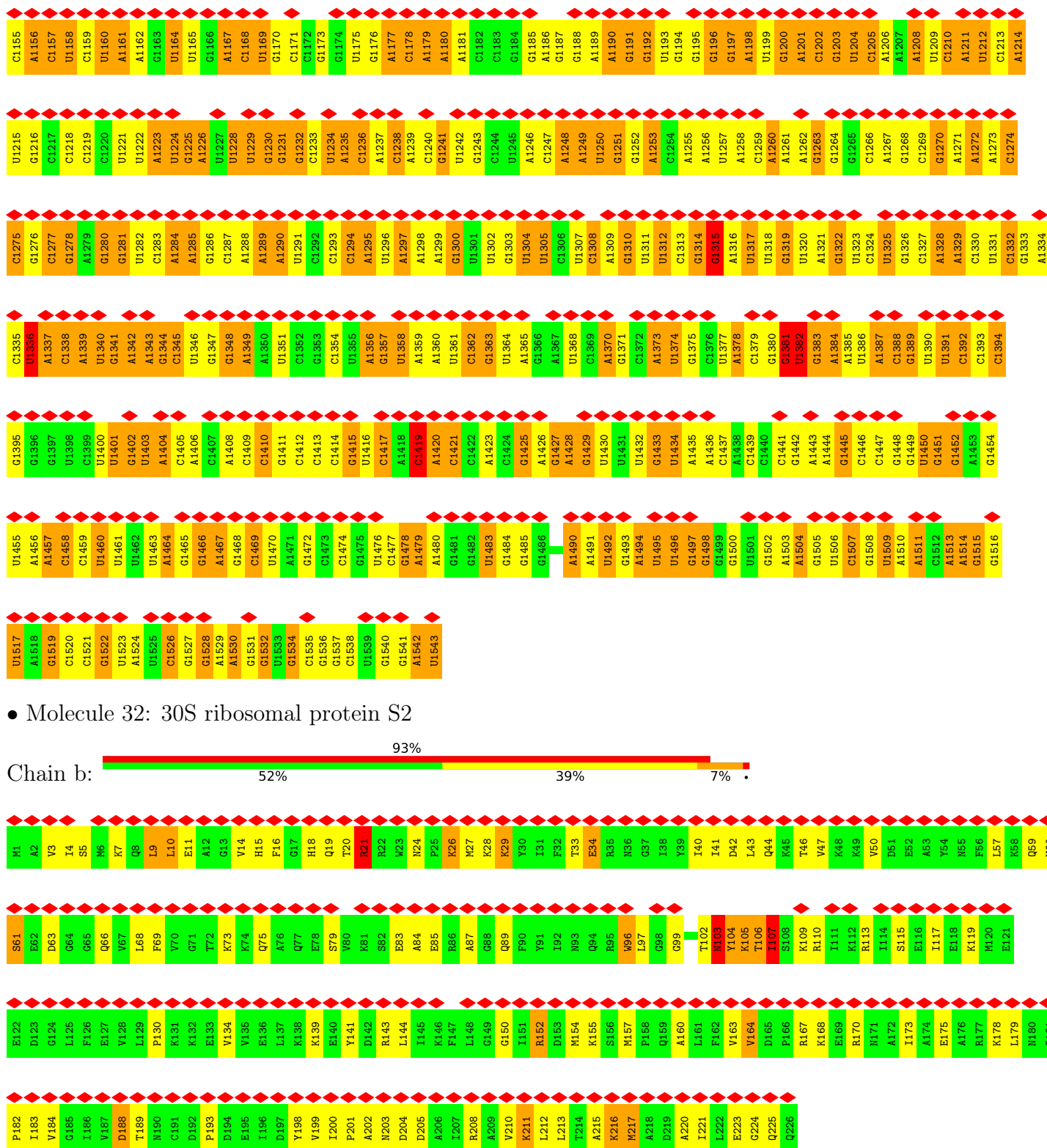
• Molecule 30: 50S ribosomal protein L36

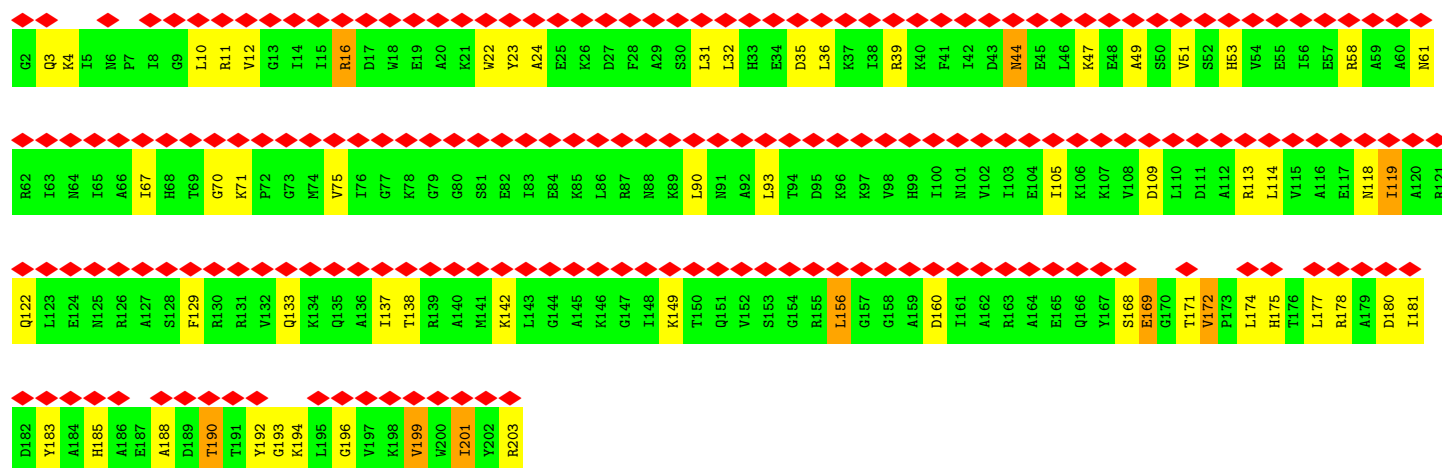


• Molecule 31: 16S ribosomal RNA

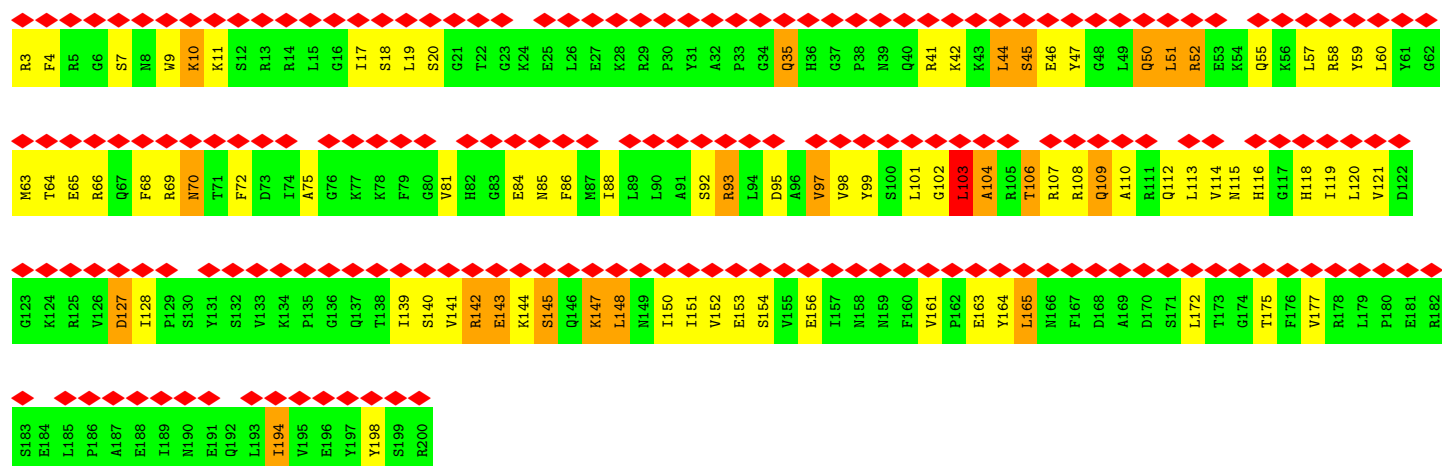


G1095	U1096	U1097	G1098	G1099	G1100	U1101	U1102	A1103	A1104	G1105	U1106	C1107	C1108	C1109	G1110	A1111	A1112	A1113	G1114	G1115	A1116	G1117	C1118	G1119	C1120	A1121	A1122	C1123	C1124	C1125	U1126	U1127	A1128	A1129	C1130	C1131	U1132	U1133	A1134	G1135	U1136	U1137	G1138	C1139	C1140	A1141	U1142	C1143	A1144	U1145	U1146	A1147	A1148	G1149	U1150	U1151	G1152	G1153	G1154
C1035	C1036	C1037	C1038	U1039	U1040	C1041	G1042	G1043	G1044	G1045	G1046	A1047	C1048	A1049	A1050	A1051	C1052	U1053	G1054	A1055	C1056	A1057	G1058	G1059	U1060	G1061	G1062	U1063	G1064	C1065	U1066	U1067	G1068	G1069	U1070	U1071	U1072	U1073	C1074	G1075	U1076	C1077	A1078	G1079	C1080	U1081	C1082	G1083	U1084	G1085	U1086	C1087	G1088	U1089	G1090	A1091	G1092	A1093	U1094
G975	C976	A977	A978	C979	G980	C981	G982	A983	A984	G985	A986	A987	C988	C989	U990	U991	A992	C993	C994	A995	A996	A997	U998	C999	U1000	U1001	G1002	A1003	C1004	A1005	U1006	C1007	U1008	U1009	U1010	U1011	G1012	A1013	G1014	A1015	A1016	C1017	U1018	C1019	U1020	A1021	G1022	A1023	G1024	A1025	U1026	A1027	G1028	U1029	G1030	C1031	C1032	U1033	U1034
G915	A916	A917	A918	C919	U920	C921	A922	A923	G924	G925	A927	A928	U929	U930	G931	A932	C933	G934	G935	G936	G937	A938	C939	C940	C941	G942	C943	A944	C945	A946	A947	G948	C949	G950	G951	U952	G953	G954	A955	G956	C957	A958	U959	G960	U961	G962	G963	U964	U965	U966	A967	A968	U969	U970	C971	G972	A973	A974	
A795	U796	U797	A798	G799	A800	U801	A802	C803	C804	C805	U806	G807	C808	U809	A810	G811	U812	C813	C814	A815	C816	G817	C818	C819	G820	U821	A822	A823	A824	C825	G826	A827	U828	G829	A830	G831	U832	G833	C834	U835	A836	A837	G838	U839	G840	U841	U842	A843	G844	G845	C846	G847	A848	U849	U850	U851	C852	C853	G854
C855	C856	C857	C858	U859	U860	A861	G862	U863	G864	C865	U866	G867	C868	A869	G870	U871	U872	A873	A874	C875	G876	C877	A878	U879	U880	A881	A882	G883	C884	A885	C886	U887	C888	C889	G890	C891	C892	U893	C894	G895	C896	G897	A898	G899	U900	A901	C902	G903	A904	U905	U906	A907	A908	U909	U910	C911	G912	U913	U914
G915	A916	A917	A918	C919	U920	C921	A922	A923	G924	G925	A927	A928	U929	U930	G931	A932	C933	G934	G935	G936	G937	A938	C939	C940	C941	G942	C943	A944	C945	A946	A947	G948	C949	G950	G951	U952	G953	G954	A955	G956	C957	A958	U959	G960	U961	G962	G963	U964	U965	U966	A967	A968	U969	U970	C971	G972	A973	A974	
G975	C976	A977	A978	C979	G980	C981	G982	A983	A984	G985	A986	A987	C988	C989	U990	U991	A992	C993	C994	A995	A996	A997	U998	C999	U1000	U1001	G1002	A1003	C1004	A1005	U1006	C1007	U1008	U1009	U1010	U1011	G1012	A1013	G1014	A1015	A1016	C1017	U1018	C1019	U1020	A1021	G1022	A1023	G1024	A1025	U1026	A1027	G1028	U1029	G1030	C1031	C1032	U1033	U1034
G1035	C1036	C1037	C1038	U1039	U1040	C1041	G1042	G1043	G1044	G1045	G1046	A1047	C1048	A1049	A1050	A1051	C1052	U1053	G1054	A1055	C1056	A1057	G1058	G1059	U1060	G1061	G1062	U1063	G1064	C1065	U1066	U1067	G1068	G1069	U1070	U1071	U1072	U1073	C1074	G1075	U1076	C1077	A1078	G1079	C1080	U1081	C1082	G1083	U1084	G1085	U1086	C1087	G1088	U1089	G1090	A1091	G1092	A1093	U1094
G1095	U1096	U1097	G1098	G1099	G1100	U1101	U1102	A1103	A1104	G1105	U1106	C1107	C1108	C1109	G1110	A1111	A1112	A1113	G1114	G1115	A1116	G1117	C1118	G1119	C1120	A1121	A1122	C1123	C1124	C1125	U1126	U1127	A1128	A1129	C1130	C1131	U1132	U1133	A1134	G1135	U1136	U1137	G1138	C1139	C1140	A1141	U1142	C1143	A1144	U1145	U1146	A1147	A1148	G1149	U1150	U1151	G1152	G1153	G1154
C430	G431	G432	A433	U434	C435	G436	U437	A438	A439	A440	A441	C442	U443	C444	A445	G446	U447	U448	A449	U450	G451	A452	G453	G454	G455	A456	A457	G458	A459	A460	C461	A462	U463	A464	U465	G466	U467	G468	U469	A470	A471	G472	U473	A474	A475	C476	U477	U478	U479	G480	C481	A482	C483	U484	U485	C486	U487	U488	G489
A490	C491	G492	G493	U494	A495	C496	A499	A500	U501	A503	A505	A506	A507	G508	C509	C510	A511	C512	G513	G514	C515	U516	A517	A518	A519	U520	A521	C522	G523	U524	G525	C526	C527	A528	G529	C530	A531	G532	C533	C534	G535	C536	G537	G538	U539	A540	A541	U542	A543	C544	G545	U546	A547	G548	G549	U550			
G551	G552	C553	A554	A555	G556	C557	G558	U559	U560	A561	U562	C563	G566	A567	A568	U569	U570	A571	U572	U573	G574	C575	G576	C577	G578	U579	A580	A581	A582	G583	C584	G585	C586	G587	C588	G589	U590	A591	G592	G593	C594	G595	G596	U597	A598	U599	U600	U601	U602	A603	A604	G605	C606	C607	U608	G609	A610	U611	
G612	U613	G614	A615	A616	G617	G618	C619	C620	C621	A622	C623	G624	G625	C626	U627	C628	A629	A630	C631	C632	G633	U634	G635	G636	A637	G638	G639	G640	U641	C642	U645	G646	G647	A648	A649	A650	C651	U652	G653	G654	A657	A658	C659	U660	U661	G662	A663	G664	U665	G666	C667	A668	G669	A670	A671	G672	A673		
G674	G675	A676	A677	G678	G679	U680	G681	G682	A683	A684	U685	U686	C687	C688	A689	U690	G691	U692	G693	U694	A695	G696	C697	G698	G699	U700	G701	A702	A703	A704	U705	G706	C707	G708	C709	A710	G711	A712	G713	A714	U715	U716	U717	G718	G719	A720	G721	G722	A723	A724	C725	A726	C727	U728	A729	G730	U731	G732	G733
C734	G735	A736	A737	G738	G739	C740	G741	A742	C743	U744	U745	U746	C747	U748	G749	U750	G751	C752	U753	G754	U755	A756	A757	C758	U759	G760	A761	C762	G763	C764	U765	G766	A767	U768	G769	U770	C771	G772	G773	A774	A775	A776	G777	U778	G779	U780	G781	G782	G783	G784	A785	A788	U789	U790	U791	C792	A793	G794	
A795	U796	U797	A798	G799	A800	U801	A802	C803	C804	C805	U806	G807	C808	U809	A810	G811	U812	C813	C814	A815	C816	G817	C818	C819	G820	U821	A822	A823	A824	C825	G826	A827	U828	G829	A830	G831	U832	G833	C834	U835	A836	A837	G838	U839	G840	U841	U842	A843	G844	G845	C846	G847	A848	U849	U850	U851	C852	C853	G854
C855	C856	C857	C858	U859	U860	A861	G862	U863	G864	C865	U866	G867	C868	A869	G870	U871	U872	A873	A874	C875	G876	C877	A878	U879	U880	A881	A882	G883	C884	A885	C886	U887	C888	C889	G890	C891	C892	U893	C894	G895	C896	G897	A898	G899	U900	A901	C902	G903	A904	U905	U906	A907	A908	U909	U910	C911	G912	U913	U914
G915	A916	A917	A918	C919	U920	C921	A922	A923	G924	G925	A927	A928	U929	U930	G931	A932	C933	G934	G935	G936	G937	A938	C939	C940	C941	G942	C943	A944	C945	A946	A947	G948	C949	G950	G951	U952	G953	G954	A955	G956	C957	A958	U959	G960	U961	G962	G963	U964	U965	U966	A967	A968	U969	U970	C971	G972	A973	A974	
G975	C976	A977	A978	C979	G980	C981	G982	A983	A984	G985	A986	A987	C988	C989	U990	U991	A992	C993	C994	A995	A996	A997	U998	C999	U1000	U1001	G1002	A1003	C1004	A1005	U1006	C1007	U1008	U1009	U1010	U1011	G1012	A1013	G1014	A1015	A1016	C1017	U1018	C1019	U1020	A1021	G1022	A1023	G1024	A1025	U1026	A1027	G1028	U1029	G1030	C1031	C1032	U1033	U1034
G1035	C1036	C1037	C1038	U1039	U1040	C1041	G1042	G1043	G1044	G1045	G1046	A1047	C1048	A1049	A1050	A1051	C1052	U1053	G1054	A1055	C1056	A1057	G1058	G1059	U1060	G1061	G1062	U1063	G1064	C1065	U1066	U1067	G1068	G1069	U1070	U1071	U1072	U1073	C1074	G1075	U1076	C1077	A1078	G1079	C1080	U1081	C1082	G1083	U1084	G1085	U1086	C1087	G1088	U1089	G1090	A1091	G1092	A1093	U1094
G1095	U1096	U1097	G1098	G																																																							





• Molecule 34: 30S ribosomal protein S4

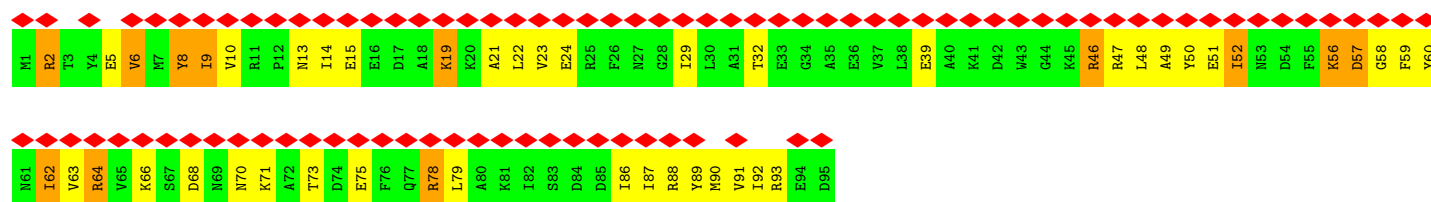


• Molecule 35: 30S ribosomal protein S5

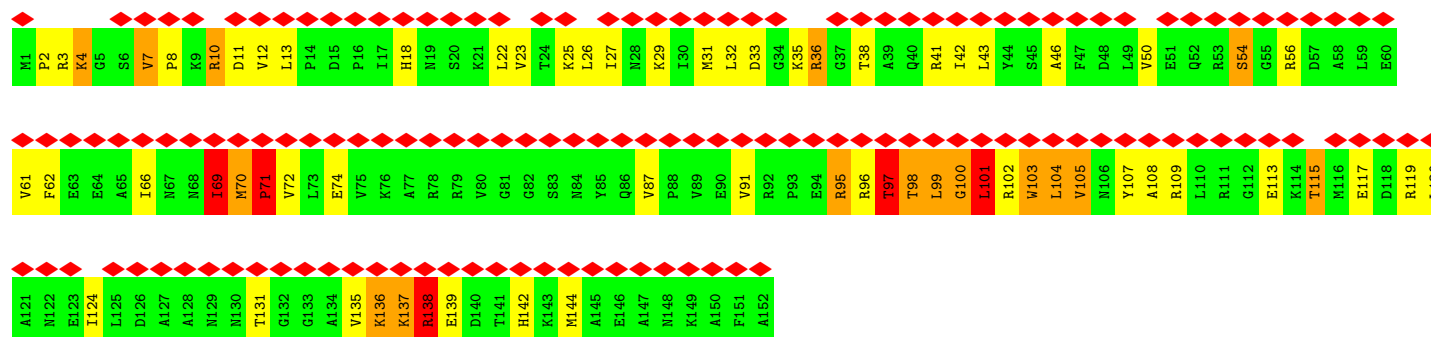
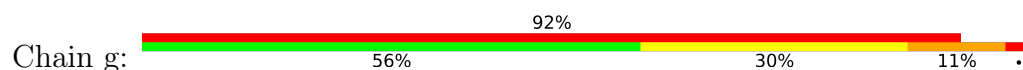


• Molecule 36: 30S ribosomal protein S6

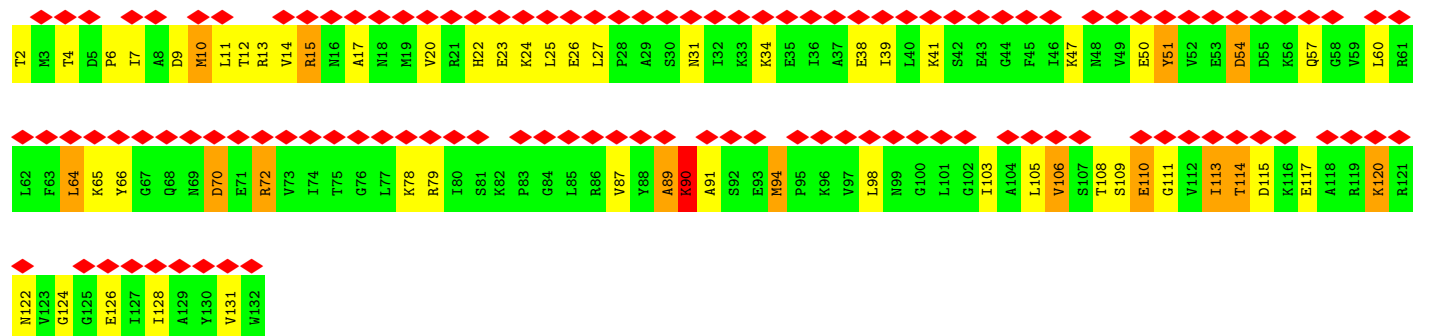
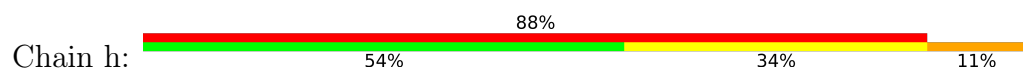




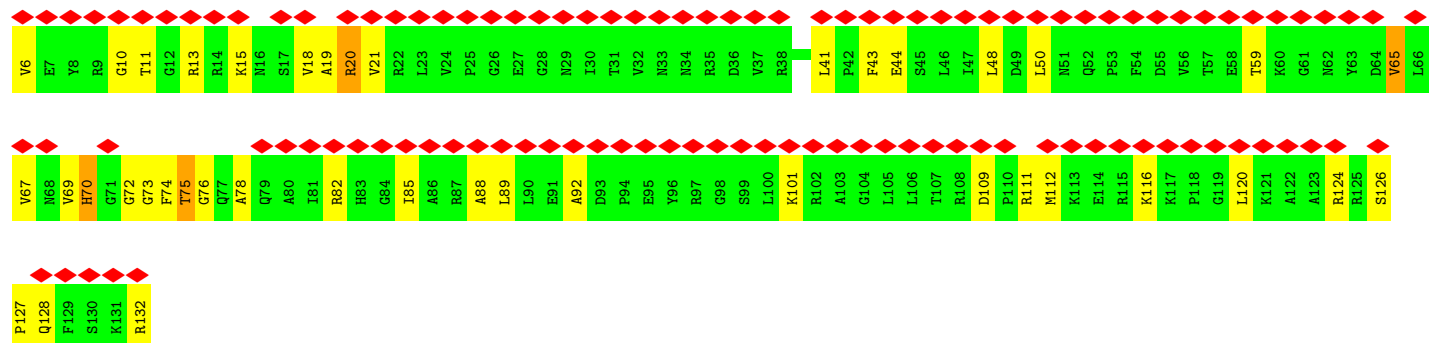
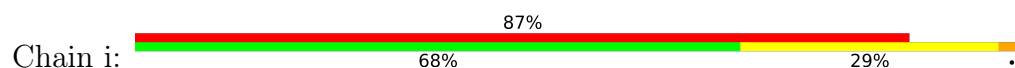
• Molecule 37: 30S ribosomal protein S7



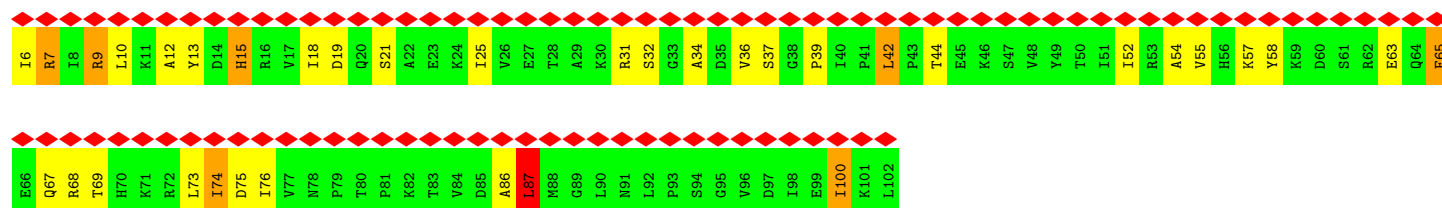
• Molecule 38: 30S ribosomal protein S8



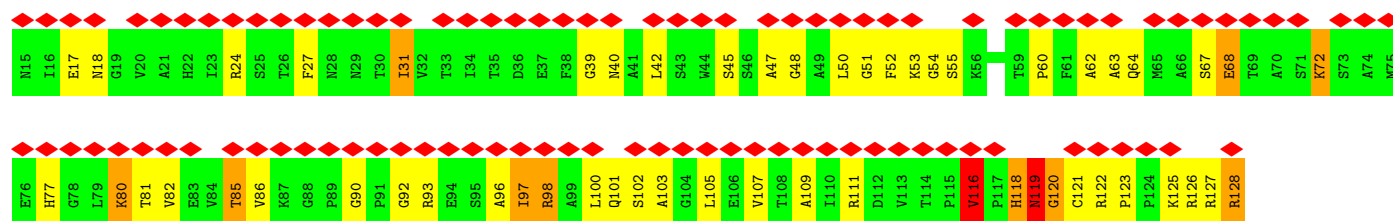
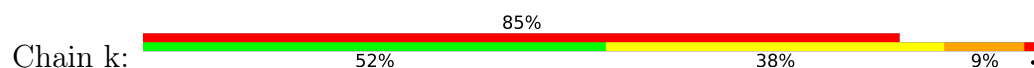
• Molecule 39: 30S ribosomal protein S9



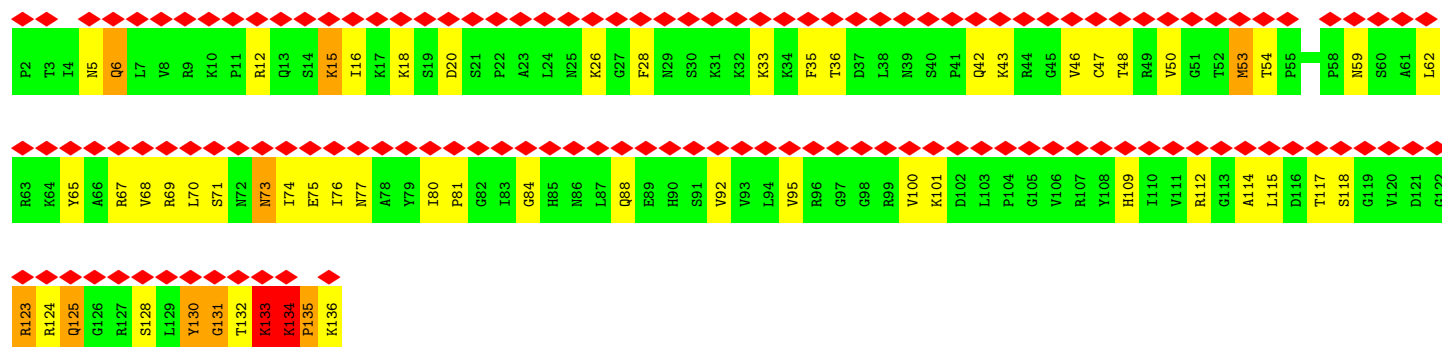
- Molecule 40: 30S ribosomal protein S10



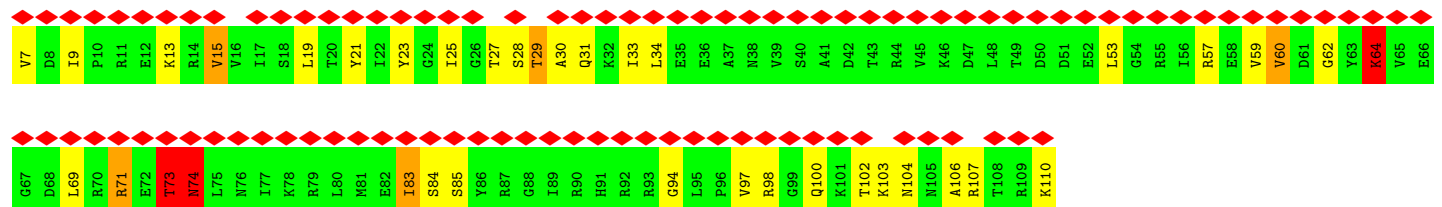
- Molecule 41: 30S ribosomal protein S11



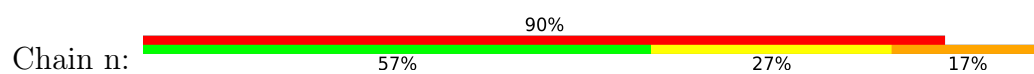
- Molecule 42: 30S ribosomal protein S12



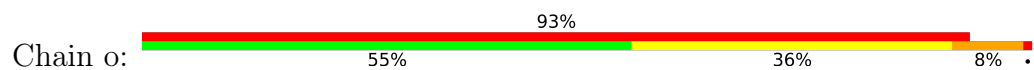
- Molecule 43: 30S ribosomal protein S13



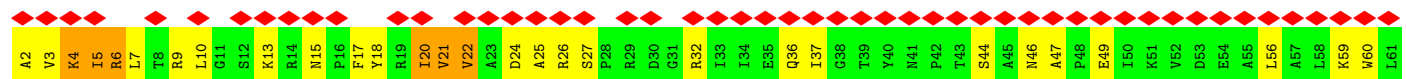
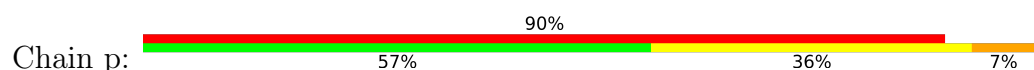
- Molecule 44: 30S ribosomal protein S14 type Z



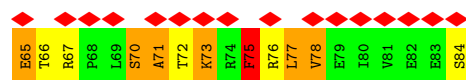
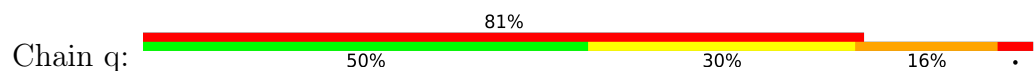
- Molecule 45: 30S ribosomal protein S15



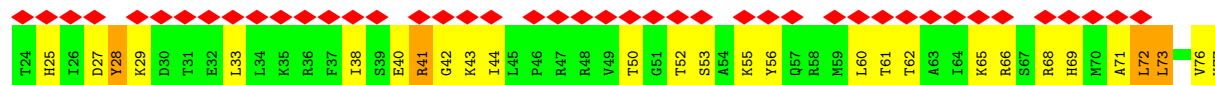
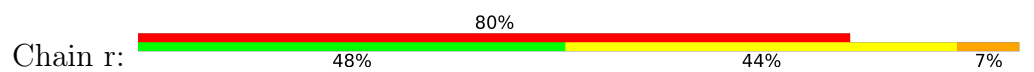
- Molecule 46: 30S ribosomal protein S16



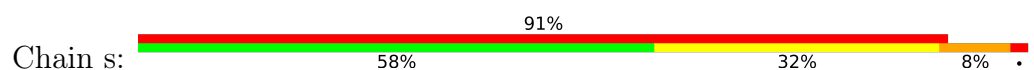
- Molecule 47: 30S ribosomal protein S17



- Molecule 48: 30S ribosomal protein S18

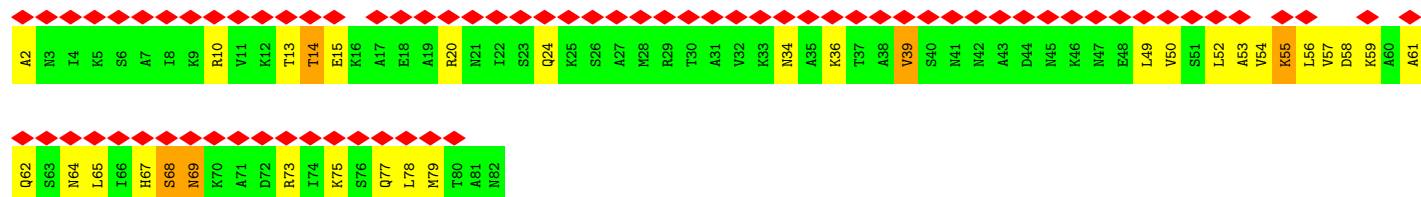
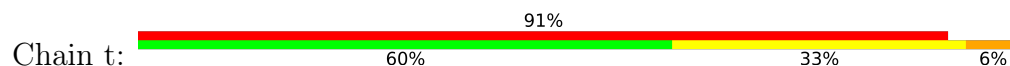


- Molecule 49: 30S ribosomal protein S19

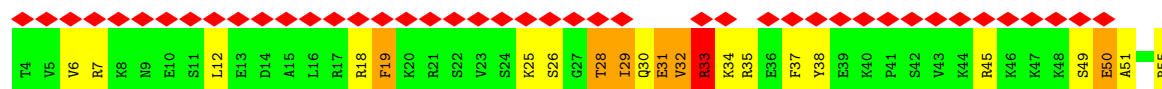
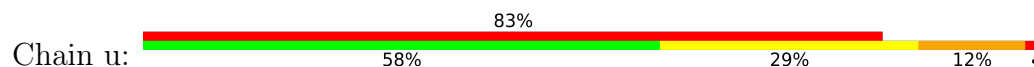




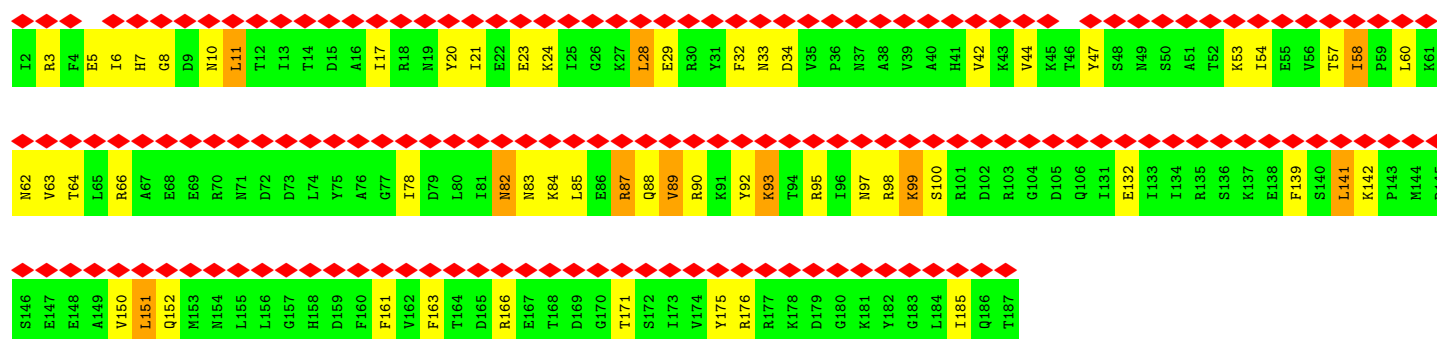
• Molecule 50: 30S ribosomal protein S20



• Molecule 51: 30S ribosomal protein S21



• Molecule 52: Ribosome hibernation promoting factor



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	145897	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	1.076	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.223	Depositor
Minimum map value	-0.111	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.024	Depositor
Map size ($\text{\AA}$)	430.4, 430.4, 430.4	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.076, 1.076, 1.076	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.76	16/69739 (0.0%)	0.60	19/108751 (0.0%)
2	B	0.48	0/2733	0.53	0/4257
3	C	0.65	0/2125	0.83	3/2853 (0.1%)
4	D	0.69	0/1651	0.63	0/2215
5	E	0.74	1/1595 (0.1%)	0.74	0/2154
6	F	0.33	0/1339	0.68	1/1805 (0.1%)
7	G	0.35	0/1281	0.64	0/1736
8	H	0.66	0/1165	0.69	0/1570
9	I	0.66	0/925	0.75	0/1242
10	J	0.64	0/1100	0.69	0/1467
11	K	2.72	1/1095 (0.1%)	0.72	2/1472 (0.1%)
12	L	0.67	0/936	0.74	0/1253
13	M	0.45	0/900	0.72	0/1205
14	N	0.64	0/901	0.71	0/1209
15	O	0.78	0/954	0.70	0/1264
16	P	0.68	0/800	0.70	0/1070
17	Q	0.67	0/845	0.79	1/1140 (0.1%)
18	R	0.59	0/723	0.68	0/966
19	S	0.45	0/779	0.65	0/1043
20	T	0.36	0/730	0.62	0/981
21	U	0.64	0/628	0.77	0/833
22	V	0.50	0/451	0.75	0/603
23	W	0.49	0/542	0.73	0/722
24	X	0.70	0/451	0.70	0/606
25	Y	0.28	0/378	0.55	0/521
26	Z	0.61	0/366	0.80	0/489
27	1	0.39	0/395	0.68	0/530
28	2	0.77	0/371	0.74	0/484
29	3	0.60	0/526	0.70	0/690
30	4	0.53	0/298	0.81	0/392
31	a	0.97	31/36913 (0.1%)	0.61	17/57564 (0.0%)
32	b	1.92	1/1846 (0.1%)	0.61	0/2477
33	c	0.28	0/1523	0.61	0/2062
34	d	0.28	0/1526	0.69	1/2063 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	e	0.27	0/1159	0.58	1/1566 (0.1%)
36	f	0.31	0/789	0.61	0/1060
37	g	0.46	0/1175	0.98	7/1584 (0.4%)
38	h	2.23	5/1037 (0.5%)	1.13	8/1392 (0.6%)
39	i	0.32	0/937	0.69	0/1269
40	j	0.39	0/764	0.82	0/1034
41	k	0.32	0/824	0.81	2/1119 (0.2%)
42	l	4.25	7/1054 (0.7%)	0.77	2/1415 (0.1%)
43	m	0.31	0/732	0.74	1/991 (0.1%)
44	n	4.34	2/497 (0.4%)	0.96	2/662 (0.3%)
45	o	0.31	0/732	0.71	0/979
46	p	0.29	0/705	0.63	0/952
47	q	0.40	0/629	0.93	1/849 (0.1%)
48	r	0.33	0/452	0.67	0/604
49	s	4.53	8/654 (1.2%)	1.34	9/879 (1.0%)
50	t	0.35	0/591	0.74	0/793
51	u	0.42	0/403	0.80	2/535 (0.4%)
52	v	0.30	0/1350	0.63	0/1812
All	All	0.98	72/153014 (0.0%)	0.64	79/229184 (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	C	0	5
5	E	0	1
6	F	0	2
7	G	0	1
8	H	0	4
11	K	0	3
12	L	0	1
13	M	0	1
16	P	0	2
19	S	0	1
26	Z	0	2
30	4	0	2
31	a	0	2
32	b	0	4
33	c	0	1
34	d	0	7

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
37	g	0	10
39	i	0	1
40	j	0	4
41	k	0	5
42	l	0	2
43	m	0	5
44	n	0	4
45	o	0	4
47	q	0	5
49	s	0	3
50	t	0	1
51	u	0	3
52	v	0	3
All	All	0	89

All (72) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
42	l	134	LYS	CD-CE	99.60	4.51	1.52
44	n	16	TYR	CB-CG	95.89	3.62	1.51
11	K	2	LEU	CG-CD1	88.26	4.43	1.52
32	b	107	ILE	CG1-CD1	81.59	4.70	1.51
1	A	393	G	C1'-N9	67.45	2.49	1.48
38	h	90	LYS	CA-C	64.52	2.30	1.52
49	s	74	PHE	CD2-CE2	60.64	3.20	1.38
31	a	606	U	N1-C2	56.15	2.50	1.38
31	a	605	G	C2-N3	51.52	2.35	1.32
42	l	130	TYR	CD1-CE1	49.78	2.88	1.38
49	s	74	PHE	CD1-CE1	48.88	2.85	1.38
31	a	606	U	N1-C6	48.11	2.34	1.38
42	l	130	TYR	CD2-CE2	47.74	2.81	1.38
31	a	606	U	C2-N3	47.41	2.32	1.37
31	a	605	G	N3-C4	46.13	2.27	1.35
31	a	606	U	C4-C5	44.87	2.33	1.43
49	s	74	PHE	CE1-CZ	44.13	2.71	1.38
31	a	606	U	N3-C4	43.03	2.24	1.38
1	A	333	C	C2-N3	42.42	2.20	1.35
49	s	74	PHE	CE2-CZ	42.38	2.65	1.38
1	A	333	C	N1-C6	41.87	2.20	1.37
31	a	605	G	N1-C2	41.30	2.20	1.37
1	A	333	C	N3-C4	41.11	2.16	1.33
49	s	36	ARG	CA-C	40.56	2.05	1.52

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	333	C	N1-C2	40.32	2.20	1.40
31	a	605	G	C6-N1	39.80	2.19	1.39
31	a	606	U	C5-C6	38.66	2.11	1.34
1	A	333	C	C4-C5	37.65	2.18	1.43
1	A	333	C	C5-C6	36.40	2.07	1.34
31	a	605	G	C5-C6	35.28	2.12	1.42
42	l	130	TYR	CE2-CZ	34.51	2.21	1.38
42	l	130	TYR	CE1-CZ	33.90	2.19	1.38
42	l	130	TYR	CG-CD1	31.11	2.04	1.39
31	a	605	G	C5-C4	30.72	1.99	1.38
49	s	74	PHE	CG-CD1	30.63	2.03	1.38
42	l	130	TYR	CG-CD2	30.39	2.03	1.39
31	a	989	C	C2-N3	29.89	1.95	1.35
49	s	74	PHE	CG-CD2	29.61	2.01	1.38
31	a	989	C	N1-C2	29.25	1.98	1.40
31	a	989	C	N1-C6	29.14	1.95	1.37
31	a	989	C	N3-C4	28.84	1.91	1.33
38	h	90	LYS	N-CA	26.74	1.79	1.46
31	a	36	G	O3'-P	26.50	2.00	1.61
31	a	989	C	C4-C5	24.55	1.92	1.43
31	a	989	C	C5-C6	24.10	1.82	1.34
31	a	36	G	C3'-O3'	21.20	1.74	1.42
31	a	405	A	N9-C8	15.77	1.69	1.37
31	a	405	A	N9-C4	14.19	1.66	1.37
1	A	393	G	N9-C4	14.10	1.66	1.38
31	a	405	A	C8-N7	14.06	1.59	1.31
31	a	405	A	N7-C5	13.75	1.66	1.39
1	A	917	U	N3-C4	12.90	1.64	1.38
1	A	917	U	N1-C6	12.70	1.63	1.38
1	A	917	U	N1-C2	12.68	1.64	1.38
1	A	917	U	C2-N3	12.56	1.62	1.37
1	A	393	G	N9-C8	12.20	1.62	1.37
1	A	917	U	C4-C5	11.90	1.67	1.43
1	A	917	U	C5-C6	11.38	1.56	1.34
31	a	1112	A	C6-N1	9.77	1.55	1.35
31	a	1112	A	N1-C2	9.16	1.52	1.34
5	E	132	GLU	C-N	-9.04	1.17	1.33
31	a	405	A	C5-C4	8.92	1.56	1.38
31	a	1112	A	N3-C4	8.57	1.51	1.34
31	a	1112	A	C2-N3	8.21	1.50	1.33
31	a	1112	A	C5-C6	8.00	1.57	1.41
49	s	36	ARG	CA-CB	7.97	1.66	1.53

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	h	90	LYS	CA-CB	7.49	1.68	1.53
44	n	16	TYR	CA-CB	7.07	1.63	1.53
1	A	393	G	N7-C5	-6.68	1.25	1.39
31	a	1112	A	C5-C4	6.40	1.51	1.38
38	h	90	LYS	CB-CG	6.13	1.70	1.52
38	h	90	LYS	C-N	5.72	1.41	1.33

All (79) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	a	36	G	P-O3'-C3'	27.64	161.66	120.20
38	h	90	LYS	O-C-N	-21.44	98.22	123.31
49	s	36	ARG	N-CA-CB	-17.58	84.61	110.80
38	h	90	LYS	N-CA-C	15.65	135.21	108.76
49	s	36	ARG	O-C-N	-15.36	104.08	122.20
49	s	36	ARG	CB-CA-C	13.97	134.29	109.99
1	A	393	G	C8-N9-C4	-13.57	65.68	106.40
1	A	393	G	N9-C1'-C2'	12.76	131.14	112.00
31	a	696	G	OP2-P-O3'	-11.80	72.60	108.00
31	a	696	G	OP1-P-O3'	-11.71	72.87	108.00
38	h	90	LYS	N-CA-CB	-11.22	91.39	110.80
1	A	393	G	N7-C8-N9	10.86	145.66	113.10
49	s	36	ARG	N-CA-C	10.34	129.12	113.61
1	A	1228	A	OP1-P-O3'	-10.28	77.17	108.00
1	A	1823	U	C4'-C3'-O3'	9.45	127.18	113.00
3	C	256	GLY	N-CA-C	8.78	133.98	113.18
38	h	89	ALA	CA-C-O	-8.60	108.21	120.51
1	A	1228	A	OP2-P-O3'	-8.40	82.81	108.00
31	a	697	C	OP1-P-OP2	8.29	144.47	119.60
37	g	101	LEU	N-CA-C	8.22	126.22	112.99
1	A	393	G	O4'-C1'-N9	8.14	120.72	108.50
31	a	36	G	C4'-C3'-O3'	8.12	125.18	113.00
49	s	74	PHE	CD1-CG-CD2	8.07	130.71	118.60
44	n	16	TYR	CA-CB-CG	7.98	128.26	113.90
38	h	90	LYS	CB-CA-C	7.70	123.64	109.70
31	a	605	G	N3-C2-N2	7.52	142.46	119.90
1	A	2261	G	O3'-P-O5'	7.43	115.15	104.00
38	h	90	LYS	CA-C-O	7.32	128.44	120.32
1	A	393	G	C4-N9-C1'	7.28	148.32	126.50
31	a	36	G	O3'-P-O5'	7.25	114.87	104.00
1	A	393	G	N9-C4-C5	6.99	126.37	105.40
31	a	605	G	N1-C2-N3	-6.98	102.95	123.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	g	100	GLY	N-CA-C	6.96	129.68	113.18
1	A	1822	C	P-O3'-C3'	6.85	130.48	120.20
1	A	1823	U	C5'-C4'-C3'	6.74	126.11	116.00
1	A	393	G	N3-C4-C5	-6.72	108.45	128.60
1	A	393	G	O4'-C1'-C2'	-6.58	101.02	107.60
49	s	72	GLY	N-CA-C	6.45	128.46	113.18
38	h	90	LYS	CA-CB-CG	6.45	126.99	114.10
1	A	1822	C	O3'-P-O5'	6.42	113.62	104.00
44	n	16	TYR	CD1-CG-CD2	-6.35	108.57	118.10
1	A	393	G	C8-N9-C1'	6.33	145.97	127.00
37	g	69	ILE	N-CA-C	6.31	122.46	109.34
47	q	71	ALA	N-CA-C	6.19	118.02	109.54
31	a	605	G	N3-C4-N9	6.16	144.48	126.00
37	g	97	THR	N-CA-C	6.09	123.17	114.16
31	a	605	G	C2-N3-C4	6.03	129.98	111.90
17	Q	17	VAL	N-CA-CB	-6.01	105.17	112.33
31	a	1382	U	O5'-C5'-C4'	5.99	120.48	111.50
6	F	117	VAL	N-CA-C	-5.93	106.93	111.62
1	A	1823	U	O5'-C5'-C4'	5.59	119.89	111.50
31	a	263	G	C4-N9-C1'	5.58	143.25	126.50
37	g	72	VAL	N-CA-C	-5.58	107.43	112.12
41	k	120	GLY	N-CA-C	5.55	126.33	113.18
31	a	1419	C	N1-C1'-C2'	5.53	120.30	112.00
37	g	71	PRO	N-CA-C	5.50	120.81	111.03
31	a	405	A	N7-C8-N9	-5.48	97.37	113.80
1	A	1823	U	O4'-C4'-C3'	-5.43	98.57	104.00
41	k	119	ASN	N-CA-C	5.40	117.23	110.91
49	s	74	PHE	CZ-CE2-CD2	-5.36	110.36	120.00
1	A	1823	U	O4'-C1'-N1	5.35	116.52	108.50
11	K	2	LEU	CD1-CG-CD2	5.32	122.51	110.80
42	l	134	LYS	CA-CB-CG	5.32	124.74	114.10
49	s	36	ARG	CA-CB-CG	5.30	124.71	114.10
35	e	60	ILE	N-CA-C	-5.14	105.69	110.53
37	g	138	ARG	N-CA-C	5.13	121.72	110.80
31	a	1315	G	O4'-C1'-N9	5.12	115.89	108.20
49	s	73	GLU	N-CA-C	-5.11	104.22	110.65
11	K	2	LEU	CB-CG-CD1	5.09	125.98	110.70
3	C	256	GLY	CA-C-N	5.09	130.29	121.64
3	C	256	GLY	C-N-CA	5.09	130.29	121.64
38	h	89	ALA	N-CA-C	-5.07	100.01	110.80
51	u	50	GLU	N-CA-C	5.07	121.59	110.80
42	l	131	GLY	N-CA-C	5.06	125.18	113.18

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
43	m	74	ASN	N-CA-C	5.04	116.63	111.03
51	u	33	ARG	CB-CG-CD	5.04	122.90	111.30
34	d	99	TYR	N-CA-C	5.02	121.50	110.80
31	a	1381	G	O3'-P-O5'	5.01	111.52	104.00
31	a	1336	U	C2'-C3'-O3'	5.01	117.02	109.50

There are no chirality outliers.

All (89) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
30	4	1	MET	Peptide
30	4	13	LYS	Peptide
3	C	173	LEU	Peptide
3	C	255	LEU	Peptide
3	C	257	LYS	Peptide
3	C	273	GLY	Peptide
3	C	40	LYS	Peptide
5	E	132	GLU	Peptide
6	F	16	LEU	Peptide
6	F	170	LEU	Peptide
7	G	106	ASN	Peptide
8	H	11	ASN	Peptide
8	H	133	HIS	Peptide
8	H	57	VAL	Peptide
8	H	80	ASN	Peptide
11	K	1	MET	Peptide
11	K	3	LEU	Peptide
11	K	68	ILE	Peptide
12	L	95	GLU	Peptide
13	M	68	THR	Peptide
16	P	50	ALA	Peptide
16	P	77	LYS	Peptide
19	S	4	LYS	Peptide
26	Z	37	LYS	Peptide
26	Z	43	CYS	Peptide
31	a	605	G	Sidechain
31	a	606	U	Sidechain
32	b	103	ASN	Peptide
32	b	104	TYR	Peptide
32	b	107	ILE	Peptide
32	b	21	ARG	Peptide
33	c	169	GLU	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
34	d	102	GLY	Peptide
34	d	103	LEU	Peptide
34	d	104	ALA	Peptide
34	d	109	GLN	Peptide
34	d	44	LEU	Peptide
34	d	45	SER	Peptide
34	d	97	VAL	Peptide
37	g	101	LEU	Peptide
37	g	102	ARG	Peptide
37	g	105	VAL	Peptide
37	g	108	ALA	Peptide
37	g	138	ARG	Peptide
37	g	144	MET	Peptide
37	g	2	PRO	Peptide
37	g	70	MET	Peptide
37	g	71	PRO	Peptide
37	g	95	ARG	Peptide
39	i	128	GLN	Peptide
40	j	15	HIS	Peptide
40	j	65	PHE	Peptide
40	j	87	LEU	Peptide
40	j	9	ARG	Peptide
41	k	116	VAL	Peptide
41	k	118	HIS	Peptide
41	k	122	ARG	Peptide
41	k	123	PRO	Peptide
41	k	126	ARG	Peptide
42	l	133	LYS	Peptide
42	l	135	PRO	Peptide
43	m	106	ALA	Peptide
43	m	27	THR	Peptide
43	m	64	LYS	Peptide
43	m	73	THR	Peptide
43	m	74	ASN	Peptide
44	n	25	GLU	Peptide
44	n	34	TYR	Peptide
44	n	58	LYS	Peptide
44	n	59	ALA	Peptide
45	o	19	GLU	Peptide
45	o	2	ALA	Peptide
45	o	46	HIS	Peptide
45	o	47	LYS	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
47	q	22	THR	Peptide
47	q	24	THR	Peptide
47	q	63	ILE	Peptide
47	q	65	GLU	Peptide
47	q	75	PHE	Peptide
49	s	71	LEU	Peptide
49	s	79	THR	Peptide
49	s	80	PHE	Peptide
50	t	69	ASN	Peptide
51	u	32	VAL	Peptide
51	u	33	ARG	Peptide
51	u	49	SER	Peptide
52	v	33	ASN	Peptide
52	v	92	TYR	Peptide
52	v	93	LYS	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	62277	31287	31296	1437	0
2	B	2445	1240	1240	64	0
3	C	2090	2201	2201	104	0
4	D	1627	1667	1667	60	0
5	E	1572	1620	1619	66	0
6	F	1325	1342	1342	74	0
7	G	1263	1225	1225	49	0
8	H	1143	1134	1134	62	0
9	I	918	981	981	50	0
10	J	1086	1125	1125	43	0
11	K	1071	1123	1123	64	0
12	L	932	983	983	53	0
13	M	891	925	925	44	0
14	N	889	937	937	24	0
15	O	942	1014	1014	41	0
16	P	790	830	830	26	0
17	Q	837	887	887	37	0
18	R	715	748	748	28	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	S	770	809	809	42	0
20	T	722	766	766	23	0
21	U	622	643	643	36	0
22	V	445	466	466	25	0
23	W	541	563	563	27	0
24	X	449	491	491	19	0
25	Y	370	243	243	8	0
26	Z	360	358	358	21	0
27	1	390	394	394	28	0
28	2	367	415	415	18	0
29	3	521	586	586	32	0
30	4	295	340	340	34	0
31	a	32969	16594	16595	1154	0
32	b	1819	1886	1886	92	0
33	c	1501	1464	1464	42	0
34	d	1497	1449	1449	50	0
35	e	1145	1202	1202	33	0
36	f	778	775	775	39	0
37	g	1161	1165	1165	49	0
38	h	1026	1077	1077	103	0
39	i	922	890	890	29	0
40	j	752	775	775	25	0
41	k	810	784	784	36	0
42	l	1037	1091	1091	71	0
43	m	727	674	674	28	0
44	n	487	492	492	34	0
45	o	723	752	752	27	0
46	p	694	709	709	22	0
47	q	621	616	615	32	0
48	r	445	482	482	25	0
49	s	636	626	626	49	0
50	t	591	616	616	23	0
51	u	400	407	407	27	0
52	v	1333	1349	1349	41	0
All	All	140739	93218	93226	3886	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 19.

All (3886) 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)
31:a:989:C:C6	31:a:989:C:C5	1.82	1.61
31:a:989:C:C5	31:a:989:C:C4	1.92	1.58
31:a:405:A:N9	31:a:405:A:C8	1.69	1.54
49:s:74:PHE:CD2	49:s:74:PHE:CG	2.01	1.49
42:l:130:TYR:CG	42:l:130:TYR:CD2	2.03	1.47
49:s:74:PHE:CG	49:s:74:PHE:CD1	2.03	1.46
42:l:130:TYR:CG	42:l:130:TYR:CD1	2.04	1.45
1:A:333:C:C5	1:A:333:C:C6	2.07	1.43
38:h:90:LYS:N	38:h:90:LYS:CA	1.79	1.42
1:A:1675:G:N3	1:A:1679:A:N6	1.66	1.41
31:a:605:G:C5	31:a:605:G:C4	1.99	1.39
31:a:989:C:C4	31:a:989:C:N3	1.91	1.38
31:a:605:G:C5	31:a:605:G:C6	2.12	1.37
31:a:606:U:C6	31:a:606:U:C5	2.11	1.37
31:a:36:G:O3'	31:a:36:G:C3'	1.74	1.35
31:a:989:C:C6	31:a:989:C:N1	1.95	1.35
1:A:2109:A:N7	1:A:2264:G:N2	1.72	1.34
31:a:989:C:N3	31:a:989:C:C2	1.95	1.32
31:a:605:G:N3	38:h:90:LYS:N	1.76	1.31
42:l:130:TYR:CE1	42:l:130:TYR:CZ	2.19	1.31
1:A:333:C:C5	1:A:333:C:C4	2.18	1.30
31:a:989:C:N1	31:a:989:C:C2	1.98	1.30
49:s:36:ARG:CA	49:s:36:ARG:C	2.05	1.29
42:l:130:TYR:CZ	42:l:130:TYR:CE2	2.21	1.28
1:A:159:U:N3	1:A:169:G:O6	1.71	1.24
1:A:2496:A:N7	1:A:2508:G:C2	2.06	1.22
31:a:897:G:N3	31:a:918:A:N6	1.87	1.21
1:A:1734:A:N6	1:A:1741:G:N3	1.91	1.19
31:a:36:G:O3'	31:a:37:C:P	2.00	1.18
31:a:606:U:C5	31:a:606:U:C4	2.33	1.17
31:a:606:U:C2	38:h:90:LYS:HA	1.82	1.15
1:A:333:C:N1	1:A:393:G:H1'	1.60	1.14
1:A:333:C:C4	1:A:333:C:N3	2.16	1.14
1:A:750:A:N7	1:A:771:G:N2	1.98	1.11
31:a:605:G:C6	31:a:605:G:N1	2.19	1.10
1:A:333:C:N3	1:A:333:C:C2	2.20	1.09
31:a:605:G:N1	31:a:605:G:C2	2.20	1.09
1:A:2496:A:C8	1:A:2508:G:N2	2.21	1.09
1:A:333:C:N1	1:A:333:C:C2	2.20	1.09
1:A:333:C:C6	1:A:333:C:N1	2.20	1.08
38:h:89:ALA:C	38:h:90:LYS:N	2.12	1.08
1:A:1086:G:O6	1:A:1157:U:C4	2.06	1.07

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:751:A:N6	1:A:770:G:N3	2.04	1.06
49:s:36:ARG:HA	49:s:74:PHE:CZ	1.90	1.06
1:A:749:G:N2	1:A:772:A:N7	2.04	1.06
31:a:606:U:N3	38:h:90:LYS:HA	1.71	1.06
1:A:337:A:N6	1:A:387:G:C2	2.24	1.05
1:A:1448:U:C2	1:A:1635:A:N6	2.24	1.05
31:a:606:U:C4	31:a:606:U:N3	2.24	1.05
1:A:159:U:C4	1:A:169:G:O6	2.10	1.04
38:h:90:LYS:CA	38:h:90:LYS:C	2.30	1.04
49:s:36:ARG:C	49:s:36:ARG:HA	1.83	1.02
31:a:605:G:C4	31:a:605:G:N3	2.27	1.01
31:a:605:G:C5	38:h:90:LYS:HB2	1.95	1.01
31:a:606:U:C5	38:h:90:LYS:HB3	1.96	1.01
31:a:56:A:N6	31:a:365:G:H21	1.59	1.00
1:A:2379:A:C5	1:A:2392:G:N2	2.31	0.99
43:m:23:TYR:HH	43:m:94:GLY:N	1.60	0.98
1:A:2379:A:N7	1:A:2392:G:N2	2.11	0.98
4:D:27:VAL:HG11	14:N:7:ILE:HD11	1.45	0.98
31:a:839:U:O2	31:a:864:G:N1	1.97	0.97
31:a:1131:C:N4	31:a:1164:U:C4	2.33	0.97
31:a:606:U:C2	31:a:606:U:N3	2.32	0.96
31:a:606:U:C6	31:a:606:U:N1	2.34	0.95
31:a:108:A:H62	31:a:332:G:H21	1.13	0.95
31:a:605:G:C4	38:h:90:LYS:N	2.35	0.95
1:A:2766:U:O2	1:A:2791:A:N6	1.98	0.95
31:a:605:G:C2	38:h:90:LYS:N	2.34	0.94
1:A:790:G:H21	1:A:795:A:N6	1.65	0.94
2:B:70:G:N2	2:B:101:A:N7	2.15	0.94
13:M:56:ALA:HB2	13:M:80:ILE:HD13	1.47	0.94
1:A:2495:A:N6	1:A:2504:C:C2	2.35	0.94
1:A:790:G:H21	1:A:795:A:H61	0.97	0.94
1:A:1818:A:N6	1:A:1855:G:N3	2.15	0.94
31:a:792:A:N1	31:a:806:U:C4	2.37	0.93
31:a:605:G:N3	31:a:605:G:C2	2.35	0.93
31:a:606:U:C2	38:h:90:LYS:C	2.47	0.93
31:a:36:G:H3'	42:l:130:TYR:CD1	2.03	0.92
1:A:1708:A:H61	1:A:2023:C:H42	1.12	0.92
1:A:2109:A:N6	1:A:2264:G:N3	2.17	0.92
1:A:910:C:N3	1:A:954:A:N6	2.17	0.92
31:a:953:G:H21	31:a:1349:A:H62	0.93	0.91
1:A:333:C:C2	1:A:393:G:N9	2.39	0.91

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1076:A:N1	1:A:1166:G:N1	2.18	0.91
1:A:2768:A:N6	1:A:2790:G:N3	2.18	0.91
31:a:155:U:O2	31:a:166:G:N1	2.02	0.91
1:A:790:G:N2	1:A:795:A:H61	1.66	0.91
1:A:1534:G:N2	1:A:1542:C:O2	2.04	0.90
1:A:1663:G:HO2'	28:2:2:VAL:N	1.70	0.90
31:a:37:C:N4	31:a:556:G:O6	2.04	0.90
31:a:457:A:C6	31:a:492:G:O6	2.24	0.90
31:a:953:G:H21	31:a:1349:A:N6	1.70	0.90
1:A:1761:G:O2'	1:A:1763:U:O4'	1.90	0.90
1:A:1113:A:HO2'	1:A:1140:A:HO2'	1.11	0.90
1:A:1448:U:N3	1:A:1635:A:C6	2.40	0.90
31:a:146:G:C2	31:a:176:C:C2	2.60	0.90
1:A:2555:U:N3	1:A:2562:G:O6	2.04	0.90
1:A:2579:U:O4	1:A:2583:C:N4	2.05	0.90
31:a:111:G:HO2'	31:a:362:G:HO2'	1.13	0.89
31:a:605:G:N1	38:h:89:ALA:O	2.05	0.89
31:a:953:G:N2	31:a:1349:A:H62	1.68	0.89
31:a:56:A:H62	31:a:365:G:N2	1.69	0.89
1:A:337:A:N6	1:A:387:G:N3	2.21	0.88
3:C:177:ARG:N	3:C:273:GLY:O	2.05	0.88
31:a:36:G:O3'	42:l:130:TYR:CE2	2.26	0.88
1:A:1708:A:H61	1:A:2023:C:N4	1.71	0.88
1:A:2769:G:N1	1:A:2789:U:O2	2.06	0.88
31:a:605:G:C2	38:h:89:ALA:C	2.52	0.87
1:A:2109:A:C5	1:A:2264:G:N2	2.39	0.87
31:a:56:A:H62	31:a:365:G:H21	1.18	0.87
31:a:347:C:O2	31:a:358:G:N2	2.06	0.87
31:a:900:U:O2	31:a:916:A:N7	2.08	0.87
1:A:1889:G:O6	1:A:1907:U:C4	2.27	0.87
7:G:87:LEU:HD13	7:G:148:ILE:HD13	1.55	0.87
31:a:1268:G:H21	31:a:1289:A:N6	1.72	0.87
31:a:147:G:N2	31:a:175:C:C2	2.41	0.86
31:a:606:U:N1	38:h:90:LYS:C	2.33	0.86
1:A:2292:U:O2	1:A:2301:A:N6	2.09	0.86
31:a:989:C:C2	44:n:16:TYR:CG	2.64	0.86
32:b:163:VAL:HG11	32:b:173:ILE:HD11	1.58	0.86
1:A:2628:C:O2'	1:A:2629:A:O4'	1.94	0.85
49:s:36:ARG:HA	49:s:74:PHE:CE1	2.10	0.85
31:a:1086:U:O2'	32:b:103:ASN:O	1.94	0.85
1:A:1448:U:N3	1:A:1635:A:N1	2.24	0.85

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2496:A:C8	1:A:2508:G:C2	2.63	0.85
31:a:606:U:C2	38:h:90:LYS:CA	2.59	0.85
31:a:989:C:C2	44:n:16:TYR:CB	2.60	0.85
1:A:1448:U:C2	1:A:1635:A:C6	2.63	0.85
1:A:752:G:N1	1:A:769:U:C2	2.45	0.85
31:a:1412:C:N4	31:a:1509:U:O2'	2.10	0.85
31:a:1314:G:C2	31:a:1343:A:N6	2.44	0.85
31:a:904:A:N1	31:a:913:U:C4	2.45	0.84
31:a:148:G:O6	31:a:174:A:N1	2.10	0.84
1:A:2618:C:O2	1:A:2630:G:N2	2.11	0.84
31:a:405:A:C8	42:l:134:LYS:CD	2.61	0.84
1:A:1987:A:N3	31:a:1494:A:N6	2.24	0.84
31:a:1423:A:C2	31:a:1498:G:N1	2.46	0.84
1:A:562:C:OP2	26:Z:10:LYS:NZ	2.10	0.84
1:A:1887:G:N2	1:A:1909:C:O2	2.11	0.84
31:a:147:G:N2	31:a:175:C:O2	2.10	0.84
31:a:775:A:N7	31:a:819:C:N4	2.25	0.84
49:s:74:PHE:CZ	49:s:74:PHE:CE2	2.65	0.84
1:A:1024:A:OP1	1:A:1026:C:N4	2.11	0.83
1:A:1085:U:O2	1:A:1158:G:O6	1.96	0.83
31:a:1278:G:HO2'	31:a:1335:C:HO2'	1.24	0.83
31:a:836:A:N1	31:a:867:G:O2'	2.11	0.83
1:A:333:C:C5	1:A:393:G:N9	2.46	0.83
1:A:1018:A:OP2	16:P:80:LYS:NZ	2.09	0.83
31:a:257:U:O2	31:a:283:G:O6	1.96	0.83
31:a:1095:G:HO2'	33:c:171:THR:HG1	1.18	0.83
29:3:32:LEU:O	29:3:36:LYS:NZ	2.10	0.83
31:a:405:A:C8	42:l:134:LYS:CE	2.61	0.83
1:A:1753:U:O2	1:A:2879:G:N2	2.11	0.83
1:A:1290:G:N3	15:O:33:LYS:NZ	2.25	0.83
31:a:508:G:N2	31:a:556:G:O2'	2.11	0.83
31:a:606:U:C4	38:h:90:LYS:C	2.57	0.83
22:V:45:LYS:NZ	22:V:46:LYS:O	2.12	0.83
31:a:1426:A:N6	31:a:1496:U:O2	2.12	0.83
2:B:34:C:N4	2:B:47:C:O2	2.12	0.83
2:B:74:G:N2	2:B:97:G:O6	2.12	0.83
31:a:605:G:N3	38:h:89:ALA:C	2.37	0.83
31:a:774:A:OP2	31:a:819:C:N4	2.12	0.83
1:A:333:C:C2	1:A:393:G:H1'	2.14	0.82
1:A:923:A:N6	1:A:944:G:O6	2.12	0.82
1:A:299:U:O2	1:A:300:G:N2	2.10	0.82

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:917:U:C6	11:K:2:LEU:HG	2.13	0.82
31:a:960:G:O6	43:m:103:LYS:NZ	2.12	0.82
1:A:333:C:C2	1:A:393:G:C1'	2.63	0.82
1:A:2479:C:N4	1:A:2531:U:O4	2.11	0.82
31:a:1059:G:O2'	31:a:1226:A:OP2	1.96	0.82
1:A:926:G:O2'	1:A:941:A:N1	2.13	0.82
1:A:2280:G:N2	21:U:13:LYS:O	2.11	0.82
1:A:2495:A:C5	1:A:2504:C:C4	2.67	0.82
31:a:36:G:O3'	42:l:130:TYR:CD2	2.32	0.82
31:a:518:A:O2'	31:a:550:U:O2'	1.97	0.82
1:A:1053:A:O2'	1:A:1054:A:O4'	1.97	0.82
1:A:2555:U:O2	1:A:2562:G:N1	2.12	0.82
31:a:529:G:HO2'	31:a:544:C:HO2'	0.83	0.82
1:A:2088:G:OP1	5:E:68:LYS:NZ	2.11	0.82
1:A:2683:U:N3	1:A:2692:A:C8	2.48	0.82
31:a:160:A:N6	31:a:351:U:O2'	2.13	0.82
31:a:1139:C:O2'	31:a:1159:C:N3	2.12	0.82
32:b:10:LEU:HD11	32:b:43:LEU:HD13	1.60	0.82
31:a:213:G:O6	31:a:226:U:N3	2.12	0.82
1:A:2495:A:N7	1:A:2504:C:C4	2.48	0.82
2:B:53:U:O2'	2:B:55:A:N7	2.13	0.82
31:a:961:U:OP1	31:a:971:C:N4	2.12	0.82
1:A:1470:G:N7	3:C:31:LYS:NZ	2.26	0.82
1:A:1916:A:N3	1:A:2113:U:O2'	2.12	0.82
1:A:2278:G:N7	21:U:12:LYS:NZ	2.28	0.82
1:A:2905:C:N4	26:Z:38:LEU:O	2.13	0.82
31:a:594:C:HO2'	31:a:887:U:HO2'	1.25	0.82
1:A:364:A:OP2	5:E:135:LYS:NZ	2.13	0.82
1:A:2736:G:OP1	12:L:14:LYS:NZ	2.12	0.82
31:a:37:C:O2	42:l:128:SER:OG	1.98	0.82
31:a:706:G:O2'	31:a:807:G:O4'	1.96	0.82
1:A:759:U:O2'	1:A:760:A:O4'	1.98	0.81
1:A:983:G:OP1	29:3:59:LYS:NZ	2.12	0.81
1:A:333:C:C4	1:A:393:G:N9	2.48	0.81
1:A:678:A:OP2	10:J:71:ARG:NH1	2.13	0.81
1:A:1210:U:O4	1:A:1222:A:N6	2.14	0.81
1:A:2372:G:O6	1:A:2398:G:N2	2.13	0.81
1:A:460:C:O2'	1:A:1891:U:O2	1.99	0.81
1:A:2349:A:N6	1:A:2360:A:N7	2.29	0.81
1:A:2559:G:O6	7:G:176:THR:OG1	1.98	0.81
31:a:649:A:N6	38:h:124:GLY:O	2.13	0.81

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:1329:A:N6	31:a:1371:G:C2	2.49	0.81
1:A:1852:G:O4'	3:C:254:THR:OG1	1.97	0.81
1:A:2425:U:O2	27:1:15:ARG:NH2	2.13	0.81
1:A:9:U:O2	1:A:2656:A:N7	2.13	0.81
1:A:333:C:C4	1:A:393:G:C1'	2.64	0.81
1:A:1263:A:O3'	16:P:85:LYS:NZ	2.14	0.81
31:a:649:A:N3	38:h:110:GLU:N	2.29	0.81
1:A:333:C:OP2	1:A:393:G:N2	2.13	0.81
1:A:445:G:N7	22:V:52:ARG:NH2	2.29	0.81
1:A:2734:C:O3'	12:L:64:LYS:NZ	2.13	0.81
1:A:306:C:O2	1:A:411:A:N6	2.11	0.81
31:a:300:G:N3	31:a:616:A:N6	2.28	0.81
31:a:382:A:N6	31:a:398:C:O2	2.14	0.81
31:a:792:A:C6	31:a:806:U:O4	2.33	0.81
31:a:1437:C:O2	31:a:1484:G:N2	2.14	0.81
1:A:1467:G:O6	1:A:1622:C:N4	2.13	0.81
1:A:1499:U:O4	1:A:2731:C:N3	2.14	0.81
31:a:606:U:C5	38:h:90:LYS:C	2.58	0.81
1:A:273:A:OP2	1:A:297:G:N2	2.14	0.80
1:A:333:C:N1	1:A:393:G:N9	2.30	0.80
1:A:1092:A:O2'	1:A:1157:U:O2	1.98	0.80
3:C:176:LEU:N	3:C:274:ARG:O	2.13	0.80
1:A:327:G:N2	1:A:328:G:O2'	2.13	0.80
1:A:2778:G:OP1	1:A:2778:G:N2	2.15	0.80
7:G:125:VAL:HG12	7:G:131:VAL:HG22	1.63	0.80
31:a:108:A:H62	31:a:332:G:N2	1.78	0.80
1:A:333:C:N3	1:A:393:G:N9	2.29	0.80
1:A:1466:G:N2	1:A:1541:C:O2	2.13	0.80
1:A:2361:U:O4	1:A:2363:A:N7	2.13	0.80
31:a:36:G:O3'	42:l:130:TYR:CZ	2.35	0.80
1:A:333:C:C6	1:A:393:G:N9	2.48	0.80
1:A:1889:G:O6	1:A:1907:U:N3	2.15	0.80
31:a:1322:G:O2'	49:s:6:LYS:O	2.00	0.80
1:A:2496:A:C5	1:A:2508:G:C2	2.70	0.80
31:a:150:U:O2	31:a:171:A:N7	2.14	0.80
1:A:487:U:O2'	5:E:46:GLN:OE1	1.99	0.80
1:A:1092:A:OP2	1:A:1154:G:N2	2.15	0.80
1:A:2366:G:O3'	2:B:39:G:N2	2.15	0.80
1:A:2496:A:N6	1:A:2508:G:C4	2.50	0.80
31:a:10:G:O2'	31:a:11:A:N7	2.15	0.80
31:a:903:G:N1	31:a:914:U:C2	2.49	0.80

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1885:G:O4'	1:A:1911:A:N6	2.14	0.80
6:F:148:LYS:NZ	6:F:149:VAL:O	2.14	0.80
16:P:35:PHE:O	16:P:57:THR:OG1	2.00	0.80
31:a:214:A:N1	31:a:225:G:O6	2.13	0.80
31:a:1527:G:N2	31:a:1530:A:OP2	2.15	0.80
40:j:32:SER:O	40:j:86:ALA:N	2.15	0.80
1:A:493:A:OP1	15:O:5:LYS:NZ	2.15	0.79
1:A:2817:A:O2'	1:A:2822:C:O2	2.00	0.79
31:a:182:A:N7	31:a:231:U:O2'	2.15	0.79
1:A:319:G:O4'	1:A:325:A:N6	2.15	0.79
1:A:1116:C:HO2'	1:A:1138:U:HO2'	1.21	0.79
1:A:2683:U:C2	1:A:2692:A:N7	2.50	0.79
1:A:299:U:O2'	1:A:300:G:N2	2.15	0.79
1:A:1538:A:N3	1:A:1625:U:O2'	2.14	0.79
31:a:783:G:O2'	31:a:812:U:O4	2.00	0.79
37:g:103:TRP:N	37:g:137:LYS:O	2.14	0.79
1:A:1831:A:O3'	3:C:252:LYS:NZ	2.15	0.79
1:A:337:A:C6	1:A:387:G:N2	2.50	0.79
1:A:2558:A:N6	1:A:2688:G:O6	2.14	0.79
46:p:9:ARG:NH1	46:p:18:TYR:OH	2.15	0.79
1:A:1324:A:O4'	12:L:109:ARG:NH1	2.15	0.79
1:A:1347:G:OP2	28:2:10:LYS:NZ	2.14	0.79
1:A:1490:G:O2'	1:A:1491:C:O5'	2.00	0.79
1:A:1854:U:OP1	1:A:1998:A:O2'	1.98	0.79
1:A:273:A:N7	1:A:298:U:O2	2.15	0.79
1:A:1470:G:OP2	1:A:1471:A:O2'	2.00	0.79
31:a:75:A:N6	31:a:94:G:O2'	2.14	0.79
31:a:872:U:O2	31:a:875:C:N4	2.16	0.79
31:a:1131:C:C4	31:a:1164:U:N3	2.51	0.79
1:A:1195:A:O3'	15:O:84:LYS:NZ	2.16	0.79
1:A:1378:U:O2'	18:R:54:ASN:OD1	2.01	0.79
1:A:1427:U:O2	1:A:1432:A:N7	2.16	0.79
32:b:24:ASN:ND2	32:b:27:MET:SD	2.55	0.79
1:A:526:A:O2'	19:S:42:LYS:O	2.01	0.79
1:A:1070:A:N6	1:A:1170:A:O2'	2.16	0.79
1:A:1425:G:O2'	1:A:1571:G:N2	2.16	0.79
1:A:1979:A:N3	1:A:2587:C:O2'	2.16	0.79
2:B:78:U:O4	20:T:15:ARG:NH2	2.16	0.79
31:a:1278:G:O2'	31:a:1335:C:O2'	2.00	0.79
31:a:1419:C:O2	42:l:54:THR:OG1	2.01	0.79
1:A:574:A:N3	1:A:575:G:N2	2.31	0.79

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1709:A:O2'	9:I:1:MET:N	2.13	0.79
31:a:989:C:C4	44:n:16:TYR:CB	2.66	0.79
1:A:754:U:O4	1:A:768:A:N6	2.16	0.78
1:A:1068:G:HO2'	1:A:1188:A:HO2'	1.24	0.78
1:A:1869:G:O6	1:A:1925:U:O2	2.01	0.78
1:A:2851:G:N2	1:A:2904:U:OP2	2.16	0.78
31:a:778:C:O2'	31:a:817:G:N2	2.15	0.78
1:A:274:A:O2'	1:A:414:C:O2'	2.01	0.78
1:A:678:A:OP1	10:J:68:ASN:ND2	2.16	0.78
1:A:1935:C:O2	1:A:1949:G:N2	2.16	0.78
31:a:1260:A:N3	31:a:1380:G:O2'	2.16	0.78
1:A:1215:U:O2'	1:A:1217:U:OP2	2.00	0.78
1:A:1708:A:N6	1:A:2023:C:H42	1.79	0.78
1:A:2767:A:N6	1:A:2790:G:O2'	2.16	0.78
31:a:1063:U:O2'	31:a:1065:C:O2'	2.01	0.78
1:A:429:C:N4	1:A:432:G:OP2	2.17	0.78
1:A:1875:A:O2'	1:A:1876:G:N7	2.14	0.78
1:A:2150:A:OP2	1:A:2197:G:O2'	2.00	0.78
31:a:22:G:O2'	31:a:923:A:N6	2.16	0.78
31:a:304:U:O2	31:a:309:G:N2	2.17	0.78
31:a:605:G:N1	38:h:89:ALA:C	2.41	0.78
31:a:989:C:C6	44:n:16:TYR:CB	2.66	0.78
31:a:1123:C:OP1	31:a:1125:C:N4	2.16	0.78
31:a:1209:U:O2'	31:a:1212:U:OP2	2.01	0.78
1:A:1495:C:N3	1:A:1504:U:O4	2.16	0.78
1:A:2126:C:O2	1:A:2217:G:N2	2.16	0.78
1:A:2772:C:N4	1:A:2782:C:O2'	2.17	0.78
31:a:606:U:C2	31:a:606:U:N1	2.50	0.78
49:s:74:PHE:CZ	49:s:74:PHE:CE1	2.71	0.78
1:A:2747:U:O4	1:A:2893:A:N6	2.16	0.78
2:B:29:C:O2	2:B:51:A:N6	2.17	0.78
1:A:252:C:O2	10:J:63:LYS:NZ	2.17	0.78
1:A:564:U:O3'	17:Q:25:ARG:NH1	2.16	0.78
1:A:1074:G:O6	1:A:1169:G:N2	2.17	0.78
1:A:1648:C:O2'	1:A:1654:A:N6	2.16	0.78
1:A:350:G:O2'	1:A:352:A:N7	2.15	0.78
1:A:1537:A:OP2	1:A:1538:A:N6	2.17	0.78
1:A:2579:U:C4	1:A:2583:C:N4	2.52	0.78
3:C:34:LEU:O	3:C:35:LYS:NZ	2.15	0.78
31:a:726:A:OP2	51:u:33:ARG:NH1	2.15	0.78
1:A:418:G:O2'	1:A:446:G:O6	2.02	0.78

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:1169:U:OP2	31:a:1191:G:N2	2.17	0.78
1:A:72:U:O2	1:A:75:G:N2	2.17	0.78
1:A:2530:A:O2'	1:A:2532:G:OP2	2.01	0.78
1:A:2900:C:O2'	12:L:96:ARG:NH1	2.17	0.78
2:B:15:C:O2	2:B:65:G:N2	2.17	0.78
31:a:606:U:N1	38:h:90:LYS:CA	2.47	0.78
31:a:1131:C:C4	31:a:1164:U:C4	2.71	0.78
31:a:1143:C:N4	31:a:1151:U:O4	2.17	0.78
31:a:1359:A:OP1	31:a:1362:C:N4	2.17	0.78
37:g:23:VAL:HG12	37:g:43:LEU:HD21	1.66	0.78
1:A:333:C:C6	1:A:393:G:C1'	2.66	0.77
1:A:1725:G:O2'	1:A:1789:A:O2'	1.93	0.77
9:I:64:ARG:NH1	9:I:101:PRO:O	2.16	0.77
12:L:45:GLU:O	12:L:49:THR:OG1	2.02	0.77
1:A:1455:U:O2'	1:A:1631:G:OP2	2.00	0.77
1:A:1675:G:C2	1:A:1679:A:N6	2.29	0.77
3:C:176:LEU:O	3:C:177:ARG:NE	2.17	0.77
31:a:606:U:C6	38:h:90:LYS:C	2.62	0.77
31:a:1310:G:N2	31:a:1344:G:OP2	2.16	0.77
31:a:1510:A:OP2	31:a:1515:G:O2'	2.01	0.77
1:A:135:G:N2	1:A:144:C:O2	2.17	0.77
1:A:202:A:O3'	22:V:23:ASN:ND2	2.17	0.77
28:2:14:SER:OG	28:2:15:LYS:NZ	2.18	0.77
31:a:792:A:N1	31:a:806:U:O4	2.17	0.77
31:a:793:G:N2	31:a:806:U:O4	2.17	0.77
31:a:1087:C:OP1	32:b:178:LYS:NZ	2.18	0.77
34:d:3:ARG:NH2	34:d:60:LEU:O	2.18	0.77
1:A:674:C:O2	1:A:684:U:O2'	2.02	0.77
31:a:978:A:N6	52:v:5:GLU:OE1	2.18	0.77
37:g:104:LEU:O	37:g:136:LYS:N	2.18	0.77
47:q:13:LYS:NZ	47:q:26:LEU:O	2.18	0.77
1:A:1068:G:O2'	1:A:1188:A:O2'	2.02	0.77
12:L:52:LYS:NZ	12:L:96:ARG:O	2.17	0.77
31:a:152:A:N6	31:a:169:C:O2'	2.18	0.77
31:a:268:G:O2'	50:t:73:ARG:NH1	2.16	0.77
31:a:870:G:N2	31:a:881:A:N7	2.32	0.77
1:A:231:A:N6	1:A:465:C:O4'	2.17	0.77
1:A:1796:A:O2'	1:A:1985:C:OP1	2.03	0.77
1:A:2769:G:N2	1:A:2789:U:O2	2.17	0.77
11:K:30:GLY:O	11:K:134:ARG:NH1	2.16	0.77
16:P:7:THR:OG1	16:P:23:GLU:OE2	2.03	0.77

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:1122:A:O4'	31:a:1193:U:O2'	2.02	0.77
38:h:15:ARG:O	38:h:72:ARG:NH1	2.18	0.77
1:A:894:A:O3'	24:X:21:LYS:NZ	2.18	0.77
1:A:1823:U:O5'	3:C:257:LYS:N	2.17	0.77
2:B:10:U:O5'	2:B:13:A:N6	2.17	0.77
5:E:33:LEU:HD21	5:E:183:VAL:HG21	1.66	0.77
31:a:36:G:O3'	42:l:130:TYR:CE1	2.38	0.77
31:a:205:A:OP2	31:a:207:G:N2	2.17	0.77
31:a:1069:G:OP2	33:c:185:HIS:ND1	2.18	0.77
31:a:1139:C:O4'	31:a:1160:U:O2'	2.01	0.77
44:n:22:THR:O	44:n:23:ARG:NH1	2.18	0.77
1:A:301:U:O2'	1:A:302:A:O5'	2.03	0.77
1:A:2392:G:N7	29:3:39:LYS:NZ	2.33	0.77
31:a:364:A:N3	31:a:376:U:O2'	2.18	0.77
31:a:606:U:C6	38:h:90:LYS:O	2.38	0.77
1:A:694:G:O2'	29:3:23:LYS:NZ	2.15	0.77
1:A:2307:G:N7	21:U:22:ARG:NH1	2.31	0.77
31:a:793:G:O2'	31:a:794:G:O4'	2.03	0.77
31:a:1205:C:O2'	52:v:53:LYS:NZ	2.16	0.77
31:a:1381:G:OP2	39:i:72:GLY:N	2.18	0.77
1:A:61:A:OP1	23:W:44:ARG:NH2	2.18	0.76
1:A:1966:U:OP1	1:A:2631:U:O2'	2.03	0.76
1:A:2212:G:O2'	1:A:2213:U:O4'	2.03	0.76
31:a:774:A:N6	31:a:1522:G:O2'	2.15	0.76
31:a:934:G:N1	31:a:1401:U:C2	2.53	0.76
31:a:1191:G:N2	31:a:1194:G:OP2	2.18	0.76
31:a:1517:U:O2'	31:a:1519:G:OP2	2.03	0.76
1:A:1086:G:C6	1:A:1157:U:C4	2.73	0.76
3:C:161:SER:O	3:C:177:ARG:NH2	2.18	0.76
31:a:576:G:N7	42:l:12:ARG:NH1	2.33	0.76
1:A:1977:G:N2	1:A:1983:U:O4	2.17	0.76
1:A:2135:U:OP2	1:A:2205:C:N4	2.17	0.76
1:A:2279:G:N7	21:U:12:LYS:N	2.32	0.76
13:M:9:LYS:O	13:M:13:LYS:NZ	2.16	0.76
20:T:10:GLN:OE1	20:T:13:GLN:NE2	2.19	0.76
31:a:605:G:C6	38:h:89:ALA:C	2.62	0.76
31:a:1413:C:O2'	31:a:1510:A:N6	2.17	0.76
38:h:90:LYS:N	38:h:90:LYS:CB	2.48	0.76
1:A:1467:G:O5'	1:A:1535:G:O2'	2.02	0.76
1:A:2378:G:N7	29:3:42:ARG:NH1	2.34	0.76
2:B:18:G:N2	2:B:61:C:O2	2.18	0.76

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:106:VAL:O	6:F:110:ARG:NH1	2.18	0.76
31:a:675:G:N2	45:o:48:LYS:O	2.15	0.76
31:a:988:C:OP1	31:a:1332:C:N4	2.18	0.76
1:A:460:C:O2	1:A:1891:U:O2'	2.04	0.76
1:A:1791:G:N2	1:A:2015:C:O2	2.18	0.76
18:R:9:ARG:NH1	18:R:10:PRO:O	2.18	0.76
31:a:457:A:N6	31:a:492:G:C6	2.54	0.76
1:A:2685:C:N4	1:A:2686:G:N3	2.34	0.76
13:M:55:GLN:O	13:M:83:LYS:NZ	2.19	0.76
31:a:260:U:O2'	31:a:283:G:N2	2.18	0.76
31:a:527:C:N4	31:a:537:G:O2'	2.18	0.76
31:a:1086:U:O4'	32:b:106:THR:OG1	2.04	0.76
1:A:1915:G:N2	1:A:1915:G:OP2	2.19	0.76
3:C:35:LYS:O	3:C:62:TYR:N	2.18	0.76
31:a:118:A:N7	31:a:295:U:O2	2.19	0.76
37:g:101:LEU:O	37:g:137:LYS:NZ	2.18	0.76
1:A:9:U:C2	1:A:2656:A:N7	2.54	0.76
1:A:263:G:O4'	1:A:666:A:O2'	2.02	0.76
1:A:460:C:O4'	1:A:1890:G:N2	2.19	0.76
1:A:1865:C:N4	1:A:1926:A:O4'	2.18	0.76
30:4:27:CYS:SG	30:4:29:ASN:ND2	2.59	0.76
1:A:2330:G:N3	6:F:125:ARG:NH1	2.34	0.76
5:E:18:GLU:O	5:E:200:LYS:NZ	2.19	0.76
5:E:140:LYS:O	5:E:140:LYS:NZ	2.19	0.76
31:a:101:G:O2'	31:a:151:A:N3	2.18	0.76
1:A:248:G:N7	29:3:8:ARG:NH2	2.34	0.76
1:A:276:C:O2'	1:A:306:C:OP1	2.04	0.76
1:A:309:U:O2'	1:A:310:C:O4'	2.03	0.76
14:N:64:ARG:NH1	14:N:73:GLU:OE2	2.18	0.76
31:a:948:G:O2'	31:a:949:C:O5'	2.03	0.76
31:a:985:G:N2	31:a:1234:U:O2	2.19	0.76
31:a:1134:A:N6	31:a:1158:U:OP2	2.19	0.76
31:a:1263:G:O2'	31:a:1264:G:O4'	2.03	0.76
31:a:1523:U:O2'	31:a:1534:G:N2	2.18	0.76
1:A:1466:G:O2'	1:A:1535:G:N3	2.19	0.75
13:M:25:THR:OG1	13:M:28:LYS:NZ	2.19	0.75
31:a:247:C:OP1	31:a:248:U:O2'	2.03	0.75
31:a:989:C:N3	44:n:16:TYR:CB	2.50	0.75
31:a:1219:C:O2'	31:a:1224:U:O4	2.04	0.75
44:n:40:CYS:SG	44:n:41:ARG:N	2.60	0.75
1:A:393:G:N9	1:A:393:G:C1'	2.49	0.75

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1881:A:N1	1:A:2114:G:O2'	2.19	0.75
5:E:3:ASN:ND2	5:E:17:ILE:O	2.18	0.75
6:F:30:LYS:NZ	6:F:31:ILE:O	2.18	0.75
12:L:74:GLU:O	12:L:77:THR:OG1	2.01	0.75
31:a:121:A:N6	31:a:247:C:O2'	2.19	0.75
1:A:997:G:N2	1:A:1008:C:O2	2.19	0.75
1:A:1039:C:O2'	15:O:93:LYS:NZ	2.20	0.75
1:A:1072:A:N6	1:A:1170:A:OP1	2.19	0.75
1:A:2883:U:OP1	14:N:93:LYS:NZ	2.15	0.75
2:B:64:A:N6	2:B:105:C:O5'	2.20	0.75
42:l:84:GLY:O	42:l:112:ARG:NH2	2.19	0.75
1:A:6:A:O2'	8:H:136:GLN:NE2	2.20	0.75
31:a:111:G:OP1	31:a:397:A:O2'	2.05	0.75
31:a:606:U:C6	38:h:90:LYS:CA	2.70	0.75
31:a:989:C:N1	44:n:16:TYR:CB	2.50	0.75
31:a:1024:G:N2	31:a:1228:U:O2	2.18	0.75
1:A:192:G:O5'	22:V:26:LYS:NZ	2.19	0.75
1:A:2865:G:N2	1:A:2891:U:O2	2.18	0.75
9:I:88:ARG:NH1	9:I:93:PRO:O	2.19	0.75
12:L:95:GLU:O	12:L:97:GLN:NE2	2.19	0.75
31:a:775:A:O3'	31:a:1535:C:O2'	2.03	0.75
1:A:1652:A:N7	1:A:1665:U:O2	2.20	0.75
1:A:2684:A:N7	1:A:2691:G:N2	2.31	0.75
1:A:2686:G:N2	1:A:2689:A:OP2	2.19	0.75
21:U:50:GLY:N	21:U:65:ASP:OD2	2.19	0.75
31:a:146:G:N1	31:a:176:C:N3	2.35	0.75
31:a:1263:G:N3	31:a:1365:A:O2'	2.18	0.75
1:A:917:U:C2	11:K:2:LEU:CD1	2.70	0.75
1:A:1467:G:O2'	1:A:1542:C:O2'	2.01	0.75
1:A:1763:U:O2'	1:A:1767:G:O6	2.05	0.75
1:A:2770:U:N3	1:A:2771:G:O6	2.20	0.75
2:B:55:A:O2'	6:F:27:GLU:OE1	2.04	0.75
22:V:58:LYS:NZ	22:V:59:VAL:O	2.19	0.75
31:a:161:A:C6	31:a:354:G:C6	2.74	0.75
31:a:1444:A:H62	31:a:1478:G:N2	1.85	0.75
1:A:1261:G:N7	16:P:70:LYS:NZ	2.34	0.75
1:A:1396:A:N6	1:A:1409:U:O2	2.19	0.75
1:A:1452:C:O2'	1:A:1631:G:N2	2.20	0.75
31:a:950:G:N2	31:a:951:G:N7	2.34	0.75
1:A:576:U:O4	1:A:2045:A:N6	2.19	0.75
1:A:672:A:O2'	1:A:681:G:N2	2.20	0.75

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:834:A:N6	1:A:1658:A:OP2	2.19	0.75
1:A:1934:G:N1	1:A:1950:U:O2	2.19	0.75
1:A:2142:G:N2	1:A:2188:C:OP1	2.18	0.75
5:E:157:GLU:OE1	5:E:198:ALA:N	2.19	0.75
31:a:614:G:OP1	31:a:638:G:O2'	2.05	0.75
38:h:90:LYS:HA	38:h:90:LYS:C	2.10	0.75
1:A:2859:G:N2	12:L:97:GLN:O	2.20	0.74
31:a:108:A:N6	31:a:332:G:H21	1.83	0.74
31:a:995:A:O2'	49:s:56:LYS:NZ	2.20	0.74
34:d:101:LEU:O	34:d:106:THR:N	2.20	0.74
1:A:308:C:O2'	1:A:407:G:N2	2.20	0.74
46:p:76:SER:OG	46:p:82:LYS:N	2.20	0.74
1:A:94:A:OP2	1:A:95:A:N6	2.19	0.74
1:A:1439:U:O2'	1:A:1513:A:N1	2.20	0.74
1:A:1675:G:N2	1:A:1679:A:H62	1.84	0.74
1:A:1963:A:N6	1:A:1990:C:O2	2.20	0.74
31:a:698:G:N2	31:a:705:U:OP2	2.21	0.74
31:a:989:C:C6	44:n:16:TYR:CG	2.76	0.74
1:A:333:C:N3	1:A:393:G:C1'	2.51	0.74
1:A:2209:G:OP2	1:A:2210:C:N4	2.19	0.74
31:a:1388:C:O2'	37:g:95:ARG:NH2	2.20	0.74
31:a:1515:G:OP1	31:a:1517:U:O2'	2.03	0.74
32:b:167:ARG:NH1	32:b:189:THR:O	2.19	0.74
41:k:17:GLU:OE2	41:k:81:THR:OG1	2.05	0.74
1:A:752:G:N1	1:A:769:U:O2	2.19	0.74
1:A:2398:G:N2	27:1:42:TYR:OH	2.15	0.74
1:A:2608:G:N2	1:A:2608:G:OP2	2.18	0.74
6:F:61:THR:OG1	6:F:63:GLN:O	2.06	0.74
17:Q:83:LYS:O	17:Q:84:ARG:NE	2.21	0.74
31:a:989:C:N3	44:n:16:TYR:CG	2.56	0.74
1:A:1290:G:N2	15:O:33:LYS:O	2.21	0.74
1:A:1301:U:O2'	26:Z:8:THR:OG1	2.06	0.74
1:A:1675:G:C4	1:A:1679:A:N6	2.53	0.74
1:A:1767:G:OP2	1:A:1768:C:N4	2.15	0.74
1:A:1828:U:OP2	3:C:150:LYS:NZ	2.20	0.74
1:A:2709:U:O4	1:A:2755:U:O2'	2.05	0.74
27:1:9:CYS:SG	27:1:10:THR:N	2.60	0.74
31:a:581:A:O2'	31:a:892:C:O2'	2.06	0.74
31:a:904:A:C6	31:a:913:U:O4	2.41	0.74
1:A:1076:A:N1	1:A:1166:G:C6	2.55	0.74
31:a:699:G:O2'	31:a:805:C:O2	2.05	0.74

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:896:G:O6	42:l:18:LYS:NZ	2.16	0.74
52:v:90:ARG:O	52:v:97:ASN:N	2.21	0.74
1:A:85:G:OP1	19:S:4:LYS:NZ	2.21	0.74
1:A:446:G:N7	22:V:55:LYS:NZ	2.35	0.74
1:A:1403:C:OP1	22:V:5:CYS:N	2.21	0.74
1:A:1793:C:O2	1:A:2013:G:N2	2.19	0.74
1:A:2769:G:C2	1:A:2789:U:O2	2.40	0.74
31:a:424:G:O2'	31:a:436:G:O6	2.05	0.74
31:a:1243:G:O2'	31:a:1375:G:OP1	2.06	0.74
1:A:652:A:N6	1:A:664:G:O2'	2.20	0.74
1:A:2499:G:N2	1:A:2504:C:OP1	2.21	0.74
1:A:2669:G:OP2	8:H:86:LYS:NZ	2.20	0.74
31:a:1138:G:OP2	31:a:1139:C:N4	2.20	0.74
43:m:84:SER:O	49:s:36:ARG:NE	2.20	0.74
1:A:2153:A:O2'	1:A:2189:G:N2	2.20	0.74
1:A:2450:U:O2'	1:A:2451:C:O5'	2.04	0.74
1:A:2474:G:O2'	1:A:2526:C:OP2	2.02	0.74
31:a:603:A:N6	31:a:649:A:OP2	2.21	0.74
31:a:871:C:O2	31:a:876:G:N2	2.21	0.74
31:a:997:A:O2'	31:a:998:U:O4'	2.06	0.74
31:a:1314:G:N2	31:a:1343:A:C6	2.56	0.74
50:t:10:ARG:O	50:t:14:THR:OG1	2.06	0.74
1:A:1086:G:O6	1:A:1157:U:C5	2.40	0.73
1:A:1353:A:O4'	1:A:1429:G:N2	2.18	0.73
1:A:2089:A:N6	1:A:2530:A:N7	2.36	0.73
3:C:117:GLU:N	3:C:128:ASN:OD1	2.20	0.73
31:a:10:G:N2	31:a:26:C:C2	2.55	0.73
31:a:637:A:O2'	31:a:639:G:N3	2.19	0.73
31:a:989:C:C4	44:n:16:TYR:CG	2.75	0.73
31:a:1314:G:N2	31:a:1343:A:C5	2.54	0.73
49:s:36:ARG:O	49:s:74:PHE:CE1	2.41	0.73
1:A:333:C:H41	1:A:392:U:H3'	1.52	0.73
1:A:687:G:N1	1:A:690:U:OP2	2.21	0.73
1:A:1376:G:O3'	18:R:15:LYS:NZ	2.22	0.73
31:a:979:C:N4	52:v:5:GLU:OE2	2.19	0.73
31:a:1023:A:O2'	31:a:1024:G:O4'	2.05	0.73
37:g:50:VAL:O	37:g:54:SER:OG	2.05	0.73
1:A:1079:U:C2	1:A:1164:G:N1	2.56	0.73
1:A:2132:A:O2'	1:A:2133:G:O4'	2.03	0.73
6:F:30:LYS:O	6:F:159:THR:OG1	2.05	0.73
31:a:745:U:O2'	36:f:93:ARG:O	2.02	0.73

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:1425:G:O6	31:a:1496:U:O2	2.06	0.73
1:A:529:A:O2'	19:S:54:GLY:O	2.06	0.73
1:A:1759:G:N2	1:A:1771:A:O3'	2.20	0.73
31:a:46:U:OP2	46:p:13:LYS:NZ	2.21	0.73
31:a:613:U:O2	31:a:614:G:N1	2.21	0.73
31:a:904:A:N6	31:a:913:U:O4	2.21	0.73
31:a:1336:U:O2'	31:a:1337:A:OP2	2.07	0.73
1:A:1000:G:N7	11:K:14:ARG:NH2	2.36	0.73
1:A:1490:G:N7	1:A:1595:C:N4	2.35	0.73
31:a:69:G:C6	31:a:100:A:N6	2.56	0.73
31:a:1066:A:N7	31:a:1210:C:C4	2.55	0.73
1:A:526:A:O3'	19:S:43:LYS:NZ	2.22	0.73
1:A:956:A:N7	11:K:12:GLN:NE2	2.37	0.73
31:a:186:U:O2'	31:a:187:U:OP2	2.06	0.73
31:a:605:G:N1	38:h:90:LYS:N	2.36	0.73
31:a:660:U:O4	31:a:760:G:O2'	2.07	0.73
1:A:1213:C:H42	1:A:1219:G:H22	1.35	0.73
4:D:56:LYS:NZ	4:D:66:ASN:O	2.22	0.73
12:L:9:THR:OG1	12:L:12:GLN:OE1	2.06	0.73
31:a:143:A:N6	31:a:225:G:OP2	2.22	0.73
31:a:1083:G:OP1	33:c:168:SER:N	2.22	0.73
52:v:23:GLU:O	52:v:28:LEU:N	2.20	0.73
1:A:352:A:N6	1:A:1248:U:C2	2.56	0.73
1:A:1464:U:O2'	1:A:1465:G:O4'	2.06	0.73
1:A:2218:G:OP1	1:A:2219:C:N4	2.22	0.73
1:A:2510:C:N3	11:K:124:LYS:NZ	2.33	0.73
31:a:69:G:N1	31:a:100:A:C5	2.57	0.73
31:a:263:G:O5'	47:q:73:LYS:N	2.22	0.73
31:a:597:U:O2	38:h:57:GLN:NE2	2.22	0.73
31:a:615:A:O2'	31:a:616:A:O4'	2.07	0.73
31:a:802:A:N1	52:v:99:LYS:NZ	2.37	0.73
1:A:142:G:N2	18:R:40:MET:SD	2.60	0.73
1:A:2005:A:N3	3:C:11:ASN:ND2	2.36	0.73
1:A:2445:A:O2'	27:1:15:ARG:O	2.06	0.73
1:A:2820:U:O2'	1:A:2822:C:O4'	2.02	0.73
8:H:61:SER:OG	8:H:62:LYS:NZ	2.22	0.73
31:a:256:C:O5'	31:a:290:A:N6	2.22	0.73
31:a:697:C:O2'	41:k:54:GLY:O	2.04	0.73
1:A:1952:C:H42	1:A:1956:G:H22	1.35	0.73
1:A:2683:U:O2	1:A:2692:A:N7	2.22	0.73
30:4:19:ARG:O	30:4:22:LYS:NZ	2.22	0.73

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:147:G:N2	31:a:176:C:O2	2.22	0.73
31:a:192:C:O4'	31:a:199:G:N2	2.22	0.73
31:a:251:A:N6	31:a:289:G:O3'	2.20	0.73
47:q:9:VAL:O	47:q:62:LYS:NZ	2.22	0.73
1:A:749:G:O2'	1:A:771:G:N2	2.20	0.72
31:a:1058:G:OP2	44:n:4:THR:OG1	2.06	0.72
1:A:245:G:O2'	1:A:257:G:O6	2.06	0.72
1:A:336:U:OP2	1:A:388:A:N6	2.20	0.72
1:A:1710:G:N3	9:I:3:GLN:NE2	2.37	0.72
6:F:42:ASP:O	6:F:46:ASN:ND2	2.21	0.72
31:a:426:U:O2'	31:a:520:U:O2	2.06	0.72
31:a:602:U:C2	31:a:653:G:O6	2.42	0.72
31:a:1141:A:OP1	39:i:20:ARG:NH1	2.22	0.72
1:A:352:A:N1	1:A:1248:U:C4	2.57	0.72
1:A:2710:C:O2	9:I:70:ARG:NH1	2.23	0.72
1:A:2819:C:N3	1:A:2825:U:O4	2.22	0.72
1:A:2842:G:O2'	1:A:2844:U:OP2	2.04	0.72
31:a:449:A:O2'	31:a:505:A:O2'	2.03	0.72
31:a:1112:A:N6	32:b:103:ASN:O	2.21	0.72
1:A:1078:G:OP1	30:4:33:LYS:NZ	2.20	0.72
1:A:1229:G:OP1	10:J:30:THR:OG1	2.03	0.72
6:F:70:ALA:N	6:F:82:GLY:O	2.21	0.72
7:G:26:VAL:O	7:G:32:GLU:N	2.23	0.72
12:L:73:ASN:N	12:L:77:THR:O	2.22	0.72
31:a:1236:C:O2'	31:a:1238:C:OP2	2.07	0.72
31:a:1314:G:N2	31:a:1343:A:N6	2.37	0.72
1:A:350:G:OP2	1:A:350:G:N2	2.21	0.72
1:A:2120:G:N3	1:A:2225:A:N6	2.38	0.72
31:a:579:U:O2'	31:a:926:G:O3'	2.07	0.72
31:a:602:U:O2	31:a:653:G:O6	2.06	0.72
31:a:951:G:O6	31:a:1351:U:O2	2.06	0.72
1:A:325:A:O2'	1:A:326:A:O4'	2.06	0.72
1:A:337:A:C6	1:A:387:G:C2	2.77	0.72
1:A:630:G:N1	10:J:31:SER:OG	2.22	0.72
1:A:1369:G:N7	1:A:1653:A:O2'	2.22	0.72
1:A:1764:A:N7	1:A:1765:A:N6	2.36	0.72
1:A:2495:A:C6	1:A:2504:C:N3	2.57	0.72
31:a:240:A:O2'	31:a:270:A:N1	2.23	0.72
48:r:25:HIS:O	48:r:66:ARG:NH2	2.22	0.72
1:A:1737:U:O2	3:C:14:ARG:NH2	2.23	0.72
1:A:2359:C:OP1	21:U:54:TYR:OH	2.06	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:62:G:O3'	31:a:393:C:O2'	2.08	0.72
31:a:899:G:N2	31:a:916:A:OP2	2.22	0.72
31:a:940:C:OP2	37:g:4:LYS:NZ	2.23	0.72
31:a:964:U:O2'	49:s:79:THR:O	2.07	0.72
31:a:1332:C:HO2'	49:s:4:SER:N	1.87	0.72
31:a:1404:A:O2'	31:a:1405:C:O4'	2.04	0.72
40:j:6:ILE:N	40:j:73:LEU:O	2.22	0.72
1:A:276:C:O4'	1:A:305:A:O2'	2.07	0.72
1:A:343:A:O2'	1:A:361:U:O2	2.07	0.72
1:A:579:U:O2'	15:O:49:ASP:OD2	2.07	0.72
1:A:616:G:N2	1:A:2058:A:OP1	2.23	0.72
1:A:677:A:N6	1:A:686:U:OP1	2.22	0.72
1:A:1173:A:O2'	1:A:2542:C:O2	2.07	0.72
1:A:2305:A:OP1	11:K:11:ARG:NH1	2.23	0.72
9:I:49:GLY:O	9:I:53:LYS:NZ	2.19	0.72
31:a:21:U:O3'	31:a:581:A:N6	2.22	0.72
31:a:795:A:N6	31:a:800:A:O2'	2.23	0.72
1:A:583:A:O2'	8:H:8:ASN:OD1	2.08	0.72
10:J:87:ASP:OD1	10:J:120:LYS:N	2.23	0.72
31:a:1201:A:O2'	33:c:149:LYS:NZ	2.19	0.72
1:A:632:U:O3'	5:E:95:ARG:NH1	2.23	0.72
1:A:1463:A:N6	1:A:1537:A:N1	2.38	0.72
3:C:108:LYS:N	3:C:194:GLN:O	2.22	0.72
15:O:50:ARG:O	15:O:54:LYS:NZ	2.20	0.72
31:a:214:A:C6	31:a:225:G:O6	2.42	0.72
31:a:605:G:C5	38:h:89:ALA:C	2.68	0.72
31:a:798:A:O2'	52:v:34:ASP:OD2	2.06	0.72
31:a:1329:A:C6	31:a:1371:G:C2	2.78	0.72
32:b:57:LEU:O	32:b:61:SER:OG	2.08	0.72
1:A:823:G:OP1	3:C:48:LYS:NZ	2.23	0.71
1:A:917:U:C2	11:K:2:LEU:CG	2.73	0.71
1:A:2312:C:OP2	27:1:22:ASN:ND2	2.23	0.71
1:A:2739:U:OP1	1:A:2741:G:O2'	2.06	0.71
3:C:254:THR:OG1	3:C:254:THR:O	2.08	0.71
4:D:174:GLY:O	4:D:176:ASN:ND2	2.23	0.71
24:X:3:LYS:NZ	24:X:37:VAL:O	2.23	0.71
31:a:606:U:N3	38:h:90:LYS:C	2.48	0.71
31:a:934:G:C6	31:a:1401:U:N3	2.58	0.71
51:u:30:GLN:O	51:u:33:ARG:NE	2.23	0.71
1:A:1763:U:O2	1:A:1765:A:O2'	2.04	0.71
1:A:2378:G:N2	1:A:2393:A:OP2	2.22	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2558:A:N1	1:A:2689:A:N6	2.38	0.71
3:C:25:THR:OG1	3:C:80:SER:OG	2.07	0.71
31:a:738:G:O3'	31:a:822:A:N6	2.22	0.71
31:a:1103:A:N6	31:a:1121:A:O2'	2.23	0.71
31:a:1259:C:O2	31:a:1381:G:O2'	2.07	0.71
42:l:65:TYR:OH	42:l:77:ASN:OD1	2.07	0.71
1:A:77:U:O2'	23:W:7:ARG:NH2	2.23	0.71
1:A:1734:A:H62	1:A:1741:G:N2	1.87	0.71
1:A:2342:U:O2'	13:M:1:MET:SD	2.45	0.71
1:A:2780:A:N6	30:4:17:ILE:HD13	2.05	0.71
1:A:442:G:O2'	22:V:30:ASN:O	2.06	0.71
1:A:919:G:O6	1:A:948:U:O4	2.09	0.71
31:a:122:C:O3'	31:a:319:C:O2'	2.03	0.71
31:a:355:G:O2'	31:a:356:G:O4'	2.08	0.71
31:a:450:U:O2'	31:a:451:U:O5'	2.07	0.71
31:a:1128:A:N6	31:a:1164:U:OP2	2.15	0.71
1:A:1319:U:O2	1:A:1323:A:N7	2.23	0.71
1:A:1035:C:O2'	16:P:84:ARG:NH1	2.24	0.71
1:A:1116:C:O2'	1:A:1138:U:O2'	2.04	0.71
1:A:2593:A:N1	9:I:28:SER:OG	2.23	0.71
7:G:105:LEU:HD13	7:G:107:VAL:HG13	1.72	0.71
12:L:4:ARG:NH1	12:L:39:GLU:OE2	2.22	0.71
31:a:300:G:OP2	31:a:301:A:N6	2.23	0.71
31:a:342:C:O2	31:a:1444:A:O2'	2.07	0.71
31:a:590:U:O2	31:a:767:A:N7	2.23	0.71
31:a:886:C:OP1	38:h:78:LYS:NZ	2.23	0.71
31:a:947:A:N3	31:a:1386:U:O2'	2.22	0.71
31:a:1100:G:N2	31:a:1179:A:O2'	2.24	0.71
36:f:75:GLU:O	36:f:78:ARG:NH2	2.24	0.71
1:A:1756:U:O2'	1:A:1757:U:OP2	2.09	0.71
1:A:2140:C:O2	1:A:2194:U:O2'	2.08	0.71
1:A:2547:C:HO2'	1:A:2592:A:HO2'	1.33	0.71
1:A:2622:G:N2	1:A:2625:A:OP2	2.19	0.71
7:G:95:ARG:O	7:G:97:GLN:NE2	2.24	0.71
9:I:88:ARG:NH2	9:I:90:ASP:OD2	2.24	0.71
31:a:458:G:OP2	31:a:459:A:O2'	2.07	0.71
31:a:682:G:O2'	31:a:683:A:O5'	2.09	0.71
31:a:823:A:N6	31:a:1520:C:O2'	2.24	0.71
31:a:989:C:N1	44:n:16:TYR:CG	2.58	0.71
32:b:87:ALA:HB1	32:b:221:ILE:HD11	1.71	0.71
34:d:55:GLN:OE1	34:d:58:ARG:NH1	2.22	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:q:22:THR:OG1	47:q:51:GLU:N	2.24	0.71
1:A:1475:A:N6	1:A:1606:C:O2	2.24	0.71
31:a:227:C:O2'	31:a:228:A:O5'	2.09	0.71
31:a:1304:U:O2'	31:a:1305:U:OP1	2.09	0.71
34:d:93:ARG:NH2	34:d:95:ASP:OD1	2.24	0.71
1:A:1076:A:O2'	30:4:33:LYS:NZ	2.24	0.71
1:A:1304:G:O4'	17:Q:15:ARG:NH1	2.23	0.71
1:A:1350:U:O2'	1:A:1369:G:O4'	2.08	0.71
1:A:1699:A:N6	1:A:2032:A:O2'	2.24	0.71
1:A:2313:A:OP1	27:1:25:ASN:ND2	2.23	0.71
31:a:1235:A:O2'	49:s:77:THR:OG1	2.07	0.71
31:a:1360:A:O2'	37:g:33:ASP:OD2	2.08	0.71
1:A:743:C:O2'	1:A:779:A:N6	2.24	0.70
1:A:1573:A:N6	1:A:1592:A:N7	2.38	0.70
31:a:256:C:O2	31:a:284:G:N2	2.20	0.70
31:a:989:C:C5	44:n:16:TYR:CG	2.79	0.70
31:a:1383:G:OP2	39:i:15:LYS:NZ	2.22	0.70
1:A:687:G:N2	1:A:691:A:N6	2.39	0.70
1:A:1561:G:OP1	1:A:1604:C:O2'	2.08	0.70
1:A:1851:G:N2	3:C:254:THR:O	2.24	0.70
1:A:2078:A:O2'	1:A:2079:G:OP2	2.09	0.70
2:B:53:U:O2	2:B:55:A:N6	2.23	0.70
6:F:175:MET:N	6:F:175:MET:SD	2.64	0.70
18:R:31:THR:OG1	18:R:74:LYS:NZ	2.25	0.70
31:a:405:A:N7	31:a:555:A:O2'	2.24	0.70
35:e:86:THR:OG1	35:e:94:VAL:O	2.10	0.70
1:A:685:C:N4	1:A:692:G:O6	2.24	0.70
31:a:1112:A:C2	32:b:107:ILE:CD1	2.74	0.70
52:v:82:ASN:N	52:v:82:ASN:OD1	2.23	0.70
1:A:337:A:N6	1:A:387:G:N2	2.39	0.70
1:A:1377:U:OP2	18:R:58:TYR:OH	2.06	0.70
1:A:1616:A:O4'	3:C:59:LYS:NZ	2.25	0.70
3:C:141:VAL:HG12	3:C:192:ILE:HA	1.71	0.70
31:a:448:U:OP1	31:a:499:A:N6	2.24	0.70
31:a:958:A:OP1	43:m:98:ARG:NH2	2.23	0.70
31:a:995:A:N6	31:a:1230:G:C4	2.59	0.70
49:s:21:ALA:O	49:s:25:SER:OG	2.06	0.70
1:A:1301:U:OP1	26:Z:13:LYS:NZ	2.25	0.70
1:A:1448:U:C4	1:A:1635:A:N1	2.59	0.70
2:B:7:G:OP1	13:M:19:ARG:NH1	2.25	0.70
7:G:142:GLY:O	7:G:146:SER:OG	2.09	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1:22:ASN:ND2	27:1:25:ASN:OD1	2.25	0.70
31:a:360:C:O2	31:a:363:C:N4	2.24	0.70
31:a:455:G:O2'	31:a:495:A:N6	2.24	0.70
31:a:1158:U:OP2	31:a:1162:A:N6	2.24	0.70
31:a:1441:C:N3	31:a:1480:A:N6	2.39	0.70
51:u:7:ARG:O	51:u:18:ARG:NH2	2.24	0.70
1:A:1053:A:OP2	8:H:40:LYS:NZ	2.24	0.70
3:C:77:LYS:N	3:C:95:VAL:O	2.24	0.70
31:a:343:C:O2'	31:a:1444:A:O4'	2.08	0.70
31:a:994:C:N4	31:a:1228:U:O4	2.24	0.70
1:A:2814:C:O3'	4:D:71:LYS:NZ	2.25	0.70
31:a:144:C:N3	31:a:179:A:N6	2.39	0.70
31:a:335:A:O2'	31:a:337:A:N7	2.20	0.70
31:a:405:A:C5	42:l:134:LYS:CE	2.74	0.70
31:a:1204:U:N3	33:c:4:LYS:O	2.24	0.70
31:a:1313:C:OP1	31:a:1314:G:O2'	2.08	0.70
39:i:88:ALA:O	39:i:92:ALA:N	2.24	0.70
48:r:41:ARG:O	48:r:43:LYS:NZ	2.25	0.70
1:A:159:U:O4	1:A:169:G:O6	2.08	0.70
1:A:335:U:C4	1:A:391:A:N1	2.60	0.70
31:a:405:A:C4	42:l:134:LYS:CE	2.74	0.70
31:a:989:C:C5	44:n:16:TYR:CB	2.75	0.70
39:i:82:ARG:NH1	39:i:109:ASP:OD2	2.24	0.70
1:A:2060:A:O2'	1:A:2062:G:OP2	2.10	0.70
7:G:76:VAL:O	7:G:80:SER:OG	2.06	0.70
16:P:16:GLU:OE1	16:P:100:ILE:N	2.24	0.70
17:Q:65:ASN:ND2	17:Q:67:ASP:OD1	2.24	0.70
31:a:606:U:N3	38:h:90:LYS:CA	2.52	0.70
1:A:1149:U:OP2	1:A:1153:C:N4	2.25	0.70
1:A:1187:A:OP1	8:H:28:ARG:NH2	2.25	0.70
3:C:27:THR:O	3:C:27:THR:OG1	2.08	0.70
31:a:121:A:O2'	31:a:320:C:O2'	2.09	0.70
31:a:1115:G:O6	33:c:171:THR:N	2.24	0.70
31:a:1144:A:O2'	31:a:1146:U:OP1	2.08	0.70
1:A:323:C:O2	1:A:324:A:N6	2.24	0.69
1:A:617:A:N6	1:A:2061:U:OP1	2.25	0.69
1:A:918:G:OP1	11:K:1:MET:N	2.21	0.69
1:A:1378:U:OP1	1:A:1646:U:O2'	2.09	0.69
27:1:19:THR:OG1	27:1:20:THR:N	2.22	0.69
31:a:732:G:O2'	51:u:55:ARG:O	2.09	0.69
31:a:956:G:O5'	43:m:110:LYS:N	2.25	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:1146:U:OP2	31:a:1147:A:N6	2.25	0.69
1:A:365:A:OP1	5:E:168:ARG:NE	2.23	0.69
1:A:583:A:O3'	8:H:8:ASN:ND2	2.25	0.69
1:A:1092:A:OP1	1:A:1153:C:N4	2.25	0.69
1:A:2313:A:N6	27:1:19:THR:OG1	2.25	0.69
1:A:2557:U:OP1	1:A:2562:G:N2	2.26	0.69
4:D:10:ILE:HG12	4:D:27:VAL:HG13	1.74	0.69
8:H:93:LEU:HD23	8:H:96:THR:O	1.93	0.69
32:b:26:LYS:O	32:b:29:LYS:NZ	2.21	0.69
41:k:92:GLY:O	41:k:96:ALA:N	2.25	0.69
1:A:131:G:N2	1:A:148:U:O2	2.25	0.69
1:A:1891:U:O3'	1:A:2436:G:N2	2.25	0.69
1:A:2137:G:O6	1:A:2206:C:N4	2.25	0.69
31:a:102:C:O2'	31:a:172:A:N6	2.26	0.69
31:a:274:G:OP2	31:a:275:C:N4	2.25	0.69
31:a:606:U:C5	38:h:90:LYS:CB	2.75	0.69
31:a:606:U:N3	38:h:91:ALA:N	2.39	0.69
31:a:727:C:O2'	51:u:30:GLN:OE1	2.10	0.69
31:a:765:U:OP1	31:a:830:A:O2'	2.09	0.69
31:a:1043:G:O2'	31:a:1044:G:O4'	2.05	0.69
1:A:1226:G:O2'	1:A:1227:U:O2	2.09	0.69
2:B:41:C:N3	6:F:92:ARG:NH2	2.40	0.69
9:I:34:ASN:OD1	9:I:67:SER:OG	2.08	0.69
43:m:62:GLY:N	43:m:71:ARG:O	2.25	0.69
1:A:1490:G:N2	1:A:1490:G:OP1	2.25	0.69
1:A:1979:A:OP1	9:I:44:LYS:NZ	2.24	0.69
20:T:14:THR:N	20:T:17:ASP:OD1	2.24	0.69
31:a:43:G:N2	31:a:630:A:O2'	2.26	0.69
31:a:432:G:O2'	31:a:433:A:O4'	2.08	0.69
50:t:55:LYS:O	50:t:55:LYS:NZ	2.25	0.69
1:A:1033:G:OP2	24:X:11:SER:OG	2.09	0.69
1:A:2129:C:O2'	1:A:2130:A:O3'	2.10	0.69
1:A:2763:G:N2	1:A:2795:C:O2	2.19	0.69
31:a:118:A:N7	31:a:295:U:C2	2.60	0.69
31:a:667:C:N3	31:a:755:U:O4	2.25	0.69
31:a:1224:U:O2'	31:a:1225:G:O5'	2.08	0.69
33:c:109:ASP:OD2	33:c:118:ASN:ND2	2.26	0.69
1:A:774:G:O4'	3:C:207:LYS:NZ	2.23	0.69
2:B:18:G:N1	2:B:61:C:N3	2.41	0.69
31:a:512:C:O2'	31:a:519:C:OP2	2.09	0.69
31:a:1277:C:N4	31:a:1337:A:O3'	2.26	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:h:23:GLU:O	38:h:47:LYS:NZ	2.25	0.69
1:A:1302:G:N1	1:A:2041:A:OP2	2.25	0.69
1:A:1522:G:O3'	1:A:1607:A:O2'	2.10	0.69
1:A:2324:C:O2	1:A:2348:G:N2	2.18	0.69
1:A:2372:G:N7	27:1:42:TYR:OH	2.20	0.69
1:A:2485:U:O2'	1:A:2487:U:O4	2.07	0.69
1:A:2495:A:N7	1:A:2504:C:C5	2.61	0.69
1:A:2547:C:O2'	1:A:2592:A:O2'	2.10	0.69
2:B:64:A:O2'	2:B:104:A:N6	2.25	0.69
4:D:56:LYS:N	4:D:84:PRO:O	2.26	0.69
5:E:158:ASN:O	5:E:177:THR:OG1	2.10	0.69
31:a:43:G:O2'	31:a:630:A:N3	2.26	0.69
31:a:211:A:O2'	31:a:229:C:O2	2.11	0.69
31:a:405:A:N9	42:l:134:LYS:CD	2.55	0.69
31:a:447:U:O2'	34:d:116:HIS:O	2.11	0.69
31:a:757:A:H2'	45:o:22:THR:HG21	1.74	0.69
31:a:1415:G:O2'	31:a:1416:U:O4'	2.07	0.69
34:d:104:ALA:HB1	34:d:153:GLU:H	1.58	0.69
49:s:36:ARG:CA	49:s:74:PHE:CE2	2.76	0.69
49:s:36:ARG:HB3	49:s:74:PHE:CD1	2.28	0.69
1:A:1401:G:O2'	22:V:4:GLN:N	2.25	0.69
11:K:57:TYR:O	11:K:59:LYS:NZ	2.17	0.69
31:a:405:A:C4	42:l:134:LYS:CD	2.75	0.69
1:A:529:A:O2'	19:S:45:GLN:O	2.06	0.69
1:A:791:U:O2'	1:A:793:G:N2	2.26	0.69
1:A:1075:G:O2'	30:4:34:GLN:NE2	2.26	0.69
1:A:1501:G:N2	1:A:1504:U:O4'	2.26	0.69
1:A:1845:U:O4	3:C:153:GLN:NE2	2.25	0.69
4:D:56:LYS:NZ	4:D:68:TYR:O	2.25	0.69
31:a:405:A:N6	42:l:134:LYS:O	2.26	0.69
31:a:766:G:OP1	31:a:889:C:O2'	2.11	0.69
1:A:333:C:C5	1:A:393:G:C1'	2.75	0.68
31:a:405:A:C5	42:l:134:LYS:CD	2.77	0.68
31:a:524:U:O2'	31:a:527:C:N4	2.26	0.68
31:a:734:C:OP1	31:a:751:U:O2'	2.07	0.68
38:h:54:ASP:N	38:h:54:ASP:OD1	2.23	0.68
39:i:73:GLY:O	39:i:76:GLY:N	2.26	0.68
1:A:341:G:O2'	1:A:365:A:N1	2.19	0.68
1:A:751:A:N1	1:A:770:G:O2'	2.20	0.68
1:A:796:A:OP2	17:Q:90:ARG:NE	2.26	0.68
1:A:2830:A:H62	1:A:2910:G:H21	1.39	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:57:LEU:O	6:F:61:THR:OG1	2.10	0.68
20:T:6:SER:OG	20:T:42:LYS:O	2.07	0.68
31:a:5:A:O2'	31:a:306:A:N3	2.21	0.68
31:a:590:U:C2	31:a:767:A:N7	2.61	0.68
31:a:819:C:O2'	31:a:909:A:N1	2.23	0.68
37:g:105:VAL:HG22	37:g:138:ARG:H	1.57	0.68
1:A:458:A:N6	1:A:2438:A:O2'	2.21	0.68
1:A:1956:G:O2'	1:A:1957:G:OP2	2.12	0.68
1:A:2505:A:N7	30:4:4:ARG:NH1	2.41	0.68
31:a:959:U:OP1	31:a:985:G:N2	2.25	0.68
31:a:1401:U:O2'	31:a:1542:A:O5'	2.11	0.68
44:n:24:CYS:O	44:n:39:LEU:N	2.26	0.68
1:A:160:G:O2'	1:A:168:A:N1	2.27	0.68
1:A:1175:G:N2	1:A:1176:U:O4	2.15	0.68
1:A:1540:U:O2'	1:A:1625:U:OP1	2.07	0.68
29:3:9:GLY:O	29:3:13:ARG:NH1	2.26	0.68
31:a:1272:A:N1	31:a:1284:A:N6	2.41	0.68
32:b:89:GLN:NE2	32:b:150:GLY:O	2.27	0.68
46:p:46:ASN:ND2	46:p:49:GLU:OE1	2.26	0.68
4:D:194:VAL:HG11	14:N:6:LEU:HD11	1.76	0.68
31:a:36:G:O3'	42:l:130:TYR:CD1	2.47	0.68
31:a:1064:G:O2'	31:a:1065:C:OP2	2.08	0.68
31:a:1509:U:O2'	31:a:1511:A:N6	2.25	0.68
1:A:489:A:N6	1:A:1283:G:O2'	2.26	0.68
1:A:643:G:O2'	5:E:105:MET:SD	2.50	0.68
8:H:26:LEU:HD21	8:H:105:SER:HB2	1.76	0.68
8:H:71:THR:OG1	8:H:72:ASP:OD1	2.09	0.68
21:U:57:GLU:N	21:U:57:GLU:OE1	2.26	0.68
1:A:319:G:O3'	1:A:323:C:N4	2.27	0.68
1:A:2026:C:O2'	1:A:2714:U:O2'	2.02	0.68
8:H:45:TYR:O	15:O:64:ARG:NH2	2.27	0.68
31:a:405:A:N9	42:l:134:LYS:CE	2.56	0.68
31:a:1076:U:O2	31:a:1077:C:N4	2.26	0.68
46:p:27:SER:OG	46:p:32:ARG:O	2.05	0.68
49:s:36:ARG:C	49:s:74:PHE:CE2	2.72	0.68
1:A:333:C:N1	1:A:393:G:C1'	2.49	0.68
1:A:2370:U:O2'	1:A:2400:U:O2'	2.12	0.68
23:W:5:GLU:OE1	23:W:5:GLU:N	2.27	0.68
31:a:385:G:O3'	46:p:2:ALA:N	2.26	0.68
31:a:448:U:OP2	31:a:449:A:N6	2.22	0.68
31:a:801:U:O2'	31:a:802:A:O5'	2.06	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:1066:A:N6	31:a:1210:C:O2	2.26	0.68
1:A:750:A:C8	1:A:771:G:N2	2.61	0.68
1:A:1405:G:HO2'	22:V:3:LYS:N	1.92	0.68
6:F:123:ASP:OD2	6:F:129:THR:OG1	2.12	0.68
19:S:14:GLY:O	19:S:17:LYS:NZ	2.24	0.68
31:a:1073:U:O2'	33:c:3:GLN:OE1	2.11	0.68
34:d:88:ILE:O	34:d:92:SER:OG	2.11	0.68
35:e:12:GLU:HB3	35:e:117:LEU:HD22	1.75	0.68
35:e:88:ARG:NH1	35:e:90:GLY:O	2.27	0.68
1:A:284:C:N3	1:A:286:U:C5	2.61	0.68
2:B:77:G:N2	2:B:95:U:O2	2.27	0.68
31:a:116:G:N2	31:a:321:A:O2'	2.26	0.68
31:a:517:A:N7	31:a:551:G:O2'	2.26	0.68
34:d:127:ASP:OD1	34:d:127:ASP:N	2.26	0.68
1:A:1491:C:O2'	1:A:1508:C:O2	2.12	0.67
1:A:1612:C:O2'	1:A:1614:A:N7	2.24	0.67
8:H:72:ASP:OD1	8:H:72:ASP:N	2.27	0.67
31:a:1404:A:OP2	31:a:1405:C:N4	2.26	0.67
42:l:130:TYR:CD2	42:l:130:TYR:CE2	2.81	0.67
1:A:1952:C:N4	1:A:1956:G:H22	1.91	0.67
1:A:2397:G:O2'	27:1:35:TYR:OH	2.12	0.67
2:B:74:G:O2'	20:T:78:GLN:OE1	2.10	0.67
5:E:157:GLU:OE2	5:E:195:THR:OG1	2.12	0.67
31:a:258:A:N1	31:a:282:A:O2'	2.27	0.67
31:a:1112:A:C2	32:b:107:ILE:CG1	2.76	0.67
1:A:752:G:C6	1:A:769:U:N3	2.63	0.67
18:R:2:GLU:OE1	18:R:3:ALA:N	2.27	0.67
31:a:729:A:OP1	51:u:51:ALA:HB3	1.94	0.67
31:a:1067:U:OP1	33:c:193:GLY:N	2.27	0.67
36:f:2:ARG:NH1	45:o:45:THR:OG1	2.27	0.67
1:A:1248:U:O4'	1:A:1275:A:N6	2.27	0.67
1:A:2667:G:OP1	8:H:100:ARG:NH1	2.27	0.67
4:D:46:TYR:OH	4:D:90:GLU:OE1	2.10	0.67
31:a:605:G:C6	38:h:90:LYS:N	2.62	0.67
31:a:1389:G:N2	39:i:126:SER:OG	2.26	0.67
1:A:1822:C:O2'	1:A:1928:A:OP1	2.13	0.67
1:A:2309:G:N2	1:A:2417:U:O2	2.26	0.67
2:B:77:G:C2	2:B:95:U:O2	2.47	0.67
49:s:36:ARG:C	49:s:74:PHE:CD2	2.73	0.67
1:A:2129:C:O2'	1:A:2213:U:O4	2.12	0.67
31:a:69:G:C6	31:a:100:A:C6	2.83	0.67

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:99:U:OP1	1:A:100:U:O2'	2.09	0.67
1:A:809:A:N3	3:C:212:ARG:NE	2.42	0.67
1:A:2588:A:N3	9:I:23:LYS:NZ	2.38	0.67
7:G:30:LYS:NZ	7:G:80:SER:O	2.21	0.67
31:a:104:G:N2	31:a:387:C:O2'	2.28	0.67
31:a:131:C:O2'	31:a:132:C:O5'	2.12	0.67
31:a:650:A:C2	38:h:106:VAL:HG22	2.30	0.67
31:a:1177:A:O2'	31:a:1178:C:OP2	2.09	0.67
31:a:1200:G:O2'	31:a:1201:A:OP2	2.12	0.67
1:A:1100:G:O2'	1:A:1131:G:O6	2.05	0.67
1:A:2421:C:N3	1:A:2459:A:N6	2.42	0.67
1:A:2870:A:N7	1:A:2888:A:O2'	2.25	0.67
3:C:243:ARG:NH2	3:C:247:MET:SD	2.68	0.67
22:V:30:ASN:OD1	22:V:30:ASN:N	2.27	0.67
31:a:111:G:O2'	31:a:362:G:O2'	2.03	0.67
31:a:214:A:N1	31:a:225:G:C6	2.63	0.67
31:a:753:U:O2	31:a:844:G:O2'	2.06	0.67
32:b:89:GLN:NE2	32:b:154:MET:SD	2.68	0.67
1:A:2546:U:O4'	1:A:2569:A:N6	2.28	0.67
6:F:115:GLN:NE2	6:F:176:PRO:O	2.28	0.67
23:W:50:ILE:HA	23:W:53:LEU:HD12	1.77	0.67
31:a:51:A:O2'	31:a:369:G:N2	2.27	0.67
31:a:161:A:N6	31:a:354:G:C5	2.63	0.67
31:a:605:G:C4	38:h:89:ALA:C	2.73	0.67
31:a:955:A:O2'	31:a:956:G:OP2	2.11	0.67
31:a:993:C:N3	31:a:1232:G:N2	2.42	0.67
31:a:1423:A:N1	31:a:1498:G:C6	2.62	0.67
42:l:48:THR:OG1	42:l:67:ARG:O	2.13	0.67
48:r:43:LYS:O	48:r:68:ARG:NH2	2.27	0.67
49:s:36:ARG:CA	49:s:74:PHE:CE1	2.78	0.67
1:A:213:C:O2'	1:A:1403:C:O2	2.09	0.67
1:A:1887:G:N1	1:A:1909:C:N3	2.42	0.67
1:A:2559:G:N2	1:A:2690:G:N3	2.43	0.67
31:a:37:C:P	42:l:130:TYR:CD1	2.88	0.67
31:a:118:A:C5	31:a:295:U:O2	2.48	0.67
31:a:188:U:O4	31:a:190:A:N6	2.27	0.67
49:s:37:ARG:N	49:s:74:PHE:CE2	2.63	0.67
1:A:2496:A:N7	1:A:2508:G:N1	2.42	0.66
16:P:14:VAL:HG12	16:P:18:GLN:NE2	2.10	0.66
16:P:99:LYS:NZ	16:P:100:ILE:O	2.25	0.66
31:a:147:G:O2'	31:a:149:A:N7	2.27	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:907:G:N2	31:a:910:A:OP2	2.29	0.66
31:a:1001:U:O3'	31:a:1005:A:N6	2.28	0.66
1:A:1451:U:O4	1:A:1633:A:N6	2.27	0.66
1:A:2411:A:O2'	1:A:2412:C:OP1	2.12	0.66
31:a:580:A:OP1	31:a:925:G:O2'	2.13	0.66
32:b:3:VAL:O	32:b:216:LYS:NZ	2.20	0.66
36:f:29:ILE:O	36:f:32:THR:OG1	2.09	0.66
1:A:2239:A:O2'	1:A:2241:C:N4	2.28	0.66
29:3:54:ASP:OD1	29:3:57:ARG:NH1	2.28	0.66
31:a:71:A:O2'	31:a:153:C:OP1	2.08	0.66
31:a:758:C:O2'	45:o:22:THR:O	2.05	0.66
49:s:36:ARG:CB	49:s:74:PHE:CD1	2.78	0.66
1:A:1214:C:O2	1:A:1219:G:N2	2.29	0.66
1:A:1385:G:H22	1:A:1642:C:H42	1.42	0.66
1:A:1489:A:O5'	1:A:1492:G:N2	2.27	0.66
1:A:1534:G:O2'	1:A:1535:G:O5'	2.11	0.66
1:A:2048:G:OP1	26:Z:11:THR:OG1	2.12	0.66
2:B:5:G:O2'	13:M:32:ASN:OD1	2.12	0.66
2:B:35:C:N3	2:B:46:A:O2'	2.21	0.66
17:Q:52:MET:N	17:Q:52:MET:SD	2.68	0.66
20:T:6:SER:OG	20:T:7:ILE:N	2.25	0.66
31:a:456:A:OP2	31:a:493:G:N1	2.29	0.66
31:a:605:G:C5	38:h:90:LYS:N	2.63	0.66
31:a:626:C:N4	31:a:629:A:OP2	2.28	0.66
38:h:117:GLU:O	38:h:120:LYS:NZ	2.27	0.66
1:A:544:U:OP1	19:S:42:LYS:NZ	2.29	0.66
1:A:1520:A:O2'	1:A:1521:A:OP1	2.13	0.66
1:A:2109:A:N6	1:A:2264:G:H21	1.93	0.66
1:A:2558:A:N7	1:A:2687:A:N6	2.42	0.66
31:a:605:G:C4	38:h:90:LYS:HB2	2.31	0.66
49:s:36:ARG:C	49:s:74:PHE:CD1	2.74	0.66
1:A:2374:C:HO2'	27:1:17:TYR:HH	1.42	0.66
8:H:111:PRO:HB2	8:H:113:THR:HG23	1.76	0.66
11:K:23:GLY:O	11:K:25:ASN:ND2	2.29	0.66
11:K:24:GLY:O	11:K:102:ILE:N	2.29	0.66
30:4:35:ARG:NH1	30:4:36:GLN:O	2.27	0.66
31:a:257:U:O2	31:a:283:G:C6	2.49	0.66
31:a:936:G:O2'	31:a:1514:A:N6	2.23	0.66
31:a:1261:A:N3	31:a:1379:C:O2'	2.26	0.66
1:A:60:U:O2	1:A:74:U:O2'	2.08	0.66
1:A:269:G:O2'	1:A:270:C:O5'	2.13	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:480:U:O2	1:A:481:C:N4	2.27	0.66
1:A:495:A:O2'	15:O:3:ARG:NH1	2.29	0.66
1:A:917:U:C6	11:K:2:LEU:CD1	2.79	0.66
1:A:1435:C:O2'	18:R:24:LYS:NZ	2.27	0.66
14:N:52:ARG:NE	14:N:59:GLU:OE2	2.29	0.66
18:R:5:ASP:O	18:R:8:LYS:NZ	2.23	0.66
31:a:522:C:N4	31:a:543:A:OP1	2.28	0.66
31:a:606:U:N3	38:h:108:THR:OG1	2.28	0.66
1:A:450:C:O2'	1:A:451:U:OP2	2.14	0.66
1:A:1086:G:C6	1:A:1157:U:N3	2.63	0.66
1:A:2448:G:N7	29:3:31:HIS:NE2	2.42	0.66
1:A:2559:G:N1	1:A:2689:A:N1	2.43	0.66
31:a:19:C:O2'	31:a:1090:G:N2	2.28	0.66
31:a:611:U:O4	31:a:642:C:N4	2.28	0.66
31:a:832:U:O2	38:h:2:THR:OG1	2.13	0.66
31:a:1071:U:O2'	31:a:1208:A:N6	2.29	0.66
31:a:1509:U:O3'	31:a:1511:A:N6	2.27	0.66
49:s:36:ARG:C	49:s:74:PHE:CZ	2.74	0.66
1:A:563:G:O5'	17:Q:18:ARG:NH2	2.29	0.66
1:A:629:A:H4'	5:E:89:VAL:HG11	1.76	0.66
1:A:1153:C:O3'	1:A:2778:G:N7	2.23	0.66
1:A:2662:U:O2'	4:D:90:GLU:OE2	2.13	0.66
15:O:35:ALA:O	15:O:39:VAL:HG23	1.96	0.66
1:A:329:A:N6	1:A:397:U:O5'	2.28	0.66
1:A:1313:G:OP2	1:A:1689:G:O2'	2.13	0.66
1:A:2774:G:O6	30:4:21:GLY:N	2.29	0.66
12:L:80:THR:N	12:L:83:GLN:OE1	2.29	0.66
1:A:3:U:O2	1:A:2920:U:O2'	2.03	0.65
1:A:1884:G:O2'	1:A:1912:A:N6	2.28	0.65
31:a:255:G:O4'	31:a:287:A:N6	2.29	0.65
31:a:1313:C:N4	31:a:1314:G:O6	2.29	0.65
1:A:194:A:OP2	1:A:207:A:N6	2.28	0.65
1:A:228:A:N6	1:A:465:C:O2'	2.29	0.65
1:A:917:U:C4	11:K:2:LEU:CG	2.80	0.65
1:A:1710:G:OP1	9:I:66:LYS:NZ	2.29	0.65
2:B:73:G:O2'	20:T:9:ARG:NH1	2.28	0.65
24:X:44:ARG:HA	24:X:47:ILE:HD12	1.78	0.65
31:a:227:C:O2'	31:a:228:A:N3	2.29	0.65
36:f:9:ILE:HD11	48:r:71:ALA:HB1	1.78	0.65
43:m:60:VAL:HG12	43:m:71:ARG:CG	2.26	0.65
44:n:23:ARG:O	44:n:37:PHE:N	2.29	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:t:49:LEU:HD22	50:t:53:ALA:HB2	1.78	0.65
1:A:2388:A:OP2	29:3:24:ARG:NH2	2.28	0.65
1:A:2478:A:OP1	1:A:2524:A:N6	2.29	0.65
14:N:16:ARG:NH2	14:N:80:THR:O	2.29	0.65
49:s:36:ARG:CA	49:s:74:PHE:CD2	2.78	0.65
3:C:68:LYS:NZ	3:C:149:GLY:O	2.19	0.65
31:a:60:A:OP2	50:t:2:ALA:N	2.30	0.65
32:b:102:THR:O	32:b:178:LYS:NZ	2.21	0.65
35:e:76:ARG:NH1	35:e:119:GLY:O	2.29	0.65
1:A:28:A:N3	15:O:11:ARG:NH2	2.45	0.65
1:A:263:G:C4'	1:A:666:A:HO2'	2.09	0.65
1:A:1869:G:C6	1:A:1925:U:O2	2.49	0.65
1:A:2496:A:C5	1:A:2508:G:N3	2.65	0.65
1:A:2500:U:OP1	1:A:2556:G:N2	2.30	0.65
31:a:1190:A:O2'	31:a:1191:G:OP1	2.13	0.65
1:A:672:A:N6	1:A:682:A:O5'	2.30	0.65
1:A:2285:C:O2'	1:A:2454:C:OP2	2.14	0.65
5:E:5:ASP:OD1	5:E:5:ASP:N	2.28	0.65
31:a:405:A:N7	42:l:134:LYS:CE	2.59	0.65
31:a:792:A:N6	31:a:806:U:O4	2.29	0.65
50:t:67:HIS:O	50:t:73:ARG:N	2.30	0.65
1:A:1079:U:N3	1:A:1164:G:C6	2.65	0.65
1:A:1533:A:N7	3:C:100:GLU:N	2.44	0.65
1:A:1690:A:O5'	1:A:1691:G:N2	2.29	0.65
1:A:2817:A:N3	1:A:2818:A:N6	2.44	0.65
3:C:39:LYS:NZ	3:C:55:GLY:O	2.30	0.65
1:A:342:A:N3	1:A:362:C:O2'	2.26	0.65
1:A:546:A:OP1	19:S:15:LYS:NZ	2.29	0.65
2:B:42:G:OP2	2:B:44:A:N6	2.30	0.65
17:Q:36:LEU:O	17:Q:44:SER:OG	2.12	0.65
31:a:161:A:N6	31:a:354:G:C6	2.64	0.65
31:a:446:G:O2'	31:a:502:C:N4	2.21	0.65
34:d:106:THR:HG23	34:d:150:ILE:HB	1.79	0.65
1:A:52:A:OP2	1:A:118:A:N6	2.22	0.65
1:A:1086:G:N1	1:A:1157:U:C2	2.65	0.65
1:A:2109:A:H62	1:A:2264:G:N2	1.94	0.65
31:a:901:A:OP2	31:a:915:G:N2	2.30	0.65
31:a:1433:G:O2'	31:a:1434:U:O4'	2.15	0.65
49:s:37:ARG:N	49:s:74:PHE:CD2	2.65	0.65
1:A:13:A:N6	1:A:571:A:OP2	2.26	0.65
1:A:917:U:C4	11:K:2:LEU:CD1	2.80	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2322:C:OP1	13:M:14:ARG:NH1	2.30	0.65
1:A:2558:A:OP2	7:G:175:LYS:N	2.30	0.65
3:C:130:LEU:HB2	3:C:135:ILE:HD11	1.78	0.65
8:H:15:LYS:O	8:H:54:TYR:N	2.27	0.65
11:K:25:ASN:ND2	11:K:100:GLY:O	2.29	0.65
31:a:155:U:O2	31:a:166:G:C2	2.49	0.65
1:A:1024:A:O2'	1:A:1025:A:OP1	2.12	0.64
1:A:1290:G:O4'	15:O:33:LYS:NZ	2.29	0.64
1:A:1952:C:H42	1:A:1956:G:N2	1.96	0.64
1:A:2077:C:O2	4:D:169:MET:HE1	1.97	0.64
1:A:2521:G:O2'	11:K:80:GLU:O	2.06	0.64
31:a:987:A:N3	31:a:1329:A:N6	2.45	0.64
40:j:6:ILE:HA	40:j:42:LEU:HD22	1.79	0.64
41:k:128:ARG:NH2	51:u:33:ARG:O	2.30	0.64
1:A:600:U:O2'	8:H:48:HIS:O	2.06	0.64
1:A:2869:G:O2'	1:A:2886:G:N2	2.30	0.64
31:a:23:G:O2'	31:a:922:A:N1	2.28	0.64
35:e:19:ASN:OD1	35:e:34:THR:OG1	2.16	0.64
35:e:152:ASP:O	35:e:155:LYS:NZ	2.27	0.64
1:A:335:U:C2	1:A:391:A:C2	2.85	0.64
13:M:96:ARG:NH2	13:M:99:TYR:O	2.30	0.64
31:a:36:G:O3'	42:l:130:TYR:CG	2.50	0.64
31:a:37:C:P	42:l:130:TYR:CE1	2.91	0.64
31:a:1080:C:O3'	35:e:26:LYS:NZ	2.30	0.64
1:A:304:G:N7	1:A:410:G:N2	2.44	0.64
3:C:66:ASP:N	3:C:66:ASP:OD1	2.30	0.64
23:W:60:ARG:O	23:W:64:GLN:NE2	2.30	0.64
31:a:932:A:N1	31:a:1403:U:C4	2.66	0.64
31:a:1080:C:O2'	31:a:1202:C:O2	2.12	0.64
40:j:36:VAL:HG21	40:j:76:ILE:HG22	1.78	0.64
42:l:81:PRO:O	42:l:112:ARG:NH1	2.30	0.64
1:A:1450:A:OP2	1:A:1452:C:N4	2.16	0.64
6:F:33:LYS:HA	6:F:96:MET:HE2	1.79	0.64
6:F:110:ARG:NH2	6:F:135:GLN:O	2.31	0.64
31:a:554:A:OP2	34:d:65:GLU:N	2.31	0.64
1:A:1957:G:O2'	1:A:1995:G:O6	2.07	0.64
23:W:6:ILE:HA	23:W:9:LEU:HD12	1.80	0.64
26:Z:27:MET:HA	26:Z:38:LEU:HD22	1.80	0.64
31:a:146:G:N1	31:a:176:C:C2	2.65	0.64
31:a:325:U:OP1	31:a:361:A:N6	2.30	0.64
31:a:666:G:O6	31:a:755:U:O2	2.16	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2548:C:O2'	1:A:2591:A:N3	2.31	0.64
3:C:182:ARG:HD3	3:C:184:ILE:HD11	1.80	0.64
41:k:98:ARG:O	41:k:102:SER:OG	2.14	0.64
49:s:74:PHE:CD1	49:s:74:PHE:CE1	2.85	0.64
1:A:252:C:O2'	10:J:63:LYS:NZ	2.17	0.64
1:A:1466:G:N2	1:A:1623:U:O2	2.31	0.64
19:S:33:VAL:O	19:S:63:ILE:HD12	1.98	0.64
31:a:974:A:OP1	40:j:57:LYS:NZ	2.27	0.64
1:A:1826:G:N2	1:A:1846:A:OP2	2.31	0.64
1:A:2331:G:O2'	6:F:129:THR:O	2.11	0.64
3:C:157:SER:O	3:C:195:VAL:HG11	1.97	0.64
22:V:24:SER:OG	22:V:25:THR:N	2.29	0.64
31:a:187:U:O2'	31:a:188:U:O5'	2.13	0.64
31:a:405:A:N7	42:l:134:LYS:CD	2.61	0.64
31:a:944:A:N1	31:a:1389:G:O2'	2.31	0.64
1:A:1002:U:O4	11:K:40:SER:OG	2.15	0.64
1:A:2378:G:O6	29:3:42:ARG:NH2	2.31	0.64
5:E:20:SER:N	5:E:203:GLU:OE2	2.31	0.64
9:I:81:GLU:OE1	9:I:81:GLU:N	2.31	0.64
31:a:606:U:C4	38:h:90:LYS:CA	2.80	0.64
32:b:203:ASN:ND2	32:b:205:ASP:OD1	2.31	0.64
33:c:44:ASN:N	33:c:44:ASN:OD1	2.31	0.64
45:o:49:ASP:N	45:o:49:ASP:OD1	2.29	0.64
1:A:576:U:O2	1:A:605:U:O2'	2.15	0.63
1:A:1085:U:O2	1:A:1158:G:C6	2.51	0.63
1:A:2144:A:N6	1:A:2188:C:OP2	2.30	0.63
1:A:78:U:OP1	23:W:4:LYS:NZ	2.31	0.63
1:A:2354:A:N7	1:A:2415:A:N6	2.45	0.63
1:A:2495:A:N6	1:A:2504:C:O2	2.30	0.63
1:A:2782:C:H5'	30:4:24:MET:HE1	1.80	0.63
6:F:32:ASP:OD2	6:F:159:THR:HG23	1.98	0.63
31:a:606:U:C4	38:h:90:LYS:CB	2.81	0.63
31:a:1315:G:O4'	31:a:1342:A:N6	2.32	0.63
52:v:87:ARG:NH1	52:v:87:ARG:O	2.31	0.63
1:A:352:A:O2'	1:A:372:A:O2'	2.03	0.63
1:A:427:A:OP1	22:V:18:ARG:NH2	2.31	0.63
1:A:917:U:N3	11:K:2:LEU:CG	2.61	0.63
1:A:2137:G:O6	1:A:2147:G:O2'	2.07	0.63
1:A:2418:G:O2'	1:A:2451:C:N4	2.32	0.63
7:G:63:THR:O	7:G:67:THR:HG23	1.98	0.63
14:N:27:THR:C	14:N:28:LEU:HD12	2.24	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:45:GLN:N	19:S:55:GLY:O	2.32	0.63
1:A:625:G:OP1	15:O:14:ARG:NH1	2.31	0.63
31:a:36:G:H3'	42:l:130:TYR:CG	2.34	0.63
31:a:567:A:O2'	31:a:568:A:OP2	2.14	0.63
31:a:904:A:C6	31:a:913:U:C4	2.86	0.63
31:a:1068:G:OP1	33:c:196:GLY:N	2.32	0.63
35:e:89:TYR:N	35:e:142:ASP:OD2	2.32	0.63
5:E:80:ALA:HB1	5:E:81:PRO:HD2	1.80	0.63
31:a:1011:U:O2'	31:a:1012:G:N7	2.30	0.63
31:a:1342:A:O2'	31:a:1343:A:O4'	2.12	0.63
31:a:1420:A:O2'	31:a:1421:C:O4'	2.15	0.63
1:A:621:A:OP1	1:A:1293:U:O2'	2.16	0.63
1:A:648:G:O2'	1:A:702:U:O2'	2.08	0.63
1:A:718:C:OP1	5:E:54:ARG:NH2	2.30	0.63
1:A:1465:G:O2'	1:A:1537:A:N7	2.22	0.63
36:f:64:ARG:NE	48:r:27:ASP:OD2	2.29	0.63
47:q:49:HIS:CD2	47:q:72:THR:HG21	2.33	0.63
1:A:333:C:C5	1:A:393:G:O4'	2.51	0.63
1:A:681:G:C2	10:J:112:LEU:HD11	2.34	0.63
1:A:916:U:C5	11:K:3:LEU:HD13	2.33	0.63
1:A:1076:A:C2	1:A:1166:G:N1	2.65	0.63
1:A:2682:G:N2	1:A:2683:U:O4	2.31	0.63
5:E:182:ASN:OD1	5:E:184:LEU:N	2.31	0.63
21:U:35:ASP:OD1	21:U:76:LYS:NZ	2.31	0.63
49:s:36:ARG:N	49:s:74:PHE:CE2	2.67	0.63
1:A:2556:G:OP2	7:G:172:LYS:NZ	2.32	0.63
2:B:18:G:O6	2:B:61:C:N4	2.32	0.63
4:D:184:GLU:OE1	4:D:185:VAL:N	2.32	0.63
31:a:427:C:OP1	31:a:521:A:O2'	2.16	0.63
31:a:1063:U:HO2'	31:a:1065:C:HO2'	1.28	0.63
37:g:42:ILE:HG22	37:g:120:LEU:HD22	1.81	0.63
1:A:1448:U:N3	1:A:1635:A:N6	2.47	0.63
1:A:2152:G:N2	1:A:2189:G:O2'	2.31	0.63
8:H:70:GLU:O	8:H:89:THR:OG1	2.16	0.63
31:a:1197:G:O2'	31:a:1198:A:OP1	2.12	0.63
38:h:6:PRO:O	38:h:10:MET:HE2	1.99	0.63
38:h:10:MET:HE3	38:h:14:VAL:HG21	1.80	0.63
1:A:1462:G:O2'	1:A:1463:A:O4'	2.15	0.62
5:E:60:GLY:HA2	5:E:78:ILE:HG22	1.81	0.62
6:F:38:MET:SD	6:F:53:ALA:HB1	2.39	0.62
7:G:2:SER:N	30:4:16:VAL:O	2.32	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:515:G:N7	28:2:38:LYS:NZ	2.44	0.62
1:A:1079:U:O2	1:A:1164:G:C2	2.52	0.62
1:A:1167:C:N3	30:4:35:ARG:NH1	2.48	0.62
1:A:1889:G:C6	1:A:1907:U:N3	2.67	0.62
1:A:2822:C:O2'	1:A:2824:G:O6	2.18	0.62
19:S:72:ASP:OD2	19:S:74:LYS:NZ	2.33	0.62
31:a:48:C:OP2	31:a:373:U:O2'	2.15	0.62
31:a:589:G:O2'	31:a:768:U:O4	2.11	0.62
48:r:42:GLY:O	51:u:26:SER:OG	2.17	0.62
52:v:58:ILE:HG12	52:v:85:LEU:HD22	1.81	0.62
1:A:301:U:HO2'	1:A:302:A:P	2.23	0.62
1:A:1415:A:O2'	1:A:1417:G:N7	2.25	0.62
1:A:1496:G:O2'	1:A:1497:A:O5'	2.13	0.62
1:A:2776:A:OP1	7:G:62:ARG:NH1	2.32	0.62
1:A:2917:U:O3'	8:H:137:GLN:NE2	2.32	0.62
2:B:43:A:O3'	13:M:4:LYS:NZ	2.33	0.62
15:O:24:TYR:O	15:O:29:HIS:ND1	2.31	0.62
31:a:196:A:OP2	31:a:197:U:N3	2.31	0.62
36:f:57:ASP:N	36:f:57:ASP:OD1	2.32	0.62
1:A:333:C:C4	1:A:393:G:C8	2.87	0.62
1:A:418:G:N2	1:A:447:A:OP2	2.33	0.62
1:A:622:A:O2'	1:A:2046:U:OP1	2.16	0.62
1:A:1183:G:O5'	8:H:73:LYS:NZ	2.32	0.62
1:A:2044:C:O2'	1:A:2046:U:OP2	2.12	0.62
1:A:2302:C:O2'	11:K:84:GLY:O	2.11	0.62
1:A:2702:A:N6	1:A:2759:G:C6	2.68	0.62
20:T:7:ILE:HD12	20:T:42:LYS:O	2.00	0.62
31:a:135:C:O2'	31:a:387:C:OP1	2.13	0.62
31:a:590:U:N3	31:a:767:A:C8	2.66	0.62
31:a:1391:U:O2'	31:a:1392:C:O5'	2.18	0.62
31:a:1420:A:O2'	31:a:1421:C:O5'	2.18	0.62
32:b:164:VAL:O	32:b:188:ASP:N	2.32	0.62
6:F:162:THR:OG1	6:F:163:ASP:N	2.28	0.62
11:K:67:LYS:O	11:K:68:ILE:HD13	1.99	0.62
31:a:792:A:N6	31:a:807:G:O6	2.32	0.62
6:F:170:LEU:HD12	6:F:174:GLY:HA3	1.81	0.62
31:a:13:U:O2	31:a:23:G:O6	2.17	0.62
31:a:147:G:O2'	31:a:148:G:N7	2.29	0.62
31:a:385:G:O6	31:a:393:C:N4	2.32	0.62
31:a:911:G:N2	31:a:912:G:C2	2.68	0.62
31:a:1067:U:O2'	33:c:188:ALA:O	2.18	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:v:83:ASN:OD1	52:v:84:LYS:N	2.32	0.62
1:A:410:G:O2'	1:A:412:U:O4	2.18	0.62
1:A:2749:G:O2'	1:A:2750:C:OP1	2.18	0.62
7:G:146:SER:O	7:G:149:ARG:NH1	2.32	0.62
12:L:79:GLN:NE2	12:L:88:GLU:OE2	2.33	0.62
31:a:36:G:O3'	31:a:36:G:H3'	1.94	0.62
31:a:388:G:N2	31:a:390:A:OP2	2.33	0.62
31:a:663:A:OP1	31:a:763:G:O2'	2.15	0.62
31:a:788:A:O2'	31:a:789:A:O4'	2.17	0.62
31:a:1112:A:C6	32:b:107:ILE:CG1	2.83	0.62
31:a:1223:A:O2'	31:a:1225:G:N7	2.27	0.62
31:a:1235:A:HO2'	49:s:77:THR:HG1	1.46	0.62
1:A:1261:G:N2	1:A:1264:A:OP2	2.32	0.62
1:A:2649:U:O3'	1:A:2845:G:N2	2.28	0.62
4:D:9:LYS:NZ	4:D:201:VAL:O	2.33	0.62
12:L:33:THR:OG1	12:L:34:GLU:N	2.29	0.62
1:A:1440:A:O2'	1:A:1514:A:O4'	2.18	0.62
1:A:2546:U:O2'	1:A:2568:A:N6	2.32	0.62
1:A:2859:G:OP1	12:L:46:LYS:NZ	2.32	0.62
6:F:134:GLU:OE2	6:F:150:ARG:N	2.33	0.62
8:H:85:ILE:HD12	8:H:86:LYS:N	2.14	0.62
31:a:213:G:O6	31:a:226:U:C4	2.51	0.62
31:a:371:A:N7	42:l:42:GLN:NE2	2.48	0.62
34:d:154:SER:HB2	34:d:172:LEU:HD21	1.81	0.62
1:A:1222:A:OP1	24:X:29:LYS:NZ	2.30	0.61
1:A:2495:A:C5	1:A:2504:C:N3	2.68	0.61
5:E:157:GLU:CD	5:E:197:ALA:HB3	2.25	0.61
31:a:1094:U:O2'	31:a:1113:A:O5'	2.16	0.61
31:a:1112:A:C6	32:b:107:ILE:CD1	2.83	0.61
31:a:1405:C:H1'	31:a:1411:G:H21	1.64	0.61
31:a:1410:C:OP2	52:v:84:LYS:NZ	2.33	0.61
1:A:1451:U:N3	1:A:1633:A:N7	2.48	0.61
1:A:2361:U:O4	1:A:2363:A:C5	2.53	0.61
6:F:31:ILE:HG23	6:F:96:MET:HE1	1.82	0.61
24:X:4:LEU:HD23	24:X:58:GLU:HA	1.82	0.61
31:a:903:G:O6	31:a:914:U:C4	2.53	0.61
42:l:130:TYR:CD1	42:l:130:TYR:CE1	2.88	0.61
1:A:687:G:N2	1:A:691:A:H62	1.99	0.61
1:A:1462:G:H21	1:A:1626:A:H62	1.48	0.61
8:H:58:ILE:O	8:H:128:GLY:N	2.33	0.61
31:a:405:A:C8	31:a:405:A:C1'	2.80	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:1259:C:N4	31:a:1298:A:N7	2.48	0.61
38:h:25:LEU:HB2	38:h:64:LEU:HD11	1.83	0.61
1:A:2006:C:N4	1:A:2007:G:O6	2.34	0.61
3:C:248:SER:N	3:C:252:LYS:O	2.33	0.61
26:Z:42:VAL:HG13	26:Z:49:TYR:O	2.00	0.61
31:a:411:C:O2'	31:a:448:U:O2	2.06	0.61
31:a:1129:A:OP1	39:i:13:ARG:NH1	2.33	0.61
34:d:57:LEU:HD22	34:d:194:ILE:HG13	1.82	0.61
40:j:10:LEU:O	40:j:12:ALA:N	2.33	0.61
43:m:9:ILE:HD13	43:m:15:VAL:HG11	1.81	0.61
1:A:963:A:OP2	1:A:2295:A:N6	2.32	0.61
1:A:1445:C:N4	1:A:1638:G:O6	2.16	0.61
1:A:2162:A:OP2	1:A:2179:A:N6	2.29	0.61
1:A:2683:U:O2	1:A:2692:A:C5	2.54	0.61
1:A:2684:A:H61	1:A:2691:G:H1'	1.64	0.61
3:C:76:ALA:N	3:C:116:VAL:O	2.34	0.61
7:G:148:ILE:HD12	7:G:149:ARG:N	2.16	0.61
28:2:33:ALA:O	28:2:37:ARG:N	2.33	0.61
31:a:553:C:N4	34:d:35:GLN:OE1	2.25	0.61
31:a:571:A:OP1	31:a:574:G:N2	2.29	0.61
34:d:120:LEU:O	34:d:140:SER:OG	2.19	0.61
1:A:318:A:O2'	1:A:402:C:N4	2.34	0.61
1:A:674:C:O2'	1:A:684:U:O2	2.18	0.61
1:A:674:C:O3'	1:A:694:G:N2	2.33	0.61
1:A:1320:G:N1	1:A:1323:A:OP2	2.33	0.61
6:F:117:VAL:HG13	6:F:175:MET:SD	2.41	0.61
10:J:33:ARG:NH1	10:J:41:ARG:O	2.34	0.61
31:a:305:G:N3	31:a:308:A:N6	2.49	0.61
31:a:1066:A:N6	31:a:1210:C:C2	2.66	0.61
1:A:1591:G:OP2	1:A:1591:G:N2	2.23	0.61
1:A:2774:G:N7	30:4:17:ILE:HD11	2.16	0.61
5:E:135:LYS:N	5:E:166:SER:OG	2.34	0.61
6:F:161:ASN:ND2	6:F:165:GLU:OE2	2.34	0.61
13:M:69:LYS:H	13:M:72:LEU:HD21	1.65	0.61
15:O:59:LYS:O	15:O:63:THR:HG23	2.01	0.61
19:S:5:LYS:O	19:S:23:VAL:HG13	2.01	0.61
19:S:33:VAL:O	19:S:63:ILE:N	2.33	0.61
31:a:934:G:C2	31:a:1401:U:O2	2.54	0.61
49:s:36:ARG:HB3	49:s:74:PHE:CG	2.36	0.61
9:I:115:VAL:HG13	9:I:121:VAL:HG21	1.82	0.61
22:V:38:ILE:O	22:V:38:ILE:HD12	2.01	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:355:G:O2'	31:a:356:G:O5'	2.18	0.61
31:a:605:G:C5	38:h:90:LYS:CB	2.78	0.61
31:a:1003:A:N6	31:a:1225:G:N3	2.48	0.61
31:a:1019:C:N4	31:a:1029:A:N1	2.49	0.61
31:a:1075:G:O2'	31:a:1076:U:OP2	2.16	0.61
31:a:1112:A:C4	32:b:107:ILE:CD1	2.84	0.61
33:c:51:VAL:HG23	33:c:114:LEU:HD13	1.81	0.61
37:g:113:GLU:O	37:g:119:ARG:NH2	2.34	0.61
1:A:69:C:O2'	1:A:70:G:OP1	2.17	0.61
1:A:75:G:O3'	23:W:48:LYS:NZ	2.32	0.61
1:A:329:A:N7	1:A:396:G:O2'	2.34	0.61
1:A:1422:A:O4'	1:A:1513:A:O2'	2.18	0.61
1:A:2379:A:C6	1:A:2392:G:N2	2.67	0.61
5:E:40:GLN:O	5:E:40:GLN:NE2	2.34	0.61
9:I:87:ILE:HD12	9:I:89:ASP:H	1.64	0.61
29:3:58:VAL:HB	29:3:61:LEU:HD12	1.81	0.61
1:A:917:U:N3	11:K:2:LEU:CD1	2.64	0.61
1:A:1093:C:H41	1:A:1154:G:N2	1.99	0.61
1:A:1435:C:O3'	18:R:24:LYS:NZ	2.33	0.61
1:A:2324:C:N3	1:A:2348:G:N1	2.44	0.61
1:A:2711:U:OP2	14:N:53:ARG:NH2	2.33	0.61
5:E:187:THR:O	10:J:2:LYS:NZ	2.24	0.61
6:F:38:MET:H	6:F:87:ALA:HB3	1.66	0.61
8:H:113:THR:OG1	8:H:116:GLY:N	2.34	0.61
9:I:111:PHE:O	9:I:114:ILE:N	2.34	0.61
31:a:56:A:C5	31:a:365:G:N2	2.69	0.61
31:a:421:G:O5'	31:a:436:G:N2	2.33	0.61
31:a:503:A:N1	34:d:112:GLN:NE2	2.49	0.61
31:a:688:C:O2'	31:a:689:A:O5'	2.14	0.61
31:a:1319:G:O6	31:a:1339:A:N6	2.33	0.61
48:r:61:THR:HG23	48:r:62:THR:HG23	1.83	0.61
1:A:527:G:OP2	19:S:44:HIS:ND1	2.34	0.60
1:A:752:G:C2	1:A:769:U:O2	2.54	0.60
1:A:1521:A:O2'	1:A:1522:G:OP1	2.19	0.60
1:A:1710:G:O3'	9:I:6:THR:HG23	2.01	0.60
1:A:2706:A:N3	4:D:200:ASN:ND2	2.49	0.60
1:A:2776:A:O5'	7:G:62:ARG:NH2	2.34	0.60
31:a:23:G:N2	31:a:922:A:O2'	2.34	0.60
31:a:274:G:O6	31:a:280:C:N4	2.33	0.60
31:a:649:A:O4'	38:h:111:GLY:N	2.34	0.60
1:A:13:A:O2'	1:A:15:G:N7	2.34	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:915:U:H3'	11:K:3:LEU:HD21	1.84	0.60
1:A:1569:G:O4'	1:A:1593:G:N2	2.34	0.60
1:A:2687:A:OP2	7:G:158:LYS:NZ	2.34	0.60
26:Z:30:CYS:SG	26:Z:48:SER:N	2.73	0.60
31:a:13:U:O2	31:a:23:G:C6	2.54	0.60
31:a:352:A:O2'	31:a:354:G:N2	2.33	0.60
31:a:803:C:O2	52:v:100:SER:N	2.34	0.60
31:a:967:A:N7	49:s:52:TYR:OH	2.25	0.60
31:a:1069:G:O6	31:a:1209:U:C4	2.54	0.60
1:A:1593:G:N2	1:A:1593:G:OP2	2.34	0.60
1:A:2347:A:O2'	1:A:2349:A:N7	2.34	0.60
1:A:2682:G:HO2'	1:A:2691:G:H1	1.48	0.60
1:A:2702:A:N6	1:A:2759:G:N1	2.48	0.60
2:B:15:C:N3	2:B:65:G:N1	2.45	0.60
13:M:40:ILE:N	13:M:58:SER:OG	2.34	0.60
29:3:4:MET:HE1	29:3:60:GLN:HB3	1.82	0.60
29:3:51:SER:OG	29:3:52:LYS:NZ	2.24	0.60
31:a:384:G:O2'	46:p:6:ARG:NH1	2.35	0.60
31:a:678:A:H1'	36:f:91:VAL:HG11	1.83	0.60
31:a:989:C:C5	44:n:16:TYR:HB3	2.37	0.60
31:a:1151:U:N3	31:a:1152:G:O6	2.34	0.60
38:h:24:LYS:NZ	38:h:26:GLU:OE2	2.34	0.60
49:s:36:ARG:C	49:s:74:PHE:CG	2.79	0.60
1:A:496:G:OP1	1:A:1286:G:N2	2.34	0.60
1:A:681:G:O6	10:J:110:LYS:NZ	2.28	0.60
1:A:866:A:H62	1:A:1016:G:H21	1.49	0.60
1:A:1472:C:N4	1:A:1617:A:OP2	2.24	0.60
1:A:2859:G:O2'	12:L:45:GLU:OE2	2.07	0.60
31:a:666:G:O2'	45:o:3:ILE:N	2.34	0.60
34:d:104:ALA:HB2	34:d:172:LEU:HG	1.82	0.60
1:A:1360:G:OP1	17:Q:96:LYS:NZ	2.28	0.60
14:N:54:GLY:O	14:N:58:SER:OG	2.19	0.60
17:Q:38:LEU:HD22	26:Z:25:PRO:HG2	1.84	0.60
31:a:605:G:C2	31:a:606:U:C2	2.89	0.60
31:a:746:U:O2'	36:f:93:ARG:NH1	2.35	0.60
31:a:1064:G:O2'	33:c:194:LYS:NZ	2.34	0.60
38:h:6:PRO:CG	38:h:27:LEU:HD11	2.31	0.60
1:A:953:C:OP1	11:K:101:ARG:NH2	2.35	0.60
1:A:1441:C:OP1	1:A:1514:A:O2'	2.18	0.60
1:A:2393:A:O3'	21:U:70:LYS:NZ	2.32	0.60
1:A:2780:A:C6	30:4:17:ILE:HD13	2.37	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2905:C:N4	26:Z:37:LYS:O	2.35	0.60
11:K:16:LYS:NZ	11:K:18:THR:OG1	2.34	0.60
19:S:74:LYS:NZ	19:S:75:THR:OG1	2.33	0.60
31:a:67:G:N2	31:a:172:A:N3	2.48	0.60
43:m:7:VAL:HG23	43:m:60:VAL:HG21	1.83	0.60
1:A:2160:G:N2	1:A:2185:A:N3	2.48	0.60
2:B:72:U:O4'	20:T:38:ASN:ND2	2.35	0.60
13:M:20:THR:OG1	13:M:21:ASN:OD1	2.20	0.60
21:U:45:LEU:HD21	21:U:69:ALA:H	1.67	0.60
31:a:608:U:N3	31:a:646:G:N7	2.49	0.60
36:f:19:LYS:HE2	36:f:23:VAL:HG21	1.84	0.60
41:k:17:GLU:N	41:k:77:HIS:O	2.34	0.60
1:A:575:G:N2	1:A:2050:A:OP2	2.34	0.60
3:C:111:GLU:N	3:C:114:GLN:OE1	2.33	0.60
3:C:170:LYS:O	3:C:186:SER:N	2.34	0.60
31:a:1268:G:N2	31:a:1289:A:N6	2.45	0.60
1:A:1069:G:N2	1:A:1179:C:OP1	2.29	0.60
1:A:2199:U:O2'	1:A:2202:U:O4	2.20	0.60
1:A:2782:C:C5'	30:4:24:MET:HE1	2.32	0.60
1:A:2869:G:N2	1:A:2886:G:O2'	2.35	0.60
8:H:57:VAL:O	8:H:126:TYR:N	2.33	0.60
9:I:30:ARG:NE	9:I:32:THR:O	2.32	0.60
31:a:1134:A:O2'	31:a:1135:G:O4'	2.08	0.60
31:a:1357:G:N2	31:a:1358:U:O4	2.32	0.60
1:A:1520:A:N6	1:A:1562:C:O4'	2.35	0.60
15:O:10:THR:HG22	15:O:13:ARG:HH21	1.66	0.60
15:O:108:GLN:O	15:O:111:THR:OG1	2.18	0.60
31:a:306:A:N6	31:a:574:G:OP1	2.34	0.60
31:a:870:G:O2'	31:a:883:G:O2'	2.11	0.60
1:A:14:A:O3'	26:Z:21:LYS:NZ	2.34	0.59
1:A:1033:G:OP1	24:X:31:THR:OG1	2.18	0.59
1:A:2313:A:OP2	27:1:2:ARG:NH2	2.35	0.59
4:D:34:VAL:HG23	4:D:36:LEU:HD11	1.84	0.59
15:O:62:ILE:HG23	15:O:76:TYR:CE2	2.37	0.59
31:a:7:G:N2	31:a:7:G:OP2	2.34	0.59
31:a:1112:A:C4	32:b:107:ILE:CG1	2.84	0.59
31:a:1297:A:H62	31:a:1380:G:H21	1.50	0.59
32:b:5:SER:OG	32:b:208:ARG:NH1	2.35	0.59
32:b:10:LEU:HD11	32:b:43:LEU:CD1	2.32	0.59
34:d:81:VAL:O	34:d:85:ASN:N	2.33	0.59
1:A:441:C:N4	1:A:442:G:O6	2.35	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2672:G:O2'	1:A:2673:C:OP1	2.19	0.59
6:F:125:ARG:HH22	6:F:129:THR:HG21	1.67	0.59
19:S:72:ASP:OD2	19:S:75:THR:N	2.35	0.59
31:a:385:G:O5'	46:p:4:LYS:NZ	2.27	0.59
1:A:917:U:C5	11:K:2:LEU:CD1	2.85	0.59
1:A:926:G:H21	1:A:942:C:H42	1.50	0.59
7:G:35:ARG:NH1	7:G:37:LEU:HD23	2.17	0.59
31:a:70:A:O2'	31:a:100:A:N6	2.33	0.59
41:k:51:GLY:O	41:k:53:LYS:NZ	2.34	0.59
1:A:94:A:C2	23:W:40:THR:HG21	2.37	0.59
1:A:1521:A:N7	1:A:1561:G:N1	2.44	0.59
1:A:2082:C:O2	1:A:2599:A:N6	2.35	0.59
1:A:2774:G:N3	7:G:67:THR:HG22	2.17	0.59
4:D:122:SER:OG	4:D:176:ASN:N	2.35	0.59
32:b:213:LEU:O	32:b:217:MET:N	2.34	0.59
41:k:101:GLN:HG3	51:u:12:LEU:HD23	1.84	0.59
1:A:866:A:H62	1:A:1016:G:N2	1.99	0.59
1:A:1078:G:OP2	1:A:2777:A:N6	2.36	0.59
1:A:1107:G:N2	1:A:1121:A:OP1	2.35	0.59
1:A:2421:C:H42	1:A:2459:A:H62	1.51	0.59
26:Z:41:ARG:O	26:Z:48:SER:N	2.34	0.59
29:3:16:ARG:NH1	29:3:20:GLY:O	2.35	0.59
31:a:758:C:O3'	45:o:20:THR:OG1	2.19	0.59
31:a:987:A:O2'	31:a:1331:U:O4	2.19	0.59
1:A:1395:G:OP2	1:A:1395:G:N2	2.33	0.59
1:A:2775:A:N6	30:4:17:ILE:HD12	2.18	0.59
12:L:96:ARG:O	12:L:100:TYR:OH	2.16	0.59
31:a:307:G:N1	31:a:573:U:O2	2.35	0.59
36:f:19:LYS:O	36:f:23:VAL:HG22	2.02	0.59
36:f:70:ASN:ND2	36:f:73:THR:OG1	2.36	0.59
1:A:1806:U:O2	1:A:1810:A:N6	2.36	0.59
1:A:2405:A:N3	13:M:22:LEU:HD11	2.18	0.59
10:J:133:ALA:HB1	10:J:143:HIS:CE1	2.38	0.59
12:L:85:LEU:HA	12:L:89:ILE:HD12	1.83	0.59
29:3:41:LYS:O	29:3:45:ARG:NH1	2.36	0.59
31:a:206:A:OP1	50:t:55:LYS:NZ	2.36	0.59
31:a:450:U:HO2'	31:a:451:U:C5'	2.16	0.59
32:b:20:THR:OG1	32:b:34:GLU:OE1	2.20	0.59
34:d:154:SER:CB	34:d:172:LEU:HD21	2.33	0.59
38:h:90:LYS:N	38:h:90:LYS:HB2	2.17	0.59
1:A:2904:U:O3'	4:D:64:LYS:NZ	2.35	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:67:LYS:NZ	11:K:105:GLU:OE2	2.36	0.59
31:a:1131:C:N3	31:a:1164:U:N3	2.51	0.59
1:A:522:G:N2	1:A:525:A:O4'	2.36	0.59
1:A:850:G:N2	1:A:876:G:N3	2.50	0.59
1:A:1478:A:N3	1:A:1521:A:O2'	2.34	0.59
1:A:2152:G:N1	1:A:2199:U:OP2	2.35	0.59
1:A:2771:G:O2'	7:G:146:SER:O	2.21	0.59
8:H:30:SER:OG	8:H:109:MET:SD	2.55	0.59
13:M:86:ASP:N	13:M:86:ASP:OD1	2.35	0.59
31:a:237:U:O2	46:p:26:ARG:NH1	2.36	0.59
31:a:594:C:O2'	31:a:887:U:O2'	2.02	0.59
33:c:119:ILE:HD13	33:c:201:ILE:HG23	1.84	0.59
1:A:192:G:H2'	1:A:208:G:H22	1.67	0.59
1:A:916:U:H3	1:A:951:G:H22	1.51	0.59
1:A:1092:A:H1'	1:A:1156:G:H21	1.67	0.59
1:A:1401:G:N2	1:A:1405:G:O6	2.23	0.59
1:A:2495:A:C6	1:A:2504:C:C2	2.90	0.59
15:O:81:ASN:OD1	15:O:85:LYS:NZ	2.21	0.59
19:S:89:LYS:O	19:S:91:VAL:HG13	2.03	0.59
42:l:67:ARG:NH2	42:l:75:GLU:OE1	2.36	0.59
44:n:23:ARG:NH1	44:n:33:VAL:O	2.35	0.59
49:s:36:ARG:CA	49:s:74:PHE:CZ	2.78	0.59
52:v:141:LEU:HD13	52:v:161:PHE:CD2	2.38	0.59
1:A:75:G:H22	1:A:110:A:H2	1.51	0.58
1:A:447:A:H61	1:A:468:A:H61	1.51	0.58
1:A:1723:A:O4'	1:A:2017:C:O2'	2.20	0.58
1:A:2417:U:O2	1:A:2452:A:N7	2.36	0.58
19:S:3:ILE:HD12	19:S:4:LYS:N	2.19	0.58
31:a:1208:A:OP1	52:v:10:ASN:ND2	2.35	0.58
36:f:9:ILE:O	36:f:87:ILE:HG22	2.02	0.58
49:s:36:ARG:C	49:s:74:PHE:CE1	2.80	0.58
1:A:7:G:N2	1:A:2916:U:O2	2.36	0.58
1:A:1968:C:N4	1:A:1992:C:O4'	2.36	0.58
1:A:2304:G:N7	21:U:20:ASN:ND2	2.51	0.58
1:A:2817:A:N7	1:A:2822:C:O2'	2.35	0.58
31:a:177:G:OP1	50:t:24:GLN:NE2	2.36	0.58
31:a:183:U:O5'	31:a:232:A:O2'	2.21	0.58
31:a:385:G:HO2'	46:p:2:ALA:N	2.01	0.58
31:a:606:U:N1	38:h:90:LYS:O	2.35	0.58
31:a:682:G:N1	51:u:35:ARG:O	2.35	0.58
1:A:916:U:C6	11:K:3:LEU:HD13	2.38	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1467:G:N1	1:A:1622:C:N3	2.51	0.58
1:A:2836:C:O3'	12:L:105:LYS:NZ	2.35	0.58
3:C:131:PRO:O	3:C:134:ASN:ND2	2.35	0.58
3:C:140:VAL:HG23	3:C:193:GLY:HA2	1.85	0.58
31:a:929:U:O2	31:a:1091:A:O2'	2.20	0.58
46:p:6:ARG:N	46:p:21:VAL:O	2.36	0.58
1:A:562:C:O2'	17:Q:78:GLU:OE2	2.09	0.58
2:B:109:G:N7	2:B:110:C:N4	2.52	0.58
3:C:75:ASN:ND2	3:C:97:ALA:HB2	2.19	0.58
16:P:25:LEU:O	16:P:65:GLN:NE2	2.37	0.58
31:a:352:A:OP2	31:a:353:C:N4	2.37	0.58
31:a:959:U:O2	31:a:1241:G:N2	2.36	0.58
31:a:1095:G:O2'	33:c:171:THR:OG1	2.00	0.58
32:b:102:THR:HG23	32:b:103:ASN:OD1	2.02	0.58
38:h:9:ASP:O	38:h:12:THR:OG1	2.11	0.58
1:A:535:G:N7	17:Q:49:LYS:NZ	2.48	0.58
1:A:2108:U:H2'	1:A:2264:G:H22	1.66	0.58
31:a:36:G:C3'	42:l:130:TYR:CD1	2.82	0.58
31:a:269:U:O4	50:t:69:ASN:ND2	2.36	0.58
31:a:399:G:N2	31:a:490:A:O2'	2.37	0.58
31:a:1118:C:N4	31:a:1119:G:O6	2.37	0.58
31:a:1308:C:C2	37:g:115:THR:HG23	2.38	0.58
31:a:1428:A:OP1	31:a:1493:G:N2	2.36	0.58
36:f:9:ILE:HD11	48:r:71:ALA:CB	2.34	0.58
1:A:1423:C:O2'	1:A:1512:U:O2	2.15	0.58
1:A:2128:G:N2	1:A:2215:U:O2	2.36	0.58
1:A:2282:G:N2	21:U:16:SER:O	2.28	0.58
11:K:30:GLY:N	11:K:105:GLU:OE1	2.36	0.58
31:a:570:U:O2	31:a:571:A:N6	2.35	0.58
1:A:208:G:N2	1:A:209:U:O4	2.36	0.58
1:A:409:G:H22	1:A:411:A:H62	1.50	0.58
41:k:97:ILE:HD12	51:u:12:LEU:HD12	1.86	0.58
45:o:21:ASP:CB	45:o:27:VAL:HG21	2.33	0.58
1:A:2022:U:O2'	9:I:31:LYS:NZ	2.30	0.58
1:A:2280:G:N2	21:U:15:VAL:HG22	2.18	0.58
1:A:2291:C:N4	21:U:23:ASP:OD2	2.33	0.58
9:I:77:ILE:HD12	9:I:78:LYS:N	2.19	0.58
29:3:54:ASP:O	29:3:58:VAL:HG22	2.04	0.58
31:a:554:A:O2'	31:a:555:A:O4'	2.22	0.58
31:a:684:A:OP2	31:a:720:A:N6	2.29	0.58
31:a:1416:U:OP2	31:a:1504:A:N6	2.29	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:g:69:ILE:HG22	37:g:137:LYS:O	2.03	0.58
1:A:648:G:N7	10:J:103:LYS:NZ	2.52	0.58
1:A:914:G:O2'	11:K:8:LYS:NZ	2.20	0.58
1:A:1819:G:N2	1:A:1854:U:O2	2.35	0.58
1:A:1869:G:O6	1:A:1925:U:C2	2.57	0.58
27:1:22:ASN:OD1	27:1:22:ASN:N	2.34	0.58
29:3:31:HIS:CG	29:3:32:LEU:HD23	2.39	0.58
31:a:705:U:O2'	31:a:792:A:N3	2.24	0.58
31:a:1167:A:N7	31:a:1188:G:O2'	2.21	0.58
31:a:1444:A:N6	31:a:1478:G:N2	2.51	0.58
1:A:731:U:O5'	28:2:12:LYS:NZ	2.36	0.58
1:A:2424:G:N2	1:A:2446:U:O2	2.37	0.58
13:M:19:ARG:NH2	13:M:23:SER:OG	2.36	0.58
30:4:9:PRO:O	30:4:10:ILE:HD13	2.04	0.58
31:a:40:G:O6	31:a:411:C:N4	2.37	0.58
31:a:383:U:O2'	46:p:7:LEU:O	2.22	0.58
31:a:605:G:C4	38:h:89:ALA:HA	2.39	0.58
31:a:1429:G:N2	31:a:1492:U:O2	2.36	0.58
47:q:9:VAL:HG22	47:q:62:LYS:NZ	2.19	0.58
1:A:9:U:O2	1:A:2656:A:C5	2.56	0.57
1:A:315:C:N4	1:A:403:U:OP2	2.36	0.57
1:A:333:C:N3	1:A:393:G:C8	2.71	0.57
1:A:1467:G:P	1:A:1535:G:HO2'	2.27	0.57
1:A:2450:U:HO2'	1:A:2451:C:P	2.25	0.57
27:1:29:ARG:NH2	27:1:47:GLU:O	2.36	0.57
31:a:867:G:N2	31:a:879:U:OP2	2.35	0.57
31:a:1121:A:N7	33:c:178:ARG:NH2	2.52	0.57
1:A:865:A:N3	1:A:987:U:O2'	2.36	0.57
1:A:917:U:N1	11:K:2:LEU:CD1	2.67	0.57
4:D:189:ASP:OD1	4:D:191:GLU:N	2.37	0.57
32:b:11:GLU:O	52:v:166:ARG:NH1	2.36	0.57
38:h:4:THR:O	38:h:79:ARG:NH2	2.37	0.57
1:A:69:C:O2	1:A:73:A:O2'	2.22	0.57
1:A:325:A:N3	1:A:400:C:N4	2.53	0.57
1:A:890:G:H21	1:A:977:A:H62	1.51	0.57
4:D:87:PHE:C	4:D:88:ILE:HD12	2.29	0.57
5:E:33:LEU:HD22	5:E:37:ILE:HD11	1.85	0.57
18:R:61:LYS:O	18:R:72:THR:OG1	2.20	0.57
31:a:773:G:N2	31:a:821:U:OP2	2.37	0.57
31:a:959:U:O2	31:a:1241:G:C2	2.57	0.57
32:b:46:THR:HG23	32:b:47:VAL:HG23	1.86	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1248:U:O2	1:A:1250:G:N1	2.38	0.57
1:A:1379:A:O2'	1:A:1381:U:OP2	2.18	0.57
1:A:2618:C:N3	1:A:2630:G:N1	2.49	0.57
6:F:110:ARG:NH2	6:F:137:ILE:O	2.37	0.57
1:A:917:U:C5	11:K:2:LEU:CG	2.86	0.57
1:A:1081:G:N1	1:A:1163:U:O2'	2.38	0.57
1:A:1258:A:OP2	15:O:19:LYS:NZ	2.32	0.57
5:E:33:LEU:HD21	5:E:183:VAL:CG2	2.32	0.57
24:X:3:LYS:HZ1	24:X:36:VAL:HG12	1.69	0.57
31:a:27:A:N1	31:a:566:G:O2'	2.30	0.57
31:a:160:A:N7	31:a:352:A:O2'	2.32	0.57
31:a:452:A:O2'	31:a:453:G:OP2	2.19	0.57
31:a:751:U:OP2	31:a:752:C:N4	2.35	0.57
31:a:1071:U:N3	31:a:1072:G:O6	2.37	0.57
32:b:9:LEU:O	32:b:14:VAL:HG22	2.04	0.57
1:A:124:A:OP2	28:2:20:ARG:NE	2.34	0.57
1:A:199:A:H61	1:A:876:G:H21	1.52	0.57
1:A:750:A:N7	1:A:771:G:C2	2.72	0.57
1:A:1396:A:OP2	1:A:1408:G:N1	2.36	0.57
3:C:26:LYS:NZ	3:C:82:GLN:OE1	2.37	0.57
31:a:213:G:O6	31:a:226:U:O4	2.23	0.57
31:a:374:C:O3'	31:a:402:G:N2	2.38	0.57
31:a:651:C:H41	38:h:109:SER:HB3	1.68	0.57
31:a:1451:G:N2	31:a:1467:A:OP2	2.37	0.57
32:b:75:GLN:NE2	32:b:204:ASP:O	2.36	0.57
43:m:83:ILE:HD13	49:s:40:ILE:HG21	1.85	0.57
45:o:70:LEU:HD22	45:o:77:ARG:CD	2.34	0.57
49:s:19:VAL:HG22	49:s:23:GLU:HB3	1.85	0.57
1:A:254:A:OP1	29:3:7:HIS:NE2	2.38	0.57
1:A:1962:G:N1	1:A:1989:C:O2'	2.36	0.57
1:A:2499:G:C2	1:A:2505:A:N6	2.72	0.57
19:S:7:ASP:O	19:S:23:VAL:HG12	2.05	0.57
31:a:38:U:O2'	31:a:39:G:O5'	2.22	0.57
33:c:35:ASP:O	33:c:39:ARG:NE	2.38	0.57
34:d:151:ILE:O	34:d:172:LEU:HD23	2.04	0.57
50:t:68:SER:O	50:t:73:ARG:NH1	2.37	0.57
1:A:842:U:OP1	5:E:62:ARG:NH2	2.38	0.57
1:A:1494:G:O2'	1:A:1495:C:OP2	2.20	0.57
1:A:2379:A:N6	1:A:2392:G:C2	2.73	0.57
6:F:125:ARG:NH2	6:F:129:THR:HG21	2.20	0.57
16:P:8:GLY:N	16:P:23:GLU:OE2	2.37	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:69:GLN:OE1	18:R:69:GLN:N	2.37	0.57
31:a:65:G:O2'	31:a:66:A:OP2	2.23	0.57
31:a:469:U:O4	31:a:470:A:N6	2.38	0.57
31:a:840:G:N2	31:a:863:U:O2	2.35	0.57
31:a:1120:C:H2'	33:c:177:LEU:HD23	1.86	0.57
1:A:23:G:H21	17:Q:77:ASN:ND2	2.01	0.57
1:A:917:U:C6	11:K:2:LEU:CG	2.86	0.57
1:A:1822:C:H3'	3:C:256:GLY:HA3	1.87	0.57
1:A:2134:C:O2	1:A:2208:A:N6	2.36	0.57
1:A:2342:U:H5''	13:M:2:ILE:HD13	1.86	0.57
31:a:194:G:O2'	31:a:196:A:N1	2.33	0.57
31:a:264:U:O4	31:a:274:G:N2	2.37	0.57
31:a:1451:G:O2'	31:a:1452:G:O4'	2.10	0.57
35:e:14:ARG:HB2	35:e:117:LEU:HD21	1.87	0.57
37:g:70:MET:HE2	37:g:101:LEU:HB2	1.86	0.57
1:A:229:A:O2'	1:A:231:A:O4'	2.23	0.57
1:A:339:A:O3'	19:S:90:LYS:NZ	2.29	0.57
4:D:14:GLN:HB2	4:D:22:LEU:HD11	1.87	0.57
11:K:48:GLU:OE2	11:K:51:ARG:NH2	2.38	0.57
14:N:83:ILE:HG21	14:N:86:ILE:HD11	1.87	0.57
17:Q:50:VAL:CG1	17:Q:103:ILE:HD12	2.35	0.57
31:a:69:G:N1	31:a:100:A:C6	2.73	0.57
31:a:948:G:HO2'	31:a:949:C:P	2.26	0.57
31:a:971:C:O4'	31:a:1211:A:N6	2.38	0.57
31:a:1100:G:O2'	31:a:1101:U:OP2	2.18	0.57
31:a:1238:C:OP1	43:m:102:THR:N	2.36	0.57
31:a:1340:U:OP2	43:m:73:THR:OG1	2.07	0.57
31:a:1502:G:H21	42:l:53:MET:HB2	1.70	0.57
32:b:68:LEU:HD22	32:b:150:GLY:CA	2.34	0.57
1:A:969:A:O2'	1:A:971:U:O4'	2.19	0.56
4:D:81:ASP:N	4:D:81:ASP:OD1	2.36	0.56
31:a:672:G:N7	31:a:748:U:N3	2.52	0.56
31:a:802:A:OP1	31:a:805:C:N4	2.37	0.56
35:e:12:GLU:OE2	35:e:44:GLY:N	2.36	0.56
49:s:23:GLU:O	49:s:47:HIS:NE2	2.38	0.56
1:A:138:U:O2'	1:A:141:U:O4	2.23	0.56
1:A:504:G:O2'	1:A:515:G:O6	2.11	0.56
1:A:2905:C:N4	26:Z:29:GLU:O	2.38	0.56
31:a:257:U:C2	31:a:283:G:O6	2.58	0.56
31:a:1084:U:O2	32:b:109:LYS:NZ	2.34	0.56
31:a:1114:C:OP2	33:c:171:THR:OG1	2.22	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:k:97:ILE:CG2	41:k:100:LEU:HD12	2.36	0.56
1:A:517:A:OP1	5:E:84:ARG:NH1	2.37	0.56
1:A:524:A:N6	1:A:545:G:O2'	2.34	0.56
1:A:647:G:O6	10:J:103:LYS:NZ	2.36	0.56
1:A:1039:C:N3	8:H:4:THR:OG1	2.31	0.56
1:A:1471:A:N6	1:A:1618:A:OP2	2.33	0.56
1:A:2559:G:N3	1:A:2690:G:N2	2.53	0.56
3:C:33:LEU:O	3:C:64:VAL:HG12	2.05	0.56
11:K:39:THR:HG23	11:K:98:LYS:HA	1.86	0.56
13:M:86:ASP:OD2	13:M:87:LYS:NZ	2.28	0.56
22:V:14:THR:OG1	22:V:15:GLY:N	2.36	0.56
31:a:142:G:O2'	31:a:210:A:N6	2.38	0.56
31:a:826:G:O2'	31:a:828:U:OP2	2.17	0.56
31:a:907:G:O2'	31:a:910:A:N6	2.38	0.56
31:a:1270:G:N2	31:a:1271:A:N7	2.49	0.56
31:a:1356:A:N6	31:a:1386:U:O4	2.39	0.56
31:a:1386:U:OP1	37:g:12:VAL:HG12	2.04	0.56
33:c:47:LYS:O	33:c:71:LYS:NZ	2.38	0.56
38:h:94:MET:HE3	38:h:126:GLU:N	2.19	0.56
40:j:25:ILE:HD11	40:j:74:ILE:HD11	1.87	0.56
43:m:19:LEU:HB3	43:m:29:THR:HG22	1.87	0.56
46:p:44:SER:OG	46:p:47:ALA:O	2.24	0.56
1:A:540:G:O4'	17:Q:57:ASN:ND2	2.38	0.56
1:A:2024:A:O5'	4:D:138:ARG:NH1	2.38	0.56
1:A:2378:G:H2'	1:A:2392:G:H22	1.69	0.56
7:G:140:GLN:O	7:G:144:LEU:HD13	2.06	0.56
17:Q:10:ILE:O	17:Q:99:SER:OG	2.22	0.56
34:d:57:LEU:HD21	34:d:198:TYR:OH	2.05	0.56
1:A:672:A:N6	1:A:682:A:O4'	2.37	0.56
1:A:1824:C:OP1	3:C:258:LYS:N	2.38	0.56
1:A:1864:C:O2'	1:A:1954:A:N3	2.27	0.56
4:D:35:VAL:C	4:D:36:LEU:HD12	2.30	0.56
5:E:201:LYS:NZ	5:E:204:GLU:OE1	2.39	0.56
31:a:486:C:O2'	31:a:487:U:OP2	2.14	0.56
31:a:1361:U:O2	31:a:1381:G:N2	2.37	0.56
31:a:1383:G:O2'	31:a:1384:A:O5'	2.21	0.56
31:a:1404:A:N6	31:a:1511:A:N3	2.54	0.56
49:s:36:ARG:CA	49:s:74:PHE:CD1	2.89	0.56
1:A:2109:A:N6	1:A:2264:G:N2	2.53	0.56
1:A:2331:G:N2	6:F:153:ASP:OD2	2.39	0.56
1:A:2618:C:C2	1:A:2630:G:N2	2.64	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2708:C:O2'	1:A:2751:U:O4	2.21	0.56
5:E:169:ASN:OD1	5:E:169:ASN:N	2.39	0.56
8:H:1:MET:SD	8:H:1:MET:N	2.65	0.56
31:a:265:A:N1	31:a:278:A:N6	2.54	0.56
31:a:1477:C:N4	31:a:1478:G:O6	2.39	0.56
47:q:29:THR:OG1	47:q:30:TYR:N	2.37	0.56
52:v:90:ARG:N	52:v:93:LYS:O	2.38	0.56
1:A:223:G:O2'	1:A:236:A:N3	2.32	0.56
1:A:752:G:H22	1:A:769:U:H2'	1.69	0.56
1:A:923:A:N1	1:A:944:G:C6	2.73	0.56
1:A:1935:C:N3	1:A:1949:G:N1	2.51	0.56
23:W:14:ILE:HG22	23:W:18:ILE:HD11	1.87	0.56
31:a:418:G:N1	31:a:440:A:N1	2.54	0.56
31:a:531:A:O2'	42:l:101:LYS:NZ	2.38	0.56
31:a:1150:U:O2'	31:a:1155:C:N4	2.26	0.56
1:A:333:C:C6	1:A:393:G:H1'	2.41	0.56
1:A:664:G:N7	5:E:103:LYS:NZ	2.47	0.56
1:A:720:A:OP1	5:E:63:LYS:NZ	2.39	0.56
3:C:75:ASN:CG	3:C:97:ALA:HB2	2.31	0.56
31:a:243:C:O4'	47:q:8:LYS:NZ	2.39	0.56
1:A:82:G:H22	1:A:102:A:P	2.29	0.56
1:A:522:G:N2	1:A:525:A:O5'	2.35	0.56
1:A:2374:C:C3'	27:l:17:TYR:HH	2.19	0.56
3:C:74:ILE:HG12	3:C:97:ALA:HB3	1.88	0.56
7:G:155:GLU:OE2	7:G:158:LYS:N	2.38	0.56
8:H:74:VAL:HG23	8:H:76:TYR:HE2	1.71	0.56
18:R:34:ASN:OD1	18:R:36:THR:N	2.37	0.56
24:X:6:ILE:HD13	24:X:56:VAL:HA	1.88	0.56
31:a:183:U:O2'	31:a:233:U:OP1	2.23	0.56
31:a:953:G:N7	31:a:955:A:N6	2.54	0.56
31:a:1299:A:HO2'	31:a:1362:C:P	2.29	0.56
47:q:24:THR:O	47:q:24:THR:OG1	2.21	0.56
1:A:1288:G:N7	10:J:18:ARG:NH2	2.54	0.56
1:A:2340:C:O3'	6:F:88:LYS:NZ	2.39	0.56
1:A:2557:U:O2'	1:A:2561:C:N3	2.31	0.56
1:A:2780:A:N1	7:G:2:SER:N	2.53	0.56
21:U:45:LEU:HD21	21:U:69:ALA:N	2.21	0.56
31:a:727:C:H41	31:a:743:C:H4'	1.71	0.56
31:a:904:A:N6	31:a:913:U:C4	2.73	0.56
32:b:41:ILE:HD11	32:b:202:ALA:HA	1.88	0.56
1:A:275:A:H62	1:A:296:G:N2	2.04	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2496:A:N7	1:A:2508:G:N2	2.35	0.55
1:A:2771:G:N7	1:A:2782:C:H1'	2.21	0.55
31:a:399:G:H21	31:a:490:A:H1'	1.72	0.55
31:a:802:A:N7	31:a:804:C:N4	2.54	0.55
31:a:843:A:OP1	48:r:53:SER:OG	2.23	0.55
31:a:897:G:O2'	31:a:918:A:N1	2.27	0.55
31:a:1260:A:N6	31:a:1295:A:N7	2.47	0.55
43:m:103:LYS:O	43:m:107:ARG:NE	2.39	0.55
1:A:1313:G:O2'	12:L:8:ARG:NH1	2.39	0.55
1:A:1823:U:O4	1:A:1850:G:O6	2.24	0.55
2:B:77:G:N1	2:B:95:U:C2	2.74	0.55
5:E:89:VAL:HG12	5:E:90:PHE:CD2	2.40	0.55
31:a:979:C:H2'	31:a:1241:G:H21	1.71	0.55
31:a:1137:U:C5	40:j:73:LEU:HD21	2.41	0.55
52:v:132:GLU:N	52:v:132:GLU:OE1	2.38	0.55
1:A:687:G:H21	1:A:691:A:N6	2.03	0.55
21:U:72:ASP:N	21:U:72:ASP:OD1	2.39	0.55
29:3:22:LEU:O	29:3:49:LEU:HD23	2.06	0.55
31:a:104:G:H21	31:a:388:G:P	2.30	0.55
31:a:204:A:N3	31:a:206:A:N6	2.54	0.55
31:a:602:U:OP2	31:a:603:A:N6	2.40	0.55
31:a:693:G:O2'	41:k:48:GLY:O	2.24	0.55
34:d:63:MET:SD	34:d:70:ASN:ND2	2.79	0.55
34:d:98:VAL:C	34:d:106:THR:HG22	2.32	0.55
1:A:785:C:N4	1:A:803:C:O2	2.39	0.55
3:C:226:ASN:ND2	3:C:229:ASP:OD2	2.38	0.55
31:a:63:U:O2	31:a:387:C:O2'	2.24	0.55
31:a:582:A:O2'	31:a:891:C:O2	2.22	0.55
31:a:700:U:O2'	31:a:703:A:N6	2.32	0.55
31:a:823:A:N3	31:a:1538:C:O2'	2.30	0.55
31:a:1304:U:HO2'	31:a:1305:U:P	2.27	0.55
36:f:5:GLU:OE1	36:f:5:GLU:N	2.39	0.55
41:k:97:ILE:HG22	41:k:100:LEU:HD12	1.88	0.55
2:B:77:G:O6	20:T:15:ARG:NH2	2.39	0.55
11:K:75:THR:OG1	11:K:76:LYS:N	2.38	0.55
26:Z:42:VAL:N	26:Z:49:TYR:O	2.39	0.55
31:a:42:G:N2	31:a:627:U:O4	2.34	0.55
31:a:606:U:C5	38:h:90:LYS:CA	2.90	0.55
1:A:372:A:OP1	19:S:67:ASN:ND2	2.39	0.55
1:A:1972:G:H21	1:A:1990:C:H42	1.53	0.55
18:R:78:ALA:C	18:R:79:ILE:HD12	2.31	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:839:U:O2	31:a:864:G:C2	2.59	0.55
31:a:932:A:O2'	31:a:1513:A:N6	2.35	0.55
1:A:818:U:O2	1:A:823:G:O2'	2.24	0.55
1:A:1963:A:OP2	1:A:1989:C:N4	2.40	0.55
25:Y:1:MET:O	25:Y:3:GLN:N	2.40	0.55
31:a:70:A:N6	31:a:96:U:OP2	2.39	0.55
31:a:263:G:O5'	47:q:72:THR:N	2.40	0.55
31:a:605:G:C6	38:h:89:ALA:O	2.60	0.55
31:a:984:A:OP2	31:a:1373:A:N6	2.40	0.55
31:a:1402:G:H21	31:a:1513:A:H1'	1.72	0.55
37:g:115:THR:HG22	37:g:117:GLU:H	1.71	0.55
1:A:303:G:OP2	1:A:410:G:N1	2.35	0.55
1:A:606:G:O5'	15:O:41:LYS:NZ	2.29	0.55
1:A:736:C:O4'	3:C:43:ARG:NH2	2.38	0.55
1:A:1975:G:O2'	1:A:1976:G:OP1	2.23	0.55
3:C:219:THR:OG1	3:C:220:VAL:N	2.39	0.55
31:a:989:C:N1	44:n:16:TYR:HB2	2.21	0.55
32:b:19:GLN:OE1	32:b:20:THR:N	2.40	0.55
1:A:231:A:N6	1:A:464:U:O3'	2.39	0.55
1:A:2786:G:N1	7:G:139:GLU:O	2.40	0.55
2:B:29:C:H1'	2:B:51:A:H61	1.71	0.55
9:I:121:VAL:C	9:I:122:LEU:HD12	2.32	0.55
31:a:37:C:P	42:l:130:TYR:CD2	3.00	0.55
31:a:118:A:O2'	31:a:119:A:OP2	2.15	0.55
31:a:980:G:OP2	31:a:1242:U:O2'	2.20	0.55
31:a:1275:C:OP1	31:a:1281:G:N2	2.40	0.55
34:d:42:LYS:H	34:d:51:LEU:HD23	1.71	0.55
39:i:10:GLY:O	39:i:13:ARG:NH2	2.40	0.55
41:k:45:SER:OG	41:k:62:ALA:O	2.14	0.55
1:A:1034:A:O2'	1:A:1036:C:OP2	2.25	0.55
1:A:1080:G:N2	1:A:1164:G:O4'	2.40	0.55
1:A:1219:G:O6	1:A:1221:C:N4	2.40	0.55
1:A:1465:G:N2	1:A:1538:A:N1	2.55	0.55
1:A:2801:C:P	4:D:177:THR:HG1	2.30	0.55
2:B:70:G:N2	2:B:101:A:C8	2.70	0.55
5:E:195:THR:OG1	5:E:196:GLU:N	2.40	0.55
6:F:38:MET:HG3	6:F:57:LEU:HD11	1.89	0.55
31:a:1112:A:C5	32:b:107:ILE:CD1	2.90	0.55
31:a:1417:C:O2'	31:a:1528:G:N2	2.39	0.55
38:h:50:GLU:OE1	38:h:50:GLU:N	2.40	0.55
42:l:132:THR:OG1	42:l:133:LYS:NZ	2.26	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:192:G:H21	1:A:210:A:H62	1.55	0.54
1:A:428:G:N7	1:A:434:G:N2	2.55	0.54
1:A:681:G:C5	10:J:112:LEU:HD21	2.42	0.54
1:A:976:U:O2'	1:A:977:A:O4'	2.23	0.54
1:A:2780:A:N1	7:G:3:ARG:N	2.50	0.54
6:F:60:ILE:HD13	6:F:138:PHE:CD2	2.43	0.54
12:L:47:LEU:HD11	12:L:66:LEU:HD21	1.89	0.54
31:a:1112:A:C5	32:b:107:ILE:CG1	2.90	0.54
1:A:318:A:C3'	1:A:325:A:H61	2.21	0.54
1:A:319:G:C1'	1:A:325:A:H62	2.19	0.54
1:A:1018:A:O2'	1:A:1019:A:OP2	2.24	0.54
1:A:1489:A:P	1:A:1492:G:H22	2.30	0.54
19:S:6:GLY:N	19:S:104:ASN:O	2.40	0.54
31:a:175:C:O2'	50:t:20:ARG:NH2	2.39	0.54
31:a:273:G:H3'	31:a:275:C:H41	1.72	0.54
44:n:23:ARG:NH2	44:n:31:HIS:O	2.38	0.54
1:A:38:A:N3	5:E:48:THR:OG1	2.31	0.54
1:A:274:A:H61	1:A:297:G:H1'	1.71	0.54
1:A:914:G:O2'	11:K:6:ARG:NH1	2.38	0.54
1:A:2499:G:N2	1:A:2505:A:H62	2.04	0.54
31:a:39:G:C2'	31:a:40:G:H21	2.20	0.54
31:a:819:C:O3'	31:a:909:A:N6	2.34	0.54
31:a:822:A:O2'	31:a:1521:C:O2	2.24	0.54
1:A:333:C:N3	1:A:393:G:C2'	2.70	0.54
1:A:2495:A:N7	1:A:2508:G:N1	2.56	0.54
7:G:105:LEU:HD13	7:G:107:VAL:CG1	2.38	0.54
8:H:29:LEU:O	8:H:33:VAL:HG23	2.07	0.54
31:a:446:G:N2	31:a:503:A:N3	2.55	0.54
31:a:678:A:O2'	36:f:91:VAL:HG21	2.07	0.54
31:a:893:U:OP2	42:l:15:LYS:NZ	2.39	0.54
31:a:897:G:C1'	31:a:918:A:H61	2.20	0.54
32:b:68:LEU:HD22	32:b:150:GLY:HA3	1.88	0.54
1:A:829:U:O2'	1:A:837:G:N7	2.39	0.54
1:A:1072:A:N3	1:A:2513:G:O2'	2.32	0.54
6:F:60:ILE:HD13	6:F:138:PHE:HD2	1.71	0.54
18:R:47:ASN:O	18:R:47:ASN:ND2	2.41	0.54
23:W:18:ILE:O	23:W:21:SER:OG	2.22	0.54
31:a:185:U:O2	31:a:206:A:O2'	2.25	0.54
31:a:1262:A:O3'	31:a:1378:A:O2'	2.24	0.54
32:b:69:PHE:O	32:b:84:ALA:HB2	2.07	0.54
50:t:52:LEU:HD11	50:t:56:LEU:HD12	1.88	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:137:G:N1	1:A:141:U:OP2	2.41	0.54
1:A:1076:A:N1	1:A:1166:G:O6	2.41	0.54
1:A:1555:G:N2	1:A:1556:G:O6	2.41	0.54
1:A:1833:C:O2'	3:C:46:GLN:NE2	2.41	0.54
1:A:2330:G:H21	6:F:125:ARG:HH22	1.55	0.54
5:E:191:SER:OG	5:E:192:LEU:N	2.37	0.54
6:F:77:PHE:O	6:F:79:LEU:HD23	2.08	0.54
10:J:55:LEU:HD23	10:J:60:ARG:CG	2.38	0.54
20:T:89:ILE:HD12	20:T:90:ASP:N	2.23	0.54
31:a:357:A:O2'	31:a:358:G:OP1	2.25	0.54
1:A:275:A:H61	1:A:296:G:C2'	2.21	0.54
1:A:2496:A:N6	1:A:2508:G:N9	2.56	0.54
2:B:64:A:H1'	2:B:66:C:H41	1.72	0.54
3:C:96:TYR:N	3:C:100:GLU:O	2.39	0.54
4:D:119:THR:HG23	4:D:178:VAL:O	2.08	0.54
21:U:26:SER:OG	21:U:27:LYS:N	2.38	0.54
31:a:667:C:N3	31:a:755:U:C4	2.76	0.54
31:a:833:G:H21	38:h:12:THR:HB	1.73	0.54
31:a:903:G:C6	31:a:914:U:N3	2.75	0.54
31:a:1437:C:N3	31:a:1484:G:N1	2.48	0.54
1:A:514:G:O2'	5:E:62:ARG:NH1	2.40	0.54
6:F:94:GLU:OE1	6:F:94:GLU:N	2.41	0.54
41:k:97:ILE:HD12	51:u:12:LEU:CD1	2.37	0.54
42:l:130:TYR:O	42:l:132:THR:N	2.41	0.54
3:C:185:LEU:HD22	3:C:186:SER:N	2.23	0.54
31:a:174:A:OP1	31:a:175:C:N4	2.41	0.54
31:a:263:G:O2'	47:q:73:LYS:NZ	2.39	0.54
31:a:332:G:N2	31:a:335:A:O4'	2.40	0.54
31:a:606:U:C2	38:h:91:ALA:N	2.76	0.54
31:a:960:G:O3'	31:a:981:C:N4	2.41	0.54
31:a:1364:U:O4	31:a:1365:A:N6	2.40	0.54
35:e:114:VAL:HG23	35:e:117:LEU:HD12	1.89	0.54
1:A:250:G:OP2	1:A:252:C:N4	2.41	0.54
1:A:1311:A:N7	1:A:1690:A:O2'	2.34	0.54
1:A:1698:A:O2'	4:D:127:PHE:O	2.16	0.54
1:A:1756:U:O4	1:A:1774:A:N6	2.41	0.54
1:A:1822:C:H2'	3:C:255:LEU:O	2.08	0.54
10:J:30:THR:OG1	10:J:32:GLY:N	2.39	0.54
29:3:63:ALA:HB3	29:3:64:TYR:CE2	2.43	0.54
31:a:68:C:O3'	31:a:171:A:O2'	2.24	0.54
31:a:1112:A:N1	32:b:107:ILE:CD1	2.71	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:h:22:HIS:O	38:h:66:TYR:OH	2.25	0.54
41:k:68:GLU:OE1	41:k:103:ALA:N	2.41	0.54
46:p:20:ILE:O	46:p:36:GLN:NE2	2.40	0.54
1:A:675:G:N2	1:A:678:A:OP2	2.36	0.53
1:A:677:A:O2'	1:A:2430:C:O2'	2.22	0.53
1:A:809:A:H61	1:A:1816:A:H8	1.56	0.53
1:A:922:G:H22	1:A:945:A:H2	1.55	0.53
1:A:2306:G:N7	21:U:22:ARG:NE	2.56	0.53
2:B:37:A:O2'	2:B:44:A:N1	2.41	0.53
31:a:424:G:N2	31:a:434:U:O4	2.41	0.53
31:a:823:A:N6	31:a:1520:C:HO2'	2.06	0.53
38:h:70:ASP:OD1	38:h:70:ASP:N	2.41	0.53
41:k:101:GLN:CG	51:u:12:LEU:HD23	2.38	0.53
1:A:78:U:H3	1:A:107:G:H22	1.55	0.53
1:A:926:G:C2'	1:A:941:A:H61	2.21	0.53
1:A:942:C:H2'	1:A:943:C:C1'	2.37	0.53
1:A:1356:G:H21	1:A:1358:A:H62	1.54	0.53
1:A:1466:G:O2'	1:A:1467:G:O4'	2.26	0.53
8:H:143:LEU:HD13	8:H:144:ARG:N	2.23	0.53
16:P:68:GLY:O	16:P:89:ARG:NE	2.42	0.53
31:a:53:U:O4	31:a:54:A:N6	2.41	0.53
31:a:145:U:O2'	31:a:177:G:O6	2.25	0.53
31:a:417:U:O4	31:a:441:A:N6	2.41	0.53
31:a:502:C:O2'	31:a:504:G:O5'	2.25	0.53
31:a:774:A:N7	31:a:821:U:C4	2.75	0.53
31:a:1112:A:N1	32:b:107:ILE:CG1	2.71	0.53
31:a:1188:G:N1	31:a:1190:A:OP2	2.41	0.53
32:b:182:PRO:C	32:b:183:ILE:HD12	2.33	0.53
1:A:316:G:O6	1:A:403:U:O2'	2.17	0.53
1:A:2330:G:H21	6:F:125:ARG:NH2	2.06	0.53
1:A:2420:U:OP1	29:3:28:PHE:N	2.42	0.53
10:J:89:THR:O	10:J:121:LEU:HD12	2.09	0.53
16:P:4:ILE:HD13	16:P:40:PHE:HD2	1.71	0.53
31:a:151:A:OP1	31:a:169:C:N4	2.40	0.53
31:a:1105:G:OP2	33:c:175:HIS:NE2	2.42	0.53
32:b:18:HIS:H	32:b:189:THR:HG21	1.72	0.53
1:A:606:G:O3'	15:O:41:LYS:NZ	2.42	0.53
1:A:2731:C:N4	1:A:2732:A:H62	2.07	0.53
25:Y:12:VAL:N	25:Y:24:LEU:O	2.42	0.53
29:3:63:ALA:HB3	29:3:64:TYR:CD2	2.43	0.53
31:a:37:C:P	42:l:130:TYR:CG	3.01	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:43:G:O2'	31:a:629:A:N6	2.41	0.53
31:a:951:G:O6	31:a:1351:U:C2	2.61	0.53
31:a:1138:G:HO2'	31:a:1161:A:P	2.32	0.53
46:p:24:ASP:OD1	46:p:25:ALA:N	2.41	0.53
1:A:13:A:N3	1:A:14:A:N6	2.56	0.53
1:A:416:G:OP2	1:A:469:A:N6	2.35	0.53
1:A:513:G:OP1	28:2:34:ARG:NH2	2.41	0.53
1:A:1712:A:N6	1:A:1720:A:H61	2.06	0.53
1:A:1845:U:O2'	1:A:1846:A:OP2	2.26	0.53
1:A:2485:U:O2	1:A:2486:A:N6	2.38	0.53
15:O:99:ALA:HB2	15:O:106:PHE:CE1	2.44	0.53
19:S:7:ASP:OD1	19:S:7:ASP:N	2.42	0.53
31:a:760:G:O2'	31:a:761:A:OP2	2.18	0.53
31:a:991:U:N3	31:a:1233:C:N3	2.56	0.53
31:a:1169:U:O2	31:a:1192:G:O2'	2.14	0.53
36:f:78:ARG:NH1	36:f:79:LEU:HD13	2.23	0.53
1:A:333:C:C6	1:A:393:G:C4	2.96	0.53
1:A:1823:U:H3'	3:C:257:LYS:N	2.23	0.53
3:C:182:ARG:HG3	3:C:270:ILE:HG22	1.90	0.53
31:a:467:U:O4	31:a:483:C:N3	2.42	0.53
31:a:968:A:N1	31:a:1231:G:O2'	2.34	0.53
32:b:87:ALA:CB	32:b:221:ILE:HD11	2.37	0.53
32:b:152:ARG:O	32:b:155:LYS:NZ	2.38	0.53
46:p:5:ILE:HD12	46:p:22:VAL:HB	1.89	0.53
1:A:1452:C:N4	1:A:1632:A:H62	2.06	0.53
1:A:1731:G:H21	1:A:1745:A:H62	1.55	0.53
1:A:1860:C:O2'	1:A:1996:A:N1	2.31	0.53
8:H:97:ASN:OD1	8:H:100:ARG:NH1	2.39	0.53
31:a:360:C:N4	31:a:365:G:H22	2.07	0.53
41:k:68:GLU:OE1	41:k:102:SER:N	2.42	0.53
1:A:1422:A:O2'	1:A:1433:U:O2	2.27	0.53
1:A:2817:A:O4'	1:A:2827:A:N6	2.39	0.53
4:D:14:GLN:OE1	4:D:14:GLN:N	2.42	0.53
31:a:226:U:OP2	31:a:227:C:N4	2.42	0.53
31:a:432:G:O2'	31:a:433:A:O5'	2.27	0.53
31:a:552:G:H4'	34:d:51:LEU:HD21	1.89	0.53
31:a:1066:A:C8	31:a:1210:C:N4	2.76	0.53
1:A:522:G:H22	1:A:525:A:C5'	2.21	0.53
3:C:178:SER:N	3:C:273:GLY:O	2.42	0.53
6:F:4:LEU:HD13	6:F:172:ASN:HB3	1.90	0.53
31:a:13:U:O2	31:a:24:C:N4	2.41	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:j:32:SER:O	40:j:87:LEU:N	2.36	0.53
48:r:38:ILE:HD11	48:r:72:LEU:HD13	1.90	0.53
1:A:50:U:O2'	1:A:51:G:OP1	2.21	0.53
1:A:309:U:O2	1:A:406:A:O2'	2.25	0.53
1:A:917:U:N1	11:K:2:LEU:CG	2.72	0.53
1:A:1715:U:O2'	1:A:1717:G:N7	2.25	0.53
1:A:1715:U:N3	1:A:1718:G:OP2	2.40	0.53
8:H:17:TYR:O	8:H:56:ILE:N	2.42	0.53
9:I:64:ARG:NE	9:I:81:GLU:OE2	2.42	0.53
31:a:111:G:H22	31:a:323:A:H2	1.57	0.53
31:a:323:A:O2'	31:a:324:C:OP2	2.27	0.53
31:a:833:G:O3'	38:h:13:ARG:NH2	2.40	0.53
31:a:988:C:O2'	31:a:1229:U:O5'	2.26	0.53
45:o:26:GLU:HB3	45:o:70:LEU:HD11	1.91	0.53
1:A:686:U:O2	1:A:692:G:N2	2.42	0.52
1:A:1658:A:N6	17:Q:86:ARG:O	2.41	0.52
1:A:2379:A:N7	1:A:2392:G:C2	2.75	0.52
1:A:2629:A:O2'	1:A:2631:U:OP2	2.26	0.52
31:a:313:G:O3'	31:a:316:C:N4	2.42	0.52
31:a:1382:U:N3	39:i:75:THR:HG23	2.24	0.52
40:j:67:GLN:NE2	44:n:55:GLY:O	2.42	0.52
43:m:25:ILE:HG23	43:m:29:THR:HG23	1.91	0.52
1:A:1533:A:N6	3:C:99:GLY:O	2.42	0.52
1:A:2540:A:OP2	4:D:136:GLN:NE2	2.43	0.52
2:B:48:A:N6	2:B:49:G:O6	2.42	0.52
12:L:5:LYS:O	12:L:13:ARG:NH1	2.42	0.52
18:R:3:ALA:HB1	18:R:45:ILE:HD11	1.91	0.52
31:a:789:A:C8	31:a:809:U:N3	2.77	0.52
31:a:934:G:O6	31:a:1401:U:C4	2.63	0.52
31:a:942:G:N1	31:a:1395:G:O6	2.43	0.52
48:r:69:HIS:NE2	51:u:31:GLU:OE1	2.40	0.52
49:s:36:ARG:O	49:s:74:PHE:CD1	2.62	0.52
1:A:60:U:O2'	23:W:44:ARG:NH2	2.41	0.52
1:A:750:A:N6	1:A:771:G:O4'	2.42	0.52
1:A:1097:U:H3	1:A:1098:A:H62	1.58	0.52
1:A:1310:A:N6	1:A:1662:A:N3	2.57	0.52
1:A:1880:A:N6	1:A:2114:G:O2'	2.42	0.52
1:A:2091:C:O2'	1:A:2278:G:N2	2.42	0.52
1:A:2251:G:OP1	3:C:268:LYS:NZ	2.40	0.52
1:A:2496:A:C6	1:A:2508:G:N3	2.78	0.52
9:I:13:ASN:OD1	9:I:13:ASN:N	2.41	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:34:ASN:N	18:R:37:GLN:OE1	2.43	0.52
31:a:36:G:C3'	42:l:130:TYR:CG	2.93	0.52
31:a:107:G:N2	31:a:108:A:N1	2.56	0.52
31:a:327:G:H1'	31:a:1443:A:H61	1.75	0.52
31:a:945:C:O5'	39:i:132:ARG:N	2.42	0.52
31:a:984:A:O4'	31:a:1375:G:N2	2.42	0.52
31:a:1104:A:N6	31:a:1121:A:O2'	2.36	0.52
39:i:59:THR:HG21	39:i:89:LEU:HD12	1.91	0.52
40:j:54:ALA:HB2	40:j:58:TYR:O	2.09	0.52
1:A:1478:A:N6	1:A:1605:A:N7	2.45	0.52
1:A:1479:G:O2'	1:A:1521:A:O4'	2.26	0.52
1:A:2684:A:H61	1:A:2691:G:C1'	2.22	0.52
13:M:33:VAL:CG1	13:M:40:ILE:HD11	2.39	0.52
15:O:102:ASP:OD1	15:O:106:PHE:N	2.37	0.52
19:S:76:ASN:OD1	19:S:76:ASN:N	2.42	0.52
31:a:605:G:C4	38:h:89:ALA:CA	2.93	0.52
31:a:760:G:H1'	31:a:762:C:H41	1.75	0.52
31:a:782:G:H22	31:a:813:C:H2'	1.74	0.52
35:e:17:THR:OG1	35:e:18:ILE:N	2.42	0.52
1:A:318:A:O2'	1:A:325:A:N1	2.40	0.52
1:A:1217:U:O2	1:A:1218:G:N1	2.43	0.52
4:D:11:GLY:O	4:D:27:VAL:HG12	2.09	0.52
5:E:151:LYS:O	5:E:190:ASP:N	2.40	0.52
21:U:48:GLN:NE2	21:U:53:ILE:HD12	2.25	0.52
31:a:605:G:C2	31:a:606:U:N1	2.78	0.52
1:A:111:U:OP1	23:W:58:ARG:NH1	2.42	0.52
1:A:2335:G:P	1:A:2337:A:H62	2.33	0.52
4:D:165:LYS:NZ	8:H:80:ASN:O	2.34	0.52
8:H:100:ARG:O	8:H:104:ASN:ND2	2.38	0.52
19:S:70:LEU:HD23	19:S:71:LEU:H	1.75	0.52
31:a:20:C:OP1	35:e:132:THR:HG23	2.10	0.52
31:a:254:A:N6	31:a:287:A:O4'	2.42	0.52
31:a:901:A:N6	31:a:915:G:O2'	2.43	0.52
1:A:335:U:O4	1:A:393:G:N2	2.42	0.52
1:A:1082:C:N4	1:A:1083:G:O6	2.43	0.52
1:A:1537:A:OP2	1:A:1539:A:N6	2.42	0.52
1:A:2145:U:N3	1:A:2173:U:OP2	2.43	0.52
31:a:204:A:O2'	31:a:205:A:O5'	2.26	0.52
31:a:989:C:C4	44:n:16:TYR:HB3	2.45	0.52
31:a:1120:C:OP1	31:a:1199:U:N3	2.43	0.52
31:a:1250:U:O5'	37:g:38:THR:OG1	2.24	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:332:A:N6	1:A:333:C:O2	2.43	0.52
1:A:448:A:N1	1:A:468:A:N6	2.57	0.52
1:A:751:A:H61	1:A:770:G:C1'	2.22	0.52
1:A:1346:G:O2'	1:A:1655:C:O2'	2.25	0.52
1:A:2421:C:N4	1:A:2459:A:H62	2.07	0.52
21:U:44:ILE:C	21:U:45:LEU:HD23	2.34	0.52
31:a:102:C:O2'	31:a:171:A:N6	2.42	0.52
32:b:157:MET:SD	32:b:157:MET:N	2.81	0.52
1:A:1090:A:O2'	1:A:1091:G:OP1	2.27	0.52
1:A:1261:G:OP1	16:P:67:ARG:NH1	2.38	0.52
1:A:1823:U:O4'	3:C:256:GLY:N	2.43	0.52
1:A:2763:G:N1	1:A:2795:C:N3	2.46	0.52
31:a:833:G:O2'	38:h:13:ARG:NH2	2.43	0.52
41:k:17:GLU:OE1	41:k:80:LYS:N	2.40	0.52
1:A:2535:G:O6	1:A:2607:U:O4	2.28	0.52
13:M:57:SER:OG	13:M:58:SER:N	2.43	0.52
31:a:10:G:C2	31:a:26:C:C2	2.97	0.52
31:a:23:G:OP1	31:a:893:U:O2'	2.28	0.52
31:a:175:C:O2'	31:a:1457:A:N6	2.43	0.52
31:a:602:U:O2	31:a:653:G:C6	2.63	0.52
31:a:873:A:N1	31:a:926:G:O2'	2.32	0.52
31:a:1068:G:H3'	31:a:1069:G:H4'	1.92	0.52
37:g:70:MET:H	37:g:100:GLY:N	2.08	0.52
39:i:15:LYS:NZ	39:i:76:GLY:O	2.27	0.52
52:v:20:TYR:HD1	52:v:58:ILE:HD13	1.74	0.52
1:A:446:G:O6	22:V:52:ARG:NH1	2.42	0.51
1:A:1216:U:N3	1:A:1219:G:N3	2.52	0.51
1:A:2128:G:C2	1:A:2215:U:O2	2.63	0.51
1:A:2225:A:C5'	1:A:2227:C:H41	2.24	0.51
1:A:2775:A:C4	7:G:63:THR:HG22	2.45	0.51
6:F:128:TYR:HD1	6:F:156:ILE:HD11	1.75	0.51
12:L:24:LEU:O	12:L:24:LEU:HD22	2.09	0.51
31:a:748:U:O2'	31:a:749:G:O5'	2.24	0.51
31:a:1137:U:C4	40:j:73:LEU:HD21	2.45	0.51
34:d:143:GLU:OE1	34:d:144:LYS:N	2.41	0.51
34:d:175:THR:HB	34:d:177:VAL:HG13	1.92	0.51
36:f:49:ALA:HB3	48:r:72:LEU:HA	1.92	0.51
37:g:42:ILE:CG2	37:g:120:LEU:HD22	2.40	0.51
42:l:47:CYS:SG	42:l:68:VAL:HG13	2.50	0.51
45:o:32:LEU:HD11	45:o:59:MET:HB3	1.91	0.51
47:q:60:ILE:N	47:q:84:SER:OG	2.43	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:224:A:O2'	1:A:269:G:N7	2.33	0.51
1:A:760:A:H1'	1:A:761:A:H4'	1.92	0.51
1:A:1520:A:H62	1:A:1562:C:Cl1'	2.22	0.51
1:A:2187:G:N2	1:A:2200:A:O2'	2.36	0.51
1:A:2419:A:N3	1:A:2456:G:N2	2.59	0.51
3:C:232:HIS:O	3:C:239:ALA:HB2	2.10	0.51
11:K:111:GLU:OE1	11:K:112:GLU:N	2.44	0.51
20:T:72:VAL:HG22	20:T:91:PHE:HD1	1.75	0.51
24:X:3:LYS:NZ	24:X:36:VAL:HG12	2.25	0.51
31:a:193:C:O4'	31:a:198:G:N2	2.43	0.51
31:a:681:G:H21	41:k:119:ASN:HD22	1.57	0.51
31:a:748:U:HO2'	31:a:749:G:P	2.33	0.51
31:a:1114:C:O4'	32:b:113:ARG:NH2	2.42	0.51
31:a:1230:G:N2	49:s:52:TYR:OH	2.41	0.51
1:A:275:A:N1	1:A:296:G:O2'	2.42	0.51
1:A:1428:U:N3	1:A:1430:A:O5'	2.43	0.51
1:A:1463:A:N7	1:A:1625:U:C2	2.78	0.51
1:A:1465:G:N2	1:A:1466:G:O4'	2.43	0.51
1:A:1734:A:H62	1:A:1741:G:H21	1.55	0.51
1:A:2019:G:N2	1:A:2023:C:O2'	2.43	0.51
1:A:2168:A:N6	1:A:2169:G:O6	2.43	0.51
1:A:2778:G:O2'	1:A:2779:C:OP1	2.28	0.51
2:B:8:A:O4'	2:B:109:G:N2	2.44	0.51
6:F:33:LYS:C	6:F:34:ILE:HD12	2.35	0.51
8:H:99:GLU:OE1	8:H:99:GLU:N	2.42	0.51
9:I:106:LEU:N	9:I:106:LEU:HD23	2.25	0.51
24:X:27:GLY:O	24:X:28:LEU:HD23	2.10	0.51
31:a:1128:A:H62	31:a:1164:U:H5	1.58	0.51
31:a:1133:U:O2'	40:j:39:PRO:O	2.16	0.51
1:A:458:A:H61	1:A:2438:A:HO2'	1.51	0.51
1:A:1312:A:O4'	12:L:12:GLN:NE2	2.43	0.51
1:A:2313:A:N3	1:A:2314:A:N6	2.59	0.51
1:A:2686:G:O2'	1:A:2688:G:N7	2.32	0.51
6:F:65:PRO:CB	6:F:87:ALA:HB1	2.41	0.51
7:G:52:VAL:HG11	7:G:65:HIS:HA	1.91	0.51
17:Q:76:ALA:HB2	17:Q:101:ILE:HG23	1.92	0.51
24:X:22:THR:O	24:X:25:ALA:HB3	2.11	0.51
31:a:10:G:N1	31:a:26:C:C2	2.79	0.51
31:a:118:A:C6	31:a:295:U:O2	2.64	0.51
31:a:240:A:O2'	31:a:271:A:N1	2.24	0.51
31:a:695:A:N6	31:a:708:G:O2'	2.44	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:b:184:VAL:HG12	32:b:198:TYR:HD2	1.76	0.51
34:d:145:SER:O	34:d:145:SER:OG	2.28	0.51
1:A:340:C:N3	1:A:383:A:N6	2.59	0.51
1:A:719:G:H2'	1:A:849:A:H61	1.74	0.51
1:A:2341:A:C5'	6:F:35:VAL:HG11	2.40	0.51
1:A:2710:C:H42	1:A:2754:G:H2'	1.73	0.51
4:D:96:VAL:O	4:D:99:TYR:N	2.43	0.51
9:I:112:MET:SD	9:I:113:LYS:N	2.77	0.51
31:a:734:C:C5'	31:a:750:G:H21	2.22	0.51
49:s:36:ARG:N	49:s:74:PHE:CD2	2.78	0.51
1:A:223:G:N1	1:A:474:A:OP2	2.40	0.51
4:D:43:VAL:HG12	4:D:44:ASP:OD1	2.10	0.51
5:E:147:GLU:OE1	5:E:147:GLU:N	2.43	0.51
5:E:155:VAL:HB	5:E:194:ILE:HG22	1.93	0.51
31:a:834:C:O5'	38:h:13:ARG:NH1	2.44	0.51
31:a:876:G:O2'	31:a:882:A:N1	2.32	0.51
31:a:1018:U:O2	31:a:1030:G:C6	2.64	0.51
31:a:1089:U:O4	35:e:138:ARG:NH2	2.43	0.51
32:b:193:PRO:HA	32:b:199:VAL:HG11	1.92	0.51
32:b:221:ILE:O	32:b:225:GLN:NE2	2.44	0.51
41:k:39:GLY:O	41:k:40:ASN:ND2	2.44	0.51
48:r:41:ARG:O	48:r:41:ARG:NH1	2.43	0.51
1:A:386:C:N4	1:A:387:G:O6	2.43	0.51
1:A:540:G:P	17:Q:4:LYS:HZ1	2.34	0.51
1:A:914:G:O3'	11:K:6:ARG:NH1	2.40	0.51
1:A:1024:A:N3	1:A:2064:A:O2'	2.38	0.51
1:A:2380:G:N2	21:U:42:GLY:O	2.43	0.51
4:D:16:PHE:O	14:N:14:GLN:NE2	2.43	0.51
6:F:152:MET:O	6:F:154:ILE:HD12	2.10	0.51
11:K:21:SER:OG	11:K:99:PRO:O	2.23	0.51
17:Q:33:ILE:HG12	17:Q:52:MET:HE1	1.92	0.51
31:a:50:U:N3	31:a:372:A:N7	2.59	0.51
31:a:589:G:H22	31:a:768:U:P	2.34	0.51
49:s:36:ARG:NH1	49:s:73:GLU:O	2.44	0.51
52:v:141:LEU:HD13	52:v:161:PHE:HD2	1.75	0.51
1:A:749:G:N2	1:A:772:A:H62	2.08	0.51
1:A:1185:U:OP2	8:H:69:LYS:NZ	2.44	0.51
1:A:1496:G:H3'	1:A:1497:A:H2'	1.93	0.51
11:K:48:GLU:O	11:K:51:ARG:NH2	2.43	0.51
12:L:92:ARG:NH2	12:L:93:TYR:OH	2.44	0.51
13:M:44:ILE:H	13:M:44:ILE:HD12	1.76	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:69:LYS:N	13:M:72:LEU:HD21	2.26	0.51
25:Y:50:ILE:O	25:Y:55:HIS:ND1	2.40	0.51
31:a:604:A:N6	31:a:653:G:O6	2.44	0.51
31:a:704:A:N1	31:a:794:G:N2	2.59	0.51
31:a:1023:A:O2'	31:a:1024:G:O5'	2.28	0.51
31:a:1310:G:OP1	31:a:1345:C:N4	2.44	0.51
45:o:3:ILE:O	45:o:5:GLN:N	2.44	0.51
49:s:36:ARG:CA	49:s:74:PHE:CG	2.93	0.51
1:A:866:A:N6	1:A:1016:G:H21	2.09	0.51
1:A:1314:A:O3'	12:L:36:ARG:NH2	2.44	0.51
1:A:1575:A:O2'	1:A:1577:G:O6	2.25	0.51
1:A:1697:G:O6	12:L:7:GLY:N	2.44	0.51
1:A:1800:A:N6	3:C:11:ASN:O	2.31	0.51
1:A:1903:A:N6	1:A:1905:G:N7	2.59	0.51
1:A:2417:U:C2	1:A:2452:A:N7	2.79	0.51
2:B:40:C:C6	6:F:66:LEU:HD22	2.46	0.51
3:C:142:HIS:N	3:C:191:THR:O	2.40	0.51
3:C:168:GLU:N	3:C:168:GLU:OE1	2.44	0.51
6:F:38:MET:HE3	6:F:150:ARG:HG2	1.93	0.51
11:K:29:PHE:N	11:K:105:GLU:OE1	2.44	0.51
14:N:49:VAL:O	14:N:99:LEU:HD12	2.10	0.51
31:a:1128:A:O2'	31:a:1189:A:N3	2.39	0.51
31:a:1386:U:O5'	37:g:10:ARG:NH1	2.44	0.51
1:A:673:G:O2'	1:A:696:G:O2'	2.29	0.51
1:A:917:U:N1	11:K:2:LEU:HG	2.26	0.51
1:A:1485:G:O2'	1:A:1599:G:N1	2.41	0.51
1:A:1952:C:N3	1:A:1956:G:N1	2.56	0.51
1:A:2819:C:OP2	1:A:2820:U:N3	2.44	0.51
4:D:126:GLY:O	4:D:173:MET:N	2.39	0.51
7:G:114:GLU:C	7:G:115:ILE:HD13	2.36	0.51
20:T:20:GLN:OE1	20:T:21:LEU:N	2.44	0.51
31:a:738:G:O2'	31:a:773:G:O2'	2.26	0.51
32:b:66:GLN:H	32:b:154:MET:HE3	1.76	0.51
34:d:72:PHE:O	34:d:75:ALA:HB3	2.11	0.51
1:A:45:G:O2'	1:A:183:A:N6	2.44	0.50
1:A:291:G:O2'	1:A:292:U:OP1	2.24	0.50
1:A:333:C:N1	1:A:393:G:C4	2.79	0.50
1:A:616:G:O2'	1:A:618:A:OP1	2.13	0.50
1:A:1018:A:O4'	1:A:1225:G:N2	2.43	0.50
1:A:2080:G:N7	1:A:2604:A:N6	2.58	0.50
31:a:605:G:N3	38:h:89:ALA:HB1	2.25	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:774:A:N6	31:a:821:U:C2	2.78	0.50
31:a:1154:G:O2'	31:a:1155:C:O5'	2.29	0.50
36:f:8:TYR:CE1	36:f:63:VAL:HG23	2.46	0.50
1:A:191:A:H2	1:A:211:C:H42	1.59	0.50
1:A:916:U:O2	11:K:1:MET:N	2.43	0.50
1:A:1731:G:N2	1:A:1745:A:H62	2.08	0.50
1:A:1847:U:O2'	3:C:158:ALA:O	2.29	0.50
2:B:67:G:N1	2:B:104:A:C2	2.79	0.50
31:a:551:G:O3'	34:d:52:ARG:NH1	2.43	0.50
31:a:784:G:N2	31:a:811:G:OP2	2.40	0.50
35:e:37:VAL:HB	35:e:64:VAL:HG23	1.92	0.50
48:r:44:ILE:HD12	51:u:28:THR:HG22	1.94	0.50
1:A:330:C:N4	1:A:398:C:N3	2.59	0.50
1:A:1349:U:O2	1:A:1376:G:N2	2.41	0.50
1:A:1726:A:P	1:A:1743:G:H22	2.33	0.50
1:A:2048:G:OP2	26:Z:12:ARG:NH2	2.44	0.50
3:C:185:LEU:HD22	3:C:186:SER:H	1.76	0.50
8:H:19:ILE:HD13	8:H:20:ASP:N	2.26	0.50
8:H:74:VAL:HG23	8:H:76:TYR:CE2	2.46	0.50
12:L:72:LEU:HD21	12:L:76:GLU:HA	1.94	0.50
31:a:801:U:HO2'	31:a:802:A:P	2.30	0.50
1:A:1031:C:O3'	24:X:10:ARG:NH1	2.45	0.50
2:B:21:G:N1	2:B:22:G:O6	2.45	0.50
10:J:86:GLU:O	10:J:121:LEU:HD13	2.12	0.50
13:M:92:ILE:HD12	13:M:93:VAL:C	2.37	0.50
27:1:39:LEU:HD13	27:1:43:THR:HG21	1.94	0.50
31:a:79:G:OP2	31:a:90:C:N4	2.45	0.50
31:a:509:C:H42	31:a:553:C:H42	1.60	0.50
31:a:851:U:O2'	31:a:854:G:N3	2.41	0.50
31:a:897:G:H1'	31:a:918:A:H61	1.76	0.50
31:a:1180:A:O2'	31:a:1181:A:O4'	2.27	0.50
31:a:1268:G:N2	31:a:1289:A:H62	2.07	0.50
31:a:1271:A:O2'	31:a:1294:C:OP1	2.30	0.50
36:f:46:ARG:N	36:f:58:GLY:O	2.44	0.50
37:g:32:LEU:O	37:g:35:LYS:N	2.41	0.50
1:A:341:G:N3	1:A:383:A:C6	2.80	0.50
1:A:713:A:N6	1:A:715:A:O2'	2.45	0.50
4:D:9:LYS:O	4:D:206:LYS:N	2.44	0.50
8:H:26:LEU:HD21	8:H:105:SER:CB	2.41	0.50
20:T:22:ARG:NE	20:T:87:THR:O	2.44	0.50
25:Y:38:GLU:OE1	25:Y:38:GLU:N	2.42	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:300:G:O2'	31:a:618:G:O6	2.15	0.50
31:a:1322:G:O2'	31:a:1325:U:O4	2.28	0.50
31:a:1497:G:O2'	31:a:1498:G:O5'	2.28	0.50
47:q:48:THR:OG1	47:q:49:HIS:N	2.45	0.50
1:A:513:G:O2'	1:A:841:C:O3'	2.29	0.50
1:A:573:A:O3'	8:H:114:ARG:NH2	2.44	0.50
1:A:1711:G:N1	1:A:2019:G:OP2	2.41	0.50
1:A:1884:G:N1	1:A:1913:U:O4	2.45	0.50
1:A:2225:A:OP2	1:A:2250:A:N6	2.45	0.50
1:A:2311:U:H3	1:A:2411:A:H62	1.58	0.50
5:E:154:VAL:HA	5:E:193:VAL:HG23	1.94	0.50
31:a:122:C:C3'	31:a:319:C:HO2'	2.21	0.50
31:a:580:A:H1'	31:a:925:G:H21	1.75	0.50
31:a:711:G:H3'	31:a:714:A:H61	1.76	0.50
31:a:1131:C:N4	31:a:1164:U:N3	2.56	0.50
31:a:1391:U:OP1	37:g:7:VAL:HG23	2.12	0.50
45:o:4:SER:O	45:o:8:LYS:N	2.41	0.50
50:t:57:VAL:HG22	50:t:61:ALA:O	2.12	0.50
1:A:1077:U:N3	1:A:1079:U:O4	2.45	0.50
1:A:1402:A:OP1	22:V:28:ARG:NH2	2.43	0.50
1:A:2807:G:O2'	1:A:2808:A:O5'	2.16	0.50
31:a:139:U:O4	31:a:140:A:N6	2.45	0.50
31:a:151:A:C5'	31:a:153:C:H41	2.25	0.50
31:a:1344:G:O2'	31:a:1347:G:N2	2.45	0.50
35:e:12:GLU:O	35:e:38:VAL:HG12	2.12	0.50
1:A:231:A:H61	1:A:464:U:C2'	2.24	0.50
1:A:687:G:N1	1:A:689:A:O5'	2.45	0.50
1:A:735:C:O2'	1:A:825:G:OP1	2.27	0.50
1:A:1135:G:N1	1:A:1143:G:O2'	2.45	0.50
3:C:204:ASN:OD1	3:C:205:VAL:N	2.41	0.50
9:I:115:VAL:CG1	9:I:121:VAL:HG21	2.41	0.50
13:M:43:GLN:NE2	13:M:54:ALA:O	2.45	0.50
14:N:16:ARG:NH1	14:N:19:LEU:HD11	2.27	0.50
19:S:79:THR:OG1	19:S:80:ARG:O	2.29	0.50
28:2:11:ARG:O	28:2:14:SER:OG	2.27	0.50
29:3:21:GLN:O	29:3:22:LEU:HD23	2.12	0.50
30:4:25:VAL:HG22	30:4:27:CYS:HB2	1.92	0.50
31:a:776:A:O2'	31:a:1524:A:O4'	2.18	0.50
31:a:1135:G:N2	31:a:1136:U:O4	2.45	0.50
31:a:1157:C:O2'	31:a:1158:U:OP1	2.30	0.50
31:a:1249:A:N6	31:a:1307:U:O4'	2.44	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:g:74:GLU:HG2	37:g:91:VAL:HG11	1.94	0.50
1:A:63:U:O4'	1:A:91:A:N6	2.45	0.50
1:A:414:C:O2'	1:A:415:U:O4'	2.21	0.50
1:A:1712:A:O2'	1:A:1718:G:N7	2.34	0.50
1:A:1827:C:O2	1:A:1845:U:N3	2.45	0.50
1:A:2693:C:H41	7:G:113:VAL:HG21	1.77	0.50
1:A:2771:G:N3	7:G:147:ASN:ND2	2.53	0.50
5:E:108:LEU:HD12	5:E:108:LEU:O	2.11	0.50
19:S:38:VAL:N	19:S:60:GLU:OE1	2.43	0.50
23:W:11:THR:OG1	23:W:60:ARG:NH2	2.41	0.50
31:a:428:U:O2'	31:a:430:C:OP1	2.30	0.50
52:v:88:GLN:H	52:v:89:VAL:HG22	1.76	0.50
1:A:333:C:C2	1:A:393:G:C2'	2.95	0.49
1:A:928:C:N4	1:A:938:G:OP1	2.45	0.49
5:E:156:THR:OG1	5:E:157:GLU:N	2.45	0.49
8:H:21:ALA:HB3	8:H:59:ASN:HB2	1.93	0.49
21:U:39:VAL:HG22	21:U:73:GLY:O	2.12	0.49
31:a:51:A:N6	31:a:368:G:O2'	2.45	0.49
31:a:409:C:H2'	31:a:628:C:H42	1.77	0.49
31:a:447:U:N3	34:d:112:GLN:O	2.45	0.49
31:a:1126:U:O2	31:a:1195:G:N2	2.44	0.49
37:g:104:LEU:HD22	37:g:135:VAL:HG22	1.92	0.49
1:A:496:G:P	1:A:1286:G:H22	2.34	0.49
1:A:1095:A:N6	1:A:1147:A:OP1	2.24	0.49
1:A:1250:G:O2'	1:A:1274:G:N1	2.45	0.49
1:A:1427:U:O2	1:A:1432:A:C5	2.66	0.49
1:A:2535:G:O6	1:A:2607:U:C4	2.65	0.49
3:C:76:ALA:O	3:C:115:ILE:HG22	2.12	0.49
8:H:43:VAL:HG23	15:O:64:ARG:O	2.11	0.49
11:K:130:LYS:NZ	11:K:132:VAL:HG13	2.27	0.49
31:a:35:C:N4	31:a:36:G:O6	2.45	0.49
31:a:337:A:H61	50:t:10:ARG:HH12	1.60	0.49
31:a:727:C:H42	48:r:65:LYS:NZ	2.10	0.49
35:e:132:THR:O	35:e:136:MET:N	2.45	0.49
45:o:12:ILE:HG21	45:o:16:ARG:NH1	2.27	0.49
52:v:163:PHE:O	52:v:171:THR:HG23	2.11	0.49
1:A:315:C:O2	1:A:403:U:O2'	2.30	0.49
1:A:412:U:OP1	1:A:451:U:N3	2.45	0.49
1:A:2313:A:N6	27:1:19:THR:HG1	2.10	0.49
10:J:125:ALA:HB3	10:J:128:PHE:CE2	2.47	0.49
22:V:19:SER:OG	22:V:20:HIS:N	2.44	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:14:ILE:HG22	23:W:18:ILE:CD1	2.43	0.49
31:a:110:G:N2	31:a:395:U:O2'	2.45	0.49
31:a:1458:C:N3	50:t:24:GLN:NE2	2.59	0.49
38:h:122:ASN:O	38:h:122:ASN:ND2	2.45	0.49
1:A:1352:C:O2'	1:A:1430:A:N3	2.42	0.49
1:A:2428:U:O2'	1:A:2429:U:O5'	2.27	0.49
2:B:41:C:O2'	25:Y:1:MET:SD	2.70	0.49
3:C:208:ALA:O	3:C:211:SER:OG	2.17	0.49
8:H:5:PHE:N	15:O:97:GLU:OE2	2.42	0.49
31:a:457:A:C6	31:a:492:G:C6	2.97	0.49
31:a:613:U:N3	31:a:641:U:OP1	2.43	0.49
31:a:1006:U:H2'	31:a:1008:C:H41	1.76	0.49
33:c:113:ARG:NH2	33:c:183:TYR:O	2.45	0.49
1:A:363:A:H2'	5:E:136:THR:HG21	1.94	0.49
1:A:562:C:O2'	17:Q:18:ARG:NH2	2.45	0.49
1:A:1489:A:C5'	1:A:1509:G:H22	2.25	0.49
1:A:2037:G:OP2	17:Q:41:LYS:NZ	2.44	0.49
1:A:2212:G:O2'	1:A:2213:U:O5'	2.30	0.49
2:B:112:A:O2'	13:M:55:GLN:OE1	2.12	0.49
5:E:51:VAL:HG21	5:E:88:ILE:HG21	1.95	0.49
10:J:143:HIS:O	10:J:145:VAL:HG23	2.12	0.49
14:N:2:THR:OG1	14:N:5:LYS:N	2.45	0.49
24:X:38:GLU:N	24:X:38:GLU:OE1	2.45	0.49
31:a:443:U:P	31:a:444:C:H41	2.35	0.49
31:a:555:A:O2'	42:l:134:LYS:NZ	2.29	0.49
31:a:1077:C:H1'	31:a:1201:A:H61	1.78	0.49
31:a:1387:A:N1	37:g:10:ARG:NH2	2.60	0.49
38:h:64:LEU:H	38:h:64:LEU:HD12	1.77	0.49
47:q:11:VAL:O	47:q:27:VAL:HG22	2.13	0.49
1:A:275:A:H61	1:A:296:G:H2'	1.78	0.49
1:A:572:C:N4	1:A:2806:U:OP2	2.45	0.49
1:A:2768:A:H62	1:A:2790:G:N2	2.10	0.49
15:O:50:ARG:HH22	16:P:73:VAL:HG22	1.78	0.49
23:W:45:THR:HG23	23:W:46:VAL:HG23	1.94	0.49
31:a:66:A:H61	31:a:226:U:HO2'	1.58	0.49
31:a:703:A:N3	31:a:794:G:O2'	2.39	0.49
31:a:989:C:C4	44:n:16:TYR:CD1	3.01	0.49
33:c:70:GLY:HA3	33:c:105:ILE:HG23	1.95	0.49
1:A:304:G:N2	1:A:414:C:N3	2.60	0.49
1:A:334:A:N6	1:A:391:A:O2'	2.45	0.49
1:A:624:C:C5'	15:O:31:LEU:HD22	2.42	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:752:G:H22	1:A:769:U:C2'	2.26	0.49
1:A:1379:A:N7	1:A:1646:U:O2	2.45	0.49
28:2:13:HIS:O	28:2:17:HIS:ND1	2.45	0.49
31:a:1156:A:O2'	31:a:1159:C:N4	2.46	0.49
39:i:19:ALA:CB	39:i:67:VAL:HG13	2.42	0.49
41:k:68:GLU:OE2	41:k:105:LEU:N	2.46	0.49
51:u:32:VAL:O	51:u:34:LYS:N	2.44	0.49
1:A:426:G:N7	1:A:433:U:N3	2.61	0.49
1:A:1569:G:OP2	1:A:1593:G:N2	2.46	0.49
1:A:2687:A:N6	7:G:174:GLY:O	2.45	0.49
8:H:44:THR:O	8:H:44:THR:OG1	2.27	0.49
33:c:190:THR:HG22	33:c:192:TYR:CE1	2.47	0.49
35:e:116:GLU:OE1	35:e:116:GLU:N	2.45	0.49
37:g:69:ILE:HD12	37:g:100:GLY:O	2.13	0.49
40:j:15:HIS:ND1	40:j:19:ASP:OD1	2.43	0.49
43:m:60:VAL:HG12	43:m:71:ARG:HG3	1.93	0.49
48:r:40:GLU:OE1	48:r:40:GLU:N	2.44	0.49
52:v:89:VAL:HG11	52:v:93:LYS:HD3	1.95	0.49
1:A:575:G:O2'	1:A:577:A:N6	2.46	0.49
1:A:904:G:O2'	1:A:961:G:O6	2.20	0.49
1:A:1956:G:N2	1:A:1956:G:OP2	2.46	0.49
1:A:2329:U:O2	1:A:2342:U:N3	2.46	0.49
31:a:129:A:N6	47:q:5:ASN:OD1	2.45	0.49
31:a:130:A:OP2	47:q:67:ARG:NH2	2.45	0.49
31:a:510:C:HO2'	31:a:516:U:H3	1.60	0.49
1:A:409:G:N2	1:A:411:A:H62	2.11	0.49
1:A:1489:A:H5'	1:A:1509:G:H22	1.76	0.49
1:A:1569:G:C4'	1:A:1593:G:H22	2.26	0.49
1:A:2104:A:OP1	1:A:2265:G:N2	2.39	0.49
6:F:15:ASN:O	6:F:19:LYS:N	2.46	0.49
12:L:11:ASP:OD1	12:L:12:GLN:N	2.46	0.49
15:O:89:ASP:O	16:P:11:GLN:NE2	2.46	0.49
15:O:106:PHE:O	15:O:110:VAL:HG23	2.12	0.49
31:a:20:C:P	35:e:132:THR:HG23	2.53	0.49
31:a:146:G:C2	31:a:176:C:N3	2.78	0.49
31:a:932:A:C2	31:a:1403:U:C2	3.01	0.49
31:a:1388:C:OP2	39:i:124:ARG:NH2	2.45	0.49
31:a:1423:A:N1	31:a:1498:G:O6	2.46	0.49
32:b:87:ALA:HB1	32:b:221:ILE:CD1	2.41	0.49
36:f:14:ILE:HD11	36:f:59:PHE:CD2	2.48	0.49
41:k:31:ILE:HG22	41:k:47:ALA:HB3	1.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:6:A:O3'	8:H:133:HIS:ND1	2.46	0.48
1:A:310:C:O3'	1:A:405:G:N2	2.45	0.48
1:A:794:A:N1	1:A:798:G:O2'	2.35	0.48
1:A:1509:G:O2'	1:A:1595:C:N4	2.40	0.48
1:A:1974:C:O2'	1:A:1975:G:O5'	2.29	0.48
1:A:2281:C:H2'	1:A:2282:G:O4'	2.12	0.48
2:B:41:C:O2	6:F:92:ARG:NE	2.46	0.48
19:S:11:VAL:C	19:S:12:ILE:HD13	2.38	0.48
21:U:27:LYS:O	21:U:29:LEU:HD22	2.13	0.48
31:a:65:G:O2'	31:a:97:G:OP2	2.28	0.48
31:a:1012:G:N1	31:a:1013:A:O2'	2.43	0.48
50:t:79:MET:SD	50:t:79:MET:N	2.83	0.48
1:A:923:A:C6	1:A:944:G:O6	2.66	0.48
1:A:1282:A:OP1	10:J:7:LYS:NZ	2.45	0.48
1:A:1875:A:N6	1:A:1918:G:N7	2.61	0.48
4:D:5:ILE:C	4:D:6:LEU:HD23	2.38	0.48
9:I:84:CYS:O	9:I:85:VAL:HG23	2.13	0.48
16:P:88:HIS:NE2	16:P:90:GLN:OE1	2.40	0.48
31:a:205:A:P	31:a:207:G:H22	2.35	0.48
31:a:299:C:O2'	31:a:615:A:N6	2.46	0.48
31:a:980:G:P	31:a:1242:U:HO2'	2.35	0.48
31:a:1297:A:N6	31:a:1380:G:H21	2.10	0.48
34:d:147:LYS:NZ	34:d:148:LEU:O	2.28	0.48
38:h:6:PRO:HG3	38:h:27:LEU:HD11	1.94	0.48
45:o:44:ARG:O	45:o:47:LYS:NZ	2.40	0.48
1:A:970:U:H3'	1:A:971:U:H4'	1.95	0.48
1:A:1076:A:N6	1:A:1078:G:O6	2.46	0.48
1:A:2334:G:OP1	1:A:2338:A:N6	2.46	0.48
2:B:41:C:H2'	2:B:42:G:H5'	1.96	0.48
4:D:3:LYS:CE	4:D:109:THR:HG22	2.42	0.48
9:I:90:ASP:OD1	9:I:92:GLY:N	2.47	0.48
29:3:16:ARG:NE	29:3:65:LYS:O	2.47	0.48
34:d:3:ARG:N	34:d:59:TYR:O	2.45	0.48
34:d:64:THR:O	34:d:68:PHE:N	2.36	0.48
1:A:323:C:N4	1:A:325:A:N7	2.62	0.48
1:A:852:U:O2	5:E:74:ARG:NH2	2.46	0.48
1:A:1086:G:H22	1:A:1157:U:C2'	2.27	0.48
1:A:1336:G:N1	1:A:1684:A:OP2	2.41	0.48
1:A:2208:A:OP1	1:A:2210:C:N4	2.46	0.48
2:B:70:G:O2'	2:B:71:A:O4'	2.29	0.48
16:P:63:ASN:ND2	16:P:96:THR:OG1	2.45	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:4:14:CYS:SG	30:4:29:ASN:ND2	2.86	0.48
31:a:111:G:H21	31:a:362:G:H5'	1.79	0.48
31:a:304:U:O2	31:a:309:G:C2	2.66	0.48
31:a:305:G:N1	31:a:309:G:N3	2.61	0.48
1:A:352:A:N1	1:A:1248:U:N3	2.60	0.48
1:A:1043:U:H3	1:A:1199:A:H62	1.60	0.48
1:A:1165:C:N4	1:A:1166:G:O6	2.47	0.48
1:A:1385:G:H22	1:A:1642:C:N4	2.10	0.48
1:A:2283:G:O2'	21:U:18:THR:N	2.47	0.48
1:A:2834:C:N4	1:A:2906:G:O6	2.46	0.48
31:a:69:G:N3	31:a:152:A:O2'	2.44	0.48
31:a:123:G:P	31:a:319:C:HO2'	2.31	0.48
31:a:374:C:O2'	31:a:402:G:N1	2.46	0.48
31:a:606:U:C4	38:h:91:ALA:N	2.81	0.48
31:a:699:G:N1	31:a:704:A:OP2	2.37	0.48
31:a:1203:G:O6	33:c:4:LYS:NZ	2.42	0.48
1:A:1379:A:O2'	1:A:1382:C:N4	2.45	0.48
1:A:2093:C:N4	1:A:2094:G:O6	2.46	0.48
1:A:2710:C:H41	1:A:2754:G:H21	1.60	0.48
1:A:2865:G:C2	1:A:2891:U:O2	2.67	0.48
1:A:2869:G:O6	14:N:23:ARG:NH1	2.43	0.48
8:H:51:THR:OG1	8:H:52:GLY:N	2.47	0.48
31:a:191:A:O2'	31:a:192:C:OP2	2.24	0.48
31:a:966:U:O5'	49:s:55:ARG:NE	2.38	0.48
32:b:130:PRO:O	32:b:134:VAL:HG23	2.14	0.48
40:j:10:LEU:HD21	40:j:100:ILE:HD11	1.95	0.48
1:A:317:G:N2	1:A:402:C:O2	2.46	0.48
1:A:675:G:OP2	29:3:15:LYS:NZ	2.45	0.48
1:A:1284:A:O2'	5:E:45:ARG:NH1	2.43	0.48
2:B:12:U:OP2	21:U:82:ARG:NH1	2.46	0.48
4:D:93:ASN:OD1	4:D:93:ASN:N	2.46	0.48
9:I:73:ASP:OD1	9:I:74:GLY:N	2.47	0.48
12:L:68:ASN:OD1	12:L:68:ASN:N	2.47	0.48
22:V:32:ASN:O	22:V:50:SER:OG	2.24	0.48
31:a:649:A:N7	31:a:650:A:N6	2.61	0.48
31:a:688:C:HO2'	31:a:689:A:P	2.35	0.48
41:k:97:ILE:HD11	51:u:19:PHE:HE1	1.79	0.48
1:A:447:A:H61	1:A:468:A:N6	2.11	0.48
1:A:752:G:O6	1:A:769:U:C4	2.67	0.48
1:A:1319:U:C2	1:A:1323:A:N7	2.81	0.48
1:A:1824:C:P	3:C:258:LYS:HA	2.53	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2280:G:H22	21:U:15:VAL:HG13	1.79	0.48
1:A:2866:G:OP1	14:N:54:GLY:N	2.46	0.48
8:H:19:ILE:HD13	8:H:20:ASP:H	1.78	0.48
11:K:111:GLU:OE2	11:K:133:LYS:NZ	2.46	0.48
16:P:45:SER:OG	16:P:46:VAL:N	2.46	0.48
31:a:69:G:O6	31:a:100:A:N6	2.46	0.48
31:a:360:C:O2'	31:a:361:A:O5'	2.32	0.48
31:a:467:U:C4	31:a:483:C:N3	2.82	0.48
38:h:51:TYR:HA	38:h:60:LEU:HD12	1.95	0.48
39:i:18:VAL:HG22	39:i:70:HIS:HB2	1.96	0.48
44:n:25:GLU:OE2	44:n:26:ARG:NH1	2.46	0.48
1:A:318:A:H3'	1:A:325:A:H61	1.79	0.48
1:A:335:U:N3	1:A:391:A:C2	2.80	0.48
1:A:1450:A:H2	1:A:1634:A:H61	1.61	0.48
2:B:72:U:H2'	2:B:73:G:O4'	2.14	0.48
6:F:156:ILE:HG22	6:F:158:THR:CG2	2.43	0.48
13:M:92:ILE:HD12	13:M:93:VAL:N	2.29	0.48
31:a:37:C:P	42:l:130:TYR:CZ	3.06	0.48
31:a:738:G:H21	31:a:774:A:H5''	1.78	0.48
31:a:744:U:H1'	36:f:90:MET:HE3	1.95	0.48
31:a:1377:U:O4	31:a:1378:A:N6	2.47	0.48
37:g:69:ILE:HG22	37:g:137:LYS:C	2.39	0.48
41:k:107:VAL:HG11	51:u:12:LEU:HD11	1.96	0.48
1:A:296:G:H2'	1:A:297:G:C4	2.49	0.48
1:A:2830:A:H62	1:A:2910:G:N2	2.09	0.48
3:C:2:ALA:N	3:C:20:ASP:OD1	2.47	0.48
4:D:78:LYS:NZ	4:D:82:ALA:O	2.44	0.48
8:H:1:MET:HA	8:H:1:MET:HE3	1.96	0.48
10:J:128:PHE:CE2	10:J:145:VAL:HG22	2.48	0.48
31:a:252:U:O4	31:a:901:A:N6	2.47	0.48
31:a:681:G:H21	41:k:119:ASN:ND2	2.11	0.48
31:a:727:C:OP2	51:u:33:ARG:NH2	2.47	0.48
31:a:902:C:OP1	31:a:1425:G:O2'	2.31	0.48
31:a:1338:C:N4	31:a:1339:A:H62	2.12	0.48
32:b:200:ILE:O	32:b:202:ALA:N	2.47	0.48
38:h:108:THR:OG1	38:h:109:SER:N	2.47	0.48
47:q:9:VAL:HG22	47:q:62:LYS:HZ2	1.78	0.48
1:A:646:A:C5'	1:A:700:A:H61	2.27	0.47
1:A:1079:U:O2	1:A:1164:G:N2	2.47	0.47
5:E:77:THR:OG1	5:E:78:ILE:N	2.42	0.47
29:3:61:LEU:O	29:3:62:LEU:HD23	2.13	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:589:G:N2	31:a:768:U:O5'	2.47	0.47
31:a:1381:G:N3	39:i:74:PHE:N	2.47	0.47
35:e:83:HIS:NE2	38:h:98:LEU:O	2.46	0.47
37:g:70:MET:C	37:g:99:LEU:H	2.22	0.47
38:h:24:LYS:NZ	38:h:25:LEU:O	2.47	0.47
47:q:9:VAL:HG23	47:q:78:VAL:HB	1.95	0.47
3:C:108:LYS:NZ	3:C:194:GLN:OE1	2.47	0.47
5:E:121:ASN:OD1	5:E:121:ASN:N	2.47	0.47
12:L:26:ILE:HG23	12:L:71:ILE:HG12	1.96	0.47
26:Z:18:THR:HG23	26:Z:19:HIS:H	1.79	0.47
31:a:665:U:O2	45:o:22:THR:OG1	2.21	0.47
31:a:974:A:O2'	52:v:6:ILE:O	2.27	0.47
37:g:66:ILE:HA	37:g:69:ILE:HD11	1.94	0.47
1:A:235:G:OP2	1:A:267:G:N1	2.41	0.47
1:A:443:U:O3'	22:V:32:ASN:ND2	2.42	0.47
1:A:512:A:OP1	28:2:22:ARG:NH1	2.45	0.47
1:A:1092:A:N6	1:A:1155:A:O4'	2.47	0.47
1:A:1464:U:O2'	1:A:1465:G:O5'	2.32	0.47
1:A:1675:G:O2'	1:A:1677:G:O6	2.25	0.47
1:A:2382:C:O4'	21:U:44:ILE:HD12	2.14	0.47
1:A:2807:G:OP1	8:H:121:LYS:NZ	2.45	0.47
3:C:202:LEU:N	3:C:202:LEU:HD23	2.29	0.47
4:D:189:ASP:OD1	4:D:190:THR:N	2.47	0.47
8:H:63:ILE:O	8:H:94:ARG:NH2	2.47	0.47
9:I:73:ASP:OD1	9:I:75:SER:N	2.44	0.47
12:L:29:ARG:O	12:L:30:ILE:HG23	2.13	0.47
31:a:70:A:C2'	31:a:100:A:H61	2.28	0.47
31:a:915:G:O2'	31:a:916:A:O4'	2.30	0.47
31:a:1112:A:N3	32:b:107:ILE:CD1	2.78	0.47
31:a:1204:U:H2'	31:a:1205:C:H5	1.79	0.47
32:b:184:VAL:HG12	32:b:198:TYR:CD2	2.49	0.47
33:c:90:LEU:HA	33:c:93:LEU:HD13	1.96	0.47
34:d:164:TYR:C	34:d:165:LEU:HD23	2.39	0.47
39:i:85:ILE:O	39:i:89:LEU:HD13	2.14	0.47
42:l:117:THR:OG1	42:l:118:SER:N	2.48	0.47
45:o:74:ASP:OD1	45:o:74:ASP:N	2.47	0.47
52:v:141:LEU:HD22	52:v:161:PHE:HB2	1.97	0.47
1:A:262:G:O2'	1:A:666:A:O3'	2.33	0.47
1:A:679:G:N7	10:J:71:ARG:NH2	2.56	0.47
1:A:963:A:N3	2:B:78:U:O2'	2.47	0.47
1:A:1044:A:OP2	1:A:1198:G:N1	2.44	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1263:A:O2'	1:A:1264:A:O4'	2.13	0.47
1:A:1467:G:H1'	1:A:1535:G:H21	1.78	0.47
31:a:24:C:O2	31:a:922:A:O2'	2.12	0.47
31:a:679:G:N1	31:a:744:U:O4	2.46	0.47
31:a:682:G:N2	48:r:77:LYS:O	2.44	0.47
31:a:903:G:N1	31:a:914:U:N3	2.62	0.47
32:b:66:GLN:NE2	32:b:87:ALA:O	2.47	0.47
33:c:12:VAL:HG22	33:c:16:ARG:HB3	1.95	0.47
1:A:267:G:O2'	1:A:268:A:O5'	2.30	0.47
1:A:1466:G:H5'	1:A:1538:A:H61	1.79	0.47
1:A:2683:U:OP2	1:A:2691:G:N2	2.43	0.47
1:A:2818:A:N6	1:A:2825:U:O4	2.47	0.47
3:C:84:ASP:OD2	3:C:86:ASN:N	2.48	0.47
4:D:83:ALA:HB1	4:D:84:PRO:CD	2.45	0.47
11:K:112:GLU:N	11:K:112:GLU:OE1	2.44	0.47
26:Z:11:THR:OG1	26:Z:12:ARG:N	2.48	0.47
31:a:664:G:N1	31:a:759:U:O4	2.47	0.47
31:a:989:C:C6	44:n:16:TYR:HB2	2.49	0.47
31:a:1347:G:O2'	31:a:1348:G:N7	2.44	0.47
33:c:119:ILE:HD12	33:c:199:VAL:HG22	1.97	0.47
47:q:11:VAL:HG12	47:q:62:LYS:HA	1.96	0.47
1:A:137:G:N2	1:A:143:U:O4	2.47	0.47
1:A:1085:U:N3	1:A:1086:G:O6	2.47	0.47
15:O:69:ALA:O	15:O:74:MET:N	2.43	0.47
20:T:25:GLY:O	20:T:45:GLU:N	2.47	0.47
31:a:37:C:P	42:l:130:TYR:CE2	3.08	0.47
31:a:388:G:C4	31:a:391:A:N6	2.82	0.47
31:a:980:G:N7	31:a:1374:U:O2'	2.45	0.47
31:a:1394:C:HO2'	31:a:1395:G:C5'	2.28	0.47
43:m:23:TYR:OH	43:m:94:GLY:N	2.38	0.47
46:p:56:LEU:HD23	46:p:60:TRP:HE1	1.80	0.47
50:t:58:ASP:O	50:t:62:GLN:NE2	2.48	0.47
1:A:608:C:O4'	1:A:1291:A:N6	2.48	0.47
1:A:656:G:O2'	1:A:657:U:O2	2.31	0.47
1:A:794:A:O3'	1:A:1309:G:N2	2.44	0.47
1:A:882:C:H5	1:A:986:G:H22	1.61	0.47
1:A:1215:U:O2	1:A:1217:U:N3	2.46	0.47
1:A:1470:G:O2'	1:A:1619:A:N6	2.37	0.47
1:A:2092:C:O3'	1:A:2279:G:O2'	2.31	0.47
1:A:2916:U:O2'	1:A:2917:U:O4'	2.28	0.47
9:I:17:ARG:NH2	31:a:1483:U:OP1	2.48	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:102:ARG:NE	12:L:122:VAL:HG21	2.29	0.47
31:a:10:G:H2'	31:a:12:G:C5	2.50	0.47
31:a:362:G:H21	31:a:396:G:H1'	1.79	0.47
31:a:383:U:O3'	46:p:7:LEU:HD22	2.14	0.47
31:a:422:A:N6	31:a:440:A:N3	2.62	0.47
31:a:546:U:OP1	42:l:124:ARG:N	2.44	0.47
31:a:667:C:C4	31:a:755:U:O4	2.67	0.47
31:a:696:G:O2'	31:a:697:C:OP2	2.17	0.47
31:a:723:A:H5''	31:a:782:G:H21	1.79	0.47
31:a:765:U:P	31:a:830:A:HO2'	2.37	0.47
31:a:1444:A:N6	31:a:1478:G:H21	2.12	0.47
31:a:1445:G:O2'	31:a:1446:C:O5'	2.32	0.47
31:a:1467:A:N3	50:t:34:ASN:ND2	2.63	0.47
31:a:1514:A:N7	31:a:1542:A:O2'	2.32	0.47
33:c:119:ILE:HD12	33:c:199:VAL:CG2	2.44	0.47
37:g:7:VAL:HG22	37:g:8:PRO:HD2	1.95	0.47
37:g:31:MET:HE3	37:g:36:ARG:NE	2.30	0.47
1:A:72:U:O5'	23:W:54:LYS:NZ	2.29	0.47
1:A:1823:U:H2'	1:A:1824:C:O4'	2.15	0.47
1:A:2324:C:N4	1:A:2348:G:O6	2.48	0.47
1:A:2775:A:N3	7:G:63:THR:HG22	2.30	0.47
1:A:2905:C:OP2	26:Z:40:HIS:NE2	2.47	0.47
8:H:37:LEU:HD11	8:H:119:GLN:HG3	1.96	0.47
18:R:82:LEU:HD12	18:R:83:LYS:N	2.29	0.47
31:a:730:G:O2'	31:a:731:U:O5'	2.32	0.47
31:a:897:G:N2	31:a:918:A:H62	2.13	0.47
31:a:1180:A:O5'	32:b:139:LYS:NZ	2.47	0.47
31:a:1383:G:H21	39:i:76:GLY:CA	2.28	0.47
34:d:121:VAL:HG12	34:d:139:ILE:HA	1.97	0.47
35:e:151:GLU:OE1	35:e:152:ASP:N	2.47	0.47
36:f:21:ALA:HB3	36:f:22:LEU:HD12	1.97	0.47
36:f:89:TYR:CE2	36:f:91:VAL:HG23	2.49	0.47
41:k:60:PRO:O	41:k:63:ALA:N	2.46	0.47
41:k:128:ARG:NH1	51:u:37:PHE:O	2.48	0.47
1:A:682:A:OP2	10:J:112:LEU:HD22	2.15	0.47
1:A:917:U:C5	11:K:2:LEU:HG	2.50	0.47
1:A:1459:A:H61	1:A:1632:A:H1'	1.80	0.47
6:F:170:LEU:HD12	6:F:174:GLY:CA	2.45	0.47
20:T:8:ILE:HA	20:T:41:VAL:HG12	1.97	0.47
31:a:36:G:H2'	42:l:130:TYR:CD2	2.50	0.47
31:a:1196:G:N2	31:a:1197:G:C2	2.83	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:b:104:TYR:CD2	32:b:179:LEU:HD21	2.50	0.47
34:d:9:TRP:NE1	34:d:20:SER:O	2.48	0.47
43:m:64:LYS:HB2	43:m:69:LEU:HD13	1.97	0.47
1:A:926:G:H2'	1:A:941:A:H61	1.80	0.47
1:A:1003:A:N6	1:A:2522:G:O2'	2.48	0.47
1:A:1079:U:C4	1:A:1164:G:O6	2.68	0.47
1:A:1511:C:O2'	1:A:1512:U:OP2	2.26	0.47
1:A:1734:A:N6	1:A:1741:G:H21	2.13	0.47
18:R:87:ILE:HG22	18:R:89:LEU:HD21	1.97	0.47
31:a:416:G:O2'	31:a:417:U:O5'	2.32	0.47
31:a:1064:G:H21	33:c:194:LYS:HE2	1.80	0.47
31:a:1329:A:N1	31:a:1371:G:N2	2.63	0.47
32:b:20:THR:O	32:b:21:ARG:NE	2.48	0.47
35:e:87:GLY:O	35:e:93:SER:OG	2.23	0.47
41:k:72:LYS:NZ	41:k:103:ALA:O	2.48	0.47
41:k:85:THR:HG23	41:k:111:ARG:HB2	1.97	0.47
1:A:793:G:H2'	1:A:795:A:H62	1.80	0.46
1:A:1178:C:H2'	1:A:1179:C:H5''	1.96	0.46
1:A:2799:C:O3'	4:D:179:THR:HG21	2.15	0.46
2:B:64:A:O2'	2:B:67:G:O6	2.33	0.46
8:H:20:ASP:OD2	8:H:22:GLU:N	2.48	0.46
15:O:70:ARG:NH1	15:O:74:MET:O	2.49	0.46
31:a:626:C:O2'	31:a:630:A:N6	2.48	0.46
31:a:1069:G:N1	31:a:1209:U:C2	2.83	0.46
31:a:1112:A:N3	32:b:107:ILE:CG1	2.79	0.46
31:a:1131:C:C4	31:a:1164:U:O4	2.68	0.46
31:a:1329:A:N6	31:a:1371:G:N3	2.63	0.46
34:d:42:LYS:N	34:d:51:LEU:HD23	2.29	0.46
38:h:10:MET:CE	38:h:14:VAL:HG21	2.44	0.46
38:h:17:ALA:HB1	38:h:22:HIS:HB2	1.98	0.46
50:t:50:VAL:HG22	50:t:78:LEU:O	2.15	0.46
1:A:394:U:O4	1:A:398:C:N4	2.48	0.46
1:A:645:A:O2'	1:A:646:A:O5'	2.32	0.46
1:A:1489:A:O4'	1:A:1492:G:N1	2.45	0.46
1:A:2078:A:HO2'	1:A:2079:G:P	2.34	0.46
6:F:98:GLU:OE1	6:F:98:GLU:N	2.49	0.46
11:K:117:ALA:HA	11:K:120:LEU:HD12	1.97	0.46
17:Q:7:ALA:HB3	17:Q:101:ILE:HG13	1.96	0.46
27:1:38:ARG:C	27:1:39:LEU:HD23	2.40	0.46
31:a:433:A:N6	31:a:434:U:O2	2.47	0.46
31:a:575:G:N7	42:l:12:ARG:NH2	2.64	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:900:U:C2	31:a:916:A:N7	2.82	0.46
31:a:955:A:HO2'	31:a:956:G:P	2.36	0.46
31:a:1334:A:N7	49:s:6:LYS:NZ	2.59	0.46
49:s:50:ALA:HB1	49:s:57:HIS:HB3	1.97	0.46
1:A:738:U:O2'	1:A:1390:A:N3	2.48	0.46
1:A:1087:C:O2'	1:A:1092:A:O3'	2.32	0.46
1:A:1144:C:N3	30:4:13:LYS:NZ	2.61	0.46
1:A:1731:G:H21	1:A:1745:A:N6	2.13	0.46
6:F:123:ASP:OD1	6:F:124:GLY:N	2.48	0.46
18:R:6:ILE:O	18:R:30:ASP:N	2.44	0.46
19:S:24:ILE:HG12	19:S:34:VAL:HG13	1.98	0.46
31:a:36:G:C3'	42:l:130:TYR:CE1	2.98	0.46
31:a:773:G:P	31:a:820:G:H22	2.38	0.46
31:a:1006:U:O4	31:a:1049:A:O2'	2.22	0.46
31:a:1299:A:O2'	31:a:1361:U:O3'	2.20	0.46
52:v:54:ILE:CD1	52:v:78:ILE:HG23	2.45	0.46
1:A:245:G:H22	1:A:258:A:P	2.39	0.46
1:A:1576:A:N6	1:A:1587:C:O5'	2.48	0.46
1:A:1743:G:O2'	1:A:1744:A:O3'	2.33	0.46
1:A:1851:G:N2	3:C:255:LEU:HA	2.31	0.46
3:C:199:GLN:HA	3:C:202:LEU:HD21	1.97	0.46
31:a:42:G:N1	31:a:410:G:O6	2.49	0.46
31:a:416:G:O2'	31:a:438:A:OP1	2.30	0.46
31:a:819:C:C3'	31:a:909:A:H61	2.29	0.46
31:a:1274:C:HO2'	31:a:1281:G:H1	1.63	0.46
31:a:1444:A:N6	31:a:1478:G:C2	2.83	0.46
36:f:52:ILE:HD12	36:f:87:ILE:HD13	1.97	0.46
52:v:150:VAL:HG13	52:v:151:LEU:HD22	1.97	0.46
1:A:2293:A:N6	1:A:2300:A:OP2	2.46	0.46
1:A:2341:A:C1'	6:F:155:VAL:HG11	2.46	0.46
1:A:2374:C:O3'	27:1:17:TYR:OH	2.19	0.46
2:B:64:A:H61	2:B:105:C:C5'	2.25	0.46
9:I:49:GLY:N	31:a:1433:G:OP1	2.49	0.46
12:L:59:ARG:HD3	12:L:82:LEU:HD11	1.96	0.46
15:O:102:ASP:OD2	15:O:105:ALA:N	2.44	0.46
31:a:110:G:H3'	31:a:111:G:C5'	2.46	0.46
31:a:254:A:O2'	31:a:287:A:N7	2.42	0.46
31:a:1213:C:N4	31:a:1214:A:H62	2.14	0.46
32:b:66:GLN:CD	32:b:221:ILE:HD12	2.40	0.46
1:A:417:A:H61	1:A:447:A:H3'	1.80	0.46
1:A:752:G:C6	1:A:769:U:C2	3.03	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1001:A:O2'	1:A:1003:A:O4'	2.34	0.46
1:A:1462:G:N2	1:A:1463:A:N7	2.63	0.46
1:A:1500:G:H2'	1:A:1501:G:O4'	2.15	0.46
1:A:1823:U:C5'	3:C:257:LYS:H	2.28	0.46
1:A:2510:C:O2'	11:K:49:SER:OG	2.25	0.46
1:A:2820:U:HO2'	1:A:2822:C:C4'	2.23	0.46
7:G:82:GLY:O	7:G:84:VAL:HG23	2.14	0.46
11:K:43:THR:OG1	11:K:46:GLN:OE1	2.20	0.46
19:S:33:VAL:N	19:S:63:ILE:O	2.42	0.46
23:W:28:LEU:HD12	23:W:29:ARG:N	2.30	0.46
25:Y:55:HIS:N	25:Y:58:TYR:O	2.48	0.46
31:a:182:A:OP2	31:a:184:A:N6	2.45	0.46
31:a:989:C:N1	44:n:16:TYR:CD2	2.83	0.46
31:a:1144:A:O2'	31:a:1145:U:O5'	2.33	0.46
47:q:26:LEU:O	47:q:26:LEU:HD13	2.15	0.46
52:v:20:TYR:CD1	52:v:58:ILE:HD13	2.51	0.46
1:A:82:G:N2	1:A:102:A:OP2	2.49	0.46
1:A:83:G:H1'	1:A:101:G:H21	1.80	0.46
1:A:206:U:OP2	1:A:207:A:O2'	2.33	0.46
1:A:353:A:OP1	19:S:17:LYS:NZ	2.49	0.46
1:A:1302:G:C2'	1:A:2042:A:H61	2.29	0.46
1:A:2579:U:N3	1:A:2583:C:C4	2.84	0.46
1:A:2774:G:C8	30:4:17:ILE:HD11	2.51	0.46
4:D:141:MET:HE1	4:D:148:HIS:CG	2.51	0.46
7:G:105:LEU:HD22	7:G:107:VAL:N	2.31	0.46
16:P:61:THR:OG1	16:P:62:VAL:N	2.48	0.46
17:Q:95:ASN:OD1	17:Q:95:ASN:N	2.49	0.46
31:a:360:C:H42	31:a:365:G:H22	1.63	0.46
31:a:1066:A:N7	31:a:1210:C:N3	2.63	0.46
50:t:64:ASN:C	50:t:65:LEU:HD22	2.41	0.46
52:v:88:GLN:HG3	52:v:89:VAL:HG13	1.96	0.46
1:A:73:A:O5'	23:W:47:ARG:NH1	2.48	0.46
1:A:459:C:O3'	1:A:1890:G:N2	2.49	0.46
1:A:797:A:OP1	28:2:4:ARG:NH2	2.40	0.46
1:A:1076:A:C8	30:4:36:GLN:HB3	2.51	0.46
1:A:1832:C:O3'	3:C:250:TRP:NE1	2.48	0.46
1:A:1939:A:N3	1:A:1990:C:O2'	2.40	0.46
1:A:2557:U:H1'	1:A:2561:C:H42	1.81	0.46
1:A:2902:A:OP1	12:L:102:ARG:NH1	2.47	0.46
13:M:96:ARG:O	13:M:99:TYR:N	2.47	0.46
32:b:18:HIS:NE2	52:v:152:GLN:OE1	2.49	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:h:11:LEU:HD23	38:h:15:ARG:HH21	1.80	0.46
1:A:274:A:H62	1:A:297:G:H21	1.63	0.46
1:A:442:G:OP1	22:V:10:ARG:NH2	2.48	0.46
1:A:679:G:N7	10:J:71:ARG:NH1	2.63	0.46
1:A:1095:A:N6	1:A:1153:C:O2	2.49	0.46
1:A:1539:A:N3	1:A:1624:C:O2'	2.48	0.46
1:A:2226:A:H61	1:A:2251:G:H1'	1.80	0.46
1:A:2338:A:O3'	6:F:74:ILE:HD12	2.15	0.46
12:L:102:ARG:HE	12:L:122:VAL:HG21	1.81	0.46
13:M:72:LEU:HD23	13:M:72:LEU:H	1.80	0.46
31:a:142:G:HO2'	31:a:210:A:N6	2.14	0.46
31:a:396:G:OP2	31:a:398:C:N4	2.49	0.46
31:a:1200:G:HO2'	31:a:1201:A:P	2.35	0.46
32:b:115:SER:OG	32:b:155:LYS:NZ	2.23	0.46
42:l:95:VAL:HG13	42:l:109:HIS:O	2.16	0.46
44:n:23:ARG:NH1	44:n:34:TYR:O	2.49	0.46
47:q:49:HIS:NE2	47:q:72:THR:HG21	2.30	0.46
48:r:50:THR:HG21	48:r:60:LEU:CD2	2.46	0.46
1:A:882:C:H41	1:A:986:G:H1	1.64	0.46
1:A:1816:A:P	3:C:221:ARG:HE	2.39	0.46
1:A:1874:A:N6	1:A:1876:G:O6	2.48	0.46
1:A:2566:C:O2	1:A:2768:A:O2'	2.33	0.46
3:C:77:LYS:O	3:C:95:VAL:N	2.42	0.46
4:D:6:LEU:HD21	4:D:91:PHE:HE1	1.81	0.46
5:E:37:ILE:HG23	5:E:184:LEU:CD1	2.45	0.46
6:F:35:VAL:HG13	6:F:155:VAL:HG23	1.97	0.46
9:I:71:ARG:NH1	9:I:105:GLU:OE2	2.49	0.46
10:J:133:ALA:HA	10:J:136:ILE:HD12	1.98	0.46
12:L:116:SER:OG	12:L:117:VAL:N	2.49	0.46
21:U:53:ILE:HD12	21:U:53:ILE:H	1.80	0.46
27:1:14:ASP:N	27:1:14:ASP:OD1	2.47	0.46
30:4:22:LYS:O	30:4:24:MET:HE3	2.16	0.46
31:a:151:A:H5''	31:a:153:C:H41	1.81	0.46
31:a:592:G:N2	42:l:6:GLN:OE1	2.42	0.46
31:a:700:U:C2'	31:a:703:A:H62	2.27	0.46
31:a:898:A:H62	31:a:917:A:H62	1.64	0.46
31:a:903:G:C2	31:a:914:U:O2	2.69	0.46
1:A:124:A:O4'	28:2:15:LYS:NZ	2.49	0.45
1:A:333:C:C5	1:A:392:U:H2'	2.51	0.45
1:A:659:A:H2'	1:A:660:A:O4'	2.16	0.45
1:A:2779:C:O2'	30:4:15:LYS:NZ	2.49	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:90:PHE:HD2	23:W:34:THR:HG21	1.80	0.45
24:X:11:SER:OG	24:X:12:VAL:N	2.49	0.45
31:a:175:C:N4	31:a:211:A:OP2	2.47	0.45
31:a:456:A:N6	31:a:496:C:O2	2.49	0.45
31:a:791:C:N4	31:a:792:A:H62	2.13	0.45
31:a:823:A:H62	31:a:1520:C:HO2'	1.64	0.45
34:d:153:GLU:OE1	34:d:153:GLU:N	2.48	0.45
38:h:10:MET:HE3	38:h:14:VAL:CG2	2.47	0.45
38:h:14:VAL:HG22	38:h:25:LEU:HD13	1.96	0.45
52:v:58:ILE:CG1	52:v:85:LEU:HD22	2.46	0.45
1:A:161:A:N6	1:A:2243:U:O2'	2.48	0.45
1:A:597:U:H2'	1:A:598:G:O4'	2.15	0.45
1:A:613:G:OP1	1:A:1016:G:O2'	2.24	0.45
1:A:719:G:N1	1:A:852:U:O4	2.49	0.45
1:A:796:A:O4'	17:Q:90:ARG:NH2	2.49	0.45
1:A:1678:A:H3'	1:A:1679:A:H5'	1.98	0.45
4:D:133:ARG:HG2	4:D:173:MET:HE2	1.99	0.45
5:E:161:VAL:HG13	5:E:162:ASN:OD1	2.17	0.45
6:F:156:ILE:O	6:F:158:THR:HG23	2.16	0.45
12:L:26:ILE:HG23	12:L:71:ILE:HD11	1.97	0.45
12:L:70:GLU:OE1	12:L:79:GLN:N	2.48	0.45
14:N:49:VAL:HA	14:N:63:VAL:HG12	1.98	0.45
18:R:56:MET:N	18:R:56:MET:SD	2.89	0.45
30:4:25:VAL:HG22	30:4:27:CYS:CB	2.45	0.45
31:a:371:A:H62	42:l:42:GLN:HG2	1.81	0.45
31:a:710:A:HO2'	31:a:711:G:P	2.32	0.45
31:a:1274:C:O2'	31:a:1281:G:N1	2.48	0.45
43:m:60:VAL:HG12	43:m:71:ARG:HG2	1.98	0.45
1:A:905:U:OP2	1:A:961:G:N1	2.45	0.45
1:A:2850:G:O2'	1:A:2903:A:N1	2.40	0.45
6:F:67:VAL:HG11	6:F:84:PRO:CB	2.46	0.45
10:J:84:LYS:NZ	10:J:99:SER:OG	2.25	0.45
16:P:31:ASP:N	16:P:31:ASP:OD1	2.47	0.45
31:a:264:U:OP2	47:q:70:SER:OG	2.25	0.45
31:a:962:G:O6	31:a:1239:A:N6	2.49	0.45
31:a:1526:C:N4	31:a:1532:G:O6	2.49	0.45
37:g:104:LEU:CD2	37:g:135:VAL:HG22	2.46	0.45
40:j:73:LEU:O	40:j:73:LEU:HD23	2.17	0.45
45:o:25:PRO:HB3	45:o:66:LEU:HD13	1.98	0.45
46:p:15:ASN:O	46:p:17:PHE:N	2.48	0.45
1:A:1164:G:O2'	1:A:1165:C:O5'	2.34	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1479:G:H2'	1:A:1480:G:C5	2.52	0.45
1:A:2280:G:H22	21:U:15:VAL:HG22	1.79	0.45
1:A:2710:C:N3	1:A:2754:G:O2'	2.36	0.45
3:C:180:GLU:OE2	3:C:182:ARG:NE	2.48	0.45
4:D:111:VAL:HA	4:D:188:VAL:HG21	1.98	0.45
4:D:141:MET:HE1	4:D:148:HIS:ND1	2.31	0.45
13:M:74:THR:HG23	13:M:111:ALA:HB2	1.97	0.45
26:Z:37:LYS:HG2	26:Z:47:GLY:HA3	1.99	0.45
31:a:22:G:H21	31:a:923:A:H8	1.64	0.45
31:a:602:U:O2	31:a:604:A:N6	2.50	0.45
31:a:650:A:C2	38:h:108:THR:HG22	2.52	0.45
31:a:1113:A:O2'	32:b:110:ARG:NH2	2.49	0.45
32:b:18:HIS:N	32:b:189:THR:HG21	2.31	0.45
32:b:75:GLN:HB3	52:v:151:LEU:HD21	1.98	0.45
33:c:24:ALA:HB1	33:c:31:LEU:HG	1.97	0.45
33:c:49:ALA:HB1	33:c:51:VAL:HG13	1.98	0.45
1:A:533:C:H2'	1:A:534:G:O4'	2.16	0.45
1:A:919:G:O6	11:K:2:LEU:HD13	2.17	0.45
1:A:1972:G:H21	1:A:1990:C:N4	2.15	0.45
1:A:2146:A:N6	1:A:2195:G:O6	2.49	0.45
1:A:2682:G:O2'	1:A:2691:G:N1	2.44	0.45
1:A:2726:C:N4	1:A:2736:G:O6	2.50	0.45
6:F:38:MET:HE1	6:F:53:ALA:HB1	1.97	0.45
10:J:55:LEU:HD23	10:J:60:ARG:HG3	1.99	0.45
11:K:21:SER:OG	11:K:101:ARG:N	2.49	0.45
13:M:54:ALA:HB1	13:M:80:ILE:HD11	1.99	0.45
17:Q:74:ALA:HB1	17:Q:103:ILE:HG12	1.98	0.45
20:T:72:VAL:HG23	20:T:92:LEU:C	2.42	0.45
31:a:23:G:H21	31:a:922:A:H1'	1.82	0.45
31:a:649:A:C4	38:h:108:THR:HG23	2.52	0.45
31:a:1001:U:H1'	31:a:1005:A:H61	1.81	0.45
31:a:1138:G:N2	31:a:1161:A:H62	2.14	0.45
31:a:1329:A:N6	31:a:1371:G:C4	2.85	0.45
36:f:8:TYR:HB2	36:f:86:ILE:HG23	1.98	0.45
1:A:435:A:N6	1:A:436:A:N3	2.64	0.45
1:A:795:A:O5'	1:A:1659:C:N4	2.49	0.45
1:A:1791:G:N1	1:A:2015:C:N3	2.55	0.45
1:A:1862:G:H21	1:A:1957:G:C5'	2.29	0.45
1:A:1884:G:N2	1:A:1912:A:C8	2.84	0.45
1:A:2248:G:H3'	1:A:2249:G:H21	1.81	0.45
1:A:2681:A:N6	1:A:2693:C:O5'	2.50	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:47:C:OP2	13:M:35:ARG:NH1	2.48	0.45
5:E:6:VAL:HG23	5:E:17:ILE:HB	1.99	0.45
19:S:11:VAL:HG23	19:S:17:LYS:HA	1.97	0.45
29:3:37:SER:OG	29:3:38:THR:N	2.49	0.45
31:a:39:G:O2'	31:a:40:G:N2	2.41	0.45
31:a:301:A:O2'	31:a:617:A:N1	2.50	0.45
31:a:514:G:OP2	31:a:516:U:O2'	2.28	0.45
31:a:692:U:O2'	31:a:693:G:OP1	2.31	0.45
31:a:776:A:C4'	31:a:1534:G:H21	2.30	0.45
31:a:959:U:N3	31:a:960:G:O6	2.50	0.45
31:a:1268:G:N2	31:a:1289:A:C5	2.84	0.45
32:b:212:LEU:O	32:b:216:LYS:NZ	2.48	0.45
45:o:56:LEU:HA	45:o:59:MET:HE3	1.98	0.45
1:A:12:U:O2	1:A:571:A:N7	2.49	0.45
1:A:787:U:H2'	1:A:788:A:C8	2.52	0.45
1:A:862:C:N3	1:A:1230:G:N1	2.65	0.45
1:A:873:U:O2'	1:A:874:A:O4'	2.34	0.45
1:A:1022:G:O2'	1:A:1046:G:O2'	2.35	0.45
1:A:1875:A:N1	1:A:1919:C:N4	2.62	0.45
1:A:2147:G:N2	1:A:2148:G:O6	2.46	0.45
1:A:2497:G:N7	1:A:2503:A:O2'	2.49	0.45
1:A:2710:C:N4	1:A:2755:U:O4'	2.50	0.45
31:a:512:C:N4	42:l:125:GLN:OE1	2.48	0.45
31:a:571:A:H4'	31:a:574:G:O2'	2.16	0.45
31:a:966:U:N3	31:a:969:U:OP2	2.45	0.45
31:a:989:C:N3	44:n:16:TYR:CD1	2.85	0.45
1:A:740:G:OP1	1:A:1417:G:O2'	2.32	0.45
1:A:2694:C:N4	7:G:110:SER:OG	2.50	0.45
1:A:2779:C:H41	7:G:3:ARG:HE	1.64	0.45
8:H:126:TYR:OH	8:H:133:HIS:NE2	2.47	0.45
30:4:1:MET:HE1	30:4:4:ARG:HD3	1.97	0.45
31:a:795:A:N6	31:a:801:U:OP2	2.34	0.45
31:a:1450:U:O2	31:a:1472:G:N2	2.50	0.45
1:A:1093:C:H41	1:A:1154:G:H21	1.63	0.45
1:A:1403:C:H3'	1:A:1403:C:P	2.57	0.45
1:A:1822:C:C3'	3:C:256:GLY:HA3	2.47	0.45
1:A:1887:G:N2	1:A:1909:C:C2	2.82	0.45
1:A:2775:A:OP2	7:G:69:ARG:NH2	2.49	0.45
28:2:9:ASN:OD1	28:2:12:LYS:N	2.39	0.45
31:a:51:A:N6	31:a:368:G:HO2'	2.15	0.45
31:a:382:A:N1	31:a:398:C:O2'	2.50	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:673:A:H62	51:u:55:ARG:CB	2.30	0.45
31:a:989:C:C6	44:n:16:TYR:CD2	3.05	0.45
31:a:1329:A:C6	31:a:1371:G:N2	2.85	0.45
35:e:12:GLU:OE2	35:e:43:ASN:N	2.49	0.45
36:f:13:ASN:ND2	36:f:13:ASN:O	2.50	0.45
1:A:199:A:N6	1:A:876:G:H21	2.14	0.45
1:A:2503:A:O2'	1:A:2508:G:N1	2.49	0.45
3:C:2:ALA:HB3	3:C:20:ASP:OD2	2.16	0.45
12:L:89:ILE:N	12:L:91:GLU:OE2	2.50	0.45
18:R:90:PHE:HB2	23:W:34:THR:HG21	1.99	0.45
20:T:9:ARG:HE	20:T:40:SER:HB3	1.82	0.45
31:a:10:G:C2	31:a:26:C:O2	2.70	0.45
31:a:532:G:OP2	42:l:101:LYS:N	2.48	0.45
31:a:895:G:N2	31:a:920:U:O2	2.49	0.45
31:a:988:C:N4	31:a:1370:A:H61	2.14	0.45
31:a:1443:A:OP2	31:a:1478:G:N1	2.45	0.45
37:g:70:MET:HE2	37:g:101:LEU:CB	2.47	0.45
38:h:20:VAL:HG23	38:h:22:HIS:CD2	2.52	0.45
41:k:109:ALA:HB2	51:u:6:VAL:HG13	1.98	0.45
1:A:27:G:N2	1:A:558:A:OP2	2.48	0.44
1:A:214:G:OP1	28:2:26:LYS:NZ	2.39	0.44
1:A:297:G:O2'	1:A:298:U:O4'	2.30	0.44
1:A:656:G:O2'	1:A:659:A:N1	2.50	0.44
12:L:72:LEU:HD22	12:L:77:THR:O	2.18	0.44
12:L:106:GLN:NE2	12:L:118:ILE:HD12	2.33	0.44
15:O:82:GLY:HA2	15:O:117:LEU:HD21	1.98	0.44
31:a:1312:U:H5''	43:m:34:LEU:HD23	1.99	0.44
41:k:60:PRO:O	41:k:64:GLN:N	2.50	0.44
46:p:5:ILE:HD13	46:p:67:PRO:HA	1.99	0.44
47:q:63:ILE:HD12	47:q:63:ILE:O	2.17	0.44
1:A:540:G:O5'	17:Q:4:LYS:NZ	2.46	0.44
1:A:1567:A:OP1	1:A:1569:G:N2	2.50	0.44
1:A:1813:A:HO2'	1:A:1814:A:C5'	2.29	0.44
1:A:2135:U:O2'	1:A:2136:U:O4'	2.28	0.44
1:A:2178:U:O4	1:A:2179:A:N6	2.51	0.44
1:A:2496:A:C6	1:A:2508:G:C4	3.05	0.44
1:A:2818:A:H2'	1:A:2819:C:O4'	2.17	0.44
12:L:56:LEU:HD12	12:L:59:ARG:HG2	1.99	0.44
31:a:418:G:H21	31:a:419:A:H8	1.64	0.44
31:a:1363:G:H1'	31:a:1380:G:H22	1.82	0.44
31:a:1504:A:O2'	31:a:1505:G:N7	2.50	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:e:46:VAL:HG13	35:e:117:LEU:HD13	1.99	0.44
38:h:98:LEU:HD23	38:h:131:VAL:O	2.17	0.44
40:j:7:ARG:NH1	40:j:44:THR:O	2.50	0.44
1:A:1076:A:C6	1:A:1166:G:O6	2.70	0.44
1:A:1214:C:C2	1:A:1218:G:N2	2.80	0.44
1:A:2403:A:H61	13:M:94:PHE:HZ	1.65	0.44
1:A:2424:G:C2	1:A:2446:U:O2	2.71	0.44
6:F:63:GLN:NE2	6:F:90:THR:O	2.49	0.44
15:O:116:ALA:O	15:O:117:LEU:HD23	2.17	0.44
19:S:75:THR:OG1	19:S:77:GLU:OE1	2.33	0.44
23:W:11:THR:HG23	23:W:14:ILE:HD12	2.00	0.44
23:W:14:ILE:HG23	23:W:53:LEU:HD22	1.99	0.44
31:a:65:G:HO2'	31:a:66:A:P	2.40	0.44
31:a:1310:G:N1	31:a:1345:C:OP2	2.44	0.44
33:c:32:LEU:O	33:c:36:LEU:HD23	2.18	0.44
37:g:12:VAL:HG11	37:g:25:LYS:HD3	1.99	0.44
52:v:24:LYS:NZ	52:v:85:LEU:HD23	2.32	0.44
1:A:362:C:H2'	1:A:363:A:O4'	2.16	0.44
1:A:910:C:N4	1:A:954:A:H62	2.15	0.44
1:A:912:C:N3	1:A:957:C:O2'	2.50	0.44
1:A:1462:G:N2	1:A:1626:A:H62	2.14	0.44
5:E:96:SER:OG	5:E:97:TYR:N	2.51	0.44
17:Q:50:VAL:HG12	17:Q:103:ILE:HD12	1.99	0.44
28:2:16:VAL:HG23	28:2:17:HIS:CD2	2.52	0.44
31:a:69:G:O2'	31:a:152:A:N3	2.51	0.44
31:a:175:C:H1'	31:a:1457:A:H61	1.83	0.44
31:a:985:G:OP2	31:a:1368:U:O2'	2.24	0.44
31:a:1251:G:N2	31:a:1252:G:N7	2.65	0.44
32:b:75:GLN:HB3	52:v:151:LEU:HD11	1.99	0.44
32:b:211:LYS:HA	32:b:215:ALA:HB3	2.00	0.44
40:j:6:ILE:HG22	40:j:7:ARG:HG2	2.00	0.44
45:o:20:THR:OG1	45:o:20:THR:O	2.34	0.44
1:A:252:C:OP2	1:A:2421:C:O2'	2.29	0.44
1:A:333:C:N3	1:A:393:G:H2'	2.33	0.44
1:A:676:A:O2'	10:J:66:PHE:O	2.36	0.44
1:A:1552:U:O2'	1:A:1553:A:O5'	2.35	0.44
1:A:1862:G:N2	1:A:1957:G:O4'	2.50	0.44
1:A:2780:A:C6	7:G:4:VAL:HG13	2.52	0.44
5:E:185:ASP:OD1	5:E:186:ILE:N	2.50	0.44
10:J:55:LEU:HD23	10:J:60:ARG:HG2	1.99	0.44
11:K:68:ILE:HD11	11:K:103:LEU:HG	1.99	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:81:ASN:OD1	16:P:81:ASN:N	2.51	0.44
23:W:6:ILE:O	23:W:60:ARG:NH1	2.49	0.44
28:2:31:VAL:O	28:2:34:ARG:N	2.51	0.44
31:a:10:G:H2'	31:a:12:G:N7	2.33	0.44
31:a:61:A:H62	31:a:107:G:H4'	1.83	0.44
31:a:362:G:H21	31:a:396:G:C1'	2.31	0.44
31:a:681:G:N2	51:u:35:ARG:HE	2.16	0.44
31:a:1363:G:H2'	31:a:1364:U:C6	2.52	0.44
39:i:41:LEU:O	39:i:44:GLU:N	2.51	0.44
42:l:130:TYR:O	42:l:133:LYS:NZ	2.51	0.44
44:n:23:ARG:O	44:n:38:LYS:N	2.47	0.44
1:A:46:C:N4	1:A:217:G:N7	2.61	0.44
1:A:248:G:O6	29:3:8:ARG:NE	2.51	0.44
1:A:1079:U:N3	1:A:1164:G:N1	2.65	0.44
1:A:1490:G:O2'	1:A:1491:C:O4'	2.35	0.44
1:A:1508:C:H2'	1:A:1509:G:C4	2.53	0.44
1:A:1945:A:C5'	1:A:1994:C:H42	2.31	0.44
1:A:2433:C:O2'	1:A:2434:A:OP2	2.36	0.44
6:F:58:GLU:CB	6:F:59:LEU:HD23	2.48	0.44
19:S:12:ILE:HD11	19:S:68:VAL:C	2.43	0.44
31:a:682:G:HO2'	31:a:683:A:P	2.41	0.44
31:a:1112:A:C2	32:b:107:ILE:HG23	2.53	0.44
31:a:1230:G:N2	31:a:1231:G:C2	2.86	0.44
31:a:1252:G:OP2	31:a:1253:A:N6	2.43	0.44
32:b:107:ILE:HG22	32:b:113:ARG:HH12	1.83	0.44
33:c:12:VAL:HG22	33:c:16:ARG:CB	2.48	0.44
37:g:70:MET:HE3	37:g:96:ARG:NH2	2.33	0.44
1:A:527:G:O2'	1:A:552:A:N6	2.51	0.44
1:A:777:C:H2'	1:A:778:G:O4'	2.18	0.44
1:A:1003:A:H61	1:A:2522:G:H1'	1.82	0.44
1:A:1040:A:O2'	15:O:91:ASN:OD1	2.23	0.44
1:A:1213:C:N4	1:A:1219:G:H22	2.07	0.44
1:A:1450:A:N6	1:A:1635:A:N7	2.66	0.44
1:A:1798:C:N4	1:A:1799:G:O6	2.51	0.44
1:A:1852:G:N3	3:C:255:LEU:HD12	2.33	0.44
1:A:2022:U:C2'	9:I:31:LYS:HZ1	2.28	0.44
1:A:2504:C:O5'	1:A:2507:C:N4	2.50	0.44
1:A:2844:U:H2'	1:A:2845:G:O4'	2.17	0.44
6:F:50:LEU:O	6:F:54:VAL:HG23	2.17	0.44
31:a:80:A:N6	31:a:87:C:O2	2.49	0.44
31:a:468:G:H21	31:a:482:A:H62	1.66	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:1136:U:O5'	40:j:37:SER:OG	2.36	0.44
31:a:1263:G:H21	31:a:1365:A:H4'	1.82	0.44
31:a:1300:G:O4'	31:a:1361:U:O2'	2.36	0.44
45:o:26:GLU:OE1	45:o:77:ARG:NH2	2.50	0.44
52:v:85:LEU:O	52:v:93:LYS:NZ	2.51	0.44
1:A:674:C:OP1	1:A:695:C:O2'	2.36	0.44
1:A:681:G:O2'	1:A:683:G:O2'	2.17	0.44
1:A:916:U:H5	11:K:3:LEU:HD13	1.83	0.44
1:A:1111:A:N6	1:A:1139:A:O3'	2.51	0.44
1:A:1174:U:C2	4:D:160:ALA:HB2	2.53	0.44
2:B:10:U:HO2'	2:B:11:A:P	2.39	0.44
14:N:31:HIS:HB3	14:N:42:ILE:HD11	2.00	0.44
31:a:33:A:N1	31:a:561:A:N6	2.66	0.44
31:a:70:A:HO2'	31:a:100:A:N6	2.15	0.44
31:a:587:G:N2	31:a:770:U:O2	2.48	0.44
31:a:995:A:N6	31:a:1230:G:N3	2.64	0.44
32:b:73:LYS:CD	32:b:164:VAL:HG11	2.48	0.44
43:m:25:ILE:CG2	43:m:29:THR:HG23	2.47	0.44
43:m:28:SER:O	43:m:33:ILE:N	2.48	0.44
1:A:70:G:H21	1:A:71:A:H62	1.64	0.44
1:A:458:A:N6	1:A:1890:G:HO2'	2.15	0.44
1:A:687:G:N2	1:A:691:A:C6	2.86	0.44
1:A:1375:G:O2'	18:R:14:GLU:OE1	2.29	0.44
1:A:1975:G:HO2'	1:A:1976:G:P	2.40	0.44
1:A:2102:U:OP2	1:A:2265:G:O2'	2.26	0.44
1:A:2781:U:O2'	30:4:24:MET:SD	2.68	0.44
1:A:2902:A:OP1	12:L:102:ARG:NH2	2.48	0.44
3:C:124:ILE:HD12	3:C:124:ILE:N	2.33	0.44
3:C:142:HIS:HA	3:C:144:ILE:HD11	2.00	0.44
4:D:36:LEU:HD13	4:D:52:GLY:N	2.33	0.44
16:P:4:ILE:N	16:P:4:ILE:HD12	2.33	0.44
19:S:87:ASP:OD1	19:S:87:ASP:N	2.51	0.44
31:a:66:A:H1'	31:a:213:G:H21	1.83	0.44
31:a:405:A:O2'	31:a:408:C:OP2	2.24	0.44
31:a:1426:A:N1	31:a:1496:U:O2'	2.45	0.44
31:a:1429:G:P	31:a:1493:G:H21	2.40	0.44
32:b:33:THR:O	32:b:40:ILE:N	2.51	0.44
35:e:71:LEU:HD23	35:e:71:LEU:H	1.83	0.44
42:l:71:SER:HA	42:l:92:VAL:HG22	2.00	0.44
47:q:35:LEU:HD23	47:q:36:TYR:CZ	2.53	0.44
52:v:8:GLY:HA2	52:v:11:LEU:HD22	2.00	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:231:A:H62	1:A:465:C:C5'	2.30	0.43
1:A:889:U:H2'	1:A:890:G:O4'	2.17	0.43
1:A:1092:A:P	1:A:1154:G:H22	2.37	0.43
1:A:1135:G:H1	1:A:1143:G:HO2'	1.65	0.43
1:A:1445:C:N3	1:A:1638:G:N1	2.46	0.43
1:A:1467:G:N2	1:A:1623:U:O2	2.51	0.43
1:A:1862:G:H21	1:A:1957:G:H5'	1.83	0.43
1:A:2307:G:O6	21:U:22:ARG:NH2	2.51	0.43
1:A:2372:G:H21	1:A:2408:C:H3'	1.83	0.43
1:A:2789:U:H2'	1:A:2790:G:C4	2.52	0.43
1:A:2800:U:O3'	4:D:177:THR:OG1	2.29	0.43
7:G:40:ARG:O	7:G:42:THR:HG23	2.18	0.43
10:J:77:VAL:HG22	10:J:78:ASN:O	2.18	0.43
31:a:1276:G:O4'	31:a:1280:G:N2	2.51	0.43
33:c:118:ASN:O	33:c:122:GLN:NE2	2.42	0.43
34:d:7:SER:O	34:d:11:LYS:N	2.47	0.43
36:f:51:GLU:OE2	36:f:56:LYS:NZ	2.46	0.43
41:k:90:GLY:O	41:k:93:ARG:NH1	2.47	0.43
42:l:114:ALA:C	42:l:115:LEU:HD22	2.43	0.43
52:v:141:LEU:HD12	52:v:142:LYS:H	1.83	0.43
1:A:200:A:N1	1:A:2461:A:N6	2.65	0.43
1:A:1780:G:N2	1:A:1783:G:OP2	2.40	0.43
1:A:1841:G:OP2	3:C:40:LYS:NZ	2.45	0.43
1:A:2056:G:N1	1:A:2060:A:OP2	2.41	0.43
1:A:2314:A:H62	1:A:2371:U:H3	1.64	0.43
8:H:81:HIS:O	8:H:84:GLY:N	2.46	0.43
12:L:26:ILE:HG23	12:L:71:ILE:CD1	2.48	0.43
13:M:36:SER:OG	13:M:37:ASN:N	2.48	0.43
19:S:16:ASP:OD1	19:S:16:ASP:N	2.50	0.43
19:S:84:LYS:HG3	19:S:86:VAL:HG23	2.00	0.43
31:a:605:G:N2	31:a:606:U:O2	2.50	0.43
31:a:681:G:OP2	36:f:88:ARG:NH2	2.51	0.43
31:a:1198:A:N3	44:n:56:VAL:HG12	2.33	0.43
31:a:1381:G:H21	39:i:74:PHE:CB	2.31	0.43
32:b:41:ILE:HD11	32:b:201:PRO:C	2.43	0.43
34:d:141:VAL:HG22	34:d:142:ARG:H	1.83	0.43
36:f:48:LEU:HD12	36:f:60:TYR:CE1	2.53	0.43
40:j:15:HIS:CE1	40:j:18:ILE:HG23	2.53	0.43
1:A:461:A:O4'	1:A:1891:U:O2'	2.36	0.43
1:A:544:U:H2'	1:A:545:G:O4'	2.18	0.43
1:A:1449:A:O2'	1:A:1450:A:O4'	2.36	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1480:G:O2'	1:A:1481:A:O4'	2.36	0.43
1:A:2175:G:O2'	1:A:2176:C:O4'	2.33	0.43
1:A:2325:A:H62	1:A:2345:A:H8	1.66	0.43
1:A:2414:U:O2	21:U:49:ARG:NH2	2.51	0.43
1:A:2496:A:O2'	11:K:56:ARG:NH1	2.51	0.43
4:D:3:LYS:HE2	4:D:109:THR:HG22	2.00	0.43
6:F:65:PRO:HB3	6:F:89:VAL:HG23	2.00	0.43
9:I:76:TYR:O	14:N:74:ARG:NE	2.52	0.43
17:Q:40:ASN:OD1	17:Q:40:ASN:N	2.48	0.43
18:R:18:GLU:O	18:R:21:ALA:HB3	2.18	0.43
21:U:79:ARG:NH1	21:U:82:ARG:O	2.51	0.43
26:Z:18:THR:HG23	26:Z:19:HIS:N	2.34	0.43
29:3:29:THR:O	29:3:30:SER:OG	2.33	0.43
30:4:11:CYS:SG	30:4:12:GLU:N	2.90	0.43
31:a:777:G:N2	31:a:819:C:O2	2.51	0.43
31:a:1270:G:O2'	31:a:1271:A:O4'	2.37	0.43
31:a:1278:G:HO2'	31:a:1335:C:C2'	2.26	0.43
32:b:42:ASP:OD2	32:b:44:GLN:NE2	2.46	0.43
33:c:61:ASN:O	33:c:61:ASN:ND2	2.52	0.43
36:f:78:ARG:HH11	36:f:79:LEU:HD13	1.81	0.43
51:u:30:GLN:C	51:u:33:ARG:HE	2.26	0.43
1:A:19:G:O3'	15:O:22:LYS:NZ	2.45	0.43
1:A:225:A:O2'	1:A:227:G:N7	2.50	0.43
1:A:1289:A:O2'	1:A:1291:A:OP2	2.37	0.43
1:A:1724:U:O2'	1:A:1790:G:N7	2.48	0.43
1:A:2092:C:H5'	1:A:2278:G:H21	1.83	0.43
1:A:2375:U:P	27:1:17:TYR:HH	2.39	0.43
2:B:67:G:C6	2:B:104:A:N1	2.87	0.43
3:C:63:ARG:HE	3:C:85:PRO:CD	2.31	0.43
4:D:65:SER:OG	4:D:66:ASN:N	2.50	0.43
8:H:57:VAL:HG23	8:H:125:VAL:HG23	2.00	0.43
26:Z:42:VAL:HG13	26:Z:49:TYR:C	2.44	0.43
31:a:71:A:N1	31:a:98:U:C4	2.85	0.43
31:a:1460:U:N3	31:a:1464:A:N1	2.66	0.43
31:a:1490:A:N7	31:a:1491:A:N6	2.67	0.43
33:c:22:TRP:HE1	33:c:24:ALA:HB3	1.83	0.43
37:g:74:GLU:OE1	37:g:97:THR:OG1	2.33	0.43
1:A:1533:A:H62	3:C:100:GLU:HA	1.82	0.43
1:A:2331:G:N2	1:A:2339:U:O4	2.48	0.43
1:A:2710:C:H42	1:A:2754:G:C2'	2.29	0.43
9:I:105:GLU:N	9:I:106:LEU:HD23	2.34	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:98:GLU:OE1	10:J:99:SER:N	2.51	0.43
20:T:72:VAL:HG22	20:T:91:PHE:CD1	2.51	0.43
31:a:5:A:O2'	31:a:307:G:O4'	2.36	0.43
31:a:61:A:OP1	31:a:338:C:N4	2.52	0.43
31:a:206:A:H4'	50:t:57:VAL:HB	2.00	0.43
31:a:507:A:O2'	31:a:554:A:N1	2.35	0.43
31:a:1248:A:OP2	31:a:1308:C:O2'	2.31	0.43
1:A:317:G:N2	1:A:402:C:O2'	2.51	0.43
1:A:623:C:H2'	1:A:624:C:C6	2.53	0.43
1:A:760:A:O2'	1:A:761:A:OP2	2.26	0.43
1:A:958:U:O2	1:A:959:C:N4	2.48	0.43
1:A:1043:U:O4	1:A:1199:A:N7	2.51	0.43
1:A:1580:A:OP2	1:A:1581:U:N3	2.52	0.43
1:A:2161:A:N6	1:A:2184:G:O2'	2.49	0.43
1:A:2856:U:O4	1:A:2857:A:N6	2.52	0.43
2:B:29:C:H1'	2:B:51:A:N6	2.34	0.43
3:C:84:ASP:OD2	3:C:87:ARG:N	2.46	0.43
4:D:208:LEU:HD23	4:D:209:VAL:N	2.33	0.43
13:M:26:ALA:HB2	13:M:46:ASP:OD1	2.19	0.43
17:Q:23:LEU:O	17:Q:27:LYS:NZ	2.47	0.43
31:a:182:A:P	31:a:184:A:H61	2.41	0.43
31:a:471:A:H62	31:a:472:G:H21	1.65	0.43
31:a:995:A:N6	31:a:1230:G:C2	2.87	0.43
31:a:1328:A:O2'	49:s:37:ARG:NH2	2.48	0.43
31:a:1443:A:OP2	31:a:1478:G:N2	2.44	0.43
34:d:97:VAL:HG12	34:d:103:LEU:HG	2.00	0.43
35:e:50:THR:OG1	35:e:51:GLY:N	2.52	0.43
38:h:7:ILE:HG23	38:h:11:LEU:HD22	2.00	0.43
42:l:68:VAL:HG21	42:l:80:ILE:HD11	1.99	0.43
1:A:7:G:O4'	8:H:136:GLN:NE2	2.51	0.43
1:A:34:U:O2'	1:A:500:A:N3	2.51	0.43
1:A:489:A:OP1	5:E:46:GLN:N	2.52	0.43
1:A:502:C:N4	1:A:517:A:N1	2.67	0.43
1:A:1385:G:N2	1:A:1642:C:H42	2.13	0.43
1:A:1472:C:O2'	1:A:1616:A:OP2	2.37	0.43
1:A:1822:C:C2'	3:C:256:GLY:HA3	2.49	0.43
1:A:2767:A:OP2	1:A:2790:G:N1	2.40	0.43
5:E:155:VAL:HG12	5:E:156:THR:O	2.19	0.43
18:R:72:THR:HG22	18:R:73:ASN:H	1.83	0.43
22:V:27:ARG:NH1	22:V:28:ARG:O	2.40	0.43
31:a:572:U:H5	47:q:35:LEU:HD11	1.84	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:812:U:OP2	31:a:813:C:N4	2.44	0.43
31:a:958:A:O2'	31:a:959:U:O5'	2.33	0.43
31:a:1177:A:OP1	31:a:1180:A:N6	2.52	0.43
32:b:103:ASN:OD1	32:b:103:ASN:N	2.51	0.43
36:f:47:ARG:NH2	36:f:56:LYS:O	2.52	0.43
37:g:54:SER:HB2	37:g:61:VAL:HG11	2.00	0.43
46:p:74:ILE:HD13	46:p:77:LYS:HZ3	1.83	0.43
48:r:27:ASP:HA	48:r:66:ARG:HE	1.83	0.43
1:A:1718:G:H21	1:A:1721:A:H61	1.67	0.43
1:A:2320:C:HO2'	1:A:2321:C:P	2.41	0.43
2:B:70:G:N2	2:B:101:A:OP2	2.51	0.43
2:B:112:A:H2'	2:B:113:G:C1'	2.48	0.43
3:C:30:GLU:OE1	3:C:31:LYS:N	2.52	0.43
8:H:55:VAL:HG12	8:H:56:ILE:N	2.33	0.43
31:a:782:G:H3'	31:a:783:G:H5'	2.01	0.43
31:a:960:G:O2'	31:a:961:U:O5'	2.34	0.43
31:a:1382:U:O3'	39:i:78:ALA:HB3	2.18	0.43
34:d:115:ASN:O	34:d:115:ASN:ND2	2.52	0.43
36:f:70:ASN:HD21	36:f:73:THR:HG1	1.64	0.43
37:g:10:ARG:NE	37:g:11:ASP:O	2.52	0.43
1:A:375:A:O2'	1:A:377:U:OP2	2.27	0.43
1:A:460:C:H1'	1:A:1891:U:H1'	2.01	0.43
1:A:545:G:N1	1:A:548:A:OP2	2.44	0.43
1:A:628:G:H3'	1:A:1289:A:H61	1.84	0.43
1:A:820:G:H21	1:A:838:A:H1'	1.84	0.43
1:A:1561:G:H21	1:A:1604:C:H2'	1.83	0.43
1:A:1635:A:O2'	1:A:1636:U:O5'	2.37	0.43
1:A:2088:G:H1	1:A:2478:A:H61	1.66	0.43
1:A:2495:A:C8	1:A:2504:C:N4	2.87	0.43
3:C:60:ARG:NH1	3:C:85:PRO:O	2.52	0.43
8:H:70:GLU:HA	8:H:90:ALA:HB3	2.00	0.43
12:L:80:THR:HG23	12:L:83:GLN:OE1	2.19	0.43
17:Q:61:ASN:OD1	17:Q:61:ASN:N	2.50	0.43
31:a:36:G:C4'	42:l:130:TYR:CE1	3.02	0.43
31:a:66:A:N6	31:a:226:U:HO2'	2.17	0.43
31:a:693:G:H22	31:a:711:G:H5'	1.82	0.43
47:q:57:LEU:HD23	47:q:58:GLY:N	2.33	0.43
1:A:855:U:N3	10:J:29:LYS:O	2.52	0.43
1:A:1377:U:OP2	18:R:77:LYS:NZ	2.47	0.43
1:A:1880:A:H61	1:A:2114:G:H1'	1.84	0.43
1:A:2755:U:N3	1:A:2756:G:N7	2.67	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:109:GLY:O	3:C:110:LEU:HD12	2.17	0.43
3:C:182:ARG:HH11	3:C:184:ILE:HD11	1.84	0.43
5:E:40:GLN:O	5:E:43:SER:OG	2.37	0.43
31:a:979:C:C2'	31:a:1241:G:H21	2.32	0.43
31:a:1088:G:N2	31:a:1090:G:O2'	2.51	0.43
31:a:1144:A:N6	31:a:1146:U:O2	2.52	0.43
31:a:1268:G:H21	31:a:1289:A:H62	1.58	0.43
31:a:1315:G:O2'	31:a:1316:A:OP2	2.34	0.43
31:a:1343:A:O5'	43:m:21:TYR:OH	2.36	0.43
31:a:1417:C:HO2'	31:a:1528:G:N2	2.17	0.43
35:e:11:PHE:O	35:e:42:LYS:N	2.48	0.43
37:g:95:ARG:HA	37:g:95:ARG:HE	1.84	0.43
1:A:297:G:O2'	1:A:298:U:O5'	2.36	0.42
1:A:898:U:H3'	1:A:899:U:H5''	2.01	0.42
1:A:1962:G:H3'	1:A:1989:C:H42	1.83	0.42
1:A:2226:A:H61	1:A:2251:G:C2'	2.31	0.42
2:B:38:U:O2'	2:B:43:A:N6	2.52	0.42
7:G:26:VAL:HG11	7:G:79:VAL:HB	2.01	0.42
13:M:28:LYS:H	13:M:28:LYS:HZ1	1.67	0.42
31:a:556:G:N2	42:l:136:LYS:O	2.51	0.42
31:a:1224:U:HO2'	31:a:1225:G:P	2.38	0.42
31:a:1329:A:N1	31:a:1371:G:C2	2.87	0.42
31:a:1411:G:O6	31:a:1515:G:N2	2.52	0.42
40:j:36:VAL:CG2	40:j:76:ILE:HG22	2.46	0.42
1:A:45:G:O2'	1:A:45:G:N3	2.38	0.42
1:A:919:G:H1	1:A:948:U:H3	1.67	0.42
1:A:1178:C:H42	1:A:1180:G:H5''	1.83	0.42
1:A:1385:G:H1	1:A:1642:C:H42	1.67	0.42
1:A:2753:U:O4'	9:I:1:MET:HE1	2.20	0.42
6:F:106:VAL:HG21	6:F:139:PRO:HG3	2.01	0.42
21:U:58:ASN:O	21:U:70:LYS:N	2.44	0.42
25:Y:17:THR:HG22	25:Y:47:ARG:CB	2.49	0.42
31:a:21:U:O2'	31:a:581:A:N7	2.51	0.42
31:a:441:A:O2'	31:a:442:C:O4'	2.34	0.42
31:a:1067:U:H5	31:a:1210:C:H42	1.66	0.42
31:a:1136:U:O2	40:j:37:SER:OG	2.36	0.42
32:b:96:TRP:NE1	32:b:175:GLU:OE1	2.48	0.42
32:b:220:ALA:O	32:b:224:GLY:CA	2.66	0.42
34:d:45:SER:O	34:d:47:TYR:N	2.52	0.42
1:A:2129:C:O3'	1:A:2130:A:H4'	2.19	0.42
1:A:2259:C:OP2	22:V:27:ARG:NH2	2.52	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2399:G:O3'	27:1:33:LYS:NZ	2.47	0.42
1:A:2579:U:N3	1:A:2583:C:N4	2.66	0.42
2:B:41:C:O4'	25:Y:2:LYS:HA	2.19	0.42
5:E:110:LEU:HD22	5:E:181:LEU:HD11	2.02	0.42
14:N:83:ILE:HG22	14:N:85:LYS:N	2.34	0.42
31:a:248:U:O4	31:a:293:C:N4	2.53	0.42
31:a:425:G:O6	31:a:434:U:N3	2.53	0.42
31:a:584:C:N4	31:a:829:G:N3	2.67	0.42
31:a:605:G:C2	38:h:89:ALA:O	2.72	0.42
31:a:630:A:N6	31:a:631:C:O2	2.52	0.42
31:a:1061:G:C6	31:a:1062:G:O6	2.71	0.42
31:a:1064:G:O2'	31:a:1069:G:O6	2.38	0.42
31:a:1308:C:N4	37:g:117:GLU:OE1	2.52	0.42
31:a:1417:C:N4	31:a:1504:A:N3	2.67	0.42
37:g:71:PRO:HD3	37:g:96:ARG:HA	2.01	0.42
41:k:107:VAL:HB	51:u:12:LEU:HD21	2.00	0.42
1:A:158:G:H22	1:A:167:U:H5'	1.83	0.42
1:A:1179:C:H41	1:A:1182:G:H8	1.66	0.42
1:A:2504:C:OP1	30:4:4:ARG:NH2	2.45	0.42
7:G:94:TYR:O	7:G:96:ALA:N	2.52	0.42
11:K:70:PRO:HA	11:K:95:ALA:HB2	2.01	0.42
12:L:84:LYS:HG2	12:L:89:ILE:HD11	2.02	0.42
19:S:66:SER:O	19:S:66:SER:OG	2.34	0.42
31:a:299:C:OP2	31:a:313:G:N1	2.52	0.42
31:a:412:G:O6	31:a:554:A:O2'	2.37	0.42
31:a:688:C:C5'	31:a:714:A:H62	2.32	0.42
31:a:904:A:H61	31:a:913:U:H5	1.61	0.42
31:a:997:A:H1'	31:a:1025:A:H61	1.84	0.42
31:a:1110:G:N7	32:b:143:ARG:NH2	2.67	0.42
32:b:14:VAL:O	32:b:203:ASN:N	2.43	0.42
34:d:156:GLU:OE1	34:d:156:GLU:N	2.53	0.42
36:f:14:ILE:HD11	36:f:59:PHE:HD2	1.85	0.42
45:o:62:ARG:HD3	45:o:66:LEU:HD11	2.02	0.42
45:o:70:LEU:HD22	45:o:77:ARG:NE	2.34	0.42
1:A:1423:C:O2'	1:A:1424:A:O5'	2.37	0.42
1:A:1883:A:N6	1:A:1914:C:H42	2.18	0.42
1:A:1911:A:O2'	1:A:1912:A:OP2	2.25	0.42
1:A:2224:U:O2'	1:A:2225:A:N3	2.27	0.42
5:E:137:LYS:O	5:E:137:LYS:NZ	2.49	0.42
29:3:57:ARG:HB3	29:3:58:VAL:HG13	2.01	0.42
31:a:729:A:O2'	31:a:730:G:OP2	2.30	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:989:C:C2	31:a:989:C:C1'	2.95	0.42
31:a:1167:A:H61	31:a:1190:A:H3'	1.84	0.42
31:a:1381:G:H21	39:i:74:PHE:HB3	1.85	0.42
31:a:1412:C:OP2	31:a:1413:C:N4	2.53	0.42
31:a:1452:G:H1	31:a:1469:C:H41	1.66	0.42
31:a:1514:A:N6	31:a:1543:U:O3'	2.46	0.42
39:i:65:VAL:HG13	39:i:85:ILE:HG23	2.00	0.42
45:o:3:ILE:HD12	45:o:5:GLN:HE22	1.85	0.42
48:r:56:TYR:O	48:r:60:LEU:HD13	2.19	0.42
52:v:54:ILE:HD12	52:v:78:ILE:HG23	2.02	0.42
1:A:751:A:H61	1:A:770:G:C2'	2.33	0.42
1:A:1243:G:H2'	1:A:1244:G:O4'	2.20	0.42
1:A:2665:G:O2'	1:A:2666:A:N7	2.51	0.42
4:D:3:LYS:HE3	4:D:109:THR:HG22	2.01	0.42
8:H:57:VAL:CG2	8:H:125:VAL:HG23	2.50	0.42
9:I:72:ASN:N	9:I:72:ASN:OD1	2.51	0.42
17:Q:3:ALA:CB	17:Q:58:ALA:HB2	2.50	0.42
22:V:37:ARG:HA	22:V:46:LYS:HA	2.00	0.42
30:4:18:LYS:HE2	30:4:23:VAL:HG22	2.01	0.42
31:a:216:G:N2	31:a:473:U:O2	2.53	0.42
31:a:797:U:H2'	31:a:798:A:H2'	2.02	0.42
31:a:802:A:OP2	31:a:804:C:N4	2.53	0.42
36:f:10:VAL:HG22	36:f:59:PHE:O	2.19	0.42
37:g:66:ILE:HG22	37:g:69:ILE:HD11	2.01	0.42
41:k:82:VAL:HB	41:k:100:LEU:HD13	2.01	0.42
42:l:73:ASN:N	42:l:73:ASN:OD1	2.52	0.42
47:q:65:GLU:O	47:q:75:PHE:N	2.53	0.42
1:A:311:U:O2	1:A:405:G:H2'	2.20	0.42
1:A:1174:U:N3	4:D:160:ALA:HB2	2.34	0.42
1:A:2580:G:H21	1:A:2609:G:H22	1.68	0.42
1:A:2692:A:H61	7:G:94:TYR:HD1	1.67	0.42
1:A:2782:C:H4'	30:4:22:LYS:HE2	2.01	0.42
2:B:22:G:N7	2:B:54:U:H2'	2.34	0.42
6:F:162:THR:HG23	6:F:164:GLU:HG3	2.02	0.42
13:M:81:ALA:CB	13:M:117:LEU:HD11	2.50	0.42
17:Q:7:ALA:HB3	17:Q:101:ILE:CG1	2.49	0.42
31:a:1123:C:O2'	31:a:1124:C:OP1	2.31	0.42
31:a:1505:G:OP2	31:a:1507:C:N4	2.40	0.42
32:b:160:ALA:HB1	32:b:184:VAL:HG22	2.00	0.42
41:k:116:VAL:HG12	48:r:76:VAL:HA	2.01	0.42
45:o:22:THR:O	45:o:22:THR:HG23	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1733:A:OP2	1:A:1742:A:N6	2.46	0.42
1:A:1980:A:O2'	1:A:2586:C:O2'	2.09	0.42
1:A:2502:C:O2'	30:4:8:LYS:NZ	2.36	0.42
1:A:2892:G:N2	12:L:3:TYR:OH	2.52	0.42
3:C:137:VAL:HA	3:C:164:VAL:HB	2.00	0.42
10:J:110:LYS:C	10:J:111:ILE:HD13	2.44	0.42
27:1:6:THR:HG23	27:1:18:ILE:HD13	2.02	0.42
31:a:264:U:O4	31:a:265:A:N6	2.52	0.42
31:a:268:G:H22	31:a:275:C:N4	2.18	0.42
31:a:313:G:O2'	31:a:314:A:OP1	2.35	0.42
31:a:903:G:H22	31:a:914:U:H1'	1.85	0.42
31:a:1167:A:OP2	31:a:1168:C:N4	2.53	0.42
31:a:1356:A:N6	31:a:1385:A:OP2	2.52	0.42
31:a:1506:U:OP2	31:a:1507:C:N4	2.52	0.42
37:g:46:ALA:HB2	37:g:120:LEU:HD23	2.00	0.42
43:m:64:LYS:O	43:m:74:ASN:N	2.47	0.42
52:v:23:GLU:CD	52:v:28:LEU:HD12	2.44	0.42
1:A:921:C:H42	1:A:946:A:H61	1.67	0.42
1:A:1901:C:O2'	1:A:1903:A:O2'	2.35	0.42
1:A:2312:C:OP2	27:1:2:ARG:NE	2.40	0.42
1:A:2495:A:C8	1:A:2504:C:C4	3.07	0.42
2:B:27:A:O2'	2:B:28:C:O5'	2.31	0.42
3:C:180:GLU:H	3:C:274:ARG:N	2.18	0.42
4:D:6:LEU:HD21	4:D:91:PHE:CE1	2.54	0.42
5:E:132:GLU:OE1	5:E:132:GLU:N	2.52	0.42
31:a:605:G:N3	38:h:89:ALA:CB	2.82	0.42
31:a:999:C:N4	31:a:1223:A:OP2	2.53	0.42
31:a:1075:G:O6	31:a:1202:C:N4	2.53	0.42
32:b:99:GLY:HA2	32:b:102:THR:HG22	2.02	0.42
40:j:34:ALA:HB2	40:j:87:LEU:HD12	2.01	0.42
43:m:53:LEU:HD11	43:m:57:ARG:HH21	1.85	0.42
50:t:36:LYS:HA	50:t:39:VAL:HG12	2.02	0.42
1:A:1466:G:H2'	1:A:1467:G:C8	2.55	0.42
3:C:220:VAL:HG12	3:C:221:ARG:O	2.20	0.42
6:F:38:MET:CE	6:F:53:ALA:HB1	2.50	0.42
11:K:81:VAL:HG12	11:K:82:ARG:H	1.85	0.42
12:L:18:ARG:NE	12:L:65:THR:O	2.53	0.42
13:M:35:ARG:HB3	13:M:40:ILE:HD12	2.02	0.42
13:M:111:ALA:O	13:M:115:SER:OG	2.25	0.42
21:U:45:LEU:HD23	21:U:45:LEU:N	2.35	0.42
24:X:27:GLY:C	24:X:28:LEU:HD23	2.45	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1:32:MET:O	27:1:44:LEU:HD12	2.18	0.42
31:a:262:G:H1'	47:q:71:ALA:C	2.45	0.42
31:a:568:A:H61	35:e:126:LYS:HE2	1.85	0.42
31:a:1059:G:N7	44:n:2:ALA:N	2.68	0.42
31:a:1452:G:N2	31:a:1466:G:OP1	2.53	0.42
32:b:113:ARG:O	32:b:117:ILE:HG22	2.20	0.42
38:h:105:LEU:HD23	38:h:128:ILE:HD12	2.01	0.42
1:A:19:G:OP1	15:O:23:GLY:N	2.48	0.41
1:A:1048:U:O4	1:A:1055:A:N6	2.53	0.41
1:A:2262:G:P	1:A:2262:G:O4'	2.77	0.41
1:A:2281:C:H42	21:U:15:VAL:CG2	2.33	0.41
1:A:2628:C:H2'	1:A:2629:A:C8	2.55	0.41
2:B:74:G:OP1	20:T:9:ARG:NH2	2.51	0.41
8:H:141:TYR:HE2	8:H:143:LEU:HD22	1.85	0.41
9:I:59:LYS:O	9:I:86:ILE:HG23	2.19	0.41
9:I:101:PRO:HD2	14:N:70:VAL:HG21	2.02	0.41
15:O:10:THR:HG22	15:O:13:ARG:NH2	2.34	0.41
24:X:34:SER:OG	24:X:35:VAL:N	2.53	0.41
31:a:416:G:N7	34:d:10:LYS:NZ	2.64	0.41
31:a:553:C:O2'	31:a:554:A:O5'	2.37	0.41
31:a:1214:A:OP1	44:n:4:THR:HG22	2.20	0.41
31:a:1290:A:O4'	40:j:6:ILE:HD11	2.19	0.41
31:a:1373:A:O2'	31:a:1375:G:N7	2.44	0.41
31:a:1513:A:O2'	31:a:1516:G:N2	2.53	0.41
38:h:14:VAL:HA	38:h:17:ALA:HB3	2.02	0.41
52:v:175:TYR:CE1	52:v:185:ILE:HD12	2.55	0.41
1:A:99:U:P	1:A:100:U:HO2'	2.37	0.41
1:A:344:U:OP2	19:S:80:ARG:NH2	2.50	0.41
1:A:687:G:H2'	1:A:688:A:H3'	2.01	0.41
1:A:893:G:N3	1:A:977:A:O2'	2.47	0.41
1:A:1169:G:OP2	1:A:1170:A:O2'	2.30	0.41
6:F:8:PHE:O	6:F:12:VAL:HG23	2.20	0.41
9:I:77:ILE:HD11	9:I:79:PHE:CZ	2.55	0.41
17:Q:1:MET:SD	17:Q:1:MET:N	2.93	0.41
19:S:97:SER:OG	19:S:98:GLY:N	2.53	0.41
30:4:27:CYS:SG	30:4:28:GLU:N	2.88	0.41
31:a:681:G:O3'	41:k:120:GLY:HA2	2.20	0.41
31:a:955:A:O2'	43:m:107:ARG:HB3	2.20	0.41
31:a:1277:C:H42	31:a:1338:C:P	2.42	0.41
31:a:1442:G:N2	31:a:1479:A:OP2	2.53	0.41
35:e:43:ASN:O	35:e:76:ARG:NH2	2.51	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:231:A:H62	1:A:465:C:H5'	1.85	0.41
1:A:1400:C:O2'	1:A:1836:A:N3	2.48	0.41
10:J:80:ASP:OD1	10:J:81:GLN:NE2	2.53	0.41
15:O:87:GLY:C	15:O:88:ILE:HD13	2.46	0.41
31:a:36:G:C3'	42:l:130:TYR:CD2	3.03	0.41
31:a:88:U:O2'	31:a:90:C:N4	2.49	0.41
34:d:103:LEU:HD23	34:d:161:VAL:HG13	2.02	0.41
35:e:144:LEU:HA	35:e:147:LEU:HD21	2.02	0.41
1:A:494:U:O4	1:A:625:G:N2	2.53	0.41
1:A:672:A:C6	10:J:112:LEU:HD13	2.55	0.41
1:A:1621:C:N3	1:A:1622:C:N4	2.67	0.41
1:A:2693:C:H41	7:G:113:VAL:CB	2.33	0.41
1:A:2698:A:C2	1:A:2699:U:H1'	2.55	0.41
2:B:5:G:N2	13:M:43:GLN:OE1	2.42	0.41
6:F:66:LEU:O	6:F:88:LYS:N	2.53	0.41
7:G:52:VAL:HG21	7:G:68:THR:OG1	2.21	0.41
9:I:103:ALA:O	9:I:106:LEU:HD21	2.20	0.41
23:W:29:ARG:HA	23:W:32:LEU:HD23	2.01	0.41
30:4:7:VAL:HG23	30:4:9:PRO:HD2	2.01	0.41
31:a:1239:A:OP2	43:m:104:ASN:N	2.53	0.41
32:b:41:ILE:HG22	32:b:42:ASP:C	2.46	0.41
47:q:19:MET:O	47:q:49:HIS:ND1	2.53	0.41
48:r:50:THR:HG23	48:r:52:THR:OG1	2.21	0.41
50:t:58:ASP:N	50:t:58:ASP:OD1	2.51	0.41
1:A:243:U:O2'	1:A:260:A:N6	2.53	0.41
1:A:401:U:H2'	1:A:402:C:C6	2.54	0.41
1:A:651:A:OP2	1:A:664:G:N1	2.45	0.41
1:A:975:U:O2'	24:X:24:GLU:O	2.38	0.41
1:A:1652:A:N7	1:A:1665:U:C2	2.88	0.41
1:A:2314:A:O2'	1:A:2315:A:OP2	2.27	0.41
1:A:2445:A:OP2	29:3:45:ARG:NH2	2.48	0.41
2:B:9:C:H3'	2:B:10:U:C5'	2.51	0.41
3:C:175:ARG:O	3:C:176:LEU:HD12	2.20	0.41
4:D:55:ASP:OD2	4:D:83:ALA:HB3	2.21	0.41
6:F:93:GLY:O	6:F:96:MET:N	2.53	0.41
8:H:57:VAL:HB	8:H:125:VAL:HG23	2.02	0.41
9:I:79:PHE:CD1	14:N:72:VAL:HG22	2.55	0.41
9:I:87:ILE:HD12	9:I:88:ARG:N	2.36	0.41
13:M:95:ASP:OD1	13:M:97:GLY:N	2.50	0.41
23:W:45:THR:HG23	23:W:46:VAL:N	2.35	0.41
24:X:30:LYS:O	24:X:33:SER:OG	2.27	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:69:G:H3'	31:a:70:A:H4'	2.02	0.41
31:a:108:A:OP2	31:a:339:G:N2	2.25	0.41
31:a:455:G:O2'	31:a:456:A:H2'	2.21	0.41
31:a:605:G:N3	31:a:606:U:N1	2.69	0.41
31:a:931:G:H21	31:a:1408:A:H1'	1.86	0.41
31:a:1078:A:H61	31:a:1119:G:C2'	2.33	0.41
31:a:1140:C:N4	31:a:1146:U:O2	2.53	0.41
31:a:1150:U:O3'	31:a:1156:A:N6	2.53	0.41
31:a:1317:U:N3	31:a:1341:G:OP1	2.43	0.41
32:b:15:HIS:HB2	32:b:40:ILE:HG23	2.01	0.41
33:c:22:TRP:NE1	33:c:24:ALA:HB3	2.35	0.41
34:d:104:ALA:HB1	34:d:153:GLU:N	2.30	0.41
35:e:42:LYS:HE2	35:e:117:LEU:HD23	2.01	0.41
37:g:12:VAL:HG21	37:g:25:LYS:HB2	2.02	0.41
45:o:29:ILE:HG12	45:o:81:LEU:HD22	2.02	0.41
1:A:8:U:H2'	1:A:9:U:O4'	2.20	0.41
1:A:26:G:N1	1:A:558:A:OP2	2.54	0.41
1:A:498:G:H21	1:A:503:A:H8	1.68	0.41
1:A:794:A:H61	1:A:798:G:H1'	1.85	0.41
1:A:903:G:H21	1:A:2295:A:H2'	1.85	0.41
1:A:1499:U:H2'	1:A:1500:G:O4'	2.19	0.41
1:A:2418:G:N1	1:A:2452:A:OP1	2.52	0.41
1:A:2679:U:HO2'	1:A:2680:U:H5	1.67	0.41
11:K:20:ARG:HH12	20:T:82:LEU:HD13	1.85	0.41
12:L:104:LEU:N	12:L:118:ILE:O	2.52	0.41
13:M:55:GLN:O	13:M:55:GLN:NE2	2.53	0.41
31:a:319:C:OP1	46:p:32:ARG:NE	2.53	0.41
31:a:605:G:N3	38:h:89:ALA:CA	2.83	0.41
31:a:649:A:H2'	38:h:109:SER:HA	2.03	0.41
32:b:41:ILE:HG21	32:b:46:THR:HB	2.02	0.41
32:b:167:ARG:O	32:b:170:ARG:NH1	2.46	0.41
32:b:211:LYS:O	32:b:216:LYS:N	2.53	0.41
39:i:6:VAL:HG11	39:i:21:VAL:HG13	2.03	0.41
47:q:29:THR:HG23	47:q:42:TYR:CE1	2.56	0.41
1:A:539:G:H4'	17:Q:6:VAL:HG23	2.02	0.41
1:A:594:G:O2'	1:A:1258:A:N3	2.50	0.41
1:A:1058:U:O4	1:A:1059:A:N6	2.54	0.41
1:A:1632:A:H2'	1:A:1633:A:C4	2.55	0.41
1:A:2341:A:H5'	6:F:35:VAL:HG11	2.02	0.41
1:A:2542:C:O2'	1:A:2543:G:O5'	2.38	0.41
5:E:37:ILE:HG23	5:E:184:LEU:HD11	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:80:ASN:N	8:H:80:ASN:OD1	2.51	0.41
9:I:20:LEU:C	9:I:20:LEU:HD12	2.46	0.41
14:N:107:GLY:O	14:N:110:ALA:N	2.54	0.41
19:S:8:ASN:OD1	19:S:21:GLY:N	2.48	0.41
31:a:254:A:N6	31:a:286:A:O2'	2.52	0.41
31:a:345:G:H2'	31:a:346:A:O4'	2.21	0.41
31:a:415:A:N6	31:a:443:U:OP2	2.53	0.41
31:a:605:G:C6	38:h:90:LYS:CG	3.04	0.41
31:a:1069:G:N1	31:a:1209:U:N3	2.68	0.41
31:a:1277:C:H3'	31:a:1278:G:H5'	2.02	0.41
31:a:1285:A:H61	31:a:1293:C:H1'	1.85	0.41
31:a:1436:A:N1	31:a:1485:G:C6	2.88	0.41
37:g:104:LEU:HB3	37:g:139:GLU:N	2.36	0.41
1:A:143:U:H2'	1:A:144:C:O4'	2.21	0.41
1:A:529:A:O5'	19:S:46:LYS:NZ	2.43	0.41
1:A:1360:G:N2	1:A:1370:C:O4'	2.53	0.41
1:A:1452:C:O2'	1:A:1453:G:O4'	2.39	0.41
4:D:2:THR:CA	4:D:94:VAL:HG12	2.51	0.41
13:M:20:THR:HG1	13:M:21:ASN:CG	2.29	0.41
22:V:22:LEU:N	22:V:22:LEU:HD12	2.36	0.41
31:a:592:G:H21	42:l:6:GLN:CD	2.25	0.41
31:a:840:G:C2	31:a:863:U:O2	2.74	0.41
1:A:208:G:HO2'	1:A:209:U:P	2.44	0.41
1:A:447:A:N6	1:A:468:A:H61	2.15	0.41
1:A:485:A:H2'	1:A:486:G:O4'	2.20	0.41
1:A:529:A:H61	1:A:542:A:C2'	2.33	0.41
1:A:577:A:H4'	1:A:578:G:O4'	2.21	0.41
1:A:614:U:N3	1:A:2057:A:N1	2.69	0.41
1:A:617:A:H62	1:A:2081:A:H4'	1.86	0.41
1:A:681:G:C4	10:J:112:LEU:HD21	2.54	0.41
1:A:862:C:H2'	1:A:863:G:O4'	2.21	0.41
1:A:873:U:H2'	1:A:874:A:C8	2.55	0.41
1:A:909:G:H2'	1:A:910:C:C6	2.56	0.41
1:A:918:G:H2'	1:A:919:G:O4'	2.21	0.41
1:A:1180:G:H21	1:A:2066:G:P	2.44	0.41
1:A:1360:G:OP1	17:Q:84:ARG:NH1	2.54	0.41
1:A:1388:C:O2'	1:A:1619:A:O4'	2.39	0.41
1:A:1708:A:N1	9:I:1:MET:HE3	2.36	0.41
1:A:2126:C:O4'	1:A:2218:G:N1	2.54	0.41
1:A:2152:G:C2'	1:A:2200:A:H61	2.33	0.41
1:A:2318:U:H2'	1:A:2319:U:C6	2.56	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2466:A:H4'	1:A:2467:C:H3'	2.03	0.41
1:A:2589:U:C1'	9:I:23:LYS:HZ3	2.32	0.41
1:A:2774:G:H4'	7:G:70:ALA:HB3	2.03	0.41
3:C:179:GLY:H	3:C:274:ARG:HA	1.86	0.41
5:E:155:VAL:CB	5:E:194:ILE:HG22	2.50	0.41
5:E:181:LEU:HD13	5:E:181:LEU:C	2.46	0.41
6:F:143:TYR:CE2	6:F:146:VAL:HG21	2.55	0.41
17:Q:48:GLU:OE1	17:Q:49:LYS:N	2.54	0.41
31:a:205:A:H2'	31:a:206:A:C8	2.56	0.41
31:a:326:G:O2'	31:a:327:G:O5'	2.27	0.41
31:a:552:G:HO2'	31:a:553:C:P	2.42	0.41
31:a:554:A:OP1	34:d:66:ARG:NH2	2.47	0.41
31:a:571:A:H4'	31:a:574:G:H1'	2.02	0.41
31:a:1086:U:OP1	32:b:105:LYS:NZ	2.41	0.41
31:a:1107:C:C4	31:a:1108:C:N4	2.89	0.41
31:a:1432:U:H2'	31:a:1433:G:C1'	2.51	0.41
34:d:154:SER:HB3	34:d:172:LEU:HD21	2.03	0.41
36:f:90:MET:HE1	48:r:66:ARG:HD3	2.03	0.41
1:A:316:G:H3'	1:A:317:G:C8	2.56	0.41
1:A:394:U:O2'	1:A:395:U:O2	2.33	0.41
1:A:1038:C:OP2	15:O:54:LYS:NZ	2.54	0.41
1:A:1098:A:N6	1:A:1151:G:O6	2.54	0.41
1:A:1217:U:H4'	1:A:1218:G:O4'	2.21	0.41
1:A:1478:A:N6	1:A:1605:A:H62	2.19	0.41
1:A:1926:A:H1'	1:A:1929:C:H41	1.86	0.41
1:A:2024:A:OP1	4:D:137:SER:OG	2.35	0.41
1:A:2386:C:O2	10:J:60:ARG:NH1	2.52	0.41
1:A:2801:C:H2'	1:A:2802:A:O4'	2.20	0.41
3:C:132:LEU:HA	3:C:135:ILE:HD12	2.02	0.41
6:F:102:LYS:O	6:F:106:VAL:HG22	2.21	0.41
6:F:132:VAL:HG12	6:F:134:GLU:H	1.86	0.41
13:M:6:ASP:OD1	13:M:9:LYS:NZ	2.53	0.41
16:P:4:ILE:HD13	16:P:40:PHE:CD2	2.54	0.41
16:P:7:THR:O	16:P:10:LYS:N	2.54	0.41
18:R:87:ILE:HG22	18:R:89:LEU:CD2	2.52	0.41
21:U:27:LYS:HB3	21:U:29:LEU:HD11	2.03	0.41
31:a:65:G:H1	31:a:100:A:H62	1.69	0.41
31:a:76:C:N4	31:a:88:U:O4	2.54	0.41
31:a:489:G:O2'	31:a:490:A:N7	2.52	0.41
31:a:638:G:H4'	31:a:639:G:OP1	2.21	0.41
31:a:650:A:H62	38:h:113:ILE:C	2.29	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:a:765:U:O2'	31:a:888:C:O2	2.31	0.41
31:a:947:A:H62	39:i:127:PRO:HB3	1.86	0.41
31:a:971:C:H2'	31:a:972:G:O4'	2.21	0.41
31:a:1427:G:O2'	31:a:1495:U:N3	2.52	0.41
34:d:41:ARG:O	34:d:50:GLN:N	2.53	0.41
45:o:18:HIS:ND1	45:o:19:GLU:O	2.48	0.41
51:u:29:ILE:O	51:u:29:ILE:HD13	2.20	0.41
1:A:284:C:O2'	1:A:287:G:N1	2.46	0.40
1:A:326:A:H2'	1:A:398:C:C2	2.56	0.40
1:A:609:U:OP1	10:J:29:LYS:NZ	2.36	0.40
1:A:1000:G:OP2	11:K:14:ARG:NH1	2.55	0.40
1:A:1304:G:H22	1:A:2039:G:H3'	1.86	0.40
1:A:1469:G:H2'	1:A:1470:G:O4'	2.21	0.40
1:A:2117:A:O2'	1:A:2118:U:O5'	2.34	0.40
7:G:98:MET:HE2	7:G:100:GLY:H	1.86	0.40
8:H:60:ALA:HB1	8:H:98:PRO:HB2	2.04	0.40
10:J:79:LEU:HD23	10:J:115:GLY:O	2.22	0.40
31:a:150:U:H2'	31:a:151:A:C8	2.56	0.40
31:a:415:A:N7	31:a:445:U:C2	2.90	0.40
31:a:605:G:C6	38:h:90:LYS:CB	3.04	0.40
31:a:1383:G:P	39:i:15:LYS:HZ1	2.39	0.40
31:a:1413:C:C2'	31:a:1510:A:H61	2.31	0.40
52:v:17:ILE:O	52:v:17:ILE:HG22	2.22	0.40
1:A:315:C:O2'	1:A:402:C:OP2	2.33	0.40
1:A:862:C:N4	1:A:1230:G:O6	2.54	0.40
1:A:913:U:H2'	11:K:8:LYS:HZ1	1.86	0.40
1:A:1147:A:H3'	1:A:1148:C:C5'	2.52	0.40
1:A:1709:A:H1'	9:I:1:MET:HB2	2.03	0.40
1:A:1772:G:H22	1:A:1774:A:C1'	2.34	0.40
1:A:1847:U:N3	3:C:198:LEU:O	2.53	0.40
1:A:2137:G:N3	1:A:2207:U:O2'	2.53	0.40
4:D:10:ILE:HD11	4:D:29:GLU:H	1.85	0.40
7:G:152:ARG:O	7:G:162:ILE:N	2.49	0.40
20:T:70:ILE:HD12	20:T:70:ILE:O	2.21	0.40
28:2:41:LYS:O	28:2:41:LYS:NZ	2.55	0.40
31:a:13:U:O2'	31:a:923:A:OP2	2.38	0.40
31:a:349:C:H2'	31:a:350:C:C6	2.57	0.40
31:a:1079:G:H21	31:a:1201:A:H2	1.68	0.40
31:a:1389:G:H22	39:i:126:SER:CB	2.34	0.40
31:a:1429:G:C2	31:a:1492:U:O2	2.74	0.40
36:f:60:TYR:HD2	36:f:62:ILE:HD11	1.87	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1076:A:O2'	1:A:1078:G:OP1	2.40	0.40
1:A:1241:A:O4'	5:E:41:ARG:NH2	2.55	0.40
1:A:1316:G:H5'	12:L:30:ILE:HG22	2.02	0.40
1:A:1488:A:H3'	1:A:1490:G:H22	1.87	0.40
1:A:2349:A:H2'	1:A:2350:G:O4'	2.22	0.40
3:C:152:GLY:O	3:C:156:ARG:NH1	2.47	0.40
5:E:111:ARG:CG	5:E:206:LEU:HD23	2.51	0.40
9:I:112:MET:SD	9:I:112:MET:N	2.94	0.40
10:J:79:LEU:HD23	10:J:115:GLY:C	2.46	0.40
11:K:119:ARG:O	11:K:122:SER:OG	2.37	0.40
12:L:106:GLN:HE22	12:L:118:ILE:HD12	1.86	0.40
16:P:17:GLY:N	16:P:97:ILE:O	2.49	0.40
31:a:37:C:C6	42:l:130:TYR:HB2	2.56	0.40
31:a:58:G:N2	31:a:376:U:H2'	2.36	0.40
31:a:605:G:N3	31:a:606:U:C1'	2.84	0.40
31:a:729:A:H1'	51:u:50:GLU:HB3	2.02	0.40
31:a:897:G:H2'	31:a:917:A:H61	1.87	0.40
31:a:958:A:HO2'	31:a:959:U:C5'	2.35	0.40
31:a:1116:A:H62	33:c:172:VAL:HB	1.86	0.40
31:a:1120:C:C2'	33:c:177:LEU:HD23	2.51	0.40
31:a:1315:G:O6	43:m:30:ALA:HB3	2.21	0.40
36:f:68:ASP:N	36:f:68:ASP:OD1	2.52	0.40
37:g:98:THR:O	37:g:99:LEU:HD22	2.21	0.40
38:h:106:VAL:HG21	38:h:114:THR:HG22	2.04	0.40
39:i:19:ALA:HB2	39:i:67:VAL:HG13	2.04	0.40
1:A:1086:G:C6	1:A:1157:U:C2	3.08	0.40
1:A:2019:G:O4'	1:A:2021:C:N4	2.49	0.40
1:A:2189:G:O2'	1:A:2200:A:N7	2.47	0.40
1:A:2371:U:H2'	27:1:32:MET:HB2	2.02	0.40
1:A:2374:C:O2'	27:1:17:TYR:OH	2.08	0.40
1:A:2855:A:N6	1:A:2899:A:O4'	2.54	0.40
3:C:185:LEU:HD13	3:C:187:THR:N	2.37	0.40
5:E:78:ILE:HG23	5:E:79:ARG:HG2	2.04	0.40
9:I:47:THR:O	9:I:53:LYS:NZ	2.46	0.40
14:N:28:LEU:HD13	14:N:49:VAL:CG2	2.52	0.40
20:T:75:ALA:N	20:T:90:ASP:O	2.48	0.40
31:a:251:A:N7	31:a:289:G:O2'	2.41	0.40
31:a:510:C:O2'	31:a:516:U:N3	2.50	0.40
31:a:789:A:N7	31:a:809:U:C2	2.89	0.40
31:a:808:G:N2	31:a:809:U:O4	2.55	0.40
35:e:120:ILE:HG22	35:e:122:ASP:H	1.86	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:g:3:ARG:HB2	37:g:4:LYS:HZ3	1.87	0.40
37:g:70:MET:H	37:g:100:GLY:H	1.69	0.40
37:g:70:MET:O	37:g:100:GLY:N	2.46	0.40
40:j:36:VAL:HG11	40:j:76:ILE:HG22	2.03	0.40
42:l:123:ARG:O	42:l:124:ARG:NH1	2.54	0.40
1:A:15:G:N1	1:A:570:U:C2	2.82	0.40
1:A:428:G:O6	1:A:434:G:C2	2.75	0.40
1:A:749:G:H21	1:A:772:A:H62	1.68	0.40
1:A:1470:G:P	1:A:1471:A:HO2'	2.33	0.40
1:A:1734:A:H61	1:A:1741:G:C2'	2.35	0.40
1:A:2553:G:N2	1:A:2564:U:O2	2.52	0.40
1:A:2562:G:H2'	1:A:2563:G:O4'	2.20	0.40
2:B:11:A:O2'	2:B:12:U:O5'	2.35	0.40
6:F:67:VAL:HG11	6:F:84:PRO:HB3	2.03	0.40
6:F:102:LYS:NZ	6:F:103:LEU:HD13	2.36	0.40
13:M:100:LEU:O	13:M:102:HIS:N	2.54	0.40
23:W:4:LYS:HZ1	23:W:7:ARG:NH1	2.20	0.40
31:a:7:G:O6	35:e:107:ALA:N	2.55	0.40
31:a:195:C:C2	47:q:77:LEU:HD12	2.56	0.40
31:a:217:G:H1	31:a:222:G:H22	1.70	0.40
31:a:501:U:H1'	31:a:505:A:H61	1.86	0.40
31:a:605:G:C2	31:a:606:U:H1'	2.57	0.40
31:a:661:U:O2'	31:a:662:G:OP1	2.34	0.40
31:a:928:A:H2'	31:a:929:U:C1'	2.51	0.40
31:a:996:A:O5'	49:s:32:LYS:NZ	2.54	0.40
31:a:1285:A:OP1	31:a:1287:C:N4	2.55	0.40
32:b:41:ILE:HG22	32:b:42:ASP:O	2.22	0.40
33:c:129:PHE:CE2	33:c:156:LEU:HD21	2.56	0.40
36:f:6:VAL:N	48:r:28:TYR:OH	2.54	0.40
47:q:25:VAL:HG11	47:q:63:ILE:HD13	2.03	0.40
48:r:72:LEU:O	48:r:73:LEU:HD12	2.21	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	
3	C	272/274 (99%)	215 (79%)	57 (21%)	0	100	100
4	D	213/215 (99%)	166 (78%)	47 (22%)	0	100	100
5	E	204/206 (99%)	175 (86%)	29 (14%)	0	100	100
6	F	173/175 (99%)	141 (82%)	32 (18%)	0	100	100
7	G	173/175 (99%)	140 (81%)	33 (19%)	0	100	100
8	H	143/145 (99%)	118 (82%)	25 (18%)	0	100	100
9	I	120/122 (98%)	104 (87%)	16 (13%)	0	100	100
10	J	144/146 (99%)	124 (86%)	20 (14%)	0	100	100
11	K	135/137 (98%)	113 (84%)	22 (16%)	0	100	100
12	L	118/120 (98%)	101 (86%)	17 (14%)	0	100	100
13	M	117/119 (98%)	98 (84%)	19 (16%)	0	100	100
14	N	112/114 (98%)	94 (84%)	18 (16%)	0	100	100
15	O	114/116 (98%)	105 (92%)	9 (8%)	0	100	100
16	P	100/102 (98%)	85 (85%)	15 (15%)	0	100	100
17	Q	108/110 (98%)	90 (83%)	17 (16%)	1 (1%)	14	46
18	R	87/89 (98%)	70 (80%)	17 (20%)	0	100	100
19	S	101/103 (98%)	82 (81%)	19 (19%)	0	100	100
20	T	92/94 (98%)	82 (89%)	10 (11%)	0	100	100
21	U	80/82 (98%)	70 (88%)	10 (12%)	0	100	100
22	V	56/58 (97%)	46 (82%)	10 (18%)	0	100	100
23	W	65/67 (97%)	58 (89%)	7 (11%)	0	100	100
24	X	56/58 (97%)	49 (88%)	7 (12%)	0	100	100
25	Y	57/59 (97%)	48 (84%)	9 (16%)	0	100	100
26	Z	46/48 (96%)	29 (63%)	17 (37%)	0	100	100
27	1	45/47 (96%)	37 (82%)	8 (18%)	0	100	100
28	2	41/43 (95%)	38 (93%)	3 (7%)	0	100	100
29	3	62/64 (97%)	50 (81%)	12 (19%)	0	100	100
30	4	35/37 (95%)	21 (60%)	14 (40%)	0	100	100
32	b	224/226 (99%)	193 (86%)	31 (14%)	0	100	100
33	c	200/202 (99%)	161 (80%)	39 (20%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	d	196/198 (99%)	136 (69%)	59 (30%)	1 (0%)	24	57
35	e	154/156 (99%)	133 (86%)	21 (14%)	0	100	100
36	f	93/95 (98%)	75 (81%)	18 (19%)	0	100	100
37	g	149/152 (98%)	99 (66%)	50 (34%)	0	100	100
38	h	127/131 (97%)	98 (77%)	29 (23%)	0	100	100
39	i	125/127 (98%)	86 (69%)	39 (31%)	0	100	100
40	j	95/97 (98%)	59 (62%)	35 (37%)	1 (1%)	11	43
41	k	112/114 (98%)	81 (72%)	31 (28%)	0	100	100
42	l	133/135 (98%)	102 (77%)	29 (22%)	2 (2%)	8	37
43	m	100/104 (96%)	62 (62%)	38 (38%)	0	100	100
44	n	58/60 (97%)	36 (62%)	22 (38%)	0	100	100
45	o	86/88 (98%)	71 (83%)	15 (17%)	0	100	100
46	p	87/89 (98%)	68 (78%)	19 (22%)	0	100	100
47	q	78/80 (98%)	51 (65%)	27 (35%)	0	100	100
48	r	52/54 (96%)	43 (83%)	9 (17%)	0	100	100
49	s	78/80 (98%)	58 (74%)	20 (26%)	0	100	100
50	t	79/81 (98%)	59 (75%)	20 (25%)	0	100	100
51	u	50/52 (96%)	32 (64%)	18 (36%)	0	100	100
52	v	158/162 (98%)	117 (74%)	41 (26%)	0	100	100
All	All	5503/5608 (98%)	4369 (79%)	1129 (20%)	5 (0%)	49	79

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
42	l	131	GLY
34	d	110	ALA
40	j	7	ARG
17	Q	87	PRO
42	l	135	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	220/221 (100%)	173 (79%)	47 (21%)	1	7
4	D	173/173 (100%)	143 (83%)	30 (17%)	2	12
5	E	168/168 (100%)	121 (72%)	47 (28%)	0	3
6	F	141/154 (92%)	113 (80%)	28 (20%)	1	8
7	G	124/153 (81%)	99 (80%)	25 (20%)	1	8
8	H	122/123 (99%)	95 (78%)	27 (22%)	1	7
9	I	100/100 (100%)	76 (76%)	24 (24%)	1	5
10	J	109/112 (97%)	94 (86%)	15 (14%)	3	20
11	K	108/114 (95%)	90 (83%)	18 (17%)	2	14
12	L	96/101 (95%)	80 (83%)	16 (17%)	2	14
13	M	86/95 (90%)	61 (71%)	25 (29%)	0	3
14	N	93/100 (93%)	76 (82%)	17 (18%)	2	11
15	O	96/96 (100%)	83 (86%)	13 (14%)	4	21
16	P	84/86 (98%)	62 (74%)	22 (26%)	0	4
17	Q	88/90 (98%)	65 (74%)	23 (26%)	0	4
18	R	78/80 (98%)	62 (80%)	16 (20%)	1	8
19	S	81/88 (92%)	56 (69%)	25 (31%)	0	2
20	T	78/82 (95%)	58 (74%)	20 (26%)	0	4
21	U	63/64 (98%)	44 (70%)	19 (30%)	0	2
22	V	44/49 (90%)	30 (68%)	14 (32%)	0	2
23	W	58/60 (97%)	48 (83%)	10 (17%)	2	12
24	X	52/52 (100%)	43 (83%)	9 (17%)	2	12
25	Y	23/56 (41%)	21 (91%)	2 (9%)	9	34
26	Z	35/44 (80%)	24 (69%)	11 (31%)	0	2
27	1	44/45 (98%)	32 (73%)	12 (27%)	0	3
28	2	39/39 (100%)	35 (90%)	4 (10%)	7	29
29	3	55/55 (100%)	47 (86%)	8 (14%)	3	18
30	4	35/35 (100%)	27 (77%)	8 (23%)	1	6
32	b	196/196 (100%)	160 (82%)	36 (18%)	1	10
33	c	138/164 (84%)	113 (82%)	25 (18%)	2	11

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	d	147/174 (84%)	111 (76%)	36 (24%)	1	5
35	e	118/122 (97%)	98 (83%)	20 (17%)	2	13
36	f	80/83 (96%)	61 (76%)	19 (24%)	1	5
37	g	118/128 (92%)	87 (74%)	31 (26%)	0	4
38	h	111/112 (99%)	88 (79%)	23 (21%)	1	7
39	i	86/105 (82%)	72 (84%)	14 (16%)	2	14
40	j	81/87 (93%)	66 (82%)	15 (18%)	1	10
41	k	82/90 (91%)	59 (72%)	23 (28%)	0	3
42	l	111/117 (95%)	84 (76%)	27 (24%)	1	5
43	m	62/92 (67%)	49 (79%)	13 (21%)	1	7
44	n	48/52 (92%)	35 (73%)	13 (27%)	0	3
45	o	77/80 (96%)	61 (79%)	16 (21%)	1	7
46	p	73/75 (97%)	59 (81%)	14 (19%)	1	9
47	q	65/75 (87%)	46 (71%)	19 (29%)	0	2
48	r	48/49 (98%)	41 (85%)	7 (15%)	3	17
49	s	67/70 (96%)	50 (75%)	17 (25%)	0	4
50	t	61/67 (91%)	51 (84%)	10 (16%)	2	14
51	u	40/48 (83%)	32 (80%)	8 (20%)	1	8
52	v	147/147 (100%)	120 (82%)	27 (18%)	1	10
All	All	4449/4768 (93%)	3501 (79%)	948 (21%)	3	7

All (948) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	5	LYS
3	C	19	LEU
3	C	27	THR
3	C	34	LEU
3	C	35	LYS
3	C	37	LEU
3	C	46	GLN
3	C	60	ARG
3	C	65	ILE
3	C	66	ASP
3	C	70	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	C	77	LYS
3	C	87	ARG
3	C	91	ILE
3	C	94	VAL
3	C	101	LYS
3	C	102	ARG
3	C	108	LYS
3	C	110	LEU
3	C	115	ILE
3	C	116	VAL
3	C	117	GLU
3	C	121	GLU
3	C	125	LYS
3	C	139	THR
3	C	144	ILE
3	C	147	LYS
3	C	175	ARG
3	C	185	LEU
3	C	197	ASN
3	C	198	LEU
3	C	202	LEU
3	C	207	LYS
3	C	210	ARG
3	C	213	TRP
3	C	214	LYS
3	C	232	HIS
3	C	243	ARG
3	C	252	LYS
3	C	254	THR
3	C	255	LEU
3	C	260	ARG
3	C	261	ARG
3	C	264	LYS
3	C	270	ILE
3	C	272	ARG
3	C	274	ARG
4	D	5	ILE
4	D	6	LEU
4	D	10	ILE
4	D	13	THR
4	D	23	ILE
4	D	26	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	D	32	GLU
4	D	40	THR
4	D	42	GLU
4	D	49	ILE
4	D	57	LYS
4	D	61	LYS
4	D	64	LYS
4	D	65	SER
4	D	71	LYS
4	D	78	LYS
4	D	81	ASP
4	D	104	GLU
4	D	122	SER
4	D	131	ILE
4	D	137	SER
4	D	169	MET
4	D	176	ASN
4	D	178	VAL
4	D	183	LEU
4	D	194	VAL
4	D	197	VAL
4	D	201	VAL
4	D	211	ILE
4	D	215	ILE
5	E	5	ASP
5	E	8	LYS
5	E	13	LYS
5	E	14	SER
5	E	26	ILE
5	E	27	GLU
5	E	30	ASN
5	E	33	LEU
5	E	35	GLU
5	E	43	SER
5	E	44	LEU
5	E	49	HIS
5	E	51	VAL
5	E	55	SER
5	E	57	VAL
5	E	82	GLN
5	E	99	TYR
5	E	100	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	E	101	MET
5	E	105	MET
5	E	108	LEU
5	E	111	ARG
5	E	112	SER
5	E	114	LEU
5	E	116	PHE
5	E	117	LYS
5	E	119	GLN
5	E	121	ASN
5	E	124	THR
5	E	125	VAL
5	E	130	ASN
5	E	135	LYS
5	E	137	LYS
5	E	140	LYS
5	E	146	LEU
5	E	150	LYS
5	E	153	LEU
5	E	154	VAL
5	E	159	GLU
5	E	161	VAL
5	E	169	ASN
5	E	173	VAL
5	E	187	THR
5	E	193	VAL
5	E	194	ILE
5	E	201	LYS
5	E	204	GLU
6	F	5	LYS
6	F	15	ASN
6	F	30	LYS
6	F	32	ASP
6	F	36	VAL
6	F	48	LYS
6	F	59	LEU
6	F	64	LYS
6	F	66	LEU
6	F	71	LYS
6	F	78	ARG
6	F	79	LEU
6	F	80	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	F	98	GLU
6	F	99	PHE
6	F	100	LEU
6	F	104	ILE
6	F	115	GLN
6	F	119	LYS
6	F	120	LYS
6	F	127	ASN
6	F	132	VAL
6	F	143	TYR
6	F	152	MET
6	F	155	VAL
6	F	162	THR
6	F	168	GLU
6	F	175	MET
7	G	4	VAL
7	G	15	VAL
7	G	16	THR
7	G	30	LYS
7	G	38	ASN
7	G	44	LYS
7	G	79	VAL
7	G	83	TYR
7	G	87	LEU
7	G	89	LEU
7	G	90	VAL
7	G	94	TYR
7	G	97	GLN
7	G	105	LEU
7	G	106	ASN
7	G	112	PRO
7	G	115	ILE
7	G	121	ILE
7	G	136	ILE
7	G	141	VAL
7	G	146	SER
7	G	155	GLU
7	G	170	ARG
7	G	172	LYS
7	G	175	LYS
8	H	1	MET
8	H	3	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	H	12	ILE
8	H	15	LYS
8	H	18	VAL
8	H	19	ILE
8	H	22	GLU
8	H	29	LEU
8	H	38	ARG
8	H	44	THR
8	H	46	THR
8	H	53	ASP
8	H	57	VAL
8	H	62	LYS
8	H	72	ASP
8	H	85	ILE
8	H	86	LYS
8	H	87	SER
8	H	88	ILE
8	H	101	LEU
8	H	103	GLU
8	H	106	ILE
8	H	115	LEU
8	H	122	LYS
8	H	133	HIS
8	H	139	GLU
8	H	143	LEU
9	I	2	ILE
9	I	8	LEU
9	I	10	VAL
9	I	19	VAL
9	I	21	THR
9	I	25	LEU
9	I	39	ILE
9	I	40	VAL
9	I	47	THR
9	I	61	VAL
9	I	64	ARG
9	I	66	LYS
9	I	70	ARG
9	I	75	SER
9	I	77	ILE
9	I	82	ASN
9	I	84	CYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
9	I	85	VAL
9	I	86	ILE
9	I	99	PHE
9	I	106	LEU
9	I	112	MET
9	I	117	LEU
9	I	120	GLU
10	J	14	LYS
10	J	31	SER
10	J	57	LEU
10	J	64	ARG
10	J	72	LYS
10	J	77	VAL
10	J	81	GLN
10	J	90	GLU
10	J	92	THR
10	J	95	LEU
10	J	98	GLU
10	J	114	ASN
10	J	120	LYS
10	J	123	VAL
10	J	127	LYS
11	K	5	LYS
11	K	7	VAL
11	K	13	HIS
11	K	18	THR
11	K	20	ARG
11	K	38	THR
11	K	45	ARG
11	K	47	ILE
11	K	51	ARG
11	K	64	VAL
11	K	75	THR
11	K	81	VAL
11	K	82	ARG
11	K	91	GLU
11	K	103	LEU
11	K	127	VAL
11	K	130	LYS
11	K	132	VAL
12	L	3	TYR
12	L	6	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
12	L	16	MET
12	L	17	LEU
12	L	24	LEU
12	L	30	ILE
12	L	33	THR
12	L	48	ILE
12	L	49	THR
12	L	50	LEU
12	L	78	THR
12	L	79	GLN
12	L	91	GLU
12	L	103	ILE
12	L	105	LYS
12	L	122	VAL
13	M	2	ILE
13	M	6	ASP
13	M	13	LYS
13	M	19	ARG
13	M	21	ASN
13	M	28	LYS
13	M	31	LEU
13	M	32	ASN
13	M	35	ARG
13	M	38	LYS
13	M	39	HIS
13	M	41	TYR
13	M	44	ILE
13	M	45	ILE
13	M	46	ASP
13	M	51	VAL
13	M	55	GLN
13	M	58	SER
13	M	68	THR
13	M	72	LEU
13	M	82	LYS
13	M	87	LYS
13	M	95	ASP
13	M	96	ARG
13	M	106	LYS
14	N	4	HIS
14	N	12	LYS
14	N	17	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
14	N	29	ARG
14	N	32	VAL
14	N	35	ILE
14	N	42	ILE
14	N	46	GLU
14	N	48	VAL
14	N	53	ARG
14	N	67	SER
14	N	74	ARG
14	N	78	LEU
14	N	85	LYS
14	N	98	LYS
14	N	102	LEU
14	N	113	GLN
15	O	4	VAL
15	O	11	ARG
15	O	33	LYS
15	O	34	VAL
15	O	51	ARG
15	O	72	HIS
15	O	78	ARG
15	O	81	ASN
15	O	89	ASP
15	O	95	LEU
15	O	102	ASP
15	O	103	GLU
15	O	104	LYS
16	P	5	ILE
16	P	7	THR
16	P	10	LYS
16	P	14	VAL
16	P	21	PHE
16	P	23	GLU
16	P	24	LYS
16	P	25	LEU
16	P	28	ASN
16	P	31	ASP
16	P	34	THR
16	P	37	LYS
16	P	59	THR
16	P	63	ASN
16	P	67	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
16	P	76	TYR
16	P	80	LYS
16	P	82	SER
16	P	93	THR
16	P	96	THR
16	P	98	ASP
16	P	99	LYS
17	Q	6	VAL
17	Q	8	ARG
17	Q	15	ARG
17	Q	17	VAL
17	Q	22	ASP
17	Q	24	ILE
17	Q	36	LEU
17	Q	37	LYS
17	Q	38	LEU
17	Q	49	LYS
17	Q	50	VAL
17	Q	52	MET
17	Q	62	TYR
17	Q	71	VAL
17	Q	72	LYS
17	Q	75	TYR
17	Q	82	LEU
17	Q	86	ARG
17	Q	90	ARG
17	Q	92	SER
17	Q	101	ILE
17	Q	102	THR
17	Q	109	LYS
18	R	9	ARG
18	R	11	VAL
18	R	14	GLU
18	R	31	THR
18	R	35	LYS
18	R	36	THR
18	R	49	LYS
18	R	50	VAL
18	R	53	VAL
18	R	65	MET
18	R	72	THR
18	R	80	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
18	R	83	LYS
18	R	84	GLU
18	R	87	ILE
18	R	90	PHE
19	S	4	LYS
19	S	7	ASP
19	S	16	ASP
19	S	17	LYS
19	S	19	LYS
19	S	24	ILE
19	S	26	THR
19	S	27	LEU
19	S	30	LYS
19	S	33	VAL
19	S	38	VAL
19	S	41	MET
19	S	43	LYS
19	S	57	LEU
19	S	59	THR
19	S	63	ILE
19	S	68	VAL
19	S	70	LEU
19	S	74	LYS
19	S	76	ASN
19	S	79	THR
19	S	81	VAL
19	S	87	ASP
19	S	97	SER
19	S	99	GLU
20	T	7	ILE
20	T	9	ARG
20	T	10	GLN
20	T	16	SER
20	T	18	LEU
20	T	20	GLN
20	T	26	LYS
20	T	30	VAL
20	T	31	VAL
20	T	32	TYR
20	T	36	THR
20	T	37	LYS
20	T	41	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
20	T	42	LYS
20	T	43	VAL
20	T	52	ILE
20	T	70	ILE
20	T	86	ILE
20	T	89	ILE
20	T	92	LEU
21	U	13	LYS
21	U	20	ASN
21	U	22	ARG
21	U	25	GLU
21	U	29	LEU
21	U	40	THR
21	U	45	LEU
21	U	52	LYS
21	U	53	ILE
21	U	59	VAL
21	U	67	LEU
21	U	68	PHE
21	U	70	LYS
21	U	72	ASP
21	U	75	VAL
21	U	76	LYS
21	U	79	ARG
21	U	83	ASP
21	U	84	LYS
22	V	3	LYS
22	V	6	PHE
22	V	7	VAL
22	V	11	LYS
22	V	14	THR
22	V	19	SER
22	V	29	TRP
22	V	30	ASN
22	V	32	ASN
22	V	33	LEU
22	V	36	VAL
22	V	45	LYS
22	V	52	ARG
22	V	56	SER
23	W	2	LYS
23	W	4	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
23	W	6	ILE
23	W	11	THR
23	W	13	GLU
23	W	16	GLU
23	W	25	LEU
23	W	30	PHE
23	W	32	LEU
23	W	61	GLU
24	X	3	LYS
24	X	18	THR
24	X	24	GLU
24	X	29	LYS
24	X	40	ASN
24	X	51	LYS
24	X	56	VAL
24	X	57	GLU
24	X	59	LYS
25	Y	1	MET
25	Y	3	GLN
26	Z	8	THR
26	Z	9	SER
26	Z	12	ARG
26	Z	16	ARG
26	Z	22	ILE
26	Z	29	GLU
26	Z	30	CYS
26	Z	37	LYS
26	Z	38	LEU
26	Z	40	HIS
26	Z	41	ARG
27	1	5	VAL
27	1	9	CYS
27	1	15	ARG
27	1	19	THR
27	1	20	THR
27	1	21	LYS
27	1	22	ASN
27	1	24	ARG
27	1	26	ASN
27	1	34	LYS
27	1	36	CYS
27	1	39	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
28	2	15	LYS
28	2	16	VAL
28	2	25	THR
28	2	41	LYS
29	3	6	THR
29	3	32	LEU
29	3	44	LEU
29	3	52	LYS
29	3	53	SER
29	3	55	MET
29	3	56	LYS
29	3	57	ARG
30	4	1	MET
30	4	11	CYS
30	4	14	CYS
30	4	16	VAL
30	4	19	ARG
30	4	22	LYS
30	4	23	VAL
30	4	35	ARG
32	b	4	ILE
32	b	7	LYS
32	b	9	LEU
32	b	10	LEU
32	b	16	PHE
32	b	21	ARG
32	b	26	LYS
32	b	28	LYS
32	b	29	LYS
32	b	34	GLU
32	b	50	VAL
32	b	59	GLN
32	b	60	VAL
32	b	61	SER
32	b	63	ASP
32	b	79	SER
32	b	83	GLU
32	b	85	GLU
32	b	96	TRP
32	b	97	LEU
32	b	103	ASN
32	b	105	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	b	106	THR
32	b	107	ILE
32	b	119	LYS
32	b	141	TYR
32	b	144	LEU
32	b	152	ARG
32	b	164	VAL
32	b	168	LYS
32	b	188	ASP
32	b	210	VAL
32	b	211	LYS
32	b	216	LYS
32	b	217	MET
32	b	223	GLU
33	c	10	LEU
33	c	11	ARG
33	c	16	ARG
33	c	23	TYR
33	c	44	ASN
33	c	53	HIS
33	c	58	ARG
33	c	67	ILE
33	c	75	VAL
33	c	119	ILE
33	c	133	GLN
33	c	137	ILE
33	c	138	THR
33	c	142	LYS
33	c	156	LEU
33	c	160	ASP
33	c	169	GLU
33	c	172	VAL
33	c	174	LEU
33	c	180	ASP
33	c	181	ILE
33	c	190	THR
33	c	199	VAL
33	c	201	ILE
33	c	203	ARG
34	d	4	PHE
34	d	10	LYS
34	d	17	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	d	18	SER
34	d	19	LEU
34	d	35	GLN
34	d	44	LEU
34	d	46	GLU
34	d	50	GLN
34	d	51	LEU
34	d	52	ARG
34	d	69	ARG
34	d	70	ASN
34	d	84	GLU
34	d	86	PHE
34	d	93	ARG
34	d	103	LEU
34	d	106	THR
34	d	107	ARG
34	d	108	ARG
34	d	109	GLN
34	d	113	LEU
34	d	114	VAL
34	d	118	HIS
34	d	119	ILE
34	d	127	ASP
34	d	128	ILE
34	d	142	ARG
34	d	143	GLU
34	d	145	SER
34	d	147	LYS
34	d	148	LEU
34	d	152	VAL
34	d	163	GLU
34	d	165	LEU
34	d	194	ILE
35	e	19	ASN
35	e	36	LEU
35	e	37	VAL
35	e	38	VAL
35	e	39	VAL
35	e	43	ASN
35	e	48	PHE
35	e	61	LYS
35	e	64	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	e	85	ILE
35	e	112	ARG
35	e	115	LEU
35	e	116	GLU
35	e	121	THR
35	e	124	LEU
35	e	126	LYS
35	e	136	MET
35	e	144	LEU
35	e	151	GLU
35	e	155	LYS
36	f	2	ARG
36	f	6	VAL
36	f	8	TYR
36	f	9	ILE
36	f	15	GLU
36	f	19	LYS
36	f	24	GLU
36	f	39	GLU
36	f	46	ARG
36	f	50	TYR
36	f	52	ILE
36	f	56	LYS
36	f	57	ASP
36	f	62	ILE
36	f	64	ARG
36	f	66	LYS
36	f	71	LYS
36	f	78	ARG
36	f	92	ILE
37	g	4	LYS
37	g	7	VAL
37	g	10	ARG
37	g	13	LEU
37	g	18	HIS
37	g	22	LEU
37	g	26	LEU
37	g	27	ILE
37	g	29	LYS
37	g	36	ARG
37	g	41	ARG
37	g	54	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
37	g	56	ARG
37	g	62	PHE
37	g	69	ILE
37	g	71	PRO
37	g	87	VAL
37	g	97	THR
37	g	98	THR
37	g	99	LEU
37	g	101	LEU
37	g	103	TRP
37	g	104	LEU
37	g	107	TYR
37	g	109	ARG
37	g	115	THR
37	g	124	ILE
37	g	131	THR
37	g	136	LYS
37	g	137	LYS
37	g	142	HIS
38	h	10	MET
38	h	15	ARG
38	h	31	ASN
38	h	34	LYS
38	h	38	GLU
38	h	39	ILE
38	h	41	LYS
38	h	51	TYR
38	h	54	ASP
38	h	64	LEU
38	h	65	LYS
38	h	70	ASP
38	h	72	ARG
38	h	87	VAL
38	h	90	LYS
38	h	94	MET
38	h	103	ILE
38	h	106	VAL
38	h	110	GLU
38	h	113	ILE
38	h	114	THR
38	h	115	ASP
38	h	120	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
39	i	11	THR
39	i	20	ARG
39	i	43	PHE
39	i	48	LEU
39	i	50	LEU
39	i	65	VAL
39	i	69	VAL
39	i	70	HIS
39	i	75	THR
39	i	101	LYS
39	i	111	ARG
39	i	112	MET
39	i	116	LYS
39	i	120	LEU
40	j	9	ARG
40	j	13	TYR
40	j	21	SER
40	j	31	ARG
40	j	42	LEU
40	j	52	ILE
40	j	55	VAL
40	j	63	GLU
40	j	65	PHE
40	j	68	ARG
40	j	69	THR
40	j	74	ILE
40	j	75	ASP
40	j	87	LEU
40	j	100	ILE
41	k	18	ASN
41	k	24	ARG
41	k	27	PHE
41	k	31	ILE
41	k	42	LEU
41	k	50	LEU
41	k	52	PHE
41	k	55	SER
41	k	67	SER
41	k	68	GLU
41	k	72	LYS
41	k	80	LYS
41	k	85	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	k	86	VAL
41	k	97	ILE
41	k	98	ARG
41	k	116	VAL
41	k	118	HIS
41	k	119	ASN
41	k	121	CYS
41	k	125	LYS
41	k	127	ARG
41	k	128	ARG
42	l	5	ASN
42	l	6	GLN
42	l	15	LYS
42	l	16	ILE
42	l	20	ASP
42	l	26	LYS
42	l	28	PHE
42	l	33	LYS
42	l	35	PHE
42	l	36	THR
42	l	43	LYS
42	l	46	VAL
42	l	50	VAL
42	l	53	MET
42	l	59	ASN
42	l	62	LEU
42	l	69	ARG
42	l	70	LEU
42	l	73	ASN
42	l	74	ILE
42	l	76	ILE
42	l	88	GLN
42	l	100	VAL
42	l	123	ARG
42	l	125	GLN
42	l	133	LYS
42	l	134	LYS
43	m	13	LYS
43	m	15	VAL
43	m	29	THR
43	m	31	GLN
43	m	59	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
43	m	60	VAL
43	m	64	LYS
43	m	71	ARG
43	m	73	THR
43	m	83	ILE
43	m	85	SER
43	m	97	VAL
43	m	100	GLN
44	n	21	TYR
44	n	23	ARG
44	n	31	HIS
44	n	37	PHE
44	n	38	LYS
44	n	39	LEU
44	n	42	ILE
44	n	49	TYR
44	n	53	ILE
44	n	56	VAL
44	n	58	LYS
44	n	60	SER
44	n	61	TRP
45	o	3	ILE
45	o	4	SER
45	o	11	ILE
45	o	13	LYS
45	o	16	ARG
45	o	19	GLU
45	o	26	GLU
45	o	29	ILE
45	o	41	GLU
45	o	43	LEU
45	o	49	ASP
45	o	64	ARG
45	o	69	TYR
45	o	83	LYS
45	o	85	LEU
45	o	88	ARG
46	p	3	VAL
46	p	4	LYS
46	p	5	ILE
46	p	6	ARG
46	p	10	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
46	p	20	ILE
46	p	21	VAL
46	p	22	VAL
46	p	37	ILE
46	p	59	LYS
46	p	68	THR
46	p	70	THR
46	p	72	HIS
46	p	85	ASP
47	q	13	LYS
47	q	14	VAL
47	q	22	THR
47	q	23	ILE
47	q	24	THR
47	q	25	VAL
47	q	26	LEU
47	q	29	THR
47	q	48	THR
47	q	49	HIS
47	q	52	ASN
47	q	56	LYS
47	q	66	THR
47	q	70	SER
47	q	73	LYS
47	q	75	PHE
47	q	76	ARG
47	q	77	LEU
47	q	78	VAL
48	r	28	TYR
48	r	29	LYS
48	r	33	LEU
48	r	41	ARG
48	r	55	LYS
48	r	72	LEU
48	r	73	LEU
49	s	6	LYS
49	s	7	LYS
49	s	12	ASP
49	s	16	MET
49	s	19	VAL
49	s	27	LYS
49	s	30	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
49	s	36	ARG
49	s	44	PHE
49	s	48	THR
49	s	49	PHE
49	s	55	ARG
49	s	56	LYS
49	s	60	VAL
49	s	62	VAL
49	s	67	VAL
49	s	74	PHE
50	t	13	THR
50	t	14	THR
50	t	15	GLU
50	t	39	VAL
50	t	54	VAL
50	t	55	LYS
50	t	59	LYS
50	t	68	SER
50	t	75	LYS
50	t	77	GLN
51	u	19	PHE
51	u	25	LYS
51	u	28	THR
51	u	29	ILE
51	u	31	GLU
51	u	33	ARG
51	u	38	TYR
51	u	45	ARG
52	v	3	ARG
52	v	7	HIS
52	v	11	LEU
52	v	21	ILE
52	v	28	LEU
52	v	29	GLU
52	v	32	PHE
52	v	42	VAL
52	v	44	VAL
52	v	47	TYR
52	v	57	THR
52	v	58	ILE
52	v	60	LEU
52	v	62	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
52	v	63	VAL
52	v	64	THR
52	v	66	ARG
52	v	82	ASN
52	v	87	ARG
52	v	89	VAL
52	v	95	ARG
52	v	98	ARG
52	v	99	LYS
52	v	139	PHE
52	v	141	LEU
52	v	151	LEU
52	v	176	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (36) such sidechains are listed below:

Mol	Chain	Res	Type
3	C	11	ASN
3	C	54	HIS
3	C	70	ASN
4	D	47	ASN
4	D	66	ASN
4	D	176	ASN
4	D	187	GLN
5	E	53	ASN
5	E	119	GLN
7	G	23	HIS
8	H	136	GLN
9	I	4	GLN
10	J	68	ASN
10	J	81	GLN
10	J	143	HIS
12	L	79	GLN
12	L	106	GLN
22	V	34	GLN
30	4	34	GLN
30	4	36	GLN
32	b	36	ASN
32	b	180	ASN
32	b	203	ASN
34	d	109	GLN
35	e	135	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	e	146	ASN
38	h	22	HIS
38	h	122	ASN
41	k	40	ASN
42	l	86	ASN
43	m	31	GLN
45	o	40	ASN
45	o	68	ASN
46	p	62	ASN
50	t	3	ASN
52	v	71	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2896/2905 (99%)	1224 (42%)	55 (1%)
2	B	114/115 (99%)	44 (38%)	0
31	a	1537/1539 (99%)	918 (59%)	0
All	All	4547/4559 (99%)	2186 (48%)	55 (1%)

All (2186) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	5	A
1	A	6	A
1	A	15	G
1	A	28	A
1	A	34	U
1	A	35	G
1	A	36	G
1	A	45	G
1	A	46	C
1	A	48	G
1	A	51	G
1	A	54	G
1	A	55	G
1	A	57	C
1	A	58	G
1	A	60	U
1	A	61	A
1	A	63	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	67	G
1	A	68	A
1	A	70	G
1	A	71	A
1	A	74	U
1	A	75	G
1	A	81	G
1	A	83	G
1	A	84	A
1	A	85	G
1	A	88	G
1	A	90	A
1	A	91	A
1	A	92	G
1	A	93	U
1	A	95	A
1	A	96	G
1	A	97	C
1	A	98	U
1	A	100	U
1	A	101	G
1	A	102	A
1	A	103	U
1	A	104	C
1	A	106	A
1	A	117	A
1	A	119	U
1	A	120	G
1	A	124	A
1	A	130	A
1	A	134	U
1	A	136	A
1	A	140	A
1	A	147	G
1	A	148	U
1	A	150	A
1	A	152	C
1	A	156	A
1	A	157	U
1	A	158	G
1	A	160	G
1	A	161	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	162	A
1	A	163	U
1	A	164	A
1	A	166	A
1	A	168	A
1	A	169	G
1	A	170	C
1	A	171	A
1	A	174	U
1	A	175	C
1	A	177	G
1	A	178	A
1	A	179	A
1	A	180	G
1	A	183	A
1	A	184	C
1	A	185	A
1	A	189	G
1	A	199	A
1	A	202	A
1	A	213	C
1	A	216	A
1	A	217	G
1	A	218	G
1	A	219	A
1	A	224	A
1	A	225	A
1	A	226	A
1	A	227	G
1	A	228	A
1	A	229	A
1	A	230	A
1	A	231	A
1	A	232	U
1	A	233	U
1	A	234	C
1	A	235	G
1	A	236	A
1	A	244	A
1	A	246	U
1	A	251	G
1	A	255	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	264	G
1	A	268	A
1	A	269	G
1	A	270	C
1	A	275	A
1	A	276	C
1	A	283	G
1	A	285	U
1	A	286	U
1	A	292	U
1	A	295	G
1	A	296	G
1	A	297	G
1	A	299	U
1	A	300	G
1	A	301	U
1	A	302	A
1	A	303	G
1	A	305	A
1	A	307	A
1	A	308	C
1	A	309	U
1	A	310	C
1	A	311	U
1	A	312	A
1	A	315	C
1	A	317	G
1	A	318	A
1	A	319	G
1	A	320	U
1	A	321	U
1	A	322	A
1	A	323	C
1	A	324	A
1	A	325	A
1	A	326	A
1	A	327	G
1	A	328	G
1	A	329	A
1	A	330	C
1	A	331	G
1	A	333	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	334	A
1	A	335	U
1	A	336	U
1	A	337	A
1	A	338	G
1	A	339	A
1	A	340	C
1	A	351	G
1	A	353	A
1	A	360	A
1	A	364	A
1	A	365	A
1	A	367	A
1	A	373	A
1	A	374	U
1	A	376	A
1	A	378	C
1	A	381	G
1	A	386	C
1	A	387	G
1	A	388	A
1	A	389	A
1	A	390	A
1	A	391	A
1	A	392	U
1	A	393	G
1	A	394	U
1	A	396	G
1	A	397	U
1	A	398	C
1	A	399	U
1	A	400	C
1	A	404	U
1	A	405	G
1	A	406	A
1	A	407	G
1	A	409	G
1	A	410	G
1	A	411	A
1	A	414	C
1	A	416	G
1	A	417	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	418	G
1	A	419	U
1	A	426	G
1	A	432	G
1	A	433	U
1	A	434	G
1	A	435	A
1	A	436	A
1	A	438	U
1	A	443	U
1	A	445	G
1	A	447	A
1	A	448	A
1	A	449	U
1	A	451	U
1	A	455	A
1	A	456	G
1	A	458	A
1	A	459	C
1	A	460	C
1	A	463	C
1	A	477	U
1	A	481	C
1	A	482	U
1	A	489	A
1	A	490	C
1	A	492	G
1	A	493	A
1	A	494	U
1	A	497	U
1	A	498	G
1	A	501	C
1	A	502	C
1	A	504	G
1	A	506	A
1	A	511	G
1	A	512	A
1	A	514	G
1	A	515	G
1	A	519	G
1	A	523	A
1	A	525	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	526	A
1	A	527	G
1	A	528	C
1	A	529	A
1	A	530	C
1	A	537	A
1	A	538	G
1	A	540	G
1	A	549	U
1	A	550	A
1	A	551	G
1	A	553	A
1	A	554	C
1	A	556	U
1	A	566	U
1	A	569	U
1	A	572	C
1	A	573	A
1	A	574	A
1	A	576	U
1	A	577	A
1	A	578	G
1	A	586	C
1	A	591	A
1	A	592	A
1	A	593	U
1	A	598	G
1	A	599	A
1	A	606	G
1	A	612	U
1	A	615	A
1	A	616	G
1	A	617	A
1	A	618	A
1	A	619	U
1	A	629	A
1	A	630	G
1	A	638	U
1	A	643	G
1	A	645	A
1	A	646	A
1	A	647	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	650	U
1	A	657	U
1	A	658	A
1	A	659	A
1	A	666	A
1	A	667	G
1	A	672	A
1	A	679	G
1	A	682	A
1	A	687	G
1	A	689	A
1	A	690	U
1	A	691	A
1	A	692	G
1	A	696	G
1	A	698	U
1	A	700	A
1	A	701	G
1	A	715	A
1	A	716	C
1	A	720	A
1	A	731	U
1	A	748	U
1	A	749	G
1	A	750	A
1	A	751	A
1	A	753	U
1	A	754	U
1	A	755	C
1	A	757	G
1	A	759	U
1	A	760	A
1	A	761	A
1	A	762	C
1	A	763	A
1	A	764	C
1	A	765	U
1	A	766	G
1	A	767	A
1	A	768	A
1	A	772	A
1	A	773	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	775	A
1	A	779	A
1	A	783	G
1	A	785	C
1	A	792	U
1	A	794	A
1	A	795	A
1	A	797	A
1	A	802	G
1	A	805	G
1	A	806	A
1	A	809	A
1	A	810	A
1	A	820	G
1	A	821	C
1	A	822	G
1	A	826	A
1	A	827	A
1	A	829	U
1	A	830	U
1	A	833	A
1	A	834	A
1	A	835	U
1	A	836	C
1	A	839	A
1	A	841	C
1	A	842	U
1	A	845	A
1	A	847	A
1	A	850	G
1	A	851	C
1	A	852	U
1	A	857	C
1	A	862	C
1	A	868	A
1	A	869	G
1	A	871	U
1	A	872	U
1	A	873	U
1	A	875	G
1	A	879	U
1	A	887	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	891	A
1	A	896	U
1	A	897	A
1	A	899	U
1	A	900	G
1	A	904	G
1	A	908	A
1	A	911	A
1	A	912	C
1	A	914	G
1	A	915	U
1	A	916	U
1	A	917	U
1	A	918	G
1	A	920	A
1	A	923	A
1	A	924	G
1	A	925	G
1	A	926	G
1	A	927	G
1	A	928	C
1	A	940	U
1	A	943	C
1	A	944	G
1	A	946	A
1	A	948	U
1	A	949	C
1	A	951	G
1	A	952	A
1	A	955	A
1	A	957	C
1	A	959	C
1	A	960	C
1	A	965	G
1	A	970	U
1	A	971	U
1	A	972	A
1	A	974	U
1	A	977	A
1	A	985	A
1	A	986	G
1	A	989	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	990	G
1	A	997	G
1	A	1001	A
1	A	1003	A
1	A	1005	G
1	A	1006	G
1	A	1017	A
1	A	1018	A
1	A	1019	A
1	A	1024	A
1	A	1025	A
1	A	1027	A
1	A	1029	C
1	A	1034	A
1	A	1035	C
1	A	1037	A
1	A	1038	C
1	A	1039	C
1	A	1040	A
1	A	1043	U
1	A	1046	G
1	A	1053	A
1	A	1055	A
1	A	1056	U
1	A	1057	A
1	A	1058	U
1	A	1059	A
1	A	1061	G
1	A	1070	A
1	A	1074	G
1	A	1077	U
1	A	1078	G
1	A	1080	G
1	A	1083	G
1	A	1086	G
1	A	1088	C
1	A	1089	C
1	A	1090	A
1	A	1091	G
1	A	1092	A
1	A	1093	C
1	A	1095	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1099	G
1	A	1100	G
1	A	1101	A
1	A	1105	U
1	A	1106	G
1	A	1109	U
1	A	1111	A
1	A	1114	A
1	A	1115	G
1	A	1116	C
1	A	1117	A
1	A	1118	G
1	A	1119	C
1	A	1120	C
1	A	1122	U
1	A	1125	U
1	A	1126	U
1	A	1127	U
1	A	1128	A
1	A	1129	A
1	A	1131	G
1	A	1132	A
1	A	1133	G
1	A	1134	U
1	A	1135	G
1	A	1138	U
1	A	1140	A
1	A	1141	U
1	A	1142	A
1	A	1143	G
1	A	1146	C
1	A	1147	A
1	A	1148	C
1	A	1149	U
1	A	1150	A
1	A	1151	G
1	A	1153	C
1	A	1155	A
1	A	1156	G
1	A	1158	G
1	A	1160	C
1	A	1161	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1162	C
1	A	1163	U
1	A	1164	G
1	A	1168	C
1	A	1170	A
1	A	1171	A
1	A	1173	A
1	A	1174	U
1	A	1175	G
1	A	1178	C
1	A	1179	C
1	A	1180	G
1	A	1185	U
1	A	1186	A
1	A	1192	A
1	A	1199	A
1	A	1200	A
1	A	1201	G
1	A	1208	A
1	A	1210	U
1	A	1212	U
1	A	1214	C
1	A	1216	U
1	A	1217	U
1	A	1222	A
1	A	1225	G
1	A	1234	G
1	A	1245	G
1	A	1248	U
1	A	1249	U
1	A	1253	G
1	A	1258	A
1	A	1262	U
1	A	1265	G
1	A	1267	A
1	A	1271	G
1	A	1275	A
1	A	1276	G
1	A	1284	A
1	A	1289	A
1	A	1290	G
1	A	1291	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1293	U
1	A	1294	G
1	A	1298	G
1	A	1304	G
1	A	1309	G
1	A	1310	A
1	A	1311	A
1	A	1312	A
1	A	1320	G
1	A	1326	C
1	A	1330	U
1	A	1337	A
1	A	1338	U
1	A	1339	U
1	A	1340	G
1	A	1341	A
1	A	1342	C
1	A	1345	A
1	A	1348	U
1	A	1349	U
1	A	1355	A
1	A	1359	A
1	A	1361	G
1	A	1366	U
1	A	1370	C
1	A	1379	A
1	A	1382	C
1	A	1384	G
1	A	1386	U
1	A	1389	U
1	A	1392	G
1	A	1401	G
1	A	1402	A
1	A	1403	C
1	A	1405	G
1	A	1412	G
1	A	1416	U
1	A	1422	A
1	A	1423	C
1	A	1424	A
1	A	1425	G
1	A	1430	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1431	U
1	A	1432	A
1	A	1433	U
1	A	1435	C
1	A	1440	A
1	A	1445	C
1	A	1447	A
1	A	1448	U
1	A	1450	A
1	A	1451	U
1	A	1452	C
1	A	1453	G
1	A	1454	U
1	A	1455	U
1	A	1457	U
1	A	1459	A
1	A	1460	U
1	A	1461	C
1	A	1462	G
1	A	1463	A
1	A	1464	U
1	A	1465	G
1	A	1466	G
1	A	1467	G
1	A	1469	G
1	A	1471	A
1	A	1472	C
1	A	1478	A
1	A	1480	G
1	A	1483	A
1	A	1487	G
1	A	1491	C
1	A	1492	G
1	A	1493	U
1	A	1495	C
1	A	1496	G
1	A	1497	A
1	A	1498	U
1	A	1499	U
1	A	1500	G
1	A	1503	U
1	A	1504	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1505	G
1	A	1506	C
1	A	1507	A
1	A	1508	C
1	A	1509	G
1	A	1510	U
1	A	1511	C
1	A	1512	U
1	A	1513	A
1	A	1514	A
1	A	1515	G
1	A	1516	C
1	A	1518	G
1	A	1519	U
1	A	1520	A
1	A	1521	A
1	A	1522	G
1	A	1526	G
1	A	1527	A
1	A	1529	U
1	A	1533	A
1	A	1534	G
1	A	1535	G
1	A	1536	C
1	A	1537	A
1	A	1538	A
1	A	1540	U
1	A	1541	C
1	A	1542	C
1	A	1546	A
1	A	1547	C
1	A	1550	G
1	A	1551	U
1	A	1552	U
1	A	1553	A
1	A	1555	G
1	A	1559	G
1	A	1561	G
1	A	1562	C
1	A	1563	U
1	A	1564	G
1	A	1565	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1568	U
1	A	1569	G
1	A	1570	G
1	A	1571	G
1	A	1572	G
1	A	1573	A
1	A	1575	A
1	A	1576	A
1	A	1577	G
1	A	1578	A
1	A	1579	C
1	A	1580	A
1	A	1581	U
1	A	1582	U
1	A	1583	G
1	A	1584	U
1	A	1585	G
1	A	1586	U
1	A	1593	G
1	A	1594	U
1	A	1595	C
1	A	1596	G
1	A	1599	G
1	A	1600	A
1	A	1601	U
1	A	1603	U
1	A	1604	C
1	A	1605	A
1	A	1606	C
1	A	1613	G
1	A	1616	A
1	A	1623	U
1	A	1625	U
1	A	1626	A
1	A	1627	G
1	A	1629	U
1	A	1630	A
1	A	1631	G
1	A	1632	A
1	A	1633	A
1	A	1634	A
1	A	1635	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1636	U
1	A	1638	G
1	A	1639	G
1	A	1640	U
1	A	1651	C
1	A	1653	A
1	A	1654	A
1	A	1658	A
1	A	1659	C
1	A	1660	A
1	A	1661	C
1	A	1662	A
1	A	1666	A
1	A	1675	G
1	A	1678	A
1	A	1679	A
1	A	1682	C
1	A	1690	A
1	A	1691	G
1	A	1692	C
1	A	1693	G
1	A	1698	A
1	A	1701	U
1	A	1707	U
1	A	1708	A
1	A	1716	C
1	A	1718	G
1	A	1719	C
1	A	1732	U
1	A	1737	U
1	A	1738	C
1	A	1739	G
1	A	1740	G
1	A	1741	G
1	A	1742	A
1	A	1747	G
1	A	1748	G
1	A	1757	U
1	A	1758	A
1	A	1759	G
1	A	1760	G
1	A	1761	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1762	U
1	A	1763	U
1	A	1764	A
1	A	1765	A
1	A	1768	C
1	A	1771	A
1	A	1772	G
1	A	1773	A
1	A	1775	G
1	A	1780	G
1	A	1781	C
1	A	1782	A
1	A	1783	G
1	A	1785	G
1	A	1790	G
1	A	1791	G
1	A	1796	A
1	A	1797	G
1	A	1800	A
1	A	1803	G
1	A	1806	U
1	A	1808	U
1	A	1811	A
1	A	1812	A
1	A	1814	A
1	A	1822	C
1	A	1823	U
1	A	1824	C
1	A	1825	U
1	A	1827	C
1	A	1828	U
1	A	1829	A
1	A	1830	A
1	A	1838	G
1	A	1839	G
1	A	1843	U
1	A	1846	A
1	A	1847	U
1	A	1852	G
1	A	1855	G
1	A	1856	A
1	A	1858	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1862	G
1	A	1866	G
1	A	1871	U
1	A	1875	A
1	A	1876	G
1	A	1877	G
1	A	1878	U
1	A	1879	U
1	A	1880	A
1	A	1882	G
1	A	1884	G
1	A	1885	G
1	A	1887	G
1	A	1889	G
1	A	1890	G
1	A	1892	U
1	A	1894	G
1	A	1896	U
1	A	1897	U
1	A	1899	U
1	A	1900	G
1	A	1902	G
1	A	1903	A
1	A	1904	A
1	A	1905	G
1	A	1906	C
1	A	1907	U
1	A	1908	A
1	A	1911	A
1	A	1912	A
1	A	1914	C
1	A	1916	A
1	A	1919	C
1	A	1926	A
1	A	1927	A
1	A	1929	C
1	A	1933	G
1	A	1938	U
1	A	1945	A
1	A	1946	A
1	A	1950	U
1	A	1954	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1956	G
1	A	1957	G
1	A	1958	U
1	A	1961	C
1	A	1963	A
1	A	1964	A
1	A	1965	A
1	A	1966	U
1	A	1967	U
1	A	1968	C
1	A	1970	U
1	A	1971	U
1	A	1972	G
1	A	1974	C
1	A	1976	G
1	A	1979	A
1	A	1982	U
1	A	1983	U
1	A	1984	C
1	A	1990	C
1	A	1996	A
1	A	1997	A
1	A	1998	A
1	A	1999	G
1	A	2008	A
1	A	2009	U
1	A	2012	G
1	A	2018	U
1	A	2019	G
1	A	2020	U
1	A	2023	C
1	A	2024	A
1	A	2027	G
1	A	2029	G
1	A	2045	A
1	A	2047	A
1	A	2048	G
1	A	2049	U
1	A	2050	A
1	A	2057	A
1	A	2059	G
1	A	2060	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2061	U
1	A	2062	G
1	A	2064	A
1	A	2070	C
1	A	2075	G
1	A	2076	A
1	A	2079	G
1	A	2082	C
1	A	2083	G
1	A	2085	A
1	A	2086	A
1	A	2087	A
1	A	2088	G
1	A	2090	C
1	A	2093	C
1	A	2095	U
1	A	2096	G
1	A	2107	G
1	A	2108	U
1	A	2109	A
1	A	2111	C
1	A	2114	G
1	A	2115	A
1	A	2116	U
1	A	2117	A
1	A	2118	U
1	A	2119	U
1	A	2120	G
1	A	2121	A
1	A	2126	C
1	A	2128	G
1	A	2129	C
1	A	2130	A
1	A	2131	C
1	A	2132	A
1	A	2133	G
1	A	2134	C
1	A	2138	U
1	A	2139	A
1	A	2140	C
1	A	2141	A
1	A	2144	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2145	U
1	A	2146	A
1	A	2149	U
1	A	2153	A
1	A	2154	G
1	A	2155	C
1	A	2156	C
1	A	2157	U
1	A	2158	U
1	A	2159	U
1	A	2160	G
1	A	2161	A
1	A	2164	C
1	A	2168	A
1	A	2169	G
1	A	2173	U
1	A	2174	A
1	A	2179	A
1	A	2184	G
1	A	2185	A
1	A	2186	G
1	A	2188	C
1	A	2190	C
1	A	2194	U
1	A	2195	G
1	A	2196	G
1	A	2198	A
1	A	2204	C
1	A	2205	C
1	A	2210	C
1	A	2212	G
1	A	2213	U
1	A	2219	C
1	A	2222	U
1	A	2224	U
1	A	2229	C
1	A	2231	C
1	A	2232	A
1	A	2233	C
1	A	2234	C
1	A	2235	A
1	A	2236	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2237	U
1	A	2238	U
1	A	2239	A
1	A	2243	U
1	A	2245	G
1	A	2252	A
1	A	2254	A
1	A	2262	G
1	A	2263	C
1	A	2265	G
1	A	2266	G
1	A	2273	G
1	A	2278	G
1	A	2279	G
1	A	2280	G
1	A	2281	C
1	A	2287	C
1	A	2293	A
1	A	2294	A
1	A	2296	A
1	A	2305	A
1	A	2310	C
1	A	2311	U
1	A	2312	C
1	A	2315	A
1	A	2316	G
1	A	2320	C
1	A	2323	U
1	A	2324	C
1	A	2325	A
1	A	2328	A
1	A	2331	G
1	A	2332	U
1	A	2333	U
1	A	2334	G
1	A	2335	G
1	A	2337	A
1	A	2338	A
1	A	2339	U
1	A	2345	A
1	A	2346	U
1	A	2347	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2348	G
1	A	2349	A
1	A	2352	G
1	A	2353	U
1	A	2354	A
1	A	2356	A
1	A	2357	G
1	A	2358	G
1	A	2362	A
1	A	2363	A
1	A	2364	G
1	A	2367	A
1	A	2369	C
1	A	2370	U
1	A	2372	G
1	A	2374	C
1	A	2377	C
1	A	2378	G
1	A	2385	A
1	A	2387	A
1	A	2388	A
1	A	2395	C
1	A	2396	A
1	A	2399	G
1	A	2404	A
1	A	2406	G
1	A	2407	A
1	A	2409	G
1	A	2410	G
1	A	2412	C
1	A	2417	U
1	A	2418	G
1	A	2419	A
1	A	2427	G
1	A	2429	U
1	A	2434	A
1	A	2441	G
1	A	2445	A
1	A	2449	C
1	A	2450	U
1	A	2451	C
1	A	2453	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2455	G
1	A	2456	G
1	A	2457	A
1	A	2459	A
1	A	2460	A
1	A	2461	A
1	A	2462	A
1	A	2467	C
1	A	2468	C
1	A	2471	G
1	A	2474	G
1	A	2475	A
1	A	2479	C
1	A	2492	C
1	A	2493	C
1	A	2495	A
1	A	2496	A
1	A	2497	G
1	A	2502	C
1	A	2503	A
1	A	2504	C
1	A	2505	A
1	A	2506	U
1	A	2507	C
1	A	2509	A
1	A	2511	G
1	A	2515	A
1	A	2518	U
1	A	2521	G
1	A	2525	C
1	A	2528	C
1	A	2529	G
1	A	2530	A
1	A	2531	U
1	A	2532	G
1	A	2533	U
1	A	2535	G
1	A	2539	C
1	A	2540	A
1	A	2545	A
1	A	2547	C
1	A	2550	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2552	G
1	A	2554	C
1	A	2558	A
1	A	2559	G
1	A	2561	C
1	A	2562	G
1	A	2568	A
1	A	2570	G
1	A	2574	U
1	A	2580	G
1	A	2581	U
1	A	2582	U
1	A	2585	C
1	A	2589	U
1	A	2591	A
1	A	2592	A
1	A	2593	A
1	A	2594	G
1	A	2599	A
1	A	2600	C
1	A	2605	G
1	A	2607	U
1	A	2608	G
1	A	2609	G
1	A	2610	G
1	A	2611	U
1	A	2613	C
1	A	2615	G
1	A	2623	U
1	A	2626	G
1	A	2629	A
1	A	2630	G
1	A	2636	U
1	A	2637	C
1	A	2640	U
1	A	2641	A
1	A	2642	U
1	A	2646	U
1	A	2649	U
1	A	2650	G
1	A	2656	A
1	A	2657	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2659	A
1	A	2664	U
1	A	2665	G
1	A	2667	G
1	A	2671	A
1	A	2672	G
1	A	2673	C
1	A	2674	U
1	A	2680	U
1	A	2681	A
1	A	2682	G
1	A	2683	U
1	A	2684	A
1	A	2685	C
1	A	2687	A
1	A	2688	G
1	A	2690	G
1	A	2692	A
1	A	2693	C
1	A	2695	G
1	A	2696	G
1	A	2697	G
1	A	2699	U
1	A	2700	G
1	A	2701	G
1	A	2709	U
1	A	2716	U
1	A	2718	C
1	A	2730	C
1	A	2732	A
1	A	2733	A
1	A	2739	U
1	A	2741	G
1	A	2750	C
1	A	2753	U
1	A	2760	A
1	A	2761	C
1	A	2762	G
1	A	2764	G
1	A	2765	A
1	A	2766	U
1	A	2769	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2771	G
1	A	2772	C
1	A	2773	U
1	A	2775	A
1	A	2776	A
1	A	2777	A
1	A	2778	G
1	A	2779	C
1	A	2780	A
1	A	2782	C
1	A	2783	U
1	A	2784	A
1	A	2785	A
1	A	2786	G
1	A	2788	A
1	A	2790	G
1	A	2791	A
1	A	2792	A
1	A	2793	G
1	A	2796	C
1	A	2797	C
1	A	2800	U
1	A	2803	A
1	A	2804	G
1	A	2805	A
1	A	2806	U
1	A	2807	G
1	A	2808	A
1	A	2809	G
1	A	2816	C
1	A	2817	A
1	A	2818	A
1	A	2820	U
1	A	2821	U
1	A	2822	C
1	A	2823	G
1	A	2824	G
1	A	2827	A
1	A	2828	U
1	A	2829	A
1	A	2830	A
1	A	2831	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2832	A
1	A	2838	C
1	A	2840	A
1	A	2841	A
1	A	2843	A
1	A	2853	U
1	A	2855	A
1	A	2856	U
1	A	2869	G
1	A	2870	A
1	A	2878	U
1	A	2879	G
1	A	2880	A
1	A	2882	A
1	A	2887	G
1	A	2888	A
1	A	2889	G
1	A	2892	G
1	A	2894	C
1	A	2899	A
1	A	2900	C
1	A	2903	A
1	A	2904	U
1	A	2905	C
1	A	2906	G
1	A	2907	A
1	A	2913	G
1	A	2915	C
1	A	2916	U
1	A	2920	U
2	B	2	C
2	B	5	G
2	B	7	G
2	B	11	A
2	B	12	U
2	B	14	G
2	B	15	C
2	B	22	G
2	B	23	U
2	B	24	C
2	B	27	A
2	B	28	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	30	U
2	B	31	G
2	B	33	U
2	B	39	G
2	B	40	C
2	B	41	C
2	B	42	G
2	B	43	A
2	B	49	G
2	B	51	A
2	B	54	U
2	B	55	A
2	B	62	U
2	B	63	U
2	B	64	A
2	B	65	G
2	B	66	C
2	B	68	U
2	B	72	U
2	B	84	U
2	B	86	A
2	B	87	C
2	B	88	G
2	B	91	C
2	B	93	G
2	B	95	U
2	B	106	G
2	B	109	G
2	B	110	C
2	B	111	C
2	B	113	G
2	B	115	C
31	a	6	U
31	a	7	G
31	a	8	G
31	a	9	A
31	a	10	G
31	a	11	A
31	a	12	G
31	a	14	U
31	a	15	U
31	a	16	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	18	U
31	a	20	C
31	a	26	C
31	a	27	A
31	a	30	A
31	a	32	G
31	a	33	A
31	a	34	A
31	a	36	G
31	a	37	C
31	a	38	U
31	a	40	G
31	a	43	G
31	a	44	C
31	a	45	G
31	a	48	C
31	a	49	C
31	a	50	U
31	a	51	A
31	a	52	A
31	a	53	U
31	a	55	C
31	a	56	A
31	a	57	U
31	a	59	C
31	a	62	G
31	a	65	G
31	a	66	A
31	a	67	G
31	a	68	C
31	a	69	G
31	a	70	A
31	a	71	A
31	a	77	G
31	a	81	A
31	a	82	G
31	a	83	C
31	a	84	U
31	a	85	U
31	a	86	G
31	a	87	C
31	a	88	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	92	C
31	a	94	G
31	a	96	U
31	a	97	G
31	a	99	U
31	a	100	A
31	a	101	G
31	a	103	G
31	a	105	C
31	a	107	G
31	a	108	A
31	a	111	G
31	a	118	A
31	a	119	A
31	a	120	C
31	a	121	A
31	a	124	U
31	a	129	A
31	a	130	A
31	a	131	C
31	a	132	C
31	a	134	A
31	a	135	C
31	a	141	A
31	a	142	G
31	a	143	A
31	a	144	C
31	a	146	G
31	a	147	G
31	a	148	G
31	a	149	A
31	a	151	A
31	a	152	A
31	a	153	C
31	a	157	G
31	a	161	A
31	a	163	C
31	a	169	C
31	a	170	U
31	a	173	U
31	a	174	A
31	a	177	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	182	A
31	a	183	U
31	a	184	A
31	a	186	U
31	a	188	U
31	a	189	G
31	a	190	A
31	a	191	A
31	a	192	C
31	a	193	C
31	a	196	A
31	a	197	U
31	a	199	G
31	a	200	U
31	a	201	U
31	a	202	C
31	a	203	A
31	a	204	A
31	a	205	A
31	a	207	G
31	a	209	G
31	a	210	A
31	a	211	A
31	a	215	C
31	a	217	G
31	a	218	U
31	a	219	C
31	a	221	U
31	a	222	G
31	a	223	C
31	a	224	U
31	a	227	C
31	a	228	A
31	a	230	U
31	a	231	U
31	a	232	A
31	a	233	U
31	a	234	A
31	a	244	G
31	a	245	C
31	a	246	G
31	a	247	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	248	U
31	a	250	C
31	a	251	A
31	a	252	U
31	a	253	U
31	a	255	G
31	a	256	C
31	a	259	G
31	a	261	U
31	a	262	G
31	a	263	G
31	a	265	A
31	a	267	G
31	a	268	G
31	a	269	U
31	a	270	A
31	a	271	A
31	a	272	C
31	a	273	G
31	a	274	G
31	a	275	C
31	a	276	U
31	a	278	A
31	a	281	A
31	a	282	A
31	a	283	G
31	a	284	G
31	a	286	A
31	a	288	C
31	a	290	A
31	a	291	U
31	a	297	G
31	a	302	C
31	a	306	A
31	a	307	G
31	a	309	G
31	a	310	G
31	a	311	G
31	a	312	U
31	a	313	G
31	a	314	A
31	a	315	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	317	G
31	a	320	C
31	a	323	A
31	a	324	C
31	a	327	G
31	a	331	U
31	a	332	G
31	a	336	C
31	a	337	A
31	a	338	C
31	a	339	G
31	a	340	G
31	a	343	C
31	a	345	G
31	a	347	C
31	a	348	U
31	a	349	C
31	a	352	A
31	a	353	C
31	a	354	G
31	a	355	G
31	a	356	G
31	a	357	A
31	a	358	G
31	a	360	C
31	a	361	A
31	a	363	C
31	a	364	A
31	a	367	A
31	a	371	A
31	a	372	A
31	a	373	U
31	a	374	C
31	a	375	U
31	a	376	U
31	a	377	C
31	a	380	C
31	a	381	A
31	a	386	G
31	a	389	A
31	a	390	A
31	a	395	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	396	G
31	a	397	A
31	a	398	C
31	a	400	G
31	a	401	A
31	a	404	A
31	a	405	A
31	a	406	C
31	a	408	C
31	a	410	G
31	a	412	G
31	a	413	U
31	a	414	G
31	a	416	G
31	a	417	U
31	a	418	G
31	a	419	A
31	a	420	U
31	a	421	G
31	a	422	A
31	a	423	A
31	a	424	G
31	a	425	G
31	a	430	C
31	a	431	G
31	a	432	G
31	a	433	A
31	a	434	U
31	a	435	C
31	a	436	G
31	a	437	U
31	a	438	A
31	a	440	A
31	a	441	A
31	a	442	C
31	a	444	C
31	a	445	U
31	a	446	G
31	a	447	U
31	a	448	U
31	a	449	A
31	a	450	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	451	U
31	a	452	A
31	a	455	G
31	a	456	A
31	a	460	A
31	a	461	C
31	a	462	A
31	a	463	U
31	a	464	A
31	a	465	U
31	a	468	G
31	a	472	G
31	a	473	U
31	a	476	C
31	a	481	C
31	a	482	A
31	a	484	A
31	a	486	C
31	a	487	U
31	a	489	G
31	a	490	A
31	a	491	C
31	a	492	G
31	a	493	G
31	a	494	U
31	a	496	C
31	a	499	A
31	a	503	A
31	a	504	G
31	a	506	A
31	a	507	A
31	a	508	G
31	a	509	C
31	a	510	C
31	a	511	A
31	a	512	C
31	a	513	G
31	a	515	C
31	a	516	U
31	a	517	A
31	a	518	A
31	a	519	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	522	C
31	a	524	U
31	a	525	G
31	a	526	C
31	a	529	G
31	a	530	C
31	a	531	A
31	a	532	G
31	a	537	G
31	a	538	G
31	a	539	U
31	a	541	A
31	a	542	U
31	a	543	A
31	a	544	C
31	a	547	A
31	a	548	G
31	a	549	G
31	a	552	G
31	a	554	A
31	a	555	A
31	a	556	G
31	a	557	C
31	a	561	A
31	a	563	C
31	a	567	A
31	a	568	A
31	a	569	U
31	a	570	U
31	a	572	U
31	a	575	G
31	a	576	G
31	a	580	A
31	a	581	A
31	a	584	C
31	a	585	G
31	a	586	C
31	a	587	G
31	a	590	U
31	a	592	G
31	a	595	G
31	a	596	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	597	U
31	a	599	U
31	a	601	U
31	a	603	A
31	a	605	G
31	a	606	U
31	a	607	C
31	a	608	U
31	a	609	G
31	a	611	U
31	a	614	G
31	a	615	A
31	a	616	A
31	a	617	A
31	a	618	G
31	a	619	C
31	a	620	C
31	a	623	C
31	a	627	U
31	a	628	C
31	a	629	A
31	a	631	C
31	a	632	C
31	a	633	G
31	a	636	G
31	a	637	A
31	a	638	G
31	a	639	G
31	a	640	G
31	a	641	U
31	a	642	C
31	a	645	U
31	a	646	G
31	a	647	G
31	a	648	A
31	a	649	A
31	a	650	A
31	a	651	C
31	a	652	U
31	a	653	G
31	a	657	A
31	a	662	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	664	G
31	a	665	U
31	a	669	G
31	a	670	A
31	a	672	G
31	a	673	A
31	a	674	G
31	a	675	G
31	a	676	A
31	a	677	A
31	a	678	A
31	a	680	U
31	a	681	G
31	a	682	G
31	a	683	A
31	a	685	U
31	a	686	U
31	a	688	C
31	a	689	A
31	a	690	U
31	a	691	G
31	a	692	U
31	a	693	G
31	a	694	U
31	a	697	C
31	a	698	G
31	a	699	G
31	a	700	U
31	a	702	A
31	a	703	A
31	a	708	G
31	a	710	A
31	a	711	G
31	a	712	A
31	a	713	G
31	a	715	U
31	a	716	A
31	a	717	U
31	a	718	G
31	a	719	G
31	a	721	G
31	a	723	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	725	C
31	a	726	A
31	a	727	C
31	a	728	C
31	a	729	A
31	a	730	G
31	a	731	U
31	a	732	G
31	a	733	G
31	a	737	A
31	a	739	G
31	a	741	G
31	a	742	A
31	a	745	U
31	a	747	C
31	a	748	U
31	a	749	G
31	a	751	U
31	a	752	C
31	a	754	G
31	a	756	A
31	a	757	A
31	a	758	C
31	a	759	U
31	a	760	G
31	a	761	A
31	a	762	C
31	a	763	G
31	a	764	C
31	a	766	G
31	a	767	A
31	a	768	U
31	a	771	G
31	a	774	A
31	a	775	A
31	a	776	A
31	a	779	G
31	a	780	U
31	a	781	G
31	a	782	G
31	a	783	G
31	a	784	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	785	A
31	a	790	A
31	a	792	A
31	a	793	G
31	a	794	G
31	a	795	A
31	a	797	U
31	a	799	G
31	a	802	A
31	a	804	C
31	a	805	C
31	a	809	U
31	a	813	C
31	a	814	C
31	a	815	A
31	a	816	C
31	a	817	G
31	a	818	C
31	a	819	C
31	a	820	G
31	a	821	U
31	a	823	A
31	a	825	C
31	a	826	G
31	a	827	A
31	a	828	U
31	a	829	G
31	a	836	A
31	a	837	A
31	a	840	G
31	a	844	G
31	a	845	G
31	a	847	G
31	a	850	U
31	a	852	C
31	a	853	C
31	a	854	G
31	a	855	C
31	a	862	G
31	a	864	G
31	a	866	U
31	a	868	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	872	U
31	a	876	G
31	a	878	A
31	a	879	U
31	a	880	U
31	a	881	A
31	a	882	A
31	a	883	G
31	a	885	A
31	a	887	U
31	a	894	G
31	a	896	G
31	a	897	G
31	a	898	A
31	a	899	G
31	a	900	U
31	a	903	G
31	a	908	C
31	a	916	A
31	a	921	C
31	a	922	A
31	a	923	A
31	a	924	A
31	a	929	U
31	a	931	G
31	a	932	A
31	a	934	G
31	a	935	G
31	a	943	C
31	a	945	C
31	a	946	A
31	a	949	C
31	a	950	G
31	a	952	U
31	a	954	G
31	a	955	A
31	a	956	G
31	a	958	A
31	a	959	U
31	a	960	G
31	a	961	U
31	a	964	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	966	U
31	a	967	A
31	a	969	U
31	a	970	U
31	a	971	C
31	a	973	A
31	a	975	G
31	a	977	A
31	a	978	A
31	a	980	G
31	a	981	C
31	a	983	A
31	a	984	A
31	a	985	G
31	a	986	A
31	a	987	A
31	a	988	C
31	a	989	C
31	a	990	U
31	a	991	U
31	a	992	A
31	a	993	C
31	a	996	A
31	a	997	A
31	a	998	U
31	a	1000	U
31	a	1001	U
31	a	1002	G
31	a	1003	A
31	a	1006	U
31	a	1008	C
31	a	1011	U
31	a	1012	G
31	a	1013	A
31	a	1014	C
31	a	1015	A
31	a	1016	A
31	a	1017	C
31	a	1019	C
31	a	1022	G
31	a	1023	A
31	a	1024	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	1030	G
31	a	1031	C
31	a	1033	U
31	a	1036	C
31	a	1038	C
31	a	1039	U
31	a	1040	U
31	a	1041	C
31	a	1042	G
31	a	1046	G
31	a	1051	A
31	a	1052	G
31	a	1055	A
31	a	1057	A
31	a	1058	G
31	a	1060	U
31	a	1064	G
31	a	1065	C
31	a	1066	A
31	a	1069	G
31	a	1071	U
31	a	1072	G
31	a	1074	C
31	a	1076	U
31	a	1077	C
31	a	1078	A
31	a	1080	C
31	a	1081	U
31	a	1083	G
31	a	1085	G
31	a	1089	U
31	a	1091	A
31	a	1094	U
31	a	1095	G
31	a	1096	U
31	a	1097	U
31	a	1098	G
31	a	1099	G
31	a	1100	G
31	a	1101	U
31	a	1102	U
31	a	1103	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	1104	A
31	a	1105	G
31	a	1106	U
31	a	1107	C
31	a	1108	C
31	a	1109	C
31	a	1110	G
31	a	1112	A
31	a	1113	A
31	a	1120	C
31	a	1122	A
31	a	1123	C
31	a	1124	C
31	a	1128	A
31	a	1129	A
31	a	1131	C
31	a	1133	U
31	a	1134	A
31	a	1135	G
31	a	1136	U
31	a	1137	U
31	a	1138	G
31	a	1139	C
31	a	1143	C
31	a	1144	A
31	a	1145	U
31	a	1146	U
31	a	1148	A
31	a	1149	G
31	a	1150	U
31	a	1151	U
31	a	1152	G
31	a	1156	A
31	a	1157	C
31	a	1158	U
31	a	1160	U
31	a	1161	A
31	a	1164	U
31	a	1165	U
31	a	1167	A
31	a	1168	C
31	a	1169	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	1170	G
31	a	1171	C
31	a	1173	G
31	a	1175	U
31	a	1176	G
31	a	1177	A
31	a	1178	C
31	a	1179	A
31	a	1180	A
31	a	1185	G
31	a	1186	A
31	a	1187	G
31	a	1190	A
31	a	1191	G
31	a	1192	G
31	a	1196	G
31	a	1197	G
31	a	1198	A
31	a	1200	G
31	a	1201	A
31	a	1202	C
31	a	1203	G
31	a	1204	U
31	a	1205	C
31	a	1206	A
31	a	1208	A
31	a	1210	C
31	a	1211	A
31	a	1212	U
31	a	1214	A
31	a	1215	U
31	a	1216	G
31	a	1218	C
31	a	1221	U
31	a	1222	U
31	a	1223	A
31	a	1224	U
31	a	1225	G
31	a	1226	A
31	a	1228	U
31	a	1229	U
31	a	1230	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	1231	G
31	a	1232	G
31	a	1234	U
31	a	1235	A
31	a	1236	C
31	a	1237	A
31	a	1238	C
31	a	1240	C
31	a	1241	G
31	a	1246	A
31	a	1247	C
31	a	1248	A
31	a	1249	A
31	a	1250	U
31	a	1251	G
31	a	1253	A
31	a	1255	A
31	a	1256	A
31	a	1257	U
31	a	1258	A
31	a	1260	A
31	a	1263	G
31	a	1266	C
31	a	1267	A
31	a	1269	C
31	a	1270	G
31	a	1272	A
31	a	1273	A
31	a	1274	C
31	a	1275	C
31	a	1277	C
31	a	1278	G
31	a	1280	G
31	a	1281	G
31	a	1282	U
31	a	1283	C
31	a	1284	A
31	a	1285	A
31	a	1286	G
31	a	1288	A
31	a	1289	A
31	a	1290	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	1291	U
31	a	1294	C
31	a	1295	A
31	a	1296	U
31	a	1297	A
31	a	1300	G
31	a	1302	U
31	a	1303	G
31	a	1304	U
31	a	1305	U
31	a	1308	C
31	a	1309	A
31	a	1310	G
31	a	1311	U
31	a	1312	U
31	a	1314	G
31	a	1315	G
31	a	1317	U
31	a	1318	U
31	a	1319	G
31	a	1320	U
31	a	1321	A
31	a	1322	G
31	a	1323	U
31	a	1324	C
31	a	1325	U
31	a	1326	G
31	a	1327	C
31	a	1328	A
31	a	1329	A
31	a	1330	C
31	a	1332	C
31	a	1333	G
31	a	1336	U
31	a	1337	A
31	a	1338	C
31	a	1339	A
31	a	1340	U
31	a	1341	G
31	a	1342	A
31	a	1343	A
31	a	1344	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	1345	C
31	a	1346	U
31	a	1348	G
31	a	1349	A
31	a	1354	C
31	a	1356	A
31	a	1357	G
31	a	1358	U
31	a	1362	C
31	a	1363	G
31	a	1370	A
31	a	1373	A
31	a	1374	U
31	a	1378	A
31	a	1381	G
31	a	1382	U
31	a	1383	G
31	a	1384	A
31	a	1387	A
31	a	1388	C
31	a	1389	G
31	a	1390	U
31	a	1391	U
31	a	1392	C
31	a	1393	C
31	a	1394	C
31	a	1400	U
31	a	1401	U
31	a	1402	G
31	a	1403	U
31	a	1404	A
31	a	1406	A
31	a	1409	C
31	a	1410	C
31	a	1414	C
31	a	1415	G
31	a	1417	C
31	a	1419	C
31	a	1420	A
31	a	1421	C
31	a	1425	G
31	a	1427	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	1428	A
31	a	1429	G
31	a	1430	U
31	a	1433	G
31	a	1434	U
31	a	1435	A
31	a	1439	C
31	a	1445	G
31	a	1447	C
31	a	1448	G
31	a	1449	G
31	a	1450	U
31	a	1451	G
31	a	1452	G
31	a	1454	G
31	a	1455	U
31	a	1456	A
31	a	1457	A
31	a	1458	C
31	a	1459	C
31	a	1460	U
31	a	1461	U
31	a	1463	U
31	a	1464	A
31	a	1465	G
31	a	1466	G
31	a	1467	A
31	a	1468	G
31	a	1469	C
31	a	1470	U
31	a	1474	C
31	a	1476	U
31	a	1478	G
31	a	1479	A
31	a	1483	U
31	a	1490	A
31	a	1492	U
31	a	1494	A
31	a	1495	U
31	a	1496	U
31	a	1497	G
31	a	1498	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	a	1500	G
31	a	1503	A
31	a	1504	A
31	a	1507	C
31	a	1508	G
31	a	1509	U
31	a	1511	A
31	a	1513	A
31	a	1514	A
31	a	1515	G
31	a	1517	U
31	a	1519	G
31	a	1522	G
31	a	1526	C
31	a	1528	G
31	a	1529	A
31	a	1530	A
31	a	1531	G
31	a	1532	G
31	a	1534	G
31	a	1536	G
31	a	1537	G
31	a	1540	G
31	a	1541	G
31	a	1542	A
31	a	1543	U

All (55) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	69	C
1	A	233	U
1	A	267	G
1	A	282	A
1	A	291	G
1	A	320	U
1	A	327	G
1	A	385	U
1	A	396	G
1	A	416	G
1	A	432	G
1	A	433	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	576	U
1	A	657	U
1	A	688	A
1	A	690	U
1	A	697	U
1	A	748	U
1	A	759	U
1	A	809	A
1	A	812	U
1	A	835	U
1	A	840	C
1	A	1024	A
1	A	1026	C
1	A	1075	G
1	A	1077	U
1	A	1092	A
1	A	1108	C
1	A	1190	A
1	A	1198	G
1	A	1460	U
1	A	1489	A
1	A	1496	G
1	A	1503	U
1	A	1520	A
1	A	1521	A
1	A	1626	A
1	A	1632	A
1	A	1658	A
1	A	1707	U
1	A	1823	U
1	A	1975	G
1	A	2117	A
1	A	2127	G
1	A	2237	U
1	A	2302	C
1	A	2323	U
1	A	2428	U
1	A	2450	U
1	A	2455	G
1	A	2608	G
1	A	2749	G
1	A	2783	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2816	C

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	8
31	a	2
52	v	1
43	m	1
37	g	1
38	h	1
5	E	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	v	106:GLN	C	131:ILE	N	30.98
1	A	2207:U	O3'	2208:A	P	12.82
1	A	1939:A	O3'	1944:U	P	12.52
1	a	465:U	O3'	466:G	P	11.00
1	A	929:C	O3'	937:G	P	9.63

Continued on next page...

Continued from previous page...

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	1096:C	O3'	1097:U	P	7.26
1	m	93:ARG	C	94:GLY	N	6.43
1	A	1153:C	O3'	1154:G	P	5.83
1	g	1:MET	C	2:PRO	N	4.64
1	A	2217:G	O3'	2218:G	P	4.18
1	A	770:G	O3'	771:G	P	4.05
1	A	1448:U	O3'	1449:A	P	3.78
1	h	89:ALA	C	90:LYS	N	2.12
1	a	36:G	O3'	37:C	P	2.00
1	E	132:GLU	C	133:ALA	N	1.17

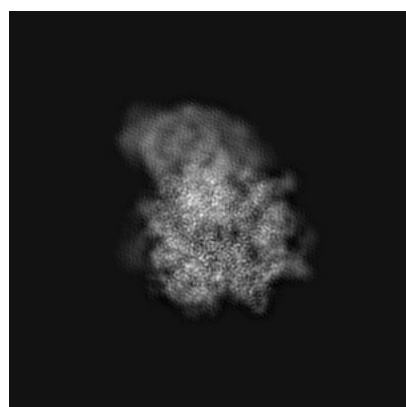
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-10079. These allow visual inspection of the internal detail of the map and identification of artifacts.

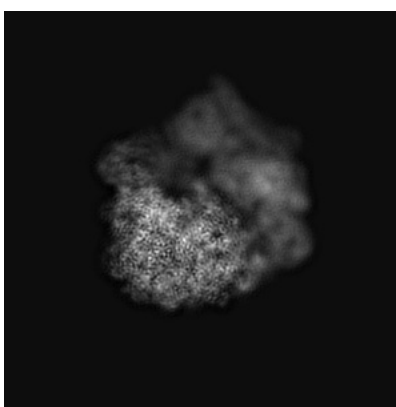
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

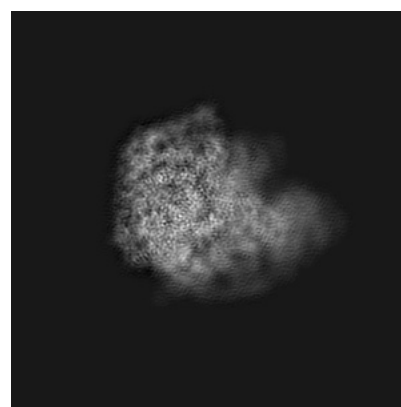
6.1.1 Primary map



X



Y

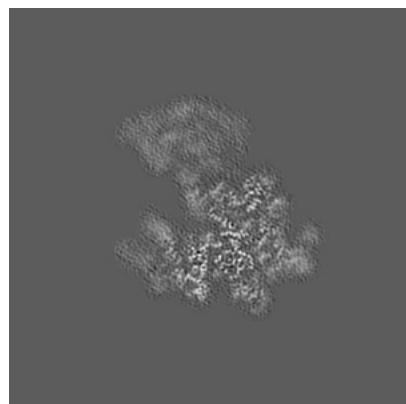


Z

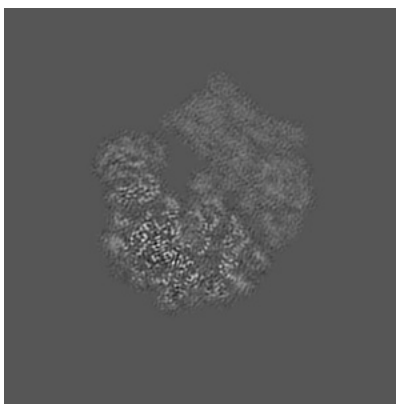
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

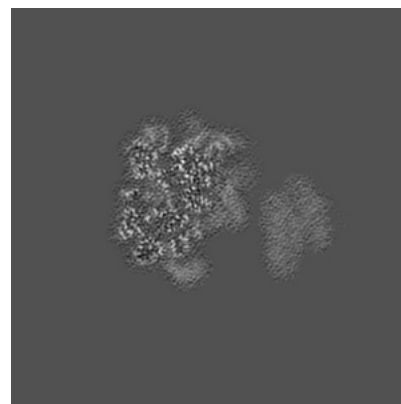
6.2.1 Primary map



X Index: 200



Y Index: 200

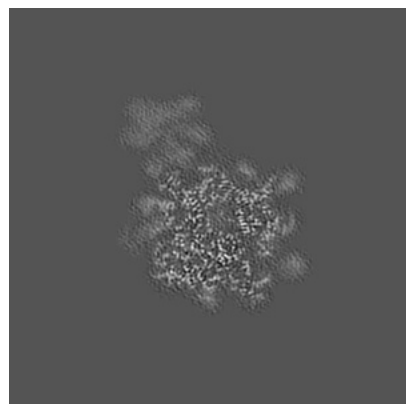


Z Index: 200

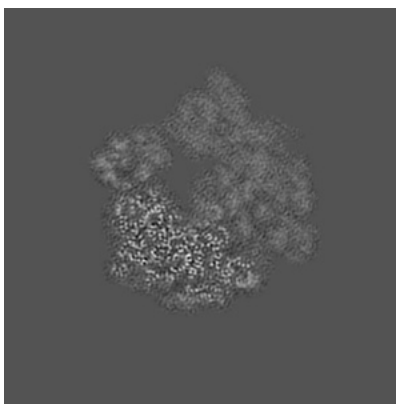
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

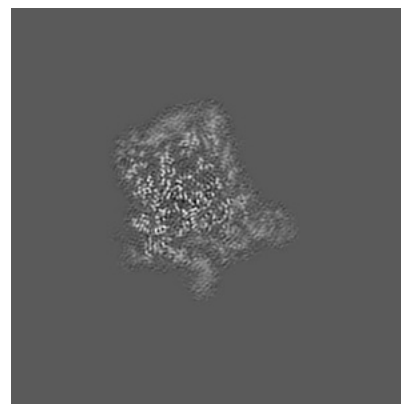
6.3.1 Primary map



X Index: 163



Y Index: 184

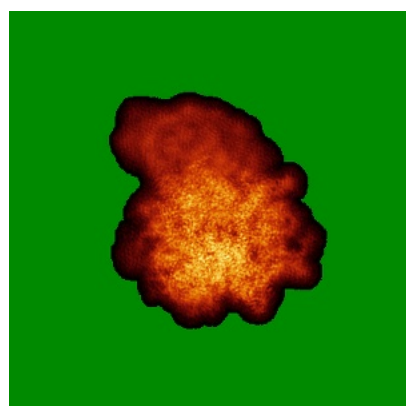


Z Index: 145

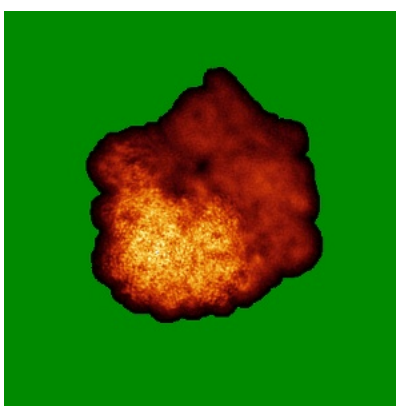
The images above show the largest variance slices of the map in three orthogonal directions.

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

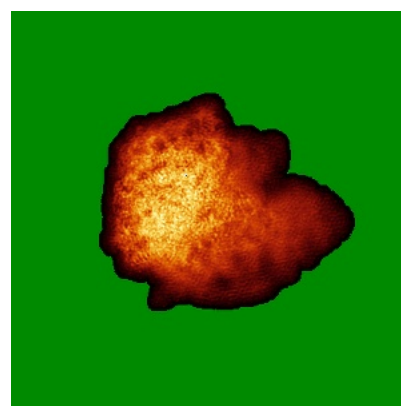
6.4.1 Primary map



X



Y

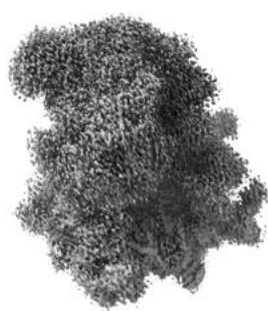


Z

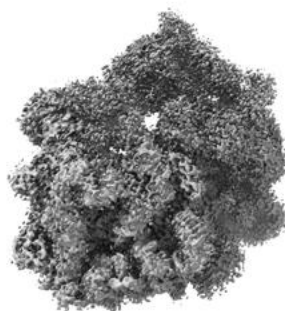
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.024. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

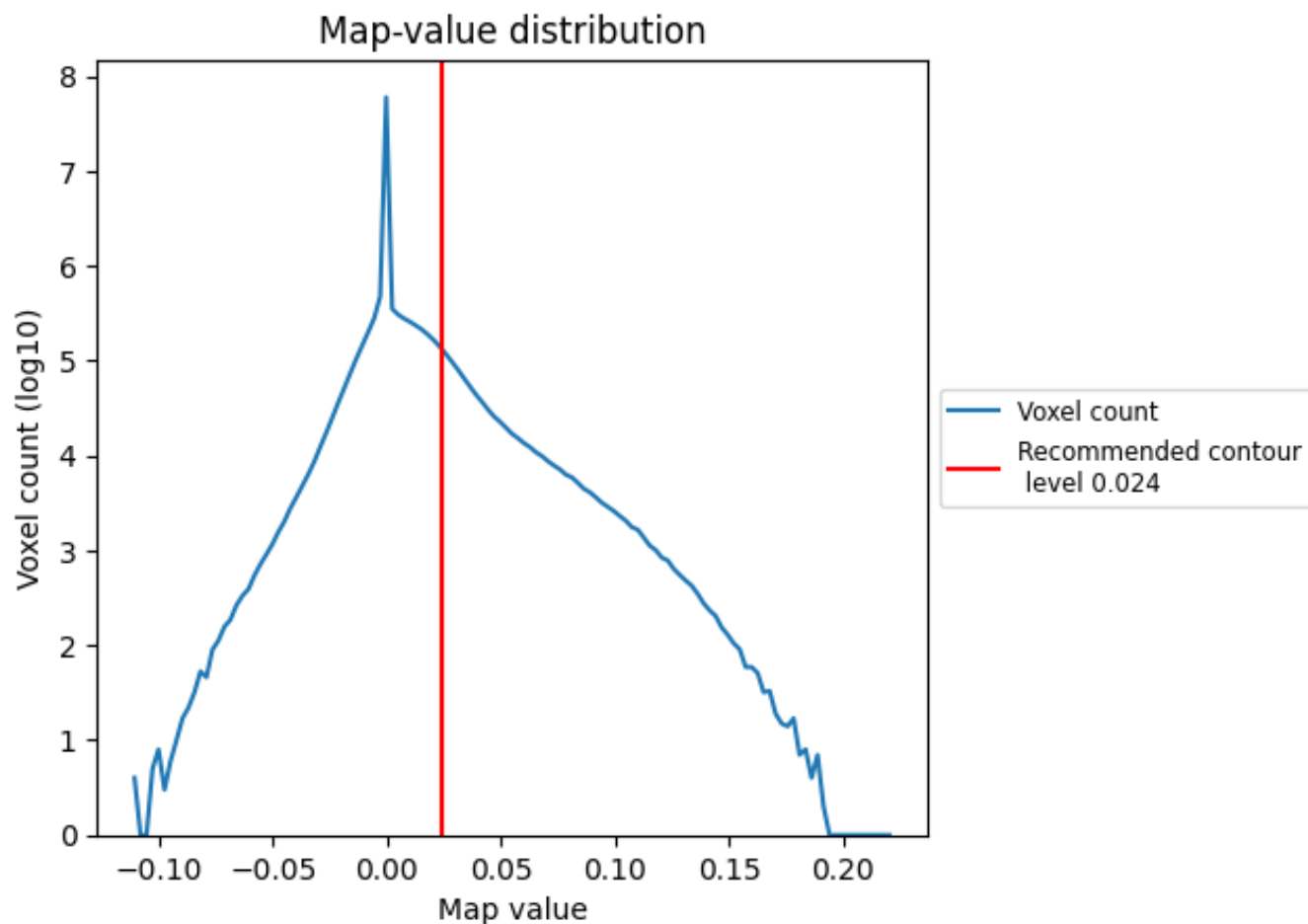
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

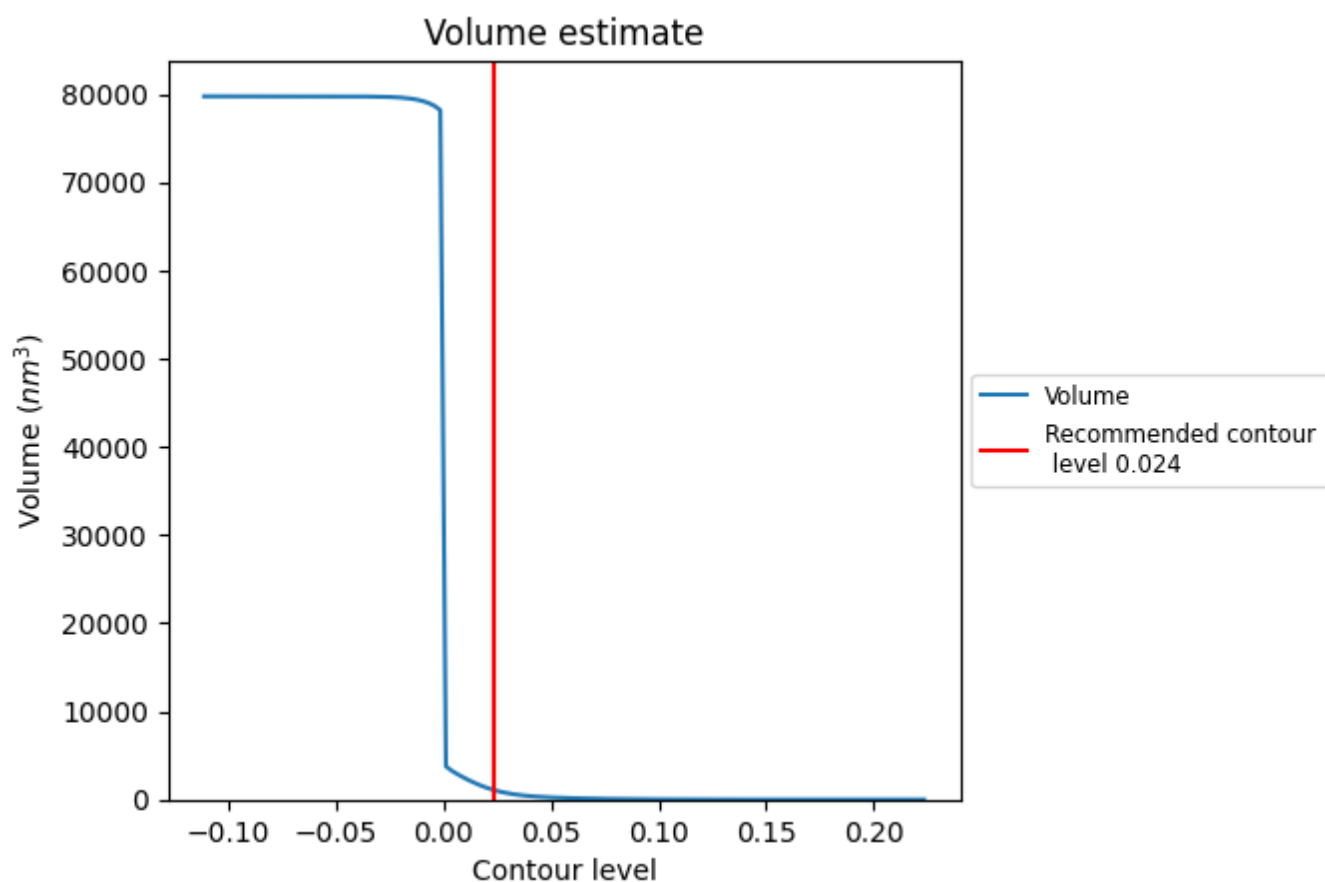
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

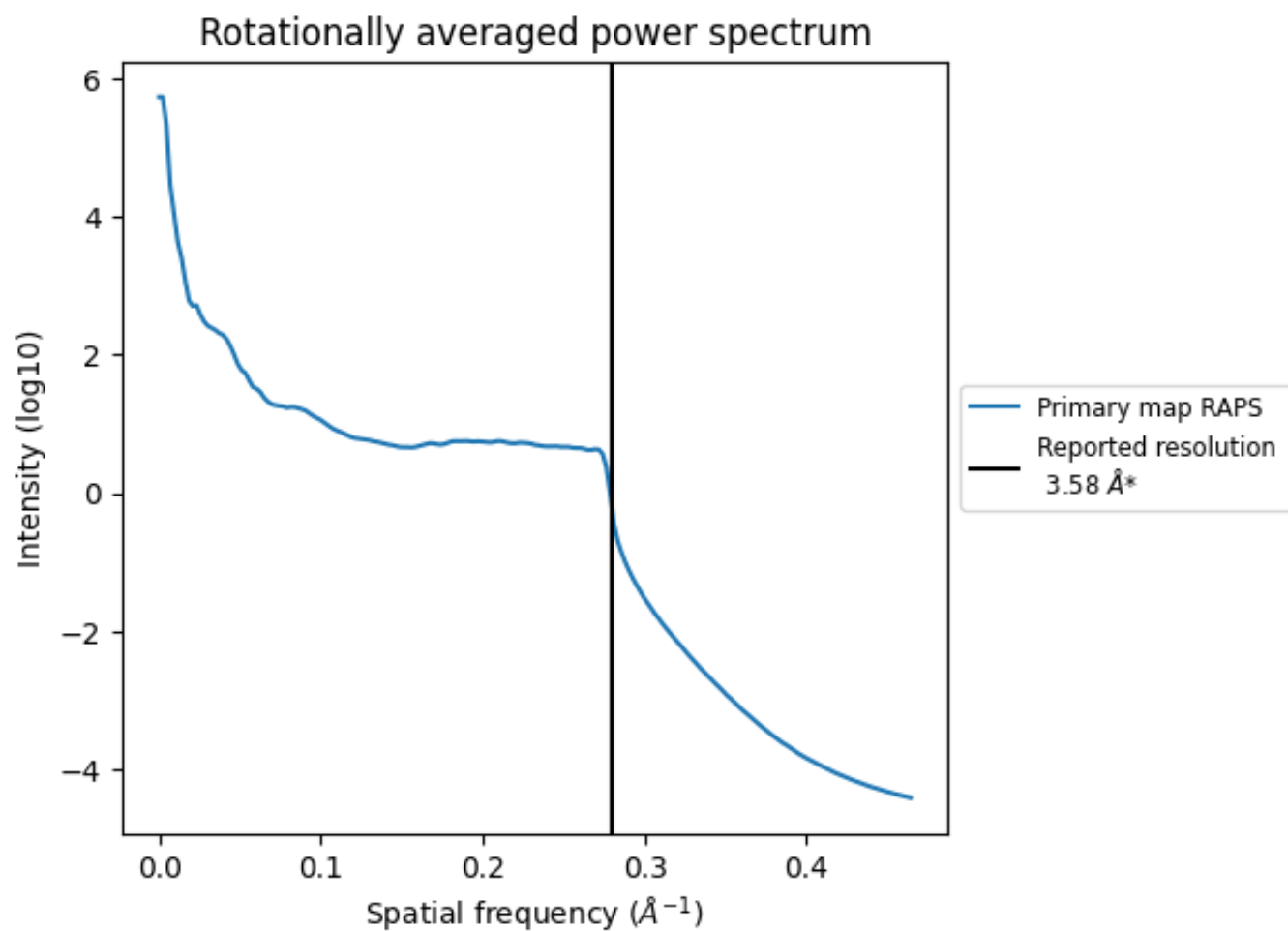
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1057 nm³; this corresponds to an approximate mass of 955 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 0.279 Å⁻¹

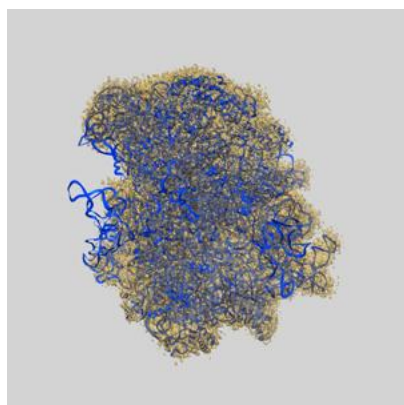
8 Fourier-Shell correlation

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

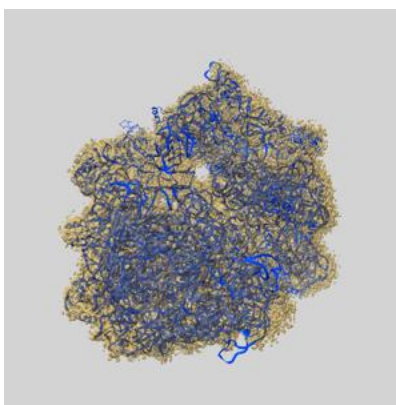
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-10079 and PDB model 6S13. Per-residue inclusion information can be found in section 3 on page 14.

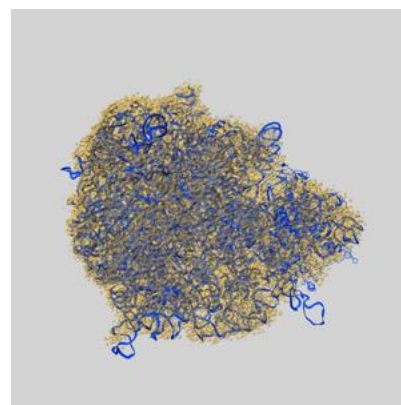
9.1 Map-model overlay [i](#)



X



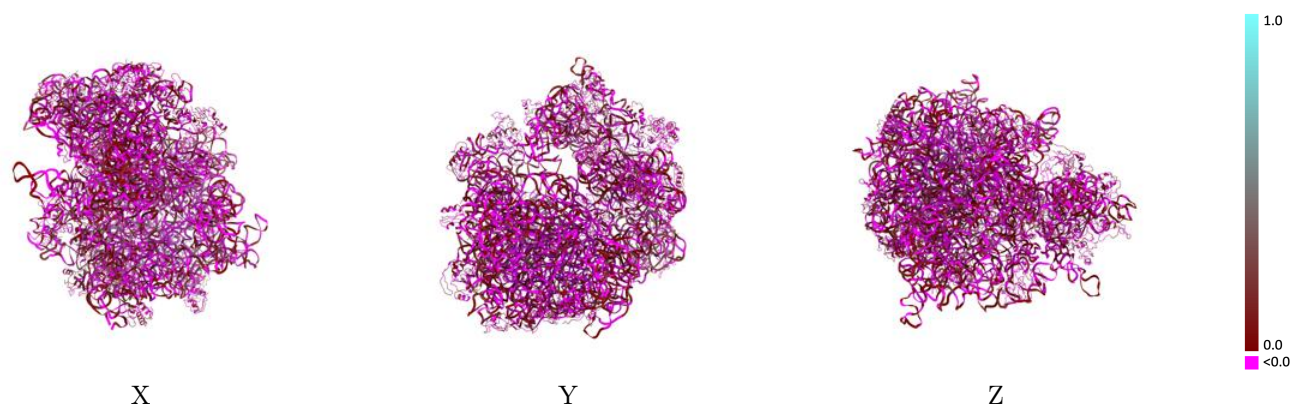
Y



Z

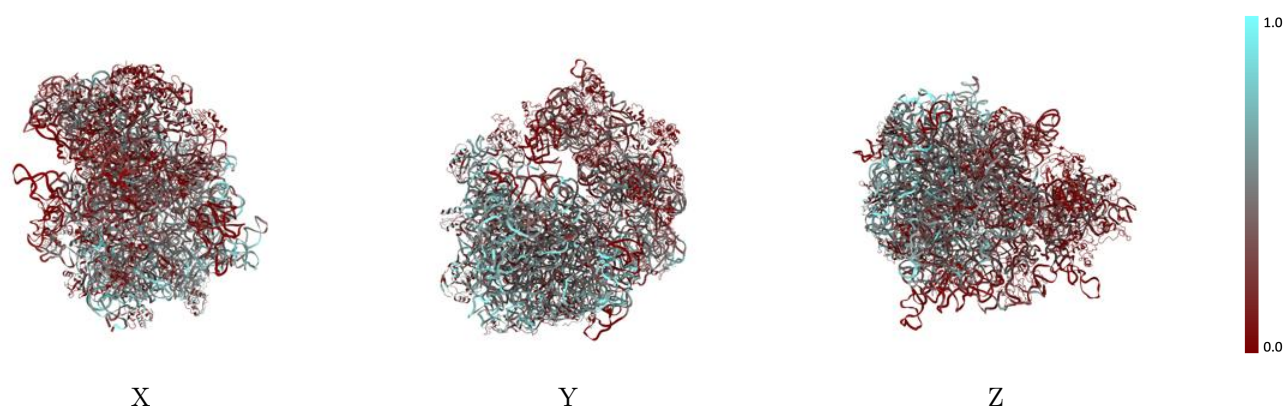
The images above show the 3D surface view of the map at the recommended contour level 0.024 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



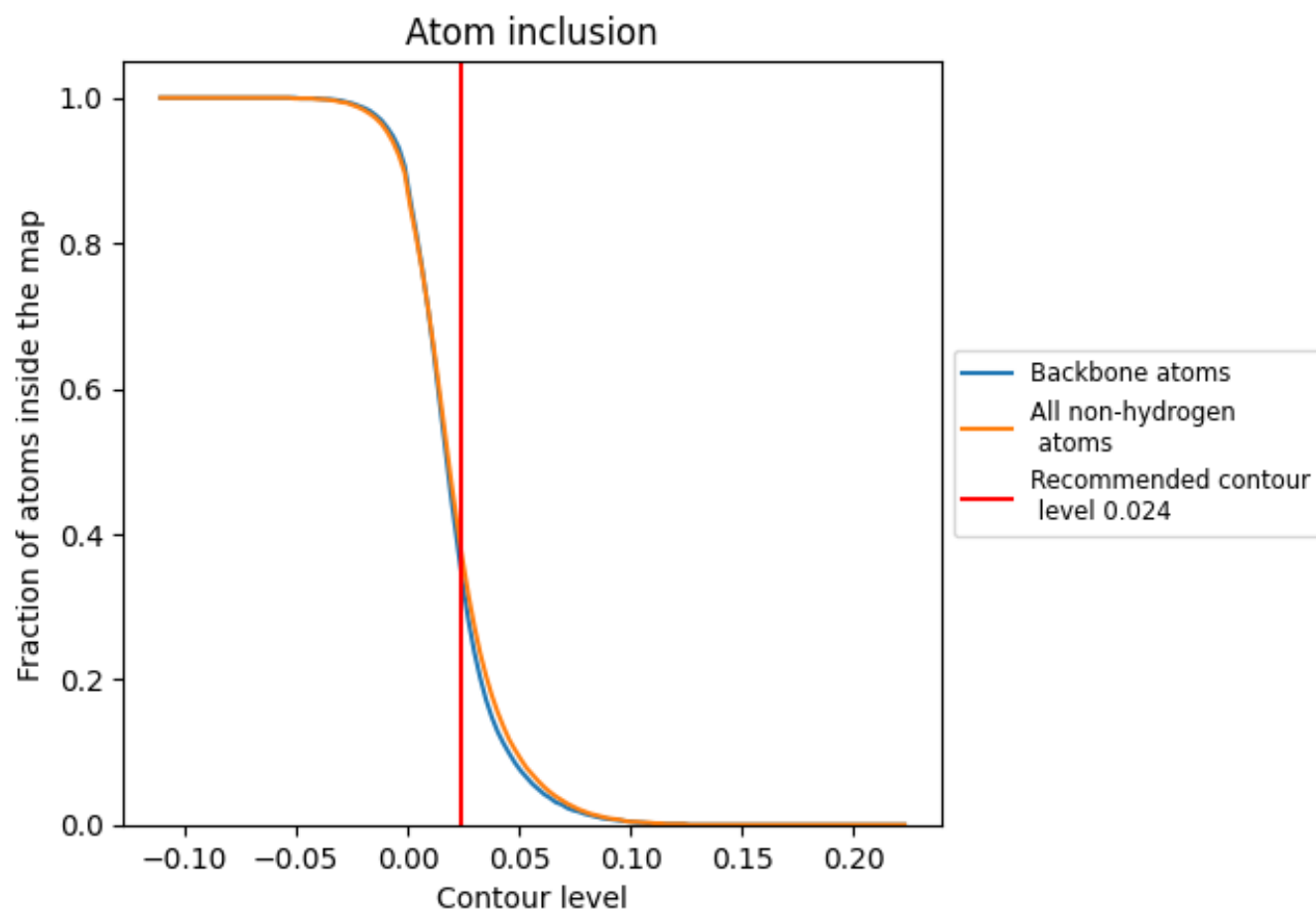
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.024).

9.4 Atom inclusion ⓘ



At the recommended contour level, 35% of all backbone atoms, 38% 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 (0.024) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.3780	 0.0000
1	 0.2290	 -0.0040
2	 0.3500	 -0.0540
3	 0.3130	 -0.0380
4	 0.2980	 -0.0180
A	 0.4740	 -0.0050
B	 0.5730	 0.0480
C	 0.2990	 -0.0630
D	 0.3770	 -0.0010
E	 0.3470	 -0.0200
F	 0.1910	 0.0070
G	 0.0870	 0.0210
H	 0.4270	 0.0400
I	 0.3460	 -0.0150
J	 0.2960	 -0.0570
K	 0.3750	 0.0320
L	 0.3730	 -0.0090
M	 0.3260	 0.0230
N	 0.3690	 0.0090
O	 0.4070	 -0.0140
P	 0.4680	 0.0640
Q	 0.3610	 0.0150
R	 0.3150	 -0.0280
S	 0.3780	 0.0320
T	 0.2120	 0.0450
U	 0.2740	 -0.0630
V	 0.2560	 -0.0090
W	 0.3750	 0.0050
X	 0.4440	 0.0470
Y	 0.1300	 0.0460
Z	 0.4470	 0.0150
a	 0.3060	 0.0100
b	 0.0940	 -0.0110
c	 0.0960	 0.0130
d	 0.1580	 0.0010



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
e	 0.1370	 -0.0050
f	 0.1000	 -0.0310
g	 0.1180	 0.0080
h	 0.1730	 0.0040
i	 0.1860	 0.0240
j	 0.0680	 -0.0030
k	 0.1960	 -0.0190
l	 0.0590	 0.0220
m	 0.1020	 -0.0340
n	 0.1540	 -0.0110
o	 0.1240	 -0.0240
p	 0.1850	 0.0060
q	 0.2290	 -0.0070
r	 0.2200	 -0.0020
s	 0.1340	 -0.0130
t	 0.1200	 -0.0030
u	 0.1830	 0.0260
v	 0.0600	 0.0240