



Full wwPDB X-ray Structure Validation Report ⓘ

Sep 26, 2014 – 03:28 AM EDT

PDB ID : 4TPB
Title : Crystal structure of the E. coli ribosome bound to dalfopristin and quinupristin. This file contains the 50S subunit of the second 70S ribosome with dalfopristin and quinupristin bound.
Authors : Noeske, J.; Huang, J.; Olivier, N.B.; Giacobbe, R.A.; Zambrowski, M.; Cate, J.H.D.
Deposited on : 2014-06-07
Resolution : 2.80 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

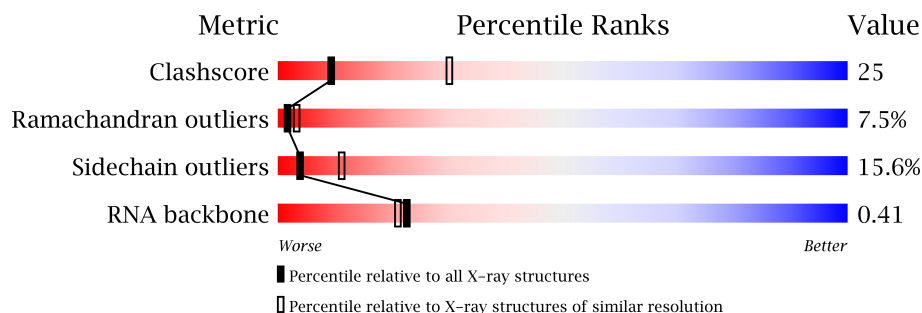
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.16 November 2013
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 21963
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable23828

1 Overall quality at a glance

The reported resolution of this entry is 2.80 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	79885	2295 (2.80-2.80)
Ramachandran outliers	78287	2252 (2.80-2.80)
Sidechain outliers	78261	2254 (2.80-2.80)
RNA backbone	1838	1076 (3.30-2.30)







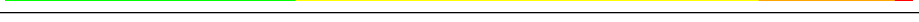

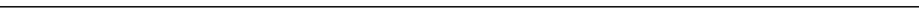
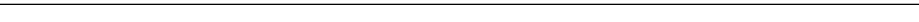







The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2903	
2	B	119	
3	C	271	
4	D	209	
5	E	201	
6	F	177	
7	G	176	
8	H	149	
9	I	141	
10	J	142	
11	K	122	
12	L	143	
13	M	136	
14	N	120	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
15	O	116	
16	P	114	
17	Q	117	
18	R	103	
19	S	110	
20	T	93	
21	U	102	
22	V	94	
23	W	76	
24	X	77	
25	Y	63	
26	Z	58	
27	0	56	
28	1	50	
29	2	46	
30	3	64	
31	4	38	
32	6	8	

2 Entry composition

There are 36 unique types of molecules in this entry. The entry contains 91787 atoms, of which 0 are hydrogen and 0 are deuterium.

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 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2897	Total	C	N	O	P	0	0	0
			62195	27745	11446	20107	2897			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	271	Total	C	N	O	S	0	0	0
			2083	1288	423	365	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	177	Total	C	N	O	S	0	0	0
			1411	899	249	257	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

- Molecule 8 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	149	Total	C	N	O	S	0	0	0
			1110	699	197	213	1			

- Molecule 9 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			

- Molecule 10 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			

- Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	122	Total	C	N	O	S	0	0	0
			939	587	180	166	6			

- Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			

- Molecule 13 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			

- Molecule 14 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	120	Total	C	N	O	S	0	0	0
			961	593	196	167	5			

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	116	Total	C	N	O		0	0	0
			892	552	178	162				

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			

- Molecule 17 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	117	Total	C	N	O		0	0	0
			947	604	192	151				

- Molecule 18 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	R	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			

- Molecule 19 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			

- Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	93	Total	C	N	O	S	0	0	0
			739	466	139	132	2			

- Molecule 21 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	U	102	Total	C	N	O			
			780	492	146	142	0	0	0

- Molecule 22 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	V	94	Total	C	N	O	S			
			753	479	137	134	3	0	0	0

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	W	75	Total	C	N	O	S			
			569	353	113	102	1	0	0	0

- Molecule 24 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	X	77	Total	C	N	O	S			
			625	388	129	106	2	0	0	0

- Molecule 25 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Y	63	Total	C	N	O	S			
			509	313	99	95	2	0	0	0

- Molecule 26 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	58	Total	C	N	O	S			
			449	281	87	79	2	0	0	0

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	0	56	Total	C	N	O	S			
			444	269	94	80	1	0	0	0

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
28	1	50	Total	C	N	O	0	0	0
			410	263	75	72			

- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

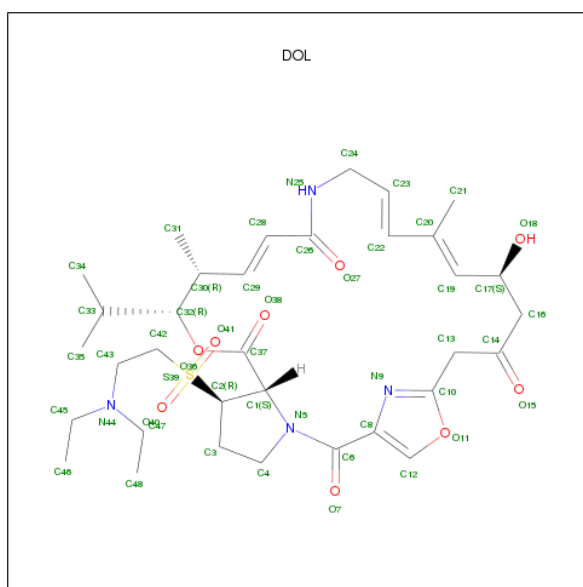
- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 32 is a protein called Quinupristin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	6	8	Total	C	N	O	S	0	0	0
			73	53	9	10	1			

- Molecule 33 is 5-(2-DIETHYLAMINO-ETHANESULFONYL)-21-HYDROXY-10-ISOPROPYL-11,19-DIMETHYL-9,26-DIOXA-3,15,28-TRIAZA-TRICYCLO[23.2.1.00,255]OCTACOSA-1(27),12,17,19,25(28)-PENTAENE-2,8,14,23-TETRAONE (three-letter code: DOL) (formula: C₃₄H₅₀N₄O₉S).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
33	A	1	Total	C	N	O	S	0	0
			48	34	4	9	1		

- Molecule 34 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	B	3	Total	Mg	0	0
			3	3		
34	A	166	Total	Mg	0	0
			166	166		
34	Q	1	Total	Mg	0	0
			1	1		
34	2	1	Total	Mg	0	0
			1	1		

- Molecule 35 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	4	1	Total	Zn	0	0
			1	1		

- Molecule 36 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	A	610	Total	O	0	0
			610	610		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	B	13	Total 13	O 13	0	0
36	C	8	Total 8	O 8	0	0
36	D	4	Total 4	O 4	0	0
36	E	4	Total 4	O 4	0	0
36	J	1	Total 1	O 1	0	0
36	L	4	Total 4	O 4	0	0
36	N	2	Total 2	O 2	0	0
36	S	2	Total 2	O 2	0	0
36	T	3	Total 3	O 3	0	0
36	U	1	Total 1	O 1	0	0
36	V	1	Total 1	O 1	0	0
36	2	1	Total 1	O 1	0	0
36	3	1	Total 1	O 1	0	0
36	4	1	Total 1	O 1	0	0

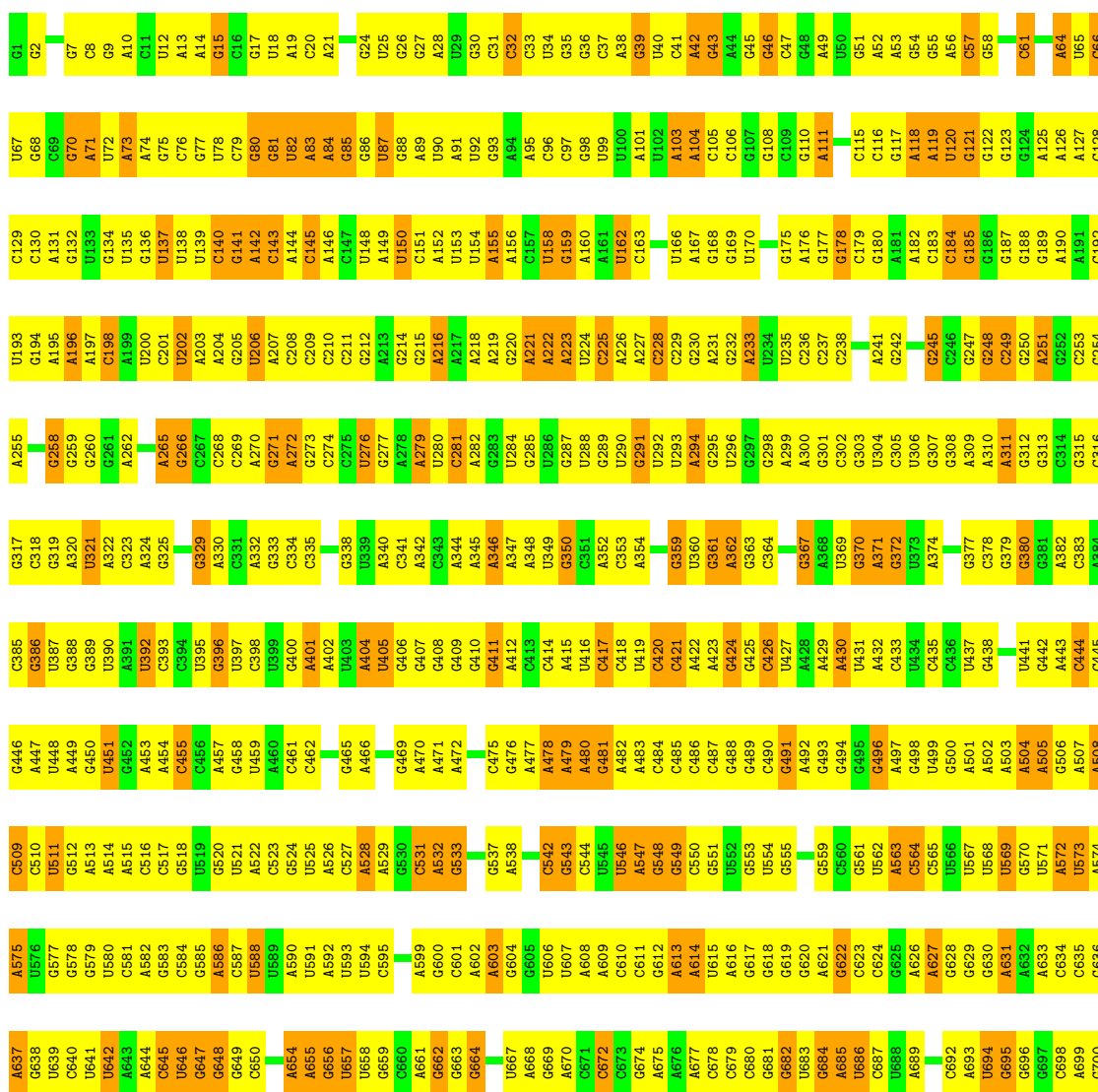
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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: 23S rRNA

Chain A:



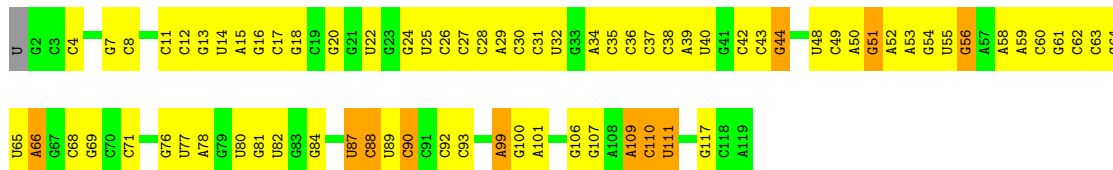
U1736	C1658	A1586	G1445	G1382	A1321	C1257	A1194	G1115	A1046	G978	G907	U842	G774	G701
G1737	G1659	G1587	C1446	A1383	A1322	U1258	G1195	G1116	G1047	A979	G908	G843	G775	U702
A1738	G1660	A1590	C1447	A1384	C1323	G1259	C1196	A1048	A979	A909	A909	A844	G776	G703
G1739	G1661	A1591	C1448	A1385	G1324	A1260	G1197	A1049	A980	A910	A910	A845	G777	G704
G1740	G1662	C1592	G1449	A1386	G1325	C1261	U1198	A1050	A981	A911	A911	A846	G778	A705
C1741	G1663	G1527	A1452	A1387	U1326	A1262	G1199	A1051	G982	C912	C912	U847	U779	
U1742	A1664	A1528	G1453	A1388	A1327	U1263	G1208	A983	C982	U913	U913	C848	G708	
A1743	A1665	G1529	U1453	G1389	A1328	A1264	U1203	A984	A984	C914	C914	A849	A762	
A1744	A1666	G1530	C1454	U1389	A1329	A1265	A1204	C985	A985	C915	C915	U852	A763	G711
A1745	G1667	A1531	G1455	U1390	C1330	G1266	A1205	C986	A986	G916	G916	C853	G784	
	A1668	C1532	G1456	A1391	G1331	U1267	G1209	G989	A989	U919	U919	U856	G785	A715
A1669	C1533	C1533	U1457	A1392	G1332	A1268	U1208	G989	A989	A920	A920	G857	A788	A716
A1670	U1534	U1534	U1458	A1393	G1333	A1269	C1209	G989	A989	C921	C921	G857	A789	C717
U1671	A1535	A1535	G1459	U1394	G1334		G1210	G993	A993	G922	G922	G858	U790	U720
	G1601	G1536	U1460	A1395	G1335	A1272	C1211	G994	A994	C923	C923	G859	A791	A721
A1752	A1602	G1537	C1461	U1396	C1336	U1273	G1212	G995	A995	G924	G924	U860	A792	
G1753	U1603	C1538	C1462	U1397	G1337	A1274	A1213	C996	A996	A927	A927	A861	A793	U724
A1754	C1504	G1540	G1463	C1398	G1338	A1275	A1214	A997	A997	A928	A928	G862	A794	G725
A1755	C1605	C1541	U1464	U1400	G1339	A1276	G1215	G997	A997			A863	C795	G726
A1756	G1606	U1542	G1465	U1401	U1340	C1277	U1217	C998	A998	U931	U931	C865	C796	A727
A1757	C1607	U1543	U1466	U1402	G1341		G1218	C999	A999	U932	U932	C866	G797	G728
U1758	G1608	A1544	U1467	A1403	A1342	G1281	G1219	A1000	A1000	A933	A933	A866	G798	G729
A1759	A1609	U1545	U1468	C1404	G1343		G1220	A1001	A1001	U934	U934	C867	G799	A730
C1760	A1610	G1546	A1469	A1405	U1344	U1282	C1221	G1002	A1002	C936	C936	U868	A800	C731
C1761	C1611	U1547	A1470	U1405	C1345	U1283	U1222	G1003	A1003	A936	A936	C869	G801	C732
A1762	G1612	A1548	G1471	U1409	G1346		U1223	G1006	A1006	C937	C937	U871	A802	G733
G1763	G1613		U1472	U1410	A1347	A1286	U1224	C1006	A1006	G938	G938	U871	A734	
A1764	A1614	A1551	G1473	U1411	C1348	A1287	G1225	A1009	A1009	A941	A941	G874	G805	G738
U1765	A1551	A1551	U1474	U1412	C1349	G1288	U1226	A1010	A1010	G942	G942	G874	U807	A739
G1766	A1552	A1552	A1475	A1412	G1350	C1289	A1226	A1011	A1011	C943	C943	A877	G808	C740
G1767	A1553	A1553	A1476	A1413	C1351		G1227	A1012	A1012	G944	G944	A878		
G1768	U1554	U1554	U1477	A1414	U1352	G1292	C1228	C1013	A1013					
U1769	G1613	G1555	U1480	U1415	U1353	G1293	G1229	G1016	A1016	A945	A945	G881	U810	U744
	G1620	C1556	U1481	G1416	A1353	U1294	A1230	G1017	A1017	U946	U946	G882	U811	G745
A1773	A1557	C1557	G1482	C1417	A1354	C1295	U1231	G1018	A1018	C947	C947	G883	U812	U746
A1774	C1558	G1483	U1483	G1418	G1355	G1296	G1232	G1019	A1019	G948	G948	G884	U813	U747
U1775	U1559	U1559	U1484	A1419	G1356	C1297	G1233	G1020	A1020	C949	C949	U884	C814	G748
G1776	G1560	G1560	U1485	A1420	C1357	C1298	U1234	G1021	A1021	C950	C950	C885	C815	A749
	C1561	C1561	U1486	G1421	G1358	G1299	U1235	G1022	A1022	C951	C951	A	C816	
U1779	U1562	U1562	U1497	A1359	A1359	G1300	G1236	G1023	A1023	G952	G952	U	A819	A752
A1780	U1563	U1563	G1425	G1360	G1361	G1301	U1242	G1024	A1024	C953	C953	C	A820	A753
U1781	C1564	C1564	G1426	G1362	C1362	A1302	C1237	G1025	A1025	C954	C954	C	A821	U754
U1782	G1500	G1500	A1427	G1363	A1363	G1303	U1239	G1026	A1026	C957	C957	C	G822	U755
A1783	G1501	G1501	A1428	G1364	A1364	G1304	U1240	G1027	A1027	U958	U958	A892	A825	A756
A1784	A1502	A1502	G1429	G1365	A1365	C1305	A1241	G1028	A1028	A899	A899	C897	U827	C758
	U1503	G1503	G1430	G1366	G1366	C1306	U1242	G1029	A1029	C960	C960	A892	U828	
U1789	A1504	A1504	A1431	G1367	G1367	G1307	C1243	G1030	A1030	U961	U961	C897	A829	C765
A1791	U1505	U1505	G1432	G1368	G1368	A1308	U1244	G1031	A1031	C962	C962	C897	G830	U766
C1792	A1506	A1506	A1433	G1369	C1370	G1309	G1245	G1032	A1032	U963	U963	C897	A833	U767
C1793	A1507	A1507	G1371	G1370	G1371	G1310	A1246	G1033	A1033	C964	C964	C897	G834	G768
A1794	U1508	U1508	A1434	G1371	G1371	G1311	U1247	G1034	A1034	C965	C965	C897	G835	U769
C1795	A1509	A1509	G1372	G1372	A1372	G1312	A1247	G1035	A1035	C966	C966	C897	G836	G770
G1726	G1510	G1510	G1435	G1373	G1373	G1313	U1248	G1036	A1036	C969	C969	C897	A837	C771
C1727	U1511	U1511	G1436	A1373	G1374	U1312	U1249	G1037	A1037	C970	C970	C897	G841	U773
G1728	C1512	C1512	G1437	G1374	U1375	U1313	G1250	G1038	A1038	C971	C971	C897		
U1729	U1513	U1513	U1438	G1375	G1375	C1314	G1251	G1039	A1039	C972	C972	C897		
G1797	U1514	U1514	A1439	C1376	C1376	C1315	C1252	G1040	A1040	C973	C973	C897		
U1798	G1514	G1514	U1440	G1377	G1377	U1316	G1253	G1041	A1041	C974	C974	C897		
G1799	A1515	A1515	G1378	G1378	G1378	U1317	A1254	G1042	A1042	C975	C975	C897		
U1799	G1581	G1581	A1441	G1379	G1379	G1317	A1255	G1043	A1043	C976	C976	C897		
C1800	C1582	C1582	G1441	U1442	U1442	G1318	A1256	G1044	A1044	C977	C977	C897		
A1801	A1583	A1583	U1442	U1443	U1443	U1319	A1257	G1045	A1045	C978	C978	C897		
A1802	G1584	G1584	U1443	G1380	G1380	C1319	A1258	G1046	A1046	C979	C979	C897		
A1803	G1585	G1585	G1444	G1381	G1381	C1320	G1256	G1047	A1047	C980	C980	C897		

G2831	A2757	C2691	G2560	U2344	C2283	G2213	C2150	U2074	U2011	G1948	C1873	C1804
U2832	A2758	G2692	G2561	G2478	A2478	U2477	U2151	U2075	G2012	G1949	G1874	A1805
U2833	G2759	G2693	G2562	U2479	A2479	A2478	U2152	U2076	A2013	G1950	G1875	A1806
G2834	C2760	G2694	G2563	C2480	G2480	C2479	G2156	U2077	G2014	U1951	A1876	G1807
G2835	A2761	C2695	G2564	G2481	G2415	U2448	G2157	U2080	A2015	A1952	A1877	A1808
U2836		U2700	U2564		C2416	G2349	A2158		U2016	A1953	G1878	A1809
A2837	A2762	U2701	U2565	G2484		G2350	G2159	G2083	U2017	G1954	G1879	A1810
G2838	A2763	G2702	U2566		A2418	C2351	G2160	C2084	G2018	U1880	U1880	G1811
G2839	A2764	C2703	G2567	U2489	U2419	A2352	C2161		A2019	U1956	U1881	G1812
G2840	C2772	G2704	G2568	G2490	C2420	G2353	G2162	G2087	A2020	C1957	U1882	G1813
		U2705	U2569	U2491		C2354	G2163		C2021	U1958	U1883	G1814
G2842	A2778	U2696	A2560	U2492	U2423	G2355	A2164	C2091	U2022	G1959	G1884	A1815
G2843	U2779	G2830	U2561		C2424	U2356	C2165	U2092	C2023	A1960		C1816
G2844	G2780	G2708	U2562	A2497	A2425	A2357	U2167	G2093	G2024	G1964	A1889	G1817
U2845	A2781	G2709	U2563	C2498	A2426	A2358	U2168	A2094	G2025	G1965	A1890	U1818
		C2710	G2564	C2499	G2427	U2359	G2168		U2026	C1966	G1891	U1819
U2784	U2784	C2711	A2565	U2500	G2428	G2360	A2169	C2103	A2030	C1967	C1892	U1820
C2785	C2785	U2711	C2636	U2501	G2429	G2361	A2170	C2104	A2031	G1968	C1893	
U2786	U2786	C2712	U2637	C2502	U2430	C2362	A2171	C2105	G2032	G1969	C1894	
		U2713		G2503	A2431			U2106	G2033	A1970	G1896	
A2850	C2787	G2714	G2641	U2504	A2432	G2365	C2172	A2108	U2034	U1971	G1897	G1829
G2851	C2788	C2715	G2642	U2505	A2433	A2366	C2173	G2109	G2035	G1972	U1898	C1830
U2852	C2789	G2716	G2643	G2506		G2367	A2176	G2110	C2036	C1973	G1899	G1831
G2853	U2790	C2717	G2644	U2507	A2435			U2111	A2037	G1974	A1900	G1832
G2854	C2791	G2718	G2645	C2508	G2436	G2370	C2177	G2112	G2038	G1975		C1833
U2792	A2792	G2719	G2646		U2437	G2371		U2113	U2039	U1976		G1834
C2793	C2793	U2720	U2647	U2511	U2438	A2439	C2179	G2114	U2040	A1977	G1835	C1836
C2794	C2794	U2721	G2648	C2512	U2440	G2373	U2180	A2114	U2041	A1978	G1836	
		G2722	G2649	G2513	C2442	C2374	U2181	G2115	U2042	U1979	G1906	G1837
A2799	A2800	C2723	U2580	A2514			U2182	G2116	A2042	U1979	G1907	
G2861	G2861	U2724	C2581	C2515	C2443	A2377	A2183	C2117	C2043	G1980		G1838
G2862	G2862	G2725	U2582	C2516	G2444	U2378	C2184	A2118	C2044	A1981	U1911	
U2863	U2863	A2726	G2583	A2517	G2445	G2379	U2185	G2119	G2045	U1982		G1839
G2864	G2864	U2727	U2584	C2517	G2446	G2380	C2186	A2120		G1983		
U2867	U2867	U2728	U2585	A2518	G2447	A2381	U2187	G2121	G2048	G1984	U1915	G1843
G2868	G2868	G2729	U2586	U2519		G2382	G2188	U2122	G2049	C1985	A1916	G1844
C2869	C2869	C2730	U2587	C2520	A2448	U2383	G2189	U2123		C1986	U1917	G1845
U2870	A2870	G2731	U2588	C2521	U2449	U2384	C2190	G2124	G2050	A1987	A1918	G1846
G2871	G2871	U2732	U2589	U2522	A2450	U2385	G2191	G2125	A2052	G1988	A1919	A1847
A2872	A2872	G2733	G2590	G2523	A2451	C2386	U2192	A2126	G2053	G1989	G1849	
G2873	G2873		G2591	C2524	G2452	U2387	C2193	G2127	C1990	C1990	C1920	
C2874	C2874	U2736	G2594	C2527	A2453	U2387	C2194			U1991	C1924	
		G2737	G2595	U2528	G2454	A2388	U2194	G2128	C2055	U1992	C1924	
C2875	A2812	G2737	G2596	G2529		G2389	U2195		C2056	G1992	C1925	
G2876	A2813	U2738	G2597	A2530	U2457	U2390	C2196	U2131	G2057	U1993	C1925	
G2877	G2877	U2739	G2598	C2531		C2391	C2197	U2132	A2058	U1994	U1926	A1853
A2878	G2815	A2740	G2599	A2531	G2458	C2392	U2198	G2133	A2059	C1995	A1927	A1854
U2881	U2817	G2742	U2600	G2532	A2459	U2392	U2199	A2134		U1995	A1928	U1855
U2882	U2818	U2743	C2601		U2460	U2393	A2199	A2135	A2060	C1996	G1929	U1856
G2883	U2819	G2744	A2602	G2535	A2461	C2394	C2200	A2136	G2061	C1997	G1930	G1857
U2884	G2819	A2745	G2603	U2536		C2395	G2201	G2136	A2062	A1998	U1931	A1958
A2885	A2820	U2746	U2604	U2537	G2464	C2396	U2202	U2137	C2063	C1999		
G2886	A2821	G2747	G2605	C2538	C2465	G2397	U2203		C2064	C2000	G1935	G1863
U2887	G2822	U2748	U2606	C2539	C2466		U2204	G2141	C2065	C2001	A1936	U1864
A2888	A2823	G2749	G2607	C2540	C2467	U2402	A2205	A2142	C2066	A1937	U1865	
G2889	C2824	A2749	C2610	A2541	A2468		G2206	C2143	G2067	G2004	A1938	A1866
U2890	G2825	U2750	G2611	A2542	A2469	G2405	C2207	C2144	U2068	A2005	U1939	G1867
G2891	A2826	G2751	C2612	A2543	G2470	A2406	G2208	C2145	G2069	C2006	U1940	G1868
U2892	C2827	C2752	U2613	G2544		A2407	G2209	A2146	U2070	U2007	G1945	G1869
G2893	G2828		G2614	G2545	U2473	U2408	G2210	A2147	A2071	C2008	G1945	C1870
A2894	A2829	U2755	U2615	U2546	U2474	A2409	G2211	A2148	C2072	A2009	U1946	A1871
G2895	C2830	U2756	C2616	C2547	U2475	G2410	C2212	U2149	C2073	C2010	C1947	A1872



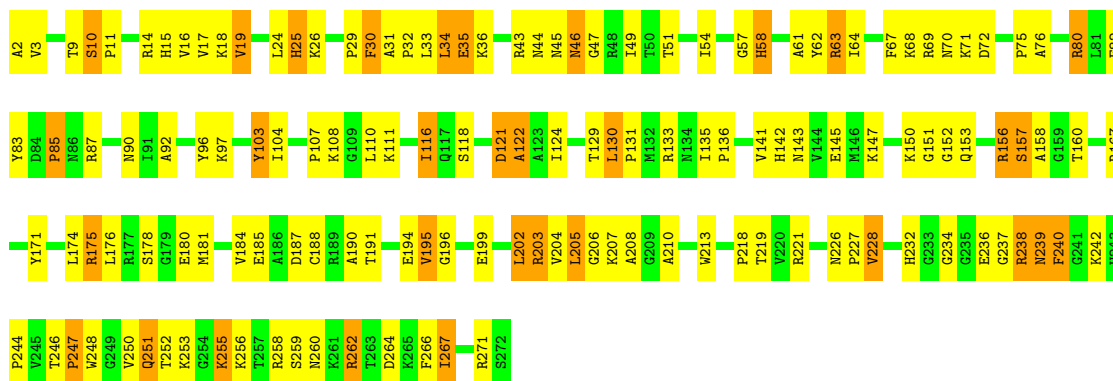
• Molecule 2: 5S rRNA

Chain B:



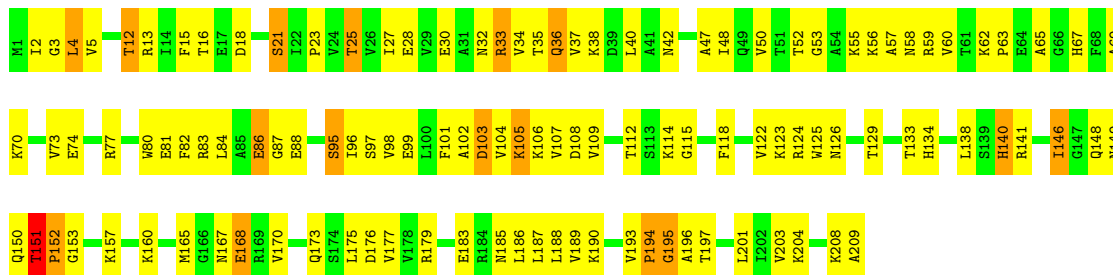
• Molecule 3: 50S ribosomal protein L2

Chain C:



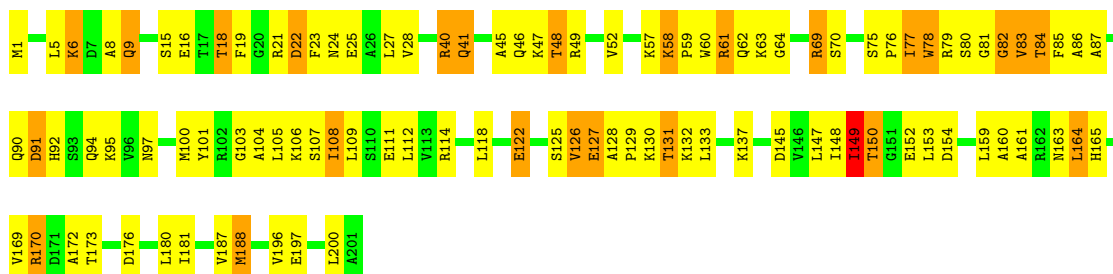
• Molecule 4: 50S ribosomal protein L3

Chain D:



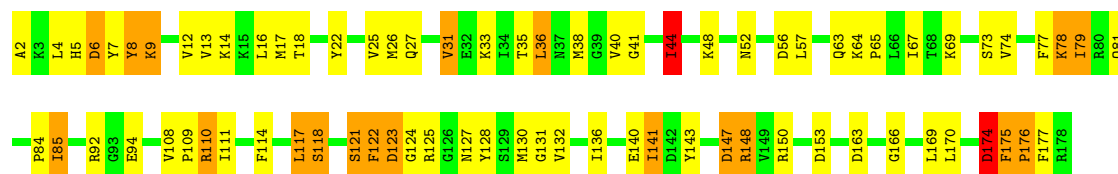
• Molecule 5: 50S ribosomal protein L4

Chain E:



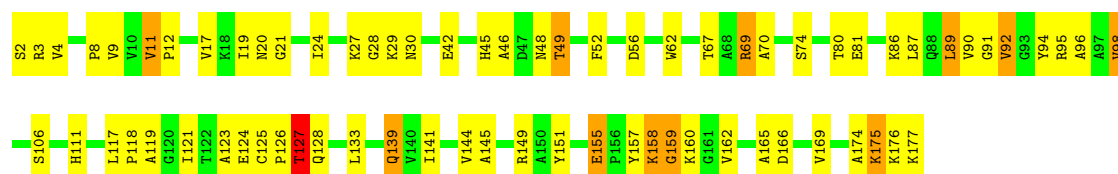
- Molecule 6: 50S ribosomal protein L5

Chain F: 



- Molecule 7: 50S ribosomal protein L6

Chain G: 



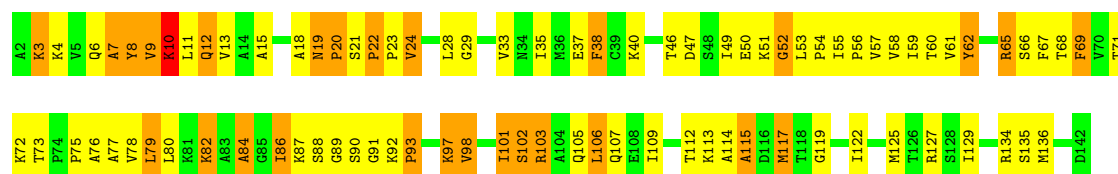
- Molecule 8: 50S ribosomal protein L9

Chain H: 



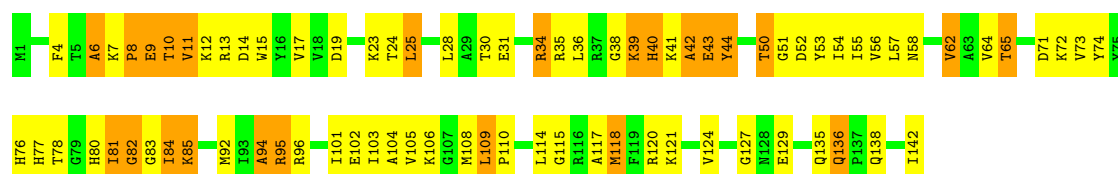
- Molecule 9: 50S ribosomal protein L11

Chain I: 



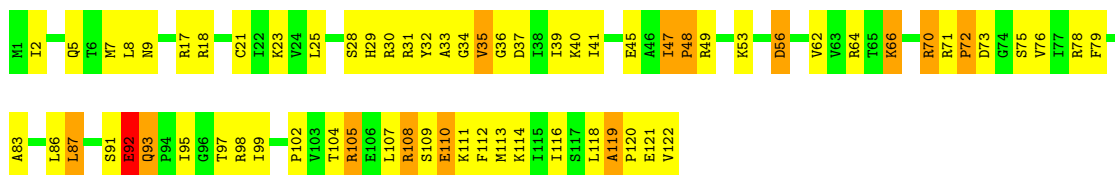
- Molecule 10: 50S ribosomal protein L13

Chain J: 



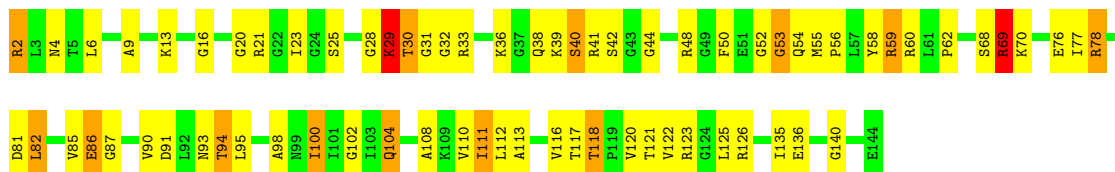
- Molecule 11: 50S ribosomal protein L14

Chain K: 



• Molecule 12: 50S ribosomal protein L15

Chain L:



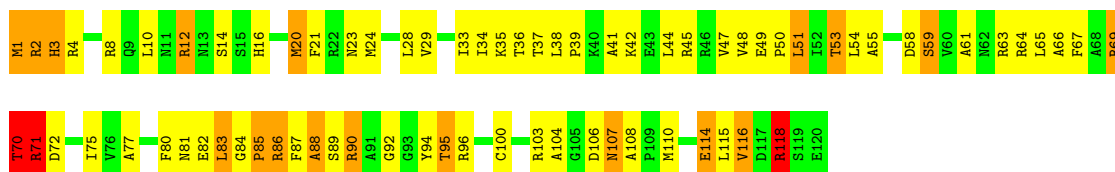
• Molecule 13: 50S ribosomal protein L16

Chain M:



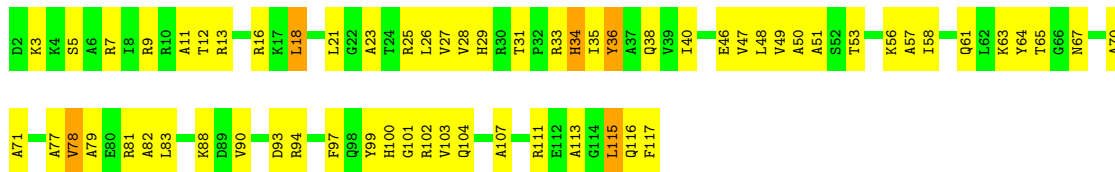
• Molecule 14: 50S ribosomal protein L17

Chain N:



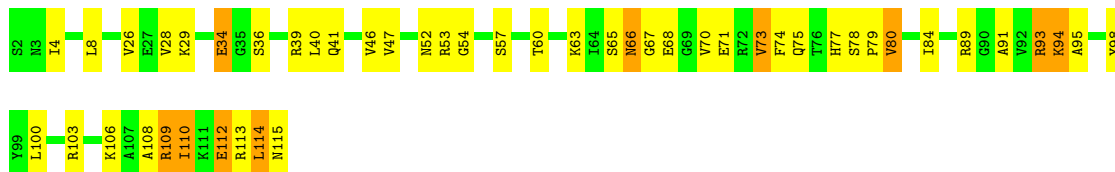
• Molecule 15: 50S ribosomal protein L18

Chain O:



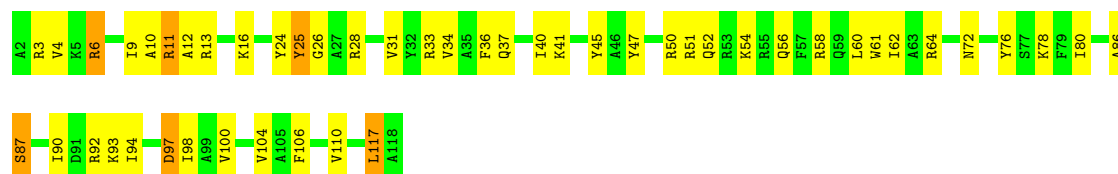
• Molecule 16: 50S ribosomal protein L19

Chain P:



- Molecule 17: 50S ribosomal protein L20

Chain Q: 



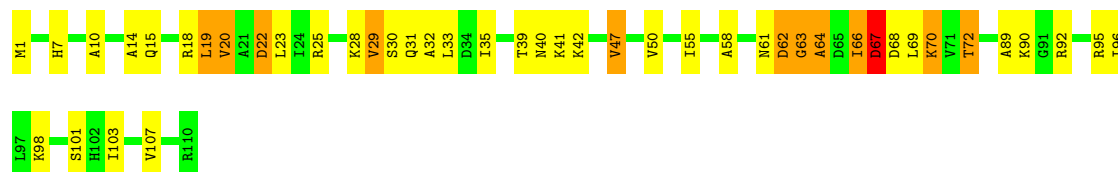
- Molecule 18: 50S ribosomal protein L21

Chain R: 



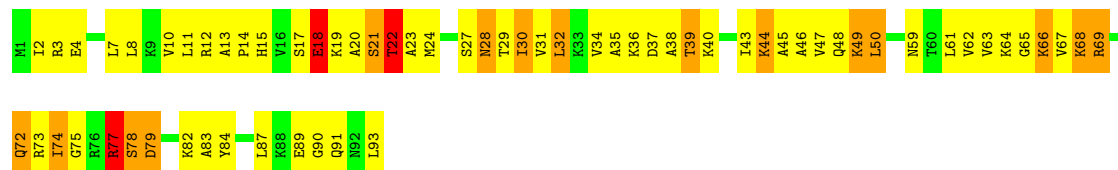
- Molecule 19: 50S ribosomal protein L22

Chain S: 



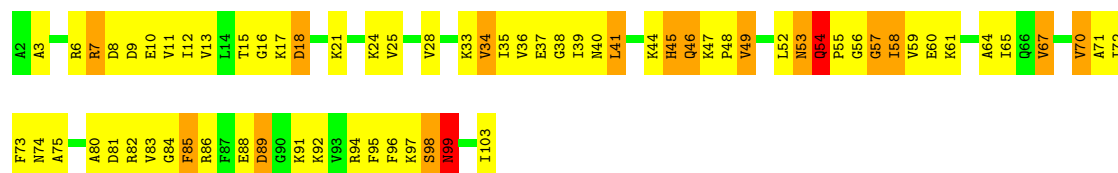
- Molecule 20: 50S ribosomal protein L23

Chain T: 



- Molecule 21: 50S ribosomal protein L24

Chain U: 



- Molecule 22: 50S ribosomal protein L25

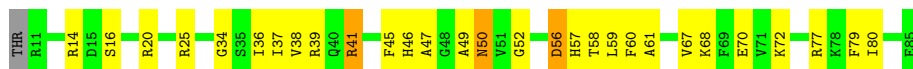
Chain V: 





- Molecule 23: 50S ribosomal protein L27

Chain W:



- Molecule 24: 50S ribosomal protein L28

Chain X:



- Molecule 25: 50S ribosomal protein L29

Chain Y:



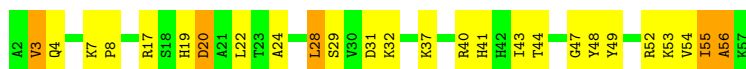
- Molecule 26: 50S ribosomal protein L30

Chain Z:



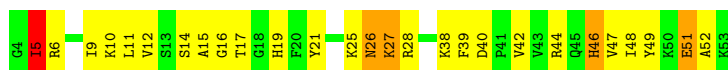
- Molecule 27: 50S ribosomal protein L32

Chain 0:



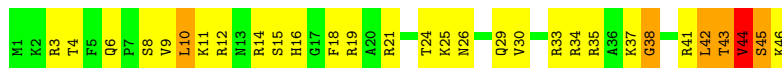
- Molecule 28: 50S ribosomal protein L33

Chain 1:



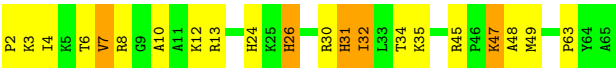
- Molecule 29: 50S ribosomal protein L34

Chain 2:



- Molecule 30: 50S ribosomal protein L35

Chain 3: 




- Molecule 31: 50S ribosomal protein L36

Chain 4: 



- Molecule 32: Quinupristin

Chain 6: 



4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section will therefore be incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	211.26Å 432.34Å 621.39Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	69.08 – 2.80	Depositor
% Data completeness (in resolution range)	94.1 (69.08-2.80)	Depositor
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	PHENIX (phenix.refine: 1.8.1_1160)	Depositor
R, R_{free}	0.225 , 0.271	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	91787	wwPDB-VP
Average B, all atoms (Å ²)	87.0	wwPDB-VP

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, DOL, DBB, MG, 004, MHV, MHW, MHT, MHU

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.27	0/69659	0.79	4/108672 (0.0%)
2	B	0.23	0/2828	0.76	0/4410
3	C	0.27	0/2122	0.52	0/2852
4	D	0.26	0/1586	0.51	0/2134
5	E	0.26	0/1571	0.51	0/2113
6	F	0.24	0/1435	0.46	0/1926
7	G	0.25	0/1343	0.46	0/1816
8	H	0.35	0/1121	0.56	0/1515
9	I	0.28	0/1046	0.52	0/1410
10	J	0.25	0/1152	0.51	0/1551
11	K	0.27	0/948	0.51	0/1268
12	L	0.26	0/1054	0.51	0/1403
13	M	0.25	0/1093	0.46	0/1460
14	N	0.27	0/974	0.56	1/1301 (0.1%)
15	O	0.24	0/902	0.45	0/1209
16	P	0.26	0/929	0.47	0/1242
17	Q	0.26	0/960	0.47	0/1278
18	R	0.25	0/829	0.50	0/1107
19	S	0.26	0/864	0.50	0/1156
20	T	0.25	0/745	0.49	0/994
21	U	0.28	0/788	0.52	0/1051
22	V	0.24	0/766	0.44	0/1025
23	W	0.25	0/576	0.47	0/762
24	X	0.28	0/635	0.53	0/848
25	Y	0.25	0/510	0.50	0/677
26	Z	0.26	0/453	0.48	0/605
27	0	0.27	0/450	0.50	0/599
28	1	0.28	0/417	0.49	0/554
29	2	0.28	0/380	0.51	0/498
30	3	0.25	0/513	0.44	0/676
31	4	0.25	0/303	0.49	0/397
32	6	1.44	0/13	2.02	1/15 (6.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.27	0/98965	0.73	6/148524 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
4	D	0	1

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	N	71	ARG	NE-CZ-NH2	7.19	123.89	120.30
1	A	1313	U	C2-N1-C1'	6.18	125.12	117.70
32	6	4	PRO	N-CA-CB	5.78	110.23	103.30
1	A	2447	G	C4-N9-C1'	-5.43	119.43	126.50
1	A	2501	C	O4'-C1'-N1	5.17	112.33	108.20
1	A	2447	G	C8-N9-C1'	5.14	133.69	127.00

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	D	151	THR	Peptide

5.2 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 hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	62195	0	31280	2449	0
2	B	2529	0	1281	66	0
3	C	2083	0	2154	128	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	D	1565	0	1616	97	0
5	E	1552	0	1619	91	0
6	F	1411	0	1444	54	0
7	G	1323	0	1371	42	0
8	H	1110	0	1148	87	0
9	I	1032	0	1085	85	0
10	J	1129	0	1162	62	0
11	K	939	0	1012	52	0
12	L	1045	0	1117	75	0
13	M	1074	0	1157	41	0
14	N	961	0	1000	71	0
15	O	892	0	923	41	0
16	P	917	0	962	42	0
17	Q	947	0	1019	47	0
18	R	816	0	839	36	0
19	S	857	0	922	37	0
20	T	739	0	807	60	0
21	U	780	0	831	68	0
22	V	753	0	780	21	0
23	W	569	0	581	23	0
24	X	625	0	652	46	0
25	Y	509	0	543	26	0
26	Z	449	0	488	24	0
27	0	444	0	458	23	0
28	1	410	0	440	22	0
29	2	377	0	418	31	0
30	3	504	0	572	22	0
31	4	302	0	340	15	0
32	6	73	0	65	12	0
33	A	48	0	50	25	0
34	2	1	0	0	0	0
34	A	166	0	0	0	0
34	B	3	0	0	0	0
34	Q	1	0	0	0	0
35	4	1	0	0	0	0
36	2	1	0	0	1	0
36	3	1	0	0	0	0
36	4	1	0	0	0	0
36	A	610	0	0	84	0
36	B	13	0	0	1	0
36	C	8	0	0	1	0
36	D	4	0	0	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	E	4	0	0	0	0
36	J	1	0	0	0	0
36	L	4	0	0	1	0
36	N	2	0	0	0	0
36	S	2	0	0	0	0
36	T	3	0	0	1	0
36	U	1	0	0	0	0
36	V	1	0	0	0	0
All	All	91787	0	60136	3663	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 25.

All (3663) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:151:THR:O	4:D:153:GLY:N	1.84	1.10
1:A:1378:A:O2'	1:A:1380:G:N7	1.86	1.08
1:A:2711:A:OP2	36:A:3546:HOH:O	1.73	1.03
33:A:3001:DOL:H483	33:A:3001:DOL:H463	1.41	1.03
1:A:1439:A:OP2	36:A:3627:HOH:O	1.76	1.02
1:A:842:U:O4	36:A:3577:HOH:O	1.75	1.02
1:A:310:A:O2'	1:A:311:A:OP2	1.77	1.01
1:A:784:G:OP1	36:A:3315:HOH:O	1.79	1.01
1:A:2349:G:OP1	30:3:45:ARG:NH2	1.93	1.01
2:B:28:C:OP1	15:O:36:TYR:OH	1.78	1.01
1:A:789:A:N1	36:A:3311:HOH:O	1.91	1.00
7:G:126:PRO:O	7:G:127:THR:OG1	1.81	0.99
1:A:2588:G:OP1	36:A:3315:HOH:O	1.81	0.98
1:A:2714:G:OP2	36:A:3546:HOH:O	1.82	0.97
8:H:40:THR:O	8:H:42:LYS:N	1.98	0.96
1:A:2627:G:O2'	1:A:2781:A:N1	1.98	0.96
1:A:602:A:O2'	1:A:604:G:O2'	1.84	0.96
1:A:182:A:O2'	1:A:433:C:O2'	1.83	0.96
1:A:514:A:N3	1:A:581:C:O2'	1.98	0.95
1:A:370:G:N7	36:A:3555:HOH:O	1.97	0.94
1:A:790:U:OP2	36:A:3755:HOH:O	1.84	0.93
1:A:621:A:OP2	36:A:3293:HOH:O	1.85	0.93
1:A:2056:G:OP2	36:A:3485:HOH:O	1.86	0.92
19:S:28:LYS:O	19:S:30:SER:N	2.02	0.91
1:A:299:A:N3	1:A:319:G:O2'	2.02	0.91
14:N:87:PHE:O	14:N:89:SER:N	2.04	0.91
18:R:101:ILE:O	18:R:103:ALA:N	2.03	0.91

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:43:C:O2	6:F:92:ARG:NH2	2.04	0.90
8:H:83:LYS:HG3	8:H:149:GLU:CG	2.02	0.90
1:A:1817:G:OP1	3:C:62:TYR:OH	1.89	0.90
1:A:450:G:O6	36:A:3242:HOH:O	1.90	0.90
1:A:1050:A:N6	1:A:1109:C:O2	2.04	0.90
1:A:729:G:OP2	3:C:207:LYS:NZ	2.03	0.90
1:A:488:G:N2	1:A:493:G:O6	2.05	0.89
1:A:2615:U:OP1	36:A:3745:HOH:O	1.90	0.89
1:A:58:G:OP1	20:T:78:SER:OG	1.88	0.89
10:J:80:HIS:O	10:J:82:GLY:N	2.06	0.89
1:A:1464:G:N7	36:A:3633:HOH:O	2.05	0.88
1:A:1268:A:OP1	36:A:3378:HOH:O	1.89	0.88
29:2:11:LYS:NZ	36:2:201:HOH:O	2.06	0.88
1:A:528:A:OP1	36:A:3246:HOH:O	1.90	0.87
8:H:83:LYS:HG3	8:H:149:GLU:HG2	1.56	0.87
1:A:2834:G:O6	1:A:2879:A:O2'	1.93	0.86
1:A:18:U:O4	36:A:3205:HOH:O	1.94	0.86
1:A:1010:A:OP2	36:A:3778:HOH:O	1.94	0.86
1:A:1508:A:O2'	1:A:1509:A:O4'	1.93	0.85
10:J:41:LYS:O	10:J:43:GLU:N	2.09	0.85
1:A:858:G:O2'	1:A:2268:A:N3	2.08	0.85
1:A:618:G:O6	36:A:3292:HOH:O	1.94	0.85
1:A:1371:G:N7	36:A:3399:HOH:O	2.08	0.85
33:A:3001:DOL:C6	33:A:3001:DOL:H432	2.07	0.84
18:R:8:GLY:O	18:R:10:LYS:NZ	2.09	0.84
33:A:3001:DOL:O7	33:A:3001:DOL:H432	1.76	0.84
8:H:82:SER:O	8:H:84:ALA:N	2.10	0.84
26:Z:52:SER:O	26:Z:54:MET:N	2.10	0.84
1:A:2243:U:OP1	36:A:3737:HOH:O	1.95	0.84
1:A:2684:U:O4'	11:K:70:ARG:NH1	2.11	0.84
29:2:43:THR:OG1	29:2:44:VAL:N	2.09	0.83
1:A:2004:G:OP1	36:A:3800:HOH:O	1.96	0.83
8:H:94:ILE:HB	8:H:122:LEU:HD12	1.60	0.83
25:Y:11:VAL:O	25:Y:15:ASN:ND2	2.10	0.83
1:A:1515:A:O2'	1:A:1556:C:O2'	1.97	0.83
1:A:1266:G:O2'	1:A:2012:G:O6	1.96	0.83
1:A:1287:A:O4'	14:N:103:ARG:NH1	2.12	0.82
2:B:40:U:N3	2:B:44:G:OP2	2.13	0.82
1:A:2134:A:OP2	1:A:2157:G:N2	2.11	0.82
1:A:1378:A:O2'	36:A:3751:HOH:O	1.96	0.81
18:R:82:HIS:ND1	18:R:82:HIS:O	2.13	0.81
5:E:21:ARG:O	5:E:114:ARG:NH2	2.12	0.81

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:258:G:O2'	12:L:104:GLN:OE1	1.97	0.81
1:A:2307:G:OP1	1:A:2308:G:N2	2.14	0.81
1:A:188:G:O2'	1:A:1365:A:N6	2.14	0.80
1:A:2550:G:OP1	36:A:3720:HOH:O	1.99	0.80
1:A:225:C:N4	1:A:419:U:O2'	2.13	0.80
1:A:613:A:O2'	1:A:614:A:OP1	1.98	0.80
1:A:1606:C:O2'	1:A:1607:C:OP2	1.99	0.80
1:A:2575:C:OP2	36:A:3707:HOH:O	2.00	0.79
1:A:1269:A:OP2	36:A:3385:HOH:O	1.98	0.79
1:A:83:A:OP2	21:U:92:LYS:NZ	2.15	0.79
1:A:1427:A:N6	1:A:1571:A:OP2	2.15	0.79
1:A:1667:G:O2'	1:A:1991:U:O4	1.99	0.79
1:A:279:A:N6	1:A:361:G:O2'	2.16	0.79
1:A:732:C:OP2	36:A:3298:HOH:O	2.02	0.78
14:N:106:ASP:O	14:N:108:ALA:N	2.16	0.78
1:A:2576:G:O2'	1:A:2579:C:OP2	2.01	0.78
1:A:300:A:N6	36:A:3551:HOH:O	2.16	0.78
1:A:1377:G:OP2	36:A:3394:HOH:O	2.00	0.78
1:A:1469:A:H2'	1:A:1470:A:C8	2.19	0.77
1:A:1363:C:O2	1:A:1369:G:C2	2.37	0.77
1:A:2453:A:N7	36:A:3525:HOH:O	2.17	0.77
1:A:1091:G:O2'	1:A:1092:C:OP2	2.03	0.77
1:A:1344:U:O2'	1:A:1345:C:OP2	2.03	0.77
7:G:158:LYS:O	7:G:160:LYS:N	2.18	0.77
1:A:370:G:OP2	36:A:3556:HOH:O	2.03	0.77
1:A:2055:C:OP2	36:A:3569:HOH:O	2.01	0.77
1:A:2286:G:H4'	1:A:2287:A:O5'	1.83	0.77
8:H:1:MET:SD	8:H:27:ARG:NH1	2.58	0.77
16:P:65:SER:O	16:P:67:GLY:N	2.18	0.77
1:A:1607:C:N4	1:A:1622:G:N7	2.34	0.76
1:A:1613:G:O6	36:A:3638:HOH:O	2.03	0.76
8:H:45:GLU:O	8:H:49:ALA:N	2.19	0.76
1:A:1009:A:N3	1:A:1153:C:O2'	2.18	0.76
1:A:622:G:OP2	36:A:3293:HOH:O	2.03	0.76
8:H:53:GLU:O	8:H:55:GLU:N	2.19	0.76
1:A:449:A:OP2	36:A:3244:HOH:O	2.04	0.76
1:A:1359:A:OP1	36:A:3610:HOH:O	2.04	0.76
1:A:761:A:OP2	36:A:3295:HOH:O	2.03	0.76
13:M:66:ARG:NH1	13:M:104:GLU:OE1	2.19	0.76
1:A:910:A:N3	1:A:2264:C:O2'	2.18	0.75
6:F:123:ASP:OD1	6:F:124:GLY:N	2.19	0.75
10:J:41:LYS:NZ	10:J:52:ASP:OD2	2.16	0.75

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:58:G:N3	1:A:70:G:N2	2.34	0.75
8:H:124:THR:OG1	8:H:125:THR:N	2.17	0.75
1:A:1475:G:O2'	1:A:1476:U:OP1	2.05	0.75
1:A:2563:U:O4'	1:A:2566:A:N6	2.18	0.75
1:A:1223:G:N2	1:A:1226:A:OP2	2.19	0.75
1:A:27:G:O2'	1:A:28:A:OP2	2.04	0.74
1:A:374:A:N6	1:A:400:G:O2'	2.19	0.74
1:A:878:A:N6	1:A:899:A:O2'	2.20	0.74
1:A:733:G:OP2	36:A:3296:HOH:O	2.05	0.74
5:E:111:GLU:OE2	5:E:114:ARG:NH1	2.21	0.74
1:A:2502:G:OP2	36:A:3491:HOH:O	2.03	0.74
1:A:581:C:OP2	17:Q:33:ARG:NH1	2.21	0.74
21:U:9:ASP:OD2	21:U:10:GLU:N	2.20	0.74
6:F:122:PHE:O	6:F:124:GLY:N	2.21	0.74
2:B:29:A:O2'	2:B:58:A:N1	2.21	0.74
1:A:1973:G:OP1	36:A:3462:HOH:O	2.05	0.73
1:A:1995:U:OP1	36:A:3807:HOH:O	2.04	0.73
1:A:2127:G:O2'	1:A:2173:A:N3	2.21	0.73
11:K:34:GLY:O	11:K:36:GLY:N	2.22	0.73
1:A:777:G:C2	1:A:778:G:C8	2.77	0.73
1:A:242:G:O2'	1:A:254:G:O6	2.05	0.73
29:2:44:VAL:O	29:2:45:SER:OG	2.07	0.73
28:1:15:ALA:O	28:1:17:THR:N	2.22	0.73
1:A:2091:C:H3'	1:A:2092:U:H5''	1.69	0.72
1:A:2355:G:OP1	23:W:25:ARG:NH2	2.22	0.72
3:C:258:ARG:NH1	3:C:264:ASP:OD2	2.22	0.72
1:A:1141:U:OP2	10:J:65:THR:OG1	2.05	0.72
1:A:79:C:O2'	1:A:346:A:N3	2.21	0.72
1:A:70:G:N2	1:A:71:A:N1	2.37	0.72
1:A:2504:U:C5	33:A:3001:DOL:H161	2.25	0.72
1:A:2838:G:O2'	14:N:45:ARG:NH1	2.22	0.72
1:A:2707:U:O2	14:N:71:ARG:NH1	2.22	0.72
19:S:66:ILE:O	19:S:68:ASP:N	2.23	0.72
1:A:1440:U:O4	36:A:3627:HOH:O	2.06	0.72
1:A:2199:A:OP1	24:X:37:ARG:NH1	2.23	0.71
8:H:31:VAL:HB	8:H:32:PRO:CD	2.20	0.71
1:A:776:G:O2'	1:A:2241:A:OP1	2.09	0.71
1:A:593:U:H2'	1:A:594:U:C6	2.26	0.71
1:A:668:A:C2	1:A:670:A:C5	2.79	0.71
4:D:149:ASN:OD1	4:D:150:GLN:N	2.24	0.71
1:A:52:A:N3	1:A:178:G:N2	2.39	0.71
1:A:1153:C:OP1	36:A:3359:HOH:O	2.08	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2407:A:OP1	36:A:3560:HOH:O	2.08	0.71
1:A:46:G:C2	1:A:47:C:C5	2.78	0.71
1:A:1154:G:OP2	17:Q:58:ARG:NH1	2.24	0.71
1:A:1335:C:N4	36:A:3392:HOH:O	2.22	0.71
1:A:2115:G:O2'	1:A:2117:A:N6	2.23	0.71
1:A:2788:C:O2'	1:A:2809:A:N3	2.22	0.71
1:A:827:U:OP2	36:A:3696:HOH:O	2.08	0.71
3:C:45:ASN:OD1	3:C:46:ASN:N	2.24	0.70
1:A:277:G:H3'	1:A:277:G:N3	2.06	0.70
1:A:686:U:OP2	36:A:3717:HOH:O	2.09	0.70
3:C:70:ASN:O	3:C:72:ASP:N	2.23	0.70
1:A:2609:U:H2'	32:6:7:004:HA	1.71	0.70
1:A:1603:A:OP1	36:A:3409:HOH:O	2.10	0.70
33:A:3001:DOL:C43	33:A:3001:DOL:HC1	2.22	0.70
1:A:388:G:N7	1:A:390:U:H2'	2.05	0.70
32:6:6:MHV:HE1	32:6:7:004:HNA	1.55	0.70
1:A:2199:A:C5	1:A:2225:A:C6	2.80	0.70
1:A:2289:G:HO2'	1:A:2383:G:HO2'	1.35	0.70
1:A:1340:U:C5	1:A:1603:A:C8	2.80	0.70
1:A:116:C:O2'	1:A:126:A:O2'	2.06	0.70
1:A:377:G:C6	1:A:378:C:C4	2.80	0.70
1:A:1109:C:H5''	1:A:1110:G:OP2	1.92	0.69
1:A:616:A:H4'	5:E:101:TYR:CZ	2.26	0.69
14:N:107:ASN:O	14:N:107:ASN:ND2	2.24	0.69
1:A:564:C:O4'	17:Q:37:GLN:NE2	2.24	0.69
1:A:1475:G:O2'	1:A:1476:U:P	2.49	0.69
20:T:21:SER:O	20:T:23:ALA:N	2.24	0.69
1:A:2343:U:HO2'	1:A:2373:G:HO2'	1.38	0.69
7:G:118:PRO:CG	7:G:144:VAL:HG21	2.22	0.69
1:A:453:A:OP1	36:A:3242:HOH:O	2.09	0.69
1:A:1973:G:C6	1:A:1974:C:C4	2.80	0.69
1:A:749:A:C5	1:A:750:A:N7	2.61	0.69
1:A:247:G:H4'	1:A:386:G:C5	2.27	0.69
1:A:2343:U:O2'	1:A:2373:G:O2'	2.07	0.69
2:B:48:U:H4'	15:O:100:HIS:CD2	2.28	0.69
1:A:1313:U:H4'	1:A:1332:G:H4'	1.74	0.69
1:A:866:A:O4'	1:A:914:G:N2	2.26	0.69
1:A:1259:G:H2'	1:A:1260:A:C8	2.27	0.68
1:A:1525:A:C2	1:A:1526:C:C2	2.80	0.68
1:A:1677:A:N7	36:A:3765:HOH:O	2.26	0.68
1:A:2006:C:OP2	36:A:3382:HOH:O	2.10	0.68
14:N:1:MET:HE2	14:N:1:MET:H1	1.58	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1237:A:H4'	1:A:1238:G:OP1	1.92	0.68
1:A:698:C:O2'	1:A:734:A:N6	2.26	0.68
1:A:2585:U:O2'	32:6:3:DBB:HG2	1.93	0.68
1:A:185:G:C6	1:A:212:G:C2	2.81	0.68
1:A:2594:C:N4	1:A:2595:G:O6	2.26	0.68
1:A:810:U:OP1	36:A:3333:HOH:O	2.10	0.68
1:A:118:A:C8	1:A:119:A:C8	2.82	0.68
1:A:2226:C:H2'	1:A:2227:A:O4'	1.93	0.68
13:M:19:GLY:O	13:M:38:ARG:NH1	2.27	0.68
19:S:67:ASP:OD1	19:S:67:ASP:N	2.25	0.68
1:A:1094:U:H2'	1:A:1096:A:OP2	1.94	0.68
1:A:2200:C:O2	1:A:2226:C:N4	2.27	0.68
1:A:2655:G:O2'	1:A:2656:U:P	2.51	0.68
1:A:2306:C:OP2	1:A:2307:G:O2'	2.10	0.68
1:A:1260:A:N6	36:A:3277:HOH:O	2.27	0.68
1:A:1411:U:H2'	1:A:1412:U:O4'	1.94	0.68
1:A:2886:A:C2	1:A:2887:A:H1'	2.29	0.68
3:C:237:GLY:O	3:C:239:ASN:N	2.27	0.67
1:A:152:A:C2	1:A:175:G:C2	2.83	0.67
1:A:856:G:N2	1:A:922:C:C2	2.62	0.67
1:A:1715:G:O2'	1:A:1743:G:O6	2.13	0.67
1:A:192:C:OP2	36:A:3739:HOH:O	2.11	0.67
28:1:5:ILE:O	28:1:28:ARG:NH1	2.27	0.67
3:C:204:VAL:O	3:C:206:GLY:N	2.27	0.67
4:D:56:LYS:O	4:D:58:ASN:N	2.27	0.67
21:U:38:GLY:HA2	21:U:41:LEU:CD2	2.23	0.67
1:A:1342:A:OP2	36:A:3711:HOH:O	2.12	0.67
1:A:1603:A:OP2	36:A:3407:HOH:O	2.13	0.67
1:A:694:U:C2'	1:A:695:G:H5''	2.24	0.67
1:A:78:U:H2'	1:A:79:C:O4'	1.94	0.67
1:A:2451:A:C4	33:A:3001:DOL:HC12	2.30	0.67
2:B:78:A:C5	2:B:99:A:C8	2.83	0.67
21:U:7:ARG:HG3	21:U:8:ASP:N	2.10	0.67
1:A:1141:U:H4'	1:A:1142:A:O4'	1.95	0.67
1:A:2058:A:N6	1:A:2059:A:N6	2.43	0.67
9:I:58:VAL:HG12	9:I:59:ILE:N	2.10	0.67
25:Y:56:LEU:O	25:Y:57:LEU:CB	2.43	0.67
1:A:1378:A:O3'	36:A:3751:HOH:O	2.13	0.66
1:A:2507:C:OP1	36:A:3708:HOH:O	2.12	0.66
1:A:2609:U:H6	32:6:7:004:HA	1.59	0.66
1:A:981:A:OP2	1:A:982:C:N4	2.27	0.66
26:Z:52:SER:OG	26:Z:53:PHE:N	2.26	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1737:G:C6	1:A:1738:G:N1	2.64	0.66
1:A:2241:A:N7	36:A:3502:HOH:O	2.27	0.66
7:G:111:HIS:O	7:G:111:HIS:ND1	2.28	0.66
1:A:2751:G:OP1	7:G:3:ARG:NH1	2.29	0.66
1:A:2505:G:OP2	33:A:3001:DOL:HC17	1.95	0.66
20:T:17:SER:O	20:T:19:LYS:N	2.28	0.66
1:A:1581:G:C5	1:A:1582:C:C4	2.84	0.66
1:A:2339:C:H2'	1:A:2340:A:C8	2.30	0.66
12:L:38:GLN:O	12:L:40:SER:N	2.28	0.66
29:2:29:GLN:O	29:2:33:ARG:NH2	2.27	0.66
1:A:1855:U:C5	1:A:1856:U:C5	2.83	0.66
1:A:1875:G:O2'	1:A:1876:A:OP2	2.14	0.66
1:A:223:A:C5	1:A:422:A:C8	2.83	0.66
1:A:1627:G:C2	1:A:1628:G:N7	2.64	0.66
1:A:2261:C:C2	1:A:2280:G:N2	2.64	0.66
1:A:444:C:OP1	5:E:40:ARG:NH1	2.28	0.66
9:I:69:PHE:CD1	9:I:69:PHE:N	2.64	0.66
14:N:90:ARG:CZ	14:N:116:VAL:HG11	2.25	0.66
1:A:362:A:C5	1:A:363:G:C8	2.84	0.66
1:A:1826:G:C5	1:A:1827:U:C5	2.84	0.66
1:A:2415:G:C6	1:A:2416:C:C4	2.84	0.66
1:A:2636:C:H2'	1:A:2637:U:C6	2.31	0.66
1:A:352:A:H2'	1:A:353:C:O4'	1.96	0.66
1:A:931:U:OP1	26:Z:30:ARG:NH1	2.29	0.66
5:E:149:ILE:CD1	5:E:172:ALA:HA	2.26	0.66
11:K:76:VAL:HG12	16:P:73:VAL:HG22	1.77	0.66
1:A:1006:C:OP2	36:A:3779:HOH:O	2.14	0.66
1:A:2874:C:H2'	1:A:2875:C:C6	2.31	0.66
1:A:2061:G:O6	33:A:3001:DOL:H162	1.96	0.66
1:A:395:U:H4'	1:A:396:G:OP1	1.96	0.66
22:V:51:GLN:HB3	22:V:56:PHE:CG	2.31	0.66
1:A:1010:A:OP2	36:A:3776:HOH:O	2.14	0.66
1:A:1120:G:C6	1:A:1121:C:C4	2.84	0.66
1:A:2146:C:H5''	1:A:2147:A:OP1	1.95	0.66
14:N:87:PHE:O	14:N:90:ARG:N	2.29	0.66
1:A:2164:C:H2'	1:A:2165:C:C6	2.32	0.65
1:A:226:A:N6	1:A:227:A:N1	2.44	0.65
1:A:1359:A:C8	1:A:1373:A:C2	2.83	0.65
1:A:2407:A:OP2	36:A:3558:HOH:O	2.13	0.65
1:A:425:G:C2	1:A:426:C:C4	2.84	0.65
1:A:2063:C:H4'	33:A:3001:DOL:H343	1.77	0.65
33:A:3001:DOL:H431	33:A:3001:DOL:HC1	1.77	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:36:VAL:O	21:U:38:GLY:N	2.29	0.65
1:A:250:G:OP2	30:3:13:ARG:NH1	2.28	0.65
1:A:125:A:OP2	29:2:19:ARG:NH2	2.30	0.65
1:A:1430:G:H2'	1:A:1431:A:O4'	1.97	0.65
4:D:104:VAL:O	4:D:105:LYS:CB	2.44	0.65
1:A:1581:G:C5	1:A:1582:C:N4	2.65	0.65
1:A:1676:A:H2'	1:A:1677:A:O4'	1.97	0.65
1:A:2334:U:C4	15:O:16:ARG:HD3	2.32	0.65
1:A:1638:C:H5''	1:A:2710:C:O2'	1.97	0.65
1:A:301:G:O4'	1:A:317:G:N2	2.29	0.65
1:A:948:C:O2	1:A:984:A:O2'	2.15	0.65
1:A:2032:G:H1'	4:D:150:GLN:NE2	2.11	0.65
1:A:2603:G:C6	1:A:2604:U:C4	2.84	0.65
1:A:1317:G:C2	1:A:1336:A:C2	2.84	0.65
1:A:1938:A:C6	1:A:2590:A:H1'	2.32	0.65
1:A:1801:A:C5	3:C:262:ARG:NH2	2.65	0.65
4:D:12:THR:OG1	4:D:13:ARG:N	2.29	0.65
1:A:2297:A:C2	1:A:2298:A:C8	2.84	0.65
1:A:527:C:OP1	36:A:3247:HOH:O	2.14	0.65
13:M:2:LEU:O	13:M:3:GLN:HB3	1.96	0.65
1:A:1097:U:C5	1:A:1098:A:H1'	2.32	0.65
1:A:1197:G:H2'	1:A:1198:U:C6	2.32	0.65
13:M:76:LYS:NZ	13:M:85:GLY:O	2.30	0.65
1:A:2612:C:H5''	1:A:2613:U:OP1	1.97	0.65
1:A:2056:G:O6	1:A:2612:C:N3	2.29	0.65
27:O:55:ILE:O	27:O:56:ALA:CB	2.45	0.64
1:A:1566:A:C2	3:C:213:TRP:CD2	2.85	0.64
1:A:2147:A:H2'	1:A:2148:G:O4'	1.97	0.64
1:A:247:G:H4'	1:A:386:G:C4	2.32	0.64
1:A:583:G:C6	1:A:584:C:C4	2.85	0.64
1:A:694:U:H2'	1:A:695:G:H5''	1.79	0.64
1:A:788:A:OP1	1:A:791:C:N4	2.30	0.64
5:E:108:ILE:HD13	5:E:181:ILE:CG1	2.27	0.64
1:A:443:A:N7	5:E:40:ARG:HG3	2.12	0.64
1:A:1361:G:C2	1:A:1362:C:C6	2.85	0.64
1:A:160:A:N3	1:A:2208:C:O2'	2.29	0.64
1:A:2498:C:OP2	36:A:3681:HOH:O	2.15	0.64
1:A:53:A:N3	1:A:179:C:H4'	2.11	0.64
1:A:1438:U:C5	1:A:1552:A:C2	2.86	0.64
1:A:2820:A:C8	4:D:196:ALA:HB1	2.32	0.64
1:A:49:A:C8	1:A:51:G:N2	2.66	0.64
1:A:1027:A:C6	1:A:1126:A:N3	2.66	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1606:C:C2'	1:A:1607:C:OP2	2.44	0.64
1:A:1210:G:O6	1:A:1237:A:O2'	2.12	0.64
1:A:192:C:N4	1:A:193:U:O2	2.31	0.64
1:A:2824:C:N4	1:A:2825:G:N7	2.46	0.64
1:A:2590:A:O3'	3:C:238:ARG:NH1	2.31	0.64
4:D:97:SER:O	4:D:99:GLU:N	2.30	0.64
13:M:136:MET:O	22:V:79:ARG:NH2	2.31	0.64
1:A:1753:G:C2	1:A:1756:G:N2	2.66	0.64
1:A:341:C:H2'	1:A:342:A:C8	2.31	0.64
5:E:21:ARG:NH1	5:E:103:GLY:O	2.31	0.64
7:G:11:VAL:O	7:G:48:ASN:ND2	2.31	0.64
1:A:1251:C:OP2	17:Q:6:ARG:NH2	2.30	0.64
1:A:1208:C:C4	1:A:1209:U:C4	2.86	0.64
1:A:276:U:O2	1:A:276:U:H2'	1.98	0.64
1:A:1469:A:C2	1:A:1470:A:C6	2.86	0.64
1:A:682:G:N2	1:A:683:U:C2	2.66	0.64
2:B:87:U:O2'	2:B:88:C:H5'	1.97	0.64
1:A:2111:U:C5	1:A:2145:C:H2'	2.32	0.64
1:A:2182:U:H2'	1:A:2183:A:C8	2.32	0.64
4:D:208:LYS:O	4:D:209:ALA:CB	2.46	0.64
1:A:1607:C:O2	1:A:1621:U:C4	2.50	0.63
1:A:2816:G:N3	1:A:2883:A:O2'	2.29	0.63
8:H:117:LEU:CD1	8:H:130:VAL:HG22	2.28	0.63
1:A:1826:G:C6	1:A:1827:U:C4	2.86	0.63
1:A:2121:G:N2	1:A:2177:C:O2	2.31	0.63
1:A:2001:C:H4'	1:A:2689:U:H2'	1.79	0.63
1:A:271:G:H4'	1:A:272:A:OP1	1.98	0.63
16:P:29:LYS:HB3	16:P:40:LEU:HD21	1.79	0.63
1:A:1364:G:H2'	1:A:1365:A:H5'	1.79	0.63
14:N:71:ARG:HH21	14:N:71:ARG:CG	2.12	0.63
1:A:2622:U:O2'	1:A:2825:G:N7	2.31	0.63
1:A:19:A:C2	1:A:522:A:C2	2.86	0.63
2:B:78:A:C6	2:B:99:A:C8	2.86	0.63
8:H:117:LEU:HG	8:H:120:GLY:O	1.98	0.63
12:L:93:ASN:OD1	12:L:94:THR:N	2.31	0.63
1:A:1075:C:H2'	1:A:1076:C:C6	2.34	0.63
1:A:1707:G:N2	1:A:1752:C:C2	2.67	0.63
1:A:2688:G:N1	1:A:2720:U:OP2	2.27	0.63
1:A:771:G:C2	1:A:772:C:C6	2.87	0.63
1:A:2353:G:H2'	1:A:2354:C:O4'	1.99	0.63
1:A:2563:U:C1'	1:A:2566:A:N6	2.61	0.63
1:A:2128:G:N3	1:A:2173:A:O2'	2.32	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2790:U:H5'	1:A:2893:A:N7	2.13	0.63
1:A:481:G:C4	1:A:507:A:C2	2.87	0.63
14:N:69:ARG:O	14:N:71:ARG:N	2.31	0.63
31:4:36:ARG:HG2	31:4:37:GLN:N	2.14	0.62
1:A:2271:G:O6	36:A:3508:HOH:O	2.10	0.62
1:A:2854:G:C2	1:A:2864:G:C2	2.86	0.62
1:A:287:G:C2	1:A:354:A:C2	2.87	0.62
18:R:49:ILE:HG22	18:R:54:VAL:N	2.14	0.62
1:A:1875:G:C2'	1:A:1876:A:OP2	2.46	0.62
1:A:503:A:C2	1:A:506:G:C4	2.88	0.62
1:A:1378:A:C2'	1:A:1380:G:N7	2.62	0.62
1:A:1973:G:C5	1:A:1974:C:C5	2.88	0.62
1:A:1993:U:H4'	4:D:133:THR:HG22	1.80	0.62
1:A:1088:A:N6	9:I:135:SER:OG	2.32	0.62
1:A:2467:C:N4	1:A:2468:A:C6	2.68	0.62
1:A:990:A:N1	18:R:78:ARG:NH1	2.48	0.62
4:D:35:THR:O	4:D:36:GLN:CB	2.47	0.62
1:A:1300:G:O6	1:A:1626:A:O2'	2.18	0.62
1:A:858:G:C4	1:A:2268:A:C2	2.87	0.62
1:A:196:A:O2'	1:A:805:G:O6	2.08	0.62
1:A:998:C:OP2	17:Q:58:ARG:NH2	2.33	0.62
1:A:1844:C:O3'	3:C:256:LYS:NZ	2.32	0.62
1:A:2262:U:OP1	23:W:41:ARG:NH2	2.33	0.62
1:A:1465:G:C5	1:A:1466:U:C4	2.88	0.62
1:A:1444:G:C2	1:A:1548:A:C2	2.88	0.62
1:A:1649:G:C6	1:A:2009:A:C6	2.87	0.62
1:A:608:A:H2'	1:A:609:A:C8	2.35	0.62
1:A:674:G:H1'	5:E:69:ARG:NE	2.15	0.62
1:A:1187:G:H5''	18:R:83:TYR:CE2	2.35	0.62
1:A:2408:U:O4	36:A:3559:HOH:O	2.14	0.62
1:A:53:A:N7	1:A:54:G:C4	2.68	0.62
1:A:590:A:C6	1:A:591:U:C4	2.88	0.62
1:A:2531:A:H5'	7:G:157:TYR:CZ	2.35	0.62
31:4:22:VAL:O	31:4:24:ARG:N	2.33	0.62
1:A:1806:C:C5	1:A:1807:G:N7	2.68	0.62
1:A:300:A:O2'	1:A:318:C:O2'	2.07	0.61
8:H:32:PRO:O	8:H:33:GLN:CB	2.48	0.61
1:A:629:G:N3	1:A:639:U:O2'	2.32	0.61
1:A:699:A:N6	1:A:733:G:O2'	2.33	0.61
2:B:7:G:H5'	15:O:29:HIS:CE1	2.35	0.61
1:A:1360:G:C2	1:A:1361:G:H1'	2.35	0.61
1:A:2142:A:C2	1:A:2150:C:N3	2.69	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2162:G:C4'	1:A:2163:A:OP1	2.48	0.61
1:A:450:G:N1	1:A:454:A:OP2	2.28	0.61
1:A:776:G:N7	1:A:793:A:C4	2.68	0.61
21:U:53:ASN:ND2	21:U:53:ASN:O	2.33	0.61
1:A:30:G:O2'	1:A:1214:A:N3	2.33	0.61
4:D:151:THR:O	4:D:152:PRO:C	2.38	0.61
9:I:114:ALA:O	9:I:115:ALA:CB	2.48	0.61
17:Q:25:TYR:CD2	17:Q:26:GLY:N	2.67	0.61
1:A:1096:A:H2'	1:A:1097:U:O4'	2.00	0.61
1:A:1359:A:C8	1:A:1373:A:N1	2.68	0.61
1:A:1951:U:H2'	1:A:1953:A:OP2	2.01	0.61
1:A:26:G:C6	1:A:27:G:N1	2.69	0.61
2:B:37:C:C5	2:B:38:C:C5	2.88	0.61
3:C:108:LYS:N	3:C:194:GLU:O	2.33	0.61
8:H:83:LYS:H	8:H:149:GLU:HG2	1.64	0.61
10:J:77:HIS:HA	10:J:83:GLY:O	2.00	0.61
1:A:2418:A:OP1	30:3:45:ARG:NH1	2.34	0.61
1:A:126:A:N7	1:A:127:A:C2	2.69	0.61
1:A:1827:U:C2'	1:A:1828:G:O5'	2.48	0.61
1:A:2725:A:C4	1:A:2727:A:C8	2.88	0.61
1:A:2744:G:C6	1:A:2761:A:N6	2.69	0.61
1:A:511:U:H5''	1:A:1235:G:H4'	1.83	0.61
1:A:53:A:C8	1:A:54:G:C8	2.89	0.61
1:A:864:G:C6	1:A:865:C:N4	2.69	0.61
9:I:6:GLN:O	9:I:7:ALA:CB	2.49	0.61
1:A:104:A:N7	1:A:105:C:C4	2.69	0.61
1:A:192:C:C5	1:A:193:U:C2	2.88	0.61
1:A:2061:G:H2'	1:A:2501:C:O2'	2.00	0.61
1:A:2788:C:H2'	1:A:2789:C:C6	2.35	0.61
1:A:684:G:OP1	29:2:16:HIS:ND1	2.34	0.61
1:A:740:C:H5'	1:A:1784:A:H3'	1.82	0.61
1:A:2330:G:N2	1:A:2386:A:C2	2.68	0.61
1:A:353:C:H2'	1:A:354:A:C8	2.35	0.61
1:A:67:U:C2	1:A:68:G:C8	2.89	0.61
1:A:724:U:H2'	1:A:725:G:O4'	2.01	0.61
11:K:107:LEU:O	11:K:109:SER:N	2.34	0.61
14:N:1:MET:H1	14:N:1:MET:CE	2.13	0.61
1:A:2571:U:C4	1:A:2574:G:C8	2.89	0.61
1:A:54:G:C2	1:A:55:G:C8	2.88	0.61
5:E:108:ILE:HD11	5:E:180:LEU:CB	2.31	0.61
29:2:44:VAL:HG13	29:2:45:SER:N	2.16	0.60
1:A:38:A:H2'	1:A:39:G:O4'	2.00	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:616:A:C2	1:A:617:G:O4'	2.54	0.60
11:K:87:LEU:HD22	11:K:92:GLU:HA	1.82	0.60
1:A:2720:U:OP1	16:P:53:ARG:NH2	2.34	0.60
18:R:82:HIS:O	18:R:82:HIS:CG	2.54	0.60
1:A:1179:G:C5	1:A:1180:U:H1'	2.36	0.60
1:A:187:G:C2	1:A:210:C:C2	2.89	0.60
1:A:2146:C:C5'	1:A:2147:A:OP1	2.49	0.60
1:A:497:A:H2'	1:A:498:G:O4'	2.01	0.60
1:A:88:G:C2	1:A:89:A:C8	2.88	0.60
9:I:80:LEU:HD13	9:I:136:MET:SD	2.41	0.60
14:N:24:MET:HE3	14:N:44:LEU:HD13	1.83	0.60
2:B:4:C:C2	2:B:117:G:N2	2.69	0.60
14:N:49:GLU:N	14:N:50:PRO:CD	2.65	0.60
1:A:1355:G:H2'	1:A:1356:G:H5'	1.84	0.60
1:A:1735:A:N1	1:A:1736:U:C2	2.70	0.60
1:A:1868:C:N4	1:A:1869:G:O6	2.34	0.60
1:A:749:A:C4	1:A:750:A:C8	2.89	0.60
8:H:126:GLY:O	8:H:146:VAL:HG23	2.00	0.60
9:I:58:VAL:CG1	9:I:59:ILE:N	2.63	0.60
28:1:21:TYR:CD1	28:1:38:LYS:HD2	2.37	0.60
1:A:1127:A:C2'	1:A:1128:G:H5''	2.32	0.60
1:A:1390:U:H2'	1:A:1391:U:H5'	1.83	0.60
1:A:2058:A:C6	1:A:2059:A:N6	2.69	0.60
1:A:2133:G:H2'	1:A:2157:G:N2	2.15	0.60
1:A:324:A:N6	1:A:338:G:O2'	2.33	0.60
1:A:528:A:N1	1:A:2043:C:O5'	2.34	0.60
1:A:846:U:O2'	1:A:847:U:O5'	2.19	0.60
1:A:1060:U:O4'	1:A:1062:G:H5'	2.02	0.60
1:A:1358:G:O2'	1:A:1359:A:H5'	2.02	0.60
1:A:1850:G:O6	1:A:1892:C:N3	2.35	0.60
1:A:642:U:O2'	1:A:644:A:N7	2.29	0.60
4:D:151:THR:HG22	4:D:152:PRO:CD	2.31	0.60
5:E:108:ILE:HD11	5:E:180:LEU:HB2	1.83	0.60
1:A:826:U:O2'	12:L:53:GLY:HA3	2.02	0.60
1:A:2328:A:H2'	1:A:2329:U:C6	2.37	0.60
2:B:48:U:H2'	2:B:49:C:C6	2.37	0.60
1:A:400:G:N7	24:X:57:ARG:NH1	2.50	0.60
1:A:2074:U:H2'	1:A:2075:U:C6	2.36	0.60
1:A:271:G:C2	1:A:367:G:C2	2.90	0.60
1:A:363:G:H2'	1:A:364:C:C6	2.36	0.60
1:A:39:G:C6	1:A:40:U:C4	2.90	0.60
1:A:1582:C:O2'	1:A:1585:C:N3	2.33	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:269:C:H2'	1:A:269:C:O2	2.02	0.60
33:A:3001:DOL:C46	33:A:3001:DOL:H483	2.24	0.60
1:A:680:C:H2'	1:A:681:G:C8	2.37	0.60
1:A:1351:C:H2'	1:A:1352:U:O4'	2.01	0.60
1:A:1709:U:H2'	1:A:1710:G:C8	2.37	0.60
1:A:190:A:O2'	1:A:679:C:O2'	2.20	0.60
2:B:29:A:H2'	2:B:30:C:C6	2.37	0.60
5:E:149:ILE:HD12	5:E:172:ALA:HA	1.83	0.60
1:A:120:U:H1'	1:A:149:A:C8	2.37	0.59
1:A:1369:G:C2	1:A:1370:C:C6	2.90	0.59
1:A:2757:A:N1	7:G:67:THR:HG21	2.17	0.59
1:A:1668:A:O4'	1:A:1669:A:C2	2.55	0.59
1:A:2889:C:N4	1:A:2890:G:C6	2.70	0.59
3:C:9:THR:O	3:C:10:SER:CB	2.49	0.59
1:A:2815:C:O2'	27:O:41:HIS:ND1	2.35	0.59
1:A:1395:A:O2'	1:A:1397:U:C6	2.54	0.59
1:A:2079:U:H2'	1:A:2080:A:O4'	2.01	0.59
1:A:362:A:C4	1:A:363:G:C8	2.90	0.59
1:A:777:G:N7	1:A:793:A:H2	1.99	0.59
1:A:1790:C:O2'	3:C:208:ALA:HB2	2.02	0.59
1:A:118:A:N7	1:A:119:A:C8	2.70	0.59
20:T:89:GLU:O	20:T:91:GLN:N	2.35	0.59
1:A:2110:G:O2'	1:A:2120:G:OP2	2.14	0.59
1:A:945:A:C8	1:A:2448:A:C2	2.89	0.59
20:T:82:LYS:HG2	20:T:83:ALA:N	2.18	0.59
5:E:196:VAL:HG12	5:E:196:VAL:O	2.01	0.59
7:G:118:PRO:HG3	7:G:144:VAL:HG21	1.83	0.59
25:Y:18:LEU:O	25:Y:22:LEU:HB3	2.03	0.59
1:A:1410:G:C2	1:A:1411:U:C4	2.91	0.59
1:A:1668:A:C4	1:A:1674:G:N7	2.70	0.59
1:A:1798:U:O2'	1:A:1802:A:N3	2.33	0.59
1:A:2038:G:H2'	1:A:2039:U:O4'	2.02	0.59
1:A:2250:G:OP1	1:A:2275:C:O2'	2.13	0.59
1:A:2293:G:H2'	1:A:2294:G:O4'	2.03	0.59
2:B:84:G:N2	2:B:93:C:C2	2.70	0.59
8:H:126:GLY:O	8:H:146:VAL:N	2.35	0.59
10:J:105:VAL:HG12	10:J:109:LEU:HD12	1.84	0.59
1:A:2262:U:OP2	23:W:16:SER:HB2	2.03	0.59
1:A:237:C:C4	1:A:238:C:C5	2.90	0.59
1:A:583:G:C5	1:A:584:C:C5	2.91	0.59
9:I:58:VAL:O	9:I:69:PHE:HB3	2.03	0.59
1:A:1447:C:H2'	1:A:1448:G:C8	2.37	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2305:U:C4	1:A:2306:C:C4	2.91	0.59
1:A:2645:G:H3'	1:A:2646:C:H5'	1.85	0.59
1:A:332:A:O2'	1:A:334:C:OP2	2.11	0.59
14:N:55:ALA:HA	14:N:80:PHE:CE1	2.37	0.59
25:Y:56:LEU:O	25:Y:57:LEU:HB2	2.03	0.59
1:A:82:U:C2	1:A:83:A:C8	2.90	0.59
1:A:1203:U:H1'	12:L:4:ASN:HB3	1.85	0.59
18:R:38:VAL:HG11	18:R:57:GLY:HA3	1.83	0.59
1:A:1439:A:N7	1:A:1552:A:C2	2.71	0.58
1:A:2189:U:H2'	1:A:2190:G:H5'	1.84	0.58
1:A:2845:U:H2'	1:A:2846:G:O4'	2.03	0.58
1:A:841:G:N2	1:A:937:C:O2	2.32	0.58
9:I:76:ALA:CB	9:I:129:ILE:HG23	2.33	0.58
2:B:22:U:O4	36:B:302:HOH:O	2.15	0.58
1:A:85:G:OP2	21:U:28:VAL:HG12	2.03	0.58
1:A:1068:G:H2'	1:A:1068:G:N3	2.17	0.58
1:A:1544:A:N1	1:A:1545:A:C2	2.71	0.58
1:A:1605:C:H2'	1:A:1606:C:H5'	1.85	0.58
3:C:34:LEU:O	3:C:35:GLU:HB3	2.03	0.58
11:K:18:ARG:HB2	11:K:45:GLU:HB3	1.84	0.58
15:O:33:ARG:O	15:O:34:HIS:CB	2.50	0.58
1:A:1808:A:N1	24:X:28:ARG:HD2	2.17	0.58
1:A:129:C:H2'	1:A:130:C:C6	2.39	0.58
1:A:636:G:N1	12:L:76:GLU:OE2	2.36	0.58
21:U:18:ASP:OD2	21:U:18:ASP:N	2.36	0.58
1:A:1099:G:N7	1:A:1100:C:N4	2.52	0.58
1:A:1344:U:O2'	1:A:1345:C:P	2.62	0.58
1:A:607:U:N3	1:A:620:G:O4'	2.36	0.58
1:A:720:U:H2'	1:A:721:A:C8	2.38	0.58
8:H:34:GLY:O	8:H:35:LYS:CB	2.51	0.58
1:A:1351:C:H2'	1:A:1352:U:C1'	2.34	0.58
1:A:1360:G:N1	1:A:1361:G:H1'	2.18	0.58
1:A:1510:G:H2'	1:A:1511:G:O4'	2.03	0.58
1:A:2266:A:C2	1:A:2272:U:C5	2.91	0.58
1:A:1648:U:H2'	1:A:1649:G:O4'	2.03	0.58
1:A:2061:G:C6	33:A:3001:DOL:HC19	2.39	0.58
1:A:2123:G:C2	1:A:2176:A:C2	2.92	0.58
9:I:10:LYS:HB2	9:I:56:PRO:CB	2.33	0.58
1:A:223:A:C4	1:A:408:G:H1'	2.38	0.58
1:A:306:U:O2	1:A:312:G:N2	2.37	0.58
1:A:425:G:N2	1:A:426:C:C2	2.72	0.58
1:A:622:G:H2'	1:A:623:C:C6	2.38	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:33:ARG:O	15:O:34:HIS:HB2	2.04	0.58
1:A:1802:A:C2	1:A:1803:A:C4	2.92	0.58
1:A:1809:A:H2'	1:A:1810:A:C8	2.39	0.58
1:A:182:A:H2'	1:A:183:C:C6	2.39	0.58
1:A:2563:U:H1'	1:A:2566:A:C6	2.39	0.58
1:A:454:A:H4'	1:A:455:C:OP2	2.02	0.58
1:A:668:A:N6	1:A:670:A:O2'	2.37	0.58
1:A:1263:U:O4	19:S:95:ARG:NH1	2.36	0.57
1:A:1315:C:O2'	1:A:1392:A:N3	2.33	0.57
1:A:396:G:C5'	24:X:13:VAL:HG21	2.34	0.57
1:A:479:A:H4'	1:A:480:A:OP1	2.04	0.57
8:H:108:VAL:O	8:H:110:VAL:N	2.36	0.57
12:L:55:MET:SD	12:L:59:ARG:HB3	2.43	0.57
1:A:1109:C:C4	1:A:1110:G:C6	2.93	0.57
1:A:1308:A:N6	1:A:1309:G:C2	2.72	0.57
1:A:2054:A:OP1	1:A:2055:C:O2'	2.22	0.57
1:A:2234:G:C6	1:A:2235:G:N7	2.72	0.57
1:A:247:G:N7	1:A:249:C:C2	2.72	0.57
1:A:27:G:HO2'	1:A:28:A:P	2.27	0.57
1:A:842:U:N3	1:A:843:G:N7	2.52	0.57
1:A:674:G:H1'	5:E:69:ARG:HE	1.69	0.57
8:H:62:LEU:HD13	8:H:62:LEU:C	2.25	0.57
14:N:63:ARG:NH1	14:N:81:ASN:OD1	2.37	0.57
24:X:52:SER:OG	24:X:55:GLY:N	2.35	0.57
1:A:142:A:C5	1:A:143:C:N4	2.72	0.57
1:A:1773:A:N7	1:A:1829:A:H1'	2.19	0.57
16:P:93:ARG:O	16:P:94:LYS:CB	2.52	0.57
1:A:1050:A:C2	1:A:2751:G:C4	2.92	0.57
1:A:106:C:O2'	1:A:294:A:O2'	2.08	0.57
1:A:53:A:N7	1:A:54:G:C5	2.73	0.57
1:A:563:A:C4	1:A:2018:G:C2	2.93	0.57
1:A:588:U:H1'	5:E:85:PHE:CD1	2.39	0.57
7:G:176:LYS:O	7:G:177:LYS:HB2	2.03	0.57
8:H:117:LEU:HB3	8:H:120:GLY:O	2.05	0.57
16:P:91:ALA:HB2	16:P:113:ARG:HA	1.85	0.57
1:A:533:G:H5'	17:Q:24:TYR:CE2	2.39	0.57
1:A:324:A:C2	1:A:325:G:H1'	2.39	0.57
10:J:35:ARG:HG2	10:J:40:HIS:CD2	2.40	0.57
18:R:52:PRO:O	18:R:53:PHE:CG	2.57	0.57
1:A:2615:U:C2	27:O:4:GLN:HA	2.39	0.57
1:A:1181:U:H2'	1:A:1182:G:C8	2.39	0.57
1:A:613:A:HO2'	1:A:614:A:P	2.25	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:97:ASN:HB2	5:E:100:MET:SD	2.44	0.57
7:G:169:VAL:O	7:G:169:VAL:HG12	2.04	0.57
17:Q:10:ALA:O	17:Q:13:ARG:HG3	2.05	0.57
21:U:74:ASN:ND2	21:U:96:PHE:CD1	2.72	0.57
1:A:2091:C:H1'	24:X:34:HIS:CD2	2.39	0.57
1:A:12:U:H2'	1:A:12:U:O2	2.04	0.57
1:A:1353:A:C8	1:A:1378:A:N6	2.73	0.57
1:A:1753:G:C2	1:A:1756:G:C2	2.92	0.57
1:A:1843:C:H4'	3:C:251:GLN:CD	2.25	0.57
1:A:2272:U:H5''	1:A:2273:A:OP1	2.03	0.57
1:A:2387:U:H1'	23:W:41:ARG:CD	2.35	0.57
1:A:46:G:C2	1:A:47:C:C6	2.92	0.57
3:C:16:VAL:HG22	3:C:206:GLY:HA3	1.87	0.57
1:A:1566:A:C2	3:C:213:TRP:CE3	2.92	0.57
4:D:140:HIS:NE2	36:D:303:HOH:O	2.32	0.57
8:H:21:VAL:HG22	8:H:22:LYS:N	2.19	0.57
16:P:103:ARG:HB3	16:P:108:ALA:HB2	1.87	0.57
28:1:14:SER:OG	28:1:48:ILE:O	2.11	0.57
1:A:1272:A:C2	1:A:1618:A:C4	2.92	0.57
1:A:744:U:H4'	1:A:1658:C:H4'	1.87	0.57
1:A:2199:A:C6	1:A:2200:C:C2	2.93	0.57
1:A:372:G:N2	1:A:401:A:OP2	2.36	0.57
1:A:893:C:H2'	1:A:894:U:O4'	2.05	0.57
10:J:41:LYS:O	10:J:42:ALA:C	2.42	0.57
1:A:2882:A:H5'	14:N:96:ARG:HB2	1.86	0.57
16:P:103:ARG:CB	16:P:108:ALA:HB2	2.35	0.57
11:K:105:ARG:NH2	16:P:34:GLU:OE2	2.37	0.57
1:A:2800:A:C2	1:A:2895:G:H1'	2.40	0.57
1:A:43:G:N2	1:A:437:U:C6	2.73	0.57
1:A:537:G:N1	1:A:555:G:C2	2.73	0.57
1:A:667:U:C4	1:A:668:A:N7	2.73	0.57
14:N:84:GLY:N	14:N:85:PRO:CD	2.68	0.57
18:R:52:PRO:O	18:R:53:PHE:CB	2.53	0.57
1:A:1125:G:C6	1:A:1126:A:N6	2.72	0.57
1:A:1343:G:H1'	1:A:1597:A:C4	2.40	0.57
1:A:1509:A:O2'	1:A:1510:G:P	2.63	0.57
1:A:2293:G:OP1	1:A:2377:A:N6	2.38	0.57
1:A:411:G:OP2	1:A:2406:A:O2'	2.15	0.57
1:A:56:A:C2	1:A:57:C:C2	2.92	0.57
7:G:176:LYS:O	7:G:177:LYS:CB	2.52	0.57
29:2:15:SER:OG	29:2:16:HIS:CE1	2.58	0.56
1:A:1581:G:C6	1:A:1582:C:C4	2.93	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2652:C:C4	1:A:2653:U:C4	2.93	0.56
1:A:749:A:C5	1:A:1618:A:C2	2.93	0.56
5:E:84:THR:O	5:E:85:PHE:CG	2.58	0.56
9:I:77:ALA:HA	9:I:80:LEU:HD12	1.87	0.56
26:Z:24:LEU:HD11	26:Z:54:MET:CE	2.35	0.56
1:A:1091:G:N3	1:A:1092:C:C5	2.73	0.56
1:A:13:A:N1	1:A:525:U:H2'	2.20	0.56
1:A:1737:G:O6	1:A:1738:G:N1	2.37	0.56
1:A:2209:G:C2	1:A:2216:G:C2	2.94	0.56
1:A:2725:A:C5	1:A:2727:A:C8	2.93	0.56
1:A:2747:G:O6	1:A:2755:C:H5''	2.05	0.56
1:A:30:G:H2'	1:A:31:C:O4'	2.05	0.56
1:A:310:A:O2'	1:A:311:A:P	2.63	0.56
1:A:305:C:H1'	1:A:313:G:N2	2.20	0.56
1:A:618:G:N7	36:A:3290:HOH:O	2.33	0.56
2:B:81:G:C5	2:B:82:U:C5	2.93	0.56
3:C:31:ALA:N	3:C:32:PRO:HD2	2.19	0.56
10:J:78:THR:OG1	10:J:80:HIS:HB2	2.05	0.56
1:A:1313:U:H2'	1:A:1313:U:O2	2.05	0.56
1:A:1973:G:C6	1:A:1974:C:N4	2.73	0.56
1:A:290:U:C4	1:A:291:G:N7	2.73	0.56
1:A:2599:G:N7	3:C:236:GLU:HB3	2.19	0.56
1:A:1327:A:H2'	1:A:1328:A:O4'	2.06	0.56
1:A:204:A:O4'	1:A:206:U:C6	2.58	0.56
1:A:2199:A:O4'	8:H:28:ASN:ND2	2.39	0.56
1:A:2550:G:O6	1:A:2551:C:N4	2.37	0.56
1:A:684:G:C2	1:A:794:A:C2	2.93	0.56
1:A:2032:G:N7	36:A:3531:HOH:O	2.33	0.56
1:A:2839:G:C6	1:A:2840:C:C4	2.93	0.56
3:C:108:LYS:HA	3:C:196:GLY:HA3	1.86	0.56
8:H:83:LYS:N	8:H:149:GLU:HG2	2.20	0.56
8:H:32:PRO:HB3	24:X:39:TRP:HB3	1.87	0.56
1:A:2112:G:N3	1:A:2112:G:H2'	2.21	0.56
1:A:2499:C:N4	1:A:2500:U:O4	2.38	0.56
1:A:2521:C:C2	1:A:2545:G:N2	2.74	0.56
1:A:424:G:C2	1:A:425:G:C8	2.93	0.56
1:A:2820:A:C8	4:D:196:ALA:CB	2.89	0.56
12:L:95:LEU:O	12:L:100:ILE:HG23	2.06	0.56
21:U:54:GLN:N	21:U:55:PRO:HD3	2.21	0.56
1:A:1312:U:C2	1:A:1603:A:N1	2.74	0.56
1:A:1693:U:O2'	3:C:14:ARG:NH2	2.38	0.56
1:A:1817:G:H2'	1:A:1818:U:H5'	1.88	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2171:A:O2'	1:A:2173:A:OP1	2.23	0.56
1:A:2262:U:H1'	1:A:2328:A:H1'	1.88	0.56
1:A:294:A:N6	1:A:345:A:C4	2.73	0.56
1:A:847:U:H2'	1:A:847:U:O2	2.06	0.56
2:B:32:U:C2	2:B:51:G:N2	2.74	0.56
9:I:80:LEU:HA	9:I:84:ALA:CB	2.35	0.56
18:R:14:VAL:HG21	18:R:98:ILE:HG13	1.87	0.56
1:A:1436:G:N2	1:A:1557:C:C2	2.74	0.56
1:A:2053:G:H2'	1:A:2054:A:O4'	2.06	0.56
1:A:478:A:C2	1:A:480:A:C4	2.94	0.56
1:A:848:C:H2'	1:A:849:A:C8	2.41	0.56
11:K:30:ARG:NH2	11:K:37:ASP:OD1	2.39	0.56
20:T:23:ALA:O	20:T:27:SER:N	2.39	0.56
1:A:1115:G:O2'	1:A:1116:G:OP2	2.18	0.56
1:A:1530:G:C2	1:A:1542:U:O2	2.58	0.56
1:A:1907:G:C2	1:A:1924:C:C2	2.94	0.56
1:A:2024:G:OP2	1:A:2034:U:H4'	2.05	0.56
1:A:2571:U:C4	1:A:2574:G:H8	2.24	0.56
33:A:3001:DOL:C48	33:A:3001:DOL:H463	2.16	0.56
1:A:565:C:H4'	1:A:1253:A:N6	2.21	0.56
1:A:868:U:C4	1:A:869:G:N7	2.74	0.56
4:D:187:LEU:CD2	4:D:203:VAL:HG11	2.36	0.56
15:O:100:HIS:CD2	15:O:101:GLY:N	2.74	0.56
30:3:26:HIS:CE1	30:3:48:ALA:HB2	2.41	0.56
31:4:36:ARG:CG	31:4:37:GLN:N	2.68	0.56
1:A:1062:G:C5	1:A:1088:A:H2'	2.41	0.56
1:A:76:C:HO2'	25:Y:55:THR:HG1	1.51	0.56
3:C:57:GLY:HA3	3:C:213:TRP:HA	1.88	0.56
3:C:80:ARG:NE	3:C:82:GLU:OE2	2.39	0.56
11:K:121:GLU:O	11:K:122:VAL:O	2.24	0.56
1:A:1087:G:C2	1:A:1089:A:C2	2.94	0.56
1:A:1304:A:N1	1:A:1305:C:C4	2.74	0.56
1:A:2111:U:C4	1:A:2145:C:H2'	2.41	0.56
1:A:2602:A:H4'	1:A:2603:G:H5'	1.86	0.56
1:A:546:U:O2'	1:A:547:A:O4'	2.20	0.56
4:D:16:THR:OG1	4:D:18:ASP:OD2	2.12	0.56
1:A:2365:G:H4'	23:W:60:PHE:CE2	2.41	0.56
24:X:68:LEU:HD22	24:X:78:TYR:CZ	2.41	0.56
1:A:1627:G:C2	1:A:1628:G:C8	2.94	0.55
1:A:158:U:O2	1:A:169:G:C2	2.58	0.55
1:A:2550:G:C6	1:A:2551:C:N4	2.75	0.55
1:A:2726:A:O2'	1:A:2727:A:O5'	2.24	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:301:G:H1'	1:A:302:C:C6	2.41	0.55
1:A:532:A:N7	1:A:2021:C:H2'	2.20	0.55
1:A:559:G:N3	17:Q:56:GLN:NE2	2.55	0.55
1:A:776:G:C8	1:A:793:A:C4	2.94	0.55
9:I:18:ALA:O	9:I:19:ASN:CB	2.54	0.55
21:U:54:GLN:N	21:U:55:PRO:CD	2.69	0.55
1:A:1847:A:C2'	1:A:1848:A:OP2	2.54	0.55
1:A:200:U:O4	1:A:248:G:C2	2.59	0.55
1:A:2854:G:N2	1:A:2864:G:C2	2.75	0.55
1:A:478:A:C6	1:A:480:A:C6	2.94	0.55
1:A:2019:A:H4'	17:Q:34:VAL:CG2	2.36	0.55
18:R:39:LEU:HA	18:R:49:ILE:HG21	1.87	0.55
18:R:66:HIS:CD2	18:R:94:THR:HG23	2.41	0.55
24:X:33:LEU:HD23	24:X:50:ARG:CZ	2.36	0.55
29:2:35:ARG:O	29:2:38:GLY:N	2.39	0.55
1:A:1020:A:C2	1:A:1141:U:C2	2.94	0.55
1:A:1530:G:N2	1:A:1542:U:O2	2.38	0.55
1:A:1856:U:C4	1:A:1857:G:C6	2.95	0.55
1:A:2843:G:N2	1:A:2875:C:C2	2.74	0.55
1:A:669:G:C2	1:A:801:G:N1	2.74	0.55
1:A:1998:A:OP2	4:D:141:ARG:NH2	2.39	0.55
9:I:80:LEU:HD23	9:I:84:ALA:HB2	1.88	0.55
20:T:21:SER:O	20:T:22:THR:C	2.44	0.55
1:A:1316:U:C2	1:A:1337:G:N2	2.75	0.55
1:A:1438:U:C5	1:A:1552:A:N1	2.74	0.55
1:A:1730:C:O2'	1:A:1731:G:C2	2.58	0.55
1:A:1869:G:H3'	1:A:1870:C:H5'	1.88	0.55
1:A:1935:G:H1'	1:A:1964:G:N2	2.21	0.55
1:A:2146:C:H4'	1:A:2147:A:OP1	2.05	0.55
1:A:2520:C:HO2'	1:A:2565:A:HO2'	1.52	0.55
1:A:699:A:H2'	1:A:700:G:O4'	2.06	0.55
4:D:112:THR:O	4:D:195:GLY:HA2	2.06	0.55
1:A:2310:C:C4	6:F:77:PHE:CZ	2.94	0.55
18:R:78:ARG:HB3	18:R:83:TYR:CD1	2.41	0.55
1:A:121:G:H1'	1:A:131:A:C2	2.41	0.55
1:A:1361:G:C5	1:A:1371:G:N2	2.74	0.55
1:A:1570:A:H2'	1:A:1571:A:C8	2.42	0.55
1:A:1599:U:P	20:T:40:LYS:HD2	2.47	0.55
1:A:1917:U:C2'	1:A:1918:A:H5'	2.37	0.55
1:A:2162:G:H4'	1:A:2163:A:OP1	2.06	0.55
1:A:484:C:N4	1:A:497:A:C2	2.74	0.55
1:A:902:C:H2'	1:A:903:C:C6	2.42	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:1:MET:HE3	13:M:43:ALA:HB3	1.89	0.55
1:A:150:U:H2'	1:A:151:C:C6	2.41	0.55
1:A:1740:G:C2	1:A:1741:C:C2	2.95	0.55
1:A:2103:C:H2'	1:A:2104:C:C6	2.41	0.55
1:A:2390:U:OP2	30:3:35:LYS:NZ	2.39	0.55
1:A:2412:A:H3'	1:A:2413:G:C8	2.42	0.55
1:A:35:G:C4	1:A:454:A:C2	2.94	0.55
5:E:8:ALA:O	5:E:9:GLN:HB2	2.06	0.55
1:A:2469:A:H4'	13:M:55:ARG:HD3	1.87	0.55
17:Q:50:ARG:O	17:Q:54:LYS:NZ	2.33	0.55
24:X:68:LEU:HD22	24:X:78:TYR:CE1	2.42	0.55
1:A:1182:G:H2'	1:A:1183:U:O4'	2.07	0.55
1:A:1352:U:H5	1:A:1377:G:C5	2.25	0.55
1:A:1380:G:OP2	36:A:3751:HOH:O	2.18	0.55
1:A:1441:G:H2'	1:A:1442:U:C6	2.42	0.55
1:A:1459:G:C2	1:A:1461:C:C2	2.95	0.55
1:A:1623:G:C5	1:A:1624:U:C5	2.95	0.55
1:A:2107:G:C2	1:A:2183:A:C2	2.95	0.55
1:A:2176:A:H2'	1:A:2177:C:C6	2.42	0.55
1:A:420:C:H2'	1:A:421:C:C6	2.41	0.55
1:A:308:G:C8	1:A:501:A:H1'	2.42	0.55
1:A:1806:C:O2	3:C:44:ASN:ND2	2.40	0.55
1:A:1138:G:O2'	10:J:104:ALA:O	2.23	0.55
1:A:1077:A:C2	1:A:1088:A:C2	2.95	0.55
1:A:126:A:N7	1:A:127:A:N1	2.54	0.55
1:A:1293:C:H2'	1:A:1294:U:O4'	2.07	0.55
1:A:144:A:C2	1:A:145:C:C2	2.94	0.55
1:A:1827:U:H2'	1:A:1828:G:O5'	2.06	0.55
1:A:1856:U:O4	1:A:1857:G:N1	2.40	0.55
1:A:200:U:C4	1:A:248:G:N2	2.75	0.55
1:A:187:G:N2	1:A:210:C:H1'	2.22	0.55
1:A:2395:C:H2'	1:A:2396:G:O4'	2.07	0.55
1:A:475:C:N3	1:A:481:G:C6	2.75	0.55
1:A:528:A:H2'	1:A:529:A:H5''	1.88	0.55
4:D:123:LYS:HG2	4:D:165:MET:SD	2.47	0.55
9:I:90:SER:HB3	9:I:93:PRO:HG3	1.89	0.55
1:A:1027:A:N6	1:A:1126:A:N3	2.55	0.55
1:A:2091:C:C3'	1:A:2092:U:H5''	2.35	0.55
1:A:2120:G:C2	1:A:2121:G:C8	2.95	0.55
1:A:2341:G:C6	1:A:2342:C:C4	2.95	0.55
1:A:2831:G:OP1	4:D:56:LYS:NZ	2.36	0.55
1:A:277:G:C2'	1:A:361:G:O6	2.55	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:374:A:C6	1:A:401:A:C8	2.95	0.55
3:C:210:ALA:HA	3:C:213:TRP:CE2	2.41	0.55
8:H:31:VAL:HB	8:H:32:PRO:HD3	1.89	0.55
21:U:41:LEU:HD12	21:U:60:GLU:HG2	1.89	0.55
21:U:72:ILE:HD13	21:U:83:VAL:CG2	2.37	0.55
24:X:31:PRO:HB2	24:X:33:LEU:CD1	2.37	0.55
1:A:1355:G:C2'	1:A:1356:G:H5'	2.37	0.55
1:A:1389:G:C2	1:A:1390:U:O2	2.60	0.55
1:A:1769:U:O2'	1:A:1958:C:OP1	2.25	0.55
1:A:1826:G:C4	1:A:1827:U:C5	2.95	0.55
1:A:202:U:H2'	1:A:203:A:C8	2.42	0.55
1:A:2373:G:C2	1:A:2374:C:C2	2.94	0.55
1:A:24:G:C5	1:A:25:U:C5	2.94	0.55
1:A:2842:G:C2	1:A:2843:G:H1'	2.42	0.55
1:A:2888:C:H2'	1:A:2889:C:C6	2.41	0.55
1:A:289:G:H2'	1:A:290:U:O4'	2.06	0.55
1:A:630:G:H3'	1:A:631:A:C5'	2.37	0.55
1:A:647:G:C5	1:A:648:G:N7	2.75	0.55
2:B:80:U:H2'	2:B:81:G:C8	2.42	0.55
1:A:1248:G:N7	5:E:46:GLN:NE2	2.55	0.55
10:J:30:THR:HG22	10:J:31:GLU:N	2.21	0.55
10:J:36:LEU:O	10:J:121:LYS:NZ	2.40	0.55
18:R:81:LYS:O	18:R:82:HIS:C	2.44	0.55
22:V:9:ARG:NH2	22:V:17:SER:OG	2.40	0.55
24:X:12:PRO:HB3	24:X:28:ARG:NH2	2.21	0.55
1:A:2057:G:OP2	36:A:3485:HOH:O	2.18	0.54
1:A:2497:A:N3	1:A:2498:C:N4	2.54	0.54
1:A:27:G:N2	1:A:512:G:H1'	2.22	0.54
1:A:295:G:H2'	1:A:295:G:N3	2.21	0.54
6:F:128:TYR:CG	6:F:170:LEU:CD1	2.90	0.54
15:O:111:ARG:NH2	15:O:117:PHE:O	2.40	0.54
1:A:1410:G:N1	1:A:1411:U:O4	2.41	0.54
1:A:1439:A:N7	1:A:1552:A:H2	2.04	0.54
1:A:1585:C:C5	1:A:1586:A:N7	2.76	0.54
1:A:1623:G:C6	1:A:1624:U:C5	2.95	0.54
1:A:1779:U:H5	1:A:1784:A:N7	2.05	0.54
1:A:526:A:N6	1:A:2626:C:H4'	2.22	0.54
1:A:537:G:C6	1:A:555:G:C2	2.95	0.54
1:A:732:C:H2'	1:A:733:G:O4'	2.07	0.54
1:A:834:G:H1'	1:A:2358:A:N3	2.23	0.54
15:O:33:ARG:O	15:O:34:HIS:CD2	2.60	0.54
1:A:1196:C:H1'	1:A:1226:A:C4	2.42	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:585:G:C2	1:A:1256:G:C6	2.95	0.54
1:A:1356:G:C2	1:A:1357:C:H1'	2.43	0.54
1:A:1446:C:H2'	1:A:1447:C:O4'	2.07	0.54
1:A:132:G:N2	1:A:148:U:C2	2.75	0.54
1:A:1524:G:H2'	1:A:1524:G:N3	2.23	0.54
1:A:909:A:C6	1:A:912:C:C2	2.95	0.54
8:H:79:THR:HA	8:H:145:ASN:HB2	1.89	0.54
13:M:135:VAL:O	13:M:136:MET:CB	2.54	0.54
1:A:1076:C:H2'	1:A:1077:A:O4'	2.08	0.54
1:A:1356:G:N2	1:A:1357:C:H1'	2.22	0.54
1:A:1805:A:N3	1:A:1813:G:C2	2.75	0.54
1:A:1914:C:H3'	1:A:1915:U:C6	2.43	0.54
1:A:2159:G:H2'	1:A:2160:C:C6	2.42	0.54
1:A:2345:G:C5	1:A:2381:A:C2	2.96	0.54
1:A:247:G:C8	1:A:249:C:C6	2.95	0.54
1:A:513:A:C2	1:A:514:A:C5	2.94	0.54
1:A:677:A:O2'	1:A:2071:A:H5'	2.08	0.54
9:I:101:ILE:O	9:I:102:SER:CB	2.55	0.54
1:A:235:U:C4	1:A:236:C:C5	2.95	0.54
1:A:449:A:C5	1:A:450:G:C8	2.95	0.54
7:G:27:LYS:HG3	7:G:27:LYS:O	2.08	0.54
1:A:1060:U:H4'	1:A:1061:U:H5'	1.90	0.54
1:A:980:A:C4	1:A:1136:G:O4'	2.61	0.54
1:A:53:A:C2	1:A:179:C:H4'	2.42	0.54
1:A:2817:U:O2	1:A:2836:U:H1'	2.06	0.54
1:A:447:A:N1	1:A:454:A:O2'	2.36	0.54
1:A:453:A:H4'	1:A:472:A:N6	2.23	0.54
1:A:635:C:O2'	1:A:639:U:H5''	2.07	0.54
1:A:587:C:N3	12:L:33:ARG:NH2	2.55	0.54
12:L:81:ASP:O	12:L:82:LEU:HB3	2.07	0.54
26:Z:24:LEU:HD11	26:Z:54:MET:HE2	1.89	0.54
1:A:2146:C:C4'	1:A:2147:A:OP1	2.55	0.54
1:A:230:G:C2	1:A:231:A:C8	2.96	0.54
1:A:2803:G:N2	1:A:2804:U:C2	2.76	0.54
20:T:69:ARG:HB2	20:T:74:ILE:HG22	1.89	0.54
1:A:2835:A:C2	1:A:2879:A:N7	2.76	0.54
1:A:2873:A:H4'	36:A:3804:HOH:O	2.08	0.54
1:A:658:U:C2	1:A:659:G:C8	2.96	0.54
21:U:98:SER:O	21:U:99:ASN:HB3	2.08	0.54
1:A:1826:G:O2'	1:A:1971:U:OP2	2.26	0.54
1:A:2484:G:OP1	13:M:44:ARG:NH2	2.41	0.54
1:A:2531:A:C5'	7:G:157:TYR:CZ	2.91	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:67:VAL:HA	21:U:70:VAL:CG2	2.38	0.54
1:A:1127:A:H2'	1:A:1128:G:H5''	1.90	0.54
1:A:1440:U:H2'	1:A:1441:G:O4'	2.08	0.54
1:A:1645:G:H5''	1:A:1646:C:O5'	2.08	0.54
1:A:71:A:H5'	1:A:73:A:C4	2.43	0.54
1:A:852:U:H2'	1:A:853:C:O4'	2.08	0.54
2:B:71:C:C2	2:B:106:G:N2	2.76	0.54
3:C:43:ARG:CZ	3:C:49:ILE:HG12	2.38	0.54
3:C:76:ALA:HB2	3:C:96:TYR:CD2	2.41	0.54
1:A:2772:C:H5'	4:D:173:GLN:NE2	2.23	0.54
5:E:130:LYS:HB2	5:E:133:LEU:CB	2.38	0.54
9:I:101:ILE:O	9:I:102:SER:HB3	2.07	0.54
10:J:109:LEU:HD23	10:J:110:PRO:HD2	1.90	0.54
10:J:71:ASP:O	10:J:73:VAL:HG23	2.08	0.54
11:K:17:ARG:HG2	11:K:47:ILE:CG2	2.38	0.54
1:A:1453:A:C2	14:N:77:ALA:CB	2.91	0.54
19:S:28:LYS:O	19:S:29:VAL:C	2.47	0.54
21:U:13:VAL:HG21	21:U:39:ILE:HD12	1.90	0.54
24:X:71:LEU:HA	24:X:74:ARG:HG2	1.89	0.54
1:A:1027:A:C6	1:A:1126:A:C4	2.96	0.53
1:A:1310:G:C2'	1:A:1311:G:H5'	2.38	0.53
1:A:134:G:C2	1:A:146:A:C2	2.96	0.53
1:A:1774:C:O2	3:C:11:PRO:HB2	2.08	0.53
1:A:197:A:H2'	1:A:197:A:N3	2.23	0.53
1:A:485:C:C4	1:A:496:G:C6	2.96	0.53
5:E:128:ALA:O	5:E:130:LYS:N	2.40	0.53
10:J:39:LYS:HZ3	10:J:39:LYS:HB2	1.73	0.53
15:O:100:HIS:CG	15:O:101:GLY:N	2.76	0.53
21:U:34:VAL:HG22	21:U:67:VAL:HG23	1.89	0.53
1:A:2742:G:H5''	31:4:1:MET:HE1	1.90	0.53
1:A:1027:A:N7	1:A:1126:A:C2	2.76	0.53
1:A:1874:C:C4	1:A:1875:G:C6	2.96	0.53
1:A:2104:C:H2'	1:A:2105:U:O4'	2.09	0.53
1:A:197:A:H62	1:A:2430:A:H2'	1.73	0.53
1:A:445:C:O2'	1:A:449:A:N3	2.41	0.53
1:A:548:G:H4'	1:A:549:G:C2	2.43	0.53
1:A:696:G:C2	1:A:767:U:O2	2.62	0.53
1:A:770:G:H1'	1:A:1379:U:C4	2.44	0.53
1:A:937:C:C2	1:A:938:G:C8	2.97	0.53
3:C:62:TYR:CE1	3:C:63:ARG:O	2.61	0.53
4:D:86:GLU:HG3	4:D:87:GLY:N	2.22	0.53
12:L:85:VAL:O	12:L:86:GLU:HG3	2.09	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:34:VAL:HG23	21:U:65:ILE:O	2.08	0.53
30:3:31:HIS:ND1	30:3:32:ILE:HG13	2.22	0.53
1:A:1420:A:C2	1:A:2211:A:C4	2.96	0.53
1:A:2746:U:H1'	7:G:139:GLN:HG3	1.91	0.53
1:A:484:C:OP1	21:U:48:PRO:HG3	2.08	0.53
9:I:8:TYR:HA	9:I:59:ILE:HB	1.90	0.53
1:A:1097:U:C4	1:A:1098:A:H1'	2.44	0.53
1:A:1364:G:C4	1:A:1368:G:C2	2.96	0.53
1:A:1512:C:C4	1:A:1513:U:C4	2.97	0.53
1:A:183:C:C5	1:A:184:C:C5	2.96	0.53
1:A:2491:U:O4	1:A:2518:A:N6	2.41	0.53
1:A:2571:U:N3	1:A:2574:G:C8	2.76	0.53
1:A:2805:C:H2'	1:A:2806:C:C6	2.42	0.53
1:A:2811:G:H2'	1:A:2812:G:O4'	2.09	0.53
1:A:600:G:C5	1:A:601:C:C4	2.97	0.53
8:H:32:PRO:O	8:H:33:GLN:HB2	2.08	0.53
9:I:79:LEU:HD13	9:I:109:ILE:CG2	2.37	0.53
13:M:124:LEU:CD2	13:M:124:LEU:N	2.70	0.53
1:A:1926:U:H1'	1:A:1929:G:C6	2.44	0.53
1:A:2506:U:C5	33:A:3001:DOL:O41	2.61	0.53
1:A:288:U:H2'	1:A:289:G:O4'	2.09	0.53
1:A:584:C:N4	1:A:585:G:C6	2.77	0.53
1:A:792:A:H1'	1:A:2072:C:O2'	2.08	0.53
4:D:208:LYS:O	4:D:209:ALA:HB2	2.06	0.53
1:A:1343:G:N2	1:A:1405:U:C2	2.76	0.53
1:A:2214:C:H2'	1:A:2215:C:O5'	2.09	0.53
1:A:2300:C:C4	1:A:2317:A:C2	2.96	0.53
1:A:2810:A:C8	1:A:2811:G:C8	2.96	0.53
1:A:2504:U:C4	33:A:3001:DOL:H161	2.43	0.53
5:E:27:LEU:HG	5:E:104:ALA:HB2	1.91	0.53
7:G:86:LYS:HB3	7:G:165:ALA:HB2	1.89	0.53
8:H:103:VAL:HA	8:H:106:ALA:HB3	1.89	0.53
14:N:20:MET:HG3	14:N:21:PHE:CD1	2.43	0.53
17:Q:72:ASN:HB3	17:Q:110:VAL:HG11	1.91	0.53
30:3:32:ILE:O	30:3:32:ILE:HG22	2.09	0.53
1:A:1101:U:C5	1:A:1102:C:C5	2.96	0.53
1:A:1226:A:OP1	17:Q:16:LYS:NZ	2.41	0.53
1:A:1555:G:N2	1:A:1556:C:H1'	2.24	0.53
1:A:1581:G:N7	1:A:1582:C:N4	2.57	0.53
1:A:2512:C:H2'	1:A:2513:A:O4'	2.08	0.53
1:A:315:G:H2'	1:A:316:C:O4'	2.09	0.53
1:A:696:G:N1	1:A:767:U:C2	2.76	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:133:THR:HG23	4:D:134:HIS:N	2.24	0.53
8:H:2:GLN:O	8:H:3:VAL:HG22	2.09	0.53
9:I:59:ILE:HG22	9:I:60:THR:N	2.24	0.53
9:I:80:LEU:HD23	9:I:84:ALA:CB	2.38	0.53
12:L:68:SER:O	12:L:69:ARG:HB2	2.09	0.53
16:P:40:LEU:HD23	16:P:41:GLN:N	2.24	0.53
1:A:1428:C:C5	1:A:1569:A:H5''	2.44	0.53
1:A:319:G:C4	1:A:333:G:N2	2.77	0.53
1:A:232:G:N1	1:A:420:C:OP1	2.41	0.53
1:A:451:U:H2'	1:A:453:A:N7	2.24	0.53
1:A:441:U:O2'	5:E:41:GLN:OE1	2.26	0.53
8:H:37:VAL:CG2	8:H:38:PRO:HD2	2.39	0.53
12:L:56:PRO:O	12:L:60:ARG:HB2	2.09	0.53
15:O:104:GLN:O	15:O:107:ALA:N	2.41	0.53
1:A:1519:G:C6	1:A:1520:U:C2	2.97	0.53
1:A:197:A:C2	1:A:198:C:H1'	2.44	0.53
1:A:728:G:C2	1:A:730:A:C4	2.97	0.53
9:I:33:VAL:HG13	9:I:67:PHE:CZ	2.43	0.53
1:A:483:A:C2	21:U:58:ILE:HD11	2.43	0.53
1:A:1627:G:N2	1:A:1628:G:C8	2.77	0.53
1:A:2223:G:H2'	1:A:2224:G:H5'	1.91	0.53
1:A:301:G:N3	1:A:302:C:C2	2.77	0.53
1:A:37:C:H2'	1:A:38:A:O4'	2.09	0.53
1:A:658:U:N3	1:A:659:G:N7	2.57	0.53
1:A:979:A:C8	1:A:982:C:N4	2.77	0.53
3:C:147:LYS:HB2	3:C:150:LYS:HB2	1.91	0.53
11:K:31:ARG:CB	11:K:32:TYR:CD2	2.92	0.53
1:A:95:A:O2'	25:Y:40:SER:N	2.42	0.53
1:A:1352:U:C5	1:A:1377:G:C5	2.97	0.52
1:A:134:G:C6	1:A:135:U:N3	2.78	0.52
1:A:1776:G:N2	1:A:1789:A:H1'	2.25	0.52
1:A:2325:G:C6	1:A:2326:C:N4	2.77	0.52
1:A:2550:G:C6	1:A:2551:C:C4	2.97	0.52
1:A:2851:A:O2'	14:N:64:ARG:NH2	2.41	0.52
1:A:406:G:H2'	1:A:407:G:O4'	2.08	0.52
1:A:630:G:C3'	1:A:631:A:H5''	2.39	0.52
1:A:945:A:C5	1:A:2448:A:C2	2.97	0.52
8:H:40:THR:O	8:H:41:LYS:C	2.48	0.52
4:D:186:LEU:CD1	16:P:8:LEU:HD12	2.39	0.52
1:A:1577:C:H2'	1:A:1578:U:O4'	2.09	0.52
1:A:1645:G:H4'	1:A:1646:C:C6	2.43	0.52
1:A:2519:U:C6	1:A:2542:A:N6	2.77	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:329:G:O4'	1:A:477:A:H1'	2.10	0.52
1:A:547:A:H3'	1:A:548:G:H5'	1.91	0.52
6:F:111:ILE:HB	6:F:114:PHE:HB2	1.90	0.52
8:H:31:VAL:CB	8:H:32:PRO:CD	2.86	0.52
13:M:119:LEU:HD13	13:M:119:LEU:O	2.09	0.52
1:A:85:G:OP2	21:U:7:ARG:HB2	2.10	0.52
2:B:76:G:O2'	22:V:78:GLN:OE1	2.19	0.52
25:Y:45:GLN:O	25:Y:47:ARG:N	2.43	0.52
27:O:28:LEU:HD23	27:O:37:LYS:HB3	1.92	0.52
1:A:2611:C:H1'	32:6:8:MHT:H21	1.91	0.52
1:A:1355:G:C6	1:A:1377:G:C2	2.96	0.52
1:A:747:U:O2	1:A:2014:A:H1'	2.09	0.52
1:A:2093:G:O2'	1:A:2094:A:H5'	2.08	0.52
1:A:2267:A:H5''	1:A:2268:A:H5'	1.90	0.52
1:A:2505:G:N2	32:6:4:PRO:HB3	2.23	0.52
1:A:2575:C:H2'	1:A:2578:G:O6	2.10	0.52
1:A:404:A:H1'	1:A:405:U:OP2	2.10	0.52
1:A:634:C:H2'	1:A:635:C:C6	2.45	0.52
1:A:681:G:C2	1:A:682:G:C8	2.98	0.52
5:E:59:PRO:HB2	5:E:70:SER:OG	2.09	0.52
8:H:72:ILE:O	8:H:72:ILE:HG22	2.09	0.52
19:S:61:ASN:O	19:S:62:ASP:HB3	2.09	0.52
1:A:1874:C:H3'	1:A:1875:G:C8	2.44	0.52
1:A:2225:A:H1'	1:A:2226:C:OP2	2.09	0.52
1:A:1638:C:H4'	1:A:2710:C:O2	2.09	0.52
1:A:749:A:C5	1:A:750:A:C8	2.97	0.52
3:C:141:VAL:CG1	3:C:190:ALA:HB1	2.39	0.52
9:I:28:LEU:C	9:I:28:LEU:HD12	2.30	0.52
15:O:7:ARG:HD2	15:O:97:PHE:CE1	2.44	0.52
30:3:24:HIS:CE1	30:3:48:ALA:HB3	2.45	0.52
1:A:1055:G:O2'	1:A:1085:A:N1	2.31	0.52
1:A:1253:A:OP2	36:A:3283:HOH:O	2.19	0.52
1:A:1370:C:H2'	1:A:1371:G:C8	2.45	0.52
1:A:1838:C:H4'	1:A:1839:G:C8	2.45	0.52
1:A:459:U:C5	1:A:469:G:N2	2.77	0.52
1:A:593:U:C2	1:A:594:U:C5	2.98	0.52
1:A:931:U:H4'	1:A:932:U:OP2	2.08	0.52
16:P:106:LYS:HA	16:P:109:ARG:HD2	1.90	0.52
1:A:1082:U:H5'	9:I:119:GLY:HA2	1.92	0.52
1:A:1139:G:O2'	1:A:1140:C:H5'	2.09	0.52
1:A:1281:G:C2'	1:A:1282:U:H5'	2.39	0.52
1:A:1438:U:C4	1:A:1552:A:C2	2.98	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1439:A:C8	1:A:1440:U:C6	2.98	0.52
1:A:1645:G:OP1	1:A:1646:C:H5'	2.09	0.52
1:A:2314:A:C2	1:A:2315:G:C4	2.97	0.52
1:A:247:G:OP2	1:A:249:C:N4	2.43	0.52
1:A:2563:U:H1'	1:A:2566:A:N6	2.25	0.52
3:C:34:LEU:O	3:C:35:GLU:CB	2.57	0.52
8:H:34:GLY:O	8:H:35:LYS:HD2	2.10	0.52
8:H:34:GLY:O	8:H:35:LYS:HB2	2.08	0.52
21:U:83:VAL:CG1	21:U:84:GLY:N	2.73	0.52
24:X:27:ARG:NE	24:X:28:ARG:O	2.40	0.52
1:A:1355:G:C2	1:A:1356:G:C8	2.98	0.52
1:A:1363:C:H2'	1:A:1364:G:H8	1.75	0.52
1:A:1352:U:C5	1:A:1377:G:C6	2.98	0.52
1:A:2093:G:C6	1:A:2225:A:C8	2.98	0.52
1:A:2677:G:C4	1:A:2731:G:N2	2.77	0.52
3:C:141:VAL:HG11	3:C:190:ALA:HB1	1.90	0.52
5:E:8:ALA:HB2	5:E:122:GLU:HG3	1.92	0.52
6:F:122:PHE:CE1	6:F:166:GLY:HA3	2.45	0.52
9:I:62:TYR:HB2	9:I:66:SER:O	2.08	0.52
1:A:142:A:C6	1:A:143:C:N4	2.77	0.52
1:A:158:U:H2'	1:A:159:G:H5'	1.92	0.52
1:A:1722:A:C6	1:A:1739:A:C8	2.98	0.52
1:A:1893:C:C5	1:A:1894:C:C5	2.98	0.52
1:A:2024:G:N2	1:A:2040:G:H1'	2.25	0.52
1:A:250:G:H2'	1:A:251:A:C8	2.44	0.52
1:A:2690:U:C5	1:A:2873:A:N1	2.78	0.52
1:A:30:G:C6	1:A:31:C:N3	2.78	0.52
1:A:67:U:H2'	1:A:68:G:O4'	2.10	0.52
1:A:996:A:C2	1:A:997:G:C8	2.98	0.52
1:A:2073:C:H5''	3:C:228:VAL:HB	1.91	0.52
7:G:126:PRO:C	7:G:127:THR:OG1	2.48	0.52
8:H:25:TYR:CZ	8:H:30:LEU:HD21	2.45	0.52
12:L:2:ARG:HD3	12:L:2:ARG:N	2.25	0.52
21:U:88:GLU:O	21:U:89:ASP:CB	2.58	0.52
1:A:61:C:OP1	25:Y:44:LYS:HD3	2.10	0.52
1:A:1289:C:O2'	1:A:1330:C:H4'	2.10	0.52
1:A:1318:U:H2'	1:A:1319:C:C6	2.45	0.52
1:A:1338:G:H5''	20:T:17:SER:HB2	1.92	0.52
1:A:1731:G:C6	1:A:1733:G:N7	2.77	0.52
1:A:207:A:H2'	1:A:207:A:N3	2.24	0.52
1:A:2199:A:N7	1:A:2225:A:N6	2.58	0.52
1:A:2214:C:C2'	1:A:2215:C:O5'	2.57	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:249:C:P	1:A:2394:C:O2'	2.68	0.52
1:A:1566:A:C2	3:C:213:TRP:CG	2.98	0.52
1:A:2621:G:OP1	4:D:124:ARG:NH2	2.43	0.52
4:D:151:THR:HB	4:D:152:PRO:HD2	1.92	0.52
9:I:97:LYS:HD2	9:I:97:LYS:N	2.25	0.52
21:U:10:GLU:OE2	21:U:73:PHE:CD2	2.62	0.52
1:A:927:A:O2'	26:Z:39:GLU:OE1	2.28	0.52
29:2:10:LEU:O	29:2:14:ARG:HG3	2.10	0.52
1:A:1204:A:C2	1:A:1240:U:N3	2.77	0.52
1:A:2230:G:H5'	24:X:30:LEU:HD13	1.92	0.52
1:A:2297:A:N3	1:A:2297:A:H2'	2.25	0.52
1:A:2870:C:H5''	14:N:65:LEU:HD21	1.92	0.52
1:A:294:A:C6	1:A:345:A:C4	2.97	0.52
1:A:815:C:H2'	1:A:816:C:C6	2.45	0.52
8:H:23:ALA:O	8:H:27:ARG:N	2.38	0.52
12:L:102:GLY:N	36:L:301:HOH:O	2.43	0.52
16:P:39:ARG:HA	16:P:39:ARG:HE	1.74	0.52
20:T:77:ARG:O	20:T:78:SER:CB	2.57	0.52
26:Z:10:THR:HG23	26:Z:54:MET:C	2.30	0.52
28:1:5:ILE:HG22	28:1:28:ARG:NH1	2.25	0.51
30:3:4:ILE:HG21	30:3:63:PRO:HG3	1.92	0.51
1:A:973:A:O4'	1:A:1188:U:C6	2.63	0.51
1:A:1544:A:C6	1:A:1545:A:N1	2.78	0.51
1:A:1678:A:C5	1:A:1679:A:C8	2.98	0.51
1:A:1809:A:C6	1:A:1810:A:C6	2.98	0.51
1:A:1853:A:N3	1:A:2233:U:O2'	2.37	0.51
1:A:2209:G:C2	1:A:2216:G:N3	2.78	0.51
1:A:2221:G:C5	1:A:2222:C:C5	2.98	0.51
1:A:425:G:N2	1:A:426:C:N3	2.58	0.51
1:A:522:A:C6	1:A:523:C:N3	2.78	0.51
1:A:740:C:H5'	1:A:1784:A:C3'	2.39	0.51
4:D:140:HIS:CE1	36:D:303:HOH:O	2.63	0.51
5:E:47:LYS:O	5:E:83:VAL:HB	2.10	0.51
9:I:80:LEU:HA	9:I:84:ALA:HB2	1.92	0.51
11:K:71:ARG:HB3	11:K:72:PRO:HD2	1.92	0.51
1:A:1049:C:H2'	1:A:1050:A:H5'	1.92	0.51
1:A:169:G:C2	1:A:170:U:C6	2.98	0.51
1:A:176:A:N7	1:A:177:G:C6	2.79	0.51
1:A:195:A:C6	1:A:198:C:C5	2.99	0.51
1:A:2174:C:H2'	1:A:2175:C:O4'	2.09	0.51
1:A:270:A:C2	1:A:369:U:H4'	2.46	0.51
1:A:398:C:OP1	24:X:53:ALA:CB	2.59	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:856:G:H2'	1:A:857:G:C8	2.44	0.51
1:A:914:G:H5'	1:A:915:C:OP2	2.10	0.51
21:U:13:VAL:HG21	21:U:39:ILE:CG2	2.40	0.51
29:2:18:PHE:O	29:2:21:ARG:N	2.44	0.51
30:3:31:HIS:CE1	30:3:32:ILE:CD1	2.94	0.51
1:A:1286:A:N6	1:A:1329:U:C2	2.79	0.51
1:A:1607:C:H4'	1:A:1608:A:O5'	2.10	0.51
1:A:2145:C:H5''	1:A:2146:C:P	2.51	0.51
1:A:2284:A:O2'	1:A:2288:A:N1	2.33	0.51
1:A:333:G:C5	1:A:334:C:C5	2.99	0.51
1:A:370:G:O2'	1:A:423:A:H3'	2.09	0.51
1:A:491:G:C6	1:A:492:A:C5	2.98	0.51
1:A:617:G:H2'	1:A:618:G:O4'	2.10	0.51
1:A:963:U:H2'	1:A:964:C:C6	2.45	0.51
8:H:121:VAL:O	8:H:122:LEU:HB2	2.11	0.51
9:I:76:ALA:HA	9:I:79:LEU:HB2	1.91	0.51
10:J:142:ILE:OXT	10:J:142:ILE:HG23	2.10	0.51
16:P:113:ARG:O	16:P:114:LEU:C	2.48	0.51
16:P:54:GLY:O	16:P:77:HIS:NE2	2.44	0.51
1:A:1324:G:O4'	1:A:1616:A:N6	2.43	0.51
1:A:749:A:C6	1:A:1618:A:C2	2.99	0.51
1:A:1620:G:C6	1:A:1621:U:C4	2.99	0.51
1:A:491:G:C6	1:A:492:A:C6	2.98	0.51
1:A:621:A:C5	1:A:622:G:H1'	2.45	0.51
12:L:59:ARG:CZ	12:L:59:ARG:HB3	2.40	0.51
14:N:12:ARG:HG2	14:N:16:HIS:HB3	1.91	0.51
1:A:504:A:C2	1:A:1234:U:H4'	2.46	0.51
1:A:1435:G:C2'	1:A:1436:G:H5'	2.41	0.51
1:A:1817:G:C2'	1:A:1818:U:H5'	2.41	0.51
1:A:1917:U:H2'	1:A:1918:A:H5'	1.92	0.51
1:A:1651:G:C2	1:A:2007:U:O2	2.64	0.51
1:A:2019:A:H4'	17:Q:34:VAL:HG22	1.92	0.51
1:A:228:C:H4'	1:A:229:C:H5''	1.91	0.51
1:A:32:C:H5''	1:A:33:C:OP2	2.10	0.51
1:A:410:G:C2	1:A:2407:A:C5	2.98	0.51
1:A:415:A:C2	1:A:2409:G:C6	2.98	0.51
1:A:547:A:H3'	1:A:548:G:C5'	2.40	0.51
6:F:128:TYR:CG	6:F:170:LEU:HD13	2.46	0.51
8:H:26:ALA:HA	8:H:30:LEU:HB2	1.92	0.51
8:H:53:GLU:O	8:H:54:LEU:C	2.49	0.51
9:I:51:LYS:N	9:I:51:LYS:HD3	2.24	0.51
25:Y:18:LEU:O	25:Y:22:LEU:CB	2.58	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1319:C:H2'	1:A:1320:C:H5'	1.91	0.51
1:A:531:C:C5	1:A:2035:G:C2	2.98	0.51
1:A:2111:U:C4	1:A:2147:A:C2	2.99	0.51
1:A:2341:G:C5	1:A:2342:C:C4	2.99	0.51
1:A:2829:A:H2'	1:A:2830:C:H5'	1.92	0.51
1:A:38:A:H5'	5:E:45:ALA:HB3	1.92	0.51
1:A:777:G:N7	1:A:793:A:C2	2.78	0.51
9:I:6:GLN:O	9:I:7:ALA:HB3	2.10	0.51
11:K:31:ARG:HB3	11:K:32:TYR:CE2	2.46	0.51
20:T:59:ASN:O	20:T:84:TYR:N	2.44	0.51
21:U:44:LYS:HE3	21:U:46:GLN:HB2	1.92	0.51
23:W:56:ASP:O	23:W:57:HIS:HB2	2.10	0.51
1:A:200:U:C4	1:A:248:G:C2	2.98	0.51
1:A:201:C:C4	1:A:202:U:C5	2.98	0.51
1:A:2335:A:C6	1:A:2337:G:H1'	2.45	0.51
1:A:2531:A:H5'	7:G:157:TYR:CE2	2.45	0.51
1:A:488:G:N2	1:A:493:G:C6	2.79	0.51
5:E:77:ILE:O	5:E:77:ILE:CG1	2.59	0.51
9:I:57:VAL:CG2	9:I:69:PHE:HB2	2.40	0.51
10:J:104:ALA:O	10:J:108:MET:HG3	2.10	0.51
18:R:80:ARG:C	18:R:82:HIS:H	2.14	0.51
26:Z:13:ALA:HB2	26:Z:24:LEU:CD1	2.41	0.51
1:A:1029:A:N1	1:A:2465:C:O2'	2.36	0.51
1:A:1054:A:H2'	1:A:1055:G:C8	2.46	0.51
1:A:1096:A:C5	1:A:1097:U:C5	2.99	0.51
1:A:1246:A:O2'	5:E:40:ARG:NH2	2.44	0.51
1:A:1584:U:H3'	1:A:1584:U:O2	2.10	0.51
1:A:1731:G:C6	1:A:1733:G:C5	2.99	0.51
1:A:1916:A:H2'	1:A:1917:U:O4'	2.09	0.51
1:A:195:A:C4	1:A:198:C:N4	2.78	0.51
1:A:2127:G:N3	1:A:2162:G:C8	2.79	0.51
1:A:2645:G:H3'	1:A:2646:C:C5'	2.41	0.51
1:A:471:A:OP1	5:E:79:ARG:NH1	2.44	0.51
1:A:563:A:C6	1:A:2018:G:C4	2.99	0.51
1:A:915:C:C4	1:A:916:G:C5	2.99	0.51
2:B:62:C:H2'	2:B:63:C:C6	2.45	0.51
8:H:5:LEU:HA	8:H:36:ALA:HA	1.93	0.51
15:O:49:VAL:HG21	15:O:82:ALA:HA	1.93	0.51
23:W:45:PHE:HB3	23:W:80:ILE:HD12	1.92	0.51
1:A:1831:G:C6	1:A:1832:C:C4	2.99	0.51
1:A:2331:G:C5	1:A:2332:C:C5	2.99	0.51
1:A:321:U:OP2	5:E:130:LYS:HA	2.11	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:912:C:N4	1:A:913:U:O4	2.44	0.51
1:A:971:G:H2'	1:A:972:A:O4'	2.09	0.51
3:C:141:VAL:HG13	3:C:191:THR:O	2.11	0.51
3:C:92:ALA:HB3	3:C:104:ILE:CD1	2.41	0.51
4:D:52:THR:OG1	4:D:53:GLY:N	2.44	0.51
5:E:149:ILE:HG23	5:E:188:MET:HA	1.92	0.51
12:L:68:SER:O	12:L:69:ARG:CB	2.57	0.51
14:N:28:LEU:O	14:N:28:LEU:HG	2.11	0.51
1:A:2845:U:H5''	16:P:52:ASN:O	2.11	0.51
20:T:69:ARG:NH1	36:T:102:HOH:O	2.43	0.51
1:A:1559:U:H4'	1:A:1560:G:OP2	2.10	0.51
1:A:1596:A:N6	1:A:1597:A:C6	2.79	0.51
1:A:1651:G:N2	1:A:2007:U:O2	2.45	0.51
1:A:1674:G:N2	1:A:1677:A:H61	2.08	0.51
1:A:2127:G:N3	1:A:2162:G:N7	2.59	0.51
1:A:228:C:N3	1:A:418:C:O4'	2.44	0.51
1:A:344:A:C2	1:A:345:A:N7	2.79	0.51
1:A:669:G:N2	1:A:670:A:C2	2.79	0.51
3:C:51:THR:CG2	3:C:54:ILE:HD11	2.42	0.51
12:L:93:ASN:O	12:L:95:LEU:N	2.40	0.51
14:N:29:VAL:HG13	14:N:83:LEU:HD11	1.93	0.51
14:N:54:LEU:HD21	14:N:66:ALA:HB2	1.93	0.51
15:O:36:TYR:N	15:O:36:TYR:CD1	2.78	0.51
1:A:85:G:OP2	21:U:28:VAL:CG1	2.59	0.51
25:Y:27:ASN:HA	25:Y:30:MET:HB2	1.93	0.51
1:A:126:A:C2	29:2:18:PHE:CE2	3.00	0.50
1:A:1231:U:H2'	1:A:1232:G:H8	1.76	0.50
1:A:1301:A:N6	1:A:1303:G:C2	2.79	0.50
1:A:1519:G:C2	1:A:1520:U:H1'	2.47	0.50
1:A:1567:G:C8	3:C:83:TYR:CE1	2.99	0.50
1:A:1627:G:N2	1:A:1628:G:C5	2.79	0.50
1:A:1805:A:C2	1:A:1813:G:C2	2.99	0.50
1:A:1946:U:H2'	1:A:1947:C:C6	2.45	0.50
1:A:2209:G:C6	1:A:2210:U:C4	2.99	0.50
1:A:2718:G:C6	1:A:2719:G:C4	2.99	0.50
1:A:2883:A:OP2	27:0:49:TYR:OH	2.24	0.50
1:A:748:G:C8	19:S:89:ALA:HB1	2.47	0.50
1:A:77:G:OP1	25:Y:52:ARG:HD3	2.11	0.50
3:C:33:LEU:O	3:C:64:ILE:HD12	2.11	0.50
5:E:75:SER:O	5:E:78:TRP:HB2	2.11	0.50
1:A:807:U:OP2	12:L:41:ARG:NH1	2.44	0.50
12:L:50:PHE:CE2	12:L:52:GLY:O	2.63	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:77:ILE:O	12:L:110:VAL:O	2.29	0.50
17:Q:86:ALA:O	17:Q:87:SER:CB	2.58	0.50
1:A:122:G:H2'	1:A:123:G:O4'	2.11	0.50
1:A:1500:G:C6	1:A:1501:G:N7	2.79	0.50
1:A:1640:A:H2'	1:A:1641:A:C8	2.46	0.50
1:A:1791:A:H2'	1:A:1792:G:H5'	1.93	0.50
1:A:570:G:C4	1:A:2030:A:N7	2.80	0.50
1:A:295:G:N2	1:A:296:U:C6	2.80	0.50
1:A:289:G:N2	1:A:352:A:C2	2.80	0.50
1:A:577:G:O2'	1:A:1254:A:OP1	2.30	0.50
1:A:58:G:C4	1:A:70:G:N2	2.79	0.50
3:C:67:PHE:CE2	3:C:156:ARG:NH2	2.79	0.50
4:D:32:ASN:N	4:D:96:ILE:O	2.44	0.50
12:L:117:THR:HG22	12:L:118:THR:N	2.25	0.50
20:T:12:ARG:O	20:T:13:ALA:HB2	2.11	0.50
27:O:55:ILE:O	27:O:56:ALA:HB3	2.11	0.50
1:A:1992:G:N2	1:A:1996:C:O2'	2.45	0.50
1:A:2163:A:H2'	1:A:2164:C:H4'	1.93	0.50
1:A:2344:U:H4'	1:A:2345:G:OP1	2.11	0.50
1:A:753:A:H2'	1:A:754:U:C6	2.46	0.50
2:B:39:A:H2'	2:B:40:U:C6	2.46	0.50
1:A:1791:A:O3'	3:C:205:LEU:HB2	2.11	0.50
5:E:108:ILE:HD13	5:E:181:ILE:HG12	1.93	0.50
8:H:44:ILE:O	8:H:48:GLU:HB2	2.11	0.50
9:I:10:LYS:HB2	9:I:56:PRO:HB3	1.93	0.50
9:I:22:PRO:HB2	9:I:23:PRO:HD3	1.94	0.50
9:I:58:VAL:CG1	9:I:59:ILE:H	2.24	0.50
1:A:12:U:O2	1:A:12:U:C2'	2.59	0.50
1:A:1317:G:H2'	1:A:1318:U:O4'	2.11	0.50
1:A:1343:G:C4	1:A:1597:A:C6	3.00	0.50
1:A:1544:A:N6	1:A:1545:A:N1	2.58	0.50
1:A:2060:A:O4'	1:A:2502:G:H1'	2.11	0.50
1:A:2109:U:H4'	1:A:2110:G:OP1	2.10	0.50
1:A:219:A:N6	1:A:220:G:C6	2.80	0.50
1:A:2297:A:N1	1:A:2321:U:C5	2.80	0.50
1:A:508:A:H3'	1:A:509:C:H5'	1.93	0.50
1:A:694:U:C3'	1:A:695:G:H5''	2.41	0.50
1:A:747:U:O4'	19:S:92:ARG:NH1	2.44	0.50
3:C:267:ILE:HG22	3:C:267:ILE:O	2.12	0.50
19:S:63:GLY:O	19:S:64:ALA:HB3	2.11	0.50
23:W:45:PHE:CD2	23:W:80:ILE:HD11	2.46	0.50
1:A:1364:G:C6	1:A:1368:G:C6	2.99	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1566:A:N3	3:C:213:TRP:CG	2.80	0.50
1:A:20:C:H2'	1:A:21:A:C8	2.47	0.50
1:A:21:A:N1	1:A:520:G:C6	2.80	0.50
1:A:532:A:H4'	1:A:533:G:C8	2.46	0.50
1:A:668:A:C2	1:A:670:A:C6	3.00	0.50
1:A:769:U:C4	1:A:770:G:N7	2.79	0.50
3:C:57:GLY:O	3:C:58:HIS:O	2.29	0.50
3:C:68:LYS:HG2	3:C:151:GLY:HA2	1.94	0.50
4:D:101:PHE:HA	4:D:104:VAL:HG13	1.94	0.50
4:D:125:TRP:O	4:D:126:ASN:HB2	2.11	0.50
6:F:108:VAL:HG11	6:F:176:PRO:CG	2.42	0.50
26:Z:40:ASP:OD2	26:Z:45:ARG:NH1	2.44	0.50
1:A:1009:A:O2'	1:A:1153:C:H4'	2.12	0.50
1:A:1360:G:C6	1:A:1372:U:C2	2.99	0.50
1:A:1390:U:C2'	1:A:1391:U:H5'	2.41	0.50
1:A:1754:A:C6	1:A:1755:A:C6	2.99	0.50
1:A:532:A:N1	1:A:2020:A:H1'	2.26	0.50
1:A:2454:G:H1'	36:A:3531:HOH:O	2.12	0.50
1:A:2707:U:H2'	1:A:2708:G:C8	2.46	0.50
1:A:777:G:N3	1:A:778:G:C8	2.80	0.50
1:A:825:A:H4'	1:A:2428:G:C5	2.47	0.50
7:G:87:LEU:HD12	7:G:87:LEU:N	2.26	0.50
8:H:5:LEU:HD11	8:H:13:GLY:HA2	1.93	0.50
14:N:36:THR:HG23	14:N:41:ALA:HB2	1.94	0.50
20:T:10:VAL:HG12	20:T:11:LEU:N	2.26	0.50
1:A:1351:C:C2	1:A:1381:G:C2	3.00	0.50
1:A:1930:G:O2'	1:A:1931:U:P	2.69	0.50
1:A:2013:A:N6	1:A:2014:A:C6	2.80	0.50
1:A:2250:G:C2	13:M:82:MET:HB2	2.47	0.50
1:A:2308:G:C5'	1:A:2309:A:OP2	2.60	0.50
1:A:2379:G:H4'	15:O:21:LEU:HD11	1.94	0.50
1:A:2461:A:C2	1:A:2490:G:N2	2.80	0.50
1:A:2546:U:O4'	1:A:2565:A:C2	2.65	0.50
1:A:2852:G:H2'	1:A:2853:C:O4'	2.12	0.50
1:A:392:U:H2'	1:A:393:C:C6	2.47	0.50
1:A:586:A:H1'	1:A:672:C:H1'	1.93	0.50
1:A:64:A:H2'	1:A:65:U:O4'	2.12	0.50
7:G:19:ILE:O	7:G:21:GLY:N	2.45	0.50
15:O:33:ARG:O	15:O:34:HIS:CG	2.64	0.50
21:U:44:LYS:O	21:U:58:ILE:HA	2.12	0.50
1:A:1310:G:H1'	1:A:1611:C:H5''	1.93	0.50
1:A:1383:A:C2	1:A:1384:A:C4	2.99	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1654:A:OP2	14:N:1:MET:N	2.43	0.50
1:A:1476:U:H1'	1:A:1732:C:C2	2.47	0.50
1:A:2199:A:N7	1:A:2225:A:C6	2.80	0.50
1:A:2308:G:O6	1:A:2311:A:N7	2.45	0.50
1:A:2544:G:H5'	1:A:2645:G:C2	2.47	0.50
1:A:2824:C:N4	1:A:2825:G:C5	2.80	0.50
1:A:477:A:C2'	1:A:478:A:O5'	2.59	0.50
1:A:526:A:C6	1:A:2626:C:H4'	2.46	0.50
1:A:695:G:C5	1:A:768:G:C6	2.99	0.50
1:A:747:U:C5	1:A:2613:U:C5	2.99	0.50
2:B:39:A:N6	2:B:44:G:C6	2.79	0.50
3:C:171:TYR:CD2	3:C:185:GLU:HA	2.47	0.50
6:F:108:VAL:N	6:F:109:PRO:CD	2.75	0.50
24:X:51:VAL:HG23	24:X:52:SER:N	2.27	0.50
28:1:10:LYS:O	28:1:51:GLU:CG	2.60	0.50
1:A:1243:C:H2'	1:A:1244:A:O4'	2.12	0.50
1:A:1301:A:H2'	1:A:1301:A:N3	2.27	0.50
1:A:1734:G:H2'	1:A:1735:A:C8	2.47	0.50
1:A:1855:U:C5	1:A:1856:U:C4	3.00	0.50
1:A:1876:A:C8	1:A:1877:A:N7	2.80	0.50
1:A:2024:G:C4	1:A:2040:G:N2	2.80	0.50
1:A:2461:A:H1'	1:A:2492:U:C2	2.47	0.50
1:A:2473:U:H2'	1:A:2473:U:O2	2.10	0.50
1:A:301:G:C2	1:A:302:C:C2	3.00	0.50
2:B:42:C:O2'	6:F:63:GLN:NE2	2.45	0.50
5:E:108:ILE:O	5:E:108:ILE:HD12	2.12	0.50
6:F:121:SER:O	6:F:123:ASP:N	2.44	0.50
7:G:91:GLY:O	7:G:94:TYR:CD1	2.65	0.50
11:K:47:ILE:HB	11:K:48:PRO:HD2	1.93	0.50
12:L:94:THR:O	12:L:98:ALA:N	2.45	0.50
1:A:1454:C:H5'	14:N:63:ARG:HD3	1.93	0.50
17:Q:76:TYR:CZ	17:Q:80:ILE:HG13	2.47	0.50
1:A:397:U:OP1	24:X:31:PRO:HA	2.12	0.50
1:A:2539:C:H4'	31:4:3:VAL:HG11	1.94	0.49
1:A:1340:U:H4'	1:A:1341:G:OP2	2.12	0.49
1:A:1456:G:C6	1:A:1457:U:C4	2.99	0.49
1:A:1911:U:H2'	1:A:1918:A:C2	2.47	0.49
1:A:2067:G:C6	1:A:2444:G:C2	3.00	0.49
1:A:2156:G:C6	1:A:2157:G:C2	3.00	0.49
1:A:621:A:C6	1:A:622:G:H1'	2.47	0.49
1:A:679:C:H2'	1:A:680:C:H6	1.77	0.49
1:A:753:A:C2	1:A:754:U:C2	3.00	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:127:GLU:HG3	8:H:145:ASN:HA	1.93	0.49
25:Y:31:GLN:HG2	25:Y:36:GLN:HB2	1.95	0.49
1:A:2283:C:C2'	1:A:2284:A:H5'	2.42	0.49
1:A:35:G:O2'	1:A:451:U:O4	2.30	0.49
1:A:36:G:H4'	1:A:451:U:C2	2.48	0.49
1:A:600:G:OP1	5:E:24:ASN:ND2	2.42	0.49
1:A:776:G:C8	1:A:793:A:C5	3.00	0.49
1:A:864:G:O6	1:A:865:C:N4	2.45	0.49
4:D:150:GLN:C	4:D:151:THR:O	2.50	0.49
1:A:443:A:N7	5:E:40:ARG:CG	2.75	0.49
14:N:69:ARG:O	14:N:70:THR:HG23	2.12	0.49
18:R:14:VAL:CG2	18:R:98:ILE:HG13	2.42	0.49
1:A:2392:A:OP2	30:3:31:HIS:CE1	2.65	0.49
1:A:104:A:H2'	1:A:105:C:O4'	2.12	0.49
1:A:819:A:C8	1:A:1188:U:O4	2.64	0.49
1:A:1299:G:H5''	1:A:1300:G:H5''	1.93	0.49
1:A:136:G:N2	1:A:144:A:N7	2.61	0.49
1:A:1360:G:O6	1:A:1372:U:C2	2.65	0.49
1:A:1378:A:N3	1:A:1379:U:H2'	2.27	0.49
1:A:1562:U:H2'	1:A:1563:U:O4'	2.12	0.49
1:A:1869:G:C3'	1:A:1870:C:H5'	2.43	0.49
1:A:2209:G:C5	1:A:2210:U:C4	3.00	0.49
1:A:2747:G:C2	1:A:2756:U:C5	3.00	0.49
1:A:2824:C:C4	1:A:2825:G:C5	3.01	0.49
3:C:240:PHE:CE1	3:C:242:LYS:O	2.65	0.49
4:D:183:GLU:N	4:D:183:GLU:OE1	2.45	0.49
5:E:150:THR:O	5:E:172:ALA:HB2	2.12	0.49
9:I:37:GLU:OE1	9:I:65:ARG:NH2	2.45	0.49
14:N:1:MET:CE	14:N:1:MET:N	2.75	0.49
22:V:80:HIS:CE1	22:V:83:LYS:HB2	2.47	0.49
1:A:1087:G:N1	1:A:1089:A:C2	2.80	0.49
1:A:1230:A:H2'	1:A:1231:U:C6	2.47	0.49
1:A:1330:C:O2'	1:A:1331:G:H5'	2.11	0.49
1:A:1663:G:C6	1:A:1992:G:C8	2.99	0.49
1:A:1695:G:N3	1:A:1695:G:H3'	2.27	0.49
1:A:2056:G:N3	1:A:2056:G:H2'	2.27	0.49
1:A:2121:G:C2	1:A:2122:U:C2	3.01	0.49
1:A:241:A:N1	1:A:255:A:H5''	2.27	0.49
1:A:2808:G:N2	1:A:2891:U:C6	2.81	0.49
1:A:307:G:N2	1:A:310:A:C8	2.81	0.49
1:A:528:A:N1	1:A:2042:A:H2'	2.27	0.49
1:A:861:A:H2'	1:A:862:G:O4'	2.12	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:937:C:H2'	1:A:938:G:C8	2.47	0.49
6:F:147:ASP:O	6:F:148:ARG:HB2	2.13	0.49
8:H:81:ALA:C	8:H:149:GLU:HB3	2.33	0.49
9:I:53:LEU:HG	9:I:82:LYS:HE2	1.93	0.49
26:Z:14:ILE:HG22	26:Z:15:GLY:N	2.27	0.49
31:4:19:ARG:O	31:4:20:ASP:HB2	2.11	0.49
1:A:1127:A:C3'	1:A:1128:G:H5''	2.43	0.49
1:A:1176:U:H2'	1:A:1177:G:C8	2.47	0.49
1:A:2184:A:H2'	1:A:2185:U:C6	2.47	0.49
1:A:2386:A:H2'	1:A:2387:U:C6	2.48	0.49
1:A:2537:U:H2'	1:A:2538:C:C6	2.47	0.49
1:A:2854:G:N2	1:A:2864:G:N3	2.61	0.49
5:E:61:ARG:O	5:E:63:LYS:N	2.45	0.49
7:G:95:ARG:HA	7:G:128:GLN:O	2.11	0.49
8:H:112:LYS:CG	8:H:113:SER:N	2.76	0.49
13:M:120:ALA:O	13:M:124:LEU:HD23	2.12	0.49
25:Y:21:LEU:HA	25:Y:25:GLN:HB3	1.94	0.49
1:A:1931:U:OP2	1:A:1968:G:N1	2.43	0.49
1:A:197:A:C8	1:A:2430:A:C8	3.01	0.49
1:A:2057:G:H2'	1:A:2058:A:O4'	2.13	0.49
1:A:2283:C:H2'	1:A:2284:A:H5'	1.95	0.49
1:A:410:G:C6	1:A:2407:A:N6	2.81	0.49
1:A:2862:G:C6	1:A:2863:C:N4	2.81	0.49
1:A:570:G:H2'	1:A:571:U:H5'	1.93	0.49
13:M:57:VAL:HG11	13:M:105:MET:SD	2.52	0.49
14:N:48:VAL:N	14:N:50:PRO:HD2	2.27	0.49
20:T:61:LEU:HD12	20:T:62:VAL:N	2.27	0.49
1:A:1071:G:O2'	1:A:1072:C:O4'	2.23	0.49
1:A:1248:G:C4	17:Q:3:ARG:HG3	2.47	0.49
1:A:1779:U:C5	1:A:1784:A:N7	2.80	0.49
1:A:411:G:OP1	1:A:2407:A:OP2	2.29	0.49
1:A:2599:G:N7	3:C:236:GLU:CB	2.76	0.49
1:A:2842:G:H2'	1:A:2843:G:O4'	2.11	0.49
1:A:2849:U:H4'	1:A:2868:A:C2	2.47	0.49
1:A:49:A:N6	1:A:177:G:C5	2.81	0.49
1:A:569:U:H5''	1:A:821:A:C2	2.48	0.49
2:B:109:A:C6	2:B:110:C:C4	3.00	0.49
13:M:22:GLN:O	13:M:24:THR:N	2.46	0.49
1:A:2848:G:OP2	16:P:95:ALA:N	2.46	0.49
1:A:1250:G:H5'	17:Q:6:ARG:HD3	1.95	0.49
20:T:7:LEU:HD21	20:T:45:ALA:HB3	1.95	0.49
21:U:16:GLY:O	21:U:17:LYS:HB2	2.12	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:98:SER:O	21:U:99:ASN:CB	2.60	0.49
1:A:1361:G:C5	1:A:1362:C:C5	3.01	0.49
1:A:1504:A:N6	1:A:1505:A:C6	2.81	0.49
1:A:1814:G:C6	1:A:1815:A:C6	3.00	0.49
1:A:182:A:N6	1:A:214:G:O6	2.45	0.49
1:A:1973:G:C5	1:A:1974:C:C4	3.00	0.49
1:A:2146:C:H4'	1:A:2147:A:C8	2.47	0.49
1:A:2111:U:O4	1:A:2147:A:C2	2.66	0.49
1:A:2307:G:N2	1:A:2312:U:N3	2.60	0.49
1:A:2371:G:C2	1:A:2372:U:C5	3.00	0.49
1:A:792:A:O2'	1:A:2440:C:N3	2.36	0.49
1:A:508:A:C3'	1:A:509:C:H5'	2.42	0.49
8:H:72:ILE:O	8:H:141:LYS:O	2.30	0.49
11:K:31:ARG:HB2	11:K:32:TYR:CD2	2.47	0.49
16:P:28:VAL:HG21	16:P:74:PHE:CE2	2.48	0.49
31:4:16:ILE:HD13	31:4:25:VAL:HG22	1.95	0.49
1:A:2231:U:H2'	1:A:2232:C:C6	2.48	0.49
1:A:2586:U:C5	1:A:2587:A:C8	3.01	0.49
1:A:430:A:H2'	1:A:431:U:H5'	1.95	0.49
1:A:636:G:O2'	1:A:638:G:O2'	2.29	0.49
1:A:58:G:C2	1:A:70:G:C2	3.01	0.49
1:A:878:A:C2	1:A:900:A:C4	3.01	0.49
1:A:856:G:C2	1:A:922:C:N3	2.81	0.49
2:B:37:C:C5	2:B:38:C:C4	3.01	0.49
1:A:1993:U:H4'	4:D:133:THR:CG2	2.43	0.49
9:I:76:ALA:HB2	9:I:129:ILE:HG23	1.95	0.49
10:J:31:GLU:OE2	10:J:35:ARG:NH1	2.46	0.49
1:A:2360:G:H1'	12:L:60:ARG:HD3	1.94	0.49
14:N:87:PHE:O	14:N:88:ALA:C	2.52	0.49
21:U:85:PHE:CD1	21:U:85:PHE:N	2.81	0.49
25:Y:20:ASN:O	25:Y:24:GLU:HB2	2.12	0.49
1:A:152:A:C2	1:A:175:G:N3	2.81	0.49
1:A:1791:A:C2'	1:A:1792:G:H5'	2.43	0.49
1:A:1869:G:C2	1:A:1873:G:N1	2.81	0.49
1:A:2054:A:C2	1:A:2616:C:C2	3.01	0.49
1:A:2059:A:H4'	5:E:64:GLY:O	2.13	0.49
1:A:2428:G:H5''	1:A:2429:G:OP1	2.13	0.49
1:A:2532:G:N2	1:A:2663:G:O2'	2.46	0.49
1:A:1638:C:C5'	1:A:2710:C:O2'	2.61	0.49
1:A:2729:G:H2'	1:A:2730:C:O4'	2.13	0.49
1:A:382:A:N1	1:A:383:C:C2	2.81	0.49
1:A:55:G:C2	1:A:56:A:C8	3.00	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:883:G:N2	1:A:894:U:O2	2.46	0.49
3:C:43:ARG:NH2	3:C:49:ILE:HD11	2.28	0.49
1:A:1567:G:C8	3:C:83:TYR:CD1	3.00	0.49
6:F:16:LEU:HD11	6:F:169:LEU:CD1	2.43	0.49
11:K:92:GLU:N	11:K:92:GLU:OE2	2.43	0.49
13:M:69:PRO:O	13:M:70:ASP:HB3	2.11	0.49
1:A:581:C:OP2	17:Q:33:ARG:NE	2.46	0.49
19:S:20:VAL:CG2	19:S:39:THR:HG21	2.43	0.49
1:A:591:U:H1'	30:3:2:PRO:HD2	1.94	0.48
1:A:1029:A:N7	1:A:1030:C:C2	2.81	0.48
1:A:1569:A:C6	1:A:1570:A:C2	3.01	0.48
1:A:1773:A:N3	1:A:1978:A:C2	2.81	0.48
1:A:1981:A:H5''	1:A:1982:U:OP2	2.12	0.48
1:A:2119:A:N1	1:A:2169:A:H2'	2.28	0.48
1:A:2502:G:H5'	1:A:2503:A:H5''	1.94	0.48
1:A:477:A:H2'	1:A:478:A:O5'	2.13	0.48
1:A:771:G:O2'	1:A:1355:G:O2'	2.14	0.48
1:A:933:A:C5'	1:A:934:U:OP2	2.61	0.48
2:B:34:A:N6	2:B:44:G:H1'	2.28	0.48
1:A:1076:C:H1'	9:I:93:PRO:HG2	1.95	0.48
10:J:84:ILE:CG1	10:J:84:ILE:O	2.61	0.48
20:T:62:VAL:HG12	20:T:63:VAL:N	2.28	0.48
24:X:54:LYS:HA	24:X:57:ARG:HB2	1.94	0.48
26:Z:7:ILE:N	26:Z:36:VAL:O	2.45	0.48
26:Z:41:THR:HB	26:Z:42:PRO:HD2	1.95	0.48
1:A:1331:G:O2'	1:A:1332:G:H5'	2.13	0.48
1:A:1866:A:N3	1:A:1876:A:C6	2.81	0.48
1:A:2073:C:H5''	3:C:228:VAL:CB	2.43	0.48
1:A:223:A:H2'	1:A:408:G:N3	2.28	0.48
1:A:248:G:H5'	1:A:250:G:N7	2.28	0.48
1:A:2819:G:H2'	1:A:2821:A:N7	2.29	0.48
1:A:470:A:C2	1:A:471:A:C4	3.01	0.48
1:A:581:C:OP2	17:Q:33:ARG:CZ	2.61	0.48
1:A:796:C:H2'	1:A:797:G:C8	2.48	0.48
8:H:21:VAL:CG2	8:H:22:LYS:N	2.76	0.48
9:I:54:PRO:HG2	9:I:78:VAL:HB	1.95	0.48
14:N:85:PRO:O	14:N:86:ARG:C	2.51	0.48
1:A:1011:G:O2'	1:A:1013:C:H5''	2.14	0.48
1:A:1068:G:H2'	1:A:1096:A:C5'	2.43	0.48
1:A:1095:A:C2	1:A:1096:A:C2	3.01	0.48
1:A:193:U:C5	1:A:194:G:N7	2.82	0.48
1:A:242:G:N7	30:3:3:LYS:O	2.46	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2727:A:N1	1:A:2728:U:C4	2.81	0.48
33:A:3001:DOL:C43	33:A:3001:DOL:C1	2.91	0.48
1:A:449:A:H2'	1:A:450:G:H5'	1.95	0.48
1:A:655:A:H4'	1:A:656:G:OP1	2.11	0.48
1:A:661:A:H2'	1:A:662:G:O4'	2.12	0.48
2:B:50:A:H2'	2:B:51:G:O4'	2.13	0.48
7:G:96:ALA:N	7:G:128:GLN:O	2.46	0.48
14:N:106:ASP:O	14:N:107:ASN:C	2.52	0.48
19:S:70:LYS:O	19:S:107:VAL:HG23	2.14	0.48
21:U:12:ILE:HG21	21:U:80:ALA:HB2	1.95	0.48
28:1:39:PHE:CG	28:1:40:ASP:N	2.82	0.48
1:A:1223:G:N2	1:A:1225:G:H3'	2.28	0.48
1:A:116:C:O2'	1:A:126:A:C2'	2.61	0.48
1:A:1355:G:C5	1:A:1377:G:N2	2.81	0.48
1:A:158:U:C4	1:A:159:G:C5	3.01	0.48
1:A:2199:A:C5	1:A:2225:A:N1	2.82	0.48
1:A:2409:G:H2'	1:A:2410:G:O4'	2.13	0.48
1:A:2656:U:OP2	1:A:2664:G:N1	2.41	0.48
1:A:2693:G:N2	1:A:2717:C:C2	2.81	0.48
1:A:2451:A:C2	33:A:3001:DOL:C12	2.97	0.48
1:A:1568:G:N3	3:C:58:HIS:CE1	2.81	0.48
4:D:28:GLU:HA	4:D:185:ASN:O	2.13	0.48
1:A:2784:U:H4'	4:D:42:ASN:O	2.13	0.48
1:A:801:G:C8	5:E:49:ARG:HG3	2.49	0.48
10:J:84:ILE:HG13	10:J:84:ILE:O	2.13	0.48
1:A:1350:C:C2	1:A:1382:G:C2	3.01	0.48
1:A:1596:A:C6	1:A:1597:A:C6	3.01	0.48
1:A:1688:U:H1'	1:A:1701:A:C6	2.49	0.48
1:A:2134:A:N3	1:A:2159:G:H1'	2.28	0.48
1:A:249:C:P	1:A:2394:C:HO2'	2.36	0.48
1:A:2562:U:C2'	1:A:2563:U:H5'	2.43	0.48
1:A:410:G:H2'	1:A:2407:A:C8	2.47	0.48
1:A:543:G:C2	1:A:551:G:C5	3.01	0.48
3:C:252:THR:HG22	3:C:253:LYS:N	2.28	0.48
7:G:89:LEU:CD1	7:G:162:VAL:HG22	2.44	0.48
8:H:127:GLU:HG3	8:H:144:VAL:O	2.13	0.48
10:J:71:ASP:O	10:J:73:VAL:CG2	2.62	0.48
15:O:79:ALA:O	15:O:83:LEU:HG	2.13	0.48
20:T:35:ALA:O	20:T:36:LYS:C	2.51	0.48
28:1:9:ILE:CG2	28:1:25:LYS:HB3	2.43	0.48
1:A:2062:A:C8	32:6:1:MHW:CD	2.97	0.48
1:A:1344:U:HO2'	1:A:1345:C:P	2.32	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1906:G:C8	1:A:1929:G:H2'	2.49	0.48
1:A:2223:G:C2'	1:A:2224:G:H5'	2.43	0.48
1:A:2520:C:O2'	1:A:2565:A:O2'	2.25	0.48
1:A:2815:C:HO2'	27:0:41:HIS:CE1	2.31	0.48
1:A:2840:C:H2'	1:A:2841:C:C6	2.48	0.48
1:A:517:C:O2'	1:A:518:G:O5'	2.30	0.48
1:A:654:A:H3'	1:A:654:A:N3	2.27	0.48
1:A:842:U:C4	1:A:843:G:N7	2.81	0.48
1:A:919:U:H2'	1:A:920:A:O4'	2.13	0.48
3:C:107:PRO:HB3	3:C:142:HIS:CE1	2.49	0.48
12:L:116:VAL:O	12:L:116:VAL:HG13	2.13	0.48
4:D:15:PHE:CD2	16:P:78:SER:HA	2.49	0.48
19:S:7:HIS:HB2	19:S:50:VAL:HG21	1.96	0.48
1:A:1338:G:H4'	20:T:18:GLU:OE2	2.13	0.48
2:B:76:G:OP1	22:V:9:ARG:NH2	2.47	0.48
24:X:54:LYS:O	24:X:57:ARG:N	2.46	0.48
28:1:26:ASN:O	28:1:27:LYS:C	2.52	0.48
1:A:1361:G:C6	1:A:1371:G:C2	3.01	0.48
1:A:1365:A:H2'	1:A:1365:A:N3	2.27	0.48
1:A:1373:A:N6	1:A:1374:G:C2	2.82	0.48
1:A:1598:A:H2'	1:A:1599:U:C6	2.49	0.48
1:A:1754:A:N6	1:A:1755:A:C6	2.82	0.48
1:A:740:C:C5'	1:A:1784:A:H3'	2.44	0.48
1:A:2839:G:N2	1:A:2880:C:C2	2.81	0.48
1:A:396:G:OP2	24:X:10:LYS:HG2	2.14	0.48
1:A:532:A:H2'	1:A:532:A:N3	2.27	0.48
1:A:532:A:N7	1:A:2021:C:C2'	2.77	0.48
1:A:640:C:C4	1:A:641:U:C5	3.02	0.48
1:A:646:U:H3'	1:A:647:G:C4'	2.44	0.48
1:A:769:U:C2	1:A:770:G:C8	3.02	0.48
3:C:157:SER:HB2	3:C:160:THR:HG21	1.95	0.48
1:A:1830:C:H5'	3:C:15:HIS:CD2	2.48	0.48
4:D:104:VAL:O	4:D:105:LYS:HB2	2.13	0.48
4:D:151:THR:HG22	4:D:152:PRO:N	2.29	0.48
5:E:18:THR:HG22	5:E:19:PHE:CD2	2.48	0.48
7:G:158:LYS:O	7:G:159:GLY:C	2.51	0.48
9:I:49:ILE:O	9:I:50:GLU:HB2	2.13	0.48
14:N:28:LEU:O	14:N:28:LEU:CG	2.62	0.48
14:N:38:LEU:HB3	14:N:39:PRO:HD3	1.95	0.48
15:O:115:LEU:O	15:O:117:PHE:N	2.41	0.48
21:U:7:ARG:CG	21:U:8:ASP:N	2.76	0.48
24:X:43:GLU:O	24:X:44:LYS:C	2.52	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1668:A:C4	1:A:1674:G:C8	3.02	0.48
1:A:2283:C:N3	1:A:2389:G:C2	2.82	0.48
1:A:591:U:C2	1:A:592:A:C8	3.02	0.48
1:A:663:G:C6	1:A:664:G:C5	3.02	0.48
1:A:683:U:OP1	29:2:26:ASN:HB3	2.14	0.48
1:A:833:A:H2'	1:A:834:G:C8	2.48	0.48
1:A:83:A:C2	1:A:103:A:N7	2.82	0.48
1:A:1845:G:P	3:C:256:LYS:HZ3	2.37	0.48
5:E:23:PHE:CG	5:E:111:GLU:HG3	2.49	0.48
17:Q:78:LYS:HE2	17:Q:117:LEU:HD21	1.96	0.48
19:S:58:ALA:O	19:S:62:ASP:O	2.31	0.48
20:T:77:ARG:O	20:T:78:SER:HB2	2.14	0.48
21:U:82:ARG:O	21:U:97:LYS:HB2	2.14	0.48
22:V:38:LEU:HD23	22:V:40:ILE:CD1	2.43	0.48
1:A:1097:U:H1'	9:I:9:VAL:HG11	1.95	0.48
1:A:1250:G:C5'	17:Q:6:ARG:HD2	2.44	0.48
1:A:142:A:H2'	1:A:143:C:C6	2.48	0.48
1:A:1470:A:H2'	1:A:1471:G:H5'	1.96	0.48
1:A:1675:C:N4	1:A:1676:A:C2	2.82	0.48
1:A:1870:C:C3'	1:A:1871:A:H5'	2.44	0.48
1:A:2234:G:C5	1:A:2235:G:C8	3.02	0.48
1:A:2507:C:C4	1:A:2508:G:C5	3.02	0.48
1:A:284:U:H2'	1:A:284:U:O2	2.13	0.48
1:A:323:C:O2	1:A:323:C:O4'	2.32	0.48
1:A:379:G:C6	1:A:396:G:C6	3.01	0.48
1:A:228:C:N3	1:A:418:C:C4'	2.77	0.48
1:A:487:C:C2	1:A:494:G:N2	2.82	0.48
1:A:593:U:N3	1:A:594:U:C4	2.82	0.48
1:A:782:A:H4'	1:A:783:A:O5'	2.14	0.48
1:A:846:U:HO2'	1:A:847:U:P	2.37	0.48
2:B:109:A:C5	2:B:110:C:C4	3.01	0.48
2:B:27:C:C5	2:B:28:C:C4	3.02	0.48
5:E:1:MET:HB2	5:E:16:GLU:HA	1.95	0.48
5:E:25:GLU:OE1	12:L:6:LEU:HA	2.14	0.48
1:A:600:G:C5'	5:E:27:LEU:HD22	2.43	0.48
9:I:114:ALA:O	9:I:115:ALA:HB2	2.13	0.48
12:L:82:LEU:HG	12:L:82:LEU:O	2.14	0.48
14:N:36:THR:OG1	14:N:37:THR:N	2.46	0.48
15:O:58:ILE:HG22	15:O:58:ILE:O	2.13	0.48
20:T:2:ILE:HG23	20:T:4:GLU:N	2.28	0.48
25:Y:36:GLN:O	25:Y:37:LEU:C	2.52	0.48
1:A:2755:C:C4	31:4:19:ARG:NH1	2.82	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1124:G:O2'	31:4:37:GLN:O	2.32	0.48
1:A:126:A:C8	1:A:127:A:C2	3.01	0.48
1:A:1272:A:C6	1:A:1618:A:H1'	2.49	0.48
1:A:1891:G:H2'	1:A:1892:C:O4'	2.14	0.48
1:A:1794:A:H1'	1:A:1900:A:C2	2.49	0.48
1:A:200:U:C5	1:A:201:C:C5	3.02	0.48
1:A:218:A:C2	1:A:219:A:C4	3.02	0.48
1:A:2233:U:H2'	1:A:2234:G:C8	2.49	0.48
1:A:2321:U:H5'	1:A:2322:A:OP2	2.14	0.48
1:A:2415:G:C2	1:A:2416:C:C2	3.02	0.48
1:A:2031:A:C6	1:A:2498:C:H1'	2.48	0.48
1:A:2562:U:H2'	1:A:2563:U:H5'	1.95	0.48
1:A:306:U:O4	1:A:307:G:C6	2.66	0.48
1:A:183:C:O2'	1:A:432:A:O2'	2.23	0.48
1:A:457:A:N1	1:A:470:A:H5''	2.29	0.48
1:A:704:G:H1'	1:A:726:G:H22	1.79	0.48
1:A:738:G:C6	1:A:739:A:N1	2.82	0.48
1:A:7:G:H4'	10:J:15:TRP:CH2	2.48	0.48
12:L:78:ARG:HB3	12:L:113:ALA:CB	2.44	0.48
1:A:1544:A:C6	1:A:1545:A:C6	3.02	0.47
1:A:1682:G:C2	1:A:1757:A:O4'	2.67	0.47
1:A:1845:G:P	3:C:256:LYS:NZ	2.87	0.47
1:A:2305:U:O4	1:A:2306:C:N4	2.47	0.47
1:A:2478:A:C8	1:A:2529:G:C5	3.02	0.47
1:A:2557:G:H2'	1:A:2558:C:C6	2.49	0.47
1:A:38:A:C2	1:A:39:G:C4	3.02	0.47
1:A:580:U:H4'	17:Q:31:VAL:HG11	1.96	0.47
3:C:108:LYS:HA	3:C:196:GLY:CA	2.44	0.47
15:O:117:PHE:CD1	15:O:117:PHE:C	2.87	0.47
15:O:49:VAL:HG12	15:O:50:ALA:N	2.29	0.47
15:O:71:ALA:HB2	15:O:102:ARG:HB2	1.96	0.47
10:J:42:ALA:O	17:Q:64:ARG:HD3	2.14	0.47
21:U:60:GLU:HG2	21:U:60:GLU:O	2.14	0.47
1:A:1027:A:C5	1:A:1126:A:C2	3.02	0.47
1:A:1464:G:C2	1:A:1465:G:C4	3.02	0.47
1:A:1645:G:H5''	1:A:1646:C:C5'	2.44	0.47
1:A:1855:U:C4	1:A:1856:U:C4	3.02	0.47
1:A:2110:G:C6	1:A:2120:G:C8	3.02	0.47
1:A:2119:A:C6	1:A:2170:A:C5	3.02	0.47
1:A:2216:G:H2'	1:A:2217:G:C8	2.49	0.47
1:A:2301:C:C2	1:A:2316:G:N2	2.82	0.47
1:A:2258:C:O2'	1:A:2427:C:OP2	2.27	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1783:A:H5'	1:A:2608:G:H4'	1.97	0.47
1:A:2814:A:C6	1:A:2815:C:C4	3.01	0.47
1:A:305:C:C2	1:A:313:G:N1	2.82	0.47
1:A:228:C:O2	1:A:418:C:H4'	2.15	0.47
1:A:574:A:H4'	1:A:575:A:C5'	2.43	0.47
1:A:2747:G:O2'	7:G:67:THR:HG22	2.14	0.47
8:H:117:LEU:HD11	8:H:130:VAL:HG22	1.95	0.47
1:A:1250:G:H4'	17:Q:6:ARG:HD2	1.96	0.47
23:W:49:ALA:O	23:W:50:ASN:HB2	2.13	0.47
1:A:56:A:C2	1:A:115:C:C2	3.01	0.47
1:A:1203:U:OP2	1:A:1204:A:H2'	2.14	0.47
1:A:1607:C:H4'	1:A:1608:A:C5'	2.45	0.47
1:A:1665:A:H5''	11:K:66:LYS:HG3	1.95	0.47
1:A:1692:U:O2'	1:A:1693:U:H2'	2.14	0.47
1:A:2199:A:C6	1:A:2225:A:C5	3.01	0.47
1:A:2505:G:OP2	33:A:3001:DOL:C17	2.62	0.47
1:A:2718:G:C2	1:A:2719:G:H1'	2.49	0.47
1:A:523:C:H2'	1:A:524:G:C8	2.49	0.47
1:A:616:A:OP2	36:A:3291:HOH:O	2.20	0.47
1:A:792:A:H2'	1:A:2440:C:O2	2.13	0.47
1:A:89:A:C2	1:A:90:U:C2	3.02	0.47
3:C:67:PHE:CE2	3:C:156:ARG:CZ	2.97	0.47
8:H:62:LEU:HD22	8:H:62:LEU:O	2.14	0.47
10:J:117:ALA:HA	10:J:120:ARG:HD2	1.95	0.47
1:A:1131:G:OP1	10:J:82:GLY:HA2	2.13	0.47
22:V:9:ARG:HG2	22:V:41:GLU:HB3	1.95	0.47
1:A:2432:A:N1	24:X:21:ALA:HA	2.29	0.47
27:O:48:TYR:CE2	27:O:53:LYS:HD3	2.50	0.47
1:A:1016:G:C2	1:A:1147:A:C2	3.02	0.47
1:A:1046:A:O2'	1:A:1047:G:OP1	2.25	0.47
1:A:1277:G:C6	1:A:1294:U:C2	3.02	0.47
1:A:1569:A:N1	1:A:1570:A:C2	2.82	0.47
1:A:1598:A:C6	1:A:1599:U:N3	2.83	0.47
1:A:1819:A:H4'	1:A:1820:U:H5''	1.96	0.47
1:A:579:G:C5'	1:A:2018:G:OP2	2.63	0.47
1:A:2110:G:N1	1:A:2120:G:C8	2.82	0.47
1:A:291:G:N2	1:A:350:G:C5	2.83	0.47
1:A:500:G:N2	1:A:502:A:C8	2.82	0.47
1:A:586:A:N1	1:A:809:G:O2'	2.35	0.47
1:A:830:G:C4	1:A:2448:A:C5	3.03	0.47
1:A:971:G:O2'	1:A:983:A:N3	2.43	0.47
11:K:28:SER:O	11:K:29:HIS:HB2	2.13	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:76:GLU:HG3	12:L:76:GLU:O	2.14	0.47
14:N:58:ASP:HA	14:N:80:PHE:CD1	2.50	0.47
18:R:68:ARG:HG3	18:R:92:TRP:CZ3	2.49	0.47
1:A:2885:G:N2	27:0:32:LYS:HA	2.29	0.47
1:A:2062:A:N7	32:6:1:MHW:CD	2.77	0.47
1:A:1096:A:C8	1:A:1096:A:OP2	2.67	0.47
1:A:1153:C:H5'	17:Q:62:ILE:HD13	1.95	0.47
1:A:1257:C:C4	1:A:1258:U:C4	3.02	0.47
1:A:1361:G:N3	1:A:1362:C:C6	2.82	0.47
1:A:1565:C:C5	1:A:1567:G:C6	3.02	0.47
1:A:1683:U:H6	1:A:1683:U:O5'	1.98	0.47
1:A:167:A:C2	1:A:168:G:H1'	2.50	0.47
1:A:1760:C:H2'	1:A:1761:C:O4'	2.15	0.47
1:A:1782:U:O4	1:A:2586:U:H5	1.97	0.47
1:A:200:U:C6	1:A:201:C:C6	3.02	0.47
1:A:249:C:O2	30:3:12:LYS:NZ	2.48	0.47
1:A:2685:G:C4	1:A:2686:G:C8	3.02	0.47
1:A:1662:U:O2	1:A:2687:U:H5''	2.14	0.47
1:A:2802:G:C6	1:A:2803:G:C5	3.02	0.47
1:A:320:A:H4'	1:A:322:A:C8	2.50	0.47
1:A:498:G:C2	1:A:499:U:C6	3.03	0.47
1:A:749:A:C6	1:A:750:A:N7	2.82	0.47
2:B:66:A:N6	2:B:107:G:H2'	2.30	0.47
4:D:176:ASP:HB2	4:D:190:LYS:HB3	1.95	0.47
5:E:5:LEU:O	5:E:6:LYS:C	2.52	0.47
6:F:117:LEU:HB3	6:F:130:MET:SD	2.54	0.47
9:I:86:ILE:HD13	9:I:89:GLY:N	2.29	0.47
13:M:53:MET:HG3	13:M:54:THR:N	2.30	0.47
19:S:55:ILE:CG2	19:S:66:ILE:CD1	2.93	0.47
19:S:15:GLN:NE2	27:0:17:ARG:NH2	2.63	0.47
1:A:1250:G:H5'	17:Q:6:ARG:CD	2.45	0.47
1:A:1306:C:C2	1:A:1307:A:C8	3.02	0.47
1:A:1574:C:N4	36:A:3620:HOH:O	2.47	0.47
1:A:2164:C:H2'	1:A:2165:C:C5	2.50	0.47
1:A:2202:U:H5''	1:A:2203:U:OP1	2.14	0.47
1:A:957:C:C4	1:A:2459:A:H1'	2.49	0.47
1:A:2847:U:O4	1:A:2848:G:C6	2.67	0.47
1:A:881:G:C2	1:A:882:G:N7	2.83	0.47
5:E:109:LEU:O	5:E:112:LEU:HB2	2.14	0.47
12:L:90:VAL:HB	12:L:122:VAL:HA	1.96	0.47
15:O:78:VAL:HA	15:O:81:ARG:HB2	1.96	0.47
24:X:56:MET:O	24:X:60:ASP:N	2.44	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1034:G:C6	1:A:1035:U:N3	2.82	0.47
1:A:1184:U:OP1	26:Z:30:ARG:HD2	2.14	0.47
1:A:1258:U:H2'	1:A:1259:G:C8	2.49	0.47
1:A:1287:A:C2'	1:A:1288:G:H5'	2.45	0.47
1:A:1445:G:C2	1:A:1547:C:N3	2.83	0.47
1:A:1678:A:C4	1:A:1679:A:C8	3.02	0.47
1:A:2040:G:C6	1:A:2041:U:C4	3.02	0.47
1:A:2345:G:C6	1:A:2347:C:N4	2.82	0.47
1:A:2392:A:C8	1:A:2429:G:C2	3.03	0.47
1:A:2677:G:C2	1:A:2731:G:C2	3.03	0.47
1:A:2822:G:H2'	1:A:2823:A:H5''	1.97	0.47
1:A:66:C:C4	1:A:67:U:C5	3.03	0.47
1:A:81:G:N7	1:A:82:U:C4	2.83	0.47
4:D:109:VAL:CG1	4:D:201:LEU:HD22	2.44	0.47
5:E:106:LYS:HG3	5:E:200:LEU:HD23	1.95	0.47
11:K:41:ILE:HD11	11:K:86:LEU:HD22	1.97	0.47
12:L:108:ALA:HB3	12:L:125:LEU:HG	1.96	0.47
31:4:1:MET:SD	31:4:34:LYS:HG2	2.54	0.47
1:A:1340:U:H2'	1:A:1340:U:O2	2.15	0.47
1:A:1831:G:C5	1:A:1832:C:C4	3.02	0.47
1:A:2122:U:H2'	1:A:2123:G:O4'	2.15	0.47
1:A:301:G:C2	1:A:302:C:N3	2.83	0.47
1:A:703:U:C5	1:A:704:G:C6	3.03	0.47
1:A:770:G:C2	1:A:771:G:C8	3.03	0.47
1:A:686:U:H2'	1:A:788:A:N1	2.30	0.47
1:A:915:C:N4	1:A:916:G:C6	2.83	0.47
4:D:35:THR:O	4:D:36:GLN:HB3	2.15	0.47
8:H:5:LEU:HD13	8:H:13:GLY:HA3	1.96	0.47
16:P:46:VAL:HG12	16:P:47:VAL:N	2.30	0.47
26:Z:7:ILE:O	26:Z:36:VAL:N	2.48	0.47
1:A:1416:G:C4	1:A:1417:C:C5	3.03	0.47
1:A:1832:C:H2'	1:A:1833:C:O4'	2.15	0.47
1:A:1973:G:O6	1:A:1974:C:N4	2.48	0.47
1:A:310:A:H5''	21:U:15:THR:HB	1.96	0.47
1:A:511:U:O4	1:A:512:G:N1	2.47	0.47
11:K:97:THR:C	11:K:98:ARG:HG2	2.36	0.47
12:L:90:VAL:N	12:L:121:THR:O	2.48	0.47
1:A:396:G:H5''	24:X:13:VAL:HG21	1.95	0.47
1:A:2372:U:O4'	28:1:46:HIS:ND1	2.48	0.47
29:2:18:PHE:O	29:2:19:ARG:C	2.54	0.47
1:A:1076:C:O2'	9:I:93:PRO:HD2	2.15	0.47
1:A:579:G:N2	1:A:1262:A:C4	2.83	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1361:G:C6	1:A:1362:C:C5	3.03	0.47
1:A:1532:A:C2	1:A:1540:G:C6	3.02	0.47
1:A:1726:C:H2'	1:A:1727:C:C6	2.50	0.47
1:A:1768:C:H2'	1:A:1769:U:O4'	2.15	0.47
1:A:1783:A:C2	1:A:2588:G:O4'	2.67	0.47
1:A:1835:G:C5	1:A:1836:C:C5	3.03	0.47
1:A:1857:G:N2	1:A:1884:G:C4	2.83	0.47
1:A:1980:G:C2	1:A:1982:U:C4	3.03	0.47
1:A:2074:U:O2'	1:A:2075:U:H5'	2.15	0.47
1:A:2291:U:OP1	1:A:2380:C:O2'	2.30	0.47
1:A:2331:G:C6	1:A:2332:C:C4	3.03	0.47
1:A:2702:G:N7	1:A:2703:C:C5	2.83	0.47
1:A:2736:A:C4	1:A:2737:G:C8	3.02	0.47
1:A:279:A:N6	1:A:361:G:C2'	2.78	0.47
1:A:302:C:C2	1:A:303:G:C8	3.03	0.47
1:A:389:G:O4'	1:A:2413:G:H5'	2.15	0.47
1:A:779:U:OP1	3:C:49:ILE:HG13	2.15	0.47
1:A:846:U:O2'	1:A:847:U:P	2.73	0.47
3:C:184:VAL:O	3:C:185:GLU:C	2.54	0.47
5:E:77:ILE:O	5:E:77:ILE:HG13	2.14	0.47
11:K:41:ILE:HD11	11:K:86:LEU:CD2	2.44	0.47
16:P:89:ARG:O	16:P:112:GLU:HA	2.15	0.47
19:S:47:VAL:O	19:S:47:VAL:CG2	2.63	0.47
19:S:89:ALA:O	19:S:90:LYS:HB2	2.15	0.47
21:U:13:VAL:HG21	21:U:39:ILE:HG23	1.96	0.47
30:3:7:VAL:O	30:3:10:ALA:N	2.45	0.47
1:A:1335:C:H2'	1:A:1336:A:C8	2.49	0.47
1:A:1343:G:C5	1:A:1344:U:O4	2.67	0.47
1:A:1581:G:C6	1:A:1582:C:N4	2.83	0.47
1:A:1835:G:C4	1:A:1836:C:C6	3.02	0.47
1:A:185:G:N1	1:A:212:G:C2	2.82	0.47
1:A:2011:U:H2'	1:A:2012:G:O4'	2.15	0.47
1:A:2144:G:C2	1:A:2146:C:O2	2.68	0.47
1:A:2297:A:N1	1:A:2321:U:H5	2.13	0.47
1:A:1782:U:O4	1:A:2586:U:C5	2.68	0.47
1:A:2681:C:C2	1:A:2724:U:O4	2.68	0.47
1:A:2732:G:O2'	1:A:2733:A:H5'	2.15	0.47
1:A:692:C:O2'	1:A:1354:A:O2'	2.25	0.47
1:A:711:G:C2	1:A:721:A:N3	2.83	0.47
3:C:72:ASP:HA	3:C:118:SER:O	2.15	0.47
3:C:232:HIS:NE2	3:C:244:PRO:HA	2.30	0.47
3:C:87:ARG:NH1	3:C:87:ARG:HB3	2.30	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:28:LEU:HD13	9:I:38:PHE:CD2	2.50	0.47
10:J:41:LYS:O	10:J:44:TYR:N	2.43	0.47
13:M:76:LYS:HE3	13:M:80:VAL:HG12	1.97	0.47
20:T:28:ASN:HB3	20:T:87:LEU:HB2	1.96	0.47
21:U:41:LEU:HD12	21:U:60:GLU:CG	2.45	0.47
1:A:125:A:H3'	29:2:19:ARG:HG3	1.97	0.46
29:2:30:VAL:O	29:2:34:ARG:HG3	2.15	0.46
1:A:84:A:C2	1:A:103:A:C5	3.03	0.46
1:A:104:A:C8	1:A:105:C:C4	3.03	0.46
1:A:1343:G:C6	1:A:1344:U:O4	2.68	0.46
1:A:1394:U:H3'	1:A:1394:U:H6	1.80	0.46
1:A:1731:G:N1	1:A:1733:G:C4	2.83	0.46
1:A:1805:A:C2	1:A:1813:G:N1	2.83	0.46
1:A:2199:A:C4	1:A:2225:A:N1	2.83	0.46
1:A:2799:A:C6	1:A:2801:G:C4	3.03	0.46
1:A:372:G:O2'	1:A:400:G:O6	2.25	0.46
1:A:765:C:C4	1:A:766:U:C4	3.03	0.46
2:B:81:G:C6	2:B:82:U:C4	3.03	0.46
3:C:30:PHE:CD1	3:C:32:PRO:HD2	2.50	0.46
5:E:130:LYS:HB2	5:E:133:LEU:HB3	1.97	0.46
1:A:1277:G:N3	14:N:23:ASN:HB3	2.30	0.46
17:Q:36:PHE:CE1	17:Q:40:ILE:HD11	2.49	0.46
18:R:68:ARG:HB3	18:R:90:ARG:HG2	1.96	0.46
18:R:66:HIS:CD2	18:R:94:THR:CG2	2.98	0.46
1:A:1062:G:C6	1:A:1063:G:O6	2.68	0.46
1:A:1121:C:C2	1:A:1122:G:C8	3.03	0.46
1:A:1317:G:N2	1:A:1336:A:N3	2.63	0.46
1:A:1669:A:O4'	11:K:5:GLN:HG3	2.15	0.46
1:A:1954:G:H1'	1:A:1956:U:O4	2.15	0.46
1:A:188:G:C2	1:A:209:C:N3	2.84	0.46
1:A:2121:G:C2	1:A:2177:C:O2	2.68	0.46
1:A:2297:A:N7	1:A:2320:U:C4	2.83	0.46
1:A:2405:G:H1'	1:A:2412:A:N6	2.30	0.46
1:A:2693:G:N2	1:A:2717:C:O2	2.48	0.46
1:A:273:G:H2'	1:A:274:C:O4'	2.14	0.46
1:A:2751:G:H4'	7:G:4:VAL:HG23	1.96	0.46
1:A:2839:G:C5	1:A:2840:C:C5	3.03	0.46
1:A:981:A:H5''	36:A:3588:HOH:O	2.14	0.46
4:D:133:THR:HG23	4:D:134:HIS:H	1.81	0.46
5:E:76:PRO:HA	5:E:82:GLY:HA2	1.96	0.46
11:K:105:ARG:N	11:K:122:VAL:OXT	2.48	0.46
13:M:2:LEU:N	13:M:2:LEU:HD12	2.30	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1184:U:OP1	26:Z:30:ARG:NH2	2.48	0.46
1:A:1470:A:H2'	1:A:1471:G:C5'	2.45	0.46
1:A:1734:G:C2	1:A:1735:A:C5	3.04	0.46
1:A:218:A:H2'	1:A:219:A:O4'	2.15	0.46
1:A:2283:C:C2	1:A:2389:G:C2	3.03	0.46
1:A:2305:U:C4	1:A:2306:C:N4	2.83	0.46
1:A:265:A:H4'	1:A:266:G:OP1	2.15	0.46
1:A:2682:A:C2	4:D:23:PRO:HB3	2.50	0.46
1:A:487:C:N4	1:A:488:G:C6	2.83	0.46
1:A:570:G:C2'	1:A:571:U:H5'	2.45	0.46
3:C:247:PRO:HG2	3:C:248:TRP:CZ3	2.51	0.46
5:E:23:PHE:CD1	5:E:111:GLU:HG3	2.49	0.46
8:H:41:LYS:O	8:H:44:ILE:HG12	2.15	0.46
9:I:20:PRO:HB2	9:I:23:PRO:HD2	1.98	0.46
9:I:93:PRO:HB3	9:I:136:MET:HA	1.97	0.46
11:K:108:ARG:HB2	11:K:116:ILE:HD13	1.96	0.46
17:Q:61:TRP:HB3	17:Q:92:ARG:O	2.16	0.46
1:A:997:G:OP1	17:Q:92:ARG:NE	2.48	0.46
1:A:2015:A:C6	27:O:3:VAL:HG23	2.51	0.46
31:4:25:VAL:HB	31:4:35:GLN:HB2	1.97	0.46
1:A:1070:A:H2'	1:A:1097:U:O5'	2.16	0.46
1:A:1330:C:C2'	1:A:1331:G:O5'	2.63	0.46
1:A:1475:G:H4'	1:A:1732:C:C5	2.50	0.46
1:A:1577:C:H2'	1:A:1578:U:C1'	2.46	0.46
1:A:1845:G:OP1	3:C:256:LYS:NZ	2.40	0.46
1:A:1924:C:H2'	1:A:1925:C:O4'	2.16	0.46
1:A:295:G:C2	1:A:296:U:C6	3.03	0.46
1:A:771:G:C6	1:A:772:C:C5	3.03	0.46
1:A:813:U:H2'	1:A:814:C:C6	2.50	0.46
1:A:881:G:N1	1:A:895:U:O2	2.47	0.46
3:C:226:ASN:HB3	3:C:227:PRO:CD	2.45	0.46
4:D:148:GLN:N	4:D:148:GLN:OE1	2.48	0.46
5:E:52:VAL:HG21	5:E:81:GLY:HA2	1.98	0.46
16:P:89:ARG:NH1	16:P:115:ASN:OXT	2.48	0.46
18:R:52:PRO:O	18:R:53:PHE:HB2	2.14	0.46
29:2:34:ARG:HB2	29:2:42:LEU:CD1	2.46	0.46
1:A:1323:C:C4	1:A:1324:G:N7	2.83	0.46
1:A:1325:U:OP1	1:A:1647:U:O2'	2.28	0.46
1:A:1529:G:O6	1:A:1543:G:C2	2.68	0.46
1:A:1753:G:N1	1:A:1756:G:C2	2.83	0.46
1:A:2420:C:OP1	30:3:34:THR:HB	2.16	0.46
1:A:197:A:N6	1:A:2430:A:H2'	2.30	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2602:A:H4'	1:A:2603:G:C5'	2.45	0.46
1:A:538:A:O2'	10:J:8:PRO:CG	2.63	0.46
1:A:571:U:C4	1:A:575:A:C5	3.04	0.46
1:A:678:C:H2'	1:A:679:C:C6	2.51	0.46
1:A:72:U:O2'	1:A:73:A:O5'	2.25	0.46
1:A:989:G:C8	26:Z:14:ILE:HD11	2.50	0.46
2:B:71:C:C2	2:B:106:G:C2	3.03	0.46
1:A:1819:A:H5''	3:C:157:SER:HB2	1.98	0.46
11:K:31:ARG:HB3	11:K:32:TYR:CD2	2.50	0.46
13:M:56:ALA:C	13:M:58:LYS:H	2.19	0.46
14:N:67:PHE:O	14:N:71:ARG:HD2	2.16	0.46
14:N:84:GLY:N	14:N:85:PRO:HD2	2.30	0.46
18:R:87:GLN:HG2	18:R:88:GLY:N	2.31	0.46
23:W:52:GLY:HA3	23:W:60:PHE:CE1	2.50	0.46
1:A:1131:G:O6	1:A:2024:G:O2'	2.25	0.46
1:A:1177:G:H2'	1:A:1178:C:H4'	1.97	0.46
1:A:1682:G:N3	1:A:1757:A:H1'	2.31	0.46
1:A:1940:U:C2	1:A:1965:C:OP2	2.68	0.46
1:A:1957:C:H5'	1:A:1984:G:O2'	2.16	0.46
1:A:2244:U:H2'	1:A:2245:U:O4'	2.16	0.46
1:A:2336:A:N3	1:A:2385:C:H1'	2.30	0.46
1:A:2581:G:N3	1:A:2581:G:H2'	2.30	0.46
1:A:2741:A:H2'	1:A:2742:G:H5'	1.98	0.46
1:A:2889:C:C4	1:A:2890:G:C5	3.03	0.46
1:A:485:C:C2	1:A:496:G:C2	3.04	0.46
1:A:867:C:C5	1:A:868:U:C5	3.03	0.46
4:D:122:VAL:HG21	4:D:141:ARG:NH1	2.31	0.46
10:J:124:VAL:HG23	10:J:124:VAL:O	2.16	0.46
10:J:19:ASP:O	10:J:23:LYS:HE3	2.16	0.46
11:K:118:LEU:O	11:K:119:ALA:HB3	2.15	0.46
20:T:14:PRO:HD2	25:Y:33:ALA:HB1	1.96	0.46
1:A:1264:A:C8	1:A:1265:A:C8	3.03	0.46
1:A:1361:G:C6	1:A:1362:C:C4	3.04	0.46
1:A:1437:C:N4	1:A:1438:U:O4	2.49	0.46
1:A:1514:G:H5''	1:A:1515:A:P	2.56	0.46
1:A:1806:C:C5	1:A:1807:G:C8	3.03	0.46
1:A:1818:U:H2'	3:C:156:ARG:HD3	1.98	0.46
1:A:2114:A:N6	1:A:2119:A:N7	2.64	0.46
1:A:2318:G:C6	1:A:2319:G:C6	3.02	0.46
1:A:2335:A:N6	1:A:2337:G:H1'	2.31	0.46
1:A:2330:G:N2	1:A:2386:A:C4	2.83	0.46
1:A:415:A:C2	1:A:2409:G:C2	3.04	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2282:G:N3	1:A:2425:A:N6	2.64	0.46
1:A:404:A:C1'	1:A:405:U:OP2	2.63	0.46
1:A:647:G:N7	1:A:648:G:N7	2.64	0.46
1:A:682:G:H2'	1:A:682:G:N3	2.30	0.46
1:A:882:G:C2	1:A:883:G:H1'	2.51	0.46
4:D:65:ALA:O	4:D:69:ALA:N	2.44	0.46
5:E:147:LEU:HD11	5:E:170:ARG:HG2	1.97	0.46
5:E:40:ARG:CZ	5:E:92:HIS:CE1	2.99	0.46
8:H:34:GLY:O	8:H:35:LYS:CG	2.64	0.46
17:Q:98:ILE:HG22	17:Q:106:PHE:HB2	1.98	0.46
20:T:32:LEU:HD12	20:T:32:LEU:O	2.15	0.46
22:V:38:LEU:HD23	22:V:40:ILE:HD11	1.96	0.46
1:A:1288:G:C4	1:A:1327:A:C2	3.04	0.46
1:A:1352:U:H5	1:A:1377:G:N7	2.14	0.46
1:A:1437:C:C4	1:A:1438:U:O4	2.69	0.46
1:A:1446:C:O2	1:A:1545:A:O2'	2.32	0.46
1:A:1736:U:H2'	1:A:1737:G:O4'	2.16	0.46
1:A:2283:C:H2'	1:A:2284:A:C5'	2.46	0.46
1:A:2443:C:H2'	1:A:2444:G:O4'	2.16	0.46
1:A:2499:C:C4	1:A:2500:U:O4	2.69	0.46
1:A:2574:G:N1	1:A:2575:C:C2	2.84	0.46
1:A:2880:C:N3	1:A:2881:U:C5	2.84	0.46
1:A:324:A:C6	1:A:325:G:C4	3.04	0.46
1:A:359:G:H2'	1:A:360:U:O4'	2.16	0.46
1:A:228:C:C2	1:A:418:C:H4'	2.51	0.46
1:A:613:A:O2'	1:A:614:A:P	2.71	0.46
2:B:8:C:O3'	15:O:25:ARG:NH1	2.49	0.46
1:A:1570:A:H5'	3:C:36:LYS:HB3	1.96	0.46
9:I:9:VAL:HG23	9:I:10:LYS:N	2.31	0.46
9:I:46:THR:HG22	9:I:51:LYS:HG3	1.98	0.46
13:M:72:PRO:HB3	13:M:92:TRP:CZ3	2.51	0.46
14:N:71:ARG:HH21	14:N:71:ARG:HG3	1.81	0.46
14:N:92:GLY:HA2	14:N:94:TYR:CZ	2.51	0.46
24:X:25:THR:O	24:X:25:THR:HG22	2.15	0.46
26:Z:3:LYS:CD	26:Z:3:LYS:N	2.78	0.46
28:1:39:PHE:CD2	28:1:40:ASP:N	2.83	0.46
32:6:5:MHU:H12	32:6:8:MHT:H81	1.98	0.46
1:A:1265:A:P	36:A:3745:HOH:O	2.74	0.46
1:A:1404:C:H2'	1:A:1405:U:O5'	2.16	0.46
1:A:2048:G:H2'	1:A:2049:G:O5'	2.16	0.46
1:A:208:C:H2'	1:A:209:C:C6	2.50	0.46
1:A:2234:G:C4	1:A:2235:G:C8	3.04	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2279:G:N7	23:W:14:ARG:NH2	2.61	0.46
1:A:2552:U:C2	1:A:2554:U:H5'	2.51	0.46
1:A:1050:A:C2	1:A:2751:G:C5	3.03	0.46
1:A:2896:C:C2'	1:A:2897:U:O5'	2.64	0.46
1:A:320:A:H2'	5:E:131:THR:CG2	2.46	0.46
1:A:349:U:C2'	1:A:350:G:H5'	2.45	0.46
1:A:458:G:O2'	1:A:459:U:OP2	2.33	0.46
1:A:476:G:O4'	1:A:505:A:C2	2.69	0.46
3:C:107:PRO:HD2	3:C:110:LEU:HD22	1.97	0.46
3:C:18:LYS:O	3:C:19:VAL:HG23	2.16	0.46
4:D:104:VAL:O	4:D:105:LYS:HB3	2.16	0.46
5:E:61:ARG:HD2	5:E:63:LYS:O	2.15	0.46
7:G:98:VAL:HG22	7:G:125:CYS:SG	2.55	0.46
8:H:60:GLU:HA	8:H:60:GLU:OE2	2.15	0.46
11:K:32:TYR:N	11:K:32:TYR:CD2	2.84	0.46
13:M:31:PHE:CZ	13:M:110:GLU:HA	2.51	0.46
16:P:91:ALA:HB2	16:P:113:ARG:HG3	1.97	0.46
19:S:55:ILE:HG21	19:S:66:ILE:CD1	2.46	0.46
21:U:34:VAL:O	21:U:64:ALA:HA	2.16	0.46
1:A:1304:A:C6	1:A:1305:C:C4	3.04	0.46
1:A:1389:G:N2	1:A:1398:C:N3	2.64	0.46
1:A:1404:C:C2'	1:A:1405:U:O5'	2.63	0.46
1:A:1551:A:C5	1:A:1552:A:C8	3.04	0.46
1:A:1847:A:H2'	1:A:1848:A:OP2	2.16	0.46
1:A:1931:U:OP2	1:A:1968:G:N2	2.47	0.46
1:A:2094:A:C2	1:A:2196:C:C2	3.04	0.46
1:A:2823:A:C5	1:A:2824:C:C5	3.04	0.46
1:A:303:G:C2	1:A:315:G:C6	3.04	0.46
1:A:79:C:C2'	1:A:346:A:N3	2.79	0.46
1:A:396:G:H2'	1:A:397:U:O5'	2.16	0.46
1:A:532:A:N7	1:A:2021:C:O2'	2.43	0.46
1:A:685:A:C2	1:A:689:A:C6	3.04	0.46
1:A:945:A:N7	1:A:2448:A:C2	2.84	0.46
6:F:123:ASP:N	6:F:127:ASN:O	2.49	0.46
9:I:101:ILE:HG22	9:I:102:SER:N	2.30	0.46
12:L:29:LYS:O	12:L:30:THR:OG1	2.31	0.46
14:N:90:ARG:NH2	14:N:116:VAL:HG11	2.31	0.46
22:V:42:LEU:N	22:V:42:LEU:HD23	2.31	0.46
24:X:65:ASP:O	24:X:66:THR:C	2.54	0.46
1:A:1208:C:C5	1:A:1209:U:C5	3.04	0.45
1:A:1327:A:N6	1:A:1328:A:C2	2.83	0.45
1:A:830:G:C2	1:A:2448:A:N7	2.84	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2725:A:C5	1:A:2727:A:N7	2.84	0.45
1:A:371:A:N6	1:A:402:A:OP2	2.48	0.45
1:A:408:G:C6	1:A:409:G:C5	3.04	0.45
1:A:466:A:N1	1:A:795:C:O2'	2.36	0.45
1:A:585:G:H2'	1:A:586:A:N7	2.31	0.45
1:A:858:G:H3'	1:A:859:G:C8	2.51	0.45
3:C:121:ASP:OD1	3:C:121:ASP:N	2.50	0.45
4:D:125:TRP:CE3	4:D:160:LYS:HD3	2.50	0.45
8:H:39:ALA:O	8:H:41:LYS:N	2.47	0.45
12:L:120:VAL:CG1	12:L:121:THR:N	2.80	0.45
1:A:1288:G:C5	1:A:1327:A:C2	3.04	0.45
1:A:1682:G:H2'	1:A:1683:U:C6	2.51	0.45
1:A:1731:G:H2'	1:A:1732:C:H3'	1.98	0.45
1:A:1797:G:O3'	3:C:256:LYS:HA	2.16	0.45
1:A:183:C:H1'	1:A:433:C:H1'	1.97	0.45
1:A:189:G:C4	1:A:205:G:N2	2.84	0.45
1:A:1649:G:O6	1:A:2009:A:N6	2.49	0.45
1:A:2209:G:C6	1:A:2210:U:O4	2.68	0.45
1:A:2267:A:OP2	1:A:2268:A:H5''	2.16	0.45
1:A:230:G:C2	1:A:231:A:N7	2.84	0.45
1:A:2322:A:H2'	1:A:2323:G:O4'	2.16	0.45
1:A:2507:C:N4	1:A:2508:G:C6	2.84	0.45
1:A:2552:U:C2	1:A:2554:U:C5'	2.99	0.45
1:A:414:C:N4	1:A:415:A:N6	2.64	0.45
3:C:266:PHE:CD1	3:C:266:PHE:N	2.83	0.45
1:A:2636:C:H4'	4:D:81:GLU:CD	2.37	0.45
8:H:112:LYS:HG2	8:H:113:SER:N	2.32	0.45
12:L:54:GLN:HG2	12:L:55:MET:N	2.31	0.45
19:S:22:ASP:OD2	19:S:22:ASP:N	2.49	0.45
20:T:45:ALA:HA	20:T:49:LYS:HE3	1.98	0.45
1:A:1337:G:H2'	1:A:1338:G:O4'	2.15	0.45
1:A:1355:G:N1	1:A:1356:G:C8	2.84	0.45
1:A:1385:A:C2	1:A:1386:C:C2	3.04	0.45
1:A:1555:G:N1	1:A:1556:C:C2	2.84	0.45
1:A:1666:G:N7	1:A:1667:G:C6	2.85	0.45
1:A:1866:A:N7	1:A:1867:G:C8	2.84	0.45
1:A:2033:A:H4'	1:A:2034:U:OP1	2.16	0.45
1:A:2106:U:H2'	1:A:2107:G:C8	2.51	0.45
1:A:2148:G:C2	1:A:2149:U:C5	3.04	0.45
1:A:2163:A:OP2	1:A:2171:A:C8	2.69	0.45
1:A:2655:G:HO2'	1:A:2656:U:P	2.38	0.45
1:A:2748:A:C2	1:A:2757:A:C5	3.05	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2804:U:C4	1:A:2805:C:C4	3.04	0.45
1:A:2847:U:C2'	1:A:2848:G:H5'	2.46	0.45
1:A:2896:C:H2'	1:A:2897:U:O5'	2.16	0.45
1:A:308:G:N1	1:A:309:A:C2	2.84	0.45
1:A:33:C:O2	1:A:447:A:N6	2.49	0.45
1:A:649:G:H2'	1:A:650:C:C6	2.51	0.45
2:B:100:G:H2'	2:B:101:A:O4'	2.17	0.45
10:J:12:LYS:HE3	10:J:14:ASP:OD2	2.16	0.45
13:M:69:PRO:O	13:M:93:VAL:O	2.35	0.45
1:A:2718:G:OP1	16:P:98:TYR:CD1	2.70	0.45
22:V:42:LEU:HD12	22:V:47:VAL:HG21	1.99	0.45
1:A:2387:U:H1'	23:W:41:ARG:HD2	1.99	0.45
25:Y:46:VAL:O	25:Y:50:VAL:HG23	2.16	0.45
1:A:1059:G:H1'	9:I:117:MET:HE1	1.97	0.45
1:A:1203:U:O4	1:A:1204:A:C6	2.70	0.45
1:A:1246:A:OP2	12:L:13:LYS:NZ	2.49	0.45
1:A:137:U:H2'	1:A:140:C:C2	2.52	0.45
1:A:1565:C:O2'	1:A:1566:A:OP2	2.28	0.45
1:A:1598:A:H2'	1:A:1599:U:O4'	2.17	0.45
1:A:1332:G:C6	1:A:1609:A:N7	2.85	0.45
1:A:1799:G:N1	1:A:1819:A:OP2	2.46	0.45
1:A:192:C:H2'	1:A:193:U:H5'	1.99	0.45
1:A:220:G:H5''	1:A:221:A:P	2.57	0.45
1:A:2215:C:O2'	1:A:2216:G:H5'	2.17	0.45
1:A:2221:G:C6	1:A:2222:C:C5	3.04	0.45
1:A:2283:C:C4	1:A:2389:G:C4	3.04	0.45
1:A:2712:C:C2	1:A:2715:C:OP1	2.70	0.45
1:A:2756:U:C4	1:A:2759:G:O6	2.70	0.45
1:A:282:A:N1	1:A:359:G:C6	2.84	0.45
1:A:2898:U:H2'	1:A:2899:A:C8	2.52	0.45
1:A:727:A:H2'	1:A:728:G:C8	2.51	0.45
1:A:836:G:C5	1:A:837:C:C4	3.04	0.45
1:A:965:C:H4'	1:A:2273:A:H1'	1.99	0.45
4:D:101:PHE:O	4:D:103:ASP:N	2.50	0.45
1:A:600:G:H1'	5:E:100:MET:CG	2.46	0.45
8:H:34:GLY:O	8:H:35:LYS:CD	2.65	0.45
21:U:39:ILE:HG22	21:U:39:ILE:O	2.16	0.45
1:A:1292:G:C6	1:A:1293:C:N4	2.84	0.45
1:A:1357:C:H2'	1:A:1358:G:C5'	2.47	0.45
1:A:1435:G:O2'	1:A:1436:G:H5'	2.16	0.45
1:A:1663:G:C6	1:A:1992:G:N7	2.85	0.45
1:A:2371:G:C2	1:A:2372:U:C6	3.04	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2848:G:C8	16:P:95:ALA:HB2	2.51	0.45
1:A:36:G:N1	1:A:445:C:C4	2.85	0.45
1:A:515:A:C8	1:A:516:C:C6	3.04	0.45
1:A:606:U:O2'	5:E:95:LYS:NZ	2.46	0.45
1:A:613:A:OP2	1:A:614:A:N7	2.50	0.45
1:A:656:G:O2'	1:A:657:U:H5'	2.17	0.45
1:A:78:U:OP2	25:Y:2:LYS:HD2	2.16	0.45
8:H:147:VAL:HG12	8:H:148:ALA:N	2.32	0.45
19:S:61:ASN:O	19:S:62:ASP:CB	2.63	0.45
1:A:1090:A:C2	1:A:1091:G:N7	2.85	0.45
1:A:1208:C:C4	1:A:1209:U:C5	3.05	0.45
1:A:1264:A:N7	1:A:1265:A:C5	2.85	0.45
1:A:1277:G:H5'	14:N:20:MET:HE1	1.98	0.45
1:A:1347:A:C5	1:A:1348:C:C5	3.04	0.45
1:A:1413:A:H2'	1:A:1414:C:C6	2.51	0.45
1:A:1838:C:C5	1:A:1899:A:C5	3.05	0.45
1:A:571:U:C4	1:A:2030:A:C6	3.05	0.45
1:A:2044:C:C2	1:A:2625:G:N2	2.84	0.45
1:A:2066:C:H5''	36:A:3504:HOH:O	2.17	0.45
1:A:2193:G:C4	1:A:2194:U:C5	3.04	0.45
1:A:2311:A:H3'	1:A:2312:U:C6	2.52	0.45
1:A:2345:G:N3	1:A:2381:A:H2'	2.31	0.45
1:A:2074:U:C2	1:A:2436:G:C2	3.05	0.45
1:A:2:G:O6	1:A:2900:A:N6	2.50	0.45
1:A:515:A:H2'	1:A:516:C:H5'	1.98	0.45
1:A:641:U:C5	1:A:642:U:O4	2.69	0.45
1:A:645:C:H2'	1:A:647:G:C5	2.52	0.45
1:A:681:G:C2	1:A:797:G:C2	3.04	0.45
1:A:82:U:O2	1:A:83:A:C8	2.68	0.45
4:D:13:ARG:HD3	4:D:21:SER:OG	2.16	0.45
9:I:47:ASP:HA	9:I:51:LYS:HD2	1.99	0.45
11:K:34:GLY:O	11:K:35:VAL:C	2.53	0.45
1:A:1275:A:C5	14:N:16:HIS:CD2	3.04	0.45
15:O:7:ARG:CD	15:O:97:PHE:CE1	2.99	0.45
16:P:39:ARG:HG3	16:P:40:LEU:N	2.31	0.45
20:T:7:LEU:HD22	20:T:46:ALA:CA	2.47	0.45
27:O:20:ASP:OD2	27:O:20:ASP:N	2.49	0.45
32:6:4:PRO:CB	32:6:5:MHU:HM1	2.46	0.45
1:A:1040:A:C2	1:A:1041:G:C4	3.05	0.45
1:A:1351:C:H2'	1:A:1352:U:H1'	1.99	0.45
1:A:1358:G:N2	1:A:1374:G:C6	2.85	0.45
1:A:1452:G:C8	1:A:1457:U:N3	2.85	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1651:G:C6	1:A:1652:A:C5	3.05	0.45
1:A:1813:G:H2'	1:A:1814:G:O4'	2.16	0.45
1:A:2037:A:C6	1:A:2038:G:C6	3.04	0.45
1:A:211:C:OP1	29:2:25:LYS:NZ	2.37	0.45
1:A:2170:A:C2	1:A:2171:A:C6	3.04	0.45
1:A:966:G:H4'	1:A:2272:U:O2	2.16	0.45
1:A:2370:G:O2'	28:1:44:ARG:NH1	2.50	0.45
1:A:2446:G:C6	1:A:2501:C:H2'	2.51	0.45
1:A:2499:C:C4	1:A:2500:U:C4	3.05	0.45
1:A:2880:C:C2	1:A:2881:U:C6	3.05	0.45
1:A:303:G:C6	1:A:304:U:N3	2.85	0.45
1:A:572:A:H5''	1:A:573:U:OP2	2.17	0.45
1:A:7:G:H2'	1:A:8:C:O4'	2.17	0.45
1:A:87:U:O2	25:Y:44:LYS:NZ	2.49	0.45
1:A:994:C:O2'	18:R:10:LYS:HE3	2.16	0.45
3:C:69:ARG:NH2	3:C:116:ILE:CD1	2.80	0.45
4:D:108:ASP:N	4:D:204:LYS:O	2.50	0.45
4:D:187:LEU:HD21	4:D:203:VAL:HG11	1.99	0.45
6:F:40:VAL:HG13	6:F:41:GLY:N	2.31	0.45
8:H:31:VAL:CG1	8:H:32:PRO:HD3	2.47	0.45
8:H:83:LYS:HG3	8:H:149:GLU:HG3	1.94	0.45
8:H:93:SER:HB3	8:H:123:ARG:HG3	1.99	0.45
12:L:135:ILE:HG22	12:L:140:GLY:HA2	1.98	0.45
1:A:17:G:H4'	17:Q:25:TYR:CE1	2.51	0.45
19:S:39:THR:O	19:S:41:LYS:N	2.50	0.45
23:W:70:GLU:O	23:W:79:PHE:N	2.49	0.45
1:A:1464:G:N1	1:A:1465:G:C5	2.84	0.45
1:A:1476:U:O2'	1:A:1477:A:H5'	2.17	0.45
1:A:1312:U:C2	1:A:1603:A:C2	3.05	0.45
1:A:1949:G:C6	1:A:1950:G:C6	3.05	0.45
1:A:2135:A:C2	1:A:2136:G:H1'	2.51	0.45
1:A:259:G:C4	1:A:260:G:C8	3.04	0.45
1:A:453:A:O3'	1:A:472:A:N6	2.49	0.45
1:A:55:G:N3	1:A:55:G:H2'	2.32	0.45
1:A:686:U:H6	1:A:788:A:N1	2.15	0.45
1:A:779:U:H5''	3:C:49:ILE:HD11	1.98	0.45
2:B:17:C:H2'	2:B:18:G:H5'	1.98	0.45
2:B:59:A:H2'	2:B:60:C:O4'	2.17	0.45
12:L:20:GLY:HA2	12:L:28:GLY:HA2	1.98	0.45
16:P:70:VAL:HG12	16:P:71:GLU:N	2.32	0.45
23:W:34:GLY:N	23:W:61:ALA:O	2.40	0.45
28:1:9:ILE:HG23	28:1:25:LYS:HB3	1.99	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1222:U:H1'	1:A:1228:G:N2	2.32	0.45
1:A:1231:U:H2'	1:A:1232:G:C8	2.52	0.45
1:A:1358:G:C2'	1:A:1359:A:OP2	2.65	0.45
1:A:1425:G:H2'	1:A:1426:G:O4'	2.17	0.45
1:A:143:C:H2'	1:A:144:A:H5'	1.98	0.45
1:A:1724:G:O6	1:A:1736:U:C2	2.70	0.45
1:A:45:G:H2'	1:A:215:G:N7	2.32	0.45
1:A:2331:G:C5	1:A:2332:C:C4	3.05	0.45
1:A:2345:G:H5'	1:A:2347:C:O4'	2.16	0.45
1:A:2504:U:C5	33:A:3001:DOL:C16	2.98	0.45
1:A:2543:G:N3	1:A:2765:A:H2'	2.32	0.45
1:A:1662:U:O2	1:A:2687:U:H4'	2.16	0.45
1:A:2740:A:C6	1:A:2764:A:C8	3.05	0.45
1:A:292:U:C5	1:A:293:U:C5	3.05	0.45
1:A:30:G:C5	1:A:31:C:N3	2.85	0.45
1:A:377:G:C6	1:A:378:C:N4	2.85	0.45
1:A:599:A:C2	1:A:659:G:C6	3.04	0.45
1:A:663:G:O6	1:A:664:G:C6	2.70	0.45
1:A:669:G:N2	1:A:670:A:N1	2.65	0.45
1:A:708:G:N2	1:A:724:U:H1'	2.31	0.45
1:A:745:G:O2'	1:A:748:G:H1'	2.17	0.45
1:A:794:A:C6	1:A:795:C:N3	2.85	0.45
2:B:25:U:C4	2:B:26:C:C4	3.04	0.45
3:C:246:THR:C	3:C:248:TRP:H	2.20	0.45
6:F:128:TYR:CB	6:F:170:LEU:CD1	2.95	0.45
8:H:86:ASP:C	8:H:88:GLY:H	2.19	0.45
9:I:91:GLY:O	9:I:93:PRO:HD3	2.17	0.45
12:L:58:TYR:O	30:3:13:ARG:HD3	2.17	0.45
12:L:56:PRO:O	12:L:60:ARG:CB	2.64	0.45
14:N:114:GLU:OE2	14:N:118:ARG:HD2	2.17	0.45
20:T:38:ALA:O	20:T:39:THR:CB	2.65	0.45
20:T:73:ARG:HA	20:T:73:ARG:CZ	2.47	0.45
26:Z:13:ALA:HB2	26:Z:24:LEU:HD12	1.98	0.45
1:A:683:U:OP1	29:2:26:ASN:CB	2.65	0.45
29:2:34:ARG:HB2	29:2:42:LEU:HD12	1.99	0.45
1:A:1006:C:P	36:A:3779:HOH:O	2.74	0.45
1:A:1262:A:N3	1:A:1262:A:H2'	2.32	0.45
1:A:1358:G:H2'	1:A:1359:A:OP2	2.17	0.45
1:A:1388:G:N2	1:A:1400:U:C2	2.85	0.45
1:A:158:U:C2'	1:A:159:G:H5'	2.45	0.45
1:A:1614:A:H2'	1:A:1615:C:H5'	1.99	0.45
1:A:1829:A:H2'	3:C:15:HIS:NE2	2.32	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1649:G:N1	1:A:2009:A:C6	2.85	0.45
1:A:2063:C:H2'	1:A:2063:C:O2	2.17	0.45
1:A:204:A:H5'	1:A:206:U:O4'	2.17	0.45
1:A:2111:U:O2	1:A:2111:U:O4'	2.34	0.45
1:A:2193:G:H2'	1:A:2194:U:C6	2.52	0.45
1:A:2211:A:C4'	1:A:2212:A:OP1	2.65	0.45
1:A:2221:G:C2'	1:A:2222:C:H5'	2.47	0.45
1:A:2308:G:H4'	1:A:2309:A:OP2	2.15	0.45
1:A:249:C:O5'	1:A:2394:C:O2'	2.35	0.45
1:A:415:A:C2	1:A:2409:G:N1	2.84	0.45
1:A:2821:A:OP2	4:D:115:GLY:N	2.50	0.45
1:A:2868:A:C6	1:A:2869:G:C6	3.05	0.45
1:A:2451:A:C2	33:A:3001:DOL:HC12	2.52	0.45
1:A:515:A:C2'	1:A:516:C:H5'	2.47	0.45
1:A:581:C:H2'	1:A:582:A:C8	2.52	0.45
1:A:630:G:H3'	1:A:631:A:H5''	1.99	0.45
1:A:8:C:O2'	1:A:9:G:H5'	2.16	0.45
6:F:111:ILE:HB	6:F:114:PHE:CB	2.47	0.45
8:H:15:LEU:N	8:H:15:LEU:HD22	2.32	0.45
9:I:24:VAL:HB	9:I:28:LEU:HD23	1.99	0.45
11:K:73:ASP:OD2	11:K:75:SER:OG	2.28	0.45
12:L:29:LYS:HG3	12:L:30:THR:HG23	1.98	0.45
13:M:124:LEU:N	13:M:124:LEU:HD23	2.32	0.45
13:M:67:VAL:HG11	13:M:96:ILE:HD12	1.99	0.45
1:A:1651:G:H4'	14:N:39:PRO:HG2	1.99	0.45
22:V:48:MET:SD	22:V:86:LEU:HG	2.56	0.45
1:A:1153:C:H2'	1:A:1154:G:O4'	2.17	0.44
1:A:1211:C:H3'	1:A:1212:G:H5'	1.99	0.44
1:A:1476:U:H1'	1:A:1732:C:O2	2.17	0.44
1:A:1731:G:C6	1:A:1733:G:C8	3.05	0.44
1:A:185:G:C5	1:A:212:G:N2	2.84	0.44
1:A:1906:G:OP1	1:A:1930:G:C8	2.69	0.44
1:A:2043:C:O2	1:A:2043:C:H2'	2.16	0.44
1:A:1783:A:C6	1:A:2587:A:C2	3.05	0.44
1:A:2634:A:C2	1:A:2635:A:C4	3.05	0.44
1:A:294:A:C6	1:A:345:A:N3	2.85	0.44
1:A:846:U:H1'	1:A:847:U:C5	2.51	0.44
1:A:993:G:N2	18:R:23:GLU:OE1	2.50	0.44
3:C:87:ARG:HB3	3:C:87:ARG:CZ	2.46	0.44
6:F:85:ILE:O	6:F:85:ILE:HG13	2.17	0.44
8:H:5:LEU:CD1	8:H:13:GLY:CA	2.95	0.44
9:I:33:VAL:O	9:I:33:VAL:HG12	2.16	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:9:GLU:O	10:J:10:THR:HG23	2.18	0.44
12:L:55:MET:SD	12:L:59:ARG:CB	3.06	0.44
15:O:51:ALA:HB1	15:O:77:ALA:CB	2.46	0.44
15:O:51:ALA:HB1	15:O:77:ALA:HB1	1.99	0.44
1:A:1343:G:C5	1:A:1344:U:C4	3.04	0.44
1:A:1483:G:C4	1:A:1484:U:C5	3.05	0.44
1:A:1688:U:C4	1:A:1698:A:C2	3.06	0.44
1:A:1965:C:OP1	1:A:1966:A:H2'	2.17	0.44
1:A:2286:G:C4'	1:A:2287:A:O5'	2.60	0.44
1:A:2502:G:H5'	1:A:2503:A:C5'	2.46	0.44
1:A:2526:G:C5	1:A:2527:C:C5	3.05	0.44
1:A:2582:G:C2	1:A:2583:G:C8	3.05	0.44
1:A:2853:C:H2'	1:A:2854:G:C8	2.53	0.44
1:A:590:A:C5	1:A:591:U:C5	3.05	0.44
1:A:877:A:H2'	1:A:878:A:OP2	2.17	0.44
1:A:2683:C:H4'	4:D:13:ARG:NH1	2.31	0.44
4:D:32:ASN:HB3	4:D:50:VAL:HB	1.99	0.44
6:F:122:PHE:O	6:F:123:ASP:C	2.56	0.44
7:G:70:ALA:O	7:G:74:SER:OG	2.34	0.44
8:H:1:MET:CE	8:H:27:ARG:NH1	2.80	0.44
10:J:24:THR:O	10:J:25:LEU:C	2.56	0.44
12:L:110:VAL:O	12:L:111:ILE:O	2.35	0.44
1:A:626:A:C2	12:L:78:ARG:HD3	2.52	0.44
14:N:2:ARG:O	14:N:2:ARG:CD	2.65	0.44
14:N:65:LEU:HD11	14:N:69:ARG:NH2	2.33	0.44
20:T:74:ILE:HD12	20:T:75:GLY:N	2.32	0.44
23:W:45:PHE:HB3	23:W:80:ILE:CD1	2.47	0.44
25:Y:46:VAL:HG12	25:Y:46:VAL:O	2.18	0.44
1:A:121:G:H1'	1:A:131:A:N1	2.32	0.44
1:A:1439:A:C2	1:A:1553:A:C4	3.05	0.44
1:A:200:U:C6	1:A:201:C:C5	3.05	0.44
1:A:2234:G:C6	1:A:2235:G:C5	3.05	0.44
1:A:2518:A:H2'	1:A:2518:A:N3	2.32	0.44
1:A:253:C:H2'	1:A:254:G:H5'	1.98	0.44
1:A:2800:A:H3'	1:A:2801:G:H5'	1.99	0.44
1:A:419:U:C4	1:A:420:C:C5	3.06	0.44
1:A:600:G:H1'	5:E:100:MET:HG2	2.00	0.44
1:A:681:G:C4	1:A:682:G:C8	3.06	0.44
1:A:730:A:OP1	1:A:1775:U:O2'	2.24	0.44
1:A:769:U:N3	1:A:770:G:N7	2.65	0.44
1:A:92:U:H2'	1:A:93:G:O4'	2.15	0.44
3:C:18:LYS:O	3:C:19:VAL:CB	2.65	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:221:ARG:NH2	36:C:306:HOH:O	2.50	0.44
4:D:18:ASP:OD2	4:D:18:ASP:N	2.51	0.44
6:F:136:ILE:HA	6:F:141:ILE:HG21	1.98	0.44
7:G:91:GLY:HA3	7:G:160:LYS:HG3	1.99	0.44
8:H:25:TYR:O	8:H:29:PHE:HB3	2.18	0.44
8:H:37:VAL:HG22	8:H:38:PRO:HD2	1.98	0.44
9:I:20:PRO:CG	9:I:23:PRO:HG2	2.47	0.44
12:L:50:PHE:CZ	12:L:52:GLY:O	2.70	0.44
12:L:91:ASP:HB3	12:L:94:THR:HB	2.00	0.44
14:N:34:ILE:HD11	14:N:44:LEU:CD2	2.48	0.44
14:N:87:PHE:CZ	14:N:94:TYR:HB3	2.52	0.44
17:Q:93:LYS:O	17:Q:97:ASP:HB2	2.17	0.44
20:T:72:GLN:O	20:T:74:ILE:HG23	2.18	0.44
23:W:45:PHE:CG	23:W:80:ILE:HD11	2.52	0.44
23:W:46:HIS:CD2	23:W:77:ARG:HD3	2.52	0.44
1:A:1179:G:C6	1:A:1180:U:H1'	2.52	0.44
1:A:1275:A:H4'	1:A:1276:A:OP1	2.16	0.44
1:A:1286:A:C6	1:A:1329:U:C4	3.04	0.44
1:A:1310:G:H2'	1:A:1311:G:H5'	1.99	0.44
1:A:1345:C:H5'	1:A:1396:U:O4	2.17	0.44
1:A:1409:U:H2'	1:A:1410:G:O4'	2.17	0.44
1:A:1312:U:O2	1:A:1603:A:C2	2.71	0.44
1:A:1726:C:H2'	1:A:1727:C:H6	1.82	0.44
1:A:188:G:C6	1:A:189:G:C4	3.05	0.44
1:A:207:A:C4	1:A:208:C:C6	3.06	0.44
1:A:2308:G:C4'	1:A:2309:A:OP2	2.65	0.44
1:A:449:A:N7	1:A:450:G:N7	2.65	0.44
1:A:84:A:N6	1:A:99:U:H4'	2.32	0.44
2:B:76:G:H2'	2:B:77:U:O4'	2.18	0.44
3:C:178:SER:O	3:C:271:ARG:HB2	2.17	0.44
1:A:2032:G:H1'	4:D:150:GLN:HE22	1.79	0.44
5:E:108:ILE:HD13	5:E:181:ILE:HG13	1.98	0.44
6:F:117:LEU:CD2	6:F:176:PRO:HG2	2.47	0.44
9:I:28:LEU:HD11	9:I:35:ILE:CD1	2.47	0.44
1:A:1090:A:N1	1:A:1091:G:N7	2.66	0.44
1:A:118:A:N3	1:A:178:G:H1'	2.32	0.44
1:A:1369:G:N3	1:A:1370:C:C6	2.84	0.44
1:A:1497:U:O2'	1:A:1577:C:H5''	2.18	0.44
1:A:1524:G:C2	1:A:1525:A:C8	3.05	0.44
1:A:1604:C:H5''	36:A:3406:HOH:O	2.17	0.44
1:A:1867:G:O6	1:A:1875:G:C2	2.70	0.44
1:A:207:A:C2	1:A:208:C:H1'	2.52	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2436:G:C2	1:A:2437:G:C8	3.05	0.44
1:A:39:G:C5	1:A:40:U:C5	3.05	0.44
1:A:469:G:O6	29:2:37:LYS:NZ	2.43	0.44
1:A:699:A:C2'	1:A:700:G:H5'	2.48	0.44
2:B:58:A:H2'	2:B:59:A:O4'	2.18	0.44
3:C:124:ILE:O	3:C:124:ILE:HG22	2.16	0.44
6:F:57:LEU:HB2	6:F:65:PRO:HG2	2.00	0.44
9:I:65:ARG:HG3	9:I:66:SER:N	2.31	0.44
15:O:67:ASN:O	15:O:70:ALA:N	2.51	0.44
16:P:103:ARG:HD3	16:P:108:ALA:HB2	1.98	0.44
18:R:27:ILE:HG13	18:R:33:VAL:HG11	2.00	0.44
21:U:83:VAL:HG11	21:U:94:ARG:HB3	1.99	0.44
25:Y:1:MET:HA	25:Y:4:LYS:HB2	1.99	0.44
1:A:1066:U:C2'	1:A:1067:A:OP1	2.66	0.44
1:A:1364:G:H2'	1:A:1365:A:C5'	2.44	0.44
1:A:1645:G:H4'	1:A:1646:C:C5	2.52	0.44
1:A:2128:G:H1'	1:A:2173:A:O2'	2.17	0.44
1:A:2513:A:C5	1:A:2514:U:C4	3.06	0.44
1:A:2540:C:C2	1:A:2541:A:C8	3.05	0.44
1:A:2699:C:H2'	1:A:2700:A:O4'	2.17	0.44
1:A:108:G:H1'	1:A:347:A:N3	2.33	0.44
1:A:453:A:H4'	1:A:472:A:H62	1.82	0.44
1:A:693:A:C5	1:A:694:U:C4	3.06	0.44
1:A:920:A:OP1	26:Z:19:LYS:HE3	2.18	0.44
2:B:68:C:H2'	2:B:69:G:O4'	2.16	0.44
3:C:174:LEU:O	3:C:181:MET:HA	2.17	0.44
6:F:2:ALA:N	6:F:94:GLU:OE2	2.50	0.44
9:I:28:LEU:HD11	9:I:35:ILE:HD12	1.99	0.44
1:A:1190:G:OP1	12:L:32:GLY:CA	2.66	0.44
13:M:70:ASP:OD1	13:M:70:ASP:C	2.56	0.44
27:O:40:ARG:O	27:O:41:HIS:HB2	2.18	0.44
1:A:1193:G:C2	1:A:1194:A:C5	3.06	0.44
1:A:1403:A:C2	1:A:1404:C:C2	3.06	0.44
1:A:187:G:N1	1:A:210:C:C2	2.85	0.44
1:A:1999:C:H5''	1:A:2723:C:O2'	2.18	0.44
1:A:2134:A:C2	1:A:2159:G:H1'	2.53	0.44
1:A:2166:U:H2'	1:A:2167:U:H5'	2.00	0.44
1:A:2350:C:H2'	1:A:2351:G:O4'	2.17	0.44
1:A:2410:G:H2'	1:A:2411:A:O4'	2.17	0.44
1:A:406:G:H2'	1:A:407:G:C8	2.52	0.44
1:A:40:U:C5	1:A:41:C:N4	2.85	0.44
1:A:422:A:C2	1:A:423:A:C4	3.05	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:426:C:C4	1:A:427:U:C5	3.06	0.44
1:A:465:G:N2	1:A:684:G:H1'	2.33	0.44
1:A:517:C:C2'	1:A:518:G:O5'	2.66	0.44
1:A:54:G:N1	1:A:55:G:N7	2.65	0.44
1:A:599:A:C2	1:A:659:G:C5	3.05	0.44
3:C:158:ALA:HA	3:C:195:VAL:HG22	2.00	0.44
4:D:4:LEU:HD22	4:D:101:PHE:CE2	2.52	0.44
4:D:125:TRP:O	4:D:126:ASN:CB	2.66	0.44
5:E:131:THR:HB	5:E:164:LEU:HD22	1.99	0.44
1:A:1248:G:C5	5:E:46:GLN:NE2	2.86	0.44
8:H:31:VAL:CB	8:H:32:PRO:HD3	2.47	0.44
11:K:111:LYS:HG3	11:K:112:PHE:CE1	2.52	0.44
12:L:55:MET:SD	12:L:59:ARG:CZ	3.06	0.44
19:S:30:SER:HA	19:S:33:LEU:HD12	1.99	0.44
20:T:24:MET:HG2	20:T:29:THR:O	2.18	0.44
24:X:39:TRP:HB2	24:X:46:PHE:CE2	2.53	0.44
24:X:47:VAL:O	24:X:47:VAL:CG1	2.65	0.44
24:X:52:SER:O	24:X:55:GLY:N	2.51	0.44
29:2:9:VAL:O	29:2:10:LEU:C	2.56	0.44
1:A:1222:U:H2'	1:A:1223:G:C8	2.53	0.44
1:A:1362:C:N3	1:A:1363:C:C2	2.86	0.44
1:A:1804:C:N4	1:A:1814:G:N2	2.66	0.44
1:A:1936:A:C8	1:A:1945:G:C6	3.06	0.44
1:A:281:C:H2'	1:A:282:A:C8	2.53	0.44
1:A:601:C:H2'	1:A:602:A:O4'	2.18	0.44
1:A:770:G:O4'	1:A:1379:U:C5	2.71	0.44
1:A:687:C:N3	1:A:788:A:H5'	2.33	0.44
1:A:82:U:N3	1:A:83:A:N7	2.66	0.44
1:A:835:C:C4	1:A:836:G:N7	2.85	0.44
3:C:69:ARG:NH2	3:C:116:ILE:HD11	2.32	0.44
6:F:4:LEU:O	6:F:8:TYR:N	2.51	0.44
6:F:33:LYS:HD3	6:F:92:ARG:NH1	2.33	0.44
12:L:116:VAL:HG21	12:L:135:ILE:HA	1.99	0.44
15:O:53:THR:HB	15:O:65:THR:CG2	2.48	0.44
21:U:18:ASP:HB3	21:U:21:LYS:HG3	1.99	0.44
21:U:12:ILE:CG2	21:U:80:ALA:HB2	2.48	0.44
26:Z:2:ALA:CB	26:Z:39:GLU:HB2	2.48	0.44
29:2:12:ARG:NH2	29:2:44:VAL:CG1	2.81	0.44
1:A:1109:C:C4	1:A:1110:G:O6	2.71	0.44
1:A:1139:G:N2	1:A:1140:C:C2	2.86	0.44
1:A:1330:C:H2'	1:A:1331:G:O5'	2.17	0.44
1:A:1332:G:O6	1:A:1609:A:C8	2.71	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1355:G:H2'	1:A:1356:G:C5'	2.48	0.44
1:A:1362:C:C2'	1:A:1363:C:H5'	2.48	0.44
1:A:1810:A:H2'	1:A:1811:G:O4'	2.18	0.44
1:A:2018:G:H2'	1:A:2019:A:O4'	2.18	0.44
1:A:2064:C:H2'	1:A:2065:C:C6	2.53	0.44
1:A:2179:C:H2'	1:A:2180:U:C6	2.52	0.44
1:A:2104:C:N3	1:A:2186:G:N2	2.66	0.44
1:A:2252:G:H2'	1:A:2253:G:O4'	2.17	0.44
1:A:2409:G:C6	1:A:2410:G:C6	3.06	0.44
1:A:738:G:N1	1:A:739:A:C2	2.86	0.44
1:A:856:G:C2	1:A:922:C:C2	3.06	0.44
1:A:972:A:N1	1:A:973:A:N6	2.65	0.44
1:A:983:A:N6	1:A:984:A:C2	2.86	0.44
3:C:104:ILE:HD12	3:C:104:ILE:O	2.18	0.44
3:C:176:LEU:HD12	3:C:180:GLU:HB3	1.99	0.44
3:C:251:GLN:HG2	3:C:255:LYS:HB2	2.00	0.44
5:E:130:LYS:HB2	5:E:133:LEU:HB2	2.00	0.44
10:J:39:LYS:CB	10:J:39:LYS:HZ3	2.31	0.44
10:J:40:HIS:O	10:J:40:HIS:CG	2.69	0.44
12:L:30:THR:OG1	12:L:31:GLY:N	2.51	0.44
18:R:78:ARG:CB	18:R:83:TYR:CD1	3.00	0.44
21:U:96:PHE:CZ	21:U:103:ILE:HG13	2.53	0.44
22:V:80:HIS:CG	22:V:81:PRO:HD2	2.53	0.44
27:O:44:THR:OG1	27:O:48:TYR:N	2.51	0.43
30:3:7:VAL:O	30:3:10:ALA:HB3	2.18	0.43
1:A:104:A:C5	1:A:105:C:N3	2.86	0.43
1:A:1448:G:C4	1:A:1449:G:C8	3.06	0.43
1:A:1744:A:C5	1:A:1745:A:C5	3.05	0.43
1:A:1757:A:N1	1:A:1762:A:C2	2.86	0.43
1:A:2141:G:N2	1:A:2151:U:O2	2.51	0.43
1:A:2061:G:C8	1:A:2501:C:H4'	2.53	0.43
1:A:2513:A:C6	1:A:2514:U:C4	3.06	0.43
1:A:2720:U:C6	1:A:2872:A:N1	2.86	0.43
1:A:2843:G:N2	1:A:2875:C:N3	2.66	0.43
1:A:528:A:C2	1:A:2043:C:H4'	2.53	0.43
1:A:936:A:C2	1:A:937:C:C2	3.06	0.43
5:E:45:ALA:HA	5:E:87:ALA:O	2.18	0.43
6:F:163:ASP:N	6:F:163:ASP:OD1	2.51	0.43
6:F:5:HIS:O	6:F:9:LYS:HG3	2.18	0.43
9:I:33:VAL:HA	9:I:67:PHE:CE2	2.53	0.43
10:J:10:THR:O	10:J:11:VAL:O	2.35	0.43
16:P:53:ARG:N	16:P:57:SER:OG	2.50	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:82:ARG:HB2	21:U:82:ARG:CZ	2.47	0.43
27:0:44:THR:O	27:0:47:GLY:N	2.52	0.43
28:1:19:HIS:C	28:1:19:HIS:CD2	2.91	0.43
28:1:9:ILE:HB	28:1:52:ALA:HA	2.00	0.43
29:2:43:THR:O	29:2:44:VAL:HB	2.17	0.43
12:L:62:PRO:HG3	30:3:26:HIS:O	2.18	0.43
1:A:1341:G:C2	20:T:84:TYR:CD2	3.06	0.43
1:A:1351:C:O3'	1:A:1571:A:O2'	2.36	0.43
1:A:1362:C:H2'	1:A:1363:C:H5'	2.00	0.43
1:A:1477:A:N6	1:A:1514:G:H1'	2.33	0.43
1:A:1670:C:C5	1:A:1671:U:C4	3.06	0.43
1:A:185:G:C6	1:A:212:G:N2	2.86	0.43
1:A:2331:G:N2	1:A:2385:C:C2	2.86	0.43
1:A:2280:G:O2'	1:A:2388:A:N1	2.46	0.43
1:A:2464:G:H2'	1:A:2465:C:O4'	2.17	0.43
1:A:2897:U:H2'	1:A:2898:U:C6	2.53	0.43
1:A:35:G:N2	1:A:450:G:H1'	2.33	0.43
1:A:483:A:O2'	21:U:56:GLY:HA3	2.18	0.43
1:A:54:G:C6	1:A:55:G:N7	2.86	0.43
1:A:603:A:N3	1:A:604:G:H1'	2.34	0.43
1:A:192:C:O2'	1:A:802:A:N3	2.51	0.43
1:A:969:G:H2'	1:A:970:U:C6	2.54	0.43
1:A:1568:G:H5''	3:C:61:ALA:N	2.33	0.43
3:C:9:THR:O	3:C:10:SER:HB3	2.15	0.43
4:D:148:GLN:N	4:D:148:GLN:CD	2.72	0.43
8:H:127:GLU:CG	8:H:144:VAL:O	2.65	0.43
1:A:633:A:H5''	12:L:70:LYS:CD	2.48	0.43
14:N:108:ALA:HB3	14:N:110:MET:CE	2.49	0.43
16:P:65:SER:O	16:P:66:ASN:C	2.57	0.43
23:W:36:ILE:HG23	23:W:58:THR:CG2	2.48	0.43
1:A:2232:C:OP1	24:X:27:ARG:NH1	2.50	0.43
27:0:54:VAL:O	27:0:55:ILE:HB	2.18	0.43
1:A:1357:C:N4	1:A:1358:G:N1	2.66	0.43
1:A:1519:G:H3'	1:A:1520:U:C6	2.53	0.43
1:A:1563:U:H2'	1:A:1564:C:C6	2.52	0.43
1:A:1622:G:H2'	1:A:1623:G:O4'	2.18	0.43
1:A:1754:A:C6	1:A:1755:A:C5	3.06	0.43
1:A:1796:U:H2'	1:A:1797:G:C8	2.53	0.43
1:A:1881:C:H2'	1:A:1882:U:O4'	2.17	0.43
1:A:2502:G:H5'	1:A:2503:A:O5'	2.19	0.43
1:A:1638:C:O3'	1:A:2709:G:N2	2.51	0.43
1:A:2711:A:N6	1:A:2714:G:C5	2.86	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:498:G:C4	1:A:499:U:C5	3.07	0.43
1:A:513:A:C2	1:A:514:A:N7	2.86	0.43
1:A:683:U:H2'	1:A:684:G:O5'	2.18	0.43
1:A:694:U:C3'	1:A:695:G:C5'	2.95	0.43
4:D:3:GLY:O	4:D:82:PHE:CE1	2.72	0.43
10:J:31:GLU:HB3	10:J:142:ILE:CG1	2.48	0.43
16:P:75:GLN:HB2	16:P:78:SER:HB2	2.00	0.43
19:S:15:GLN:O	19:S:19:LEU:HD22	2.18	0.43
21:U:57:GLY:O	21:U:59:VAL:HG23	2.18	0.43
21:U:72:ILE:HD13	21:U:83:VAL:HB	2.00	0.43
22:V:28:ALA:O	22:V:40:ILE:HB	2.18	0.43
22:V:75:GLN:HB3	22:V:90:ASP:O	2.17	0.43
1:A:1045:C:H4'	1:A:1046:A:H5'	2.00	0.43
1:A:1120:G:C6	1:A:1121:C:N4	2.86	0.43
1:A:1287:A:H2'	1:A:1288:G:H5'	2.01	0.43
1:A:1378:A:C4'	1:A:1379:U:OP1	2.66	0.43
1:A:1567:G:H2'	3:C:85:PRO:HG3	2.00	0.43
1:A:1829:A:O4'	1:A:1829:A:OP2	2.36	0.43
1:A:2112:G:H5'	1:A:2113:U:OP2	2.19	0.43
1:A:2167:U:O2	1:A:2170:A:OP2	2.37	0.43
1:A:2333:A:N7	1:A:2335:A:C4	2.86	0.43
1:A:2489:U:HO2'	1:A:2491:U:H5	1.64	0.43
1:A:2756:U:H4'	1:A:2757:A:OP1	2.19	0.43
1:A:301:G:H5'	1:A:334:C:O2	2.18	0.43
1:A:40:U:C4	1:A:41:C:N4	2.86	0.43
1:A:672:C:C2	1:A:809:G:N2	2.86	0.43
1:A:772:C:H2'	1:A:773:U:O4'	2.18	0.43
1:A:892:A:H3'	1:A:892:A:N3	2.34	0.43
1:A:972:A:C6	1:A:973:A:C6	3.06	0.43
3:C:2:ALA:N	3:C:199:GLU:OE1	2.51	0.43
5:E:22:ASP:N	5:E:22:ASP:OD2	2.51	0.43
6:F:114:PHE:O	6:F:114:PHE:CG	2.71	0.43
6:F:12:VAL:HG12	6:F:12:VAL:O	2.19	0.43
9:I:15:ALA:HB3	9:I:52:GLY:N	2.32	0.43
11:K:23:LYS:HB3	11:K:40:LYS:HB3	1.99	0.43
12:L:29:LYS:CG	12:L:29:LYS:O	2.66	0.43
4:D:186:LEU:CD1	16:P:8:LEU:CD1	2.97	0.43
20:T:61:LEU:HD12	20:T:61:LEU:C	2.38	0.43
20:T:8:LEU:CD2	20:T:50:LEU:HD21	2.47	0.43
29:2:6:GLN:OE1	29:2:6:GLN:HA	2.18	0.43
31:4:7:VAL:HG13	31:4:38:GLY:CA	2.49	0.43
1:A:1272:A:C2	1:A:1618:A:N3	2.86	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1364:G:C5	1:A:1368:G:N1	2.86	0.43
1:A:1760:C:H3'	1:A:1761:C:C6	2.53	0.43
1:A:49:A:N6	1:A:177:G:C4	2.86	0.43
1:A:1791:A:C8	1:A:1792:G:C8	3.06	0.43
1:A:1896:G:H2'	1:A:1897:G:O4'	2.19	0.43
1:A:1965:C:H3'	1:A:1966:A:C8	2.54	0.43
1:A:2038:G:N7	1:A:2039:U:C5	2.87	0.43
1:A:2061:G:C5	33:A:3001:DOL:HC19	2.53	0.43
1:A:2092:U:H4'	1:A:2093:G:H5''	2.00	0.43
1:A:2283:C:N4	1:A:2389:G:C5	2.86	0.43
1:A:2515:C:O2'	1:A:2516:A:H5'	2.19	0.43
1:A:2641:G:H5''	10:J:78:THR:HB	2.01	0.43
1:A:2676:C:O2	1:A:2732:G:N2	2.51	0.43
1:A:380:G:O3'	24:X:16:ASN:HB2	2.18	0.43
1:A:39:G:C6	1:A:40:U:O4	2.72	0.43
1:A:45:G:O3'	1:A:46:G:O4'	2.36	0.43
1:A:607:U:H5	1:A:619:G:C5	2.37	0.43
1:A:64:A:H2'	1:A:65:U:C6	2.53	0.43
1:A:874:G:C2	1:A:904:G:C2	3.06	0.43
1:A:922:C:H2'	1:A:923:G:C8	2.54	0.43
9:I:67:PHE:CD2	9:I:67:PHE:N	2.86	0.43
1:A:2684:U:C4'	11:K:70:ARG:NH1	2.81	0.43
17:Q:25:TYR:CD2	17:Q:25:TYR:C	2.92	0.43
20:T:48:GLN:HB2	20:T:49:LYS:CE	2.49	0.43
1:A:1178:C:C2	1:A:1179:G:N7	2.87	0.43
1:A:1219:U:H2'	1:A:1220:G:C8	2.54	0.43
1:A:1324:G:C1'	1:A:1616:A:N6	2.81	0.43
1:A:1403:A:H2'	1:A:1404:C:C6	2.54	0.43
1:A:1445:G:C2	1:A:1446:C:C2	3.07	0.43
1:A:1422:G:N2	1:A:1577:C:H1'	2.33	0.43
1:A:1677:A:N6	1:A:1678:A:C2	2.87	0.43
1:A:1749:A:C2	1:A:1750:G:C4	3.07	0.43
1:A:193:U:C4	1:A:194:G:N7	2.87	0.43
1:A:200:U:C5	1:A:201:C:C4	3.06	0.43
1:A:1267:U:N3	1:A:2013:A:N7	2.65	0.43
1:A:563:A:C2	1:A:2018:G:H1'	2.53	0.43
1:A:2114:A:C2	1:A:2115:G:H1'	2.54	0.43
1:A:216:A:OP2	1:A:429:A:OP1	2.37	0.43
1:A:2104:C:C2	1:A:2186:G:N2	2.86	0.43
1:A:2333:A:OP2	23:W:77:ARG:NH2	2.42	0.43
1:A:2415:G:C6	1:A:2416:C:N4	2.87	0.43
1:A:2643:G:C2'	1:A:2644:G:H5'	2.49	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2756:U:N3	1:A:2759:G:O6	2.52	0.43
1:A:38:A:C2	1:A:442:G:C6	3.07	0.43
1:A:480:A:O3'	21:U:44:LYS:HG3	2.19	0.43
1:A:553:G:H2'	1:A:554:U:O4'	2.19	0.43
1:A:55:G:C2	1:A:116:C:C2	3.06	0.43
1:A:614:A:OP2	1:A:614:A:H2'	2.19	0.43
1:A:623:C:H2'	1:A:624:C:O4'	2.19	0.43
1:A:696:G:C6	1:A:767:U:C2	3.07	0.43
1:A:771:G:N3	1:A:771:G:H2'	2.33	0.43
1:A:982:C:H5''	1:A:983:A:OP1	2.18	0.43
2:B:52:A:C4	15:O:33:ARG:NH2	2.86	0.43
3:C:124:ILE:CD1	3:C:136:PRO:HD3	2.48	0.43
1:A:1789:A:H5''	3:C:219:THR:O	2.19	0.43
4:D:33:ARG:HA	4:D:95:SER:HA	2.01	0.43
6:F:44:ILE:CG2	6:F:79:ILE:HG22	2.49	0.43
11:K:91:SER:O	11:K:92:GLU:C	2.56	0.43
11:K:92:GLU:O	11:K:93:GLN:HB2	2.18	0.43
17:Q:90:ILE:CG2	17:Q:94:ILE:CG2	2.97	0.43
1:A:116:C:C4	1:A:117:G:N7	2.86	0.43
1:A:1241:A:N3	1:A:1241:A:H2'	2.32	0.43
1:A:1272:A:C5	1:A:1618:A:H1'	2.53	0.43
1:A:1272:A:N3	1:A:1618:A:C4	2.87	0.43
1:A:1544:A:N6	1:A:1545:A:C6	2.86	0.43
1:A:153:U:H2'	1:A:154:U:C6	2.53	0.43
1:A:1616:A:H2	1:A:1647:U:C5	2.37	0.43
1:A:1874:C:C5'	1:A:1875:G:OP2	2.67	0.43
1:A:2326:C:C1'	1:A:2327:A:OP1	2.67	0.43
1:A:2598:A:OP1	3:C:234:GLY:O	2.36	0.43
1:A:377:G:O6	1:A:378:C:N4	2.51	0.43
1:A:828:U:H2'	1:A:829:A:C8	2.53	0.43
2:B:31:C:O2'	2:B:53:A:N1	2.48	0.43
4:D:193:VAL:HB	4:D:194:PRO:CD	2.49	0.43
5:E:15:SER:OG	5:E:197:GLU:OE2	2.32	0.43
5:E:48:THR:OG1	5:E:49:ARG:N	2.51	0.43
1:A:1060:U:OP2	9:I:75:PRO:HA	2.18	0.43
1:A:1063:G:C4'	9:I:77:ALA:HB1	2.49	0.43
10:J:15:TRP:CD2	10:J:53:TYR:HB2	2.54	0.43
10:J:57:LEU:O	10:J:58:ASN:HB2	2.18	0.43
1:A:1109:C:C5	1:A:1110:G:O6	2.72	0.43
1:A:1179:G:H2'	1:A:1180:U:H4'	2.00	0.43
1:A:1464:G:C4	1:A:1465:G:C8	3.06	0.43
1:A:1502:A:C2	1:A:1503:A:C4	3.07	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1663:G:H3'	36:A:3423:HOH:O	2.17	0.43
1:A:1715:G:O2'	1:A:1716:U:OP2	2.36	0.43
1:A:1794:A:H2'	1:A:1795:C:C6	2.54	0.43
1:A:1874:C:N4	1:A:1875:G:C6	2.86	0.43
1:A:2156:G:C6	1:A:2157:G:N2	2.87	0.43
1:A:245:G:O6	30:3:8:ARG:HD2	2.19	0.43
1:A:2819:G:N3	1:A:2828:G:C2	2.86	0.43
1:A:2849:U:C3'	1:A:2850:A:H5'	2.49	0.43
1:A:288:U:H2'	1:A:289:G:C8	2.54	0.43
1:A:349:U:O2'	1:A:350:G:H5'	2.18	0.43
1:A:599:A:H1'	1:A:659:G:N2	2.34	0.43
3:C:17:VAL:N	3:C:204:VAL:HG22	2.34	0.43
3:C:251:GLN:CG	3:C:255:LYS:HB2	2.49	0.43
3:C:75:PRO:HB2	3:C:97:LYS:CG	2.49	0.43
4:D:106:LYS:HA	4:D:175:LEU:O	2.19	0.43
6:F:16:LEU:HD11	6:F:169:LEU:HD13	2.01	0.43
6:F:31:VAL:O	6:F:31:VAL:HG13	2.19	0.43
8:H:62:LEU:HD13	8:H:63:ALA:N	2.34	0.43
8:H:82:SER:O	8:H:83:LYS:C	2.57	0.43
9:I:80:LEU:HA	9:I:84:ALA:HB3	2.01	0.43
10:J:114:LEU:O	10:J:118:MET:HG2	2.18	0.43
10:J:38:GLY:O	10:J:44:TYR:HB2	2.18	0.43
12:L:82:LEU:HA	12:L:85:VAL:HG13	1.99	0.43
1:A:1249:U:H4'	17:Q:4:VAL:HB	2.00	0.43
17:Q:76:TYR:CE1	17:Q:80:ILE:HD11	2.54	0.43
18:R:67:GLY:C	18:R:93:PHE:CE2	2.92	0.43
21:U:46:GLN:HG2	21:U:47:LYS:N	2.34	0.43
24:X:30:LEU:HB3	24:X:31:PRO:CD	2.49	0.43
1:A:1062:G:C2	1:A:1063:G:N1	2.87	0.43
1:A:1056:G:N1	1:A:1102:C:OP2	2.48	0.43
1:A:110:G:N2	1:A:111:A:H1'	2.34	0.43
1:A:1239:G:H2'	1:A:1240:U:O4'	2.18	0.43
1:A:1383:A:C2	1:A:1384:A:C5	3.07	0.43
1:A:155:A:H2'	1:A:156:A:C8	2.53	0.43
1:A:1677:A:N6	1:A:1678:A:N1	2.67	0.43
1:A:167:A:H2'	1:A:168:G:O4'	2.19	0.43
1:A:1833:C:C4	1:A:1834:U:C4	3.07	0.43
1:A:2103:C:H2'	1:A:2104:C:C5	2.54	0.43
1:A:2115:G:H2'	1:A:2117:A:N7	2.34	0.43
1:A:2201:G:H2'	1:A:2202:U:C6	2.54	0.43
1:A:2253:G:C5	1:A:2254:C:C5	3.06	0.43
1:A:2345:G:C4	1:A:2381:A:C2	3.06	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:415:A:N1	1:A:2409:G:C6	2.87	0.43
1:A:2478:A:C8	1:A:2529:G:C6	3.06	0.43
1:A:2478:A:N7	1:A:2529:G:C6	2.86	0.43
1:A:2829:A:C2'	1:A:2830:C:H5'	2.49	0.43
1:A:2720:U:C5	1:A:2872:A:N1	2.87	0.43
1:A:372:G:P	24:X:62:LYS:NZ	2.92	0.43
1:A:46:G:N1	1:A:47:C:C4	2.87	0.43
1:A:571:U:H1'	1:A:573:U:C6	2.54	0.43
1:A:668:A:H3'	1:A:669:G:H5''	2.00	0.43
1:A:668:A:C4	1:A:670:A:N7	2.87	0.43
1:A:784:G:H5''	3:C:226:ASN:OD1	2.18	0.43
1:A:845:A:C6	1:A:847:U:C6	3.07	0.43
1:A:950:G:H2'	1:A:951:C:O4'	2.19	0.43
3:C:187:ASP:O	3:C:188:CYS:C	2.57	0.43
4:D:167:ASN:O	4:D:168:GLU:HB3	2.18	0.43
10:J:94:ALA:O	10:J:95:ARG:C	2.57	0.43
11:K:113:MET:HA	11:K:116:ILE:HG12	2.01	0.43
15:O:11:ALA:O	15:O:13:ARG:N	2.52	0.43
16:P:100:LEU:HD22	16:P:108:ALA:HB1	2.00	0.43
16:P:79:PRO:O	16:P:80:VAL:C	2.57	0.43
21:U:71:ALA:HB3	21:U:80:ALA:HB1	1.99	0.43
25:Y:20:ASN:HB3	25:Y:50:VAL:CG2	2.49	0.43
1:A:1431:A:C6	1:A:1432:G:C5	3.07	0.43
1:A:1537:G:H3'	1:A:1537:G:N3	2.34	0.43
1:A:2067:G:C4	1:A:2444:G:N2	2.87	0.43
1:A:2199:A:C1'	8:H:28:ASN:ND2	2.81	0.43
1:A:2291:U:H2'	1:A:2292:U:C6	2.53	0.43
1:A:2756:U:H1'	1:A:2757:A:H5''	2.01	0.43
1:A:2803:G:C2	1:A:2804:U:C4	3.07	0.43
1:A:447:A:H5'	1:A:449:A:C5	2.53	0.43
1:A:483:A:H4'	21:U:47:LYS:HA	2.00	0.43
1:A:546:U:C2'	1:A:546:U:O2	2.67	0.43
1:A:609:A:H2'	1:A:610:C:O4'	2.19	0.43
1:A:629:G:O4'	1:A:638:G:N2	2.52	0.43
1:A:704:G:H1'	1:A:726:G:N2	2.34	0.43
1:A:687:C:C2	1:A:788:A:H5'	2.54	0.43
1:A:776:G:C8	1:A:793:A:C2	3.07	0.43
1:A:980:A:N6	1:A:981:A:N1	2.67	0.43
2:B:40:U:C2	2:B:44:G:OP2	2.70	0.43
3:C:129:THR:CG2	3:C:130:LEU:N	2.82	0.43
6:F:110:ARG:HB3	6:F:110:ARG:CZ	2.49	0.43
6:F:9:LYS:O	6:F:13:VAL:HG23	2.19	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:169:LEU:HG	6:F:169:LEU:O	2.18	0.43
9:I:59:ILE:CG2	9:I:60:THR:N	2.81	0.43
10:J:17:VAL:HG22	10:J:55:ILE:HB	2.00	0.43
11:K:99:ILE:CG2	11:K:119:ALA:HB2	2.49	0.43
12:L:56:PRO:HD2	12:L:59:ARG:HB2	2.01	0.43
13:M:62:LYS:HD3	13:M:64:TRP:CZ2	2.54	0.43
16:P:60:THR:HA	16:P:73:VAL:HA	2.01	0.43
19:S:10:ALA:HB3	19:S:101:SER:O	2.19	0.43
20:T:38:ALA:O	20:T:39:THR:HB	2.18	0.43
1:A:1109:C:H3'	1:A:1110:G:C8	2.54	0.42
1:A:1384:A:O4'	1:A:1405:U:O4'	2.35	0.42
1:A:1415:U:O2'	1:A:1416:G:H4'	2.18	0.42
1:A:1434:A:H2'	1:A:1435:G:C8	2.54	0.42
1:A:1453:A:C2	14:N:77:ALA:HB2	2.54	0.42
1:A:14:A:H5''	1:A:15:G:OP2	2.18	0.42
1:A:1975:G:N2	1:A:1976:U:H1'	2.34	0.42
1:A:578:G:C5	1:A:2018:G:H5'	2.54	0.42
1:A:2235:G:C2	1:A:2236:U:C2	3.07	0.42
1:A:2297:A:C8	1:A:2320:U:C4	3.06	0.42
1:A:389:G:C2	1:A:2413:G:H1'	2.54	0.42
1:A:579:G:C2	1:A:1262:A:C5	3.06	0.42
1:A:847:U:O4	1:A:932:U:C4	2.72	0.42
3:C:3:VAL:HG11	3:C:202:LEU:HD23	2.00	0.42
7:G:121:ILE:HD12	7:G:141:ILE:HG22	2.00	0.42
9:I:10:LYS:HB2	9:I:56:PRO:HB2	2.01	0.42
11:K:21:CYS:HA	11:K:41:ILE:HG22	2.01	0.42
12:L:29:LYS:O	12:L:30:THR:HG23	2.19	0.42
1:A:2840:C:H5''	14:N:53:THR:OG1	2.19	0.42
26:Z:3:LYS:O	26:Z:4:THR:HG22	2.19	0.42
1:A:1210:G:C8	1:A:1212:G:C2	3.08	0.42
1:A:1332:G:C6	1:A:1609:A:C5	3.07	0.42
1:A:1364:G:C4	1:A:1368:G:N2	2.87	0.42
1:A:1501:G:H2'	1:A:1502:A:O4'	2.19	0.42
1:A:1509:A:O2'	1:A:1510:G:OP2	2.36	0.42
1:A:1512:C:N3	1:A:1513:U:C4	2.87	0.42
1:A:1595:C:H2'	1:A:1596:A:O4'	2.20	0.42
1:A:1956:U:O2	1:A:1985:C:H4'	2.19	0.42
1:A:2059:A:H2'	1:A:2503:A:N1	2.34	0.42
1:A:2201:G:C6	1:A:2202:U:C4	3.07	0.42
1:A:2331:G:N2	1:A:2385:C:N1	2.68	0.42
1:A:2425:A:H4'	1:A:2426:A:O5'	2.20	0.42
1:A:268:C:O2'	1:A:269:C:H5'	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2699:C:O2	1:A:2709:G:C2	2.72	0.42
1:A:2740:A:N6	1:A:2764:A:C8	2.87	0.42
1:A:2886:A:N1	27:0:29:SER:OG	2.49	0.42
1:A:280:U:O4	1:A:361:G:N2	2.52	0.42
1:A:905:A:H2'	1:A:906:U:H5'	2.02	0.42
2:B:11:C:C5	2:B:12:C:C5	3.07	0.42
5:E:130:LYS:CB	5:E:133:LEU:HB2	2.49	0.42
6:F:136:ILE:HA	6:F:141:ILE:CG2	2.48	0.42
6:F:69:LYS:HG3	6:F:84:PRO:HA	2.00	0.42
1:A:1097:U:O2	9:I:9:VAL:CG1	2.67	0.42
10:J:36:LEU:HD23	10:J:121:LYS:HB2	2.00	0.42
12:L:111:ILE:HG22	12:L:112:LEU:N	2.34	0.42
12:L:135:ILE:O	12:L:140:GLY:HA3	2.19	0.42
12:L:41:ARG:O	12:L:44:GLY:N	2.50	0.42
13:M:49:ALA:CB	13:M:124:LEU:HD21	2.49	0.42
13:M:78:LEU:O	13:M:79:ALA:HB3	2.19	0.42
19:S:25:ARG:CZ	19:S:25:ARG:HB2	2.49	0.42
20:T:37:ASP:CG	20:T:38:ALA:N	2.72	0.42
20:T:2:ILE:HG12	20:T:7:LEU:HD12	1.99	0.42
26:Z:3:LYS:HD3	26:Z:3:LYS:N	2.34	0.42
1:A:1049:C:C2'	1:A:1050:A:H5'	2.49	0.42
1:A:1084:A:C8	1:A:1085:A:C8	3.07	0.42
1:A:1120:G:C5	1:A:1121:C:C5	3.07	0.42
1:A:1355:G:C6	1:A:1356:G:C8	3.08	0.42
1:A:1500:G:N1	1:A:1501:G:C5	2.87	0.42
1:A:1606:C:O2'	1:A:1607:C:P	2.77	0.42
1:A:1652:A:H3'	1:A:1653:G:C8	2.54	0.42
1:A:2010:G:C6	1:A:2011:U:N3	2.87	0.42
1:A:2024:G:C2	1:A:2040:G:N3	2.87	0.42
1:A:2044:C:N3	1:A:2045:C:C5	2.88	0.42
1:A:2234:G:C5	1:A:2235:G:N7	2.87	0.42
1:A:2323:G:C6	1:A:2324:U:C4	3.07	0.42
1:A:2341:G:C6	1:A:2342:C:N3	2.87	0.42
1:A:2370:G:C6	1:A:2371:G:C6	3.08	0.42
1:A:2793:C:H2'	1:A:2794:C:C1'	2.50	0.42
1:A:35:G:H1'	1:A:454:A:C4	2.55	0.42
1:A:482:A:H1'	1:A:498:G:N2	2.34	0.42
1:A:607:U:O4	1:A:619:G:H2'	2.18	0.42
1:A:86:G:O2'	1:A:104:A:H4'	2.19	0.42
5:E:170:ARG:HD3	5:E:170:ARG:N	2.34	0.42
5:E:25:GLU:HA	5:E:28:VAL:HB	1.99	0.42
7:G:2:SER:OG	7:G:3:ARG:N	2.50	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:60:GLU:CG	21:U:60:GLU:O	2.67	0.42
21:U:3:ALA:O	21:U:6:ARG:NH1	2.53	0.42
1:A:1003:G:O2'	1:A:1010:A:N1	2.40	0.42
1:A:1026:G:H1'	1:A:1134:A:C2	2.53	0.42
1:A:1085:A:H2'	1:A:1086:A:C4	2.54	0.42
1:A:1255:U:H2'	1:A:1256:G:OP1	2.20	0.42
1:A:1265:A:N1	1:A:2013:A:H5''	2.34	0.42
1:A:1386:C:H2'	1:A:1387:A:C8	2.55	0.42
1:A:1519:G:N3	1:A:1519:G:H2'	2.33	0.42
1:A:1525:A:C6	1:A:1526:C:C4	3.07	0.42
1:A:1668:A:H4'	1:A:1669:A:O5'	2.19	0.42
1:A:1829:A:HO2'	3:C:15:HIS:CD2	2.37	0.42
1:A:2116:G:C6	1:A:2171:A:N6	2.87	0.42
1:A:2291:U:O2'	1:A:2292:U:H5'	2.19	0.42
1:A:2397:G:N3	1:A:2397:G:H2'	2.35	0.42
1:A:2480:C:N4	1:A:2481:G:C6	2.87	0.42
1:A:485:C:H2'	1:A:486:C:O4'	2.18	0.42
1:A:751:A:C6	1:A:789:A:C5	3.08	0.42
1:A:77:G:H2'	1:A:78:U:O4'	2.19	0.42
1:A:841:G:H2'	1:A:842:U:O4'	2.20	0.42
2:B:26:C:C5	2:B:27:C:C4	3.08	0.42
3:C:62:TYR:CD1	3:C:63:ARG:N	2.86	0.42
5:E:152:GLU:O	5:E:154:ASP:N	2.52	0.42
6:F:117:LEU:HG	6:F:130:MET:SD	2.58	0.42
6:F:131:GLY:HA2	6:F:153:ASP:HA	2.00	0.42
9:I:56:PRO:HD2	9:I:75:PRO:HD3	2.01	0.42
11:K:31:ARG:CB	11:K:32:TYR:CE2	3.02	0.42
12:L:77:ILE:HG23	12:L:81:ASP:OD2	2.20	0.42
13:M:17:ASN:O	13:M:38:ARG:HD3	2.19	0.42
21:U:33:LYS:HB3	21:U:64:ALA:HB1	2.01	0.42
25:Y:27:ASN:O	25:Y:31:GLN:HB2	2.19	0.42
1:A:2059:A:C2	32:6:5:MHU:HD1	2.53	0.42
1:A:1036:G:C6	1:A:1120:G:C5	3.08	0.42
1:A:1248:G:C5	17:Q:3:ARG:HB2	2.55	0.42
1:A:1277:G:H2'	1:A:1278:C:O4'	2.19	0.42
1:A:1310:G:H1'	1:A:1611:C:C5'	2.49	0.42
1:A:1350:C:O2	1:A:1382:G:N3	2.53	0.42
1:A:1400:U:H2'	1:A:1401:G:O4'	2.20	0.42
1:A:2108:A:H2'	1:A:2109:U:H5'	2.01	0.42
1:A:2114:A:C4	1:A:2167:U:H4'	2.54	0.42
1:A:219:A:C6	1:A:220:G:C6	3.07	0.42
1:A:2410:G:C2	1:A:2411:A:H1'	2.54	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2428:G:H5''	1:A:2429:G:P	2.59	0.42
1:A:2825:G:H2'	1:A:2826:A:H5'	2.02	0.42
1:A:322:A:O4'	1:A:340:A:H1'	2.20	0.42
1:A:232:G:N2	1:A:420:C:OP1	2.52	0.42
1:A:675:A:N3	1:A:2443:C:O2'	2.43	0.42
1:A:705:A:C2	1:A:727:A:O4'	2.72	0.42
1:A:695:G:C6	1:A:768:G:C5	3.08	0.42
1:A:7:G:H4'	10:J:15:TRP:HH2	1.85	0.42
1:A:848:C:O2	1:A:933:A:C2	2.72	0.42
3:C:130:LEU:HD11	3:C:135:ILE:HG12	2.01	0.42
4:D:107:VAL:HB	4:D:204:LYS:O	2.18	0.42
4:D:60:VAL:HG13	4:D:60:VAL:O	2.19	0.42
5:E:40:ARG:NH2	5:E:92:HIS:CE1	2.87	0.42
10:J:25:LEU:HA	10:J:62:VAL:HG21	2.02	0.42
11:K:56:ASP:OD2	11:K:56:ASP:N	2.53	0.42
14:N:95:THR:HG23	14:N:96:ARG:N	2.34	0.42
1:A:1154:G:OP1	17:Q:58:ARG:HD3	2.20	0.42
21:U:59:VAL:HG12	21:U:61:LYS:HB2	2.00	0.42
1:A:1043:C:C5	1:A:1044:C:C5	3.07	0.42
1:A:1163:G:C2	1:A:1164:C:C5	3.08	0.42
1:A:1262:A:C6	1:A:1263:U:C2	3.07	0.42
1:A:1358:G:O6	1:A:1371:G:C8	2.72	0.42
1:A:2079:U:C2'	1:A:2080:A:O4'	2.66	0.42
1:A:2191:A:C6	1:A:2192:U:C4	3.07	0.42
1:A:237:C:N4	1:A:238:C:C5	2.88	0.42
1:A:2511:U:C5	1:A:2512:C:C5	3.08	0.42
1:A:24:G:C6	1:A:25:U:C4	3.07	0.42
1:A:2834:G:O6	1:A:2879:A:C2'	2.66	0.42
1:A:298:G:N2	1:A:341:C:C4	2.87	0.42
1:A:450:G:H2'	1:A:451:U:H5''	2.02	0.42
4:D:122:VAL:HG21	4:D:141:ARG:HB3	2.01	0.42
4:D:15:PHE:CE2	16:P:78:SER:HA	2.55	0.42
4:D:177:VAL:CG2	4:D:187:LEU:HD11	2.49	0.42
5:E:170:ARG:NH2	5:E:176:ASP:OD1	2.52	0.42
5:E:112:LEU:HD11	5:E:180:LEU:O	2.20	0.42
5:E:8:ALA:HB2	5:E:122:GLU:CG	2.49	0.42
6:F:17:MET:SD	6:F:22:TYR:HB2	2.60	0.42
8:H:69:ALA:HB2	8:H:138:VAL:HG12	2.02	0.42
8:H:31:VAL:HG12	8:H:32:PRO:HD3	2.02	0.42
8:H:72:ILE:O	8:H:72:ILE:CG2	2.67	0.42
9:I:8:TYR:HB2	9:I:59:ILE:H	1.85	0.42
1:A:2722:G:H4'	14:N:4:ARG:HB2	2.00	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:39:LEU:O	18:R:49:ILE:HG23	2.19	0.42
19:S:29:VAL:CG1	19:S:55:ILE:HD11	2.49	0.42
21:U:96:PHE:CE1	21:U:103:ILE:HG13	2.54	0.42
23:W:67:VAL:HG12	23:W:68:LYS:N	2.35	0.42
1:A:2883:A:P	27:O:49:TYR:HH	2.41	0.42
29:2:10:LEU:HD11	29:2:14:ARG:NH1	2.35	0.42
1:A:1439:A:C8	1:A:1440:U:C5	3.08	0.42
1:A:1428:C:C5	1:A:1569:A:C5'	3.03	0.42
1:A:1601:G:C5	1:A:1602:U:C4	3.08	0.42
1:A:1668:A:N3	1:A:1670:C:C4	2.88	0.42
1:A:1833:C:N3	1:A:1834:U:C4	2.87	0.42
1:A:1867:G:O6	1:A:1875:G:N2	2.52	0.42
1:A:192:C:P	36:A:3739:HOH:O	2.75	0.42
1:A:2093:G:N7	1:A:2225:A:H2'	2.35	0.42
1:A:2217:G:C6	1:A:2218:G:C5	3.08	0.42
1:A:2583:G:H2'	1:A:2584:U:O4'	2.19	0.42
1:A:2807:U:H1'	1:A:2892:G:N2	2.34	0.42
1:A:2837:A:H2'	1:A:2838:G:O4'	2.20	0.42
1:A:80:G:O2'	1:A:346:A:C8	2.67	0.42
1:A:42:A:C2	1:A:438:G:C2	3.07	0.42
1:A:479:A:N3	1:A:481:G:H5''	2.35	0.42
1:A:481:G:C2	1:A:507:A:C4	3.08	0.42
1:A:669:G:C2	1:A:801:G:C6	3.08	0.42
1:A:669:G:N3	1:A:801:G:C2	2.88	0.42
1:A:826:U:H2'	1:A:828:U:O4'	2.18	0.42
2:B:92:C:H2'	2:B:93:C:C6	2.54	0.42
1:A:2599:G:C8	3:C:236:GLU:HB2	2.55	0.42
4:D:62:LYS:N	4:D:63:PRO:CD	2.82	0.42
7:G:52:PHE:CE2	7:G:69:ARG:HA	2.54	0.42
8:H:41:LYS:HE2	8:H:44:ILE:CD1	2.50	0.42
10:J:41:LYS:HD2	10:J:50:THR:O	2.19	0.42
12:L:29:LYS:O	12:L:30:THR:CB	2.67	0.42
12:L:77:ILE:HG22	12:L:78:ARG:N	2.34	0.42
12:L:90:VAL:O	12:L:123:ARG:N	2.50	0.42
14:N:51:LEU:HD23	14:N:51:LEU:N	2.34	0.42
4:D:186:LEU:HD11	16:P:8:LEU:HD12	2.02	0.42
21:U:49:VAL:HG13	21:U:53:ASN:O	2.20	0.42
23:W:37:ILE:HG22	23:W:38:VAL:CG2	2.49	0.42
24:X:54:LYS:CA	24:X:57:ARG:HB2	2.50	0.42
30:3:31:HIS:CE1	30:3:32:ILE:HD12	2.54	0.42
1:A:110:G:N3	1:A:110:G:H2'	2.34	0.42
1:A:135:U:H2'	1:A:136:G:C8	2.55	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1339:G:O4'	1:A:1393:A:C2	2.73	0.42
1:A:1855:U:C6	1:A:1856:U:C5	3.08	0.42
1:A:1869:G:C2	1:A:1873:G:C6	3.07	0.42
1:A:2204:G:C4	1:A:2205:A:C8	3.08	0.42
1:A:2357:G:H5'	1:A:2358:A:OP2	2.20	0.42
1:A:2347:C:C2	1:A:2371:G:N2	2.87	0.42
1:A:2345:G:C8	1:A:2381:A:C2	3.08	0.42
1:A:2603:G:C5	1:A:2604:U:C5	3.08	0.42
1:A:2722:G:H2'	1:A:2723:C:O4'	2.20	0.42
1:A:2810:A:H2'	1:A:2811:G:O4'	2.19	0.42
1:A:447:A:C2	1:A:454:A:H2'	2.55	0.42
1:A:972:A:N1	1:A:973:A:C6	2.87	0.42
3:C:18:LYS:O	3:C:19:VAL:HB	2.19	0.42
3:C:25:HIS:HB2	3:C:80:ARG:HG3	2.00	0.42
4:D:114:LYS:HE2	4:D:196:ALA:CB	2.50	0.42
7:G:9:VAL:O	7:G:49:THR:HA	2.20	0.42
9:I:21:SER:HB3	9:I:22:PRO:HD3	2.00	0.42
11:K:113:MET:O	11:K:116:ILE:CG1	2.68	0.42
15:O:111:ARG:NH2	15:O:117:PHE:OXT	2.52	0.42
17:Q:11:ARG:O	17:Q:11:ARG:HG3	2.20	0.42
1:A:2012:G:P	19:S:98:LYS:HZ2	2.42	0.42
20:T:65:GLY:O	20:T:66:LYS:C	2.58	0.42
25:Y:16:THR:O	25:Y:19:LEU:HB2	2.20	0.42
28:1:11:LEU:HB2	28:1:21:TYR:HB2	2.02	0.42
1:A:1511:G:O2'	1:A:1512:C:H5'	2.19	0.42
1:A:1525:A:H2'	1:A:1526:C:O4'	2.20	0.42
1:A:1607:C:O2	1:A:1621:U:C5	2.72	0.42
1:A:1989:G:H2'	1:A:1990:C:H5'	2.02	0.42
1:A:2127:G:O2'	1:A:2173:A:C4	2.72	0.42
1:A:2230:G:C5	1:A:2231:U:C4	3.08	0.42
1:A:2333:A:C8	1:A:2335:A:C4	3.07	0.42
1:A:2691:C:N3	1:A:2718:G:O6	2.53	0.42
1:A:483:A:C1'	21:U:45:HIS:HB2	2.50	0.42
1:A:538:A:O2'	10:J:8:PRO:HG3	2.19	0.42
1:A:600:G:H2'	1:A:601:C:C6	2.55	0.42
1:A:892:A:C2'	1:A:892:A:N3	2.82	0.42
1:A:9:G:C6	1:A:2629:U:C6	3.07	0.42
2:B:109:A:C6	2:B:110:C:N3	2.88	0.42
4:D:146:ILE:HG13	4:D:146:ILE:O	2.20	0.42
7:G:174:ALA:O	7:G:175:LYS:O	2.37	0.42
8:H:121:VAL:O	8:H:122:LEU:CB	2.67	0.42
8:H:127:GLU:HA	8:H:144:VAL:O	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:135:ILE:HG22	12:L:140:GLY:CA	2.49	0.42
14:N:71:ARG:HH21	14:N:71:ARG:HG2	1.82	0.42
18:R:11:GLN:NE2	18:R:39:LEU:CD2	2.82	0.42
19:S:66:ILE:O	19:S:69:LEU:HB2	2.20	0.42
20:T:93:LEU:HD22	20:T:93:LEU:N	2.34	0.42
22:V:51:GLN:HB3	22:V:56:PHE:CD2	2.55	0.42
24:X:40:VAL:CG1	24:X:68:LEU:CD1	2.97	0.42
24:X:71:LEU:HA	24:X:74:ARG:CG	2.50	0.42
26:Z:52:SER:O	26:Z:55:VAL:N	2.52	0.42
1:A:1073:A:H2'	1:A:1074:G:H5'	2.02	0.42
1:A:1257:C:N4	1:A:1258:U:O4	2.52	0.42
1:A:1282:U:C4	1:A:1283:G:C6	3.07	0.42
1:A:1310:G:N2	1:A:1605:C:C2	2.87	0.42
1:A:1359:A:N1	1:A:1360:G:H1'	2.35	0.42
1:A:1480:C:C4	1:A:1481:U:C4	3.08	0.42
1:A:1394:U:H4'	1:A:1603:A:H4'	2.02	0.42
1:A:162:U:H4'	1:A:163:C:OP1	2.20	0.42
1:A:1754:A:N6	1:A:1755:A:N6	2.68	0.42
1:A:1863:G:H2'	1:A:1864:U:O4'	2.19	0.42
1:A:2013:A:N1	1:A:2014:A:C2	2.87	0.42
1:A:2016:U:O2	27:O:4:GLN:NE2	2.52	0.42
1:A:2186:G:C5	1:A:2187:U:C5	3.08	0.42
1:A:965:C:C4'	1:A:2273:A:H1'	2.49	0.42
1:A:2262:U:N3	1:A:2279:G:C2	2.88	0.42
1:A:2305:U:C5	1:A:2306:C:C5	3.07	0.42
1:A:2351:G:H1'	1:A:2367:G:N2	2.35	0.42
1:A:2440:C:N3	1:A:2441:U:H1'	2.35	0.42
1:A:2683:C:C5	1:A:2684:U:C5	3.08	0.42
1:A:294:A:N6	1:A:345:A:N9	2.68	0.42
1:A:389:G:N9	1:A:2413:G:H4'	2.34	0.42
1:A:602:A:H2'	1:A:602:A:N3	2.34	0.42
1:A:611:C:N3	1:A:618:G:C2	2.87	0.42
1:A:752:A:H2'	1:A:752:A:N3	2.35	0.42
1:A:845:A:H5'	1:A:846:U:OP2	2.19	0.42
1:A:957:C:C4	1:A:2459:A:C1'	3.02	0.42
6:F:117:LEU:O	6:F:118:SER:C	2.57	0.42
8:H:31:VAL:HB	8:H:32:PRO:HD2	2.00	0.42
11:K:121:GLU:HG2	11:K:122:VAL:HG23	2.01	0.42
12:L:78:ARG:CB	12:L:113:ALA:CB	2.98	0.42
12:L:78:ARG:CZ	12:L:113:ALA:HB1	2.50	0.42
2:B:90:C:H5'	13:M:18:ARG:HG2	2.02	0.42
20:T:65:GLY:O	20:T:66:LYS:O	2.38	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:40:ASN:O	21:U:41:LEU:C	2.58	0.42
22:V:30:ILE:O	22:V:37:PRO:HA	2.20	0.42
24:X:40:VAL:CG2	24:X:45:ARG:O	2.68	0.42
29:2:26:ASN:O	29:2:30:VAL:HG23	2.20	0.41
1:A:1051:G:H4'	1:A:2752:C:O2'	2.20	0.41
1:A:1140:C:C2'	1:A:1141:U:H5'	2.50	0.41
1:A:1337:G:C2	1:A:1338:G:H1'	2.55	0.41
1:A:1379:U:OP1	1:A:1379:U:C6	2.73	0.41
1:A:1453:A:N3	14:N:77:ALA:HB2	2.35	0.41
1:A:1737:G:C6	1:A:1738:G:C6	3.08	0.41
1:A:1810:A:H5''	1:A:1811:G:OP2	2.19	0.41
1:A:1851:U:H2'	1:A:1852:U:O4'	2.20	0.41
1:A:2127:G:H4'	1:A:2128:G:OP1	2.20	0.41
1:A:2305:U:O4'	6:F:131:GLY:HA3	2.19	0.41
1:A:2454:G:N2	1:A:2499:C:C2	2.88	0.41
1:A:253:C:C2'	1:A:254:G:H5'	2.50	0.41
1:A:2560:A:H2'	1:A:2561:U:O4'	2.20	0.41
1:A:2884:U:O4'	1:A:2884:U:O2	2.38	0.41
1:A:2887:A:C2	1:A:2888:C:H1'	2.55	0.41
1:A:2451:A:N3	33:A:3001:DOL:HC12	2.34	0.41
1:A:46:G:C2	1:A:47:C:C4	3.08	0.41
1:A:554:U:O4	1:A:555:G:C6	2.73	0.41
1:A:620:G:N3	1:A:620:G:H2'	2.34	0.41
1:A:629:G:H4'	1:A:650:C:O2	2.20	0.41
2:B:39:A:H2'	2:B:40:U:H6	1.85	0.41
4:D:48:ILE:HG23	4:D:84:LEU:HD11	2.02	0.41
4:D:2:ILE:HG23	4:D:88:GLU:OE2	2.19	0.41
6:F:77:PHE:C	6:F:78:LYS:HG3	2.41	0.41
6:F:9:LYS:O	6:F:13:VAL:CG2	2.67	0.41
9:I:29:GLY:HA2	9:I:33:VAL:HB	2.02	0.41
12:L:100:ILE:HG13	12:L:100:ILE:O	2.14	0.41
1:A:1190:G:OP1	12:L:32:GLY:HA2	2.19	0.41
14:N:72:ASP:O	14:N:75:ILE:N	2.52	0.41
18:R:49:ILE:HD12	18:R:52:PRO:HA	2.02	0.41
20:T:24:MET:CG	20:T:29:THR:O	2.68	0.41
20:T:21:SER:O	20:T:24:MET:N	2.53	0.41
20:T:2:ILE:HG12	20:T:7:LEU:CD1	2.50	0.41
20:T:7:LEU:HD21	20:T:45:ALA:CB	2.50	0.41
21:U:45:HIS:HB3	21:U:58:ILE:HG12	2.02	0.41
21:U:74:ASN:O	21:U:75:ALA:HB3	2.20	0.41
21:U:83:VAL:HG11	21:U:94:ARG:HD2	2.01	0.41
27:0:31:ASP:OD1	27:0:48:TYR:HB3	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1218:G:H2'	1:A:1219:U:O4'	2.20	0.41
1:A:1413:A:C2	1:A:1590:A:C2	3.08	0.41
1:A:141:G:H3'	1:A:142:A:C8	2.55	0.41
1:A:1613:G:O2'	29:2:3:ARG:HD2	2.20	0.41
1:A:2115:G:N3	1:A:2117:A:N7	2.68	0.41
1:A:2146:C:OP2	1:A:2146:C:O4'	2.39	0.41
1:A:2185:U:H2'	1:A:2186:G:C8	2.55	0.41
1:A:2345:G:H4'	1:A:2346:A:H5''	2.02	0.41
1:A:379:G:C4	1:A:396:G:C2	3.08	0.41
1:A:627:A:C6	1:A:637:A:C8	3.08	0.41
1:A:770:G:C4	1:A:771:G:C8	3.09	0.41
1:A:871:U:H5''	13:M:68:PHE:CZ	2.56	0.41
2:B:20:G:N2	2:B:64:G:C4	2.88	0.41
3:C:131:PRO:HB2	3:C:133:ARG:HG2	2.02	0.41
4:D:115:GLY:O	14:N:3:HIS:CE1	2.74	0.41
8:H:40:THR:OG1	8:H:43:ASN:ND2	2.53	0.41
10:J:35:ARG:HB3	10:J:54:ILE:HD11	2.02	0.41
13:M:110:GLU:O	13:M:114:ARG:HG3	2.19	0.41
13:M:63:ILE:HG22	13:M:64:TRP:N	2.34	0.41
15:O:27:VAL:HG21	15:O:40:ILE:HD12	2.02	0.41
15:O:28:VAL:CG1	15:O:94:ARG:HA	2.50	0.41
16:P:110:ILE:N	16:P:110:ILE:HD13	2.35	0.41
16:P:113:ARG:C	16:P:114:LEU:HD23	2.40	0.41
18:R:21:ARG:NE	18:R:93:PHE:CE1	2.87	0.41
20:T:15:HIS:CD2	20:T:17:SER:OG	2.74	0.41
20:T:49:LYS:N	20:T:49:LYS:HD3	2.35	0.41
24:X:39:TRP:CE3	24:X:45:ARG:O	2.73	0.41
24:X:40:VAL:HG11	24:X:68:LEU:CD1	2.50	0.41
1:A:2610:C:C6	32:6:7:004:HD2	2.55	0.41
1:A:1063:G:O4'	9:I:77:ALA:HB1	2.19	0.41
1:A:117:G:N1	1:A:119:A:N6	2.68	0.41
1:A:1274:A:N3	1:A:1297:C:H1'	2.35	0.41
1:A:1298:C:N4	1:A:1299:G:C6	2.88	0.41
1:A:1302:A:H5'	1:A:1608:A:OP1	2.21	0.41
1:A:1317:G:C6	1:A:1318:U:N3	2.89	0.41
1:A:1469:A:C2'	1:A:1470:A:C8	2.98	0.41
1:A:1483:G:C6	1:A:1484:U:C4	3.08	0.41
1:A:1553:A:N7	1:A:1555:G:C5	2.88	0.41
1:A:1809:A:C5	1:A:1810:A:C5	3.09	0.41
1:A:2372:U:H2'	1:A:2373:G:H8	1.86	0.41
1:A:2412:A:H3'	1:A:2413:G:H8	1.82	0.41
1:A:2457:U:C4	1:A:2458:G:C6	3.08	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:226:A:H4'	1:A:258:G:OP1	2.20	0.41
1:A:2799:A:C2	1:A:2801:G:H1'	2.55	0.41
1:A:2870:C:H5''	14:N:65:LEU:CD2	2.49	0.41
1:A:487:C:N4	1:A:488:G:N1	2.68	0.41
1:A:594:U:H2'	1:A:595:C:C6	2.55	0.41
1:A:609:A:C6	1:A:610:C:O2	2.72	0.41
1:A:715:A:N1	1:A:716:A:C2	2.89	0.41
1:A:756:A:H2'	1:A:757:G:O4'	2.19	0.41
1:A:870:U:OP1	13:M:6:ARG:CD	2.68	0.41
19:S:28:LYS:O	19:S:31:GLN:N	2.50	0.41
24:X:54:LYS:HA	24:X:57:ARG:CG	2.50	0.41
28:1:26:ASN:O	28:1:28:ARG:N	2.53	0.41
1:A:1436:G:C2	1:A:1437:C:H1'	2.55	0.41
1:A:2094:A:C2	1:A:2196:C:O2	2.73	0.41
1:A:2361:G:H2'	1:A:2362:C:O4'	2.20	0.41
1:A:2379:G:H2'	1:A:2380:C:C6	2.55	0.41
1:A:830:G:C6	1:A:2448:A:C8	3.09	0.41
1:A:2665:A:N3	1:A:2665:A:H2'	2.35	0.41
1:A:1662:U:O2	1:A:2687:U:C5'	2.69	0.41
1:A:2815:C:H2'	1:A:2816:G:C8	2.56	0.41
1:A:543:G:N2	1:A:551:G:C4	2.87	0.41
1:A:590:A:H2'	1:A:591:U:O4'	2.21	0.41
1:A:681:G:N3	1:A:682:G:C8	2.88	0.41
1:A:972:A:C2	1:A:973:A:N6	2.88	0.41
2:B:64:G:H2'	2:B:65:U:O4'	2.20	0.41
3:C:64:ILE:O	3:C:103:TYR:HB2	2.20	0.41
4:D:47:ALA:HB2	4:D:83:ARG:HA	2.02	0.41
5:E:170:ARG:CZ	5:E:176:ASP:OD1	2.68	0.41
6:F:122:PHE:CE1	6:F:166:GLY:C	2.94	0.41
8:H:135:HIS:CG	8:H:136:SER:N	2.89	0.41
9:I:19:ASN:OD1	9:I:35:ILE:HG22	2.20	0.41
9:I:54:PRO:HB2	9:I:78:VAL:HG21	2.03	0.41
14:N:2:ARG:O	14:N:3:HIS:C	2.59	0.41
14:N:38:LEU:HD11	14:N:42:LYS:HE3	2.02	0.41
17:Q:10:ALA:C	17:Q:12:ALA:N	2.71	0.41
19:S:19:LEU:N	19:S:19:LEU:HD13	2.35	0.41
19:S:41:LYS:O	19:S:42:LYS:C	2.59	0.41
28:1:21:TYR:CE1	28:1:38:LYS:HD2	2.56	0.41
28:1:38:LYS:HB2	28:1:49:TYR:CD2	2.56	0.41
31:4:30:GLU:HG3	31:4:32:LYS:HB2	2.01	0.41
1:A:1215:G:H2'	1:A:1216:G:O4'	2.21	0.41
1:A:1257:C:C4	1:A:1258:U:O4	2.74	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1567:G:N7	3:C:83:TYR:CE1	2.88	0.41
1:A:1605:C:H4'	1:A:1610:A:C6	2.55	0.41
1:A:1835:G:N3	1:A:1836:C:C6	2.88	0.41
1:A:1847:A:O2'	1:A:1848:A:P	2.78	0.41
1:A:2261:C:C2	1:A:2280:G:C2	3.08	0.41
1:A:2540:C:H2'	1:A:2541:A:H8	1.86	0.41
1:A:2553:G:H2'	1:A:2554:U:H4'	2.02	0.41
1:A:2619:C:OP1	4:D:157:LYS:HE2	2.21	0.41
1:A:2864:G:C2'	1:A:2865:U:H5'	2.51	0.41
1:A:426:C:H2'	1:A:427:U:O4'	2.20	0.41
1:A:489:G:C2	1:A:491:G:H1'	2.55	0.41
1:A:84:A:C2	1:A:103:A:C6	3.07	0.41
1:A:892:A:H2'	1:A:892:A:N3	2.35	0.41
2:B:71:C:O2	2:B:106:G:C2	2.74	0.41
2:B:44:G:N2	2:B:48:U:O2	2.53	0.41
1:A:1830:C:H5'	3:C:15:HIS:NE2	2.36	0.41
4:D:25:THR:HG22	4:D:27:ILE:HG13	2.01	0.41
5:E:108:ILE:HD11	5:E:180:LEU:HB3	2.01	0.41
5:E:131:THR:HG22	5:E:160:ALA:HA	2.02	0.41
5:E:94:GLN:O	5:E:95:LYS:C	2.59	0.41
6:F:13:VAL:O	6:F:17:MET:HG2	2.21	0.41
9:I:54:PRO:O	9:I:75:PRO:HD2	2.21	0.41
11:K:36:GLY:HA2	11:K:62:VAL:O	2.20	0.41
12:L:29:LYS:C	12:L:30:THR:HG23	2.41	0.41
1:A:870:U:OP1	13:M:6:ARG:HD2	2.21	0.41
17:Q:47:TYR:C	17:Q:47:TYR:CD2	2.93	0.41
20:T:11:LEU:HG	20:T:46:ALA:HB1	2.02	0.41
22:V:44:HIS:O	22:V:45:ASP:C	2.58	0.41
24:X:13:VAL:HG23	24:X:29:PHE:HB2	2.03	0.41
30:3:32:ILE:HG22	30:3:35:LYS:HD2	2.02	0.41
31:4:3:VAL:HG23	31:4:37:GLN:CD	2.41	0.41
1:A:1178:C:H2'	1:A:1179:G:C8	2.55	0.41
1:A:1265:A:C8	1:A:1267:U:N3	2.89	0.41
1:A:1276:A:N1	1:A:1295:C:C2	2.88	0.41
1:A:1358:G:N1	1:A:1372:U:OP2	2.50	0.41
1:A:149:A:C2'	1:A:150:U:H5'	2.51	0.41
1:A:1555:G:C2	1:A:1556:C:C2	3.09	0.41
1:A:1717:A:H2'	1:A:1718:G:O4'	2.21	0.41
1:A:1722:A:C2	1:A:1739:A:H1'	2.55	0.41
1:A:1854:A:H2'	1:A:1855:U:H5'	2.03	0.41
1:A:2025:C:H2'	1:A:2026:U:C6	2.55	0.41
1:A:2133:G:C6	1:A:2157:G:C6	3.08	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2262:U:O2'	1:A:2263:C:H5'	2.21	0.41
1:A:2308:G:H5'	1:A:2309:A:OP2	2.21	0.41
1:A:2447:G:C2	1:A:2501:C:N4	2.89	0.41
1:A:2725:A:C4	1:A:2727:A:N7	2.87	0.41
1:A:2751:G:H2'	1:A:2751:G:N3	2.36	0.41
1:A:2836:U:H2'	1:A:2837:A:C8	2.54	0.41
1:A:2889:C:C4	1:A:2890:G:C6	3.08	0.41
1:A:2061:G:C6	33:A:3001:DOL:H162	2.55	0.41
1:A:311:A:OP1	1:A:332:A:C2	2.73	0.41
1:A:677:A:C2	1:A:802:A:C2	3.09	0.41
4:D:30:GLU:HG2	4:D:185:ASN:ND2	2.35	0.41
4:D:179:ARG:HD2	4:D:188:LEU:CD1	2.51	0.41
1:A:2820:A:C6	4:D:197:THR:HB	2.56	0.41
4:D:37:VAL:CG1	4:D:38:LYS:N	2.83	0.41
1:A:321:U:H4'	5:E:159:LEU:O	2.20	0.41
6:F:174:ASP:O	6:F:175:PHE:O	2.39	0.41
7:G:80:THR:HG22	7:G:81:GLU:N	2.35	0.41
8:H:130:VAL:CG1	8:H:131:SER:N	2.82	0.41
9:I:84:ALA:HA	9:I:101:ILE:HD12	2.01	0.41
10:J:135:GLN:O	10:J:136:GLN:C	2.58	0.41
11:K:7:MET:C	11:K:8:LEU:HD12	2.41	0.41
14:N:63:ARG:HG3	14:N:80:PHE:CE2	2.56	0.41
10:J:4:PHE:CD2	17:Q:100:VAL:HG11	2.56	0.41
20:T:20:ALA:HA	20:T:31:VAL:HG21	2.02	0.41
21:U:13:VAL:CG2	21:U:39:ILE:HG21	2.51	0.41
27:O:7:LYS:HE2	27:O:8:PRO:O	2.21	0.41
29:2:46:LYS:C	29:2:46:LYS:HD3	2.41	0.41
1:A:1221:C:H2'	1:A:1222:U:O4'	2.21	0.41
1:A:1268:A:H2'	1:A:1269:A:O4'	2.20	0.41
1:A:1417:C:N3	1:A:1581:G:O6	2.54	0.41
1:A:158:U:C5	1:A:159:G:N7	2.88	0.41
1:A:1876:A:N7	1:A:1877:A:C5	2.88	0.41
1:A:195:A:C5	1:A:198:C:C5	3.08	0.41
1:A:2127:G:H1'	1:A:2162:G:N7	2.36	0.41
1:A:2409:G:C6	1:A:2410:G:C5	3.08	0.41
1:A:2513:A:C4	1:A:2514:U:C5	3.08	0.41
1:A:2718:G:C2	1:A:2719:G:C1'	3.03	0.41
1:A:2746:U:H2'	1:A:2747:G:O4'	2.20	0.41
1:A:2748:A:N1	1:A:2749:A:C2	2.89	0.41
1:A:2847:U:H2'	1:A:2848:G:H5'	2.02	0.41
1:A:2892:G:H5''	1:A:2894:G:N2	2.36	0.41
1:A:503:A:C2	1:A:506:G:C5	3.09	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:520:G:H2'	1:A:521:U:C6	2.56	0.41
1:A:527:C:OP2	1:A:2779:U:N3	2.54	0.41
1:A:543:G:N1	1:A:551:G:C6	2.88	0.41
4:D:104:VAL:HG23	4:D:105:LYS:N	2.36	0.41
4:D:5:VAL:HG21	4:D:80:TRP:CG	2.56	0.41
8:H:53:GLU:C	8:H:55:GLU:N	2.72	0.41
12:L:78:ARG:CB	12:L:113:ALA:HB3	2.50	0.41
15:O:18:LEU:CD1	15:O:23:ALA:HB3	2.51	0.41
20:T:64:LYS:HA	20:T:79:ASP:OD1	2.21	0.41
1:A:126:A:P	29:2:19:ARG:HG3	2.60	0.41
1:A:1032:A:H4'	31:4:16:ILE:HD12	2.03	0.41
1:A:1158:C:H5''	26:Z:31:ARG:HG3	2.03	0.41
1:A:1502:A:C2	1:A:1503:A:C5	3.09	0.41
1:A:1602:U:O4	36:A:3711:HOH:O	2.20	0.41
1:A:1654:A:OP1	14:N:1:MET:HA	2.21	0.41
1:A:1973:G:C4	1:A:1974:C:C5	3.09	0.41
1:A:1999:C:O2	1:A:2687:U:O2'	2.34	0.41
1:A:201:C:C5	1:A:202:U:C5	3.08	0.41
1:A:2093:G:C2	1:A:2094:A:N7	2.89	0.41
1:A:2134:A:C8	1:A:2158:A:C2	3.08	0.41
1:A:2303:G:N1	1:A:2314:A:C6	2.89	0.41
1:A:2345:G:C4	1:A:2347:C:C5	3.09	0.41
1:A:2393:U:H2'	1:A:2394:C:O4'	2.21	0.41
1:A:2648:G:C4	1:A:2673:G:C2	3.09	0.41
1:A:2704:C:H2'	1:A:2705:A:O4'	2.21	0.41
1:A:2784:U:H2'	1:A:2785:C:C6	2.56	0.41
33:A:3001:DOL:HC41	33:A:3001:DOL:N9	2.36	0.41
1:A:319:G:C5	1:A:333:G:C2	3.09	0.41
1:A:235:U:C4	1:A:430:A:C2	3.08	0.41
1:A:492:A:H2'	1:A:493:G:O4'	2.20	0.41
1:A:612:G:O2'	1:A:613:A:C8	2.73	0.41
1:A:319:G:OP2	5:E:132:LYS:HE3	2.21	0.41
8:H:2:GLN:O	8:H:3:VAL:O	2.38	0.41
10:J:39:LYS:HA	10:J:39:LYS:HD3	1.91	0.41
10:J:84:ILE:O	10:J:85:LYS:C	2.59	0.41
11:K:21:CYS:SG	11:K:39:ILE:HB	2.60	0.41
11:K:66:LYS:NZ	11:K:79:PHE:O	2.43	0.41
11:K:92:GLU:HB3	11:K:93:GLN:H	1.70	0.41
13:M:19:GLY:C	13:M:20:LEU:HD22	2.41	0.41
2:B:7:G:O2'	15:O:38:GLN:OE1	2.35	0.41
12:L:23:ILE:HD12	18:R:84:ARG:HG2	2.02	0.41
20:T:34:VAL:HG11	20:T:43:ILE:HD13	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:13:VAL:HB	21:U:18:ASP:O	2.20	0.41
21:U:86:ARG:NH2	21:U:95:PHE:HB3	2.36	0.41
22:V:32:GLY:O	22:V:93:ARG:HB2	2.21	0.41
24:X:40:VAL:CG1	24:X:68:LEU:HD11	2.50	0.41
25:Y:20:ASN:HB3	25:Y:50:VAL:HG22	2.02	0.41
1:A:1068:G:H2'	1:A:1096:A:H5'	2.03	0.41
1:A:116:C:H4'	1:A:127:A:H5'	2.03	0.41
1:A:1370:C:N3	1:A:1371:G:C5	2.89	0.41
1:A:2128:G:C4	1:A:2173:A:O2'	2.72	0.41
1:A:236:C:H2'	1:A:237:C:H6	1.85	0.41
1:A:2416:C:H2'	1:A:2417:C:C6	2.56	0.41
1:A:2468:A:C2	1:A:2481:G:C2	3.09	0.41
1:A:2624:G:H1'	27:O:19:HIS:HE1	1.86	0.41
1:A:2651:C:O2'	1:A:2652:C:H5'	2.20	0.41
1:A:371:A:N3	24:X:61:LYS:NZ	2.67	0.41
1:A:542:C:N4	1:A:543:G:O6	2.53	0.41
1:A:616:A:C2	1:A:617:G:C1'	3.04	0.41
1:A:667:U:C4	1:A:668:A:C5	3.08	0.41
1:A:971:G:C2	1:A:972:A:H1'	2.56	0.41
2:B:34:A:C6	2:B:44:G:C4	3.09	0.41
2:B:77:U:C2'	2:B:78:A:H5'	2.51	0.41
5:E:148:ILE:HB	5:E:169:VAL:HG13	2.01	0.41
5:E:149:ILE:CG2	5:E:188:MET:HG2	2.51	0.41
6:F:6:ASP:HA	6:F:9:LYS:CD	2.51	0.41
7:G:144:VAL:O	7:G:144:VAL:CG1	2.69	0.41
9:I:22:PRO:CB	9:I:23:PRO:HD3	2.51	0.41
10:J:34:ARG:CZ	10:J:39:LYS:HG3	2.50	0.41
11:K:2:ILE:N	11:K:33:ALA:O	2.52	0.41
11:K:64:ARG:HD3	11:K:102:PRO:O	2.21	0.41
16:P:63:LYS:O	16:P:63:LYS:CG	2.69	0.41
1:A:532:A:H3'	17:Q:28:ARG:CZ	2.51	0.41
18:R:85:LYS:HG2	18:R:86:GLN:N	2.35	0.41
20:T:44:LYS:O	20:T:48:GLN:HG2	2.20	0.41
22:V:63:ILE:CD1	22:V:72:VAL:HG21	2.51	0.41
29:2:44:VAL:O	29:2:45:SER:CB	2.69	0.41
1:A:120:U:O4	1:A:177:G:C8	2.74	0.41
1:A:1361:G:C4	1:A:1362:C:C5	3.08	0.41
1:A:1409:U:H2'	1:A:1410:G:C8	2.56	0.41
1:A:1652:A:C2	1:A:2006:C:N3	2.89	0.41
1:A:2023:C:O2'	1:A:2024:G:H5'	2.21	0.41
1:A:961:C:C6	1:A:2031:A:C2	3.09	0.41
1:A:2290:G:H2'	1:A:2291:U:O4'	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:320:A:H4'	1:A:322:A:N7	2.36	0.41
1:A:80:G:O2'	1:A:346:A:N7	2.52	0.41
1:A:562:U:H2'	1:A:572:A:O4'	2.21	0.41
1:A:580:U:H2'	1:A:581:C:O4'	2.21	0.41
1:A:616:A:H2'	1:A:616:A:N3	2.36	0.41
3:C:145:GLU:HG2	3:C:152:GLY:N	2.36	0.41
3:C:267:ILE:CG2	3:C:267:ILE:O	2.69	0.41
4:D:35:THR:O	4:D:36:GLN:HB2	2.21	0.41
6:F:141:ILE:O	6:F:141:ILE:HG22	2.21	0.41
7:G:141:ILE:O	7:G:145:ALA:N	2.53	0.41
8:H:1:MET:HB3	8:H:21:VAL:O	2.20	0.41
10:J:6:ALA:O	10:J:7:LYS:CB	2.68	0.41
12:L:90:VAL:CG1	12:L:125:LEU:HD22	2.51	0.41
13:M:135:VAL:O	13:M:136:MET:HB3	2.21	0.41
13:M:95:LEU:O	13:M:97:GLN:NE2	2.54	0.41
15:O:99:TYR:CZ	15:O:104:GLN:HG3	2.55	0.41
11:K:78:ARG:NH2	16:P:73:VAL:CG1	2.84	0.41
1:A:561:G:O2'	17:Q:45:TYR:OH	2.28	0.41
17:Q:58:ARG:NH2	17:Q:92:ARG:CZ	2.84	0.41
18:R:1:MET:HA	18:R:42:ALA:O	2.21	0.41
19:S:32:ALA:O	19:S:35:ILE:HB	2.21	0.41
1:A:1203:U:C4	1:A:1204:A:C5	3.09	0.41
1:A:1334:G:C6	1:A:1335:C:N3	2.89	0.41
1:A:1352:U:H5	1:A:1377:G:C6	2.39	0.41
1:A:1437:C:N3	1:A:1438:U:C4	2.89	0.41
1:A:1751:U:O4'	1:A:2860:A:C2	2.74	0.41
1:A:184:C:H2'	1:A:185:G:C8	2.56	0.41
1:A:1866:A:C2	1:A:1876:A:C5	3.09	0.41
1:A:1926:U:H2'	1:A:1928:A:C8	2.55	0.41
1:A:2050:C:C4	1:A:2051:A:C6	3.08	0.41
1:A:2083:G:N7	1:A:2084:C:C5	2.89	0.41
1:A:2177:C:H2'	1:A:2178:C:C6	2.56	0.41
1:A:218:A:C6	1:A:219:A:C5	3.08	0.41
1:A:222:A:N1	1:A:233:A:H5''	2.35	0.41
1:A:2267:A:H5''	1:A:2268:A:C5'	2.51	0.41
1:A:2271:G:H2'	1:A:2272:U:C6	2.56	0.41
1:A:2327:A:H2'	1:A:2328:A:C8	2.55	0.41
1:A:2366:A:H2'	1:A:2367:G:H5'	2.02	0.41
1:A:2516:A:C2'	1:A:2517:C:O5'	2.69	0.41
1:A:2659:G:C4	1:A:2661:G:OP2	2.74	0.41
1:A:2741:A:C2'	1:A:2742:G:H5'	2.51	0.41
1:A:2831:G:N7	4:D:59:ARG:NH1	2.67	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2893:A:O4'	1:A:2894:G:C2	2.74	0.41
1:A:349:U:H2'	1:A:350:G:H8	1.86	0.41
1:A:362:A:N7	1:A:363:G:N7	2.69	0.41
1:A:420:C:C2	1:A:421:C:C5	3.09	0.41
1:A:543:G:C2	1:A:551:G:C6	3.09	0.41
1:A:586:A:OP2	1:A:586:A:C8	2.74	0.41
1:A:630:G:C5'	1:A:631:A:OP2	2.69	0.41
1:A:642:U:H1'	1:A:644:A:N7	2.36	0.41
1:A:647:G:C4	1:A:648:G:C8	3.09	0.41
1:A:822:G:O6	1:A:943:A:H2	2.04	0.41
3:C:145:GLU:HA	3:C:152:GLY:HA2	2.03	0.41
3:C:175:ARG:HG3	3:C:175:ARG:O	2.21	0.41
3:C:24:LEU:HD11	3:C:90:ASN:HD21	1.86	0.41
1:A:1567:G:N7	3:C:83:TYR:CD1	2.89	0.41
4:D:56:LYS:C	4:D:58:ASN:N	2.75	0.41
9:I:57:VAL:HG22	9:I:58:VAL:N	2.36	0.41
10:J:102:GLU:O	10:J:106:LYS:HB2	2.21	0.41
20:T:30:ILE:HD13	20:T:32:LEU:HG	2.02	0.41
20:T:30:ILE:HG23	20:T:32:LEU:HG	2.03	0.41
20:T:11:LEU:CD2	20:T:34:VAL:HG12	2.51	0.41
1:A:1205:A:C2	5:E:165:HIS:HB2	2.56	0.40
1:A:585:G:C6	1:A:1251:C:C5	3.09	0.40
1:A:1401:G:C6	1:A:1402:U:C4	3.09	0.40
1:A:1401:G:C5	1:A:1402:U:C5	3.09	0.40
1:A:1468:U:H2'	1:A:1522:A:N6	2.36	0.40
1:A:1545:A:H2'	1:A:1546:G:O4'	2.21	0.40
1:A:1676:A:N6	1:A:1677:A:C6	2.89	0.40
1:A:1773:A:C2	1:A:1978:A:C2	3.09	0.40
1:A:2066:C:O2'	1:A:2067:G:H5'	2.20	0.40
1:A:2093:G:C2	1:A:2094:A:C8	3.08	0.40
1:A:2145:C:H5''	1:A:2146:C:OP1	2.21	0.40
1:A:2250:G:O5'	1:A:2250:G:C8	2.74	0.40
1:A:225:C:H2'	1:A:226:A:O4'	2.20	0.40
1:A:2326:C:H1'	1:A:2327:A:OP1	2.21	0.40
1:A:2262:U:H4'	1:A:2328:A:C2	2.56	0.40
1:A:2702:G:C5	1:A:2703:C:C5	3.09	0.40
1:A:2825:G:C2'	1:A:2826:A:H5'	2.50	0.40
1:A:416:U:H2'	1:A:417:C:C6	2.56	0.40
1:A:444:C:H4'	1:A:444:C:OP2	2.22	0.40
1:A:567:U:H4'	1:A:808:G:OP1	2.22	0.40
1:A:638:G:O6	1:A:650:C:N3	2.54	0.40
1:A:783:A:C4	1:A:785:G:H1'	2.56	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:919:U:C4	1:A:920:A:C5	3.10	0.40
2:B:55:U:H4'	6:F:25:VAL:HG12	2.03	0.40
3:C:45:ASN:C	3:C:47:GLY:H	2.25	0.40
4:D:33:ARG:NH2	4:D:74:GLU:O	2.54	0.40
1:A:443:A:C8	5:E:40:ARG:CG	3.04	0.40
6:F:73:SER:HB2	6:F:81:GLN:HB2	2.03	0.40
9:I:28:LEU:HD13	9:I:38:PHE:CE2	2.56	0.40
10:J:110:PRO:O	10:J:115:GLY:HA3	2.21	0.40
11:K:9:ASN:O	11:K:83:ALA:HA	2.20	0.40
13:M:63:ILE:CG2	13:M:64:TRP:N	2.84	0.40
14:N:103:ARG:HB2	14:N:110:MET:HE3	2.03	0.40
15:O:79:ALA:CB	15:O:113:ALA:HB3	2.50	0.40
20:T:62:VAL:CG1	20:T:63:VAL:N	2.84	0.40
23:W:47:ALA:HB2	23:W:59:LEU:HD22	2.04	0.40
1:A:1000:A:C6	1:A:1001:A:C6	3.09	0.40
1:A:1063:G:C8	1:A:1064:C:C6	3.09	0.40
1:A:1131:G:N7	1:A:2025:C:H4'	2.36	0.40
1:A:1317:G:N7	1:A:1318:U:C4	2.89	0.40
1:A:1355:G:C6	1:A:1356:G:N7	2.89	0.40
1:A:1354:A:C8	1:A:1355:G:C8	3.09	0.40
1:A:1357:C:O2'	1:A:1358:G:H5'	2.22	0.40
1:A:120:U:H1'	1:A:149:A:N7	2.36	0.40
1:A:1765:U:O2'	1:A:1766:G:H5'	2.21	0.40
1:A:1959:G:H2'	1:A:1960:A:O4'	2.21	0.40
1:A:2013:A:N6	1:A:2014:A:N1	2.69	0.40
1:A:2282:G:C5	1:A:2425:A:N1	2.90	0.40
1:A:2662:A:C4	1:A:2663:G:H1'	2.56	0.40
1:A:2786:U:H4'	4:D:67:HIS:HA	2.04	0.40
1:A:30:G:C5	1:A:31:C:C4	3.10	0.40
1:A:662:G:C2	1:A:663:G:C8	3.10	0.40
1:A:843:G:H2'	1:A:844:A:C8	2.56	0.40
1:A:962:G:C5	1:A:963:U:C5	3.09	0.40
1:A:1567:G:O2'	3:C:63:ARG:NH1	2.54	0.40
4:D:34:VAL:HG22	4:D:50:VAL:HG12	2.02	0.40
7:G:95:ARG:HG3	7:G:106:SER:HB2	2.03	0.40
8:H:96:THR:O	8:H:98:ASP:N	2.54	0.40
9:I:103:ARG:O	9:I:107:GLN:N	2.53	0.40
9:I:24:VAL:CG1	9:I:28:LEU:HB3	2.51	0.40
10:J:102:GLU:HG3	10:J:124:VAL:HG21	2.04	0.40
10:J:56:VAL:HB	10:J:124:VAL:HG12	2.02	0.40
11:K:39:ILE:HG13	11:K:39:ILE:O	2.21	0.40
11:K:91:SER:O	11:K:92:GLU:O	2.39	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:77:ILE:CG2	12:L:81:ASP:OD2	2.69	0.40
14:N:47:VAL:HG12	14:N:47:VAL:O	2.22	0.40
2:B:7:G:C5'	15:O:29:HIS:CE1	3.04	0.40
2:B:8:C:O2'	15:O:40:ILE:HD13	2.22	0.40
15:O:64:TYR:O	15:O:67:ASN:ND2	2.45	0.40
19:S:20:VAL:HG23	19:S:39:THR:HG21	2.02	0.40
20:T:4:GLU:O	20:T:8:LEU:N	2.54	0.40
23:W:37:ILE:HG22	23:W:38:VAL:HG23	2.03	0.40
1:A:2885:G:O6	27:O:29:SER:HB3	2.21	0.40
1:A:1121:C:H2'	1:A:1122:G:O5'	2.22	0.40
1:A:1308:A:H2'	1:A:1309:G:O4'	2.21	0.40
1:A:1373:A:N6	1:A:1374:G:N3	2.69	0.40
1:A:1607:C:O2	1:A:1621:U:N3	2.53	0.40
1:A:1668:A:N3	1:A:1674:G:C8	2.89	0.40
1:A:1800:C:OP1	3:C:258:ARG:NH2	2.54	0.40
1:A:1809:A:N6	1:A:1810:A:C6	2.89	0.40
1:A:1914:C:O2	1:A:1914:C:O4'	2.37	0.40
1:A:2201:G:C6	1:A:2223:G:C2	3.09	0.40
1:A:2323:G:H2'	1:A:2324:U:O4'	2.21	0.40
1:A:2345:G:OP2	28:1:46:HIS:NE2	2.51	0.40
1:A:2439:A:H4'	1:A:2440:C:H5''	2.03	0.40
1:A:2574:G:N2	1:A:2575:C:H1'	2.36	0.40
1:A:2785:C:H2'	1:A:2786:U:O4'	2.21	0.40
1:A:2854:G:N2	1:A:2864:G:C4	2.89	0.40
1:A:465:G:C6	1:A:466:A:N6	2.89	0.40
1:A:498:G:C2	1:A:499:U:C5	3.09	0.40
1:A:517:C:O2'	19:S:18:ARG:NH1	2.55	0.40
1:A:634:C:P	12:L:70:LYS:HE2	2.61	0.40
1:A:647:G:C6	1:A:648:G:C5	3.09	0.40
1:A:711:G:C2	1:A:721:A:C2	3.09	0.40
1:A:927:A:H2'	1:A:928:A:O4'	2.21	0.40
1:A:959:A:H2'	1:A:960:A:C8	2.56	0.40
1:A:978:G:C2	1:A:986:C:C2	3.09	0.40
5:E:24:ASN:O	5:E:28:VAL:HG23	2.21	0.40
5:E:47:LYS:O	5:E:83:VAL:CB	2.70	0.40
6:F:36:LEU:HD23	6:F:57:LEU:HD22	2.03	0.40
10:J:13:ARG:HG2	10:J:51:GLY:O	2.20	0.40
10:J:74:TYR:CD1	10:J:92:MET:HG3	2.56	0.40
16:P:103:ARG:HB3	16:P:108:ALA:CB	2.50	0.40
20:T:38:ALA:C	20:T:39:THR:HG22	2.41	0.40
20:T:67:VAL:HG12	20:T:68:LYS:N	2.37	0.40
22:V:75:GLN:CB	22:V:92:VAL:HG23	2.52	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:372:G:P	24:X:62:LYS:HZ2	2.45	0.40
1:A:2285:C:C5	28:1:6:ARG:NH1	2.89	0.40
1:A:83:A:H2	1:A:103:A:N7	2.18	0.40
1:A:1372:U:H2'	1:A:1373:A:C8	2.57	0.40
1:A:1601:G:C5	1:A:1602:U:C5	3.10	0.40
1:A:1649:G:C6	1:A:2009:A:N6	2.89	0.40
1:A:1670:C:C4	1:A:1671:U:N3	2.90	0.40
1:A:1693:U:O4	1:A:1976:U:O2'	2.39	0.40
1:A:192:C:C4	1:A:193:U:C2	3.09	0.40
1:A:2067:G:C6	1:A:2444:G:N1	2.90	0.40
1:A:207:A:C2	1:A:208:C:C1'	3.04	0.40
1:A:2320:U:H5'	1:A:2321:U:C5	2.57	0.40
1:A:2679:A:H2'	1:A:2680:U:O4'	2.22	0.40
1:A:582:A:C6	1:A:583:G:C6	3.09	0.40
1:A:773:U:C5'	1:A:774:G:OP2	2.69	0.40
1:A:927:A:H2'	1:A:928:A:C8	2.56	0.40
2:B:110:C:H2'	2:B:111:U:O4'	2.21	0.40
2:B:14:U:H2'	2:B:14:U:O2	2.21	0.40
3:C:121:ASP:O	3:C:122:ALA:C	2.60	0.40
7:G:123:ALA:HB2	7:G:133:LEU:HA	2.03	0.40
7:G:91:GLY:O	7:G:94:TYR:CG	2.74	0.40
9:I:73:THR:HG21	9:I:113:LYS:HE3	2.02	0.40
10:J:80:HIS:C	10:J:82:GLY:N	2.74	0.40
1:A:637:A:P	12:L:112:LEU:HB3	2.60	0.40
14:N:44:LEU:O	14:N:48:VAL:HG23	2.21	0.40
17:Q:76:TYR:OH	17:Q:92:ARG:NH1	2.55	0.40
1:A:2010:G:H5''	19:S:42:LYS:HB2	2.01	0.40
21:U:7:ARG:HG3	21:U:8:ASP:H	1.86	0.40
25:Y:28:LEU:CD1	25:Y:46:VAL:HG21	2.51	0.40
28:1:10:LYS:O	28:1:51:GLU:HG2	2.22	0.40
1:A:1040:A:H2'	1:A:1041:G:O4'	2.21	0.40
1:A:118:A:O4'	1:A:178:G:O2'	2.38	0.40
1:A:119:A:H5'	36:A:3218:HOH:O	2.21	0.40
1:A:1213:A:N3	1:A:1238:G:O2'	2.39	0.40
1:A:1359:A:C2	1:A:1360:G:H1'	2.56	0.40
1:A:1429:G:H1'	1:A:1568:G:N3	2.37	0.40
1:A:1343:G:N3	1:A:1597:A:N1	2.69	0.40
1:A:1802:A:N1	1:A:1803:A:C2	2.90	0.40
1:A:2115:G:N3	1:A:2117:A:C8	2.89	0.40
1:A:2125:G:H5'	1:A:2126:A:OP2	2.21	0.40
1:A:2245:U:O2'	1:A:2435:A:H3'	2.22	0.40
1:A:2449:U:H4'	1:A:2450:A:OP1	2.22	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2452:C:C4'	33:A:3001:DOL:H461	2.52	0.40
1:A:2553:G:H2'	1:A:2554:U:C4'	2.52	0.40
1:A:269:C:C2'	1:A:269:C:O2	2.69	0.40
1:A:2842:G:C6	1:A:2876:G:C6	3.10	0.40
1:A:312:G:C2	1:A:313:G:C8	3.09	0.40
1:A:432:A:H2'	1:A:433:C:O4'	2.21	0.40
1:A:505:A:O2'	1:A:509:C:O2'	2.23	0.40
1:A:753:A:H2'	1:A:754:U:H6	1.84	0.40
1:A:77:G:C2	1:A:78:U:C2	3.09	0.40
1:A:909:A:N6	1:A:912:C:O2	2.54	0.40
2:B:27:C:C5	2:B:28:C:C5	3.10	0.40
2:B:29:A:N3	2:B:56:G:C2	2.89	0.40
5:E:58:LYS:CD	5:E:60:TRP:O	2.70	0.40
5:E:91:ASP:CG	5:E:91:ASP:O	2.59	0.40
7:G:155:GLU:OE1	7:G:158:LYS:HG3	2.21	0.40
9:I:12:GLN:NE2	9:I:55:ILE:O	2.54	0.40
9:I:57:VAL:HG23	9:I:71:THR:CA	2.52	0.40
2:B:90:C:H5'	13:M:18:ARG:HA	2.04	0.40
18:R:39:LEU:C	18:R:49:ILE:HG23	2.42	0.40
18:R:96:VAL:HG23	18:R:96:VAL:O	2.21	0.40
19:S:47:VAL:HB	19:S:103:ILE:HG21	2.03	0.40
19:S:14:ALA:HB1	19:S:18:ARG:CZ	2.52	0.40
21:U:96:PHE:CZ	21:U:103:ILE:CG1	3.03	0.40
24:X:5:CYS:O	24:X:9:GLY:HA2	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	C	269/271 (99%)	196 (73%)	48 (18%)	25 (9%)	1 2
4	D	207/209 (99%)	153 (74%)	43 (21%)	11 (5%)	3 9

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	E	199/201 (99%)	154 (77%)	27 (14%)	18 (9%)	1	2
6	F	175/177 (99%)	135 (77%)	27 (15%)	13 (7%)	2	3
7	G	174/176 (99%)	127 (73%)	36 (21%)	11 (6%)	2	5
8	H	147/149 (99%)	100 (68%)	32 (22%)	15 (10%)	1	1
9	I	139/141 (99%)	82 (59%)	38 (27%)	19 (14%)	0	1
10	J	140/142 (99%)	104 (74%)	23 (16%)	13 (9%)	1	2
11	K	120/122 (98%)	95 (79%)	15 (12%)	10 (8%)	1	3
12	L	141/143 (99%)	98 (70%)	31 (22%)	12 (8%)	1	2
13	M	134/136 (98%)	112 (84%)	17 (13%)	5 (4%)	5	16
14	N	118/120 (98%)	90 (76%)	18 (15%)	10 (8%)	1	2
15	O	114/116 (98%)	82 (72%)	24 (21%)	8 (7%)	2	4
16	P	112/114 (98%)	88 (79%)	18 (16%)	6 (5%)	3	8
17	Q	115/117 (98%)	92 (80%)	22 (19%)	1 (1%)	25	63
18	R	101/103 (98%)	72 (71%)	23 (23%)	6 (6%)	2	6
19	S	108/110 (98%)	83 (77%)	17 (16%)	8 (7%)	2	3
20	T	91/93 (98%)	53 (58%)	28 (31%)	10 (11%)	1	1
21	U	100/102 (98%)	69 (69%)	19 (19%)	12 (12%)	1	1
22	V	92/94 (98%)	76 (83%)	14 (15%)	2 (2%)	10	32
23	W	73/76 (96%)	61 (84%)	12 (16%)	0	100	100
24	X	75/77 (97%)	58 (77%)	12 (16%)	5 (7%)	2	5
25	Y	61/63 (97%)	44 (72%)	12 (20%)	5 (8%)	1	3
26	Z	56/58 (97%)	41 (73%)	10 (18%)	5 (9%)	1	2
27	0	54/56 (96%)	37 (68%)	12 (22%)	5 (9%)	1	2
28	1	48/50 (96%)	36 (75%)	8 (17%)	4 (8%)	1	3
29	2	44/46 (96%)	34 (77%)	6 (14%)	4 (9%)	1	2
30	3	62/64 (97%)	52 (84%)	6 (10%)	4 (6%)	2	5
31	4	36/38 (95%)	32 (89%)	2 (6%)	2 (6%)	3	7
32	6	2/8 (25%)	0	2 (100%)	0	100	100
All	All	3307/3372 (98%)	2456 (74%)	602 (18%)	249 (8%)	2	3

All (249) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	10	SER
3	C	19	VAL
3	C	29	PRO
3	C	35	GLU
3	C	58	HIS
3	C	71	LYS
3	C	238	ARG
3	C	239	ASN
3	C	251	GLN
4	D	36	GLN
4	D	57	ALA
4	D	98	VAL
4	D	105	LYS
4	D	151	THR
4	D	152	PRO
5	E	6	LYS
5	E	62	GLN
5	E	145	ASP
6	F	9	LYS
6	F	122	PHE
6	F	123	ASP
6	F	175	PHE
7	G	92	VAL
7	G	119	ALA
7	G	127	THR
7	G	159	GLY
7	G	175	LYS
8	H	3	VAL
8	H	10	ALA
8	H	33	GLN
8	H	35	LYS
8	H	41	LYS
8	H	53	GLU
8	H	54	LEU
8	H	83	LYS
8	H	109	GLU
9	I	3	LYS
9	I	7	ALA
9	I	19	ASN
9	I	101	ILE
9	I	102	SER
9	I	115	ALA
10	J	6	ALA

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
10	J	11	VAL
10	J	42	ALA
10	J	81	ILE
10	J	94	ALA
11	K	35	VAL
11	K	92	GLU
11	K	108	ARG
11	K	120	PRO
12	L	39	LYS
12	L	40	SER
12	L	111	ILE
14	N	70	THR
14	N	88	ALA
14	N	107	ASN
15	O	12	THR
15	O	34	HIS
15	O	57	ALA
15	O	115	LEU
16	P	66	ASN
18	R	102	SER
19	S	29	VAL
19	S	62	ASP
19	S	66	ILE
19	S	67	ASP
19	S	72	THR
20	T	21	SER
20	T	22	THR
20	T	28	ASN
20	T	39	THR
20	T	66	LYS
20	T	78	SER
21	U	37	GLU
21	U	89	ASP
22	V	24	ASN
24	X	62	LYS
26	Z	4	THR
26	Z	52	SER
26	Z	53	PHE
27	0	56	ALA
28	1	16	GLY
29	2	44	VAL
29	2	45	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	4	23	ILE
3	C	25	HIS
3	C	122	ALA
3	C	205	LEU
3	C	218	PRO
3	C	240	PHE
3	C	255	LYS
4	D	40	LEU
5	E	18	THR
5	E	48	THR
5	E	82	GLY
5	E	86	ALA
5	E	122	GLU
5	E	126	VAL
5	E	129	PRO
6	F	148	ARG
7	G	20	ASN
7	G	28	GLY
8	H	31	VAL
8	H	77	THR
8	H	118	PRO
9	I	9	VAL
9	I	93	PRO
9	I	106	LEU
9	I	134	ARG
10	J	25	LEU
10	J	127	GLY
12	L	16	GLY
12	L	36	LYS
12	L	42	SER
13	M	23	GLY
14	N	104	ALA
15	O	116	GLN
16	P	36	SER
16	P	94	LYS
17	Q	87	SER
18	R	53	PHE
20	T	18	GLU
20	T	90	GLY
21	U	53	ASN
21	U	57	GLY
21	U	98	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	U	99	ASN
24	X	7	VAL
25	Y	57	LEU
27	0	55	ILE
30	3	26	HIS
3	C	26	LYS
3	C	143	ASN
4	D	102	ALA
5	E	61	ARG
5	E	149	ILE
7	G	8	PRO
8	H	16	GLY
8	H	40	THR
10	J	8	PRO
10	J	10	THR
11	K	105	ARG
12	L	9	ALA
12	L	53	GLY
12	L	69	ARG
13	M	3	GLN
13	M	57	VAL
13	M	58	LYS
13	M	69	PRO
14	N	86	ARG
14	N	118	ARG
15	O	3	LYS
15	O	63	LYS
16	P	80	VAL
19	S	40	ASN
21	U	41	LEU
21	U	58	ILE
24	X	26	LYS
25	Y	37	LEU
26	Z	29	LEU
26	Z	30	ARG
27	0	52	ARG
28	1	27	LYS
31	4	20	ASP
3	C	121	ASP
3	C	203	ARG
4	D	70	LYS
4	D	194	PRO

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	E	125	SER
5	E	127	GLU
5	E	153	LEU
6	F	174	ASP
7	G	46	ALA
8	H	9	VAL
9	I	10	LYS
9	I	65	ARG
9	I	84	ALA
11	K	93	GLN
12	L	29	LYS
12	L	30	THR
14	N	59	SER
14	N	61	ALA
14	N	85	PRO
16	P	114	LEU
18	R	7	SER
18	R	82	HIS
19	S	63	GLY
19	S	64	ALA
21	U	7	ARG
21	U	52	LEU
22	V	84	PRO
29	2	8	SER
30	3	7	VAL
3	C	34	LEU
3	C	46	ASN
3	C	85	PRO
3	C	247	PRO
3	C	260	ASN
4	D	195	GLY
5	E	80	SER
6	F	27	GLN
6	F	79	ILE
6	F	118	SER
6	F	176	PRO
9	I	20	PRO
9	I	22	PRO
10	J	95	ARG
11	K	110	GLU
14	N	3	HIS
20	T	77	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
27	0	24	ALA
27	0	43	ILE
28	1	51	GLU
5	E	161	ALA
7	G	12	PRO
9	I	61	VAL
15	O	90	VAL
24	X	44	LYS
28	1	5	ILE
30	3	47	LYS
9	I	13	VAL
9	I	52	GLY
10	J	82	GLY
11	K	72	PRO
21	U	54	GLN
29	2	38	GLY
3	C	228	VAL
6	F	85	ILE
7	G	17	VAL
11	K	48	PRO
12	L	87	GLY
24	X	51	VAL
25	Y	11	VAL
10	J	64	VAL
16	P	84	ILE
21	U	25	VAL
5	E	83	VAL
6	F	31	VAL
6	F	44	ILE
9	I	98	VAL
11	K	119	ALA
18	R	101	ILE
20	T	47	VAL
25	Y	46	VAL
30	3	32	ILE
10	J	136	GLN
18	R	30	GLY
25	Y	35	GLY

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	C	216/216 (100%)	197 (91%)	19 (9%)	14	38
4	D	164/164 (100%)	145 (88%)	19 (12%)	8	23
5	E	165/165 (100%)	137 (83%)	28 (17%)	3	9
6	F	148/148 (100%)	119 (80%)	29 (20%)	2	6
7	G	137/137 (100%)	114 (83%)	23 (17%)	3	9
8	H	114/114 (100%)	88 (77%)	26 (23%)	1	3
9	I	109/109 (100%)	80 (73%)	29 (27%)	1	2
10	J	116/116 (100%)	94 (81%)	22 (19%)	2	6
11	K	103/103 (100%)	90 (87%)	13 (13%)	7	19
12	L	102/102 (100%)	86 (84%)	16 (16%)	4	11
13	M	109/109 (100%)	95 (87%)	14 (13%)	6	18
14	N	100/100 (100%)	76 (76%)	24 (24%)	1	3
15	O	86/86 (100%)	70 (81%)	16 (19%)	2	7
16	P	99/99 (100%)	90 (91%)	9 (9%)	14	37
17	Q	89/89 (100%)	78 (88%)	11 (12%)	7	20
18	R	84/84 (100%)	76 (90%)	8 (10%)	12	33
19	S	93/93 (100%)	83 (89%)	10 (11%)	9	26
20	T	80/80 (100%)	66 (82%)	14 (18%)	3	8
21	U	83/83 (100%)	68 (82%)	15 (18%)	2	7
22	V	78/78 (100%)	65 (83%)	13 (17%)	3	9
23	W	56/58 (97%)	50 (89%)	6 (11%)	10	26
24	X	67/67 (100%)	58 (87%)	9 (13%)	6	16
25	Y	55/55 (100%)	43 (78%)	12 (22%)	1	4
26	Z	48/48 (100%)	38 (79%)	10 (21%)	2	5
27	0	47/47 (100%)	43 (92%)	4 (8%)	15	41
28	1	45/45 (100%)	39 (87%)	6 (13%)	6	16
29	2	38/38 (100%)	31 (82%)	7 (18%)	2	7

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
30	3	51/51 (100%)	46 (90%)	5 (10%)	12	32
31	4	34/34 (100%)	26 (76%)	8 (24%)	1	3
32	6	2/2 (100%)	2 (100%)	0	100	100
All	All	2718/2720 (100%)	2293 (84%)	425 (16%)	4	11

All (425) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	30	PHE
3	C	63	ARG
3	C	80	ARG
3	C	103	TYR
3	C	111	LYS
3	C	116	ILE
3	C	130	LEU
3	C	153	GLN
3	C	156	ARG
3	C	157	SER
3	C	167	ARG
3	C	175	ARG
3	C	195	VAL
3	C	202	LEU
3	C	203	ARG
3	C	250	VAL
3	C	259	SER
3	C	262	ARG
3	C	267	ILE
4	D	4	LEU
4	D	12	THR
4	D	21	SER
4	D	25	THR
4	D	33	ARG
4	D	55	LYS
4	D	73	VAL
4	D	77	ARG
4	D	86	GLU
4	D	95	SER
4	D	103	ASP
4	D	118	PHE
4	D	129	THR
4	D	138	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	D	140	HIS
4	D	146	ILE
4	D	168	GLU
4	D	170	VAL
4	D	189	VAL
5	E	9	GLN
5	E	22	ASP
5	E	40	ARG
5	E	41	GLN
5	E	57	LYS
5	E	58	LYS
5	E	69	ARG
5	E	77	ILE
5	E	78	TRP
5	E	84	THR
5	E	90	GLN
5	E	91	ASP
5	E	105	LEU
5	E	107	SER
5	E	108	ILE
5	E	118	LEU
5	E	126	VAL
5	E	127	GLU
5	E	131	THR
5	E	137	LYS
5	E	149	ILE
5	E	150	THR
5	E	163	ASN
5	E	164	LEU
5	E	170	ARG
5	E	173	THR
5	E	187	VAL
5	E	188	MET
6	F	6	ASP
6	F	7	TYR
6	F	8	TYR
6	F	14	LYS
6	F	18	THR
6	F	26	MET
6	F	35	THR
6	F	36	LEU
6	F	38	MET

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	F	44	ILE
6	F	48	LYS
6	F	52	ASN
6	F	56	ASP
6	F	64	LYS
6	F	67	ILE
6	F	74	VAL
6	F	78	LYS
6	F	110	ARG
6	F	117	LEU
6	F	121	SER
6	F	125	ARG
6	F	132	VAL
6	F	140	GLU
6	F	141	ILE
6	F	143	TYR
6	F	147	ASP
6	F	150	ARG
6	F	174	ASP
6	F	177	PHE
7	G	11	VAL
7	G	24	ILE
7	G	29	LYS
7	G	30	ASN
7	G	42	GLU
7	G	45	HIS
7	G	49	THR
7	G	56	ASP
7	G	62	TRP
7	G	69	ARG
7	G	89	LEU
7	G	90	VAL
7	G	92	VAL
7	G	98	VAL
7	G	117	LEU
7	G	124	GLU
7	G	127	THR
7	G	139	GLN
7	G	149	ARG
7	G	151	TYR
7	G	155	GLU
7	G	158	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	G	166	ASP
8	H	7	ASP
8	H	12	LEU
8	H	41	LYS
8	H	42	LYS
8	H	48	GLU
8	H	50	ARG
8	H	53	GLU
8	H	54	LEU
8	H	57	LYS
8	H	62	LEU
8	H	77	THR
8	H	78	VAL
8	H	87	GLU
8	H	89	LYS
8	H	94	ILE
8	H	109	GLU
8	H	114	GLU
8	H	116	ARG
8	H	117	LEU
8	H	119	ASN
8	H	121	VAL
8	H	124	THR
8	H	125	THR
8	H	129	GLU
8	H	142	VAL
8	H	149	GLU
9	I	3	LYS
9	I	4	LYS
9	I	8	TYR
9	I	10	LYS
9	I	11	LEU
9	I	12	GLN
9	I	24	VAL
9	I	38	PHE
9	I	40	LYS
9	I	62	TYR
9	I	68	THR
9	I	69	PHE
9	I	72	LYS
9	I	79	LEU
9	I	82	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
9	I	86	ILE
9	I	87	LYS
9	I	88	SER
9	I	92	LYS
9	I	97	LYS
9	I	98	VAL
9	I	103	ARG
9	I	105	GLN
9	I	106	LEU
9	I	112	THR
9	I	117	MET
9	I	122	ILE
9	I	125	MET
9	I	127	ARG
10	J	9	GLU
10	J	28	LEU
10	J	34	ARG
10	J	39	LYS
10	J	40	HIS
10	J	43	GLU
10	J	44	TYR
10	J	50	THR
10	J	62	VAL
10	J	65	THR
10	J	72	LYS
10	J	76	HIS
10	J	81	ILE
10	J	84	ILE
10	J	85	LYS
10	J	96	ARG
10	J	101	ILE
10	J	103	ILE
10	J	109	LEU
10	J	118	MET
10	J	129	GLU
10	J	138	GLN
11	K	25	LEU
11	K	47	ILE
11	K	49	ARG
11	K	53	LYS
11	K	56	ASP
11	K	66	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
11	K	70	ARG
11	K	87	LEU
11	K	92	GLU
11	K	95	ILE
11	K	104	THR
11	K	110	GLU
11	K	114	LYS
12	L	2	ARG
12	L	21	ARG
12	L	25	SER
12	L	29	LYS
12	L	48	ARG
12	L	59	ARG
12	L	69	ARG
12	L	78	ARG
12	L	82	LEU
12	L	86	GLU
12	L	94	THR
12	L	100	ILE
12	L	104	GLN
12	L	118	THR
12	L	126	ARG
12	L	136	GLU
13	M	6	ARG
13	M	14	LYS
13	M	31	PHE
13	M	47	GLU
13	M	54	THR
13	M	59	ARG
13	M	60	GLN
13	M	70	ASP
13	M	100	LYS
13	M	108	VAL
13	M	115	GLU
13	M	119	LEU
13	M	124	LEU
13	M	128	THR
14	N	1	MET
14	N	2	ARG
14	N	8	ARG
14	N	10	LEU
14	N	12	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
14	N	14	SER
14	N	20	MET
14	N	33	ILE
14	N	35	LYS
14	N	51	LEU
14	N	53	THR
14	N	59	SER
14	N	69	ARG
14	N	70	THR
14	N	71	ARG
14	N	82	GLU
14	N	83	LEU
14	N	90	ARG
14	N	95	THR
14	N	100	CYS
14	N	114	GLU
14	N	115	LEU
14	N	116	VAL
14	N	118	ARG
15	O	5	SER
15	O	9	ARG
15	O	18	LEU
15	O	26	LEU
15	O	31	THR
15	O	35	ILE
15	O	36	TYR
15	O	46	GLU
15	O	47	VAL
15	O	48	LEU
15	O	56	LYS
15	O	61	GLN
15	O	78	VAL
15	O	88	LYS
15	O	93	ASP
15	O	103	VAL
16	P	4	ILE
16	P	26	VAL
16	P	34	GLU
16	P	68	GLU
16	P	73	VAL
16	P	93	ARG
16	P	109	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
16	P	110	ILE
16	P	112	GLU
17	Q	6	ARG
17	Q	9	ILE
17	Q	11	ARG
17	Q	25	TYR
17	Q	41	LYS
17	Q	51	ARG
17	Q	52	GLN
17	Q	60	LEU
17	Q	97	ASP
17	Q	104	VAL
17	Q	117	LEU
18	R	25	LEU
18	R	33	VAL
18	R	41	ILE
18	R	46	GLU
18	R	48	LYS
18	R	58	VAL
18	R	82	HIS
18	R	90	ARG
19	S	1	MET
19	S	19	LEU
19	S	20	VAL
19	S	22	ASP
19	S	23	LEU
19	S	47	VAL
19	S	67	ASP
19	S	70	LYS
19	S	72	THR
19	S	96	ILE
20	T	3	ARG
20	T	18	GLU
20	T	22	THR
20	T	30	ILE
20	T	32	LEU
20	T	44	LYS
20	T	49	LYS
20	T	50	LEU
20	T	68	LYS
20	T	69	ARG
20	T	72	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
20	T	74	ILE
20	T	77	ARG
20	T	79	ASP
21	U	11	VAL
21	U	18	ASP
21	U	24	LYS
21	U	34	VAL
21	U	35	ILE
21	U	45	HIS
21	U	46	GLN
21	U	49	VAL
21	U	54	GLN
21	U	67	VAL
21	U	70	VAL
21	U	81	ASP
21	U	85	PHE
21	U	91	LYS
21	U	99	ASN
22	V	2	PHE
22	V	3	THR
22	V	26	PHE
22	V	29	ILE
22	V	30	ILE
22	V	42	LEU
22	V	43	ASP
22	V	45	ASP
22	V	50	MET
22	V	51	GLN
22	V	53	LYS
22	V	65	VAL
22	V	68	LYS
23	W	20	ARG
23	W	39	ARG
23	W	41	ARG
23	W	50	ASN
23	W	56	ASP
23	W	72	LYS
24	X	4	VAL
24	X	13	VAL
24	X	46	PHE
24	X	47	VAL
24	X	50	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
24	X	58	VAL
24	X	64	ILE
24	X	71	LEU
24	X	74	ARG
25	Y	11	VAL
25	Y	13	GLU
25	Y	16	THR
25	Y	38	GLN
25	Y	39	GLN
25	Y	41	HIS
25	Y	45	GLN
25	Y	47	ARG
25	Y	49	ASP
25	Y	55	THR
25	Y	57	LEU
25	Y	58	ASN
26	Z	3	LYS
26	Z	6	LYS
26	Z	10	THR
26	Z	12	SER
26	Z	17	LEU
26	Z	25	LEU
26	Z	31	ARG
26	Z	36	VAL
26	Z	52	SER
26	Z	57	VAL
27	0	3	VAL
27	0	20	ASP
27	0	22	LEU
27	0	28	LEU
28	1	5	ILE
28	1	12	VAL
28	1	26	ASN
28	1	42	VAL
28	1	46	HIS
28	1	47	VAL
29	2	4	THR
29	2	10	LEU
29	2	24	THR
29	2	41	ARG
29	2	42	LEU
29	2	43	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	2	44	VAL
30	3	6	THR
30	3	30	ARG
30	3	31	HIS
30	3	47	LYS
30	3	49	MET
31	4	2	LYS
31	4	3	VAL
31	4	12	ARG
31	4	13	ASN
31	4	20	ASP
31	4	26	ILE
31	4	32	LYS
31	4	37	GLN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
3	C	251	GLN
4	D	140	HIS
7	G	115	HIS
8	H	28	ASN
8	H	128	HIS
17	Q	37	GLN
18	R	66	HIS
18	R	89	HIS
20	T	15	HIS
21	U	74	ASN
23	W	46	HIS
24	X	34	HIS
25	Y	41	HIS
25	Y	45	GLN
27	0	19	HIS
28	1	19	HIS
28	1	26	ASN
30	3	26	HIS
30	3	31	HIS
31	4	37	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2895/2903 (99%)	704 (24%)	32 (1%)
2	B	117/119 (98%)	20 (17%)	0
All	All	3012/3022 (99%)	724 (24%)	32 (1%)

All (724) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	10	A
1	A	15	G
1	A	32	C
1	A	34	U
1	A	39	G
1	A	42	A
1	A	43	G
1	A	46	G
1	A	57	C
1	A	61	C
1	A	64	A
1	A	66	C
1	A	70	G
1	A	71	A
1	A	73	A
1	A	74	A
1	A	75	G
1	A	80	G
1	A	81	G
1	A	82	U
1	A	83	A
1	A	84	A
1	A	85	G
1	A	87	U
1	A	91	A
1	A	96	C
1	A	97	C
1	A	98	G
1	A	101	A
1	A	103	A
1	A	104	A
1	A	111	A
1	A	118	A
1	A	119	A
1	A	120	U
1	A	121	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	128	C
1	A	137	U
1	A	138	U
1	A	139	U
1	A	140	C
1	A	141	G
1	A	142	A
1	A	143	C
1	A	145	C
1	A	150	U
1	A	155	A
1	A	158	U
1	A	159	G
1	A	162	U
1	A	166	U
1	A	178	G
1	A	180	G
1	A	184	C
1	A	185	G
1	A	196	A
1	A	198	C
1	A	202	U
1	A	206	U
1	A	216	A
1	A	221	A
1	A	222	A
1	A	223	A
1	A	224	U
1	A	225	C
1	A	228	C
1	A	233	A
1	A	245	G
1	A	248	G
1	A	249	C
1	A	251	A
1	A	258	G
1	A	262	A
1	A	265	A
1	A	266	G
1	A	271	G
1	A	272	A
1	A	276	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	279	A
1	A	281	C
1	A	285	G
1	A	291	G
1	A	294	A
1	A	311	A
1	A	321	U
1	A	329	G
1	A	330	A
1	A	335	C
1	A	346	A
1	A	348	A
1	A	350	G
1	A	359	G
1	A	361	G
1	A	362	A
1	A	367	G
1	A	370	G
1	A	371	A
1	A	372	G
1	A	380	G
1	A	385	C
1	A	386	G
1	A	387	U
1	A	392	U
1	A	396	G
1	A	401	A
1	A	405	U
1	A	411	G
1	A	412	A
1	A	417	C
1	A	420	C
1	A	421	C
1	A	424	G
1	A	426	C
1	A	430	A
1	A	435	C
1	A	444	C
1	A	446	G
1	A	448	U
1	A	451	U
1	A	455	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	461	C
1	A	462	C
1	A	478	A
1	A	480	A
1	A	481	G
1	A	490	C
1	A	491	G
1	A	496	G
1	A	504	A
1	A	505	A
1	A	508	A
1	A	509	C
1	A	510	C
1	A	511	U
1	A	528	A
1	A	531	C
1	A	532	A
1	A	533	G
1	A	542	C
1	A	543	G
1	A	544	C
1	A	546	U
1	A	547	A
1	A	548	G
1	A	549	G
1	A	550	C
1	A	563	A
1	A	564	C
1	A	568	U
1	A	569	U
1	A	572	A
1	A	573	U
1	A	575	A
1	A	586	A
1	A	588	U
1	A	603	A
1	A	613	A
1	A	614	A
1	A	615	U
1	A	622	G
1	A	627	A
1	A	628	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	631	A
1	A	637	A
1	A	642	U
1	A	645	C
1	A	646	U
1	A	647	G
1	A	648	G
1	A	654	A
1	A	655	A
1	A	656	G
1	A	657	U
1	A	662	G
1	A	664	G
1	A	672	C
1	A	682	G
1	A	684	G
1	A	685	A
1	A	686	U
1	A	694	U
1	A	695	G
1	A	701	G
1	A	702	U
1	A	717	C
1	A	726	G
1	A	727	A
1	A	728	G
1	A	729	G
1	A	730	A
1	A	740	C
1	A	747	U
1	A	748	G
1	A	752	A
1	A	757	G
1	A	758	C
1	A	771	G
1	A	773	U
1	A	775	G
1	A	776	G
1	A	782	A
1	A	784	G
1	A	785	G
1	A	790	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	792	A
1	A	793	A
1	A	798	G
1	A	800	A
1	A	801	G
1	A	802	A
1	A	805	G
1	A	812	C
1	A	814	C
1	A	815	C
1	A	819	A
1	A	826	U
1	A	827	U
1	A	828	U
1	A	829	A
1	A	830	G
1	A	844	A
1	A	845	A
1	A	846	U
1	A	847	U
1	A	858	G
1	A	859	G
1	A	878	A
1	A	881	G
1	A	882	G
1	A	885	C
1	A	896	A
1	A	897	C
1	A	907	G
1	A	910	A
1	A	914	G
1	A	915	C
1	A	931	U
1	A	932	U
1	A	933	A
1	A	941	A
1	A	946	C
1	A	951	C
1	A	953	G
1	A	958	U
1	A	959	A
1	A	961	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	974	G
1	A	983	A
1	A	995	C
1	A	996	A
1	A	1012	U
1	A	1013	C
1	A	1022	G
1	A	1023	U
1	A	1025	G
1	A	1026	G
1	A	1033	U
1	A	1046	A
1	A	1047	G
1	A	1051	G
1	A	1057	A
1	A	1058	U
1	A	1061	U
1	A	1062	G
1	A	1065	U
1	A	1066	U
1	A	1068	G
1	A	1069	A
1	A	1070	A
1	A	1071	G
1	A	1072	C
1	A	1074	G
1	A	1075	C
1	A	1077	A
1	A	1088	A
1	A	1089	A
1	A	1092	C
1	A	1094	U
1	A	1096	A
1	A	1097	U
1	A	1100	C
1	A	1101	U
1	A	1104	C
1	A	1110	G
1	A	1112	G
1	A	1115	G
1	A	1116	G
1	A	1119	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1122	G
1	A	1128	G
1	A	1132	U
1	A	1135	C
1	A	1136	G
1	A	1139	G
1	A	1142	A
1	A	1153	C
1	A	1155	A
1	A	1171	G
1	A	1172	C
1	A	1175	A
1	A	1176	U
1	A	1178	C
1	A	1179	G
1	A	1180	U
1	A	1183	U
1	A	1186	G
1	A	1199	U
1	A	1204	A
1	A	1205	A
1	A	1212	G
1	A	1227	G
1	A	1230	A
1	A	1231	U
1	A	1235	G
1	A	1236	G
1	A	1237	A
1	A	1238	G
1	A	1242	U
1	A	1243	C
1	A	1244	A
1	A	1247	A
1	A	1248	G
1	A	1250	G
1	A	1253	A
1	A	1256	G
1	A	1266	G
1	A	1268	A
1	A	1272	A
1	A	1276	A
1	A	1282	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1288	G
1	A	1289	C
1	A	1293	C
1	A	1294	U
1	A	1300	G
1	A	1301	A
1	A	1321	A
1	A	1330	C
1	A	1339	G
1	A	1344	U
1	A	1345	C
1	A	1352	U
1	A	1355	G
1	A	1359	A
1	A	1365	A
1	A	1374	G
1	A	1376	C
1	A	1378	A
1	A	1379	U
1	A	1380	G
1	A	1383	A
1	A	1384	A
1	A	1391	U
1	A	1393	A
1	A	1395	A
1	A	1411	U
1	A	1416	G
1	A	1418	G
1	A	1419	A
1	A	1420	A
1	A	1428	C
1	A	1434	A
1	A	1446	C
1	A	1452	G
1	A	1453	A
1	A	1454	C
1	A	1456	G
1	A	1458	U
1	A	1462	C
1	A	1465	G
1	A	1468	U
1	A	1471	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1476	U
1	A	1482	G
1	A	1493	C
1	A	1503	A
1	A	1504	A
1	A	1509	A
1	A	1510	G
1	A	1515	A
1	A	1523	U
1	A	1524	G
1	A	1527	G
1	A	1530	G
1	A	1531	C
1	A	1533	C
1	A	1534	U
1	A	1535	A
1	A	1536	C
1	A	1537	G
1	A	1540	G
1	A	1555	G
1	A	1560	G
1	A	1566	A
1	A	1569	A
1	A	1576	U
1	A	1578	U
1	A	1581	G
1	A	1582	C
1	A	1583	A
1	A	1584	U
1	A	1585	C
1	A	1587	G
1	A	1592	C
1	A	1602	U
1	A	1603	A
1	A	1606	C
1	A	1607	C
1	A	1608	A
1	A	1610	A
1	A	1613	G
1	A	1616	A
1	A	1626	A
1	A	1634	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1645	G
1	A	1646	C
1	A	1647	U
1	A	1648	U
1	A	1649	G
1	A	1651	G
1	A	1652	A
1	A	1660	G
1	A	1663	G
1	A	1664	A
1	A	1674	G
1	A	1715	G
1	A	1729	U
1	A	1730	C
1	A	1732	C
1	A	1738	G
1	A	1740	G
1	A	1744	A
1	A	1750	G
1	A	1758	U
1	A	1759	A
1	A	1764	C
1	A	1767	G
1	A	1773	A
1	A	1781	U
1	A	1782	U
1	A	1791	A
1	A	1793	C
1	A	1800	C
1	A	1801	A
1	A	1802	A
1	A	1808	A
1	A	1810	A
1	A	1812	U
1	A	1816	C
1	A	1817	G
1	A	1828	G
1	A	1829	A
1	A	1833	C
1	A	1848	A
1	A	1858	A
1	A	1870	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1871	A
1	A	1872	A
1	A	1873	G
1	A	1876	A
1	A	1878	G
1	A	1880	U
1	A	1882	U
1	A	1889	A
1	A	1903	G
1	A	1906	G
1	A	1914	C
1	A	1920	C
1	A	1926	U
1	A	1927	A
1	A	1929	G
1	A	1930	G
1	A	1937	A
1	A	1938	A
1	A	1945	G
1	A	1955	U
1	A	1965	C
1	A	1966	A
1	A	1967	C
1	A	1970	A
1	A	1971	U
1	A	1972	G
1	A	1975	G
1	A	1981	A
1	A	1987	A
1	A	1991	U
1	A	1992	G
1	A	1993	U
1	A	1997	C
1	A	2004	G
1	A	2007	U
1	A	2018	G
1	A	2020	A
1	A	2021	C
1	A	2022	U
1	A	2023	C
1	A	2030	A
1	A	2031	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2033	A
1	A	2043	C
1	A	2049	G
1	A	2055	C
1	A	2056	G
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2064	C
1	A	2069	G
1	A	2072	C
1	A	2075	U
1	A	2080	A
1	A	2087	G
1	A	2092	U
1	A	2093	G
1	A	2108	A
1	A	2109	U
1	A	2110	G
1	A	2111	U
1	A	2112	G
1	A	2113	U
1	A	2115	G
1	A	2116	G
1	A	2117	A
1	A	2118	U
1	A	2119	A
1	A	2120	G
1	A	2125	G
1	A	2126	A
1	A	2127	G
1	A	2128	G
1	A	2131	U
1	A	2132	U
1	A	2133	G
1	A	2135	A
1	A	2137	U
1	A	2143	C
1	A	2146	C
1	A	2147	A
1	A	2149	U
1	A	2158	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2162	G
1	A	2163	A
1	A	2164	C
1	A	2165	C
1	A	2166	U
1	A	2169	A
1	A	2170	A
1	A	2171	A
1	A	2172	U
1	A	2189	U
1	A	2190	G
1	A	2194	U
1	A	2198	A
1	A	2203	U
1	A	2204	G
1	A	2207	C
1	A	2211	A
1	A	2212	A
1	A	2215	C
1	A	2225	A
1	A	2226	C
1	A	2230	G
1	A	2238	G
1	A	2239	G
1	A	2242	G
1	A	2243	U
1	A	2245	U
1	A	2246	G
1	A	2250	G
1	A	2268	A
1	A	2273	A
1	A	2279	G
1	A	2280	G
1	A	2283	C
1	A	2285	C
1	A	2287	A
1	A	2289	G
1	A	2305	U
1	A	2307	G
1	A	2308	G
1	A	2309	A
1	A	2310	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2311	A
1	A	2313	C
1	A	2321	U
1	A	2322	A
1	A	2325	G
1	A	2327	A
1	A	2333	A
1	A	2345	G
1	A	2347	C
1	A	2350	C
1	A	2354	C
1	A	2356	U
1	A	2357	G
1	A	2361	G
1	A	2383	G
1	A	2385	C
1	A	2397	G
1	A	2402	U
1	A	2406	A
1	A	2407	A
1	A	2409	G
1	A	2410	G
1	A	2412	A
1	A	2417	C
1	A	2423	U
1	A	2424	C
1	A	2425	A
1	A	2426	A
1	A	2429	G
1	A	2430	A
1	A	2431	U
1	A	2435	A
1	A	2440	C
1	A	2441	U
1	A	2446	G
1	A	2447	G
1	A	2448	A
1	A	2449	U
1	A	2465	C
1	A	2470	G
1	A	2476	A
1	A	2491	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2502	G
1	A	2503	A
1	A	2505	G
1	A	2517	C
1	A	2518	A
1	A	2525	G
1	A	2529	G
1	A	2535	G
1	A	2547	A
1	A	2550	G
1	A	2554	U
1	A	2556	C
1	A	2559	C
1	A	2563	U
1	A	2566	A
1	A	2567	G
1	A	2578	G
1	A	2585	U
1	A	2586	U
1	A	2600	A
1	A	2602	A
1	A	2603	G
1	A	2609	U
1	A	2613	U
1	A	2615	U
1	A	2619	C
1	A	2624	G
1	A	2629	U
1	A	2630	G
1	A	2644	G
1	A	2646	C
1	A	2648	G
1	A	2656	U
1	A	2661	G
1	A	2663	G
1	A	2665	A
1	A	2689	U
1	A	2690	U
1	A	2691	C
1	A	2714	G
1	A	2716	C
1	A	2718	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2719	G
1	A	2726	A
1	A	2727	A
1	A	2729	G
1	A	2739	U
1	A	2741	A
1	A	2748	A
1	A	2751	G
1	A	2757	A
1	A	2778	A
1	A	2791	G
1	A	2794	C
1	A	2799	A
1	A	2803	G
1	A	2807	U
1	A	2809	A
1	A	2812	G
1	A	2818	U
1	A	2820	A
1	A	2821	A
1	A	2823	A
1	A	2826	A
1	A	2833	U
1	A	2834	G
1	A	2835	A
1	A	2843	G
1	A	2850	A
1	A	2852	G
1	A	2855	C
1	A	2861	U
1	A	2867	G
1	A	2871	U
1	A	2872	A
1	A	2879	A
1	A	2880	C
1	A	2883	A
1	A	2891	U
1	A	2897	U
2	B	13	G
2	B	15	A
2	B	16	G
2	B	24	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	35	C
2	B	36	C
2	B	44	G
2	B	51	G
2	B	54	G
2	B	56	G
2	B	61	G
2	B	66	A
2	B	87	U
2	B	88	C
2	B	89	U
2	B	90	C
2	B	99	A
2	B	109	A
2	B	110	C
2	B	111	U

All (32) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	271	G
1	A	404	A
1	A	479	A
1	A	613	A
1	A	800	A
1	A	846	U
1	A	877	A
1	A	1237	A
1	A	1275	A
1	A	1344	U
1	A	1378	A
1	A	1475	G
1	A	1514	G
1	A	1606	C
1	A	1847	A
1	A	1875	G
1	A	2109	U
1	A	2127	G
1	A	2145	C
1	A	2146	C
1	A	2157	G
1	A	2162	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2211	A
1	A	2225	A
1	A	2286	G
1	A	2308	G
1	A	2326	C
1	A	2425	A
1	A	2602	A
1	A	2655	G
1	A	2756	U
1	A	2820	A

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

5 non-standard protein/DNA/RNA residues are modelled in this entry.

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
32	MHW	6	1	32	9,9,10	1.87	1 (11%)	8,11,13	3.00	2 (25%)
32	DBB	6	3	32	5,5,6	7.91	2 (40%)	3,5,7	1.66	1 (33%)
32	MHU	6	5	32	15,15,16	4.41	3 (20%)	16,19,21	1.01	1 (6%)
32	MHV	6	6	32	9,9,10	5.21	1 (11%)	9,11,13	3.03	5 (55%)
32	004	6	7	32	10,10,11	6.31	3 (30%)	10,12,14	0.59	0

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
32	MHW	6	1	32	-	0/0/2/4	0/1/1/1
32	DBB	6	3	32	-	0/2/4/6	0/0/0/0
32	MHU	6	5	32	-	0/10/12/14	0/1/1/1
32	MHV	6	6	32	-	0/0/12/14	0/1/1/1

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	004	6	7	32	-	0/4/6/8	0/1/1/1

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	6	7	004	O-C	19.48	1.24	1.11
32	6	3	DBB	O-C	17.10	1.23	1.11
32	6	5	MHU	O-C	16.04	1.22	1.11
32	6	6	MHV	O-C	15.25	1.21	1.11
32	6	1	MHW	CA-C	4.61	1.54	1.45
32	6	5	MHU	CZ-NZ	4.34	1.48	1.37
32	6	3	DBB	CB-CA	-4.19	1.48	1.53
32	6	7	004	CB-CA	-3.56	1.50	1.52
32	6	7	004	CA-C	2.15	1.51	1.48
32	6	5	MHU	CB-CG	2.05	1.56	1.51

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	6	1	MHW	CD-CE-N	6.36	134.13	123.42
32	6	6	MHV	CD2-CG-CB	5.58	123.53	115.85
32	6	6	MHV	CD2-CE-N	-5.18	98.62	110.04
32	6	1	MHW	CG2-CD-CE	-4.86	111.66	118.92
32	6	6	MHV	OD1-CG-CD2	-2.66	117.19	122.06
32	6	3	DBB	C-CA-N	-2.53	111.30	113.83
32	6	6	MHV	CA-CB-CG	2.26	115.06	111.44
32	6	5	MHU	CE2-CZ-NZ	-2.22	118.31	121.61
32	6	6	MHV	OD1-CG-CB	-2.12	119.28	121.98

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.5 Carbohydrates

There are no carbohydrates in this entry.

5.6 Ligand geometry

Of 173 ligands modelled in this entry, 172 are monoatomic - leaving 1 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	$\# Z > 2$
33	DOL	A	3001	-	50,50,50	2.96	14 (28%)	68,70,70	3.26	21 (30%)

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
33	DOL	A	3001	-	-	0/62/77/77	0/1/3/3

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	A	3001	DOL	C26-N25	8.70	1.47	1.34
33	A	3001	DOL	O15-C14	8.43	1.37	1.21
33	A	3001	DOL	C22-C23	7.36	1.53	1.31
33	A	3001	DOL	C6-N5	6.99	1.46	1.35
33	A	3001	DOL	O38-C37	6.38	1.37	1.21
33	A	3001	DOL	C1-C2	-6.15	1.45	1.54
33	A	3001	DOL	C19-C20	4.82	1.51	1.34
33	A	3001	DOL	C28-C29	3.11	1.40	1.32
33	A	3001	DOL	C3-C2	-3.06	1.49	1.53
33	A	3001	DOL	C16-C17	-3.01	1.49	1.54
33	A	3001	DOL	O18-C17	-2.83	1.38	1.44
33	A	3001	DOL	C22-C20	2.79	1.52	1.45
33	A	3001	DOL	O36-C32	-2.48	1.40	1.44
33	A	3001	DOL	O36-C37	-2.28	1.29	1.34

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	A	3001	DOL	O40-S39-O41	-18.21	100.57	117.96
33	A	3001	DOL	C12-O11-C10	10.81	105.96	103.54
33	A	3001	DOL	C8-N9-C10	-6.07	103.98	107.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	A	3001	DOL	C29-C28-C26	-5.34	112.07	121.88
33	A	3001	DOL	C4-N5-C1	-5.29	106.22	112.32
33	A	3001	DOL	C17-C19-C20	-4.63	121.24	127.17
33	A	3001	DOL	O36-C37-C1	4.01	120.04	111.56
33	A	3001	DOL	C23-C22-C20	-3.76	120.27	125.94
33	A	3001	DOL	C30-C29-C28	-3.33	116.08	126.42
33	A	3001	DOL	C42-S39-C2	2.93	111.25	104.36
33	A	3001	DOL	O41-S39-C42	2.85	111.70	107.83
33	A	3001	DOL	O38-C37-C1	-2.84	119.52	124.67
33	A	3001	DOL	O40-S39-C42	2.76	111.58	107.83
33	A	3001	DOL	C3-C2-C1	2.73	109.05	104.68
33	A	3001	DOL	O36-C32-C30	2.65	111.60	107.08
33	A	3001	DOL	O11-C12-C8	-2.62	108.08	110.06
33	A	3001	DOL	C32-O36-C37	2.53	122.27	117.98
33	A	3001	DOL	C31-C30-C32	2.42	115.71	111.05
33	A	3001	DOL	C17-C16-C14	-2.32	109.34	113.60
33	A	3001	DOL	C10-C13-C14	-2.13	107.17	113.80
33	A	3001	DOL	C24-C23-C22	-2.03	118.61	125.83

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

EDS was not executed - this section will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.