



# Full wwPDB X-ray Structure Validation Report ⓘ

May 15, 2020 – 09:38 am BST

PDB ID : 2F4V  
Title : 30S ribosome + designer antibiotic  
Authors : Murray, J.B.; Meroueh, S.O.; Russell, R.J.; Lentzen, G.; Haddad, J.; Mobashery, S.  
Deposited on : 2005-11-24  
Resolution : 3.80 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

---

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtrriage (Phenix) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.11

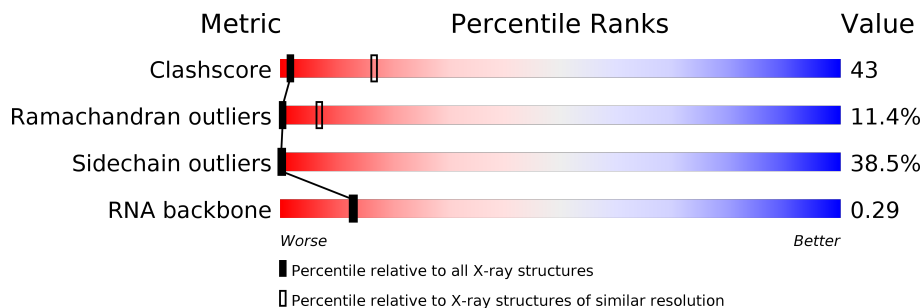
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.80 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)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1288 (4.00-3.60)
Ramachandran outliers	138981	1243 (4.00-3.60)
Sidechain outliers	138945	1237 (4.00-3.60)
RNA backbone	3102	1036 (4.60-3.00)




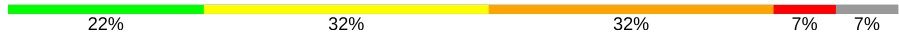
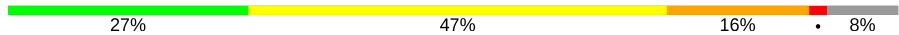
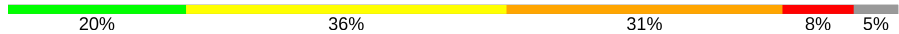
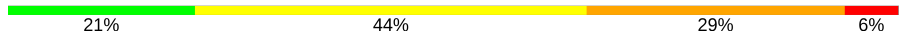
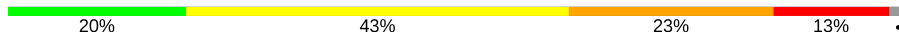
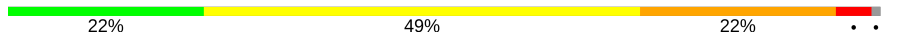
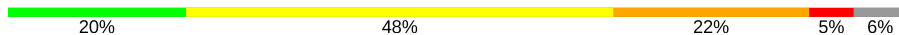
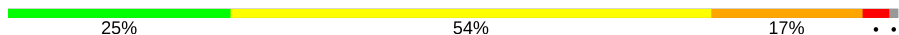
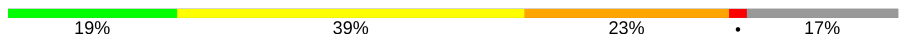
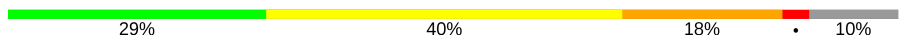

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria 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  $\leq 5\%$

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	1511	11% 37% 36% 17%
2	Z	4	100%
3	B	256	20% 45% 24% 7%
4	C	239	20% 37% 24% 5% 14%
5	D	209	21% 45% 28% 5%
6	E	162	20% 40% 31% 7%
7	F	101	36% 46% 19%

Continued on next page...

*Continued from previous page...*

Mol	Chain	Length	Quality of chain
8	G	156	 32% 44% 21% . .
9	H	138	 33% 43% 20% .
10	I	128	 19% 48% 27% 5% .
11	J	105	 22% 32% 32% 7% 7%
12	K	129	 27% 47% 16% . 8%
13	L	132	 20% 36% 31% 8% 5%
14	M	126	 21% 44% 29% 6% .
15	N	61	 20% 43% 23% 13% .
16	O	89	 22% 49% 22% . .
17	P	88	 20% 48% 22% 5% 6%
18	Q	105	 25% 54% 17% . .
19	R	88	 19% 39% 23% . 17%
20	S	93	 29% 40% 18% . 10%
21	T	106	 18% 51% 20% 5% 7%

## 2 Entry composition i

There are 26 unique types of molecules in this entry. The entry contains 51728 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	A	1507	32391	14418	6002	10465	1506	22	0	0

- Molecule 2 is a RNA chain called 5'-R(P\*UP\*UP\*CP\*U)-3'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	Z	4	80	36	9	31	4	0	0	0

- Molecule 3 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	B	237	1923	1226	344	348	5	0	0	0

- Molecule 4 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	C	206	1612	1016	314	281	1	0	0	0

- Molecule 5 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	D	208	1703	1066	339	291	7	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	199	GLN	ASN	CONFLICT	UNP P80373
D	201	ASN	GLN	CONFLICT	UNP P80373

- Molecule 6 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	E	150	1146	724	217	201	4	0	0	0

- Molecule 7 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	F	101	843	531	155	154	3	0	0	0

- Molecule 8 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	G	155	1257	781	252	218	6	0	0	0

- Molecule 9 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	H	138	1116	705	215	193	3	0	0	0

- Molecule 10 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
10	I	127	1011	639	198	174	0	0	0

- Molecule 11 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	J	98	792	498	156	137	1	0	0	0

- Molecule 12 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	K	119	885	549	168	165	3	0	0	0

- Molecule 13 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	L	125	975	614	196	164	1	0	0	0

- Molecule 14 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
14	M	125	997	617	207	171	2	0	0	0

- Molecule 15 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	N	60	492	312	104	72	4	0	0	0

- Molecule 16 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
16	O	88	734	459	147	126	2	0	0	0

- Molecule 17 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
17	P	83	700	443	139	117	1	0	0	0

- Molecule 18 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
18	Q	104	857	547	161	147	2	0	0	0

- Molecule 19 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
19	R	73	597	380	118	99	0	0	0

- Molecule 20 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	S	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			

- Molecule 21 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	T	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			

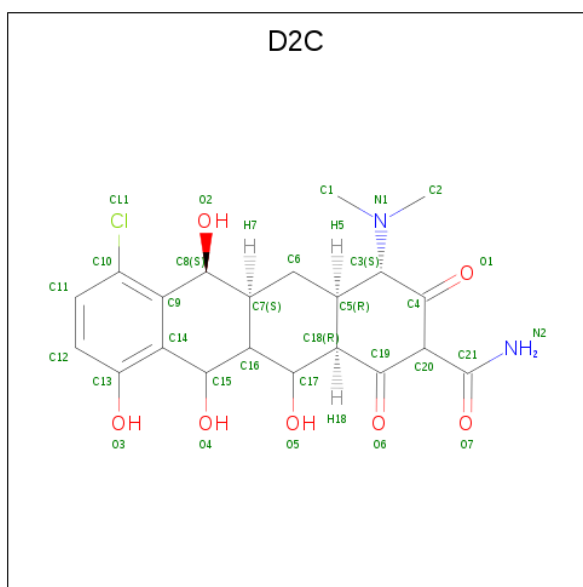
- Molecule 22 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
22	Z	1	Total	Mg	0	0
			1	1		
22	A	98	Total	Mg	0	0
			98	98		
22	D	1	Total	Mg	0	0
			1	1		
22	M	1	Total	Mg	0	0
			1	1		

- Molecule 23 is POTASSIUM ION (three-letter code: K) (formula: K).

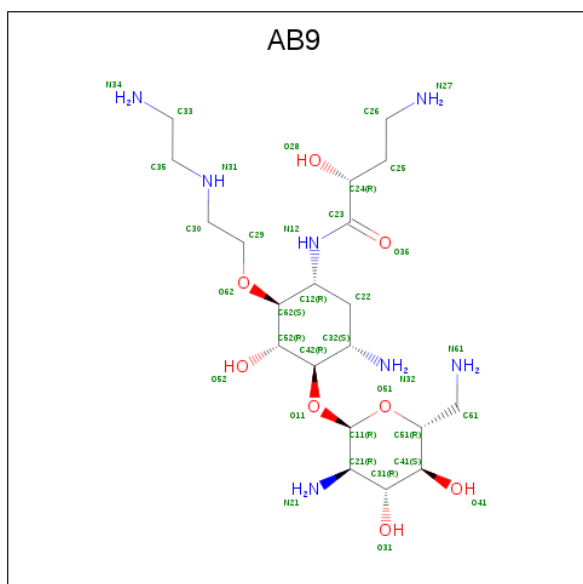
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
23	A	12	Total	K	0	0
			12	12		

- Molecule 24 is (2S,4S,4AR,5AS,6S,11R,11AS,12R,12AR)-7-CHLORO-4-(DIMETHYLAMINO)-6,10,11,12-TETRAHYDROXY-1,3-DIOXO-1,2,3,4,4A,5,5A,6,11,11A,12,12A-DODECAHYDROTETRACENE-2-CARBOXAMIDE (three-letter code: D2C) (formula: C<sub>21</sub>H<sub>25</sub>ClN<sub>2</sub>O<sub>7</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
			Total	C	Cl	N			O
24	A	1	31	21	1	2	7	0	0

- Molecule 25 is (2R)-4-AMINO-N-[(1R,2S,3R,4R,5S)-5-AMINO-2-[(2-AMINOETHYL)AMINO]ETHOXY]-4-[(2,6-DIAMINO-2,6-DIDEOXY-ALPHA-D-GLUCOPYRANOSYL)OXY]-3-HYDROXYCYCLOHEXYL}-2-HYDROXYBUTANAMIDE (three-letter code: AB9) (formula:  $C_{20}H_{43}N_7O_8$ ).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
25	A	1	35	20	7	8	0	0



- Molecule 26 is ZINC ION (three-letter code: ZN) (formula: Zn).

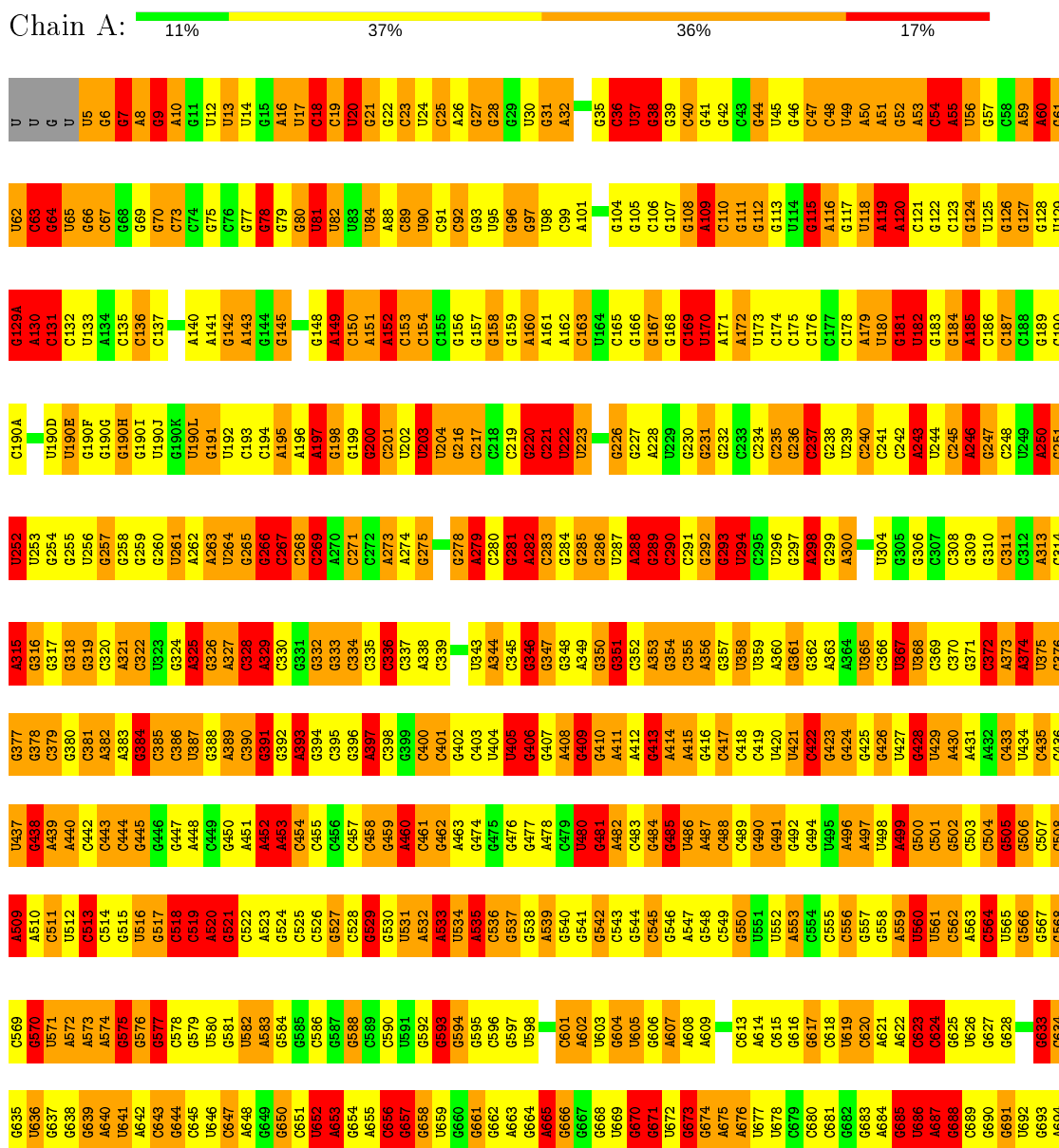
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
26	D	1	Total 1	Zn 1	0	0
26	N	1	Total 1	Zn 1	0	0

### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA 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. 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. 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.

Note EDS was not executed.

- Molecule 1: 16S ribosomal RNA



C1496	U1427	C1386	A1306	G1184	U1122	U1062	C1006	G945	U884	C817	U757	A695
G1497	A1428	C1367	U1307	G1185	A1123	C1063	C1007	A946	G885	G818	G758	A696
U1498	G1388	G1368	U1298	G1186	G1124	C1064	G1008	G947	G886	A819	G759	A697
A1499	C1430	A1248	G1309	G1187	U1125	G1085	G1009	C948	G887	U820	G760	G698
A1500	G1431	G1370	G1310	A1188	G1249	C1066	G1010	A949	G888	G821	G761	G700
A1501	G1432	G1371	G1311	G1189	U1127	C1067	G1011	U950	A889	C822	G762	C701
A1502	A1433	U1372	G1312	G1190	C1128	G1068	U1012	G851	G890	G823	G763	C702
A1503	A1434	A1251	U1313	A1191	C1129	C1069	G1013	U952	U891	G824	G764	A703
G1504	G1435	A1252	G1314	A1192	A1130	U1070	A1014	G953	G892	G825	G765	G704
G1505	A1436	G1254	U1315	G1193	C1131	C1071	A1015	G954	G893	C826	A766	A704
G1506	G1437	G1255	G1316	U1194	C1132	G1072	A1016	U955	G894	U827	A767	U705
A1507	G1438	A1256	G1317	G1195	G1073	U1073	G1017	G956	G895	A828	A768	A706
G1508	C1439	U1257	U1318	U1196	G1134	G1074	C1018	U957	C896	G829	G769	G707
C1509	C1440	G1258	A1319	G1197	U1135	C1075	C1019	A958	C897	C770	C708	C708
U1510	G1441	C1259	G1198	G1198	U1136	C1076	U1020	A959	G898	C832	G771	G709
G1511	G1442	U1260	U1199	U1199	C1137	G1077	G1021	U960	G899	U833	G772	G710
A1512	G1443	A1261	G1200	U1200	G1138	U1078	G1022	U961	G900	C834	G773	G711
A1513	A1446	G1262	C1201	A1201	G1139	G1079	G1023	A901	G901	U835	G774	A712
C1514	G1447	C1263	G1202	A1202	C1140	A1080	G1024	A864	G902	G836	G775	G713
G1515	C1448	C1264	C1203	C1203	C1141	G1081	U1025	A865	G903	G837	G776	G714
G1516	C1449	G1265	U1204	A1204	G1142	G1082	G1026	G966	G904	G838	A777	A715
G1517	U1450	G1266	U1205	G1205	G1143	U1083	C1027	G967	A907	U839	G778	A716
A1518	A1451	G1267	G1206	G1206	U1144	G1084	G1028	G968	A908	C840	G779	C717
A1519	G1452	A1268	G1207	A1207	C1145	U1085	C1029	A969	A909	U841	A780	G718
G1520	G1453	U1269	C1208	C1208	U1146	U1086	U1030	A970	A910	C848	A781	C719
G1521	G1454	C1270	G1209	C1209	C1147	G1087	G1030A	C971	C910	C849	A782	C720
U1522	G1455	G1271	C1210	U1210	U1148	U1088	C1030B	C972	U911	U850	C783	G721
G1523	C1459	G1272	U1211	G1211	C1149	G1089	G1030C	G973	G912	G851	A722	A722
C1524	A1460	G1273	U1212	A1212	U1150	U1090	A1030D	A974	A913	G852	G785	U723
G1525	G1461	G1274	U1213	A1213	A1151	A1091	G1031	A975	A914	G853	G786	G724
C1526	A1462	A1275	C1214	G1214	A1152	A1092	G1032	G976	A915	G854	A787	G725
C1527	G1464	G1276	G1215	G1215	C1153	A1093	G1033	A977	G916	G855	G788	C726
U1528	G1465	C1277	G1216	G1216	G1154	G1094	G1034	A978	A916	C856	G727	G727
G1529	G1466	U1278	U1217	C1217	G1155	U1095	A1035	C979	A918	C857	U789	A728
G1530	G1467	A1279	G1218	G1218	G1156	C1096	G1036	C980	A919	G858	A790	A729
A1531	A1468	A1280	U1219	U1219	A1157	C1097	C1037	U981	U920	A859	G791	A729
U1532	G1469	U1281	G1220	G1220	U1158	C1098	G1038	U982	U921	A860	U792	G731
C1533	G1471	C1282	G1221	G1221	U1159	G1099	C1039	A893	C922	G861	A794	C732
A1534	U1472	G1283	G1222	G1222	C1160	C1100	U1040	C984	A923	C862	C795	A733
G1473	A1473	C1284	C1223	C1223	C1161	A1101	A1041	C985	C924	U863	C796	A734
G1474	G1474	A1285	G1224	G1224	C1162	A1102	G1042	A986	G925	A864	C797	C735
G1475	G1475	A1286	A1225	A1225	C1163	C1103	C1043	G987	G926	A865	G798	C736
C1478	C1478	A1287	C1226	C1226	G1164	G1104	A1044	G988	G927	C866	G799	A737
C1479	A1479	A1288	A1227	A1227	G1166	A1105	C1045	G989	G928	C867	G800	C738
G1482	G1482	A1289	C1228	C1228	A1167	G1106	A1046	C990	G929	C868	U801	C739
A1483	A1483	G1290	A1229	A1229	A1168	C1107	G1047	U991	C930	G869	U802	U740
C1484	C1484	G1291	C1230	C1230	A1169	G1108	U1048	U992	C931	U870	G803	G741
G1485	G1485	G1294	G1231	G1231	G1171	C1109	G1049	G993	C932	U871	U804	G742
G1486	G1486	G1295	U1232	U1232	C1172	A1110	U1050	A994	G933	A872	C805	U743
G1487	G1487	C1296	G1233	G1233	G1173	A1111	C1051	C894	C934	A873	C806	C744
G1488	G1488	C1297	C1234	C1234	G1174	C1112	U1052	U997	A935	G874	A807	C745
G1489	G1489	C1298	U1235	U1235	G1175	C1113	G1053	G998	C936	C875	C808	C746
G1490	G1490	A1299	A1236	A1236	U1176	C1114	C1054	C999	A937	G876	G809	C749
G1491	G1491	G1300	C1237	C1237	G1177	C1115	A1055	U1000	A938	C877	G810	G750
G1492	G1492	U1301	A1238	A1238	U1178	C1116	U1056	A1001	A939	G878	C811	U751
A1493	A1493	U1302	U1239	U1239	A1179	G1117	G1057	G1002	C940	C879	G812	G752
G1494	G1494	U1303	U1240	U1240	A1180	C1118	G1058	G1003	G941	C880	U813	A753
G1495	G1495	G1304	C1242	C1242	G1182	C1119	C1059	A1004	G942	G881	A814	C754
U1495	G1305	A1183	G1305	G1305	A1183	U1121	G1061	A1005	G944	C882	A815	G755
										C883	A816	C756

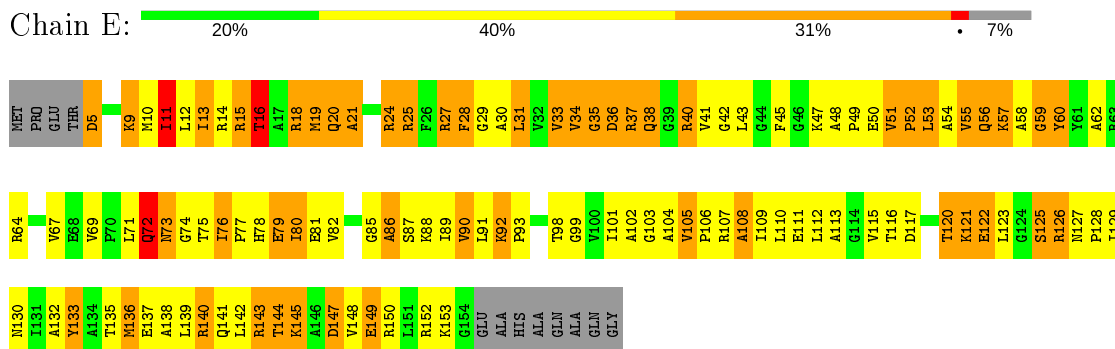
• Molecule 2: 5'-R(P\*UP\*UP\*CP\*U)-3'

Chain Z:

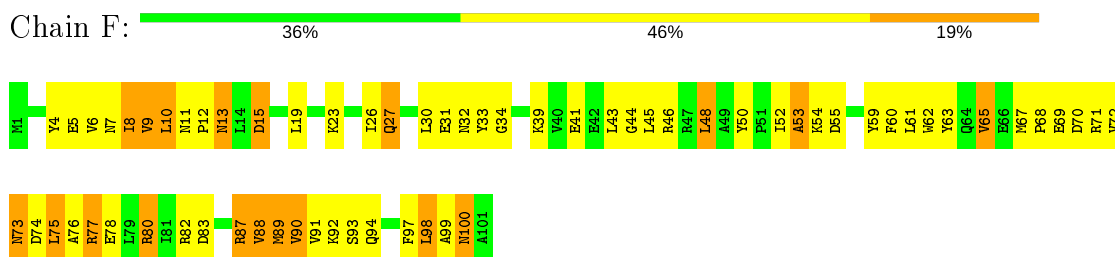
100%



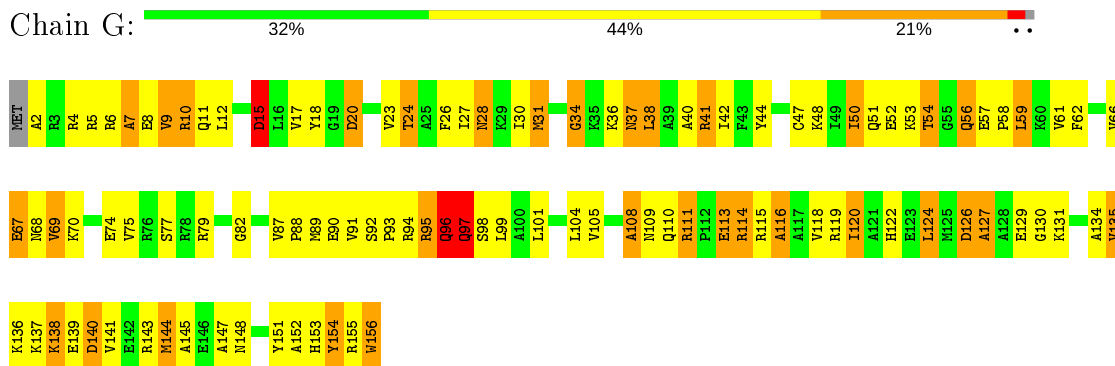
- Molecule 6: 30S ribosomal protein S5



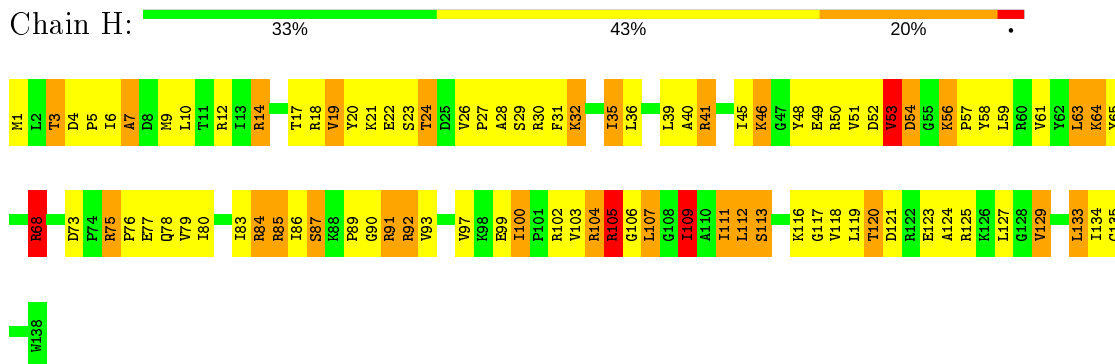
- Molecule 7: 30S ribosomal protein S6



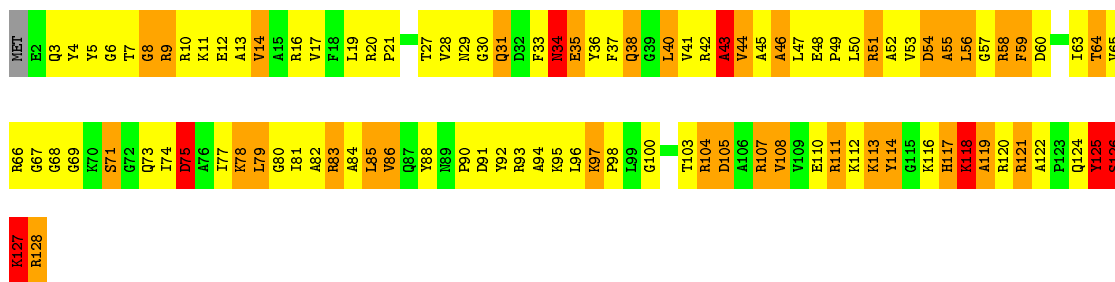
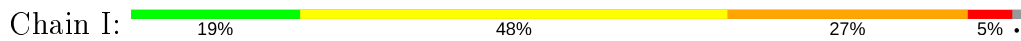
- Molecule 8: 30S ribosomal protein S7



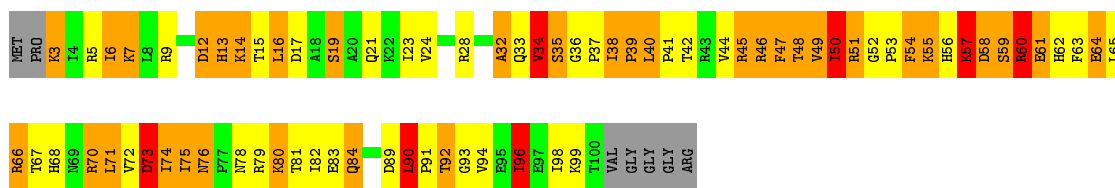
- Molecule 9: 30S ribosomal protein S8



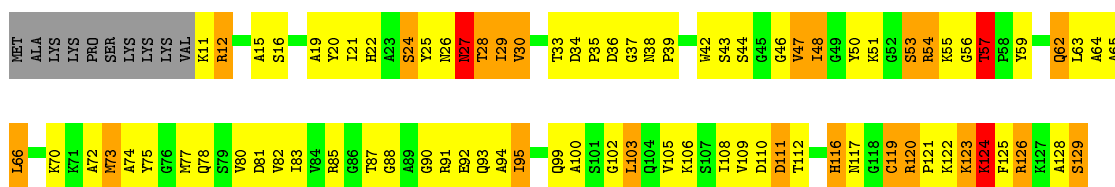
- Molecule 10: 30S ribosomal protein S9



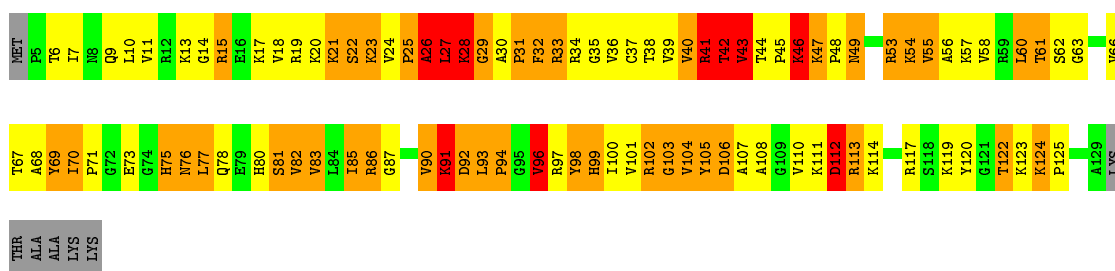
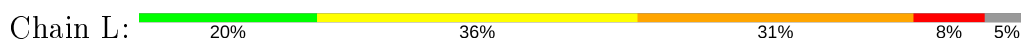
• Molecule 11: 30S ribosomal protein S10



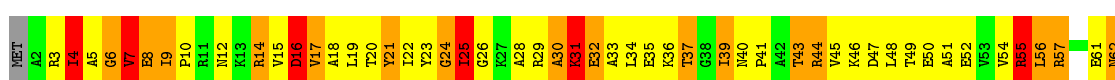
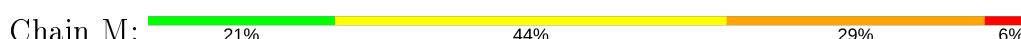
• Molecule 12: 30S ribosomal protein S11



• Molecule 13: 30S ribosomal protein S12



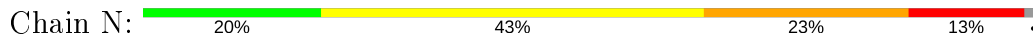
• Molecule 14: 30S ribosomal protein S13



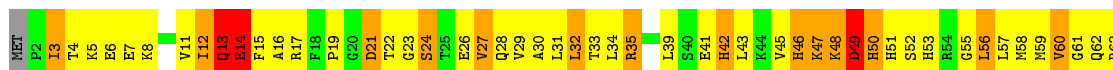


K126

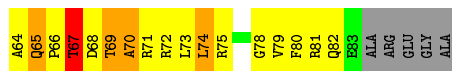
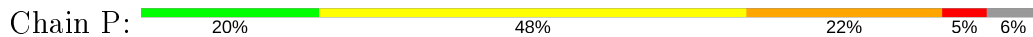
- Molecule 15: 30S ribosomal protein S14



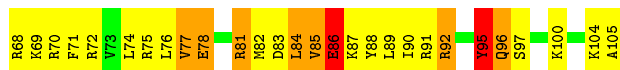
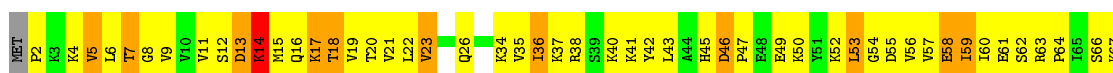
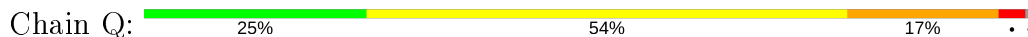
- Molecule 16: 30S ribosomal protein S15



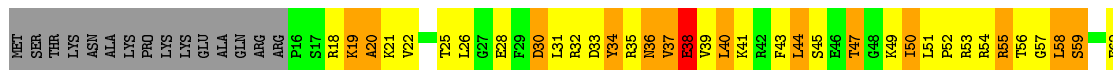
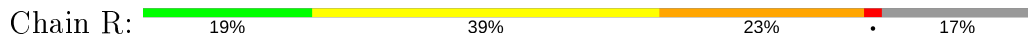
- Molecule 17: 30S ribosomal protein S16

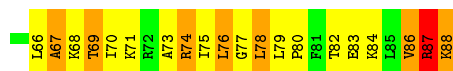


- Molecule 18: 30S ribosomal protein S17

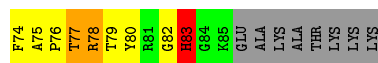
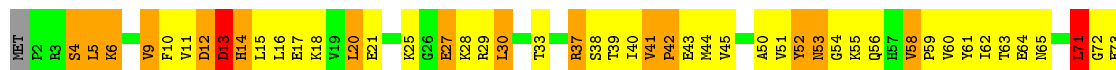
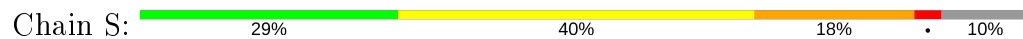


- Molecule 19: 30S ribosomal protein S18

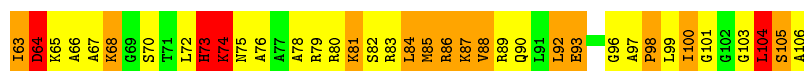
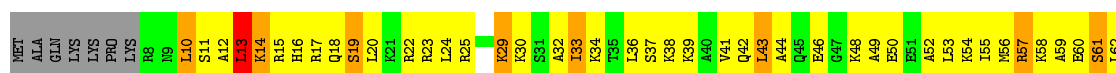
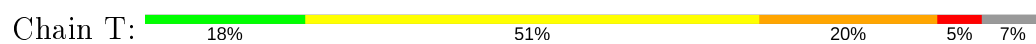




- Molecule 20: 30S ribosomal protein S19



- Molecule 21: 30S ribosomal protein S20





## 4 Data and refinement statistics

Xtrriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	403.32Å 403.32Å 176.69Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 3.80	Depositor
% Data completeness (in resolution range)	97.2 (30.00-3.80)	Depositor
$R_{merge}$	0.16	Depositor
$R_{sym}$	(Not available)	Depositor
Refinement program	REFMAC 5.1.24	Depositor
R, $R_{free}$	0.259 , 0.315	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	51728	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	84.0	wwPDB-VP

## 5 Model quality i

### 5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: K, AB9, MG, D2C, ZN

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	1.70	440/36247 (1.2%)	1.64	607/56545 (1.1%)
2	Z	2.01	1/87 (1.1%)	1.60	0/132
3	B	0.84	1/1958 (0.1%)	0.69	5/2640 (0.2%)
4	C	0.91	1/1636 (0.1%)	0.66	3/2205 (0.1%)
5	D	0.81	1/1733 (0.1%)	0.66	5/2318 (0.2%)
6	E	1.14	1/1162 (0.1%)	0.75	3/1564 (0.2%)
7	F	0.73	0/856	0.65	2/1154 (0.2%)
8	G	0.89	1/1276 (0.1%)	0.64	4/1709 (0.2%)
9	H	1.18	1/1136 (0.1%)	0.80	2/1527 (0.1%)
10	I	0.79	0/1029	0.67	5/1378 (0.4%)
11	J	0.81	1/805 (0.1%)	0.75	3/1082 (0.3%)
12	K	0.99	0/900	0.73	2/1213 (0.2%)
13	L	0.87	0/991	0.67	3/1327 (0.2%)
14	M	0.87	1/1008 (0.1%)	0.69	3/1347 (0.2%)
15	N	0.86	0/501	0.63	0/664
16	O	0.88	0/745	0.67	3/992 (0.3%)
17	P	1.16	1/716 (0.1%)	0.82	2/963 (0.2%)
18	Q	1.01	0/870	0.71	3/1159 (0.3%)
19	R	0.92	0/603	0.72	1/799 (0.1%)
20	S	0.70	0/689	0.66	2/926 (0.2%)
21	T	1.07	0/764	0.68	0/1006
All	All	1.47	450/55712 (0.8%)	1.41	658/82650 (0.8%)

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	B	0	2
4	C	0	6

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	#Chirality outliers	#Planarity outliers
5	D	0	6
6	E	0	5
7	F	0	1
9	H	0	5
10	I	0	4
11	J	0	6
12	K	0	5
13	L	0	8
14	M	0	4
15	N	0	8
17	P	0	4
18	Q	0	1
20	S	0	5
21	T	0	4
All	All	0	74

All (450) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1169	A	O3'-P	35.46	2.03	1.61
1	A	1227	A	N9-C4	-13.10	1.29	1.37
1	A	1346	A	C3'-O3'	11.14	1.57	1.42
1	A	1224	G	C3'-O3'	10.61	1.57	1.42
1	A	1129	C	C1'-N1	10.46	1.64	1.48
1	A	279	A	N9-C4	-10.23	1.31	1.37
1	A	1125	U	C3'-O3'	10.21	1.56	1.42
1	A	766	A	N9-C4	-9.68	1.32	1.37
1	A	975	A	N9-C4	-9.63	1.32	1.37
1	A	533	A	C3'-O3'	9.56	1.55	1.42
1	A	1064	G	N9-C4	-8.93	1.30	1.38
1	A	1192	C	C1'-N1	8.92	1.62	1.48
1	A	573	A	N7-C5	-8.91	1.33	1.39
1	A	1502	A	N9-C4	-8.88	1.32	1.37
1	A	723	U	C1'-N1	8.86	1.62	1.48
1	A	1199	U	C1'-N1	8.68	1.61	1.48
1	A	1397	C	C1'-N1	8.45	1.61	1.48
1	A	1509	C	C3'-O3'	-8.40	1.30	1.42
1	A	1073	U	C1'-N1	8.36	1.61	1.48
1	A	817	C	N1-C6	-8.35	1.32	1.37
1	A	1101	A	N9-C4	8.30	1.42	1.37
1	A	386	C	C3'-O3'	-8.26	1.30	1.42
1	A	1533	C	C1'-N1	8.23	1.61	1.48

*Continued on next page...*

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1281	U	C3'-O3'	8.17	1.53	1.42
1	A	1159	U	C1'-N1	8.15	1.60	1.48
1	A	60	A	C3'-O3'	8.14	1.53	1.42
1	A	115	G	C3'-O3'	8.07	1.53	1.42
1	A	812	C	C3'-O3'	8.01	1.53	1.42
1	A	458	C	C1'-N1	7.97	1.60	1.48
1	A	866	C	N3-C4	-7.93	1.28	1.33
1	A	687	A	C3'-O3'	7.93	1.53	1.42
2	Z	3	U	C1'-N1	7.93	1.60	1.48
1	A	401	C	C1'-N1	7.91	1.60	1.48
1	A	665	A	N9-C4	-7.89	1.33	1.37
1	A	1398	A	C3'-O3'	-7.85	1.31	1.42
1	A	1239	A	N9-C4	-7.69	1.33	1.37
1	A	919	A	C5-C4	-7.57	1.33	1.38
1	A	1281	U	C1'-N1	7.57	1.60	1.48
4	C	22	TRP	CB-CG	-7.55	1.36	1.50
1	A	82	U	C1'-N1	7.50	1.59	1.48
1	A	553	A	C3'-O3'	-7.47	1.31	1.42
1	A	1302	U	C3'-O3'	7.44	1.52	1.42
1	A	246	A	N9-C4	-7.42	1.33	1.37
1	A	181	G	C3'-O3'	7.41	1.52	1.42
1	A	5	U	N1-C2	7.40	1.45	1.38
1	A	1502	A	C5-C6	-7.39	1.34	1.41
1	A	1361(A)	C	C1'-N1	7.37	1.59	1.48
1	A	753	A	C6-N1	-7.32	1.30	1.35
1	A	1367	C	N1-C2	7.26	1.47	1.40
1	A	532	A	N9-C4	7.26	1.42	1.37
1	A	119	A	C3'-O3'	7.24	1.52	1.42
1	A	371	G	C3'-O3'	-7.19	1.32	1.42
1	A	1397	C	N1-C2	7.18	1.47	1.40
1	A	981	U	C2-N3	7.17	1.42	1.37
1	A	940	C	C3'-O3'	-7.10	1.32	1.42
1	A	279	A	N7-C5	-7.07	1.35	1.39
1	A	727	G	N7-C5	-7.06	1.35	1.39
1	A	766	A	C5-C6	-7.04	1.34	1.41
1	A	372	C	C3'-O3'	6.96	1.51	1.42
1	A	7	G	C1'-N9	-6.96	1.37	1.46
1	A	886	G	N9-C4	-6.95	1.32	1.38
1	A	859	A	N7-C5	-6.93	1.35	1.39
1	A	81	U	C1'-N1	6.92	1.59	1.48
1	A	298	A	N3-C4	-6.92	1.30	1.34
1	A	1117	G	O5'-C5'	-6.90	1.31	1.42

Continued on next page...

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	753	A	C6-N6	-6.90	1.28	1.33
1	A	921	U	C3'-O3'	-6.90	1.32	1.42
1	A	257	G	N9-C4	6.86	1.43	1.38
1	A	1369	C	C3'-O3'	-6.84	1.32	1.42
1	A	1275	A	N9-C4	6.83	1.42	1.37
1	A	378	G	C3'-O3'	-6.83	1.32	1.42
1	A	743	U	P-O5'	6.80	1.66	1.59
1	A	374	A	C3'-O3'	-6.76	1.32	1.42
1	A	520	A	N9-C4	6.73	1.41	1.37
1	A	377	G	N9-C4	6.73	1.43	1.38
1	A	1265	G	N9-C4	6.73	1.43	1.38
1	A	1073	U	C2-N3	6.72	1.42	1.37
1	A	389	A	N7-C5	-6.72	1.35	1.39
1	A	5	U	C3'-O3'	6.71	1.51	1.42
1	A	801	U	C4-O4	-6.71	1.18	1.23
1	A	421	U	C3'-O3'	6.71	1.51	1.42
1	A	1257	U	C1'-N1	6.71	1.58	1.48
1	A	613	C	C1'-N1	6.69	1.58	1.48
1	A	1126	U	P-O5'	6.69	1.66	1.59
1	A	393	A	C3'-O3'	-6.66	1.32	1.42
1	A	1074	G	C3'-O3'	-6.64	1.32	1.42
1	A	200	G	N1-C2	6.62	1.43	1.37
1	A	915	A	N7-C5	-6.59	1.35	1.39
1	A	1067	A	N9-C4	6.59	1.41	1.37
1	A	1126	U	C1'-N1	6.56	1.58	1.48
1	A	61	G	N7-C5	-6.55	1.35	1.39
1	A	1324	A	N7-C5	-6.54	1.35	1.39
1	A	1495	U	C1'-N1	6.53	1.58	1.48
1	A	1149	C	C3'-O3'	-6.53	1.33	1.42
1	A	334	C	C1'-N1	6.52	1.58	1.48
1	A	1090	U	C1'-N1	6.50	1.58	1.48
1	A	61	G	N3-C4	-6.49	1.30	1.35
1	A	1114	C	C1'-N1	6.47	1.58	1.48
1	A	1363	A	N9-C4	6.45	1.41	1.37
1	A	688	G	N9-C4	-6.45	1.32	1.38
1	A	766	A	N7-C5	-6.44	1.35	1.39
1	A	1085	U	C3'-O3'	6.44	1.51	1.42
1	A	574	A	C5-C6	-6.43	1.35	1.41
1	A	574	A	N7-C5	-6.41	1.35	1.39
1	A	1188	A	N9-C4	-6.41	1.34	1.37
1	A	149	A	C3'-O3'	-6.40	1.33	1.42
1	A	172	A	N7-C5	-6.39	1.35	1.39

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	351	G	C3'-O3'	6.39	1.51	1.42
1	A	460	A	N9-C4	6.39	1.41	1.37
1	A	1504	G	O5'-C5'	-6.39	1.32	1.42
1	A	440	A	N9-C4	6.38	1.41	1.37
1	A	828	A	N9-C4	-6.38	1.34	1.37
1	A	1514	C	C3'-O3'	-6.36	1.33	1.42
1	A	232	G	C3'-O3'	-6.35	1.33	1.42
1	A	688	G	N7-C5	-6.35	1.35	1.39
1	A	1135	U	C1'-N1	6.35	1.58	1.48
1	A	7	G	N9-C4	-6.34	1.32	1.38
1	A	1082	G	O5'-C5'	-6.34	1.32	1.42
1	A	1350	A	N3-C4	-6.34	1.31	1.34
1	A	595	G	C6-N1	-6.34	1.35	1.39
1	A	170	U	C3'-O3'	-6.33	1.33	1.42
1	A	294	U	C2-N3	-6.32	1.33	1.37
1	A	1101	A	C3'-O3'	6.32	1.50	1.42
1	A	5	U	C1'-N1	6.32	1.58	1.48
1	A	1235	U	C1'-N1	6.31	1.58	1.48
1	A	696	A	N7-C5	-6.31	1.35	1.39
1	A	700	G	C6-O6	6.30	1.29	1.24
1	A	688	G	C8-N7	-6.29	1.27	1.30
1	A	773	G	N9-C4	6.29	1.43	1.38
1	A	975	A	N3-C4	-6.29	1.31	1.34
1	A	1465	C	C1'-N1	6.28	1.58	1.48
1	A	782	A	N7-C5	-6.27	1.35	1.39
1	A	190(H)	G	P-O5'	6.27	1.66	1.59
1	A	1433	A	C3'-O3'	-6.25	1.33	1.42
9	H	105	ARG	NE-CZ	6.24	1.41	1.33
1	A	61	G	C5-C6	-6.24	1.36	1.42
1	A	1229	A	C3'-O3'	-6.24	1.33	1.42
1	A	518	C	C1'-N1	6.22	1.58	1.48
1	A	63	C	O5'-C5'	-6.21	1.32	1.42
1	A	279	A	N3-C4	-6.21	1.31	1.34
1	A	1521	G	C6-N1	-6.21	1.35	1.39
1	A	27	G	C6-N1	-6.20	1.35	1.39
1	A	281	G	C3'-O3'	6.19	1.50	1.42
1	A	240	C	C3'-O3'	-6.18	1.33	1.42
1	A	1064	G	N3-C4	-6.18	1.31	1.35
1	A	1188	A	N3-C4	-6.17	1.31	1.34
1	A	635	G	N3-C4	-6.17	1.31	1.35
1	A	935	A	N9-C4	-6.16	1.34	1.37
1	A	1434	A	N7-C5	-6.16	1.35	1.39

*Continued on next page...*

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	9	G	C5-C6	-6.15	1.36	1.42
1	A	1138	G	C3'-O3'	6.15	1.50	1.42
1	A	967	C	N1-C2	6.15	1.46	1.40
1	A	1347	G	N7-C5	-6.14	1.35	1.39
1	A	1195	C	C1'-N1	6.13	1.57	1.48
1	A	1510	U	C3'-O3'	-6.12	1.33	1.42
1	A	1380	U	C3'-O3'	6.12	1.50	1.42
1	A	701	C	C3'-O3'	6.11	1.50	1.42
1	A	1499	A	N9-C4	-6.10	1.34	1.37
1	A	81	U	O5'-C5'	6.10	1.54	1.44
1	A	821	G	C5-C4	-6.09	1.34	1.38
1	A	135	C	N1-C6	6.08	1.40	1.37
1	A	1182	G	C3'-O3'	6.06	1.50	1.42
1	A	222	U	C3'-O3'	-6.06	1.33	1.42
1	A	571	U	C1'-N1	6.06	1.57	1.48
1	A	53	A	N7-C5	-6.03	1.35	1.39
1	A	53	A	C6-N1	-6.03	1.31	1.35
14	M	7	VAL	CA-CB	6.02	1.67	1.54
1	A	375	U	C3'-O3'	-6.02	1.33	1.42
1	A	190	C	C3'-O3'	6.01	1.50	1.42
1	A	1370	G	C6-O6	6.01	1.29	1.24
1	A	385	C	C3'-O3'	-6.01	1.33	1.42
1	A	759	A	N9-C4	-6.00	1.34	1.37
1	A	700	G	C6-N1	6.00	1.43	1.39
1	A	919	A	N9-C4	-6.00	1.34	1.37
1	A	1125	U	P-O5'	5.99	1.65	1.59
1	A	1063	C	C3'-O3'	-5.99	1.33	1.42
1	A	163	C	C1'-N1	5.97	1.57	1.48
1	A	1079	G	C6-O6	5.96	1.29	1.24
6	E	28	PHE	CB-CG	-5.96	1.41	1.51
1	A	527	G	P-O5'	5.96	1.65	1.59
1	A	1299	A	N9-C4	-5.95	1.34	1.37
1	A	898	G	N9-C4	-5.94	1.33	1.38
1	A	1237	C	C1'-N1	5.93	1.57	1.48
1	A	572	A	N7-C5	-5.92	1.35	1.39
1	A	438	G	C3'-O3'	5.92	1.50	1.42
1	A	787	A	N9-C4	-5.92	1.34	1.37
1	A	27	G	N7-C5	-5.91	1.35	1.39
1	A	1129	C	N1-C2	5.90	1.46	1.40
1	A	440	A	N3-C4	5.90	1.38	1.34
1	A	1397	C	N1-C6	5.90	1.40	1.37
1	A	841	U	C1'-N1	5.88	1.57	1.48

Continued on next page...

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	409	G	P-O5'	5.88	1.65	1.59
1	A	644	G	C3'-O3'	-5.88	1.33	1.42
1	A	781	A	N3-C4	5.88	1.38	1.34
1	A	676	A	C3'-O3'	-5.87	1.33	1.42
1	A	9	G	N7-C5	-5.86	1.35	1.39
1	A	5	U	O3'-P	5.86	1.68	1.61
1	A	730	G	C3'-O3'	-5.86	1.33	1.42
1	A	946	A	C6-N1	-5.86	1.31	1.35
1	A	152	A	C5-C6	5.84	1.46	1.41
1	A	377	G	N3-C4	5.84	1.39	1.35
1	A	728	A	N9-C4	-5.84	1.34	1.37
1	A	325	A	N3-C4	-5.84	1.31	1.34
1	A	604	G	N7-C5	-5.84	1.35	1.39
1	A	49	U	C5'-C4'	5.83	1.58	1.51
1	A	266	G	C5-C6	-5.82	1.36	1.42
1	A	867	G	N9-C4	5.82	1.42	1.38
1	A	78	G	C6-N1	-5.81	1.35	1.39
1	A	1064	G	C2-N3	-5.81	1.28	1.32
1	A	1503	A	N3-C4	5.80	1.38	1.34
1	A	993	G	C3'-O3'	5.80	1.50	1.42
1	A	1067	A	C3'-O3'	5.80	1.50	1.42
1	A	815	A	O3'-P	-5.79	1.54	1.61
1	A	1467	G	C2-N3	5.79	1.37	1.32
1	A	566	G	C6-N1	-5.78	1.35	1.39
1	A	748	C	C3'-O3'	5.77	1.50	1.42
1	A	381	C	C1'-N1	5.77	1.57	1.48
1	A	1401	G	C6-N1	-5.77	1.35	1.39
1	A	484	G	C3'-O3'	5.77	1.50	1.42
1	A	1364	U	C3'-O3'	5.76	1.50	1.42
1	A	1247	U	C1'-N1	5.76	1.57	1.48
1	A	1531	A	N9-C4	5.76	1.41	1.37
1	A	181	G	N9-C4	5.75	1.42	1.38
1	A	782	A	C5-C6	-5.75	1.35	1.41
1	A	104	G	C2-N3	5.75	1.37	1.32
1	A	61	G	C6-N1	-5.75	1.35	1.39
1	A	1396	A	N9-C4	-5.75	1.34	1.37
1	A	310	G	N7-C5	-5.73	1.35	1.39
1	A	539	A	N9-C4	5.73	1.41	1.37
1	A	832	C	C1'-N1	5.72	1.57	1.48
1	A	823	G	C6-N1	-5.70	1.35	1.39
1	A	1092	A	N9-C4	5.69	1.41	1.37
1	A	731	G	C3'-O3'	-5.69	1.34	1.42

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	729	A	N3-C4	-5.68	1.31	1.34
1	A	814	A	N9-C4	-5.68	1.34	1.37
1	A	1249	C	C1'-N1	5.68	1.57	1.48
1	A	129(A)	G	C3'-O3'	5.66	1.50	1.42
1	A	930	C	N3-C4	-5.66	1.29	1.33
1	A	1079	G	N7-C5	-5.66	1.35	1.39
1	A	883	C	N3-C4	5.65	1.38	1.33
1	A	1062	U	C3'-O3'	-5.65	1.34	1.42
1	A	282	A	C6-N1	-5.64	1.31	1.35
1	A	50	A	N3-C4	5.64	1.38	1.34
1	A	62	U	N1-C2	5.64	1.43	1.38
1	A	409	G	O5'-C5'	5.64	1.53	1.44
1	A	920	U	C3'-O3'	-5.63	1.34	1.42
1	A	786	G	N7-C5	-5.63	1.35	1.39
1	A	513	C	C1'-N1	5.63	1.57	1.48
1	A	81	U	C5'-C4'	5.62	1.58	1.51
1	A	1467	G	N9-C4	5.61	1.42	1.38
1	A	1367	C	C4'-C3'	-5.60	1.47	1.52
1	A	266	G	N9-C4	-5.60	1.33	1.38
1	A	358	U	C1'-N1	5.60	1.57	1.48
1	A	653	A	N7-C5	-5.59	1.35	1.39
1	A	1129	C	O5'-C5'	5.59	1.53	1.44
1	A	973	G	N9-C4	-5.59	1.33	1.38
1	A	1460	A	C3'-O3'	-5.58	1.34	1.42
1	A	1125	U	O5'-C5'	5.58	1.53	1.44
1	A	173	U	C3'-O3'	5.57	1.50	1.42
1	A	727	G	C5-C4	-5.57	1.34	1.38
1	A	1398	A	N7-C5	-5.56	1.35	1.39
1	A	21	G	N7-C5	-5.56	1.35	1.39
1	A	633	G	C5-C6	-5.56	1.36	1.42
1	A	634	C	C3'-O3'	-5.56	1.34	1.42
1	A	279	A	C3'-O3'	5.56	1.50	1.42
1	A	666	G	C3'-O3'	-5.56	1.34	1.42
1	A	1083	U	C3'-O3'	5.56	1.50	1.42
1	A	1504	G	C3'-O3'	5.55	1.50	1.42
1	A	1065	U	C3'-O3'	5.55	1.50	1.42
1	A	739	C	C1'-N1	5.54	1.57	1.48
1	A	73	C	C1'-N1	5.54	1.57	1.48
1	A	887	G	N9-C4	-5.54	1.33	1.38
1	A	1119	C	C1'-N1	5.54	1.57	1.48
1	A	1125	U	O3'-P	5.54	1.67	1.61
1	A	109	A	N7-C5	-5.53	1.35	1.39

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	947	G	C3'-O3'	-5.53	1.34	1.42
1	A	738	C	O5'-C5'	-5.53	1.34	1.42
1	A	872	A	O3'-P	-5.53	1.54	1.61
1	A	1355	G	N9-C4	5.53	1.42	1.38
1	A	367	U	C3'-O3'	5.52	1.49	1.42
1	A	553	A	C6-N1	-5.52	1.31	1.35
1	A	1303	C	N1-C6	-5.52	1.33	1.37
1	A	489	C	C1'-N1	5.51	1.57	1.48
1	A	1079	G	C3'-O3'	-5.51	1.34	1.42
1	A	1018	C	C1'-N1	5.51	1.57	1.48
1	A	1526	G	N1-C2	-5.51	1.33	1.37
1	A	313	A	N9-C4	-5.51	1.34	1.37
1	A	382	A	C6-N1	-5.50	1.31	1.35
1	A	306	G	N3-C4	5.50	1.39	1.35
1	A	376	G	C3'-O3'	-5.50	1.34	1.42
1	A	556	C	C3'-O3'	-5.50	1.34	1.42
1	A	893	C	C1'-N1	5.48	1.56	1.48
1	A	397	A	C3'-O3'	5.48	1.49	1.42
1	A	293	G	N3-C4	-5.47	1.31	1.35
1	A	279	A	C5-C6	-5.45	1.36	1.41
1	A	857	C	C3'-O3'	-5.45	1.34	1.42
1	A	499	A	N9-C4	5.45	1.41	1.37
1	A	893	C	N1-C2	5.45	1.45	1.40
1	A	929	G	N7-C5	-5.45	1.35	1.39
1	A	635	G	C2-N3	-5.45	1.28	1.32
1	A	118	U	C3'-O3'	-5.45	1.34	1.42
1	A	1070	U	C3'-O3'	5.43	1.49	1.42
1	A	723	U	N1-C2	5.42	1.43	1.38
1	A	1278	U	C1'-N1	5.42	1.56	1.48
1	A	361	G	P-O5'	5.41	1.65	1.59
1	A	230	G	C6-O6	5.41	1.29	1.24
1	A	1233	G	C6-O6	5.40	1.29	1.24
1	A	533	A	C6-N1	-5.38	1.31	1.35
1	A	406	G	C6-N1	5.38	1.43	1.39
1	A	453	A	N9-C4	-5.37	1.34	1.37
1	A	901	A	N7-C5	-5.37	1.36	1.39
1	A	1367	C	C1'-N1	5.37	1.56	1.48
1	A	999	C	C1'-N1	5.36	1.56	1.48
1	A	924	C	C1'-N1	5.36	1.56	1.48
1	A	1196	U	C3'-O3'	5.36	1.49	1.42
1	A	1320	C	C3'-O3'	5.36	1.49	1.42
1	A	1063	C	C1'-N1	5.36	1.56	1.48

*Continued on next page...*

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1354	C	P-O5'	5.35	1.65	1.59
1	A	1054	C	N1-C2	5.35	1.45	1.40
1	A	839	U	C1'-N1	5.34	1.56	1.48
1	A	273	A	C3'-O3'	5.33	1.49	1.42
1	A	653	A	N9-C4	-5.33	1.34	1.37
1	A	982	U	C1'-N1	5.32	1.56	1.48
1	A	941	G	N7-C5	-5.32	1.36	1.39
1	A	203	U	C1'-N1	5.31	1.56	1.48
1	A	267	C	N1-C6	-5.31	1.33	1.37
1	A	780	A	C5-C6	-5.31	1.36	1.41
1	A	1361(A)	C	N1-C2	5.30	1.45	1.40
1	A	773	G	C3'-O3'	-5.30	1.34	1.42
11	J	57	LYS	CD-CE	5.30	1.64	1.51
1	A	560	U	C3'-O3'	5.30	1.49	1.42
1	A	588	G	N7-C5	-5.30	1.36	1.39
1	A	290	C	N3-C4	-5.29	1.30	1.33
1	A	696	A	C5-C6	-5.29	1.36	1.41
1	A	979	C	C3'-O3'	5.29	1.49	1.42
1	A	1277	C	C1'-N1	5.29	1.56	1.48
1	A	1366	C	C3'-O3'	-5.29	1.34	1.42
1	A	956	U	C1'-N1	-5.28	1.39	1.46
1	A	603	U	P-O5'	5.28	1.65	1.59
1	A	1020	U	C1'-N1	5.28	1.56	1.48
1	A	804	U	C1'-N1	5.28	1.56	1.48
1	A	735	C	C3'-O3'	-5.26	1.34	1.42
1	A	1211	U	C3'-O3'	5.25	1.49	1.42
1	A	405	U	C1'-N1	5.25	1.56	1.48
1	A	1393	U	C4'-C3'	-5.25	1.47	1.52
1	A	444	C	C1'-N1	5.25	1.56	1.48
1	A	1285	A	N9-C4	5.25	1.41	1.37
1	A	1368	G	N3-C4	5.24	1.39	1.35
1	A	294	U	N3-C4	-5.24	1.33	1.38
1	A	1066	C	P-O5'	5.24	1.65	1.59
1	A	1093	A	N7-C5	-5.24	1.36	1.39
1	A	914	A	O5'-C5'	-5.24	1.34	1.42
1	A	577	G	C1'-N9	-5.23	1.39	1.46
1	A	1333	A	C5-C4	-5.23	1.35	1.38
1	A	1183	A	C3'-O3'	5.23	1.49	1.42
1	A	1514	C	C1'-N1	5.23	1.56	1.48
8	G	5	ARG	CG-CD	5.23	1.65	1.51
1	A	1372	U	C1'-N1	5.23	1.56	1.48
1	A	246	A	C2'-C1'	-5.23	1.47	1.53

Continued on next page...

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	32	A	N9-C4	5.22	1.41	1.37
1	A	491	G	P-O5'	5.22	1.65	1.59
1	A	197	A	C6-N1	-5.22	1.31	1.35
1	A	825	G	N9-C8	-5.22	1.34	1.37
1	A	78	G	N1-C2	-5.22	1.33	1.37
1	A	834	C	C3'-O3'	-5.22	1.34	1.42
1	A	336	C	C1'-N1	5.21	1.56	1.48
1	A	1129	C	C3'-O3'	5.20	1.49	1.42
5	D	145	GLU	CG-CD	5.20	1.59	1.51
1	A	727	G	N9-C8	-5.20	1.34	1.37
1	A	501	C	C3'-O3'	-5.19	1.34	1.42
1	A	237	C	C1'-N1	5.18	1.56	1.48
1	A	904	C	N3-C4	-5.18	1.30	1.33
1	A	730	G	C3'-C2'	-5.18	1.47	1.52
1	A	304	U	C1'-N1	5.18	1.56	1.48
1	A	1270	C	C5'-C4'	5.17	1.57	1.51
1	A	828	A	N3-C4	-5.17	1.31	1.34
1	A	754	C	N1-C6	-5.17	1.34	1.37
1	A	1501	C	C3'-O3'	-5.17	1.34	1.42
1	A	1533	C	N1-C2	5.17	1.45	1.40
1	A	624	C	C3'-O3'	-5.16	1.34	1.42
1	A	1514	C	C4-N4	-5.16	1.29	1.33
1	A	1197	G	C4'-C3'	-5.16	1.47	1.52
1	A	325	A	N9-C4	-5.15	1.34	1.37
1	A	51	A	N7-C5	-5.15	1.36	1.39
1	A	1093	A	C5-C6	-5.15	1.36	1.41
1	A	124	G	N3-C4	-5.15	1.31	1.35
1	A	862	C	N1-C6	-5.15	1.34	1.37
1	A	243	A	C6-N1	-5.15	1.31	1.35
1	A	771	G	C8-N7	-5.15	1.27	1.30
1	A	704	A	N7-C5	-5.14	1.36	1.39
1	A	391	G	C3'-O3'	-5.14	1.34	1.42
1	A	558	G	N7-C5	-5.14	1.36	1.39
1	A	704	A	C6-N1	-5.14	1.31	1.35
1	A	239	U	C1'-N1	5.13	1.56	1.48
1	A	673	G	C4'-C3'	-5.13	1.47	1.52
1	A	920	U	C4'-C3'	-5.13	1.47	1.52
1	A	1511	G	C3'-O3'	-5.13	1.34	1.42
1	A	602	A	N7-C5	-5.13	1.36	1.39
1	A	920	U	C4-C5	5.13	1.48	1.43
1	A	5	U	C2-N3	5.13	1.41	1.37
1	A	282	A	N3-C4	-5.13	1.31	1.34

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	221	C	N3-C4	5.12	1.37	1.33
1	A	293	G	C6-N1	-5.12	1.35	1.39
1	A	974	A	P-O5'	5.12	1.64	1.59
1	A	686	U	C1'-N1	-5.12	1.39	1.46
1	A	721	G	C3'-O3'	5.11	1.49	1.42
1	A	257	G	P-O5'	5.11	1.64	1.59
1	A	732	C	N3-C4	-5.11	1.30	1.33
1	A	753	A	N7-C5	-5.11	1.36	1.39
1	A	1283	G	C3'-O3'	5.11	1.49	1.42
1	A	182	U	C1'-N1	5.10	1.56	1.48
1	A	313	A	N3-C4	-5.10	1.31	1.34
1	A	919	A	N9-C8	-5.10	1.33	1.37
1	A	190(F)	G	C2'-C1'	-5.09	1.47	1.53
1	A	136	C	N1-C6	-5.08	1.34	1.37
1	A	727	G	C5-C6	-5.08	1.37	1.42
1	A	778	G	N7-C5	-5.08	1.36	1.39
1	A	588	G	C6-N1	5.08	1.43	1.39
1	A	1084	G	C3'-O3'	5.07	1.49	1.42
1	A	319	G	C2-N3	5.07	1.36	1.32
1	A	328	C	O5'-C5'	-5.07	1.34	1.42
1	A	265	G	N9-C4	-5.07	1.33	1.38
1	A	866	C	C1'-N1	5.07	1.56	1.48
1	A	884	U	C3'-O3'	-5.06	1.35	1.42
1	A	20	U	C1'-N1	-5.06	1.39	1.46
3	B	205	ASP	CB-CG	5.06	1.62	1.51
1	A	1266	G	C5-C4	5.05	1.41	1.38
1	A	235	C	N1-C6	-5.05	1.34	1.37
1	A	53	A	N3-C4	-5.05	1.31	1.34
1	A	460	A	C3'-O3'	5.04	1.49	1.42
1	A	553	A	C4'-C3'	-5.04	1.47	1.52
1	A	300	A	N7-C5	-5.04	1.36	1.39
1	A	562	C	C4-C5	5.04	1.47	1.43
1	A	315	A	C3'-O3'	5.04	1.49	1.42
1	A	930	C	N1-C6	-5.04	1.34	1.37
1	A	1228	C	C3'-O3'	-5.03	1.35	1.42
1	A	140	A	P-O5'	5.03	1.64	1.59
1	A	401	C	N3-C4	5.03	1.37	1.33
17	P	38	TYR	CD2-CE2	5.03	1.46	1.39
1	A	1179	A	N9-C4	-5.02	1.34	1.37
1	A	1390	U	C1'-N1	5.02	1.56	1.48
1	A	1056	U	C3'-O3'	-5.02	1.35	1.42
1	A	557	G	C5-C4	-5.02	1.34	1.38

*Continued on next page...*

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	840	C	C3'-O3'	5.02	1.49	1.42
1	A	23	C	N1-C6	-5.01	1.34	1.37
1	A	131	C	N3-C4	-5.01	1.30	1.33
1	A	790	A	C5-C4	5.01	1.42	1.38
1	A	1239	A	C5-C4	-5.01	1.35	1.38
1	A	855	G	C3'-O3'	-5.01	1.35	1.42
1	A	382	A	N7-C5	-5.01	1.36	1.39

All (658) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1169	A	P-O3'-C3'	29.86	155.53	119.70
1	A	1525	G	C4'-C3'-C2'	-12.91	89.69	102.60
1	A	1346	A	P-O3'-C3'	11.99	134.09	119.70
1	A	1345	U	C1'-O4'-C4'	-11.81	100.45	109.90
1	A	1025	U	C1'-O4'-C4'	-11.60	100.62	109.90
1	A	1224	G	P-O3'-C3'	10.79	132.65	119.70
1	A	1183	A	C1'-O4'-C4'	-10.54	101.47	109.90
1	A	1529	G	C1'-O4'-C4'	-10.54	101.47	109.90
1	A	964	A	O4'-C1'-N9	-10.38	99.90	108.20
1	A	1380	U	P-O3'-C3'	10.22	131.96	119.70
1	A	1099	G	O4'-C1'-N9	10.20	116.36	108.20
1	A	686	U	C3'-C2'-C1'	-9.68	93.76	101.50
1	A	686	U	C1'-O4'-C4'	-9.65	102.18	109.90
1	A	1169	A	O3'-P-O5'	-9.65	85.67	104.00
1	A	566	G	O4'-C1'-N9	-9.47	100.62	108.20
1	A	980	C	C1'-O4'-C4'	-9.37	102.41	109.90
1	A	501	C	P-O3'-C3'	-9.28	108.56	119.70
1	A	115	G	P-O3'-C3'	9.25	130.80	119.70
1	A	1317	C	C1'-O4'-C4'	-9.23	102.52	109.90
1	A	1358	U	O4'-C1'-N1	9.22	115.58	108.20
1	A	1151	A	C1'-O4'-C4'	-9.21	102.53	109.90
1	A	290	C	P-O3'-C3'	-9.08	108.80	119.70
1	A	872	A	C1'-O4'-C4'	-9.08	102.64	109.90
1	A	1504	G	P-O3'-C3'	9.06	130.57	119.70
1	A	1125	U	P-O3'-C3'	9.01	130.51	119.70
1	A	533	A	P-O3'-C3'	8.97	130.47	119.70
1	A	48	C	P-O3'-C3'	8.92	130.40	119.70
1	A	328	C	P-O3'-C3'	8.92	130.40	119.70
1	A	173	U	C3'-C2'-C1'	-8.86	94.41	101.50
1	A	942	G	O4'-C1'-N9	8.82	115.26	108.20
1	A	1196	U	O4'-C1'-N1	8.82	115.26	108.20

Continued on next page...

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	197	A	P-O3'-C3'	8.81	130.27	119.70
1	A	1347	G	P-O3'-C3'	8.79	130.25	119.70
1	A	246	A	C1'-O4'-C4'	-8.77	102.89	109.90
1	A	1085	U	P-O3'-C3'	8.75	130.20	119.70
1	A	730	G	C4'-C3'-C2'	-8.73	93.87	102.60
1	A	1090	U	O4'-C1'-N1	8.69	115.16	108.20
1	A	266	G	P-O3'-C3'	8.63	130.06	119.70
1	A	1169	A	OP1-P-O3'	8.55	124.01	105.20
1	A	1522	U	C4'-C3'-C2'	-8.50	94.10	102.60
1	A	129(A)	G	O4'-C1'-N9	-8.48	101.42	108.20
1	A	1397	C	O4'-C1'-N1	8.42	114.93	108.20
1	A	279	A	P-O3'-C3'	8.38	129.76	119.70
1	A	1524	C	C4'-C3'-C2'	-8.32	94.28	102.60
1	A	702	A	C1'-O4'-C4'	-8.29	103.27	109.90
1	A	1306	A	O4'-C1'-N9	8.28	114.83	108.20
1	A	1067	A	O4'-C1'-N9	-8.26	101.59	108.20
1	A	656	C	C4'-C3'-C2'	-8.20	94.40	102.60
1	A	1065	U	C1'-O4'-C4'	-8.20	103.34	109.90
1	A	266	G	O4'-C1'-N9	-8.20	101.64	108.20
1	A	452	A	C3'-C2'-C1'	-8.11	95.02	101.50
1	A	1190	G	P-O3'-C3'	8.10	129.41	119.70
1	A	243	A	P-O3'-C3'	8.08	129.40	119.70
1	A	913	A	P-O3'-C3'	8.04	129.35	119.70
1	A	601	C	P-O3'-C3'	-7.99	110.11	119.70
1	A	1519	A	O4'-C1'-N9	7.98	114.59	108.20
1	A	687	A	P-O3'-C3'	7.97	129.27	119.70
1	A	288	A	C4'-C3'-C2'	-7.95	94.66	102.60
1	A	608	A	P-O3'-C3'	-7.93	110.18	119.70
1	A	387	U	O4'-C1'-N1	7.93	114.54	108.20
1	A	967	C	N1-C2-O2	7.93	123.66	118.90
1	A	405	U	P-O3'-C3'	7.92	129.20	119.70
1	A	1525	G	C1'-O4'-C4'	-7.88	103.60	109.90
1	A	529	G	C4'-C3'-C2'	-7.82	94.78	102.60
1	A	484	G	O4'-C1'-N9	-7.80	101.96	108.20
1	A	1054	C	O4'-C1'-N1	7.79	114.43	108.20
1	A	1067	A	P-O3'-C3'	7.77	129.03	119.70
1	A	1065	U	P-O3'-C3'	7.76	129.02	119.70
1	A	786	G	C8-N9-C4	-7.75	103.30	106.40
1	A	1531	A	O4'-C1'-N9	7.75	114.40	108.20
1	A	1301	U	P-O3'-C3'	7.73	128.98	119.70
1	A	60	A	P-O3'-C3'	7.71	128.95	119.70
1	A	575	G	P-O3'-C3'	7.68	128.92	119.70

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	863	U	O4'-C1'-N1	7.66	114.33	108.20
1	A	49	U	C5'-C4'-O4'	7.62	118.24	109.10
1	A	388	G	O4'-C1'-N9	-7.60	102.12	108.20
1	A	686	U	O4'-C1'-N1	7.58	114.27	108.20
1	A	315	A	C4'-C3'-C2'	-7.57	95.03	102.60
1	A	936	C	O4'-C1'-N1	-7.57	102.15	108.20
1	A	509	A	C3'-C2'-C1'	-7.56	95.45	101.50
1	A	346	G	C1'-O4'-C4'	-7.55	103.86	109.90
1	A	758	G	O4'-C1'-N9	7.55	114.24	108.20
1	A	812	C	P-O3'-C3'	7.54	128.75	119.70
1	A	793	U	C1'-O4'-C4'	-7.54	103.87	109.90
1	A	1025	U	O4'-C1'-N1	7.48	114.18	108.20
1	A	1050	G	C4'-C3'-C2'	-7.46	95.14	102.60
1	A	814	A	N9-C1'-C2'	-7.44	103.82	112.00
1	A	1235	U	C3'-C2'-C1'	-7.43	95.56	101.50
1	A	1365	G	O4'-C1'-N9	7.38	114.11	108.20
1	A	1214	C	C1'-O4'-C4'	-7.37	104.00	109.90
1	A	1498	U	P-O3'-C3'	7.37	128.54	119.70
1	A	1364	U	P-O3'-C3'	7.36	128.53	119.70
1	A	934	C	C1'-O4'-C4'	-7.34	104.03	109.90
1	A	739	C	C3'-C2'-C1'	-7.31	95.65	101.50
1	A	804	U	O4'-C1'-N1	7.29	114.03	108.20
1	A	81	U	O4'-C1'-N1	7.28	114.02	108.20
1	A	1192	C	C6-N1-C2	-7.26	117.40	120.30
1	A	1079	G	C8-N9-C4	-7.26	103.50	106.40
1	A	384	G	O4'-C1'-N9	7.24	113.99	108.20
9	H	52	ASP	CB-CG-OD2	7.22	124.80	118.30
1	A	559	A	C1'-O4'-C4'	-7.22	104.12	109.90
1	A	760	G	P-O3'-C3'	-7.20	111.06	119.70
1	A	108	G	O4'-C1'-N9	7.18	113.94	108.20
1	A	281	G	P-O3'-C3'	7.17	128.31	119.70
1	A	1331	G	O4'-C1'-N9	7.15	113.92	108.20
1	A	1380	U	C2'-C3'-O3'	7.14	125.20	109.50
1	A	1064	G	N3-C4-N9	-7.11	121.73	126.00
1	A	519	C	C1'-O4'-C4'	-7.10	104.22	109.90
1	A	898	G	C4'-C3'-C2'	-7.09	95.51	102.60
1	A	1317	C	O4'-C1'-N1	7.09	113.87	108.20
1	A	115	G	C2'-C3'-O3'	7.09	125.10	109.50
1	A	930	C	O4'-C4'-C3'	-7.07	96.93	104.00
1	A	965	A	P-O3'-C3'	7.07	128.18	119.70
1	A	6	G	C5'-C4'-O4'	7.03	117.53	109.10
1	A	1302	U	O4'-C1'-N1	-7.02	102.58	108.20

*Continued on next page...*



Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	129	U	O4'-C1'-N1	7.01	113.81	108.20
1	A	279	A	N9-C1'-C2'	-6.98	104.32	112.00
1	A	1144	G	C3'-C2'-C1'	-6.98	95.92	101.50
1	A	382	A	O4'-C1'-N9	6.97	113.77	108.20
1	A	855	G	O4'-C1'-N9	6.95	113.76	108.20
1	A	1114	C	C3'-C2'-C1'	-6.95	95.94	101.50
1	A	781	A	C4'-C3'-C2'	-6.93	95.67	102.60
1	A	25	C	P-O3'-C3'	-6.92	111.40	119.70
1	A	609	A	O4'-C1'-N9	-6.90	102.68	108.20
1	A	1505	G	O4'-C1'-N9	6.89	113.71	108.20
1	A	641	U	O4'-C1'-N1	6.88	113.70	108.20
1	A	941	G	C8-N9-C4	-6.87	103.65	106.40
1	A	829	G	O4'-C1'-N9	-6.87	102.71	108.20
1	A	484	G	P-O3'-C3'	6.86	127.92	119.70
1	A	1510	U	C1'-O4'-C4'	-6.86	104.42	109.90
1	A	343	U	O4'-C1'-N1	6.85	113.68	108.20
9	H	54	ASP	CB-CG-OD2	6.83	124.45	118.30
1	A	878	G	P-O3'-C3'	-6.81	111.53	119.70
1	A	1515	C	N3-C4-N4	6.81	122.77	118.00
1	A	169	C	C1'-O4'-C4'	-6.81	104.45	109.90
1	A	1190	G	C8-N9-C4	-6.80	103.68	106.40
1	A	1107	C	C3'-C2'-C1'	-6.79	96.06	101.50
1	A	108	G	O4'-C4'-C3'	-6.79	97.21	104.00
1	A	119	A	P-O3'-C3'	6.78	127.84	119.70
1	A	1355	G	C8-N9-C4	-6.78	103.69	106.40
1	A	409	G	O4'-C1'-N9	6.77	113.62	108.20
1	A	5	U	O4'-C1'-N1	6.77	113.62	108.20
1	A	1502	A	C5-N7-C8	-6.77	100.52	103.90
1	A	130	A	P-O5'-C5'	-6.77	110.07	120.90
1	A	332	G	P-O3'-C3'	6.77	127.82	119.70
1	A	1139	G	C1'-O4'-C4'	-6.75	104.50	109.90
1	A	222	U	O4'-C4'-C3'	-6.75	97.25	104.00
1	A	1126	U	O4'-C1'-N1	6.75	113.60	108.20
1	A	1108	G	C4'-C3'-C2'	-6.74	95.86	102.60
1	A	1129	C	O4'-C1'-N1	6.73	113.58	108.20
1	A	1265	G	C8-N9-C4	-6.71	103.72	106.40
1	A	570	G	C8-N9-C4	-6.71	103.72	106.40
1	A	1302	U	P-O3'-C3'	6.71	127.75	119.70
1	A	907	A	O4'-C1'-N9	6.71	113.56	108.20
1	A	1073	U	O4'-C1'-N1	6.70	113.56	108.20
1	A	1190	G	O4'-C1'-C2'	-6.70	99.10	105.80
4	C	17	ASP	CB-CG-OD2	6.69	124.32	118.30

Continued on next page...

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	108	G	C1'-O4'-C4'	-6.68	104.56	109.90
1	A	950	U	P-O3'-C3'	-6.67	111.70	119.70
1	A	481	G	O4'-C1'-N9	6.66	113.53	108.20
1	A	21	G	C6-C5-N7	-6.64	126.41	130.40
1	A	1522	U	N3-C2-O2	-6.64	117.55	122.20
1	A	926	G	N9-C1'-C2'	-6.63	104.71	112.00
1	A	889	A	C3'-C2'-C1'	-6.62	96.21	101.50
1	A	652	U	O4'-C1'-N1	-6.61	102.91	108.20
1	A	947	G	P-O3'-C3'	-6.61	111.77	119.70
1	A	7	G	O4'-C1'-N9	-6.59	102.93	108.20
1	A	279	A	C2-N3-C4	-6.59	107.31	110.60
1	A	409	G	C3'-C2'-C1'	6.58	106.76	101.50
1	A	586	C	O4'-C1'-N1	6.57	113.46	108.20
1	A	217	C	C3'-C2'-C1'	-6.56	96.25	101.50
1	A	158	G	C8-N9-C4	-6.56	103.78	106.40
1	A	924	C	O4'-C1'-N1	6.56	113.45	108.20
1	A	879	C	C4'-C3'-C2'	-6.55	96.05	102.60
1	A	64	G	P-O3'-C3'	6.53	127.54	119.70
1	A	1101	A	P-O3'-C3'	6.52	127.53	119.70
1	A	243	A	C1'-O4'-C4'	-6.51	104.69	109.90
1	A	605	U	O4'-C1'-N1	6.50	113.40	108.20
1	A	531	U	C1'-O4'-C4'	-6.49	104.71	109.90
1	A	1446	A	C1'-O4'-C4'	-6.49	104.71	109.90
1	A	1247	U	C3'-C2'-C1'	-6.49	96.31	101.50
1	A	560	U	P-O3'-C3'	6.47	127.47	119.70
1	A	115	G	O4'-C1'-N9	-6.46	103.03	108.20
1	A	743	U	N1-C1'-C2'	-6.46	104.90	112.00
1	A	866	C	O4'-C1'-N1	6.44	113.35	108.20
1	A	1072	G	N9-C1'-C2'	-6.43	104.92	112.00
1	A	671	G	O4'-C1'-N9	6.43	113.34	108.20
1	A	542	G	C4'-C3'-C2'	-6.43	96.17	102.60
1	A	594	G	O4'-C1'-N9	6.42	113.33	108.20
1	A	1527	C	P-O3'-C3'	6.41	127.39	119.70
1	A	252	U	C1'-O4'-C4'	-6.40	104.78	109.90
1	A	1502	A	C4-C5-N7	6.38	113.89	110.70
1	A	1227	A	N9-C1'-C2'	-6.37	104.99	112.00
1	A	1345	U	O4'-C1'-N1	6.37	113.29	108.20
1	A	108	G	C4'-C3'-C2'	-6.35	96.25	102.60
1	A	604	G	C8-N9-C4	-6.35	103.86	106.40
1	A	1065	U	C5'-C4'-O4'	6.34	116.71	109.10
1	A	993	G	N9-C1'-C2'	6.34	122.24	114.00
1	A	1349	A	P-O3'-C3'	-6.34	112.10	119.70

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	372	C	C5'-C4'-O4'	6.33	116.70	109.10
1	A	90	U	C3'-C2'-C1'	-6.33	96.44	101.50
1	A	965	A	C4'-C3'-C2'	6.33	108.93	102.60
1	A	1183	A	P-O3'-C3'	6.33	127.30	119.70
17	P	40	ASP	CB-CG-OD2	6.33	123.99	118.30
1	A	408	A	C4'-C3'-C2'	-6.32	96.28	102.60
1	A	1305	G	P-O3'-C3'	6.31	127.28	119.70
1	A	521	G	O4'-C1'-N9	-6.31	103.16	108.20
1	A	818	G	C4'-C3'-C2'	-6.30	96.30	102.60
1	A	1397	C	N1-C2-O2	6.30	122.68	118.90
16	O	21	ASP	CB-CG-OD2	6.30	123.97	118.30
1	A	246	A	O4'-C1'-N9	6.29	113.23	108.20
1	A	1192	C	O4'-C1'-N1	6.29	113.23	108.20
1	A	1115	C	N1-C1'-C2'	-6.29	105.08	112.00
1	A	1526	G	C4'-C3'-C2'	-6.28	96.32	102.60
1	A	1380	U	O4'-C1'-N1	-6.28	103.17	108.20
1	A	1054	C	C2-N1-C1'	6.28	125.70	118.80
1	A	696	A	N1-C6-N6	6.27	122.36	118.60
1	A	104	G	N3-C4-N9	6.27	129.76	126.00
1	A	1502	A	N1-C6-N6	6.27	122.36	118.60
1	A	644	G	N9-C1'-C2'	-6.26	105.11	112.00
1	A	1099	G	N3-C4-N9	-6.25	122.25	126.00
1	A	159	G	C3'-C2'-C1'	-6.25	96.50	101.50
1	A	438	G	P-O3'-C3'	6.25	127.20	119.70
1	A	137	C	O4'-C1'-N1	6.24	113.19	108.20
1	A	488	C	C3'-C2'-C1'	-6.23	96.51	101.50
1	A	1525	G	C5'-C4'-O4'	6.22	116.57	109.10
1	A	795	C	O4'-C1'-N1	-6.22	103.23	108.20
1	A	992	U	P-O3'-C3'	6.21	127.16	119.70
1	A	939	G	C5'-C4'-O4'	6.21	116.55	109.10
1	A	1116	C	N1-C1'-C2'	-6.20	105.19	112.00
1	A	1004	A	O4'-C1'-N9	6.19	113.15	108.20
1	A	1504	G	C5'-C4'-O4'	-6.18	101.68	109.10
6	E	147	ASP	CB-CG-OD2	6.18	123.86	118.30
1	A	695	A	O4'-C1'-N9	6.18	113.14	108.20
1	A	1281	U	P-O3'-C3'	6.17	127.11	119.70
1	A	889	A	O4'-C1'-N9	6.17	113.13	108.20
7	F	15	ASP	CB-CG-OD2	6.16	123.84	118.30
1	A	1294	G	N1-C6-O6	6.15	123.59	119.90
1	A	489	C	C3'-C2'-C1'	-6.14	96.59	101.50
1	A	647	C	N1-C1'-C2'	-6.14	105.25	112.00
1	A	422	C	O4'-C1'-N1	6.14	113.11	108.20

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	257	G	N3-C4-N9	6.14	129.68	126.00
1	A	1395	C	O4'-C1'-N1	-6.14	103.29	108.20
1	A	129(A)	G	C5'-C4'-O4'	-6.13	101.74	109.10
1	A	867	G	C5-C6-O6	-6.13	124.92	128.60
1	A	674	G	P-O3'-C3'	-6.11	112.37	119.70
1	A	5	U	C3'-C2'-C1'	6.11	106.39	101.50
1	A	1052	U	O4'-C1'-N1	6.10	113.08	108.20
1	A	26	A	O4'-C1'-N9	-6.09	103.32	108.20
1	A	944	G	C4'-C3'-C2'	-6.09	96.51	102.60
1	A	945	G	O4'-C1'-N9	-6.09	103.33	108.20
1	A	736	C	C1'-O4'-C4'	-6.09	105.03	109.90
1	A	951	G	O4'-C1'-N9	6.08	113.07	108.20
1	A	770	C	O5'-P-OP2	-6.08	100.23	105.70
1	A	315	A	C3'-C2'-C1'	-6.06	96.65	101.50
1	A	292	G	C4'-C3'-C2'	-6.05	96.55	102.60
1	A	1048	G	C4'-C3'-C2'	-6.05	96.55	102.60
1	A	381	C	O4'-C1'-N1	6.03	113.03	108.20
1	A	1196	U	C1'-O4'-C4'	-6.03	105.08	109.90
1	A	897	C	O4'-C1'-N1	6.02	113.02	108.20
1	A	558	G	C8-N9-C4	-6.02	103.99	106.40
1	A	1093	A	P-O3'-C3'	6.02	126.92	119.70
1	A	875	C	C4'-C3'-C2'	-6.02	96.58	102.60
1	A	857	C	P-O3'-C3'	-6.01	112.49	119.70
1	A	1387	G	O4'-C1'-N9	-6.01	103.39	108.20
1	A	149	A	P-O3'-C3'	-6.00	112.50	119.70
1	A	16	A	N9-C1'-C2'	-6.00	105.40	112.00
1	A	38	G	O4'-C1'-N9	6.00	113.00	108.20
1	A	1526	G	C1'-O4'-C4'	-5.99	105.11	109.90
1	A	216	G	C1'-O4'-C4'	-5.98	105.11	109.90
7	F	83	ASP	CB-CG-OD2	5.98	123.68	118.30
1	A	278	G	O4'-C1'-N9	5.98	112.98	108.20
1	A	261	U	P-O3'-C3'	-5.97	112.53	119.70
1	A	7	G	P-O3'-C3'	5.97	126.86	119.70
1	A	1346	A	C1'-O4'-C4'	-5.97	105.12	109.90
1	A	1239	A	C3'-C2'-C1'	-5.96	96.73	101.50
1	A	220	G	N3-C4-C5	-5.95	125.63	128.60
1	A	112	G	C4'-C3'-C2'	-5.94	96.66	102.60
1	A	867	G	N3-C4-N9	5.94	129.56	126.00
1	A	372	C	C1'-O4'-C4'	-5.93	105.16	109.90
3	B	191	ASP	CB-CG-OD2	5.93	123.64	118.30
5	D	134	ASP	CB-CG-OD2	5.93	123.63	118.30
1	A	1077	G	C6-C5-N7	-5.92	126.84	130.40

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	824	C	C4'-C3'-C2'	-5.92	96.68	102.60
1	A	142	G	C4'-C3'-C2'	-5.91	96.69	102.60
1	A	372	C	P-O3'-C3'	5.91	126.79	119.70
1	A	860	A	N9-C1'-C2'	-5.91	105.50	112.00
1	A	911	U	C1'-O4'-C4'	-5.91	105.18	109.90
1	A	1067	A	C2-N3-C4	5.90	113.55	110.60
1	A	1175	G	C3'-C2'-C1'	-5.90	96.78	101.50
1	A	1067	A	C5-C6-N1	5.89	120.65	117.70
1	A	670	G	N9-C1'-C2'	-5.89	105.52	112.00
1	A	947	G	O4'-C1'-N9	-5.89	103.49	108.20
1	A	676	A	P-O3'-C3'	-5.89	112.63	119.70
1	A	1213	A	C1'-O4'-C4'	-5.89	105.19	109.90
1	A	717	C	C2-N1-C1'	5.89	125.28	118.80
1	A	271	C	O4'-C1'-N1	5.88	112.91	108.20
1	A	1126	U	C3'-C2'-C1'	5.88	106.20	101.50
1	A	859	A	N9-C1'-C2'	-5.88	105.53	112.00
1	A	1008	C	C3'-C2'-C1'	-5.88	96.80	101.50
1	A	127	G	N9-C1'-C2'	-5.87	105.54	112.00
1	A	576	G	C5'-C4'-O4'	5.87	116.14	109.10
1	A	1525	G	P-O3'-C3'	5.87	126.74	119.70
1	A	890	G	C3'-C2'-C1'	-5.86	96.81	101.50
1	A	458	C	O4'-C1'-N1	5.86	112.89	108.20
1	A	1331	G	O4'-C1'-C2'	-5.86	99.94	105.80
1	A	993	G	P-O3'-C3'	5.85	126.72	119.70
1	A	1446	A	C3'-C2'-C1'	-5.85	96.82	101.50
1	A	234	C	N3-C4-C5	5.85	124.24	121.90
1	A	967	C	N3-C2-O2	-5.84	117.81	121.90
1	A	220	G	C8-N9-C4	-5.84	104.07	106.40
1	A	265	G	O4'-C1'-N9	5.84	112.87	108.20
1	A	1190	G	N7-C8-N9	5.84	116.02	113.10
1	A	661	G	C8-N9-C4	-5.83	104.07	106.40
8	G	140	ASP	CB-CG-OD2	5.83	123.55	118.30
1	A	1030(A)	G	C8-N9-C4	-5.83	104.07	106.40
1	A	265	G	C4'-C3'-C2'	-5.82	96.78	102.60
1	A	379	C	O4'-C1'-N1	5.82	112.86	108.20
1	A	914	A	C4'-C3'-C2'	-5.82	96.78	102.60
1	A	1398	A	N1-C6-N6	5.81	122.08	118.60
1	A	47	C	C3'-C2'-C1'	-5.80	96.86	101.50
19	R	30	ASP	CB-CG-OD2	5.80	123.52	118.30
4	C	62	ASP	CB-CG-OD2	5.80	123.52	118.30
1	A	130	A	P-O3'-C3'	5.79	126.65	119.70
1	A	770	C	C4'-C3'-C2'	-5.79	96.81	102.60

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	725	G	C5-C6-O6	-5.78	125.13	128.60
1	A	577	G	N9-C1'-C2'	-5.78	105.64	112.00
1	A	1339	A	O4'-C1'-N9	5.78	112.82	108.20
3	B	166	ASP	CB-CG-OD2	5.78	123.50	118.30
1	A	1081	G	N9-C1'-C2'	-5.77	105.65	112.00
1	A	1329	A	C3'-C2'-C1'	-5.77	96.89	101.50
1	A	1346	A	C4'-C3'-O3'	5.77	124.53	113.00
6	E	5	ASP	CB-CG-OD2	5.76	123.48	118.30
1	A	421	U	P-O3'-C3'	5.76	126.61	119.70
1	A	318	G	N9-C1'-C2'	-5.75	105.67	112.00
1	A	685	G	O4'-C1'-N9	5.75	112.80	108.20
1	A	37	U	C3'-C2'-C1'	-5.75	96.90	101.50
1	A	1372	U	O4'-C1'-N1	5.74	112.79	108.20
1	A	486	U	O4'-C1'-N1	5.73	112.79	108.20
1	A	623	C	N3-C4-C5	5.73	124.19	121.90
1	A	643	C	P-O3'-C3'	-5.73	112.82	119.70
1	A	184	G	P-O3'-C3'	-5.72	112.83	119.70
1	A	1467	G	N3-C4-C5	-5.72	125.74	128.60
1	A	1074	G	C6-C5-N7	-5.72	126.97	130.40
1	A	911	U	O4'-C4'-C3'	-5.71	98.29	104.00
1	A	1283	G	C4'-C3'-C2'	-5.71	96.89	102.60
5	D	193	ASP	CB-CG-OD2	5.71	123.44	118.30
1	A	440	A	O4'-C1'-N9	5.71	112.77	108.20
1	A	250	A	P-O3'-C3'	5.70	126.54	119.70
1	A	50	A	O4'-C1'-N9	5.70	112.76	108.20
1	A	711	G	O4'-C1'-N9	5.70	112.76	108.20
1	A	1283	G	C8-N9-C4	-5.70	104.12	106.40
1	A	980	C	O4'-C1'-N1	5.70	112.76	108.20
1	A	1346	A	C3'-C2'-C1'	-5.70	96.94	101.50
1	A	1108	G	O4'-C1'-N9	5.69	112.75	108.20
1	A	635	G	N1-C6-O6	5.69	123.31	119.90
1	A	1446	A	O4'-C1'-N9	5.69	112.75	108.20
10	I	91	ASP	CB-CG-OD2	5.68	123.42	118.30
14	M	83	ASP	CB-CG-OD2	5.68	123.41	118.30
1	A	942	G	C8-N9-C4	-5.68	104.13	106.40
1	A	1224	G	O4'-C1'-N9	5.68	112.74	108.20
1	A	786	G	O4'-C1'-N9	5.68	112.74	108.20
1	A	9	G	C4-C5-N7	5.67	113.07	110.80
1	A	1050	G	C3'-C2'-C1'	-5.67	96.96	101.50
1	A	228	A	O4'-C1'-N9	5.67	112.74	108.20
1	A	604	G	C5'-C4'-O4'	5.67	115.90	109.10
1	A	624	C	N1-C1'-C2'	-5.67	105.76	112.00

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	575	G	C6-C5-N7	-5.66	127.00	130.40
1	A	16	A	O4'-C1'-N9	-5.65	103.68	108.20
1	A	980	C	C5'-C4'-O4'	5.65	115.88	109.10
1	A	835	U	N1-C1'-C2'	-5.65	105.78	112.00
1	A	18	C	N3-C4-C5	5.65	124.16	121.90
13	L	112	ASP	CB-CG-OD2	5.64	123.38	118.30
12	K	111	ASP	CB-CG-OD2	5.63	123.37	118.30
1	A	1054	C	N1-C2-O2	5.63	122.28	118.90
1	A	64	G	O4'-C1'-N9	5.63	112.70	108.20
1	A	1294	G	C5-C6-O6	-5.63	125.22	128.60
1	A	239	U	O4'-C1'-N1	5.62	112.70	108.20
1	A	570	G	P-O3'-C3'	5.62	126.44	119.70
1	A	9	G	C6-C5-N7	-5.62	127.03	130.40
1	A	1266	G	C8-N9-C4	-5.61	104.16	106.40
1	A	678	U	C4'-C3'-C2'	-5.60	97.00	102.60
1	A	568	G	C4'-C3'-C2'	-5.60	97.00	102.60
1	A	750	G	C8-N9-C4	-5.59	104.16	106.40
1	A	1021	G	C3'-C2'-C1'	-5.59	97.03	101.50
1	A	329	A	C3'-C2'-C1'	5.59	105.97	101.50
16	O	74	ASP	CB-CG-OD2	5.58	123.32	118.30
1	A	371	G	C8-N9-C4	-5.58	104.17	106.40
1	A	485	G	C1'-O4'-C4'	-5.58	105.44	109.90
1	A	562	C	O4'-C1'-N1	5.58	112.66	108.20
10	I	75	ASP	CB-CG-OD2	5.57	123.32	118.30
1	A	657	G	N9-C1'-C2'	-5.57	105.88	112.00
1	A	691	G	C4-C5-C6	5.57	122.14	118.80
1	A	564	C	OP1-P-OP2	5.56	127.94	119.60
1	A	62	U	N1-C2-O2	5.56	126.69	122.80
1	A	1195	C	C6-N1-C2	-5.56	118.08	120.30
1	A	31	G	P-O3'-C3'	5.56	126.37	119.70
1	A	332	G	C8-N9-C4	-5.55	104.18	106.40
4	C	183	ASP	CB-CG-OD2	5.55	123.30	118.30
1	A	773	G	C8-N9-C4	-5.55	104.18	106.40
1	A	1043	C	C1'-O4'-C4'	-5.55	105.46	109.90
1	A	944	G	N9-C1'-C2'	5.54	121.21	114.00
1	A	1286	A	C4'-C3'-C2'	-5.54	97.06	102.60
1	A	428	G	P-O3'-C3'	5.54	126.35	119.70
1	A	1294	G	C8-N9-C4	-5.54	104.19	106.40
1	A	1527	C	O5'-P-OP2	-5.54	100.72	105.70
1	A	971	G	C1'-O4'-C4'	-5.53	105.47	109.90
17	P	47	ASP	CB-CG-OD2	5.53	123.28	118.30
1	A	80	G	O4'-C1'-N9	-5.53	103.78	108.20

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1451	A	P-O3'-C3'	5.53	126.33	119.70
1	A	55	A	N9-C1'-C2'	-5.52	105.93	112.00
1	A	792	A	P-O3'-C3'	5.51	126.32	119.70
5	D	144	ASP	CB-CG-OD2	5.51	123.26	118.30
1	A	1202	G	C4-C5-N7	-5.51	108.60	110.80
14	M	47	ASP	CB-CG-OD2	5.50	123.25	118.30
1	A	27	G	C8-N9-C4	-5.50	104.20	106.40
1	A	577	G	C8-N9-C4	5.50	108.60	106.40
1	A	124	G	N9-C1'-C2'	-5.50	105.95	112.00
1	A	145	G	C8-N9-C4	-5.50	104.20	106.40
1	A	937	A	C3'-C2'-C1'	-5.49	97.11	101.50
1	A	997	U	C4'-C3'-C2'	-5.49	97.11	102.60
1	A	190(H)	G	C4'-C3'-C2'	-5.49	97.11	102.60
1	A	377	G	N3-C4-N9	5.47	129.28	126.00
1	A	790	A	N1-C6-N6	5.46	121.88	118.60
1	A	652	U	C3'-C2'-C1'	-5.46	97.13	101.50
1	A	1371	G	C5'-C4'-O4'	5.46	115.65	109.10
1	A	1144	G	C8-N9-C4	-5.46	104.22	106.40
1	A	1391	U	N1-C1'-C2'	-5.45	106.00	112.00
1	A	7	G	N9-C1'-C2'	-5.45	106.01	112.00
1	A	190(D)	U	C1'-O4'-C4'	-5.45	105.54	109.90
1	A	286	G	C1'-O4'-C4'	-5.45	105.54	109.90
1	A	944	G	C8-N9-C4	-5.44	104.22	106.40
1	A	1235	U	P-O3'-C3'	5.44	126.23	119.70
1	A	10	A	C4'-C3'-C2'	-5.44	97.16	102.60
1	A	1513	A	N9-C1'-C2'	-5.44	106.01	112.00
1	A	1331	G	C1'-O4'-C4'	-5.44	105.55	109.90
1	A	1397	C	C2-N1-C1'	5.44	124.78	118.80
1	A	529	G	C3'-C2'-C1'	-5.43	97.15	101.50
14	M	16	ASP	CB-CG-OD2	5.43	123.19	118.30
1	A	1178	G	C8-N9-C4	-5.43	104.23	106.40
1	A	701	C	P-O3'-C3'	5.43	126.21	119.70
1	A	776	G	O3'-P-O5'	-5.42	93.70	104.00
1	A	1367	C	C3'-C2'-C1'	5.42	105.84	101.50
1	A	19	C	P-O3'-C3'	5.41	126.19	119.70
1	A	105	G	C4'-C3'-C2'	-5.41	97.19	102.60
1	A	656	C	C3'-C2'-C1'	-5.41	97.17	101.50
1	A	273	A	O4'-C1'-N9	5.41	112.52	108.20
1	A	356	A	C4'-C3'-C2'	-5.40	97.20	102.60
1	A	1239	A	C8-N9-C4	5.40	107.96	105.80
1	A	332	G	O4'-C1'-N9	5.40	112.52	108.20
1	A	867	G	C4'-C3'-C2'	-5.40	97.20	102.60

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	12	U	N3-C4-O4	5.39	123.17	119.40
1	A	1091	U	C4'-C3'-C2'	-5.39	97.21	102.60
1	A	269	C	C6-N1-C2	5.39	122.45	120.30
1	A	1525	G	C3'-C2'-C1'	-5.38	97.19	101.50
11	J	89	ASP	CB-CG-OD2	5.38	123.15	118.30
3	B	160	ASP	CB-CG-OD2	5.38	123.14	118.30
1	A	180	U	C5'-C4'-O4'	5.38	115.55	109.10
1	A	1504	G	OP2-P-O3'	5.38	117.03	105.20
1	A	1521	G	N9-C4-C5	5.38	107.55	105.40
1	A	405	U	C2'-C3'-O3'	5.38	122.30	113.70
1	A	1190	G	N9-C1'-C2'	5.38	120.99	114.00
1	A	1305	G	C8-N9-C4	-5.38	104.25	106.40
1	A	1487	G	N1-C6-O6	5.38	123.13	119.90
1	A	232	G	O4'-C1'-N9	-5.37	103.90	108.20
1	A	24	U	N1-C1'-C2'	-5.37	106.09	112.00
1	A	968	A	N1-C6-N6	5.37	121.82	118.60
1	A	1352	C	C3'-C2'-C1'	5.36	105.79	101.50
1	A	853	G	N1-C6-O6	5.36	123.12	119.90
1	A	774	G	C8-N9-C4	-5.35	104.26	106.40
1	A	926	G	C3'-C2'-C1'	5.35	105.78	101.50
1	A	1213	A	C3'-C2'-C1'	-5.35	97.22	101.50
1	A	566	G	N9-C1'-C2'	5.34	120.95	114.00
1	A	480	U	O4'-C1'-N1	5.34	112.47	108.20
1	A	322	C	N3-C4-C5	5.34	124.03	121.90
1	A	858	G	C6-C5-N7	-5.34	127.20	130.40
1	A	1450	U	O4'-C1'-N1	5.33	112.47	108.20
1	A	922	G	C5'-C4'-O4'	5.33	115.50	109.10
1	A	942	G	C1'-O4'-C4'	-5.33	105.64	109.90
1	A	1073	U	N3-C4-O4	5.33	123.13	119.40
1	A	1190	G	C4'-C3'-C2'	-5.33	97.27	102.60
1	A	922	G	C6-C5-N7	-5.33	127.20	130.40
1	A	1064	G	N3-C2-N2	-5.33	116.17	119.90
11	J	12	ASP	CB-CG-OD2	5.33	123.09	118.30
1	A	185	A	C3'-C2'-C1'	-5.32	97.24	101.50
1	A	535	A	C1'-O4'-C4'	-5.32	105.64	109.90
1	A	811	C	O4'-C1'-N1	-5.32	103.94	108.20
1	A	929	G	C6-C5-N7	-5.32	127.21	130.40
1	A	366	C	C2-N1-C1'	5.32	124.65	118.80
1	A	509	A	P-O3'-C3'	5.32	126.08	119.70
1	A	1000	U	C3'-C2'-C1'	-5.32	97.25	101.50
1	A	1349	A	O4'-C1'-N9	5.32	112.45	108.20
1	A	1054	C	C6-N1-C1'	-5.31	114.43	120.80

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	460	A	C3'-C2'-C1'	5.31	105.75	101.50
1	A	1069	C	N3-C4-C5	-5.30	119.78	121.90
1	A	1448	C	P-O3'-C3'	-5.30	113.33	119.70
16	O	49	ASP	CB-CG-OD2	5.30	123.07	118.30
1	A	292	G	N1-C6-O6	5.30	123.08	119.90
11	J	58	ASP	CB-CG-OD2	5.30	123.07	118.30
1	A	656	C	P-O3'-C3'	5.29	126.05	119.70
1	A	1487	G	C5-C6-O6	-5.29	125.42	128.60
1	A	371	G	C5'-C4'-O4'	5.28	115.44	109.10
1	A	850	U	C3'-C2'-C1'	-5.28	97.27	101.50
1	A	28	G	N1-C6-O6	5.28	123.07	119.90
1	A	858	G	C5-C6-O6	-5.28	125.43	128.60
1	A	1091	U	O4'-C1'-N1	5.28	112.42	108.20
1	A	1227	A	C5-N7-C8	-5.28	101.26	103.90
20	S	12	ASP	CB-CG-OD2	5.28	123.05	118.30
1	A	104	G	O4'-C1'-N9	-5.28	103.98	108.20
8	G	15	ASP	CB-CG-OD2	5.28	123.05	118.30
1	A	120	A	P-O3'-C3'	-5.27	113.37	119.70
1	A	568	G	N9-C1'-C2'	5.27	120.86	114.00
1	A	1104	G	O4'-C1'-N9	5.27	112.42	108.20
1	A	1307	U	P-O3'-C3'	-5.27	113.38	119.70
6	E	36	ASP	CB-CG-OD2	5.27	123.04	118.30
1	A	516	U	O4'-C1'-N1	5.27	112.42	108.20
1	A	1067	A	N3-C4-C5	-5.27	123.11	126.80
1	A	1064	G	N9-C4-C5	5.27	107.51	105.40
8	G	126	ASP	CB-CG-OD2	5.26	123.04	118.30
10	I	60	ASP	CB-CG-OD2	5.26	123.04	118.30
1	A	972	C	C4'-C3'-C2'	-5.26	97.34	102.60
1	A	266	G	N9-C1'-C2'	5.26	120.84	114.00
1	A	876	G	N9-C1'-C2'	-5.26	106.22	112.00
1	A	1357	A	O4'-C1'-N9	5.26	112.41	108.20
1	A	911	U	C4'-C3'-C2'	-5.26	97.34	102.60
1	A	1013	G	O4'-C1'-N9	5.26	112.41	108.20
10	I	54	ASP	CB-CG-OD2	5.25	123.03	118.30
5	D	177	ASP	CB-CG-OD2	5.25	123.03	118.30
1	A	1248	A	C5'-C4'-O4'	5.25	115.40	109.10
1	A	1249	C	C6-N1-C2	-5.25	118.20	120.30
1	A	588	G	N1-C6-O6	5.24	123.05	119.90
1	A	1509	C	O3'-P-O5'	-5.24	94.04	104.00
1	A	639	G	N1-C6-O6	5.24	123.04	119.90
1	A	1498	U	C4'-C3'-C2'	5.24	107.84	102.60
1	A	1181	G	N9-C1'-C2'	5.23	120.80	114.00

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	Q	13	ASP	CB-CG-OD2	5.23	123.01	118.30
1	A	930	C	C3'-C2'-C1'	-5.23	97.32	101.50
1	A	257	G	N3-C4-C5	-5.22	125.99	128.60
1	A	1533	C	C3'-C2'-C1'	5.22	105.68	101.50
1	A	252	U	C5'-C4'-O4'	5.22	115.36	109.10
1	A	505	G	O4'-C1'-N9	-5.22	104.02	108.20
1	A	979	C	O4'-C1'-N1	5.22	112.37	108.20
1	A	773	G	N3-C4-C5	-5.21	125.99	128.60
1	A	1145	C	P-O3'-C3'	5.21	125.95	119.70
1	A	484	G	N9-C1'-C2'	5.21	120.77	114.00
1	A	1417	G	C3'-C2'-C1'	5.21	105.67	101.50
1	A	49	U	O4'-C1'-N1	5.20	112.36	108.20
1	A	644	G	C5-C6-O6	-5.20	125.48	128.60
12	K	36	ASP	CB-CG-OD2	5.20	122.98	118.30
1	A	859	A	C3'-C2'-C1'	5.20	105.66	101.50
1	A	1091	U	C1'-O4'-C4'	-5.20	105.74	109.90
1	A	1129	C	C6-N1-C2	-5.20	118.22	120.30
1	A	1218	C	C1'-O4'-C4'	-5.20	105.74	109.90
18	Q	46	ASP	CB-CG-OD2	5.20	122.98	118.30
1	A	1371	G	C8-N9-C4	-5.19	104.32	106.40
1	A	1434	A	N9-C1'-C2'	-5.19	106.29	112.00
1	A	1529	G	C5'-C4'-O4'	5.19	115.33	109.10
1	A	408	A	C3'-C2'-C1'	-5.19	97.35	101.50
1	A	674	G	O4'-C1'-N9	5.18	112.35	108.20
1	A	1062	U	O4'-C1'-N1	5.18	112.34	108.20
1	A	1159	U	O4'-C1'-N1	5.18	112.34	108.20
1	A	1454	G	C3'-C2'-C1'	-5.18	97.36	101.50
1	A	1230	C	O4'-C1'-N1	5.18	112.34	108.20
1	A	973	G	N3-C4-N9	-5.17	122.90	126.00
1	A	1079	G	C5-C6-N1	-5.17	108.91	111.50
1	A	131	C	N3-C2-O2	-5.17	118.28	121.90
1	A	1191	A	P-O3'-C3'	5.17	125.90	119.70
1	A	1331	G	C8-N9-C4	-5.17	104.33	106.40
1	A	1119	C	C3'-C2'-C1'	-5.16	97.37	101.50
1	A	1076	C	P-O3'-C3'	5.16	125.89	119.70
1	A	1202	G	O4'-C1'-N9	5.16	112.33	108.20
1	A	1297	C	C1'-O4'-C4'	-5.16	105.78	109.90
1	A	1248	A	C4'-C3'-C2'	-5.15	97.45	102.60
1	A	279	A	C5-N7-C8	-5.15	101.33	103.90
1	A	691	G	O4'-C1'-N9	-5.15	104.08	108.20
1	A	721	G	C3'-C2'-C1'	5.14	105.61	101.50
1	A	1389	C	C3'-C2'-C1'	-5.14	97.39	101.50

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1365	G	C8-N9-C4	-5.14	104.34	106.40
3	B	205	ASP	CB-CG-OD2	5.14	122.92	118.30
1	A	351	G	P-O3'-C3'	5.14	125.86	119.70
1	A	372	C	N1-C2-O2	5.13	121.98	118.90
1	A	750	G	N3-C4-C5	-5.13	126.03	128.60
1	A	1099	G	N9-C4-C5	5.12	107.45	105.40
1	A	1277	C	O4'-C1'-N1	5.12	112.30	108.20
1	A	1175	G	O4'-C1'-N9	5.12	112.30	108.20
1	A	1262	C	O4'-C1'-N1	5.12	112.29	108.20
1	A	593	G	C8-N9-C4	-5.12	104.35	106.40
1	A	1531	A	C8-N9-C4	-5.11	103.76	105.80
1	A	1358	U	C1'-O4'-C4'	-5.11	105.81	109.90
1	A	1515	C	N3-C4-C5	-5.11	119.86	121.90
1	A	1299	A	O4'-C1'-N9	-5.11	104.11	108.20
1	A	762	C	P-O3'-C3'	-5.11	113.57	119.70
1	A	1093	A	N1-C6-N6	5.11	121.66	118.60
1	A	816	A	O4'-C1'-N9	-5.10	104.12	108.20
1	A	658	G	O4'-C1'-N9	-5.10	104.12	108.20
18	Q	55	ASP	CB-CG-OD2	5.10	122.89	118.30
1	A	401	C	C4'-C3'-C2'	-5.09	97.51	102.60
1	A	815	A	P-O3'-C3'	-5.09	113.59	119.70
1	A	855	G	O4'-C4'-C3'	-5.09	98.91	104.00
1	A	1464	G	P-O3'-C3'	-5.09	113.59	119.70
1	A	311	C	C3'-C2'-C1'	-5.09	97.43	101.50
1	A	191	G	C3'-C2'-C1'	-5.09	97.43	101.50
1	A	1367	C	N1-C2-O2	5.09	121.95	118.90
13	L	106	ASP	CB-CG-OD2	5.09	122.88	118.30
1	A	733	A	C3'-C2'-C1'	-5.09	97.43	101.50
1	A	1502	A	C3'-C2'-C1'	-5.09	97.43	101.50
1	A	1079	G	N7-C8-N9	5.08	115.64	113.10
1	A	619	U	C5'-C4'-C3'	-5.08	107.87	116.00
1	A	623	C	N1-C1'-C2'	-5.07	106.42	112.00
1	A	1518	A	P-O3'-C3'	5.07	125.79	119.70
1	A	289	G	O4'-C1'-N9	5.07	112.26	108.20
1	A	1375	A	C5'-C4'-O4'	5.07	115.18	109.10
1	A	801	U	N3-C4-C5	5.07	117.64	114.60
13	L	92	ASP	CB-CG-OD2	5.07	122.86	118.30
5	D	53	ASP	CB-CG-OD2	5.07	122.86	118.30
1	A	366	C	N1-C2-O2	5.06	121.94	118.90
1	A	832	C	O4'-C1'-N1	5.06	112.25	108.20
1	A	918	A	O4'-C1'-N9	-5.06	104.15	108.20
1	A	1302	U	N1-C1'-C2'	5.06	120.58	114.00

*Continued on next page...*

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1346	A	C8-N9-C4	5.06	107.82	105.80
1	A	780	A	N9-C1'-C2'	-5.06	106.44	112.00
1	A	1249	C	C5-C6-N1	5.06	123.53	121.00
1	A	1351	U	P-O3'-C3'	-5.06	113.63	119.70
1	A	1361(A)	C	O4'-C1'-N1	5.05	112.24	108.20
1	A	142	G	N3-C4-C5	-5.05	126.08	128.60
1	A	248	C	C4'-C3'-C2'	-5.05	97.55	102.60
3	B	195	ASP	CB-CG-OD2	5.05	122.84	118.30
1	A	54	C	C4'-C3'-C2'	-5.05	97.55	102.60
1	A	796	C	C4'-C3'-C2'	-5.05	97.55	102.60
10	I	105	ASP	CB-CG-OD2	5.04	122.84	118.30
20	S	13	ASP	CB-CG-OD2	5.04	122.84	118.30
1	A	1387	G	P-O3'-C3'	-5.04	113.65	119.70
1	A	781	A	N9-C1'-C2'	-5.04	106.46	112.00
1	A	1341	U	P-O3'-C3'	-5.04	113.66	119.70
1	A	944	G	P-O3'-C3'	5.03	125.74	119.70
1	A	1276	G	C8-N9-C4	-5.03	104.39	106.40
1	A	1160	G	O4'-C1'-N9	5.03	112.23	108.20
1	A	733	A	C1'-O4'-C4'	-5.03	105.88	109.90
1	A	727	G	C5-C6-O6	-5.03	125.58	128.60
1	A	1115	C	O4'-C1'-N1	5.03	112.22	108.20
1	A	559	A	C3'-C2'-C1'	-5.03	97.48	101.50
1	A	319	G	N3-C4-C5	-5.03	126.09	128.60
1	A	858	G	C5'-C4'-O4'	5.03	115.13	109.10
1	A	907	A	N1-C6-N6	-5.02	115.59	118.60
1	A	89	C	C5'-C4'-O4'	5.02	115.12	109.10
1	A	604	G	C6-C5-N7	-5.02	127.39	130.40
1	A	36	C	C3'-C2'-C1'	-5.01	97.49	101.50
1	A	223	U	C4'-C3'-C2'	-5.01	97.58	102.60
1	A	982	U	N1-C1'-C2'	5.01	120.52	114.00
1	A	413	G	C3'-C2'-C1'	-5.01	97.49	101.50
1	A	1400	C	P-O3'-C3'	5.01	125.72	119.70
1	A	143	A	C8-N9-C4	5.01	107.81	105.80
1	A	1205	U	C4'-C3'-C2'	-5.01	97.59	102.60
1	A	656	C	C1'-O4'-C4'	-5.00	105.90	109.90
1	A	1383	C	P-O3'-C3'	-5.00	113.70	119.70
8	G	20	ASP	CB-CG-OD2	5.00	122.80	118.30
1	A	619	U	C3'-C2'-C1'	5.00	105.50	101.50
1	A	1300	G	C3'-C2'-C1'	-5.00	97.50	101.50

There are no chirality outliers.

All (74) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	B	133	LYS	Peptide
3	B	225	ALA	Peptide
4	C	13	GLY	Peptide
4	C	166	GLU	Peptide
4	C	167	TRP	Peptide
4	C	177	THR	Peptide
4	C	178	LEU	Peptide
4	C	48	TYR	Peptide
5	D	11	LEU	Peptide
5	D	185	PHE	Peptide
5	D	195	ALA	Peptide
5	D	208	SER	Peptide
5	D	28	SER	Peptide
5	D	31	CYS	Peptide
6	E	14	ARG	Peptide
6	E	20	GLN	Peptide
6	E	35	GLY	Peptide
6	E	85	GLY	Peptide
6	E	86	ALA	Peptide
7	F	13	ASN	Peptide
9	H	109	ILE	Peptide
9	H	135	CYS	Peptide
9	H	27	PRO	Peptide
9	H	53	VAL	Peptide
9	H	90	GLY	Peptide
10	I	117	HIS	Peptide
10	I	125	TYR	Peptide
10	I	127	LYS	Peptide
10	I	43	ALA	Peptide
11	J	47	PHE	Peptide
11	J	49	VAL	Peptide
11	J	52	GLY	Peptide
11	J	57	LYS	Peptide
11	J	90	LEU	Peptide
11	J	96	ILE	Peptide
12	K	116	HIS	Peptide
12	K	126	ARG	Peptide
12	K	27	ASN	Peptide
12	K	48	ILE	Peptide
12	K	88	GLY	Peptide
13	L	25	PRO	Peptide
13	L	26	ALA	Peptide
13	L	43	VAL	Peptide

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Group
13	L	46	LYS	Peptide
13	L	66	VAL	Peptide
13	L	77	LEU	Peptide
13	L	80	HIS	Peptide
13	L	94	PRO	Peptide
14	M	107	ALA	Peptide
14	M	112	GLY	Peptide
14	M	8	GLU	Peptide
14	M	97	PRO	Peptide
15	N	11	LYS	Peptide
15	N	21	TYR	Peptide
15	N	30	ALA	Peptide
15	N	32	SER	Peptide
15	N	42	ILE	Peptide
15	N	6	LEU	Peptide
15	N	8	GLU	Peptide
15	N	9	LYS	Peptide
17	P	15	PRO	Peptide
17	P	63	GLY	Peptide
17	P	64	ALA	Peptide
17	P	70	ALA	Peptide
18	Q	17	LYS	Peptide
20	S	37	ARG	Peptide
20	S	4	SER	Peptide
20	S	53	ASN	Peptide
20	S	71	LEU	Peptide
20	S	83	HIS	Peptide
21	T	10	LEU	Peptide
21	T	12	ALA	Peptide
21	T	48	LYS	Peptide
21	T	73	HIS	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	32391	0	16359	1894	0
2	Z	80	0	42	4	0

*Continued on next page...*

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	1923	0	1968	218	0
4	C	1612	0	1677	175	0
5	D	1703	0	1763	198	0
6	E	1146	0	1207	161	0
7	F	843	0	857	58	0
8	G	1257	0	1296	105	0
9	H	1116	0	1177	93	0
10	I	1011	0	1043	122	0
11	J	792	0	835	125	0
12	K	885	0	904	80	0
13	L	975	0	1062	129	0
14	M	997	0	1072	111	0
15	N	492	0	530	84	0
16	O	734	0	771	70	0
17	P	700	0	720	72	0
18	Q	857	0	930	70	0
19	R	597	0	668	68	0
20	S	674	0	699	56	0
21	T	762	0	859	97	0
22	A	98	0	0	0	0
22	D	1	0	0	0	0
22	M	1	0	0	0	0
22	Z	1	0	0	0	0
23	A	12	0	0	0	0
24	A	31	0	19	4	0
25	A	35	0	43	1	0
26	D	1	0	0	0	0
26	N	1	0	0	0	0
All	All	51728	0	36501	3715	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 43.

All (3715) 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)
8:G:89:MET:SD	8:G:89:MET:CE	2.02	1.45
1:A:492:G:H3'	1:A:494:G:OP2	1.29	1.32
6:E:80:ILE:CD1	6:E:91:LEU:HB2	1.62	1.29
1:A:70:G:H3'	1:A:73:C:P	1.72	1.27
15:N:40:CYS:O	15:N:43:CYS:HB2	1.23	1.27

Continued on next page...



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:33:THR:HG23	16:O:63:ARG:NH1	1.51	1.23
1:A:1249:C:O2'	10:I:73:GLN:NE2	1.71	1.22
4:C:7:PRO:O	4:C:11:ARG:HG2	1.40	1.20
3:B:162:ILE:O	3:B:185:ILE:HD12	1.42	1.20
1:A:1491:G:H5'	1:A:1491:G:C8	1.77	1.19
10:I:114:TYR:HD1	11:J:60:ARG:HB2	1.00	1.17
3:B:100:GLY:HA2	3:B:176:GLU:OE2	1.41	1.17
1:A:1169:A:O3'	1:A:1171:G:P	2.03	1.16
21:T:104:LEU:H	21:T:104:LEU:CD2	1.52	1.16
10:I:114:TYR:CD1	11:J:60:ARG:HB2	1.80	1.15
1:A:948:C:OP1	14:M:109:THR:HG22	1.42	1.15
4:C:5:ILE:HD13	4:C:10:PHE:HB2	1.26	1.15
11:J:90:LEU:HB3	11:J:91:PRO:HD3	1.21	1.15
13:L:97:ARG:HB2	13:L:98:TYR:CE1	1.79	1.15
1:A:1497:G:H2'	1:A:1498:U:H5'	1.27	1.14
1:A:444:C:H2'	1:A:445:G:H8	1.12	1.14
21:T:104:LEU:N	21:T:104:LEU:HD23	1.48	1.14
1:A:99:C:H3'	1:A:101:A:P	1.89	1.12
1:A:975:A:H8	1:A:975:A:H5'	1.12	1.12
1:A:1168:A:H2'	1:A:1169:A:C8	1.85	1.12
6:E:51:VAL:HB	6:E:52:PRO:HD3	1.32	1.12
8:G:120:ILE:H	8:G:120:ILE:CD1	1.58	1.11
1:A:373:A:H8	1:A:373:A:H5'	1.14	1.10
5:D:26:CYS:HA	5:D:31:CYS:HB2	1.27	1.10
1:A:1314:C:OP2	20:S:6:LYS:HG2	1.49	1.10
19:R:79:LEU:HD23	19:R:80:PRO:HD2	1.27	1.09
6:E:80:ILE:HD11	6:E:91:LEU:HB2	1.17	1.09
5:D:62:GLN:NE2	5:D:65:ARG:HH12	1.49	1.09
17:P:28:ARG:HH11	17:P:28:ARG:HG2	1.06	1.08
1:A:492:G:H3'	1:A:494:G:P	1.93	1.08
8:G:120:ILE:H	8:G:120:ILE:HD12	0.92	1.07
14:M:34:LEU:HD13	14:M:41:PRO:HA	1.36	1.07
1:A:392:G:H2'	1:A:393:A:C8	1.90	1.07
1:A:93:G:H3'	1:A:95:U:P	1.95	1.07
16:O:16:ALA:HB1	16:O:21:ASP:HB3	1.09	1.06
1:A:1399:C:H4'	1:A:1400:C:H5''	1.35	1.06
3:B:77:ALA:HB2	3:B:211:ILE:HD13	1.34	1.06
1:A:1182:G:H4'	1:A:1183:A:O5'	1.54	1.06
3:B:114:ARG:HH11	3:B:118:LEU:HD11	1.21	1.05
8:G:23:VAL:HG12	8:G:27:ILE:HD11	1.39	1.04
1:A:1400:C:H3'	1:A:1401:G:H5'	1.34	1.04

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:86:ARG:HH11	21:T:86:ARG:HG3	1.17	1.04
1:A:538:G:H2'	1:A:539:A:H8	1.20	1.04
1:A:376:G:H5''	17:P:5:ARG:HG3	1.40	1.04
21:T:73:HIS:O	21:T:74:LYS:HG2	1.55	1.04
8:G:120:ILE:N	8:G:120:ILE:HD12	1.69	1.03
14:M:96:LEU:HB3	14:M:97:PRO:HD2	1.35	1.03
16:O:16:ALA:CB	16:O:21:ASP:HB3	1.86	1.03
1:A:1250:A:H4'	10:I:68:GLY:H	0.89	1.02
14:M:49:THR:HB	14:M:52:GLU:HG3	1.36	1.02
1:A:350:G:H8	1:A:350:G:H5'	1.25	1.02
6:E:79:GLU:HB3	6:E:92:LYS:HG3	1.40	1.02
1:A:984:C:H2'	1:A:985:C:H6	1.23	1.02
1:A:1168:A:H2'	1:A:1169:A:H8	1.26	1.01
1:A:1250:A:H4'	10:I:68:GLY:N	1.74	1.01
6:E:51:VAL:HB	6:E:52:PRO:CD	1.90	1.01
1:A:1249:C:HO2'	10:I:73:GLN:NE2	1.50	1.00
13:L:6:THR:OG1	13:L:9:GLN:HG3	1.61	1.00
5:D:62:GLN:NE2	5:D:65:ARG:NH1	2.07	1.00
6:E:48:ALA:HB1	6:E:49:PRO:HD2	1.40	1.00
3:B:114:ARG:NH1	3:B:118:LEU:HD11	1.77	0.99
1:A:1077:G:N2	1:A:1080:A:OP2	1.96	0.99
1:A:1347:G:H22	1:A:1373:G:H2'	1.23	0.99
3:B:9:GLU:HG3	3:B:217:ARG:NH1	1.79	0.98
1:A:353:A:H5'	1:A:353:A:C8	1.96	0.98
1:A:444:C:H2'	1:A:445:G:C8	1.98	0.98
1:A:838:G:H2'	1:A:839:U:H5''	1.43	0.98
5:D:19:LEU:HD21	5:D:67:ILE:HG12	1.46	0.98
1:A:1497:G:C2'	1:A:1498:U:H5'	1.94	0.98
4:C:131:ARG:HG3	4:C:135:LYS:HE2	1.45	0.98
1:A:373:A:C8	1:A:373:A:H5'	1.98	0.98
12:K:54:ARG:O	12:K:57:THR:CG2	2.12	0.98
1:A:1060:C:O2'	1:A:1061:G:H5'	1.63	0.97
1:A:975:A:C8	1:A:975:A:H5'	1.98	0.97
1:A:1103:C:OP1	3:B:96:ARG:NH2	1.98	0.97
1:A:1263:C:H42	1:A:1272:G:H1	1.07	0.97
1:A:795:C:H5''	1:A:796:C:OP2	1.65	0.97
4:C:23:TYR:O	4:C:24:ALA:O	1.80	0.97
1:A:954:G:H21	1:A:1227:A:H62	1.12	0.97
19:R:78:LEU:HD12	19:R:78:LEU:N	1.77	0.97
1:A:353:A:H8	1:A:353:A:C5'	1.77	0.96
1:A:721:G:H4'	1:A:722:A:O5'	1.62	0.96

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:463:A:O3'	1:A:474:G:OP2	1.83	0.96
11:J:49:VAL:HA	11:J:50:ILE:HD12	1.48	0.96
6:E:80:ILE:HD11	6:E:91:LEU:CB	1.96	0.95
18:Q:66:SER:OG	18:Q:69:LYS:HB2	1.64	0.95
3:B:91:PRO:HG2	3:B:155:LEU:HD23	1.43	0.95
6:E:103:GLY:O	6:E:106:PRO:HD2	1.65	0.95
5:D:111:ALA:HB1	5:D:116:GLN:OE1	1.66	0.95
1:A:1356:G:H2'	1:A:1357:A:C8	2.01	0.95
3:B:118:LEU:HB3	3:B:142:LEU:HD12	1.48	0.95
1:A:1028:C:N4	1:A:1034:G:H1	1.63	0.94
1:A:152:A:N6	1:A:170:U:O2	2.01	0.94
1:A:1194:U:H2'	1:A:1195:C:H6	1.31	0.94
1:A:1435:G:H2'	1:A:1436:U:C6	2.02	0.94
1:A:382:A:H2'	1:A:383:A:H8	1.33	0.94
1:A:1152:A:H5'	11:J:13:HIS:HD2	1.32	0.93
1:A:154:C:O2	1:A:167:G:N2	1.99	0.93
14:M:78:ILE:HG22	14:M:79:LYS:H	1.34	0.93
3:B:44:LEU:HA	3:B:47:THR:OG1	1.68	0.93
1:A:382:A:H2'	1:A:383:A:C8	2.03	0.93
11:J:12:ASP:HB3	11:J:15:THR:HG22	1.51	0.93
1:A:1391:U:H2'	1:A:1392:G:C8	2.04	0.93
1:A:1152:A:H5'	11:J:13:HIS:CD2	2.03	0.93
1:A:1250:A:C4'	10:I:68:GLY:H	1.81	0.93
5:D:57:ARG:NH2	5:D:205:GLU:OE2	2.01	0.92
1:A:392:G:H2'	1:A:393:A:H8	1.20	0.92
10:I:125:TYR:H	10:I:125:TYR:HD2	1.07	0.92
1:A:1010:G:H22	1:A:1020:U:H1'	1.34	0.92
1:A:1209:C:H2'	1:A:1209:C:O2	1.68	0.92
1:A:538:G:H2'	1:A:539:A:C8	2.04	0.92
5:D:141:ARG:HB3	5:D:142:PRO:CD	1.99	0.92
12:K:19:ALA:HB2	12:K:80:VAL:HG11	1.52	0.92
21:T:73:HIS:C	21:T:74:LYS:HG2	1.89	0.92
1:A:1347:G:N2	1:A:1373:G:H2'	1.84	0.92
1:A:1364:U:O2'	1:A:1365:G:H5'	1.70	0.92
4:C:71:ALA:HA	4:C:106:VAL:HB	1.52	0.92
10:I:114:TYR:HD1	11:J:60:ARG:CB	1.82	0.92
1:A:797:C:OP1	12:K:124:LYS:HE2	1.69	0.91
14:M:90:LEU:HD23	14:M:93:ARG:HH12	1.32	0.91
1:A:1343:G:H2'	1:A:1344:C:C6	2.05	0.91
1:A:536:C:H2'	1:A:537:G:C8	2.05	0.91
12:K:43:SER:HA	12:K:47:VAL:HG21	1.49	0.91

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:420:U:H1'	1:A:424:G:N2	1.85	0.91
14:M:17:VAL:O	14:M:20:THR:HB	1.70	0.91
16:O:33:THR:HG23	16:O:63:ARG:HH11	1.17	0.91
1:A:436:C:H2'	1:A:437:U:H6	1.35	0.91
15:N:40:CYS:O	15:N:43:CYS:CB	2.16	0.91
1:A:669:U:H2'	1:A:670:G:C8	2.05	0.91
1:A:1028:C:H42	1:A:1034:G:H1	0.91	0.91
13:L:102:ARG:HH12	13:L:110:VAL:HA	1.34	0.91
18:Q:86:GLU:O	18:Q:90:ILE:HG13	1.68	0.91
1:A:1203:C:H2'	1:A:1204:A:O4'	1.69	0.91
5:D:61:LYS:CE	5:D:62:GLN:HE21	1.83	0.91
11:J:90:LEU:CB	11:J:91:PRO:HD3	2.00	0.91
13:L:97:ARG:HB2	13:L:98:TYR:CD1	2.05	0.91
17:P:19:ILE:HG22	17:P:36:ILE:HG13	1.52	0.91
1:A:447:G:H2'	1:A:485:G:H22	1.32	0.91
11:J:90:LEU:HB3	11:J:91:PRO:CD	2.00	0.91
11:J:56:HIS:O	11:J:58:ASP:N	2.02	0.90
1:A:1491:G:C5'	1:A:1491:G:C8	2.54	0.90
1:A:500:G:N2	1:A:546:G:H1'	1.85	0.90
13:L:81:SER:O	13:L:106:ASP:HB2	1.70	0.90
1:A:989:C:HO2'	1:A:1017:G:HO2'	1.17	0.90
4:C:126:ARG:O	4:C:127:ARG:HB2	1.70	0.90
16:O:16:ALA:HB1	16:O:21:ASP:CB	2.00	0.90
1:A:1356:G:H2'	1:A:1357:A:H8	1.33	0.90
1:A:707:C:H4'	12:K:20:TYR:CD2	2.05	0.90
1:A:1003(A):G:H2'	1:A:1004:A:H4'	1.53	0.89
1:A:1491:G:H5'	1:A:1491:G:H8	1.34	0.89
10:I:8:GLY:HA2	10:I:79:LEU:HB3	1.53	0.89
1:A:1047:G:C2'	1:A:1048:G:H5'	2.01	0.89
1:A:622:A:N7	1:A:623:C:C6	2.40	0.89
4:C:7:PRO:O	4:C:11:ARG:CG	2.20	0.89
5:D:117:ALA:O	5:D:121:VAL:HG23	1.72	0.89
5:D:62:GLN:HE22	5:D:65:ARG:NH1	1.65	0.89
1:A:1305:G:HO2'	1:A:1306:A:H8	0.94	0.89
1:A:581:G:N2	1:A:759:A:OP2	2.05	0.89
1:A:792:A:H4'	1:A:793:U:H5''	1.52	0.89
4:C:6:HIS:NE2	4:C:8:ILE:HB	1.88	0.89
12:K:54:ARG:O	12:K:57:THR:HG23	1.72	0.89
1:A:519:C:H2'	1:A:520:A:C8	2.08	0.89
4:C:11:ARG:NH1	4:C:178:LEU:HA	1.88	0.89
1:A:1455:G:O3'	1:A:1459:C:P	2.31	0.88

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:353:A:C8	1:A:353:A:C5'	2.55	0.88
1:A:539:A:H2'	1:A:540:G:H8	1.37	0.88
17:P:67:THR:HG22	17:P:68:ASP:N	1.88	0.88
1:A:328:C:H2'	1:A:328:C:O2	1.72	0.88
3:B:101:MET:HA	3:B:108:ILE:HD12	1.56	0.88
17:P:57:ARG:HG3	17:P:57:ARG:HH11	1.35	0.88
1:A:1315:U:OP2	20:S:6:LYS:NZ	2.06	0.88
4:C:54:ARG:O	4:C:55:VAL:HG23	1.73	0.88
3:B:84:GLU:HG3	3:B:219:VAL:HG21	1.55	0.88
5:D:63:LYS:HD3	5:D:198:VAL:HG23	1.53	0.88
1:A:492:G:C3'	1:A:494:G:P	2.61	0.88
10:I:48:GLU:N	10:I:49:PRO:HD2	1.89	0.88
14:M:81:LEU:CD2	14:M:81:LEU:H	1.86	0.88
21:T:104:LEU:H	21:T:104:LEU:HD23	0.73	0.87
1:A:350:G:H8	1:A:350:G:C5'	1.86	0.87
1:A:407:G:O2'	5:D:116:GLN:HG2	1.74	0.87
5:D:64:LEU:HD11	5:D:97:LEU:CD1	2.04	0.87
6:E:135:THR:O	6:E:138:ALA:HB3	1.74	0.87
11:J:37:PRO:HA	11:J:72:VAL:HG22	1.54	0.87
11:J:47:PHE:HD2	15:N:34:TYR:CE2	1.93	0.87
1:A:992:U:OP2	1:A:992:U:H6	1.58	0.87
4:C:11:ARG:HH12	4:C:178:LEU:HA	1.37	0.87
4:C:8:ILE:HG22	4:C:9:GLY:N	1.89	0.87
13:L:86:ARG:HG2	13:L:86:ARG:HH11	1.38	0.87
16:O:70:LEU:HD12	16:O:78:TYR:HB2	1.55	0.87
18:Q:12:SER:HB3	18:Q:20:THR:OG1	1.75	0.86
1:A:1323:G:H2'	1:A:1324:A:C8	2.10	0.86
13:L:75:HIS:CD2	13:L:77:LEU:H	1.93	0.86
1:A:1194:U:H2'	1:A:1195:C:C6	2.10	0.86
1:A:1400:C:H3'	1:A:1401:G:C5'	2.04	0.86
13:L:98:TYR:N	13:L:98:TYR:CD1	2.43	0.86
15:N:26:ARG:NH2	15:N:47:LEU:HD21	1.89	0.86
17:P:28:ARG:NH1	17:P:28:ARG:HG2	1.86	0.86
1:A:1366:C:H2'	1:A:1367:C:H6	1.40	0.86
8:G:38:LEU:O	8:G:42:ILE:HG13	1.75	0.86
17:P:67:THR:CG2	17:P:68:ASP:N	2.38	0.86
1:A:1250:A:H2'	1:A:1251:A:C8	2.10	0.86
1:A:1152:A:C5'	11:J:13:HIS:HD2	1.88	0.86
1:A:1047:G:H2'	1:A:1048:G:H5'	1.56	0.86
1:A:376:G:H2'	1:A:377:G:H8	1.37	0.86
7:F:80:ARG:HG3	7:F:88:VAL:HG21	1.56	0.86

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1366:C:H2'	1:A:1367:C:C6	2.11	0.86
4:C:112:SER:O	4:C:115:LEU:HD12	1.75	0.86
14:M:45:VAL:O	14:M:48:LEU:HB2	1.74	0.86
1:A:335:C:H2'	1:A:336:C:H6	1.40	0.86
4:C:8:ILE:HG22	4:C:9:GLY:H	1.39	0.86
21:T:67:ALA:O	21:T:73:HIS:CE1	2.28	0.86
1:A:1195:C:H3'	1:A:1196:U:H5''	1.57	0.86
1:A:1502:A:H2	1:A:1505:G:H1	1.22	0.85
8:G:111:ARG:NH1	8:G:122:HIS:HB3	1.90	0.85
1:A:99:C:C3'	1:A:101:A:P	2.63	0.85
15:N:12:ARG:C	15:N:14:PRO:HD3	1.95	0.85
1:A:1057:G:H2'	1:A:1058:G:C8	2.11	0.85
1:A:1091:U:O2	1:A:1093:A:H8	1.58	0.85
6:E:59:GLY:O	6:E:62:ALA:HB3	1.77	0.85
1:A:353:A:H5'	1:A:353:A:H8	1.36	0.85
1:A:560:U:H5'	1:A:566:G:N2	1.92	0.85
8:G:116:ALA:HA	8:G:119:ARG:NH2	1.91	0.85
1:A:254:G:OP1	18:Q:67:LYS:O	1.94	0.85
3:B:61:LEU:HD11	3:B:160:ASP:HB2	1.58	0.85
19:R:86:VAL:O	19:R:87:ARG:HB2	1.77	0.85
21:T:86:ARG:NH1	21:T:86:ARG:HG3	1.83	0.85
3:B:87:ARG:NH1	3:B:233:SER:HB3	1.92	0.85
1:A:1369:C:H2'	1:A:1370:G:C8	2.12	0.85
1:A:393:A:H2'	1:A:394:G:H8	1.42	0.85
1:A:979:C:C5	1:A:980:C:C6	2.65	0.85
6:E:36:ASP:O	6:E:37:ARG:HB2	1.75	0.85
1:A:1286:A:H8	1:A:1287:A:H4'	1.42	0.84
1:A:984:C:H2'	1:A:985:C:C6	2.12	0.84
19:R:76:LEU:HB2	19:R:78:LEU:CD1	2.07	0.84
21:T:13:LEU:HD22	21:T:14:LYS:N	1.91	0.84
12:K:123:LYS:O	12:K:125:PHE:N	2.10	0.84
1:A:1221:G:O3'	20:S:77:THR:HG21	1.76	0.84
1:A:539:A:H2'	1:A:540:G:C8	2.12	0.84
9:H:97:VAL:HA	9:H:100:ILE:HD12	1.60	0.84
1:A:518:C:H5''	1:A:519:C:C6	2.13	0.84
1:A:707:C:H5''	12:K:20:TYR:HD2	1.42	0.84
1:A:1490:C:C3'	1:A:1491:G:H5''	2.07	0.84
1:A:359:U:H2'	1:A:360:A:H8	1.43	0.84
1:A:644:G:C5	1:A:645:C:C5	2.66	0.84
1:A:503:C:H2'	1:A:504:C:H5'	1.60	0.84
1:A:804:U:H5''	1:A:805:C:OP2	1.77	0.83

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1491:G:C5'	1:A:1491:G:H8	1.89	0.83
13:L:27:LEU:O	13:L:29:GLY:N	2.10	0.83
14:M:78:ILE:CG2	14:M:79:LYS:H	1.91	0.83
9:H:9:MET:HG3	9:H:26:VAL:HG11	1.61	0.83
16:O:26:GLU:HA	16:O:81:LEU:HD11	1.60	0.83
1:A:350:G:C8	1:A:350:G:H5'	2.14	0.83
3:B:26:PRO:O	3:B:29:ALA:HB2	1.79	0.83
6:E:13:ILE:HD12	6:E:13:ILE:H	1.43	0.83
6:E:80:ILE:H	6:E:80:ILE:HD12	1.42	0.83
12:K:80:VAL:HG21	12:K:103:LEU:HD13	1.58	0.83
1:A:670:G:H1	1:A:736:C:H42	1.23	0.83
1:A:1154:G:H2'	1:A:1155:G:H8	1.44	0.83
8:G:26:PHE:CE2	8:G:30:ILE:HD11	2.12	0.83
1:A:923:A:H1'	1:A:1398:A:C2	2.14	0.83
3:B:184:VAL:HG12	3:B:197:VAL:HG13	1.58	0.83
14:M:37:THR:HG21	14:M:55:ARG:O	1.79	0.83
20:S:42:PRO:O	20:S:45:VAL:HG23	1.78	0.82
1:A:459:G:H5''	1:A:460:A:OP2	1.79	0.82
8:G:15:ASP:OD1	8:G:18:TYR:N	2.11	0.82
10:I:47:LEU:C	10:I:49:PRO:HD2	1.99	0.82
13:L:75:HIS:CD2	13:L:76:ASN:N	2.47	0.82
18:Q:58:GLU:O	18:Q:59:ILE:HD13	1.78	0.82
1:A:1053:G:N7	1:A:1200:C:H5''	1.95	0.82
1:A:1285:A:C8	1:A:1285:A:OP1	2.33	0.82
1:A:260:G:OP2	21:T:83:ARG:NH1	2.12	0.82
1:A:1179:A:O3'	10:I:103:THR:HG23	1.80	0.82
10:I:125:TYR:HD2	10:I:125:TYR:N	1.76	0.82
11:J:62:HIS:HB3	15:N:59:ALA:HB3	1.61	0.82
1:A:1091:U:O2	1:A:1093:A:C8	2.32	0.82
13:L:86:ARG:HH22	13:L:99:HIS:CD2	1.97	0.82
1:A:35:G:H2'	1:A:36:C:C6	2.15	0.82
6:E:80:ILE:CD1	6:E:91:LEU:CB	2.53	0.81
1:A:1298:C:H4'	1:A:1299:A:O4'	1.79	0.81
1:A:480:U:H2'	1:A:481:G:OP2	1.81	0.81
1:A:965:A:H4'	1:A:966:G:O5'	1.81	0.81
1:A:496:A:H4'	1:A:497:A:OP1	1.80	0.81
1:A:21:G:H2'	1:A:22:G:C8	2.16	0.81
1:A:1226:C:H2'	14:M:103:THR:OG1	1.80	0.81
1:A:1270:C:HO2'	1:A:1313:U:HO2'	1.22	0.81
6:E:107:ARG:HG2	6:E:111:GLU:HG3	1.61	0.81
6:E:30:ALA:O	6:E:45:PHE:HD1	1.62	0.81

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:111:ARG:HH12	8:G:122:HIS:HB3	1.45	0.81
4:C:129:ALA:HB3	4:C:132:ARG:HB2	1.61	0.81
14:M:78:ILE:CG2	14:M:79:LYS:N	2.43	0.81
1:A:1255:G:H2'	1:A:1279:A:N6	1.96	0.81
1:A:1403:C:H2'	1:A:1403:C:O2	1.79	0.81
13:L:28:LYS:C	13:L:30:ALA:H	1.84	0.81
1:A:337:C:H2'	1:A:338:A:H8	1.46	0.81
1:A:850:U:H6	1:A:850:U:H3'	1.46	0.80
1:A:129(A):G:O2'	1:A:190(E):U:H2'	1.81	0.80
1:A:254:G:H2'	1:A:255:G:H8	1.44	0.80
3:B:98:LEU:O	3:B:100:GLY:N	2.15	0.80
5:D:13:ARG:HD3	5:D:38:TYR:O	1.81	0.80
15:N:53:LEU:HD12	15:N:56:VAL:HG21	1.63	0.80
4:C:52:LEU:HD23	4:C:52:LEU:N	1.96	0.80
19:R:66:LEU:O	19:R:69:THR:N	2.14	0.80
1:A:1361(A):C:H2'	1:A:1362:C:H5''	1.62	0.80
3:B:111:ARG:HB3	3:B:149:LEU:HD11	1.62	0.80
3:B:25:ASN:C	3:B:25:ASN:HD22	1.84	0.80
6:E:116:THR:HG23	6:E:117:ASP:OD2	1.81	0.80
13:L:98:TYR:N	13:L:98:TYR:HD1	1.78	0.80
1:A:1111:A:N1	4:C:177:THR:OG1	2.14	0.80
1:A:579:G:H5'	1:A:728:A:H1'	1.62	0.80
4:C:118:GLN:O	4:C:121:ALA:HB3	1.82	0.80
13:L:87:GLY:H	13:L:98:TYR:HB3	1.46	0.80
8:G:56:GLN:H	8:G:56:GLN:HE21	1.29	0.80
1:A:262:A:C6	1:A:263:A:C6	2.70	0.79
1:A:37:U:O2'	1:A:500:G:H4'	1.81	0.79
1:A:384:G:H2'	1:A:385:C:C6	2.18	0.79
1:A:93:G:C3'	1:A:95:U:P	2.69	0.79
13:L:45:PRO:HG3	13:L:53:ARG:HD2	1.63	0.79
14:M:78:ILE:O	14:M:81:LEU:HD23	1.81	0.79
11:J:61:GLU:OE1	15:N:45:ARG:HD2	1.82	0.79
1:A:1255:G:H2'	1:A:1279:A:H62	1.47	0.79
1:A:838:G:C2'	1:A:839:U:H5''	2.12	0.79
7:F:9:VAL:HG23	7:F:87:ARG:HB2	1.63	0.79
1:A:653:A:OP1	9:H:56:LYS:HE2	1.83	0.79
4:C:52:LEU:HD23	4:C:52:LEU:H	1.44	0.79
1:A:954:G:H21	1:A:1227:A:N6	1.79	0.79
5:D:8:VAL:C	5:D:10:ARG:H	1.82	0.79
1:A:378:G:C2	1:A:386:C:O2	2.35	0.79
1:A:707:C:H4'	12:K:20:TYR:CE2	2.17	0.79

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:162:ILE:O	3:B:185:ILE:CD1	2.28	0.79
4:C:131:ARG:HG3	4:C:135:LYS:CE	2.11	0.79
4:C:8:ILE:CG2	4:C:9:GLY:N	2.46	0.79
1:A:1314:C:N4	20:S:4:SER:OG	2.15	0.79
1:A:1201:A:H4'	1:A:1202:G:O5'	1.83	0.79
21:T:74:LYS:HG3	21:T:75:ASN:H	1.48	0.79
1:A:436:C:H2'	1:A:437:U:C6	2.17	0.79
1:A:1360:A:H2'	1:A:1361:G:O4'	1.81	0.78
1:A:379:C:O2'	1:A:380:G:H5'	1.82	0.78
1:A:658:G:C2	1:A:749:C:N3	2.51	0.78
3:B:92:TYR:CD1	3:B:151:GLY:HA3	2.18	0.78
16:O:3:ILE:HG21	16:O:34:LEU:HD11	1.63	0.78
18:Q:90:ILE:C	18:Q:92:ARG:H	1.86	0.78
1:A:1060:C:C5	4:C:2:GLY:HA2	2.18	0.78
1:A:1131:G:H22	1:A:1143:G:H21	1.30	0.78
1:A:1435:G:H2'	1:A:1436:U:H6	1.44	0.78
1:A:946:A:H2'	1:A:947:G:C8	2.18	0.78
7:F:80:ARG:CG	7:F:88:VAL:HG21	2.13	0.78
9:H:112:LEU:N	9:H:112:LEU:CD2	2.45	0.78
1:A:450:G:OP1	17:P:43:LYS:NZ	2.17	0.78
1:A:463:A:C3'	1:A:474:G:OP2	2.30	0.78
5:D:162:LEU:HD21	5:D:178:VAL:HG12	1.63	0.78
6:E:80:ILE:CG2	9:H:104:ARG:HH22	1.96	0.78
11:J:63:PHE:HE1	15:N:45:ARG:HG3	1.49	0.78
1:A:1103:C:H5'	3:B:98:LEU:HD23	1.64	0.78
1:A:263:A:O2'	1:A:264:U:H5'	1.83	0.78
1:A:422:C:O2	1:A:423:G:N2	2.16	0.78
1:A:1235:U:H3'	1:A:1235:U:C6	2.19	0.78
1:A:706:A:H5''	1:A:707:C:OP2	1.84	0.78
5:D:128:VAL:HG12	5:D:129:ASN:ND2	1.98	0.78
6:E:137:GLU:O	6:E:141:GLN:HG3	1.84	0.78
1:A:106:C:H2'	1:A:107:G:H8	1.49	0.78
1:A:199:G:H2'	1:A:200:G:H5'	1.66	0.78
6:E:98:THR:HB	6:E:117:ASP:HB3	1.66	0.78
8:G:69:VAL:HG21	8:G:104:LEU:HD21	1.64	0.78
13:L:47:LYS:HB3	13:L:48:PRO:HD3	1.65	0.78
11:J:63:PHE:CE1	15:N:45:ARG:HG3	2.17	0.78
1:A:1285:A:H8	1:A:1285:A:OP1	1.66	0.78
1:A:676:A:H2'	1:A:677:U:C6	2.19	0.78
1:A:736:C:OP1	19:R:68:LYS:HE2	1.83	0.78
3:B:180:LEU:O	3:B:181:PHE:HB2	1.83	0.78

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:219:VAL:HA	3:B:222:ILE:HD12	1.66	0.78
4:C:166:GLU:HA	4:C:166:GLU:OE2	1.83	0.78
11:J:49:VAL:O	11:J:60:ARG:O	2.02	0.78
13:L:97:ARG:HB2	13:L:98:TYR:HE1	1.47	0.78
1:A:409:G:H2'	1:A:410:G:C8	2.19	0.78
1:A:818:G:C3'	1:A:819:A:H5'	2.14	0.78
13:L:55:VAL:HG12	13:L:56:ALA:N	1.97	0.78
1:A:252:U:H2'	1:A:253:U:C6	2.19	0.78
5:D:62:GLN:HE22	5:D:65:ARG:HH12	1.19	0.78
1:A:783:C:H2'	1:A:784:C:H5'	1.66	0.77
1:A:854:G:H3'	1:A:871:U:O4	1.82	0.77
12:K:30:VAL:HG21	12:K:65:ALA:HA	1.66	0.77
13:L:81:SER:O	13:L:106:ASP:CB	2.32	0.77
1:A:10:A:OP2	6:E:126:ARG:HG3	1.82	0.77
11:J:48:THR:HG22	11:J:62:HIS:NE2	1.99	0.77
11:J:76:ASN:HB3	11:J:78:ASN:ND2	1.98	0.77
1:A:826:C:H2'	1:A:827:U:H6	1.50	0.77
6:E:15:ARG:HH11	6:E:15:ARG:CG	1.97	0.77
1:A:622:A:N7	1:A:623:C:C5	2.53	0.77
1:A:850:U:C6	1:A:850:U:H3'	2.18	0.77
19:R:78:LEU:CD1	19:R:78:LEU:N	2.47	0.77
1:A:1455:G:HO3'	1:A:1459:C:P	2.07	0.77
3:B:187:LEU:HD23	3:B:201:ILE:CG2	2.14	0.77
1:A:190(L):U:O2	21:T:105:SER:HB2	1.82	0.77
1:A:949:A:C2	1:A:1233:G:N3	2.53	0.77
13:L:86:ARG:HG2	13:L:86:ARG:NH1	1.95	0.77
14:M:90:LEU:HD23	14:M:93:ARG:NH1	1.99	0.77
1:A:1454:G:O2'	1:A:1455:G:H5'	1.85	0.77
3:B:26:PRO:O	3:B:29:ALA:CB	2.32	0.77
21:T:86:ARG:HH11	21:T:86:ARG:CG	1.96	0.77
1:A:1523:G:H2'	1:A:1524:C:H6	1.50	0.77
4:C:187:ALA:O	4:C:198:VAL:HG23	1.84	0.77
1:A:447:G:H2'	1:A:485:G:N2	2.00	0.77
19:R:78:LEU:HD12	19:R:78:LEU:H	1.49	0.77
1:A:942:G:N3	1:A:943:U:C6	2.52	0.76
10:I:128:ARG:HG2	10:I:128:ARG:O	1.83	0.76
1:A:362:G:N2	1:A:365:U:OP2	2.17	0.76
1:A:437:U:HO2'	5:D:125:HIS:HE2	0.78	0.76
3:B:118:LEU:HB3	3:B:142:LEU:CD1	2.15	0.76
5:D:64:LEU:HD23	5:D:198:VAL:HG11	1.65	0.76
4:C:33:LEU:HD11	15:N:53:LEU:HB3	1.67	0.76

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:438:G:H4'	1:A:439:A:OP1	1.85	0.76
5:D:83:SER:HA	5:D:89:THR:HG23	1.68	0.76
1:A:1112:C:O2	4:C:179:ARG:HB2	1.86	0.76
4:C:155:GLY:HA3	4:C:196:LEU:HB3	1.67	0.76
20:S:72:GLY:C	20:S:74:PHE:H	1.88	0.76
4:C:178:LEU:O	4:C:179:ARG:HB2	1.86	0.76
6:E:72:GLN:O	6:E:73:ASN:HB3	1.86	0.76
1:A:401:C:H3'	1:A:401:C:C6	2.21	0.76
5:D:128:VAL:HG12	5:D:129:ASN:HD22	1.49	0.76
1:A:1511:G:H2'	1:A:1512:U:O4'	1.85	0.76
6:E:144:THR:H	6:E:147:ASP:HB2	1.50	0.76
1:A:1063:C:H3'	1:A:1064:G:H2'	1.68	0.75
5:D:61:LYS:HE2	5:D:62:GLN:HE21	1.49	0.75
1:A:942:G:C4	1:A:943:U:C5	2.74	0.75
5:D:83:SER:HA	5:D:89:THR:CG2	2.15	0.75
6:E:36:ASP:OD1	6:E:37:ARG:N	2.19	0.75
5:D:11:LEU:C	5:D:13:ARG:N	2.38	0.75
13:L:31:PRO:HB2	13:L:32:PHE:CD2	2.22	0.75
14:M:113:PRO:O	14:M:115:LYS:NZ	2.18	0.75
1:A:1281:U:H5'	1:A:1282:C:H5	1.51	0.75
1:A:254:G:H2'	1:A:255:G:C8	2.21	0.75
7:F:100:ASN:O	19:R:28:GLU:HB3	1.87	0.75
17:P:57:ARG:NH1	17:P:57:ARG:HG3	1.98	0.75
1:A:1443:G:H4'	1:A:1446:A:P	2.26	0.75
10:I:125:TYR:CD2	10:I:125:TYR:N	2.49	0.75
5:D:67:ILE:HG22	5:D:68:TYR:CD1	2.21	0.75
6:E:74:GLY:HA3	6:E:116:THR:HG22	1.67	0.75
18:Q:66:SER:O	18:Q:70:ARG:NH1	2.20	0.75
5:D:63:LYS:CD	5:D:198:VAL:HG23	2.17	0.75
16:O:46:HIS:C	16:O:48:LYS:H	1.90	0.75
1:A:359:U:H2'	1:A:360:A:C8	2.21	0.75
4:C:10:PHE:CE2	4:C:178:LEU:HD13	2.22	0.75
6:E:80:ILE:HG22	9:H:104:ARG:HH22	1.50	0.75
9:H:59:LEU:O	9:H:61:VAL:HG23	1.87	0.75
4:C:191:THR:HG22	4:C:192:THR:H	1.52	0.75
9:H:112:LEU:N	9:H:112:LEU:HD23	2.01	0.75
15:N:26:ARG:HH22	15:N:47:LEU:HD21	1.50	0.75
1:A:1221:G:O4'	20:S:54:GLY:HA3	1.87	0.74
7:F:76:ALA:O	7:F:78:GLU:N	2.20	0.74
13:L:75:HIS:HD2	13:L:77:LEU:H	1.33	0.74
15:N:36:PHE:O	15:N:36:PHE:CD1	2.40	0.74

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:540:G:H2'	1:A:541:G:O4'	1.87	0.74
1:A:948:C:H42	1:A:1233:G:H1	1.33	0.74
1:A:987:G:H1	1:A:1218:C:H42	1.35	0.74
3:B:225:ALA:O	3:B:226:ARG:HB2	1.86	0.74
4:C:129:ALA:HB3	4:C:132:ARG:CB	2.16	0.74
5:D:5:ILE:O	5:D:5:ILE:HG22	1.86	0.74
9:H:112:LEU:HD23	9:H:112:LEU:H	1.51	0.74
1:A:767:A:H2'	1:A:768:A:C8	2.21	0.74
1:A:959:A:H3'	1:A:960:U:H5''	1.69	0.74
5:D:41:GLY:O	5:D:43:HIS:N	2.19	0.74
14:M:81:LEU:HD22	14:M:81:LEU:H	1.51	0.74
5:D:21:LEU:HD11	5:D:26:CYS:SG	2.28	0.74
6:E:33:VAL:HA	6:E:42:GLY:O	1.87	0.74
1:A:1240:U:H4'	8:G:38:LEU:HD11	1.68	0.74
1:A:1499:A:C2'	1:A:1500:A:H5'	2.18	0.74
1:A:1116:C:H2'	1:A:1117:G:H5''	1.69	0.74
1:A:1124:G:O2'	1:A:1145:C:N4	2.21	0.74
15:N:23:ARG:HD3	15:N:29:ARG:O	1.88	0.74
1:A:1112:C:O2	4:C:179:ARG:CB	2.35	0.74
19:R:76:LEU:HB2	19:R:78:LEU:HD11	1.70	0.74
1:A:1526:G:C2'	1:A:1527:C:H5'	2.17	0.74
1:A:707:C:H5''	12:K:20:TYR:CD2	2.23	0.74
4:C:107:GLN:O	4:C:108:ASN:HB3	1.86	0.74
5:D:150:GLU:HA	5:D:153:ARG:HB2	1.70	0.74
1:A:376:G:H2'	1:A:377:G:C8	2.22	0.73
1:A:570:G:N3	1:A:571:U:C5	2.56	0.73
4:C:29:TYR:OH	15:N:54:PRO:HD2	1.86	0.73
9:H:73:ASP:OD2	9:H:75:ARG:NE	2.20	0.73
1:A:976:G:H4'	1:A:977:A:OP1	1.86	0.73
3:B:178:ARG:HH22	9:H:68:ARG:NH2	1.85	0.73
15:N:41:ARG:HG3	15:N:42:ILE:H	1.53	0.73
1:A:959:A:C2	1:A:1222:G:O4'	2.40	0.73
6:E:15:ARG:HH11	6:E:15:ARG:HG2	1.52	0.73
13:L:86:ARG:NH2	13:L:99:HIS:CD2	2.56	0.73
1:A:335:C:H2'	1:A:336:C:C6	2.23	0.73
6:E:34:VAL:HG23	6:E:42:GLY:HA3	1.68	0.73
9:H:111:ILE:HG22	9:H:134:ILE:HB	1.70	0.73
1:A:1276:G:H8	1:A:1276:G:O5'	1.71	0.73
1:A:1296:C:H4'	1:A:1302:U:H5	1.51	0.73
5:D:21:LEU:HD12	5:D:22:LYS:H	1.53	0.73
1:A:35:G:H2'	1:A:36:C:H6	1.52	0.73

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:515:G:C5	1:A:516:U:C5	2.77	0.73
1:A:564:C:O2	1:A:564:C:H2'	1.88	0.73
1:A:833:U:O2	1:A:854:G:C2	2.42	0.73
10:I:128:ARG:CG	10:I:128:ARG:O	2.36	0.73
17:P:21:VAL:HG21	17:P:59:TRP:CD1	2.24	0.73
1:A:481:G:O2'	1:A:483:C:N4	2.21	0.73
1:A:731:G:OP1	1:A:766:A:H1'	1.89	0.73
1:A:97:G:H5''	1:A:98:U:OP2	1.89	0.73
4:C:195:VAL:O	4:C:196:LEU:HD23	1.87	0.73
5:D:25:ARG:C	5:D:27:TYR:H	1.92	0.73
16:O:78:TYR:CE1	16:O:82:ILE:HD11	2.24	0.73
1:A:503:C:C2'	1:A:504:C:H5'	2.18	0.73
4:C:150:LYS:HG2	4:C:151:VAL:N	2.04	0.73
6:E:81:GLU:HG3	6:E:90:VAL:HG13	1.69	0.73
1:A:1305:G:H2'	1:A:1331:G:N2	2.03	0.73
1:A:622:A:C8	1:A:623:C:C6	2.77	0.73
3:B:55:PHE:HA	3:B:58:ILE:HG13	1.71	0.73
5:D:79:PHE:O	5:D:82:ALA:N	2.22	0.73
1:A:1343:G:H4'	10:I:122:ALA:HB3	1.71	0.73
1:A:401:C:H6	1:A:401:C:H3'	1.54	0.73
1:A:839:U:O2	1:A:839:U:H2'	1.87	0.72
1:A:84:U:H3'	1:A:88:A:P	2.29	0.72
15:N:40:CYS:C	15:N:43:CYS:HB2	2.08	0.72
17:P:67:THR:CG2	17:P:68:ASP:H	2.00	0.72
1:A:854:G:C2	1:A:855:G:C8	2.77	0.72
4:C:91:LEU:HD11	4:C:99:VAL:HG22	1.70	0.72
21:T:64:ASP:O	21:T:67:ALA:HB3	1.89	0.72
1:A:1228:C:OP1	14:M:115:LYS:HG2	1.89	0.72
1:A:377:G:C2	1:A:387:U:O2	2.43	0.72
4:C:6:HIS:HD2	4:C:8:ILE:H	1.37	0.72
11:J:15:THR:O	11:J:19:SER:HB3	1.89	0.72
14:M:49:THR:HG22	14:M:51:ALA:H	1.53	0.72
15:N:41:ARG:HG3	15:N:42:ILE:N	2.04	0.72
1:A:509:A:H3'	1:A:509:A:C8	2.24	0.72
1:A:794:A:H2'	1:A:795:C:H6	1.55	0.72
17:P:50:LYS:C	17:P:51:VAL:HG22	2.09	0.72
17:P:5:ARG:HG2	17:P:6:LEU:N	2.04	0.72
20:S:71:LEU:HD22	20:S:72:GLY:H	1.55	0.72
1:A:266:G:C5'	1:A:266:G:C8	2.72	0.72
1:A:794:A:H2'	1:A:795:C:C6	2.25	0.72
4:C:55:VAL:O	4:C:55:VAL:HG12	1.88	0.72

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:119:LEU:HB3	9:H:123:GLU:HB3	1.70	0.72
1:A:157:G:C2	1:A:158:G:C8	2.77	0.72
1:A:356:A:H2'	1:A:357:G:H5'	1.71	0.72
1:A:458:C:C2	1:A:459:G:C8	2.78	0.72
11:J:76:ASN:HB3	11:J:78:ASN:HD21	1.54	0.72
14:M:96:LEU:HB3	14:M:97:PRO:CD	2.17	0.72
15:N:37:PHE:HE2	15:N:53:LEU:HD13	1.55	0.72
5:D:26:CYS:HA	5:D:31:CYS:CB	2.16	0.72
6:E:139:LEU:O	6:E:141:GLN:N	2.21	0.72
6:E:152:ARG:O	9:H:64:LYS:NZ	2.23	0.72
1:A:1346:A:C8	1:A:1348:U:C2	2.78	0.71
1:A:353:A:H8	1:A:353:A:H5''	1.55	0.71
3:B:187:LEU:HD23	3:B:201:ILE:HG22	1.72	0.71
1:A:99:C:H2'	1:A:101:A:C8	2.26	0.71
1:A:602:A:C2	1:A:637:G:C2	2.78	0.71
3:B:208:ILE:HA	3:B:211:ILE:HD12	1.72	0.71
19:R:59:SER:HB3	19:R:62:GLU:OE1	1.90	0.71
1:A:625:G:H2'	1:A:626:U:C6	2.25	0.71
6:E:27:ARG:HG3	6:E:28:PHE:N	2.04	0.71
1:A:1064:G:H5'	1:A:1066:C:O4'	1.91	0.71
1:A:185:A:H5''	1:A:186:C:OP2	1.90	0.71
1:A:350:G:C8	1:A:350:G:C5'	2.71	0.71
1:A:639:G:C2'	1:A:640:A:H5'	2.21	0.71
1:A:1113:C:H42	1:A:1187:G:H1	1.36	0.71
1:A:1264:C:H2'	1:A:1265:G:H8	1.54	0.71
1:A:1286:A:C8	1:A:1287:A:H4'	2.25	0.71
1:A:526:C:OP2	13:L:91:LYS:NZ	2.17	0.71
10:I:9:ARG:HG3	10:I:14:VAL:HG12	1.70	0.71
18:Q:95:TYR:O	18:Q:97:SER:N	2.24	0.71
1:A:1234:C:C2'	1:A:1235:U:H5'	2.20	0.71
1:A:1314:C:OP2	20:S:6:LYS:CG	2.34	0.71
1:A:90:U:H3'	1:A:90:U:C6	2.26	0.71
1:A:977:A:O2'	1:A:978:A:H5''	1.89	0.71
1:A:1361:G:C2'	1:A:1361(A):C:H5'	2.21	0.71
1:A:5:U:H2'	1:A:5:U:O2	1.90	0.71
1:A:882:C:O2'	1:A:883:C:H5'	1.90	0.71
1:A:922:G:N3	1:A:1396:A:C2	2.58	0.71
10:I:43:ALA:O	10:I:45:ALA:N	2.23	0.71
11:J:5:ARG:HA	11:J:73:ASP:OD1	1.91	0.71
1:A:480:U:C2'	1:A:481:G:OP2	2.37	0.71
6:E:142:LEU:O	6:E:143:ARG:HG2	1.91	0.71

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:102:ARG:NH1	13:L:110:VAL:HA	2.04	0.71
19:R:33:ASP:O	19:R:35:ARG:N	2.22	0.71
1:A:1235:U:H2'	1:A:1236:A:O5'	1.90	0.71
1:A:931:C:O2	1:A:1386:G:N2	2.18	0.71
7:F:62:TRP:C	7:F:63:TYR:HD2	1.94	0.71
1:A:707:C:C5'	12:K:20:TYR:HD2	2.04	0.71
1:A:734:G:H2'	1:A:735:C:C6	2.26	0.71
1:A:922:G:N2	1:A:1396:A:C4	2.59	0.71
15:N:12:ARG:O	15:N:14:PRO:HD3	1.90	0.71
7:F:50:TYR:HE1	19:R:77:GLY:HA2	1.56	0.70
18:Q:4:LYS:H	18:Q:61:GLU:HB2	1.56	0.70
20:S:72:GLY:O	20:S:74:PHE:N	2.24	0.70
21:T:49:ALA:O	21:T:53:LEU:HD12	1.90	0.70
1:A:1454:G:C2'	1:A:1455:G:H5'	2.20	0.70
1:A:18:C:O2'	1:A:19:C:H5'	1.91	0.70
1:A:872:A:O2'	1:A:873:A:H3'	1.91	0.70
21:T:75:ASN:O	21:T:78:ALA:N	2.24	0.70
1:A:1364:U:O2'	1:A:1365:G:C5'	2.38	0.70
14:M:34:LEU:CD1	14:M:41:PRO:HA	2.18	0.70
1:A:1009:G:H2'	1:A:1009:G:N3	2.07	0.70
1:A:111:G:H5''	1:A:112:G:OP2	1.91	0.70
1:A:247:G:O6	1:A:278:G:C6	2.44	0.70
11:J:16:LEU:HD22	11:J:94:VAL:HG13	1.74	0.70
1:A:1126:U:C2	1:A:1127:G:N7	2.60	0.70
1:A:1379:G:O6	8:G:2:ALA:HB3	1.91	0.70
15:N:21:TYR:HE2	15:N:23:ARG:NE	1.90	0.70
4:C:180:ALA:HB1	4:C:182:ILE:CD1	2.22	0.70
13:L:43:VAL:HG13	13:L:44:THR:H	1.57	0.70
14:M:49:THR:CB	14:M:52:GLU:HG3	2.16	0.70
20:S:53:ASN:HB2	20:S:56:GLN:H	1.55	0.70
1:A:266:G:C8	1:A:266:G:H5''	2.27	0.70
3:B:12:GLU:OE1	3:B:12:GLU:HA	1.89	0.70
7:F:62:TRP:O	7:F:63:TYR:HD2	1.75	0.70
14:M:5:ALA:HB3	14:M:8:GLU:HB2	1.72	0.70
1:A:1064:G:H4'	1:A:1065:U:H5'	1.73	0.70
1:A:1102:A:H2'	1:A:1103:C:C6	2.26	0.70
1:A:1258:G:OP2	1:A:1258:G:H8	1.74	0.70
1:A:358:U:H2'	1:A:359:U:C6	2.27	0.70
1:A:88:A:H2'	1:A:89:C:O4'	1.91	0.70
1:A:90:U:H6	1:A:90:U:H3'	1.56	0.70
11:J:16:LEU:HD12	11:J:70:ARG:HG3	1.74	0.70

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1264:C:H2'	1:A:1265:G:C8	2.27	0.70
1:A:492:G:O3'	1:A:494:G:P	2.50	0.70
1:A:781:A:C5	1:A:802:A:C2	2.79	0.70
15:N:24:CYS:HB3	15:N:28:GLY:N	2.07	0.70
1:A:1126:U:OP2	1:A:1281:U:O2	2.10	0.69
1:A:1281:U:H5'	1:A:1282:C:C5	2.27	0.69
1:A:518:C:H5''	1:A:519:C:H6	1.55	0.69
5:D:11:LEU:C	5:D:13:ARG:H	1.96	0.69
1:A:437:U:O2'	5:D:125:HIS:NE2	2.08	0.69
1:A:568:G:H2'	1:A:569:C:H5'	1.73	0.69
1:A:976:G:C4'	1:A:977:A:OP1	2.40	0.69
9:H:10:LEU:HB3	9:H:83:ILE:HD11	1.74	0.69
1:A:657:G:H2'	1:A:658:G:H8	1.57	0.69
4:C:39:ILE:O	4:C:43:LEU:HB2	1.92	0.69
8:G:116:ALA:O	8:G:120:ILE:HD13	1.92	0.69
1:A:1139:G:H4'	1:A:1140:C:H5''	1.73	0.69
1:A:451:A:H8	1:A:451:A:O5'	1.75	0.69
1:A:838:G:H1	1:A:848:C:H42	1.41	0.69
1:A:914:A:C2	1:A:915:A:C4	2.81	0.69
4:C:6:HIS:CD2	4:C:8:ILE:H	2.10	0.69
10:I:111:ARG:HH11	10:I:111:ARG:CG	2.06	0.69
20:S:78:ARG:H	20:S:78:ARG:HD2	1.57	0.69
9:H:30:ARG:HH11	9:H:30:ARG:HG2	1.56	0.69
1:A:1158:C:C5	1:A:1160:G:H1'	2.27	0.69
1:A:63:C:H5'	1:A:64:G:OP2	1.93	0.69
1:A:674:G:H2'	1:A:675:A:H8	1.58	0.69
1:A:880:C:H2'	1:A:881:G:H8	1.56	0.69
3:B:182:ILE:HG23	3:B:183:PRO:HD2	1.75	0.69
5:D:204:ILE:HG22	5:D:205:GLU:N	2.07	0.69
8:G:91:VAL:HG12	8:G:96:GLN:NE2	2.08	0.69
17:P:74:LEU:O	17:P:79:VAL:HG23	1.91	0.69
3:B:9:GLU:HG3	3:B:217:ARG:HH12	1.55	0.69
5:D:149:ALA:O	5:D:151:LYS:N	2.25	0.69
11:J:38:ILE:HB	11:J:71:LEU:HB3	1.73	0.69
13:L:27:LEU:C	13:L:29:GLY:H	1.91	0.69
17:P:74:LEU:HD13	17:P:79:VAL:HG11	1.75	0.69
18:Q:40:LYS:HD3	18:Q:42:TYR:CZ	2.28	0.69
1:A:1040:U:H2'	1:A:1041:A:C8	2.28	0.69
1:A:1157:A:H4'	1:A:1158:C:O5'	1.93	0.69
1:A:501:C:H2'	1:A:502:G:H8	1.56	0.69
3:B:88:ALA:O	3:B:90:MET:N	2.25	0.69

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:35:GLU:HG2	4:C:59:ARG:HH12	1.58	0.69
13:L:32:PHE:HB3	13:L:85:ILE:O	1.93	0.69
3:B:102:LEU:CD1	3:B:102:LEU:N	2.55	0.69
18:Q:75:ARG:HH12	18:Q:77:VAL:HG13	1.56	0.69
1:A:1226:C:H4'	1:A:1227:A:OP1	1.91	0.69
1:A:149:A:C2	1:A:150:C:C2	2.80	0.69
1:A:736:C:H2'	1:A:737:A:C8	2.28	0.69
10:I:113:LYS:N	10:I:113:LYS:HD2	2.08	0.69
1:A:200:G:H8	1:A:200:G:C5'	2.06	0.69
1:A:680:C:H42	1:A:710:G:H1	1.40	0.69
4:C:180:ALA:HB1	4:C:182:ILE:HD11	1.75	0.69
1:A:45:U:H3	1:A:396:G:H1	1.41	0.68
8:G:67:GLU:O	8:G:67:GLU:HG3	1.92	0.68
20:S:83:HIS:N	20:S:83:HIS:CD2	2.61	0.68
1:A:1502:A:H2	1:A:1505:G:N1	1.89	0.68
1:A:250:A:H4'	1:A:251:G:O5'	1.93	0.68
11:J:46:ARG:HG2	11:J:46:ARG:NH1	2.08	0.68
12:K:24:SER:C	12:K:26:ASN:H	1.97	0.68
1:A:1227:A:H2'	1:A:1228:C:O5'	1.92	0.68
1:A:1347:G:H3'	10:I:108:VAL:O	1.94	0.68
1:A:1508:G:H2'	1:A:1509:C:C6	2.28	0.68
1:A:337:C:H2'	1:A:338:A:C8	2.28	0.68
3:B:101:MET:HG2	3:B:108:ILE:HD12	1.74	0.68
5:D:64:LEU:HD21	5:D:94:LEU:HD21	1.75	0.68
6:E:71:LEU:HD21	6:E:115:VAL:HG22	1.75	0.68
8:G:155:ARG:O	8:G:156:TRP:HB2	1.92	0.68
1:A:1152:A:C4'	11:J:13:HIS:HD2	2.06	0.68
1:A:1231:G:H2'	1:A:1232:U:C6	2.27	0.68
1:A:463:A:H3'	1:A:474:G:OP2	1.93	0.68
1:A:502:G:H2'	1:A:503:C:C6	2.28	0.68
1:A:979:C:H5	1:A:980:C:C5	2.11	0.68
4:C:5:ILE:HD13	4:C:10:PHE:CB	2.15	0.68
6:E:18:ARG:NH2	6:E:25:ARG:HG2	2.08	0.68
21:T:65:LYS:O	21:T:68:LYS:HB2	1.93	0.68
1:A:1154:G:H2'	1:A:1155:G:C8	2.27	0.68
16:O:78:TYR:CZ	16:O:82:ILE:HD11	2.28	0.68
1:A:1350:A:C6	1:A:1351:U:N3	2.62	0.68
5:D:23:GLY:O	5:D:27:TYR:HB2	1.94	0.68
13:L:102:ARG:NH2	13:L:108:ALA:O	2.27	0.68
1:A:1138:G:N2	1:A:1140:C:O2	2.26	0.68
1:A:116:A:H2'	1:A:117:G:C8	2.29	0.68

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1235:U:H3'	1:A:1235:U:H6	1.57	0.68
1:A:491:G:C4	1:A:492:G:C8	2.82	0.68
1:A:536:C:H2'	1:A:537:G:H8	1.57	0.68
16:O:26:GLU:OE1	16:O:77:ARG:HD2	1.93	0.68
21:T:79:ARG:HE	21:T:83:ARG:HH22	1.39	0.68
1:A:1066:C:H2'	1:A:1067:A:H5'	1.75	0.68
1:A:1526:G:O2'	1:A:1527:C:H5'	1.94	0.68
1:A:706:A:H1'	12:K:29:ILE:HD11	1.75	0.68
3:B:84:GLU:HG3	3:B:219:VAL:CG2	2.24	0.68
5:D:64:LEU:HD11	5:D:97:LEU:HD13	1.74	0.68
1:A:1010:G:H2'	1:A:1011:G:C8	2.29	0.68
1:A:960:U:H1'	1:A:1223:C:H5'	1.76	0.68
1:A:1314:C:N3	1:A:1315:U:C5	2.62	0.68
7:F:50:TYR:HE1	19:R:77:GLY:CA	2.07	0.68
15:N:21:TYR:HE2	15:N:23:ARG:HE	1.41	0.68
1:A:575:G:OP1	1:A:575:G:H4'	1.94	0.68
1:A:657:G:H4'	16:O:28:GLN:HG2	1.76	0.68
10:I:95:LYS:O	10:I:96:LEU:HD12	1.93	0.68
8:G:23:VAL:O	8:G:27:ILE:HG13	1.93	0.67
10:I:114:TYR:CE1	11:J:59:SER:O	2.47	0.67
1:A:1048:G:H5''	15:N:3:ARG:HG3	1.74	0.67
1:A:1288:A:C5	1:A:1289:A:N7	2.62	0.67
1:A:1197:G:H5''	24:A:1636:D2C:O5	1.92	0.67
8:G:26:PHE:O	8:G:30:ILE:HD12	1.95	0.67
1:A:1015:A:H2'	1:A:1016:A:C8	2.29	0.67
1:A:1342:C:O3'	10:I:125:TYR:HE2	1.75	0.67
1:A:1377:A:C8	1:A:1377:A:H3'	2.28	0.67
1:A:376:G:N3	1:A:389:A:C2	2.62	0.67
6:E:74:GLY:CA	6:E:116:THR:HG22	2.24	0.67
6:E:72:GLN:O	6:E:73:ASN:CB	2.42	0.67
14:M:30:ALA:O	14:M:33:ALA:N	2.27	0.67
1:A:439:A:N6	1:A:497:A:H1'	2.08	0.67
1:A:767:A:H2'	1:A:768:A:H8	1.58	0.67
1:A:914:A:N1	1:A:915:A:C4	2.62	0.67
5:D:15:GLU:HG2	5:D:63:LYS:HG3	1.77	0.67
19:R:50:ILE:HG12	19:R:70:ILE:HD13	1.76	0.67
1:A:1055:A:C8	1:A:1206:G:N2	2.63	0.67
1:A:95:U:H2'	1:A:96:G:C8	2.30	0.67
6:E:80:ILE:HD13	6:E:91:LEU:HB2	1.71	0.67
11:J:12:ASP:HB3	11:J:15:THR:CG2	2.24	0.67
12:K:54:ARG:O	12:K:57:THR:HG22	1.94	0.67

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:78:LEU:CD1	19:R:78:LEU:H	2.07	0.67
1:A:1130:A:OP2	1:A:1131:G:OP2	2.13	0.67
1:A:976:G:H8	1:A:1358:U:HO2'	1.42	0.67
19:R:67:ALA:O	19:R:71:LYS:HG3	1.94	0.67
1:A:1229:A:C2	1:A:1230:C:C5	2.83	0.67
1:A:1455:G:H3'	1:A:1459:C:OP2	1.95	0.67
5:D:9:CYS:HA	5:D:12:CYS:HB2	1.77	0.67
8:G:15:ASP:OD2	8:G:44:TYR:OH	2.13	0.67
10:I:50:LEU:HB3	10:I:55:ALA:HB3	1.76	0.67
15:N:24:CYS:HB3	15:N:28:GLY:CA	2.25	0.67
1:A:1228:C:H6	1:A:1228:C:H5''	1.58	0.67
1:A:1285:A:H4'	1:A:1286:A:O5'	1.95	0.67
1:A:418:C:O2	1:A:425:G:N2	2.23	0.67
3:B:42:ILE:HD12	3:B:203:GLY:HA2	1.77	0.67
10:I:71:SER:HA	10:I:74:ILE:HD12	1.76	0.67
10:I:8:GLY:CA	10:I:79:LEU:HB3	2.23	0.67
21:T:56:MET:HE3	21:T:104:LEU:HD21	1.75	0.67
21:T:73:HIS:O	21:T:74:LYS:CG	2.40	0.67
1:A:1525:G:C8	1:A:1525:G:H3'	2.29	0.67
1:A:639:G:H2'	1:A:640:A:H5'	1.76	0.67
1:A:707:C:H2'	1:A:708:C:C6	2.30	0.67
1:A:707:C:O3'	12:K:20:TYR:HE2	1.78	0.67
4:C:66:VAL:O	4:C:68:VAL:N	2.28	0.67
19:R:55:ARG:HB3	19:R:55:ARG:CZ	2.25	0.67
1:A:275:G:H5''	1:A:275:G:C8	2.29	0.66
4:C:129:ALA:CB	4:C:132:ARG:HB2	2.25	0.66
7:F:7:ASN:O	7:F:88:VAL:HA	1.96	0.66
10:I:34:ASN:HD22	10:I:34:ASN:H	1.42	0.66
13:L:117:ARG:HG2	13:L:122:THR:O	1.96	0.66
1:A:923:A:C1'	1:A:1398:A:C2	2.78	0.66
1:A:109:A:C4	1:A:327:A:C2	2.83	0.66
1:A:854:G:N1	1:A:855:G:N7	2.43	0.66
3:B:97:TRP:HZ2	3:B:102:LEU:HD13	1.60	0.66
4:C:91:LEU:HD21	4:C:99:VAL:HG13	1.77	0.66
19:R:66:LEU:HG	19:R:70:ILE:CD1	2.24	0.66
1:A:1227:A:OP1	20:S:80:TYR:OH	2.10	0.66
1:A:1403:C:O2	1:A:1403:C:C2'	2.42	0.66
1:A:358:U:H2'	1:A:359:U:H6	1.59	0.66
11:J:47:PHE:HD2	15:N:34:TYR:HE2	1.39	0.66
1:A:976:G:C5'	1:A:977:A:OP1	2.44	0.66
5:D:141:ARG:HB3	5:D:142:PRO:HD2	1.76	0.66

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:53:ARG:NH1	13:L:92:ASP:OD2	2.28	0.66
1:A:1187:G:H2'	1:A:1188:A:H8	1.61	0.66
3:B:48:MET:HA	3:B:51:LEU:HD12	1.78	0.66
1:A:1152:A:C5'	11:J:13:HIS:CD2	2.72	0.66
3:B:161:ALA:HB1	3:B:185:ILE:HD11	1.75	0.66
1:A:1081:G:OP1	6:E:16:THR:OG1	2.14	0.66
13:L:28:LYS:O	13:L:30:ALA:N	2.29	0.66
1:A:499:A:C4'	1:A:500:G:H5'	2.26	0.66
1:A:803:G:C5	1:A:804:U:C5	2.84	0.66
1:A:923:A:H1'	1:A:1398:A:N3	2.10	0.66
4:C:139:GLN:O	4:C:143:GLU:N	2.28	0.66
6:E:67:VAL:O	6:E:67:VAL:HG13	1.95	0.66
11:J:56:HIS:C	11:J:58:ASP:H	1.97	0.66
1:A:459:G:H3'	1:A:460:A:H5'	1.78	0.66
3:B:167:PRO:HG3	3:B:188:ALA:HB2	1.78	0.66
3:B:87:ARG:HH21	3:B:219:VAL:HB	1.61	0.66
13:L:111:LYS:O	13:L:112:ASP:HB2	1.96	0.66
21:T:56:MET:CE	21:T:104:LEU:HD21	2.26	0.66
1:A:1015:A:H2'	1:A:1016:A:H8	1.60	0.66
1:A:1047:G:O5'	1:A:1047:G:H8	1.77	0.66
1:A:1055:A:N7	1:A:1206:G:N1	2.44	0.66
1:A:676:A:H2'	1:A:677:U:H6	1.59	0.66
1:A:91:C:H2'	1:A:92:C:H6	1.59	0.66
1:A:836:G:C6	1:A:851:G:C6	2.84	0.66
4:C:6:HIS:NE2	4:C:8:ILE:CB	2.59	0.66
5:D:79:PHE:CD1	5:D:207:TYR:HD1	2.14	0.66
6:E:51:VAL:O	6:E:54:ALA:HB3	1.96	0.66
1:A:448:A:C5	1:A:487:A:C2	2.84	0.65
13:L:41:ARG:HD2	13:L:42:THR:H	1.61	0.65
1:A:1189:C:H5''	1:A:1190:G:OP2	1.95	0.65
1:A:942:G:H2'	1:A:943:U:C6	2.31	0.65
1:A:95:U:H2'	1:A:96:G:H8	1.61	0.65
3:B:182:ILE:CG2	3:B:183:PRO:HD2	2.26	0.65
1:A:1003(A):G:H2'	1:A:1004:A:C4'	2.24	0.65
1:A:1288:A:N7	1:A:1289:A:N7	2.43	0.65
1:A:1366:C:C2	1:A:1367:C:C5	2.84	0.65
10:I:82:ALA:O	10:I:86:VAL:HG23	1.96	0.65
12:K:33:THR:CG2	12:K:37:GLY:HA2	2.26	0.65
1:A:715:A:O5'	1:A:715:A:H8	1.80	0.65
3:B:176:GLU:O	3:B:177:ALA:C	2.35	0.65
1:A:1314:C:C2	1:A:1315:U:C5	2.84	0.65

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1347:G:O2'	1:A:1348:U:OP2	2.14	0.65
1:A:948:C:OP1	14:M:109:THR:CG2	2.34	0.65
1:A:987:G:H8	1:A:987:G:O5'	1.79	0.65
3:B:117:GLU:O	3:B:121:LEU:HB2	1.97	0.65
6:E:80:ILE:HG23	9:H:104:ARG:NH2	2.10	0.65
1:A:1381:U:C4	1:A:1382:C:C5	2.85	0.65
4:C:15:THR:HG21	4:C:179:ARG:HA	1.78	0.65
8:G:92:SER:HB2	8:G:93:PRO:HD2	1.78	0.65
9:H:119:LEU:HD13	9:H:124:ALA:HA	1.76	0.65
10:I:50:LEU:HD11	10:I:81:ILE:HG21	1.78	0.65
10:I:28:VAL:HA	10:I:63:ILE:O	1.97	0.65
19:R:66:LEU:HG	19:R:70:ILE:HD12	1.77	0.65
1:A:1392:G:H2'	1:A:1393:U:H6	1.62	0.65
1:A:291:C:O2'	1:A:292:G:H5'	1.96	0.65
1:A:382:A:C2	1:A:383:A:C4	2.84	0.65
5:D:149:ALA:C	5:D:151:LYS:H	2.00	0.65
6:E:34:VAL:HG22	6:E:62:ALA:HB1	1.78	0.65
17:P:28:ARG:CG	17:P:28:ARG:HH11	1.96	0.65
1:A:1350:A:C2	1:A:1351:U:O2	2.50	0.65
1:A:1438:G:H2'	1:A:1439:C:C6	2.31	0.65
1:A:983:A:N3	1:A:983:A:H3'	2.11	0.65
8:G:15:ASP:HB3	8:G:20:ASP:H	1.61	0.65
17:P:57:ARG:CG	17:P:57:ARG:HH11	2.07	0.65
21:T:13:LEU:CD2	21:T:13:LEU:C	2.66	0.65
21:T:43:LEU:HD12	21:T:52:ALA:HA	1.78	0.65
1:A:1158:C:H5	1:A:1160:G:H1'	1.61	0.65
1:A:1182:G:C4'	1:A:1183:A:O5'	2.37	0.65
1:A:861:G:H2'	1:A:862:C:H6	1.62	0.65
4:C:191:THR:HG21	4:C:193:TYR:CZ	2.32	0.65
21:T:13:LEU:C	21:T:13:LEU:HD22	2.16	0.65
1:A:200:G:H2'	1:A:201:C:O4'	1.97	0.65
1:A:62:U:H2'	1:A:63:C:C6	2.32	0.65
3:B:111:ARG:CB	3:B:149:LEU:HD11	2.27	0.65
3:B:217:ARG:O	3:B:220:ASP:HB2	1.96	0.65
3:B:25:ASN:HD21	3:B:27:LYS:HB2	1.60	0.65
4:C:91:LEU:HD23	4:C:92:ALA:N	2.11	0.65
13:L:67:THR:HG23	13:L:67:THR:O	1.97	0.65
1:A:1056:U:O2'	1:A:1057:G:H5'	1.97	0.64
5:D:21:LEU:CD1	5:D:22:LYS:H	2.10	0.64
9:H:19:VAL:O	9:H:19:VAL:HG23	1.96	0.64
1:A:62:U:H2'	1:A:63:C:H6	1.61	0.64

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:669:U:H2'	1:A:670:G:H8	1.56	0.64
1:A:753:A:H4'	1:A:754:C:O5'	1.97	0.64
7:F:44:GLY:HA2	7:F:60:PHE:H	1.63	0.64
20:S:41:VAL:HG12	20:S:42:PRO:HD2	1.78	0.64
21:T:82:SER:O	21:T:86:ARG:HB2	1.97	0.64
1:A:1399:C:H4'	1:A:1400:C:C5'	2.21	0.64
1:A:373:A:C8	1:A:373:A:C5'	2.78	0.64
1:A:623:C:H2'	1:A:623:C:O2	1.98	0.64
3:B:17:PHE:HD1	3:B:18:GLY:H	1.44	0.64
7:F:9:VAL:CG2	7:F:87:ARG:HB2	2.26	0.64
9:H:103:VAL:HG21	9:H:109:ILE:C	2.18	0.64
20:S:72:GLY:O	20:S:74:PHE:HD1	1.79	0.64
1:A:1063:C:OP2	1:A:1064:G:O2'	2.14	0.64
1:A:1187:G:H2'	1:A:1188:A:C8	2.33	0.64
1:A:522:C:OP2	13:L:69:TYR:OH	2.12	0.64
6:E:103:GLY:O	6:E:106:PRO:CD	2.43	0.64
6:E:90:VAL:O	6:E:120:THR:HA	1.97	0.64
11:J:46:ARG:HG2	11:J:46:ARG:HH11	1.61	0.64
15:N:32:SER:HB2	15:N:41:ARG:HB3	1.78	0.64
1:A:1074:G:O2'	3:B:103:THR:HG22	1.96	0.64
1:A:1169:A:HO3'	1:A:1171:G:P	2.19	0.64
1:A:1316:G:O2'	1:A:1318:A:N7	2.26	0.64
1:A:779:C:H2'	1:A:780:A:O4'	1.96	0.64
1:A:864:A:H2'	1:A:865:A:C8	2.31	0.64
8:G:23:VAL:HG12	8:G:27:ILE:CD1	2.23	0.64
11:J:16:LEU:CD2	11:J:94:VAL:HG13	2.28	0.64
15:N:36:PHE:O	15:N:36:PHE:HD1	1.79	0.64
16:O:76:GLU:O	16:O:78:TYR:N	2.31	0.64
1:A:1092:A:H8	1:A:1092:A:C5'	2.10	0.64
1:A:1100:C:O5'	1:A:1100:C:H6	1.80	0.64
1:A:1161:C:H2'	1:A:1162:C:C6	2.33	0.64
1:A:705:U:H3'	1:A:706:A:H8	1.63	0.64
13:L:6:THR:HG1	13:L:9:GLN:HG3	1.61	0.64
19:R:79:LEU:HD23	19:R:80:PRO:CD	2.15	0.64
1:A:1119:C:C6	1:A:1119:C:H3'	2.33	0.64
1:A:109:A:C6	1:A:326:G:C6	2.86	0.64
1:A:895:G:H2'	1:A:896:C:H6	1.62	0.64
1:A:960:U:O2	1:A:960:U:H5'	1.97	0.64
3:B:101:MET:CA	3:B:108:ILE:HD12	2.27	0.64
6:E:51:VAL:CB	6:E:52:PRO:CD	2.69	0.64
14:M:22:ILE:HB	14:M:25:ILE:HD12	1.80	0.64

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1055:A:C8	1:A:1206:G:C2	2.85	0.64
1:A:1066:C:O2'	1:A:1067:A:H5''	1.98	0.64
3:B:102:LEU:HD13	3:B:102:LEU:H	1.62	0.64
5:D:79:PHE:CD1	5:D:207:TYR:CD1	2.86	0.64
14:M:40:ASN:ND2	14:M:41:PRO:HD2	2.12	0.64
20:S:39:THR:HG22	20:S:40:ILE:H	1.61	0.64
1:A:113:G:H1	1:A:314:C:H42	1.44	0.64
1:A:1328:C:H2'	1:A:1329:A:O4'	1.97	0.64
1:A:1499:A:H2'	1:A:1500:A:H5'	1.78	0.64
1:A:390:C:H2'	1:A:391:G:C8	2.33	0.64
1:A:750:G:N3	16:O:23:GLY:HA3	2.13	0.64
1:A:401:C:OP2	5:D:73:ARG:NH2	2.31	0.64
12:K:34:ASP:HB2	12:K:35:PRO:CD	2.28	0.64
20:S:39:THR:HG22	20:S:40:ILE:N	2.13	0.64
1:A:1438:G:H2'	1:A:1439:C:H6	1.63	0.63
1:A:1513:A:H2'	1:A:1514:C:C6	2.33	0.63
1:A:409:G:H2'	1:A:410:G:H8	1.62	0.63
1:A:528:C:H41	13:L:49:ASN:HD21	1.44	0.63
1:A:942:G:N3	1:A:943:U:C5	2.66	0.63
6:E:19:MET:CE	6:E:24:ARG:HH11	2.11	0.63
1:A:1234:C:H2'	1:A:1235:U:H5'	1.80	0.63
1:A:253:U:H2'	1:A:254:G:C8	2.33	0.63
1:A:522:C:H2'	1:A:523:A:O4'	1.99	0.63
1:A:529:G:C8	1:A:529:G:H3'	2.33	0.63
1:A:55:A:H2'	1:A:56:U:C6	2.32	0.63
1:A:580:U:H4'	16:O:57:LEU:HD23	1.80	0.63
1:A:942:G:H2'	1:A:943:U:H6	1.63	0.63
3:B:114:ARG:HD3	3:B:141:GLU:OE1	1.99	0.63
3:B:218:ALA:O	3:B:222:ILE:HG13	1.98	0.63
8:G:116:ALA:O	8:G:120:ILE:CD1	2.46	0.63
1:A:176:C:O2	1:A:176:C:H2'	1.98	0.63
1:A:384:G:H2'	1:A:385:C:H6	1.60	0.63
1:A:656:C:C6	1:A:656:C:H3'	2.33	0.63
4:C:123:GLN:NE2	4:C:140:ARG:HH22	1.96	0.63
4:C:11:ARG:HB2	4:C:15:THR:OG1	1.98	0.63
5:D:8:VAL:C	5:D:10:ARG:N	2.52	0.63
16:O:56:LEU:HD23	16:O:57:LEU:N	2.13	0.63
21:T:33:ILE:O	21:T:34:LYS:C	2.36	0.63
1:A:1103:C:C5'	3:B:98:LEU:CD2	2.76	0.63
6:E:80:ILE:N	6:E:80:ILE:HD12	2.09	0.63
1:A:1367:C:O2	1:A:1368:G:C8	2.52	0.63

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:88:ARG:HG2	4:C:91:LEU:HD22	1.81	0.63
8:G:18:TYR:CD2	8:G:59:LEU:HD13	2.33	0.63
1:A:549:C:H2'	1:A:550:G:H8	1.64	0.63
1:A:818:G:H3'	1:A:819:A:H5'	1.78	0.63
1:A:858:G:O2'	1:A:859:A:H5'	1.99	0.63
1:A:985:C:H2'	1:A:985:C:O2	1.99	0.63
6:E:13:ILE:HD12	6:E:13:ILE:N	2.10	0.63
1:A:355:C:H5''	1:A:389:A:OP2	1.99	0.63
1:A:879:C:O2'	1:A:880:C:H5'	1.98	0.63
14:M:89:GLY:O	14:M:92:HIS:N	2.23	0.63
16:O:78:TYR:O	16:O:80:ALA:N	2.32	0.63
1:A:1459:C:H2'	1:A:1460:A:H8	1.64	0.63
1:A:826:C:H2'	1:A:827:U:C6	2.32	0.63
3:B:118:LEU:CB	3:B:142:LEU:HD12	2.24	0.63
3:B:25:ASN:ND2	3:B:27:LYS:HB2	2.13	0.63
13:L:31:PRO:HB2	13:L:32:PHE:CE2	2.33	0.63
18:Q:40:LYS:HD3	18:Q:42:TYR:OH	1.98	0.63
1:A:1068:G:N7	1:A:1094:G:C8	2.67	0.63
1:A:1391:U:H2'	1:A:1392:G:H8	1.60	0.63
1:A:839:U:H5'	1:A:840:C:H5	1.64	0.63
4:C:188:LEU:O	4:C:189:ALA:CB	2.46	0.63
6:E:48:ALA:CB	6:E:49:PRO:HD2	2.23	0.63
7:F:76:ALA:C	7:F:78:GLU:H	1.99	0.63
17:P:67:THR:HG23	17:P:68:ASP:H	1.62	0.63
20:S:78:ARG:CG	20:S:78:ARG:HH11	2.12	0.63
1:A:1305:G:H2'	1:A:1331:G:H22	1.63	0.62
1:A:497:A:H2'	1:A:497:A:N3	2.14	0.62
3:B:25:ASN:ND2	3:B:27:LYS:H	1.97	0.62
8:G:68:ASN:O	8:G:138:LYS:HE2	1.99	0.62
1:A:1235:U:C2'	1:A:1236:A:O5'	2.46	0.62
1:A:1263:C:H2'	1:A:1263:C:O2	1.97	0.62
1:A:1526:G:H2'	1:A:1527:C:H5'	1.81	0.62
10:I:33:PHE:C	10:I:35:GLU:H	2.03	0.62
15:N:4:LYS:C	15:N:6:LEU:H	2.01	0.62
1:A:1067:A:O2'	1:A:1093:A:O3'	2.14	0.62
1:A:1406:U:H2'	1:A:1407:C:H6	1.63	0.62
4:C:123:GLN:HE22	4:C:140:ARG:HH22	1.45	0.62
21:T:87:LYS:O	21:T:88:VAL:C	2.38	0.62
1:A:1053:G:O2'	1:A:1054:C:OP2	2.18	0.62
1:A:1247:U:C6	1:A:1247:U:H3'	2.35	0.62
1:A:1503:A:C8	1:A:1531:A:N3	2.68	0.62

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:734:G:H2'	1:A:735:C:H6	1.63	0.62
1:A:781:A:H2'	1:A:781:A:N3	2.14	0.62
5:D:21:LEU:CD1	5:D:26:CYS:SG	2.87	0.62
17:P:34:GLU:OE1	17:P:55:ARG:NH1	2.31	0.62
20:S:9:VAL:HG12	20:S:10:PHE:H	1.63	0.62
1:A:1399:C:C4'	1:A:1400:C:H5''	2.22	0.62
1:A:235:C:O2'	1:A:236:G:H5'	1.98	0.62
1:A:268:C:H2'	1:A:269:C:H6	1.64	0.62
5:D:10:ARG:O	5:D:10:ARG:HG2	1.99	0.62
8:G:23:VAL:CG1	8:G:27:ILE:HD11	2.24	0.62
10:I:9:ARG:HG3	10:I:14:VAL:CG1	2.28	0.62
1:A:245:C:O2	1:A:283:C:N3	2.32	0.62
1:A:644:G:C6	1:A:645:C:C5	2.87	0.62
9:H:103:VAL:O	9:H:104:ARG:HB2	1.98	0.62
14:M:81:LEU:CD2	14:M:81:LEU:N	2.57	0.62
1:A:1055:A:C2	1:A:1056:U:H1'	2.34	0.62
1:A:1279:A:H4'	1:A:1280:A:OP1	1.99	0.62
1:A:1305:G:OP2	1:A:1305:G:C8	2.53	0.62
5:D:32:ALA:O	5:D:36:ARG:N	2.32	0.62
14:M:81:LEU:HD23	14:M:81:LEU:H	1.64	0.62
11:J:47:PHE:CD2	15:N:34:TYR:CE2	2.83	0.62
17:P:51:VAL:O	17:P:52:ASP:C	2.37	0.62
1:A:1229:A:C2	1:A:1230:C:C4	2.88	0.62
1:A:42:G:C2	1:A:401:C:O2	2.53	0.62
1:A:983:A:OP1	15:N:3:ARG:NH2	2.33	0.62
5:D:7:PRO:O	5:D:10:ARG:HB3	1.98	0.62
5:D:138:TYR:C	5:D:138:TYR:CD2	2.73	0.62
13:L:40:VAL:O	13:L:40:VAL:HG12	1.99	0.62
18:Q:9:VAL:HG21	18:Q:84:LEU:HD13	1.80	0.62
1:A:1167:A:O5'	1:A:1167:A:H8	1.83	0.62
1:A:314:C:H2'	1:A:315:A:H5'	1.82	0.62
1:A:670:G:H1	1:A:736:C:N4	1.96	0.62
6:E:137:GLU:HG2	6:E:140:ARG:HH11	1.65	0.62
8:G:108:ALA:O	8:G:110:GLN:N	2.32	0.62
9:H:117:GLY:O	9:H:119:LEU:HG	1.99	0.62
10:I:111:ARG:HH11	10:I:111:ARG:HG3	1.64	0.62
12:K:33:THR:OG1	12:K:38:ASN:C	2.38	0.62
12:K:33:THR:HG21	12:K:37:GLY:HA2	1.81	0.62
16:O:4:THR:N	16:O:7:GLU:OE2	2.27	0.62
19:R:39:VAL:HG13	19:R:40:LEU:HD23	1.80	0.62
1:A:925:G:H1	1:A:1391:U:H3	1.46	0.62

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:25:ASN:HD22	3:B:27:LYS:H	1.47	0.62
13:L:75:HIS:HD2	13:L:77:LEU:N	1.98	0.62
14:M:81:LEU:HA	14:M:84:ILE:HG12	1.81	0.62
15:N:37:PHE:CE2	15:N:53:LEU:HD13	2.33	0.62
17:P:6:LEU:HD23	17:P:17:TYR:CG	2.34	0.62
21:T:89:ARG:HH22	21:T:106:ALA:HB2	1.65	0.62
1:A:256:U:O2'	1:A:257:G:H5'	2.00	0.61
1:A:499:A:H4'	1:A:500:G:H5'	1.82	0.61
1:A:653:A:N3	1:A:653:A:H2'	2.15	0.61
1:A:662:G:O2'	1:A:836:G:H5''	2.00	0.61
6:E:27:ARG:HG3	6:E:28:PHE:H	1.62	0.61
21:T:74:LYS:CG	21:T:75:ASN:H	2.06	0.61
1:A:1249:C:H3'	1:A:1249:C:C6	2.35	0.61
1:A:299:G:H2'	1:A:300:A:C8	2.35	0.61
1:A:975:A:C8	1:A:975:A:C5'	2.80	0.61
7:F:50:TYR:CE1	19:R:77:GLY:HA3	2.35	0.61
13:L:28:LYS:C	13:L:30:ALA:N	2.52	0.61
14:M:5:ALA:O	14:M:6:GLY:C	2.37	0.61
17:P:57:ARG:NH1	17:P:79:VAL:O	2.33	0.61
18:Q:83:ASP:OD1	18:Q:84:LEU:N	2.33	0.61
18:Q:90:ILE:C	18:Q:92:ARG:N	2.53	0.61
1:A:1377:A:C8	1:A:1377:A:C3'	2.83	0.61
1:A:1508:G:H2'	1:A:1509:C:H6	1.65	0.61
1:A:149:A:C2	1:A:150:C:N3	2.68	0.61
1:A:96:G:H5''	1:A:97:G:OP2	2.00	0.61
5:D:149:ALA:C	5:D:151:LYS:N	2.53	0.61
18:Q:95:TYR:C	18:Q:97:SER:H	2.03	0.61
1:A:1147:C:H4'	10:I:5:TYR:CE1	2.35	0.61
1:A:1057:G:C5	1:A:1204:A:C2	2.88	0.61
1:A:1316:G:N1	1:A:1319:A:OP2	2.31	0.61
1:A:1455:G:C3'	1:A:1459:C:OP2	2.48	0.61
1:A:1521:G:C2	1:A:1522:U:C2	2.89	0.61
13:L:22:SER:OG	13:L:23:LYS:N	2.34	0.61
14:M:32:GLU:O	14:M:35:GLU:HB3	2.00	0.61
1:A:988:G:N2	1:A:1218:C:C2	2.68	0.61
3:B:100:GLY:CA	3:B:176:GLU:OE2	2.33	0.61
3:B:16:HIS:HB2	3:B:210:SER:HB3	1.83	0.61
15:N:27:CYS:SG	15:N:29:ARG:HG3	2.41	0.61
19:R:36:ASN:HB3	19:R:39:VAL:HG12	1.80	0.61
1:A:1092:A:H8	1:A:1092:A:O5'	1.83	0.61
1:A:262:A:C6	1:A:263:A:N6	2.69	0.61

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:79:LEU:HD23	10:I:83:ARG:HD2	1.82	0.61
12:K:33:THR:HG1	12:K:38:ASN:C	2.02	0.61
1:A:689:C:P	12:K:46:GLY:HA3	2.41	0.61
19:R:87:ARG:HB3	19:R:87:ARG:HH11	1.64	0.61
1:A:1142:G:N3	1:A:1142:G:H2'	2.14	0.61
1:A:1345:U:C2	1:A:1377:A:N1	2.69	0.61
1:A:193:C:H1'	21:T:60:GLU:OE1	2.00	0.61
1:A:657:G:H2'	1:A:658:G:C8	2.36	0.61
1:A:666:G:H5'	1:A:726:C:H1'	1.83	0.61
1:A:801:U:O2'	1:A:802:A:H5'	2.01	0.61
1:A:979:C:C5	1:A:980:C:C5	2.86	0.61
3:B:223:ILE:HD12	3:B:226:ARG:HH11	1.64	0.61
3:B:51:LEU:O	3:B:55:PHE:HD1	1.84	0.61
1:A:1103:C:H5''	3:B:98:LEU:HD21	1.81	0.61
11:J:49:VAL:CA	11:J:50:ILE:HD12	2.28	0.61
1:A:1161:C:H2'	1:A:1162:C:C5	2.35	0.61
1:A:1429:C:H42	1:A:1471:G:H1	1.48	0.61
1:A:1496:C:N4	25:A:1637:AB9:O28	2.33	0.61
1:A:298:A:H5''	1:A:299:G:OP2	2.00	0.61
1:A:677:U:H3	1:A:713:G:H22	1.48	0.61
6:E:80:ILE:CG2	9:H:104:ARG:NH2	2.62	0.61
10:I:48:GLU:N	10:I:49:PRO:CD	2.63	0.61
10:I:86:VAL:HG13	10:I:92:TYR:HB2	1.81	0.61
19:R:19:LYS:O	19:R:20:ALA:CB	2.48	0.61
1:A:1372:U:H2'	1:A:1373:G:O4'	2.00	0.61
1:A:1495:U:C2	1:A:1496:C:C5	2.88	0.61
1:A:325:A:H2'	1:A:326:G:C8	2.36	0.61
1:A:501:C:H2'	1:A:502:G:C8	2.35	0.61
1:A:502:G:H2'	1:A:503:C:H6	1.65	0.61
1:A:850:U:C3'	1:A:850:U:C6	2.82	0.61
1:A:977:A:H2'	1:A:978:A:C5'	2.30	0.61
6:E:139:LEU:C	6:E:141:GLN:H	2.02	0.61
1:A:1075:C:C2'	1:A:1076:C:H5'	2.30	0.61
1:A:1203:C:H6	1:A:1203:C:O5'	1.83	0.61
1:A:1208:C:C4	1:A:1209:C:H5	2.19	0.61
1:A:148:G:H2'	1:A:149:A:H8	1.66	0.61
1:A:614:A:C2	1:A:627:G:C2	2.88	0.61
1:A:818:G:O2'	1:A:819:A:C5'	2.49	0.61
1:A:854:G:C6	1:A:855:G:N7	2.69	0.61
5:D:67:ILE:HG22	5:D:68:TYR:HD1	1.65	0.61
13:L:39:VAL:O	13:L:41:ARG:N	2.32	0.61

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:82:MET:HA	18:Q:85:VAL:HG23	1.82	0.61
1:A:1113:C:N4	1:A:1187:G:H1	1.97	0.60
1:A:1160:G:H2'	1:A:1161:C:O5'	2.00	0.60
1:A:1333:A:H2'	1:A:1334:G:O4'	2.01	0.60
1:A:1495:U:H2'	1:A:1496:C:H6	1.65	0.60
1:A:264:U:H4'	18:Q:63:ARG:HD3	1.83	0.60
1:A:394:G:H2'	1:A:395:C:H6	1.66	0.60
1:A:803:G:O5'	1:A:803:G:H8	1.84	0.60
10:I:57:GLY:O	10:I:58:ARG:CG	2.49	0.60
13:L:55:VAL:CG1	13:L:56:ALA:N	2.63	0.60
1:A:659:U:OP2	16:O:8:LYS:HE2	2.01	0.60
1:A:1361(A):C:C2'	1:A:1362:C:H5''	2.31	0.60
1:A:256:U:C2'	1:A:257:G:H5'	2.31	0.60
1:A:459:G:H3'	1:A:460:A:C5'	2.31	0.60
1:A:507:C:H2'	1:A:508:C:C5	2.36	0.60
1:A:537:G:H2'	1:A:538:G:H8	1.65	0.60
1:A:549:C:H2'	1:A:550:G:C8	2.35	0.60
1:A:620:C:H2'	1:A:621:A:O4'	2.00	0.60
1:A:803:G:H2'	1:A:804:U:O4'	2.00	0.60
1:A:922:G:C2	1:A:1396:A:C2	2.89	0.60
3:B:28:PHE:O	3:B:30:ARG:N	2.35	0.60
4:C:128:PHE:HE2	4:C:132:ARG:HH11	1.48	0.60
6:E:141:GLN:O	6:E:143:ARG:NH1	2.34	0.60
8:G:66:VAL:HG12	8:G:67:GLU:N	2.15	0.60
10:I:118:LYS:O	10:I:119:ALA:HB3	2.01	0.60
1:A:1525:G:OP2	12:K:120:ARG:NH2	2.34	0.60
11:J:47:PHE:CD2	15:N:34:TYR:HE2	2.19	0.60
1:A:357:G:H2'	1:A:358:U:H6	1.66	0.60
1:A:1151:A:O2'	1:A:1152:A:O5'	2.17	0.60
1:A:1343:G:H2'	1:A:1344:C:H6	1.61	0.60
1:A:308:C:H2'	1:A:309:G:H8	1.65	0.60
1:A:627:G:H2'	1:A:628:G:H8	1.65	0.60
16:O:3:ILE:HG21	16:O:34:LEU:CD1	2.32	0.60
16:O:39:LEU:CD1	16:O:56:LEU:HB2	2.31	0.60
17:P:75:ARG:O	17:P:78:GLY:N	2.28	0.60
21:T:63:ILE:O	21:T:65:LYS:N	2.35	0.60
2:Z:4:U:H2'	2:Z:5:C:C6	2.36	0.60
1:A:1116:C:C2'	1:A:1117:G:H5''	2.31	0.60
1:A:959:A:N1	1:A:1222:G:C4'	2.65	0.60
1:A:1498:U:O2'	1:A:1499:A:OP2	2.18	0.60
1:A:964:A:H5''	1:A:965:A:OP2	2.01	0.60

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:168:THR:HG21	3:B:191:ASP:O	2.02	0.60
1:A:410:G:H5'	5:D:30:LYS:NZ	2.16	0.60
5:D:5:ILE:O	5:D:5:ILE:CG2	2.49	0.60
10:I:50:LEU:CD1	10:I:81:ILE:HG21	2.32	0.60
16:O:32:LEU:HD12	16:O:63:ARG:HB2	1.81	0.60
1:A:865:A:O2'	1:A:866:C:H5'	2.01	0.60
4:C:111:LEU:HD21	4:C:146:ALA:H	1.66	0.60
6:E:102:ALA:HB2	6:E:120:THR:OG1	2.01	0.60
8:G:137:LYS:HA	8:G:140:ASP:HB2	1.84	0.60
1:A:1262:C:O2'	1:A:1263:C:O5'	2.19	0.60
1:A:1296:C:H4'	1:A:1302:U:C5	2.36	0.60
1:A:1497:G:C2'	1:A:1498:U:C5'	2.74	0.60
1:A:190(L):U:C2	21:T:105:SER:HB2	2.37	0.60
5:D:92:VAL:HG12	5:D:96:LEU:HD13	1.83	0.60
6:E:91:LEU:HD23	6:E:120:THR:HG23	1.84	0.60
8:G:120:ILE:O	8:G:124:LEU:HD12	2.01	0.60
11:J:79:ARG:HD3	11:J:82:ILE:HD12	1.82	0.60
1:A:1262:C:O2'	1:A:1263:C:H6	1.85	0.60
1:A:1392:G:N2	1:A:1502:A:H8	2.00	0.60
1:A:543:C:O2'	1:A:544:G:H5'	2.01	0.60
1:A:789:U:O2	1:A:791:G:C8	2.54	0.60
1:A:807:A:H2'	1:A:808:C:C6	2.37	0.60
1:A:945:G:C2	1:A:946:A:C8	2.89	0.60
3:B:114:ARG:HH11	3:B:118:LEU:CD1	2.04	0.60
3:B:77:ALA:CB	3:B:211:ILE:HD13	2.21	0.60
4:C:113:ALA:N	4:C:114:PRO:CD	2.64	0.60
6:E:15:ARG:NH1	6:E:15:ARG:CG	2.59	0.60
1:A:1101:A:H4'	1:A:1102:A:O5'	2.01	0.60
1:A:1230:C:O2'	1:A:1231:G:H5'	2.02	0.60
1:A:393:A:N3	1:A:394:G:C8	2.70	0.60
1:A:491:G:H2'	1:A:492:G:O4'	2.01	0.60
1:A:737:A:H1'	7:F:73:ASN:ND2	2.17	0.60
1:A:981:U:H5''	1:A:982:U:O5'	2.01	0.60
4:C:113:ALA:N	4:C:114:PRO:HD3	2.17	0.60
14:M:19:LEU:O	14:M:22:ILE:HD12	2.01	0.60
1:A:1229:A:H2'	1:A:1230:C:C6	2.37	0.60
1:A:181:G:H4'	1:A:182:U:H5'	1.84	0.60
1:A:201:C:N4	1:A:203:U:C2	2.70	0.60
1:A:322:C:H4'	21:T:23:ARG:HD2	1.83	0.60
1:A:882:C:C2'	1:A:883:C:H5'	2.32	0.60
1:A:916:G:H2'	1:A:917:G:H8	1.66	0.60

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:932:C:H6	1:A:932:C:H5''	1.66	0.60
3:B:97:TRP:CZ2	3:B:102:LEU:HD13	2.36	0.60
3:B:75:LYS:HA	3:B:78:GLN:HB2	1.83	0.60
13:L:75:HIS:HD2	13:L:76:ASN:N	1.96	0.60
1:A:1225:A:H2'	1:A:1225:A:N3	2.16	0.59
1:A:283:C:C2	1:A:284:G:C8	2.90	0.59
1:A:818:G:O2'	1:A:819:A:H5'	2.01	0.59
9:H:104:ARG:O	9:H:106:GLY:N	2.35	0.59
10:I:50:LEU:HD11	10:I:81:ILE:CG2	2.32	0.59
1:A:1179:A:H2'	1:A:1180:A:O4'	2.02	0.59
1:A:200:G:C5'	1:A:200:G:C8	2.85	0.59
1:A:52:G:O2'	1:A:53:A:H5'	2.01	0.59
4:C:6:HIS:CD2	4:C:6:HIS:C	2.73	0.59
12:K:73:MET:CE	12:K:102:GLY:HA3	2.32	0.59
13:L:81:SER:O	13:L:106:ASP:CG	2.39	0.59
1:A:1068:G:N3	1:A:1191:A:C2	2.70	0.59
1:A:1282:C:O2	1:A:1282:C:H2'	2.02	0.59
1:A:1507:A:H2'	1:A:1508:G:C8	2.36	0.59
1:A:136:C:H42	1:A:227:G:H1	1.50	0.59
1:A:390:C:H2'	1:A:391:G:H8	1.66	0.59
1:A:543:C:C2'	1:A:544:G:H5'	2.32	0.59
4:C:52:LEU:CD2	4:C:52:LEU:N	2.63	0.59
4:C:35:GLU:OE1	4:C:95:THR:HG21	2.01	0.59
5:D:11:LEU:HA	5:D:14:ARG:H	1.67	0.59
6:E:76:ILE:HG22	6:E:93:PRO:HG3	1.84	0.59
8:G:47:CYS:O	8:G:50:ILE:HG22	2.03	0.59
15:N:24:CYS:HB3	15:N:28:GLY:H	1.65	0.59
1:A:1377:A:H8	1:A:1377:A:H3'	1.64	0.59
1:A:22:G:H2'	1:A:23:C:C6	2.37	0.59
1:A:286:G:C5	1:A:287:U:C5	2.90	0.59
1:A:314:C:C2'	1:A:315:A:H5'	2.31	0.59
6:E:48:ALA:HB1	6:E:49:PRO:CD	2.25	0.59
8:G:24:THR:O	8:G:28:ASN:ND2	2.36	0.59
9:H:6:ILE:O	9:H:7:ALA:C	2.41	0.59
1:A:878:G:H5'	9:H:89:PRO:HG2	1.84	0.59
13:L:45:PRO:HG3	13:L:53:ARG:CD	2.32	0.59
15:N:6:LEU:HD23	15:N:21:TYR:OH	2.02	0.59
1:A:192:U:H4'	21:T:103:GLY:H	1.66	0.59
1:A:1121:U:H2'	1:A:1122:U:C6	2.37	0.59
1:A:938:A:H1'	1:A:1376:U:O2'	2.02	0.59
1:A:1513:A:N1	1:A:1523:G:C6	2.70	0.59

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:977:A:C2'	1:A:978:A:C5'	2.80	0.59
5:D:8:VAL:O	5:D:10:ARG:N	2.36	0.59
6:E:19:MET:HE2	6:E:24:ARG:HH11	1.68	0.59
9:H:85:ARG:HD3	9:H:87:SER:O	2.01	0.59
19:R:33:ASP:C	19:R:35:ARG:H	2.06	0.59
20:S:62:ILE:HG23	20:S:62:ILE:O	2.02	0.59
1:A:1158:C:C5	1:A:1160:G:C1'	2.84	0.59
1:A:181:G:H4'	1:A:182:U:C5'	2.32	0.59
1:A:362:G:C8	1:A:362:G:H3'	2.37	0.59
1:A:448:A:C4	1:A:487:A:C2	2.90	0.59
7:F:8:ILE:HD12	7:F:61:LEU:HB3	1.85	0.59
1:A:1152:A:O3'	11:J:13:HIS:NE2	2.36	0.59
1:A:1316:G:H4'	15:N:18:VAL:HG11	1.84	0.59
1:A:1366:C:H5''	1:A:1367:C:OP2	2.03	0.59
1:A:836:G:C5	1:A:851:G:C6	2.91	0.59
5:D:64:LEU:O	5:D:64:LEU:HD13	2.03	0.59
6:E:11:ILE:CG1	6:E:31:LEU:HB3	2.33	0.59
10:I:34:ASN:H	10:I:34:ASN:ND2	2.00	0.59
11:J:50:ILE:H	11:J:60:ARG:HD2	1.66	0.59
12:K:24:SER:O	12:K:26:ASN:N	2.36	0.59
1:A:1157:A:O4'	1:A:1158:C:O2	2.20	0.59
1:A:1495:U:H2'	1:A:1496:C:C6	2.38	0.59
1:A:570:G:C4	1:A:571:U:C5	2.91	0.59
1:A:972:C:O2'	11:J:57:LYS:HB3	2.02	0.59
11:J:45:ARG:O	11:J:64:GLU:HA	2.02	0.59
12:K:119:CYS:O	12:K:121:PRO:HD3	2.02	0.59
14:M:87:TYR:HA	14:M:90:LEU:HD12	1.85	0.59
16:O:74:ASP:O	16:O:76:GLU:N	2.36	0.59
1:A:1258:G:OP2	1:A:1258:G:C8	2.56	0.59
1:A:1259:C:O2'	1:A:1284:C:H1'	2.02	0.59
1:A:1490:C:C2'	1:A:1491:G:H5''	2.32	0.59
1:A:253:U:H2'	1:A:254:G:H8	1.68	0.59
5:D:99:SER:O	5:D:140:VAL:HG23	2.02	0.59
11:J:7:LYS:HG3	11:J:71:LEU:CD2	2.33	0.59
18:Q:85:VAL:O	18:Q:86:GLU:C	2.41	0.59
1:A:1455:G:O3'	1:A:1459:C:OP2	2.19	0.59
1:A:300:A:H8	1:A:300:A:O5'	1.85	0.59
1:A:45:U:H2'	1:A:46:G:C8	2.37	0.59
1:A:767:A:H2'	1:A:768:A:O4'	2.03	0.59
1:A:806:C:O2'	1:A:807:A:H5'	2.03	0.59
3:B:193:ASP:HB3	3:B:196:LEU:HD11	1.85	0.59

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:410:G:H5'	5:D:30:LYS:HZ2	1.67	0.59
8:G:124:LEU:O	8:G:127:ALA:HB3	2.02	0.59
10:I:111:ARG:NH1	10:I:111:ARG:HG3	2.17	0.59
1:A:1055:A:C2	1:A:1056:U:C1'	2.85	0.58
1:A:1057:G:H2'	1:A:1058:G:H8	1.66	0.58
1:A:356:A:C2'	1:A:357:G:H5'	2.32	0.58
1:A:394:G:H2'	1:A:395:C:C6	2.38	0.58
1:A:583:A:H5''	1:A:584:G:OP2	2.02	0.58
20:S:11:VAL:HG12	20:S:12:ASP:O	2.03	0.58
1:A:1063:C:H2'	1:A:1064:G:C8	2.37	0.58
1:A:1490:C:H5''	1:A:1491:G:OP2	2.03	0.58
1:A:1523:G:C5	1:A:1524:C:C5	2.91	0.58
1:A:65:U:C5	1:A:381:C:C4	2.91	0.58
1:A:883:C:C2'	1:A:884:U:O5'	2.51	0.58
3:B:92:TYR:CE1	3:B:151:GLY:HA3	2.38	0.58
5:D:63:LYS:HE2	5:D:197:PRO:O	2.04	0.58
6:E:30:ALA:O	6:E:45:PHE:CD1	2.51	0.58
14:M:78:ILE:HG23	14:M:79:LYS:N	2.17	0.58
17:P:21:VAL:HG21	17:P:59:TRP:NE1	2.19	0.58
18:Q:62:SER:OG	18:Q:72:ARG:HG3	2.03	0.58
1:A:1251:A:H4'	10:I:12:GLU:OE1	2.03	0.58
1:A:1266:G:H21	1:A:1270:C:H42	1.50	0.58
4:C:141:VAL:O	4:C:146:ALA:HB2	2.03	0.58
5:D:170:VAL:CG2	5:D:174:LEU:HB2	2.34	0.58
9:H:30:ARG:HG2	9:H:30:ARG:NH1	2.16	0.58
1:A:1078:U:H5''	1:A:1079:G:OP2	2.04	0.58
1:A:577:G:H1'	1:A:816:A:N3	2.18	0.58
1:A:604:G:C5	1:A:605:U:C5	2.91	0.58
5:D:22:LYS:O	5:D:26:CYS:HB2	2.03	0.58
6:E:34:VAL:CG2	6:E:62:ALA:HB1	2.33	0.58
14:M:91:ARG:O	14:M:95:GLY:N	2.32	0.58
14:M:91:ARG:NH1	14:M:96:LEU:HD13	2.19	0.58
1:A:1304:G:H1'	1:A:1333:A:H61	1.67	0.58
1:A:1361:G:H2'	1:A:1361(A):C:H5'	1.84	0.58
1:A:1507:A:H2'	1:A:1508:G:H8	1.69	0.58
4:C:191:THR:HG22	4:C:192:THR:N	2.16	0.58
7:F:50:TYR:CE1	19:R:77:GLY:CA	2.86	0.58
18:Q:13:ASP:C	18:Q:15:MET:H	2.07	0.58
1:A:411:A:C8	1:A:413:G:C8	2.92	0.58
1:A:533:A:C5	1:A:536:C:C4	2.92	0.58
1:A:948:C:N3	1:A:1233:G:N2	2.44	0.58

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:126:ARG:O	4:C:127:ARG:CB	2.44	0.58
4:C:72:LYS:O	4:C:74:GLY:N	2.37	0.58
1:A:1255:G:C2'	1:A:1279:A:N6	2.67	0.58
1:A:580:U:H2'	1:A:581:G:O4'	2.03	0.58
1:A:730:G:N2	1:A:765:G:H5''	2.19	0.58
1:A:407:G:O2'	5:D:116:GLN:CG	2.49	0.58
7:F:6:VAL:HG12	7:F:7:ASN:N	2.19	0.58
10:I:13:ALA:HB2	10:I:67:GLY:O	2.02	0.58
1:A:1152:A:OP1	11:J:68:HIS:CE1	2.57	0.58
12:K:80:VAL:CG2	12:K:103:LEU:HD13	2.33	0.58
14:M:96:LEU:CB	14:M:97:PRO:HD2	2.21	0.58
16:O:13:GLN:O	16:O:15:PHE:N	2.37	0.58
6:E:105:VAL:CG1	6:E:132:ALA:HB2	2.33	0.58
12:K:128:ALA:O	12:K:129:SER:HB2	2.03	0.58
14:M:105:THR:O	14:M:107:ALA:N	2.37	0.58
17:P:4:ILE:HA	17:P:20:VAL:O	2.04	0.58
1:A:1299:A:C5	1:A:1301:U:O2	2.57	0.58
1:A:376:G:C2	1:A:389:A:N1	2.72	0.58
1:A:378:G:H2'	1:A:379:C:C6	2.39	0.58
1:A:492:G:HO3'	1:A:494:G:P	2.25	0.58
3:B:102:LEU:CD1	3:B:102:LEU:H	2.16	0.58
5:D:104:VAL:CG2	5:D:185:PHE:HD1	2.17	0.58
5:D:103:ASN:O	5:D:105:VAL:N	2.37	0.58
5:D:21:LEU:O	5:D:113:SER:HB2	2.04	0.58
1:A:981:U:H6	1:A:981:U:O5'	1.87	0.58
3:B:219:VAL:HA	3:B:222:ILE:CD1	2.34	0.58
4:C:6:HIS:NE2	4:C:8:ILE:CG2	2.67	0.58
1:A:437:U:H2'	5:D:123:HIS:HD2	1.69	0.58
5:D:61:LYS:CE	5:D:62:GLN:NE2	2.62	0.58
1:A:877:C:O2'	9:H:3:THR:HB	2.04	0.58
13:L:53:ARG:HD3	13:L:93:LEU:HD21	1.85	0.58
11:J:47:PHE:HD2	15:N:34:TYR:CD2	2.21	0.58
1:A:1103:C:H5'	3:B:98:LEU:CD2	2.34	0.57
1:A:1141:C:O2'	1:A:1142:G:O4'	2.20	0.57
1:A:1189:C:P	11:J:51:ARG:HH22	2.27	0.57
1:A:1402:C:O2	1:A:1500:A:N1	2.37	0.57
1:A:401:C:C6	1:A:401:C:C3'	2.86	0.57
1:A:883:C:H2'	1:A:884:U:O5'	2.03	0.57
1:A:960:U:O2	1:A:960:U:H2'	2.04	0.57
4:C:193:TYR:HE1	4:C:196:LEU:HD21	1.68	0.57
5:D:62:GLN:O	5:D:66:ARG:HB2	2.03	0.57

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:43:VAL:HG22	13:L:44:THR:HG23	1.86	0.57
21:T:41:VAL:O	21:T:43:LEU:N	2.36	0.57
21:T:56:MET:O	21:T:59:ALA:HB3	2.04	0.57
1:A:1259:C:O2	1:A:1283:G:H1'	2.03	0.57
1:A:685:G:N2	1:A:686:U:C4	2.72	0.57
6:E:20:GLN:O	6:E:21:ALA:C	2.42	0.57
1:A:1366:C:O2'	11:J:60:ARG:NH2	2.37	0.57
14:M:90:LEU:O	14:M:93:ARG:N	2.37	0.57
16:O:33:THR:CG2	16:O:63:ARG:NH1	2.47	0.57
1:A:99:C:O3'	1:A:101:A:P	2.63	0.57
1:A:1435:G:H2'	1:A:1436:U:C5	2.38	0.57
1:A:390:C:O3'	17:P:28:ARG:NH2	2.37	0.57
1:A:1103:C:C5'	3:B:98:LEU:HD23	2.33	0.57
4:C:68:VAL:HG12	4:C:70:VAL:CG2	2.34	0.57
11:J:46:ARG:HH12	11:J:64:GLU:HB3	1.69	0.57
16:O:76:GLU:O	16:O:77:ARG:C	2.42	0.57
19:R:45:SER:HB2	19:R:49:LYS:HB2	1.85	0.57
1:A:1316:G:N2	1:A:1318:A:H3'	2.19	0.57
1:A:1392:G:H2'	1:A:1393:U:C6	2.39	0.57
1:A:42:G:H1	1:A:400:C:H42	1.52	0.57
1:A:743:U:H2'	1:A:744:C:C6	2.39	0.57
1:A:913:A:O2'	1:A:914:A:OP2	2.22	0.57
1:A:781:A:H5'	1:A:782:A:OP2	2.05	0.57
4:C:173:VAL:HG12	4:C:173:VAL:O	2.05	0.57
6:E:142:LEU:C	6:E:143:ARG:HG2	2.25	0.57
16:O:33:THR:HG23	16:O:63:ARG:HH12	1.60	0.57
1:A:1145:C:H4'	1:A:1146:A:O5'	2.04	0.57
1:A:1157:A:O4'	1:A:1158:C:C2	2.58	0.57
1:A:1365:G:C5	1:A:1366:C:C4	2.92	0.57
1:A:175:C:C2	1:A:176:C:C6	2.92	0.57
6:E:89:ILE:HD12	6:E:121:LYS:O	2.05	0.57
1:A:1060:C:O2'	1:A:1061:G:C5'	2.45	0.57
1:A:1232:U:H2'	1:A:1233:G:H8	1.70	0.57
1:A:653:A:H5''	9:H:56:LYS:HD3	1.85	0.57
6:E:11:ILE:HG13	6:E:31:LEU:HD13	1.87	0.57
9:H:17:THR:HB	9:H:78:GLN:HE22	1.70	0.57
1:A:1518:A:H2'	1:A:1519:A:C8	2.40	0.57
1:A:254:G:H4'	18:Q:18:THR:HG21	1.86	0.57
1:A:564:C:O2	1:A:564:C:C2'	2.48	0.57
1:A:93:G:H3'	1:A:95:U:OP2	2.04	0.57
3:B:208:ILE:O	3:B:210:SER:N	2.38	0.57

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:56:ASP:N	4:C:56:ASP:OD1	2.37	0.57
5:D:199:GLN:HA	5:D:199:GLN:NE2	2.19	0.57
8:G:120:ILE:N	8:G:120:ILE:CD1	2.36	0.57
1:A:1195:C:H3'	1:A:1196:U:C5'	2.31	0.57
1:A:1231:G:H2'	1:A:1232:U:H6	1.67	0.57
1:A:1259:C:H42	1:A:1276:G:H1	1.52	0.57
1:A:1349:A:H2'	1:A:1350:A:C8	2.40	0.57
1:A:157:G:N3	1:A:158:G:C8	2.73	0.57
1:A:17:U:H1'	1:A:1080:A:H1'	1.87	0.57
1:A:315:A:H2'	1:A:315:A:O5'	2.05	0.57
1:A:627:G:H2'	1:A:628:G:C8	2.39	0.57
4:C:8:ILE:HG12	4:C:16:ARG:HG2	1.87	0.57
1:A:1153:C:P	11:J:13:HIS:HE2	2.28	0.57
11:J:38:ILE:HB	11:J:72:VAL:H	1.69	0.57
16:O:29:VAL:HG11	16:O:67:LEU:HD21	1.87	0.57
17:P:50:LYS:C	17:P:51:VAL:CG2	2.73	0.57
1:A:1099:G:H2'	1:A:1100:C:C6	2.40	0.57
1:A:153:C:H42	1:A:168:G:H1	1.53	0.57
1:A:313:A:H2'	1:A:314:C:C6	2.39	0.57
1:A:338:A:C2	1:A:339:C:C2	2.93	0.57
1:A:448:A:C6	1:A:487:A:N3	2.73	0.57
1:A:506:G:C6	1:A:507:C:C4	2.93	0.57
3:B:180:LEU:HB2	3:B:182:ILE:HD12	1.87	0.57
3:B:225:ALA:O	3:B:226:ARG:CB	2.53	0.57
5:D:108:LEU:HG	5:D:174:LEU:HD22	1.87	0.57
6:E:137:GLU:HG2	6:E:140:ARG:NH1	2.20	0.57
13:L:55:VAL:HG12	13:L:56:ALA:H	1.68	0.57
19:R:58:LEU:HD13	19:R:62:GLU:HB2	1.87	0.57
1:A:1010:G:N1	1:A:1020:U:O2	2.38	0.56
1:A:369:C:N3	1:A:370:C:C5	2.73	0.56
1:A:520:A:H5''	1:A:521:G:OP2	2.05	0.56
4:C:173:VAL:O	4:C:175:LEU:N	2.34	0.56
11:J:76:ASN:CB	11:J:78:ASN:ND2	2.67	0.56
17:P:6:LEU:HD23	17:P:17:TYR:CD2	2.39	0.56
1:A:124:G:H2'	1:A:125:U:C6	2.39	0.56
1:A:397:A:N3	1:A:397:A:H3'	2.20	0.56
1:A:705:U:H5''	1:A:706:A:OP2	2.05	0.56
1:A:814:A:N7	1:A:816:A:C4	2.73	0.56
1:A:914:A:C2	1:A:915:A:N9	2.73	0.56
1:A:941:G:N1	1:A:942:G:C8	2.73	0.56
3:B:162:ILE:C	3:B:185:ILE:HD12	2.24	0.56

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:162:LEU:CD2	5:D:178:VAL:HG12	2.32	0.56
20:S:78:ARG:HH11	20:S:78:ARG:HB3	1.70	0.56
1:A:119:A:H5''	1:A:120:A:H5'	1.86	0.56
1:A:1348:U:C2	1:A:1349:A:C8	2.93	0.56
1:A:736:C:H2'	1:A:737:A:H8	1.68	0.56
1:A:961:U:OP1	1:A:1223:C:O2'	2.23	0.56
5:D:26:CYS:CA	5:D:31:CYS:HB2	2.17	0.56
6:E:77:PRO:HB2	6:E:78:HIS:HD2	1.71	0.56
20:S:78:ARG:CB	20:S:78:ARG:HH11	2.18	0.56
1:A:1184:G:O2'	1:A:1185:G:H5'	2.05	0.56
1:A:1323:G:H2'	1:A:1324:A:H8	1.65	0.56
1:A:524:G:H2'	1:A:525:C:C6	2.40	0.56
1:A:946:A:C2	1:A:947:G:C5	2.93	0.56
3:B:78:GLN:O	3:B:94:ASN:OD1	2.24	0.56
15:N:26:ARG:HH22	15:N:47:LEU:CD2	2.18	0.56
1:A:1066:C:C2'	1:A:1067:A:H5'	2.35	0.56
1:A:1305:G:OP2	1:A:1305:G:H8	1.87	0.56
1:A:243:A:C2	1:A:246:A:C8	2.93	0.56
1:A:455:C:H42	1:A:477:G:H1	1.52	0.56
1:A:533:A:O2'	1:A:534:U:H5''	2.05	0.56
5:D:199:GLN:HG3	5:D:202:LEU:HB2	1.86	0.56
9:H:56:LYS:O	9:H:58:TYR:HD1	1.88	0.56
1:A:1511:G:C6	1:A:1512:U:N3	2.74	0.56
1:A:166:G:H2'	1:A:167:G:O5'	2.06	0.56
1:A:328:C:H4'	1:A:329:A:C5'	2.35	0.56
1:A:502:G:C2	1:A:503:C:C2	2.93	0.56
1:A:570:G:C2	1:A:571:U:C5	2.94	0.56
1:A:959:A:N1	1:A:1222:G:H4'	2.19	0.56
3:B:213:LEU:O	3:B:217:ARG:HG2	2.05	0.56
4:C:131:ARG:O	4:C:132:ARG:C	2.43	0.56
10:I:6:GLY:N	10:I:84:ALA:HB2	2.20	0.56
1:A:1348:U:H6	1:A:1348:U:H5'	1.71	0.56
5:D:150:GLU:HA	5:D:153:ARG:CB	2.34	0.56
7:F:99:ALA:O	7:F:100:ASN:HB2	2.04	0.56
8:G:15:ASP:CG	8:G:17:VAL:H	2.09	0.56
18:Q:5:VAL:HA	18:Q:59:ILE:O	2.05	0.56
1:A:279:A:OP2	18:Q:95:TYR:OH	2.22	0.56
1:A:1025:U:H4'	1:A:1025:U:OP1	2.03	0.56
1:A:1139:G:H4'	1:A:1140:C:C5'	2.35	0.56
1:A:1206:G:C4	1:A:1207:G:C8	2.94	0.56
1:A:426:G:H2'	1:A:427:U:O4'	2.06	0.56

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:865:A:C2'	1:A:866:C:H5'	2.35	0.56
3:B:212:GLN:O	3:B:213:LEU:C	2.43	0.56
3:B:223:ILE:HG23	3:B:224:GLN:N	2.20	0.56
17:P:78:GLY:C	17:P:80:PHE:H	2.09	0.56
21:T:14:LYS:O	21:T:17:ARG:HB2	2.06	0.56
1:A:1190:G:O2'	1:A:1191:A:O5'	2.17	0.56
1:A:1499:A:O2'	1:A:1500:A:H5'	2.06	0.56
1:A:168:G:O2'	1:A:169:C:H5'	2.05	0.56
1:A:55:A:H2'	1:A:56:U:H6	1.70	0.56
1:A:696:A:O5'	1:A:696:A:H8	1.89	0.56
3:B:97:TRP:HH2	3:B:176:GLU:CD	2.09	0.56
3:B:85:ALA:O	3:B:88:ALA:O	2.23	0.56
5:D:13:ARG:CD	5:D:38:TYR:O	2.51	0.56
1:A:1017:G:O5'	1:A:1017:G:H8	1.89	0.56
1:A:665:A:H2'	1:A:732:C:O2	2.06	0.56
1:A:858:G:N2	1:A:870:U:OP2	2.35	0.56
1:A:949:A:H1'	1:A:1364:U:H3	1.70	0.56
4:C:39:ILE:C	4:C:41:GLY:H	2.09	0.56
9:H:14:ARG:NH1	9:H:14:ARG:HB3	2.20	0.56
14:M:8:GLU:C	14:M:9:ILE:HG13	2.25	0.56
1:A:1235:U:C3'	1:A:1235:U:C6	2.87	0.56
1:A:200:G:H5'	1:A:200:G:C8	2.41	0.56
1:A:40:C:H5''	1:A:41:G:OP2	2.06	0.56
1:A:690:G:H2'	1:A:691:G:O4'	2.05	0.56
3:B:44:LEU:O	3:B:47:THR:HB	2.05	0.56
1:A:1148:U:OP1	10:I:7:THR:HG21	2.06	0.56
21:T:29:LYS:O	21:T:32:ALA:HB3	2.06	0.56
1:A:1218:C:H2'	1:A:1219:U:C6	2.40	0.55
1:A:148:G:N3	1:A:149:A:C8	2.75	0.55
1:A:267:C:C2'	1:A:268:C:H5'	2.36	0.55
1:A:160:A:C6	1:A:346:G:O6	2.60	0.55
1:A:408:A:C8	1:A:408:A:H3'	2.41	0.55
5:D:206:PHE:O	5:D:206:PHE:CD1	2.59	0.55
6:E:35:GLY:N	6:E:112:LEU:HD13	2.21	0.55
7:F:97:PHE:CB	19:R:32:ARG:HH21	2.19	0.55
1:A:193:C:C2	1:A:194:C:C5	2.93	0.55
1:A:375:U:H2'	1:A:376:G:C8	2.41	0.55
1:A:646:U:H2'	1:A:647:C:C6	2.41	0.55
3:B:104:ASN:OD1	3:B:107:THR:OG1	2.24	0.55
1:A:1103:C:H5''	3:B:98:LEU:CD2	2.36	0.55
5:D:120:LEU:HD23	5:D:125:HIS:HB2	1.87	0.55

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:13:ILE:O	6:E:13:ILE:CD1	2.54	0.55
8:G:115:ARG:HB3	8:G:118:VAL:HG23	1.86	0.55
9:H:20:TYR:HD1	9:H:65:TYR:CE2	2.24	0.55
9:H:86:ILE:HG21	9:H:133:LEU:HB3	1.88	0.55
16:O:78:TYR:O	16:O:79:ARG:C	2.44	0.55
18:Q:74:LEU:HD23	18:Q:74:LEU:C	2.26	0.55
1:A:1350:A:C2	1:A:1351:U:C2	2.93	0.55
1:A:252:U:H2'	1:A:253:U:C5	2.41	0.55
1:A:346:G:H2'	1:A:347:G:O4'	2.06	0.55
1:A:500:G:H22	1:A:546:G:H1'	1.66	0.55
1:A:60:A:H5'	1:A:60:A:C8	2.41	0.55
1:A:706:A:C5	1:A:707:C:C5	2.94	0.55
5:D:65:ARG:O	5:D:66:ARG:C	2.43	0.55
11:J:63:PHE:HD2	15:N:57:ARG:O	1.90	0.55
18:Q:58:GLU:C	18:Q:59:ILE:HD13	2.27	0.55
1:A:1088:G:O5'	1:A:1088:G:H8	1.89	0.55
1:A:1229:A:H2'	1:A:1230:C:H6	1.72	0.55
1:A:1240:U:H3	8:G:30:ILE:CG2	2.19	0.55
1:A:1346:A:O4'	1:A:1348:U:C6	2.59	0.55
1:A:1385:G:H2'	1:A:1386:G:O4'	2.06	0.55
1:A:281:G:O2'	1:A:282:A:OP2	2.18	0.55
1:A:761:G:H2'	1:A:762:C:C6	2.42	0.55
1:A:836:G:C6	1:A:851:G:C5	2.95	0.55
1:A:959:A:C3'	1:A:960:U:H5''	2.37	0.55
3:B:166:ASP:OD1	3:B:205:ASP:HB2	2.05	0.55
8:G:37:ASN:HD21	10:I:41:VAL:HG23	1.70	0.55
11:J:78:ASN:O	11:J:80:LYS:N	2.39	0.55
14:M:122:LYS:O	14:M:123:ALA:HB2	2.06	0.55
18:Q:9:VAL:O	18:Q:11:VAL:HG13	2.05	0.55
18:Q:59:ILE:HG23	18:Q:71:PHE:HB3	1.89	0.55
1:A:1269:A:N1	1:A:1312:G:O2'	2.35	0.55
1:A:590:C:OP1	9:H:30:ARG:N	2.36	0.55
1:A:937:A:H5''	1:A:938:A:OP2	2.07	0.55
7:F:5:GLU:HG2	7:F:62:TRP:CZ2	2.41	0.55
7:F:62:TRP:C	7:F:63:TYR:CD2	2.77	0.55
13:L:102:ARG:HH11	13:L:110:VAL:HG22	1.72	0.55
13:L:35:GLY:O	13:L:83:VAL:HG12	2.07	0.55
14:M:10:PRO:HB2	14:M:18:ALA:HB1	1.88	0.55
1:A:668:G:O2'	16:O:46:HIS:HB3	2.07	0.55
19:R:59:SER:HB3	19:R:62:GLU:CD	2.26	0.55
1:A:434:U:H2'	1:A:435:C:C6	2.42	0.55

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:58:ALA:O	6:E:59:GLY:C	2.45	0.55
10:I:46:ALA:HB2	10:I:74:ILE:HG23	1.89	0.55
13:L:87:GLY:N	13:L:98:TYR:HB3	2.17	0.55
1:A:949:A:C2	1:A:1233:G:C4	2.94	0.55
1:A:1352:C:H2'	1:A:1353:G:C8	2.41	0.55
1:A:200:G:H3'	1:A:200:G:C8	2.41	0.55
1:A:261:U:O2	1:A:263:A:C8	2.60	0.55
4:C:14:ILE:HG22	4:C:14:ILE:O	2.06	0.55
6:E:47:LYS:O	6:E:48:ALA:HB2	2.07	0.55
8:G:108:ALA:C	8:G:110:GLN:H	2.09	0.55
10:I:7:THR:HG22	10:I:7:THR:O	2.06	0.55
11:J:61:GLU:HG2	11:J:62:HIS:H	1.71	0.55
1:A:1124:G:H21	1:A:1126:U:H3	1.53	0.55
1:A:200:G:C3'	1:A:200:G:C8	2.89	0.55
3:B:51:LEU:HD23	3:B:55:PHE:CE1	2.42	0.55
5:D:190:ASP:O	5:D:193:ASP:N	2.40	0.55
5:D:64:LEU:HD11	5:D:97:LEU:HD11	1.85	0.55
12:K:123:LYS:C	12:K:125:PHE:H	2.10	0.55
18:Q:12:SER:HB3	18:Q:20:THR:CB	2.37	0.55
1:A:1472:U:H6	1:A:1472:U:O5'	1.90	0.55
1:A:181:G:N1	1:A:195:A:C8	2.75	0.55
1:A:636:U:H5''	1:A:637:G:OP2	2.07	0.55
1:A:668:G:O5'	1:A:668:G:H8	1.90	0.55
3:B:105:PHE:C	3:B:105:PHE:CD2	2.78	0.55
3:B:30:ARG:HG3	3:B:31:TYR:CD2	2.42	0.55
1:A:755:G:H1'	9:H:1:MET:HE3	1.89	0.55
10:I:41:VAL:O	10:I:44:VAL:HG21	2.07	0.55
15:N:29:ARG:HB2	15:N:40:CYS:HB3	1.89	0.55
1:A:1521:G:N1	1:A:1522:U:C2	2.75	0.55
1:A:552:U:H2'	1:A:553:A:O4'	2.07	0.55
1:A:645:C:H2'	1:A:645:C:O2	2.05	0.55
1:A:915:A:N7	1:A:916:G:C8	2.75	0.55
12:K:53:SER:O	12:K:55:LYS:N	2.40	0.55
21:T:74:LYS:CG	21:T:75:ASN:N	2.70	0.55
1:A:1107:C:H3'	1:A:1107:C:C6	2.41	0.54
1:A:1443:G:O5'	1:A:1443:G:H8	1.90	0.54
1:A:570:G:C2	1:A:571:U:C4	2.95	0.54
1:A:79:G:N3	1:A:79:G:H2'	2.22	0.54
1:A:977:A:O2'	1:A:978:A:C5'	2.54	0.54
3:B:174:VAL:O	3:B:176:GLU:N	2.40	0.54
3:B:173:ALA:O	3:B:176:GLU:HB2	2.07	0.54

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:82:ARG:HA	3:B:92:TYR:CD2	2.42	0.54
5:D:127:THR:HG23	5:D:147:ALA:HB3	1.88	0.54
9:H:6:ILE:O	9:H:10:LEU:HG	2.06	0.54
8:G:37:ASN:ND2	10:I:41:VAL:HG23	2.21	0.54
4:C:156:ARG:N	4:C:196:LEU:HD22	2.22	0.54
7:F:63:TYR:O	7:F:65:VAL:HG13	2.07	0.54
9:H:104:ARG:O	9:H:105:ARG:C	2.45	0.54
9:H:86:ILE:HG22	9:H:87:SER:N	2.21	0.54
11:J:16:LEU:HD22	11:J:94:VAL:CG1	2.37	0.54
11:J:51:ARG:HG2	15:N:45:ARG:NH1	2.23	0.54
13:L:41:ARG:HD2	13:L:42:THR:O	2.07	0.54
21:T:41:VAL:O	21:T:44:ALA:N	2.40	0.54
1:A:1053:G:HO2'	1:A:1054:C:P	2.30	0.54
1:A:1055:A:N7	1:A:1206:G:C2	2.75	0.54
1:A:1129:C:P	1:A:1130:A:H8	2.30	0.54
1:A:296:U:O2'	1:A:297:G:H5'	2.07	0.54
1:A:437:U:O2	1:A:437:U:H2'	2.07	0.54
1:A:658:G:H2'	1:A:659:U:C6	2.42	0.54
1:A:922:G:C6	1:A:923:A:C6	2.96	0.54
1:A:1112:C:O2	4:C:179:ARG:HB3	2.07	0.54
6:E:91:LEU:HD23	6:E:120:THR:CG2	2.37	0.54
9:H:63:LEU:H	9:H:63:LEU:HD22	1.72	0.54
11:J:50:ILE:N	11:J:60:ARG:HA	2.23	0.54
14:M:15:VAL:HG23	14:M:41:PRO:O	2.08	0.54
1:A:1092:A:C8	1:A:1092:A:C5'	2.90	0.54
1:A:978:A:O2'	1:A:1322:C:N3	2.33	0.54
1:A:247:G:C6	1:A:278:G:C2	2.96	0.54
1:A:260:G:H2'	1:A:261:U:C6	2.42	0.54
1:A:353:A:C2'	1:A:354:G:OP2	2.55	0.54
1:A:602:A:N3	1:A:637:G:C2	2.76	0.54
1:A:776:G:N2	1:A:802:A:OP2	2.31	0.54
1:A:992:U:OP2	1:A:992:U:C6	2.49	0.54
3:B:25:ASN:ND2	3:B:25:ASN:C	2.56	0.54
5:D:59:ARG:HA	5:D:59:ARG:NE	2.22	0.54
7:F:48:LEU:HD13	7:F:52:ILE:HD12	1.89	0.54
8:G:56:GLN:HE21	8:G:56:GLN:N	2.01	0.54
14:M:81:LEU:HD23	14:M:81:LEU:N	2.20	0.54
1:A:1525:G:C3'	1:A:1525:G:C8	2.90	0.54
1:A:1530:G:H4'	1:A:1530:G:OP1	2.07	0.54
1:A:977:A:C2'	1:A:978:A:H5''	2.37	0.54
3:B:187:LEU:CD2	3:B:201:ILE:HG22	2.38	0.54

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:11:ILE:HG12	6:E:31:LEU:HB3	1.89	0.54
11:J:53:PRO:HA	15:N:41:ARG:HH21	1.72	0.54
13:L:61:THR:C	13:L:63:GLY:H	2.10	0.54
21:T:33:ILE:H	21:T:33:ILE:HD12	1.72	0.54
1:A:1150:U:O2	1:A:1150:U:H2'	2.07	0.54
1:A:1227:A:C2'	1:A:1228:C:O5'	2.56	0.54
1:A:292:G:H8	1:A:292:G:O5'	1.91	0.54
1:A:486:U:O2	1:A:486:U:H2'	2.07	0.54
1:A:705:U:H3'	1:A:706:A:C8	2.43	0.54
1:A:976:G:H5'	1:A:977:A:OP1	2.06	0.54
1:A:990:C:N3	1:A:1216:G:C2	2.75	0.54
3:B:16:HIS:CD2	3:B:204:ASN:HB2	2.42	0.54
7:F:9:VAL:HG13	7:F:60:PHE:CD2	2.43	0.54
6:E:79:GLU:O	9:H:104:ARG:NH1	2.41	0.54
10:I:8:GLY:HA2	10:I:79:LEU:HD22	1.90	0.54
1:A:707:C:C4'	12:K:20:TYR:CD2	2.86	0.54
1:A:1228:C:H2'	1:A:1229:A:H8	1.73	0.54
1:A:1237:C:O2	1:A:1334:G:O2'	2.24	0.54
1:A:255:G:H2'	1:A:256:U:C6	2.42	0.54
1:A:357:G:C2	1:A:358:U:C4	2.96	0.54
4:C:35:GLU:O	4:C:36:ASP:C	2.46	0.54
11:J:38:ILE:HG22	11:J:71:LEU:HB2	1.88	0.54
13:L:76:ASN:HD21	13:L:107:ALA:HA	1.73	0.54
14:M:19:LEU:O	14:M:22:ILE:CD1	2.56	0.54
14:M:73:GLU:O	14:M:76:ALA:HB3	2.07	0.54
17:P:43:LYS:HB3	17:P:48:TRP:CG	2.43	0.54
18:Q:83:ASP:O	18:Q:86:GLU:HB2	2.07	0.54
7:F:94:GLN:HB2	19:R:32:ARG:HD3	1.89	0.54
5:D:36:ARG:HB2	5:D:38:TYR:CE1	2.42	0.54
10:I:97:LYS:O	10:I:100:GLY:N	2.41	0.54
13:L:27:LEU:C	13:L:29:GLY:N	2.57	0.54
20:S:5:LEU:O	20:S:6:LYS:CB	2.55	0.54
1:A:941:G:C2	1:A:942:G:C8	2.95	0.54
3:B:132:LYS:HA	3:B:135:GLN:HB2	1.89	0.54
4:C:122:GLU:O	4:C:125:GLU:N	2.39	0.54
6:E:75:THR:HG23	6:E:76:ILE:N	2.22	0.54
1:A:1055:A:C6	1:A:1056:U:C6	2.96	0.54
1:A:1230:C:H2'	1:A:1230:C:O2	2.07	0.54
1:A:1366:C:C2'	1:A:1367:C:C6	2.90	0.54
1:A:1496:C:H2'	1:A:1497:G:C8	2.43	0.54
1:A:193:C:H2'	1:A:194:C:H6	1.71	0.54

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:395:C:H2'	1:A:395:C:O2	2.06	0.54
1:A:663:A:H2'	1:A:664:G:O4'	2.08	0.54
1:A:691:G:C8	1:A:691:G:H3'	2.43	0.54
1:A:740:U:H5''	1:A:740:U:H6	1.73	0.54
1:A:854:G:N1	1:A:855:G:C8	2.76	0.54
1:A:939:G:C6	1:A:940:C:N4	2.76	0.54
3:B:215:LEU:O	3:B:218:ALA:HB3	2.08	0.54
7:F:8:ILE:HB	7:F:61:LEU:HB2	1.90	0.54
10:I:19:LEU:HD22	10:I:59:PHE:CD2	2.42	0.54
13:L:45:PRO:HB3	13:L:92:ASP:HB3	1.90	0.54
1:A:1236:A:H4'	1:A:1304:G:H4'	1.90	0.53
1:A:1255:G:H3'	1:A:1279:A:H61	1.72	0.53
1:A:1306:A:C4	1:A:1307:U:C6	2.96	0.53
1:A:1473:A:H2'	1:A:1474:G:O4'	2.08	0.53
1:A:1413:A:H2	1:A:1487:G:H22	1.56	0.53
1:A:20:U:H1'	1:A:916:G:N2	2.22	0.53
1:A:369:C:C2	1:A:370:C:C5	2.96	0.53
1:A:440:A:O3'	1:A:442:C:P	2.65	0.53
1:A:444:C:N3	1:A:491:G:C2	2.76	0.53
1:A:622:A:C8	1:A:623:C:C5	2.96	0.53
1:A:795:C:C5'	1:A:796:C:OP2	2.48	0.53
1:A:869:G:H5''	1:A:870:U:OP1	2.07	0.53
4:C:131:ARG:O	4:C:134:ILE:HD12	2.07	0.53
11:J:39:PRO:HA	11:J:70:ARG:NH2	2.23	0.53
18:Q:53:LEU:HG	18:Q:54:GLY:N	2.23	0.53
1:A:1186:G:H5''	1:A:1187:G:OP2	2.08	0.53
1:A:1213:A:C2	1:A:1215:G:C8	2.96	0.53
1:A:14:U:O2	1:A:17:U:H5	1.90	0.53
1:A:275:G:H5''	1:A:275:G:H8	1.71	0.53
1:A:515:G:C4	1:A:516:U:C6	2.96	0.53
1:A:570:G:H1'	1:A:820:U:C4	2.44	0.53
3:B:166:ASP:CG	3:B:205:ASP:HB2	2.29	0.53
3:B:24:TRP:C	3:B:24:TRP:CD1	2.82	0.53
1:A:1205:U:H1'	4:C:195:VAL:HG22	1.89	0.53
1:A:751:U:H1'	16:O:23:GLY:O	2.07	0.53
19:R:58:LEU:HD13	19:R:62:GLU:CB	2.38	0.53
1:A:958:A:C6	20:S:55:LYS:HB2	2.42	0.53
21:T:74:LYS:HG3	21:T:75:ASN:N	2.21	0.53
1:A:1202:G:H8	1:A:1202:G:OP1	1.91	0.53
1:A:1208:C:H2'	1:A:1209:C:H6	1.73	0.53
1:A:376:G:C2	1:A:389:A:C2	2.96	0.53

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:726:C:H2'	1:A:727:G:H8	1.72	0.53
1:A:90:U:C3'	1:A:90:U:C6	2.91	0.53
5:D:116:GLN:O	5:D:120:LEU:HB2	2.08	0.53
6:E:41:VAL:HG22	6:E:113:ALA:HA	1.91	0.53
14:M:16:ASP:OD1	14:M:16:ASP:N	2.40	0.53
1:A:1347:G:C5	10:I:107:ARG:NH1	2.76	0.53
8:G:56:GLN:H	8:G:56:GLN:NE2	2.02	0.53
6:E:80:ILE:HA	9:H:104:ARG:HH12	1.74	0.53
10:I:3:GLN:HG3	10:I:20:ARG:HE	1.73	0.53
14:M:15:VAL:O	14:M:19:LEU:HG	2.09	0.53
14:M:30:ALA:O	14:M:32:GLU:N	2.42	0.53
17:P:10:GLY:HA3	17:P:14:ASN:O	2.09	0.53
19:R:43:PHE:C	19:R:51:LEU:HD12	2.28	0.53
20:S:51:VAL:HG23	20:S:60:VAL:HG23	1.90	0.53
1:A:1075:C:H2'	1:A:1076:C:H5'	1.89	0.53
7:F:6:VAL:HB	7:F:63:TYR:HB2	1.89	0.53
9:H:116:LYS:HD2	9:H:129:VAL:HG21	1.89	0.53
9:H:87:SER:HB2	9:H:133:LEU:O	2.08	0.53
7:F:87:ARG:HD2	19:R:76:LEU:HA	1.91	0.53
1:A:1345:U:C4	1:A:1377:A:C2	2.97	0.53
1:A:1523:G:H2'	1:A:1524:C:C6	2.37	0.53
1:A:426:G:OP1	5:D:38:TYR:OH	2.22	0.53
1:A:652:U:C5	1:A:752:G:C4	2.97	0.53
1:A:880:C:H2'	1:A:881:G:C8	2.41	0.53
4:C:180:ALA:CB	4:C:182:ILE:CD1	2.86	0.53
1:A:408:A:H5'	5:D:116:GLN:HG3	1.90	0.53
5:D:120:LEU:HD22	5:D:126:ILE:HD11	1.90	0.53
8:G:41:ARG:O	8:G:44:TYR:N	2.41	0.53
9:H:103:VAL:HG21	9:H:109:ILE:O	2.08	0.53
11:J:12:ASP:OD2	11:J:15:THR:N	2.36	0.53
12:K:44:SER:H	12:K:47:VAL:HB	1.74	0.53
13:L:43:VAL:HG13	13:L:44:THR:N	2.20	0.53
1:A:1075:C:H5'	3:B:103:THR:HG21	1.90	0.53
1:A:1216:G:C2	1:A:1217:C:C4	2.97	0.53
1:A:427:U:H4'	1:A:541:G:H5''	1.89	0.53
3:B:71:VAL:O	3:B:165:VAL:HG22	2.09	0.53
4:C:101:LEU:HD23	4:C:102:ASN:H	1.72	0.53
6:E:91:LEU:CD2	6:E:120:THR:HG23	2.39	0.53
8:G:91:VAL:HG12	8:G:96:GLN:HE21	1.73	0.53
1:A:1152:A:P	11:J:68:HIS:CE1	3.02	0.53
1:A:1288:A:N3	1:A:1353:G:H1'	2.23	0.53

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:378:G:C6	1:A:379:C:N4	2.77	0.53
1:A:781:A:C4	1:A:802:A:C2	2.96	0.53
1:A:899:C:O5'	1:A:899:C:H6	1.91	0.53
5:D:25:ARG:C	5:D:27:TYR:N	2.62	0.53
5:D:59:ARG:HA	5:D:59:ARG:HE	1.73	0.53
5:D:79:PHE:O	5:D:80:GLU:C	2.46	0.53
6:E:59:GLY:O	6:E:62:ALA:CB	2.54	0.53
8:G:120:ILE:HG22	8:G:124:LEU:HD12	1.91	0.53
9:H:29:SER:HB3	9:H:32:LYS:HB2	1.90	0.53
9:H:87:SER:HA	9:H:93:VAL:HG23	1.89	0.53
10:I:64:THR:HG23	10:I:65:VAL:N	2.24	0.53
1:A:1152:A:H4'	11:J:13:HIS:HD2	1.73	0.53
1:A:1151:A:H5'	11:J:41:PRO:HA	1.90	0.53
14:M:23:TYR:HB2	14:M:67:GLU:OE2	2.09	0.53
1:A:1003(A):G:C2'	1:A:1004:A:H4'	2.32	0.53
1:A:1063:C:H2'	1:A:1064:G:H8	1.74	0.53
1:A:1096:C:C4	1:A:1097:C:C5	2.97	0.53
1:A:19:C:H2'	1:A:20:U:H6	1.73	0.53
3:B:51:LEU:HD23	3:B:55:PHE:HE1	1.72	0.53
4:C:3:ASN:H	4:C:3:ASN:ND2	2.06	0.53
5:D:128:VAL:O	5:D:129:ASN:HB2	2.08	0.53
5:D:67:ILE:CG2	5:D:68:TYR:CD1	2.91	0.53
6:E:91:LEU:CD2	6:E:120:THR:CG2	2.86	0.53
6:E:139:LEU:C	6:E:141:GLN:N	2.59	0.53
8:G:28:ASN:ND2	8:G:28:ASN:H	2.06	0.53
17:P:21:VAL:HG12	17:P:33:ILE:HD12	1.90	0.53
1:A:1003(A):G:N2	1:A:1039:C:C2	2.77	0.53
1:A:1056:U:O2	1:A:1057:G:C8	2.62	0.53
1:A:414:A:H2'	1:A:415:A:O4'	2.09	0.53
3:B:167:PRO:HG2	3:B:192:SER:HB2	1.90	0.53
8:G:92:SER:O	8:G:93:PRO:C	2.48	0.53
1:A:642:A:N3	9:H:113:SER:OG	2.41	0.53
13:L:61:THR:O	13:L:63:GLY:N	2.42	0.53
1:A:66:G:C6	1:A:67:C:C5	2.98	0.52
1:A:915:A:H2'	1:A:916:G:H5'	1.91	0.52
1:A:959:A:C2	1:A:1222:G:C4'	2.92	0.52
5:D:24:GLU:O	5:D:27:TYR:HB3	2.09	0.52
5:D:58:LEU:C	5:D:58:LEU:HD23	2.29	0.52
6:E:13:ILE:HA	6:E:29:GLY:O	2.08	0.52
7:F:53:ALA:C	7:F:54:LYS:HG2	2.28	0.52
10:I:111:ARG:CB	10:I:111:ARG:HH11	2.21	0.52

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:19:ALA:CB	12:K:80:VAL:HG11	2.30	0.52
11:J:49:VAL:HG13	15:N:41:ARG:HD2	1.90	0.52
20:S:52:TYR:CD1	20:S:56:GLN:O	2.62	0.52
1:A:1266:G:N2	1:A:1270:C:H42	2.07	0.52
1:A:1346:A:C8	1:A:1348:U:N3	2.78	0.52
1:A:19:C:C2	1:A:20:U:C6	2.98	0.52
1:A:453:A:C2	1:A:454:C:C2	2.96	0.52
1:A:826:C:C2	1:A:827:U:C5	2.97	0.52
3:B:101:MET:CG	3:B:108:ILE:HD12	2.38	0.52
3:B:189:ASP:OD1	3:B:205:ASP:HB3	2.09	0.52
5:D:138:TYR:HD2	5:D:138:TYR:C	2.12	0.52
9:H:14:ARG:HH11	9:H:14:ARG:CG	2.21	0.52
11:J:12:ASP:OD1	11:J:13:HIS:N	2.43	0.52
1:A:1438:G:C2	1:A:1464:G:C2	2.97	0.52
1:A:171:A:H2'	1:A:172:A:O4'	2.09	0.52
1:A:247:G:OP1	1:A:247:G:H4'	2.09	0.52
1:A:933:G:H5''	1:A:934:C:OP2	2.10	0.52
3:B:101:MET:HG2	3:B:108:ILE:CD1	2.38	0.52
8:G:105:VAL:O	8:G:108:ALA:HB3	2.09	0.52
8:G:96:GLN:O	8:G:97:GLN:C	2.47	0.52
17:P:4:ILE:O	17:P:5:ARG:HB3	2.08	0.52
1:A:1394:A:C5	1:A:1501:C:H4'	2.44	0.52
1:A:152:A:C6	1:A:170:U:O2	2.63	0.52
1:A:451:A:C8	1:A:451:A:O5'	2.60	0.52
1:A:78:G:N2	1:A:79:G:H1'	2.24	0.52
1:A:837:G:C2	1:A:850:U:O2	2.62	0.52
1:A:865:A:H2'	1:A:866:C:C6	2.44	0.52
1:A:924:C:H5'	1:A:1399:C:OP2	2.10	0.52
4:C:131:ARG:HG3	4:C:135:LYS:NZ	2.24	0.52
4:C:199:LYS:HB3	4:C:201:TYR:HE1	1.75	0.52
5:D:199:GLN:CA	5:D:199:GLN:HE21	2.22	0.52
10:I:50:LEU:HD23	10:I:56:LEU:H	1.74	0.52
12:K:73:MET:HE3	12:K:102:GLY:HA3	1.92	0.52
13:L:86:ARG:CG	13:L:86:ARG:HH11	2.12	0.52
21:T:72:LEU:HB3	21:T:76:ALA:HB3	1.90	0.52
1:A:1149:C:H5''	1:A:1150:U:OP2	2.09	0.52
1:A:166:G:C2	1:A:167:G:C8	2.98	0.52
1:A:166:G:C2'	1:A:167:G:O5'	2.58	0.52
1:A:374:A:C5	1:A:375:U:C5	2.98	0.52
1:A:393:A:C2	1:A:394:G:C8	2.97	0.52
1:A:640:A:C2'	1:A:641:U:H5'	2.39	0.52

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:83:ARG:HG2	4:C:86:VAL:HG12	1.91	0.52
9:H:31:PHE:O	9:H:32:LYS:C	2.48	0.52
14:M:109:THR:HG23	14:M:110:ARG:N	2.24	0.52
14:M:10:PRO:HB3	14:M:21:TYR:HD1	1.74	0.52
15:N:53:LEU:CD1	15:N:56:VAL:HG21	2.38	0.52
19:R:55:ARG:HB3	19:R:55:ARG:NH1	2.25	0.52
20:S:52:TYR:HA	20:S:56:GLN:O	2.10	0.52
1:A:1096:C:N3	1:A:1097:C:C5	2.78	0.52
1:A:1144:G:C8	1:A:1144:G:H3'	2.44	0.52
1:A:1502:A:N3	1:A:1502:A:C2'	2.72	0.52
1:A:223:U:H5'	21:T:68:LYS:NZ	2.25	0.52
1:A:255:G:O2'	1:A:256:U:H5'	2.09	0.52
1:A:53:A:H61	1:A:358:U:H3	1.58	0.52
1:A:818:G:N2	1:A:820:U:C2	2.77	0.52
6:E:30:ALA:O	6:E:45:PHE:HA	2.09	0.52
11:J:32:ALA:HB2	11:J:76:ASN:HD22	1.75	0.52
15:N:24:CYS:CB	15:N:29:ARG:H	2.23	0.52
1:A:1010:G:H2'	1:A:1011:G:H8	1.72	0.52
1:A:1129:C:H4'	1:A:1130:A:OP2	2.09	0.52
1:A:116:A:H2'	1:A:117:G:H8	1.75	0.52
1:A:1402:C:H2'	1:A:1403:C:H6	1.75	0.52
1:A:256:U:H2'	1:A:257:G:H5'	1.91	0.52
1:A:978:A:C4	1:A:1319:A:C2	2.97	0.52
3:B:106:LYS:O	3:B:109:SER:OG	2.28	0.52
10:I:11:LYS:N	10:I:104:ARG:HH21	2.08	0.52
1:A:1123:A:O3'	11:J:36:GLY:HA3	2.09	0.52
10:I:114:TYR:CE1	11:J:60:ARG:HB2	2.42	0.52
19:R:37:VAL:O	19:R:39:VAL:N	2.43	0.52
1:A:1095:U:H2'	1:A:1096:C:C6	2.45	0.52
1:A:1430:C:C2	1:A:1471:G:N2	2.78	0.52
1:A:819:A:H4'	1:A:820:U:OP2	2.10	0.52
3:B:102:LEU:HD12	3:B:102:LEU:N	2.24	0.52
1:A:1107:C:C4	1:A:1108:G:C8	2.98	0.52
1:A:1366:C:C2'	1:A:1367:C:H6	2.16	0.52
1:A:403:C:H2'	1:A:404:U:H6	1.74	0.52
1:A:781:A:C8	1:A:802:A:C2	2.98	0.52
3:B:102:LEU:HB2	3:B:176:GLU:OE1	2.10	0.52
3:B:180:LEU:HB2	3:B:182:ILE:CD1	2.39	0.52
5:D:199:GLN:C	5:D:199:GLN:HE21	2.13	0.52
6:E:15:ARG:O	6:E:16:THR:C	2.48	0.52
10:I:118:LYS:O	10:I:119:ALA:CB	2.58	0.52

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:25:PRO:C	13:L:27:LEU:N	2.63	0.52
13:L:53:ARG:HD3	13:L:93:LEU:CD2	2.39	0.52
18:Q:7:THR:O	18:Q:23:VAL:HG23	2.10	0.52
18:Q:78:GLU:OE1	18:Q:81:ARG:HD3	2.09	0.52
21:T:41:VAL:C	21:T:43:LEU:N	2.63	0.52
1:A:437:U:H3	1:A:496:A:H62	1.58	0.52
1:A:397:A:C6	1:A:548:G:N7	2.78	0.52
1:A:664:G:H22	1:A:741:G:H1	1.57	0.52
4:C:131:ARG:CG	4:C:135:LYS:NZ	2.73	0.52
6:E:144:THR:O	6:E:147:ASP:N	2.43	0.52
13:L:56:ALA:HB2	13:L:70:ILE:HD11	1.92	0.52
14:M:5:ALA:CB	14:M:22:ILE:HG21	2.40	0.52
1:A:937:A:N6	1:A:1345:U:O4	2.43	0.51
1:A:54:C:H42	1:A:357:G:H1	1.58	0.51
3:B:76:GLN:NE2	3:B:207:ALA:H	2.07	0.51
8:G:27:ILE:CG2	8:G:40:ALA:HA	2.40	0.51
14:M:49:THR:C	14:M:51:ALA:H	2.13	0.51
2:Z:4:U:H2'	2:Z:5:C:H6	1.75	0.51
5:D:3:ARG:HG2	5:D:118:ARG:CZ	2.40	0.51
11:J:3:LYS:N	11:J:75:ILE:HA	2.25	0.51
18:Q:62:SER:CB	18:Q:72:ARG:HG3	2.40	0.51
1:A:1137:C:H4'	1:A:1138:G:N2	2.26	0.51
1:A:1247:U:H6	1:A:1247:U:H3'	1.76	0.51
1:A:590:C:N3	1:A:650:G:C2	2.78	0.51
1:A:786:G:C2	1:A:797:C:C2	2.99	0.51
1:A:691:G:O2'	1:A:797:C:H4'	2.10	0.51
1:A:989:C:O2'	1:A:990:C:H5'	2.11	0.51
3:B:167:PRO:HG3	3:B:188:ALA:CB	2.40	0.51
6:E:144:THR:O	6:E:145:LYS:C	2.47	0.51
9:H:24:THR:HG22	9:H:63:LEU:HD21	1.91	0.51
11:J:7:LYS:O	11:J:96:ILE:HA	2.11	0.51
17:P:74:LEU:N	17:P:74:LEU:HD23	2.24	0.51
20:S:71:LEU:HD22	20:S:72:GLY:N	2.24	0.51
1:A:1056:U:H2'	1:A:1056:U:O2	2.10	0.51
1:A:1192:C:H2'	1:A:1193:G:O4'	2.09	0.51
1:A:1435:G:C4	1:A:1436:U:C5	2.98	0.51
1:A:615:C:H3'	1:A:615:C:C6	2.45	0.51
1:A:69:G:H2'	1:A:70:G:H8	1.76	0.51
1:A:714:G:H2'	1:A:715:A:C8	2.45	0.51
3:B:44:LEU:O	3:B:47:THR:CB	2.58	0.51
4:C:19:GLU:HB3	4:C:40:ARG:HH22	1.75	0.51

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:104:ARG:C	9:H:106:GLY:N	2.63	0.51
9:H:121:ASP:O	9:H:125:ARG:HB2	2.11	0.51
9:H:41:ARG:CZ	9:H:41:ARG:HB2	2.40	0.51
12:K:122:LYS:O	12:K:123:LYS:C	2.48	0.51
16:O:46:HIS:C	16:O:48:LYS:N	2.58	0.51
20:S:5:LEU:O	20:S:6:LYS:HB2	2.09	0.51
21:T:75:ASN:O	21:T:76:ALA:C	2.47	0.51
1:A:115:G:H1'	1:A:116:A:N7	2.25	0.51
1:A:416:G:H2'	1:A:417:C:O4'	2.10	0.51
1:A:533:A:O2'	1:A:535:A:OP2	2.27	0.51
1:A:592:G:C2	1:A:648:A:C2	2.98	0.51
1:A:656:C:C6	1:A:656:C:C3'	2.94	0.51
1:A:9:G:OP2	6:E:121:LYS:NZ	2.38	0.51
4:C:53:ALA:O	4:C:54:ARG:HB2	2.09	0.51
6:E:51:VAL:O	6:E:54:ALA:N	2.38	0.51
9:H:4:ASP:OD2	9:H:85:ARG:NH1	2.44	0.51
10:I:47:LEU:C	10:I:49:PRO:CD	2.74	0.51
11:J:44:VAL:HG22	11:J:66:ARG:HB3	1.93	0.51
1:A:362:G:OP1	13:L:61:THR:HG22	2.10	0.51
13:L:93:LEU:O	13:L:96:VAL:CG2	2.58	0.51
20:S:83:HIS:N	20:S:83:HIS:HD2	2.07	0.51
1:A:1208:C:N3	1:A:1209:C:C5	2.79	0.51
1:A:141:A:H1'	1:A:182:U:O2	2.11	0.51
1:A:488:C:H6	1:A:488:C:O5'	1.93	0.51
1:A:437:U:H5'	5:D:155:LEU:HD11	1.91	0.51
15:N:32:SER:CB	15:N:41:ARG:HB3	2.40	0.51
16:O:74:ASP:C	16:O:76:GLU:H	2.13	0.51
19:R:47:THR:HG22	19:R:83:GLU:O	2.11	0.51
1:A:223:U:H5'	21:T:68:LYS:HZ1	1.75	0.51
1:A:1184:G:H2'	1:A:1185:G:H8	1.75	0.51
1:A:1229:A:N3	1:A:1230:C:C5	2.79	0.51
1:A:511:C:C4	1:A:512:U:O4	2.63	0.51
1:A:965:A:C2	1:A:969:A:C2	2.98	0.51
1:A:972:C:H4'	11:J:57:LYS:HB3	1.93	0.51
4:C:23:TYR:HD2	11:J:94:VAL:N	2.09	0.51
5:D:41:GLY:C	5:D:43:HIS:H	2.14	0.51
9:H:56:LYS:O	9:H:58:TYR:CD1	2.64	0.51
10:I:4:TYR:CD1	10:I:88:TYR:HB2	2.46	0.51
12:K:33:THR:OG1	12:K:37:GLY:C	2.49	0.51
14:M:108:ARG:O	14:M:109:THR:C	2.48	0.51
14:M:22:ILE:HB	14:M:25:ILE:CD1	2.40	0.51

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:77:ARG:O	16:O:80:ALA:HB3	2.11	0.51
1:A:1073:U:H3	1:A:1102:A:H61	1.58	0.51
1:A:1160:G:C2'	1:A:1161:C:O5'	2.57	0.51
1:A:1400:C:C3'	1:A:1401:G:C5'	2.82	0.51
1:A:925:G:O4'	1:A:1502:A:C5	2.64	0.51
1:A:328:C:C2'	1:A:328:C:O2	2.46	0.51
1:A:644:G:C5	1:A:645:C:C6	2.98	0.51
1:A:864:A:H3'	1:A:865:A:H8	1.76	0.51
3:B:139:LYS:O	3:B:143:GLU:HB2	2.11	0.51
5:D:32:ALA:C	5:D:34:GLU:N	2.64	0.51
10:I:21:PRO:HA	10:I:59:PHE:HA	1.92	0.51
21:T:34:LYS:HB3	21:T:38:LYS:NZ	2.26	0.51
1:A:1014:A:H3'	1:A:1015:A:C8	2.45	0.51
1:A:1449:C:H2'	1:A:1449:C:O2	2.09	0.51
1:A:404:U:O2'	1:A:405:U:H5'	2.11	0.51
1:A:428:G:C2	1:A:430:A:N6	2.79	0.51
3:B:211:ILE:O	3:B:215:LEU:HB2	2.11	0.51
3:B:223:ILE:HG23	3:B:224:GLN:H	1.74	0.51
5:D:24:GLU:O	5:D:27:TYR:CB	2.59	0.51
1:A:922:G:H4'	6:E:20:GLN:HA	1.93	0.51
10:I:79:LEU:O	10:I:80:GLY:C	2.49	0.51
13:L:35:GLY:HA3	13:L:58:VAL:HG11	1.93	0.51
14:M:14:ARG:HG2	14:M:14:ARG:HH11	1.76	0.51
1:A:570:G:O6	1:A:873:A:C2	2.64	0.51
4:C:22:TRP:N	4:C:22:TRP:CD1	2.71	0.51
8:G:135:VAL:O	8:G:139:GLU:HG3	2.10	0.51
12:K:24:SER:C	12:K:26:ASN:N	2.62	0.51
14:M:17:VAL:O	14:M:20:THR:CB	2.51	0.51
14:M:23:TYR:HB3	14:M:67:GLU:H	1.74	0.51
15:N:4:LYS:C	15:N:6:LEU:N	2.62	0.51
17:P:5:ARG:CG	17:P:6:LEU:N	2.73	0.51
1:A:109:A:C6	1:A:327:A:C6	2.99	0.50
1:A:174:C:O2'	1:A:175:C:H5'	2.11	0.50
1:A:273:A:N6	1:A:274:A:C6	2.79	0.50
1:A:321:A:C2	1:A:333:G:C2	2.98	0.50
1:A:783:C:C2'	1:A:784:C:H5'	2.40	0.50
1:A:976:G:H2'	1:A:1361(A):C:H42	1.74	0.50
7:F:44:GLY:HA2	7:F:60:PHE:N	2.25	0.50
13:L:55:VAL:CG1	13:L:56:ALA:H	2.23	0.50
16:O:35:ARG:HB3	16:O:59:MET:HE3	1.93	0.50
17:P:21:VAL:CG1	17:P:33:ILE:HD12	2.40	0.50

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1286:A:H2'	1:A:1287:A:H4'	1.92	0.50
1:A:1237:C:H4'	1:A:1334:G:N2	2.25	0.50
1:A:1346:A:C5	8:G:10:ARG:NH2	2.79	0.50
1:A:1355:G:C2'	1:A:1356:G:H5'	2.40	0.50
1:A:1371:G:OP1	10:I:11:LYS:O	2.28	0.50
1:A:1428:A:H2'	1:A:1429:C:C6	2.46	0.50
1:A:167:G:H2'	1:A:168:G:H8	1.76	0.50
1:A:640:A:H2'	1:A:641:U:H5'	1.92	0.50
1:A:803:G:C6	1:A:804:U:C4	2.99	0.50
3:B:178:ARG:HH22	9:H:68:ARG:HH21	1.57	0.50
3:B:208:ILE:O	3:B:209:ARG:C	2.49	0.50
16:O:78:TYR:C	16:O:80:ALA:N	2.64	0.50
1:A:1066:C:C2'	1:A:1067:A:C5'	2.90	0.50
1:A:1227:A:C2	20:S:83:HIS:HB2	2.46	0.50
1:A:1365:G:C5	1:A:1366:C:C5	2.99	0.50
1:A:1406:U:H2'	1:A:1407:C:C6	2.45	0.50
1:A:1507:A:H5''	1:A:1507:A:H8	1.76	0.50
5:D:62:GLN:O	5:D:66:ARG:HD3	2.11	0.50
6:E:13:ILE:HD13	6:E:13:ILE:O	2.11	0.50
13:L:69:TYR:CD2	13:L:69:TYR:C	2.85	0.50
1:A:1118:C:H1'	1:A:1179:A:C4	2.47	0.50
1:A:382:A:N3	1:A:383:A:C8	2.79	0.50
1:A:429:U:C4	1:A:431:A:N6	2.76	0.50
1:A:505:G:H5''	1:A:506:G:OP2	2.11	0.50
1:A:509:A:C8	1:A:509:A:C3'	2.93	0.50
1:A:793:U:O4	1:A:1517:G:H5''	2.12	0.50
1:A:976:G:N7	1:A:1358:U:C2	2.79	0.50
3:B:112:VAL:HG12	3:B:153:ARG:HG2	1.91	0.50
20:S:17:GLU:O	20:S:21:GLU:HB2	2.12	0.50
1:A:1048:G:C8	1:A:1048:G:H3'	2.46	0.50
1:A:20:U:H2'	1:A:20:U:O2	2.12	0.50
1:A:644:G:C4	1:A:645:C:C6	2.99	0.50
1:A:762:C:H6	1:A:762:C:O5'	1.94	0.50
1:A:977:A:H2'	1:A:978:A:H5'	1.93	0.50
6:E:28:PHE:O	6:E:47:LYS:HA	2.11	0.50
18:Q:4:LYS:H	18:Q:61:GLU:CB	2.21	0.50
1:A:37:U:N3	1:A:38:G:C8	2.80	0.50
1:A:463:A:O3'	1:A:474:G:P	2.68	0.50
1:A:512:U:H2'	1:A:513:C:C6	2.46	0.50
6:E:67:VAL:O	6:E:67:VAL:CG1	2.58	0.50
1:A:1125:U:H3	11:J:5:ARG:HE	1.59	0.50

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:75:HIS:CD2	13:L:76:ASN:H	2.27	0.50
19:R:36:ASN:O	19:R:39:VAL:HG12	2.12	0.50
1:A:109:A:H3'	1:A:110:C:H5'	1.93	0.50
1:A:1249:C:C6	1:A:1249:C:C3'	2.94	0.50
1:A:362:G:C8	1:A:362:G:C3'	2.94	0.50
1:A:992:U:H4'	1:A:993:G:O5'	2.11	0.50
4:C:115:LEU:O	4:C:118:GLN:N	2.44	0.50
1:A:426:G:P	5:D:36:ARG:HH21	2.33	0.50
6:E:33:VAL:HG11	6:E:109:ILE:HG12	1.93	0.50
8:G:26:PHE:CD2	8:G:30:ILE:HD11	2.47	0.50
14:M:109:THR:HG23	14:M:110:ARG:H	1.76	0.50
14:M:14:ARG:HB3	14:M:16:ASP:OD1	2.12	0.50
20:S:72:GLY:C	20:S:74:PHE:N	2.54	0.50
1:A:1065:U:C5	1:A:1190:G:C4	3.00	0.50
1:A:1513:A:C6	1:A:1523:G:C6	3.00	0.50
1:A:437:U:H3'	1:A:438:G:H8	1.76	0.50
1:A:888:G:H8	1:A:888:G:O5'	1.93	0.50
3:B:102:LEU:O	3:B:105:PHE:HB2	2.12	0.50
4:C:123:GLN:HE22	4:C:140:ARG:NH2	2.08	0.50
4:C:19:GLU:HB3	4:C:40:ARG:NH2	2.27	0.50
5:D:199:GLN:CA	5:D:199:GLN:NE2	2.75	0.50
6:E:101:ILE:O	6:E:120:THR:OG1	2.28	0.50
6:E:107:ARG:O	6:E:109:ILE:N	2.45	0.50
11:J:32:ALA:HB2	11:J:76:ASN:ND2	2.27	0.50
13:L:102:ARG:NH1	13:L:110:VAL:CA	2.74	0.50
16:O:39:LEU:HD13	16:O:56:LEU:HB2	1.93	0.50
1:A:1168:A:C6	1:A:1169:A:C6	3.00	0.50
1:A:1342:C:O2'	10:I:124:GLN:HB2	2.12	0.50
1:A:1368:G:C2	1:A:1369:C:C6	2.99	0.50
1:A:664:G:H1	1:A:741:G:H1	1.59	0.50
1:A:986:A:C2	1:A:1220:G:C2	3.00	0.50
7:F:33:TYR:HD2	7:F:71:ARG:HD2	1.76	0.50
6:E:148:VAL:HG21	9:H:107:LEU:HD13	1.94	0.50
11:J:17:ASP:O	11:J:21:GLN:HB2	2.12	0.50
13:L:35:GLY:HA3	13:L:58:VAL:CG1	2.42	0.50
19:R:66:LEU:O	19:R:67:ALA:C	2.50	0.50
1:A:1053:G:C4	1:A:1199:U:C5	3.00	0.49
1:A:129(A):G:H4'	1:A:130:A:OP2	2.12	0.49
1:A:18:C:C2'	1:A:19:C:H5'	2.42	0.49
1:A:358:U:C2	1:A:359:U:C5	2.99	0.49
1:A:374:A:H5''	1:A:375:U:OP2	2.12	0.49

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:983:A:HO2'	1:A:1049:U:HO2'	1.57	0.49
3:B:185:ILE:H	3:B:185:ILE:HD12	1.77	0.49
4:C:54:ARG:O	4:C:55:VAL:CG2	2.55	0.49
7:F:26:ILE:HG21	7:F:63:TYR:HE1	1.76	0.49
11:J:12:ASP:CG	11:J:14:LYS:H	2.15	0.49
15:N:24:CYS:HB3	15:N:29:ARG:H	1.77	0.49
18:Q:82:MET:HA	18:Q:85:VAL:CG2	2.42	0.49
1:A:1378:C:H3'	1:A:1379:G:H5''	1.93	0.49
1:A:1413:A:C2	1:A:1414:U:C2	3.01	0.49
1:A:1502:A:H5'	1:A:1504:G:N7	2.27	0.49
1:A:167:G:H2'	1:A:168:G:C8	2.48	0.49
1:A:288:A:C2'	1:A:289:G:O5'	2.61	0.49
1:A:109:A:N6	1:A:326:G:C6	2.80	0.49
1:A:357:G:H2'	1:A:358:U:C6	2.47	0.49
1:A:363:A:OP1	13:L:61:THR:OG1	2.19	0.49
1:A:673:G:H5''	1:A:674:G:OP2	2.11	0.49
1:A:691:G:C8	1:A:691:G:C3'	2.94	0.49
1:A:577:G:H1'	1:A:816:A:C2	2.46	0.49
1:A:84:U:H5''	1:A:88:A:OP2	2.12	0.49
1:A:13:U:O2	1:A:914:A:H3'	2.11	0.49
5:D:159:ARG:O	5:D:160:GLN:C	2.50	0.49
1:A:738:C:OP2	7:F:92:LYS:HE2	2.12	0.49
12:K:22:HIS:HA	12:K:85:ARG:O	2.11	0.49
1:A:1226:C:C4	14:M:104:ARG:HG3	2.47	0.49
20:S:9:VAL:HG12	20:S:10:PHE:N	2.26	0.49
1:A:1082:G:H5''	1:A:1083:U:OP2	2.13	0.49
1:A:1120:G:N2	1:A:1153:C:O2	2.43	0.49
1:A:1226:C:N4	14:M:104:ARG:HG3	2.27	0.49
1:A:1372:U:O2'	1:A:1373:G:H5'	2.12	0.49
1:A:1437:C:H2'	1:A:1438:G:C8	2.47	0.49
1:A:502:G:C6	1:A:544:G:N1	2.80	0.49
1:A:546:G:OP1	5:D:73:ARG:HB2	2.11	0.49
1:A:69:G:H2'	1:A:70:G:C8	2.47	0.49
1:A:577:G:H1'	1:A:816:A:C4	2.48	0.49
1:A:942:G:C2	1:A:943:U:C6	3.00	0.49
1:A:977:A:H2'	1:A:978:A:H5''	1.93	0.49
3:B:77:ALA:HB2	3:B:211:ILE:CD1	2.24	0.49
4:C:141:VAL:HG11	4:C:202:ILE:HG12	1.94	0.49
5:D:55:ALA:O	5:D:59:ARG:HG2	2.12	0.49
6:E:15:ARG:O	6:E:16:THR:O	2.30	0.49
10:I:33:PHE:CE1	10:I:37:PHE:CE1	3.01	0.49

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:32:ARG:O	19:R:34:TYR:N	2.44	0.49
1:A:1068:G:N7	1:A:1094:G:H8	2.09	0.49
1:A:1102:A:H1'	3:B:99:GLY:HA3	1.94	0.49
1:A:1201:A:HO2'	1:A:1202:G:P	2.34	0.49
1:A:529:G:C8	1:A:529:G:C3'	2.94	0.49
1:A:651:C:C2'	1:A:652:U:H5'	2.42	0.49
1:A:957:U:O2	1:A:960:U:C2	2.65	0.49
4:C:39:ILE:C	4:C:41:GLY:N	2.65	0.49
5:D:152:SER:O	5:D:155:LEU:HB2	2.11	0.49
12:K:82:VAL:CG1	12:K:83:ILE:N	2.75	0.49
12:K:94:ALA:O	12:K:95:ILE:C	2.51	0.49
13:L:67:THR:O	13:L:67:THR:CG2	2.60	0.49
16:O:60:VAL:HG12	16:O:61:GLY:N	2.27	0.49
17:P:75:ARG:HA	17:P:80:PHE:HD1	1.76	0.49
1:A:1003(A):G:C4	1:A:1004:A:H1'	2.47	0.49
1:A:1119:C:C3'	1:A:1119:C:C6	2.94	0.49
1:A:1121:U:H2'	1:A:1122:U:H6	1.75	0.49
1:A:1144:G:H2'	1:A:1145:C:H5'	1.95	0.49
1:A:1395:C:H6	1:A:1395:C:O5'	1.95	0.49
1:A:1402:C:H2'	1:A:1403:C:C6	2.47	0.49
1:A:1502:A:N3	1:A:1502:A:H2'	2.28	0.49
1:A:287:U:O2'	1:A:288:A:H5'	2.12	0.49
1:A:292:G:C8	1:A:292:G:C3'	2.95	0.49
1:A:357:G:C2	1:A:358:U:C5	3.00	0.49
1:A:939:G:P	8:G:95:ARG:HH12	2.36	0.49
1:A:959:A:H5''	1:A:960:U:OP2	2.13	0.49
1:A:991:U:C6	1:A:1212:U:C2	3.01	0.49
3:B:71:VAL:HG23	3:B:164:VAL:HA	1.94	0.49
7:F:80:ARG:CG	7:F:88:VAL:CG2	2.89	0.49
1:A:1240:U:N3	8:G:30:ILE:HG23	2.27	0.49
10:I:4:TYR:CG	10:I:88:TYR:HB2	2.48	0.49
13:L:104:VAL:O	13:L:105:TYR:HB2	2.13	0.49
17:P:11:SER:O	17:P:14:ASN:N	2.36	0.49
1:A:1348:U:H4'	10:I:120:ARG:HG3	1.93	0.49
1:A:251:G:H4'	1:A:252:U:O5'	2.12	0.49
1:A:268:C:H2'	1:A:269:C:C6	2.44	0.49
1:A:429:U:O4	1:A:431:A:N6	2.46	0.49
1:A:946:A:N1	1:A:947:G:C6	2.81	0.49
1:A:969:A:H61	14:M:126:LYS:CB	2.25	0.49
1:A:982:U:H4'	1:A:983:A:O5'	2.12	0.49
3:B:166:ASP:OD1	3:B:205:ASP:CB	2.61	0.49

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:42:LEU:O	4:C:43:LEU:C	2.50	0.49
5:D:88:VAL:O	5:D:92:VAL:HG23	2.12	0.49
14:M:30:ALA:O	14:M:31:LYS:C	2.48	0.49
1:A:1131:G:H22	1:A:1143:G:N2	2.04	0.49
1:A:1142:G:H5''	1:A:1143:G:OP2	2.11	0.49
1:A:575:G:HO2'	1:A:821:G:H5'	1.77	0.49
1:A:709:G:H2'	1:A:710:G:H8	1.77	0.49
1:A:945:G:C8	1:A:1337:G:H1'	2.48	0.49
5:D:141:ARG:HB3	5:D:142:PRO:HD3	1.90	0.49
5:D:30:LYS:HA	5:D:35:ARG:HE	1.78	0.49
1:A:1069:C:O3'	6:E:25:ARG:NH2	2.45	0.49
14:M:22:ILE:HG22	14:M:23:TYR:N	2.27	0.49
17:P:43:LYS:HA	17:P:48:TRP:CB	2.41	0.49
17:P:78:GLY:C	17:P:80:PHE:N	2.64	0.49
19:R:86:VAL:O	19:R:87:ARG:CB	2.56	0.49
1:A:1097:C:H2'	1:A:1097:C:O2	2.12	0.49
1:A:1191:A:O2'	1:A:1192:C:H5'	2.13	0.49
1:A:1370:G:H2'	1:A:1371:G:H8	1.78	0.49
1:A:617:G:O6	1:A:623:C:N4	2.44	0.49
1:A:722:A:H5''	1:A:722:A:N3	2.27	0.49
1:A:812:C:OP1	1:A:903:G:H1'	2.13	0.49
4:C:115:LEU:O	4:C:116:VAL:C	2.50	0.49
5:D:150:GLU:CA	5:D:153:ARG:HB2	2.40	0.49
8:G:137:LYS:O	8:G:141:VAL:HG23	2.13	0.49
9:H:89:PRO:HA	9:H:92:ARG:NH1	2.28	0.49
11:J:76:ASN:CB	11:J:78:ASN:HD21	2.22	0.49
12:K:123:LYS:C	12:K:125:PHE:N	2.66	0.49
12:K:70:LYS:O	12:K:73:MET:HB2	2.13	0.49
16:O:13:GLN:O	16:O:14:GLU:C	2.51	0.49
1:A:192:U:C4'	21:T:103:GLY:H	2.26	0.49
21:T:92:LEU:O	21:T:93:GLU:C	2.51	0.49
1:A:1247:U:O2	1:A:1291:G:C2	2.65	0.49
1:A:1291:G:H4'	10:I:38:GLN:O	2.12	0.49
1:A:1365:G:C6	1:A:1366:C:C4	3.00	0.49
1:A:1422:G:H8	1:A:1422:G:O5'	1.96	0.49
1:A:149:A:C2	1:A:150:C:C4	3.01	0.49
1:A:656:C:H2'	1:A:657:G:O5'	2.13	0.49
7:F:7:ASN:HA	7:F:61:LEU:O	2.12	0.49
8:G:67:GLU:HA	8:G:70:LYS:HE3	1.95	0.49
9:H:4:ASP:O	9:H:7:ALA:HB3	2.13	0.49
12:K:82:VAL:HG12	12:K:108:ILE:HG23	1.95	0.49

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:39:ILE:HG21	14:M:48:LEU:HD21	1.95	0.49
18:Q:75:ARG:HH11	18:Q:75:ARG:HG3	1.77	0.49
21:T:54:LYS:HA	21:T:57:ARG:HH12	1.78	0.49
1:A:1010:G:N2	1:A:1020:U:H1'	2.16	0.49
1:A:107:G:N2	1:A:108:G:H1'	2.28	0.49
1:A:1104:G:H4'	3:B:111:ARG:NH2	2.28	0.49
1:A:1142:G:C2	1:A:1143:G:H1'	2.47	0.49
1:A:1209:C:C2'	1:A:1209:C:O2	2.45	0.49
1:A:1239:A:C4	1:A:1298:C:N4	2.81	0.49
1:A:1250:A:N6	1:A:1354:C:O4'	2.38	0.49
1:A:1523:G:C4	1:A:1524:C:C5	3.00	0.49
24:A:1636:D2C:H11A	24:A:1636:D2C:H18	1.95	0.49
1:A:129(A):G:C2	1:A:190(E):U:H5''	2.47	0.49
1:A:623:C:C2	1:A:624:C:C6	3.01	0.49
1:A:570:G:C6	1:A:873:A:C2	3.00	0.49
3:B:109:SER:O	3:B:112:VAL:HG23	2.13	0.49
3:B:59:GLU:O	3:B:62:ALA:HB3	2.13	0.49
4:C:35:GLU:O	4:C:37:GLN:N	2.46	0.49
5:D:120:LEU:HD22	5:D:126:ILE:CD1	2.43	0.49
1:A:1081:G:P	6:E:16:THR:OG1	2.71	0.49
13:L:6:THR:O	13:L:7:ILE:C	2.50	0.49
13:L:86:ARG:NH2	13:L:99:HIS:HD2	2.07	0.49
13:L:98:TYR:H	13:L:98:TYR:HD1	1.59	0.49
1:A:1184:G:O5'	1:A:1184:G:H8	1.95	0.48
1:A:1394:A:N7	1:A:1501:C:H4'	2.28	0.48
1:A:1399:C:C2	1:A:1401:G:C5	3.01	0.48
1:A:1486:G:H2'	1:A:1487:G:O4'	2.12	0.48
1:A:290:C:C5	1:A:291:C:H5	2.31	0.48
5:D:196:LEU:HD23	5:D:197:PRO:HD2	1.95	0.48
6:E:102:ALA:HB1	6:E:106:PRO:HG2	1.94	0.48
7:F:5:GLU:O	7:F:90:VAL:HA	2.13	0.48
18:Q:75:ARG:NH1	18:Q:77:VAL:HG13	2.26	0.48
1:A:1065:U:H4'	1:A:1066:C:H5'	1.95	0.48
1:A:1074:G:C6	1:A:1075:C:C4	3.01	0.48
1:A:1167:A:O5'	1:A:1167:A:C8	2.63	0.48
4:C:95:THR:HG22	4:C:97:LYS:HE3	1.94	0.48
6:E:86:ALA:O	6:E:125:SER:N	2.43	0.48
11:J:61:GLU:HG2	11:J:62:HIS:N	2.28	0.48
14:M:49:THR:C	14:M:51:ALA:N	2.67	0.48
16:O:11:VAL:O	16:O:12:ILE:C	2.51	0.48
1:A:1249:C:H6	1:A:1249:C:O5'	1.96	0.48

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1333:A:H2'	1:A:1334:G:H8	1.78	0.48
1:A:1377:A:C2'	1:A:1378:C:OP2	2.61	0.48
1:A:1513:A:H2'	1:A:1514:C:H6	1.77	0.48
1:A:264:U:C6	1:A:264:U:H3'	2.49	0.48
1:A:53:A:C6	1:A:54:C:C2	3.02	0.48
1:A:601:C:C2	1:A:638:G:N2	2.81	0.48
3:B:107:THR:C	3:B:109:SER:N	2.67	0.48
4:C:172:ARG:HB2	4:C:203:PHE:CE2	2.49	0.48
6:E:107:ARG:C	6:E:109:ILE:H	2.17	0.48
10:I:10:ARG:HG3	10:I:11:LYS:HB2	1.94	0.48
15:N:44:LEU:C	15:N:44:LEU:HD12	2.33	0.48
18:Q:22:LEU:HD13	18:Q:41:LYS:HG2	1.95	0.48
21:T:72:LEU:HB3	21:T:76:ALA:CB	2.43	0.48
1:A:1208:C:C2	1:A:1209:C:C6	3.01	0.48
1:A:991:U:C5	1:A:1212:U:H1'	2.49	0.48
1:A:200:G:C4'	1:A:200:G:C8	2.97	0.48
1:A:252:U:H2'	1:A:253:U:H6	1.73	0.48
1:A:255:G:O6	1:A:266:G:O6	2.32	0.48
1:A:420:U:O2	1:A:424:G:C2	2.67	0.48
3:B:58:ILE:O	3:B:59:GLU:C	2.51	0.48
3:B:92:TYR:CD1	3:B:92:TYR:C	2.86	0.48
5:D:79:PHE:HD2	5:D:79:PHE:C	2.16	0.48
6:E:60:TYR:C	6:E:60:TYR:CD2	2.87	0.48
14:M:48:LEU:HD22	14:M:52:GLU:HB2	1.95	0.48
14:M:5:ALA:CB	14:M:22:ILE:HG12	2.43	0.48
17:P:52:ASP:OD2	17:P:52:ASP:C	2.51	0.48
1:A:1279:A:O2'	1:A:1281:U:OP2	2.22	0.48
1:A:1432:G:C8	1:A:1432:G:H3'	2.49	0.48
24:A:1636:D2C:O5	24:A:1636:D2C:O4	2.31	0.48
5:D:148:VAL:CG2	5:D:181:MET:HB3	2.43	0.48
16:O:39:LEU:HD12	16:O:56:LEU:HB2	1.95	0.48
17:P:11:SER:O	17:P:12:LYS:C	2.52	0.48
21:T:78:ALA:O	21:T:79:ARG:C	2.51	0.48
1:A:106:C:O2'	1:A:107:G:H5'	2.14	0.48
1:A:1081:G:P	6:E:16:THR:HG1	2.36	0.48
1:A:1117:G:O3'	10:I:104:ARG:HD2	2.13	0.48
1:A:1166:G:H3'	1:A:1166:G:C8	2.48	0.48
1:A:1240:U:H1'	8:G:38:LEU:HD21	1.95	0.48
1:A:976:G:C8	1:A:1358:U:O2	2.67	0.48
1:A:1381:U:C2	1:A:1382:C:C6	3.02	0.48
1:A:176:C:C2'	1:A:176:C:O2	2.62	0.48

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:354:G:C6	1:A:355:C:C4	3.02	0.48
1:A:771:G:O2'	1:A:772:U:H5'	2.14	0.48
1:A:858:G:H8	1:A:858:G:O5'	1.97	0.48
4:C:6:HIS:CD2	4:C:8:ILE:N	2.79	0.48
5:D:61:LYS:HE2	5:D:62:GLN:NE2	2.25	0.48
10:I:45:ALA:C	10:I:47:LEU:H	2.17	0.48
11:J:38:ILE:CB	11:J:71:LEU:HB3	2.42	0.48
15:N:21:TYR:C	15:N:21:TYR:CD2	2.87	0.48
21:T:63:ILE:O	21:T:66:ALA:N	2.45	0.48
1:A:1086:U:H3	1:A:1099:G:H22	1.60	0.48
1:A:1163:C:H42	1:A:1173:G:H1	1.60	0.48
1:A:1241:G:C6	1:A:1242:C:N4	2.81	0.48
1:A:1348:U:C5'	1:A:1348:U:C6	2.97	0.48
1:A:1363:A:C4	1:A:1365:G:C6	3.02	0.48
1:A:1345:U:C2	1:A:1377:A:C2	3.02	0.48
1:A:1453:G:N2	1:A:1454:G:C5	2.81	0.48
1:A:157:G:C6	1:A:158:G:N7	2.82	0.48
1:A:506:G:C5	1:A:507:C:C4	3.02	0.48
1:A:570:G:H2'	1:A:571:U:C6	2.49	0.48
1:A:647:C:N4	1:A:648:A:N6	2.62	0.48
5:D:105:VAL:HG13	5:D:110:PHE:HB2	1.95	0.48
6:E:99:GLY:O	6:E:117:ASP:HA	2.13	0.48
7:F:98:LEU:HB3	19:R:30:ASP:HA	1.96	0.48
10:I:65:VAL:HG22	10:I:66:ARG:N	2.29	0.48
10:I:97:LYS:N	10:I:98:PRO:HD2	2.27	0.48
13:L:100:ILE:HG22	13:L:101:VAL:N	2.28	0.48
13:L:90:VAL:O	13:L:92:ASP:N	2.46	0.48
1:A:1128:C:N3	1:A:1144:G:N2	2.62	0.48
1:A:1208:C:C2	1:A:1209:C:C5	3.02	0.48
1:A:1216:G:H5''	15:N:5:ALA:HB2	1.95	0.48
1:A:1283:G:H2'	1:A:1284:C:O4'	2.14	0.48
1:A:128:G:H5'	18:Q:2:PRO:HA	1.94	0.48
1:A:132:C:O2'	1:A:133:U:H5'	2.14	0.48
24:A:1636:D2C:H13	24:A:1636:D2C:H5	1.51	0.48
1:A:581:G:O6	1:A:758:G:C8	2.67	0.48
1:A:652:U:O4	1:A:752:G:O2'	2.21	0.48
3:B:134:GLU:O	3:B:138:LEU:HG	2.14	0.48
3:B:145:LEU:O	3:B:149:LEU:HB2	2.14	0.48
3:B:92:TYR:CE1	3:B:151:GLY:CA	2.97	0.48
6:E:82:VAL:HG12	6:E:89:ILE:HG22	1.95	0.48
8:G:108:ALA:O	8:G:111:ARG:N	2.42	0.48

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:92:SER:CB	8:G:93:PRO:HD2	2.44	0.48
10:I:11:LYS:H	10:I:104:ARG:HH21	1.62	0.48
10:I:49:PRO:HB3	10:I:82:ALA:HB2	1.95	0.48
11:J:46:ARG:HH11	11:J:46:ARG:CG	2.24	0.48
11:J:38:ILE:CG2	11:J:71:LEU:CB	2.92	0.48
21:T:29:LYS:O	21:T:33:ILE:HD12	2.14	0.48
1:A:1106:G:O2'	1:A:1107:C:H5'	2.14	0.48
1:A:1097:C:O2'	1:A:1168:A:N3	2.44	0.48
1:A:142:G:O2'	1:A:195:A:N6	2.47	0.48
1:A:153:C:N4	1:A:168:G:H1	2.11	0.48
1:A:286:G:C6	1:A:287:U:C4	3.01	0.48
1:A:786:G:C6	1:A:787:A:C5	3.02	0.48
3:B:24:TRP:CD1	3:B:25:ASN:N	2.82	0.48
3:B:54:THR:O	3:B:57:PHE:HB3	2.13	0.48
4:C:55:VAL:O	4:C:55:VAL:CG1	2.59	0.48
5:D:79:PHE:CD2	5:D:79:PHE:C	2.86	0.48
8:G:91:VAL:CG1	8:G:96:GLN:HE21	2.27	0.48
10:I:82:ALA:O	10:I:86:VAL:CG2	2.60	0.48
14:M:74:VAL:C	14:M:76:ALA:H	2.16	0.48
1:A:1003(A):G:C2	1:A:1004:A:H1'	2.49	0.48
1:A:1416:G:H2'	1:A:1417:G:H5'	1.95	0.48
1:A:197:A:H4'	1:A:198:G:O5'	2.13	0.48
1:A:512:U:H2'	1:A:513:C:H6	1.79	0.48
10:I:86:VAL:HG12	10:I:90:PRO:HA	1.96	0.48
10:I:93:ARG:O	10:I:94:ALA:C	2.51	0.48
11:J:24:VAL:HG21	11:J:37:PRO:HD3	1.94	0.48
14:M:98:VAL:C	14:M:100:GLY:H	2.17	0.48
16:O:28:GLN:O	16:O:30:ALA:N	2.46	0.48
1:A:1101:A:C4'	1:A:1102:A:O5'	2.62	0.47
1:A:252:U:C4	1:A:253:U:O4	2.67	0.47
1:A:319:G:N2	1:A:334:C:O2	2.40	0.47
1:A:838:G:H1	1:A:848:C:N4	2.08	0.47
6:E:108:ALA:HA	6:E:111:GLU:HB2	1.96	0.47
11:J:81:THR:O	11:J:84:GLN:N	2.35	0.47
12:K:16:SER:O	12:K:35:PRO:HG3	2.14	0.47
19:R:33:ASP:C	19:R:35:ARG:N	2.65	0.47
20:S:78:ARG:N	20:S:78:ARG:HD2	2.26	0.47
21:T:84:LEU:O	21:T:87:LYS:N	2.47	0.47
1:A:1060:C:O2	1:A:1198:G:C2	2.67	0.47
1:A:1095:U:P	1:A:1108:G:H1	2.37	0.47
1:A:1288:A:C8	1:A:1289:A:C8	3.02	0.47

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1443:G:H5'	1:A:1446:A:H3'	1.94	0.47
1:A:285:G:H2'	1:A:285:G:N3	2.29	0.47
1:A:404:U:H2'	1:A:405:U:H6	1.79	0.47
1:A:420:U:H1'	1:A:424:G:H22	1.71	0.47
1:A:477:G:C2	1:A:478:A:C5	3.02	0.47
1:A:719:C:H42	19:R:74:ARG:HH12	1.61	0.47
1:A:950:U:C5	14:M:102:ARG:NH1	2.82	0.47
3:B:105:PHE:O	3:B:106:LYS:C	2.52	0.47
4:C:11:ARG:HH12	4:C:178:LEU:CA	2.17	0.47
5:D:30:LYS:HD3	5:D:35:ARG:HH21	1.78	0.47
7:F:44:GLY:HA3	7:F:59:TYR:CE1	2.49	0.47
8:G:154:TYR:N	8:G:154:TYR:CD2	2.82	0.47
9:H:40:ALA:O	9:H:41:ARG:C	2.50	0.47
1:A:1525:G:P	12:K:120:ARG:HH21	2.37	0.47
20:S:52:TYR:HD1	20:S:56:GLN:O	1.97	0.47
1:A:1148:U:H2'	1:A:1149:C:O4'	2.13	0.47
1:A:78:G:C2	1:A:79:G:C8	3.02	0.47
1:A:935:A:C2'	1:A:936:C:O5'	2.61	0.47
4:C:201:TYR:C	4:C:202:ILE:HG13	2.33	0.47
5:D:190:ASP:O	5:D:191:ARG:C	2.52	0.47
6:E:11:ILE:HG13	6:E:31:LEU:HB3	1.96	0.47
7:F:67:MET:HB2	7:F:68:PRO:CD	2.44	0.47
8:G:154:TYR:N	8:G:154:TYR:HD2	2.12	0.47
10:I:113:LYS:N	10:I:113:LYS:CD	2.77	0.47
1:A:964:A:O2'	11:J:55:LYS:HD2	2.14	0.47
4:C:58:GLU:HG2	11:J:92:THR:CB	2.45	0.47
19:R:66:LEU:HG	19:R:70:ILE:HD11	1.96	0.47
1:A:1053:G:O2'	1:A:1054:C:P	2.72	0.47
1:A:1197:G:C2'	1:A:1198:G:H5'	2.44	0.47
1:A:392:G:C2	1:A:393:A:C5	3.02	0.47
1:A:568:G:C2'	1:A:569:C:H5'	2.42	0.47
1:A:582:U:H5''	16:O:64:ARG:HH22	1.78	0.47
1:A:640:A:C6	1:A:641:U:C4	3.02	0.47
1:A:726:C:H2'	1:A:727:G:C8	2.49	0.47
1:A:978:A:C6	1:A:1318:A:C6	3.03	0.47
3:B:52:GLU:O	3:B:54:THR:N	2.48	0.47
1:A:1112:C:N3	4:C:178:LEU:HB3	2.29	0.47
4:C:10:PHE:CZ	4:C:178:LEU:HD13	2.50	0.47
12:K:33:THR:HG23	12:K:37:GLY:HA2	1.96	0.47
15:N:54:PRO:C	15:N:56:VAL:H	2.18	0.47
1:A:1114:C:H1'	15:N:60:SER:HB3	1.97	0.47

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:52:SER:O	16:O:53:HIS:C	2.52	0.47
1:A:235:C:H5'	18:Q:70:ARG:HD3	1.96	0.47
21:T:13:LEU:O	21:T:15:ARG:N	2.47	0.47
1:A:1205:U:H1'	4:C:195:VAL:CG2	2.44	0.47
1:A:1345:U:N3	1:A:1377:A:C2	2.82	0.47
1:A:160:A:H1'	1:A:344:A:N7	2.29	0.47
1:A:237:C:H5''	1:A:238:G:OP2	2.15	0.47
14:M:96:LEU:O	14:M:110:ARG:NH1	2.44	0.47
17:P:75:ARG:HA	17:P:80:PHE:CD1	2.49	0.47
18:Q:67:LYS:O	18:Q:68:ARG:HB2	2.14	0.47
1:A:1066:C:O2'	1:A:1067:A:C5'	2.61	0.47
1:A:1121:U:O2'	1:A:1122:U:O5'	2.28	0.47
1:A:52:G:C2'	1:A:53:A:H5'	2.45	0.47
1:A:809:G:C6	1:A:810:C:C5	3.03	0.47
1:A:836:G:H2'	1:A:837:G:H8	1.80	0.47
1:A:840:C:O5'	1:A:840:C:H6	1.98	0.47
1:A:914:A:C2	1:A:915:A:C1'	2.98	0.47
1:A:939:G:C6	1:A:940:C:C4	3.02	0.47
4:C:113:ALA:O	4:C:116:VAL:N	2.48	0.47
4:C:6:HIS:HD2	4:C:8:ILE:N	2.07	0.47
5:D:29:PRO:O	5:D:30:LYS:HG2	2.15	0.47
8:G:24:THR:HA	8:G:27:ILE:HD12	1.97	0.47
9:H:14:ARG:CB	9:H:14:ARG:NH1	2.78	0.47
10:I:114:TYR:HE1	11:J:59:SER:O	1.96	0.47
11:J:6:ILE:HD11	11:J:73:ASP:H	1.79	0.47
12:K:46:GLY:O	12:K:47:VAL:C	2.53	0.47
1:A:1131:G:H2'	1:A:1132:C:C6	2.50	0.47
1:A:1238:A:C4	1:A:1303:C:O2'	2.66	0.47
1:A:1262:C:O2'	1:A:1263:C:O4'	2.32	0.47
1:A:130:A:O2'	1:A:131:C:O5'	2.24	0.47
1:A:150:C:C2'	1:A:151:A:O5'	2.63	0.47
1:A:247:G:C6	1:A:278:G:N1	2.82	0.47
1:A:354:G:N3	1:A:354:G:H2'	2.29	0.47
1:A:393:A:H2'	1:A:394:G:C8	2.34	0.47
1:A:675:A:H1'	12:K:116:HIS:CD2	2.50	0.47
1:A:718:G:N7	1:A:719:C:C5	2.83	0.47
1:A:754:C:H3'	1:A:754:C:O2	2.14	0.47
4:C:139:GLN:O	4:C:142:MET:N	2.48	0.47
4:C:68:VAL:HG12	4:C:70:VAL:HG23	1.97	0.47
5:D:141:ARG:CB	5:D:142:PRO:CD	2.77	0.47
5:D:199:GLN:HA	5:D:199:GLN:HE21	1.79	0.47

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1103:C:P	3:B:96:ARG:HH22	2.38	0.47
1:A:1366:C:C4	1:A:1367:C:N4	2.83	0.47
1:A:1454:G:H2'	1:A:1455:G:H5'	1.96	0.47
1:A:193:C:H2'	1:A:194:C:C6	2.49	0.47
1:A:226:G:C2	1:A:227:G:C8	3.02	0.47
1:A:313:A:H2'	1:A:314:C:H6	1.79	0.47
1:A:408:A:C6	1:A:409:G:N7	2.82	0.47
1:A:862:C:H2'	1:A:862:C:O2	2.14	0.47
1:A:895:G:H2'	1:A:896:C:C6	2.48	0.47
1:A:951:G:H2'	1:A:952:U:O4'	2.15	0.47
3:B:171:ALA:O	3:B:175:ARG:HB2	2.15	0.47
3:B:15:VAL:HG12	3:B:209:ARG:HB3	1.97	0.47
4:C:182:ILE:HA	4:C:202:ILE:O	2.15	0.47
12:K:62:GLN:O	12:K:63:LEU:C	2.52	0.47
13:L:77:LEU:HD21	13:L:107:ALA:N	2.30	0.47
13:L:40:VAL:HG21	13:L:77:LEU:C	2.35	0.47
13:L:97:ARG:C	13:L:98:TYR:CD1	2.86	0.47
14:M:84:ILE:HD11	14:M:86:CYS:HB2	1.96	0.47
17:P:66:PRO:C	17:P:67:THR:O	2.51	0.47
19:R:22:VAL:O	19:R:22:VAL:HG12	2.14	0.47
1:A:1113:C:H6	1:A:1113:C:OP2	1.98	0.47
1:A:1208:C:N3	1:A:1209:C:H5	2.11	0.47
6:E:50:GLU:O	6:E:51:VAL:C	2.52	0.47
6:E:55:VAL:O	6:E:58:ALA:HB3	2.15	0.47
1:A:1346:A:C4	8:G:10:ARG:NH2	2.83	0.47
9:H:28:ALA:HA	9:H:59:LEU:HD12	1.97	0.47
10:I:33:PHE:C	10:I:35:GLU:N	2.68	0.47
13:L:75:HIS:HD2	13:L:76:ASN:H	1.61	0.47
13:L:93:LEU:HD12	13:L:96:VAL:HG21	1.96	0.47
16:O:28:GLN:C	16:O:30:ALA:N	2.68	0.47
17:P:43:LYS:HA	17:P:48:TRP:HB3	1.96	0.47
21:T:44:ALA:O	21:T:46:GLU:N	2.47	0.47
1:A:243:A:C2	1:A:245:C:C2	3.03	0.47
1:A:604:G:C6	1:A:605:U:C4	3.02	0.47
1:A:765:G:N2	1:A:812:C:HO2'	2.13	0.47
5:D:83:SER:HA	5:D:89:THR:HG21	1.94	0.47
8:G:141:VAL:O	8:G:144:MET:N	2.47	0.47
8:G:88:PRO:HG2	8:G:152:ALA:HB2	1.97	0.47
9:H:48:TYR:CD1	9:H:48:TYR:C	2.88	0.47
9:H:64:LYS:HG2	9:H:79:VAL:HG21	1.97	0.47
10:I:114:TYR:CD2	10:I:114:TYR:N	2.82	0.47

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:49:LEU:HD11	17:P:73:LEU:HB3	1.96	0.47
1:A:988:G:N2	1:A:1218:C:O2	2.48	0.47
1:A:262:A:N1	1:A:263:A:C6	2.83	0.47
1:A:437:U:HO2'	5:D:125:HIS:CE1	2.26	0.47
1:A:504:C:C2	1:A:542:G:N2	2.83	0.47
1:A:616:G:C2	1:A:617:G:N7	2.83	0.47
1:A:850:U:H6	1:A:850:U:C3'	2.21	0.47
1:A:864:A:H3'	1:A:865:A:C8	2.49	0.47
1:A:994:A:H61	1:A:1046:A:H2	1.62	0.47
5:D:31:CYS:O	5:D:33:MET:N	2.45	0.47
5:D:87:GLY:O	5:D:88:VAL:C	2.54	0.47
6:E:129:ILE:H	6:E:129:ILE:HD12	1.80	0.47
11:J:47:PHE:CD2	15:N:34:TYR:CD2	3.01	0.47
12:K:27:ASN:O	12:K:56:GLY:HA2	2.14	0.47
18:Q:16:GLN:O	18:Q:18:THR:OG1	2.18	0.47
1:A:1014:A:H2'	1:A:1015:A:C8	2.50	0.46
1:A:932:C:H42	1:A:1385:G:H1	1.61	0.46
1:A:488:C:C6	1:A:488:C:H3'	2.49	0.46
1:A:491:G:C5	1:A:492:G:N7	2.83	0.46
1:A:818:G:C2'	1:A:819:A:H5'	2.44	0.46
1:A:838:G:C3'	1:A:839:U:H5''	2.45	0.46
1:A:925:G:C2	1:A:927:G:C8	3.03	0.46
1:A:955:U:H2'	1:A:956:U:C6	2.49	0.46
3:B:182:ILE:CG2	3:B:183:PRO:CD	2.92	0.46
4:C:139:GLN:O	4:C:140:ARG:C	2.53	0.46
4:C:45:LYS:HE2	4:C:45:LYS:HB3	1.64	0.46
5:D:104:VAL:HG23	5:D:185:PHE:HD1	1.80	0.46
10:I:30:GLY:C	10:I:31:GLN:HG2	2.35	0.46
10:I:36:TYR:CD2	10:I:37:PHE:CE2	3.02	0.46
10:I:81:ILE:O	10:I:85:LEU:HD12	2.15	0.46
11:J:47:PHE:N	11:J:63:PHE:O	2.48	0.46
14:M:82:MET:O	14:M:93:ARG:NH2	2.47	0.46
14:M:79:LYS:O	14:M:83:ASP:HB2	2.15	0.46
1:A:1003:G:N2	1:A:1039:C:N3	2.63	0.46
1:A:231:G:N3	1:A:231:G:H2'	2.28	0.46
1:A:290:C:C4	1:A:291:C:C5	3.03	0.46
1:A:413:G:N2	1:A:428:G:O2'	2.49	0.46
1:A:434:U:H2'	1:A:435:C:C1'	2.46	0.46
1:A:451:A:C5	1:A:481:G:C6	3.04	0.46
1:A:564:C:C4	1:A:565:U:C4	3.02	0.46
1:A:794:A:C4	1:A:795:C:C5	3.03	0.46

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:180:LEU:CB	3:B:182:ILE:HD12	2.45	0.46
5:D:101:LEU:C	5:D:103:ASN:N	2.68	0.46
5:D:57:ARG:HE	5:D:205:GLU:HB3	1.81	0.46
1:A:921:U:O2	6:E:19:MET:HB2	2.15	0.46
8:G:6:ARG:O	8:G:7:ALA:O	2.33	0.46
10:I:50:LEU:CD1	10:I:81:ILE:CG2	2.92	0.46
21:T:41:VAL:C	21:T:43:LEU:H	2.18	0.46
1:A:1057:G:O2'	1:A:1058:G:H5'	2.16	0.46
1:A:1102:A:H2'	1:A:1103:C:H6	1.75	0.46
1:A:1232:U:H2'	1:A:1233:G:C8	2.50	0.46
1:A:165:C:H2'	1:A:166:G:H8	1.79	0.46
1:A:200:G:C2'	1:A:201:C:O5'	2.63	0.46
1:A:427:U:O2'	1:A:541:G:OP1	2.33	0.46
1:A:597:G:C4	1:A:644:G:C2	3.03	0.46
1:A:588:G:C8	1:A:753:A:C2	3.03	0.46
1:A:978:A:H1'	1:A:1322:C:O2	2.15	0.46
5:D:128:VAL:HG22	5:D:146:ILE:HG13	1.97	0.46
7:F:30:LEU:HD23	7:F:75:LEU:HD11	1.97	0.46
7:F:97:PHE:HB3	19:R:32:ARG:HH21	1.79	0.46
8:G:95:ARG:HG3	8:G:99:LEU:HD12	1.96	0.46
11:J:38:ILE:CG2	11:J:71:LEU:HB3	2.45	0.46
13:L:100:ILE:CG2	13:L:101:VAL:N	2.78	0.46
14:M:8:GLU:HA	14:M:9:ILE:HG13	1.98	0.46
21:T:97:ALA:HB1	21:T:98:PRO:HD3	1.97	0.46
1:A:1003:G:C8	1:A:1003:G:O5'	2.68	0.46
1:A:106:C:C2	1:A:107:G:C8	3.04	0.46
1:A:1490:C:H2'	1:A:1491:G:H5''	1.98	0.46
1:A:264:U:C6	1:A:264:U:C3'	2.99	0.46
1:A:855:G:H2'	1:A:856:C:C6	2.51	0.46
1:A:880:C:C6	1:A:880:C:C3'	2.99	0.46
3:B:108:ILE:HG22	3:B:152:PHE:CE2	2.51	0.46
3:B:111:ARG:HB3	3:B:149:LEU:CD1	2.37	0.46
4:C:122:GLU:HA	4:C:125:GLU:HB2	1.97	0.46
5:D:4:TYR:O	5:D:5:ILE:HB	2.14	0.46
8:G:119:ARG:O	8:G:120:ILE:C	2.54	0.46
8:G:61:VAL:O	8:G:62:PHE:C	2.54	0.46
9:H:119:LEU:HD13	9:H:124:ALA:CA	2.45	0.46
11:J:64:GLU:H	11:J:64:GLU:HG3	1.60	0.46
14:M:102:ARG:NH1	14:M:105:THR:OG1	2.49	0.46
17:P:6:LEU:HD23	17:P:17:TYR:CB	2.45	0.46
1:A:1090:U:H2'	1:A:1091:U:H6	1.80	0.46

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1152:A:C4'	11:J:13:HIS:CD2	2.95	0.46
1:A:1154:G:N3	1:A:1155:G:C8	2.84	0.46
1:A:1065:U:H5	1:A:1190:G:C4	2.34	0.46
1:A:1250:A:C6	1:A:1287:A:C2	3.03	0.46
1:A:157:G:C4	1:A:158:G:C8	3.03	0.46
1:A:382:A:C2	1:A:383:A:C5	3.04	0.46
1:A:394:G:H2'	1:A:394:G:N3	2.30	0.46
1:A:537:G:H2'	1:A:538:G:C8	2.47	0.46
1:A:696:A:H2'	1:A:697:U:O4'	2.16	0.46
4:C:193:TYR:CE1	4:C:196:LEU:HD21	2.49	0.46
5:D:103:ASN:C	5:D:105:VAL:N	2.69	0.46
6:E:105:VAL:HG11	6:E:132:ALA:HB2	1.97	0.46
6:E:71:LEU:HD21	6:E:115:VAL:CG2	2.43	0.46
8:G:111:ARG:NH1	8:G:122:HIS:CB	2.73	0.46
9:H:104:ARG:C	9:H:106:GLY:H	2.19	0.46
17:P:74:LEU:HD13	17:P:79:VAL:HG21	1.96	0.46
18:Q:86:GLU:O	18:Q:89:LEU:HB2	2.15	0.46
19:R:73:ALA:O	19:R:74:ARG:C	2.53	0.46
20:S:78:ARG:HG3	20:S:78:ARG:HH11	1.80	0.46
1:A:1347:G:C8	10:I:107:ARG:HB3	2.51	0.46
1:A:1367:C:C2	1:A:1368:G:C8	3.03	0.46
1:A:193:C:C1'	21:T:60:GLU:OE1	2.64	0.46
1:A:46:G:C2	1:A:396:G:C2	3.03	0.46
1:A:664:G:H22	1:A:741:G:H22	1.63	0.46
3:B:55:PHE:HA	3:B:58:ILE:CG1	2.43	0.46
6:E:15:ARG:HG3	6:E:15:ARG:NH1	2.28	0.46
6:E:9:LYS:HB3	6:E:33:VAL:HG23	1.96	0.46
6:E:41:VAL:O	6:E:67:VAL:HG12	2.16	0.46
1:A:1240:U:C4'	8:G:38:LEU:HD11	2.42	0.46
12:K:90:GLY:O	12:K:91:ARG:C	2.52	0.46
14:M:107:ALA:CB	14:M:111:LYS:HG3	2.46	0.46
14:M:89:GLY:O	14:M:90:LEU:C	2.54	0.46
20:S:80:TYR:CZ	20:S:82:GLY:HA2	2.50	0.46
1:A:1003:G:O5'	1:A:1003:G:H8	1.98	0.46
1:A:113:G:H1	1:A:314:C:N4	2.12	0.46
1:A:1271:G:H5'	1:A:1314:C:H5''	1.98	0.46
1:A:1500:A:C2'	1:A:1501:C:H5'	2.45	0.46
1:A:266:G:H5'	1:A:266:G:H8	1.81	0.46
1:A:320:C:HO2'	1:A:321:A:C4'	2.29	0.46
1:A:738:C:OP1	7:F:92:LYS:HD3	2.16	0.46
1:A:879:C:C2'	1:A:880:C:H5'	2.45	0.46

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:976:G:O2'	1:A:977:A:H5'	2.15	0.46
3:B:112:VAL:HG11	3:B:153:ARG:HA	1.97	0.46
5:D:185:PHE:CD2	5:D:185:PHE:C	2.89	0.46
11:J:23:ILE:O	11:J:23:ILE:CG2	2.63	0.46
14:M:122:LYS:O	14:M:123:ALA:CB	2.63	0.46
14:M:14:ARG:HG2	14:M:14:ARG:NH1	2.29	0.46
20:S:78:ARG:HG3	20:S:78:ARG:NH1	2.31	0.46
1:A:1121:U:O4	1:A:1152:A:N1	2.49	0.46
1:A:956:U:C2	1:A:1225:A:C2	3.04	0.46
1:A:1314:C:C2	1:A:1315:U:C6	3.04	0.46
1:A:392:G:C4	1:A:393:A:N7	2.83	0.46
1:A:507:C:H2'	1:A:508:C:H5	1.81	0.46
1:A:691:G:O5'	1:A:691:G:H8	1.98	0.46
1:A:838:G:N2	1:A:849:C:C2	2.84	0.46
1:A:980:C:H3'	1:A:981:U:C6	2.51	0.46
5:D:103:ASN:C	5:D:105:VAL:H	2.19	0.46
5:D:141:ARG:CB	5:D:142:PRO:HD3	2.46	0.46
15:N:23:ARG:HD3	15:N:23:ARG:HA	1.51	0.46
16:O:27:VAL:O	16:O:30:ALA:HB3	2.15	0.46
17:P:22:THR:HG23	17:P:23:ASP:O	2.16	0.46
18:Q:68:ARG:N	18:Q:70:ARG:HH12	2.14	0.46
1:A:959:A:H2	1:A:1222:G:O4'	1.94	0.46
1:A:946:A:C2	1:A:1236:A:C2	3.04	0.46
1:A:1381:U:N3	1:A:1382:C:C5	2.83	0.46
1:A:1507:A:C5'	1:A:1507:A:H8	2.29	0.46
1:A:731:G:OP1	1:A:766:A:C1'	2.59	0.46
1:A:791:G:C6	1:A:792:A:N7	2.84	0.46
1:A:575:G:C5	1:A:881:G:C2	3.04	0.46
3:B:158:LEU:HD23	3:B:159:PRO:HD2	1.97	0.46
3:B:87:ARG:CZ	3:B:233:SER:HB3	2.45	0.46
4:C:122:GLU:O	4:C:123:GLN:C	2.53	0.46
5:D:52:SER:O	5:D:55:ALA:N	2.48	0.46
6:E:51:VAL:O	6:E:54:ALA:CB	2.62	0.46
8:G:50:ILE:HG21	8:G:58:PRO:HA	1.98	0.46
13:L:102:ARG:HH12	13:L:110:VAL:CA	2.18	0.46
13:L:46:LYS:CG	13:L:47:LYS:H	2.29	0.46
14:M:29:ARG:HD3	14:M:64:TRP:CE2	2.51	0.46
19:R:66:LEU:HD12	19:R:66:LEU:HA	1.75	0.46
20:S:78:ARG:CG	20:S:78:ARG:NH1	2.76	0.46
20:S:83:HIS:H	20:S:83:HIS:CD2	2.34	0.46
1:A:1240:U:H3	8:G:30:ILE:HG22	1.81	0.46

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1306:A:C5	1:A:1307:U:C5	3.03	0.46
1:A:175:C:N3	1:A:176:C:C5	2.84	0.46
1:A:259:G:H2'	1:A:260:G:O4'	2.15	0.46
1:A:519:C:H2'	1:A:520:A:H8	1.69	0.46
1:A:625:G:C6	1:A:626:U:C4	3.04	0.46
1:A:722:A:O2'	1:A:723:U:C2	2.69	0.46
1:A:91:C:H2'	1:A:92:C:O5'	2.16	0.46
1:A:941:G:C6	1:A:942:G:N7	2.84	0.46
1:A:959:A:C2	1:A:1222:G:C1'	2.99	0.46
4:C:167:TRP:O	4:C:168:ALA:HB2	2.16	0.46
1:A:1112:C:N3	4:C:178:LEU:N	2.63	0.46
6:E:69:VAL:HG12	6:E:69:VAL:O	2.16	0.46
7:F:7:ASN:HD21	19:R:34:TYR:HE1	1.62	0.46
9:H:14:ARG:HH11	9:H:14:ARG:HG2	1.81	0.46
10:I:50:LEU:O	10:I:52:ALA:N	2.48	0.46
13:L:10:LEU:HD23	13:L:10:LEU:HA	1.70	0.46
20:S:17:GLU:HA	20:S:20:LEU:HD23	1.98	0.46
1:A:223:U:H5''	21:T:68:LYS:HZ2	1.80	0.46
1:A:1030(D):A:H5''	1:A:1031:G:OP2	2.16	0.45
1:A:1105:A:H2'	1:A:1106:G:H8	1.80	0.45
1:A:1265:G:C4	1:A:1271:G:N2	2.84	0.45
1:A:257:G:H8	1:A:257:G:O5'	1.99	0.45
1:A:266:G:C5'	1:A:266:G:H8	2.26	0.45
1:A:160:A:C5	1:A:346:G:O6	2.69	0.45
1:A:367:U:O2	1:A:369:C:C6	2.69	0.45
1:A:444:C:C2'	1:A:445:G:H8	2.03	0.45
1:A:639:G:O2'	1:A:640:A:H5'	2.17	0.45
1:A:643:C:C3'	1:A:643:C:C6	2.99	0.45
1:A:64:G:H4'	1:A:65:U:O5'	2.15	0.45
1:A:705:U:O2	1:A:705:U:H2'	2.16	0.45
10:I:19:LEU:HD23	10:I:19:LEU:HA	1.79	0.45
1:A:1125:U:O4	11:J:5:ARG:HG3	2.15	0.45
12:K:73:MET:HE1	12:K:102:GLY:HA3	1.99	0.45
17:P:19:ILE:CG2	17:P:36:ILE:HG13	2.35	0.45
1:A:106:C:H2'	1:A:107:G:C8	2.39	0.45
1:A:1153:C:H2'	1:A:1154:G:O4'	2.16	0.45
1:A:1228:C:H2'	1:A:1229:A:C8	2.51	0.45
1:A:1296:C:C4'	1:A:1302:U:C5	2.98	0.45
1:A:1295:G:O2'	1:A:1302:U:O4	2.23	0.45
1:A:1327:C:O2'	1:A:1328:C:H5'	2.17	0.45
1:A:1459:C:H2'	1:A:1460:A:C8	2.47	0.45

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1510:U:O2	1:A:1510:U:H2'	2.16	0.45
1:A:256:U:H2'	1:A:257:G:C5'	2.46	0.45
1:A:292:G:C8	1:A:292:G:H3'	2.51	0.45
1:A:623:C:O2	1:A:623:C:C2'	2.60	0.45
1:A:749:C:H2'	1:A:750:G:H8	1.80	0.45
1:A:914:A:N1	1:A:915:A:N3	2.65	0.45
1:A:926:G:H22	2:Z:4:U:P	2.38	0.45
3:B:162:ILE:CG2	3:B:184:VAL:HG22	2.46	0.45
5:D:54:TYR:O	5:D:55:ALA:C	2.54	0.45
6:E:107:ARG:O	6:E:110:LEU:N	2.49	0.45
10:I:45:ALA:C	10:I:47:LEU:N	2.69	0.45
12:K:73:MET:C	12:K:75:TYR:H	2.20	0.45
14:M:44:ARG:O	14:M:45:VAL:C	2.54	0.45
15:N:21:TYR:CE2	15:N:23:ARG:NE	2.73	0.45
17:P:4:ILE:O	17:P:66:PRO:HA	2.16	0.45
1:A:127:G:HO2'	18:Q:2:PRO:N	2.15	0.45
19:R:87:ARG:HH11	19:R:87:ARG:CB	2.29	0.45
1:A:1123:A:C2	1:A:1151:A:N1	2.84	0.45
1:A:1185:G:H2'	1:A:1186:G:H8	1.82	0.45
1:A:1350:A:O5'	1:A:1350:A:H8	2.00	0.45
1:A:781:A:C2	1:A:1514:C:H1'	2.51	0.45
1:A:521:G:OP2	13:L:54:LYS:NZ	2.34	0.45
1:A:504:C:C2	1:A:542:G:C2	3.04	0.45
1:A:803:G:C4	1:A:804:U:C6	3.04	0.45
1:A:880:C:H3'	1:A:880:C:H6	1.81	0.45
1:A:922:G:H2'	1:A:923:A:O4'	2.16	0.45
3:B:178:ARG:C	3:B:180:LEU:N	2.69	0.45
10:I:79:LEU:O	10:I:82:ALA:N	2.49	0.45
15:N:4:LYS:O	15:N:6:LEU:N	2.49	0.45
18:Q:22:LEU:HA	18:Q:22:LEU:HD12	1.57	0.45
1:A:1240:U:N3	8:G:30:ILE:CG2	2.79	0.45
1:A:1393:U:O2'	1:A:1501:C:O2'	2.34	0.45
1:A:157:G:N1	1:A:158:G:N7	2.64	0.45
1:A:184:G:H2'	1:A:185:A:C8	2.51	0.45
1:A:417:C:H5''	1:A:418:C:OP2	2.17	0.45
1:A:462:G:C2	1:A:463:A:C4	3.04	0.45
1:A:513:C:H5''	1:A:514:C:OP2	2.17	0.45
1:A:515:G:C6	1:A:516:U:C5	3.05	0.45
1:A:615:C:C3'	1:A:615:C:C6	3.00	0.45
1:A:935:A:H2'	1:A:936:C:O5'	2.17	0.45
3:B:100:GLY:O	3:B:104:ASN:N	2.49	0.45

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:219:VAL:O	3:B:220:ASP:C	2.55	0.45
4:C:178:LEU:O	4:C:178:LEU:HG	2.16	0.45
1:A:672:U:H4'	7:F:80:ARG:NH1	2.30	0.45
8:G:26:PHE:HA	8:G:101:LEU:HD22	1.97	0.45
10:I:71:SER:CA	10:I:74:ILE:HD12	2.44	0.45
1:A:1152:A:O3'	11:J:13:HIS:CD2	2.69	0.45
1:A:1061:G:C6	1:A:1062:U:N3	2.85	0.45
1:A:1107:C:C3'	1:A:1107:C:C6	2.99	0.45
1:A:125:U:H2'	1:A:126:G:C8	2.51	0.45
1:A:1460:A:C2	1:A:1461:G:H1'	2.52	0.45
1:A:160:A:H2'	1:A:161:A:O4'	2.15	0.45
1:A:299:G:O5'	1:A:299:G:H8	2.00	0.45
1:A:414:A:C2	1:A:415:A:C4	3.05	0.45
1:A:59:A:H2'	1:A:59:A:N3	2.31	0.45
1:A:618:C:N3	1:A:622:A:N6	2.65	0.45
1:A:818:G:O2'	1:A:819:A:H5''	2.16	0.45
7:F:89:MET:HE2	19:R:76:LEU:HD21	1.99	0.45
1:A:1074:G:O3'	3:B:103:THR:CG2	2.64	0.45
1:A:1123:A:N3	11:J:39:PRO:HG3	2.32	0.45
1:A:1419:G:O6	1:A:1482:G:N2	2.49	0.45
1:A:293:G:C6	1:A:294:U:C4	3.04	0.45
1:A:372:C:H4'	1:A:373:A:O5'	2.16	0.45
1:A:41:G:H2'	1:A:42:G:C8	2.52	0.45
1:A:44:G:N2	1:A:45:U:H1'	2.31	0.45
3:B:71:VAL:O	3:B:165:VAL:CG2	2.64	0.45
3:B:174:VAL:C	3:B:176:GLU:N	2.70	0.45
3:B:19:HIS:HB2	3:B:204:ASN:CG	2.37	0.45
4:C:186:PHE:CE1	4:C:187:ALA:O	2.70	0.45
8:G:31:MET:SD	8:G:34:GLY:HA2	2.57	0.45
10:I:120:ARG:O	10:I:121:ARG:C	2.55	0.45
10:I:77:ILE:HG23	10:I:81:ILE:CD1	2.46	0.45
12:K:111:ASP:O	12:K:112:THR:C	2.55	0.45
14:M:15:VAL:HB	14:M:34:LEU:HD11	1.99	0.45
21:T:56:MET:HE2	21:T:88:VAL:HG11	1.98	0.45
1:A:1167:A:C6	1:A:1168:A:C6	3.04	0.45
1:A:1229:A:H5''	1:A:1230:C:OP2	2.17	0.45
1:A:42:G:H1	1:A:400:C:N4	2.14	0.45
1:A:781:A:N7	1:A:802:A:C2	2.85	0.45
1:A:880:C:C6	1:A:880:C:H3'	2.51	0.45
1:A:894:G:H2'	1:A:895:G:H8	1.80	0.45
3:B:105:PHE:O	3:B:107:THR:N	2.50	0.45

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:138:VAL:O	4:C:142:MET:N	2.46	0.45
4:C:22:TRP:CH2	4:C:32:LEU:O	2.70	0.45
4:C:57:ILE:CG2	4:C:58:GLU:N	2.79	0.45
7:F:30:LEU:O	7:F:34:GLY:N	2.50	0.45
8:G:108:ALA:C	8:G:110:GLN:N	2.69	0.45
1:A:1298:C:H2'	8:G:114:ARG:NH1	2.32	0.45
8:G:6:ARG:HG2	8:G:6:ARG:O	2.16	0.45
12:K:53:SER:C	12:K:55:LYS:H	2.19	0.45
13:L:75:HIS:CD2	13:L:77:LEU:N	2.72	0.45
14:M:49:THR:HG22	14:M:51:ALA:N	2.27	0.45
16:O:3:ILE:CG2	16:O:34:LEU:HD11	2.40	0.45
18:Q:60:ILE:C	18:Q:71:PHE:HD1	2.20	0.45
1:A:109:A:C3'	1:A:110:C:H5'	2.47	0.45
1:A:122:G:N2	1:A:123:C:H1'	2.32	0.45
1:A:408:A:C8	1:A:408:A:C3'	2.99	0.45
1:A:560:U:C5'	1:A:566:G:N2	2.73	0.45
1:A:56:U:H2'	1:A:57:G:C8	2.52	0.45
1:A:684:A:H2'	1:A:685:G:O5'	2.15	0.45
1:A:989:C:O2	1:A:1217:C:N3	2.50	0.45
5:D:111:ALA:HB1	5:D:116:GLN:HB3	1.99	0.45
9:H:9:MET:HG3	9:H:26:VAL:HG21	1.99	0.45
14:M:8:GLU:CA	14:M:9:ILE:HG13	2.46	0.45
18:Q:45:HIS:HA	18:Q:69:LYS:CE	2.47	0.45
21:T:67:ALA:O	21:T:73:HIS:ND1	2.47	0.45
1:A:1057:G:C4	1:A:1204:A:C2	3.04	0.45
1:A:1365:G:H2'	1:A:1366:C:C6	2.52	0.45
1:A:1365:G:H2'	1:A:1366:C:H6	1.82	0.45
1:A:505:G:C6	1:A:506:G:O6	2.70	0.45
1:A:878:G:H1'	9:H:3:THR:HG21	1.98	0.45
1:A:943:U:C2	1:A:944:G:C8	3.05	0.45
1:A:955:U:H2'	1:A:956:U:H6	1.82	0.45
1:A:991:U:H3	1:A:1215:G:H1	1.64	0.45
3:B:187:LEU:HA	3:B:201:ILE:HB	1.98	0.45
3:B:9:GLU:HG3	3:B:217:ARG:CZ	2.44	0.45
8:G:115:ARG:HB3	8:G:118:VAL:CG2	2.47	0.45
13:L:10:LEU:HD21	13:L:15:ARG:HD3	1.99	0.45
14:M:74:VAL:O	14:M:76:ALA:N	2.50	0.45
15:N:36:PHE:CD1	15:N:36:PHE:C	2.90	0.45
15:N:36:PHE:CD1	15:N:37:PHE:CE1	3.05	0.45
18:Q:56:VAL:HG12	18:Q:77:VAL:HG23	1.99	0.45
1:A:1047:G:C3'	1:A:1048:G:H5'	2.42	0.45

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:129(A):G:N2	1:A:190(E):U:H5''	2.32	0.45
1:A:1416:G:C6	1:A:1417:G:C5	3.05	0.45
1:A:160:A:C6	1:A:161:A:C2	3.05	0.45
1:A:247:G:C5	1:A:278:G:C2	3.05	0.45
1:A:324:G:O5'	1:A:324:G:H8	2.00	0.45
1:A:491:G:H2'	1:A:492:G:H8	1.82	0.45
1:A:720:C:H6	1:A:720:C:O5'	2.00	0.45
3:B:162:ILE:HG22	3:B:184:VAL:HA	1.99	0.45
3:B:71:VAL:HG23	3:B:164:VAL:HG13	1.97	0.45
3:B:178:ARG:C	3:B:180:LEU:H	2.19	0.45
4:C:88:ARG:HG2	4:C:91:LEU:CD2	2.47	0.45
5:D:165:MET:HG2	5:D:176:LEU:HD21	1.98	0.45
8:G:66:VAL:CG1	8:G:67:GLU:N	2.80	0.45
10:I:47:LEU:CA	10:I:49:PRO:HD2	2.46	0.45
10:I:6:GLY:HA3	10:I:83:ARG:HB3	1.98	0.45
19:R:36:ASN:O	19:R:37:VAL:C	2.53	0.45
20:S:40:ILE:HG12	20:S:62:ILE:HD11	1.99	0.45
21:T:60:GLU:O	21:T:61:SER:C	2.54	0.45
21:T:89:ARG:HH12	21:T:106:ALA:HB2	1.82	0.45
1:A:1092:A:H5'	1:A:1092:A:C8	2.52	0.44
1:A:1105:A:H2'	1:A:1106:G:C8	2.52	0.44
1:A:1119:C:H6	1:A:1119:C:H3'	1.79	0.44
1:A:1060:C:C2	1:A:1198:G:C2	3.06	0.44
1:A:1303:C:O2	1:A:1303:C:H2'	2.15	0.44
1:A:1453:G:H2'	1:A:1454:G:O4'	2.17	0.44
1:A:1511:G:C6	1:A:1512:U:C2	3.05	0.44
1:A:373:A:H2'	1:A:374:A:H8	1.82	0.44
1:A:38:G:H22	1:A:397:A:H5''	1.82	0.44
1:A:615:C:H3'	1:A:615:C:H6	1.82	0.44
1:A:925:G:C6	1:A:927:G:N7	2.85	0.44
1:A:975:A:H4'	1:A:976:G:O5'	2.16	0.44
3:B:167:PRO:HG2	3:B:192:SER:CB	2.47	0.44
5:D:106:TYR:C	5:D:106:TYR:CD2	2.90	0.44
13:L:43:VAL:HG12	13:L:55:VAL:HG21	1.98	0.44
14:M:52:GLU:O	14:M:56:LEU:HB2	2.17	0.44
16:O:24:SER:HB3	16:O:27:VAL:H	1.81	0.44
16:O:49:ASP:O	16:O:51:HIS:N	2.49	0.44
1:A:689:C:H4'	1:A:705:U:O2'	2.18	0.44
3:B:19:HIS:HB2	3:B:204:ASN:OD1	2.17	0.44
3:B:91:PRO:HG2	3:B:155:LEU:CD2	2.32	0.44
4:C:6:HIS:HD2	4:C:6:HIS:C	2.19	0.44

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:3:ARG:HD3	5:D:3:ARG:HA	1.58	0.44
15:N:12:ARG:HG3	15:N:12:ARG:H	1.53	0.44
1:A:1186:G:C2	1:A:1187:G:C8	3.06	0.44
1:A:1247:U:C6	1:A:1247:U:C3'	2.99	0.44
1:A:1265:G:H5''	1:A:1266:G:OP2	2.17	0.44
1:A:1333:A:H2'	1:A:1334:G:C8	2.53	0.44
1:A:285:G:C2	1:A:286:G:C8	3.06	0.44
1:A:543:C:H2'	1:A:544:G:H5'	2.00	0.44
3:B:162:ILE:HG21	3:B:184:VAL:HG22	1.98	0.44
3:B:223:ILE:CG2	3:B:224:GLN:H	2.31	0.44
4:C:29:TYR:CE2	4:C:33:LEU:HD12	2.52	0.44
5:D:64:LEU:CD1	5:D:97:LEU:HD11	2.47	0.44
6:E:148:VAL:O	6:E:149:GLU:C	2.55	0.44
12:K:42:TRP:CZ3	12:K:47:VAL:HG23	2.53	0.44
15:N:24:CYS:SG	15:N:27:CYS:SG	3.15	0.44
19:R:22:VAL:HB	19:R:56:THR:HA	1.99	0.44
19:R:76:LEU:HD12	19:R:78:LEU:HD13	2.00	0.44
1:A:1401:G:OP2	2:Z:6:U:H3'	2.17	0.44
1:A:1229:A:C4	1:A:1230:C:C5	3.06	0.44
1:A:1365:G:C6	1:A:1366:C:N3	2.85	0.44
1:A:1443:G:C4'	1:A:1446:A:P	3.01	0.44
1:A:291:C:H2'	1:A:291:C:O2	2.16	0.44
1:A:392:G:C6	1:A:393:A:N6	2.85	0.44
1:A:443:C:H2'	1:A:444:C:C6	2.52	0.44
1:A:452:A:H1'	1:A:453:A:C8	2.51	0.44
1:A:797:C:OP1	12:K:124:LYS:HG3	2.17	0.44
1:A:942:G:C6	1:A:1342:C:C4	3.05	0.44
1:A:976:G:H8	1:A:1358:U:O2'	1.97	0.44
4:C:128:PHE:HE2	4:C:132:ARG:NH1	2.15	0.44
4:C:188:LEU:O	4:C:189:ALA:HB3	2.16	0.44
5:D:97:LEU:O	5:D:100:ARG:HB2	2.17	0.44
9:H:112:LEU:N	9:H:112:LEU:HD22	2.32	0.44
9:H:58:TYR:O	9:H:59:LEU:HG	2.18	0.44
11:J:56:HIS:O	11:J:59:SER:OG	2.35	0.44
12:K:33:THR:OG1	12:K:38:ASN:N	2.50	0.44
13:L:71:PRO:HG2	13:L:102:ARG:HG3	2.00	0.44
14:M:14:ARG:NH1	14:M:16:ASP:OD2	2.51	0.44
14:M:19:LEU:HB3	14:M:25:ILE:HG21	1.99	0.44
18:Q:19:VAL:HG23	18:Q:21:VAL:HG23	2.00	0.44
19:R:74:ARG:HD3	19:R:80:PRO:O	2.17	0.44
1:A:1115:C:O2'	1:A:1116:C:H5'	2.16	0.44

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1435:G:C6	1:A:1436:U:O4	2.70	0.44
1:A:1454:G:O5'	1:A:1454:G:H8	2.01	0.44
1:A:186:C:C2	1:A:187:C:C5	3.05	0.44
1:A:243:A:N7	1:A:281:G:C2	2.85	0.44
1:A:348:G:H2'	1:A:349:A:H8	1.83	0.44
1:A:784:C:H3'	1:A:784:C:C6	2.53	0.44
1:A:939:G:H2'	1:A:940:C:C6	2.51	0.44
3:B:12:GLU:HG3	3:B:213:LEU:HD13	2.00	0.44
3:B:15:VAL:HG13	3:B:209:ARG:HH11	1.81	0.44
3:B:92:TYR:C	3:B:92:TYR:HD1	2.21	0.44
4:C:15:THR:HG21	4:C:179:ARG:CA	2.45	0.44
4:C:22:TRP:HH2	4:C:32:LEU:O	2.00	0.44
6:E:126:ARG:HA	6:E:126:ARG:HD3	1.53	0.44
8:G:67:GLU:O	8:G:67:GLU:CG	2.62	0.44
10:I:111:ARG:NH1	15:N:61:TRP:OXT	2.50	0.44
1:A:707:C:C4'	12:K:20:TYR:HD2	2.29	0.44
13:L:71:PRO:HB2	13:L:120:TYR:HE2	1.82	0.44
16:O:74:ASP:C	16:O:76:GLU:N	2.69	0.44
17:P:42:ARG:NH1	17:P:42:ARG:HB3	2.32	0.44
18:Q:8:GLY:O	18:Q:56:VAL:HA	2.18	0.44
21:T:19:SER:O	21:T:20:LEU:C	2.56	0.44
21:T:73:HIS:C	21:T:74:LYS:CG	2.66	0.44
1:A:1114:C:C4	1:A:1115:C:H5	2.36	0.44
1:A:1130:A:H2'	1:A:1130:A:N3	2.33	0.44
1:A:1208:C:H2'	1:A:1209:C:C6	2.53	0.44
1:A:1355:G:H2'	1:A:1356:G:H5'	1.99	0.44
1:A:267:C:H2'	1:A:268:C:H5'	1.98	0.44
1:A:285:G:N2	1:A:286:G:H1'	2.33	0.44
1:A:290:C:H2'	1:A:291:C:O4'	2.18	0.44
1:A:426:G:OP1	5:D:36:ARG:NH2	2.34	0.44
1:A:560:U:H5'	1:A:566:G:H21	1.75	0.44
1:A:950:U:H6	1:A:950:U:O5'	2.01	0.44
3:B:122:PHE:O	3:B:125:PRO:HD2	2.17	0.44
3:B:44:LEU:H	3:B:44:LEU:HG	1.40	0.44
5:D:111:ALA:HB2	5:D:120:LEU:CD1	2.47	0.44
5:D:38:TYR:HB2	5:D:39:PRO:HD2	2.00	0.44
6:E:143:ARG:CG	6:E:143:ARG:HH11	2.31	0.44
11:J:35:SER:OG	11:J:73:ASP:O	2.33	0.44
15:N:47:LEU:O	15:N:50:LYS:N	2.51	0.44
1:A:668:G:H4'	16:O:48:LYS:HB3	1.99	0.44
17:P:28:ARG:HG3	17:P:29:ASP:OD2	2.17	0.44

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:58:TYR:O	17:P:61:SER:N	2.50	0.44
17:P:65:GLN:HA	17:P:66:PRO:HD2	1.63	0.44
1:A:1064:G:C2	1:A:1066:C:N4	2.86	0.44
1:A:1126:U:P	1:A:1281:U:O2	2.76	0.44
1:A:1061:G:C6	1:A:1197:G:C6	3.06	0.44
1:A:1240:U:H3	8:G:30:ILE:HG23	1.82	0.44
1:A:1287:A:C6	1:A:1288:A:C6	3.06	0.44
1:A:1324:A:H1'	1:A:1361(A):C:H4'	2.00	0.44
1:A:1525:G:H2'	1:A:1526:G:O5'	2.16	0.44
1:A:290:C:C5	1:A:291:C:C5	3.06	0.44
1:A:355:C:H2'	1:A:356:A:O4'	2.18	0.44
1:A:606:G:H5''	1:A:607:A:H5'	1.98	0.44
1:A:686:U:O4	1:A:703:G:O2'	2.29	0.44
1:A:789:U:O2	1:A:791:G:N7	2.51	0.44
1:A:858:G:H1	1:A:869:G:H3'	1.82	0.44
3:B:46:LYS:O	3:B:47:THR:C	2.56	0.44
5:D:11:LEU:O	5:D:12:CYS:C	2.56	0.44
5:D:67:ILE:CG2	5:D:68:TYR:HD1	2.27	0.44
6:E:138:ALA:O	6:E:141:GLN:HB2	2.18	0.44
6:E:19:MET:HE1	6:E:24:ARG:HH11	1.81	0.44
8:G:127:ALA:O	8:G:130:GLY:N	2.51	0.44
9:H:4:ASP:HA	9:H:5:PRO:HD2	1.90	0.44
13:L:85:ILE:HG23	13:L:86:ARG:N	2.33	0.44
14:M:20:THR:O	14:M:22:ILE:N	2.51	0.44
17:P:21:VAL:O	17:P:32:TYR:HB2	2.17	0.44
17:P:53:VAL:O	17:P:54:GLU:C	2.56	0.44
18:Q:11:VAL:HB	18:Q:88:TYR:CD2	2.52	0.44
1:A:1056:U:O4	1:A:1200:C:N3	2.51	0.44
1:A:1246:C:H42	1:A:1291:G:H1	1.65	0.44
1:A:19:C:C2	1:A:20:U:C5	3.06	0.44
1:A:349:A:H2'	1:A:350:G:H5''	2.00	0.44
1:A:454:C:H5''	1:A:455:C:OP2	2.17	0.44
1:A:781:A:C4	1:A:802:A:H2	2.36	0.44
1:A:913:A:H1'	1:A:914:A:O4'	2.17	0.44
3:B:118:LEU:CD2	3:B:142:LEU:HB2	2.47	0.44
3:B:139:LYS:HE3	3:B:139:LYS:HB2	1.85	0.44
4:C:133:ALA:O	4:C:136:GLN:N	2.51	0.44
6:E:102:ALA:CB	6:E:120:THR:OG1	2.65	0.44
13:L:97:ARG:CB	13:L:98:TYR:CD1	2.91	0.44
16:O:42:HIS:CD2	16:O:42:HIS:C	2.91	0.44
18:Q:36:ILE:H	18:Q:36:ILE:HG13	1.46	0.44

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:106:C:O2	1:A:379:C:H4'	2.18	0.44
1:A:1096:C:C2	1:A:1097:C:C5	3.06	0.44
1:A:1185:G:N3	1:A:1186:G:C8	2.86	0.44
1:A:1281:U:H6	1:A:1281:U:H3'	1.83	0.44
1:A:157:G:C2	1:A:158:G:N7	2.86	0.44
1:A:199:G:H2'	1:A:200:G:C5'	2.43	0.44
1:A:564:C:H5''	1:A:565:U:OP2	2.17	0.44
1:A:592:G:C2'	1:A:593:G:H5'	2.47	0.44
1:A:643:C:H3'	1:A:643:C:C6	2.52	0.44
1:A:784:C:C3'	1:A:784:C:C6	3.00	0.44
1:A:922:G:N2	1:A:1396:A:C5	2.86	0.44
5:D:11:LEU:O	5:D:13:ARG:N	2.51	0.44
5:D:130:GLY:O	5:D:131:ARG:C	2.55	0.44
6:E:92:LYS:HA	6:E:93:PRO:HD3	1.82	0.44
8:G:115:ARG:O	8:G:116:ALA:C	2.56	0.44
15:N:60:SER:O	15:N:61:TRP:HB3	2.18	0.44
17:P:74:LEU:O	17:P:79:VAL:CG2	2.65	0.44
20:S:58:VAL:HG12	20:S:59:PRO:HD2	2.00	0.44
1:A:1144:G:H8	1:A:1144:G:O5'	2.01	0.43
1:A:1363:A:H1'	1:A:1365:G:N7	2.33	0.43
1:A:949:A:H1'	1:A:1364:U:N3	2.31	0.43
1:A:1437:C:H2'	1:A:1438:G:H8	1.83	0.43
1:A:1399:C:C2	1:A:1502:A:N6	2.86	0.43
1:A:286:G:C5	1:A:287:U:C4	3.05	0.43
1:A:288:A:H2'	1:A:289:G:H4'	1.99	0.43
1:A:622:A:H3'	1:A:622:A:C8	2.53	0.43
1:A:642:A:C2'	1:A:643:C:H5'	2.48	0.43
1:A:766:A:C8	1:A:814:A:C6	3.06	0.43
1:A:881:G:C2	1:A:882:C:C2	3.06	0.43
1:A:969:A:H61	14:M:126:LYS:HB2	1.83	0.43
5:D:109:GLY:O	5:D:111:ALA:N	2.51	0.43
6:E:89:ILE:HD12	6:E:89:ILE:HA	1.77	0.43
9:H:48:TYR:O	9:H:48:TYR:CG	2.71	0.43
9:H:91:ARG:HG3	13:L:7:ILE:HG13	1.98	0.43
12:K:29:ILE:HB	12:K:44:SER:HB2	2.00	0.43
13:L:77:LEU:HD11	13:L:107:ALA:HB2	2.00	0.43
16:O:33:THR:CG2	16:O:63:ARG:HH11	2.07	0.43
17:P:42:ARG:HH11	17:P:42:ARG:HB3	1.82	0.43
18:Q:63:ARG:HA	18:Q:64:PRO:HD2	1.72	0.43
18:Q:90:ILE:O	18:Q:92:ARG:N	2.51	0.43
1:A:1197:G:H2'	1:A:1198:G:H5'	2.00	0.43

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:990:C:C4	1:A:1216:G:N2	2.86	0.43
1:A:194:C:O2'	21:T:68:LYS:HD3	2.18	0.43
1:A:351:G:O5'	1:A:351:G:H8	2.01	0.43
1:A:686:U:C2	1:A:687:A:N7	2.86	0.43
1:A:688:G:C6	1:A:700:G:C2	3.06	0.43
1:A:778:G:H8	1:A:778:G:O5'	2.01	0.43
4:C:40:ARG:O	4:C:44:GLU:HB2	2.18	0.43
4:C:8:ILE:O	4:C:12:LEU:N	2.51	0.43
5:D:120:LEU:CD2	5:D:126:ILE:HD11	2.48	0.43
5:D:126:ILE:N	5:D:126:ILE:HD13	2.33	0.43
5:D:64:LEU:CD2	5:D:198:VAL:HG11	2.41	0.43
5:D:76:ARG:O	5:D:79:PHE:HB3	2.17	0.43
6:E:107:ARG:C	6:E:109:ILE:N	2.71	0.43
10:I:126:SER:HB2	10:I:127:LYS:H	1.57	0.43
10:I:40:LEU:C	10:I:42:ARG:H	2.21	0.43
12:K:62:GLN:CG	12:K:63:LEU:N	2.82	0.43
13:L:40:VAL:HG21	13:L:78:GLN:N	2.33	0.43
14:M:117:VAL:HG12	14:M:118:ALA:H	1.82	0.43
14:M:24:GLY:O	14:M:25:ILE:C	2.56	0.43
14:M:15:VAL:HG22	14:M:43:THR:O	2.17	0.43
1:A:991:U:H6	1:A:1212:U:C2	2.36	0.43
1:A:219:C:C4	1:A:220:G:C8	3.07	0.43
1:A:143:A:C2	1:A:221:C:O2	2.71	0.43
1:A:477:G:H5''	1:A:478:A:P	2.59	0.43
1:A:568:G:C6	1:A:569:C:N4	2.86	0.43
3:B:73:THR:HG23	3:B:95:GLN:O	2.18	0.43
4:C:159:GLY:HA2	4:C:193:TYR:CD2	2.53	0.43
4:C:94:LEU:HD12	4:C:95:THR:OG1	2.17	0.43
9:H:30:ARG:O	9:H:31:PHE:C	2.56	0.43
12:K:123:LYS:O	12:K:124:LYS:C	2.56	0.43
13:L:93:LEU:O	13:L:96:VAL:HG23	2.17	0.43
15:N:24:CYS:HB3	15:N:28:GLY:HA2	2.00	0.43
16:O:52:SER:O	16:O:55:GLY:N	2.51	0.43
1:A:1281:U:C6	1:A:1281:U:H3'	2.53	0.43
1:A:1483:A:H2'	1:A:1484:C:O4'	2.17	0.43
1:A:784:C:H2'	1:A:785:G:O4'	2.18	0.43
3:B:124:SER:H	3:B:125:PRO:CD	2.31	0.43
3:B:193:ASP:HA	3:B:194:PRO:HD2	1.88	0.43
4:C:32:LEU:O	4:C:35:GLU:HB3	2.18	0.43
5:D:113:SER:OG	5:D:116:GLN:HB2	2.18	0.43
6:E:34:VAL:HG23	6:E:42:GLY:CA	2.44	0.43

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:82:VAL:O	6:E:88:LYS:HA	2.18	0.43
11:J:9:ARG:CG	11:J:9:ARG:O	2.65	0.43
12:K:59:TYR:O	12:K:62:GLN:HB3	2.19	0.43
14:M:26:GLY:O	14:M:28:ALA:N	2.41	0.43
1:A:1056:U:O4	1:A:1200:C:C2	2.71	0.43
1:A:1085:U:H5'	1:A:1094:G:N2	2.34	0.43
1:A:994:A:N7	1:A:1216:G:H4'	2.33	0.43
1:A:1504:G:O2'	1:A:1505:G:OP2	2.32	0.43
1:A:189:G:H1	1:A:190(J):U:H3	1.66	0.43
1:A:316:G:N2	1:A:338:A:C4	2.86	0.43
1:A:436:C:C2	1:A:437:U:C5	3.06	0.43
1:A:560:U:H4'	1:A:561:U:H5''	2.00	0.43
1:A:674:G:N2	1:A:717:C:O2	2.51	0.43
3:B:134:GLU:HA	3:B:137:ARG:HB3	1.99	0.43
3:B:223:ILE:CG2	3:B:224:GLN:N	2.82	0.43
4:C:141:VAL:O	4:C:146:ALA:CB	2.66	0.43
4:C:57:ILE:HG23	4:C:58:GLU:N	2.34	0.43
4:C:6:HIS:HD2	4:C:7:PRO:N	2.16	0.43
5:D:8:VAL:HB	5:D:21:LEU:HD22	2.00	0.43
8:G:111:ARG:HB3	8:G:113:GLU:HG2	2.01	0.43
11:J:38:ILE:HG22	11:J:71:LEU:CB	2.49	0.43
13:L:101:VAL:O	13:L:103:GLY:N	2.51	0.43
13:L:47:LYS:HB3	13:L:48:PRO:CD	2.44	0.43
15:N:24:CYS:HB3	15:N:29:ARG:N	2.34	0.43
16:O:48:LYS:O	16:O:50:HIS:N	2.44	0.43
18:Q:13:ASP:O	18:Q:15:MET:N	2.51	0.43
18:Q:56:VAL:O	18:Q:77:VAL:HG23	2.18	0.43
18:Q:18:THR:HG23	18:Q:69:LYS:HE3	2.00	0.43
21:T:63:ILE:C	21:T:65:LYS:N	2.69	0.43
21:T:65:LYS:O	21:T:68:LYS:N	2.40	0.43
1:A:1185:G:C2	1:A:1186:G:C8	3.06	0.43
1:A:1490:C:H3'	1:A:1491:G:H5''	1.95	0.43
1:A:1512:U:H2'	1:A:1513:A:C8	2.54	0.43
1:A:166:G:N3	1:A:167:G:C8	2.87	0.43
1:A:262:A:N6	1:A:263:A:N6	2.67	0.43
1:A:337:C:C2	1:A:338:A:N7	2.87	0.43
1:A:642:A:C6	1:A:643:C:N3	2.87	0.43
1:A:70:G:H5''	1:A:73:C:P	2.59	0.43
1:A:824:C:C3'	1:A:824:C:C6	3.01	0.43
1:A:941:G:C6	1:A:942:G:C8	3.07	0.43
1:A:992:U:OP2	1:A:992:U:O4'	2.37	0.43

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:178:ARG:HH22	9:H:68:ARG:HH22	1.64	0.43
5:D:68:TYR:OH	5:D:98:GLU:OE1	2.17	0.43
9:H:53:VAL:O	9:H:53:VAL:CG1	2.67	0.43
10:I:75:ASP:O	10:I:78:LYS:HB3	2.19	0.43
10:I:92:TYR:O	10:I:96:LEU:HB2	2.19	0.43
11:J:19:SER:HB2	11:J:91:PRO:CD	2.48	0.43
12:K:64:ALA:O	12:K:65:ALA:C	2.55	0.43
17:P:20:VAL:HG13	17:P:21:VAL:O	2.19	0.43
17:P:67:THR:HB	17:P:70:ALA:HB2	2.01	0.43
20:S:51:VAL:O	20:S:58:VAL:HG23	2.18	0.43
21:T:22:ARG:O	21:T:25:ARG:N	2.52	0.43
1:A:1206:G:C6	1:A:1207:G:C5	3.07	0.43
1:A:1309:G:C6	1:A:1329:A:C2	3.06	0.43
1:A:1343:G:C6	1:A:1344:C:N4	2.87	0.43
1:A:1478:C:O5'	1:A:1478:C:H6	2.01	0.43
1:A:223:U:C5'	21:T:68:LYS:HZ2	2.32	0.43
1:A:506:G:C6	1:A:507:C:N4	2.87	0.43
1:A:625:G:C6	1:A:626:U:O4	2.72	0.43
1:A:647:C:H42	1:A:648:A:N6	2.17	0.43
1:A:80:G:H2'	1:A:81:U:H5'	2.01	0.43
1:A:13:U:C5	1:A:916:G:O6	2.72	0.43
1:A:942:G:C2	1:A:943:U:C5	3.07	0.43
1:A:953:G:H2'	1:A:954:G:O4'	2.19	0.43
4:C:76:VAL:O	4:C:83:ARG:HD2	2.18	0.43
9:H:35:ILE:HG13	9:H:35:ILE:H	1.44	0.43
10:I:17:VAL:HG11	10:I:81:ILE:HA	2.00	0.43
11:J:90:LEU:CB	11:J:91:PRO:CD	2.76	0.43
12:K:72:ALA:HB1	12:K:77:MET:HG3	1.99	0.43
13:L:46:LYS:HD2	13:L:47:LYS:H	1.84	0.43
14:M:5:ALA:HB2	14:M:22:ILE:HG12	2.01	0.43
1:A:463:A:P	17:P:75:ARG:HH12	2.41	0.43
21:T:14:LYS:HG2	21:T:18:GLN:HE22	1.82	0.43
1:A:1183:A:O2'	1:A:1184:G:OP1	2.29	0.43
1:A:1410:G:C2'	1:A:1411:C:O5'	2.67	0.43
1:A:1471:G:O5'	1:A:1471:G:H8	2.02	0.43
1:A:368:U:O2'	1:A:369:C:P	2.76	0.43
1:A:380:G:C2	1:A:384:G:C6	3.06	0.43
1:A:451:A:C6	1:A:481:G:C5	3.07	0.43
3:B:103:THR:HA	3:B:180:LEU:HD11	2.00	0.43
4:C:77:ILE:HA	4:C:84:ILE:HG22	2.00	0.43
5:D:104:VAL:HG23	5:D:185:PHE:CD1	2.54	0.43

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:9:LYS:O	6:E:33:VAL:N	2.39	0.43
8:G:153:HIS:CE1	8:G:154:TYR:HE2	2.36	0.43
10:I:33:PHE:CE1	10:I:37:PHE:HE1	2.37	0.43
20:S:5:LEU:O	20:S:6:LYS:HG3	2.18	0.43
1:A:1114:C:O5'	1:A:1114:C:H6	2.01	0.43
1:A:1187:G:C2	1:A:1188:A:C4	3.07	0.43
1:A:118:U:C5	1:A:288:A:C6	3.07	0.43
1:A:132:C:C2'	1:A:133:U:H5'	2.49	0.43
1:A:1348:U:H6	1:A:1348:U:C5'	2.31	0.43
1:A:1515:C:H2'	1:A:1516:G:C8	2.54	0.43
1:A:193:C:O2	1:A:194:C:C6	2.72	0.43
1:A:289:G:C6	1:A:290:C:N4	2.87	0.43
1:A:313:A:H2'	1:A:314:C:O4'	2.18	0.43
1:A:362:G:O3'	13:L:33:ARG:NH1	2.52	0.43
1:A:376:G:C4	1:A:389:A:C2	3.07	0.43
1:A:378:G:C6	1:A:379:C:C4	3.06	0.43
1:A:487:A:H2'	1:A:488:C:O4'	2.18	0.43
1:A:540:G:C2'	1:A:541:G:O4'	2.64	0.43
1:A:578:C:H2'	1:A:579:G:O4'	2.19	0.43
1:A:689:C:OP1	12:K:44:SER:OG	2.25	0.43
1:A:987:G:H1	1:A:1218:C:N4	2.10	0.43
4:C:64:VAL:HG12	4:C:65:ALA:H	1.84	0.43
5:D:64:LEU:HD21	5:D:94:LEU:CD2	2.48	0.43
6:E:130:ASN:HA	6:E:133:TYR:HB2	2.00	0.43
6:E:55:VAL:O	6:E:56:GLN:C	2.56	0.43
7:F:11:ASN:HA	7:F:12:PRO:HD2	1.78	0.43
6:E:79:GLU:O	9:H:104:ARG:CZ	2.67	0.43
13:L:68:ALA:HB3	13:L:100:ILE:HD11	2.00	0.43
16:O:76:GLU:C	16:O:78:TYR:N	2.72	0.43
17:P:67:THR:HG22	17:P:69:THR:N	2.34	0.43
17:P:74:LEU:CD1	17:P:79:VAL:HG11	2.46	0.43
21:T:68:LYS:HA	21:T:68:LYS:HD2	1.72	0.43
21:T:93:GLU:O	21:T:96:GLY:N	2.43	0.43
1:A:1005:A:C4	1:A:1026:G:N2	2.86	0.43
1:A:1255:G:C3'	1:A:1279:A:H61	2.31	0.43
1:A:1418:A:N6	1:A:1419:G:C2	2.87	0.43
1:A:1509:C:C5'	1:A:1510:U:OP2	2.67	0.43
1:A:21:G:C2	1:A:22:G:C6	3.07	0.43
1:A:504:C:N3	1:A:542:G:C2	2.86	0.43
1:A:984:C:C2	1:A:985:C:C5	3.07	0.43
4:C:66:VAL:HG12	4:C:66:VAL:O	2.19	0.43

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:61:LYS:NZ	5:D:62:GLN:NE2	2.67	0.43
9:H:75:ARG:HA	9:H:76:PRO:HD3	1.92	0.43
11:J:60:ARG:HD2	11:J:60:ARG:HA	1.74	0.43
14:M:125:ARG:HD2	14:M:126:LYS:H	1.84	0.43
14:M:91:ARG:O	14:M:95:GLY:CA	2.66	0.43
1:A:136:C:O2'	17:P:65:GLN:OE1	2.35	0.43
1:A:919:A:O2'	1:A:1080:A:N1	2.48	0.42
1:A:1092:A:H8	1:A:1092:A:H5'	1.84	0.42
1:A:1162:C:H2'	1:A:1162:C:O2	2.17	0.42
1:A:192:U:C4	1:A:193:C:C5	3.07	0.42
1:A:376:G:C2	1:A:389:A:C6	3.07	0.42
1:A:459:G:C6	1:A:461:C:OP2	2.72	0.42
1:A:767:A:O2'	1:A:768:A:H5'	2.19	0.42
3:B:215:LEU:HD23	3:B:215:LEU:HA	1.93	0.42
4:C:36:ASP:HB3	4:C:40:ARG:NH1	2.34	0.42
1:A:426:G:P	5:D:36:ARG:NH2	2.92	0.42
6:E:18:ARG:HE	6:E:25:ARG:HB3	1.84	0.42
12:K:34:ASP:HB2	12:K:35:PRO:HD2	1.99	0.42
12:K:53:SER:C	12:K:55:LYS:N	2.73	0.42
8:G:151:TYR:OH	12:K:54:ARG:HD3	2.18	0.42
13:L:75:HIS:CG	13:L:76:ASN:N	2.86	0.42
16:O:3:ILE:HA	16:O:7:GLU:OE2	2.19	0.42
7:F:97:PHE:HB2	19:R:32:ARG:HH21	1.82	0.42
1:A:1151:A:H5''	11:J:42:THR:OG1	2.19	0.42
1:A:1320:C:H2'	1:A:1321:C:O4'	2.19	0.42
1:A:1431:C:H2'	1:A:1432:G:H5'	2.00	0.42
1:A:374:A:C6	1:A:375:U:C4	3.08	0.42
3:B:15:VAL:CG1	3:B:209:ARG:HH11	2.31	0.42
3:B:214:ILE:O	3:B:215:LEU:C	2.56	0.42
4:C:6:HIS:CD2	4:C:8:ILE:HB	2.53	0.42
8:G:74:GLU:HA	8:G:141:VAL:HG12	2.01	0.42
12:K:103:LEU:HG	12:K:103:LEU:H	1.58	0.42
12:K:99:GLN:HA	12:K:105:VAL:HG21	2.01	0.42
13:L:124:LYS:HA	13:L:125:PRO:HD3	1.83	0.42
1:A:1114:C:H1'	15:N:60:SER:CB	2.49	0.42
16:O:78:TYR:O	16:O:82:ILE:HD12	2.18	0.42
18:Q:17:LYS:HB3	18:Q:46:ASP:O	2.19	0.42
1:A:1151:A:HO2'	1:A:1152:A:P	2.43	0.42
1:A:1250:A:H8	1:A:1250:A:H5''	1.83	0.42
1:A:1377:A:H2'	1:A:1378:C:OP2	2.18	0.42
1:A:694:A:N6	1:A:787:A:O2'	2.49	0.42

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:853:G:C2'	1:A:854:G:O5'	2.67	0.42
1:A:922:G:H2'	1:A:923:A:C8	2.54	0.42
3:B:16:HIS:CE1	3:B:203:GLY:HA3	2.54	0.42
6:E:129:ILE:N	6:E:129:ILE:HD12	2.34	0.42
8:G:62:PHE:C	8:G:62:PHE:CD2	2.93	0.42
13:L:86:ARG:O	13:L:86:ARG:HG3	2.18	0.42
16:O:78:TYR:CD1	16:O:82:ILE:HD11	2.55	0.42
18:Q:14:LYS:HG3	18:Q:14:LYS:H	1.55	0.42
18:Q:20:THR:HG23	18:Q:43:LEU:CD2	2.49	0.42
19:R:58:LEU:HD23	19:R:58:LEU:HA	1.78	0.42
20:S:14:HIS:O	20:S:18:LYS:HB2	2.20	0.42
1:A:1202:G:C4	15:N:42:ILE:HD12	2.54	0.42
1:A:1206:G:C5	1:A:1207:G:N7	2.87	0.42
1:A:1289:A:H5'	1:A:1290:G:OP2	2.18	0.42
1:A:1288:A:H2	1:A:1370:G:H21	1.66	0.42
1:A:1401:G:C2	1:A:1402:C:H1'	2.54	0.42
1:A:1479:C:H6	1:A:1479:C:O5'	2.01	0.42
1:A:178:C:C2'	1:A:179:A:O5'	2.68	0.42
1:A:990:C:C4	1:A:1216:G:C2	3.07	0.42
3:B:24:TRP:CG	3:B:25:ASN:N	2.87	0.42
3:B:52:GLU:O	3:B:53:ARG:C	2.58	0.42
5:D:64:LEU:O	5:D:67:ILE:HB	2.20	0.42
6:E:36:ASP:C	6:E:36:ASP:OD1	2.58	0.42
10:I:77:ILE:HG22	10:I:78:LYS:N	2.33	0.42
1:A:708:C:OP1	12:K:85:ARG:NH2	2.49	0.42
16:O:27:VAL:O	16:O:31:LEU:HD12	2.19	0.42
17:P:42:ARG:H	17:P:42:ARG:HG2	1.49	0.42
18:Q:58:GLU:HG3	18:Q:75:ARG:HG2	2.01	0.42
19:R:69:THR:O	19:R:70:ILE:C	2.56	0.42
21:T:63:ILE:O	21:T:64:ASP:C	2.56	0.42
1:A:1099:G:C5	1:A:1100:C:C4	3.07	0.42
1:A:1064:G:N2	1:A:1190:G:H2'	2.35	0.42
1:A:1241:G:H2'	1:A:1242:C:C6	2.55	0.42
1:A:1309:G:C5	1:A:1329:A:C2	3.07	0.42
1:A:1368:G:C2'	1:A:1369:C:H5'	2.49	0.42
1:A:1425:U:H3	1:A:1475:G:H1	1.67	0.42
1:A:579:G:N2	1:A:763:G:C4	2.87	0.42
1:A:5:U:C2'	1:A:5:U:O2	2.64	0.42
1:A:642:A:H2'	1:A:643:C:H5'	2.02	0.42
3:B:187:LEU:HD13	3:B:204:ASN:O	2.19	0.42
3:B:189:ASP:HB3	3:B:205:ASP:H	1.84	0.42

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:84:GLU:CG	3:B:216:SER:HA	2.50	0.42
3:B:52:GLU:C	3:B:54:THR:N	2.71	0.42
6:E:105:VAL:HG12	6:E:132:ALA:HB2	2.01	0.42
9:H:46:LYS:HG3	9:H:64:LYS:HB2	2.00	0.42
9:H:84:ARG:HB3	9:H:84:ARG:HH11	1.84	0.42
10:I:43:ALA:O	10:I:46:ALA:N	2.51	0.42
13:L:61:THR:C	13:L:63:GLY:N	2.73	0.42
13:L:69:TYR:HE2	13:L:71:PRO:HA	1.82	0.42
14:M:74:VAL:C	14:M:76:ALA:N	2.72	0.42
16:O:35:ARG:HB3	16:O:59:MET:CE	2.50	0.42
20:S:13:ASP:HA	20:S:16:LEU:HB3	2.02	0.42
1:A:1111:A:H2'	1:A:1112:C:O5'	2.20	0.42
1:A:1132:C:H2'	1:A:1133:G:H8	1.84	0.42
1:A:1257:U:H4'	1:A:1258:G:OP2	2.19	0.42
1:A:1266:G:H21	1:A:1270:C:N4	2.16	0.42
1:A:1439:C:H2'	1:A:1439:C:O2	2.20	0.42
1:A:282:A:C4	1:A:283:C:C6	3.07	0.42
1:A:286:G:C4	1:A:287:U:C6	3.07	0.42
1:A:709:G:C4	1:A:710:G:C8	3.08	0.42
3:B:21:ARG:H	3:B:21:ARG:HG3	1.66	0.42
3:B:85:ALA:CB	3:B:92:TYR:HB3	2.49	0.42
5:D:25:ARG:HE	5:D:30:LYS:HB3	1.84	0.42
7:F:27:GLN:O	7:F:31:GLU:HG2	2.18	0.42
7:F:7:ASN:HB2	7:F:89:MET:HB3	2.02	0.42
8:G:138:LYS:C	8:G:140:ASP:H	2.23	0.42
21:T:81:LYS:HB3	21:T:81:LYS:HE2	1.48	0.42
1:A:1022:G:H2'	1:A:1023:G:C8	2.55	0.42
1:A:1005:A:H1'	1:A:1036:G:H22	1.83	0.42
1:A:1454:G:H2'	1:A:1455:G:H8	1.84	0.42
1:A:1455:G:C3'	1:A:1459:C:P	3.08	0.42
1:A:404:U:H2'	1:A:405:U:C6	2.54	0.42
1:A:824:C:C6	1:A:824:C:H3'	2.54	0.42
3:B:108:ILE:O	3:B:108:ILE:CG2	2.68	0.42
3:B:166:ASP:HA	3:B:167:PRO:HD2	1.95	0.42
4:C:172:ARG:HG2	4:C:172:ARG:H	1.52	0.42
4:C:66:VAL:HG12	4:C:68:VAL:HG23	2.01	0.42
4:C:86:VAL:HG13	4:C:86:VAL:O	2.18	0.42
5:D:173:TRP:HB2	5:D:187:ARG:O	2.19	0.42
6:E:52:PRO:C	6:E:54:ALA:N	2.72	0.42
9:H:35:ILE:O	9:H:36:LEU:C	2.58	0.42
10:I:57:GLY:O	10:I:58:ARG:HG2	2.19	0.42

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:60:ILE:HG13	18:Q:61:GLU:N	2.34	0.42
1:A:223:U:C5'	21:T:68:LYS:NZ	2.83	0.42
1:A:1056:U:C2'	1:A:1056:U:O2	2.67	0.42
1:A:1233:G:N2	1:A:1234:C:C2	2.87	0.42
1:A:1260:C:O5'	1:A:1284:C:H4'	2.20	0.42
1:A:1368:G:O2'	1:A:1369:C:H5'	2.19	0.42
1:A:150:C:H2'	1:A:151:A:O5'	2.18	0.42
1:A:1525:G:H2'	1:A:1526:G:C5'	2.49	0.42
1:A:199:G:C2'	1:A:200:G:H5'	2.45	0.42
1:A:395:C:C2'	1:A:395:C:O2	2.66	0.42
1:A:529:G:O2'	1:A:533:A:C6	2.72	0.42
1:A:582:U:O2	1:A:582:U:H2'	2.19	0.42
1:A:597:G:N7	1:A:598:U:C5	2.88	0.42
3:B:114:ARG:NH1	3:B:118:LEU:CD1	2.67	0.42
3:B:28:PHE:O	3:B:29:ALA:C	2.57	0.42
9:H:10:LEU:HB3	9:H:83:ILE:CD1	2.45	0.42
13:L:15:ARG:HD2	13:L:15:ARG:HA	1.90	0.42
14:M:18:ALA:O	14:M:21:TYR:N	2.40	0.42
14:M:57:ARG:O	14:M:61:GLU:HB2	2.19	0.42
15:N:46:GLU:O	15:N:49:HIS:HB2	2.20	0.42
20:S:80:TYR:OH	20:S:82:GLY:HA2	2.19	0.42
1:A:1152:A:OP1	11:J:68:HIS:ND1	2.53	0.42
1:A:991:U:C6	1:A:1212:U:O2	2.72	0.42
1:A:255:G:H1'	18:Q:16:GLN:NE2	2.35	0.42
1:A:482:A:H2'	1:A:483:C:O4'	2.19	0.42
1:A:978:A:C5	1:A:1319:A:C2	3.08	0.42
4:C:35:GLU:HB3	4:C:36:ASP:H	1.70	0.42
4:C:36:ASP:N	4:C:36:ASP:OD2	2.37	0.42
5:D:13:ARG:HB3	5:D:40:PRO:HD3	2.02	0.42
5:D:79:PHE:CE1	5:D:207:TYR:CD1	3.07	0.42
6:E:71:LEU:CD2	6:E:115:VAL:HG22	2.48	0.42
11:J:56:HIS:O	11:J:57:LYS:C	2.55	0.42
13:L:119:LYS:O	13:L:120:TYR:HB2	2.20	0.42
20:S:14:HIS:N	20:S:14:HIS:ND1	2.68	0.42
21:T:70:SER:OG	21:T:70:SER:O	2.30	0.42
21:T:74:LYS:HB2	21:T:74:LYS:HE3	1.92	0.42
21:T:88:VAL:O	21:T:90:GLN:N	2.53	0.42
1:A:1124:G:C2'	1:A:1145:C:H41	2.33	0.42
1:A:1141:C:C2	1:A:1142:G:C8	3.07	0.42
1:A:1230:C:C2'	1:A:1230:C:O2	2.68	0.42
1:A:131:C:H2'	1:A:132:C:C6	2.54	0.42

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1237:C:C4'	1:A:1334:G:H21	2.32	0.42
1:A:1510:U:O2	1:A:1510:U:C2'	2.62	0.42
1:A:193:C:O3'	21:T:61:SER:HB2	2.20	0.42
1:A:690:G:N2	1:A:698:G:C6	2.88	0.42
1:A:864:A:C6	1:A:865:A:C6	3.08	0.42
1:A:896:C:O2	1:A:896:C:H2'	2.20	0.42
1:A:918:A:H2'	1:A:919:A:C8	2.55	0.42
3:B:138:LEU:C	3:B:140:HIS:N	2.73	0.42
4:C:157:ILE:O	4:C:158:GLY:C	2.58	0.42
4:C:191:THR:HG21	4:C:193:TYR:CE1	2.55	0.42
6:E:87:SER:OG	6:E:130:ASN:HB2	2.20	0.42
7:F:4:TYR:HA	7:F:91:VAL:O	2.19	0.42
8:G:145:ALA:C	8:G:147:ALA:H	2.22	0.42
8:G:87:VAL:HA	8:G:88:PRO:HD3	1.80	0.42
11:J:56:HIS:C	11:J:58:ASP:N	2.58	0.42
11:J:46:ARG:NH1	11:J:64:GLU:HB3	2.32	0.42
13:L:10:LEU:O	13:L:14:GLY:HA2	2.20	0.42
13:L:55:VAL:O	13:L:70:ILE:HD12	2.20	0.42
21:T:54:LYS:HA	21:T:57:ARG:NH1	2.34	0.42
1:A:1124:G:H2'	1:A:1145:C:C5	2.54	0.41
1:A:1152:A:H4'	11:J:13:HIS:CD2	2.54	0.41
1:A:1233:G:H5''	1:A:1233:G:C8	2.55	0.41
1:A:130:A:H5'	18:Q:63:ARG:HE	1.85	0.41
1:A:354:G:N1	1:A:355:C:C4	2.88	0.41
1:A:516:U:C4	1:A:517:G:C6	3.08	0.41
1:A:674:G:OP1	7:F:87:ARG:NH2	2.53	0.41
1:A:761:G:H2'	1:A:762:C:H6	1.83	0.41
1:A:861:G:C4	1:A:862:C:C6	3.08	0.41
1:A:949:A:N1	1:A:1233:G:C4	2.88	0.41
1:A:989:C:HO2'	1:A:990:C:H5'	1.84	0.41
3:B:43:ASP:O	3:B:45:GLN:N	2.53	0.41
5:D:121:VAL:HA	5:D:126:ILE:HG12	2.00	0.41
5:D:98:GLU:OE2	5:D:107:ARG:NE	2.44	0.41
9:H:99:GLU:O	9:H:100:ILE:C	2.58	0.41
1:A:1368:G:H5''	10:I:112:LYS:O	2.20	0.41
11:J:79:ARG:HH11	11:J:82:ILE:HD12	1.84	0.41
12:K:50:TYR:CD2	12:K:54:ARG:HB2	2.55	0.41
16:O:33:THR:OG1	16:O:63:ARG:HD2	2.19	0.41
21:T:104:LEU:N	21:T:104:LEU:CD2	2.26	0.41
1:A:1014:A:C3'	1:A:1015:A:C8	3.03	0.41
1:A:1084:G:C5	1:A:1085:U:C4	3.07	0.41

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:109:A:H4'	1:A:110:C:OP2	2.20	0.41
1:A:1161:C:H2'	1:A:1162:C:H6	1.80	0.41
1:A:1277:C:HO2'	1:A:1279:A:H8	1.60	0.41
1:A:433:C:H2'	1:A:434:U:C6	2.56	0.41
1:A:45:U:O2	1:A:396:G:N2	2.41	0.41
1:A:490:G:O2'	1:A:491:G:H5'	2.20	0.41
1:A:512:U:C6	1:A:512:U:C3'	3.03	0.41
1:A:545:C:H2'	1:A:546:G:O4'	2.20	0.41
1:A:705:U:C4	1:A:706:A:C5	3.08	0.41
3:B:207:ALA:O	3:B:208:ILE:C	2.58	0.41
5:D:144:ASP:OD1	5:D:144:ASP:N	2.53	0.41
5:D:14:ARG:HD3	5:D:14:ARG:C	2.40	0.41
5:D:50:ARG:O	5:D:51:PRO:C	2.59	0.41
6:E:127:ASN:OD1	6:E:129:ILE:HB	2.21	0.41
7:F:69:GLU:HA	7:F:72:VAL:HG23	2.02	0.41
8:G:113:GLU:HG2	8:G:113:GLU:H	1.64	0.41
4:C:58:GLU:HG2	11:J:92:THR:HB	2.02	0.41
11:J:9:ARG:HG3	11:J:9:ARG:O	2.18	0.41
17:P:33:ILE:H	17:P:33:ILE:HG13	1.62	0.41
18:Q:26:GLN:HE21	18:Q:37:LYS:HE2	1.85	0.41
20:S:39:THR:CG2	20:S:40:ILE:N	2.83	0.41
1:A:1004:A:H5''	1:A:1025:U:C4	2.55	0.41
1:A:1131:G:O6	1:A:1139:G:O6	2.38	0.41
1:A:117:G:O5'	1:A:117:G:H8	2.02	0.41
1:A:1412:C:C2	1:A:1489:G:N2	2.88	0.41
5:D:152:SER:O	5:D:154:ASN:N	2.54	0.41
11:J:67:THR:HG22	11:J:67:THR:O	2.21	0.41
11:J:9:ARG:HB3	11:J:9:ARG:NH1	2.35	0.41
13:L:23:LYS:C	13:L:24:VAL:CG2	2.88	0.41
13:L:24:VAL:O	13:L:26:ALA:N	2.54	0.41
14:M:22:ILE:CB	14:M:25:ILE:HD12	2.48	0.41
1:A:1358:U:OP1	15:N:35:ARG:HB2	2.20	0.41
16:O:39:LEU:HA	16:O:39:LEU:HD23	1.73	0.41
16:O:73:GLU:HA	16:O:73:GLU:OE2	2.14	0.41
19:R:44:LEU:N	19:R:51:LEU:HD12	2.34	0.41
1:A:149:A:H2	1:A:150:C:C2	2.35	0.41
1:A:1521:G:C2'	1:A:1522:U:O5'	2.68	0.41
1:A:192:U:H2'	1:A:193:C:H6	1.85	0.41
1:A:204:U:H4'	1:A:216:G:P	2.61	0.41
1:A:262:A:N1	1:A:263:A:N1	2.67	0.41
1:A:411:A:C2	1:A:413:G:H1'	2.55	0.41

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:418:C:H2'	1:A:419:C:C6	2.55	0.41
1:A:426:G:C2	1:A:427:U:C2	3.08	0.41
1:A:512:U:C6	1:A:512:U:H3'	2.56	0.41
1:A:563:A:HO2'	1:A:566:G:HO2'	1.44	0.41
1:A:622:A:C3'	1:A:622:A:C8	3.04	0.41
1:A:62:U:C2	1:A:63:C:C5	3.09	0.41
1:A:940:C:H2'	1:A:941:G:C8	2.55	0.41
3:B:118:LEU:HD22	3:B:142:LEU:HB2	2.01	0.41
3:B:50:GLU:O	3:B:51:LEU:C	2.58	0.41
4:C:131:ARG:HG2	4:C:135:LYS:NZ	2.36	0.41
4:C:6:HIS:NE2	4:C:8:ILE:HG22	2.35	0.41
5:D:68:TYR:CE2	5:D:97:LEU:HB3	2.56	0.41
8:G:120:ILE:HG22	8:G:124:LEU:CD1	2.51	0.41
10:I:46:ALA:HA	10:I:78:LYS:HB2	2.03	0.41
10:I:46:ALA:HB1	10:I:77:ILE:CG2	2.51	0.41
1:A:1125:U:O4	11:J:73:ASP:OD2	2.38	0.41
15:N:21:TYR:O	15:N:21:TYR:CD2	2.73	0.41
16:O:58:MET:O	16:O:62:GLN:N	2.44	0.41
19:R:37:VAL:O	19:R:38:GLU:C	2.58	0.41
21:T:29:LYS:O	21:T:33:ILE:CD1	2.69	0.41
21:T:39:LYS:HG2	21:T:55:ILE:HD12	2.03	0.41
21:T:84:LEU:HA	21:T:84:LEU:HD23	1.87	0.41
1:A:1227:A:C8	1:A:1227:A:C3'	3.04	0.41
1:A:1240:U:OP1	8:G:119:ARG:NH2	2.48	0.41
1:A:1299:A:C5	1:A:1301:U:C2	3.08	0.41
1:A:1346:A:H61	1:A:1374:A:H3'	1.85	0.41
1:A:1347:G:C2	1:A:1373:G:C4	3.08	0.41
1:A:1500:A:H2'	1:A:1501:C:H5'	2.02	0.41
1:A:253:U:C2	1:A:254:G:C8	3.08	0.41
1:A:457:C:C4	1:A:458:C:C5	3.09	0.41
1:A:625:G:H2'	1:A:626:U:H6	1.82	0.41
1:A:633:G:H5''	1:A:634:C:OP2	2.20	0.41
4:C:38:ARG:O	4:C:41:GLY:HA3	2.20	0.41
4:C:79:ARG:O	4:C:82:GLU:HG2	2.21	0.41
5:D:57:ARG:HA	5:D:202:LEU:HD23	2.02	0.41
7:F:10:LEU:HD12	7:F:59:TYR:HB3	2.03	0.41
13:L:93:LEU:HD23	13:L:93:LEU:N	2.35	0.41
14:M:4:ILE:HB	14:M:5:ALA:H	1.53	0.41
18:Q:104:LYS:HG3	18:Q:105:ALA:N	2.36	0.41
1:A:1131:G:N2	1:A:1143:G:H21	2.07	0.41
1:A:1332:A:C2	1:A:1333:A:C4	3.08	0.41

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:142:G:N3	1:A:196:A:H2	2.18	0.41
1:A:267:C:O2'	1:A:268:C:H5'	2.20	0.41
1:A:373:A:C2	1:A:482:A:C6	3.08	0.41
1:A:407:G:C6	1:A:408:A:C6	3.08	0.41
1:A:568:G:N3	1:A:574:A:H2	2.19	0.41
1:A:645:C:O2	1:A:645:C:C2'	2.69	0.41
1:A:757:U:H2'	1:A:758:G:O4'	2.19	0.41
1:A:7:G:H5'	1:A:298:A:O4'	2.21	0.41
1:A:856:C:H5''	1:A:857:C:OP2	2.21	0.41
1:A:908:A:C2'	1:A:909:A:H5'	2.51	0.41
1:A:91:C:C2'	1:A:92:C:O5'	2.68	0.41
1:A:951:G:C6	1:A:952:U:C5	3.09	0.41
1:A:974:A:OP1	1:A:974:A:H8	2.03	0.41
4:C:42:LEU:O	4:C:44:GLU:N	2.54	0.41
5:D:135:LEU:HA	5:D:136:PRO:HD3	1.95	0.41
6:E:52:PRO:O	6:E:54:ALA:N	2.54	0.41
8:G:127:ALA:O	8:G:129:GLU:N	2.54	0.41
9:H:56:LYS:HA	9:H:57:PRO:HD2	1.85	0.41
19:R:51:LEU:HA	19:R:52:PRO:HD3	1.84	0.41
20:S:75:ALA:HA	20:S:76:PRO:HD3	1.90	0.41
1:A:1103:C:H2'	1:A:1104:G:O4'	2.21	0.41
1:A:1114:C:C4	1:A:1115:C:C5	3.09	0.41
1:A:1176:A:H2'	1:A:1177:G:O4'	2.21	0.41
1:A:1314:C:C4	1:A:1315:U:C5	3.09	0.41
1:A:1371:G:O3'	10:I:69:GLY:HA3	2.20	0.41
1:A:333:G:H2'	1:A:334:C:C6	2.56	0.41
1:A:36:C:C4	1:A:37:U:C5	3.09	0.41
1:A:440:A:H5''	1:A:442:C:C5	2.56	0.41
1:A:496:A:C4'	1:A:497:A:OP1	2.58	0.41
1:A:503:C:C2'	1:A:504:C:C5'	2.95	0.41
1:A:692:U:O2	1:A:694:A:C8	2.74	0.41
1:A:749:C:OP2	1:A:750:G:OP2	2.39	0.41
3:B:103:THR:HB	3:B:176:GLU:OE2	2.20	0.41
3:B:12:GLU:HG3	3:B:213:LEU:CD1	2.51	0.41
3:B:222:ILE:H	3:B:222:ILE:HG13	1.71	0.41
4:C:47:LEU:O	4:C:48:TYR:C	2.58	0.41
5:D:109:GLY:O	5:D:110:PHE:C	2.59	0.41
6:E:127:ASN:HA	6:E:128:PRO:HD3	1.76	0.41
6:E:136:MET:C	6:E:138:ALA:N	2.74	0.41
6:E:89:ILE:HD13	6:E:122:GLU:HG3	2.01	0.41
8:G:54:THR:HB	8:G:56:GLN:NE2	2.36	0.41

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:110:ASP:HB2	19:R:88:LYS:HG3	2.02	0.41
11:J:63:PHE:CZ	15:N:45:ARG:HG3	2.56	0.41
16:O:6:GLU:O	16:O:7:GLU:C	2.57	0.41
17:P:45:THR:C	17:P:47:ASP:H	2.23	0.41
18:Q:13:ASP:C	18:Q:15:MET:N	2.73	0.41
20:S:77:THR:HB	20:S:78:ARG:HD2	2.02	0.41
1:A:1107:C:N4	1:A:1108:G:N7	2.69	0.41
1:A:1349:A:C6	1:A:1374:A:C8	3.08	0.41
1:A:1432:G:C8	1:A:1432:G:C3'	3.03	0.41
1:A:190(A):C:O5'	1:A:190(A):C:H6	2.04	0.41
1:A:191:G:H1'	21:T:105:SER:HB3	2.02	0.41
1:A:19:C:H2'	1:A:20:U:O5'	2.21	0.41
1:A:282:A:C5	1:A:283:C:C5	3.08	0.41
1:A:351:G:O5'	1:A:351:G:C8	2.74	0.41
1:A:477:G:H5''	1:A:478:A:OP2	2.21	0.41
1:A:406:G:H1'	1:A:496:A:N1	2.36	0.41
1:A:592:G:C6	1:A:593:G:N7	2.89	0.41
1:A:633:G:C6	1:A:634:C:C4	3.09	0.41
1:A:77:G:H2'	1:A:78:G:H8	1.86	0.41
1:A:885:G:C2	1:A:913:A:N1	2.89	0.41
1:A:945:G:C6	1:A:1337:G:C5	3.08	0.41
4:C:133:ALA:O	4:C:134:ILE:C	2.59	0.41
4:C:181:ASN:C	4:C:182:ILE:HG13	2.40	0.41
4:C:23:TYR:HB3	11:J:93:GLY:C	2.40	0.41
4:C:64:VAL:HG12	4:C:65:ALA:N	2.35	0.41
1:A:8:A:N6	5:D:205:GLU:O	2.54	0.41
5:D:94:LEU:HD23	5:D:97:LEU:HD12	2.02	0.41
6:E:54:ALA:O	6:E:57:LYS:N	2.53	0.41
8:G:31:MET:HE3	8:G:34:GLY:HA2	2.02	0.41
1:A:1117:G:H4'	10:I:104:ARG:NH1	2.36	0.41
11:J:33:GLN:C	11:J:34:VAL:HG23	2.41	0.41
12:K:33:THR:HG23	12:K:34:ASP:O	2.20	0.41
13:L:60:LEU:HA	13:L:60:LEU:HD13	1.92	0.41
14:M:4:ILE:H	14:M:4:ILE:HG13	1.56	0.41
15:N:24:CYS:SG	15:N:39:LEU:HA	2.61	0.41
15:N:39:LEU:HB2	15:N:43:CYS:HB3	2.03	0.41
21:T:50:GLU:HB2	21:T:100:ILE:HD13	2.03	0.41
1:A:1266:G:C8	1:A:1266:G:H3'	2.54	0.41
1:A:1255:G:C6	1:A:1279:A:C8	3.09	0.41
1:A:481:G:HO2'	1:A:483:C:N4	2.19	0.41
3:B:108:ILE:HG22	3:B:108:ILE:O	2.21	0.41

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:97:PHE:HB3	19:R:32:ARG:NH2	2.36	0.41
1:A:707:C:C5'	12:K:20:TYR:CD2	2.90	0.41
13:L:102:ARG:NH1	13:L:110:VAL:HG22	2.34	0.41
15:N:44:LEU:CD1	15:N:44:LEU:C	2.89	0.41
16:O:63:ARG:O	16:O:64:ARG:C	2.58	0.41
17:P:70:ALA:C	17:P:72:ARG:N	2.74	0.41
17:P:74:LEU:HA	17:P:74:LEU:HD22	1.44	0.41
21:T:56:MET:HE1	21:T:104:LEU:HD21	2.00	0.41
21:T:13:LEU:O	21:T:14:LYS:C	2.58	0.41
21:T:13:LEU:CD2	21:T:14:LYS:N	2.72	0.41
21:T:44:ALA:C	21:T:46:GLU:N	2.73	0.41
1:A:1181:G:H4'	1:A:1182:G:OP1	2.21	0.41
1:A:1440:C:O2	1:A:1440:C:H2'	2.20	0.41
1:A:1454:G:C2	1:A:1455:G:C5	3.09	0.41
1:A:1459:C:C2	1:A:1460:A:C8	3.09	0.41
1:A:152:A:H3'	1:A:153:C:H6	1.86	0.41
1:A:165:C:H2'	1:A:166:G:C8	2.55	0.41
1:A:361:G:O6	1:A:362:G:N1	2.54	0.41
1:A:444:C:N4	1:A:491:G:H1	2.18	0.41
1:A:506:G:O6	1:A:507:C:N4	2.53	0.41
1:A:671:G:N3	1:A:671:G:H2'	2.35	0.41
1:A:575:G:O2'	1:A:821:G:H5'	2.20	0.41
1:A:913:A:HO2'	1:A:914:A:P	2.43	0.41
3:B:196:LEU:H	3:B:196:LEU:HG	1.74	0.41
6:E:112:LEU:HD23	6:E:112:LEU:HA	1.67	0.41
9:H:120:THR:HG23	9:H:123:GLU:CD	2.40	0.41
9:H:36:LEU:HA	9:H:39:LEU:HD23	2.02	0.41
9:H:10:LEU:CB	9:H:83:ILE:HD11	2.47	0.41
13:L:7:ILE:O	13:L:11:VAL:HG23	2.20	0.41
13:L:32:PHE:CD2	13:L:32:PHE:N	2.89	0.41
15:N:11:LYS:HG2	15:N:13:THR:HB	2.02	0.41
1:A:981:U:H5'	15:N:21:TYR:CE1	2.55	0.41
19:R:22:VAL:O	19:R:22:VAL:CG1	2.69	0.41
20:S:50:ALA:HA	20:S:58:VAL:O	2.21	0.41
21:T:16:HIS:O	21:T:17:ARG:C	2.59	0.41
21:T:33:ILE:N	21:T:33:ILE:HD12	2.34	0.41
1:A:160:A:N6	1:A:161:A:C2	2.89	0.41
1:A:191:G:C1'	21:T:105:SER:HB3	2.51	0.41
1:A:247:G:C6	1:A:278:G:C6	3.08	0.41
1:A:28:G:O2'	1:A:296:U:H5''	2.21	0.41
1:A:375:U:H2'	1:A:376:G:H8	1.83	0.41

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:401:C:H2'	1:A:402:G:C8	2.56	0.41
1:A:833:U:H2'	1:A:834:C:C6	2.56	0.41
1:A:836:G:N1	1:A:851:G:C5	2.89	0.41
1:A:949:A:C2	1:A:1233:G:C2	3.07	0.41
5:D:59:ARG:NE	5:D:59:ARG:CA	2.82	0.41
6:E:34:VAL:O	6:E:42:GLY:N	2.42	0.41
8:G:37:ASN:O	8:G:38:LEU:C	2.60	0.41
10:I:4:TYR:CE1	10:I:88:TYR:HB2	2.57	0.41
12:K:63:LEU:O	12:K:66:LEU:N	2.54	0.41
13:L:76:ASN:ND2	13:L:106:ASP:O	2.54	0.41
16:O:31:LEU:O	16:O:34:LEU:HB3	2.20	0.41
1:A:1048:G:C8	1:A:1048:G:C3'	3.04	0.40
1:A:1088:G:O5'	1:A:1088:G:C8	2.73	0.40
1:A:1126:U:H2'	1:A:1127:G:N7	2.36	0.40
1:A:1221:G:C6	1:A:1222:G:N7	2.89	0.40
1:A:945:G:C6	1:A:1337:G:C4	3.09	0.40
1:A:1357:A:C6	1:A:1358:U:C4	3.09	0.40
1:A:1361:G:C3'	1:A:1361(A):C:H5'	2.50	0.40
1:A:1520:G:H2'	1:A:1521:G:H8	1.85	0.40
1:A:175:C:O5'	1:A:175:C:H6	2.04	0.40
1:A:287:U:H2'	1:A:288:A:O5'	2.21	0.40
1:A:354:G:C6	1:A:355:C:N4	2.89	0.40
1:A:486:U:C2'	1:A:486:U:O2	2.69	0.40
1:A:730:G:N3	1:A:765:G:H4'	2.37	0.40
1:A:93:G:O3'	1:A:95:U:P	2.78	0.40
3:B:96:ARG:O	3:B:98:LEU:HD12	2.21	0.40
4:C:52:LEU:C	4:C:54:ARG:H	2.23	0.40
5:D:200:GLU:HA	5:D:203:VAL:HG23	2.02	0.40
10:I:114:TYR:C	10:I:116:LYS:H	2.24	0.40
11:J:6:ILE:O	11:J:71:LEU:O	2.39	0.40
12:K:82:VAL:HG13	12:K:83:ILE:N	2.35	0.40
13:L:117:ARG:NH2	13:L:124:LYS:HD3	2.36	0.40
13:L:75:HIS:C	13:L:75:HIS:CD2	2.95	0.40
14:M:62:ASN:HA	14:M:62:ASN:HD22	1.74	0.40
15:N:42:ILE:HB	15:N:43:CYS:H	1.75	0.40
1:A:1055:A:C6	1:A:1056:U:C5	3.09	0.40
1:A:1335:C:O5'	1:A:1335:C:H2'	2.21	0.40
1:A:1509:C:H5'	1:A:1510:U:OP2	2.20	0.40
1:A:190(H):G:H2'	1:A:190(I):G:O5'	2.21	0.40
1:A:262:A:H2'	1:A:263:A:C8	2.56	0.40
1:A:401:C:H6	1:A:401:C:C3'	2.26	0.40

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:815:A:O2'	1:A:1527:C:O4'	2.39	0.40
1:A:818:G:C3'	1:A:819:A:C5'	2.91	0.40
4:C:131:ARG:CG	4:C:135:LYS:HZ1	2.34	0.40
4:C:180:ALA:HB1	4:C:182:ILE:CG1	2.51	0.40
5:D:140:VAL:HG11	5:D:146:ILE:HD11	2.03	0.40
6:E:11:ILE:HG12	6:E:11:ILE:H	1.48	0.40
6:E:36:ASP:OD2	6:E:40:ARG:HB2	2.21	0.40
7:F:7:ASN:HB2	7:F:89:MET:O	2.22	0.40
11:J:6:ILE:HD12	11:J:71:LEU:O	2.22	0.40
13:L:93:LEU:HA	13:L:94:PRO:HD3	1.82	0.40
17:P:40:ASP:OD2	17:P:42:ARG:HG2	2.21	0.40
17:P:43:LYS:HB3	17:P:48:TRP:CD1	2.56	0.40
19:R:56:THR:O	19:R:57:GLY:C	2.59	0.40
1:A:1057:G:C5	1:A:1204:A:N1	2.89	0.40
1:A:1332:A:C2	1:A:1333:A:C5	3.09	0.40
1:A:1347:G:C4	10:I:107:ARG:NH1	2.89	0.40
1:A:378:G:C2	1:A:386:C:C2	3.07	0.40
1:A:477:G:C2	1:A:478:A:N7	2.90	0.40
1:A:536:C:C2	1:A:537:G:N7	2.90	0.40
1:A:764:C:N4	1:A:765:G:C6	2.89	0.40
1:A:802:A:H3'	1:A:802:A:C8	2.57	0.40
3:B:174:VAL:C	3:B:176:GLU:H	2.24	0.40
5:D:182:LYS:HB3	5:D:183:GLY:H	1.52	0.40
5:D:97:LEU:HD23	5:D:97:LEU:HA	1.75	0.40
6:E:91:LEU:HD21	6:E:120:THR:CG2	2.50	0.40
6:E:128:PRO:O	6:E:129:ILE:C	2.60	0.40
11:J:74:ILE:H	11:J:74:ILE:HG13	1.57	0.40
13:L:21:LYS:HD2	13:L:21:LYS:HA	1.80	0.40
14:M:5:ALA:HB2	14:M:22:ILE:HG21	2.03	0.40
15:N:23:ARG:CD	15:N:29:ARG:O	2.62	0.40
15:N:9:LYS:C	15:N:11:LYS:N	2.75	0.40
16:O:6:GLU:HG2	16:O:7:GLU:H	1.85	0.40
1:A:1120:G:C2	1:A:1121:U:C4	3.10	0.40
1:A:1120:G:O5'	1:A:1120:G:H8	2.05	0.40
1:A:1466:C:H2'	1:A:1467:G:H5'	2.03	0.40
1:A:1503:A:OP1	1:A:1531:A:O2'	2.39	0.40
1:A:241:C:O2'	1:A:242:C:H5'	2.22	0.40
1:A:440:A:C3'	1:A:442:C:P	3.09	0.40
1:A:518:C:OP2	1:A:530:G:H4'	2.21	0.40
1:A:671:G:C2	1:A:672:U:H1'	2.55	0.40
1:A:658:G:N2	1:A:749:C:N3	2.68	0.40

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:918:A:H2'	1:A:919:A:O4'	2.21	0.40
5:D:125:HIS:C	5:D:126:ILE:HD13	2.41	0.40
6:E:52:PRO:O	6:E:53:LEU:C	2.60	0.40
7:F:26:ILE:HG21	7:F:63:TYR:CE1	2.55	0.40
9:H:92:ARG:HD2	9:H:92:ARG:HA	1.78	0.40
1:A:684:A:C2	12:K:39:PRO:HG2	2.57	0.40
13:L:55:VAL:O	13:L:70:ILE:CD1	2.70	0.40
15:N:43:CYS:O	15:N:44:LEU:C	2.60	0.40
18:Q:75:ARG:NH1	18:Q:75:ARG:HG3	2.36	0.40
1:A:142:G:C2	1:A:222:U:C2	3.10	0.40
1:A:179:A:H5''	1:A:180:U:OP2	2.21	0.40
1:A:27:G:H2'	1:A:28:G:H8	1.86	0.40
1:A:420:U:C2	1:A:424:G:N1	2.89	0.40
1:A:422:C:O2'	1:A:423:G:P	2.79	0.40
1:A:987:G:O5'	1:A:987:G:C8	2.68	0.40
5:D:101:LEU:C	5:D:103:ASN:H	2.25	0.40
5:D:61:LYS:HE3	5:D:62:GLN:HE21	1.77	0.40
9:H:85:ARG:CD	9:H:87:SER:O	2.67	0.40
15:N:14:PRO:O	15:N:15:LYS:C	2.59	0.40
15:N:61:TRP:N	15:N:61:TRP:CE3	2.90	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 X-ray entries followed by that with respect to entries of similar resolution.

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	B	235/256 (92%)	153 (65%)	48 (20%)	34 (14%)	<b>0</b>   <b>4</b>
4	C	204/239 (85%)	120 (59%)	51 (25%)	33 (16%)	<b>0</b>   <b>3</b>
5	D	206/209 (99%)	145 (70%)	37 (18%)	24 (12%)	<b>0</b>   <b>6</b>
6	E	148/162 (91%)	110 (74%)	24 (16%)	14 (10%)	<b>0</b>   <b>11</b>

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	F	99/101 (98%)	76 (77%)	17 (17%)	6 (6%)	1	20
8	G	153/156 (98%)	103 (67%)	36 (24%)	14 (9%)	1	12
9	H	136/138 (99%)	103 (76%)	26 (19%)	7 (5%)	2	23
10	I	125/128 (98%)	79 (63%)	33 (26%)	13 (10%)	0	9
11	J	96/105 (91%)	63 (66%)	20 (21%)	13 (14%)	0	4
12	K	117/129 (91%)	79 (68%)	25 (21%)	13 (11%)	0	7
13	L	123/132 (93%)	76 (62%)	29 (24%)	18 (15%)	0	4
14	M	123/126 (98%)	75 (61%)	31 (25%)	17 (14%)	0	4
15	N	58/61 (95%)	43 (74%)	8 (14%)	7 (12%)	0	6
16	O	86/89 (97%)	56 (65%)	22 (26%)	8 (9%)	0	11
17	P	81/88 (92%)	55 (68%)	17 (21%)	9 (11%)	0	7
18	Q	102/105 (97%)	73 (72%)	21 (21%)	8 (8%)	1	15
19	R	71/88 (81%)	50 (70%)	14 (20%)	7 (10%)	0	10
20	S	82/93 (88%)	58 (71%)	17 (21%)	7 (8%)	1	12
21	T	97/106 (92%)	60 (62%)	21 (22%)	16 (16%)	0	3
All	All	2342/2511 (93%)	1577 (67%)	497 (21%)	268 (11%)	0	7

All (268) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	B	17	PHE
3	B	29	ALA
3	B	99	GLY
3	B	106	LYS
3	B	131	PRO
3	B	134	GLU
3	B	175	ARG
3	B	209	ARG
3	B	226	ARG
4	C	24	ALA
4	C	35	GLU
4	C	43	LEU
4	C	54	ARG
4	C	55	VAL
4	C	67	THR
4	C	127	ARG
4	C	132	ARG

Continued on next page...

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	C	179	ARG
4	C	189	ALA
5	D	9	CYS
5	D	12	CYS
5	D	29	PRO
5	D	104	VAL
5	D	141	ARG
5	D	153	ARG
5	D	160	GLN
6	E	16	THR
6	E	37	ARG
6	E	38	GLN
6	E	72	GLN
6	E	73	ASN
7	F	77	ARG
7	F	100	ASN
8	G	7	ALA
8	G	108	ALA
9	H	105	ARG
10	I	43	ALA
10	I	44	VAL
10	I	55	ALA
10	I	58	ARG
10	I	118	LYS
10	I	119	ALA
11	J	32	ALA
11	J	34	VAL
11	J	50	ILE
11	J	54	PHE
11	J	57	LYS
12	K	100	ALA
12	K	124	LYS
13	L	27	LEU
13	L	28	LYS
13	L	40	VAL
13	L	41	ARG
13	L	96	VAL
14	M	4	ILE
14	M	7	VAL
14	M	106	ASN
14	M	123	ALA
15	N	3	ARG

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
15	N	42	ILE
15	N	43	CYS
17	P	51	VAL
17	P	52	ASP
17	P	67	THR
17	P	71	ARG
18	Q	14	LYS
18	Q	95	TYR
19	R	20	ALA
19	R	37	VAL
19	R	74	ARG
19	R	87	ARG
20	S	6	LYS
20	S	9	VAL
21	T	14	LYS
21	T	73	HIS
21	T	92	LEU
3	B	44	LEU
3	B	89	GLY
3	B	177	ALA
3	B	191	ASP
3	B	204	ASN
3	B	208	ILE
3	B	212	GLN
3	B	225	ALA
4	C	13	GLY
4	C	74	GLY
4	C	96	GLY
4	C	98	ASN
4	C	100	ALA
4	C	128	PHE
4	C	181	ASN
4	C	195	VAL
4	C	206	GLU
5	D	26	CYS
5	D	42	GLN
5	D	118	ARG
5	D	150	GLU
5	D	176	LEU
6	E	59	GLY
6	E	108	ALA
6	E	140	ARG

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
7	F	27	GLN
7	F	45	LEU
8	G	134	ALA
9	H	7	ALA
9	H	54	ASP
10	I	8	GLY
10	I	46	ALA
11	J	73	ASP
12	K	47	VAL
12	K	95	ILE
12	K	117	ASN
13	L	26	ALA
13	L	42	THR
13	L	91	LYS
13	L	103	GLY
13	L	112	ASP
14	M	30	ALA
14	M	31	LYS
14	M	55	ARG
15	N	13	THR
15	N	23	ARG
16	O	47	LYS
16	O	77	ARG
16	O	81	LEU
17	P	13	HIS
18	Q	49	GLU
20	S	27	GLU
20	S	73	GLU
21	T	13	LEU
21	T	88	VAL
21	T	93	GLU
3	B	59	GLU
3	B	123	ALA
3	B	124	SER
3	B	232	PRO
4	C	47	LEU
4	C	200	ALA
5	D	7	PRO
5	D	63	LYS
5	D	102	ASP
5	D	131	ARG
5	D	142	PRO

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
6	E	21	ALA
6	E	56	GLN
7	F	13	ASN
7	F	53	ALA
8	G	82	GLY
8	G	97	GLN
8	G	109	ASN
9	H	23	SER
9	H	68	ARG
10	I	34	ASN
11	J	39	PRO
11	J	60	ARG
12	K	12	ARG
12	K	25	TYR
12	K	74	ALA
13	L	29	GLY
13	L	31	PRO
13	L	62	SER
13	L	105	TYR
13	L	113	ARG
14	M	6	GLY
14	M	50	GLU
14	M	90	LEU
14	M	99	ARG
14	M	109	THR
15	N	5	ALA
15	N	44	LEU
16	O	79	ARG
17	P	46	PRO
18	Q	91	ARG
18	Q	96	GLN
19	R	38	GLU
19	R	67	ALA
20	S	77	THR
21	T	42	GLN
21	T	64	ASP
21	T	84	LEU
21	T	85	MET
21	T	104	LEU
3	B	20	GLU
3	B	21	ARG
3	B	24	TRP

*Continued on next page...*



*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	139	LYS
3	B	227	GLY
4	C	25	GLY
4	C	29	TYR
4	C	40	ARG
4	C	108	ASN
4	C	198	VAL
5	D	5	ILE
5	D	31	CYS
5	D	51	PRO
5	D	159	ARG
5	D	182	LYS
6	E	11	ILE
8	G	59	LEU
8	G	116	ALA
10	I	51	ARG
10	I	126	SER
11	J	40	LEU
11	J	55	LYS
12	K	28	THR
13	L	82	VAL
14	M	21	TYR
16	O	14	GLU
16	O	49	ASP
17	P	69	THR
18	Q	18	THR
19	R	34	TYR
20	S	30	LEU
21	T	74	LYS
3	B	41	ILE
3	B	56	ARG
3	B	122	PHE
3	B	143	GLU
4	C	36	ASP
5	D	4	TYR
6	E	104	ALA
6	E	136	MET
8	G	41	ARG
8	G	96	GLN
8	G	127	ALA
10	I	56	LEU
10	I	71	SER

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
11	J	61	GLU
11	J	90	LEU
12	K	126	ARG
14	M	79	LYS
14	M	80	ARG
16	O	13	GLN
17	P	10	GLY
21	T	63	ILE
3	B	8	LYS
4	C	51	GLY
4	C	175	LEU
9	H	80	ILE
12	K	15	ALA
13	L	43	VAL
17	P	12	LYS
18	Q	86	GLU
4	C	39	ILE
8	G	9	VAL
13	L	55	VAL
14	M	25	ILE
16	O	19	PRO
18	Q	47	PRO
20	S	42	PRO
21	T	98	PRO
3	B	174	VAL
3	B	214	ILE
4	C	14	ILE
4	C	66	VAL
5	D	56	VAL
8	G	111	ARG
12	K	57	THR
12	K	120	ARG
4	C	81	GLY
8	G	34	GLY
9	H	100	ILE
21	T	33	ILE
6	E	51	VAL
11	J	76	ASN
14	M	24	GLY
3	B	15	VAL
21	T	101	GLY

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	B	204/220 (93%)	125 (61%)	79 (39%)	0	0
4	C	160/188 (85%)	90 (56%)	70 (44%)	0	0
5	D	180/181 (99%)	105 (58%)	75 (42%)	0	0
6	E	115/123 (94%)	70 (61%)	45 (39%)	0	0
7	F	90/90 (100%)	63 (70%)	27 (30%)	0	2
8	G	126/127 (99%)	80 (64%)	46 (36%)	0	0
9	H	119/119 (100%)	78 (66%)	41 (34%)	0	1
10	I	98/99 (99%)	61 (62%)	37 (38%)	0	0
11	J	87/92 (95%)	51 (59%)	36 (41%)	0	0
12	K	90/99 (91%)	62 (69%)	28 (31%)	0	2
13	L	104/109 (95%)	53 (51%)	51 (49%)	0	0
14	M	100/101 (99%)	59 (59%)	41 (41%)	0	0
15	N	49/50 (98%)	26 (53%)	23 (47%)	0	0
16	O	79/80 (99%)	48 (61%)	31 (39%)	0	0
17	P	72/74 (97%)	45 (62%)	27 (38%)	0	0
18	Q	96/97 (99%)	69 (72%)	27 (28%)	0	3
19	R	64/77 (83%)	37 (58%)	27 (42%)	0	0
20	S	73/80 (91%)	47 (64%)	26 (36%)	0	1
21	T	76/82 (93%)	50 (66%)	26 (34%)	0	1
All	All	1982/2088 (95%)	1219 (62%)	763 (38%)	0	0

All (763) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	B	7	VAL
3	B	8	LYS
3	B	9	GLU
3	B	10	LEU

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	11	LEU
3	B	12	GLU
3	B	15	VAL
3	B	17	PHE
3	B	21	ARG
3	B	22	LYS
3	B	23	ARG
3	B	24	TRP
3	B	25	ASN
3	B	27	LYS
3	B	35	GLU
3	B	40	HIS
3	B	44	LEU
3	B	45	GLN
3	B	46	LYS
3	B	48	MET
3	B	49	GLU
3	B	53	ARG
3	B	56	ARG
3	B	58	ILE
3	B	61	LEU
3	B	64	ARG
3	B	69	LEU
3	B	71	VAL
3	B	76	GLN
3	B	80	ILE
3	B	82	ARG
3	B	83	MET
3	B	84	GLU
3	B	87	ARG
3	B	92	TYR
3	B	97	TRP
3	B	98	LEU
3	B	102	LEU
3	B	108	ILE
3	B	112	VAL
3	B	113	HIS
3	B	115	LEU
3	B	117	GLU
3	B	121	LEU
3	B	132	LYS
3	B	140	HIS

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	144	ARG
3	B	146	GLN
3	B	148	TYR
3	B	149	LEU
3	B	153	ARG
3	B	154	LEU
3	B	155	LEU
3	B	158	LEU
3	B	162	ILE
3	B	165	VAL
3	B	168	THR
3	B	169	LYS
3	B	172	ILE
3	B	175	ARG
3	B	176	GLU
3	B	179	LYS
3	B	185	ILE
3	B	187	LEU
3	B	190	THR
3	B	196	LEU
3	B	206	ASP
3	B	209	ARG
3	B	213	LEU
3	B	215	LEU
3	B	221	LEU
3	B	224	GLN
3	B	229	VAL
3	B	231	GLU
3	B	233	SER
3	B	236	TYR
3	B	238	LEU
3	B	241	GLU
3	B	243	GLU
4	C	3	ASN
4	C	8	ILE
4	C	11	ARG
4	C	15	THR
4	C	23	TYR
4	C	26	LYS
4	C	27	LYS
4	C	29	TYR
4	C	30	ARG

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	C	33	LEU
4	C	34	LEU
4	C	36	ASP
4	C	37	GLN
4	C	43	LEU
4	C	45	LYS
4	C	48	TYR
4	C	52	LEU
4	C	54	ARG
4	C	56	ASP
4	C	57	ILE
4	C	58	GLU
4	C	59	ARG
4	C	63	ASN
4	C	69	HIS
4	C	75	VAL
4	C	77	ILE
4	C	79	ARG
4	C	82	GLU
4	C	83	ARG
4	C	84	ILE
4	C	86	VAL
4	C	88	ARG
4	C	91	LEU
4	C	93	LYS
4	C	94	LEU
4	C	95	THR
4	C	99	VAL
4	C	101	LEU
4	C	104	GLN
4	C	108	ASN
4	C	112	SER
4	C	115	LEU
4	C	124	ILE
4	C	126	ARG
4	C	128	PHE
4	C	130	VAL
4	C	131	ARG
4	C	135	LYS
4	C	143	GLU
4	C	154	SER
4	C	157	ILE

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	C	164	ARG
4	C	166	GLU
4	C	170	GLN
4	C	172	ARG
4	C	175	LEU
4	C	176	HIS
4	C	177	THR
4	C	179	ARG
4	C	188	LEU
4	C	190	ARG
4	C	192	THR
4	C	193	TYR
4	C	195	VAL
4	C	196	LEU
4	C	198	VAL
4	C	201	TYR
4	C	202	ILE
4	C	203	PHE
4	C	204	LEU
5	D	3	ARG
5	D	8	VAL
5	D	9	CYS
5	D	10	ARG
5	D	12	CYS
5	D	13	ARG
5	D	15	GLU
5	D	21	LEU
5	D	24	GLU
5	D	25	ARG
5	D	26	CYS
5	D	27	TYR
5	D	28	SER
5	D	35	ARG
5	D	36	ARG
5	D	38	TYR
5	D	50	ARG
5	D	53	ASP
5	D	57	ARG
5	D	59	ARG
5	D	61	LYS
5	D	64	LEU
5	D	66	ARG

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
5	D	70	ILE
5	D	72	GLU
5	D	74	GLN
5	D	76	ARG
5	D	79	PHE
5	D	83	SER
5	D	84	LYS
5	D	89	THR
5	D	100	ARG
5	D	104	VAL
5	D	112	VAL
5	D	114	ARG
5	D	115	ARG
5	D	116	GLN
5	D	118	ARG
5	D	120	LEU
5	D	122	ARG
5	D	123	HIS
5	D	126	ILE
5	D	127	THR
5	D	131	ARG
5	D	132	ARG
5	D	135	LEU
5	D	137	SER
5	D	138	TYR
5	D	139	ARG
5	D	141	ARG
5	D	144	ASP
5	D	148	VAL
5	D	150	GLU
5	D	151	LYS
5	D	152	SER
5	D	155	LEU
5	D	157	LEU
5	D	162	LEU
5	D	166	LYS
5	D	169	LYS
5	D	175	SER
5	D	178	VAL
5	D	179	GLU
5	D	185	PHE
5	D	187	ARG

*Continued on next page...*



*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
5	D	188	LEU
5	D	192	GLU
5	D	194	LEU
5	D	196	LEU
5	D	198	VAL
5	D	199	GLN
5	D	200	GLU
5	D	201	ASN
5	D	202	LEU
5	D	204	ILE
6	E	5	ASP
6	E	9	LYS
6	E	10	MET
6	E	11	ILE
6	E	12	LEU
6	E	13	ILE
6	E	15	ARG
6	E	16	THR
6	E	18	ARG
6	E	19	MET
6	E	24	ARG
6	E	25	ARG
6	E	27	ARG
6	E	31	LEU
6	E	33	VAL
6	E	34	VAL
6	E	38	GLN
6	E	40	ARG
6	E	43	LEU
6	E	52	PRO
6	E	53	LEU
6	E	55	VAL
6	E	57	LYS
6	E	60	TYR
6	E	64	ARG
6	E	72	GLN
6	E	76	ILE
6	E	79	GLU
6	E	80	ILE
6	E	90	VAL
6	E	92	LYS
6	E	105	VAL

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
6	E	120	THR
6	E	121	LYS
6	E	122	GLU
6	E	123	LEU
6	E	125	SER
6	E	126	ARG
6	E	133	TYR
6	E	143	ARG
6	E	144	THR
6	E	145	LYS
6	E	149	GLU
6	E	150	ARG
6	E	153	LYS
7	F	8	ILE
7	F	9	VAL
7	F	10	LEU
7	F	15	ASP
7	F	19	LEU
7	F	23	LYS
7	F	32	ASN
7	F	39	LYS
7	F	41	GLU
7	F	43	LEU
7	F	46	ARG
7	F	48	LEU
7	F	55	ASP
7	F	65	VAL
7	F	70	ASP
7	F	73	ASN
7	F	74	ASP
7	F	75	LEU
7	F	77	ARG
7	F	80	ARG
7	F	82	ARG
7	F	87	ARG
7	F	88	VAL
7	F	89	MET
7	F	90	VAL
7	F	93	SER
7	F	98	LEU
8	G	4	ARG
8	G	8	GLU

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
8	G	9	VAL
8	G	10	ARG
8	G	11	GLN
8	G	12	LEU
8	G	15	ASP
8	G	24	THR
8	G	28	ASN
8	G	31	MET
8	G	36	LYS
8	G	37	ASN
8	G	38	LEU
8	G	48	LYS
8	G	50	ILE
8	G	51	GLN
8	G	52	GLU
8	G	53	LYS
8	G	54	THR
8	G	56	GLN
8	G	57	GLU
8	G	67	GLU
8	G	69	VAL
8	G	75	VAL
8	G	77	SER
8	G	79	ARG
8	G	90	GLU
8	G	94	ARG
8	G	95	ARG
8	G	96	GLN
8	G	97	GLN
8	G	98	SER
8	G	113	GLU
8	G	114	ARG
8	G	120	ILE
8	G	124	LEU
8	G	126	ASP
8	G	131	LYS
8	G	135	VAL
8	G	136	LYS
8	G	138	LYS
8	G	143	ARG
8	G	144	MET
8	G	148	ASN

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
8	G	154	TYR
8	G	156	TRP
9	H	3	THR
9	H	12	ARG
9	H	14	ARG
9	H	18	ARG
9	H	19	VAL
9	H	21	LYS
9	H	22	GLU
9	H	24	THR
9	H	32	LYS
9	H	35	ILE
9	H	41	ARG
9	H	45	ILE
9	H	46	LYS
9	H	49	GLU
9	H	50	ARG
9	H	51	VAL
9	H	53	VAL
9	H	56	LYS
9	H	63	LEU
9	H	64	LYS
9	H	68	ARG
9	H	75	ARG
9	H	77	GLU
9	H	84	ARG
9	H	85	ARG
9	H	87	SER
9	H	91	ARG
9	H	92	ARG
9	H	102	ARG
9	H	104	ARG
9	H	105	ARG
9	H	107	LEU
9	H	109	ILE
9	H	111	ILE
9	H	112	LEU
9	H	113	SER
9	H	118	VAL
9	H	120	THR
9	H	127	LEU
9	H	129	VAL

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
9	H	133	LEU
10	I	9	ARG
10	I	14	VAL
10	I	16	ARG
10	I	27	THR
10	I	29	ASN
10	I	31	GLN
10	I	34	ASN
10	I	35	GLU
10	I	38	GLN
10	I	40	LEU
10	I	51	ARG
10	I	53	VAL
10	I	54	ASP
10	I	59	PHE
10	I	64	THR
10	I	75	ASP
10	I	78	LYS
10	I	79	LEU
10	I	83	ARG
10	I	85	LEU
10	I	86	VAL
10	I	97	LYS
10	I	104	ARG
10	I	105	ASP
10	I	107	ARG
10	I	108	VAL
10	I	110	GLU
10	I	111	ARG
10	I	113	LYS
10	I	114	TYR
10	I	117	HIS
10	I	118	LYS
10	I	121	ARG
10	I	125	TYR
10	I	126	SER
10	I	127	LYS
10	I	128	ARG
11	J	3	LYS
11	J	6	ILE
11	J	7	LYS
11	J	13	HIS

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
11	J	14	LYS
11	J	16	LEU
11	J	19	SER
11	J	28	ARG
11	J	34	VAL
11	J	35	SER
11	J	38	ILE
11	J	40	LEU
11	J	45	ARG
11	J	46	ARG
11	J	48	THR
11	J	50	ILE
11	J	51	ARG
11	J	54	PHE
11	J	57	LYS
11	J	59	SER
11	J	60	ARG
11	J	64	GLU
11	J	65	LEU
11	J	66	ARG
11	J	70	ARG
11	J	71	LEU
11	J	73	ASP
11	J	74	ILE
11	J	75	ILE
11	J	80	LYS
11	J	83	GLU
11	J	84	GLN
11	J	92	THR
11	J	96	ILE
11	J	98	ILE
11	J	99	LYS
12	K	11	LYS
12	K	12	ARG
12	K	21	ILE
12	K	24	SER
12	K	27	ASN
12	K	28	THR
12	K	29	ILE
12	K	30	VAL
12	K	48	ILE
12	K	51	LYS

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
12	K	53	SER
12	K	54	ARG
12	K	57	THR
12	K	62	GLN
12	K	66	LEU
12	K	73	MET
12	K	78	GLN
12	K	81	ASP
12	K	87	THR
12	K	92	GLU
12	K	93	GLN
12	K	103	LEU
12	K	106	LYS
12	K	109	VAL
12	K	119	CYS
12	K	123	LYS
12	K	124	LYS
12	K	129	SER
13	L	13	LYS
13	L	15	ARG
13	L	17	LYS
13	L	18	VAL
13	L	19	ARG
13	L	20	LYS
13	L	21	LYS
13	L	22	SER
13	L	23	LYS
13	L	27	LEU
13	L	28	LYS
13	L	32	PHE
13	L	33	ARG
13	L	34	ARG
13	L	36	VAL
13	L	37	CYS
13	L	38	THR
13	L	41	ARG
13	L	42	THR
13	L	43	VAL
13	L	46	LYS
13	L	47	LYS
13	L	49	ASN
13	L	53	ARG

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
13	L	54	LYS
13	L	57	LYS
13	L	60	LEU
13	L	61	THR
13	L	69	TYR
13	L	70	ILE
13	L	73	GLU
13	L	75	HIS
13	L	76	ASN
13	L	81	SER
13	L	82	VAL
13	L	83	VAL
13	L	85	ILE
13	L	86	ARG
13	L	90	VAL
13	L	91	LYS
13	L	93	LEU
13	L	96	VAL
13	L	98	TYR
13	L	99	HIS
13	L	102	ARG
13	L	104	VAL
13	L	113	ARG
13	L	114	LYS
13	L	122	THR
13	L	123	LYS
13	L	124	LYS
14	M	3	ARG
14	M	4	ILE
14	M	7	VAL
14	M	9	ILE
14	M	12	ASN
14	M	14	ARG
14	M	16	ASP
14	M	17	VAL
14	M	25	ILE
14	M	31	LYS
14	M	32	GLU
14	M	36	LYS
14	M	37	THR
14	M	39	ILE
14	M	43	THR

*Continued on next page...*



*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
14	M	44	ARG
14	M	46	LYS
14	M	54	VAL
14	M	55	ARG
14	M	56	LEU
14	M	57	ARG
14	M	62	ASN
14	M	67	GLU
14	M	70	LEU
14	M	78	ILE
14	M	81	LEU
14	M	83	ASP
14	M	91	ARG
14	M	94	ARG
14	M	99	ARG
14	M	102	ARG
14	M	105	THR
14	M	106	ASN
14	M	108	ARG
14	M	110	ARG
14	M	111	LYS
14	M	115	LYS
14	M	120	LYS
14	M	121	LYS
14	M	122	LYS
14	M	125	ARG
15	N	3	ARG
15	N	4	LYS
15	N	6	LEU
15	N	7	ILE
15	N	12	ARG
15	N	13	THR
15	N	16	PHE
15	N	17	LYS
15	N	21	TYR
15	N	23	ARG
15	N	26	ARG
15	N	31	ARG
15	N	32	SER
15	N	35	ARG
15	N	36	PHE
15	N	39	LEU

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
15	N	42	ILE
15	N	44	LEU
15	N	50	LYS
15	N	53	LEU
15	N	58	LYS
15	N	60	SER
15	N	61	TRP
16	O	3	ILE
16	O	5	LYS
16	O	12	ILE
16	O	13	GLN
16	O	14	GLU
16	O	17	ARG
16	O	22	THR
16	O	24	SER
16	O	27	VAL
16	O	32	LEU
16	O	35	ARG
16	O	41	GLU
16	O	42	HIS
16	O	43	LEU
16	O	45	VAL
16	O	46	HIS
16	O	47	LYS
16	O	48	LYS
16	O	50	HIS
16	O	56	LEU
16	O	60	VAL
16	O	64	ARG
16	O	65	ARG
16	O	68	ARG
16	O	70	LEU
16	O	71	GLN
16	O	72	ARG
16	O	73	GLU
16	O	81	LEU
16	O	83	GLU
16	O	88	ARG
17	P	1	MET
17	P	2	VAL
17	P	5	ARG
17	P	8	ARG

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
17	P	11	SER
17	P	12	LYS
17	P	20	VAL
17	P	27	LYS
17	P	28	ARG
17	P	33	ILE
17	P	35	LYS
17	P	42	ARG
17	P	43	LYS
17	P	44	THR
17	P	45	THR
17	P	47	ASP
17	P	49	LEU
17	P	51	VAL
17	P	53	VAL
17	P	55	ARG
17	P	57	ARG
17	P	62	VAL
17	P	65	GLN
17	P	67	THR
17	P	74	LEU
17	P	81	ARG
17	P	82	GLN
18	Q	5	VAL
18	Q	6	LEU
18	Q	7	THR
18	Q	14	LYS
18	Q	23	VAL
18	Q	34	LYS
18	Q	35	VAL
18	Q	36	ILE
18	Q	38	ARG
18	Q	50	LYS
18	Q	52	LYS
18	Q	53	LEU
18	Q	57	VAL
18	Q	58	GLU
18	Q	59	ILE
18	Q	76	LEU
18	Q	77	VAL
18	Q	78	GLU
18	Q	81	ARG

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
18	Q	84	LEU
18	Q	85	VAL
18	Q	86	GLU
18	Q	87	LYS
18	Q	92	ARG
18	Q	95	TYR
18	Q	96	GLN
18	Q	100	LYS
19	R	18	ARG
19	R	19	LYS
19	R	21	LYS
19	R	25	THR
19	R	26	LEU
19	R	31	LEU
19	R	36	ASN
19	R	38	GLU
19	R	40	LEU
19	R	41	LYS
19	R	44	LEU
19	R	47	THR
19	R	50	ILE
19	R	53	ARG
19	R	54	ARG
19	R	55	ARG
19	R	58	LEU
19	R	59	SER
19	R	69	THR
19	R	75	ILE
19	R	76	LEU
19	R	78	LEU
19	R	82	THR
19	R	84	LYS
19	R	86	VAL
19	R	87	ARG
19	R	88	LYS
20	S	5	LEU
20	S	13	ASP
20	S	14	HIS
20	S	15	LEU
20	S	20	LEU
20	S	25	LYS
20	S	27	GLU

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
20	S	28	LYS
20	S	29	ARG
20	S	30	LEU
20	S	33	THR
20	S	37	ARG
20	S	38	SER
20	S	41	VAL
20	S	43	GLU
20	S	44	MET
20	S	52	TYR
20	S	58	VAL
20	S	61	TYR
20	S	63	THR
20	S	64	GLU
20	S	65	ASN
20	S	71	LEU
20	S	78	ARG
20	S	79	THR
20	S	83	HIS
21	T	10	LEU
21	T	11	SER
21	T	13	LEU
21	T	19	SER
21	T	24	LEU
21	T	29	LYS
21	T	30	LYS
21	T	36	LEU
21	T	37	SER
21	T	43	LEU
21	T	57	ARG
21	T	58	LYS
21	T	61	SER
21	T	62	LEU
21	T	64	ASP
21	T	68	LYS
21	T	74	LYS
21	T	80	ARG
21	T	81	LYS
21	T	85	MET
21	T	86	ARG
21	T	87	LYS
21	T	99	LEU

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
21	T	100	ILE
21	T	104	LEU
21	T	105	SER

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (38) such sidechains are listed below:

Mol	Chain	Res	Type
3	B	25	ASN
3	B	94	ASN
3	B	135	GLN
3	B	212	GLN
4	C	3	ASN
4	C	6	HIS
4	C	123	GLN
4	C	176	HIS
5	D	62	GLN
5	D	123	HIS
5	D	129	ASN
5	D	199	GLN
7	F	73	ASN
8	G	37	ASN
8	G	56	GLN
8	G	96	GLN
8	G	106	GLN
8	G	148	ASN
9	H	78	GLN
10	I	34	ASN
10	I	73	GLN
11	J	68	HIS
11	J	76	ASN
11	J	78	ASN
12	K	27	ASN
13	L	49	ASN
13	L	75	HIS
13	L	76	ASN
13	L	99	HIS
14	M	40	ASN
14	M	62	ASN
16	O	37	ASN
18	Q	16	GLN
18	Q	96	GLN
20	S	53	ASN

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
20	S	65	ASN
21	T	18	GLN
21	T	73	HIS

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1494/1511 (98%)	656 (43%)	162 (10%)
2	Z	3/4 (75%)	0	0
All	All	1497/1515 (98%)	656 (43%)	162 (10%)

All (656) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	6	G
1	A	8	A
1	A	9	G
1	A	13	U
1	A	16	A
1	A	17	U
1	A	18	C
1	A	20	U
1	A	25	C
1	A	31	G
1	A	32	A
1	A	36	C
1	A	37	U
1	A	38	G
1	A	39	G
1	A	40	C
1	A	44	G
1	A	47	C
1	A	48	C
1	A	49	U
1	A	50	A
1	A	51	A
1	A	52	G
1	A	54	C
1	A	55	A
1	A	56	U
1	A	59	A

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	60	A
1	A	61	G
1	A	63	C
1	A	64	G
1	A	65	U
1	A	66	G
1	A	67	C
1	A	70	G
1	A	75	G
1	A	78	G
1	A	81	U
1	A	82	U
1	A	84	U
1	A	92	C
1	A	96	G
1	A	97	G
1	A	109	A
1	A	110	C
1	A	111	G
1	A	116	A
1	A	120	A
1	A	121	C
1	A	126	G
1	A	129(A)	G
1	A	130	A
1	A	131	C
1	A	145	G
1	A	149	A
1	A	150	C
1	A	152	A
1	A	153	C
1	A	154	C
1	A	156	G
1	A	160	A
1	A	162	A
1	A	163	C
1	A	167	G
1	A	169	C
1	A	170	U
1	A	179	A
1	A	182	U
1	A	183	G

*Continued on next page...*



*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	185	A
1	A	187	C
1	A	190(E)	U
1	A	190(G)	G
1	A	190(L)	U
1	A	195	A
1	A	197	A
1	A	198	G
1	A	200	G
1	A	201	C
1	A	202	U
1	A	203	U
1	A	204	U
1	A	217	C
1	A	220	G
1	A	221	C
1	A	222	U
1	A	226	G
1	A	231	G
1	A	236	G
1	A	237	C
1	A	240	C
1	A	244	U
1	A	245	C
1	A	246	A
1	A	247	G
1	A	250	A
1	A	251	G
1	A	252	U
1	A	258	G
1	A	263	A
1	A	264	U
1	A	265	G
1	A	266	G
1	A	267	C
1	A	268	C
1	A	269	C
1	A	271	C
1	A	275	G
1	A	279	A
1	A	280	C
1	A	281	G

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	282	A
1	A	283	C
1	A	285	G
1	A	288	A
1	A	289	G
1	A	290	C
1	A	293	G
1	A	294	U
1	A	298	A
1	A	311	C
1	A	315	A
1	A	316	G
1	A	317	G
1	A	318	G
1	A	321	A
1	A	325	A
1	A	326	G
1	A	327	A
1	A	328	C
1	A	329	A
1	A	330	C
1	A	332	G
1	A	333	G
1	A	336	C
1	A	344	A
1	A	345	C
1	A	346	G
1	A	347	G
1	A	350	G
1	A	351	G
1	A	352	C
1	A	353	A
1	A	354	G
1	A	355	C
1	A	365	U
1	A	367	U
1	A	368	U
1	A	372	C
1	A	373	A
1	A	374	A
1	A	384	G
1	A	390	C

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	391	G
1	A	393	A
1	A	397	A
1	A	398	C
1	A	400	C
1	A	406	G
1	A	409	G
1	A	410	G
1	A	411	A
1	A	412	A
1	A	413	G
1	A	414	A
1	A	415	A
1	A	417	C
1	A	421	U
1	A	422	C
1	A	423	G
1	A	424	G
1	A	426	G
1	A	429	U
1	A	430	A
1	A	433	C
1	A	435	C
1	A	437	U
1	A	439	A
1	A	443	C
1	A	445	G
1	A	452	A
1	A	453	A
1	A	454	C
1	A	459	G
1	A	460	A
1	A	461	C
1	A	462	G
1	A	476	G
1	A	480	U
1	A	481	G
1	A	482	A
1	A	484	G
1	A	485	G
1	A	487	A
1	A	490	G

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	496	A
1	A	497	A
1	A	498	U
1	A	500	G
1	A	502	G
1	A	504	C
1	A	505	G
1	A	506	G
1	A	508	C
1	A	509	A
1	A	510	A
1	A	511	C
1	A	513	C
1	A	517	G
1	A	518	C
1	A	519	C
1	A	520	A
1	A	521	G
1	A	527	G
1	A	529	G
1	A	531	U
1	A	532	A
1	A	533	A
1	A	534	U
1	A	535	A
1	A	536	C
1	A	537	G
1	A	545	C
1	A	547	A
1	A	550	G
1	A	555	C
1	A	556	C
1	A	559	A
1	A	560	U
1	A	561	U
1	A	562	C
1	A	564	C
1	A	567	G
1	A	570	G
1	A	572	A
1	A	573	A
1	A	575	G

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	576	G
1	A	577	G
1	A	582	U
1	A	583	A
1	A	593	G
1	A	594	G
1	A	596	C
1	A	607	A
1	A	617	G
1	A	620	C
1	A	623	C
1	A	624	C
1	A	633	G
1	A	636	U
1	A	640	A
1	A	653	A
1	A	654	G
1	A	655	A
1	A	657	G
1	A	661	G
1	A	665	A
1	A	670	G
1	A	671	G
1	A	673	G
1	A	675	A
1	A	681	C
1	A	683	G
1	A	685	G
1	A	686	U
1	A	688	G
1	A	693	G
1	A	695	A
1	A	696	A
1	A	700	G
1	A	701	C
1	A	702	A
1	A	703	G
1	A	704	A
1	A	705	U
1	A	707	C
1	A	715	A
1	A	718	G

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	721	G
1	A	722	A
1	A	723	U
1	A	724	G
1	A	725	G
1	A	726	C
1	A	731	G
1	A	734	G
1	A	735	C
1	A	736	C
1	A	748	C
1	A	749	C
1	A	752	G
1	A	754	C
1	A	755	G
1	A	759	A
1	A	762	C
1	A	764	C
1	A	767	A
1	A	773	G
1	A	774	G
1	A	777	A
1	A	779	C
1	A	781	A
1	A	784	C
1	A	785	G
1	A	787	A
1	A	789	U
1	A	792	A
1	A	793	U
1	A	794	A
1	A	795	C
1	A	799	G
1	A	801	U
1	A	803	G
1	A	804	U
1	A	805	C
1	A	809	G
1	A	810	C
1	A	813	U
1	A	815	A
1	A	817	C

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	818	G
1	A	819	A
1	A	821	G
1	A	825	G
1	A	828	A
1	A	833	U
1	A	837	G
1	A	839	U
1	A	840	C
1	A	841	U
1	A	854	G
1	A	856	C
1	A	857	C
1	A	858	G
1	A	859	A
1	A	866	C
1	A	869	G
1	A	870	U
1	A	872	A
1	A	873	A
1	A	874	G
1	A	876	G
1	A	877	C
1	A	881	G
1	A	883	C
1	A	884	U
1	A	886	G
1	A	888	G
1	A	889	A
1	A	891	U
1	A	900	A
1	A	902	G
1	A	908	A
1	A	910	C
1	A	913	A
1	A	914	A
1	A	917	G
1	A	919	A
1	A	921	U
1	A	926	G
1	A	927	G
1	A	932	C

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	933	G
1	A	934	C
1	A	935	A
1	A	937	A
1	A	938	A
1	A	939	G
1	A	942	G
1	A	943	U
1	A	945	G
1	A	948	C
1	A	954	G
1	A	960	U
1	A	961	U
1	A	964	A
1	A	965	A
1	A	966	G
1	A	967	C
1	A	969	A
1	A	971	G
1	A	972	C
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	978	A
1	A	979	C
1	A	981	U
1	A	983	A
1	A	984	C
1	A	987	G
1	A	989	C
1	A	991	U
1	A	992	U
1	A	993	G
1	A	994	A
1	A	1000	U
1	A	1002	G
1	A	1004	A
1	A	1005	A
1	A	1006	C
1	A	1008	C
1	A	1009	G

*Continued on next page...*



*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1010	G
1	A	1011	G
1	A	1017	G
1	A	1021	G
1	A	1022	G
1	A	1023	G
1	A	1024	G
1	A	1025	U
1	A	1026	G
1	A	1027	C
1	A	1028	C
1	A	1029	C
1	A	1030(B)	C
1	A	1030(C)	G
1	A	1031	G
1	A	1032	G
1	A	1033	G
1	A	1034	G
1	A	1035	A
1	A	1037	C
1	A	1038	C
1	A	1042	G
1	A	1043	C
1	A	1044	A
1	A	1045	C
1	A	1046	A
1	A	1048	G
1	A	1049	U
1	A	1050	G
1	A	1053	G
1	A	1054	C
1	A	1057	G
1	A	1062	U
1	A	1064	G
1	A	1065	U
1	A	1066	C
1	A	1067	A
1	A	1068	G
1	A	1070	U
1	A	1076	C
1	A	1077	G
1	A	1078	U

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1082	G
1	A	1085	U
1	A	1086	U
1	A	1092	A
1	A	1093	A
1	A	1094	G
1	A	1095	U
1	A	1096	C
1	A	1097	C
1	A	1099	G
1	A	1101	A
1	A	1102	A
1	A	1106	G
1	A	1108	G
1	A	1109	C
1	A	1110	A
1	A	1113	C
1	A	1117	G
1	A	1118	C
1	A	1122	U
1	A	1124	G
1	A	1125	U
1	A	1126	U
1	A	1127	G
1	A	1128	C
1	A	1129	C
1	A	1130	A
1	A	1131	G
1	A	1134	G
1	A	1136	U
1	A	1137	C
1	A	1138	G
1	A	1139	G
1	A	1140	C
1	A	1141	C
1	A	1142	G
1	A	1144	G
1	A	1145	C
1	A	1146	A
1	A	1148	U
1	A	1151	A
1	A	1152	A

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1153	C
1	A	1158	C
1	A	1159	U
1	A	1160	G
1	A	1161	C
1	A	1162	C
1	A	1171	G
1	A	1176	A
1	A	1182	G
1	A	1183	A
1	A	1184	G
1	A	1186	G
1	A	1187	G
1	A	1188	A
1	A	1190	G
1	A	1191	A
1	A	1192	C
1	A	1196	U
1	A	1197	G
1	A	1198	G
1	A	1200	C
1	A	1201	A
1	A	1202	G
1	A	1206	G
1	A	1209	C
1	A	1210	C
1	A	1211	U
1	A	1212	U
1	A	1213	A
1	A	1214	C
1	A	1215	G
1	A	1218	C
1	A	1219	U
1	A	1224	G
1	A	1225	A
1	A	1226	C
1	A	1227	A
1	A	1228	C
1	A	1229	A
1	A	1233	G
1	A	1234	C
1	A	1235	U

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1236	A
1	A	1238	A
1	A	1240	U
1	A	1241	G
1	A	1245	A
1	A	1250	A
1	A	1251	A
1	A	1253	G
1	A	1256	A
1	A	1257	U
1	A	1258	G
1	A	1260	C
1	A	1263	C
1	A	1265	G
1	A	1268	A
1	A	1269	A
1	A	1270	C
1	A	1273	G
1	A	1278	U
1	A	1279	A
1	A	1280	A
1	A	1281	U
1	A	1282	C
1	A	1286	A
1	A	1287	A
1	A	1290	G
1	A	1291	G
1	A	1297	C
1	A	1300	G
1	A	1302	U
1	A	1305	G
1	A	1311	G
1	A	1312	G
1	A	1316	G
1	A	1317	C
1	A	1320	C
1	A	1322	C
1	A	1323	G
1	A	1327	C
1	A	1328	C
1	A	1332	A
1	A	1337	G

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1338	G
1	A	1340	A
1	A	1344	C
1	A	1345	U
1	A	1346	A
1	A	1347	G
1	A	1348	U
1	A	1349	A
1	A	1353	G
1	A	1354	C
1	A	1355	G
1	A	1360	A
1	A	1361(A)	C
1	A	1362	C
1	A	1363	A
1	A	1364	U
1	A	1365	G
1	A	1366	C
1	A	1368	G
1	A	1370	G
1	A	1371	G
1	A	1372	U
1	A	1379	G
1	A	1380	U
1	A	1381	U
1	A	1384	C
1	A	1386	G
1	A	1396	A
1	A	1397	C
1	A	1398	A
1	A	1400	C
1	A	1401	G
1	A	1402	C
1	A	1403	C
1	A	1404	C
1	A	1407	C
1	A	1408	A
1	A	1409	C
1	A	1410	G
1	A	1418	A
1	A	1419	G
1	A	1423	G

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1427	U
1	A	1437	C
1	A	1440	C
1	A	1442	G
1	A	1447	G
1	A	1450	U
1	A	1451	A
1	A	1452	C
1	A	1453	G
1	A	1454	G
1	A	1460	A
1	A	1468	A
1	A	1472	U
1	A	1478	C
1	A	1483	A
1	A	1487	G
1	A	1490	C
1	A	1491	G
1	A	1492	A
1	A	1494	G
1	A	1497	G
1	A	1498	U
1	A	1499	A
1	A	1503	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1507	A
1	A	1509	C
1	A	1514	C
1	A	1517	G
1	A	1519	A
1	A	1520	G
1	A	1522	U
1	A	1525	G
1	A	1526	G
1	A	1527	C
1	A	1528	U
1	A	1529	G
1	A	1530	G
1	A	1533	C

All (162) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	7	G
1	A	30	U
1	A	48	C
1	A	51	A
1	A	60	A
1	A	64	G
1	A	115	G
1	A	119	A
1	A	129(A)	G
1	A	151	A
1	A	181	G
1	A	197	A
1	A	202	U
1	A	203	U
1	A	243	A
1	A	244	U
1	A	246	A
1	A	250	A
1	A	251	G
1	A	266	G
1	A	275	G
1	A	279	A
1	A	281	G
1	A	288	A
1	A	293	G
1	A	315	A
1	A	328	C
1	A	329	A
1	A	345	C
1	A	350	G
1	A	351	G
1	A	353	A
1	A	367	U
1	A	372	C
1	A	373	A
1	A	405	U
1	A	409	G
1	A	410	G
1	A	412	A
1	A	421	U
1	A	428	G
1	A	429	U
1	A	438	G

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	453	A
1	A	460	A
1	A	461	C
1	A	481	G
1	A	484	G
1	A	485	G
1	A	496	A
1	A	497	A
1	A	499	A
1	A	504	C
1	A	509	A
1	A	518	C
1	A	531	U
1	A	533	A
1	A	535	A
1	A	536	C
1	A	559	A
1	A	560	U
1	A	575	G
1	A	576	G
1	A	619	U
1	A	650	G
1	A	652	U
1	A	653	A
1	A	656	C
1	A	687	A
1	A	701	C
1	A	702	A
1	A	703	G
1	A	721	G
1	A	722	A
1	A	734	G
1	A	793	U
1	A	812	C
1	A	817	C
1	A	818	G
1	A	872	A
1	A	873	A
1	A	913	A
1	A	934	C
1	A	960	U
1	A	965	A

*Continued on next page...*



*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	971	G
1	A	974	A
1	A	975	A
1	A	976	G
1	A	980	C
1	A	992	U
1	A	993	G
1	A	1024	G
1	A	1027	C
1	A	1049	U
1	A	1053	G
1	A	1064	G
1	A	1065	U
1	A	1066	C
1	A	1067	A
1	A	1085	U
1	A	1092	A
1	A	1101	A
1	A	1108	G
1	A	1117	G
1	A	1124	G
1	A	1126	U
1	A	1129	C
1	A	1139	G
1	A	1145	C
1	A	1151	A
1	A	1159	U
1	A	1182	G
1	A	1187	G
1	A	1190	G
1	A	1192	C
1	A	1196	U
1	A	1200	C
1	A	1201	A
1	A	1212	U
1	A	1213	A
1	A	1214	C
1	A	1224	G
1	A	1225	A
1	A	1233	G
1	A	1235	U
1	A	1240	U

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1256	A
1	A	1257	U
1	A	1262	C
1	A	1263	C
1	A	1278	U
1	A	1279	A
1	A	1280	A
1	A	1281	U
1	A	1285	A
1	A	1297	C
1	A	1301	U
1	A	1317	C
1	A	1319	A
1	A	1320	C
1	A	1322	C
1	A	1331	G
1	A	1337	G
1	A	1345	U
1	A	1346	A
1	A	1347	G
1	A	1348	U
1	A	1364	U
1	A	1380	U
1	A	1396	A
1	A	1417	G
1	A	1451	A
1	A	1491	G
1	A	1498	U
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1507	A
1	A	1509	C
1	A	1525	G
1	A	1529	G

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

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

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 117 ligands modelled in this entry, 115 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
25	AB9	A	1637	-	36,36,36	2.14	4 (11%)	42,49,49	1.56	3 (7%)
24	D2C	A	1636	22	31,34,34	3.39	9 (29%)	35,54,54	2.46	15 (42%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	AB9	A	1637	-	-	11/24/64/64	0/2/2/2
24	D2C	A	1636	22	-	5/6/64/64	0/4/4/4

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	A	1636	D2C	C16-C17	-13.39	1.37	1.53
25	A	1637	AB9	O36-C23	10.27	1.43	1.23
24	A	1636	D2C	C18-C5	-7.36	1.44	1.54
24	A	1636	D2C	C14-C15	-6.17	1.43	1.52
25	A	1637	AB9	C23-N12	6.09	1.47	1.34
24	A	1636	D2C	C20-C21	4.27	1.62	1.53
24	A	1636	D2C	C6-C5	-2.81	1.49	1.53
24	A	1636	D2C	O2-C8	2.70	1.48	1.42
25	A	1637	AB9	C24-C23	2.64	1.55	1.52
24	A	1636	D2C	O5-C17	-2.62	1.36	1.43

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	A	1637	AB9	C61-C51	2.29	1.55	1.52
24	A	1636	D2C	C6-C7	2.02	1.56	1.53
24	A	1636	D2C	C9-C8	2.00	1.54	1.52

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	A	1637	AB9	O36-C23-N12	-7.02	109.94	122.93
24	A	1636	D2C	O5-C17-C18	5.43	121.55	109.68
25	A	1637	AB9	O36-C23-C24	-5.35	111.32	120.61
24	A	1636	D2C	O4-C15-C14	5.14	122.53	110.36
24	A	1636	D2C	C20-C4-C3	4.73	121.89	113.02
24	A	1636	D2C	C18-C17-C16	4.63	118.55	110.70
24	A	1636	D2C	C7-C16-C17	4.33	121.75	111.38
24	A	1636	D2C	O6-C19-C18	-3.72	115.72	122.56
24	A	1636	D2C	C7-C16-C15	3.65	118.89	110.95
24	A	1636	D2C	O5-C17-C16	3.14	119.43	111.23
25	A	1637	AB9	O51-C51-C61	2.79	111.20	106.01
24	A	1636	D2C	O1-C4-C20	-2.75	118.14	121.96
24	A	1636	D2C	C7-C6-C5	-2.68	105.77	110.26
24	A	1636	D2C	C2-N1-C3	-2.58	108.04	114.09
24	A	1636	D2C	C11-C10-C9	-2.58	119.17	122.39
24	A	1636	D2C	C6-C5-C3	2.53	117.12	113.76
24	A	1636	D2C	C5-C18-C19	2.19	116.77	109.28
24	A	1636	D2C	C1-N1-C3	-2.02	109.35	114.09

There are no chirality outliers.

All (16) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
25	A	1637	AB9	N12-C23-C24-C25
25	A	1637	AB9	N12-C23-C24-O28
25	A	1637	AB9	C23-C24-C25-C26
25	A	1637	AB9	O28-C24-C25-C26
25	A	1637	AB9	N34-C33-C35-N31
25	A	1637	AB9	C41-C51-C61-N61
25	A	1637	AB9	O51-C51-C61-N61
24	A	1636	D2C	C4-C3-N1-C1
24	A	1636	D2C	C5-C3-N1-C1
24	A	1636	D2C	C4-C3-N1-C2
24	A	1636	D2C	C19-C20-C21-O7
25	A	1637	AB9	O36-C23-N12-C12

*Continued on next page...*

*Continued from previous page...*

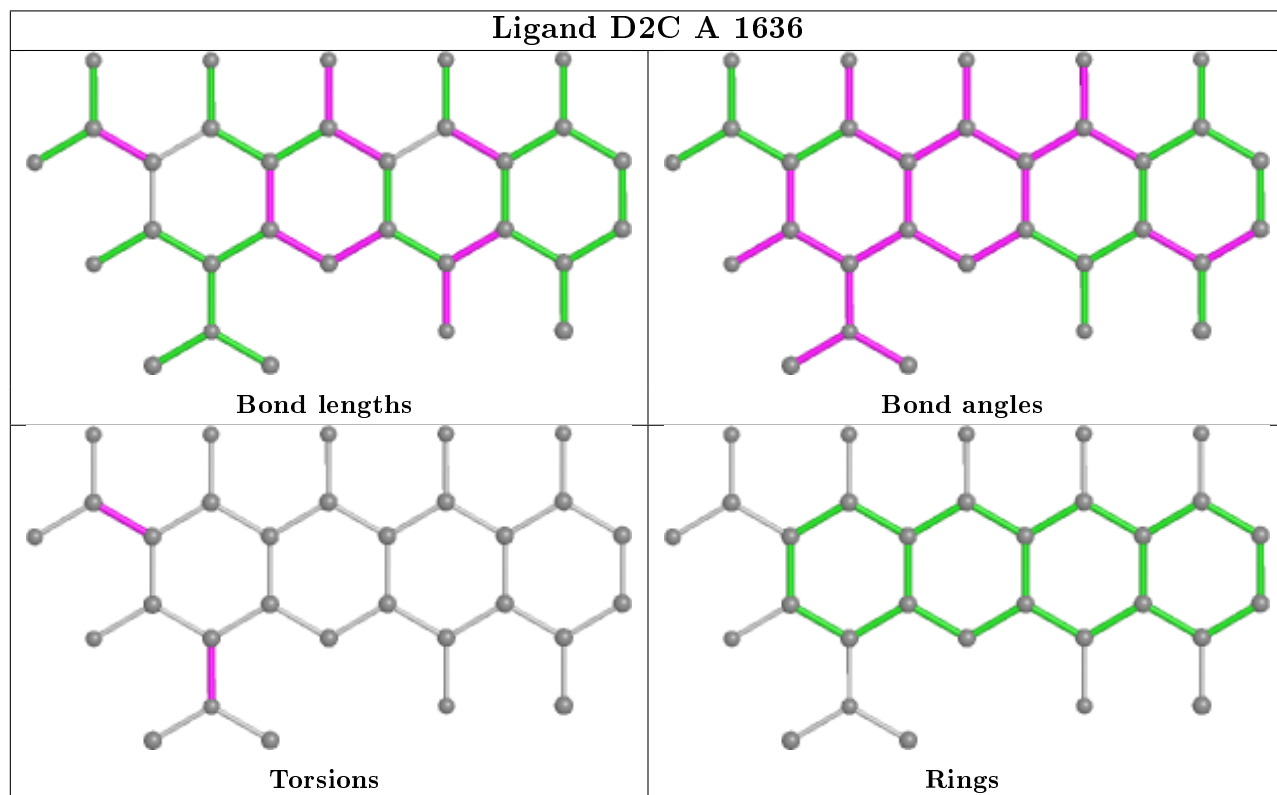
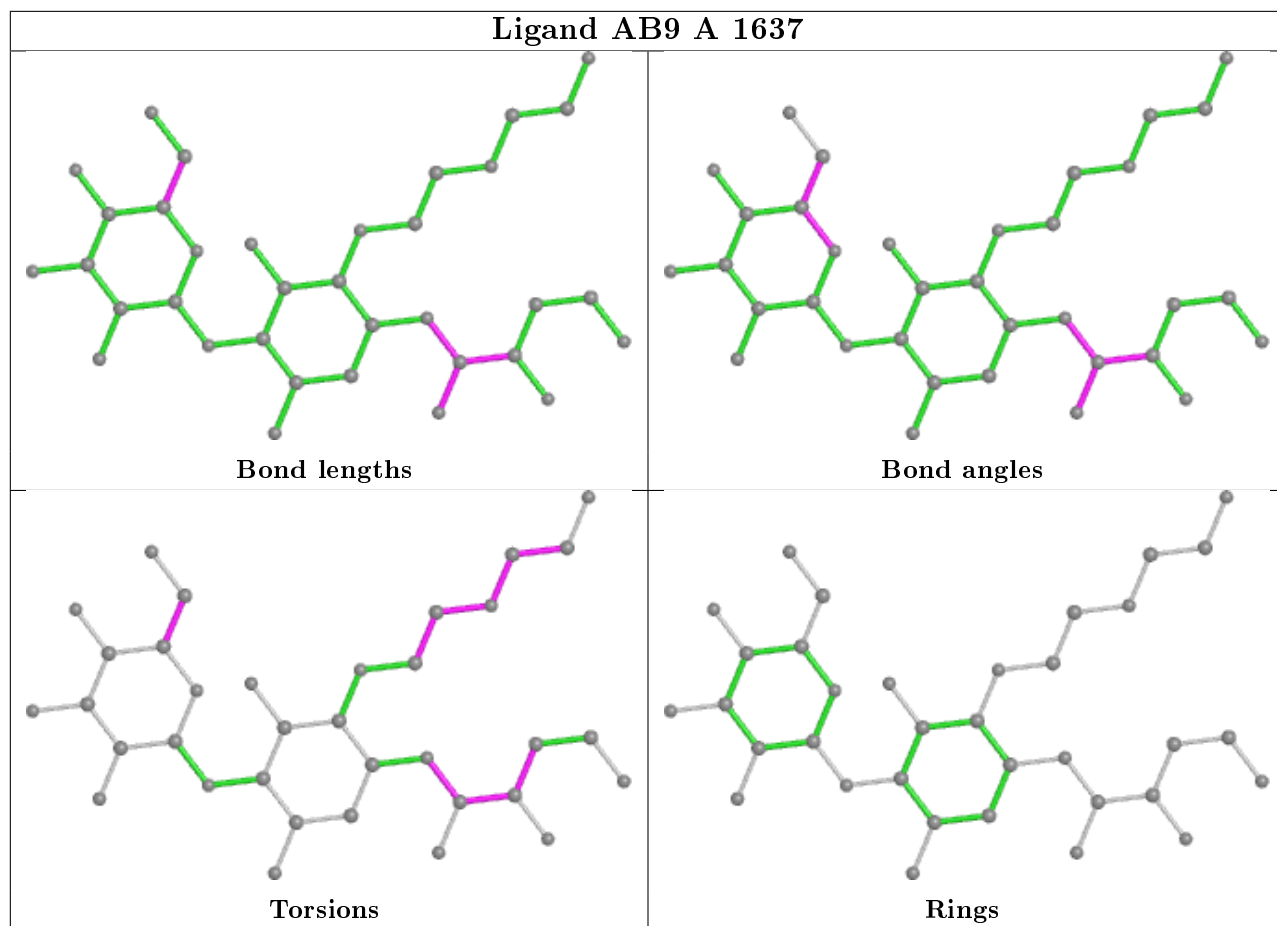
Mol	Chain	Res	Type	Atoms
25	A	1637	AB9	C29-C30-N31-C35
24	A	1636	D2C	C5-C3-N1-C2
25	A	1637	AB9	C33-C35-N31-C30
25	A	1637	AB9	O62-C29-C30-N31

There are no ring outliers.

2 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	A	1637	AB9	1	0
24	A	1636	D2C	4	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



## 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	13

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	841:U	O3'	848:C	P	5.02
1	A	84:U	O3'	88:A	P	3.79
1	A	1533:C	O3'	1534:A	P	3.45
1	A	70:G	O3'	73:C	P	3.36
1	A	204:U	O3'	216:G	P	3.36
1	A	1443:G	O3'	1446:A	P	2.95
1	A	93:G	O3'	95:U	P	2.78
1	A	463:A	O3'	474:G	P	2.68
1	A	440:A	O3'	442:C	P	2.65
1	A	99:C	O3'	101:A	P	2.63
1	A	492:G	O3'	494:G	P	2.50
1	A	1455:G	O3'	1459:C	P	2.31
1	A	1169:A	O3'	1171:G	P	2.03

## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

### 6.3 Carbohydrates [i](#)

EDS was not executed - this section is therefore empty.

### 6.4 Ligands [i](#)

EDS was not executed - this section is therefore empty.

### 6.5 Other polymers [i](#)

EDS was not executed - this section is therefore empty.