



Full wwPDB EM Validation Report ⓘ

Jun 18, 2026 – 09:01 am BST

PDB ID : 8RCS / pdb_00008rcs
EMDB ID : EMD-19058
Title : Escherichia coli paused disome complex (Rotated disome interface class 1)
Authors : Fluegel, T.; Schacherl, M.
Deposited on : 2023-12-07
Resolution : 4.46 Å(reported)
Based on initial model : 7N1P

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

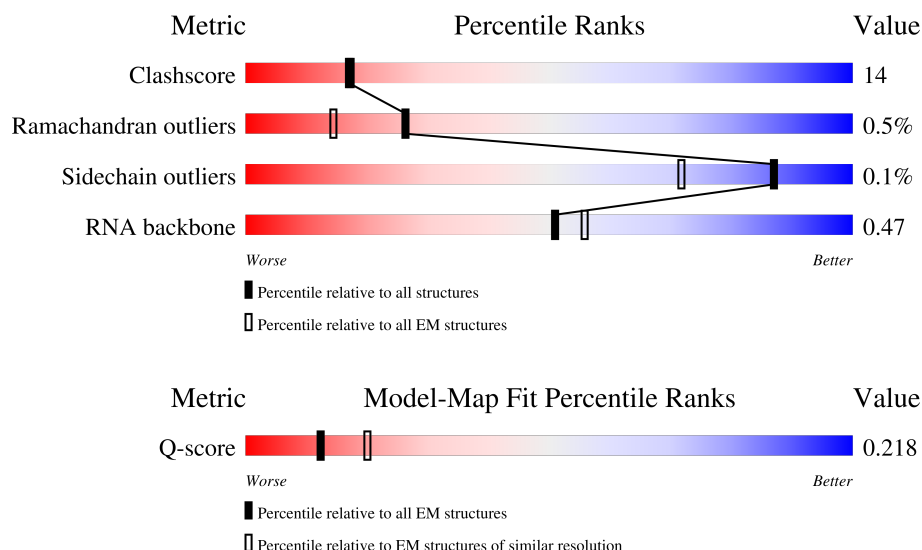
EMDB validation analysis : 0.0.1.dev132
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance i

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

The reported resolution of this entry is 4.46 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	3001 (3.96 - 4.96)

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

Mol	Chain	Length	Quality of chain
1	12	78	32% 73% 24% ..
2	32	59	29% 63% 36% .
3	4	70	66% 64% 30% ..

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
3	41	70	
4	62	65	
5	71	2904	
5	72	2904	
6	82	120	
7	A1	1542	
7	A2	1542	
8	B	241	
8	B2	241	
9	C1	233	
9	C2	233	
10	D1	206	
10	D2	206	
11	E1	167	
11	E2	167	
12	F1	135	
12	F2	135	
13	G1	179	
13	G2	179	
14	H1	130	
14	H2	130	
15	I1	130	
15	I2	130	
16	J1	103	
16	J2	103	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
17	K1	129	
17	K2	129	
18	L1	124	
18	L2	124	
19	M1	118	
19	M2	118	
20	N1	101	
20	N2	101	
21	O1	89	
21	O2	89	
22	P1	82	
23	Q1	84	
23	Q2	84	
24	R1	75	
24	R2	75	
25	S1	92	
25	S2	92	
26	T1	87	
27	U1	71	
27	U2	71	
28	V2	59	
29	W	76	
30	W1	76	
31	Y	76	
32	Y1	76	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
33	Z1	557	
34	a2	234	
35	b2	273	
36	e2	179	
37	g2	55	
38	h2	136	
39	i2	149	
40	l2	46	
41	o2	144	
42	p	10	
43	r2	117	
44	z2	85	

2 Entry composition [i](#)

There are 48 unique types of molecules in this entry. The entry contains 187319 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	12	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 2 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	32	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 3 is a protein called Large ribosomal subunit protein bL31A.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	4	68	Total	C	N	O	S	0	0
			533	330	101	96	6		
3	41	14	Total	C	N	O		0	0
			118	74	26	18			

- Molecule 4 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	62	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 5 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	71	19	Total	C	N	O	P	0	0
			406	182	73	132	19		
5	72	2904	Total	C	N	O	P	0	0
			62355	27824	11468	20159	2904		

- Molecule 6 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	82	120	Total	C	N	O	P	0	0
			2569	1144	468	837	120		

- Molecule 7 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A1	1542	Total	C	N	O	P	0	0
			33092	14767	6064	10719	1542		
7	A2	1537	Total	C	N	O	P	0	0
			32990	14721	6049	10683	1537		

- Molecule 8 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	B	233	Total	C	N	O	S	0	0
			1815	1145	325	337	8		
8	B2	227	Total	C	N	O	S	0	0
			1776	1123	318	327	8		

- Molecule 9 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	C1	213	Total	C	N	O	S	0	0
			1665	1054	312	295	4		
9	C2	212	Total	C	N	O	S	0	0
			1658	1049	311	294	4		

- Molecule 10 is a protein called Small ribosomal subunit protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	D1	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		
10	D2	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 11 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	E1	158	Total	C	N	O	S	0	0
			1166	725	220	215	6		
11	E2	158	Total	C	N	O	S	0	0
			1166	725	220	215	6		

- Molecule 12 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	F1	106	Total	C	N	O	S	0	0
			862	545	156	154	7		
12	F2	106	Total	C	N	O	S	0	0
			862	545	156	154	7		

- Molecule 13 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	G1	155	Total	C	N	O	S	0	0
			1228	767	237	220	4		
13	G2	154	Total	C	N	O	S	0	0
			1214	756	235	219	4		

- Molecule 14 is a protein called Small ribosomal subunit protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	H1	129	Total	C	N	O	S	0	0
			979	616	173	184	6		
14	H2	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 15 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	I1	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		
15	I2	129	Total	C	N	O	S	0	0
			1036	642	208	183	3		

- Molecule 16 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	J1	102	Total	C	N	O	S	0	0
			817	509	157	150	1		
16	J2	100	Total	C	N	O	S	0	0
			803	502	154	146	1		

- Molecule 17 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	K1	115	Total	C	N	O	S	0	0
			857	528	168	158	3		
17	K2	118	Total	C	N	O	S	0	0
			884	545	175	161	3		

- Molecule 18 is a protein called Small ribosomal subunit protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	L1	123	Total	C	N	O	S	0	0
			955	590	196	165	4		
18	L2	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 19 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	M1	115	Total	C	N	O	S	0	0
			891	552	179	157	3		
19	M2	117	Total	C	N	O	S	0	0
			910	564	183	160	3		

- Molecule 20 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	N1	100	Total	C	N	O	S	0	0
			805	499	164	139	3		
20	N2	100	Total	C	N	O	S	0	0
			805	499	164	139	3		

- Molecule 21 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	O1	88	Total	C	N	O	S	0	0
			714	439	144	130	1		
21	O2	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 22 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	P1	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 23 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Q1	80	Total	C	N	O	S	0	0
			648	411	121	113	3		
23	Q2	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 24 is a protein called Small ribosomal subunit protein bS18.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	R1	74	Total	C	N	O	S	0	0
			624	395	122	105	2		
24	R2	74	Total	C	N	O	S	0	0
			626	395	123	107	1		

- Molecule 25 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	S1	83	Total	C	N	O	S	0	0
			663	424	126	111	2		
25	S2	83	Total	C	N	O	S	0	0
			663	424	126	111	2		

- Molecule 26 is a protein called Small ribosomal subunit protein bS20.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	T1	86	Total	C	N	O	S	0	0
			670	414	138	115	3		

- Molecule 27 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	U1	70	Total	C	N	O	S	0	0
			590	366	125	98	1		
27	U2	70	Total	C	N	O	S	0	0
			590	366	125	98	1		

- Molecule 28 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	V2	59	Total	C	N	O	P	0	0
			1272	569	242	402	59		

- Molecule 29 is a RNA chain called tRNA-Trp (P/E-site).

Mol	Chain	Residues	Atoms						AltConf	Trace
29	W	76	Total	C	N	O	P	S	0	0
			1630	730	286	536	76	2		

- Molecule 30 is a RNA chain called tRNA-Phe (P/E-site).

Mol	Chain	Residues	Atoms						AltConf	Trace
30	W1	33	Total	C	N	O	P	S	0	0
			718	324	133	226	33	2		

- Molecule 31 is a RNA chain called tRNA-Ala (A/P-site).

Mol	Chain	Residues	Atoms						AltConf	Trace
31	Y	76	Total	C	N	O	P		0	0
			1628	726	293	533	76			

- Molecule 32 is a RNA chain called tRNA-Val (A/P-site).

Mol	Chain	Residues	Atoms						AltConf	Trace
32	Y1	36	Total	C	N	O	P		0	0
			778	348	142	252	36			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Y1	34	CM0	U	variant	GB 1847302804

- Molecule 33 is a protein called 30S ribosomal protein S1.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	Z1	9	Total	C	N	O	0	0
			75	49	10	16		

- Molecule 34 is a protein called Large ribosomal subunit protein uL1.

Mol	Chain	Residues	Atoms						AltConf	Trace
34	a2	223	Total	C	N	O	S		0	0
			1661	1039	302	314	6			

- Molecule 35 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	b2	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 36 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	e2	178	Total	C	N	O	S	0	0
			1420	905	251	258	6		

- Molecule 37 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	g2	52	Total	C	N	O	0	0
			427	275	78	74		

- Molecule 38 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	h2	136	Total	C	N	O	S	1	0
			1085	692	209	178	6		

- Molecule 39 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	i2	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 40 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	l2	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 41 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	o2	51	Total	C	N	O	S	0	0
			377	231	83	62	1		

- Molecule 42 is a protein called Nascent chain.

Mol	Chain	Residues	Atoms				AltConf	Trace
42	p	10	Total	C	N	O	0	0
			76	47	18	11		

- Molecule 43 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
43	r2	116	Total	C	N	O	0	0
			891	552	178	161		

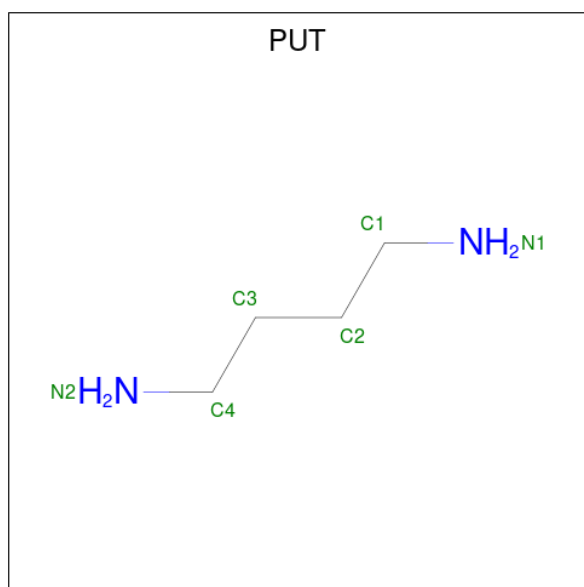
- Molecule 44 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	z2	76	Total	C	N	O	S	0	0
			582	360	117	104	1		

- Molecule 45 is ZINC ION (CCD ID: ZN) (formula: Zn).

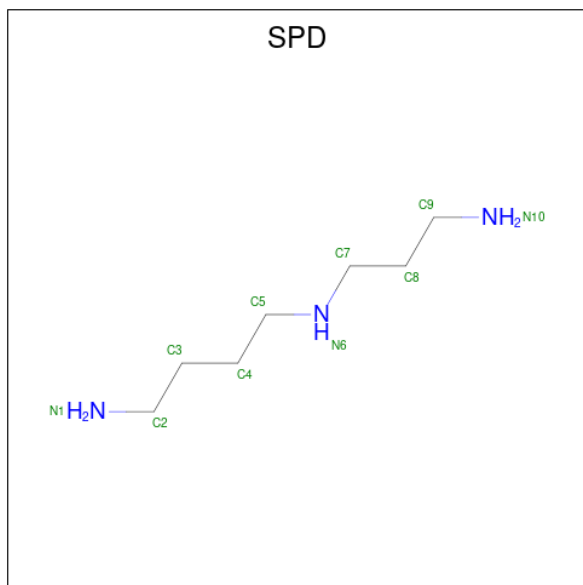
Mol	Chain	Residues	Atoms		AltConf
45	4	1	Total	Zn	0
			1	1	
45	B	1	Total	Zn	0
			1	1	

- Molecule 46 is 1,4-DIAMINOBTUTANE (CCD ID: PUT) (formula: C₄H₁₂N₂).



Mol	Chain	Residues	Atoms			AltConf
46	72	1	Total	C	N	0
			6	4	2	
46	72	1	Total	C	N	0
			6	4	2	

- Molecule 47 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$).



Mol	Chain	Residues	Atoms			AltConf
47	72	1	Total	C	N	0
			10	7	3	

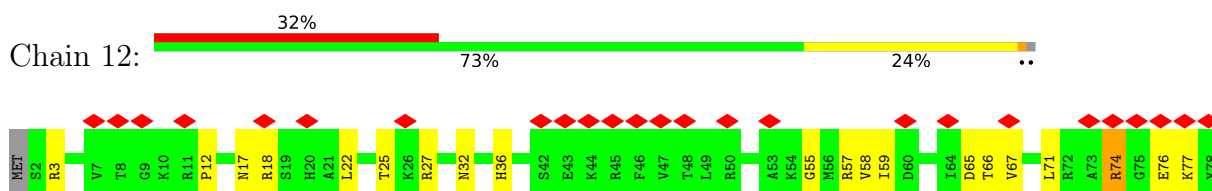
- Molecule 48 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
48	72	165	Total	Mg	0
			165	165	
48	A1	60	Total	Mg	0
			60	60	
48	A2	41	Total	Mg	0
			41	41	
48	N2	1	Total	Mg	0
			1	1	
48	Y	1	Total	Mg	0
			1	1	
48	o2	1	Total	Mg	0
			1	1	

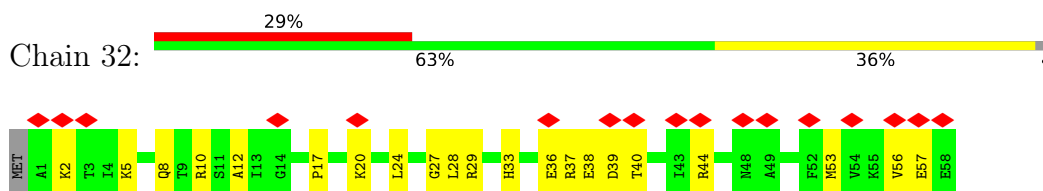
3 Residue-property plots [i](#)

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

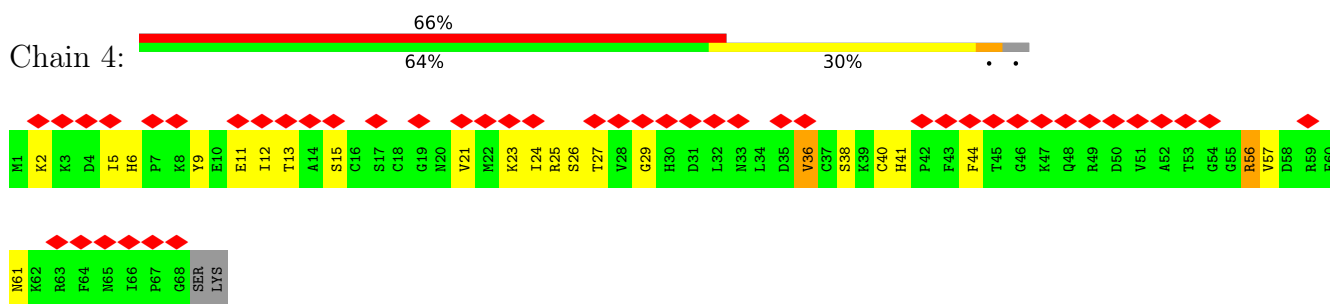
- Molecule 1: 50S ribosomal protein L28



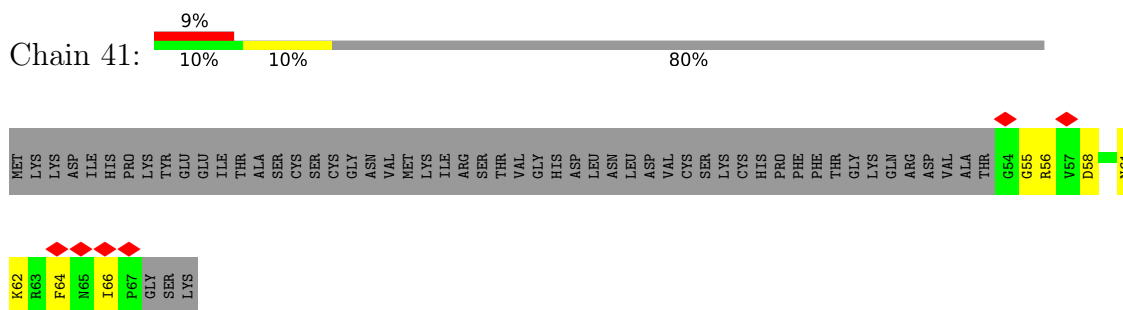
- Molecule 2: 50S ribosomal protein L30



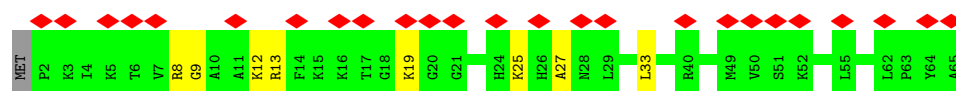
- Molecule 3: Large ribosomal subunit protein bL31A



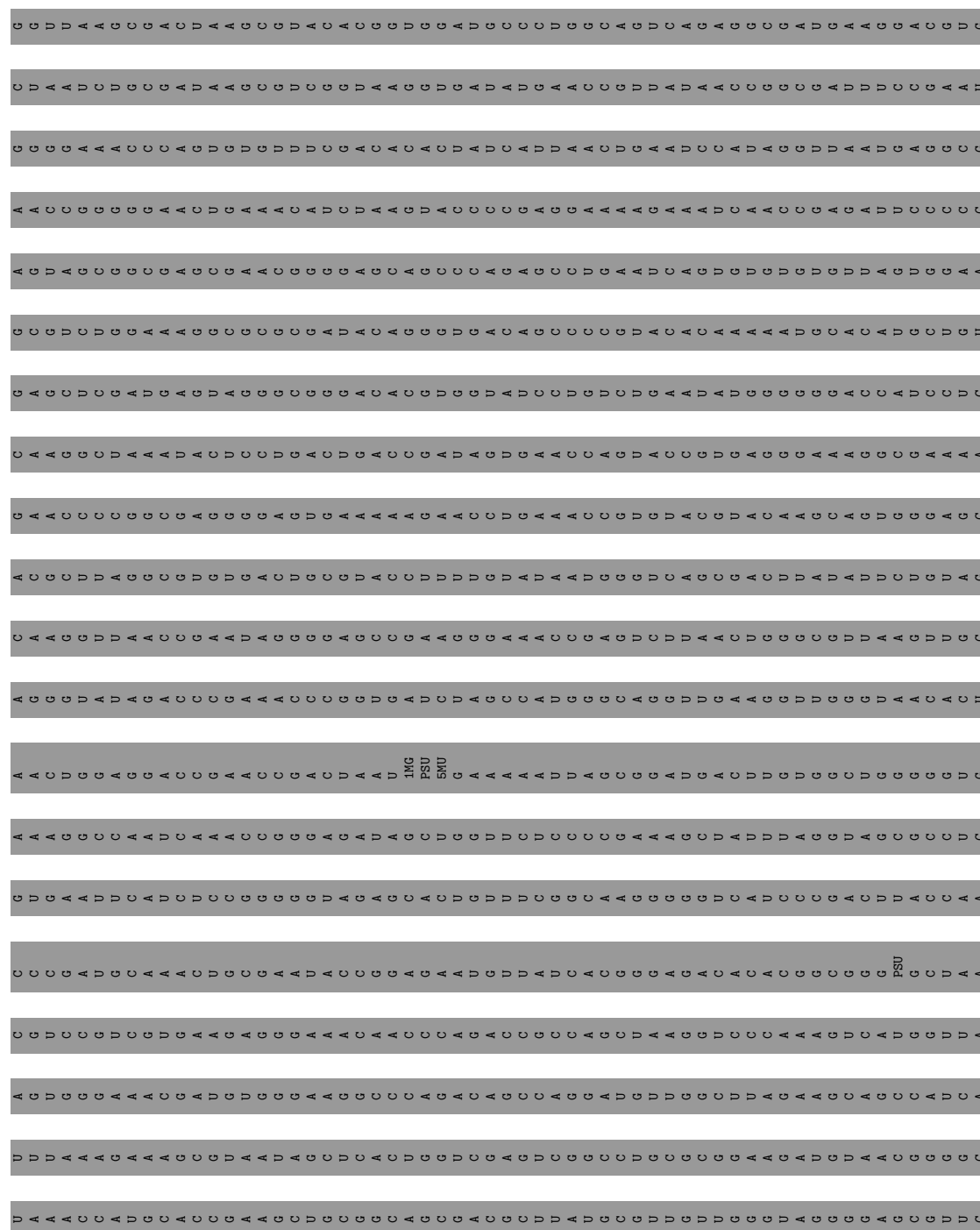
- Molecule 3: Large ribosomal subunit protein bL31A



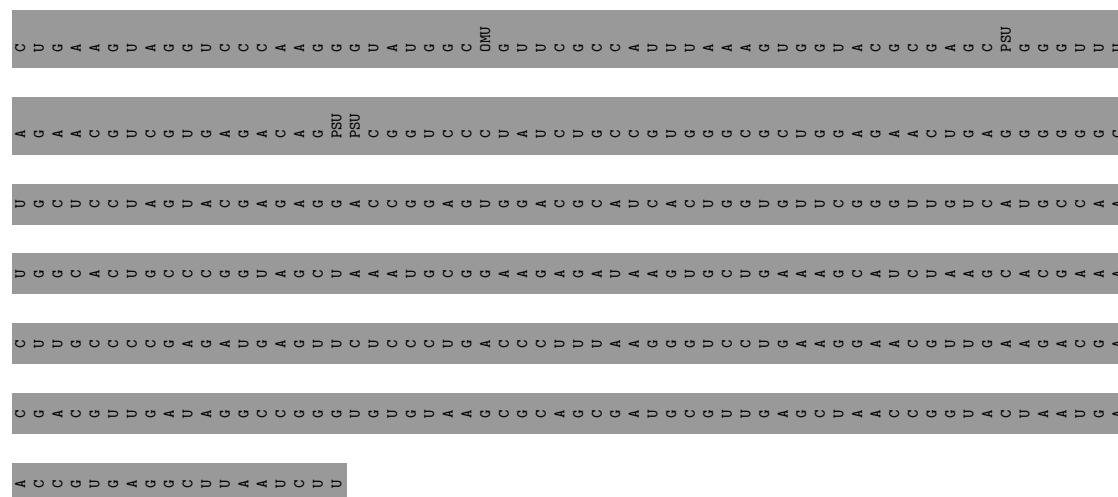
- Molecule 4: 50S ribosomal protein L35



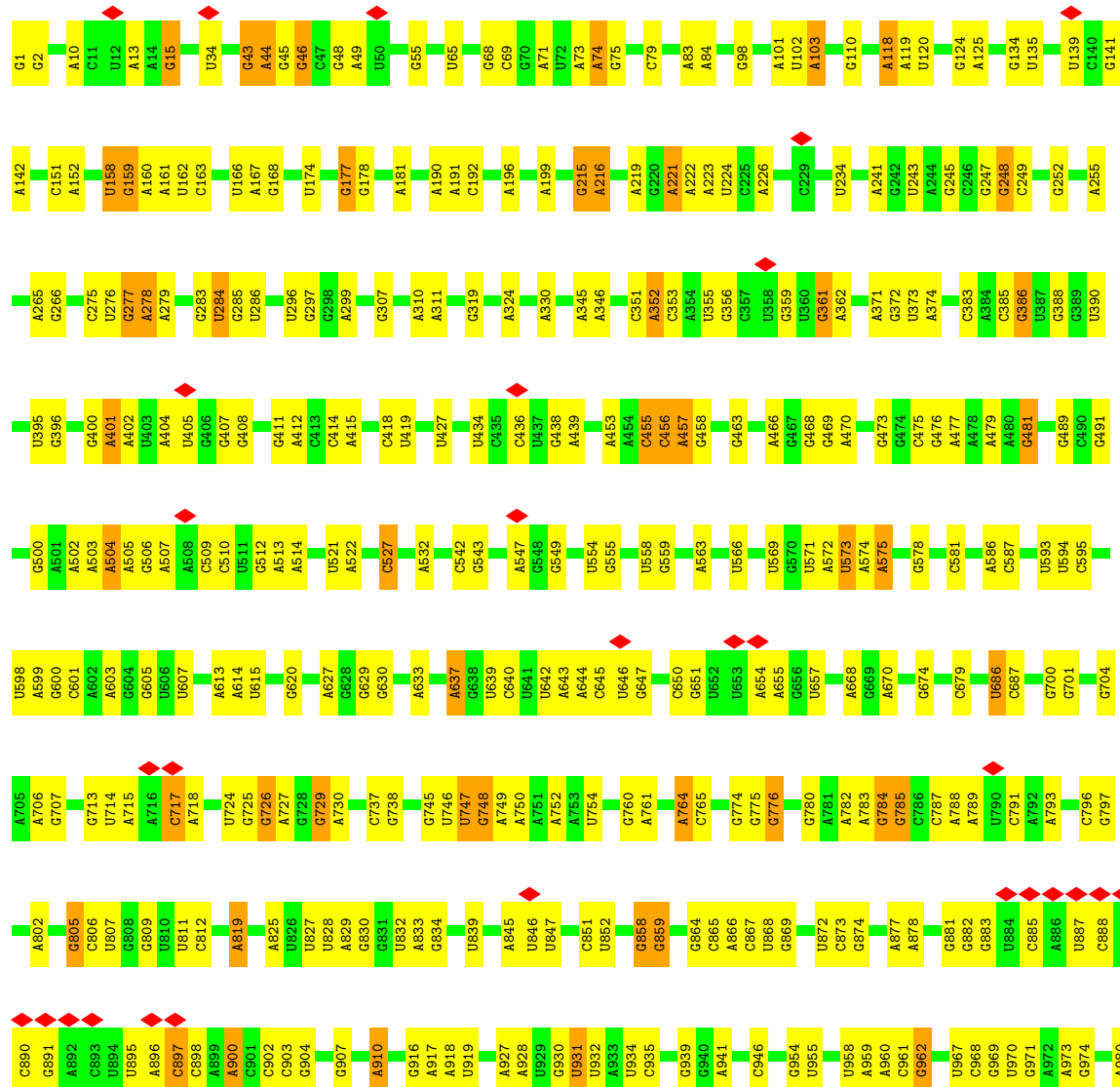
Chain 71: 99%



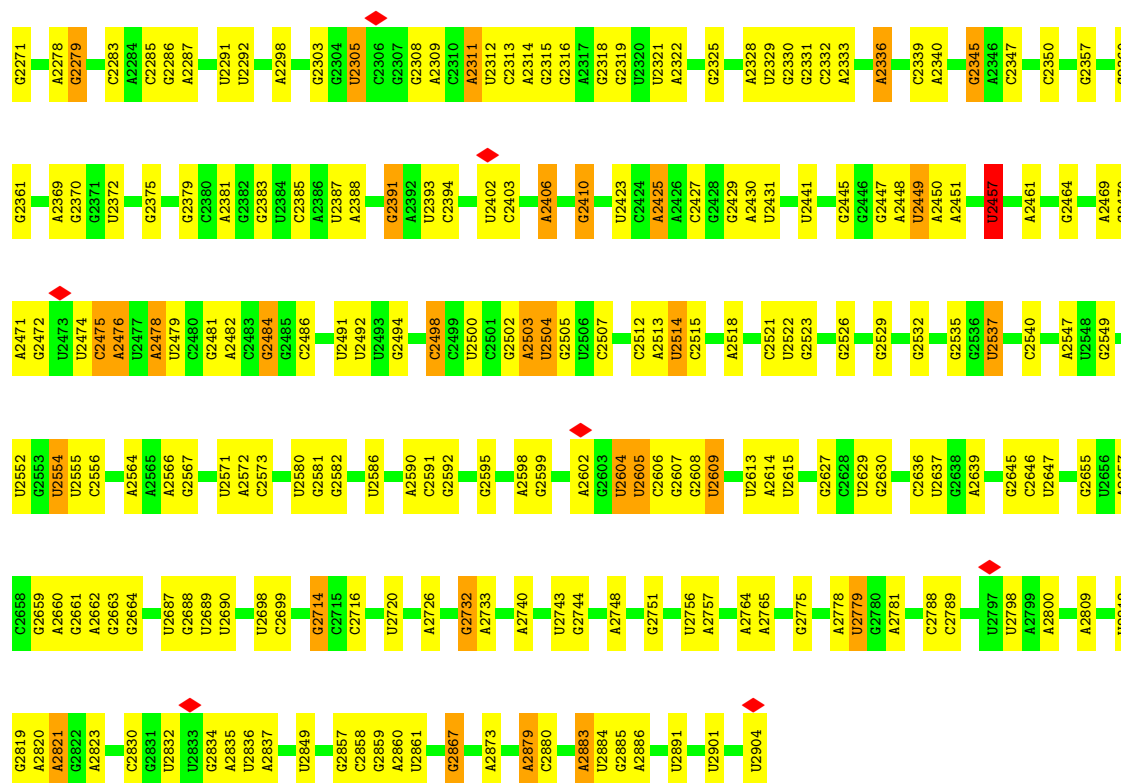




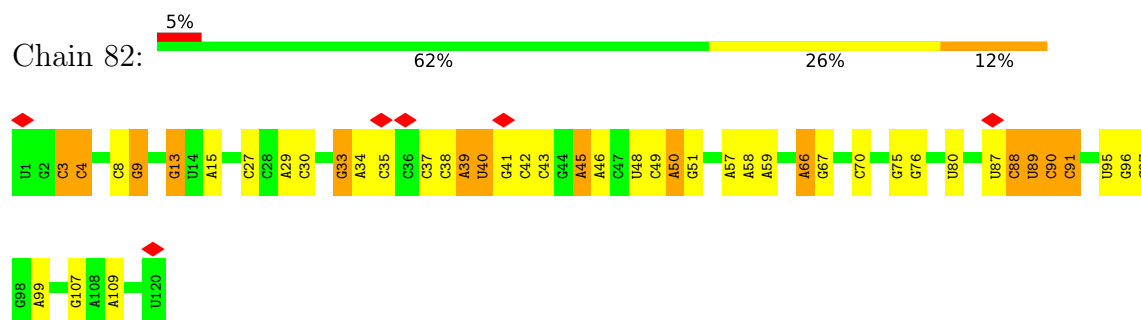
Molecule 5: 23S ribosomal RNA



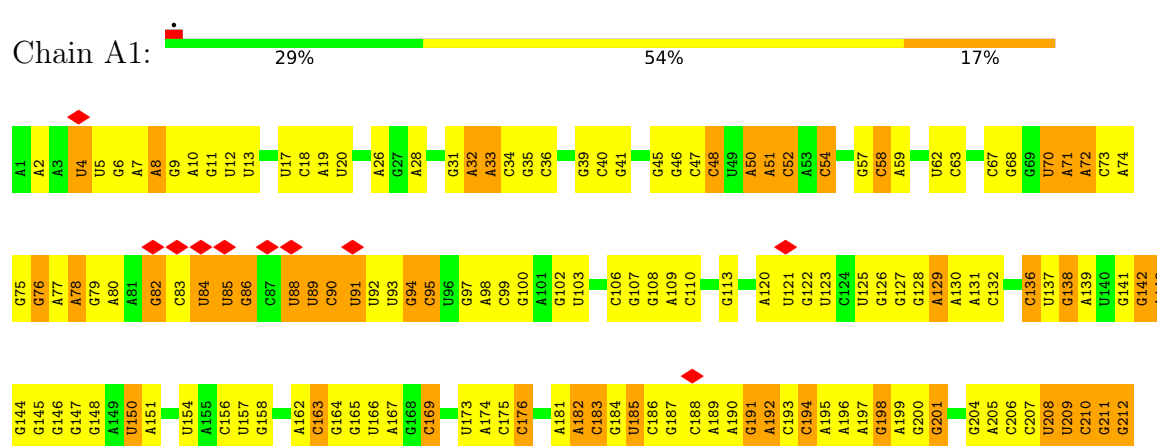
C2175	A2176	C2177	C2178	U2181	U2182	U2185	U2186	U2189	U2190	U2194	U2195	U2196	U2197	U2198	U2199	C2200	C2201	C2204	C2208	A2211	A2212	U2213	A2225	G2230	U2231	U2232	U2233	U2234	G2238	G2239	U2240	A2241	U2242	U2243	C2251	C2258	U2259	C2260	C2261	U2262	C2263	C2264	A2267	A2268	G2269	A2270																																																																
U2113	A2114	G2115	G2116	A2117	U2118	A2119	G2120	G2121	G2122	U2123	U2124	G2125	A2126	G2127	G2128	G2129	U2130	U2131	U2132	U2133	U2134	U2135	U2136	U2137	U2138	U2139	U2140	U2141	U2142	U2143	U2144	U2145	U2146	U2147	U2148	U2149	U2150	U2151	U2152	U2153	U2154	U2155	U2156	U2157	U2158	U2159	U2160	U2161	U2162	U2163	U2164	U2165	U2166	U2167	U2168	U2169	U2170	U2171	U2172	U2173	C2174																																																	
A2014	U2022	C2023	G2024	C2025	A2030	A2031	G2032	A2033	U2034	A2037	G2038	U2039	G2040	C2043	C2047	C2055	G2056	A2059	A2060	G2061	A2062	C2063	G2069	A2070	A2071	C2072	U2086	G2087	A2088	U2092	G2093	A2094	A2095	U2098	U2099	G2100	C2101	G2102	C2103	C2104	U2105	U2106	G2107	A2108	U2109	A2110	U2111	G2112	U2113	U2114	U2115	U2116	U2117	U2118	U2119	U2120	U2121	U2122	U2123	U2124	U2125	U2126	U2127	U2128	U2129	U2130	U2131	U2132	U2133	U2134	U2135	U2136	U2137	U2138	U2139	U2140	U2141	U2142	U2143	U2144	U2145	U2146	U2147	U2148	U2149	U2150	U2151	U2152	U2153	U2154	U2155	U2156	U2157	U2158	U2159	U2160	U2161	U2162	U2163	U2164	U2165	U2166	U2167	U2168	U2169	U2170	U2171	U2172	U2173	C2174
C1914	3TD1915	A1916	U1917	A1918	A1919	C1920	G1921	G1922	U1923	C1924	U1925	U1926	A1927	A1928	U1929	G1930	G1935	A1936	A1937	C1938	A1939	U1939	U1943	A1952	A1953	G1954	U1955	U1956	A1960	C1961	U1962	U1963	G1964	C1965	A1966	C1967	A1970	U1971	G1972	G1975	U1982	C1990	U1991	C1992	U1993	C1996	C1997	G2010	A2013																																																													
A1801	G1807	A1808	A1809	C1816	G1817	A1818	A1819	U1820	A1821	U1825	U1826	U1827	U1828	G1835	C1836	C1837	C1838	G1839	G1846	A1847	A1848	A1853	U1859	G1860	U1864	G1869	C1870	A1871	A1872	G1873	U1880	C1881	U1883	A1889	A1890	A1899	A1900	A1901	C1905	G1906	G1907	G1910	U1911	U1912	A1913																																																																	
C1914	3TD1915	A1916	U1917	A1918	A1919	C1920	G1921	G1922	U1923	C1924	U1925	U1926	A1927	A1928	U1929	G1930	G1935	A1936	A1937	C1938	A1939	U1939	U1943	A1952	A1953	G1954	U1955	U1956	A1960	C1961	U1962	U1963	G1964	C1965	A1966	C1967	A1970	U1971	G1972	G1975	U1982	C1990	U1991	C1992	U1993	C1996	C1997	G2010	A2013																																																													
A2014	U2022	C2023	G2024	C2025	A2030	A2031	G2032	A2033	U2034	A2037	G2038	U2039	G2040	C2043	C2047	C2055	G2056	A2059	A2060	G2061	A2062	C2063	G2069	A2070	A2071	C2072	U2086	G2087	A2088	U2092	G2093	A2094	A2095	U2098	U2099	G2100	C2101	G2102	C2103	C2104	U2105	U2106	G2107	A2108	U2109	A2110	U2111	G2112	U2113	U2114	U2115	U2116	U2117	U2118	U2119	U2120	U2121	U2122	U2123	U2124	U2125	U2126	U2127	U2128	U2129	U2130	U2131	U2132	U2133	U2134	U2135	U2136	U2137	U2138	U2139	U2140	U2141	U2142	U2143	U2144	U2145	U2146	U2147	U2148	U2149	U2150	U2151	U2152	U2153	U2154	U2155	U2156	U2157	U2158	U2159	U2160	U2161	U2162	U2163	U2164	U2165	U2166	U2167	U2168	U2169	U2170	U2171	U2172	U2173	C2174
C2175	C2176	C2177	C2178	U2181	U2182	U2185	U2186	U2189	U2190	U2194	U2195	U2196	U2197	U2198	U2199	C2200	C2201	C2204	C2208	A2211	A2212	U2213	A2225	G2230	U2231	U2232	U2233	U2234	G2238	G2239	U2240	A2241	U2242	U2243	C2251	C2258	U2259	C2260	C2261	U2262	C2263	C2264	A2267	A2268	G2269	A2270																																																																
U1068	A1069	A1070	G1071	C1072	A1073	G1074	C1075	C1076	U1077	U1078	C1079	A1080	A1081	U1082	U1083	A1084	A1085	A1086	G1087	A1088	A1089	G1090	G1091	G1092	G1093	U1094	C1095	A1096	U1097	A1098	U1105	G1106	G1110	A1111	G1112	G1115	G1116	G1122	G1125	U1130	U1132	A1133	A1134	C1135	G1136	G1137	G1138	C1140	A1142	A1143																																																												
A1144	G1149	G1153	G1154	C1161	A1165	G1166	C1167	G1168	A1169	C1172	U1173	U1174	U1175	U1176	G1177	A1178	G1179	U1180	U1181	G1182	U1183	U1184	G1187	G1190	G1191	A1205	U1209	G1210	C1211	G1212	A1213	A1214	A1230	G1231	G1232	C1233	U1234	G1235	G1236	A1237	A1247	G1248	U1249	G1250	A1253	G1256																																																																
C1257	U1258	G1259	A1262	A1265	G1266	G1271	A1272	U1273	A1274	A1275	G1278	G1279	G1283	A1286	A1287	G1288	C1295	G1296	C1297	G1300	A1301	A1302	G1309	C1315	U1318	C1319	C1320	A1321	C1322	C1323	G1324	U1325	U1326	A1327	A1328	U1329	C1330	G1331	G1332	G1338	G1343	C1345	G1351	U1352																																																																		
C1357	A1358	A1359	C1363	G1364	A1365	G1368	G1371	U1372	C1376	U1379	G1380	A1383	A1384	A1385	C1386	A1387	A1392	A1393	U1394	A1395	U1396	U1405	U1406	G1416	C1417	G1418	A1419	A1420	G1421	C1428	G1429	G1430	A1431	A1432	A1433	A1434	U1440	G1441	U1442	U1443	G1444	C1447	G1452	A1453																																																																		
U1460	C1461	A1469	A1470	G1475	U1476	A1477	G1478	G1482	U1486	U1487	C1488	C1489	A1490	G1491	G1492	C1493	A1494	U1497	C1498	A1503	A1504	A1505	A1508	A1509	U1513	G1514	A1515	U1523	G1524	A1528	A1532	A1535	C1536	G1537	G1538	U1539	G1540	G1541	G1542	G1543	A1544	A1548	A1549	A1566																																																																		
A1569	A1570	A1571	U1578	A1579	A1580	U1581	C1582	U1584	C1585	A1586	G1587	U1594	C1595	A1596	A1597	A1598	A1603	C1604	A1608	A1609	A1610	A1618	G1619	A1626	A1632	U1636	A1637	G1645	C1646	U1647	U1648	G1649	A1664	G1667	G1674	A1677	A1678	G1681	G1682	U1688	A1689	A1690																																																																				
U1693	G1699	A1700	G1703	C1704	U1709	G1710	U1714	G1715	U1720	U1721	C1727	C1728	U1729	G1730	C1731	G1738	A1744	A1745	G1753	A1754	A1755	G1756	A1759	A1762	G1763	C1764	A1773	U1779	U1782	A1783	A1784	A1785	A1786	A1789	G1790	A1791	A1794	C1795	U1796	G1797	U1798	C1800																																																																				
A1801	G1807	A1808	A1809	C1816	G1817	A1818	A1819	U1820	A1821	U1825	U1826	U1827	U1828	G1835	C1836	C1837	C1838	G1839	G1846	A1847	A1848	A1853	U1859	G1860	U1864	G1869	C1870	A1871	A1872	G1873	U1880	C1881	U1883	A1889	A1890	A1899	A1900	A1901	C1905	G1906	G1907	G1910	U1911	U1912	A1913																																																																	
C1914	3TD1915	A1916	U1917	A1918	A1919	C1920	G1921	G1922	U1923	C1924	U1925	U1926	A1927	A1928	U1929	G1930	G1935	A1936	A1937	C1938	A1939	U1939	U1943	A1952	A1953	G1954	U1955	U1956	A1960	C1961	U1962	U1963	G1964	C1965	A1966	C1967	A1970	U1971	G1972	G1975	U1982	C1990	U1991	C1992	U1993	C1996	C1997	G2010	A2013																																																													
A2014	U2022	C2023	G2024	C2025	A2030	A2031	G2032	A2033	U2034	A2037	G2038	U2039	G2040	C2043	C2047	C2055	G2056	A2059	A2060	G2061	A2062	C2063	G2069	A2070	A2071	C2072	U2086	G2087	A2088	U2092	G2093	A2094	A2095	U2098	U2099	G2100	C2101	G2102	C2103	C2104	U2105	U2106	G2107	A2108	U2109	A2110	U2111	G2112																																																														
U2113	A2114	G2115	G2116	A2117	U2118	A2119	G2120	G2121	G2122	U2123	U2124	G2125	A2126	G2127	G2128	G2129	U2130	U2131	U2132	U2133	U2134	U2135	G2136	U2137	G2138	U2139	G2140	G2141	G2142	G2143	G2144	G2145	C2146	A2147	U2151	G2152	C2153	A2154	U2155	U2156	G2157	A2158	G2159	C2160	C2161	A2162	A2163	C2164	C2165	U2166	U2167	G2168	A2169	U2170	A2171	U2172	A2173	C2174																																																				
C2175	C2176	C2177	C2178	U2181	U2182	U2185	U2186	U2189	U2190	U2194	U2195	U2196	U2197	U2198	U2199	C2200	C2201	C2204	C2208	A2211	A2212	U2213	A2225	G2230	U2231	U2232	U2233	U2234	G2238	G2239	U2240	A2241	U2242	U2243	C2251	C2258	U2259	C2260	C2261	U2262	C2263	C2264	A2267	A2268	G2269	A2270																																																																

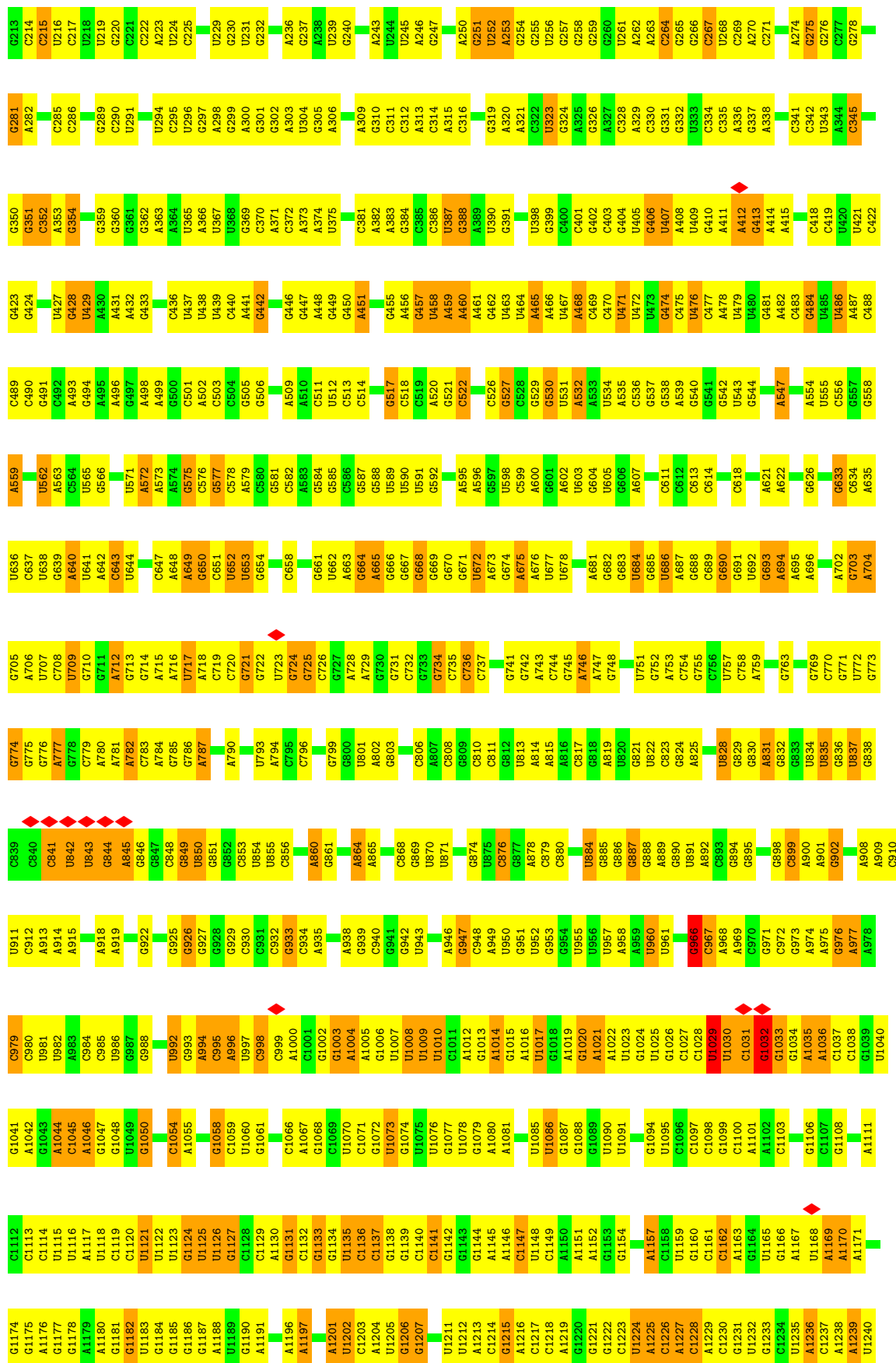


• Molecule 6: 5S ribosomal RNA

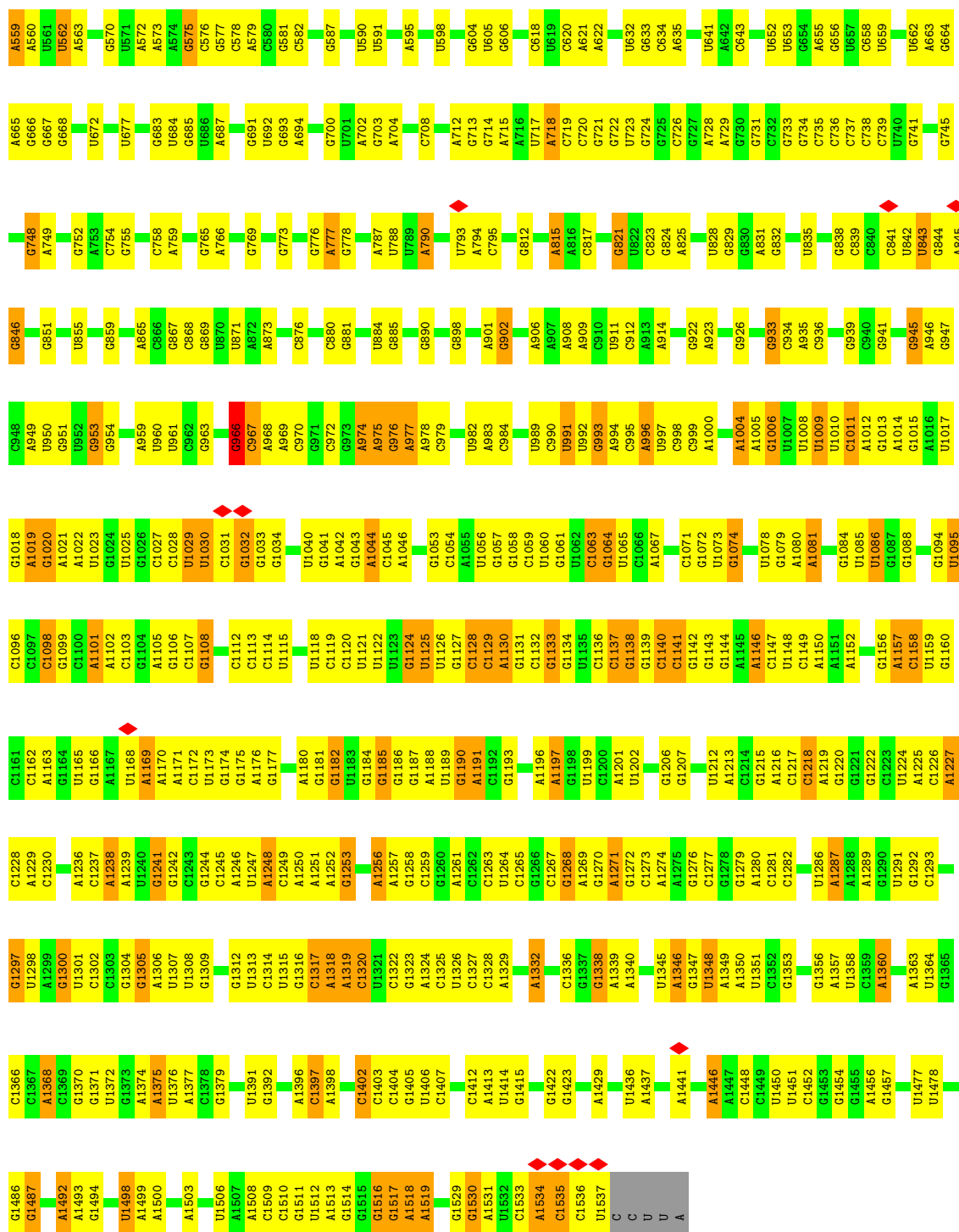


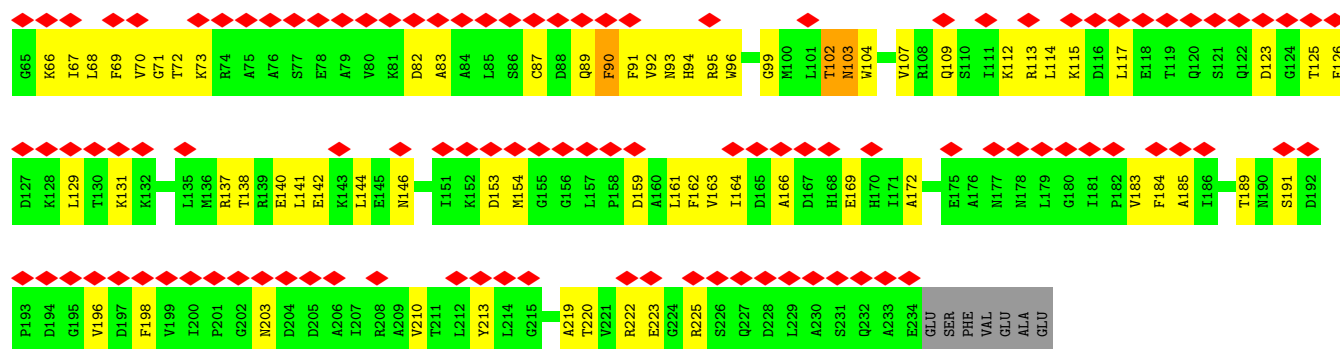
• Molecule 7: 16S ribosomal RNA



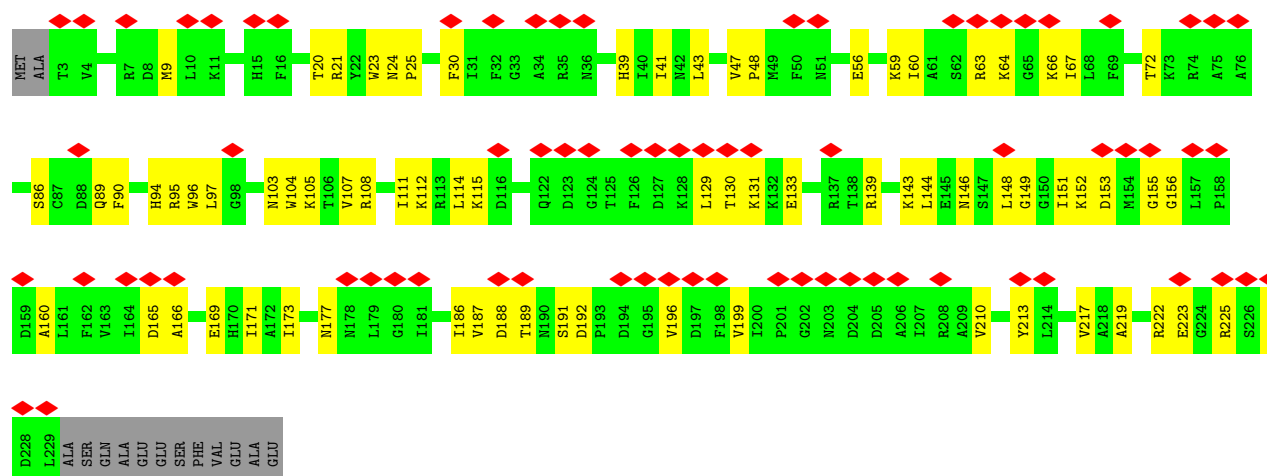




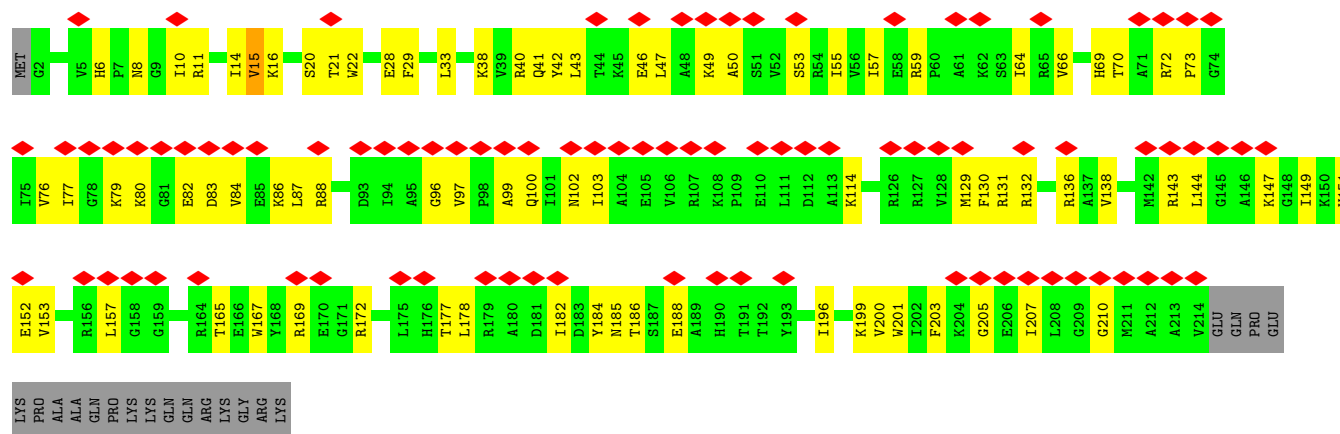
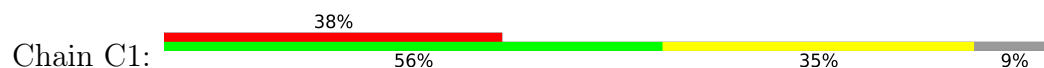




• Molecule 8: Small ribosomal subunit protein uS2

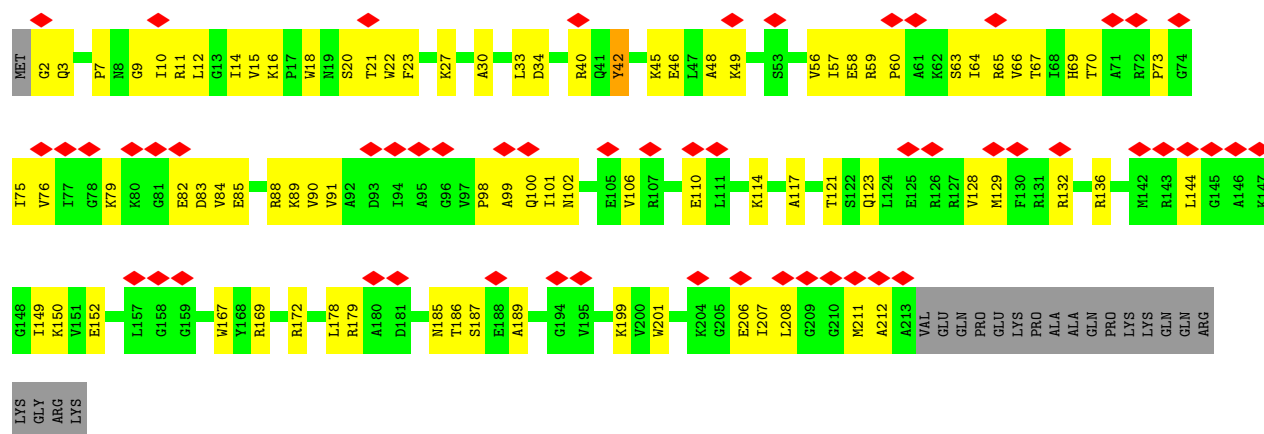


• Molecule 9: Small ribosomal subunit protein uS3



• Molecule 9: Small ribosomal subunit protein uS3

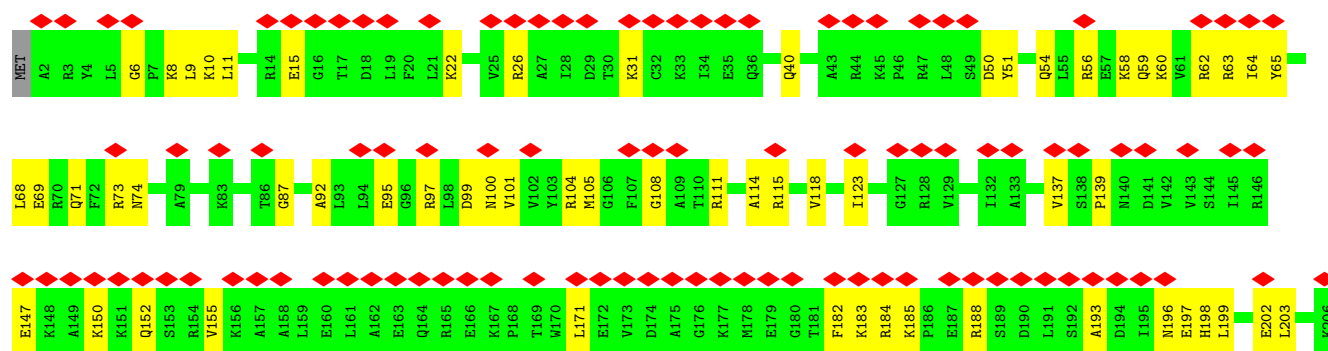
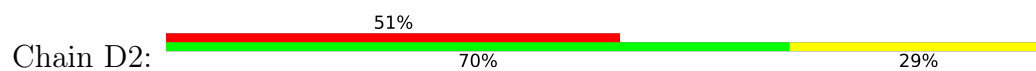




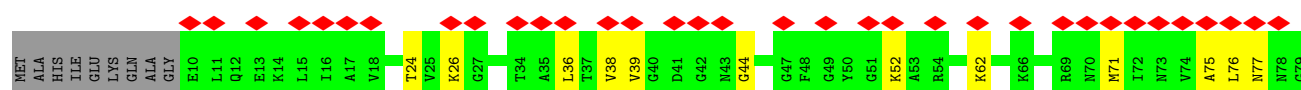
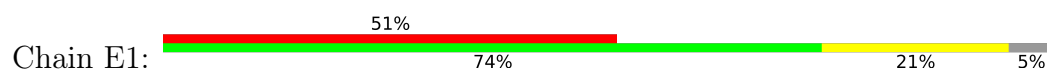
• Molecule 10: Small ribosomal subunit protein uS4

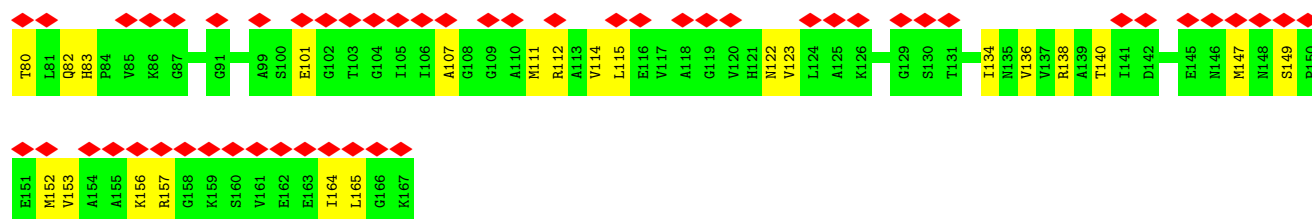


• Molecule 10: Small ribosomal subunit protein uS4

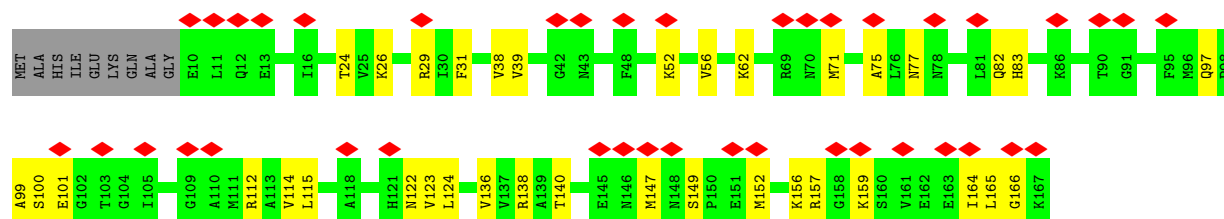
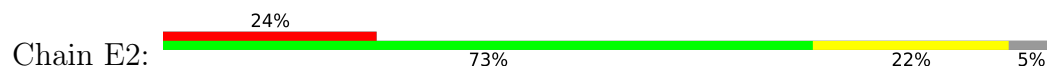


• Molecule 11: Small ribosomal subunit protein uS5

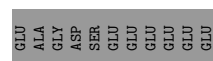
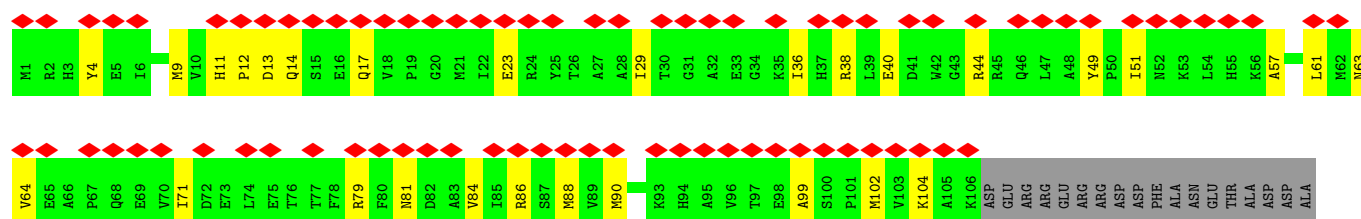




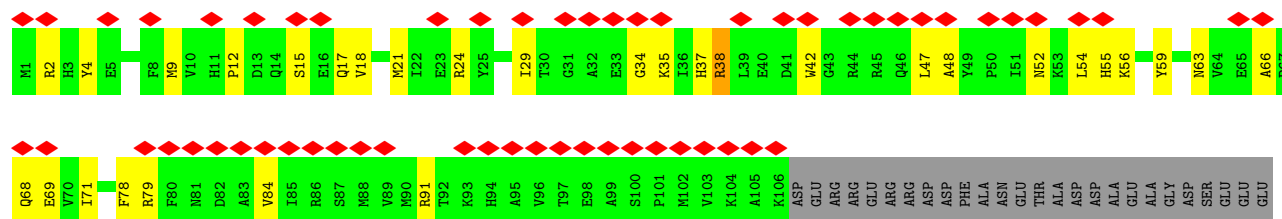
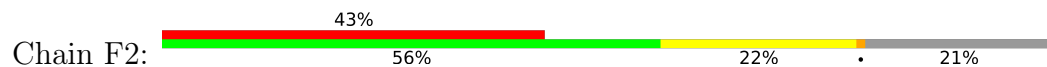
• Molecule 11: Small ribosomal subunit protein uS5



• Molecule 12: 30S ribosomal protein S6

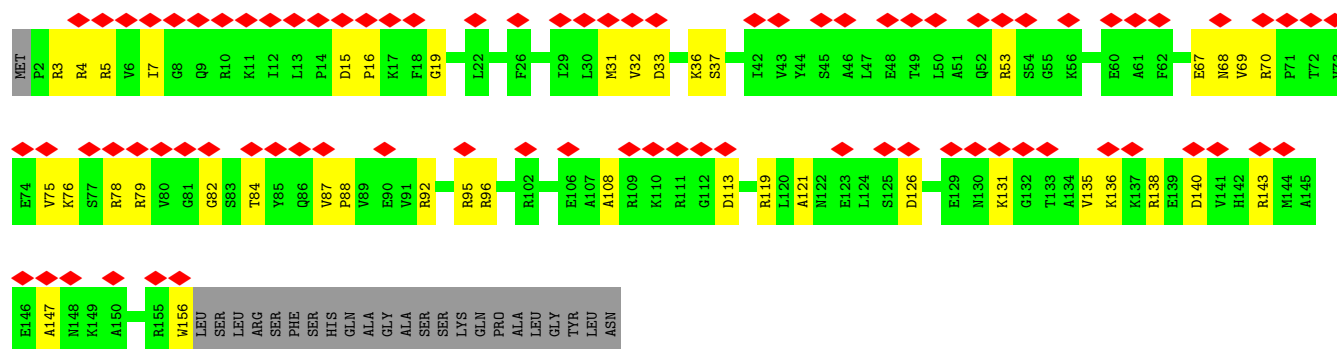


• Molecule 12: 30S ribosomal protein S6

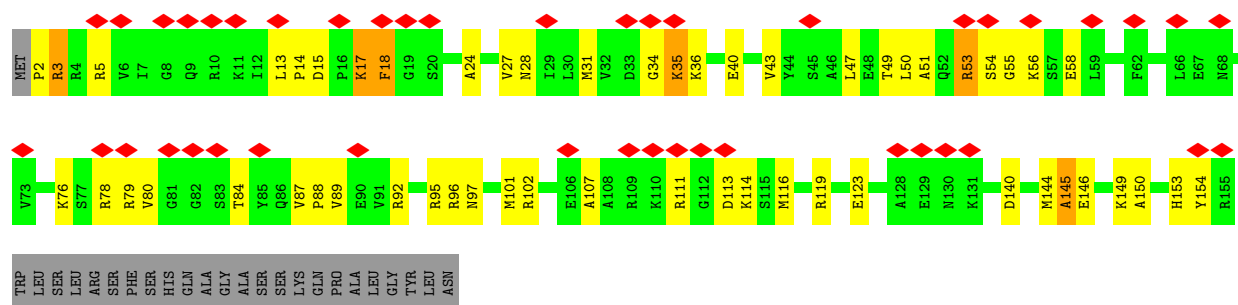


• Molecule 13: 30S ribosomal protein S7

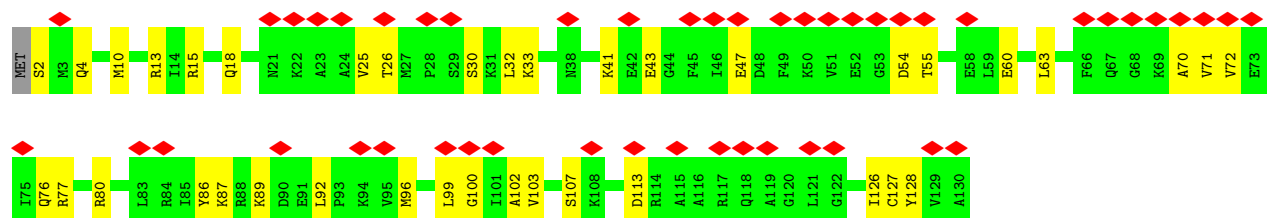
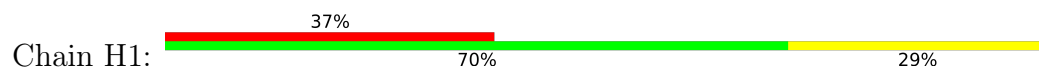




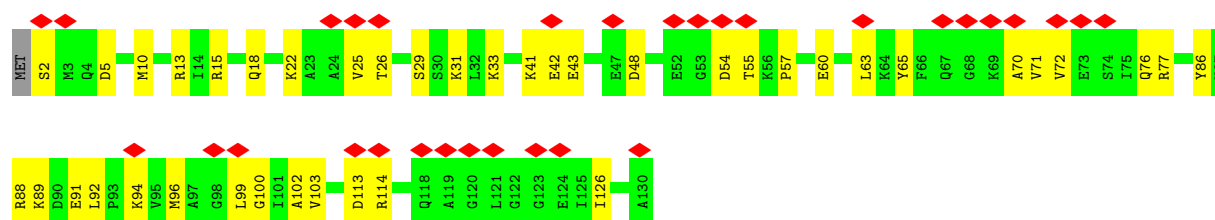
• Molecule 13: 30S ribosomal protein S7



• Molecule 14: Small ribosomal subunit protein uS8

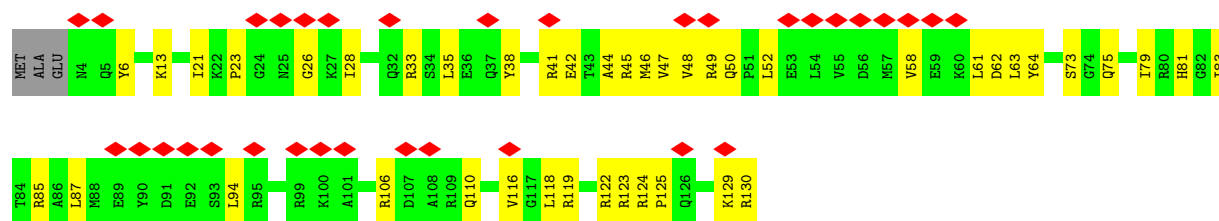


• Molecule 14: Small ribosomal subunit protein uS8

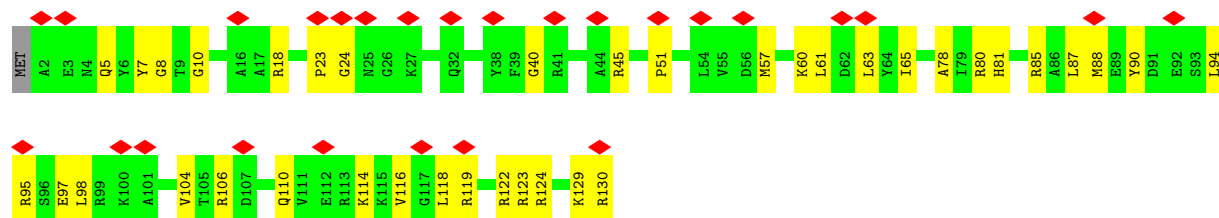


• Molecule 15: Small ribosomal subunit protein uS9

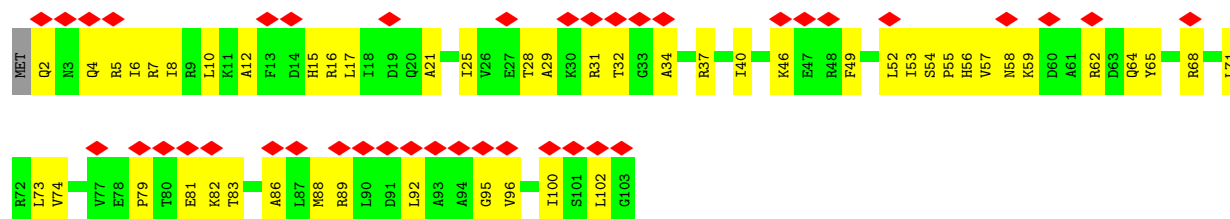
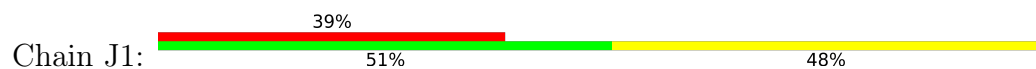




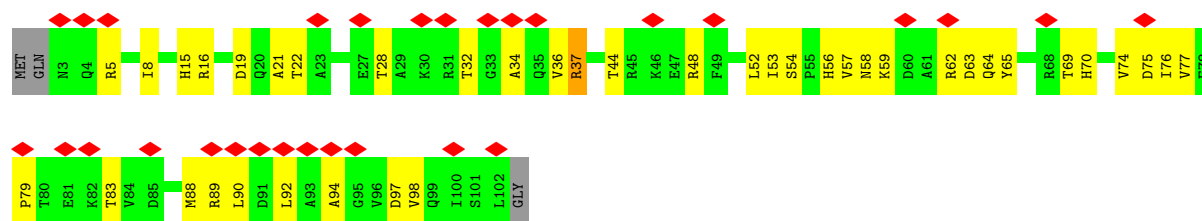
- Molecule 15: Small ribosomal subunit protein uS9



- Molecule 16: 30S ribosomal protein S10

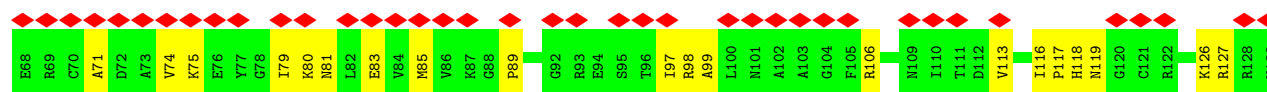


- Molecule 16: 30S ribosomal protein S10

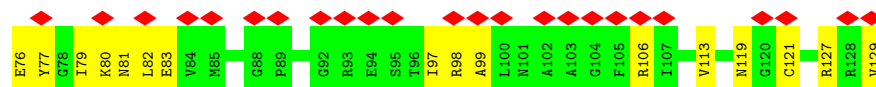
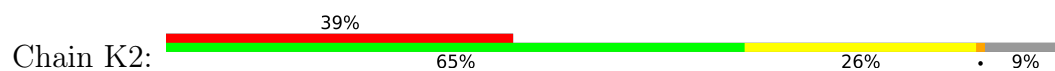


- Molecule 17: Small ribosomal subunit protein uS11

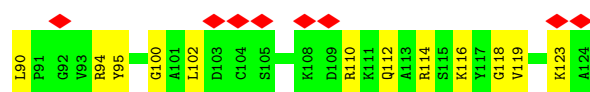
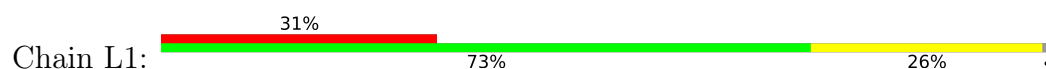




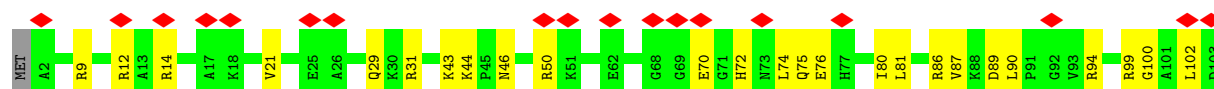
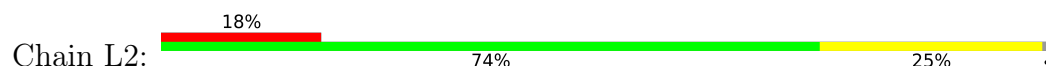
- Molecule 17: Small ribosomal subunit protein uS11



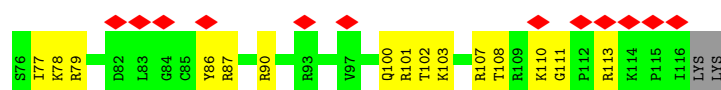
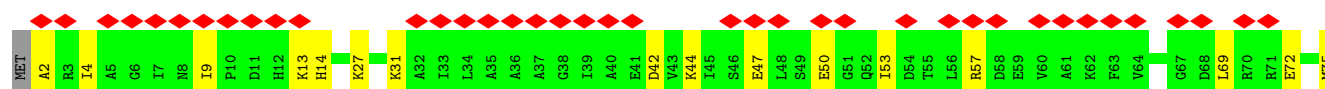
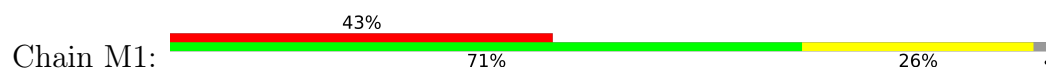
- Molecule 18: Small ribosomal subunit protein uS12



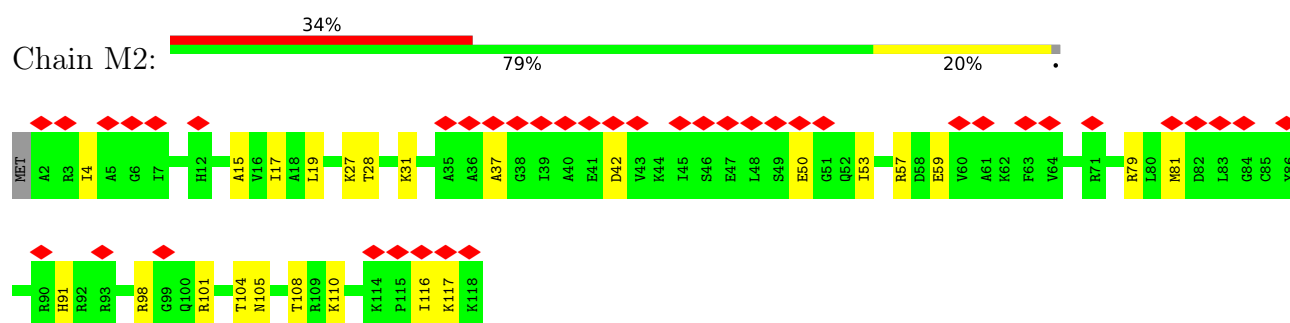
- Molecule 18: Small ribosomal subunit protein uS12



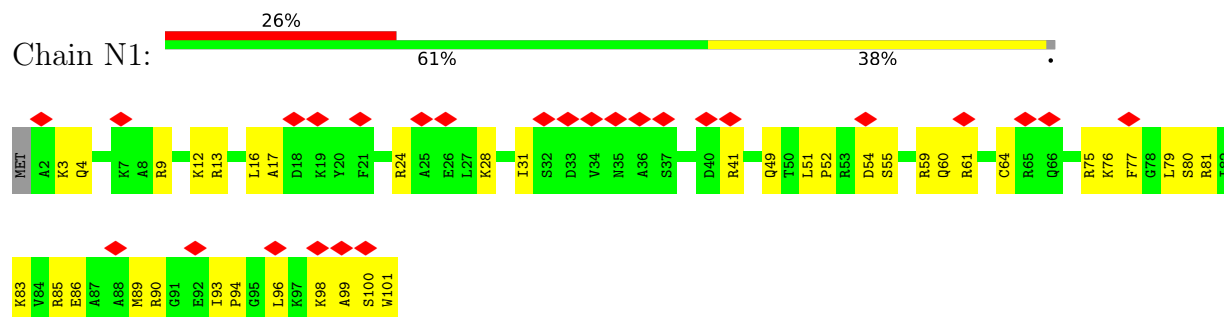
- Molecule 19: Small ribosomal subunit protein uS13



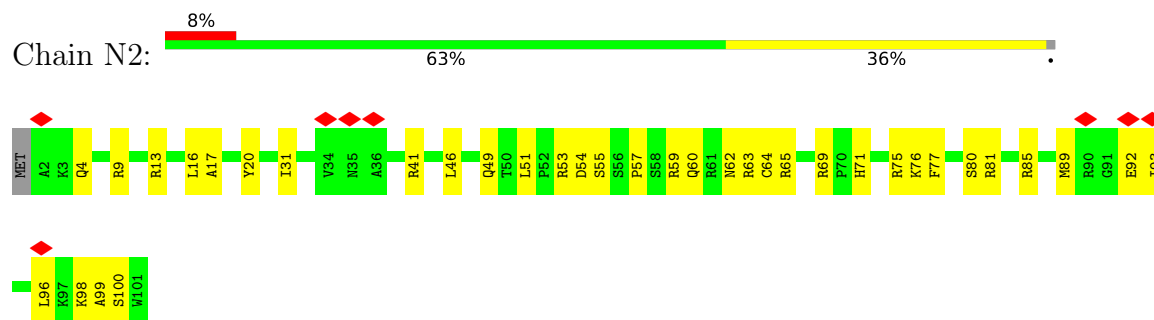
- Molecule 19: Small ribosomal subunit protein uS13



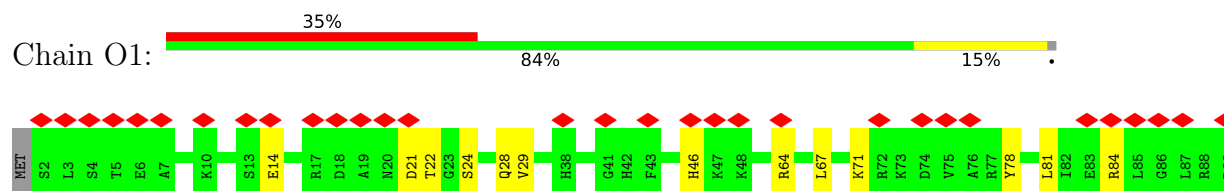
- Molecule 20: Small ribosomal subunit protein uS14



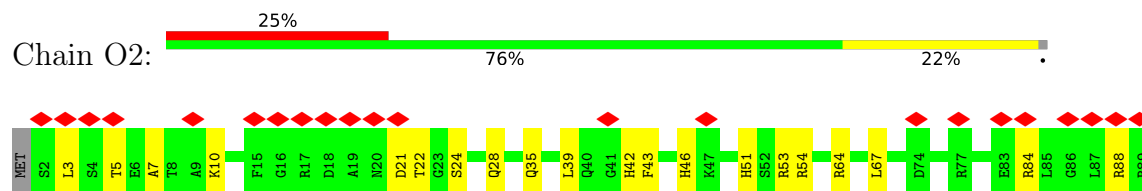
- Molecule 20: Small ribosomal subunit protein uS14



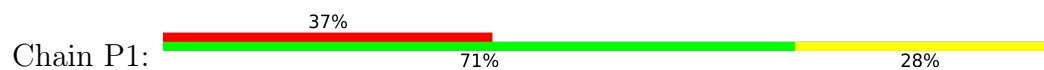
- Molecule 21: 30S ribosomal protein S15

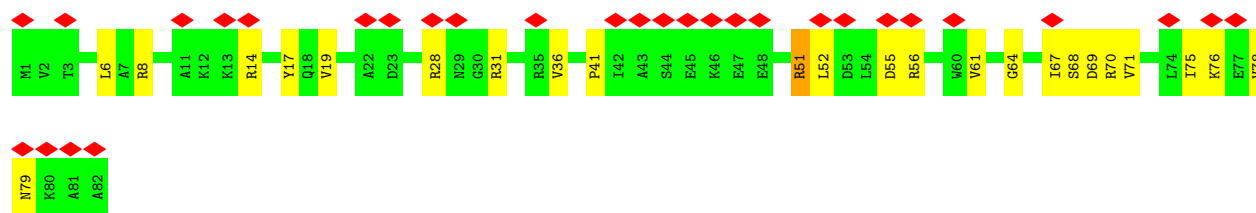


- Molecule 21: 30S ribosomal protein S15



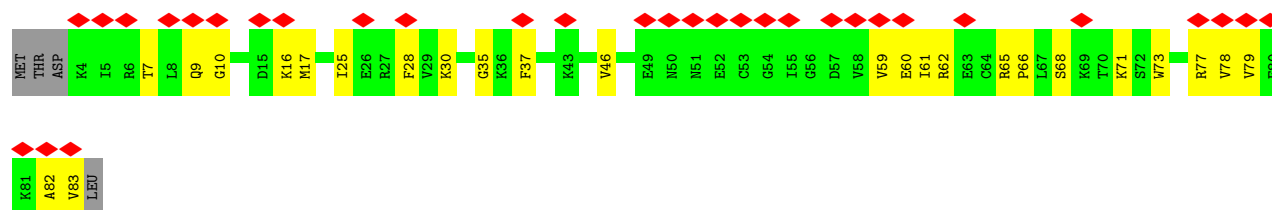
- Molecule 22: 30S ribosomal protein S16





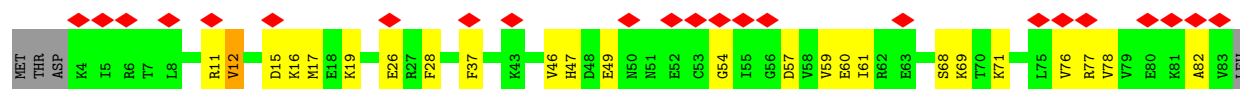
- Molecule 23: Small ribosomal subunit protein uS17

Chain Q1:



- Molecule 23: Small ribosomal subunit protein uS17

Chain Q2:



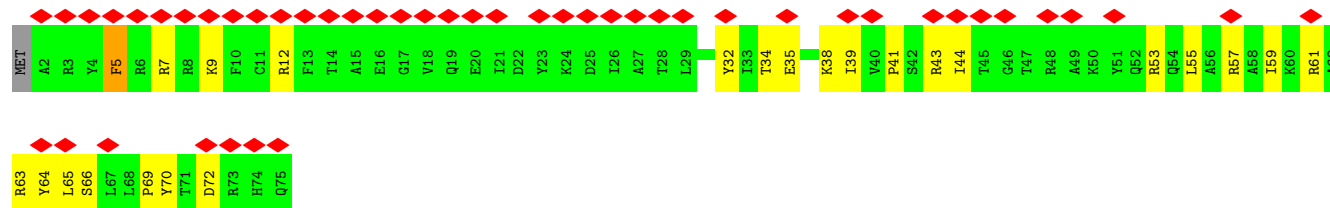
- Molecule 24: Small ribosomal subunit protein bS18

Chain R1:

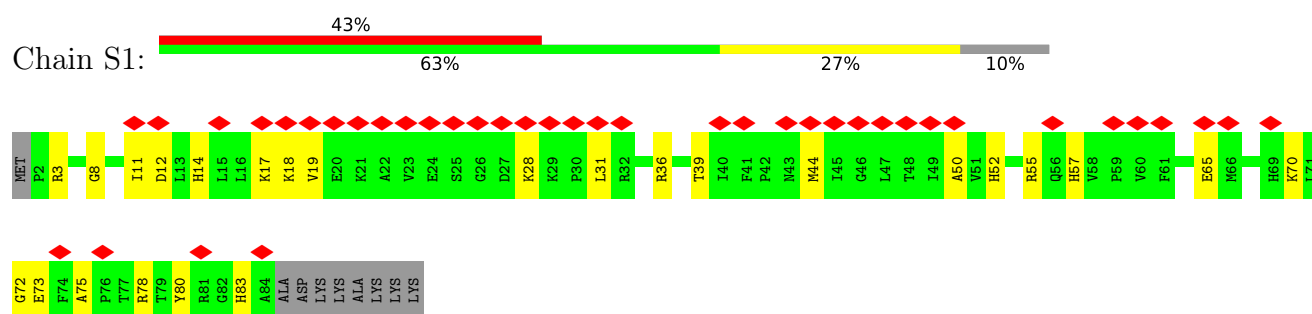


- Molecule 24: Small ribosomal subunit protein bS18

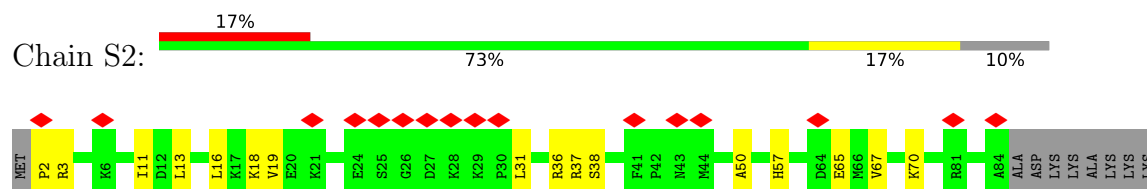
Chain R2:



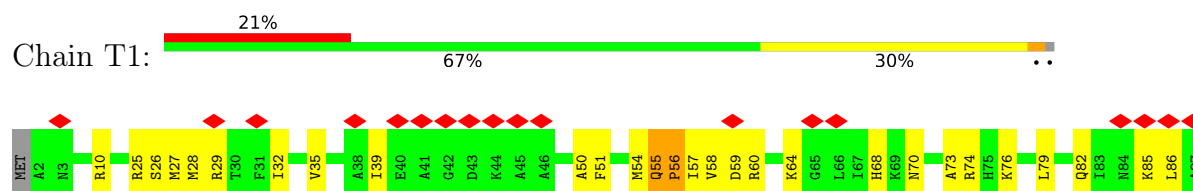
- Molecule 25: Small ribosomal subunit protein uS19



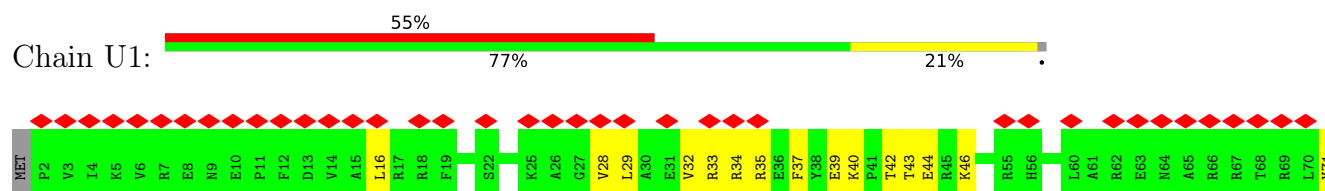
- Molecule 25: Small ribosomal subunit protein uS19



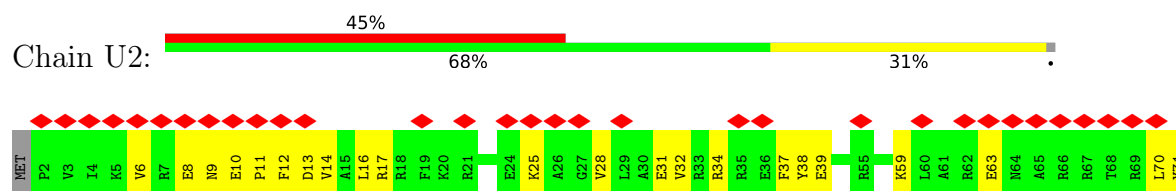
- Molecule 26: Small ribosomal subunit protein bS20



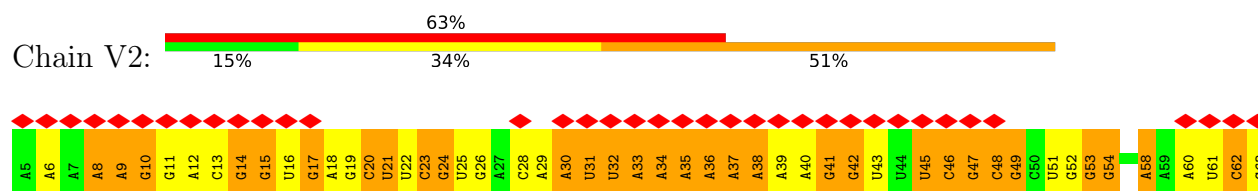
- Molecule 27: 30S ribosomal protein S21



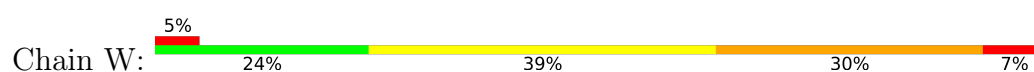
- Molecule 27: 30S ribosomal protein S21



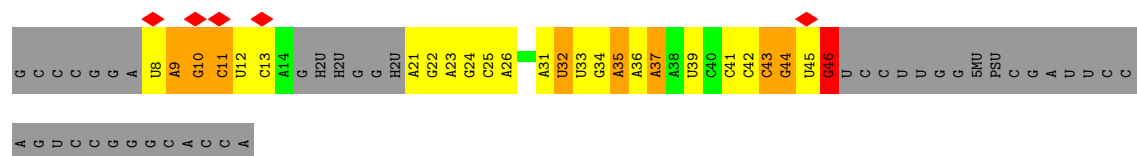
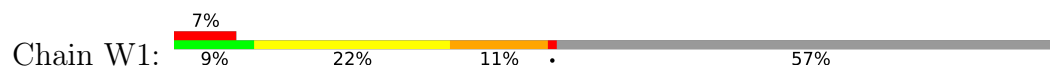
- Molecule 28: messenger RNA



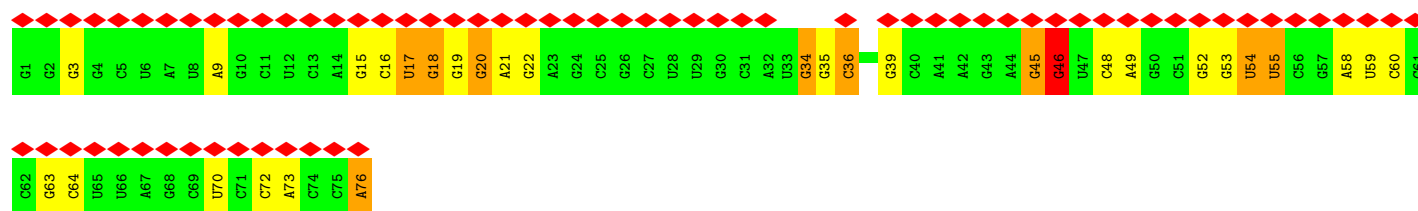
- Molecule 29: tRNA-Trp (P/E-site)



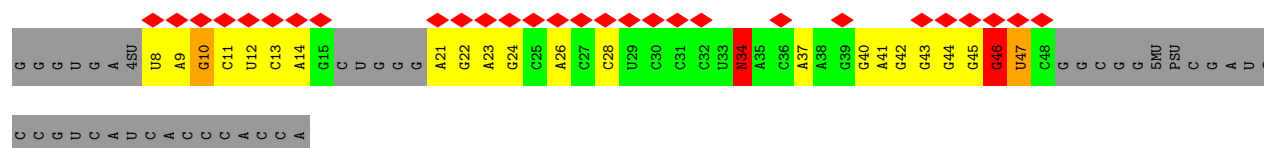
- Molecule 30: tRNA-Phe (P/E-site)



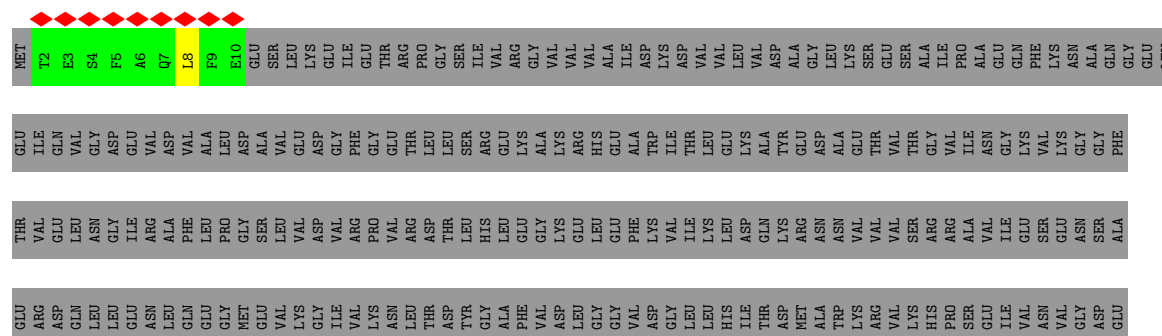
- Molecule 31: tRNA-Ala (A/P-site)



- Molecule 32: tRNA-Val (A/P-site)

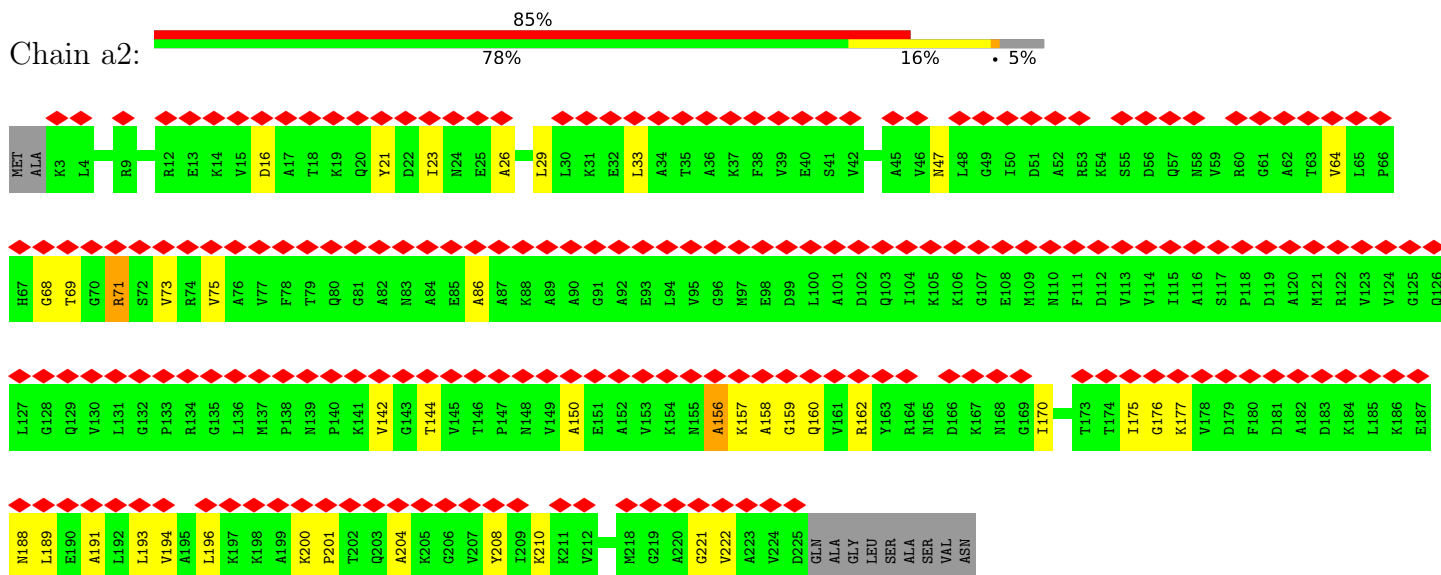


- Molecule 33: 30S ribosomal protein S1

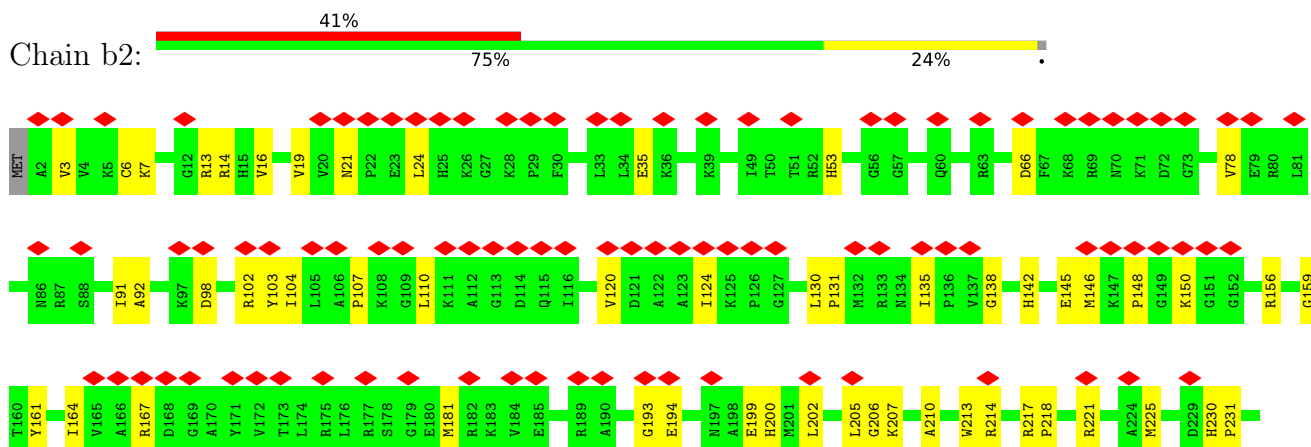


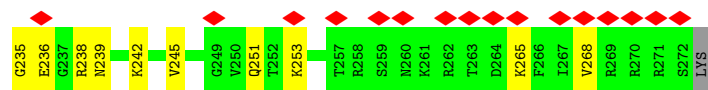
[illegible]

- Molecule 34: Large ribosomal subunit protein uL1

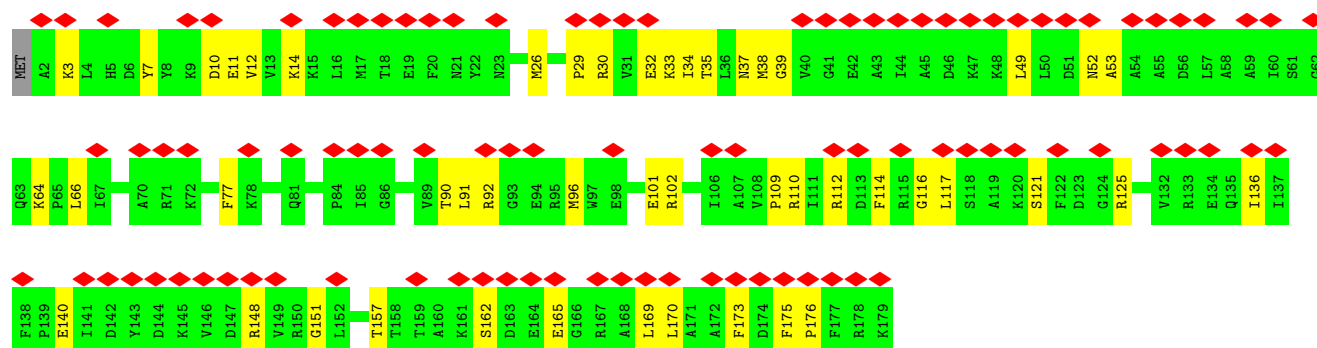
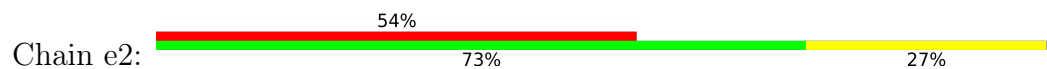


- Molecule 35: 50S ribosomal protein L2

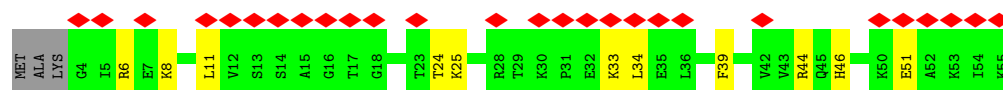
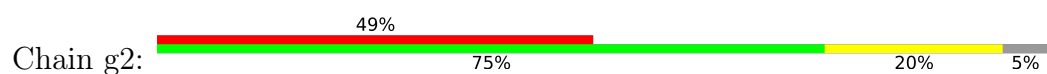




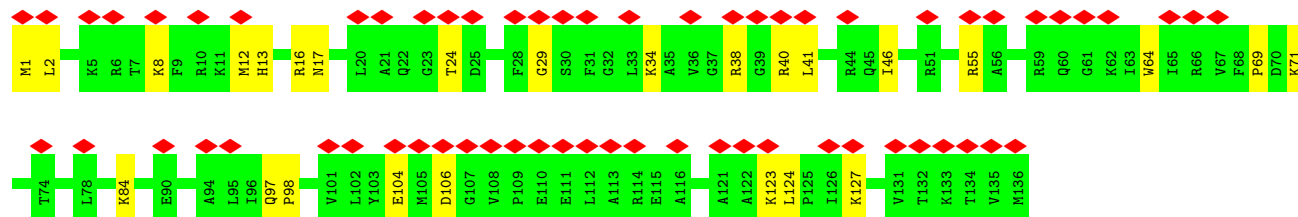
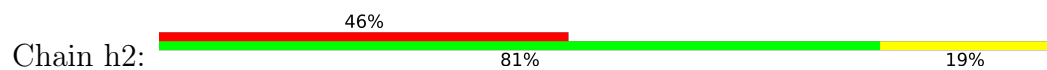
• Molecule 36: 50S ribosomal protein L5



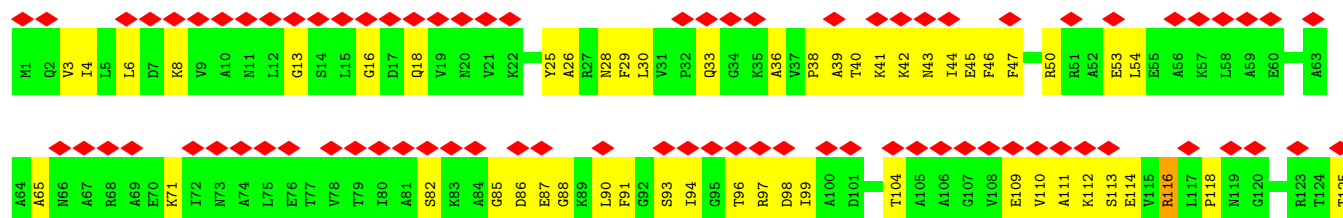
• Molecule 37: 50S ribosomal protein L33

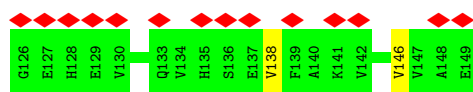


• Molecule 38: 50S ribosomal protein L16

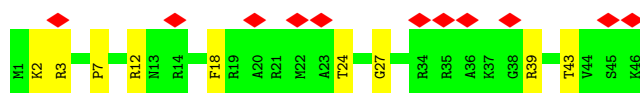
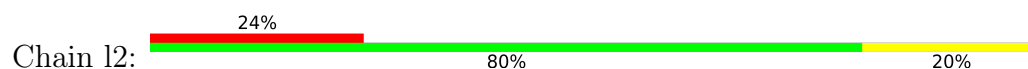


• Molecule 39: 50S ribosomal protein L9

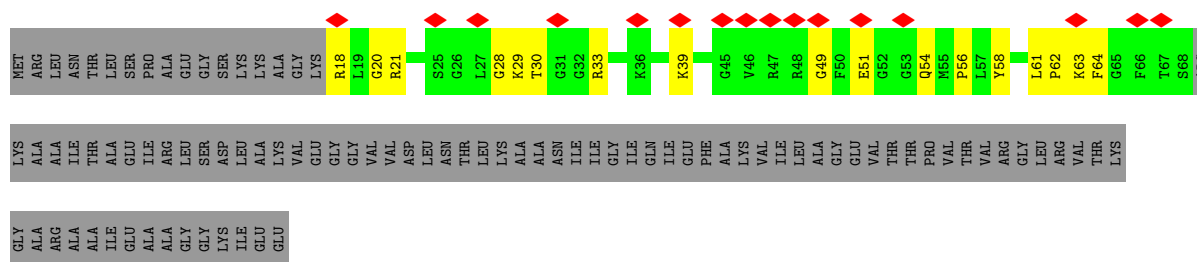




- Molecule 40: 50S ribosomal protein L34



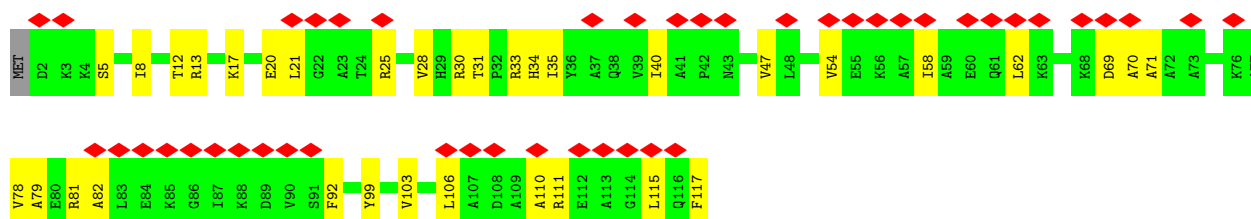
- Molecule 41: 50S ribosomal protein L15



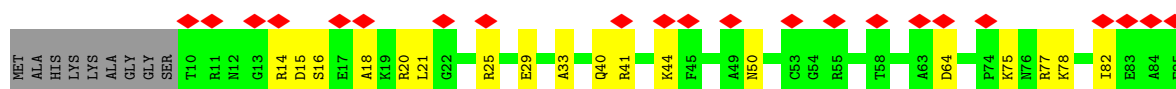
- Molecule 42: Nascent chain



- Molecule 43: 50S ribosomal protein L18



- Molecule 44: 50S ribosomal protein L27



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	10748	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	45	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	18.257	Depositor
Minimum map value	-5.431	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.924	Depositor
Recommended contour level	5.5	Depositor
Map size (Å)	744.12, 744.12, 744.12	wwPDB
Map dimensions	468, 468, 468	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.59, 1.59, 1.59	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: OMU, PUT, 1MG, MG, 7MG, H2U, CM0, MA6, OMG, 5MC, 6MZ, MIA, 4SU, UR3, ZN, 2MA, PSU, 2MG, SPD, OMC, 3TD, G7M, 4OC, 5MU

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	12	0.12	0/635	0.37	0/848
2	32	0.09	0/453	0.30	0/605
3	4	0.44	0/543	0.70	0/726
3	41	0.11	0/120	0.37	0/158
4	62	0.09	0/513	0.31	0/676
5	71	0.09	0/429	0.22	0/664
5	72	0.11	0/69306	0.23	3/108116 (0.0%)
6	82	0.11	0/2872	0.25	0/4478
7	A1	0.17	0/36794	0.33	6/57392 (0.0%)
7	A2	0.16	0/36681	0.32	10/57217 (0.0%)
8	B	0.13	0/1846	0.46	0/2488
8	B2	0.14	0/1807	0.41	0/2435
9	C1	0.15	0/1692	0.41	0/2280
9	C2	0.18	0/1685	0.47	0/2270
10	D1	0.12	0/1665	0.37	0/2227
10	D2	0.09	0/1665	0.30	0/2227
11	E1	0.11	0/1179	0.31	0/1584
11	E2	0.11	0/1179	0.32	0/1584
12	F1	0.09	0/881	0.27	0/1189
12	F2	0.13	0/881	0.42	0/1189
13	G1	0.10	0/1246	0.32	0/1672
13	G2	0.24	0/1230	0.52	0/1649
14	H1	0.10	0/989	0.31	0/1326
14	H2	0.10	0/989	0.31	0/1326
15	I1	0.12	0/1034	0.36	0/1375
15	I2	0.11	0/1048	0.33	0/1394
16	J1	0.13	0/827	0.42	0/1117
16	J2	0.13	0/813	0.44	0/1100
17	K1	0.11	0/873	0.34	0/1180
17	K2	0.19	0/900	0.42	0/1215
18	L1	0.11	0/969	0.32	0/1300

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
18	L2	0.11	0/969	0.34	0/1300
19	M1	0.10	0/900	0.30	0/1204
19	M2	0.11	0/919	0.32	0/1226
20	N1	0.15	0/817	0.43	0/1088
20	N2	0.10	0/817	0.38	0/1088
21	O1	0.09	0/722	0.30	0/964
21	O2	0.11	0/722	0.37	0/964
22	P1	0.11	0/659	0.32	0/884
23	Q1	0.12	0/657	0.37	0/881
23	Q2	0.14	0/657	0.42	0/881
24	R1	0.11	0/635	0.33	0/849
24	R2	0.16	0/637	0.47	0/851
25	S1	0.11	0/680	0.34	0/915
25	S2	0.11	0/680	0.34	0/915
26	T1	0.14	0/676	0.41	0/895
27	U1	0.13	0/598	0.40	0/792
27	U2	0.11	0/598	0.35	0/792
28	V2	0.23	0/1427	0.46	0/2224
29	W	0.28	0/1604	0.70	5/2496 (0.2%)
30	W1	0.27	0/677	0.52	0/1052
31	Y	0.22	0/1725	0.37	2/2687 (0.1%)
32	Y1	0.15	0/786	0.39	0/1216
33	Z1	0.08	0/76	0.22	0/101
34	a2	0.09	0/1676	0.32	0/2259
35	b2	0.11	0/2121	0.33	0/2852
36	e2	0.10	0/1444	0.28	0/1937
37	g2	0.10	0/434	0.32	0/576
38	h2	0.09	0/1104	0.28	0/1474
39	i2	0.14	0/1122	0.46	0/1515
40	l2	0.07	0/380	0.23	0/498
41	o2	0.11	0/383	0.38	0/501
42	p	1.08	0/77	1.21	0/104
43	r2	0.10	0/901	0.34	0/1209
44	z2	0.07	0/589	0.26	0/779
All	All	0.14	0/202613	0.31	26/304976 (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
1	12	0	1

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
3	4	0	1
9	C2	0	1
10	D1	0	2
10	D2	0	1
13	G2	0	3
16	J2	0	2
17	K1	0	1
17	K2	0	1
21	O2	0	1
22	P1	0	1
34	a2	0	1
39	i2	0	1
All	All	0	17

There are no bond length outliers.

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	W	43	G	OP1-P-OP2	-13.79	78.22	119.60
29	W	42	G	OP1-P-O3'	-11.71	72.86	108.00
7	A2	527	G7M	P-O3'-C3'	-10.93	106.58	119.70
29	W	43	G	O5'-P-OP2	-10.31	77.06	108.00
29	W	42	G	OP2-P-O3'	9.69	137.08	108.00
7	A2	521	G	P-O3'-C3'	-9.47	105.99	120.20
7	A2	518	C	P-O3'-C3'	-9.26	106.31	120.20
7	A1	1028	C	P-O3'-C3'	-8.44	107.54	120.20
7	A2	523	A	P-O3'-C3'	-8.25	107.82	120.20
7	A2	519	C	P-O3'-C3'	-8.21	107.88	120.20
7	A1	1027	C	P-O3'-C3'	-7.69	108.66	120.20
7	A2	520	A	P-O3'-C3'	-7.38	109.14	120.20
29	W	43	G	O5'-P-OP1	7.29	129.86	108.00
7	A2	529	G	P-O3'-C3'	-7.27	109.29	120.20
7	A2	524	G	P-O3'-C3'	-7.21	109.39	120.20
7	A1	1032	G	P-O3'-C3'	-6.74	110.09	120.20
31	Y	52	G	P-O3'-C3'	-6.73	110.10	120.20
5	72	2176	A	C4'-C3'-O3'	6.47	122.71	113.00
31	Y	55	PSU	P-O3'-C3'	-6.46	110.51	120.20
5	72	2176	A	C5'-C4'-O4'	6.10	118.95	109.80
7	A2	522	C	P-O3'-C3'	-6.00	111.19	120.20
7	A1	1029	U	P-O3'-C3'	-5.98	111.23	120.20
5	72	2176	A	C2'-C3'-O3'	5.75	122.33	113.70
7	A1	1033	G	P-O3'-C3'	-5.71	111.63	120.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A2	528	C	P-O3'-C3'	-5.57	111.85	120.20
7	A1	1030	U	P-O3'-C3'	-5.08	112.58	120.20

There are no chirality outliers.

All (17) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	12	74	ARG	Sidechain
3	4	56	ARG	Sidechain
9	C2	42	TYR	Mainchain
10	D1	104	ARG	Sidechain
10	D1	15	GLU	Peptide
10	D2	104	ARG	Sidechain
13	G2	3	ARG	Sidechain
13	G2	5	ARG	Sidechain
13	G2	53	ARG	Sidechain
16	J2	37	ARG	Sidechain
16	J2	48	ARG	Sidechain
17	K1	98	ARG	Sidechain
17	K2	13	ARG	Sidechain
21	O2	84	ARG	Sidechain
22	P1	51	ARG	Sidechain
34	a2	71	ARG	Sidechain
39	i2	116	ARG	Sidechain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	12	625	0	652	14	0
2	32	449	0	491	14	0
3	4	533	0	530	24	0
3	41	118	0	118	5	0
4	62	504	0	572	14	0
5	71	406	0	208	5	0
5	72	62355	0	31379	592	0
6	82	2569	0	1301	27	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	A1	33092	0	16674	871	0
7	A2	32990	0	16621	639	0
8	B	1815	0	1836	74	0
8	B2	1776	0	1802	60	0
9	C1	1665	0	1741	58	0
9	C2	1658	0	1732	73	0
10	D1	1643	0	1707	54	0
10	D2	1643	0	1707	43	0
11	E1	1166	0	1212	28	0
11	E2	1166	0	1212	35	0
12	F1	862	0	864	21	0
12	F2	862	0	864	22	0
13	G1	1228	0	1277	33	0
13	G2	1214	0	1267	42	0
14	H1	979	0	1031	34	0
14	H2	979	0	1031	33	0
15	I1	1022	0	1070	37	0
15	I2	1036	0	1081	34	0
16	J1	817	0	853	35	0
16	J2	803	0	842	29	0
17	K1	857	0	861	30	0
17	K2	884	0	896	34	0
18	L1	955	0	1016	25	0
18	L2	955	0	1016	27	0
19	M1	891	0	952	30	0
19	M2	910	0	978	18	0
20	N1	805	0	844	36	0
20	N2	805	0	844	40	0
21	O1	714	0	734	9	0
21	O2	714	0	734	19	0
22	P1	649	0	666	21	0
23	Q1	648	0	691	17	0
23	Q2	648	0	691	18	0
24	R1	624	0	652	16	0
24	R2	626	0	648	18	0
25	S1	663	0	688	20	0
25	S2	663	0	688	16	0
26	T1	670	0	719	25	0
27	U1	590	0	629	13	0
27	U2	590	0	629	18	0
28	V2	1272	0	639	39	0
29	W	1630	0	841	46	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	W1	718	0	373	26	0
31	Y	1628	0	827	12	0
32	Y1	778	0	399	17	0
33	Z1	75	0	65	1	0
34	a2	1661	0	1750	24	0
35	b2	2082	0	2154	53	0
36	e2	1420	0	1457	42	0
37	g2	427	0	464	10	0
38	h2	1085	0	1169	18	0
39	i2	1111	0	1148	39	0
40	l2	377	0	418	7	0
41	o2	377	0	389	20	0
42	p	76	0	75	3	0
43	r2	891	0	923	22	0
44	z2	582	0	599	16	0
45	4	1	0	0	0	0
45	B	1	0	0	0	0
46	72	12	0	24	1	0
47	72	10	0	19	0	0
48	72	165	0	0	0	0
48	A1	60	0	0	0	0
48	A2	41	0	0	0	0
48	N2	1	0	0	0	0
48	Y	1	0	0	0	0
48	o2	1	0	0	0	0
All	All	187319	0	120984	3318	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 14.

All (3318) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:74:A:H61	7:A2:96:U:H3	1.19	0.89
28:V2:54:G:H1	31:Y:36:C:H42	1.16	0.88
29:W:18:G:H1	29:W:55:PSU:H1'	1.37	0.88
8:B:87:CYS:SG	8:B:225:ARG:NH1	2.51	0.84
9:C2:18:TRP:HD1	9:C2:20:SER:H	1.26	0.83
7:A1:1229:A:OP2	19:M1:113:ARG:NH2	2.11	0.83
7:A1:94:G:H4'	7:A1:95:C:H5'	1.59	0.83
7:A2:765:G:H1	7:A2:812:G:HO2'	1.27	0.83

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1178:G:N2	7:A1:1181:G:OP2	2.12	0.82
10:D1:54:GLN:HA	10:D1:199:LEU:HD21	1.61	0.82
7:A1:1419:G:N1	7:A1:1481:U:O2	2.12	0.81
4:62:13:ARG:NH2	41:o2:58:TYR:O	2.13	0.81
7:A1:1187:G:N3	20:N1:100:SER:OG	2.12	0.81
10:D2:62:ARG:HH21	10:D2:68:LEU:HA	1.46	0.81
7:A1:1305:G:H2'	7:A1:1331:G:H21	1.46	0.81
10:D2:54:GLN:HA	10:D2:199:LEU:HD21	1.63	0.81
15:I1:28:ILE:HD12	15:I1:63:LEU:HB2	1.62	0.81
7:A1:375:U:H4'	22:P1:6:LEU:HD11	1.61	0.81
3:4:9:TYR:OH	36:e2:102:ARG:NH1	2.15	0.79
7:A2:664:G:H22	7:A2:741:G:H1	1.30	0.79
9:C2:48:ALA:O	9:C2:49:LYS:HG2	1.83	0.79
8:B:67:ILE:HB	8:B:89:GLN:HB3	1.65	0.79
8:B:114:LEU:HD12	8:B:144:LEU:HG	1.62	0.79
5:72:1478:G:H1	5:72:1513:U:H3	1.28	0.78
7:A2:427:U:H3'	7:A2:428:G:H5''	1.64	0.78
39:i2:90:LEU:HB2	39:i2:125:THR:HB	1.64	0.78
9:C2:79:LYS:HA	9:C2:83:ASP:HB2	1.64	0.78
8:B:94:HIS:HD2	8:B:95:ARG:HG2	1.48	0.78
7:A1:1537:U:H3	28:V2:13:C:H42	1.32	0.78
5:72:1800:C:HO2'	5:72:1818:U:H3	1.28	0.78
7:A1:1368:A:H5'	20:N1:101:TRP:HZ2	1.49	0.77
7:A1:427:U:OP1	10:D1:13:ARG:NH2	2.18	0.77
7:A1:1349:A:H5''	15:I1:123:ARG:HG2	1.66	0.77
8:B:90:PHE:HE1	8:B:153:ASP:HB3	1.47	0.77
20:N2:54:ASP:HA	20:N2:59:ARG:HG2	1.65	0.77
7:A2:739:C:HO2'	21:O2:42:HIS:HD1	1.25	0.77
7:A2:459:A:N6	7:A2:474:G:N3	2.34	0.76
8:B2:219:ALA:HA	8:B2:222:ARG:HE	1.51	0.76
16:J1:57:VAL:HG12	16:J1:58:ASN:H	1.50	0.76
7:A2:1010:U:H3	7:A2:1019:A:H61	1.32	0.76
16:J1:52:LEU:HD21	16:J1:59:LYS:HG3	1.68	0.76
5:72:475:C:H4'	5:72:510:C:H5'	1.68	0.75
7:A2:933:G:N7	13:G2:3:ARG:NH2	2.34	0.75
7:A2:949:A:N7	19:M2:105:ASN:ND2	2.33	0.75
18:L1:72:HIS:HB2	18:L1:74:LEU:HD23	1.68	0.75
7:A1:1045:C:H3'	7:A1:1046:A:H5''	1.67	0.75
10:D1:25:VAL:HG12	17:K2:15:GLN:HB2	1.66	0.75
5:72:2688:G:N1	5:72:2720:U:OP2	2.18	0.74
13:G2:28:ASN:HA	13:G2:31:MET:HE3	1.69	0.74

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:J1:88:MET:HE1	16:J1:100:ILE:HG21	1.70	0.74
29:W:15:A:H3'	29:W:16:H2U:H62	1.69	0.74
15:I2:130:ARG:NH2	29:W:33:U:OP2	2.20	0.74
34:a2:142:VAL:HG11	34:a2:162:ARG:HE	1.52	0.74
9:C2:10:ILE:HG23	9:C2:11:ARG:HD3	1.69	0.74
7:A1:1217:C:H5'	20:N1:9:ARG:HH21	1.52	0.74
20:N2:46:LEU:HD21	25:S2:16:LEU:HD23	1.70	0.74
5:72:2:G:H1	5:72:2901:U:H3	1.36	0.74
7:A2:459:A:H61	7:A2:473:U:H3	1.35	0.74
28:V2:41:G:H2'	28:V2:42:G:H4'	1.68	0.74
7:A1:664:G:H22	7:A1:741:G:H1	1.36	0.74
6:82:27:C:OP1	43:r2:34:HIS:NE2	2.22	0.73
13:G1:82:GLY:HA3	28:V2:17:G:H4'	1.70	0.73
8:B:38:VAL:HG12	8:B:39:HIS:H	1.54	0.73
19:M2:4:ILE:HG13	19:M2:57:ARG:HG2	1.71	0.73
3:4:11:GLU:HA	3:4:25:ARG:HA	1.71	0.73
5:72:881:G:N2	5:72:897:C:N3	2.37	0.73
7:A1:231:U:H2'	7:A1:232:G:H8	1.53	0.73
5:72:910:A:N3	5:72:2264:C:O2'	2.21	0.73
5:72:2125:G:N2	5:72:2171:A:OP1	2.22	0.73
7:A1:1059:C:H4'	20:N1:85:ARG:HH22	1.52	0.73
9:C2:18:TRP:CD1	9:C2:20:SER:H	2.07	0.73
3:41:61:ASN:HB3	3:41:62:LYS:HZ2	1.53	0.73
7:A1:90:C:O2'	7:A1:91:U:H5'	1.89	0.72
16:J2:53:ILE:HD13	16:J2:63:ASP:HB2	1.71	0.72
7:A2:1073:U:OP2	11:E2:62:LYS:NZ	2.23	0.72
7:A2:501:C:OP1	18:L2:114:ARG:NH2	2.21	0.72
29:W:43:G:H2'	29:W:44:G:C8	2.23	0.72
36:e2:110:ARG:NH2	36:e2:136:ILE:O	2.23	0.72
5:72:2264:C:N4	44:z2:15:ASP:OD2	2.23	0.71
7:A1:1130:A:H2'	7:A1:1131:G:C8	2.24	0.71
13:G2:88:PRO:HG3	13:G2:149:LYS:HA	1.71	0.71
5:72:1779:U:OP2	5:72:1784:A:N6	2.24	0.71
7:A1:200:G:H1	7:A1:217:C:H42	1.37	0.71
19:M1:4:ILE:HG13	19:M1:57:ARG:HG2	1.72	0.71
4:62:9:GLY:O	4:62:13:ARG:NE	2.22	0.71
15:I2:130:ARG:HH22	29:W:33:U:H5	1.39	0.71
24:R2:57:ARG:HG3	24:R2:61:ARG:HH12	1.54	0.71
35:b2:231:PRO:O	35:b2:242:LYS:NZ	2.22	0.71
7:A2:363:A:H5'	18:L2:31:ARG:HB2	1.71	0.71
18:L2:72:HIS:HB2	18:L2:74:LEU:HD23	1.71	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:32:12:ALA:HB2	2:32:53:MET:HE1	1.72	0.71
7:A1:83:C:H2'	7:A1:84:U:H3'	1.73	0.71
7:A2:677:U:H3	7:A2:713:G:H22	1.36	0.71
11:E1:101:GLU:OE1	11:E1:122:ASN:ND2	2.24	0.71
5:72:1044:C:O2'	5:72:1111:A:N1	2.24	0.70
5:72:1528:A:N6	5:72:1543:G:O2'	2.25	0.70
7:A2:483:C:H2'	7:A2:484:G:C8	2.26	0.70
9:C2:18:TRP:H	9:C2:211:MET:HE1	1.54	0.70
3:4:56:ARG:NH2	25:S2:67:VAL:O	2.24	0.70
14:H1:13:ARG:NH1	14:H1:26:THR:O	2.24	0.70
24:R1:9:LYS:NZ	24:R1:44:ILE:O	2.21	0.70
36:e2:10:ASP:O	36:e2:14:LYS:NZ	2.24	0.70
5:72:1918:A:O2'	5:72:1920:C:N4	2.24	0.70
5:72:2100:G:H3'	5:72:2101:A:H8	1.57	0.70
7:A2:545:C:OP1	10:D2:58:LYS:NZ	2.25	0.70
25:S1:39:THR:HA	25:S1:70:LYS:HA	1.74	0.70
11:E1:157:ARG:NH1	14:H1:99:LEU:O	2.25	0.70
16:J1:53:ILE:HD12	20:N1:85:ARG:HD3	1.72	0.70
7:A2:83:C:H2'	7:A2:84:U:H3'	1.72	0.70
10:D2:15:GLU:OE2	10:D2:63:ARG:NH2	2.23	0.70
19:M1:107:ARG:NH1	19:M1:111:GLY:O	2.25	0.70
5:72:1211:C:H4'	5:72:1212:G:OP2	1.91	0.70
7:A2:501:C:H6	7:A2:501:C:H5'	1.57	0.70
7:A2:672:U:H5'	12:F2:79:ARG:HH22	1.57	0.70
20:N2:93:ILE:HG21	20:N2:96:LEU:HD12	1.73	0.70
7:A2:454:G:H1	7:A2:478:A:H2	1.38	0.69
7:A1:927:G:O2'	7:A1:1503:A:N7	2.25	0.69
7:A2:1368:A:H5''	15:I2:114:LYS:HB3	1.74	0.69
17:K2:64:GLN:HG3	17:K2:99:ALA:HB2	1.74	0.69
7:A1:201:G:H21	7:A1:469:C:H1'	1.58	0.69
7:A1:770:C:H1'	7:A1:899:C:H42	1.57	0.69
5:72:2279:G:N7	44:z2:14:ARG:NH2	2.39	0.69
1:12:58:VAL:HG12	5:72:372:G:H2'	1.75	0.69
7:A1:950:U:H2'	7:A1:951:G:H8	1.58	0.69
7:A2:1081:A:N7	11:E2:52:LYS:NZ	2.41	0.69
7:A2:1316:G:N1	7:A2:1319:A:OP2	2.25	0.69
35:b2:3:VAL:HG12	35:b2:19:VAL:HG12	1.75	0.69
5:72:1907:G:H1	5:72:1923:U:H3	1.41	0.69
5:72:2469:A:H61	5:72:2481:G:H1'	1.55	0.69
7:A2:936:C:N4	13:G2:2:PRO:HD2	2.07	0.69
7:A2:1130:A:O2'	15:I2:5:GLN:NE2	2.26	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B2:59:LYS:HG2	8:B2:63:ARG:HH12	1.57	0.69
8:B:92:VAL:HG12	8:B:93:ASN:H	1.58	0.69
8:B2:114:LEU:HD13	8:B2:148:LEU:HD22	1.75	0.69
5:72:2198:A:OP1	39:i2:33:GLN:NE2	2.25	0.69
7:A1:562:U:O2'	18:L1:14:ARG:NH2	2.26	0.69
5:72:2645:G:OP2	5:72:2645:G:N2	2.21	0.68
7:A1:1360:A:OP2	20:N1:75:ARG:NH2	2.24	0.68
11:E2:101:GLU:OE1	11:E2:122:ASN:ND2	2.26	0.68
7:A1:254:G:H1'	23:Q1:17:MET:HE2	1.73	0.68
7:A1:401:C:O2'	7:A1:621:A:N3	2.27	0.68
7:A1:1236:A:H4'	7:A1:1304:G:H4'	1.75	0.68
7:A1:1525:G:O5'	27:U1:40:LYS:NZ	2.25	0.68
20:N2:16:LEU:HD23	20:N2:54:ASP:HB2	1.75	0.68
40:l2:18:PHE:HB2	40:l2:43:THR:HG21	1.75	0.68
3:4:41:HIS:HD2	36:e2:109:PRO:HA	1.57	0.68
12:F1:102:MET:HE1	24:R1:24:LYS:HB3	1.74	0.68
7:A1:211:G:C5	7:A1:212:G:H1'	2.29	0.68
7:A1:409:U:H3	7:A1:433:G:H1	1.40	0.68
7:A1:1111:A:N1	9:C1:177:THR:OG1	2.25	0.68
3:4:15:SER:HA	3:4:21:VAL:HA	1.74	0.68
7:A1:128:G:O2'	7:A1:129:A:H5'	1.93	0.68
7:A1:1230:C:H2'	7:A1:1231:G:H8	1.58	0.68
7:A2:1115:U:H3	7:A2:1185:G:H1	1.41	0.68
7:A2:380:G:N2	7:A2:383:A:OP2	2.23	0.68
7:A2:975:A:N1	7:A2:1366:C:O2'	2.28	0.68
13:G2:153:HIS:ND1	28:V2:45:U:OP2	2.25	0.68
9:C1:15:VAL:HG13	9:C1:207:ILE:HD12	1.75	0.67
3:4:13:THR:HG23	3:4:23:LYS:HZ3	1.59	0.67
7:A1:713:G:H2'	7:A1:714:G:C8	2.29	0.67
8:B2:24:ASN:HD22	8:B2:192:ASP:HA	1.59	0.67
10:D2:6:GLY:O	10:D2:8:LYS:NZ	2.27	0.67
7:A2:666:G:H5'	7:A2:726:C:H1'	1.77	0.67
13:G1:5:ARG:HH12	13:G1:7:ILE:HD12	1.58	0.67
5:72:324:A:OP2	5:72:1205:A:N6	2.27	0.67
7:A2:1166:G:O2'	7:A2:1169:A:N6	2.27	0.67
30:W1:43:C:H2'	30:W1:44:G:C8	2.30	0.67
5:72:877:A:O2'	5:72:900:A:N6	2.28	0.67
7:A1:501:C:OP1	18:L1:114:ARG:NH2	2.27	0.67
39:i2:113:SER:O	39:i2:116:ARG:NH1	2.28	0.67
9:C2:56:VAL:HB	9:C2:67:THR:HB	1.76	0.67
7:A2:181:A:H61	7:A2:194:C:H3'	1.59	0.67

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:I2:129:LYS:NZ	29:W:33:U:OP1	2.27	0.67
31:Y:20:G:N2	31:Y:59:U:OP1	2.28	0.66
5:72:707:G:H1	5:72:724:U:H3	1.43	0.66
5:72:1927:A:H2'	5:72:1928:A:C8	2.30	0.66
7:A1:93:U:H5''	7:A1:94:G:OP2	1.94	0.66
7:A1:1116:U:H3	7:A1:1184:G:H1	1.42	0.66
14:H2:96:MET:HB3	14:H2:100:GLY:H	1.58	0.66
17:K1:24:HIS:HB3	17:K1:31:ILE:HB	1.76	0.66
2:32:12:ALA:O	2:32:20:LYS:NZ	2.27	0.66
5:72:2263:C:N4	44:z2:15:ASP:OD1	2.25	0.66
7:A1:1396:A:H2	11:E1:24:THR:HG21	1.60	0.66
5:72:65:U:O2'	5:72:456:C:N3	2.29	0.66
7:A2:1147:C:H1'	15:I2:18:ARG:HH21	1.58	0.66
7:A1:1536:C:H42	28:V2:14:G:H1	1.44	0.66
7:A2:562:U:O2'	18:L2:14:ARG:NH2	2.29	0.66
7:A2:1397:C:OP2	11:E2:29:ARG:NH2	2.29	0.66
5:72:668:A:H2'	5:72:670:A:H62	1.60	0.66
6:82:66:A:H61	6:82:107:G:H2'	1.61	0.66
7:A2:246:A:N7	7:A2:281:G:N2	2.43	0.66
7:A2:898:G:N2	7:A2:901:A:OP2	2.28	0.66
8:B:222:ARG:HG2	8:B:225:ARG:HH22	1.61	0.66
5:72:1800:C:H3'	35:b2:146:MET:HE1	1.78	0.66
7:A1:371:A:OP1	39:i2:97:ARG:NH2	2.28	0.66
16:J2:54:SER:HB3	16:J2:58:ASN:HB3	1.77	0.66
5:72:1537:G:N2	5:72:1537:G:OP2	2.29	0.66
7:A1:1373:G:OP2	15:I1:73:SER:OG	2.11	0.66
11:E2:166:GLY:HA3	14:H2:114:ARG:HH12	1.61	0.66
5:72:371:A:N6	5:72:402:A:OP2	2.26	0.65
7:A2:1297:G:H21	13:G2:114:LYS:HB3	1.60	0.65
7:A1:269:C:H2'	7:A1:270:A:C8	2.31	0.65
7:A2:502:A:H61	7:A2:543:U:H3	1.45	0.65
28:V2:26:G:H1	32:Y1:34:CM0:H3	1.42	0.65
7:A1:1256:A:H5'	7:A1:1258:G:H1'	1.79	0.65
7:A2:1309:G:N7	19:M2:98:ARG:NH2	2.44	0.65
36:e2:26:MET:O	36:e2:30:ARG:NH2	2.29	0.65
11:E2:156:LYS:NZ	14:H2:71:VAL:O	2.27	0.65
7:A2:404:G:OP2	10:D2:115:ARG:NH1	2.28	0.65
16:J2:34:ALA:HB2	16:J2:83:THR:HG21	1.79	0.65
5:72:1800:C:O2'	5:72:1818:U:N3	2.22	0.65
5:72:2500:U:O2'	5:72:2504:PSU:OP1	2.15	0.65
7:A1:830:G:H5'	8:B:23:TRP:HE1	1.62	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:891:U:H2'	7:A1:892:A:H8	1.62	0.65
8:B:7:ARG:HH21	33:Z1:8:LEU:HD21	1.61	0.65
9:C2:15:VAL:HG23	9:C2:16:LYS:H	1.61	0.65
9:C2:85:GLU:HA	9:C2:88:ARG:HD3	1.78	0.65
9:C2:150:LYS:HG3	9:C2:169:ARG:HB3	1.79	0.65
18:L2:46:ASN:ND2	18:L2:89:ASP:OD2	2.30	0.65
5:72:45:G:H5'	5:72:46:G:H5'	1.77	0.65
7:A2:452:A:H61	7:A2:480:U:H3	1.45	0.65
9:C1:40:ARG:NH1	9:C1:55:ILE:O	2.29	0.65
2:32:5:LYS:HB2	2:32:57:GLU:HB2	1.77	0.65
7:A1:836:G:H3'	7:A1:837:U:H5''	1.79	0.65
7:A2:855:U:OP2	7:A2:871:U:N3	2.26	0.65
10:D2:100:ASN:OD1	10:D2:111:ARG:NH1	2.30	0.65
10:D2:97:ARG:NH2	10:D2:99:ASP:OD2	2.29	0.65
6:82:30:C:H1'	6:82:57:A:H61	1.62	0.64
7:A1:1124:G:H3'	16:J1:37:ARG:HH21	1.62	0.64
7:A2:1059:C:O3'	20:N2:85:ARG:NH1	2.30	0.64
17:K2:24:HIS:HB3	17:K2:31:ILE:HB	1.77	0.64
20:N1:16:LEU:HD23	20:N1:54:ASP:HB2	1.79	0.64
30:W1:36:A:H2'	30:W1:37:MIA:H8	1.78	0.64
5:72:1447:C:O2'	5:72:1544:A:N3	2.28	0.64
7:A2:823:C:HO2'	14:H2:2:SER:N	1.95	0.64
9:C2:46:GLU:OE1	9:C2:46:GLU:N	2.30	0.64
10:D1:100:ASN:OD1	10:D1:111:ARG:NH1	2.30	0.64
11:E2:157:ARG:NH1	14:H2:99:LEU:O	2.29	0.64
12:F1:99:ALA:O	12:F1:104:LYS:NZ	2.30	0.64
5:72:1827:U:OP1	5:72:1971:U:O2'	2.16	0.64
5:72:2118:U:O2	5:72:2145:C:N4	2.30	0.64
7:A1:31:G:O2'	7:A1:48:C:N4	2.30	0.64
7:A1:1003:G:H21	7:A1:1005:A:H5'	1.62	0.64
14:H1:18:GLN:HB3	14:H1:70:ALA:HB1	1.79	0.64
5:72:686:U:O4	40:I2:12:ARG:NH1	2.29	0.64
5:72:2114:A:H62	5:72:2115:G:H21	1.44	0.64
5:72:2788:C:O2'	5:72:2809:A:N3	2.28	0.64
7:A1:107:G:N7	26:T1:10:ARG:NH2	2.42	0.64
7:A1:690:G:O6	17:K1:53:ARG:NH2	2.30	0.64
7:A1:693:G:H3'	7:A1:694:A:H8	1.62	0.64
35:b2:107:PRO:HD2	35:b2:110:LEU:HD22	1.78	0.64
5:72:468:G:N7	40:I2:39:ARG:NH2	2.44	0.64
7:A1:532:A:N6	7:A1:1206:G:O2'	2.31	0.64
7:A2:54:C:H2'	7:A2:352:C:H41	1.61	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:2119:A:N6	5:72:2167:U:O2'	2.30	0.64
7:A2:963:G:H21	16:J2:57:VAL:HG11	1.63	0.64
17:K1:27:PHE:HE1	17:K1:89:PRO:HG2	1.62	0.64
8:B:196:VAL:HG12	8:B:198:PHE:H	1.61	0.64
35:b2:21:ASN:HB3	35:b2:24:LEU:HD23	1.79	0.64
7:A2:203:G:O2'	7:A2:465:A:N1	2.31	0.64
8:B2:86:SER:OG	8:B2:222:ARG:NH1	2.31	0.64
16:J2:65:TYR:HB3	20:N2:96:LEU:HD22	1.79	0.64
19:M2:81:MET:HE2	19:M2:91:HIS:HB3	1.80	0.64
7:A1:1345:U:O5'	15:I1:122:ARG:NH1	2.30	0.64
8:B:109:GLN:HA	8:B:112:LYS:HD2	1.80	0.64
7:A1:1008:U:H2'	7:A1:1009:U:C6	2.33	0.63
9:C2:79:LYS:HB3	9:C2:84:VAL:HB	1.78	0.63
7:A1:1106:G:H5''	9:C1:172:ARG:HG2	1.80	0.63
9:C2:45:LYS:HB3	9:C2:46:GLU:OE1	1.97	0.63
20:N1:31:ILE:O	20:N1:41:ARG:NH1	2.31	0.63
7:A2:1009:U:H3	7:A2:1020:G:H1	1.44	0.63
8:B2:66:LYS:HD2	8:B2:155:GLY:HA2	1.80	0.63
5:72:2134:A:H1'	5:72:2159:G:H1'	1.81	0.63
7:A1:736:C:OP1	24:R1:61:ARG:NH2	2.30	0.63
7:A2:1406:U:O2	7:A2:1517:G:N2	2.32	0.63
14:H2:13:ARG:NH1	14:H2:26:THR:O	2.31	0.63
8:B:35:ARG:HB3	8:B:40:ILE:HD11	1.80	0.63
12:F1:40:GLU:HB2	12:F1:61:LEU:HB3	1.81	0.63
17:K1:97:ILE:HG21	27:U1:16:LEU:HD21	1.79	0.63
5:72:2394:C:H5''	41:o2:63:LYS:HD3	1.81	0.63
7:A1:662:U:H2'	7:A1:663:A:C8	2.34	0.63
7:A1:1019:A:H3'	7:A1:1020:G:H5''	1.81	0.63
7:A2:687:A:N1	7:A2:700:G:O2'	2.32	0.63
8:B2:130:THR:HG22	8:B2:131:LYS:H	1.63	0.63
10:D1:174:ASP:HB3	10:D1:177:LYS:HB3	1.80	0.63
5:72:221:A:N1	5:72:265:A:O2'	2.31	0.63
7:A1:58:C:H2'	7:A1:59:A:H8	1.63	0.63
7:A2:570:G:O6	7:A2:865:A:N6	2.32	0.63
9:C1:151:VAL:HG23	9:C1:200:VAL:HG22	1.80	0.63
40:l2:24:THR:HG23	40:l2:27:GLY:H	1.62	0.63
5:72:2094:A:H2'	5:72:2095:A:H8	1.64	0.63
7:A1:151:A:OP2	7:A1:169:C:N4	2.29	0.63
7:A2:683:G:N2	17:K2:39:GLY:O	2.32	0.63
7:A2:902:G:OP1	7:A2:902:G:H4'	1.97	0.63
8:B2:114:LEU:HD12	8:B2:144:LEU:HB3	1.81	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D1:97:ARG:NH2	10:D1:99:ASP:OD2	2.32	0.63
5:72:2522:U:O2'	5:72:2647:U:OP1	2.15	0.63
7:A1:83:C:N3	7:A1:86:G:N2	2.47	0.63
7:A2:202:G:H1	7:A2:215:C:H42	1.44	0.63
7:A2:397:A:N7	7:A2:547:A:O2'	2.32	0.63
29:W:50:G:H1	29:W:64:U:H3	1.46	0.63
5:72:1826:G:O2'	5:72:1971:U:OP2	2.17	0.62
7:A1:1045:C:C3'	7:A1:1046:A:H5''	2.28	0.62
5:72:1906:G:H2'	5:72:1907:G:H8	1.62	0.62
9:C2:152:GLU:HG3	9:C2:199:LYS:HB2	1.81	0.62
11:E2:157:ARG:HH21	14:H2:43:GLU:HB3	1.63	0.62
5:72:1363:C:O2'	5:72:1809:A:N3	2.30	0.62
7:A2:70:U:H3	7:A2:98:A:H61	1.48	0.62
5:72:858:G:OP2	44:z2:78:LYS:NZ	2.32	0.62
7:A1:742:G:O2'	7:A1:743:A:H5'	1.99	0.62
11:E1:156:LYS:NZ	14:H1:71:VAL:O	2.30	0.62
7:A2:1142:G:H3'	7:A2:1143:G:H8	1.64	0.62
24:R2:57:ARG:HD3	24:R2:61:ARG:HH22	1.64	0.62
5:72:954:G:OP2	38:h2:16:ARG:NH1	2.30	0.62
5:72:1047:G:HO2'	5:72:1110:G:H1	1.46	0.62
6:82:75:G:H2'	6:82:76:G:H8	1.64	0.62
7:A2:685:G:N1	7:A2:704:A:OP2	2.27	0.62
7:A2:1071:C:H2'	7:A2:1072:G:H8	1.63	0.62
13:G2:34:GLY:O	13:G2:36:LYS:N	2.32	0.62
26:T1:54:MET:SD	26:T1:55:GLN:N	2.71	0.62
5:72:1394:U:H4'	5:72:1603:A:H4'	1.82	0.62
7:A1:718:A:C8	17:K1:118:HIS:HB3	2.35	0.62
8:B:113:ARG:HH12	8:B:117:LEU:HB2	1.65	0.62
5:72:463:G:N2	5:72:466:A:OP2	2.25	0.62
5:72:960:A:H2'	5:72:962:G:H5''	1.81	0.62
5:72:1416:G:O2'	5:72:1417:C:OP2	2.16	0.62
7:A1:337:G:H2'	7:A1:338:A:C8	2.34	0.62
7:A1:618:C:O2'	22:P1:14:ARG:NH1	2.33	0.62
7:A2:606:G:N2	7:A2:632:U:OP1	2.29	0.62
18:L2:100:GLY:HA3	18:L2:118:GLY:HA3	1.80	0.62
7:A1:666:G:H5'	7:A1:726:C:H1'	1.81	0.62
7:A1:683:G:N2	17:K1:39:GLY:O	2.33	0.62
7:A1:1033:G:H2'	7:A1:1034:G:H8	1.64	0.62
7:A2:1356:G:H2'	7:A2:1357:A:C8	2.34	0.62
10:D2:65:TYR:O	10:D2:97:ARG:NH1	2.25	0.62
38:h2:13:HIS:O	38:h2:71:LYS:NZ	2.33	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:1187:G:N3	20:N2:100:SER:OG	2.32	0.62
18:L1:114:ARG:HG2	18:L1:119:VAL:HB	1.81	0.62
23:Q2:68:SER:HB3	23:Q2:71:LYS:HB2	1.81	0.62
5:72:411:G:OP2	5:72:2406:A:O2'	2.16	0.61
7:A2:1086:U:H3	7:A2:1099:G:H22	1.48	0.61
10:D1:105:MET:HE1	10:D1:171:LEU:HD22	1.82	0.61
29:W:25:C:H2'	29:W:26:A:C8	2.35	0.61
43:r2:78:VAL:HA	43:r2:81:ARG:HD2	1.82	0.61
7:A1:269:C:H2'	7:A1:270:A:H8	1.63	0.61
7:A1:643:C:H5''	14:H1:32:LEU:HD21	1.82	0.61
7:A1:1032:G:H2'	7:A1:1033:G:O4'	2.00	0.61
7:A1:1338:G:N3	30:W1:41:C:O2'	2.33	0.61
7:A2:195:A:H2'	7:A2:196:A:C8	2.35	0.61
7:A2:1349:A:H5''	15:I2:123:ARG:HG2	1.80	0.61
12:F1:12:PRO:O	12:F1:44:ARG:NH2	2.33	0.61
5:72:2447:G:H1	5:72:2451:A:H62	1.47	0.61
7:A1:503:C:OP1	18:L1:116:LYS:NZ	2.32	0.61
7:A2:56:U:H2'	7:A2:57:G:C8	2.35	0.61
7:A2:75:G:H1	7:A2:95:C:H42	1.48	0.61
12:F1:81:ASN:HB3	12:F1:84:VAL:HG12	1.81	0.61
19:M2:79:ARG:HG3	36:e2:112:ARG:HH22	1.65	0.61
43:r2:31:THR:HG22	43:r2:33:ARG:H	1.66	0.61
7:A1:1030:U:H2'	7:A1:1031:C:O4'	1.99	0.61
10:D1:172:GLU:HG3	10:D1:183:LYS:HD2	1.82	0.61
14:H1:96:MET:HB3	14:H1:100:GLY:H	1.64	0.61
23:Q1:59:VAL:HG12	23:Q1:78:VAL:HG22	1.82	0.61
5:72:987:C:O2'	5:72:1000:A:N3	2.33	0.61
7:A1:1216:A:O2'	20:N1:9:ARG:NH2	2.33	0.61
13:G1:68:ASN:O	13:G1:138:ARG:NH2	2.33	0.61
17:K1:74:VAL:HG23	17:K1:75:LYS:H	1.66	0.61
31:Y:34:G:H2'	31:Y:35:G:C8	2.35	0.61
7:A2:477:C:H3'	7:A2:478:A:H8	1.66	0.61
30:W1:43:C:H2'	30:W1:44:G:H8	1.66	0.61
7:A1:999:C:H2'	7:A1:1000:A:C8	2.35	0.61
7:A2:766:A:OP2	7:A2:812:G:N2	2.34	0.61
7:A2:972:C:OP2	16:J2:59:LYS:NZ	2.32	0.61
7:A2:1345:U:H5''	15:I2:122:ARG:HH11	1.66	0.61
10:D1:65:TYR:O	10:D1:97:ARG:NH1	2.33	0.61
5:72:754:U:O2'	5:72:1272:A:N1	2.34	0.61
7:A2:1534:A:H1'	7:A2:1535:C:H5''	1.83	0.61
5:72:643:A:N1	5:72:2369:A:O2'	2.33	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:1936:A:H2	5:72:1943:U:H3	1.48	0.61
5:72:2108:A:H2	5:72:2181:U:H3	1.47	0.61
7:A1:974:A:OP2	20:N1:81:ARG:NE	2.34	0.61
7:A2:1227:A:N7	19:M2:117:LYS:NZ	2.39	0.61
5:72:512:G:OP1	5:72:1234:U:O2'	2.19	0.60
5:72:2153:C:O2'	7:A1:412:A:N1	2.33	0.60
7:A2:269:C:H2'	7:A2:270:A:H8	1.65	0.60
7:A2:1413:A:H2	7:A2:1487:G:H22	1.48	0.60
10:D2:101:VAL:HG21	10:D2:137:VAL:HG21	1.83	0.60
39:i2:82:SER:HB3	39:i2:90:LEU:HD21	1.83	0.60
7:A1:589:U:H5''	14:H1:30:SER:HB3	1.83	0.60
12:F1:38:ARG:HB3	12:F1:63:ASN:HB2	1.82	0.60
39:i2:6:LEU:HD23	39:i2:36:ALA:HA	1.82	0.60
5:72:858:G:N2	5:72:2269:G:OP2	2.34	0.60
5:72:1309:G:H4'	40:i2:7:PRO:HB2	1.83	0.60
7:A1:441:A:H2'	7:A1:442:G:H5''	1.83	0.60
7:A1:823:C:HO2'	14:H1:2:SER:N	1.98	0.60
7:A1:1321:U:O2'	25:S1:78:ARG:NH2	2.34	0.60
7:A2:269:C:H2'	7:A2:270:A:C8	2.36	0.60
9:C2:59:ARG:HG2	9:C2:64:ILE:HG12	1.83	0.60
10:D1:14:ARG:O	10:D1:15:GLU:HG2	2.01	0.60
6:82:75:G:H2'	6:82:76:G:C8	2.36	0.60
7:A2:1268:G:N3	7:A2:1326:U:O2'	2.34	0.60
7:A1:187:G:N2	7:A1:190:A:OP2	2.33	0.60
7:A1:1266:G:N2	7:A1:1269:A:OP2	2.30	0.60
7:A1:1356:G:H2'	7:A1:1357:A:C8	2.37	0.60
9:C2:7:PRO:HG3	9:C2:201:TRP:HE1	1.66	0.60
7:A1:1425:U:H2'	7:A1:1426:G:H5''	1.82	0.60
29:W:14:A:H3'	29:W:15:A:H8	1.66	0.60
7:A2:1011:C:H2'	7:A2:1012:A:C8	2.36	0.60
20:N2:64:CYS:HB2	20:N2:80:SER:HB3	1.82	0.60
5:72:2175:C:H6	5:72:2175:C:H5''	1.66	0.60
5:72:2176:A:O3'	34:a2:221:GLY:N	2.35	0.60
1:12:18:ARG:NH1	1:12:22:LEU:O	2.35	0.60
5:72:1709:U:O2'	5:72:2859:G:N3	2.35	0.60
7:A1:830:G:H2'	7:A1:831:A:C8	2.37	0.60
7:A2:203:G:H1'	7:A2:465:A:H61	1.66	0.60
17:K1:126:LYS:HG2	27:U1:37:PHE:HB3	1.84	0.60
24:R2:7:ARG:HE	24:R2:9:LYS:HE2	1.66	0.60
35:b2:6:CYS:SG	35:b2:13:ARG:NH2	2.75	0.60
9:C2:14:ILE:HG22	9:C2:15:VAL:HG13	1.84	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:N1:79:LEU:HB3	20:N1:83:LYS:HB3	1.84	0.60
5:72:2159:G:H2'	5:72:2160:C:C6	2.37	0.59
7:A1:538:G:H2'	7:A1:539:A:H8	1.66	0.59
5:72:2177:C:P	34:a2:221:GLY:H	2.25	0.59
7:A1:1418:A:H3'	7:A1:1419:G:H5''	1.84	0.59
7:A2:87:C:H2'	7:A2:88:U:H4'	1.84	0.59
7:A2:476:U:H2'	7:A2:477:C:C6	2.37	0.59
7:A2:1175:G:H2'	7:A2:1176:A:C8	2.37	0.59
15:I1:119:ARG:HH12	15:I1:125:PRO:HA	1.67	0.59
23:Q1:68:SER:HB3	23:Q1:71:LYS:HB2	1.83	0.59
34:a2:68:GLY:HA2	34:a2:159:GLY:HA3	1.83	0.59
7:A1:736:C:H2'	7:A1:737:C:C6	2.37	0.59
7:A1:1404:C:H42	7:A1:1497:G:H1	1.48	0.59
7:A2:408:A:H61	7:A2:434:U:H3	1.49	0.59
8:B2:95:ARG:HH21	8:B2:97:LEU:HD22	1.67	0.59
17:K2:17:SER:HA	17:K2:79:ILE:HA	1.84	0.59
32:Y1:9:A:OP2	32:Y1:13:C:N4	2.32	0.59
3:4:36:VAL:HG23	3:4:40:CYS:HB2	1.83	0.59
7:A1:908:A:H2'	7:A1:909:A:C8	2.37	0.59
7:A2:376:G:H1	7:A2:387:U:H3	1.51	0.59
7:A2:545:C:O2'	7:A2:549:C:H5'	2.02	0.59
7:A2:1216:A:O2'	20:N2:9:ARG:NH2	2.35	0.59
12:F2:38:ARG:HG2	12:F2:63:ASN:ND2	2.18	0.59
13:G1:78:ARG:HH11	13:G1:156:TRP:HB2	1.68	0.59
16:J1:56:HIS:ND1	16:J1:57:VAL:HG23	2.17	0.59
5:72:715:A:N7	21:O2:53:ARG:NH1	2.49	0.59
5:72:1688:U:O2'	5:72:1700:A:N7	2.34	0.59
7:A1:1308:U:OP2	19:M1:100:GLN:NE2	2.35	0.59
7:A1:1318:A:H5''	25:S1:3:ARG:HH12	1.66	0.59
7:A2:1073:U:O2	8:B2:103:ASN:ND2	2.35	0.59
10:D2:108:GLY:HA3	10:D2:114:ALA:HB2	1.84	0.59
5:72:729:G:O4'	35:b2:207:LYS:NZ	2.33	0.59
5:72:1906:G:H2'	5:72:1907:G:C8	2.36	0.59
11:E2:56:VAL:HB	28:V2:62:C:H4'	1.83	0.59
5:72:881:G:H1	5:72:895:U:H3	1.50	0.59
7:A1:1206:G:H2'	7:A1:1207:2MG:C8	2.37	0.59
10:D2:118:VAL:HG22	10:D2:123:ILE:HG13	1.83	0.59
5:72:1167:C:H2'	5:72:1168:G:C8	2.38	0.59
12:F1:29:ILE:HD13	12:F1:64:VAL:HG11	1.85	0.59
20:N1:54:ASP:HA	20:N1:59:ARG:HG2	1.84	0.59
29:W:25:C:H2'	29:W:26:A:H8	1.66	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:776:G:O2'	5:72:2241:A:OP1	2.20	0.59
7:A1:477:C:H2'	7:A1:478:A:C8	2.37	0.59
7:A1:691:G:O6	17:K1:53:ARG:NH2	2.36	0.59
7:A1:1413:A:H2	7:A1:1487:G:H22	1.51	0.59
8:B:14:VAL:O	8:B:203:ASN:ND2	2.35	0.59
21:O1:14:GLU:HB2	21:O1:84:ARG:HH22	1.67	0.59
22:P1:55:ASP:OD1	22:P1:56:ARG:N	2.36	0.59
7:A1:1376:U:H2'	7:A1:1377:A:C8	2.37	0.59
9:C1:10:ILE:HG23	9:C1:11:ARG:HG3	1.84	0.59
9:C2:88:ARG:HH12	9:C2:100:GLN:HG3	1.68	0.59
7:A1:926:G:H22	28:V2:20:C:H3'	1.68	0.58
7:A1:948:C:H2'	7:A1:949:A:H8	1.68	0.58
7:A1:1086:U:H3	7:A1:1099:G:N2	2.00	0.58
7:A1:1333:A:H3'	7:A1:1334:G:H8	1.67	0.58
10:D1:147:GLU:CD	10:D1:147:GLU:H	2.11	0.58
18:L2:114:ARG:HG2	18:L2:119:VAL:HB	1.83	0.58
28:V2:46:C:H4'	28:V2:47:G:OP1	2.01	0.58
43:r2:20:GLU:HG2	43:r2:21:LEU:HD12	1.85	0.58
5:72:453:A:N3	5:72:457:A:O2'	2.36	0.58
7:A1:450:G:H1	7:A1:483:C:H42	1.51	0.58
7:A2:58:C:O2'	7:A2:388:G:N7	2.35	0.58
7:A2:246:A:N1	7:A2:278:G:O2'	2.32	0.58
7:A2:769:G:H4'	7:A2:1513:A:H4'	1.85	0.58
8:B:58:ASN:ND2	8:B:223:GLU:OE1	2.36	0.58
14:H1:102:ALA:HB3	14:H1:113:ASP:HB3	1.85	0.58
17:K2:73:ALA:HB1	17:K2:77:TYR:HD2	1.67	0.58
35:b2:236:GLU:O	35:b2:239:ASN:ND2	2.36	0.58
5:72:1250:G:OP2	41:o2:18:ARG:NH2	2.35	0.58
7:A1:413:G:O3'	7:A1:428:G:N2	2.29	0.58
7:A1:603:U:H2'	7:A1:604:G:C8	2.38	0.58
7:A1:1460:C:H3'	7:A1:1461:G:H5''	1.85	0.58
10:D1:73:ARG:NH2	10:D1:74:ASN:OD1	2.32	0.58
31:Y:18:G:H1	31:Y:55:PSU:H1'	1.68	0.58
5:72:713:G:OP2	21:O2:88:ARG:NH1	2.34	0.58
7:A2:835:U:OP1	24:R2:53:ARG:NH1	2.37	0.58
16:J1:2:GLN:HB2	16:J1:5:ARG:HG2	1.86	0.58
16:J2:52:LEU:HD11	20:N2:81:ARG:HD2	1.84	0.58
34:a2:86:ALA:HB1	34:a2:150:ALA:HB2	1.85	0.58
7:A1:176:C:OP1	26:T1:64:LYS:NZ	2.35	0.58
7:A1:390:U:H4'	22:P1:28:ARG:HH21	1.68	0.58
7:A1:651:C:N4	7:A1:753:A:OP2	2.37	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1088:G:H21	7:A1:1167:A:H61	1.50	0.58
7:A2:1030:U:H2'	7:A2:1032:G:H1	1.67	0.58
7:A2:1084:G:O2'	7:A2:1103:C:N4	2.34	0.58
7:A2:1115:U:O2	7:A2:1185:G:N2	2.35	0.58
10:D1:196:ASN:HB2	10:D1:198:HIS:CE1	2.38	0.58
35:b2:130:LEU:HB2	35:b2:135:ILE:HD11	1.85	0.58
5:72:1024:G:HO2'	5:72:1144:A:HO2'	1.47	0.58
5:72:2540:C:O2'	5:72:2740:A:N3	2.33	0.58
7:A1:12:U:H4'	7:A1:526:C:H4'	1.85	0.58
7:A1:195:A:H2'	7:A1:196:A:C8	2.38	0.58
7:A1:603:U:H2'	7:A1:604:G:H8	1.67	0.58
7:A1:1160:G:H4'	8:B:131:LYS:HE2	1.85	0.58
9:C2:42:TYR:O	9:C2:46:GLU:OE1	2.21	0.58
12:F1:14:GLN:HB3	12:F1:17:GLN:HE21	1.68	0.58
17:K2:74:VAL:HG23	17:K2:75:LYS:H	1.66	0.58
25:S1:36:ARG:NH2	25:S1:72:GLY:O	2.37	0.58
30:W1:37:MIA:N1	30:W1:37:MIA:H131	2.19	0.58
5:72:571:U:O2	5:72:2030:6MZ:O2'	2.18	0.58
7:A1:746:A:H2'	7:A1:747:A:C8	2.39	0.58
15:I1:47:VAL:HA	15:I1:50:GLN:HG2	1.86	0.58
39:i2:96:THR:HB	39:i2:112:LYS:HB2	1.85	0.58
7:A1:1342:C:H2'	7:A1:1343:G:C8	2.38	0.58
7:A2:410:G:OP1	10:D2:26:ARG:NH1	2.35	0.58
15:I2:85:ARG:HA	15:I2:88:MET:HE3	1.84	0.58
42:p:32:ASN:HB2	42:p:34:ARG:HE	1.68	0.58
5:72:1580:A:O2'	5:72:1581:G:OP1	2.19	0.58
5:72:2133:G:O2'	5:72:2157:G:N1	2.37	0.58
5:72:2305:U:H1'	36:e2:151:GLY:HA3	1.86	0.58
7:A1:600:A:H5''	14:H1:89:LYS:HD3	1.84	0.58
9:C1:147:LYS:HD2	9:C1:205:GLY:HA2	1.85	0.58
5:72:1791:A:H5''	35:b2:205:LEU:HD11	1.86	0.58
7:A1:10:A:H2'	7:A1:11:G:H8	1.69	0.58
7:A1:262:A:O2'	26:T1:70:ASN:ND2	2.29	0.58
7:A1:696:A:N3	7:A1:786:G:O2'	2.30	0.58
7:A1:938:A:O3'	13:G1:95:ARG:NH2	2.32	0.58
7:A1:1380:U:O2'	13:G1:3:ARG:NH1	2.37	0.58
6:82:3:C:O2'	6:82:4:C:OP1	2.13	0.57
7:A1:966:2MG:HM21	15:I1:129:LYS:HE2	1.85	0.57
7:A1:1186:G:N2	20:N1:100:SER:O	2.37	0.57
7:A2:438:U:H4'	7:A2:439:U:O5'	2.04	0.57
7:A2:595:A:N6	7:A2:641:U:O2'	2.36	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:J1:64:GLN:HB3	20:N1:99:ALA:HB3	1.85	0.57
20:N1:51:LEU:HD12	20:N1:52:PRO:HD2	1.86	0.57
5:72:1604:C:O2'	5:72:1610:A:N1	2.34	0.57
7:A1:770:C:H2'	7:A1:771:G:H8	1.69	0.57
9:C1:11:ARG:NH1	9:C1:178:LEU:HA	2.20	0.57
5:72:1056:G:H4'	5:72:1086:A:H8	1.69	0.57
5:72:2332:C:OP1	44:z2:77:ARG:NH2	2.37	0.57
7:A1:67:C:H2'	7:A1:68:G:C8	2.39	0.57
7:A1:219:U:H2'	7:A1:220:G:C8	2.39	0.57
7:A1:404:G:P	10:D1:115:ARG:HH12	2.26	0.57
7:A1:715:A:H2'	7:A1:716:A:C8	2.40	0.57
7:A1:1048:G:H2'	7:A1:1050:G:H8	1.70	0.57
7:A1:1166:G:H22	7:A1:1169:A:H5''	1.69	0.57
7:A1:1462:C:H2'	7:A1:1463:U:H5'	1.86	0.57
15:I2:88:MET:SD	15:I2:95:ARG:NE	2.78	0.57
17:K2:73:ALA:O	17:K2:77:TYR:N	2.27	0.57
19:M1:107:ARG:HH21	19:M1:110:LYS:HE3	1.70	0.57
5:72:2185:U:H2'	5:72:2186:G:C8	2.39	0.57
7:A1:2:A:N3	7:A1:613:C:O2'	2.36	0.57
7:A1:977:A:H8	7:A1:1223:C:C2	2.21	0.57
7:A2:970:C:N4	15:I2:130:ARG:O	2.37	0.57
7:A2:1106:G:O2'	9:C2:169:ARG:NH1	2.37	0.57
7:A2:1375:A:OP1	13:G2:28:ASN:ND2	2.37	0.57
16:J1:52:LEU:HB2	20:N1:81:ARG:HD2	1.86	0.57
5:72:1326:U:O2'	5:72:2010:G:O2'	2.22	0.57
7:A1:467:U:H5'	7:A1:468:A:H5'	1.85	0.57
7:A1:770:C:O2'	7:A1:899:C:N3	2.38	0.57
7:A1:1320:C:H1'	25:S1:73:GLU:HG3	1.87	0.57
7:A1:1414:U:H2'	7:A1:1415:G:C8	2.40	0.57
7:A2:481:G:O2'	7:A2:483:C:N4	2.38	0.57
7:A2:1308:U:H2'	7:A2:1309:G:H8	1.69	0.57
43:r2:8:ILE:O	43:r2:12:THR:OG1	2.22	0.57
5:72:481:G:O2'	5:72:507:A:N1	2.36	0.57
5:72:2470:G:O6	5:72:2481:G:N2	2.38	0.57
7:A1:588:G:H2'	7:A1:589:U:C6	2.40	0.57
7:A1:649:A:C3'	7:A1:650:G:H5''	2.34	0.57
7:A1:948:C:H2'	7:A1:949:A:C8	2.39	0.57
7:A2:231:U:H2'	7:A2:232:G:H8	1.69	0.57
23:Q1:9:GLN:NE2	23:Q1:60:GLU:OE1	2.37	0.57
5:72:1338:G:O2'	5:72:1393:A:N1	2.36	0.57
7:A1:692:U:H3	17:K1:54:GLY:HA2	1.69	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1226:C:OP1	19:M1:90:ARG:NH1	2.30	0.57
7:A1:1391:U:H2'	7:A1:1392:G:C8	2.40	0.57
7:A2:999:C:H2'	7:A2:1000:A:H8	1.69	0.57
7:A2:1156:G:O2'	7:A2:1180:A:N1	2.32	0.57
29:W:37:MIA:OP2	29:W:37:MIA:H8	2.05	0.57
35:b2:66:ASP:OD2	35:b2:102:ARG:NH1	2.35	0.57
5:72:858:G:N3	5:72:2268:A:H2'	2.20	0.57
5:72:858:G:O2'	5:72:859:G:O4'	2.17	0.57
7:A1:838:G:H22	7:A1:849:G:H1'	1.69	0.57
7:A1:1047:G:HO2'	7:A1:1215:G:HO2'	1.51	0.57
7:A2:451:A:OP1	7:A2:481:G:N2	2.37	0.57
19:M1:75:MET:HA	19:M1:78:LYS:HE3	1.86	0.57
3:4:12:ILE:HG21	3:4:29:GLY:HA2	1.86	0.57
7:A2:49:U:H3	7:A2:362:G:H1'	1.70	0.57
14:H2:103:VAL:HG12	14:H2:126:ILE:HD13	1.86	0.57
5:72:355:U:H2'	5:72:356:G:H8	1.70	0.57
5:72:2100:G:H3'	5:72:2101:A:C8	2.39	0.57
5:72:2470:G:OP1	38:h2:55:ARG:NH2	2.38	0.57
7:A1:1170:A:H2'	7:A1:1171:A:O4'	2.05	0.57
7:A1:1304:G:H21	7:A1:1333:A:H62	1.51	0.57
7:A2:147:G:H2'	7:A2:148:G:C8	2.39	0.57
7:A2:1261:A:N6	7:A2:1274:A:O2'	2.37	0.57
15:I1:42:GLU:HG3	15:I1:46:MET:HE3	1.87	0.57
19:M1:79:ARG:HH11	25:S1:65:GLU:HB3	1.69	0.57
29:W:5:G:H2'	29:W:6:C:C6	2.40	0.57
5:72:2655:G:O2'	5:72:2664:G:O6	2.18	0.56
7:A1:10:A:H2'	7:A1:11:G:C8	2.40	0.56
7:A1:1256:A:O2'	7:A1:1278:G:O6	2.21	0.56
9:C1:184:TYR:HE1	9:C1:199:LYS:HB3	1.70	0.56
29:W:2:G:H2'	29:W:3:G:C8	2.40	0.56
5:72:278:A:OP2	5:72:361:G:N1	2.38	0.56
5:72:2115:G:H4'	5:72:2166:U:H3	1.70	0.56
6:82:49:C:H2'	6:82:50:A:C8	2.41	0.56
7:A1:542:G:O3'	10:D1:14:ARG:NH2	2.38	0.56
7:A1:988:G:H4'	7:A1:1014:A:H61	1.69	0.56
7:A1:1448:C:H2'	7:A1:1449:C:C6	2.40	0.56
7:A2:309:A:H2'	7:A2:310:G:H8	1.70	0.56
9:C1:88:ARG:NH1	9:C1:99:ALA:O	2.38	0.56
5:72:825:A:O2'	41:o2:54:GLN:OE1	2.18	0.56
5:72:1131:G:N2	5:72:1132:U:O4	2.38	0.56
5:72:1475:G:O2'	5:72:1476:U:O5'	2.21	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:662:U:O2'	7:A1:836:G:O5'	2.23	0.56
7:A1:694:A:N1	7:A1:787:A:O2'	2.37	0.56
7:A1:1118:U:H4'	15:I1:85:ARG:HH22	1.68	0.56
7:A1:1133:G:H2'	7:A1:1134:G:C8	2.41	0.56
7:A2:389:A:H3'	7:A2:390:U:H6	1.69	0.56
7:A2:454:G:N2	7:A2:479:U:O4'	2.38	0.56
7:A2:1193:G:O6	9:C2:2:GLY:N	2.38	0.56
9:C2:58:GLU:O	9:C2:65:ARG:N	2.37	0.56
29:W:26:A:H61	29:W:44:G:H1	1.52	0.56
32:Y1:9:A:H1'	32:Y1:45:G:H2'	1.85	0.56
39:i2:3:VAL:HG12	39:i2:38:PRO:HA	1.86	0.56
5:72:476:G:H22	5:72:479:A:H5''	1.69	0.56
5:72:2162:G:H4'	5:72:2173:A:C5	2.41	0.56
7:A1:448:A:H3'	7:A1:449:G:H8	1.70	0.56
7:A1:633:G:H2'	7:A1:634:C:C6	2.41	0.56
7:A2:1404:C:H2'	7:A2:1405:G:C8	2.39	0.56
9:C1:73:PRO:O	9:C1:77:ILE:HG12	2.05	0.56
9:C2:110:GLU:HB2	9:C2:144:LEU:HD12	1.88	0.56
5:72:1315:C:O2'	5:72:1392:A:N3	2.29	0.56
7:A1:986:U:H3	7:A1:1219:A:H61	1.52	0.56
7:A1:1060:U:H3	7:A1:1197:A:H61	1.53	0.56
7:A2:255:G:H4'	23:Q2:19:LYS:HD3	1.88	0.56
8:B:66:LYS:HB2	8:B:159:ASP:H	1.70	0.56
5:72:566:U:H5''	41:o2:29:LYS:HE3	1.88	0.56
5:72:2137:U:H2'	5:72:2138:G:C8	2.40	0.56
7:A2:1137:C:O2	7:A2:1138:G:N2	2.36	0.56
8:B:94:HIS:CE1	8:B:146:ASN:HB3	2.41	0.56
24:R2:12:ARG:NE	24:R2:32:TYR:OH	2.39	0.56
7:A1:490:C:H2'	7:A1:491:G:C8	2.40	0.56
7:A1:626:G:O3'	22:P1:51:ARG:NH2	2.36	0.56
7:A1:1100:C:OP2	8:B:95:ARG:NH1	2.39	0.56
7:A2:150:U:H2'	7:A2:151:A:C8	2.41	0.56
7:A2:1040:U:H2'	7:A2:1041:G:H8	1.69	0.56
14:H1:103:VAL:HG12	14:H1:126:ILE:HD13	1.87	0.56
15:I1:87:LEU:HB3	15:I1:94:LEU:HD12	1.87	0.56
17:K1:89:PRO:HG3	27:U1:32:VAL:HG11	1.87	0.56
18:L1:44:LYS:HB3	18:L1:45:PRO:HD3	1.86	0.56
24:R2:55:LEU:O	24:R2:59:ILE:HG12	2.04	0.56
39:i2:18:GLN:OE1	39:i2:44:ILE:HD12	2.05	0.56
5:72:1130:U:O2'	5:72:1131:G:OP1	2.21	0.56
5:72:2063:C:O2'	31:Y:76:A:O3'	2.23	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:2305:U:O4	36:e2:39:GLY:N	2.35	0.56
7:A1:1250:A:H2'	7:A1:1251:A:C8	2.41	0.56
7:A1:1316:G:N1	7:A1:1319:A:OP2	2.35	0.56
7:A1:1348:U:H2'	7:A1:1349:A:H8	1.71	0.56
7:A2:575:G:N2	7:A2:880:C:O2	2.38	0.56
7:A2:1040:U:H2'	7:A2:1041:G:C8	2.41	0.56
11:E2:31:PHE:H	28:V2:60:A:N6	2.03	0.56
37:g2:39:PHE:HB2	37:g2:46:HIS:CE1	2.41	0.56
5:72:2258:C:O2'	5:72:2427:C:OP2	2.20	0.56
7:A1:1081:A:N7	11:E1:52:LYS:NZ	2.54	0.56
7:A1:1323:G:H2'	7:A1:1324:A:C8	2.41	0.56
7:A2:483:C:O2'	7:A2:484:G:OP1	2.24	0.56
8:B:90:PHE:CE1	8:B:153:ASP:HB3	2.36	0.56
9:C2:22:TRP:HB3	9:C2:59:ARG:H	1.70	0.56
14:H2:76:GLN:NE2	14:H2:77:ARG:O	2.38	0.56
7:A1:538:G:H2'	7:A1:539:A:C8	2.40	0.56
7:A1:1346:A:H2	7:A1:1375:A:H62	1.54	0.56
7:A2:414:A:H3'	7:A2:415:A:H8	1.70	0.56
7:A2:1098:C:O2'	27:U2:71:TYR:OXT	2.20	0.56
8:B:70:VAL:HG23	8:B:161:LEU:HD11	1.87	0.56
10:D1:101:VAL:HG21	10:D1:137:VAL:HG21	1.87	0.56
15:I1:45:ARG:HD3	15:I1:49:ARG:HH22	1.71	0.56
3:4:5:ILE:HG13	3:4:6:HIS:H	1.71	0.55
7:A1:841:C:C4	7:A1:843:U:H5'	2.41	0.55
7:A1:908:A:H2'	7:A1:909:A:H8	1.71	0.55
7:A2:382:A:H2'	7:A2:383:A:C8	2.41	0.55
7:A2:1218:C:H2'	7:A2:1219:A:C8	2.41	0.55
8:B:104:TRP:HA	8:B:107:VAL:HG22	1.86	0.55
25:S1:18:LYS:HD3	25:S1:31:LEU:HD12	1.87	0.55
32:Y1:14:A:N1	32:Y1:21:A:O2'	2.39	0.55
5:72:1039:A:H2	5:72:1116:G:H22	1.53	0.55
7:A1:685:G:N1	7:A1:704:A:OP2	2.39	0.55
7:A1:1304:G:N1	7:A1:1332:A:OP2	2.27	0.55
7:A2:21:G:H2'	7:A2:22:G:C8	2.41	0.55
7:A2:150:U:H2'	7:A2:151:A:H8	1.71	0.55
7:A2:1314:C:H2'	7:A2:1315:U:C6	2.41	0.55
9:C2:123:GLN:HB3	9:C2:128:VAL:HB	1.88	0.55
5:72:1138:G:H2'	5:72:1139:G:O4'	2.06	0.55
5:72:1801:A:N6	5:72:2201:G:O2'	2.40	0.55
7:A1:1058:G:H2'	7:A1:1059:C:C6	2.40	0.55
7:A1:1412:C:H2'	7:A1:1413:A:C8	2.42	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B2:67:ILE:HG12	8:B2:89:GLN:HE21	1.71	0.55
20:N2:31:ILE:O	20:N2:41:ARG:NH1	2.39	0.55
24:R2:63:ARG:HB3	24:R2:70:TYR:CZ	2.42	0.55
7:A1:82:G:H3'	7:A1:83:C:H6	1.71	0.55
7:A1:1356:G:H2'	7:A1:1357:A:H8	1.71	0.55
8:B:38:VAL:HG12	8:B:39:HIS:N	2.21	0.55
9:C2:34:ASP:OD2	20:N2:65:ARG:NH2	2.38	0.55
29:W:18:G:H5'	29:W:58:A:C2	2.41	0.55
5:72:1537:G:H3'	5:72:1538:G:O4'	2.06	0.55
7:A2:1247:U:H2'	7:A2:1248:A:H5''	1.89	0.55
38:h2:1:MET:HG2	38:h2:2:LEU:H	1.70	0.55
5:72:372:G:O2'	5:72:400:G:O6	2.20	0.55
5:72:2532:G:O2'	5:72:2657:A:N1	2.40	0.55
7:A1:1041:G:H2'	7:A1:1042:A:C8	2.41	0.55
7:A1:1414:U:H2'	7:A1:1415:G:H8	1.72	0.55
7:A2:455:G:H1	7:A2:477:C:H42	1.54	0.55
7:A2:503:C:OP1	18:L2:116:LYS:NZ	2.36	0.55
7:A2:691:G:O6	17:K2:53:ARG:NH2	2.40	0.55
12:F2:21:MET:HA	12:F2:24:ARG:HH11	1.72	0.55
16:J1:34:ALA:HB2	16:J1:83:THR:HG21	1.87	0.55
44:z2:75:LYS:HB2	44:z2:77:ARG:HG3	1.89	0.55
5:72:1028:A:N3	5:72:2486:C:O2'	2.31	0.55
7:A1:595:A:H61	7:A1:641:U:H2'	1.71	0.55
7:A1:864:A:H2'	7:A1:865:A:C8	2.41	0.55
7:A1:894:G:H2'	7:A1:895:G:H8	1.71	0.55
7:A2:352:C:O2	7:A2:355:C:N4	2.39	0.55
10:D2:59:GLN:O	10:D2:63:ARG:NE	2.37	0.55
29:W:31:U:C2'	29:W:32:PSU:H5''	2.37	0.55
29:W:54:5MU:H2'	29:W:55:PSU:O4'	2.07	0.55
7:A1:17:U:H2'	7:A1:18:C:C6	2.42	0.55
7:A1:386:C:H2'	7:A1:387:U:H5''	1.89	0.55
7:A1:578:C:H2'	7:A1:579:A:H8	1.72	0.55
7:A1:578:C:O2'	7:A1:728:A:N3	2.35	0.55
7:A1:1005:A:H3'	7:A1:1006:G:H8	1.72	0.55
7:A1:1162:C:H2'	7:A1:1163:A:C8	2.42	0.55
7:A1:1267:C:H3'	7:A1:1268:G:C8	2.42	0.55
7:A2:376:G:H2'	7:A2:377:G:H8	1.70	0.55
7:A2:922:G:H1'	11:E2:24:THR:HG23	1.89	0.55
9:C2:82:GLU:HG2	9:C2:85:GLU:HB3	1.89	0.55
10:D2:73:ARG:NH2	10:D2:74:ASN:OD1	2.35	0.55
13:G1:53:ARG:HH12	13:G1:121:ALA:HB1	1.72	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:774:G:N2	5:72:787:C:O2'	2.38	0.55
7:A1:71:A:H61	7:A1:99:C:H1'	1.72	0.55
7:A2:428:G:H5'	10:D2:10:LYS:HE3	1.88	0.55
7:A2:1423:G:H1	7:A2:1477:U:H3	1.53	0.55
8:B:70:VAL:HA	8:B:92:VAL:HB	1.88	0.55
31:Y:58:A:O2'	31:Y:60:C:OP2	2.21	0.55
5:72:2166:U:H5''	5:72:2167:U:C5	2.42	0.55
7:A1:505:G:H5'	7:A1:534:U:H2'	1.89	0.55
7:A1:1404:C:H2'	7:A1:1405:G:C8	2.41	0.55
7:A2:74:A:H3'	7:A2:75:G:H8	1.70	0.55
7:A2:254:G:H2'	7:A2:255:G:H8	1.72	0.55
7:A2:575:G:O2'	7:A2:821:G:H5'	2.07	0.55
16:J1:5:ARG:NH1	16:J1:7:ARG:HD2	2.22	0.55
26:T1:28:MET:HE1	26:T1:58:VAL:HA	1.89	0.55
11:E1:75:ALA:O	11:E1:82:GLN:NE2	2.31	0.54
29:W:31:U:H2'	29:W:32:PSU:H5''	1.89	0.54
2:32:2:LYS:NZ	2:32:39:ASP:OD2	2.40	0.54
5:72:1275:A:OP2	5:72:1646:C:N4	2.40	0.54
5:72:2595:G:N2	5:72:2598:A:OP2	2.35	0.54
7:A1:369:G:OP2	7:A1:388:G:N1	2.34	0.54
7:A2:43:C:H2'	7:A2:44:A:C8	2.42	0.54
8:B:96:TRP:CZ2	8:B:172:ALA:HA	2.43	0.54
9:C1:53:SER:N	9:C1:69:HIS:O	2.38	0.54
37:g2:33:LYS:HZ2	37:g2:51:GLU:HB3	1.72	0.54
7:A1:437:U:O2'	10:D1:120:HIS:ND1	2.39	0.54
7:A1:742:G:H2'	7:A1:743:A:H8	1.73	0.54
7:A1:1474:U:H2'	7:A1:1475:G:C8	2.43	0.54
7:A2:1371:G:H2'	7:A2:1372:U:C6	2.42	0.54
9:C2:75:ILE:HG13	9:C2:79:LYS:HE3	1.90	0.54
15:I1:45:ARG:O	15:I1:48:VAL:HG22	2.07	0.54
34:a2:47:ASN:O	34:a2:210:LYS:N	2.40	0.54
5:72:1924:C:H2'	5:72:1925:C:C6	2.43	0.54
7:A1:77:A:H2'	7:A1:78:A:C8	2.42	0.54
7:A2:160:A:H2'	7:A2:161:A:O4'	2.07	0.54
7:A2:1256:A:H3'	9:C2:27:LYS:NZ	2.22	0.54
9:C1:6:HIS:CE1	9:C1:8:ASN:HB3	2.43	0.54
27:U1:28:VAL:HG13	27:U1:29:LEU:HD22	1.90	0.54
29:W:60:U:H5''	29:W:61:C:H5	1.72	0.54
5:72:931:U:O2	5:72:1167:C:O2'	2.23	0.54
5:72:1754:A:N1	5:72:2716:C:O2'	2.40	0.54
7:A2:946:A:H2'	7:A2:947:G:C8	2.43	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:1220:G:P	20:N2:53:ARG:HH12	2.30	0.54
8:B:20:THR:O	8:B:23:TRP:HD1	1.91	0.54
9:C2:57:ILE:HG12	9:C2:66:VAL:HG13	1.88	0.54
18:L2:43:LYS:HG2	18:L2:44:LYS:H	1.72	0.54
24:R2:39:ILE:H	24:R2:39:ILE:HD12	1.73	0.54
28:V2:31:U:O2'	28:V2:32:U:OP1	2.21	0.54
1:12:71:LEU:HG	1:12:74:ARG:HH21	1.72	0.54
3:4:24:ILE:HD12	36:e2:102:ARG:HG2	1.88	0.54
5:72:1035:U:H2'	5:72:1036:G:H8	1.73	0.54
7:A1:309:A:O2'	7:A1:607:A:N1	2.40	0.54
7:A1:591:U:H2'	7:A1:592:G:C8	2.43	0.54
7:A2:1060:U:OP1	20:N2:85:ARG:NH2	2.36	0.54
7:A2:1500:A:H5''	7:A2:1508:A:H5''	1.90	0.54
9:C2:186:THR:HG22	9:C2:199:LYS:HG2	1.90	0.54
27:U2:31:GLU:OE2	27:U2:34:ARG:NH2	2.41	0.54
5:72:226:A:N1	5:72:418:C:O2'	2.35	0.54
5:72:714:U:H1'	5:72:717:C:H5	1.72	0.54
5:72:839:U:H3	5:72:939:G:H1	1.56	0.54
7:A1:512:U:H2'	7:A1:513:C:C6	2.43	0.54
7:A1:584:G:H2'	7:A1:585:G:C8	2.43	0.54
7:A1:1310:G:OP2	19:M1:87:ARG:NH2	2.40	0.54
7:A2:212:G:H2'	7:A2:213:G:C8	2.42	0.54
7:A2:1149:C:H2'	7:A2:1150:A:C8	2.43	0.54
8:B2:173:ILE:O	8:B2:177:ASN:ND2	2.40	0.54
10:D2:188:ARG:HH22	10:D2:193:ALA:HA	1.72	0.54
13:G2:13:LEU:HD12	13:G2:14:PRO:HD2	1.88	0.54
13:G2:49:THR:HB	13:G2:53:ARG:HH11	1.73	0.54
29:W:15:A:C3'	29:W:16:H2U:H62	2.36	0.54
5:72:455:C:H3'	5:72:456:C:H5''	1.88	0.54
5:72:1915:3TD:O5'	5:72:1915:3TD:H6	2.07	0.54
7:A1:1033:G:H2'	7:A1:1034:G:C8	2.43	0.54
7:A2:545:C:OP2	10:D2:59:GLN:NE2	2.31	0.54
7:A2:1319:A:O2'	7:A2:1323:G:N7	2.30	0.54
14:H2:102:ALA:HB3	14:H2:113:ASP:HB3	1.89	0.54
18:L1:46:ASN:ND2	18:L1:89:ASP:OD2	2.40	0.54
25:S1:19:VAL:HG21	25:S1:44:MET:HG2	1.90	0.54
4:62:13:ARG:HH11	41:o2:63:LYS:HG3	1.71	0.54
4:62:27:ALA:HB2	41:o2:61:LEU:HD13	1.89	0.54
5:72:458:G:O2'	5:72:469:G:O6	2.26	0.54
5:72:1912:A:H1'	7:A2:1494:G:H21	1.73	0.54
5:72:1935:G:H3'	5:72:1962:5MC:HN41	1.73	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:2094:A:H2'	5:72:2095:A:C8	2.42	0.54
5:72:2523:G:O2'	5:72:2764:A:O2'	2.25	0.54
5:72:2859:G:H2'	5:72:2860:A:C8	2.43	0.54
7:A1:150:U:H2'	7:A1:151:A:H8	1.73	0.54
7:A1:995:C:H2'	7:A1:996:A:H8	1.73	0.54
7:A2:1060:U:H2'	7:A2:1061:G:H8	1.72	0.54
7:A2:1124:G:N2	7:A2:1125:U:O4	2.41	0.54
8:B2:112:LYS:HA	8:B2:115:LYS:HE2	1.89	0.54
9:C1:14:ILE:O	9:C1:15:VAL:HB	2.08	0.54
17:K1:27:PHE:CE1	17:K1:89:PRO:HG2	2.43	0.54
22:P1:6:LEU:HD13	22:P1:17:TYR:CD1	2.43	0.54
7:A1:405:U:OP2	10:D1:3:ARG:NE	2.40	0.54
7:A1:407:U:H2'	7:A1:408:A:C8	2.42	0.54
7:A1:581:G:N1	7:A1:759:A:OP2	2.34	0.54
8:B:47:VAL:HG13	8:B:48:PRO:HD3	1.90	0.54
3:4:41:HIS:HE2	36:e2:114:PHE:HB3	1.74	0.53
5:72:1910:G:H1	5:72:1920:C:H42	1.56	0.53
5:72:2144:G:H1'	5:72:2147:A:H61	1.74	0.53
7:A1:901:A:C5	7:A1:902:G:H1'	2.42	0.53
7:A1:1237:C:H3'	7:A1:1336:C:H41	1.72	0.53
7:A2:581:G:N1	7:A2:759:A:OP2	2.34	0.53
7:A2:1412:C:H2'	7:A2:1413:A:C8	2.43	0.53
8:B:69:PHE:HE1	8:B:89:GLN:HB2	1.73	0.53
3:4:2:LYS:HB2	3:4:5:ILE:HD11	1.90	0.53
5:72:918:A:N3	6:82:80:U:O2'	2.39	0.53
6:82:49:C:H2'	6:82:50:A:H8	1.72	0.53
7:A1:59:A:H3'	7:A1:331:G:H22	1.73	0.53
7:A1:578:C:H2'	7:A1:579:A:C8	2.43	0.53
7:A1:1216:A:OP1	20:N1:3:LYS:NZ	2.36	0.53
7:A1:1439:G:N2	7:A1:1461:G:O6	2.39	0.53
7:A2:1074:G:O2'	7:A2:1101:A:N1	2.39	0.53
30:W1:10:G:N2	30:W1:26:A:H1'	2.23	0.53
7:A1:677:U:H2'	7:A1:678:U:C6	2.43	0.53
7:A2:109:A:H2'	7:A2:326:G:H21	1.73	0.53
7:A2:1088:G:H4'	27:U2:70:LEU:HD13	1.91	0.53
8:B:54:LEU:HB3	8:B:220:THR:HG21	1.91	0.53
13:G2:113:ASP:H	13:G2:119:ARG:HE	1.55	0.53
20:N2:60:GLN:OE1	20:N2:60:GLN:N	2.40	0.53
1:12:65:ASP:OD1	1:12:66:THR:N	2.41	0.53
7:A1:73:C:H2'	7:A1:74:A:C8	2.43	0.53
27:U2:8:GLU:OE2	27:U2:9:ASN:ND2	2.41	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:b2:142:HIS:ND1	35:b2:193:GLY:O	2.40	0.53
5:72:79:C:O2'	5:72:346:A:N3	2.40	0.53
7:A1:709:U:H2'	7:A1:710:G:C8	2.43	0.53
7:A2:418:C:H2'	7:A2:419:C:C6	2.43	0.53
26:T1:55:GLN:HB3	26:T1:56:PRO:HD3	1.91	0.53
44:z2:25:ARG:HH21	44:z2:29:GLU:HB3	1.74	0.53
5:72:717:C:H3'	5:72:718:A:H8	1.73	0.53
5:72:1594:U:H2'	5:72:1595:C:C6	2.43	0.53
7:A1:951:G:OP2	19:M1:101:ARG:NH2	2.42	0.53
7:A1:1263:C:H2'	7:A1:1264:U:C6	2.44	0.53
7:A1:1305:G:H4'	7:A1:1332:A:H62	1.72	0.53
7:A1:1340:A:O2'	30:W1:31:A:O3'	2.27	0.53
7:A2:579:A:H4'	21:O2:54:ARG:HH21	1.74	0.53
5:72:747:5MU:H3'	5:72:748:G:H5'	1.91	0.53
5:72:2849:U:N3	5:72:2867:G:O4'	2.41	0.53
7:A1:649:A:H3'	7:A1:650:G:H5''	1.91	0.53
7:A1:1238:A:N7	7:A1:1299:A:N6	2.56	0.53
7:A2:414:A:OP2	7:A2:428:G:N2	2.41	0.53
7:A2:553:A:H2'	7:A2:554:A:C8	2.43	0.53
10:D2:54:GLN:HB3	10:D2:203:LEU:HD13	1.90	0.53
14:H2:22:LYS:O	14:H2:65:TYR:OH	2.21	0.53
32:Y1:23:A:H2'	32:Y1:24:G:C8	2.44	0.53
35:b2:107:PRO:HG2	35:b2:110:LEU:HB2	1.90	0.53
5:72:1167:C:H2'	5:72:1168:G:H8	1.73	0.53
5:72:1275:A:N1	5:72:1295:C:O2'	2.35	0.53
7:A1:335:C:O2'	7:A1:1433:A:N3	2.38	0.53
7:A1:1144:G:N2	7:A1:1146:A:H62	2.07	0.53
7:A1:1464:U:H2'	7:A1:1465:A:H8	1.74	0.53
7:A2:203:G:H1	7:A2:214:C:H42	1.56	0.53
10:D2:196:ASN:HB2	10:D2:198:HIS:CE1	2.44	0.53
26:T1:57:ILE:HD12	26:T1:57:ILE:H	1.74	0.53
7:A1:50:A:O2'	7:A1:360:G:N2	2.42	0.53
7:A1:712:A:H2'	7:A1:713:G:C8	2.43	0.53
7:A1:1229:A:H2'	7:A1:1230:C:C6	2.44	0.53
7:A2:1015:G:N2	7:A2:1218:C:O2	2.42	0.53
7:A2:1043:G:H2'	7:A2:1044:A:C8	2.44	0.53
9:C2:23:PHE:CE2	16:J2:97:ASP:HB2	2.43	0.53
9:C2:212:ALA:H	16:J2:16:ARG:HH12	1.57	0.53
20:N1:60:GLN:OE1	20:N1:60:GLN:N	2.42	0.53
38:h2:17:ASN:OD1	38:h2:97:GLN:NE2	2.41	0.53
5:72:247:G:OP2	5:72:249:C:N4	2.42	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:82:88:C:H4'	6:82:89:U:OP1	2.09	0.53
7:A1:142:G:H3'	7:A1:143:A:H8	1.73	0.53
7:A1:166:U:H2'	7:A1:167:A:H8	1.74	0.53
7:A1:264:C:O3'	23:Q1:65:ARG:NH1	2.42	0.53
7:A1:490:C:H2'	7:A1:491:G:H8	1.73	0.53
7:A2:1118:U:H4'	15:I2:85:ARG:HH22	1.74	0.53
9:C1:184:TYR:CE1	9:C1:199:LYS:HB3	2.44	0.53
11:E1:157:ARG:HH21	14:H1:43:GLU:HB3	1.73	0.53
5:72:910:A:H62	38:h2:12:MET:HA	1.74	0.52
5:72:2047:C:O2'	5:72:2823:A:N1	2.36	0.52
7:A2:401:C:O2'	7:A2:621:A:N3	2.40	0.52
7:A2:474:G:H2'	7:A2:475:C:C2	2.44	0.52
7:A2:562:U:H1'	18:L2:12:ARG:HD2	1.92	0.52
7:A2:1323:G:H2'	7:A2:1324:A:C8	2.43	0.52
7:A2:1414:U:H2'	7:A2:1415:G:H8	1.74	0.52
13:G1:79:ARG:HG2	13:G1:84:THR:HB	1.89	0.52
13:G2:15:ASP:OD1	13:G2:15:ASP:N	2.42	0.52
16:J1:40:ILE:HD11	16:J1:73:LEU:HD23	1.91	0.52
24:R1:39:ILE:HG22	24:R1:40:VAL:H	1.73	0.52
31:Y:34:G:H2'	31:Y:35:G:H8	1.73	0.52
5:72:1859:U:H2'	5:72:1860:G:C8	2.44	0.52
7:A1:185:U:H2'	7:A1:186:C:C6	2.45	0.52
7:A1:350:G:H2'	7:A1:351:G:C8	2.44	0.52
7:A1:476:U:H2'	7:A1:477:C:C6	2.44	0.52
7:A1:539:A:H2'	7:A1:540:G:C8	2.45	0.52
7:A1:769:G:H4'	7:A1:1513:A:H4'	1.91	0.52
7:A2:154:U:H2'	7:A2:155:A:C8	2.44	0.52
7:A2:1338:G:H2'	7:A2:1339:A:C8	2.44	0.52
13:G2:24:ALA:O	13:G2:27:VAL:HG22	2.08	0.52
15:I1:116:VAL:HG21	16:J1:62:ARG:HB2	1.91	0.52
39:i2:3:VAL:HA	39:i2:39:ALA:H	1.74	0.52
3:4:2:LYS:HB2	3:4:6:HIS:HE2	1.73	0.52
5:72:2857:G:N2	5:72:2860:A:OP2	2.35	0.52
7:A1:219:U:H2'	7:A1:220:G:H8	1.75	0.52
7:A1:398:U:H2'	7:A1:399:G:H8	1.75	0.52
9:C1:114:LYS:HA	9:C1:185:ASN:ND2	2.24	0.52
10:D2:11:LEU:HD23	10:D2:63:ARG:HG2	1.90	0.52
11:E2:115:LEU:HD13	11:E2:123:VAL:HG11	1.90	0.52
12:F2:55:HIS:ND1	12:F2:55:HIS:O	2.43	0.52
13:G1:37:SER:HB3	15:I1:41:ARG:HH11	1.73	0.52
25:S2:50:ALA:HB1	25:S2:57:HIS:HB3	1.91	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:776:G:N7	5:72:793:A:O2'	2.39	0.52
6:82:33:G:H1	6:82:49:C:H42	1.58	0.52
7:A1:19:A:H2'	7:A1:20:U:C6	2.44	0.52
7:A1:250:A:H4'	7:A1:251:G:O5'	2.09	0.52
7:A1:401:C:H2'	7:A1:402:G:C8	2.45	0.52
7:A1:401:C:H2'	7:A1:402:G:H8	1.74	0.52
7:A1:690:G:H2'	7:A1:691:G:C8	2.44	0.52
7:A1:880:C:H3'	18:L1:6:GLN:HE21	1.74	0.52
7:A1:1267:C:H3'	7:A1:1268:G:H8	1.74	0.52
8:B2:23:TRP:CZ3	8:B2:25:PRO:HA	2.45	0.52
9:C2:18:TRP:CD1	9:C2:20:SER:O	2.63	0.52
12:F2:52:ASN:C	12:F2:54:LEU:H	2.18	0.52
16:J2:5:ARG:HG2	16:J2:77:VAL:HA	1.91	0.52
20:N2:17:ALA:HA	20:N2:55:SER:HA	1.91	0.52
23:Q2:15:ASP:OD2	23:Q2:54:GLY:HA2	2.09	0.52
32:Y1:9:A:N6	32:Y1:23:A:OP2	2.42	0.52
38:h2:64:TRP:HB2	38:h2:104:GLU:HB2	1.90	0.52
5:72:1278:C:H2'	5:72:1279:G:C8	2.45	0.52
5:72:1475:G:H4'	5:72:1476:U:H5'	1.91	0.52
7:A1:1455:G:H3'	7:A1:1456:A:H8	1.73	0.52
7:A2:1043:G:H2'	7:A2:1044:A:H8	1.74	0.52
17:K2:13:ARG:HD2	17:K2:76:GLU:HA	1.91	0.52
30:W1:34:G:H3'	30:W1:35:A:H8	1.74	0.52
5:72:627:A:O4'	5:72:637:A:N6	2.42	0.52
5:72:1351:C:O2'	5:72:1571:A:N3	2.40	0.52
5:72:1820:U:N3	35:b2:159:GLY:HA3	2.24	0.52
5:72:2070:A:H2'	5:72:2071:A:O4'	2.09	0.52
7:A1:830:G:H2'	7:A1:831:A:H8	1.73	0.52
7:A1:1060:U:H2'	7:A1:1061:G:H8	1.74	0.52
9:C1:29:PHE:CE2	9:C1:33:LEU:HD11	2.45	0.52
24:R1:42:SER:HA	24:R1:45:THR:HG22	1.91	0.52
5:72:1664:A:H61	5:72:1996:C:H42	1.56	0.52
5:72:2554:U:H2'	5:72:2555:U:C6	2.45	0.52
7:A1:207:C:O2	7:A1:212:G:N1	2.43	0.52
7:A1:555:U:H2'	7:A1:556:C:C6	2.45	0.52
7:A1:899:C:H2'	7:A1:900:A:O4'	2.10	0.52
7:A2:33:A:O2'	18:L2:29:GLN:NE2	2.43	0.52
7:A2:40:C:H2'	7:A2:41:G:C8	2.45	0.52
7:A2:148:G:O2'	7:A2:1446:A:N3	2.36	0.52
7:A2:183:C:O2'	7:A2:184:G:H5'	2.10	0.52
7:A2:553:A:H5''	18:L2:21:VAL:HG21	1.92	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:999:C:H2'	7:A2:1000:A:C8	2.45	0.52
7:A2:1251:A:H2'	7:A2:1252:A:C8	2.45	0.52
7:A2:1326:U:H2'	7:A2:1327:C:C6	2.44	0.52
36:e2:49:LEU:HA	36:e2:52:ASN:HD21	1.75	0.52
5:72:503:A:H5''	5:72:504:A:H3'	1.92	0.52
5:72:1297:C:O2'	5:72:1302:A:N1	2.40	0.52
5:72:1914:C:H2'	5:72:1915:3TD:O4'	2.10	0.52
6:82:8:C:O3'	43:r2:25:ARG:NH2	2.43	0.52
7:A1:82:G:H3'	7:A1:83:C:C6	2.44	0.52
7:A1:584:G:H2'	7:A1:585:G:H8	1.75	0.52
7:A1:781:A:H5''	7:A1:782:A:C8	2.45	0.52
7:A1:1048:G:H5''	20:N1:3:LYS:HZ2	1.75	0.52
7:A1:1088:G:N2	7:A1:1167:A:H61	2.08	0.52
7:A2:17:U:O2'	7:A2:1079:G:N3	2.43	0.52
7:A2:361:G:H2'	7:A2:362:G:O4'	2.09	0.52
7:A2:411:A:H62	7:A2:429:U:H5''	1.73	0.52
7:A2:416:G:H1	7:A2:427:U:H3	1.58	0.52
9:C2:150:LYS:O	9:C2:201:TRP:N	2.43	0.52
10:D2:147:GLU:HA	10:D2:150:LYS:HG2	1.89	0.52
20:N1:64:CYS:HB2	20:N1:80:SER:HB3	1.91	0.52
29:W:18:G:H21	29:W:58:A:H5'	1.74	0.52
5:72:160:A:N3	5:72:2208:C:O2'	2.38	0.52
5:72:868:U:O2	38:h2:8:LYS:NZ	2.43	0.52
5:72:2469:A:N6	5:72:2481:G:H1'	2.24	0.52
7:A1:1271:A:H2'	7:A1:1272:G:C8	2.45	0.52
7:A2:218:U:H2'	7:A2:219:U:C6	2.45	0.52
7:A2:376:G:H2'	7:A2:377:G:C8	2.45	0.52
8:B2:149:GLY:HA2	8:B2:152:LYS:HE3	1.91	0.52
9:C2:73:PRO:O	9:C2:76:VAL:HG22	2.10	0.52
15:I2:40:GLY:HA2	15:I2:45:ARG:HH21	1.73	0.52
26:T1:35:VAL:HG22	26:T1:50:ALA:HB1	1.92	0.52
28:V2:8:A:H4'	28:V2:9:A:OP1	2.09	0.52
29:W:8:4SU:H1'	29:W:21:A:H2	1.75	0.52
1:12:55:GLY:O	1:12:59:ILE:HG12	2.10	0.52
5:72:2512:C:H2'	5:72:2513:A:O4'	2.10	0.52
7:A1:458:U:H3	7:A1:474:G:H1	1.58	0.52
7:A2:358:U:H2'	7:A2:359:G:H8	1.75	0.52
7:A2:941:G:H4'	7:A2:1350:A:H4'	1.92	0.52
7:A2:1218:C:H2'	7:A2:1219:A:H8	1.74	0.52
9:C1:49:LYS:O	9:C1:72:ARG:NH2	2.43	0.52
10:D1:13:ARG:HH21	10:D1:38:PRO:HA	1.74	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D1:108:GLY:HA3	10:D1:114:ALA:HB2	1.91	0.52
17:K1:116:ILE:HD12	17:K1:117:PRO:HD2	1.91	0.52
5:72:265:A:N1	5:72:427:U:O2'	2.39	0.51
5:72:1343:G:H1'	5:72:1597:A:C4	2.45	0.51
7:A1:591:U:H2'	7:A1:592:G:H8	1.74	0.51
7:A1:834:U:H2'	7:A1:835:U:C6	2.46	0.51
7:A1:1015:G:H2'	7:A1:1016:A:C8	2.45	0.51
7:A2:96:U:H2'	7:A2:97:G:C8	2.45	0.51
7:A2:188:C:H3'	7:A2:189:A:H8	1.75	0.51
7:A2:494:G:H2'	7:A2:496:A:H8	1.75	0.51
7:A2:1144:G:N2	7:A2:1146:A:H62	2.07	0.51
9:C2:9:GLY:HA3	20:N2:89:MET:SD	2.50	0.51
17:K2:81:ASN:HA	17:K2:106:ARG:HB2	1.91	0.51
26:T1:54:MET:HE3	26:T1:79:LEU:HD11	1.92	0.51
39:i2:86:ASP:O	39:i2:87:GLU:HG3	2.10	0.51
7:A1:744:C:H2'	7:A1:745:G:H8	1.75	0.51
7:A2:454:G:N1	7:A2:478:A:H2	2.08	0.51
10:D1:50:ASP:O	10:D1:53:VAL:HG22	2.10	0.51
17:K1:81:ASN:HA	17:K1:106:ARG:HB2	1.92	0.51
30:W1:10:G:H22	30:W1:26:A:H1'	1.76	0.51
5:72:747:5MU:O2	5:72:2014:A:H1'	2.11	0.51
5:72:2262:U:OP2	44:z2:16:SER:OG	2.14	0.51
5:72:2788:C:H2'	5:72:2789:C:C6	2.45	0.51
7:A1:304:U:H2'	7:A1:305:G:C8	2.45	0.51
7:A1:595:A:N6	7:A1:641:U:H2'	2.25	0.51
7:A1:643:C:H2'	7:A1:644:U:C6	2.45	0.51
7:A1:714:G:H2'	7:A1:715:A:C8	2.44	0.51
7:A1:1327:C:H2'	7:A1:1328:C:H6	1.75	0.51
7:A2:21:G:H2'	7:A2:22:G:H8	1.75	0.51
7:A2:362:G:N2	7:A2:365:U:OP2	2.42	0.51
7:A2:983:A:N1	7:A2:1222:G:N2	2.58	0.51
7:A2:1162:C:H2'	7:A2:1163:A:C8	2.46	0.51
7:A2:1199:U:H4'	16:J2:56:HIS:CD2	2.46	0.51
8:B:91:PHE:HE2	8:B:93:ASN:HD21	1.57	0.51
9:C2:40:ARG:NH1	20:N2:92:GLU:OE1	2.44	0.51
19:M1:75:MET:HG3	19:M1:78:LYS:HE3	1.93	0.51
21:O2:24:SER:O	21:O2:28:GLN:HG2	2.10	0.51
5:72:84:A:N1	5:72:98:G:O2'	2.36	0.51
5:72:1808:A:H3'	5:72:1809:A:C8	2.45	0.51
7:A1:34:C:H2'	7:A1:35:G:C8	2.46	0.51
7:A1:404:G:H2'	7:A1:405:U:C6	2.46	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1513:A:H2'	7:A1:1514:G:H8	1.75	0.51
7:A2:448:A:H3'	7:A2:449:G:H8	1.75	0.51
8:B:82:ASP:OD1	8:B:83:ALA:N	2.43	0.51
43:r2:69:ASP:OD1	43:r2:70:ALA:N	2.44	0.51
3:4:5:ILE:HB	36:e2:64:LYS:HD2	1.92	0.51
4:62:8:ARG:NH2	5:72:245:G:N7	2.47	0.51
5:72:1055:G:O2'	5:72:1084:A:N6	2.44	0.51
5:72:2314:A:H5'	36:e2:35:THR:HG21	1.93	0.51
7:A1:33:A:H2'	7:A1:34:C:C6	2.46	0.51
7:A1:602:A:H2'	7:A1:603:U:C6	2.45	0.51
7:A2:502:A:H5'	18:L2:113:ALA:HA	1.93	0.51
7:A2:982:U:OP2	20:N2:63:ARG:NH2	2.36	0.51
7:A2:1258:G:H2'	7:A2:1259:C:C6	2.46	0.51
20:N1:4:GLN:OE1	20:N1:4:GLN:N	2.41	0.51
24:R2:64:TYR:HD2	24:R2:65:LEU:HD22	1.75	0.51
39:i2:4:ILE:HD11	39:i2:16:GLY:HA2	1.92	0.51
5:72:833:A:H2'	5:72:834:G:C8	2.46	0.51
5:72:2127:G:H2'	5:72:2128:G:O4'	2.11	0.51
7:A1:265:G:N2	7:A1:267:C:O4'	2.43	0.51
7:A1:599:C:H2'	7:A1:600:A:H8	1.76	0.51
7:A1:977:A:OP1	20:N1:61:ARG:NH2	2.37	0.51
7:A1:1239:A:H1'	7:A1:1241:G:C4	2.45	0.51
7:A2:33:A:H1'	18:L2:29:GLN:HE22	1.76	0.51
7:A2:1236:A:H4'	7:A2:1304:G:H4'	1.92	0.51
9:C1:46:GLU:HB2	9:C1:47:LEU:HD12	1.93	0.51
13:G1:140:ASP:OD1	13:G1:143:ARG:NH2	2.33	0.51
15:I1:6:TYR:HB2	15:I1:21:ILE:HB	1.92	0.51
23:Q1:82:ALA:O	23:Q1:83:VAL:HG12	2.11	0.51
43:r2:99:TYR:OH	43:r2:111:ARG:NH2	2.43	0.51
5:72:859:G:O2'	5:72:916:G:O6	2.21	0.51
5:72:1323:C:N4	5:72:1324:G:O6	2.44	0.51
5:72:1821:A:OP1	35:b2:200:HIS:NE2	2.44	0.51
7:A1:691:G:H22	7:A1:695:A:H3'	1.75	0.51
7:A1:1512:U:H2'	7:A1:1513:A:C8	2.46	0.51
7:A1:1513:A:H2'	7:A1:1514:G:C8	2.46	0.51
7:A2:200:G:H2'	7:A2:201:G:C8	2.46	0.51
7:A2:358:U:H2'	7:A2:359:G:C8	2.46	0.51
15:I1:130:ARG:NH1	30:W1:35:A:OP1	2.43	0.51
16:J2:37:ARG:HB2	16:J2:75:ASP:HB2	1.93	0.51
3:41:56:ARG:HH21	19:M1:79:ARG:NE	2.08	0.51
7:A1:681:A:H2'	7:A1:682:G:H8	1.76	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1225:A:H2'	7:A1:1225:A:N3	2.26	0.51
7:A1:1303:C:H2'	7:A1:1304:G:O4'	2.10	0.51
10:D1:170:TRP:CE2	10:D1:186:PRO:HB3	2.45	0.51
10:D2:50:ASP:OD1	10:D2:51:TYR:N	2.44	0.51
11:E2:149:SER:OG	11:E2:152:MET:HE3	2.11	0.51
15:I1:26:GLY:N	15:I1:62:ASP:OD1	2.44	0.51
19:M1:107:ARG:NH2	19:M1:110:LYS:HE3	2.25	0.51
20:N1:85:ARG:O	20:N1:89:MET:N	2.33	0.51
20:N2:4:GLN:N	20:N2:4:GLN:OE1	2.44	0.51
34:a2:71:ARG:O	34:a2:73:VAL:HG13	2.11	0.51
5:72:2104:C:H2'	5:72:2105:U:C6	2.45	0.51
7:A1:148:G:O2'	7:A1:1446:A:N3	2.37	0.51
7:A1:166:U:H2'	7:A1:167:A:C8	2.46	0.51
7:A1:1327:C:H2'	7:A1:1328:C:C6	2.46	0.51
7:A2:200:G:H2'	7:A2:201:G:H8	1.75	0.51
7:A2:377:G:H2'	7:A2:378:G:H8	1.75	0.51
7:A2:514:C:H2'	7:A2:515:G:H8	1.76	0.51
7:A2:1238:A:H2'	7:A2:1239:A:H5''	1.92	0.51
11:E2:38:VAL:HG21	11:E2:114:VAL:HA	1.92	0.51
13:G2:50:LEU:HA	13:G2:53:ARG:HE	1.76	0.51
14:H1:87:LYS:HG2	14:H1:92:LEU:HA	1.91	0.51
34:a2:69:THR:HA	34:a2:176:GLY:HA2	1.93	0.51
7:A1:463:U:C4	7:A1:467:U:H2'	2.46	0.51
7:A1:613:C:H2'	7:A1:614:C:C6	2.46	0.51
7:A1:682:G:H2'	7:A1:683:G:C8	2.46	0.51
7:A1:845:A:H61	24:R1:8:ARG:HB2	1.75	0.51
7:A1:932:C:O5'	13:G1:4:ARG:NH2	2.44	0.51
7:A1:1029:U:H2'	7:A1:1030:U:O4'	2.11	0.51
7:A1:1304:G:H2'	7:A1:1305:G:O4'	2.11	0.51
7:A1:1324:A:H2'	7:A1:1325:C:C6	2.46	0.51
7:A2:1057:G:H2'	7:A2:1058:G:O4'	2.10	0.51
7:A2:1250:A:H2'	7:A2:1251:A:C8	2.46	0.51
8:B:24:ASN:N	8:B:189:THR:O	2.38	0.51
11:E2:75:ALA:O	11:E2:82:GLN:NE2	2.37	0.51
18:L1:75:GLN:NE2	18:L1:76:GLU:O	2.43	0.51
20:N1:24:ARG:HE	20:N1:55:SER:HG	1.57	0.51
5:72:2176:A:OP1	5:72:2176:A:H4'	2.08	0.50
5:72:2286:G:N2	37:g2:24:THR:O	2.38	0.50
7:A1:12:U:H2'	7:A1:13:U:H5''	1.93	0.50
7:A1:246:A:O4'	7:A1:282:A:N6	2.44	0.50
7:A1:746:A:H2'	7:A1:747:A:H8	1.75	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:999:C:H2'	7:A1:1000:A:H8	1.75	0.50
7:A1:1021:A:H3'	7:A1:1022:A:H8	1.76	0.50
8:B:47:VAL:CG1	8:B:48:PRO:HD3	2.41	0.50
15:I2:87:LEU:HB3	15:I2:94:LEU:HD12	1.92	0.50
22:P1:61:VAL:HG22	22:P1:67:ILE:HD11	1.94	0.50
5:72:1917:U:H2'	5:72:1918:A:C8	2.46	0.50
5:72:2447:G:N2	5:72:2450:A:N7	2.58	0.50
7:A1:335:C:H2'	7:A1:336:A:H8	1.76	0.50
7:A1:1406:U:O2	7:A1:1517:G:N2	2.39	0.50
7:A2:354:G:O2'	7:A2:389:A:OP1	2.28	0.50
8:B2:129:LEU:HD21	8:B2:133:GLU:OE1	2.12	0.50
9:C1:100:GLN:NE2	9:C1:102:ASN:OD1	2.40	0.50
29:W:66:C:H2'	29:W:67:G:C8	2.47	0.50
5:72:2830:C:O2'	5:72:2883:A:N1	2.43	0.50
7:A1:113:G:N3	7:A1:353:A:O2'	2.41	0.50
7:A1:977:A:N6	7:A1:1224:U:O4'	2.45	0.50
7:A1:1188:A:O2'	20:N1:98:LYS:HG2	2.10	0.50
8:B:23:TRP:CZ3	8:B:25:PRO:HA	2.46	0.50
5:72:1428:C:N4	5:72:1570:A:OP2	2.29	0.50
5:72:2116:G:O6	5:72:2170:A:N6	2.44	0.50
7:A1:243:A:H62	7:A1:281:G:H1'	1.76	0.50
7:A1:1348:U:H2'	7:A1:1349:A:C8	2.47	0.50
7:A2:206:C:OP2	7:A2:207:C:N4	2.45	0.50
7:A2:1185:G:H2'	7:A2:1186:G:C8	2.46	0.50
7:A2:1256:A:H3'	9:C2:27:LYS:HZ1	1.75	0.50
8:B:163:VAL:HG22	8:B:164:ILE:H	1.76	0.50
9:C2:22:TRP:HB2	9:C2:59:ARG:HB2	1.94	0.50
9:C2:206:GLU:O	9:C2:206:GLU:HG2	2.11	0.50
5:72:307:G:N1	5:72:310:A:OP2	2.42	0.50
5:72:1105:U:H2'	5:72:1106:G:C8	2.46	0.50
5:72:2116:G:H8	5:72:2117:A:C5	2.30	0.50
7:A1:1087:G:N2	7:A1:1099:G:H1'	2.27	0.50
7:A2:202:G:H21	7:A2:466:A:H61	1.58	0.50
7:A2:453:G:H2'	7:A2:454:G:C8	2.47	0.50
13:G1:147:ALA:O	17:K1:56:ARG:NH2	2.44	0.50
37:g2:39:PHE:HA	37:g2:46:HIS:HA	1.93	0.50
39:i2:25:TYR:CD2	39:i2:30:LEU:HD11	2.46	0.50
2:32:27:GLY:HA3	2:32:37:ARG:HH21	1.76	0.50
5:72:514:A:N3	5:72:581:C:O2'	2.40	0.50
7:A1:538:G:OP2	18:L1:110:ARG:NH2	2.44	0.50
7:A1:1227:A:OP1	25:S1:80:TYR:OH	2.24	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:43:C:H2'	7:A2:44:A:H8	1.76	0.50
7:A2:451:A:H62	7:A2:481:G:H5'	1.75	0.50
8:B2:94:HIS:ND1	8:B2:146:ASN:O	2.44	0.50
14:H1:54:ASP:OD1	14:H1:55:THR:N	2.44	0.50
14:H1:76:GLN:NE2	14:H1:77:ARG:O	2.44	0.50
23:Q2:46:VAL:HG11	23:Q2:61:ILE:HD12	1.94	0.50
23:Q2:60:GLU:HG2	23:Q2:77:ARG:HH21	1.76	0.50
24:R2:34:THR:HG22	24:R2:38:LYS:H	1.77	0.50
36:e2:117:LEU:HD13	36:e2:176:PRO:HG2	1.93	0.50
38:h2:41:LEU:HD22	38:h2:124:LEU:HD12	1.93	0.50
5:72:1992:G:N2	5:72:1996:C:O2'	2.45	0.50
5:72:2185:U:H2'	5:72:2186:G:H8	1.77	0.50
7:A1:410:G:N2	7:A1:431:A:N7	2.60	0.50
7:A2:1222:G:OP2	7:A2:1322:C:N4	2.35	0.50
9:C2:76:VAL:HA	9:C2:79:LYS:HD2	1.94	0.50
11:E1:149:SER:OG	11:E1:152:MET:HE3	2.12	0.50
14:H2:54:ASP:OD1	14:H2:55:THR:N	2.44	0.50
15:I2:51:PRO:HD3	15:I2:80:ARG:HG3	1.93	0.50
16:J1:65:TYR:HB3	20:N1:96:LEU:HD22	1.94	0.50
32:Y1:8:U:H2'	32:Y1:46:7MG:HN22	1.76	0.50
38:h2:46:ILE:HD12	38:h2:69:PRO:HG3	1.91	0.50
5:72:1570:A:H2'	5:72:1571:A:C8	2.47	0.50
5:72:2687:U:H2'	5:72:2688:G:O4'	2.12	0.50
7:A1:505:G:H2'	7:A1:506:G:H8	1.77	0.50
7:A1:784:A:H2'	7:A1:785:G:H8	1.77	0.50
7:A2:17:U:H2'	7:A2:18:C:C6	2.46	0.50
7:A2:191:G:H3'	7:A2:192:A:H8	1.76	0.50
7:A2:542:G:OP1	10:D2:10:LYS:NZ	2.42	0.50
7:A2:1402:4OC:O5'	7:A2:1402:4OC:H6	2.11	0.50
8:B:90:PHE:CE2	8:B:154:MET:HG2	2.46	0.50
8:B2:111:ILE:HG12	8:B2:148:LEU:HD21	1.93	0.50
10:D1:202:GLU:HB2	11:E1:112:ARG:HH22	1.76	0.50
11:E2:136:VAL:O	11:E2:140:THR:HG23	2.11	0.50
7:A1:691:G:H2'	7:A1:692:U:C6	2.47	0.50
7:A1:1255:G:O2'	7:A1:1258:G:N3	2.38	0.50
7:A1:1409:C:H2'	7:A1:1410:A:H8	1.77	0.50
9:C1:42:TYR:HD2	9:C1:43:LEU:HD12	1.75	0.50
10:D1:118:VAL:HG22	10:D1:123:ILE:HG13	1.94	0.50
13:G2:76:LYS:HG2	13:G2:89:VAL:HB	1.94	0.50
14:H2:10:MET:HE1	14:H2:33:LYS:HA	1.94	0.50
14:H2:18:GLN:HE21	14:H2:72:VAL:H	1.58	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:L2:99:ARG:HB2	18:L2:117:TYR:HA	1.92	0.50
5:72:276:U:H2'	5:72:277:G:C2	2.46	0.49
5:72:554:U:H2'	5:72:555:G:O4'	2.12	0.49
5:72:1693:U:O2'	35:b2:14:ARG:NH2	2.44	0.49
5:72:2393:U:H5''	41:o2:62:PRO:HB3	1.93	0.49
7:A1:70:U:H2'	7:A1:94:G:N7	2.27	0.49
7:A1:1157:A:H1'	7:A1:1181:G:N2	2.27	0.49
7:A1:1275:A:H2'	7:A1:1276:G:O4'	2.12	0.49
7:A1:1326:U:H2'	7:A1:1327:C:H6	1.77	0.49
7:A1:1478:U:H2'	7:A1:1479:C:C6	2.47	0.49
7:A2:151:A:H2'	7:A2:152:A:H8	1.77	0.49
7:A2:459:A:H2'	7:A2:460:A:O4'	2.12	0.49
10:D2:9:LEU:HD21	10:D2:22:LYS:HG2	1.94	0.49
15:I1:23:PRO:HA	15:I1:61:LEU:HA	1.92	0.49
25:S1:36:ARG:HD2	25:S1:52:HIS:O	2.11	0.49
39:i2:42:LYS:O	39:i2:45:GLU:HG2	2.12	0.49
5:72:1283:G:N1	5:72:1286:A:OP2	2.45	0.49
5:72:2062:A:C5	42:p:32:ASN:HB3	2.47	0.49
7:A1:229:U:H2'	7:A1:230:G:C8	2.47	0.49
7:A1:801:U:H2'	7:A1:802:A:C8	2.47	0.49
7:A1:1181:G:H1'	7:A1:1182:G:C8	2.47	0.49
7:A1:1437:A:H5''	26:T1:29:ARG:HH12	1.78	0.49
7:A2:67:C:O2'	7:A2:171:A:N3	2.44	0.49
7:A2:88:U:O2'	7:A2:89:U:O5'	2.27	0.49
7:A2:843:U:O4	8:B:62:SER:OG	2.29	0.49
7:A2:1308:U:H2'	7:A2:1309:G:C8	2.47	0.49
9:C1:22:TRP:CD2	9:C1:59:ARG:HD2	2.48	0.49
18:L2:81:LEU:HB2	18:L2:102:LEU:HD13	1.93	0.49
7:A2:399:G:H2'	7:A2:400:C:C6	2.47	0.49
7:A2:684:U:H1'	17:K2:40:ASN:HA	1.94	0.49
7:A2:718:A:H5'	17:K2:119:ASN:OD1	2.12	0.49
8:B2:24:ASN:ND2	8:B2:192:ASP:HA	2.24	0.49
8:B2:186:ILE:HG21	8:B2:213:TYR:CE2	2.47	0.49
16:J2:21:ALA:HB1	16:J2:92:LEU:HD11	1.93	0.49
20:N2:20:TYR:HB2	20:N2:55:SER:HB2	1.93	0.49
1:12:76:GLU:HG3	1:12:77:LYS:H	1.77	0.49
5:72:1759:A:O2'	5:72:2714:G:O2'	2.28	0.49
5:72:1796:U:H2'	5:72:1797:G:C8	2.47	0.49
7:A1:252:U:H2'	7:A1:253:A:H8	1.76	0.49
7:A1:370:C:H2'	7:A1:371:A:C8	2.48	0.49
7:A1:684:U:O2'	17:K1:41:ALA:O	2.28	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:813:U:H2'	7:A1:814:A:H8	1.77	0.49
7:A1:998:C:H42	7:A1:1042:A:H61	1.60	0.49
7:A1:1456:A:H2'	7:A1:1457:G:O4'	2.12	0.49
7:A2:252:U:O4	7:A2:253:A:N6	2.45	0.49
7:A2:299:G:H2'	7:A2:300:A:C8	2.47	0.49
7:A2:377:G:H2'	7:A2:378:G:C8	2.47	0.49
7:A2:1044:A:C5	7:A2:1045:C:H1'	2.47	0.49
9:C1:42:TYR:O	9:C1:46:GLU:HG2	2.11	0.49
12:F2:9:MET:HE1	12:F2:47:LEU:HD11	1.94	0.49
21:O1:24:SER:O	21:O1:28:GLN:HG2	2.12	0.49
22:P1:71:VAL:O	22:P1:75:ILE:HG13	2.12	0.49
35:b2:245:VAL:HG12	35:b2:251:GLN:HA	1.94	0.49
44:z2:33:ALA:N	44:z2:64:ASP:OD1	2.42	0.49
2:32:38:GLU:HG2	2:32:40:THR:HG23	1.94	0.49
5:72:2039:U:H2'	5:72:2040:G:C8	2.47	0.49
7:A1:129:A:HO2'	7:A1:130:A:H2'	1.77	0.49
7:A1:886:G:H1	7:A1:911:U:H3	1.60	0.49
7:A2:37:U:O2'	7:A2:500:G:O2'	2.28	0.49
7:A2:360:G:O2'	7:A2:361:G:H5'	2.12	0.49
7:A2:545:C:H5'	10:D2:69:GLU:HB2	1.94	0.49
7:A2:1519:MA6:O5'	7:A2:1519:MA6:H8	2.12	0.49
8:B2:166:ALA:HB3	8:B2:191:SER:HB3	1.94	0.49
9:C1:138:VAL:HA	9:C1:149:ILE:HD13	1.93	0.49
13:G2:145:ALA:O	13:G2:149:LYS:N	2.45	0.49
36:e2:116:GLY:HA2	36:e2:176:PRO:HB2	1.94	0.49
5:72:717:C:H2'	5:72:718:A:O4'	2.11	0.49
5:72:1212:G:O2'	5:72:1236:G:N1	2.31	0.49
5:72:1230:A:H2'	5:72:1231:U:C6	2.48	0.49
7:A1:677:U:O2	7:A1:777:A:O2'	2.28	0.49
7:A1:894:G:H2'	7:A1:895:G:C8	2.47	0.49
7:A1:994:A:N6	7:A1:1215:G:O2'	2.45	0.49
7:A1:1030:U:H1'	7:A1:1032:G:O6	2.13	0.49
7:A2:59:A:H3'	7:A2:331:G:H22	1.78	0.49
7:A2:497:G:N2	7:A2:498:A:N1	2.61	0.49
9:C1:15:VAL:HG12	9:C1:16:LYS:N	2.27	0.49
9:C1:83:ASP:O	9:C1:87:LEU:HG	2.13	0.49
16:J1:28:THR:HG23	16:J1:31:ARG:HH21	1.78	0.49
17:K2:14:LYS:O	17:K2:15:GLN:HG3	2.13	0.49
17:K2:98:ARG:HH11	27:U2:16:LEU:HD13	1.78	0.49
23:Q1:30:LYS:HE3	23:Q1:35:GLY:HA2	1.93	0.49
32:Y1:12:U:H3	32:Y1:23:A:H61	1.60	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:41:HIS:CD2	36:e2:109:PRO:HA	2.45	0.49
5:72:729:G:O5'	35:b2:207:LYS:NZ	2.45	0.49
5:72:1130:U:O2'	5:72:1131:G:P	2.71	0.49
7:A1:57:G:H2'	7:A1:58:C:C6	2.48	0.49
7:A1:72:A:H2'	7:A1:73:C:C6	2.47	0.49
7:A1:773:G:H2'	7:A1:774:G:O4'	2.12	0.49
7:A2:123:U:H5''	7:A2:311:C:O2'	2.13	0.49
7:A2:493:A:H2'	7:A2:494:G:O4'	2.12	0.49
7:A2:1162:C:H2'	7:A2:1163:A:H8	1.77	0.49
7:A2:1328:C:H2'	7:A2:1329:A:C8	2.48	0.49
7:A2:1346:A:N1	7:A2:1374:A:H5''	2.27	0.49
8:B2:47:VAL:HB	8:B2:48:PRO:HD3	1.95	0.49
15:I2:60:LYS:HG2	15:I2:61:LEU:HD12	1.95	0.49
29:W:14:A:H3'	29:W:15:A:C8	2.45	0.49
5:72:715:A:C2	21:O2:43:PHE:HB3	2.47	0.49
5:72:1818:U:OP2	35:b2:156:ARG:NE	2.45	0.49
5:72:2189:U:H2'	5:72:2190:G:O4'	2.12	0.49
7:A1:181:A:H61	7:A1:194:C:H3'	1.78	0.49
7:A1:320:A:H2'	7:A1:321:A:C8	2.47	0.49
7:A1:398:U:H2'	7:A1:399:G:C8	2.47	0.49
7:A1:1087:G:C2	7:A1:1099:G:H1'	2.48	0.49
7:A1:1252:A:H2'	7:A1:1253:G:O4'	2.13	0.49
9:C2:33:LEU:HD22	20:N2:93:ILE:HD13	1.93	0.49
10:D2:60:LYS:O	10:D2:64:ILE:HD12	2.13	0.49
13:G1:15:ASP:OD1	13:G1:19:GLY:N	2.46	0.49
27:U2:11:PRO:HB2	27:U2:14:VAL:HG12	1.94	0.49
36:e2:32:GLU:N	36:e2:157:THR:O	2.42	0.49
5:72:2118:U:OP2	5:72:2147:A:O2'	2.31	0.49
7:A1:374:A:O3'	22:P1:70:ARG:NH1	2.45	0.49
7:A1:982:U:O2	7:A1:1222:G:N1	2.41	0.49
7:A1:1073:U:H2'	7:A1:1074:G:C8	2.47	0.49
7:A1:1391:U:H2'	7:A1:1392:G:H8	1.76	0.49
7:A1:1409:C:H2'	7:A1:1410:A:C8	2.48	0.49
7:A2:197:A:H4'	7:A2:198:G:O5'	2.12	0.49
7:A2:659:U:H5''	21:O2:5:THR:HG23	1.94	0.49
12:F2:66:ALA:HB3	12:F2:71:ILE:HD11	1.94	0.49
19:M2:50:GLU:HA	19:M2:53:ILE:HD12	1.95	0.49
30:W1:11:C:H42	30:W1:24:G:H1	1.60	0.49
39:i2:90:LEU:HD22	39:i2:146:VAL:HG11	1.94	0.49
39:i2:111:ALA:HB3	39:i2:114:GLU:HG2	1.95	0.49
5:72:586:A:N1	5:72:809:G:O2'	2.39	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:752:A:OP2	40:12:3:ARG:NH2	2.46	0.49
5:72:1133:A:N6	5:72:2025:C:O2'	2.46	0.49
5:72:1952:A:H2'	5:72:1953:A:C8	2.48	0.49
5:72:2291:U:H2'	5:72:2292:U:C6	2.48	0.49
5:72:2303:G:O2'	36:e2:121:SER:O	2.31	0.49
6:82:95:U:H2'	6:82:96:G:H8	1.78	0.49
7:A1:35:G:H2'	7:A1:36:C:C6	2.48	0.49
7:A1:950:U:H2'	7:A1:951:G:C8	2.43	0.49
7:A1:1390:U:O2'	7:A1:1391:U:H5'	2.13	0.49
7:A2:655:A:H2'	7:A2:656:G:C8	2.47	0.49
7:A2:947:G:O3'	19:M2:108:THR:OG1	2.31	0.49
12:F2:42:TRP:HE3	12:F2:59:TYR:HB3	1.77	0.49
15:I2:106:ARG:HH12	15:I2:110:GLN:HE22	1.61	0.49
25:S1:36:ARG:HE	25:S1:75:ALA:HB3	1.77	0.49
35:b2:199:GLU:HB2	35:b2:202:LEU:HD12	1.93	0.49
3:4:57:VAL:O	3:4:61:ASN:ND2	2.45	0.48
4:62:12:LYS:C	4:62:13:ARG:HD3	2.38	0.48
5:72:299:A:N3	5:72:319:G:O2'	2.39	0.48
5:72:593:U:H2'	5:72:594:U:C6	2.48	0.48
5:72:784:G:H5'	5:72:785:G:OP1	2.13	0.48
5:72:1141:U:H4'	5:72:1142:A:O4'	2.13	0.48
5:72:1566:A:H5'	35:b2:214:ARG:CZ	2.43	0.48
5:72:2521:C:O2'	5:72:2564:A:N3	2.45	0.48
7:A1:148:G:H1'	7:A1:1447:A:H1'	1.95	0.48
7:A1:263:A:H2'	7:A1:264:C:C6	2.47	0.48
7:A1:404:G:O2'	7:A1:498:A:N1	2.41	0.48
7:A1:587:G:N1	7:A1:754:C:OP2	2.34	0.48
7:A1:681:A:H2'	7:A1:682:G:C8	2.48	0.48
7:A1:1318:A:H5''	25:S1:3:ARG:NH1	2.28	0.48
7:A2:486:U:H2'	7:A2:487:A:H8	1.78	0.48
7:A2:1328:C:H2'	7:A2:1329:A:H8	1.78	0.48
8:B2:90:PHE:HB3	8:B2:151:ILE:HG22	1.95	0.48
9:C1:82:GLU:OE1	9:C1:82:GLU:N	2.43	0.48
9:C1:143:ARG:HG3	9:C1:144:LEU:HD22	1.95	0.48
13:G1:75:VAL:HA	13:G1:88:PRO:HA	1.95	0.48
16:J2:97:ASP:OD1	16:J2:98:VAL:N	2.46	0.48
5:72:793:A:OP2	5:72:2071:A:O2'	2.30	0.48
5:72:1971:U:OP2	5:72:1971:U:H4'	2.13	0.48
7:A1:88:U:O2'	7:A1:89:U:O5'	2.30	0.48
7:A1:488:C:O2'	7:A1:489:C:H5'	2.13	0.48
7:A1:745:G:H2'	7:A1:746:A:C8	2.47	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:824:G:H1	7:A1:876:C:H42	1.61	0.48
7:A1:1449:C:H2'	7:A1:1450:U:O4'	2.12	0.48
7:A2:1101:A:OP2	8:B2:95:ARG:HD2	2.13	0.48
10:D1:188:ARG:HH22	10:D1:193:ALA:HA	1.78	0.48
11:E1:38:VAL:HG21	11:E1:114:VAL:HA	1.94	0.48
11:E1:136:VAL:O	11:E1:140:THR:HG23	2.13	0.48
14:H2:18:GLN:NE2	14:H2:72:VAL:H	2.12	0.48
16:J1:8:ILE:HB	16:J1:74:VAL:HG23	1.95	0.48
28:V2:60:A:H2'	28:V2:60:A:N3	2.28	0.48
5:72:959:A:N3	5:72:2457:PSU:O2'	2.44	0.48
5:72:2646:C:OP2	5:72:2732:G:O2'	2.26	0.48
7:A1:670:G:H2'	7:A1:671:G:C8	2.48	0.48
7:A1:715:A:H2'	7:A1:716:A:H8	1.78	0.48
7:A1:1325:C:H2'	7:A1:1326:U:C6	2.49	0.48
7:A2:411:A:N6	7:A2:429:U:H5''	2.28	0.48
7:A2:1071:C:H2'	7:A2:1072:G:C8	2.47	0.48
7:A2:1244:G:H2'	7:A2:1245:C:C6	2.48	0.48
16:J1:6:ILE:HG13	16:J1:102:LEU:HA	1.95	0.48
17:K1:17:SER:HA	17:K1:79:ILE:HA	1.93	0.48
17:K2:16:VAL:HG12	17:K2:77:TYR:HD1	1.78	0.48
43:r2:40:ILE:HG13	43:r2:47:VAL:HG22	1.95	0.48
5:71:1916:A:H2'	5:71:1917:U:O4'	2.13	0.48
5:72:373:U:H2'	5:72:374:A:H8	1.78	0.48
7:A1:783:C:H2'	7:A1:784:A:C8	2.49	0.48
7:A1:1177:G:H2'	7:A1:1178:G:O4'	2.13	0.48
7:A1:1448:C:H2'	7:A1:1449:C:H6	1.78	0.48
8:B:113:ARG:HH21	8:B:144:LEU:HD23	1.78	0.48
9:C2:12:LEU:HG	9:C2:18:TRP:CE3	2.48	0.48
12:F1:14:GLN:HB3	12:F1:17:GLN:NE2	2.27	0.48
12:F1:14:GLN:O	12:F1:17:GLN:NE2	2.47	0.48
13:G1:70:ARG:HG2	13:G1:96:ARG:HE	1.78	0.48
14:H2:96:MET:HB3	14:H2:100:GLY:N	2.27	0.48
27:U2:6:VAL:HG13	27:U2:10:GLU:HB3	1.94	0.48
30:W1:10:G:N3	30:W1:10:G:H2'	2.28	0.48
5:72:2127:G:N2	5:72:2161:C:H2'	2.29	0.48
6:82:66:A:N6	6:82:107:G:H2'	2.26	0.48
7:A1:311:C:H2'	7:A1:312:C:C6	2.48	0.48
7:A1:640:A:H2'	7:A1:641:U:O4'	2.13	0.48
7:A1:900:A:H2'	7:A1:901:A:C8	2.48	0.48
7:A1:933:G:OP1	13:G1:3:ARG:HB3	2.12	0.48
7:A1:1411:C:H2'	7:A1:1412:C:C6	2.48	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:323:U:H2'	7:A2:324:G:O4'	2.14	0.48
8:B2:130:THR:HG22	8:B2:131:LYS:N	2.27	0.48
16:J2:8:ILE:HB	16:J2:74:VAL:HG23	1.96	0.48
25:S2:11:ILE:HG13	25:S2:38:SER:HB3	1.95	0.48
36:e2:37:ASN:OD1	36:e2:38:MET:N	2.47	0.48
2:32:8:GLN:HB2	2:32:28:LEU:HD13	1.95	0.48
7:A1:136:C:O2'	22:P1:64:GLY:O	2.31	0.48
7:A1:190:A:H3'	7:A1:191:G:H8	1.79	0.48
7:A1:684:U:H1'	17:K1:40:ASN:HA	1.94	0.48
7:A1:918:A:H2'	7:A1:919:A:C8	2.48	0.48
7:A1:1202:U:H2'	7:A1:1203:C:O4'	2.14	0.48
7:A1:1346:A:O2'	7:A1:1347:G:H4'	2.14	0.48
7:A2:3:A:H5''	7:A2:5:U:OP1	2.13	0.48
7:A2:951:G:OP2	19:M2:101:ARG:NH2	2.44	0.48
7:A2:1292:G:H2'	7:A2:1293:C:C6	2.49	0.48
14:H2:89:LYS:O	14:H2:92:LEU:HD22	2.13	0.48
16:J2:64:GLN:O	20:N2:99:ALA:N	2.43	0.48
19:M1:50:GLU:HA	19:M1:53:ILE:HD12	1.96	0.48
22:P1:19:VAL:HG12	22:P1:36:VAL:HG23	1.94	0.48
35:b2:16:VAL:HG12	35:b2:206:GLY:HA3	1.96	0.48
5:72:158:U:O2'	5:72:159:G:OP1	2.28	0.48
7:A1:102:G:H2'	7:A1:103:U:H6	1.79	0.48
7:A1:109:A:H61	7:A1:324:G:H1'	1.79	0.48
7:A1:718:A:H5'	17:K1:119:ASN:ND2	2.28	0.48
7:A1:1040:U:H2'	7:A1:1041:G:C8	2.48	0.48
7:A1:1079:G:P	11:E1:138:ARG:HH22	2.36	0.48
7:A1:1372:U:H2'	7:A1:1373:G:O4'	2.14	0.48
7:A1:1530:G:H2'	7:A1:1531:A:C8	2.48	0.48
7:A2:559:A:H4'	7:A2:560:A:H3'	1.95	0.48
7:A2:655:A:H2'	7:A2:656:G:H8	1.77	0.48
7:A2:923:A:OP1	11:E2:26:LYS:NZ	2.38	0.48
7:A2:1530:G:H2'	7:A2:1531:A:C8	2.49	0.48
9:C1:20:SER:HB3	9:C1:22:TRP:NE1	2.29	0.48
12:F2:68:GLN:CD	12:F2:68:GLN:H	2.22	0.48
15:I2:119:ARG:HH21	15:I2:123:ARG:NH2	2.11	0.48
17:K2:98:ARG:HH22	27:U2:13:ASP:HA	1.78	0.48
24:R1:65:LEU:HB3	24:R1:67:LEU:HD13	1.96	0.48
41:o2:20:GLY:HA2	41:o2:28:GLY:HA2	1.96	0.48
5:72:700:G:O2'	5:72:1632:A:N3	2.38	0.48
5:72:1837:C:O2'	5:72:1927:A:N3	2.31	0.48
7:A1:138:G:H2'	7:A1:139:A:C8	2.49	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:324:G:N2	7:A1:326:G:H3'	2.29	0.48
7:A1:335:C:H2'	7:A1:336:A:C8	2.49	0.48
7:A1:708:C:H2'	7:A1:709:U:C6	2.48	0.48
7:A1:986:U:H4'	25:S1:55:ARG:HB3	1.96	0.48
7:A1:1423:G:H22	7:A1:1477:U:H2'	1.78	0.48
7:A1:1489:G:H2'	7:A1:1490:U:C6	2.49	0.48
7:A2:128:G:H2'	7:A2:129:A:C8	2.49	0.48
7:A2:518:C:H2'	7:A2:530:G:C4	2.48	0.48
7:A2:1516:2MG:N2	7:A2:1519:MA6:OP2	2.43	0.48
9:C2:67:THR:HA	9:C2:102:ASN:O	2.14	0.48
10:D1:26:ARG:HA	17:K2:15:GLN:OE1	2.14	0.48
13:G1:67:GLU:OE1	13:G1:70:ARG:NH2	2.46	0.48
13:G1:69:VAL:HG23	13:G1:135:VAL:HA	1.95	0.48
13:G2:50:LEU:O	13:G2:53:ARG:HG2	2.14	0.48
14:H2:18:GLN:HB3	14:H2:70:ALA:HB1	1.95	0.48
14:H2:25:VAL:HG13	14:H2:63:LEU:HD11	1.94	0.48
38:h2:24:THR:O	38:h2:34:LYS:NZ	2.45	0.48
4:62:13:ARG:HG3	41:o2:63:LYS:HA	1.96	0.48
5:72:1094:U:H1'	5:72:1097:U:H5	1.77	0.48
5:72:1838:C:O2	5:72:1901:A:N6	2.47	0.48
7:A1:162:A:C5	7:A1:163:C:H1'	2.48	0.48
7:A1:996:A:H2'	7:A1:997:U:C6	2.49	0.48
7:A2:112:G:H22	7:A2:315:A:H2	1.62	0.48
7:A2:385:C:H2'	7:A2:386:C:C6	2.49	0.48
7:A2:667:G:H4'	21:O2:51:HIS:ND1	2.29	0.48
7:A2:1513:A:H2'	7:A2:1514:G:C8	2.47	0.48
15:I2:123:ARG:NH1	15:I2:124:ARG:O	2.42	0.48
17:K2:20:VAL:HG13	17:K2:35:THR:HG23	1.95	0.48
19:M1:27:LYS:HG3	19:M1:31:LYS:NZ	2.29	0.48
23:Q1:46:VAL:HG11	23:Q1:61:ILE:HD12	1.94	0.48
26:T1:51:PHE:O	26:T1:54:MET:HG3	2.13	0.48
29:W:3:G:H2'	29:W:4:G:H8	1.79	0.48
34:a2:156:ALA:HA	34:a2:160:GLN:CB	2.43	0.48
35:b2:124:ILE:HG13	35:b2:124:ILE:O	2.14	0.48
5:72:1210:G:H4'	5:72:1211:C:H5''	1.95	0.48
5:72:2114:A:C5	5:72:2115:G:H1'	2.49	0.48
5:72:2590:A:O3'	35:b2:238:ARG:NH1	2.47	0.48
7:A1:231:U:H2'	7:A1:232:G:C8	2.43	0.48
7:A1:268:U:H2'	7:A1:269:C:C6	2.49	0.48
7:A1:461:A:H2'	7:A1:462:G:C8	2.49	0.48
7:A1:1435:G:H2'	7:A1:1436:U:C6	2.48	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1447:A:OP1	7:A1:1448:C:N4	2.46	0.48
7:A2:202:G:O2'	7:A2:468:A:N3	2.42	0.48
7:A2:712:A:H5'	35:b2:138:GLY:HA3	1.95	0.48
7:A2:736:C:H2'	7:A2:737:C:C6	2.49	0.48
7:A2:997:U:H2'	7:A2:998:C:C6	2.49	0.48
7:A2:1129:C:H1'	7:A2:1130:A:N7	2.28	0.48
7:A2:1170:A:H2'	7:A2:1171:A:O4'	2.14	0.48
7:A2:1319:A:H5''	25:S2:70:LYS:NZ	2.28	0.48
12:F1:11:HIS:ND1	12:F1:13:ASP:OD1	2.47	0.48
16:J2:88:MET:C	16:J2:90:LEU:H	2.22	0.48
26:T1:73:ALA:HA	26:T1:76:LYS:HD3	1.94	0.48
29:W:1:A:H3'	29:W:2:G:H8	1.79	0.48
39:i2:116:ARG:O	39:i2:118:PRO:HD3	2.13	0.48
3:4:11:GLU:OE2	3:4:23:LYS:HB3	2.12	0.47
5:72:714:U:H1'	5:72:717:C:C5	2.49	0.47
5:72:2230:G:H2'	5:72:2231:U:C6	2.49	0.47
7:A1:191:G:H3'	7:A1:192:A:H8	1.79	0.47
7:A1:264:C:O2'	23:Q1:66:PRO:O	2.28	0.47
7:A1:390:U:H2'	7:A1:391:G:H8	1.77	0.47
7:A1:501:C:H2'	7:A1:502:A:C8	2.48	0.47
7:A1:666:G:H2'	7:A1:667:G:C8	2.49	0.47
7:A1:671:G:H2'	7:A1:672:U:H5'	1.95	0.47
7:A1:1071:C:H2'	7:A1:1072:G:H8	1.79	0.47
7:A2:202:G:H1	7:A2:215:C:N4	2.12	0.47
7:A2:410:G:H2'	7:A2:429:U:C4	2.49	0.47
7:A2:824:G:H2'	7:A2:825:A:C8	2.49	0.47
7:A2:1302:C:C6	19:M2:17:ILE:HG13	2.49	0.47
8:B:41:ILE:H	8:B:41:ILE:HD12	1.77	0.47
11:E1:77:ASN:HB2	11:E1:82:GLN:HG2	1.94	0.47
15:I1:33:ARG:HH21	15:I1:38:TYR:HA	1.78	0.47
20:N2:9:ARG:O	20:N2:13:ARG:HG2	2.14	0.47
29:W:9:A:H1'	29:W:45:U:H2'	1.95	0.47
44:z2:50:ASN:HB2	44:z2:82:ILE:HB	1.96	0.47
5:72:221:A:O2'	5:72:266:G:N7	2.44	0.47
5:72:1332:G:N7	5:72:1609:A:O2'	2.38	0.47
7:A1:208:U:O2'	7:A1:209:U:H6	1.97	0.47
7:A1:436:C:H2'	7:A1:437:U:C6	2.50	0.47
7:A1:718:A:O2'	27:U1:35:ARG:NH2	2.47	0.47
7:A1:837:U:H2'	7:A1:838:G:C8	2.48	0.47
7:A1:912:C:H2'	7:A1:913:A:C8	2.49	0.47
7:A1:1236:A:H2'	7:A1:1237:C:C6	2.49	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:144:G:H2'	7:A2:145:G:C8	2.48	0.47
7:A2:320:A:H2'	7:A2:321:A:C8	2.49	0.47
7:A2:936:C:H42	13:G2:2:PRO:HD2	1.78	0.47
8:B:92:VAL:HG12	8:B:93:ASN:N	2.27	0.47
30:W1:41:C:H2'	30:W1:42:C:C6	2.48	0.47
5:72:687:C:H5''	40:I2:2:LYS:HE2	1.96	0.47
6:82:95:U:H2'	6:82:96:G:C8	2.49	0.47
7:A1:154:U:H3	7:A1:167:A:H61	1.62	0.47
7:A1:431:A:H2'	7:A1:432:A:O4'	2.14	0.47
7:A1:1002:G:H3'	7:A1:1003:G:H8	1.80	0.47
7:A1:1113:C:H42	7:A1:1187:G:H1	1.61	0.47
7:A1:1147:C:H2'	7:A1:1148:U:H6	1.79	0.47
7:A1:1351:U:H4'	13:G1:33:ASP:HB3	1.95	0.47
7:A1:1451:U:H3'	7:A1:1452:C:H6	1.79	0.47
7:A2:173:U:H5''	7:A2:197:A:O4'	2.14	0.47
7:A2:372:C:H4'	7:A2:373:A:OP1	2.14	0.47
7:A2:494:G:H2'	7:A2:496:A:C8	2.49	0.47
7:A2:815:A:N7	7:A2:1509:C:O2'	2.45	0.47
7:A2:990:C:H2'	7:A2:991:U:C6	2.50	0.47
10:D1:22:LYS:HE2	10:D1:31:LYS:HE2	1.96	0.47
16:J1:29:ALA:HB1	16:J1:34:ALA:HB3	1.96	0.47
24:R2:5:PHE:HD1	24:R2:43:ARG:HG2	1.78	0.47
28:V2:12:A:H2'	28:V2:13:C:C6	2.49	0.47
29:W:71:C:H3'	29:W:72:U:H6	1.79	0.47
36:e2:34:ILE:HG13	36:e2:96:MET:HG3	1.95	0.47
5:72:83:A:O2'	5:72:103:A:N6	2.47	0.47
5:72:1019:U:OP1	5:72:1035:U:O2'	2.26	0.47
5:72:1358:G:N1	5:72:1372:U:OP2	2.33	0.47
7:A1:673:A:H61	7:A1:716:A:N6	2.12	0.47
7:A1:1046:A:H2'	7:A1:1047:G:H5'	1.96	0.47
7:A1:1430:A:H2'	7:A1:1431:A:O4'	2.15	0.47
7:A2:582:C:O2	7:A2:759:A:N6	2.48	0.47
20:N1:86:GLU:O	20:N1:90:ARG:HG3	2.14	0.47
21:O1:21:ASP:OD1	21:O1:24:SER:HB3	2.14	0.47
32:Y1:34:CM0:H6	32:Y1:34:CM0:H7C1	1.66	0.47
44:z2:25:ARG:NH2	44:z2:29:GLU:HB3	2.29	0.47
5:72:1889:A:N3	5:72:2086:U:O2'	2.40	0.47
5:72:2357:G:N2	5:72:2360:G:OP2	2.42	0.47
7:A1:126:G:OP1	7:A1:633:G:N2	2.47	0.47
7:A1:157:U:H2'	7:A1:158:G:C8	2.49	0.47
7:A1:201:G:H1	7:A1:216:U:H3	1.63	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:382:A:H2'	7:A1:383:A:C8	2.49	0.47
7:A1:947:G:H2'	7:A1:948:C:C6	2.49	0.47
7:A1:1012:A:OP1	25:S1:17:LYS:NZ	2.30	0.47
7:A2:6:G:O6	11:E2:100:SER:N	2.38	0.47
7:A2:126:G:OP1	7:A2:605:U:O2'	2.19	0.47
7:A2:328:C:H4'	7:A2:329:A:H5''	1.96	0.47
7:A2:939:G:O5'	13:G2:102:ARG:NH1	2.46	0.47
7:A2:1142:G:H3'	7:A2:1143:G:C8	2.47	0.47
7:A2:1269:A:H8	7:A2:1269:A:O5'	1.98	0.47
7:A2:1518:MA6:H2'	7:A2:1519:MA6:C8	2.45	0.47
9:C2:70:THR:O	9:C2:106:VAL:N	2.44	0.47
10:D1:60:LYS:O	10:D1:64:ILE:HG13	2.14	0.47
13:G1:32:VAL:HG22	13:G1:33:ASP:OD2	2.15	0.47
17:K2:97:ILE:HG22	27:U2:12:PHE:HZ	1.79	0.47
18:L2:75:GLN:NE2	18:L2:76:GLU:O	2.48	0.47
23:Q1:10:GLY:HA3	23:Q1:25:ILE:HD13	1.97	0.47
23:Q1:77:ARG:HH12	23:Q1:79:VAL:HG22	1.78	0.47
29:W:22:G:H2'	29:W:23:A:C8	2.49	0.47
32:Y1:40:G:H2'	32:Y1:41:A:C8	2.49	0.47
5:71:1918:A:O2'	5:71:1920:C:N4	2.48	0.47
5:72:1130:U:N3	5:72:2025:C:OP1	2.34	0.47
5:72:2153:C:H2'	5:72:2154:A:C8	2.49	0.47
7:A1:751:U:H4'	21:O1:24:SER:HA	1.96	0.47
7:A1:853:C:H2'	7:A1:854:U:C6	2.49	0.47
7:A1:957:U:N3	7:A1:960:U:OP2	2.47	0.47
7:A1:1073:U:H2'	7:A1:1074:G:H8	1.80	0.47
7:A2:552:U:H2'	7:A2:553:A:H8	1.79	0.47
7:A2:553:A:H2'	7:A2:554:A:H8	1.79	0.47
7:A2:953:G:H2'	7:A2:954:G:O4'	2.14	0.47
7:A2:1029:U:H2'	7:A2:1030:U:H6	1.79	0.47
7:A2:1176:A:H2'	7:A2:1177:G:C8	2.49	0.47
7:A2:1346:A:P	15:I2:122:ARG:HH12	2.38	0.47
8:B:99:GLY:O	8:B:103:ASN:HB2	2.13	0.47
8:B:162:PHE:HD1	8:B:184:PHE:HB2	1.78	0.47
8:B2:72:THR:OG1	8:B2:169:GLU:OE2	2.29	0.47
11:E1:156:LYS:HZ3	14:H1:71:VAL:HG13	1.80	0.47
15:I2:98:LEU:HB3	15:I2:104:VAL:HG13	1.96	0.47
4:62:25:LYS:HE3	41:o2:64:PHE:HB3	1.96	0.47
5:72:158:U:H3	5:72:168:G:H1	1.63	0.47
5:72:191:A:H2'	5:72:192:C:C6	2.48	0.47
5:72:569:U:O2'	5:72:983:A:N1	2.44	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:796:C:H2'	5:72:797:G:C8	2.50	0.47
5:72:1418:G:H1'	5:72:1580:A:H61	1.80	0.47
5:72:1419:A:H8	5:72:1419:A:OP2	1.97	0.47
5:72:1818:U:H5	35:b2:156:ARG:HH22	1.63	0.47
5:72:2087:G:H2'	5:72:2088:A:H8	1.80	0.47
5:72:2267:A:H5''	5:72:2268:A:H5'	1.97	0.47
5:72:2526:G:H1	5:72:2537:U:H3	1.63	0.47
7:A1:54:C:H2'	7:A1:352:C:H41	1.79	0.47
7:A1:106:C:H2'	7:A1:107:G:C8	2.50	0.47
7:A1:785:G:H2'	7:A1:786:G:H8	1.80	0.47
7:A1:1268:G:H21	7:A1:1326:U:H1'	1.79	0.47
7:A1:1291:U:H2'	7:A1:1292:G:H8	1.80	0.47
7:A2:41:G:H2'	7:A2:42:G:H8	1.80	0.47
7:A2:56:U:H2'	7:A2:57:G:H8	1.78	0.47
7:A2:950:U:H2'	7:A2:951:G:C8	2.50	0.47
7:A2:1287:A:H5''	7:A2:1287:A:H8	1.80	0.47
8:B:117:LEU:HD23	8:B:141:LEU:HD13	1.95	0.47
8:B2:56:GLU:O	8:B2:60:ILE:HG13	2.15	0.47
9:C1:50:ALA:O	9:C1:70:THR:OG1	2.28	0.47
9:C2:64:ILE:HG22	9:C2:66:VAL:HG22	1.96	0.47
13:G1:76:LYS:N	13:G1:87:VAL:O	2.44	0.47
15:I2:24:GLY:H	15:I2:61:LEU:HA	1.79	0.47
16:J1:12:ALA:HB2	16:J1:96:VAL:HG13	1.95	0.47
20:N2:76:LYS:HG3	20:N2:77:PHE:CD2	2.50	0.47
25:S2:18:LYS:HD3	25:S2:31:LEU:HD12	1.97	0.47
29:W:8:4SU:P	29:W:8:4SU:H6	2.54	0.47
30:W1:36:A:H2'	30:W1:37:MIA:C8	2.44	0.47
3:4:44:PHE:HE1	36:e2:176:PRO:HB3	1.80	0.47
5:72:388:G:O6	5:72:390:U:O2'	2.31	0.47
5:72:737:C:H2'	5:72:738:G:H8	1.80	0.47
5:72:1010:A:N3	5:72:1153:C:H1'	2.29	0.47
5:72:1265:A:N1	5:72:2013:A:H5''	2.30	0.47
7:A1:263:A:P	26:T1:74:ARG:HH21	2.37	0.47
7:A1:407:U:O2'	10:D1:113:GLU:OE2	2.33	0.47
7:A1:493:A:H2'	7:A1:494:G:C8	2.50	0.47
7:A1:543:U:H2'	7:A1:544:G:H8	1.78	0.47
7:A1:736:C:H5''	12:F1:90:MET:HE1	1.97	0.47
7:A2:235:C:H2'	7:A2:236:A:C8	2.50	0.47
7:A2:959:A:HO2'	7:A2:984:C:HO2'	1.58	0.47
13:G1:108:ALA:O	13:G1:119:ARG:HD3	2.13	0.47
15:I1:44:ALA:O	15:I1:47:VAL:HG12	2.15	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Y:3:G:H1	31:Y:70:U:H3	1.63	0.47
35:b2:13:ARG:O	35:b2:16:VAL:HG22	2.15	0.47
5:72:1030:C:OP2	38:h2:127:LYS:NZ	2.48	0.47
5:72:1753:G:N2	5:72:1756:G:O5'	2.45	0.47
5:72:2285:C:OP2	37:g2:6:ARG:NH2	2.47	0.47
7:A1:76:G:H2'	7:A1:77:A:C8	2.50	0.47
7:A1:147:G:H2'	7:A1:148:G:C8	2.50	0.47
7:A1:403:C:H2'	7:A1:404:G:C8	2.49	0.47
7:A1:717:U:H5'	7:A1:734:G:OP2	2.14	0.47
7:A1:909:A:H2'	7:A1:910:C:O4'	2.15	0.47
7:A2:713:G:H2'	7:A2:714:G:C8	2.50	0.47
7:A2:1305:G:HO2'	7:A2:1306:A:H8	1.63	0.47
8:B2:223:GLU:O	8:B2:227:GLN:HG2	2.15	0.47
9:C1:21:THR:O	16:J1:95:GLY:HA2	2.15	0.47
9:C2:30:ALA:HA	9:C2:33:LEU:HD12	1.96	0.47
11:E1:44:GLY:HA2	11:E1:76:LEU:HG	1.97	0.47
13:G1:113:ASP:HB2	13:G1:119:ARG:CG	2.45	0.47
15:I1:33:ARG:NH2	15:I1:38:TYR:HA	2.30	0.47
23:Q2:59:VAL:HG12	23:Q2:78:VAL:HG22	1.96	0.47
24:R2:35:GLU:CD	24:R2:35:GLU:H	2.23	0.47
1:12:36:HIS:NE2	39:i2:28:ASN:OD1	2.43	0.47
5:72:2127:G:N3	5:72:2162:G:H8	2.13	0.47
5:72:2233:U:H2'	5:72:2234:G:C8	2.50	0.47
5:72:2698:U:H2'	5:72:2699:C:C6	2.50	0.47
7:A1:19:A:O2'	7:A1:572:A:N1	2.46	0.47
7:A1:666:G:H2'	7:A1:667:G:H8	1.79	0.47
7:A1:668:G:H2'	7:A1:669:G:H8	1.80	0.47
7:A1:669:G:H2'	7:A1:670:G:C8	2.50	0.47
7:A1:1006:G:H2'	7:A1:1007:U:C6	2.49	0.47
7:A1:1264:U:H2'	7:A1:1265:C:C6	2.49	0.47
7:A1:1321:U:H4'	19:M1:86:TYR:CZ	2.50	0.47
7:A2:19:A:H2'	7:A2:20:U:C6	2.49	0.47
7:A2:431:A:H2'	7:A2:432:A:C8	2.50	0.47
7:A2:831:A:H2'	7:A2:832:G:H8	1.79	0.47
7:A2:1095:U:H2'	7:A2:1096:C:C6	2.50	0.47
7:A2:1175:G:H2'	7:A2:1176:A:H8	1.80	0.47
8:B2:169:GLU:N	8:B2:169:GLU:OE1	2.48	0.47
20:N2:49:GLN:NE2	25:S2:11:ILE:O	2.44	0.47
24:R1:62:ALA:HB1	24:R1:67:LEU:HB2	1.97	0.47
34:a2:156:ALA:HA	34:a2:160:GLN:HB3	1.96	0.47
36:e2:3:LYS:HE3	36:e2:101:GLU:HG3	1.97	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:49:A:H61	5:72:177:G:H2'	1.79	0.46
5:72:1209:U:O2'	5:72:1237:A:N1	2.41	0.46
5:72:2474:U:OP2	5:72:2475:C:N4	2.37	0.46
7:A1:46:G:H2'	7:A1:366:A:N7	2.30	0.46
7:A1:224:U:H2'	7:A1:225:C:C6	2.50	0.46
7:A1:232:G:H1'	7:A1:262:A:N1	2.30	0.46
7:A1:302:G:H2'	7:A1:303:A:C8	2.50	0.46
7:A1:407:U:O4'	10:D1:116:GLN:NE2	2.47	0.46
7:A2:94:G:H4'	7:A2:95:C:H5'	1.97	0.46
7:A2:109:A:H2'	7:A2:326:G:N2	2.29	0.46
7:A2:459:A:N6	7:A2:473:U:H3	2.10	0.46
7:A2:738:C:OP1	12:F2:4:TYR:OH	2.24	0.46
10:D1:9:LEU:HD12	10:D1:32:CYS:SG	2.56	0.46
14:H1:18:GLN:HG3	14:H1:72:VAL:HB	1.97	0.46
15:I1:118:LEU:HB3	15:I1:123:ARG:O	2.15	0.46
24:R1:39:ILE:HG22	24:R1:40:VAL:N	2.30	0.46
43:r2:28:VAL:HG11	43:r2:103:VAL:HG13	1.95	0.46
5:72:2514:U:H2'	5:72:2515:C:C6	2.49	0.46
7:A1:198:G:H2'	7:A1:199:A:C8	2.50	0.46
7:A1:459:A:H2'	7:A1:460:A:C8	2.51	0.46
7:A1:984:C:H2'	7:A1:985:C:C6	2.50	0.46
7:A1:1007:U:H2'	7:A1:1008:U:C6	2.50	0.46
7:A1:1130:A:H5''	15:I1:64:TYR:HE2	1.80	0.46
7:A1:1314:C:H2'	7:A1:1315:U:C6	2.50	0.46
7:A1:1338:G:H21	30:W1:41:C:H1'	1.79	0.46
7:A1:1388:C:H2'	7:A1:1389:C:C6	2.50	0.46
7:A1:1410:A:H2'	7:A1:1411:C:C6	2.50	0.46
7:A2:106:C:H2'	7:A2:107:G:H8	1.80	0.46
7:A2:116:A:H2'	7:A2:117:G:O4'	2.15	0.46
7:A2:526:C:C4	7:A2:527:G7M:H1'	2.50	0.46
7:A2:1114:C:H2'	7:A2:1115:U:H6	1.80	0.46
7:A2:1422:G:H1	7:A2:1478:U:H3	1.63	0.46
28:V2:26:G:H22	32:Y1:34:CM0:H3	1.63	0.46
36:e2:29:PRO:HB2	36:e2:169:LEU:HD22	1.98	0.46
5:71:1913:A:C8	7:A1:1494:G:H4'	2.50	0.46
5:72:971:G:O2'	5:72:983:A:N3	2.45	0.46
5:72:1789:A:OP1	35:b2:221:ARG:HG3	2.15	0.46
5:72:2162:G:H4'	5:72:2173:A:C6	2.49	0.46
7:A1:370:C:OP1	39:i2:93:SER:N	2.48	0.46
7:A1:634:C:H2'	7:A1:635:A:C8	2.50	0.46
7:A1:742:G:H2'	7:A1:743:A:C8	2.50	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:775:G:H2'	7:A1:776:G:C8	2.50	0.46
7:A1:850:U:N3	7:A1:851:G:N7	2.63	0.46
7:A1:1309:G:H5''	19:M1:77:ILE:HD11	1.97	0.46
7:A2:151:A:H2'	7:A2:152:A:C8	2.50	0.46
7:A2:694:A:N1	7:A2:787:A:O2'	2.49	0.46
7:A2:946:A:H2'	7:A2:947:G:H8	1.79	0.46
8:B:137:ARG:NH2	8:B:140:GLU:OE2	2.48	0.46
8:B2:9:MET:HB2	8:B2:43:LEU:HD21	1.97	0.46
9:C2:114:LYS:HA	9:C2:185:ASN:HD22	1.80	0.46
13:G2:27:VAL:HG12	13:G2:43:VAL:HG11	1.98	0.46
15:I1:52:LEU:HB3	15:I1:58:VAL:HA	1.97	0.46
16:J2:44:THR:HG23	16:J2:69:THR:O	2.16	0.46
17:K1:23:ILE:N	17:K1:85:MET:O	2.44	0.46
28:V2:35:A:H2'	28:V2:36:A:C8	2.50	0.46
28:V2:52:G:H2'	28:V2:53:G:C8	2.50	0.46
39:i2:88:GLY:O	39:i2:125:THR:HG22	2.15	0.46
5:72:1352:U:O2'	5:72:1570:A:N3	2.39	0.46
7:A1:51:A:H61	7:A1:314:C:H1'	1.80	0.46
7:A1:310:G:H2'	7:A1:311:C:H6	1.80	0.46
7:A1:457:G:H5'	7:A1:458:U:OP2	2.14	0.46
7:A1:598:U:H4'	14:H1:86:TYR:CD2	2.51	0.46
7:A1:898:G:N2	7:A1:901:A:OP2	2.49	0.46
7:A1:1304:G:H1'	7:A1:1334:G:N2	2.29	0.46
7:A1:1403:C:N4	28:V2:23:C:OP1	2.49	0.46
7:A2:578:C:O2'	7:A2:728:A:N3	2.37	0.46
7:A2:1121:U:H2'	7:A2:1122:U:C6	2.50	0.46
7:A2:1368:A:OP1	16:J2:64:GLN:NE2	2.48	0.46
7:A2:1402:4OC:H2'	7:A2:1403:C:O4'	2.16	0.46
8:B2:210:VAL:HA	8:B2:213:TYR:CD2	2.51	0.46
15:I2:90:TYR:O	16:J1:82:LYS:HE3	2.14	0.46
16:J2:64:GLN:HB3	20:N2:99:ALA:HB3	1.98	0.46
26:T1:29:ARG:O	26:T1:32:ILE:HG22	2.14	0.46
5:72:1:G:H2'	5:72:2:G:H8	1.81	0.46
5:72:1056:G:H4'	5:72:1086:A:C8	2.50	0.46
5:72:1889:A:H2'	5:72:1890:A:C8	2.50	0.46
5:72:2134:A:H2'	5:72:2135:A:C8	2.51	0.46
5:72:2151:U:O2'	5:72:2152:G:OP2	2.31	0.46
7:A1:313:A:H2'	7:A1:314:C:C6	2.51	0.46
7:A1:543:U:H2'	7:A1:544:G:C8	2.51	0.46
7:A1:575:G:O2'	7:A1:821:G:H5'	2.15	0.46
7:A1:706:A:H2'	7:A1:707:U:C6	2.50	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:772:U:H2'	7:A1:773:G:C8	2.51	0.46
7:A1:1227:A:C5	25:S1:83:HIS:HB3	2.51	0.46
7:A1:1382:C:H2'	7:A1:1383:C:C6	2.51	0.46
7:A1:1522:U:H2'	7:A1:1523:G:C8	2.50	0.46
7:A2:974:A:O4'	20:N2:71:HIS:ND1	2.47	0.46
7:A2:1112:C:C2	9:C2:178:LEU:HD23	2.50	0.46
9:C1:79:LYS:HD2	9:C1:80:LYS:HZ1	1.79	0.46
12:F1:44:ARG:HA	12:F1:57:ALA:O	2.15	0.46
15:I2:7:TYR:CG	15:I2:8:GLY:N	2.83	0.46
18:L2:86:ARG:HA	18:L2:94:ARG:HA	1.97	0.46
19:M1:42:ASP:OD1	19:M1:42:ASP:N	2.47	0.46
20:N2:49:GLN:OE1	25:S2:13:LEU:N	2.48	0.46
28:V2:32:U:H1'	28:V2:33:A:C4	2.51	0.46
35:b2:78:VAL:HG21	35:b2:110:LEU:HD11	1.96	0.46
41:o2:33:ARG:NE	41:o2:39:LYS:O	2.46	0.46
5:72:747:5MU:H3'	5:72:748:G:C5'	2.46	0.46
5:72:788:A:OP1	5:72:791:C:N4	2.35	0.46
5:72:1796:U:H2'	5:72:1797:G:H8	1.81	0.46
7:A1:90:C:H2'	7:A1:91:U:C6	2.51	0.46
7:A1:860:A:H2'	7:A1:861:G:O4'	2.14	0.46
7:A1:955:U:H3	7:A1:1225:A:H61	1.63	0.46
7:A2:50:A:N1	7:A2:360:G:O2'	2.42	0.46
7:A2:552:U:H2'	7:A2:553:A:C8	2.50	0.46
7:A2:620:C:H2'	7:A2:621:A:O4'	2.16	0.46
7:A2:1079:G:H2'	7:A2:1080:A:C8	2.50	0.46
8:B:102:THR:C	8:B:104:TRP:H	2.23	0.46
15:I1:130:ARG:HH12	30:W1:35:A:P	2.38	0.46
15:I2:118:LEU:HB3	15:I2:123:ARG:O	2.15	0.46
35:b2:53:HIS:HA	35:b2:217:ARG:HB2	1.96	0.46
3:4:27:THR:N	36:e2:140:GLU:OE1	2.45	0.46
5:72:69:C:O2	5:72:73:A:O2'	2.29	0.46
5:72:500:G:N1	5:72:503:A:OP2	2.47	0.46
5:72:1071:G:N3	5:72:1089:A:O2'	2.42	0.46
5:72:1265:A:H61	5:72:2013:A:H3'	1.79	0.46
5:72:1597:A:H5''	5:72:1598:A:H5'	1.97	0.46
5:72:1880:U:H2'	5:72:1881:C:C6	2.51	0.46
7:A1:481:G:O2'	7:A1:483:C:N4	2.48	0.46
7:A1:563:A:H61	7:A1:884:U:H3	1.64	0.46
7:A1:658:C:H1'	21:O1:22:THR:HG21	1.96	0.46
7:A1:671:G:HO2'	12:F1:79:ARG:HH22	1.62	0.46
7:A1:1126:U:O2'	7:A1:1127:G:H5'	2.16	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1245:C:H2'	7:A1:1246:A:H8	1.81	0.46
7:A1:1279:G:H4'	7:A1:1281:C:H5	1.80	0.46
7:A2:41:G:H2'	7:A2:42:G:C8	2.50	0.46
7:A2:506:G:H2'	7:A2:507:C:C6	2.51	0.46
7:A2:1030:U:H2'	7:A2:1030:U:O2	2.14	0.46
7:A2:1095:U:P	7:A2:1108:G:H1	2.38	0.46
7:A2:1144:G:H21	7:A2:1146:A:H62	1.64	0.46
7:A2:1397:C:H5'	28:V2:58:A:H61	1.80	0.46
8:B2:20:THR:HG23	8:B2:21:ARG:H	1.81	0.46
9:C1:57:ILE:HG12	9:C1:66:VAL:HG13	1.96	0.46
9:C1:77:ILE:HA	9:C1:84:VAL:HG23	1.96	0.46
9:C2:167:TRP:HZ3	9:C2:169:ARG:HG2	1.79	0.46
12:F1:36:ILE:HG13	12:F1:64:VAL:HG12	1.97	0.46
14:H1:10:MET:HE1	14:H1:33:LYS:HA	1.98	0.46
14:H1:87:LYS:HE2	14:H1:87:LYS:HB2	1.70	0.46
28:V2:37:A:H4'	28:V2:38:A:H5'	1.98	0.46
5:72:1386:C:O2'	5:72:1469:A:N3	2.46	0.46
7:A1:404:G:OP1	10:D1:115:ARG:NH1	2.48	0.46
7:A1:998:C:H2'	7:A1:999:C:C6	2.50	0.46
7:A1:1257:A:H8	7:A1:1257:A:O5'	1.99	0.46
7:A2:1320:C:N3	25:S2:36:ARG:NH1	2.64	0.46
9:C1:57:ILE:HG23	9:C1:66:VAL:HG22	1.97	0.46
9:C1:83:ASP:O	9:C1:86:LYS:HG2	2.16	0.46
9:C2:185:ASN:CG	9:C2:186:THR:H	2.24	0.46
13:G2:51:ALA:C	13:G2:56:LYS:H	2.22	0.46
15:I1:81:HIS:CE1	15:I1:106:ARG:HG2	2.50	0.46
16:J1:4:GLN:HB2	16:J1:79:PRO:HG3	1.98	0.46
18:L1:63:VAL:HG21	18:L1:95:TYR:CE2	2.51	0.46
27:U1:34:ARG:HD3	27:U1:35:ARG:NH1	2.30	0.46
34:a2:16:ASP:O	34:a2:21:TYR:OH	2.31	0.46
39:i2:50:ARG:HA	39:i2:53:GLU:HG2	1.98	0.46
3:4:9:TYR:CE1	3:4:25:ARG:HG2	2.50	0.46
5:72:48:G:O2'	5:72:118:A:N1	2.44	0.46
5:72:598:U:H2'	5:72:599:A:C8	2.51	0.46
7:A1:979:C:H2'	7:A1:980:C:H5'	1.97	0.46
7:A1:1013:G:H2'	7:A1:1015:G:OP2	2.16	0.46
7:A1:1036:A:H3'	7:A1:1037:C:C6	2.51	0.46
7:A1:1271:A:H2'	7:A1:1272:G:H8	1.81	0.46
7:A2:421:U:C3'	7:A2:422:C:H5'	2.46	0.46
7:A2:501:C:H1'	7:A2:549:C:H1'	1.97	0.46
7:A2:1245:C:H2'	7:A2:1246:A:C8	2.51	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:1328:C:OP1	19:M2:28:THR:HG21	2.15	0.46
8:B:38:VAL:CG1	8:B:39:HIS:H	2.27	0.46
14:H1:89:LYS:O	14:H1:92:LEU:HD22	2.15	0.46
15:I1:75:GLN:O	15:I1:79:ILE:HG13	2.15	0.46
25:S1:50:ALA:HB1	25:S1:57:HIS:HB3	1.96	0.46
34:a2:47:ASN:OD1	34:a2:170:ILE:HG12	2.16	0.46
5:72:2061:G:H1	42:p:35:TRP:HZ3	1.64	0.46
7:A1:1400:C:N4	30:W1:34:G:H1'	2.31	0.46
7:A1:1436:U:H2'	7:A1:1437:A:C8	2.51	0.46
7:A1:1532:U:H2'	7:A1:1533:C:O4'	2.15	0.46
7:A2:693:G:OP1	17:K2:127:ARG:NH2	2.46	0.46
7:A2:1064:G:H21	7:A2:1190:G:H1'	1.80	0.46
7:A2:1147:C:HO2'	15:I2:18:ARG:HE	1.63	0.46
7:A2:1228:C:H2'	7:A2:1229:A:C8	2.51	0.46
7:A2:1477:U:H2'	7:A2:1478:U:C6	2.51	0.46
9:C1:50:ALA:HB1	9:C1:76:VAL:HG22	1.97	0.46
17:K2:71:ALA:O	17:K2:74:VAL:HG13	2.16	0.46
21:O2:39:LEU:HD12	21:O2:43:PHE:CE2	2.51	0.46
29:W:18:G:H1'	29:W:57:G:N2	2.31	0.46
44:z2:21:LEU:HD23	44:z2:40:GLN:HA	1.98	0.46
1:12:55:GLY:O	1:12:58:VAL:HG22	2.16	0.45
5:72:355:U:H2'	5:72:356:G:C8	2.51	0.45
5:72:372:G:N2	5:72:401:A:OP2	2.39	0.45
5:72:574:A:N6	5:72:2034:U:OP1	2.42	0.45
5:72:587:C:O2	41:o2:33:ARG:NH1	2.50	0.45
5:72:780:G:O2'	5:72:783:A:N6	2.45	0.45
5:72:1094:U:O2'	5:72:1096:A:N7	2.44	0.45
5:72:1744:A:H3'	5:72:1745:A:H8	1.82	0.45
5:72:2314:A:H2'	5:72:2315:G:C8	2.51	0.45
5:72:2331:G:OP1	44:z2:44:LYS:NZ	2.49	0.45
7:A1:198:G:N2	7:A1:219:U:O2	2.49	0.45
7:A1:381:C:H2'	7:A1:382:A:O4'	2.16	0.45
7:A1:505:G:H2'	7:A1:506:G:C8	2.50	0.45
7:A1:853:C:H2'	7:A1:854:U:H6	1.82	0.45
7:A1:1037:C:H2'	7:A1:1038:C:C6	2.51	0.45
7:A1:1135:U:O4	7:A1:1138:G:N2	2.48	0.45
7:A1:1228:C:H2'	7:A1:1229:A:C8	2.50	0.45
7:A2:161:A:H2'	7:A2:162:A:C8	2.51	0.45
7:A2:162:A:C5	7:A2:163:C:H1'	2.50	0.45
7:A2:236:A:H2'	7:A2:237:G:C8	2.51	0.45
7:A2:692:U:O2'	7:A2:694:A:N7	2.33	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:1147:C:H2'	7:A2:1148:U:C6	2.51	0.45
7:A2:1492:A:H2'	7:A2:1493:A:C4	2.51	0.45
8:B:112:LYS:O	8:B:115:LYS:HG2	2.16	0.45
9:C2:212:ALA:H	16:J2:16:ARG:NH1	2.13	0.45
10:D1:25:VAL:HG22	10:D1:161:LEU:HD13	1.98	0.45
13:G1:126:ASP:HB3	13:G1:131:LYS:HG3	1.97	0.45
24:R2:41:PRO:HG2	24:R2:44:ILE:HG12	1.98	0.45
27:U2:17:ARG:NH1	28:V2:41:G:OP2	2.49	0.45
27:U2:59:LYS:O	27:U2:63:GLU:HG2	2.16	0.45
28:V2:25:U:H2'	28:V2:26:G:C8	2.52	0.45
35:b2:210:ALA:HA	35:b2:213:TRP:CE3	2.51	0.45
36:e2:34:ILE:O	36:e2:91:LEU:N	2.47	0.45
36:e2:170:LEU:HD23	36:e2:175:PHE:HD2	1.82	0.45
2:32:24:LEU:HD21	5:72:930:G:H1'	1.99	0.45
5:72:13:A:O2'	5:72:15:G:N7	2.47	0.45
5:72:1032:A:H2	5:72:1122:G:H22	1.64	0.45
5:72:2126:A:C2	5:72:2162:G:H1'	2.51	0.45
5:72:2128:G:O5'	5:72:2128:G:H8	1.98	0.45
5:72:2128:G:H2'	5:72:2129:C:O4'	2.16	0.45
5:72:2194:U:H2'	5:72:2195:U:C6	2.50	0.45
5:72:2370:G:H4'	37:g2:44:ARG:NH2	2.31	0.45
7:A1:67:C:H2'	7:A1:68:G:H8	1.80	0.45
7:A1:165:G:H2'	7:A1:166:U:C6	2.52	0.45
7:A1:312:C:H2'	7:A1:313:A:C8	2.51	0.45
7:A1:390:U:H2'	7:A1:391:G:C8	2.51	0.45
7:A1:995:C:H2'	7:A1:996:A:H5'	1.97	0.45
7:A1:1218:C:H2'	7:A1:1219:A:C8	2.51	0.45
7:A2:105:G:H2'	7:A2:106:C:C6	2.51	0.45
7:A2:838:G:H2'	7:A2:839:C:C6	2.50	0.45
7:A2:993:G:H2'	7:A2:995:C:H41	1.80	0.45
8:B:125:THR:O	8:B:129:LEU:HB2	2.16	0.45
10:D1:99:ASP:OD1	10:D1:100:ASN:N	2.50	0.45
23:Q1:71:LYS:HB3	23:Q1:71:LYS:HE2	1.80	0.45
39:i2:94:ILE:HD12	39:i2:99:ILE:HD11	1.99	0.45
5:72:903:C:H2'	5:72:904:G:C8	2.51	0.45
5:72:927:A:H2'	5:72:928:A:C8	2.51	0.45
5:72:1357:C:H2'	5:72:1358:G:O4'	2.15	0.45
7:A1:71:A:H2'	7:A1:72:A:C8	2.51	0.45
7:A1:842:U:H3'	7:A1:843:U:H4'	1.99	0.45
7:A1:1013:G:N2	7:A1:1015:G:H3'	2.31	0.45
7:A1:1418:A:C3'	7:A1:1419:G:H5''	2.46	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:142:G:H3'	7:A2:143:A:H8	1.80	0.45
7:A2:321:A:H2'	7:A2:322:C:C6	2.51	0.45
7:A2:363:A:N3	18:L2:29:GLN:NE2	2.65	0.45
7:A2:982:U:H4'	7:A2:983:A:O5'	2.16	0.45
5:72:706:A:OP1	35:b2:7:LYS:NZ	2.49	0.45
5:72:2391:G:C6	5:72:2427:C:H1'	2.51	0.45
7:A1:258:G:H1	7:A1:268:U:H3	1.62	0.45
7:A1:665:A:N3	7:A1:732:C:H2'	2.32	0.45
7:A1:1433:A:H2'	7:A1:1434:A:O4'	2.16	0.45
7:A1:1456:A:H3'	7:A1:1457:G:H8	1.81	0.45
7:A2:1061:G:OP2	9:C2:3:GLN:NE2	2.31	0.45
7:A2:1120:C:H2'	7:A2:1121:U:C6	2.51	0.45
7:A2:1241:G:H2'	7:A2:1242:G:C8	2.52	0.45
7:A2:1273:C:H2'	7:A2:1274:A:O4'	2.16	0.45
7:A2:1276:G:H2'	7:A2:1277:C:C6	2.52	0.45
9:C1:47:LEU:HB3	9:C1:50:ALA:HB3	1.97	0.45
23:Q2:71:LYS:HE2	23:Q2:71:LYS:HB3	1.82	0.45
34:a2:200:LYS:HD2	34:a2:208:TYR:HB2	1.97	0.45
1:12:17:ASN:OD1	1:12:27:ARG:HD2	2.16	0.45
4:62:19:LYS:HG3	5:72:651:G:H5'	1.98	0.45
5:72:1038:G:H2'	5:72:1039:A:C8	2.52	0.45
5:72:2117:A:H1'	5:72:2119:A:OP2	2.17	0.45
7:A1:1010:U:H3	7:A1:1019:A:H61	1.64	0.45
7:A2:107:G:OP1	7:A2:325:A:N6	2.46	0.45
7:A2:187:G:N2	7:A2:190:A:OP2	2.43	0.45
7:A2:188:C:H3'	7:A2:189:A:C8	2.51	0.45
7:A2:266:G:H3'	23:Q2:69:LYS:HB2	1.99	0.45
7:A2:322:C:H2'	7:A2:323:U:C6	2.51	0.45
7:A2:474:G:N7	7:A2:475:C:N4	2.65	0.45
7:A2:668:G:H21	21:O2:46:HIS:CE1	2.34	0.45
7:A2:748:G:H2'	7:A2:749:A:C8	2.51	0.45
7:A2:1078:U:H4'	11:E2:138:ARG:NH1	2.31	0.45
9:C2:21:THR:OG1	9:C2:58:GLU:OE1	2.32	0.45
11:E1:153:VAL:HG21	14:H1:99:LEU:HD23	1.97	0.45
20:N1:93:ILE:HA	20:N1:94:PRO:HD3	1.82	0.45
23:Q2:11:ARG:O	23:Q2:12:VAL:C	2.59	0.45
27:U2:14:VAL:HG21	28:V2:38:A:H4'	1.99	0.45
35:b2:35:GLU:OE1	35:b2:35:GLU:N	2.50	0.45
35:b2:138:GLY:N	35:b2:164:ILE:O	2.44	0.45
5:72:729:G:C5	35:b2:207:LYS:HD2	2.52	0.45
5:72:859:G:N2	5:72:916:G:H2'	2.32	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:1105:U:H2'	5:72:1106:G:H8	1.81	0.45
5:72:1504:A:H2'	5:72:1505:A:C8	2.52	0.45
5:72:1542:U:H2'	5:72:1543:G:O4'	2.16	0.45
5:72:1846:G:O3'	7:A2:702:A:N6	2.49	0.45
5:72:2122:U:H2'	5:72:2123:G:C8	2.51	0.45
5:72:2124:G:N2	5:72:2174:C:O2	2.50	0.45
5:72:2129:C:O5'	5:72:2129:C:H6	1.99	0.45
7:A1:210:C:H1'	7:A1:211:G:C2	2.51	0.45
7:A1:590:U:H2'	7:A1:591:U:C6	2.52	0.45
7:A1:647:C:H2'	7:A1:648:A:H8	1.82	0.45
7:A1:1404:C:H2'	7:A1:1405:G:H8	1.81	0.45
7:A1:1431:A:H2'	7:A1:1432:G:C8	2.52	0.45
7:A2:263:A:H2'	7:A2:264:C:C6	2.51	0.45
7:A2:890:G:O2'	7:A2:906:A:N6	2.50	0.45
7:A2:1172:C:H2'	7:A2:1173:U:C6	2.51	0.45
7:A2:1219:A:H2'	7:A2:1220:G:C8	2.51	0.45
7:A2:1268:G:H2'	7:A2:1269:A:C8	2.51	0.45
7:A2:1315:U:H2'	7:A2:1316:G:C8	2.52	0.45
8:B2:169:GLU:O	8:B2:173:ILE:HG13	2.17	0.45
11:E1:83:HIS:NE2	11:E1:147:MET:HG3	2.31	0.45
13:G1:16:PRO:HB2	15:I1:42:GLU:HG2	1.99	0.45
13:G2:92:ARG:O	13:G2:96:ARG:HG3	2.15	0.45
14:H2:41:LYS:HE2	14:H2:48:ASP:HA	1.98	0.45
26:T1:39:ILE:HG23	26:T1:86:LEU:HD12	1.98	0.45
35:b2:92:ALA:N	35:b2:104:ILE:O	2.35	0.45
5:72:1214:A:H62	5:72:1235:G:H21	1.65	0.45
7:A1:499:A:O4'	7:A1:547:A:N6	2.50	0.45
7:A1:668:G:O2'	21:O1:46:HIS:ND1	2.43	0.45
7:A1:675:A:H2'	7:A1:676:A:O4'	2.17	0.45
7:A1:876:C:H4'	14:H1:15:ARG:HH22	1.82	0.45
7:A1:933:G:H8	7:A1:933:G:OP2	2.00	0.45
7:A1:1025:U:O3'	7:A1:1026:G:H8	1.99	0.45
7:A2:38:G:H22	7:A2:397:A:H5'	1.82	0.45
7:A2:80:A:H2'	7:A2:81:A:O4'	2.17	0.45
7:A2:489:C:H2'	7:A2:490:C:C6	2.52	0.45
7:A2:554:A:H2'	7:A2:555:U:C6	2.52	0.45
7:A2:587:G:N1	7:A2:754:C:OP2	2.46	0.45
7:A2:974:A:OP1	20:N2:69:ARG:NH1	2.38	0.45
7:A2:1106:G:H5''	9:C2:172:ARG:HG3	1.99	0.45
9:C2:42:TYR:CZ	9:C2:90:VAL:HG21	2.52	0.45
11:E1:36:LEU:HD22	11:E1:134:ILE:HG22	1.98	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F2:29:ILE:HG22	12:F2:34:GLY:HA3	1.98	0.45
13:G2:40:GLU:HA	13:G2:43:VAL:HG12	1.99	0.45
18:L1:100:GLY:HA3	18:L1:118:GLY:HA3	1.99	0.45
18:L2:80:ILE:HG22	18:L2:81:LEU:N	2.32	0.45
19:M1:14:HIS:ND1	19:M1:42:ASP:O	2.50	0.45
34:a2:175:ILE:O	34:a2:188:ASN:ND2	2.50	0.45
39:i2:104:THR:OG1	39:i2:109:GLU:OE1	2.27	0.45
5:72:296:U:H2'	5:72:297:G:C8	2.52	0.45
5:72:639:U:H2'	5:72:640:C:C6	2.51	0.45
5:72:851:C:H2'	5:72:852:U:C6	2.51	0.45
5:72:1794:A:H2'	5:72:1795:C:C6	2.52	0.45
5:72:1927:A:H8	5:72:1927:A:O5'	1.99	0.45
5:72:2092:U:OP1	5:72:2199:A:O2'	2.25	0.45
5:72:2260:C:O2'	5:72:2388:A:O2'	2.34	0.45
7:A1:185:U:H2'	7:A1:186:C:H6	1.82	0.45
7:A1:413:G:H1'	7:A1:428:G:H21	1.82	0.45
7:A1:513:C:H2'	7:A1:514:C:C6	2.51	0.45
7:A1:784:A:H2'	7:A1:785:G:C8	2.52	0.45
7:A1:1079:G:H2'	7:A1:1080:A:C8	2.51	0.45
7:A1:1307:U:H1'	19:M1:108:THR:HG21	1.98	0.45
7:A1:1384:C:H2'	7:A1:1385:G:C8	2.52	0.45
7:A1:1402:4OC:HM23	7:A1:1402:4OC:H1'	1.64	0.45
7:A1:1432:G:H8	7:A1:1432:G:OP2	1.99	0.45
7:A1:1486:G:H2'	7:A1:1487:G:C8	2.51	0.45
7:A2:521:G:H4'	18:L2:70:GLU:OE2	2.16	0.45
7:A2:544:G:OP1	10:D2:56:ARG:NH1	2.50	0.45
7:A2:876:C:P	14:H2:15:ARG:HH12	2.39	0.45
8:B2:153:ASP:N	8:B2:153:ASP:OD1	2.41	0.45
15:I1:130:ARG:HH21	30:W1:33:U:P	2.40	0.45
18:L1:24:LEU:HG	18:L1:95:TYR:HE1	1.82	0.45
27:U1:33:ARG:NH2	28:V2:15:G:OP1	2.50	0.45
27:U2:28:VAL:O	27:U2:32:VAL:HG23	2.17	0.45
2:32:44:ARG:HH12	2:32:56:VAL:HG11	1.82	0.45
5:72:373:U:H2'	5:72:374:A:C8	2.52	0.45
5:72:962:G:H5'	5:72:962:G:H8	1.82	0.45
5:72:1035:U:H2'	5:72:1036:G:C8	2.50	0.45
5:72:1528:A:OP2	5:72:1543:G:N2	2.50	0.45
5:72:1782:U:H1'	5:72:2609:U:H5''	1.99	0.45
5:72:1847:A:O2'	5:72:1848:A:O5'	2.32	0.45
7:A1:341:C:H2'	7:A1:342:C:C6	2.52	0.45
7:A1:621:A:H2'	7:A1:622:A:C8	2.52	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:637:C:H2'	7:A1:638:U:C6	2.52	0.45
7:A1:929:G:H2'	7:A1:930:C:C6	2.52	0.45
7:A1:976:G:N7	7:A1:1362:A:N6	2.65	0.45
7:A1:1054:C:O2'	32:Y1:34:CM0:H4'	2.16	0.45
7:A1:1342:C:H2'	7:A1:1343:G:H8	1.79	0.45
7:A2:181:A:H2'	7:A2:182:A:C8	2.52	0.45
7:A2:765:G:N2	7:A2:812:G:HO2'	2.15	0.45
7:A2:1327:C:H2'	7:A2:1328:C:C6	2.52	0.45
8:B2:96:TRP:CD1	8:B2:171:ILE:HG23	2.52	0.45
9:C1:11:ARG:HH11	9:C1:178:LEU:HA	1.80	0.45
10:D1:2:ALA:HA	10:D1:68:LEU:HD11	1.98	0.45
10:D1:202:GLU:HB2	11:E1:112:ARG:NH2	2.32	0.45
11:E2:83:HIS:NE2	11:E2:147:MET:HG3	2.32	0.45
11:E2:159:LYS:NZ	14:H2:42:GLU:O	2.30	0.45
16:J1:5:ARG:HH12	16:J1:7:ARG:HD2	1.82	0.45
31:Y:9:A:H1'	31:Y:45:G:O2'	2.17	0.45
5:72:760:G:H2'	5:72:761:A:O4'	2.16	0.45
5:72:1011:G:H1'	5:72:1013:C:O4'	2.17	0.45
5:72:1917:U:O4	5:72:1918:A:N6	2.50	0.45
5:72:2112:G:H1'	29:W:19:G:C8	2.52	0.45
5:72:2461:A:H1'	5:72:2492:U:C2	2.51	0.45
6:82:43:C:H2'	6:82:45:A:N7	2.32	0.45
7:A1:45:G:H2'	7:A1:46:G:C8	2.51	0.45
7:A1:587:G:H4'	14:H1:4:GLN:HB3	1.99	0.45
7:A1:604:G:H2'	7:A1:605:U:O4'	2.17	0.45
7:A2:262:A:H2'	7:A2:263:A:C8	2.52	0.45
9:C1:38:LYS:O	9:C1:41:GLN:HG2	2.17	0.45
9:C1:157:LEU:HD23	9:C1:196:ILE:HD13	1.99	0.45
15:I2:10:GLY:HA2	15:I2:81:HIS:ND1	2.32	0.45
17:K1:22:HIS:HA	17:K1:85:MET:HB2	1.99	0.45
17:K2:113:VAL:O	17:K2:113:VAL:HG12	2.17	0.45
21:O2:7:ALA:O	21:O2:10:LYS:HG2	2.17	0.45
28:V2:30:A:O2'	28:V2:31:U:O4'	2.35	0.45
36:e2:170:LEU:HD23	36:e2:175:PHE:CD2	2.52	0.45
1:12:3:ARG:O	1:12:12:PRO:HD3	2.17	0.44
1:12:59:ILE:HD12	1:12:67:VAL:HG21	1.98	0.44
5:72:1278:C:H2'	5:72:1279:G:H8	1.83	0.44
5:72:2093:G:O2'	39:i2:25:TYR:HD1	2.00	0.44
5:72:2129:C:HO2'	5:72:2159:G:H1	1.64	0.44
7:A1:206:C:N4	7:A1:212:G:O6	2.50	0.44
7:A1:671:G:C2'	7:A1:672:U:H5'	2.47	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:844:G:H3'	7:A1:845:A:H3'	1.98	0.44
7:A1:1118:U:H2'	7:A1:1119:C:C6	2.51	0.44
7:A1:1118:U:H5'	15:I1:106:ARG:HG3	1.99	0.44
7:A1:1387:G:H2'	7:A1:1388:C:C6	2.52	0.44
7:A2:154:U:H2'	7:A2:155:A:H8	1.81	0.44
7:A2:400:C:H2'	7:A2:401:C:O4'	2.17	0.44
7:A2:486:U:H2'	7:A2:487:A:C8	2.52	0.44
7:A2:1227:A:C8	19:M2:116:ILE:HG13	2.52	0.44
7:A2:1289:A:O3'	13:G2:35:LYS:NZ	2.50	0.44
8:B2:41:ILE:HD12	8:B2:41:ILE:H	1.82	0.44
20:N2:69:ARG:CZ	20:N2:81:ARG:HH21	2.30	0.44
28:V2:33:A:H2'	28:V2:34:A:C8	2.52	0.44
31:Y:35:G:H2'	31:Y:36:C:O4'	2.17	0.44
31:Y:53:G:C8	31:Y:54:5MU:H72	2.53	0.44
39:i2:98:ASP:OD1	39:i2:99:ILE:HD12	2.17	0.44
3:4:13:THR:HG23	3:4:23:LYS:NZ	2.30	0.44
5:72:958:U:OP1	38:h2:40:ARG:NH2	2.50	0.44
5:72:2311:A:H5'	36:e2:77:PHE:HE2	1.82	0.44
7:A1:252:U:O4	7:A1:253:A:N6	2.49	0.44
7:A1:302:G:H2'	7:A1:303:A:H8	1.82	0.44
7:A1:465:A:H2'	7:A1:466:A:C8	2.52	0.44
7:A1:1088:G:H1'	27:U1:71:TYR:HA	1.98	0.44
7:A1:1296:C:O4'	7:A1:1302:C:N4	2.50	0.44
7:A1:1350:A:H2'	7:A1:1351:U:O4'	2.18	0.44
7:A2:868:C:H2'	7:A2:869:G:O4'	2.18	0.44
7:A2:1080:A:OP1	11:E2:52:LYS:HE2	2.17	0.44
8:B2:64:LYS:HE2	8:B2:225:ARG:HG3	1.98	0.44
8:B2:196:VAL:HG11	8:B2:199:VAL:HG23	1.98	0.44
30:W1:11:C:H2'	30:W1:12:U:C6	2.52	0.44
35:b2:145:GLU:OE2	35:b2:150:LYS:N	2.50	0.44
36:e2:35:THR:HG23	36:e2:90:THR:HG22	1.99	0.44
43:r2:82:ALA:HB3	43:r2:115:LEU:HD21	1.99	0.44
5:72:383:C:H2'	5:72:385:C:H41	1.82	0.44
5:72:918:A:H5''	6:82:97:C:O2'	2.17	0.44
7:A1:725:G:H2'	7:A1:726:C:C6	2.52	0.44
7:A1:992:U:H1'	7:A1:1044:A:H62	1.83	0.44
7:A1:1319:A:N6	7:A1:1360:A:N1	2.66	0.44
7:A2:187:G:N2	7:A2:189:A:H3'	2.33	0.44
7:A2:1140:C:O2'	7:A2:1141:C:H6	2.00	0.44
7:A2:1271:A:H2'	7:A2:1272:G:H8	1.81	0.44
8:B:162:PHE:CD1	8:B:184:PHE:HB2	2.53	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C1:184:TYR:HB2	9:C1:201:TRP:CD1	2.52	0.44
9:C1:188:GLU:OE1	9:C1:188:GLU:N	2.50	0.44
16:J1:32:THR:O	16:J1:32:THR:HG22	2.18	0.44
16:J2:15:HIS:HB3	16:J2:70:HIS:CD2	2.53	0.44
17:K2:97:ILE:HG22	27:U2:12:PHE:CZ	2.52	0.44
20:N1:49:GLN:NE2	25:S1:11:ILE:O	2.47	0.44
23:Q1:61:ILE:HG22	23:Q1:73:TRP:HE3	1.82	0.44
29:W:62:U:H2'	29:W:63:C:C6	2.51	0.44
4:62:13:ARG:HD2	41:o2:63:LYS:CG	2.47	0.44
5:72:45:G:N7	5:72:215:G:O2'	2.49	0.44
5:72:981:A:OP2	5:72:982:C:N4	2.47	0.44
5:72:1288:G:OP2	5:72:1288:G:N2	2.30	0.44
5:72:1864:U:OP1	5:72:2410:G:O2'	2.24	0.44
7:A1:688:G:H2'	7:A1:689:C:O4'	2.17	0.44
7:A1:1388:C:H2'	7:A1:1389:C:H6	1.82	0.44
7:A2:434:U:H2'	7:A2:435:A:C8	2.52	0.44
7:A2:658:C:H1'	21:O2:22:THR:HG21	2.00	0.44
7:A2:1319:A:H5''	25:S2:70:LYS:HZ1	1.81	0.44
8:B2:20:THR:HG23	8:B2:21:ARG:N	2.32	0.44
13:G2:79:ARG:HB2	13:G2:154:TYR:CZ	2.53	0.44
13:G2:92:ARG:NH1	13:G2:95:ARG:HB2	2.33	0.44
13:G2:97:ASN:O	13:G2:101:MET:HG3	2.18	0.44
13:G2:107:ALA:HB3	13:G2:123:GLU:OE2	2.18	0.44
17:K1:113:VAL:HG12	17:K1:113:VAL:O	2.17	0.44
22:P1:51:ARG:O	22:P1:52:LEU:HD23	2.17	0.44
27:U1:40:LYS:HB3	27:U1:43:THR:HG22	1.99	0.44
1:12:32:ASN:CG	5:72:2230:G:H1'	2.43	0.44
5:72:476:G:H4'	5:72:502:A:N1	2.32	0.44
5:72:881:G:N2	5:72:895:U:O2	2.45	0.44
5:72:1028:A:N6	5:72:1125:G:H2'	2.33	0.44
5:72:1359:A:OP2	5:72:1371:G:N1	2.41	0.44
5:72:2113:U:H2'	5:72:2114:A:H8	1.81	0.44
5:72:2599:G:OP2	35:b2:235:GLY:HA2	2.17	0.44
7:A1:255:G:H2'	7:A1:256:U:C6	2.53	0.44
7:A1:517:G:N2	7:A1:530:G:OP1	2.50	0.44
7:A1:634:C:H2'	7:A1:635:A:H8	1.81	0.44
7:A1:771:G:H2'	7:A1:772:U:C6	2.52	0.44
7:A1:967:5MC:H3'	7:A1:968:A:H2'	2.00	0.44
7:A1:1015:G:H8	7:A1:1015:G:O5'	2.00	0.44
7:A1:1016:A:H3'	7:A1:1017:U:H6	1.82	0.44
7:A1:1048:G:H2'	7:A1:1050:G:C8	2.51	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1071:C:H2'	7:A1:1072:G:C8	2.52	0.44
7:A1:1493:A:O2'	28:V2:24:G:O2'	2.31	0.44
7:A2:440:C:C2	7:A2:441:A:C8	3.06	0.44
7:A2:550:G:O2'	18:L2:116:LYS:HE3	2.18	0.44
7:A2:976:G:OP2	7:A2:1358:U:O2'	2.33	0.44
7:A2:998:C:H42	7:A2:1042:A:H61	1.63	0.44
9:C2:18:TRP:HZ2	20:N2:93:ILE:O	2.00	0.44
9:C2:69:HIS:O	9:C2:70:THR:OG1	2.30	0.44
10:D1:188:ARG:O	10:D1:188:ARG:NH1	2.48	0.44
15:I1:13:LYS:HA	15:I1:110:GLN:HE22	1.82	0.44
28:V2:36:A:O2'	28:V2:37:A:O5'	2.35	0.44
29:W:37:MIA:H112	29:W:38:A:H1'	2.00	0.44
5:72:629:G:H5''	5:72:650:C:O2'	2.18	0.44
5:72:1190:G:OP1	41:o2:30:THR:OG1	2.26	0.44
5:72:2120:G:H2'	5:72:2120:G:N3	2.32	0.44
5:72:2127:G:N2	5:72:2162:G:O5'	2.51	0.44
5:72:2298:A:H61	5:72:2318:G:H1'	1.83	0.44
5:72:2659:G:N2	5:72:2662:A:OP2	2.48	0.44
7:A1:868:C:H2'	7:A1:869:G:O4'	2.18	0.44
7:A1:1023:U:H2'	7:A1:1024:G:C8	2.52	0.44
7:A1:1033:G:H8	7:A1:1033:G:O5'	2.00	0.44
7:A2:202:G:H21	7:A2:466:A:N6	2.16	0.44
7:A2:254:G:H1'	23:Q2:17:MET:HE2	1.99	0.44
7:A2:360:G:C2'	7:A2:361:G:H5'	2.48	0.44
7:A2:398:U:H2'	7:A2:399:G:C8	2.53	0.44
7:A2:432:A:H3'	7:A2:433:G:H8	1.82	0.44
7:A2:1010:U:H3	7:A2:1019:A:N6	2.08	0.44
7:A2:1305:G:H1'	7:A2:1332:A:N6	2.32	0.44
8:B2:60:ILE:O	8:B2:63:ARG:HG2	2.17	0.44
8:B2:66:LYS:HB3	8:B2:90:PHE:HE2	1.82	0.44
9:C1:77:ILE:HD11	9:C1:103:ILE:HG13	1.99	0.44
11:E1:115:LEU:HD13	11:E1:123:VAL:HG11	2.00	0.44
27:U2:38:TYR:CG	27:U2:39:GLU:N	2.86	0.44
30:W1:34:G:N3	30:W1:34:G:H2'	2.32	0.44
5:72:704:G:O2'	5:72:725:G:O6	2.36	0.44
5:72:819:A:OP2	5:72:1187:G:N2	2.35	0.44
5:72:1636:U:H2'	5:72:1637:A:C8	2.53	0.44
5:72:1837:C:H2'	5:72:1899:A:H61	1.83	0.44
5:72:2087:G:H2'	5:72:2088:A:C8	2.52	0.44
7:A1:1124:G:H1'	7:A1:1125:U:H5	1.83	0.44
7:A2:120:A:H1'	7:A2:122:G:C8	2.53	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:342:C:H2'	7:A2:343:U:C6	2.52	0.44
7:A2:421:U:O2'	7:A2:422:C:H5'	2.18	0.44
7:A2:434:U:H2'	7:A2:435:A:H8	1.83	0.44
7:A2:502:A:N6	7:A2:543:U:H3	2.14	0.44
7:A2:643:C:OP1	14:H2:31:LYS:NZ	2.42	0.44
7:A2:1025:U:O5'	7:A2:1025:U:H6	2.01	0.44
7:A2:1219:A:H2'	7:A2:1220:G:H8	1.83	0.44
8:B2:187:VAL:HG23	8:B2:191:SER:HB2	2.00	0.44
16:J1:64:GLN:CB	20:N1:99:ALA:HB3	2.47	0.44
19:M2:42:ASP:OD1	19:M2:42:ASP:N	2.49	0.44
35:b2:135:ILE:O	35:b2:167:ARG:NH2	2.42	0.44
5:72:223:A:N1	5:72:407:G:O2'	2.47	0.44
5:72:764:A:H2	35:b2:218:PRO:HG3	1.83	0.44
5:72:832:U:H2'	5:72:833:A:C8	2.53	0.44
5:72:1020:A:H1'	5:72:1021:A:OP2	2.18	0.44
5:72:2834:G:H2'	5:72:2879:A:N6	2.33	0.44
7:A1:297:G:N2	7:A1:300:A:OP2	2.47	0.44
7:A1:686:U:H3	7:A1:703:G:H1'	1.82	0.44
7:A1:721:G:H4'	7:A1:722:G:O5'	2.18	0.44
7:A1:946:A:O2'	7:A1:1333:A:N3	2.43	0.44
7:A1:952:U:H5'	7:A1:972:C:N4	2.32	0.44
7:A2:88:U:H2'	7:A2:89:U:C6	2.53	0.44
7:A2:300:A:C6	7:A2:301:G:H1'	2.53	0.44
7:A2:461:A:H2'	7:A2:462:G:C8	2.53	0.44
7:A2:977:A:O2'	7:A2:979:C:OP2	2.30	0.44
7:A2:1105:A:H2'	7:A2:1106:G:C8	2.52	0.44
7:A2:1105:A:H2'	7:A2:1106:G:H8	1.81	0.44
7:A2:1312:G:H2'	7:A2:1313:U:C6	2.52	0.44
8:B:68:LEU:HD12	8:B:69:PHE:H	1.83	0.44
9:C2:63:SER:OG	9:C2:99:ALA:HA	2.18	0.44
10:D2:95:GLU:O	10:D2:100:ASN:ND2	2.51	0.44
13:G2:80:VAL:HG23	13:G2:84:THR:HA	2.00	0.44
21:O1:29:VAL:HG11	21:O1:81:LEU:HD21	1.99	0.44
22:P1:78:VAL:HG13	22:P1:79:ASN:N	2.33	0.44
24:R1:39:ILE:H	24:R1:39:ILE:HD12	1.82	0.44
24:R2:72:ASP:OD1	24:R2:72:ASP:N	2.49	0.44
39:i2:26:ALA:HB2	39:i2:30:LEU:HD12	1.99	0.44
39:i2:65:ALA:HB1	39:i2:138:VAL:HG21	1.99	0.44
5:72:872:U:H2'	5:72:873:C:C6	2.53	0.44
5:72:1231:U:H2'	5:72:1232:G:H8	1.82	0.44
5:72:1586:A:H2'	5:72:1587:G:O4'	2.18	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:2137:U:H2'	5:72:2138:G:H8	1.83	0.44
5:72:2204:G:O2'	35:b2:148:PRO:O	2.34	0.44
7:A1:188:C:H3'	7:A1:189:A:H8	1.83	0.44
7:A1:211:G:N7	7:A1:212:G:H1'	2.33	0.44
7:A1:652:U:O4	7:A1:752:G:O2'	2.25	0.44
7:A1:1122:U:H2'	7:A1:1123:U:C6	2.53	0.44
7:A1:1295:U:O2'	7:A1:1302:C:N4	2.43	0.44
7:A1:1326:U:H2'	7:A1:1327:C:C6	2.53	0.44
7:A1:1382:C:H2'	7:A1:1383:C:H6	1.82	0.44
7:A2:537:G:O2'	7:A2:538:G:OP1	2.30	0.44
7:A2:1027:C:H2'	7:A2:1028:C:C6	2.53	0.44
7:A2:1078:U:O3'	11:E2:138:ARG:NH2	2.50	0.44
7:A2:1314:C:N4	25:S2:2:PRO:O	2.51	0.44
8:B:166:ALA:HB2	8:B:185:ALA:HB1	1.99	0.44
10:D2:99:ASP:OD1	10:D2:100:ASN:N	2.49	0.44
21:O1:71:LYS:HE2	21:O1:78:TYR:CE2	2.53	0.44
28:V2:48:C:H3'	28:V2:49:G:H8	1.82	0.44
31:Y:45:G:H3'	31:Y:46:G7M:H5''	2.00	0.44
36:e2:38:MET:HE1	36:e2:53:ALA:O	2.18	0.44
37:g2:11:LEU:HD23	37:g2:51:GLU:HA	2.00	0.44
38:h2:29:GLY:HA2	38:h2:106:ASP:OD2	2.16	0.44
5:72:192:C:O2'	5:72:802:A:N3	2.47	0.43
5:72:1084:A:N3	5:72:1105:U:O2'	2.44	0.43
5:72:1182:G:H2'	5:72:1183:U:O4'	2.18	0.43
5:72:2144:G:H8	5:72:2144:G:O5'	2.00	0.43
5:72:2303:G:H4'	36:e2:121:SER:HA	1.99	0.43
7:A1:123:U:H5''	7:A1:311:C:O2'	2.18	0.43
7:A1:125:U:H2'	7:A1:126:G:C8	2.53	0.43
7:A1:223:A:H2'	7:A1:224:U:C6	2.53	0.43
7:A1:310:G:H2'	7:A1:311:C:C6	2.53	0.43
7:A1:489:C:H2'	7:A1:490:C:C6	2.53	0.43
7:A1:554:A:H2'	7:A1:555:U:C6	2.53	0.43
7:A1:745:G:H1'	7:A1:836:G:O2'	2.18	0.43
7:A1:821:G:H2'	7:A1:822:U:C6	2.53	0.43
7:A1:957:U:H3	7:A1:960:U:P	2.41	0.43
7:A1:1116:U:H2'	7:A1:1117:A:C8	2.53	0.43
7:A2:130:A:H1'	7:A2:263:A:O2'	2.18	0.43
7:A2:758:C:H4'	7:A2:880:C:H4'	2.00	0.43
7:A2:867:G:O2'	7:A2:873:A:N1	2.37	0.43
7:A2:1060:U:H3	7:A2:1197:A:H61	1.65	0.43
7:A2:1166:G:H1'	7:A2:1170:A:N6	2.33	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E2:99:ALA:HB2	11:E2:124:LEU:HG	1.99	0.43
18:L1:54:ARG:HH11	18:L1:64:THR:HB	1.83	0.43
21:O1:64:ARG:HD2	21:O1:67:LEU:HD21	1.99	0.43
21:O2:64:ARG:HD2	21:O2:67:LEU:HD21	2.00	0.43
35:b2:91:ILE:HD12	35:b2:103:TYR:CD1	2.53	0.43
5:72:414:C:H2'	5:72:415:A:C8	2.53	0.43
5:72:805:G:N2	5:72:829:A:OP1	2.51	0.43
5:72:1040:A:H61	5:72:1115:G:H1	1.66	0.43
5:72:1190:G:H2'	5:72:1191:G:H8	1.82	0.43
5:72:1469:A:H2'	5:72:1470:A:C8	2.54	0.43
5:72:2819:G:H2'	5:72:2821:A:N7	2.34	0.43
7:A1:216:U:H1'	7:A1:466:A:N6	2.33	0.43
7:A1:735:C:H2'	7:A1:736:C:C6	2.51	0.43
7:A1:1041:G:H2'	7:A1:1042:A:H8	1.83	0.43
7:A1:1418:A:H3'	7:A1:1419:G:C5'	2.48	0.43
7:A1:1478:U:H2'	7:A1:1479:C:H6	1.81	0.43
7:A2:214:C:H2'	7:A2:215:C:H6	1.82	0.43
7:A2:309:A:H2'	7:A2:310:G:C8	2.53	0.43
7:A2:337:G:H2'	7:A2:338:A:C8	2.53	0.43
7:A2:382:A:H2'	7:A2:383:A:H8	1.82	0.43
8:B:210:VAL:HA	8:B:213:TYR:CD2	2.52	0.43
13:G1:31:MET:SD	13:G1:36:LYS:HG2	2.57	0.43
17:K1:71:ALA:O	17:K1:74:VAL:HG13	2.18	0.43
17:K2:73:ALA:HA	17:K2:76:GLU:HB2	2.01	0.43
26:T1:82:GLN:O	26:T1:85:LYS:HG3	2.18	0.43
39:i2:8:LYS:HG3	39:i2:13:GLY:O	2.18	0.43
5:72:642:U:O2'	5:72:644:A:N7	2.49	0.43
5:72:748:G:O2'	5:72:750:A:N7	2.48	0.43
5:72:2262:U:OP1	5:72:2387:U:O2'	2.34	0.43
7:A1:32:A:H2'	7:A1:33:A:C8	2.54	0.43
7:A1:33:A:H2'	7:A1:34:C:H6	1.83	0.43
7:A1:577:G:H2'	7:A1:578:C:C6	2.53	0.43
7:A1:722:G:H2'	7:A1:724:G:C8	2.53	0.43
7:A1:1323:G:H2'	7:A1:1324:A:H8	1.80	0.43
7:A1:1345:U:O2'	7:A1:1377:A:N6	2.38	0.43
7:A1:1419:G:H2'	7:A1:1420:U:C6	2.54	0.43
7:A1:1423:G:H2'	7:A1:1424:U:C6	2.52	0.43
7:A2:31:G:C8	7:A2:306:A:H1'	2.53	0.43
7:A2:62:U:H2'	7:A2:63:C:C6	2.53	0.43
7:A2:106:C:H2'	7:A2:107:G:C8	2.53	0.43
7:A2:824:G:H2'	7:A2:825:A:H8	1.83	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:1005:A:H2'	7:A2:1006:G:O4'	2.19	0.43
10:D2:87:GLY:HA3	10:D2:197:GLU:OE1	2.18	0.43
12:F1:4:TYR:CD2	12:F1:71:ILE:HG13	2.52	0.43
17:K1:20:VAL:HG23	17:K1:83:GLU:HB2	1.99	0.43
18:L1:63:VAL:HG21	18:L1:95:TYR:HE2	1.83	0.43
21:O2:21:ASP:OD1	21:O2:24:SER:HB3	2.17	0.43
30:W1:23:A:H2'	30:W1:24:G:C8	2.54	0.43
4:62:13:ARG:HD2	41:o2:63:LYS:HG2	2.00	0.43
5:71:1914:C:N4	7:A1:1409:C:O3'	2.50	0.43
5:72:885:C:H2'	5:72:891:G:H1	1.83	0.43
5:72:1130:U:HO2'	5:72:1131:G:P	2.41	0.43
5:72:1935:G:N2	5:72:1964:G:H5'	2.33	0.43
5:72:2251:OMG:HM23	5:72:2251:OMG:H1'	1.68	0.43
7:A1:484:G:C5	7:A1:486:U:H1'	2.54	0.43
7:A1:652:U:H1'	7:A1:653:U:H6	1.84	0.43
7:A1:1059:C:OP2	9:C1:199:LYS:NZ	2.50	0.43
7:A1:1175:G:H2'	7:A1:1176:A:H8	1.83	0.43
7:A2:15:G:O4'	7:A2:1396:A:O2'	2.37	0.43
7:A2:201:G:H2'	7:A2:202:G:C8	2.54	0.43
7:A2:459:A:C6	7:A2:474:G:H1'	2.52	0.43
7:A2:911:U:H2'	7:A2:912:C:C6	2.53	0.43
17:K1:20:VAL:HG13	17:K1:35:THR:HG23	1.99	0.43
17:K2:74:VAL:HG23	17:K2:75:LYS:N	2.32	0.43
32:Y1:10:G:H2'	32:Y1:10:G:N3	2.33	0.43
36:e2:49:LEU:HD23	36:e2:52:ASN:HD21	1.83	0.43
5:72:1344:U:O2	5:72:1385:A:H5'	2.18	0.43
5:72:1827:U:O2'	5:72:1970:A:N3	2.46	0.43
5:72:1905:C:H2'	5:72:1930:G:C8	2.54	0.43
5:72:2605:PSU:H2'	5:72:2606:C:C6	2.54	0.43
6:82:13:G:N7	6:82:70:C:H4'	2.33	0.43
7:A1:127:G:P	7:A1:604:G:H21	2.41	0.43
7:A1:214:C:H2'	7:A1:215:C:C6	2.53	0.43
7:A1:409:U:H2'	7:A1:410:G:O4'	2.18	0.43
7:A1:957:U:H1'	7:A1:960:U:C4	2.53	0.43
7:A1:1086:U:H2'	7:A1:1087:G:H8	1.82	0.43
7:A1:1251:A:H2'	7:A1:1252:A:O4'	2.18	0.43
7:A1:1302:C:OP2	19:M1:13:LYS:NZ	2.44	0.43
7:A1:1497:G:H2'	7:A1:1498:UR3:H6	2.00	0.43
7:A1:1525:G:H2'	7:A1:1526:G:H8	1.83	0.43
7:A1:1527:U:H2'	7:A1:1528:U:C6	2.53	0.43
7:A2:218:U:H2'	7:A2:219:U:H6	1.83	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:520:A:N1	7:A2:536:C:H1'	2.33	0.43
7:A2:719:C:OP2	7:A2:720:C:N4	2.47	0.43
7:A2:908:A:H2'	7:A2:909:A:C8	2.54	0.43
7:A2:1326:U:H2'	7:A2:1327:C:H6	1.82	0.43
7:A2:1376:U:H2'	7:A2:1377:A:H8	1.83	0.43
11:E2:31:PHE:H	28:V2:60:A:H62	1.66	0.43
12:F1:9:MET:HE2	12:F1:86:ARG:HB3	2.00	0.43
12:F2:48:ALA:HB1	24:R2:69:PRO:HB3	2.00	0.43
13:G2:51:ALA:HA	13:G2:55:GLY:HA3	2.01	0.43
13:G2:87:VAL:HG21	13:G2:154:TYR:HB2	2.01	0.43
16:J2:59:LYS:HZ2	16:J2:62:ARG:NH2	2.16	0.43
17:K1:64:GLN:HG3	17:K1:99:ALA:HB2	2.01	0.43
19:M1:107:ARG:NH1	19:M1:113:ARG:HD2	2.32	0.43
20:N1:12:LYS:HE3	20:N1:13:ARG:HH12	1.84	0.43
23:Q1:7:THR:HG22	23:Q1:62:ARG:HB3	1.99	0.43
5:72:1:G:H2'	5:72:2:G:C8	2.54	0.43
5:72:715:A:C5	21:O2:53:ARG:NH1	2.87	0.43
5:72:811:U:H2'	41:o2:21:ARG:HA	2.00	0.43
5:72:2590:A:H2'	5:72:2591:C:C6	2.54	0.43
6:82:9:G:P	43:r2:25:ARG:HH22	2.41	0.43
7:A1:103:U:H5'	7:A1:151:A:O2'	2.18	0.43
7:A1:195:A:OP1	26:T1:60:ARG:NE	2.51	0.43
7:A1:303:A:C2'	7:A1:304:U:H5'	2.49	0.43
7:A1:323:U:H2'	7:A1:324:G:O4'	2.18	0.43
7:A1:371:A:H5''	39:i2:97:ARG:CZ	2.49	0.43
7:A1:520:A:H61	7:A1:529:G:H1'	1.84	0.43
7:A1:802:A:H3'	7:A1:803:G:H8	1.83	0.43
7:A1:1512:U:H2'	7:A1:1513:A:H8	1.83	0.43
7:A1:1515:G:H1	7:A1:1520:C:H42	1.67	0.43
7:A2:58:C:H2'	7:A2:59:A:H8	1.84	0.43
7:A2:634:C:H2'	7:A2:635:A:C8	2.53	0.43
7:A2:728:A:H2'	7:A2:729:A:C8	2.54	0.43
7:A2:1011:C:H2'	7:A2:1012:A:H8	1.80	0.43
7:A2:1451:U:OP2	7:A2:1452:C:N4	2.38	0.43
8:B:71:GLY:H	8:B:92:VAL:HB	1.84	0.43
8:B:123:ASP:HA	8:B:126:PHE:CE2	2.54	0.43
8:B:183:VAL:HG12	8:B:184:PHE:N	2.33	0.43
9:C2:136:ARG:HA	9:C2:136:ARG:HD3	1.76	0.43
10:D1:34:ILE:HG22	10:D1:35:GLU:N	2.33	0.43
10:D2:183:LYS:HG2	10:D2:184:ARG:HG2	2.00	0.43
13:G1:92:ARG:O	13:G1:96:ARG:HG3	2.19	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:H1:25:VAL:HG13	14:H1:63:LEU:HD11	1.99	0.43
27:U1:39:GLU:HG3	27:U1:44:GLU:HB2	2.01	0.43
34:a2:26:ALA:HA	34:a2:222:VAL:HG11	2.00	0.43
34:a2:64:VAL:HA	34:a2:160:GLN:HA	2.00	0.43
34:a2:196:LEU:HB3	34:a2:208:TYR:HE2	1.84	0.43
43:r2:5:SER:O	43:r2:8:ILE:HG22	2.18	0.43
44:z2:21:LEU:HD21	44:z2:41:ARG:HG2	2.01	0.43
5:72:161:A:OP2	5:72:162:U:O2'	2.36	0.43
5:72:219:A:N3	5:72:234:U:O2'	2.41	0.43
5:72:864:G:H21	5:72:866:A:H62	1.66	0.43
5:72:1265:A:H4'	5:72:1266:G:H4'	2.00	0.43
5:72:1432:G:H2'	5:72:1433:A:C8	2.53	0.43
5:72:1869:G:H2'	5:72:1871:A:N7	2.34	0.43
5:72:2039:U:H2'	5:72:2040:G:H8	1.83	0.43
5:72:2271:G:OP1	44:z2:18:ALA:HB1	2.19	0.43
7:A1:52:C:H42	7:A1:359:G:H1	1.67	0.43
7:A1:108:G:P	7:A1:326:G:H22	2.41	0.43
7:A1:692:U:H1'	7:A1:695:A:N7	2.32	0.43
7:A1:709:U:H2'	7:A1:710:G:H8	1.83	0.43
7:A1:1015:G:H2'	7:A1:1016:A:H8	1.83	0.43
7:A1:1044:A:C4	7:A1:1045:C:H1'	2.53	0.43
7:A2:209:U:H3'	7:A2:210:C:H6	1.84	0.43
7:A2:708:C:O4'	17:K2:39:GLY:HA3	2.19	0.43
7:A2:966:2MG:H2'	7:A2:967:5MC:C6	2.54	0.43
9:C2:58:GLU:HG3	9:C2:60:PRO:HD3	2.01	0.43
9:C2:129:MET:HB2	9:C2:132:ARG:HG3	2.01	0.43
11:E2:156:LYS:HZ1	14:H2:71:VAL:C	2.19	0.43
16:J2:19:ASP:HA	16:J2:22:THR:HG22	2.00	0.43
17:K2:20:VAL:HG23	17:K2:83:GLU:HB2	2.00	0.43
23:Q1:16:LYS:O	23:Q1:16:LYS:HD3	2.18	0.43
32:Y1:10:G:N2	32:Y1:26:A:H1'	2.34	0.43
5:72:215:G:H4'	5:72:216:A:H4'	2.00	0.43
5:72:704:G:H1'	5:72:726:G:N2	2.33	0.43
5:72:994:C:O2'	5:72:996:A:OP1	2.27	0.43
5:72:1689:A:H2'	5:72:1690:A:C8	2.54	0.43
5:72:1783:A:O2'	5:72:2607:G:O2'	2.29	0.43
5:72:2834:G:H2'	5:72:2879:A:H61	1.83	0.43
7:A1:72:A:H2'	7:A1:73:C:H6	1.83	0.43
7:A1:285:C:H2'	7:A1:286:C:C6	2.53	0.43
7:A1:407:U:H2'	7:A1:408:A:H8	1.83	0.43
7:A1:558:G:C8	7:A1:559:A:H2'	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:772:U:H2'	7:A1:773:G:H8	1.84	0.43
7:A1:855:U:H2'	7:A1:856:C:C6	2.53	0.43
7:A1:953:G:O6	19:M1:103:LYS:HE2	2.19	0.43
7:A1:1136:C:H5''	7:A1:1137:C:H5	1.83	0.43
7:A1:1317:C:OP2	20:N1:28:LYS:NZ	2.46	0.43
7:A2:461:A:H2'	7:A2:462:G:H8	1.84	0.43
7:A2:714:G:H2'	7:A2:715:A:C8	2.54	0.43
7:A2:843:U:OP1	7:A2:846:G:N2	2.52	0.43
7:A2:933:G:H8	7:A2:933:G:OP2	2.02	0.43
7:A2:1391:U:H2'	7:A2:1392:G:C8	2.53	0.43
14:H2:26:THR:HG22	14:H2:60:GLU:OE1	2.19	0.43
18:L1:81:LEU:HB2	18:L1:102:LEU:HD13	2.00	0.43
19:M2:37:ALA:HB2	19:M2:59:GLU:OE1	2.18	0.43
25:S1:12:ASP:HB3	25:S1:14:HIS:CE1	2.54	0.43
39:i2:94:ILE:O	39:i2:94:ILE:HG13	2.18	0.43
1:12:17:ASN:HB2	1:12:25:THR:OG1	2.19	0.43
2:32:29:ARG:HB3	5:72:1184:U:OP1	2.18	0.43
3:4:41:HIS:NE2	36:e2:114:PHE:HB3	2.32	0.43
5:72:371:A:H61	5:72:401:A:H3'	1.83	0.43
5:72:807:U:O2'	5:72:2060:A:N1	2.49	0.43
5:72:881:G:H2'	5:72:882:G:H8	1.84	0.43
5:72:2523:G:HO2'	5:72:2764:A:HO2'	1.55	0.43
5:72:2554:U:H2'	5:72:2555:U:H6	1.84	0.43
5:72:2604:PSU:H2'	5:72:2605:PSU:C6	2.52	0.43
7:A1:642:A:C5	14:H1:107:SER:HA	2.54	0.43
7:A1:888:G:H1'	7:A1:909:A:H61	1.84	0.43
7:A1:984:C:H2'	7:A1:985:C:H6	1.82	0.43
7:A1:1146:A:H3'	7:A1:1147:C:H6	1.84	0.43
7:A2:108:G:P	7:A2:326:G:H22	2.42	0.43
7:A2:517:G:H22	7:A2:533:A:P	2.41	0.43
7:A2:522:C:H41	18:L2:50:ARG:NH2	2.17	0.43
7:A2:1032:G:H3'	7:A2:1032:G:N3	2.33	0.43
7:A2:1224:U:O2'	7:A2:1322:C:OP1	2.27	0.43
8:B:69:PHE:O	8:B:92:VAL:HG23	2.19	0.43
9:C2:207:ILE:HG22	9:C2:208:LEU:N	2.33	0.43
11:E2:77:ASN:HB2	11:E2:82:GLN:HG2	2.01	0.43
18:L1:86:ARG:HA	18:L1:94:ARG:HA	2.01	0.43
20:N2:20:TYR:HB3	20:N2:51:LEU:HD23	2.00	0.43
29:W:3:G:H2'	29:W:4:G:C8	2.54	0.43
39:i2:3:VAL:HA	39:i2:39:ALA:N	2.34	0.43
5:72:1055:G:O2'	5:72:1085:A:N1	2.46	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:1710:G:H4'	5:72:2858:C:O2	2.19	0.43
5:72:1720:U:H2'	5:72:1721:G:O4'	2.19	0.43
5:72:2194:U:O2'	5:72:2195:U:H5'	2.18	0.43
7:A1:107:G:O6	26:T1:10:ARG:NE	2.38	0.43
7:A1:186:C:H2'	7:A1:187:G:O4'	2.19	0.43
7:A1:1141:C:O2'	7:A1:1142:G:H8	2.01	0.43
7:A1:1260:G:O2'	7:A1:1283:U:H4'	2.19	0.43
7:A1:1309:G:H2'	7:A1:1310:G:O4'	2.18	0.43
7:A2:235:C:H2'	7:A2:236:A:H8	1.84	0.43
7:A2:1004:A:H2'	7:A2:1005:A:O4'	2.19	0.43
7:A2:1012:A:H2'	7:A2:1013:G:C8	2.54	0.43
7:A2:1064:G:H22	7:A2:1191:A:P	2.42	0.43
7:A2:1095:U:OP1	7:A2:1108:G:N2	2.47	0.43
7:A2:1347:G:H1'	7:A2:1348:U:H5	1.83	0.43
7:A2:1356:G:H2'	7:A2:1357:A:H8	1.80	0.43
7:A2:1456:A:H2'	7:A2:1457:G:O4'	2.19	0.43
8:B:24:ASN:ND2	8:B:191:SER:O	2.51	0.43
8:B2:72:THR:HG22	8:B2:94:HIS:O	2.19	0.43
8:B2:131:LYS:C	8:B2:133:GLU:H	2.27	0.43
10:D1:107:PHE:HD1	10:D1:159:LEU:HD21	1.84	0.43
21:O2:39:LEU:HB3	21:O2:43:PHE:HD2	1.83	0.43
24:R1:57:ARG:HB3	24:R1:61:ARG:NH1	2.34	0.43
29:W:69:C:H2'	29:W:70:C:C6	2.54	0.43
30:W1:25:C:H2'	30:W1:26:A:O4'	2.19	0.43
36:e2:7:TYR:CE1	36:e2:11:GLU:HG3	2.54	0.43
5:72:351:C:H2'	5:72:352:A:C8	2.54	0.42
5:72:607:U:O4	5:72:620:G:H5''	2.19	0.42
5:72:1429:G:H2'	5:72:1430:G:H8	1.84	0.42
5:72:2109:U:H2'	5:72:2110:G:C8	2.54	0.42
5:72:2316:G:H4'	36:e2:125:ARG:HG3	2.01	0.42
7:A1:502:A:H2'	7:A1:503:C:O4'	2.19	0.42
7:A1:1013:G:H21	7:A1:1015:G:H3'	1.82	0.42
7:A1:1201:A:H4'	7:A1:1202:U:O5'	2.18	0.42
7:A1:1237:C:H3'	7:A1:1238:A:H5'	2.00	0.42
7:A1:1539:C:H42	28:V2:10:G:H1	1.67	0.42
7:A2:201:G:H1	7:A2:216:U:H3	1.66	0.42
7:A2:448:A:H3'	7:A2:449:G:C8	2.52	0.42
7:A2:502:A:OP1	18:L2:114:ARG:N	2.52	0.42
7:A2:555:U:H2'	7:A2:556:C:C6	2.54	0.42
7:A2:652:U:O4	7:A2:752:G:O2'	2.30	0.42
7:A2:773:G:H5''	35:b2:202:LEU:HD22	2.00	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:1114:C:H2'	7:A2:1115:U:C6	2.54	0.42
7:A2:1450:U:H2'	7:A2:1452:C:C5	2.54	0.42
8:B:52:GLU:O	8:B:56:GLU:HG2	2.19	0.42
8:B2:165:ASP:OD1	8:B2:166:ALA:N	2.51	0.42
10:D1:150:LYS:HE2	10:D1:178:MET:HB2	2.01	0.42
12:F1:49:TYR:HB3	24:R1:74:HIS:CE1	2.54	0.42
17:K1:74:VAL:HG23	17:K1:75:LYS:N	2.32	0.42
32:Y1:43:G:H3'	32:Y1:44:G:H8	1.84	0.42
5:72:166:U:H2'	5:72:167:A:C8	2.54	0.42
5:72:980:A:N3	5:72:2037:A:O2'	2.43	0.42
5:72:1497:U:H5''	5:72:1498:C:H5	1.84	0.42
5:72:2328:A:H2'	5:72:2329:U:C6	2.53	0.42
6:82:40:U:H5'	6:82:46:A:C2	2.54	0.42
7:A1:295:C:H2'	7:A1:296:U:C6	2.54	0.42
7:A1:471:U:H2'	7:A1:472:U:C6	2.54	0.42
7:A1:636:U:H2'	7:A1:637:C:C6	2.54	0.42
7:A1:682:G:H2'	7:A1:683:G:H8	1.82	0.42
7:A1:828:U:H2'	7:A1:829:G:O4'	2.19	0.42
7:A1:1003:G:H2'	7:A1:1003:G:N3	2.33	0.42
7:A1:1113:C:H2'	7:A1:1114:C:C6	2.54	0.42
7:A1:1119:C:H2'	7:A1:1120:C:C6	2.54	0.42
7:A1:1148:U:H2'	7:A1:1149:C:O4'	2.19	0.42
7:A2:84:U:H4'	7:A2:85:U:H3'	2.01	0.42
7:A2:404:G:O2'	7:A2:498:A:N1	2.41	0.42
7:A2:454:G:H2'	7:A2:455:G:C8	2.54	0.42
7:A2:745:G:OP1	7:A2:851:G:O2'	2.30	0.42
7:A2:748:G:H2'	7:A2:749:A:H8	1.84	0.42
7:A2:936:C:H41	13:G2:2:PRO:HD2	1.81	0.42
7:A2:1128:C:C2'	7:A2:1129:C:H5'	2.50	0.42
7:A2:1157:A:H4'	7:A2:1158:C:O5'	2.19	0.42
9:C1:182:ILE:HG22	9:C1:203:PHE:HA	2.01	0.42
10:D1:168:PRO:HB3	10:D1:170:TRP:CH2	2.54	0.42
10:D2:40:GLN:H	10:D2:40:GLN:CD	2.27	0.42
14:H1:41:LYS:HE2	14:H1:47:GLU:O	2.19	0.42
15:I1:79:ILE:O	15:I1:83:ILE:HG13	2.19	0.42
16:J2:56:HIS:ND1	16:J2:57:VAL:HG13	2.34	0.42
21:O2:3:LEU:HB2	21:O2:35:GLN:OE1	2.19	0.42
22:P1:6:LEU:HB2	22:P1:17:TYR:HB3	2.01	0.42
22:P1:8:ARG:HG3	22:P1:17:TYR:CE1	2.55	0.42
22:P1:68:SER:HB3	22:P1:71:VAL:HG22	2.00	0.42
3:4:56:ARG:NE	25:S2:65:GLU:O	2.50	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:434:U:HO2'	5:72:436:C:H41	1.66	0.42
5:72:727:A:OP2	46:72:3001:PUT:N1	2.53	0.42
5:72:1165:A:H2'	5:72:1166:G:H8	1.84	0.42
5:72:1214:A:H62	5:72:1235:G:N2	2.17	0.42
5:72:1318:U:H2'	5:72:1319:C:C6	2.54	0.42
5:72:1487:U:H2'	5:72:1488:C:C6	2.55	0.42
5:72:2106:U:H2'	5:72:2107:G:C8	2.54	0.42
5:72:2329:U:H2'	5:72:2330:G:C8	2.54	0.42
5:72:2591:C:H2'	5:72:2592:G:C8	2.53	0.42
7:A1:109:A:H2'	7:A1:326:G:N2	2.35	0.42
7:A1:132:C:H5''	26:T1:68:HIS:CE1	2.54	0.42
7:A1:182:A:O2'	7:A1:183:C:H5''	2.19	0.42
7:A1:188:C:H3'	7:A1:189:A:C8	2.54	0.42
7:A1:256:U:H2'	7:A1:257:G:C8	2.55	0.42
7:A1:370:C:P	39:i2:93:SER:H	2.42	0.42
7:A1:406:G:H21	10:D1:116:GLN:NE2	2.17	0.42
7:A1:418:C:H2'	7:A1:419:C:C6	2.53	0.42
7:A1:539:A:OP2	18:L1:112:GLN:NE2	2.52	0.42
7:A1:669:G:H2'	7:A1:670:G:H8	1.82	0.42
7:A1:685:G:H2'	7:A1:686:U:C6	2.55	0.42
7:A1:758:C:H4'	7:A1:880:C:H4'	2.00	0.42
7:A1:783:C:H2'	7:A1:784:A:H8	1.84	0.42
7:A1:886:G:H2'	7:A1:887:G:O4'	2.20	0.42
7:A1:1222:G:OP2	7:A1:1322:C:N4	2.36	0.42
7:A1:1251:A:H2'	7:A1:1252:A:C8	2.54	0.42
7:A1:1317:C:H3'	7:A1:1318:A:H8	1.84	0.42
7:A2:175:C:H2'	7:A2:176:C:C6	2.54	0.42
7:A2:1063:C:H2'	7:A2:1064:G:C8	2.54	0.42
7:A2:1498:UR3:O5'	7:A2:1498:UR3:H6	2.19	0.42
9:C1:153:VAL:O	9:C1:165:THR:HA	2.19	0.42
9:C2:91:VAL:HG21	9:C2:101:ILE:HD11	2.01	0.42
12:F2:17:GLN:O	12:F2:21:MET:HG2	2.18	0.42
12:F2:69:GLU:H	12:F2:69:GLU:CD	2.27	0.42
28:V2:8:A:H2'	28:V2:8:A:N3	2.34	0.42
34:a2:29:LEU:O	34:a2:33:LEU:HG	2.20	0.42
34:a2:193:LEU:HD12	34:a2:193:LEU:HA	1.79	0.42
39:i2:25:TYR:O	39:i2:29:PHE:HB3	2.18	0.42
39:i2:40:THR:O	39:i2:43:ASN:N	2.52	0.42
43:r2:13:ARG:HG2	43:r2:17:LYS:HZ2	1.85	0.42
5:72:542:C:H2'	5:72:543:G:C8	2.54	0.42
5:72:970:U:H2'	5:72:971:G:C8	2.55	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:1076:C:H2'	5:72:1077:A:C8	2.54	0.42
5:72:1475:G:O2'	5:72:1476:U:P	2.77	0.42
5:72:1548:A:H2'	5:72:1549:A:C8	2.55	0.42
5:72:1677:A:H2'	5:72:1678:A:C8	2.55	0.42
5:72:1835:2MG:HM21	5:72:1930:G:H4'	2.02	0.42
5:72:2271:G:H5'	44:z2:20:ARG:HG3	2.02	0.42
7:A1:109:A:H5'	7:A1:110:C:C5	2.55	0.42
7:A1:275:G:H2'	7:A1:276:G:C8	2.54	0.42
7:A1:428:G:H8	7:A1:428:G:OP1	2.03	0.42
7:A1:428:G:H4'	7:A1:429:U:OP1	2.18	0.42
7:A1:455:G:H2'	7:A1:456:A:C8	2.54	0.42
7:A1:665:A:H62	7:A1:724:G:H1	1.65	0.42
7:A1:719:C:O2'	24:R1:38:LYS:HB3	2.19	0.42
7:A1:1014:A:H2'	7:A1:1015:G:C8	2.54	0.42
7:A1:1169:A:H3'	7:A1:1170:A:H8	1.84	0.42
7:A1:1264:U:H2'	7:A1:1265:C:H6	1.84	0.42
7:A1:1305:G:H4'	7:A1:1332:A:N6	2.33	0.42
7:A1:1457:G:O2'	26:T1:27:MET:HE1	2.20	0.42
7:A2:94:G:H4'	7:A2:95:C:C5'	2.49	0.42
7:A2:1125:U:O2'	7:A2:1126:U:H3'	2.18	0.42
8:B2:67:ILE:HD12	8:B2:160:ALA:HB3	2.02	0.42
14:H2:5:ASP:CG	14:H2:77:ARG:HH21	2.27	0.42
16:J1:81:GLU:H	16:J1:81:GLU:CD	2.27	0.42
19:M2:110:LYS:HE3	19:M2:110:LYS:HB3	1.86	0.42
29:W:12:U:C2	29:W:24:G:N2	2.87	0.42
43:r2:54:VAL:HG23	43:r2:54:VAL:O	2.20	0.42
2:32:10:ARG:HD3	5:72:988:A:OP1	2.20	0.42
3:41:64:PHE:CD1	25:S1:8:GLY:HA2	2.55	0.42
5:72:630:G:N2	5:72:633:A:OP2	2.36	0.42
5:72:1043:C:O2'	5:72:1048:A:O2'	2.30	0.42
5:72:1789:A:OP2	35:b2:221:ARG:NH1	2.53	0.42
5:72:2127:G:H22	5:72:2161:C:H2'	1.83	0.42
5:72:2449:H2U:H4'	5:72:2450:A:OP1	2.19	0.42
7:A1:62:U:H2'	7:A1:63:C:C6	2.54	0.42
7:A1:323:U:OP1	26:T1:25:ARG:NH1	2.52	0.42
7:A1:785:G:H2'	7:A1:786:G:C8	2.54	0.42
7:A1:878:A:H2'	7:A1:879:C:C6	2.54	0.42
7:A1:911:U:OP2	18:L1:94:ARG:NH2	2.52	0.42
7:A1:1036:A:H3'	7:A1:1037:C:H6	1.84	0.42
7:A1:1117:A:H5''	15:I1:106:ARG:NH2	2.34	0.42
7:A2:229:U:H2'	7:A2:230:G:O4'	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:254:G:H2'	7:A2:255:G:C8	2.52	0.42
7:A2:369:G:H2'	7:A2:370:C:C6	2.54	0.42
7:A2:374:A:H2'	7:A2:375:U:C6	2.54	0.42
7:A2:515:G:H3'	7:A2:516:U:H6	1.85	0.42
7:A2:598:U:H4'	14:H2:86:TYR:CD2	2.54	0.42
7:A2:945:G:N3	7:A2:945:G:H2'	2.34	0.42
10:D1:4:TYR:OH	10:D1:7:PRO:O	2.27	0.42
16:J1:21:ALA:HB1	16:J1:92:LEU:HD21	2.01	0.42
17:K2:14:LYS:H	17:K2:14:LYS:HD2	1.84	0.42
22:P1:76:LYS:C	22:P1:78:VAL:H	2.26	0.42
24:R2:39:ILE:HD11	24:R2:63:ARG:NH2	2.35	0.42
5:72:124:G:OP1	5:72:1376:C:O2'	2.27	0.42
5:72:247:G:H4'	5:72:386:G:C4	2.55	0.42
5:72:1000:A:OP2	5:72:1154:G:N1	2.36	0.42
5:72:1585:C:H2'	5:72:1586:A:O4'	2.20	0.42
5:72:1645:G:H5''	5:72:1646:C:H5'	2.01	0.42
5:72:1678:A:N3	5:72:1990:C:O2'	2.49	0.42
5:72:2103:C:H2'	5:72:2104:C:C6	2.55	0.42
6:82:88:C:O5'	6:82:88:C:H6	2.02	0.42
7:A1:8:A:N7	10:D1:206:LYS:HA	2.35	0.42
7:A1:109:A:H5'	7:A1:110:C:H5	1.84	0.42
7:A1:876:C:P	14:H1:15:ARG:HH12	2.43	0.42
7:A1:1333:A:H3'	7:A1:1334:G:C8	2.52	0.42
7:A2:221:C:H2'	7:A2:222:C:C6	2.55	0.42
7:A2:389:A:H3'	7:A2:390:U:C6	2.50	0.42
7:A2:402:G:O2'	7:A2:403:C:H5'	2.19	0.42
7:A2:537:G:HO2'	7:A2:538:G:P	2.42	0.42
7:A2:859:G:OP2	7:A2:869:G:N1	2.28	0.42
7:A2:1245:C:H2'	7:A2:1246:A:H8	1.84	0.42
7:A2:1271:A:H2'	7:A2:1272:G:C8	2.55	0.42
7:A2:1277:C:O2'	7:A2:1279:G:N3	2.40	0.42
8:B:32:PHE:HD2	8:B:40:ILE:HB	1.84	0.42
9:C2:150:LYS:HB3	9:C2:201:TRP:HB2	2.02	0.42
13:G2:150:ALA:HB1	17:K2:59:THR:HG21	2.00	0.42
17:K2:79:ILE:CG2	17:K2:82:LEU:HB3	2.50	0.42
18:L2:87:VAL:HG11	18:L2:90:LEU:HD23	2.02	0.42
20:N1:17:ALA:HA	20:N1:55:SER:HA	2.00	0.42
39:i2:110:VAL:HG13	39:i2:114:GLU:HB2	2.01	0.42
43:r2:92:PHE:HB2	43:r2:117:PHE:CD1	2.55	0.42
2:32:5:LYS:HG2	2:32:36:GLU:OE1	2.20	0.42
5:72:594:U:H2'	5:72:595:C:C6	2.55	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:1825:U:H1'	35:b2:253:LYS:HE2	2.01	0.42
5:72:2313:C:H2'	5:72:2314:A:C8	2.55	0.42
7:A1:451:A:OP2	22:P1:70:ARG:NH2	2.41	0.42
7:A1:776:G:H22	7:A1:802:A:P	2.43	0.42
7:A1:796:C:O3'	17:K1:127:ARG:NH1	2.52	0.42
7:A1:1090:U:H2'	7:A1:1091:U:C6	2.55	0.42
7:A1:1216:A:H2'	7:A1:1217:C:H6	1.85	0.42
7:A1:1380:U:H4'	13:G1:156:TRP:HH2	1.83	0.42
7:A2:337:G:H2'	7:A2:338:A:H8	1.84	0.42
7:A2:402:G:H2'	7:A2:403:C:C6	2.55	0.42
7:A2:454:G:H1'	7:A2:479:U:C4	2.54	0.42
7:A2:995:C:H2'	7:A2:996:A:H5''	2.01	0.42
11:E2:39:VAL:HG23	11:E2:71:MET:HE1	2.01	0.42
16:J2:36:VAL:HG12	16:J2:76:ILE:HG13	2.01	0.42
19:M1:2:ALA:O	19:M1:9:ILE:HG22	2.19	0.42
25:S1:28:LYS:HA	25:S1:28:LYS:HE3	2.01	0.42
29:W:1:A:H61	29:W:72:U:H3	1.66	0.42
36:e2:49:LEU:HA	36:e2:52:ASN:ND2	2.34	0.42
41:o2:49:GLY:O	41:o2:56:PRO:HB3	2.20	0.42
43:r2:30:ARG:HA	43:r2:35:ILE:HD12	2.02	0.42
43:r2:58:ILE:HG13	43:r2:58:ILE:O	2.20	0.42
5:72:489:G:H22	5:72:1320:C:H3'	1.84	0.42
5:72:573:U:N3	5:72:2031:A:OP1	2.43	0.42
5:72:1386:C:H2'	5:72:1387:A:C8	2.55	0.42
5:72:2262:U:H2'	5:72:2263:C:C6	2.55	0.42
6:82:42:C:C5	36:e2:66:LEU:HD22	2.54	0.42
6:82:58:A:H2'	6:82:59:A:O4'	2.20	0.42
7:A1:97:G:H2'	7:A1:98:A:O4'	2.20	0.42
7:A1:779:C:H2'	7:A1:780:A:C8	2.55	0.42
7:A1:1241:G:C6	7:A1:1242:G:C2	3.08	0.42
7:A2:46:G:H2'	7:A2:366:A:N7	2.35	0.42
7:A2:57:G:H2'	7:A2:58:C:O4'	2.20	0.42
7:A2:104:G:H4'	7:A2:174:A:O4'	2.19	0.42
7:A2:1019:A:H5'	7:A2:1020:G:OP2	2.19	0.42
7:A2:1300:G:N2	7:A2:1301:U:O4	2.48	0.42
7:A2:1317:C:OP1	20:N2:57:PRO:HD2	2.20	0.42
8:B:9:MET:HE3	8:B:43:LEU:HD21	2.02	0.42
8:B2:90:PHE:HD1	8:B2:151:ILE:HA	1.85	0.42
9:C1:59:ARG:HG2	9:C1:64:ILE:HG22	2.01	0.42
10:D2:105:MET:HE1	10:D2:171:LEU:HD22	2.02	0.42
13:G2:113:ASP:N	13:G2:119:ARG:HE	2.18	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:L1:80:ILE:HG22	18:L1:81:LEU:N	2.35	0.42
28:V2:36:A:HO2'	28:V2:37:A:P	2.42	0.42
5:72:833:A:H2'	5:72:834:G:H8	1.85	0.42
5:72:1539:U:H2'	5:72:1540:G:C8	2.55	0.42
5:72:1838:C:H4'	5:72:1839:G:C8	2.55	0.42
5:72:2135:A:O4'	5:72:2159:G:O2'	2.38	0.42
5:72:2627:G:O2'	5:72:2781:A:N1	2.38	0.42
6:82:29:A:O2'	6:82:58:A:N1	2.41	0.42
7:A1:751:U:H2'	7:A1:752:G:O4'	2.19	0.42
7:A1:1165:U:H2'	7:A1:1166:G:C8	2.55	0.42
7:A1:1512:U:H3	7:A1:1523:G:H1	1.67	0.42
7:A2:188:C:H2'	7:A2:189:A:O4'	2.20	0.42
7:A2:1132:C:H5'	7:A2:1133:G:OP2	2.19	0.42
8:B2:67:ILE:H	8:B2:89:GLN:NE2	2.17	0.42
8:B2:104:TRP:CZ2	8:B2:156:GLY:HA2	2.55	0.42
9:C1:130:PHE:CZ	9:C1:131:ARG:HG3	2.55	0.42
9:C1:132:ARG:HE	28:V2:34:A:N6	2.17	0.42
9:C2:117:ALA:HB1	9:C2:187:SER:HB3	2.00	0.42
12:F1:51:ILE:O	12:F1:51:ILE:HG13	2.19	0.42
15:I2:94:LEU:HA	15:I2:97:GLU:OE2	2.20	0.42
22:P1:69:ASP:OD1	22:P1:70:ARG:N	2.52	0.42
5:72:190:A:N3	5:72:679:C:O2'	2.49	0.42
5:72:600:G:H1	5:72:657:U:H3	1.66	0.42
5:72:819:A:H5'	5:72:973:A:N1	2.35	0.42
5:72:2105:U:H2'	5:72:2106:U:C6	2.54	0.42
7:A1:403:C:H2'	7:A1:404:G:H8	1.84	0.42
7:A1:781:A:H4'	7:A1:1522:U:O2'	2.19	0.42
7:A1:997:U:O2'	7:A1:998:C:H5'	2.20	0.42
7:A1:1115:U:H3	7:A1:1185:G:H1	1.68	0.42
7:A1:1417:G:C6	7:A1:1482:G:C6	3.08	0.42
7:A1:1466:C:H2'	7:A1:1467:C:O4'	2.20	0.42
7:A2:1060:U:H2'	7:A2:1061:G:C8	2.53	0.42
7:A2:1064:G:N2	7:A2:1190:G:H1'	2.35	0.42
7:A2:1106:G:H2'	7:A2:1107:C:C6	2.54	0.42
11:E2:97:GLN:N	11:E2:124:LEU:O	2.47	0.42
15:I2:63:LEU:HB3	15:I2:65:ILE:HD11	2.02	0.42
16:J2:28:THR:O	16:J2:32:THR:HG22	2.20	0.42
25:S2:16:LEU:O	25:S2:19:VAL:HG12	2.20	0.42
32:Y1:21:A:H61	32:Y1:47:U:H3'	1.85	0.42
35:b2:98:ASP:O	35:b2:98:ASP:OD1	2.37	0.42
35:b2:225:MET:SD	35:b2:230:HIS:HB2	2.60	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:910:A:N7	38:h2:12:MET:HG3	2.35	0.41
5:72:1329:U:H5''	5:72:1330:C:H5	1.85	0.41
5:72:1405:U:H2'	5:72:1406:U:C6	2.54	0.41
5:72:1779:U:H5	5:72:1784:A:N7	2.18	0.41
5:72:1871:A:O2'	5:72:1872:A:H8	2.03	0.41
5:72:2479:U:OP1	5:72:2537:U:O2'	2.31	0.41
5:72:2604:PSU:H2'	5:72:2605:PSU:H6	1.85	0.41
7:A1:142:G:H2'	7:A1:142:G:N3	2.34	0.41
7:A1:295:C:H2'	7:A1:296:U:H6	1.85	0.41
7:A1:439:U:C4	7:A1:440:C:C4	3.08	0.41
7:A1:542:G:H2'	7:A1:543:U:C6	2.55	0.41
7:A1:599:C:H2'	7:A1:600:A:C8	2.53	0.41
7:A1:728:A:H2'	7:A1:729:A:C8	2.55	0.41
7:A1:745:G:H2'	7:A1:746:A:H8	1.84	0.41
7:A1:946:A:H2'	7:A1:947:G:C8	2.55	0.41
7:A1:1263:C:H2'	7:A1:1264:U:H6	1.82	0.41
7:A1:1306:A:H2'	7:A1:1307:U:O4'	2.20	0.41
7:A2:462:G:H3'	7:A2:463:U:C6	2.55	0.41
7:A2:477:C:H2'	7:A2:478:A:O4'	2.20	0.41
7:A2:1360:A:P	20:N2:75:ARG:HH22	2.43	0.41
8:B2:64:LYS:HD3	8:B2:64:LYS:HA	1.84	0.41
10:D2:26:ARG:HD3	10:D2:31:LYS:HD2	2.02	0.41
13:G2:113:ASP:HB2	13:G2:119:ARG:HG2	2.02	0.41
15:I2:95:ARG:HD3	15:I2:95:ARG:HA	1.83	0.41
16:J2:63:ASP:OD1	20:N2:98:LYS:HG3	2.20	0.41
23:Q2:60:GLU:HG2	23:Q2:77:ARG:NH2	2.35	0.41
26:T1:54:MET:HE3	26:T1:79:LEU:HD21	2.00	0.41
30:W1:9:A:H5''	30:W1:46:G7M:H8	2.02	0.41
43:r2:62:LEU:HD12	43:r2:62:LEU:O	2.20	0.41
5:72:575:A:OP2	5:72:2055:C:N4	2.53	0.41
5:72:1443:U:H2'	5:72:1444:G:C8	2.55	0.41
5:72:1478:G:N2	5:72:1513:U:O2	2.38	0.41
5:72:1664:A:H61	5:72:1996:C:N4	2.19	0.41
5:72:2103:C:H2'	5:72:2104:C:H6	1.86	0.41
5:72:2153:C:H4'	7:A1:412:A:N6	2.35	0.41
5:72:2315:G:H2'	5:72:2316:G:C8	2.56	0.41
5:72:2391:G:O6	5:72:2425:A:H8	2.03	0.41
6:82:90:C:H2'	6:82:91:C:O4'	2.20	0.41
7:A1:102:G:H2'	7:A1:103:U:C6	2.56	0.41
7:A1:109:A:C8	7:A1:326:G:H2'	2.56	0.41
7:A1:447:G:H1'	7:A1:487:A:H61	1.85	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:824:G:H2'	7:A1:825:A:C8	2.55	0.41
7:A1:1239:A:N3	7:A1:1241:G:N1	2.68	0.41
7:A1:1458:G:H5''	26:T1:26:SER:HB3	2.01	0.41
7:A2:33:A:H2'	7:A2:34:C:C6	2.55	0.41
7:A2:1181:G:H1'	7:A2:1182:G:C5	2.56	0.41
8:B:15:HIS:HB2	8:B:40:ILE:HG23	2.01	0.41
10:D1:96:GLY:O	10:D1:137:VAL:HG22	2.20	0.41
16:J1:86:ALA:O	16:J1:89:ARG:HG2	2.19	0.41
19:M1:107:ARG:NE	19:M1:107:ARG:HA	2.36	0.41
29:W:70:C:H2'	29:W:71:C:C6	2.55	0.41
34:a2:69:THR:O	34:a2:177:LYS:HG2	2.21	0.41
37:g2:33:LYS:NZ	37:g2:51:GLU:O	2.52	0.41
39:i2:53:GLU:HG3	39:i2:54:LEU:HD22	2.03	0.41
4:62:25:LYS:O	41:o2:61:LEU:HD12	2.20	0.41
5:72:151:C:H2'	5:72:152:A:C8	2.54	0.41
5:72:713:G:P	21:O2:88:ARG:HH12	2.41	0.41
5:72:865:C:O2	5:72:867:C:N4	2.51	0.41
5:72:2143:C:H2'	5:72:2144:G:O4'	2.20	0.41
5:72:2471:A:N6	5:72:2476:A:O2'	2.52	0.41
7:A1:70:U:O2'	7:A1:72:A:N6	2.43	0.41
7:A1:267:C:H2'	7:A1:268:U:C6	2.54	0.41
7:A1:290:C:H2'	7:A1:291:U:H6	1.85	0.41
7:A1:925:G:H1'	7:A1:1502:A:C4	2.55	0.41
7:A1:932:C:H5'	13:G1:3:ARG:HG2	2.01	0.41
7:A1:982:U:N3	7:A1:1223:C:O2	2.53	0.41
7:A1:1097:C:H2'	7:A1:1098:C:C6	2.55	0.41
7:A2:32:A:H2'	7:A2:33:A:C8	2.55	0.41
7:A2:1264:U:H2'	7:A2:1265:C:C6	2.55	0.41
9:C2:75:ILE:HG23	9:C2:76:VAL:N	2.34	0.41
12:F2:15:SER:HA	12:F2:18:VAL:HG23	2.01	0.41
12:F2:78:PHE:HA	12:F2:84:VAL:HG21	2.02	0.41
15:I1:123:ARG:NH1	15:I1:124:ARG:O	2.47	0.41
26:T1:55:GLN:HB3	26:T1:56:PRO:CD	2.50	0.41
27:U1:43:THR:HA	27:U1:46:LYS:HB3	2.02	0.41
28:V2:28:C:H2'	28:V2:29:A:C8	2.54	0.41
34:a2:191:ALA:O	34:a2:194:VAL:HG22	2.20	0.41
5:72:43:G:O2'	5:72:44:A:OP1	2.34	0.41
5:72:241:A:N1	5:72:255:A:H5''	2.35	0.41
5:72:521:U:H2'	5:72:522:A:C8	2.56	0.41
5:72:967:U:H2'	5:72:968:C:C6	2.55	0.41
5:72:1859:U:H3	5:72:1883:U:H3	1.68	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:72:2093:G:H1	5:72:2196:C:H42	1.68	0.41
5:72:2836:U:H2'	5:72:2837:A:C8	2.56	0.41
7:A1:352:C:H4'	7:A1:354:G:OP1	2.21	0.41
7:A1:405:U:O4	10:D1:2:ALA:N	2.53	0.41
7:A1:488:C:H2'	7:A1:489:C:H6	1.84	0.41
7:A1:526:C:OP2	18:L1:88:LYS:NZ	2.53	0.41
7:A1:537:G:H2'	7:A1:538:G:H8	1.86	0.41
7:A1:1059:C:H4'	20:N1:85:ARG:NH2	2.28	0.41
7:A1:1305:G:O3'	7:A1:1306:A:H8	2.02	0.41
7:A1:1526:G:H2'	7:A1:1527:U:C6	2.56	0.41
7:A2:1189:U:P	20:N2:98:LYS:HE2	2.61	0.41
7:A2:1252:A:H2'	7:A2:1253:G:O4'	2.20	0.41
8:B:51:ASN:HA	8:B:54:LEU:HD12	2.03	0.41
8:B:115:LYS:HB3	8:B:115:LYS:HE2	1.88	0.41
9:C2:121:THR:HG22	9:C2:189:ALA:HB2	2.01	0.41
9:C2:149:ILE:HA	9:C2:201:TRP:O	2.19	0.41
10:D1:19:LEU:HD12	10:D1:60:LYS:HD2	2.02	0.41
11:E1:83:HIS:CE1	14:H1:96:MET:HE1	2.54	0.41
11:E2:164:ILE:HG13	11:E2:165:LEU:N	2.35	0.41
13:G2:18:PHE:CE2	13:G2:58:GLU:HB3	2.56	0.41
20:N2:62:ASN:OD1	20:N2:75:ARG:NE	2.53	0.41
20:N2:76:LYS:HA	20:N2:76:LYS:HD2	1.90	0.41
23:Q1:77:ARG:CZ	23:Q1:77:ARG:HB3	2.50	0.41
23:Q2:47:HIS:CD2	23:Q2:49:GLU:HG2	2.55	0.41
24:R1:57:ARG:HB3	24:R1:61:ARG:HH12	1.85	0.41
29:W:27:C:O2	29:W:44:G:N2	2.53	0.41
29:W:59:G:H2'	29:W:59:G:N3	2.34	0.41
36:e2:12:VAL:HG21	36:e2:173:PHE:CZ	2.56	0.41
43:r2:79:ALA:HB2	43:r2:110:ALA:HA	2.03	0.41
5:72:527:C:O2'	5:72:2779:U:O2'	2.37	0.41
5:72:1925:C:H42	5:72:1929:G:N2	2.18	0.41
5:72:2315:G:H2'	5:72:2316:G:H8	1.85	0.41
5:72:2345:G:N3	5:72:2381:A:H2'	2.36	0.41
7:A1:34:C:H2'	7:A1:35:G:H8	1.84	0.41
7:A1:40:C:H2'	7:A1:41:G:H8	1.85	0.41
7:A1:270:A:H2'	7:A1:271:C:O4'	2.21	0.41
7:A1:331:G:OP1	7:A1:332:G:H5''	2.20	0.41
7:A2:165:G:H2'	7:A2:166:U:C6	2.55	0.41
7:A2:590:U:H2'	7:A2:591:U:C6	2.56	0.41
7:A2:1301:U:O2'	7:A2:1302:C:H3'	2.20	0.41
8:B:138:THR:O	8:B:142:GLU:HG3	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B2:30:PHE:CD1	8:B2:30:PHE:N	2.88	0.41
14:H1:18:GLN:HE21	14:H1:72:VAL:HG23	1.85	0.41
14:H1:127:CYS:SG	14:H1:128:TYR:N	2.93	0.41
14:H2:77:ARG:NH1	14:H2:126:ILE:HG23	2.36	0.41
15:I1:35:LEU:HD21	15:I1:49:ARG:HH21	1.85	0.41
18:L1:123:LYS:HA	18:L1:123:LYS:HE3	2.02	0.41
23:Q2:16:LYS:O	23:Q2:16:LYS:HD3	2.20	0.41
41:o2:51:GLU:HG3	41:o2:51:GLU:O	2.20	0.41
2:32:5:LYS:NZ	2:32:36:GLU:OE1	2.51	0.41
5:72:248:G:OP2	5:72:249:C:H5''	2.21	0.41
5:72:1131:G:C8	5:72:2025:C:H4'	2.56	0.41
5:72:1327:A:H2'	5:72:1328:A:O4'	2.21	0.41
5:72:1440:U:H2'	5:72:1441:G:C8	2.55	0.41
5:72:1924:C:H2'	5:72:1925:C:H6	1.83	0.41
5:72:2171:A:H5'	5:72:2173:A:H62	1.86	0.41
5:72:2639:A:H61	5:72:2775:G:H1'	1.84	0.41
5:72:2660:A:H2'	5:72:2661:G:O4'	2.19	0.41
6:82:38:C:H2'	6:82:39:A:H5'	2.02	0.41
7:A1:84:U:H4'	7:A1:85:U:H3'	2.02	0.41
7:A1:343:U:H2'	7:A1:345:C:C5	2.55	0.41
7:A1:371:A:H1'	7:A1:482:A:H1'	2.02	0.41
7:A1:461:A:H2'	7:A1:462:G:H8	1.82	0.41
7:A1:584:G:H1	7:A1:757:U:H3	1.67	0.41
7:A1:1035:A:H3'	7:A1:1036:A:H5''	2.02	0.41
7:A1:1515:G:H2'	7:A1:1516:2MG:C8	2.56	0.41
7:A2:67:C:H2'	7:A2:68:G:C8	2.55	0.41
7:A2:140:U:H3'	7:A2:141:G:H5''	2.01	0.41
7:A2:409:U:H2'	7:A2:410:G:O4'	2.21	0.41
7:A2:447:G:O2'	7:A2:487:A:N6	2.53	0.41
7:A2:738:C:P	12:F2:2:ARG:HH21	2.43	0.41
7:A2:1098:C:OP1	8:B2:143:LYS:HD3	2.21	0.41
7:A2:1325:C:H2'	7:A2:1326:U:C6	2.56	0.41
8:B:137:ARG:O	8:B:140:GLU:HG2	2.21	0.41
11:E2:83:HIS:CG	14:H2:96:MET:HE1	2.55	0.41
12:F1:23:GLU:OE1	12:F1:23:GLU:N	2.41	0.41
12:F2:12:PRO:HG3	12:F2:56:LYS:O	2.21	0.41
15:I1:124:ARG:HG3	15:I1:125:PRO:HD2	2.03	0.41
15:I2:57:MET:SD	15:I2:60:LYS:HE2	2.60	0.41
15:I2:116:VAL:HG23	16:J2:62:ARG:HH11	1.86	0.41
16:J1:46:LYS:HG2	16:J1:68:ARG:HG2	2.02	0.41
22:P1:17:TYR:CE2	22:P1:41:PRO:HG3	2.56	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Q2:76:VAL:O	23:Q2:77:ARG:HG3	2.21	0.41
26:T1:58:VAL:HG23	26:T1:59:ASP:N	2.35	0.41
30:W1:31:A:H3'	30:W1:32:PSU:H6	1.86	0.41
37:g2:8:LYS:HA	37:g2:24:THR:HG22	2.02	0.41
1:12:57:ARG:NH2	5:72:400:G:N7	2.63	0.41
5:72:1667:G:O2'	5:72:1991:U:O4	2.34	0.41
5:72:1682:G:OP2	5:72:1699:G:N2	2.53	0.41
5:72:2636:C:H2'	5:72:2637:U:C6	2.56	0.41
7:A1:299:G:N2	7:A1:565:U:O2	2.54	0.41
7:A1:685:G:H1	7:A1:704:A:P	2.44	0.41
7:A1:1121:U:H2'	7:A1:1122:U:H6	1.86	0.41
7:A1:1351:U:H5'	13:G1:33:ASP:OD1	2.21	0.41
7:A1:1434:A:H2'	7:A1:1435:G:O4'	2.20	0.41
7:A2:178:C:H2'	7:A2:179:A:H8	1.85	0.41
7:A2:618:C:O2	7:A2:622:A:N6	2.53	0.41
7:A2:881:G:P	18:L2:9:ARG:HH22	2.44	0.41
7:A2:1053:G:H4'	7:A2:1054:C:H5''	2.02	0.41
7:A2:1170:A:H5'	8:B2:139:ARG:HH22	1.85	0.41
7:A2:1247:U:C2'	7:A2:1248:A:H5''	2.50	0.41
7:A2:1317:C:N3	25:S2:37:ARG:NH1	2.65	0.41
7:A2:1318:A:H5''	25:S2:3:ARG:NH1	2.35	0.41
8:B:16:PHE:O	8:B:203:ASN:ND2	2.54	0.41
9:C1:114:LYS:HA	9:C1:185:ASN:HD22	1.86	0.41
9:C1:152:GLU:CG	9:C1:199:LYS:HB2	2.51	0.41
9:C2:179:ARG:HD3	9:C2:208:LEU:HD13	2.02	0.41
10:D1:107:PHE:CG	10:D1:145:ILE:HD11	2.55	0.41
12:F2:2:ARG:HB3	12:F2:91:ARG:HE	1.86	0.41
19:M1:107:ARG:NE	19:M1:113:ARG:HH11	2.19	0.41
19:M2:15:ALA:O	19:M2:19:LEU:HD23	2.21	0.41
29:W:75:C:H4'	29:W:76:A:OP1	2.21	0.41
32:Y1:28:C:H42	32:Y1:42:G:H1	1.69	0.41
34:a2:142:VAL:HG23	34:a2:144:THR:HG23	2.03	0.41
36:e2:162:SER:OG	36:e2:165:GLU:OE1	2.31	0.41
7:A1:4:U:H6	7:A1:4:U:H5'	1.86	0.41
7:A1:8:A:N6	10:D1:206:LYS:HB2	2.35	0.41
7:A1:128:G:H2'	7:A1:129:A:C8	2.55	0.41
7:A1:303:A:O2'	7:A1:555:U:H4'	2.21	0.41
7:A1:362:G:N2	7:A1:365:U:OP2	2.36	0.41
7:A1:402:G:H5'	7:A1:621:A:H1'	2.03	0.41
7:A1:1244:G:H2'	7:A1:1245:C:C6	2.56	0.41
7:A1:1245:C:H2'	7:A1:1246:A:C8	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:204:G:O6	7:A2:215:C:H1'	2.21	0.41
7:A2:402:G:O5'	10:D2:71:GLN:NE2	2.54	0.41
7:A2:563:A:H61	7:A2:884:U:H3	1.68	0.41
7:A2:662:U:H2'	7:A2:663:A:C8	2.56	0.41
7:A2:722:G:H4'	24:R2:43:ARG:HH22	1.86	0.41
7:A2:1157:A:H5'	7:A2:1158:C:C6	2.56	0.41
7:A2:1173:U:H2'	7:A2:1174:G:O4'	2.21	0.41
8:B:169:GLU:O	8:B:172:ALA:N	2.52	0.41
8:B2:20:THR:HA	8:B2:39:HIS:NE2	2.36	0.41
8:B2:107:VAL:O	8:B2:111:ILE:HG13	2.21	0.41
9:C2:85:GLU:O	9:C2:89:LYS:HG3	2.21	0.41
13:G2:17:LYS:HG2	13:G2:18:PHE:H	1.85	0.41
13:G2:43:VAL:O	13:G2:47:LEU:HD23	2.21	0.41
13:G2:140:ASP:O	13:G2:144:MET:HG3	2.21	0.41
16:J1:49:PHE:CE2	20:N1:77:PHE:HE2	2.39	0.41
18:L1:112:GLN:N	18:L1:112:GLN:OE1	2.54	0.41
20:N1:76:LYS:HG3	20:N1:77:PHE:CD2	2.56	0.41
29:W:12:U:H2'	29:W:13:C:O4'	2.20	0.41
34:a2:23:ILE:HD11	34:a2:189:LEU:HD11	2.03	0.41
38:h2:84:LYS:HE2	38:h2:84:LYS:HB2	1.94	0.41
2:32:17:PRO:HD3	5:72:969:G:OP1	2.20	0.41
3:4:26:SER:HB2	36:e2:140:GLU:CD	2.46	0.41
5:72:477:A:N6	5:72:500:G:O3'	2.53	0.41
5:72:572:A:H5''	5:72:573:U:OP2	2.21	0.41
5:72:674:G:H1	5:72:806:C:H42	1.69	0.41
5:72:1300:G:O6	5:72:1626:A:O2'	2.34	0.41
5:72:1429:G:H2'	5:72:1430:G:C8	2.56	0.41
5:72:1825:U:H2'	5:72:1826:G:C8	2.56	0.41
5:72:2162:G:H3'	5:72:2163:A:H8	1.86	0.41
7:A1:70:U:H3	7:A1:98:A:H61	1.69	0.41
7:A1:130:A:H1'	7:A1:263:A:O2'	2.21	0.41
7:A1:175:C:C2'	7:A1:176:C:H5'	2.50	0.41
7:A1:254:G:C2	7:A1:255:G:C8	3.09	0.41
7:A1:337:G:H2'	7:A1:338:A:H8	1.82	0.41
7:A1:408:A:O3'	10:D1:23:SER:HB3	2.21	0.41
7:A1:810:C:H2'	7:A1:811:C:O4'	2.21	0.41
7:A1:878:A:OP1	14:H1:80:ARG:NH1	2.53	0.41
7:A1:886:G:H4'	7:A1:915:A:H1'	2.02	0.41
7:A1:929:G:H2'	7:A1:930:C:H6	1.85	0.41
7:A1:1005:A:H3'	7:A1:1006:G:C8	2.55	0.41
7:A1:1119:C:H2'	7:A1:1120:C:H6	1.86	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1176:A:H2'	7:A1:1177:G:O4'	2.21	0.41
7:A1:1178:G:H2'	7:A1:1180:A:OP2	2.21	0.41
7:A1:1204:A:H2'	7:A1:1205:U:O4'	2.21	0.41
7:A1:1288:A:H2'	7:A1:1289:A:H8	1.85	0.41
7:A1:1483:A:H8	7:A1:1483:A:O5'	2.04	0.41
7:A2:109:A:C8	7:A2:326:G:H2'	2.56	0.41
7:A2:158:G:H2'	7:A2:159:G:H8	1.86	0.41
7:A2:179:A:H2'	7:A2:180:U:O4'	2.20	0.41
7:A2:202:G:H2'	7:A2:203:G:O4'	2.20	0.41
7:A2:458:U:H2'	7:A2:474:G:N2	2.36	0.41
7:A2:517:G:N2	7:A2:533:A:OP2	2.54	0.41
7:A2:831:A:H2'	7:A2:832:G:C8	2.55	0.41
7:A2:1188:A:O3'	20:N2:98:LYS:HE2	2.21	0.41
7:A2:1230:C:N4	19:M2:104:THR:HG21	2.36	0.41
7:A2:1307:U:H2'	7:A2:1308:U:C6	2.55	0.41
7:A2:1512:U:H2'	7:A2:1513:A:C8	2.56	0.41
8:B:72:THR:HG22	8:B:73:LYS:H	1.86	0.41
8:B:102:THR:OG1	8:B:103:ASN:N	2.54	0.41
8:B2:104:TRP:CD1	8:B2:108:ARG:HH11	2.39	0.41
9:C1:207:ILE:HG22	9:C1:210:GLY:HA3	2.01	0.41
9:C2:63:SER:HA	9:C2:98:PRO:O	2.21	0.41
10:D1:48:LEU:HD23	10:D1:53:VAL:HG12	2.03	0.41
10:D2:139:PRO:HA	10:D2:182:PHE:HD2	1.85	0.41
11:E1:107:ALA:HB1	11:E1:111:MET:HE3	2.03	0.41
12:F2:68:GLN:NE2	12:F2:69:GLU:OE2	2.54	0.41
13:G1:78:ARG:NH1	13:G1:156:TRP:HB2	2.34	0.41
13:G2:78:ARG:HA	13:G2:78:ARG:HD3	1.77	0.41
14:H1:96:MET:HB3	14:H1:100:GLY:N	2.33	0.41
14:H2:94:LYS:HD3	14:H2:94:LYS:HA	1.89	0.41
17:K1:52:PHE:O	17:K1:53:ARG:HD2	2.20	0.41
19:M2:27:LYS:HG3	19:M2:31:LYS:NZ	2.35	0.41
21:O2:7:ALA:HA	21:O2:10:LYS:HD2	2.03	0.41
23:Q2:28:PHE:CE2	23:Q2:37:PHE:HB3	2.56	0.41
24:R2:64:TYR:C	24:R2:66:SER:N	2.77	0.41
27:U2:8:GLU:O	27:U2:9:ASN:C	2.62	0.41
28:V2:21:U:H2'	28:V2:22:U:C6	2.55	0.41
28:V2:52:G:H2'	28:V2:53:G:H8	1.86	0.41
29:W:43:G:H2'	29:W:44:G:H8	1.82	0.41
35:b2:205:LEU:HD13	35:b2:210:ALA:HB3	2.01	0.41
36:e2:148:ARG:NH1	36:e2:148:ARG:HB2	2.35	0.41
39:i2:85:GLY:HA3	39:i2:90:LEU:HA	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:r2:79:ALA:HB1	43:r2:115:LEU:HD23	2.03	0.41
5:72:224:U:O4	5:72:419:U:O2'	2.34	0.41
5:72:873:C:H2'	5:72:874:G:C8	2.56	0.41
5:72:1416:G:O2'	5:72:1417:C:P	2.79	0.41
5:72:1703:G:H2'	5:72:1704:C:C6	2.56	0.41
5:72:2153:C:H2'	5:72:2154:A:H8	1.86	0.41
5:72:2153:C:H4'	7:A1:412:A:H61	1.85	0.41
5:72:2339:C:H2'	5:72:2340:A:C8	2.56	0.41
5:72:2472:G:H1'	5:72:2478:A:H61	1.85	0.41
7:A1:208:U:H2'	7:A1:209:U:H5''	2.02	0.41
7:A1:236:A:H2'	7:A1:237:G:C8	2.56	0.41
7:A1:407:U:H4'	10:D1:113:GLU:HA	2.02	0.41
7:A1:668:G:H2'	7:A1:669:G:C8	2.56	0.41
7:A1:670:G:H2'	7:A1:671:G:H8	1.84	0.41
7:A1:899:C:H6	7:A1:899:C:O5'	2.04	0.41
7:A1:1230:C:H2'	7:A1:1231:G:C8	2.47	0.41
7:A1:1343:G:H2'	7:A1:1344:C:O4'	2.21	0.41
7:A1:1401:G:H2'	7:A1:1402:4OC:O4'	2.21	0.41
7:A2:67:C:H2'	7:A2:68:G:H8	1.86	0.41
7:A2:501:C:H2'	7:A2:502:A:O4'	2.21	0.41
7:A2:532:A:H4'	7:A2:533:A:OP2	2.21	0.41
7:A2:1237:C:H4'	7:A2:1300:G:H22	1.86	0.41
7:A2:1267:C:H2'	7:A2:1268:G:O4'	2.21	0.41
10:D2:9:LEU:HD23	10:D2:9:LEU:HA	1.87	0.41
12:F1:88:MET:HE2	12:F1:90:MET:SD	2.61	0.41
12:F2:17:GLN:HB2	12:F2:21:MET:HE3	2.03	0.41
13:G2:116:MET:HA	13:G2:119:ARG:HD2	2.01	0.41
19:M1:44:LYS:HB2	19:M1:47:GLU:OE1	2.21	0.41
23:Q2:47:HIS:NE2	23:Q2:49:GLU:HG2	2.36	0.41
24:R1:30:LYS:HA	24:R1:30:LYS:HD2	1.94	0.41
27:U2:25:LYS:HE2	27:U2:25:LYS:HB3	1.80	0.41
4:62:33:LEU:HD23	4:62:33:LEU:H	1.86	0.40
5:72:284:U:H3	5:72:356:G:H1	1.68	0.40
5:72:1799:G:N2	5:72:1819:A:OP2	2.44	0.40
5:72:1853:A:N1	5:72:2087:G:H1'	2.36	0.40
5:72:2103:C:O2'	5:72:2104:C:H5'	2.20	0.40
5:72:2484:G:H1'	38:h2:123:LYS:HD2	2.03	0.40
5:72:2646:C:H2'	5:72:2647:U:O4'	2.21	0.40
7:A1:230:G:OP1	22:P1:31:ARG:NH2	2.54	0.40
7:A1:1031:C:H6	7:A1:1031:C:O5'	2.04	0.40
7:A1:1147:C:H2'	7:A1:1148:U:C6	2.56	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:279:A:H5''	7:A2:281:G:O4'	2.21	0.40
7:A2:517:G:H5'	7:A2:519:C:C2	2.56	0.40
7:A2:1171:A:H2'	7:A2:1172:C:C6	2.57	0.40
7:A2:1263:C:H2'	7:A2:1264:U:C6	2.55	0.40
7:A2:1436:U:H2'	7:A2:1437:A:C8	2.56	0.40
7:A2:1510:C:H2'	7:A2:1511:G:C8	2.56	0.40
8:B:5:SER:C	8:B:7:ARG:H	2.29	0.40
8:B:219:ALA:HA	8:B:222:ARG:HD2	2.03	0.40
8:B2:105:LYS:HA	8:B2:108:ARG:NH1	2.35	0.40
8:B2:188:ASP:OD1	8:B2:189:THR:N	2.54	0.40
11:E1:39:VAL:HG23	11:E1:71:MET:HE1	2.03	0.40
11:E1:80:THR:HG23	11:E1:122:ASN:O	2.21	0.40
14:H1:26:THR:HG22	14:H1:60:GLU:OE1	2.21	0.40
15:I2:23:PRO:HA	15:I2:61:LEU:HG	2.03	0.40
16:J1:15:HIS:CE1	16:J1:16:ARG:HG3	2.56	0.40
16:J1:25:ILE:HD11	16:J1:92:LEU:HD13	2.04	0.40
18:L2:43:LYS:CG	18:L2:44:LYS:H	2.33	0.40
23:Q2:26:GLU:O	23:Q2:26:GLU:HG2	2.19	0.40
27:U1:42:THR:HG23	27:U1:43:THR:H	1.86	0.40
35:b2:181:MET:HB2	35:b2:268:VAL:HG13	2.03	0.40
37:g2:25:LYS:HG3	37:g2:34:LEU:HD21	2.03	0.40
3:41:55:GLY:HA2	3:41:58:ASP:HB3	2.02	0.40
5:72:701:G:H5'	5:72:1632:A:H1'	2.02	0.40
5:72:934:U:H2'	5:72:935:C:C6	2.56	0.40
5:72:1064:C:N4	5:72:1070:A:OP1	2.50	0.40
5:72:1258:U:H2'	5:72:1259:G:C8	2.56	0.40
7:A1:97:G:C2	7:A1:98:A:H1'	2.57	0.40
7:A1:319:G:H1	7:A1:334:C:H42	1.68	0.40
7:A1:522:C:H41	18:L1:50:ARG:NH2	2.18	0.40
7:A1:689:C:H2'	7:A1:690:G:O4'	2.21	0.40
7:A1:824:G:H2'	7:A1:825:A:H8	1.86	0.40
7:A1:927:G:H1	7:A1:1390:U:H3	1.69	0.40
7:A1:1134:G:H3'	7:A1:1135:U:H5''	2.04	0.40
7:A1:1169:A:H3'	7:A1:1170:A:C8	2.57	0.40
7:A1:1537:U:H1'	7:A1:1538:C:C5	2.57	0.40
7:A2:319:G:H2'	7:A2:320:A:C8	2.56	0.40
7:A2:776:G:O2'	7:A2:777:A:H8	2.03	0.40
7:A2:790:A:H61	7:A2:1498:UR3:P	2.44	0.40
8:B:70:VAL:HG11	8:B:169:GLU:HG2	2.03	0.40
8:B2:213:TYR:O	8:B2:217:VAL:HG22	2.21	0.40
10:D1:34:ILE:HG22	10:D1:35:GLU:H	1.86	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D1:58:LYS:HE3	10:D1:58:LYS:HB3	1.95	0.40
11:E1:26:LYS:HE3	11:E1:26:LYS:HB3	1.82	0.40
12:F2:35:LYS:HG2	12:F2:37:HIS:CD2	2.56	0.40
13:G1:136:LYS:HB2	13:G1:136:LYS:HE2	1.98	0.40
15:I1:45:ARG:HB2	15:I1:49:ARG:NH2	2.37	0.40
16:J1:17:LEU:HD23	16:J1:17:LEU:HA	1.87	0.40
17:K1:126:LYS:HE2	17:K1:126:LYS:HB3	1.90	0.40
19:M1:90:ARG:NH2	19:M1:102:THR:HG21	2.36	0.40
23:Q2:57:ASP:OD1	23:Q2:82:ALA:N	2.50	0.40
24:R1:57:ARG:O	24:R1:61:ARG:HG3	2.21	0.40
34:a2:73:VAL:O	34:a2:75:VAL:HG23	2.21	0.40
39:i2:46:PHE:HD1	39:i2:47:PHE:CD1	2.39	0.40
4:62:8:ARG:NH1	5:72:243:U:OP2	2.54	0.40
5:72:1486:U:H2'	5:72:1487:U:C6	2.57	0.40
5:72:1847:A:O2'	5:72:1848:A:P	2.80	0.40
5:72:2155:U:H2'	5:72:2156:G:C8	2.56	0.40
5:72:2167:U:H2'	5:72:2169:A:H2'	2.03	0.40
7:A1:188:C:H2'	7:A1:189:A:O4'	2.21	0.40
7:A1:501:C:H2'	7:A1:502:A:H8	1.84	0.40
7:A1:979:C:H1'	7:A1:1317:C:H41	1.86	0.40
7:A1:1145:A:H4'	7:A1:1146:A:H5''	2.04	0.40
7:A1:1268:G:N3	7:A1:1326:U:O2'	2.47	0.40
7:A2:82:G:H3'	7:A2:83:C:H6	1.86	0.40
7:A2:158:G:H2'	7:A2:159:G:C8	2.57	0.40
7:A2:230:G:H2'	7:A2:231:U:C6	2.57	0.40
7:A2:491:G:O2'	7:A2:492:C:H5'	2.21	0.40
7:A2:1010:U:O2'	7:A2:1011:C:H5'	2.21	0.40
7:A2:1132:C:H3'	7:A2:1133:G:H8	1.86	0.40
7:A2:1142:G:C2	7:A2:1143:G:H1'	2.56	0.40
7:A2:1165:U:H3	7:A2:1171:A:H61	1.69	0.40
8:B:15:HIS:O	8:B:40:ILE:HA	2.22	0.40
8:B2:90:PHE:CD1	8:B2:151:ILE:HA	2.56	0.40
9:C1:132:ARG:O	9:C1:136:ARG:HG2	2.22	0.40
9:C1:167:TRP:HZ3	9:C1:169:ARG:HG2	1.86	0.40
10:D2:92:ALA:HB1	10:D2:185:LYS:HE3	2.02	0.40
10:D2:202:GLU:HB2	11:E2:112:ARG:NH2	2.37	0.40
11:E1:164:ILE:HG13	11:E1:165:LEU:N	2.35	0.40
16:J1:10:LEU:O	16:J1:71:LEU:HA	2.22	0.40
19:M1:69:LEU:HD12	19:M1:72:GLU:OE2	2.21	0.40
29:W:32:PSU:H2'	29:W:33:U:C6	2.55	0.40
35:b2:265:LYS:HB3	35:b2:265:LYS:HE3	1.94	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:e2:33:LYS:HD3	36:e2:92:ARG:NH2	2.37	0.40
5:71:1924:C:H4'	30:W1:13:C:H4'	2.02	0.40
5:72:542:C:H2'	5:72:543:G:H8	1.87	0.40
5:72:601:C:O2'	5:72:605:G:H5''	2.22	0.40
5:72:1681:G:N3	5:72:1762:A:H2'	2.36	0.40
5:72:1954:G:O2'	5:72:1956:U:O4	2.33	0.40
7:A1:571:U:OP1	7:A1:819:A:O2'	2.35	0.40
7:A1:801:U:H2'	7:A1:802:A:H8	1.85	0.40
7:A1:1004:A:H3'	7:A1:1005:A:H8	1.85	0.40
7:A1:1024:G:H2'	7:A1:1025:U:O4'	2.22	0.40
7:A1:1073:U:OP2	11:E1:62:LYS:NZ	2.55	0.40
7:A1:1303:C:H3'	7:A1:1304:G:H8	1.86	0.40
7:A1:1397:C:H6	7:A1:1397:C:H2'	1.67	0.40
7:A2:68:G:OP1	7:A2:171:A:O2'	2.40	0.40
7:A2:139:A:H2'	7:A2:140:U:C6	2.57	0.40
7:A2:318:G:C6	7:A2:336:A:C6	3.09	0.40
7:A2:604:G:H2'	7:A2:605:U:O4'	2.21	0.40
7:A2:712:A:C5'	35:b2:138:GLY:HA3	2.52	0.40
7:A2:1064:G:N2	7:A2:1191:A:OP2	2.53	0.40
7:A2:1486:G:H2'	7:A2:1487:G:C8	2.57	0.40
9:C1:28:GLU:H	9:C1:28:GLU:CD	2.28	0.40
11:E1:82:GLN:HG3	11:E1:147:MET:HE3	2.02	0.40
11:E2:156:LYS:HE2	14:H2:71:VAL:HA	2.03	0.40
13:G1:113:ASP:HB2	13:G1:119:ARG:HG2	2.02	0.40
14:H2:29:SER:HB3	14:H2:57:PRO:HB2	2.03	0.40
14:H2:88:ARG:HB2	14:H2:91:GLU:OE1	2.21	0.40
38:h2:38:ARG:HB3	38:h2:98:PRO:HD3	2.03	0.40
39:i2:71:LYS:HE3	39:i2:71:LYS:HB3	1.85	0.40
3:41:61:ASN:HA	3:41:66:ILE:HD11	2.04	0.40
5:72:68:G:N2	5:72:74:A:O5'	2.54	0.40
5:72:408:G:H1	5:72:419:U:H3	1.68	0.40
5:72:438:G:H2'	5:72:439:A:C8	2.56	0.40
5:72:558:U:H2'	5:72:559:G:H8	1.87	0.40
5:72:1068:G:O6	5:72:1069:A:N6	2.55	0.40
5:72:1490:A:O2'	5:72:1491:G:OP1	2.29	0.40
5:72:2331:G:O2'	5:72:2336:A:N1	2.48	0.40
5:72:2339:C:H2'	5:72:2340:A:H8	1.86	0.40
6:82:13:G:H4'	6:82:15:A:H2'	2.03	0.40
7:A1:278:G:H1'	7:A1:282:A:H1'	2.04	0.40
7:A1:832:G:N2	7:A1:854:U:O2	2.32	0.40
7:A1:1029:U:H3'	7:A1:1030:U:C6	2.57	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A1:1076:U:H2'	7:A1:1077:G:C8	2.57	0.40
7:A1:1232:U:H2'	7:A1:1233:G:H8	1.87	0.40
7:A2:15:G:H4'	11:E2:29:ARG:CZ	2.51	0.40
7:A2:45:G:H1	7:A2:396:C:H42	1.69	0.40
7:A2:299:G:C6	7:A2:300:A:C6	3.10	0.40
7:A2:539:A:H2'	7:A2:540:G:C8	2.56	0.40
7:A2:778:G:O2'	17:K2:121:CYS:HB3	2.22	0.40
7:A2:795:C:O2'	17:K2:129:VAL:OXT	2.29	0.40
7:A2:884:U:H4'	7:A2:885:G:H5''	2.03	0.40
7:A2:978:A:H61	7:A2:1316:G:H1'	1.86	0.40
7:A2:1119:C:H2'	7:A2:1120:C:H6	1.86	0.40
7:A2:1174:G:H2'	7:A2:1175:G:H8	1.85	0.40
9:C1:96:GLY:O	9:C1:97:VAL:HB	2.22	0.40
9:C1:186:THR:HG22	9:C1:199:LYS:HG2	2.02	0.40
10:D2:95:GLU:HG2	10:D2:100:ASN:HD21	1.87	0.40
10:D2:152:GLN:HB3	10:D2:155:VAL:HG23	2.03	0.40
10:D2:202:GLU:HB2	11:E2:112:ARG:HH22	1.86	0.40
13:G2:111:ARG:NH1	13:G2:111:ARG:HB2	2.37	0.40
15:I2:10:GLY:HA3	15:I2:78:ALA:O	2.21	0.40
16:J1:54:SER:HA	16:J1:55:PRO:HD3	1.95	0.40
17:K2:127:ARG:HG3	27:U2:37:PHE:CE2	2.56	0.40
18:L1:89:ASP:C	18:L1:90:LEU:HD22	2.47	0.40
19:M1:113:ARG:H	19:M1:113:ARG:HG2	1.76	0.40
23:Q1:28:PHE:CE2	23:Q1:37:PHE:HB3	2.56	0.40
25:S2:16:LEU:HD12	25:S2:16:LEU:HA	1.94	0.40
29:W:19:G:H5'	29:W:57:G:H21	1.85	0.40
30:W1:45:U:O2'	30:W1:46:G7M:OP1	2.32	0.40
35:b2:120:VAL:HG12	35:b2:131:PRO:HG2	2.02	0.40
35:b2:161:TYR:HB3	35:b2:194:GLU:HG3	2.03	0.40
43:r2:71:ALA:HB1	43:r2:106:LEU:HD22	2.04	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 PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	12	75/78 (96%)	72 (96%)	3 (4%)	0	100	100
2	32	56/59 (95%)	52 (93%)	3 (5%)	1 (2%)	6	33
3	4	66/70 (94%)	55 (83%)	11 (17%)	0	100	100
3	41	12/70 (17%)	10 (83%)	2 (17%)	0	100	100
4	62	62/65 (95%)	58 (94%)	4 (6%)	0	100	100
8	B	231/241 (96%)	193 (84%)	34 (15%)	4 (2%)	7	35
8	B2	225/241 (93%)	189 (84%)	36 (16%)	0	100	100
9	C1	211/233 (91%)	185 (88%)	24 (11%)	2 (1%)	14	49
9	C2	210/233 (90%)	185 (88%)	25 (12%)	0	100	100
10	D1	203/206 (98%)	183 (90%)	19 (9%)	1 (0%)	24	63
10	D2	203/206 (98%)	200 (98%)	3 (2%)	0	100	100
11	E1	156/167 (93%)	152 (97%)	4 (3%)	0	100	100
11	E2	156/167 (93%)	152 (97%)	4 (3%)	0	100	100
12	F1	104/135 (77%)	104 (100%)	0	0	100	100
12	F2	104/135 (77%)	80 (77%)	23 (22%)	1 (1%)	12	47
13	G1	153/179 (86%)	151 (99%)	2 (1%)	0	100	100
13	G2	152/179 (85%)	122 (80%)	24 (16%)	6 (4%)	2	18
14	H1	127/130 (98%)	127 (100%)	0	0	100	100
14	H2	127/130 (98%)	127 (100%)	0	0	100	100
15	I1	125/130 (96%)	103 (82%)	22 (18%)	0	100	100
15	I2	127/130 (98%)	117 (92%)	10 (8%)	0	100	100
16	J1	100/103 (97%)	92 (92%)	8 (8%)	0	100	100
16	J2	98/103 (95%)	86 (88%)	9 (9%)	3 (3%)	3	22
17	K1	113/129 (88%)	97 (86%)	15 (13%)	1 (1%)	14	49
17	K2	116/129 (90%)	100 (86%)	15 (13%)	1 (1%)	14	49
18	L1	121/124 (98%)	115 (95%)	5 (4%)	1 (1%)	16	53
18	L2	121/124 (98%)	116 (96%)	5 (4%)	0	100	100
19	M1	113/118 (96%)	109 (96%)	4 (4%)	0	100	100
19	M2	115/118 (98%)	108 (94%)	7 (6%)	0	100	100
20	N1	98/101 (97%)	86 (88%)	12 (12%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
20	N2	98/101 (97%)	95 (97%)	3 (3%)	0	100	100
21	O1	86/89 (97%)	83 (96%)	3 (4%)	0	100	100
21	O2	86/89 (97%)	84 (98%)	2 (2%)	0	100	100
22	P1	80/82 (98%)	75 (94%)	5 (6%)	0	100	100
23	Q1	78/84 (93%)	76 (97%)	2 (3%)	0	100	100
23	Q2	78/84 (93%)	75 (96%)	2 (3%)	1 (1%)	9	41
24	R1	72/75 (96%)	65 (90%)	6 (8%)	1 (1%)	9	39
24	R2	72/75 (96%)	53 (74%)	18 (25%)	1 (1%)	9	39
25	S1	81/92 (88%)	79 (98%)	2 (2%)	0	100	100
25	S2	81/92 (88%)	79 (98%)	2 (2%)	0	100	100
26	T1	84/87 (97%)	79 (94%)	3 (4%)	2 (2%)	4	27
27	U1	68/71 (96%)	58 (85%)	10 (15%)	0	100	100
27	U2	68/71 (96%)	60 (88%)	8 (12%)	0	100	100
33	Z1	7/557 (1%)	7 (100%)	0	0	100	100
34	a2	221/234 (94%)	201 (91%)	15 (7%)	5 (2%)	5	28
35	b2	269/273 (98%)	264 (98%)	5 (2%)	0	100	100
36	e2	176/179 (98%)	172 (98%)	4 (2%)	0	100	100
37	g2	50/55 (91%)	50 (100%)	0	0	100	100
38	h2	135/136 (99%)	135 (100%)	0	0	100	100
39	i2	147/149 (99%)	120 (82%)	25 (17%)	2 (1%)	9	39
40	l2	44/46 (96%)	43 (98%)	1 (2%)	0	100	100
41	o2	49/144 (34%)	45 (92%)	4 (8%)	0	100	100
42	p	8/10 (80%)	7 (88%)	1 (12%)	0	100	100
43	r2	114/117 (97%)	110 (96%)	4 (4%)	0	100	100
44	z2	74/85 (87%)	74 (100%)	0	0	100	100
All	All	6206/7310 (85%)	5715 (92%)	458 (7%)	33 (0%)	26	63

All (33) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	C1	15	VAL
13	G2	18	PHE
13	G2	35	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
13	G2	146	GLU
23	Q2	12	VAL
34	a2	157	LYS
34	a2	158	ALA
39	i2	91	PHE
10	D1	175	ALA
12	F2	38	ARG
13	G2	17	LYS
13	G2	54	SER
16	J2	94	ALA
34	a2	156	ALA
8	B	102	THR
13	G2	145	ALA
16	J2	89	ARG
17	K1	80	LYS
17	K2	80	LYS
18	L1	43	LYS
34	a2	204	ALA
39	i2	41	LYS
8	B	103	ASN
24	R1	21	ILE
26	T1	55	GLN
9	C1	129	MET
34	a2	201	PRO
2	32	33	HIS
8	B	90	PHE
24	R2	5	PHE
8	B	38	VAL
16	J2	79	PRO
26	T1	56	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	12	67/68 (98%)	67 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	32	48/49 (98%)	48 (100%)	0	100	100
3	4	60/62 (97%)	58 (97%)	2 (3%)	33	55
3	41	12/62 (19%)	12 (100%)	0	100	100
4	62	51/52 (98%)	51 (100%)	0	100	100
8	B	192/199 (96%)	192 (100%)	0	100	100
8	B2	189/199 (95%)	189 (100%)	0	100	100
9	C1	173/190 (91%)	173 (100%)	0	100	100
9	C2	172/190 (90%)	172 (100%)	0	100	100
10	D1	172/173 (99%)	172 (100%)	0	100	100
10	D2	172/173 (99%)	172 (100%)	0	100	100
11	E1	120/126 (95%)	120 (100%)	0	100	100
11	E2	120/126 (95%)	120 (100%)	0	100	100
12	F1	92/116 (79%)	92 (100%)	0	100	100
12	F2	92/116 (79%)	92 (100%)	0	100	100
13	G1	128/147 (87%)	128 (100%)	0	100	100
13	G2	127/147 (86%)	127 (100%)	0	100	100
14	H1	104/105 (99%)	104 (100%)	0	100	100
14	H2	104/105 (99%)	104 (100%)	0	100	100
15	I1	105/107 (98%)	105 (100%)	0	100	100
15	I2	106/107 (99%)	106 (100%)	0	100	100
16	J1	89/90 (99%)	89 (100%)	0	100	100
16	J2	88/90 (98%)	88 (100%)	0	100	100
17	K1	88/99 (89%)	88 (100%)	0	100	100
17	K2	91/99 (92%)	91 (100%)	0	100	100
18	L1	103/104 (99%)	103 (100%)	0	100	100
18	L2	103/104 (99%)	103 (100%)	0	100	100
19	M1	93/96 (97%)	93 (100%)	0	100	100
19	M2	95/96 (99%)	95 (100%)	0	100	100
20	N1	83/84 (99%)	83 (100%)	0	100	100
20	N2	83/84 (99%)	83 (100%)	0	100	100
21	O1	76/77 (99%)	76 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	O2	76/77 (99%)	76 (100%)	0	100	100
22	P1	65/65 (100%)	65 (100%)	0	100	100
23	Q1	74/78 (95%)	74 (100%)	0	100	100
23	Q2	74/78 (95%)	74 (100%)	0	100	100
24	R1	64/65 (98%)	64 (100%)	0	100	100
24	R2	64/65 (98%)	64 (100%)	0	100	100
25	S1	72/79 (91%)	72 (100%)	0	100	100
25	S2	72/79 (91%)	72 (100%)	0	100	100
26	T1	65/66 (98%)	65 (100%)	0	100	100
27	U1	60/61 (98%)	60 (100%)	0	100	100
27	U2	60/61 (98%)	60 (100%)	0	100	100
33	Z1	8/461 (2%)	8 (100%)	0	100	100
34	a2	174/181 (96%)	174 (100%)	0	100	100
35	b2	216/218 (99%)	216 (100%)	0	100	100
36	e2	149/150 (99%)	149 (100%)	0	100	100
37	g2	47/49 (96%)	47 (100%)	0	100	100
38	h2	110/109 (101%)	110 (100%)	0	100	100
39	i2	114/114 (100%)	114 (100%)	0	100	100
40	l2	38/38 (100%)	38 (100%)	0	100	100
41	o2	35/103 (34%)	35 (100%)	0	100	100
42	p	5/5 (100%)	1 (20%)	4 (80%)	0	0
43	r2	86/87 (99%)	86 (100%)	0	100	100
44	z2	58/63 (92%)	58 (100%)	0	100	100
All	All	5184/5994 (86%)	5178 (100%)	6 (0%)	87	88

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	4	36	VAL
3	4	38	SER
42	p	30	VAL
42	p	31	ARG
42	p	34	ARG
42	p	35	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35) such sidechains are listed below:

Mol	Chain	Res	Type
8	B	93	ASN
8	B	94	HIS
8	B2	89	GLN
8	B2	177	ASN
9	C1	8	ASN
9	C1	32	ASN
9	C1	185	ASN
9	C2	8	ASN
10	D2	85	ASN
11	E2	89	HIS
12	F1	52	ASN
13	G1	9	GLN
13	G2	97	ASN
14	H1	18	GLN
15	I1	75	GLN
15	I1	110	GLN
15	I2	75	GLN
16	J1	15	HIS
16	J2	58	ASN
16	J2	99	GLN
17	K1	28	ASN
17	K1	40	ASN
17	K2	15	GLN
17	K2	119	ASN
18	L1	6	GLN
18	L2	29	GLN
19	M1	105	ASN
21	O2	50	HIS
22	P1	79	ASN
27	U2	9	ASN
27	U2	64	ASN
35	b2	243	HIS
35	b2	260	ASN
38	h2	13	HIS
39	i2	2	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
28	V2	58/59 (98%)	39 (67%)	8 (13%)

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	W	75/76 (98%)	29 (38%)	3 (4%)
30	W1	32/76 (42%)	7 (21%)	2 (6%)
31	Y	75/76 (98%)	19 (25%)	2 (2%)
32	Y1	34/76 (44%)	6 (17%)	2 (5%)
5	71	18/2904 (0%)	1 (5%)	0
5	72	2903/2904 (99%)	464 (15%)	36 (1%)
6	82	119/120 (99%)	21 (17%)	3 (2%)
7	A1	1541/1542 (99%)	446 (28%)	36 (2%)
7	A2	1536/1542 (99%)	396 (25%)	30 (1%)
All	All	6391/9375 (68%)	1428 (22%)	122 (1%)

All (1428) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
5	71	1907	G
5	72	10	A
5	72	15	G
5	72	34	U
5	72	44	A
5	72	46	G
5	72	55	G
5	72	71	A
5	72	74	A
5	72	75	G
5	72	101	A
5	72	102	U
5	72	103	A
5	72	110	G
5	72	118	A
5	72	119	A
5	72	120	U
5	72	125	A
5	72	135	U
5	72	139	U
5	72	141	G
5	72	142	A
5	72	159	G
5	72	163	C
5	72	174	U
5	72	177	G
5	72	178	G
5	72	181	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	196	A
5	72	199	A
5	72	215	G
5	72	216	A
5	72	221	A
5	72	222	A
5	72	248	G
5	72	252	G
5	72	275	C
5	72	277	G
5	72	278	A
5	72	279	A
5	72	283	G
5	72	284	U
5	72	285	G
5	72	286	U
5	72	311	A
5	72	330	A
5	72	345	A
5	72	353	C
5	72	359	G
5	72	361	G
5	72	362	A
5	72	386	G
5	72	395	U
5	72	396	G
5	72	401	A
5	72	405	U
5	72	412	A
5	72	455	C
5	72	456	C
5	72	457	A
5	72	470	A
5	72	473	G
5	72	481	G
5	72	491	G
5	72	505	A
5	72	506	G
5	72	509	C
5	72	513	A
5	72	527	C
5	72	532	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	547	A
5	72	549	G
5	72	563	A
5	72	573	U
5	72	575	A
5	72	578	G
5	72	603	A
5	72	613	A
5	72	614	A
5	72	615	U
5	72	637	A
5	72	645	C
5	72	646	U
5	72	647	G
5	72	654	A
5	72	655	A
5	72	686	U
5	72	717	C
5	72	726	G
5	72	729	G
5	72	730	A
5	72	747	5MU
5	72	748	G
5	72	749	A
5	72	764	A
5	72	765	C
5	72	775	G
5	72	776	G
5	72	782	A
5	72	784	G
5	72	785	G
5	72	789	A
5	72	805	G
5	72	812	C
5	72	819	A
5	72	827	U
5	72	828	U
5	72	830	G
5	72	845	A
5	72	846	U
5	72	847	U
5	72	858	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	859	G
5	72	869	G
5	72	878	A
5	72	883	G
5	72	887	U
5	72	888	C
5	72	890	C
5	72	896	A
5	72	897	C
5	72	898	C
5	72	900	A
5	72	902	C
5	72	907	G
5	72	910	A
5	72	917	A
5	72	919	U
5	72	931	U
5	72	932	U
5	72	941	A
5	72	946	C
5	72	961	C
5	72	962	G
5	72	974	G
5	72	983	A
5	72	995	C
5	72	996	A
5	72	999	U
5	72	1005	C
5	72	1012	U
5	72	1013	C
5	72	1021	A
5	72	1026	G
5	72	1033	U
5	72	1046	A
5	72	1047	G
5	72	1055	G
5	72	1060	U
5	72	1070	A
5	72	1081	U
5	72	1083	U
5	72	1084	A
5	72	1085	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	1087	G
5	72	1088	A
5	72	1090	A
5	72	1097	U
5	72	1112	G
5	72	1130	U
5	72	1131	G
5	72	1132	U
5	72	1133	A
5	72	1134	A
5	72	1135	C
5	72	1136	G
5	72	1142	A
5	72	1149	G
5	72	1161	C
5	72	1169	A
5	72	1172	C
5	72	1173	U
5	72	1174	U
5	72	1176	U
5	72	1178	C
5	72	1179	G
5	72	1180	U
5	72	1212	G
5	72	1235	G
5	72	1236	G
5	72	1247	A
5	72	1249	U
5	72	1250	G
5	72	1253	A
5	72	1256	G
5	72	1262	A
5	72	1271	G
5	72	1272	A
5	72	1273	U
5	72	1300	G
5	72	1301	A
5	72	1321	A
5	72	1329	U
5	72	1345	C
5	72	1352	U
5	72	1365	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	1368	G
5	72	1379	U
5	72	1380	G
5	72	1383	A
5	72	1395	A
5	72	1396	U
5	72	1416	G
5	72	1417	C
5	72	1419	A
5	72	1420	A
5	72	1421	G
5	72	1428	C
5	72	1434	A
5	72	1452	G
5	72	1453	A
5	72	1461	C
5	72	1476	U
5	72	1482	G
5	72	1488	C
5	72	1490	A
5	72	1491	G
5	72	1493	C
5	72	1494	A
5	72	1497	U
5	72	1503	A
5	72	1508	A
5	72	1509	A
5	72	1515	A
5	72	1524	G
5	72	1532	A
5	72	1539	U
5	72	1566	A
5	72	1569	A
5	72	1578	U
5	72	1581	G
5	72	1583	A
5	72	1584	U
5	72	1608	A
5	72	1610	A
5	72	1618	6MZ
5	72	1619	G
5	72	1647	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	1648	U
5	72	1649	G
5	72	1674	G
5	72	1715	G
5	72	1727	C
5	72	1729	U
5	72	1730	C
5	72	1731	G
5	72	1738	G
5	72	1764	C
5	72	1773	A
5	72	1782	U
5	72	1784	A
5	72	1786	A
5	72	1791	A
5	72	1799	G
5	72	1800	C
5	72	1801	A
5	72	1807	G
5	72	1808	A
5	72	1816	C
5	72	1848	A
5	72	1870	C
5	72	1872	A
5	72	1873	G
5	72	1901	A
5	72	1913	A
5	72	1914	C
5	72	1919	A
5	72	1920	C
5	72	1921	G
5	72	1927	A
5	72	1928	A
5	72	1929	G
5	72	1930	G
5	72	1937	A
5	72	1938	A
5	72	1939	5MU
5	72	1955	U
5	72	1956	U
5	72	1960	A
5	72	1963	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	1964	G
5	72	1966	A
5	72	1967	C
5	72	1970	A
5	72	1971	U
5	72	1972	G
5	72	1975	G
5	72	1982	U
5	72	1991	U
5	72	1993	U
5	72	1997	C
5	72	2022	U
5	72	2023	C
5	72	2030	6MZ
5	72	2031	A
5	72	2032	G
5	72	2033	A
5	72	2043	C
5	72	2055	C
5	72	2056	G
5	72	2059	A
5	72	2060	A
5	72	2061	G
5	72	2062	A
5	72	2069	G7M
5	72	2072	C
5	72	2098	U
5	72	2100	G
5	72	2101	A
5	72	2103	C
5	72	2104	C
5	72	2110	G
5	72	2111	U
5	72	2112	G
5	72	2113	U
5	72	2117	A
5	72	2118	U
5	72	2119	A
5	72	2120	G
5	72	2121	G
5	72	2126	A
5	72	2130	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	2131	U
5	72	2132	U
5	72	2133	G
5	72	2134	A
5	72	2137	U
5	72	2141	G
5	72	2146	C
5	72	2152	G
5	72	2153	C
5	72	2161	C
5	72	2164	C
5	72	2165	C
5	72	2166	U
5	72	2167	U
5	72	2169	A
5	72	2170	A
5	72	2172	U
5	72	2173	A
5	72	2175	C
5	72	2176	A
5	72	2177	C
5	72	2182	U
5	72	2190	G
5	72	2195	U
5	72	2196	C
5	72	2198	A
5	72	2199	A
5	72	2204	G
5	72	2211	A
5	72	2225	A
5	72	2238	G
5	72	2239	G
5	72	2243	U
5	72	2251	OMG
5	72	2268	A
5	72	2278	A
5	72	2279	G
5	72	2283	C
5	72	2287	A
5	72	2305	U
5	72	2308	G
5	72	2309	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	2311	A
5	72	2312	U
5	72	2319	G
5	72	2321	U
5	72	2322	A
5	72	2325	G
5	72	2333	A
5	72	2336	A
5	72	2345	G
5	72	2347	C
5	72	2350	C
5	72	2361	G
5	72	2372	U
5	72	2375	G
5	72	2379	G
5	72	2383	G
5	72	2385	C
5	72	2391	G
5	72	2402	U
5	72	2403	C
5	72	2406	A
5	72	2410	G
5	72	2423	U
5	72	2425	A
5	72	2429	G
5	72	2430	A
5	72	2431	U
5	72	2441	U
5	72	2448	A
5	72	2457	PSU
5	72	2464	G
5	72	2475	C
5	72	2476	A
5	72	2478	A
5	72	2482	A
5	72	2484	G
5	72	2491	U
5	72	2494	G
5	72	2498	OMC
5	72	2502	G
5	72	2503	2MA
5	72	2505	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	2507	C
5	72	2514	U
5	72	2518	A
5	72	2529	G
5	72	2535	G
5	72	2537	U
5	72	2547	A
5	72	2549	G
5	72	2554	U
5	72	2556	C
5	72	2566	A
5	72	2567	G
5	72	2571	U
5	72	2572	A
5	72	2573	C
5	72	2581	G
5	72	2582	G
5	72	2586	U
5	72	2602	A
5	72	2608	G
5	72	2609	U
5	72	2613	U
5	72	2614	A
5	72	2615	U
5	72	2629	U
5	72	2630	G
5	72	2663	G
5	72	2689	U
5	72	2690	U
5	72	2714	G
5	72	2726	A
5	72	2732	G
5	72	2733	A
5	72	2743	U
5	72	2744	G
5	72	2748	A
5	72	2751	G
5	72	2757	A
5	72	2765	A
5	72	2778	A
5	72	2779	U
5	72	2798	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	2800	A
5	72	2818	U
5	72	2820	A
5	72	2821	A
5	72	2832	U
5	72	2835	A
5	72	2861	U
5	72	2867	G
5	72	2873	A
5	72	2879	A
5	72	2880	C
5	72	2883	A
5	72	2884	U
5	72	2885	G
5	72	2886	A
5	72	2891	U
5	72	2904	U
6	82	4	C
6	82	9	G
6	82	13	G
6	82	33	G
6	82	34	A
6	82	35	C
6	82	37	C
6	82	40	U
6	82	41	G
6	82	45	A
6	82	48	U
6	82	50	A
6	82	51	G
6	82	66	A
6	82	67	G
6	82	87	U
6	82	89	U
6	82	90	C
6	82	91	C
6	82	99	A
6	82	109	A
7	A1	4	U
7	A1	5	U
7	A1	6	G
7	A1	7	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	8	A
7	A1	9	G
7	A1	26	A
7	A1	28	A
7	A1	32	A
7	A1	33	A
7	A1	39	G
7	A1	47	C
7	A1	48	C
7	A1	50	A
7	A1	51	A
7	A1	52	C
7	A1	54	C
7	A1	58	C
7	A1	70	U
7	A1	71	A
7	A1	72	A
7	A1	75	G
7	A1	76	G
7	A1	78	A
7	A1	79	G
7	A1	80	A
7	A1	82	G
7	A1	84	U
7	A1	85	U
7	A1	86	G
7	A1	88	U
7	A1	89	U
7	A1	90	C
7	A1	91	U
7	A1	92	U
7	A1	94	G
7	A1	95	C
7	A1	100	G
7	A1	120	A
7	A1	121	U
7	A1	122	G
7	A1	129	A
7	A1	131	A
7	A1	136	C
7	A1	137	U
7	A1	138	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	141	G
7	A1	142	G
7	A1	143	A
7	A1	144	G
7	A1	145	G
7	A1	146	G
7	A1	150	U
7	A1	156	C
7	A1	163	C
7	A1	164	G
7	A1	169	C
7	A1	173	U
7	A1	174	A
7	A1	176	C
7	A1	182	A
7	A1	183	C
7	A1	184	G
7	A1	185	U
7	A1	191	G
7	A1	192	A
7	A1	193	C
7	A1	194	C
7	A1	197	A
7	A1	198	G
7	A1	201	G
7	A1	204	G
7	A1	205	A
7	A1	208	U
7	A1	209	U
7	A1	210	C
7	A1	211	G
7	A1	212	G
7	A1	215	C
7	A1	222	C
7	A1	239	U
7	A1	240	G
7	A1	245	U
7	A1	247	G
7	A1	251	G
7	A1	252	U
7	A1	253	A
7	A1	259	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	261	U
7	A1	264	C
7	A1	266	G
7	A1	267	C
7	A1	275	G
7	A1	281	G
7	A1	289	G
7	A1	294	U
7	A1	298	A
7	A1	301	G
7	A1	306	A
7	A1	315	A
7	A1	316	C
7	A1	323	U
7	A1	328	C
7	A1	329	A
7	A1	330	C
7	A1	345	C
7	A1	351	G
7	A1	352	C
7	A1	354	G
7	A1	363	A
7	A1	367	U
7	A1	372	C
7	A1	373	A
7	A1	384	G
7	A1	387	U
7	A1	388	G
7	A1	406	G
7	A1	407	U
7	A1	411	A
7	A1	412	A
7	A1	413	G
7	A1	414	A
7	A1	415	A
7	A1	421	U
7	A1	422	C
7	A1	423	G
7	A1	424	G
7	A1	428	G
7	A1	429	U
7	A1	438	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	442	G
7	A1	446	G
7	A1	451	A
7	A1	457	G
7	A1	458	U
7	A1	459	A
7	A1	460	A
7	A1	464	U
7	A1	465	A
7	A1	468	A
7	A1	470	C
7	A1	471	U
7	A1	474	G
7	A1	475	C
7	A1	476	U
7	A1	479	U
7	A1	484	G
7	A1	486	U
7	A1	496	A
7	A1	509	A
7	A1	511	C
7	A1	517	G
7	A1	518	C
7	A1	521	G
7	A1	522	C
7	A1	527	G7M
7	A1	530	G
7	A1	531	U
7	A1	532	A
7	A1	536	C
7	A1	547	A
7	A1	559	A
7	A1	562	U
7	A1	566	G
7	A1	572	A
7	A1	573	A
7	A1	575	G
7	A1	576	C
7	A1	577	G
7	A1	582	C
7	A1	596	A
7	A1	611	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	633	G
7	A1	639	G
7	A1	640	A
7	A1	643	C
7	A1	649	A
7	A1	650	G
7	A1	652	U
7	A1	653	U
7	A1	654	G
7	A1	661	G
7	A1	664	G
7	A1	665	A
7	A1	668	G
7	A1	672	U
7	A1	674	G
7	A1	675	A
7	A1	684	U
7	A1	686	U
7	A1	687	A
7	A1	690	G
7	A1	693	G
7	A1	694	A
7	A1	702	A
7	A1	703	G
7	A1	704	A
7	A1	705	G
7	A1	709	U
7	A1	712	A
7	A1	717	U
7	A1	720	C
7	A1	721	G
7	A1	723	U
7	A1	724	G
7	A1	725	G
7	A1	731	G
7	A1	734	G
7	A1	736	C
7	A1	746	A
7	A1	748	G
7	A1	755	G
7	A1	763	G
7	A1	774	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	777	A
7	A1	782	A
7	A1	787	A
7	A1	790	A
7	A1	793	U
7	A1	794	A
7	A1	799	G
7	A1	806	C
7	A1	808	C
7	A1	815	A
7	A1	817	C
7	A1	828	U
7	A1	831	A
7	A1	835	U
7	A1	837	U
7	A1	841	C
7	A1	842	U
7	A1	843	U
7	A1	844	G
7	A1	845	A
7	A1	846	G
7	A1	848	C
7	A1	849	G
7	A1	850	U
7	A1	860	A
7	A1	864	A
7	A1	870	U
7	A1	871	U
7	A1	874	G
7	A1	876	C
7	A1	884	U
7	A1	885	G
7	A1	887	G
7	A1	889	A
7	A1	890	G
7	A1	899	C
7	A1	902	G
7	A1	914	A
7	A1	922	G
7	A1	926	G
7	A1	933	G
7	A1	934	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	935	A
7	A1	939	G
7	A1	940	C
7	A1	942	G
7	A1	943	U
7	A1	947	G
7	A1	958	A
7	A1	960	U
7	A1	961	U
7	A1	966	2MG
7	A1	969	A
7	A1	971	G
7	A1	973	G
7	A1	975	A
7	A1	976	G
7	A1	977	A
7	A1	979	C
7	A1	981	U
7	A1	992	U
7	A1	993	G
7	A1	994	A
7	A1	995	C
7	A1	996	A
7	A1	998	C
7	A1	1003	G
7	A1	1004	A
7	A1	1008	U
7	A1	1009	U
7	A1	1010	U
7	A1	1014	A
7	A1	1017	U
7	A1	1020	G
7	A1	1021	A
7	A1	1029	U
7	A1	1031	C
7	A1	1032	G
7	A1	1035	A
7	A1	1036	A
7	A1	1044	A
7	A1	1045	C
7	A1	1046	A
7	A1	1050	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	1054	C
7	A1	1055	A
7	A1	1058	G
7	A1	1066	C
7	A1	1068	G
7	A1	1070	U
7	A1	1073	U
7	A1	1078	U
7	A1	1085	U
7	A1	1086	U
7	A1	1094	G
7	A1	1095	U
7	A1	1101	A
7	A1	1103	C
7	A1	1108	G
7	A1	1121	U
7	A1	1124	G
7	A1	1125	U
7	A1	1126	U
7	A1	1127	G
7	A1	1129	C
7	A1	1131	G
7	A1	1132	C
7	A1	1133	G
7	A1	1135	U
7	A1	1136	C
7	A1	1137	C
7	A1	1139	G
7	A1	1140	C
7	A1	1141	C
7	A1	1147	C
7	A1	1151	A
7	A1	1152	A
7	A1	1154	G
7	A1	1157	A
7	A1	1159	U
7	A1	1161	C
7	A1	1162	C
7	A1	1168	U
7	A1	1169	A
7	A1	1170	A
7	A1	1174	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	1182	G
7	A1	1183	U
7	A1	1190	G
7	A1	1191	A
7	A1	1196	A
7	A1	1197	A
7	A1	1201	A
7	A1	1202	U
7	A1	1206	G
7	A1	1211	U
7	A1	1212	U
7	A1	1213	A
7	A1	1214	C
7	A1	1215	G
7	A1	1221	G
7	A1	1224	U
7	A1	1225	A
7	A1	1226	C
7	A1	1227	A
7	A1	1228	C
7	A1	1235	U
7	A1	1236	A
7	A1	1239	A
7	A1	1240	U
7	A1	1241	G
7	A1	1243	C
7	A1	1250	A
7	A1	1253	G
7	A1	1256	A
7	A1	1260	G
7	A1	1270	G
7	A1	1272	G
7	A1	1279	G
7	A1	1280	A
7	A1	1281	C
7	A1	1287	A
7	A1	1298	U
7	A1	1300	G
7	A1	1301	U
7	A1	1302	C
7	A1	1308	U
7	A1	1309	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	1310	G
7	A1	1317	C
7	A1	1320	C
7	A1	1328	C
7	A1	1331	G
7	A1	1335	U
7	A1	1336	C
7	A1	1338	G
7	A1	1345	U
7	A1	1346	A
7	A1	1347	G
7	A1	1348	U
7	A1	1352	C
7	A1	1356	G
7	A1	1363	A
7	A1	1364	U
7	A1	1365	G
7	A1	1368	A
7	A1	1369	C
7	A1	1379	G
7	A1	1383	C
7	A1	1399	C
7	A1	1418	A
7	A1	1419	G
7	A1	1424	U
7	A1	1425	U
7	A1	1426	G
7	A1	1429	A
7	A1	1430	A
7	A1	1432	G
7	A1	1433	A
7	A1	1439	G
7	A1	1440	U
7	A1	1441	A
7	A1	1442	G
7	A1	1446	A
7	A1	1450	U
7	A1	1451	U
7	A1	1452	C
7	A1	1454	G
7	A1	1455	G
7	A1	1460	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	1461	G
7	A1	1462	C
7	A1	1464	U
7	A1	1475	G
7	A1	1476	A
7	A1	1486	G
7	A1	1487	G
7	A1	1492	A
7	A1	1493	A
7	A1	1499	A
7	A1	1503	A
7	A1	1505	G
7	A1	1506	U
7	A1	1507	A
7	A1	1517	G
7	A1	1529	G
7	A1	1530	G
7	A1	1536	C
7	A1	1537	U
7	A1	1539	C
7	A1	1541	U
7	A1	1542	A
7	A2	3	A
7	A2	4	U
7	A2	7	A
7	A2	8	A
7	A2	9	G
7	A2	16	A
7	A2	26	A
7	A2	30	U
7	A2	31	G
7	A2	32	A
7	A2	39	G
7	A2	40	C
7	A2	47	C
7	A2	48	C
7	A2	51	A
7	A2	64	G
7	A2	70	U
7	A2	71	A
7	A2	72	A
7	A2	73	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A2	74	A
7	A2	75	G
7	A2	76	G
7	A2	78	A
7	A2	82	G
7	A2	85	U
7	A2	86	G
7	A2	88	U
7	A2	90	C
7	A2	91	U
7	A2	94	G
7	A2	95	C
7	A2	97	G
7	A2	98	A
7	A2	116	A
7	A2	120	A
7	A2	121	U
7	A2	129	A
7	A2	131	A
7	A2	137	U
7	A2	138	G
7	A2	141	G
7	A2	143	A
7	A2	148	G
7	A2	150	U
7	A2	155	A
7	A2	163	C
7	A2	164	G
7	A2	173	U
7	A2	174	A
7	A2	176	C
7	A2	177	G
7	A2	182	A
7	A2	183	C
7	A2	184	G
7	A2	186	C
7	A2	187	G
7	A2	188	C
7	A2	193	C
7	A2	195	A
7	A2	197	A
7	A2	199	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A2	202	G
7	A2	204	G
7	A2	205	A
7	A2	207	C
7	A2	208	U
7	A2	209	U
7	A2	210	C
7	A2	215	C
7	A2	216	U
7	A2	218	U
7	A2	224	U
7	A2	240	G
7	A2	245	U
7	A2	247	G
7	A2	250	A
7	A2	251	G
7	A2	252	U
7	A2	253	A
7	A2	257	G
7	A2	262	A
7	A2	263	A
7	A2	266	G
7	A2	267	C
7	A2	269	C
7	A2	275	G
7	A2	276	G
7	A2	278	G
7	A2	279	A
7	A2	281	G
7	A2	282	A
7	A2	289	G
7	A2	301	G
7	A2	305	G
7	A2	316	C
7	A2	323	U
7	A2	328	C
7	A2	329	A
7	A2	330	C
7	A2	331	G
7	A2	347	G
7	A2	351	G
7	A2	352	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A2	354	G
7	A2	355	C
7	A2	356	A
7	A2	361	G
7	A2	367	U
7	A2	368	U
7	A2	370	C
7	A2	372	C
7	A2	373	A
7	A2	374	A
7	A2	375	U
7	A2	387	U
7	A2	388	G
7	A2	391	G
7	A2	393	A
7	A2	397	A
7	A2	398	U
7	A2	405	U
7	A2	406	G
7	A2	408	A
7	A2	409	U
7	A2	411	A
7	A2	412	A
7	A2	413	G
7	A2	414	A
7	A2	415	A
7	A2	416	G
7	A2	422	C
7	A2	423	G
7	A2	424	G
7	A2	426	U
7	A2	428	G
7	A2	429	U
7	A2	431	A
7	A2	437	U
7	A2	439	U
7	A2	440	C
7	A2	442	G
7	A2	443	C
7	A2	444	G
7	A2	445	G
7	A2	448	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A2	450	G
7	A2	452	A
7	A2	456	A
7	A2	457	G
7	A2	458	U
7	A2	459	A
7	A2	460	A
7	A2	461	A
7	A2	462	G
7	A2	464	U
7	A2	465	A
7	A2	466	A
7	A2	467	U
7	A2	468	A
7	A2	469	C
7	A2	472	U
7	A2	473	U
7	A2	474	G
7	A2	475	C
7	A2	478	A
7	A2	479	U
7	A2	480	U
7	A2	481	G
7	A2	482	A
7	A2	484	G
7	A2	492	C
7	A2	495	A
7	A2	496	A
7	A2	497	G
7	A2	498	A
7	A2	499	A
7	A2	501	C
7	A2	506	G
7	A2	511	C
7	A2	512	U
7	A2	513	C
7	A2	516	U
7	A2	518	C
7	A2	521	G
7	A2	524	G
7	A2	527	G7M
7	A2	528	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A2	530	G
7	A2	531	U
7	A2	533	A
7	A2	536	C
7	A2	538	G
7	A2	539	A
7	A2	542	G
7	A2	547	A
7	A2	549	C
7	A2	551	U
7	A2	558	G
7	A2	559	A
7	A2	562	U
7	A2	572	A
7	A2	573	A
7	A2	575	G
7	A2	576	C
7	A2	577	G
7	A2	633	G
7	A2	653	U
7	A2	665	A
7	A2	703	G
7	A2	717	U
7	A2	718	A
7	A2	721	G
7	A2	723	U
7	A2	724	G
7	A2	731	G
7	A2	733	G
7	A2	734	G
7	A2	735	C
7	A2	748	G
7	A2	755	G
7	A2	777	A
7	A2	788	U
7	A2	790	A
7	A2	793	U
7	A2	794	A
7	A2	815	A
7	A2	817	C
7	A2	821	G
7	A2	828	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A2	829	G
7	A2	841	C
7	A2	842	U
7	A2	843	U
7	A2	844	G
7	A2	845	A
7	A2	846	G
7	A2	902	G
7	A2	914	A
7	A2	926	G
7	A2	933	G
7	A2	934	C
7	A2	935	A
7	A2	945	G
7	A2	953	G
7	A2	960	U
7	A2	961	U
7	A2	966	2MG
7	A2	968	A
7	A2	969	A
7	A2	974	A
7	A2	975	A
7	A2	976	G
7	A2	977	A
7	A2	989	U
7	A2	991	U
7	A2	992	U
7	A2	993	G
7	A2	994	A
7	A2	996	A
7	A2	1004	A
7	A2	1006	G
7	A2	1008	U
7	A2	1009	U
7	A2	1011	C
7	A2	1014	A
7	A2	1017	U
7	A2	1018	G
7	A2	1019	A
7	A2	1020	G
7	A2	1021	A
7	A2	1022	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A2	1023	U
7	A2	1029	U
7	A2	1030	U
7	A2	1031	C
7	A2	1032	G
7	A2	1033	G
7	A2	1034	G
7	A2	1044	A
7	A2	1046	A
7	A2	1056	U
7	A2	1063	C
7	A2	1064	G
7	A2	1065	U
7	A2	1067	A
7	A2	1074	G
7	A2	1081	A
7	A2	1085	U
7	A2	1086	U
7	A2	1094	G
7	A2	1095	U
7	A2	1098	C
7	A2	1101	A
7	A2	1102	A
7	A2	1108	G
7	A2	1113	C
7	A2	1124	G
7	A2	1125	U
7	A2	1127	G
7	A2	1128	C
7	A2	1129	C
7	A2	1130	A
7	A2	1131	G
7	A2	1133	G
7	A2	1134	G
7	A2	1136	C
7	A2	1137	C
7	A2	1138	G
7	A2	1139	G
7	A2	1140	C
7	A2	1141	C
7	A2	1146	A
7	A2	1152	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A2	1157	A
7	A2	1158	C
7	A2	1159	U
7	A2	1160	G
7	A2	1168	U
7	A2	1169	A
7	A2	1182	G
7	A2	1184	G
7	A2	1185	G
7	A2	1191	A
7	A2	1196	A
7	A2	1197	A
7	A2	1201	A
7	A2	1202	U
7	A2	1206	G
7	A2	1212	U
7	A2	1213	A
7	A2	1215	G
7	A2	1217	C
7	A2	1218	C
7	A2	1225	A
7	A2	1226	C
7	A2	1227	A
7	A2	1238	A
7	A2	1241	G
7	A2	1248	A
7	A2	1249	C
7	A2	1253	G
7	A2	1256	A
7	A2	1257	A
7	A2	1268	G
7	A2	1270	G
7	A2	1271	A
7	A2	1280	A
7	A2	1281	C
7	A2	1282	C
7	A2	1286	U
7	A2	1287	A
7	A2	1291	U
7	A2	1297	G
7	A2	1298	U
7	A2	1300	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A2	1305	G
7	A2	1317	C
7	A2	1318	A
7	A2	1319	A
7	A2	1320	C
7	A2	1332	A
7	A2	1336	C
7	A2	1338	G
7	A2	1340	A
7	A2	1346	A
7	A2	1348	U
7	A2	1351	U
7	A2	1353	G
7	A2	1360	A
7	A2	1363	A
7	A2	1364	U
7	A2	1368	A
7	A2	1370	G
7	A2	1375	A
7	A2	1379	G
7	A2	1397	C
7	A2	1398	A
7	A2	1429	A
7	A2	1441	A
7	A2	1446	A
7	A2	1448	C
7	A2	1454	G
7	A2	1487	G
7	A2	1492	A
7	A2	1499	A
7	A2	1503	A
7	A2	1506	U
7	A2	1517	G
7	A2	1529	G
7	A2	1530	G
7	A2	1533	C
7	A2	1534	A
7	A2	1535	C
7	A2	1536	C
7	A2	1537	U
28	V2	6	A
28	V2	8	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
28	V2	9	A
28	V2	10	G
28	V2	11	G
28	V2	14	G
28	V2	15	G
28	V2	16	U
28	V2	17	G
28	V2	18	A
28	V2	19	G
28	V2	20	C
28	V2	21	U
28	V2	23	C
28	V2	24	G
28	V2	30	A
28	V2	32	U
28	V2	33	A
28	V2	34	A
28	V2	35	A
28	V2	37	A
28	V2	38	A
28	V2	39	A
28	V2	40	A
28	V2	41	G
28	V2	42	G
28	V2	43	U
28	V2	45	U
28	V2	46	C
28	V2	47	G
28	V2	48	C
28	V2	49	G
28	V2	51	U
28	V2	53	G
28	V2	54	G
28	V2	58	A
28	V2	61	U
28	V2	62	C
28	V2	63	G
29	W	2	G
29	W	12	U
29	W	15	A
29	W	16	H2U
29	W	17	H2U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	W	18	G
29	W	19	G
29	W	20	H2U
29	W	21	A
29	W	22	G
29	W	25	C
29	W	32	PSU
29	W	37	MIA
29	W	44	G
29	W	46	G7M
29	W	47	U
29	W	48	U
29	W	49	G
29	W	54	5MU
29	W	57	G
29	W	58	A
29	W	60	U
29	W	64	U
29	W	65	C
29	W	69	C
29	W	72	U
29	W	73	G
29	W	75	C
29	W	76	A
30	W1	9	A
30	W1	10	G
30	W1	11	C
30	W1	22	G
30	W1	35	A
30	W1	44	G
30	W1	46	G7M
31	Y	15	G
31	Y	16	C
31	Y	17	H2U
31	Y	18	G
31	Y	19	G
31	Y	20	G
31	Y	21	A
31	Y	22	G
31	Y	34	G
31	Y	36	C
31	Y	39	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	Y	45	G
31	Y	46	G7M
31	Y	48	C
31	Y	49	A
31	Y	64	C
31	Y	72	C
31	Y	73	A
31	Y	76	A
32	Y1	10	G
32	Y1	11	C
32	Y1	22	G
32	Y1	34	CM0
32	Y1	46	7MG
32	Y1	47	U

All (122) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
5	72	43	G
5	72	134	G
5	72	158	U
5	72	277	G
5	72	285	G
5	72	352	A
5	72	404	A
5	72	504	A
5	72	747	5MU
5	72	748	G
5	72	784	G
5	72	827	U
5	72	1020	A
5	72	1046	A
5	72	1130	U
5	72	1211	C
5	72	1266	G
5	72	1416	G
5	72	1419	A
5	72	1420	A
5	72	1475	G
5	72	1490	A
5	72	1580	A
5	72	1847	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	72	1927	A
5	72	2061	G
5	72	2117	A
5	72	2120	G
5	72	2151	U
5	72	2169	A
5	72	2175	C
5	72	2176	A
5	72	2198	A
5	72	2430	A
5	72	2581	G
5	72	2756	U
6	82	3	C
6	82	39	A
6	82	88	C
7	A1	5	U
7	A1	7	A
7	A1	51	A
7	A1	70	U
7	A1	129	A
7	A1	173	U
7	A1	197	A
7	A1	209	U
7	A1	251	G
7	A1	274	A
7	A1	372	C
7	A1	421	U
7	A1	428	G
7	A1	438	U
7	A1	535	A
7	A1	559	A
7	A1	575	G
7	A1	653	U
7	A1	686	U
7	A1	870	U
7	A1	884	U
7	A1	992	U
7	A1	993	G
7	A1	1054	C
7	A1	1067	A
7	A1	1085	U
7	A1	1182	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A1	1190	G
7	A1	1201	A
7	A1	1302	C
7	A1	1335	U
7	A1	1432	G
7	A1	1440	U
7	A1	1452	C
7	A1	1463	U
7	A1	1536	C
7	A2	7	A
7	A2	30	U
7	A2	70	U
7	A2	183	C
7	A2	208	U
7	A2	209	U
7	A2	251	G
7	A2	367	U
7	A2	411	A
7	A2	428	G
7	A2	438	U
7	A2	537	G
7	A2	717	U
7	A2	845	A
7	A2	992	U
7	A2	993	G
7	A2	1085	U
7	A2	1101	A
7	A2	1129	C
7	A2	1136	C
7	A2	1140	C
7	A2	1168	U
7	A2	1190	G
7	A2	1201	A
7	A2	1256	A
7	A2	1281	C
7	A2	1297	G
7	A2	1319	A
7	A2	1534	A
7	A2	1535	C
28	V2	8	A
28	V2	23	C
28	V2	31	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
28	V2	36	A
28	V2	37	A
28	V2	39	A
28	V2	46	C
28	V2	53	G
29	W	9	A
29	W	43	G
29	W	48	U
30	W1	21	A
30	W1	43	C
31	Y	17	H2U
31	Y	63	G
32	Y1	10	G
32	Y1	46	7MG

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

64 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
5	PSU	72	2504	5,48	18,21,22	4.69	8 (44%)	22,30,33	1.85	5 (22%)
5	OMG	72	2251	31,5	23,26,27	2.59	6 (26%)	33,38,41	2.41	10 (30%)
5	6MZ	72	2030	5	22,25,26	2.83	5 (22%)	30,36,39	2.43	11 (36%)
5	3TD	71	1915	5	19,22,23	4.07	7 (36%)	21,32,35	1.75	3 (14%)
29	5MU	W	54	29	19,22,23	4.11	14 (73%)	28,32,35	3.89	14 (50%)
30	PSU	W1	39	30	18,21,22	4.67	8 (44%)	22,30,33	1.85	5 (22%)
5	PSU	72	2580	5	18,21,22	4.65	8 (44%)	22,30,33	1.85	6 (27%)
7	5MC	A1	967	7	18,22,23	4.04	7 (38%)	26,32,35	1.02	2 (7%)
5	5MU	72	747	5	19,22,23	0.27	0	28,32,35	0.58	0
7	G7M	A2	527	7	23,26,27	4.41	14 (60%)	35,39,42	1.94	12 (34%)
5	3TD	72	1915	5	19,22,23	0.83	1 (5%)	21,32,35	0.70	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
31	G7M	Y	46	31	23,26,27	2.85	9 (39%)	35,39,42	1.74	8 (22%)
7	2MG	A2	966	7	23,26,27	3.10	8 (34%)	32,38,41	2.51	11 (34%)
5	6MZ	72	1618	5	22,25,26	2.78	4 (18%)	30,36,39	2.49	10 (33%)
29	H2U	W	20	29	18,21,22	3.06	5 (27%)	21,30,33	2.03	5 (23%)
5	1MG	72	745	5	22,26,27	2.72	5 (22%)	33,39,42	2.27	8 (24%)
5	2MG	72	2445	5	23,26,27	3.12	8 (34%)	32,38,41	2.50	11 (34%)
31	H2U	Y	17	31	18,21,22	3.09	5 (27%)	21,30,33	2.02	5 (23%)
31	PSU	Y	55	31	18,21,22	5.79	14 (77%)	22,30,33	1.98	5 (22%)
5	OMC	72	2498	5,48	19,22,23	3.29	8 (42%)	26,31,34	0.75	0
30	MIA	W1	37	30	28,31,32	2.42	5 (17%)	40,44,47	2.82	16 (40%)
5	PSU	72	2604	5	18,21,22	4.65	8 (44%)	22,30,33	1.88	5 (22%)
7	MA6	A1	1518	7	23,26,27	1.35	3 (13%)	34,38,41	3.31	13 (38%)
29	PSU	W	55	29	18,21,22	5.78	13 (72%)	22,30,33	2.12	5 (22%)
7	2MG	A1	1516	7	23,26,27	3.13	8 (34%)	32,38,41	2.51	11 (34%)
7	UR3	A2	1498	7	19,22,23	2.78	8 (42%)	26,32,35	1.33	3 (11%)
32	7MG	Y1	46	32	22,26,27	3.89	10 (45%)	29,39,42	2.03	9 (31%)
29	4SU	W	8	29	18,21,22	3.81	7 (38%)	26,30,33	2.28	4 (15%)
30	G7M	W1	46	30	23,26,27	2.86	8 (34%)	35,39,42	1.94	8 (22%)
29	MIA	W	37	29	28,31,32	2.37	5 (17%)	40,44,47	3.11	19 (47%)
7	4OC	A2	1402	7	20,23,24	3.25	8 (40%)	26,32,35	0.91	1 (3%)
7	4OC	A1	1402	7	20,23,24	3.25	8 (40%)	26,32,35	0.89	1 (3%)
7	MA6	A2	1519	7	23,26,27	1.35	3 (13%)	34,38,41	3.30	14 (41%)
5	2MA	72	2503	5,48	22,25,26	4.09	8 (36%)	33,37,40	3.53	9 (27%)
5	G7M	72	2069	5	23,26,27	2.82	9 (39%)	35,39,42	1.73	9 (25%)
7	5MC	A2	1407	7	18,22,23	4.04	7 (38%)	26,32,35	0.96	2 (7%)
7	MA6	A1	1519	7	23,26,27	1.34	3 (13%)	34,38,41	3.30	14 (41%)
30	PSU	W1	32	30	18,21,22	4.66	8 (44%)	22,30,33	1.83	5 (22%)
7	2MG	A1	966	7	23,26,27	3.09	8 (34%)	32,38,41	2.56	12 (37%)
5	PSU	72	955	5	18,21,22	4.68	8 (44%)	22,30,33	1.87	5 (22%)
5	5MU	72	1939	5	19,22,23	4.16	15 (78%)	28,32,35	4.12	12 (42%)
29	H2U	W	17	29	18,21,22	3.06	5 (27%)	21,30,33	2.02	5 (23%)
5	PSU	72	2605	5	18,21,22	4.65	8 (44%)	22,30,33	1.83	5 (22%)
7	5MC	A1	1407	7	18,22,23	4.04	7 (38%)	26,32,35	0.96	2 (7%)
29	G7M	W	46	29	23,26,27	2.85	9 (39%)	35,39,42	1.87	7 (20%)
7	2MG	A2	1207	7	23,26,27	3.11	8 (34%)	32,38,41	2.53	11 (34%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	5MC	72	1962	5	18,22,23	4.04	7 (38%)	26,32,35	1.05	2 (7%)
5	PSU	72	2457	5	18,21,22	4.65	8 (44%)	22,30,33	1.89	5 (22%)
5	2MG	72	1835	5	23,26,27	3.08	8 (34%)	32,38,41	2.57	12 (37%)
5	OMU	72	2552	5	19,22,23	3.22	8 (42%)	26,31,34	1.68	5 (19%)
32	CM0	Y1	34	32	23,26,27	3.74	6 (26%)	27,37,40	1.60	3 (11%)
7	MA6	A2	1518	7	23,26,27	1.35	3 (13%)	34,38,41	3.30	14 (41%)
29	PSU	W	32	29	18,21,22	4.66	8 (44%)	22,30,33	1.88	5 (22%)
7	G7M	A1	527	7	23,26,27	2.84	9 (39%)	35,39,42	1.73	9 (25%)
7	UR3	A1	1498	7	19,22,23	2.77	8 (42%)	26,32,35	1.28	1 (3%)
32	6MZ	Y1	37	32	22,25,26	2.80	5 (22%)	30,36,39	2.49	12 (40%)
7	2MG	A2	1516	7	23,26,27	3.11	8 (34%)	32,38,41	2.49	11 (34%)
29	H2U	W	16	29	18,21,22	3.04	5 (27%)	21,30,33	1.99	5 (23%)
31	5MU	Y	54	31	19,22,23	4.12	14 (73%)	28,32,35	3.97	12 (42%)
7	2MG	A1	1207	7	23,26,27	3.09	8 (34%)	32,38,41	2.48	10 (31%)
5	PSU	72	746	5	18,21,22	0.91	1 (5%)	22,30,33	0.61	0
7	5MC	A2	967	7	18,22,23	4.04	7 (38%)	26,32,35	1.00	2 (7%)
5	H2U	72	2449	5,48	18,21,22	3.05	5 (27%)	21,30,33	2.05	5 (23%)
30	4SU	W1	8	30	18,21,22	3.80	7 (38%)	26,30,33	2.24	5 (19%)

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
5	PSU	72	2504	5,48	-	0/7/25/26	0/2/2/2
5	OMG	72	2251	31,5	-	3/9/27/28	0/3/3/3
5	6MZ	72	2030	5	-	3/9/27/28	0/3/3/3
5	3TD	71	1915	5	-	1/7/25/26	0/2/2/2
29	5MU	W	54	29	-	3/7/25/26	0/2/2/2
30	PSU	W1	39	30	-	0/7/25/26	0/2/2/2
5	PSU	72	2580	5	-	0/7/25/26	0/2/2/2
7	5MC	A1	967	7	-	0/7/25/26	0/2/2/2
5	5MU	72	747	5	-	1/7/25/26	0/2/2/2
7	G7M	A2	527	7	-	2/7/25/26	0/3/3/3
5	3TD	72	1915	5	-	2/7/25/26	0/2/2/2
31	G7M	Y	46	31	-	2/7/25/26	0/3/3/3

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	2MG	A2	966	7	-	0/9/27/28	0/3/3/3
5	6MZ	72	1618	5	-	4/9/27/28	0/3/3/3
29	H2U	W	20	29	-	3/7/38/39	0/2/2/2
5	1MG	72	745	5	-	0/7/25/26	0/3/3/3
5	2MG	72	2445	5	-	0/9/27/28	0/3/3/3
31	H2U	Y	17	31	-	7/7/38/39	0/2/2/2
31	PSU	Y	55	31	-	2/7/25/26	0/2/2/2
5	OMC	72	2498	5,48	-	2/9/27/28	0/2/2/2
30	MIA	W1	37	30	-	6/15/33/34	0/3/3/3
5	PSU	72	2604	5	-	0/7/25/26	0/2/2/2
7	MA6	A1	1518	7	-	3/11/29/30	0/3/3/3
29	PSU	W	55	29	-	1/7/25/26	0/2/2/2
7	2MG	A1	1516	7	-	0/9/27/28	0/3/3/3
7	UR3	A2	1498	7	-	2/7/25/26	0/2/2/2
32	7MG	Y1	46	32	-	1/7/37/38	0/3/3/3
29	4SU	W	8	29	-	0/7/25/26	0/2/2/2
30	G7M	W1	46	30	-	4/7/25/26	0/3/3/3
29	MIA	W	37	29	-	6/15/33/34	0/3/3/3
7	4OC	A2	1402	7	-	1/9/29/30	0/2/2/2
7	4OC	A1	1402	7	-	1/9/29/30	0/2/2/2
7	MA6	A2	1519	7	-	2/11/29/30	0/3/3/3
5	2MA	72	2503	5,48	-	0/7/25/26	0/3/3/3
5	G7M	72	2069	5	-	2/7/25/26	0/3/3/3
7	5MC	A2	1407	7	-	0/7/25/26	0/2/2/2
7	MA6	A1	1519	7	-	4/11/29/30	0/3/3/3
30	PSU	W1	32	30	-	0/7/25/26	0/2/2/2
7	2MG	A1	966	7	-	0/9/27/28	0/3/3/3
5	PSU	72	955	5	-	0/7/25/26	0/2/2/2
5	5MU	72	1939	5	-	2/7/25/26	0/2/2/2
29	H2U	W	17	29	-	2/7/38/39	0/2/2/2
5	PSU	72	2605	5	-	0/7/25/26	0/2/2/2
7	5MC	A1	1407	7	-	0/7/25/26	0/2/2/2
29	G7M	W	46	29	-	2/7/25/26	0/3/3/3
7	2MG	A2	1207	7	-	0/9/27/28	0/3/3/3
5	5MC	72	1962	5	-	0/7/25/26	0/2/2/2
5	PSU	72	2457	5	-	0/7/25/26	0/2/2/2
5	2MG	72	1835	5	-	0/9/27/28	0/3/3/3
5	OMU	72	2552	5	-	0/9/27/28	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	CM0	Y1	34	32	-	4/12/30/31	0/2/2/2
7	MA6	A2	1518	7	-	0/11/29/30	0/3/3/3
29	PSU	W	32	29	-	3/7/25/26	0/2/2/2
7	G7M	A1	527	7	-	1/7/25/26	0/3/3/3
7	UR3	A1	1498	7	-	2/7/25/26	0/2/2/2
32	6MZ	Y1	37	32	-	2/9/27/28	0/3/3/3
7	2MG	A2	1516	7	-	0/9/27/28	0/3/3/3
29	H2U	W	16	29	-	1/7/38/39	0/2/2/2
31	5MU	Y	54	31	-	0/7/25/26	0/2/2/2
7	2MG	A1	1207	7	-	0/9/27/28	0/3/3/3
5	PSU	72	746	5	-	4/7/25/26	0/2/2/2
7	5MC	A2	967	7	-	1/7/25/26	0/2/2/2
5	H2U	72	2449	5,48	-	0/7/38/39	0/2/2/2
30	4SU	W1	8	30	-	2/7/25/26	0/2/2/2

All (466) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	Y1	34	CM0	C6-C5	12.73	1.48	1.34
5	71	1915	3TD	C6-C5	12.65	1.50	1.35
5	72	2503	2MA	C4-N3	12.42	1.50	1.34
5	72	955	PSU	C6-C5	12.25	1.49	1.35
5	72	2504	PSU	C6-C5	12.20	1.49	1.35
30	W1	39	PSU	C6-C5	12.16	1.49	1.35
31	Y	55	PSU	C6-C5	12.13	1.49	1.35
5	72	2605	PSU	C6-C5	12.12	1.49	1.35
5	72	2457	PSU	C6-C5	12.11	1.49	1.35
30	W1	32	PSU	C6-C5	12.11	1.49	1.35
29	W	32	PSU	C6-C5	12.10	1.49	1.35
5	72	2580	PSU	C6-C5	12.08	1.49	1.35
5	72	2604	PSU	C6-C5	12.08	1.49	1.35
5	72	2030	6MZ	C6-N6	12.01	1.47	1.34
29	W	55	PSU	C6-C5	11.88	1.49	1.35
32	Y1	37	6MZ	C6-N6	11.85	1.47	1.34
5	72	1618	6MZ	C6-N6	11.76	1.46	1.34
7	A2	527	G7M	C3'-C4'	-10.50	1.26	1.53
29	W	54	5MU	C3'-C2'	-10.12	1.25	1.53
29	W	55	PSU	O4'-C1'	-10.05	1.30	1.43
32	Y1	46	7MG	C8-N9	9.99	1.51	1.46
31	Y	54	5MU	C3'-C2'	-9.98	1.26	1.53
31	Y	55	PSU	O4'-C1'	-9.97	1.30	1.43

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A1	967	5MC	C6-C5	9.96	1.51	1.34
5	72	1939	5MU	C3'-C2'	-9.94	1.26	1.53
5	72	1962	5MC	C6-C5	9.92	1.50	1.34
7	A2	1407	5MC	C6-C5	9.92	1.50	1.34
7	A1	1407	5MC	C6-C5	9.89	1.50	1.34
7	A2	967	5MC	C6-C5	9.89	1.50	1.34
5	72	2604	PSU	C2-N1	9.66	1.49	1.36
5	72	2504	PSU	C2-N1	9.65	1.49	1.36
29	W	32	PSU	C2-N1	9.64	1.49	1.36
29	W	55	PSU	C2-N1	9.62	1.49	1.36
30	W1	32	PSU	C2-N1	9.61	1.49	1.36
30	W1	39	PSU	C2-N1	9.58	1.49	1.36
5	72	955	PSU	C2-N1	9.58	1.49	1.36
5	72	2457	PSU	C2-N1	9.56	1.49	1.36
5	72	2580	PSU	C2-N1	9.56	1.49	1.36
5	72	2605	PSU	C2-N1	9.54	1.49	1.36
31	Y	17	H2U	C2-N1	9.43	1.49	1.35
29	W	20	H2U	C2-N1	9.42	1.49	1.35
29	W	17	H2U	C2-N1	9.41	1.49	1.35
5	72	2449	H2U	C2-N1	9.39	1.49	1.35
31	Y	55	PSU	C2-N1	9.38	1.49	1.36
29	W	16	H2U	C2-N1	9.28	1.48	1.35
29	W	8	4SU	C4-N3	9.08	1.47	1.37
30	W1	8	4SU	C4-N3	8.94	1.47	1.37
5	71	1915	3TD	C2-N1	8.82	1.48	1.37
7	A2	527	G7M	C2'-C1'	-8.48	1.26	1.53
7	A2	1207	2MG	C2-N3	8.29	1.47	1.31
30	W1	32	PSU	C2-N3	8.29	1.51	1.37
7	A1	1516	2MG	C2-N3	8.28	1.47	1.31
5	72	2504	PSU	C2-N3	8.28	1.51	1.37
5	72	2457	PSU	C2-N3	8.27	1.51	1.37
30	W1	39	PSU	C2-N3	8.27	1.51	1.37
29	W	32	PSU	C2-N3	8.25	1.51	1.37
5	72	2445	2MG	C2-N3	8.25	1.47	1.31
5	72	955	PSU	C2-N3	8.24	1.51	1.37
5	72	2580	PSU	C2-N3	8.23	1.51	1.37
7	A2	1516	2MG	C2-N3	8.22	1.47	1.31
5	72	2604	PSU	C2-N3	8.21	1.51	1.37
31	Y	55	PSU	C2-N3	8.20	1.51	1.37
5	72	2605	PSU	C2-N3	8.20	1.51	1.37
7	A2	966	2MG	C2-N3	8.20	1.47	1.31
7	A1	966	2MG	C2-N3	8.17	1.47	1.31

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
30	W1	37	MIA	C6-N6	8.12	1.47	1.34
7	A1	1207	2MG	C2-N3	8.10	1.47	1.31
29	W	55	PSU	C2-N3	8.09	1.51	1.37
32	Y1	46	7MG	C5-N7	8.06	1.44	1.35
5	72	1835	2MG	C2-N3	8.03	1.47	1.31
5	72	2503	2MA	C2-N3	7.98	1.48	1.34
29	W	37	MIA	C2-S10	7.82	1.82	1.75
29	W	55	PSU	C3'-C4'	-7.76	1.33	1.53
30	W1	37	MIA	C2-S10	7.70	1.82	1.75
31	Y	55	PSU	C3'-C4'	-7.70	1.33	1.53
32	Y1	34	CM0	C2-N1	7.52	1.50	1.38
7	A2	967	5MC	C4-N3	7.50	1.46	1.34
29	W	37	MIA	C6-N6	7.49	1.46	1.34
5	72	1962	5MC	C4-N3	7.48	1.46	1.34
7	A1	967	5MC	C4-N3	7.40	1.46	1.34
7	A1	1407	5MC	C4-N3	7.40	1.46	1.34
7	A2	1407	5MC	C4-N3	7.38	1.46	1.34
5	72	2251	OMG	C2-N2	7.22	1.51	1.34
7	A2	1498	UR3	C2-N1	7.22	1.48	1.38
7	A1	1498	UR3	C2-N1	7.19	1.48	1.38
7	A2	1402	4OC	C4-N3	7.14	1.45	1.32
7	A1	1402	4OC	C4-N3	7.13	1.45	1.32
32	Y1	34	CM0	C2-N3	7.10	1.50	1.38
5	72	2552	OMU	C2-N3	7.03	1.50	1.38
5	72	2445	2MG	C4-N3	7.01	1.50	1.34
29	W	8	4SU	C2-N3	7.00	1.50	1.38
5	72	1962	5MC	C2-N3	7.00	1.50	1.36
7	A1	1516	2MG	C4-N3	6.99	1.50	1.34
7	A2	967	5MC	C2-N3	6.99	1.50	1.36
5	72	745	1MG	C2-N3	6.99	1.47	1.34
7	A1	1407	5MC	C2-N3	6.97	1.50	1.36
7	A1	967	5MC	C2-N3	6.95	1.50	1.36
7	A2	1407	5MC	C2-N3	6.94	1.50	1.36
5	72	2498	OMC	C2-N3	6.94	1.50	1.36
7	A2	1207	2MG	C4-N3	6.93	1.50	1.34
7	A2	1516	2MG	C4-N3	6.92	1.50	1.34
29	W	55	PSU	O4'-C4'	6.91	1.60	1.45
5	72	1835	2MG	C4-N3	6.91	1.50	1.34
30	W1	8	4SU	C2-N3	6.90	1.50	1.38
7	A2	966	2MG	C4-N3	6.87	1.50	1.34
7	A1	966	2MG	C4-N3	6.84	1.50	1.34
30	W1	46	G7M	C4-N3	6.80	1.50	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	Y	55	PSU	O4'-C4'	6.79	1.60	1.45
5	72	2503	2MA	C6-N1	6.79	1.44	1.35
7	A1	1207	2MG	C4-N3	6.79	1.50	1.34
29	W	46	G7M	C4-N3	6.74	1.50	1.34
31	Y	46	G7M	C4-N3	6.63	1.50	1.34
30	W1	46	G7M	C2-N2	6.61	1.49	1.34
31	Y	46	G7M	C2-N2	6.60	1.49	1.34
7	A1	527	G7M	C2-N2	6.59	1.49	1.34
7	A1	527	G7M	C4-N3	6.58	1.49	1.34
5	72	2069	G7M	C4-N3	6.58	1.49	1.34
29	W	46	G7M	C2-N2	6.57	1.49	1.34
5	72	2069	G7M	C2-N2	6.54	1.49	1.34
31	Y	17	H2U	C2-N3	6.54	1.49	1.38
7	A1	1516	2MG	C2-N2	6.53	1.47	1.33
5	72	2445	2MG	C2-N2	6.53	1.47	1.33
7	A1	1207	2MG	C2-N2	6.53	1.47	1.33
7	A2	1516	2MG	C2-N2	6.51	1.47	1.33
5	72	2552	OMU	C2-N1	6.51	1.48	1.38
7	A2	527	G7M	C2-N2	6.51	1.49	1.34
7	A2	966	2MG	C2-N2	6.50	1.47	1.33
7	A2	1207	2MG	C2-N2	6.49	1.47	1.33
29	W	17	H2U	C2-N3	6.48	1.49	1.38
29	W	16	H2U	C2-N3	6.48	1.49	1.38
29	W	20	H2U	C2-N3	6.46	1.49	1.38
5	72	745	1MG	C4-N3	6.45	1.49	1.34
7	A1	966	2MG	C2-N2	6.45	1.47	1.33
5	72	2449	H2U	C2-N3	6.43	1.49	1.38
5	72	1835	2MG	C2-N2	6.43	1.47	1.33
5	72	745	1MG	C2-N2	6.42	1.45	1.34
7	A1	1402	4OC	C6-C5	6.42	1.50	1.35
7	A2	1402	4OC	C6-C5	6.36	1.49	1.35
7	A2	1402	4OC	C2-N3	6.32	1.49	1.36
7	A2	527	G7M	C4-N3	6.30	1.49	1.34
7	A1	1402	4OC	C2-N3	6.28	1.49	1.36
7	A1	1498	UR3	C6-C5	6.19	1.49	1.35
7	A2	1498	UR3	C6-C5	6.17	1.49	1.35
5	72	2498	OMC	C6-C5	6.14	1.49	1.35
5	72	2503	2MA	C2-N1	6.11	1.44	1.34
31	Y	54	5MU	C2-N1	-6.03	1.28	1.38
29	W	8	4SU	C4-S4	-6.01	1.57	1.68
30	W1	8	4SU	C4-S4	-6.00	1.57	1.68
5	72	2251	OMG	C4-N3	5.96	1.48	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	72	1939	5MU	C2-N1	-5.93	1.28	1.38
31	Y	46	G7M	C2-N3	5.90	1.47	1.33
30	W1	46	G7M	C2-N3	5.90	1.47	1.33
32	Y1	46	7MG	C2-N3	5.89	1.47	1.33
5	72	2504	PSU	C6-N1	5.86	1.46	1.36
29	W	8	4SU	C2-N1	5.84	1.47	1.38
30	W1	8	4SU	C2-N1	5.84	1.47	1.38
30	W1	8	4SU	C6-C5	5.83	1.48	1.35
29	W	46	G7M	C2-N3	5.83	1.47	1.33
7	A1	527	G7M	C2-N3	5.83	1.47	1.33
5	72	2069	G7M	C2-N3	5.83	1.47	1.33
30	W1	39	PSU	C6-N1	5.82	1.45	1.36
5	72	2604	PSU	C6-N1	5.81	1.45	1.36
30	W1	32	PSU	C6-N1	5.79	1.45	1.36
29	W	32	PSU	C6-N1	5.78	1.45	1.36
5	72	2605	PSU	C6-N1	5.78	1.45	1.36
5	72	955	PSU	C6-N1	5.78	1.45	1.36
5	72	2457	PSU	C6-N1	5.77	1.45	1.36
5	72	2580	PSU	C6-N1	5.77	1.45	1.36
29	W	8	4SU	C6-C5	5.70	1.48	1.35
7	A1	1407	5MC	C4-N4	5.70	1.48	1.34
7	A2	1407	5MC	C4-N4	5.70	1.48	1.34
7	A1	967	5MC	C4-N4	5.69	1.48	1.34
7	A2	967	5MC	C4-N4	5.67	1.48	1.34
7	A2	527	G7M	O4'-C1'	5.65	1.55	1.42
5	72	1962	5MC	C4-N4	5.65	1.48	1.34
7	A2	527	G7M	O4'-C4'	5.64	1.57	1.45
7	A1	967	5MC	C6-N1	5.61	1.47	1.38
29	W	54	5MU	C2-N1	-5.61	1.29	1.38
7	A1	1407	5MC	C6-N1	5.60	1.47	1.38
32	Y1	46	7MG	C4-N3	5.60	1.47	1.34
29	W	55	PSU	C6-N1	5.59	1.45	1.36
31	Y	55	PSU	C6-N1	5.59	1.45	1.36
7	A2	1407	5MC	C6-N1	5.58	1.47	1.38
32	Y1	46	7MG	C4-N9	5.54	1.44	1.37
5	72	2498	OMC	C4-N3	5.54	1.45	1.34
5	72	2552	OMU	C6-C5	5.53	1.47	1.35
7	A2	967	5MC	C6-N1	5.51	1.47	1.38
5	72	1962	5MC	C6-N1	5.50	1.47	1.38
5	71	1915	3TD	C6-N1	5.50	1.45	1.36
7	A2	527	G7M	C2-N3	5.47	1.46	1.33
7	A1	1516	2MG	C2-N1	5.43	1.45	1.36

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A2	1516	2MG	C2-N1	5.42	1.45	1.36
7	A2	966	2MG	C2-N1	5.41	1.45	1.36
7	A1	966	2MG	C2-N1	5.40	1.45	1.36
7	A1	1207	2MG	C2-N1	5.40	1.45	1.36
5	72	2445	2MG	C2-N1	5.39	1.45	1.36
31	Y	54	5MU	O4'-C1'	-5.38	1.29	1.42
5	72	1835	2MG	C2-N1	5.38	1.45	1.36
5	72	1939	5MU	O4'-C1'	-5.36	1.29	1.42
7	A2	1207	2MG	C2-N1	5.35	1.45	1.36
5	72	2251	OMG	C2-N3	5.34	1.46	1.33
5	72	2503	2MA	C5-C6	5.32	1.55	1.41
5	72	2498	OMC	C4-N4	5.22	1.46	1.33
7	A2	1498	UR3	C2-N3	5.15	1.49	1.39
7	A2	1402	4OC	C4-N4	5.12	1.46	1.35
7	A1	1498	UR3	C2-N3	5.11	1.48	1.39
7	A1	1402	4OC	C4-N4	5.09	1.46	1.35
29	W	54	5MU	O4'-C1'	-4.99	1.30	1.42
29	W	20	H2U	C4-N3	4.98	1.46	1.37
31	Y	17	H2U	C4-N3	4.96	1.46	1.37
29	W	17	H2U	C4-N3	4.94	1.46	1.37
5	72	2449	H2U	C4-N3	4.90	1.45	1.37
29	W	54	5MU	C2-N3	-4.86	1.29	1.38
29	W	16	H2U	C4-N3	4.83	1.45	1.37
5	72	1939	5MU	C2-N3	-4.80	1.29	1.38
32	Y1	46	7MG	C2-N2	4.73	1.45	1.34
31	Y	54	5MU	C5'-C4'	-4.72	1.36	1.51
31	Y	54	5MU	C2-N3	-4.71	1.29	1.38
5	72	1962	5MC	C2-N1	4.65	1.50	1.40
5	72	2552	OMU	C4-N3	4.64	1.46	1.38
7	A2	967	5MC	C2-N1	4.62	1.50	1.40
7	A2	1407	5MC	C2-N1	4.62	1.50	1.40
7	A2	527	G7M	C2'-C3'	4.60	1.65	1.53
7	A1	1407	5MC	C2-N1	4.60	1.50	1.40
7	A1	967	5MC	C2-N1	4.57	1.49	1.40
29	W	54	5MU	O4'-C4'	4.57	1.55	1.45
29	W	54	5MU	C2'-C1'	4.57	1.68	1.53
5	72	1939	5MU	O4'-C4'	4.53	1.55	1.45
5	72	2498	OMC	C2-N1	4.48	1.49	1.40
5	72	1939	5MU	C6-N1	-4.46	1.30	1.38
29	W	54	5MU	C6-N1	-4.46	1.30	1.38
5	72	2504	PSU	C4-N3	4.44	1.47	1.38
29	W	54	5MU	C5'-C4'	-4.44	1.37	1.51

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	72	2552	OMU	O4-C4	-4.42	1.15	1.24
32	Y1	34	CM0	C6-N1	4.40	1.45	1.38
5	72	955	PSU	C4-N3	4.39	1.47	1.38
31	Y	54	5MU	C2'-C1'	4.39	1.67	1.53
30	W1	39	PSU	C4-N3	4.39	1.47	1.38
5	72	2605	PSU	C4-N3	4.37	1.46	1.38
30	W1	32	PSU	C4-N3	4.37	1.46	1.38
5	72	2580	PSU	C4-N3	4.36	1.46	1.38
7	A1	1402	4OC	C2-N1	4.33	1.49	1.40
5	72	2604	PSU	C4-N3	4.32	1.46	1.38
7	A2	527	G7M	C5-N7	-4.31	1.34	1.39
29	W	46	G7M	C5-N7	-4.31	1.34	1.39
31	Y	54	5MU	C6-N1	-4.31	1.30	1.38
29	W	32	PSU	C4-N3	4.30	1.46	1.38
5	72	2457	PSU	C4-N3	4.29	1.46	1.38
30	W1	46	G7M	C5-N7	-4.28	1.34	1.39
7	A2	1402	4OC	C2-N1	4.27	1.49	1.40
31	Y	54	5MU	O4'-C4'	4.25	1.54	1.45
5	71	1915	3TD	C2-N3	4.22	1.48	1.38
31	Y	55	PSU	C4-N3	4.21	1.46	1.38
5	72	1939	5MU	C2'-C1'	4.18	1.66	1.53
5	72	2498	OMC	O2-C2	-4.14	1.16	1.23
5	72	1939	5MU	C5'-C4'	-4.13	1.38	1.51
7	A1	527	G7M	C5-N7	-4.06	1.34	1.39
29	W	55	PSU	C4-N3	4.06	1.46	1.38
5	72	2069	G7M	C5-N7	-4.04	1.34	1.39
31	Y	46	G7M	C5-N7	-4.01	1.34	1.39
7	A1	1402	4OC	C5-C4	3.98	1.49	1.40
30	W1	46	G7M	C5-C6	3.98	1.54	1.43
31	Y	46	G7M	C5-C6	3.94	1.54	1.43
7	A1	527	G7M	C5-C6	3.94	1.54	1.43
7	A2	1402	4OC	C5-C4	3.91	1.49	1.40
5	72	2069	G7M	C5-C6	3.90	1.54	1.43
29	W	46	G7M	C5-C6	3.90	1.54	1.43
32	Y1	34	CM0	C4-N3	3.88	1.46	1.38
7	A2	1518	MA6	C6-N6	3.88	1.48	1.36
5	72	2498	OMC	C6-N1	3.87	1.47	1.38
7	A2	527	G7M	C5-C6	3.84	1.54	1.43
7	A2	1519	MA6	C6-N6	3.83	1.48	1.36
7	A1	1519	MA6	C6-N6	3.83	1.48	1.36
32	Y1	46	7MG	C2-N1	3.81	1.47	1.37
7	A1	1518	MA6	C6-N6	3.79	1.48	1.36

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	72	2552	OMU	C6-N1	3.75	1.47	1.38
5	72	1939	5MU	O3'-C3'	3.64	1.51	1.43
30	W1	8	4SU	C5-C4	3.56	1.47	1.42
5	72	2503	2MA	C5-N7	-3.56	1.32	1.39
32	Y1	46	7MG	C5-C6	3.53	1.52	1.43
5	72	2552	OMU	O2-C2	-3.52	1.16	1.23
5	72	746	PSU	C6-C5	3.51	1.39	1.35
31	Y	55	PSU	O4-C4	-3.50	1.16	1.23
5	72	745	1MG	C5-C6	3.45	1.54	1.45
32	Y1	46	7MG	C6-N1	3.44	1.45	1.38
5	72	2503	2MA	C8-N7	3.44	1.38	1.31
5	72	1939	5MU	C4-N3	-3.43	1.32	1.38
29	W	54	5MU	C4-N3	-3.42	1.32	1.38
30	W1	8	4SU	C6-N1	3.40	1.46	1.38
5	72	1915	3TD	C6-C5	3.39	1.39	1.35
29	W	8	4SU	C6-N1	3.37	1.46	1.38
5	72	1939	5MU	C6-C5	3.36	1.40	1.34
29	W	55	PSU	O4-C4	-3.34	1.17	1.23
5	72	2251	OMG	C2-N1	3.32	1.45	1.37
29	W	8	4SU	C5-C4	3.32	1.46	1.42
7	A1	1402	4OC	C6-N1	3.29	1.45	1.38
7	A2	1402	4OC	C6-N1	3.28	1.45	1.38
31	Y	54	5MU	C4-N3	-3.28	1.32	1.38
29	W	54	5MU	C6-C5	3.27	1.40	1.34
31	Y	54	5MU	C6-C5	3.24	1.39	1.34
5	72	955	PSU	O4-C4	-3.23	1.17	1.23
5	72	2605	PSU	O4-C4	-3.22	1.17	1.23
29	W	32	PSU	O4-C4	-3.18	1.17	1.23
5	72	2604	PSU	O4-C4	-3.18	1.17	1.23
5	72	2580	PSU	O4-C4	-3.17	1.17	1.23
30	W1	39	PSU	O4-C4	-3.16	1.17	1.23
30	W1	32	PSU	O4-C4	-3.16	1.17	1.23
5	72	2504	PSU	O4-C4	-3.15	1.17	1.23
5	72	2457	PSU	O4-C4	-3.14	1.17	1.23
31	Y	54	5MU	O3'-C3'	3.08	1.50	1.43
31	Y	46	G7M	C6-N1	3.08	1.44	1.38
31	Y	46	G7M	C2-N1	3.07	1.45	1.37
7	A2	1498	UR3	C6-N1	3.05	1.45	1.38
7	A1	1498	UR3	C6-N1	3.04	1.45	1.38
5	72	2069	G7M	C2-N1	3.03	1.45	1.37
7	A1	527	G7M	C2-N1	3.02	1.45	1.37
29	W	54	5MU	O3'-C3'	2.99	1.50	1.43

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A1	527	G7M	C6-N1	2.98	1.44	1.38
30	W1	46	G7M	C2-N1	2.97	1.45	1.37
29	W	46	G7M	C6-N1	2.96	1.44	1.38
30	W1	46	G7M	C6-N1	2.96	1.44	1.38
5	72	2069	G7M	C6-N1	2.95	1.44	1.38
29	W	46	G7M	C2-N1	2.94	1.44	1.37
7	A1	966	2MG	C5-C6	2.94	1.55	1.44
5	72	1835	2MG	C5-C6	2.92	1.55	1.44
5	72	2445	2MG	C5-C6	2.92	1.55	1.44
7	A2	1207	2MG	C5-C6	2.91	1.55	1.44
7	A1	1516	2MG	C5-C6	2.91	1.55	1.44
7	A2	1516	2MG	C5-C6	2.90	1.55	1.44
7	A1	1207	2MG	C5-C6	2.89	1.55	1.44
7	A2	966	2MG	C5-C6	2.89	1.55	1.44
7	A2	527	G7M	C2-N1	2.89	1.44	1.37
5	72	2498	OMC	C5-C4	2.86	1.49	1.42
29	W	55	PSU	O3'-C3'	2.85	1.49	1.43
5	72	1939	5MU	C3'-C4'	2.82	1.60	1.53
5	72	2580	PSU	C1'-C5	2.82	1.56	1.50
5	72	2445	2MG	C5-N7	-2.81	1.33	1.39
5	72	2605	PSU	C1'-C5	2.80	1.56	1.50
5	72	1835	2MG	C6-N1	2.80	1.44	1.38
7	A1	966	2MG	C6-N1	2.79	1.44	1.38
5	72	2504	PSU	C1'-C5	2.79	1.56	1.50
7	A2	1516	2MG	C6-N1	2.78	1.44	1.38
5	72	955	PSU	C1'-C5	2.77	1.56	1.50
7	A1	1207	2MG	C5-N7	-2.77	1.33	1.39
5	72	1835	2MG	C5-N7	-2.76	1.33	1.39
5	72	1939	5MU	O4-C4	-2.76	1.18	1.23
7	A2	1402	4OC	O2-C2	-2.75	1.18	1.23
5	72	2445	2MG	C6-N1	2.75	1.43	1.38
7	A2	1207	2MG	C5-N7	-2.74	1.33	1.39
30	W1	39	PSU	C1'-C5	2.74	1.56	1.50
7	A2	966	2MG	C5-N7	-2.74	1.33	1.39
7	A2	966	2MG	C6-N1	2.73	1.43	1.38
7	A2	1207	2MG	C6-N1	2.73	1.43	1.38
7	A2	527	G7M	C6-N1	2.72	1.43	1.38
7	A1	1516	2MG	C6-N1	2.72	1.43	1.38
5	72	2457	PSU	C1'-C5	2.72	1.56	1.50
7	A1	1516	2MG	C5-N7	-2.72	1.33	1.39
29	W	32	PSU	C1'-C5	2.71	1.56	1.50
5	72	2604	PSU	C1'-C5	2.71	1.56	1.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A2	1516	2MG	C5-N7	-2.71	1.33	1.39
30	W1	32	PSU	C1'-C5	2.70	1.56	1.50
7	A1	966	2MG	C5-N7	-2.70	1.33	1.39
7	A1	1402	4OC	O2-C2	-2.68	1.18	1.23
29	W	55	PSU	O2-C2	-2.66	1.17	1.23
5	72	745	1MG	C5-N7	-2.65	1.34	1.39
7	A1	1207	2MG	C6-N1	2.64	1.43	1.38
31	Y	55	PSU	C1'-C5	2.64	1.56	1.50
30	W1	37	MIA	C5-N7	-2.63	1.34	1.39
32	Y1	34	CM0	O5-C7	-2.62	1.38	1.44
5	72	2580	PSU	O2-C2	-2.61	1.17	1.23
31	Y	55	PSU	O2-C2	-2.61	1.17	1.23
5	72	955	PSU	O2-C2	-2.61	1.17	1.23
30	W1	32	PSU	O2-C2	-2.61	1.17	1.23
31	Y	54	5MU	O4-C4	-2.61	1.18	1.23
29	W	54	5MU	O4-C4	-2.61	1.18	1.23
31	Y	55	PSU	O3'-C3'	2.59	1.49	1.43
29	W	32	PSU	O2-C2	-2.59	1.18	1.23
5	71	1915	3TD	C4-N3	2.59	1.46	1.40
5	72	2457	PSU	O2-C2	-2.58	1.18	1.23
5	72	2605	PSU	O2-C2	-2.57	1.18	1.23
5	72	1618	6MZ	C5-N7	-2.57	1.34	1.39
5	72	2604	PSU	O2-C2	-2.57	1.18	1.23
30	W1	39	PSU	O2-C2	-2.56	1.18	1.23
7	A2	527	G7M	O6-C6	-2.55	1.18	1.23
29	W	37	MIA	C5-N7	-2.54	1.34	1.39
5	72	2504	PSU	O2-C2	-2.54	1.18	1.23
32	Y1	46	7MG	O6-C6	-2.52	1.18	1.23
5	71	1915	3TD	C1'-C5	2.51	1.56	1.50
29	W	46	G7M	O6-C6	-2.51	1.18	1.23
30	W1	46	G7M	O6-C6	-2.50	1.18	1.23
29	W	37	MIA	C5-C4	-2.49	1.34	1.39
5	72	2030	6MZ	C5-N7	-2.49	1.34	1.39
32	Y1	37	6MZ	C5-N7	-2.45	1.34	1.39
7	A1	527	G7M	O6-C6	-2.44	1.18	1.23
5	72	2069	G7M	O6-C6	-2.44	1.18	1.23
30	W1	37	MIA	C5-C4	-2.43	1.34	1.39
31	Y	46	G7M	O6-C6	-2.43	1.19	1.23
31	Y	55	PSU	C2'-C1'	2.39	1.56	1.53
29	W	55	PSU	O2'-C2'	-2.38	1.37	1.43
5	72	2251	OMG	C5-C6	2.37	1.53	1.44
7	A1	1516	2MG	O6-C6	-2.37	1.19	1.23

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	W	55	PSU	C1'-C5	2.37	1.55	1.50
7	A1	1207	2MG	O6-C6	-2.34	1.19	1.23
7	A2	1516	2MG	O6-C6	-2.34	1.19	1.23
7	A1	1518	MA6	C5-C4	-2.34	1.34	1.39
5	72	1835	2MG	O6-C6	-2.33	1.19	1.23
7	A2	1207	2MG	O6-C6	-2.33	1.19	1.23
5	72	2552	OMU	C5-C4	2.32	1.48	1.43
7	A1	966	2MG	O6-C6	-2.31	1.19	1.23
7	A2	966	2MG	O6-C6	-2.31	1.19	1.23
31	Y	55	PSU	O2'-C2'	-2.30	1.37	1.43
5	72	1939	5MU	O2-C2	-2.30	1.18	1.23
5	72	2445	2MG	O6-C6	-2.29	1.19	1.23
7	A2	967	5MC	O2-C2	-2.28	1.19	1.23
29	W	16	H2U	O2-C2	-2.27	1.18	1.23
7	A2	1407	5MC	O2-C2	-2.27	1.19	1.23
7	A1	1407	5MC	O2-C2	-2.27	1.19	1.23
5	71	1915	3TD	O4-C4	-2.26	1.18	1.23
7	A1	1519	MA6	C5-N7	-2.26	1.34	1.39
7	A1	1498	UR3	C5-C4	2.26	1.49	1.43
5	72	2449	H2U	O2-C2	-2.25	1.18	1.23
29	W	54	5MU	O2-C2	-2.25	1.18	1.23
29	W	17	H2U	O2-C2	-2.24	1.18	1.23
29	W	54	5MU	O5'-C5'	-2.24	1.39	1.44
7	A2	1518	MA6	C5-C4	-2.24	1.34	1.39
7	A2	1519	MA6	C5-C4	-2.24	1.34	1.39
7	A2	1498	UR3	C5-C4	2.24	1.49	1.43
31	Y	17	H2U	O2-C2	-2.23	1.19	1.23
7	A2	1518	MA6	C5-N7	-2.23	1.34	1.39
5	72	1962	5MC	O2-C2	-2.22	1.19	1.23
31	Y	54	5MU	O2-C2	-2.22	1.19	1.23
7	A1	967	5MC	O2-C2	-2.22	1.19	1.23
7	A2	1519	MA6	C5-N7	-2.22	1.34	1.39
7	A1	1518	MA6	C5-N7	-2.22	1.34	1.39
7	A1	1519	MA6	C5-C4	-2.20	1.34	1.39
5	72	1618	6MZ	C6-N1	-2.20	1.31	1.35
7	A2	1498	UR3	C4-N3	2.19	1.45	1.40
7	A1	1498	UR3	C4-N3	2.19	1.45	1.40
29	W	20	H2U	O2-C2	-2.18	1.19	1.23
5	72	2503	2MA	C6-N6	-2.17	1.28	1.34
7	A1	527	G7M	C8-N7	2.16	1.36	1.33
5	72	1939	5MU	C1'-N1	-2.15	1.41	1.47
31	Y	54	5MU	C3'-C4'	2.14	1.58	1.53

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	Y	46	G7M	C8-N7	2.14	1.36	1.33
7	A2	1498	UR3	O4-C4	-2.14	1.18	1.23
5	72	2449	H2U	O4-C4	-2.14	1.18	1.23
31	Y	17	H2U	O4-C4	-2.14	1.18	1.23
5	72	1618	6MZ	C5-C4	-2.13	1.35	1.39
7	A1	1498	UR3	O4-C4	-2.13	1.19	1.23
32	Y1	37	6MZ	C5-C4	-2.12	1.35	1.39
7	A2	1498	UR3	O2-C2	-2.12	1.18	1.22
29	W	17	H2U	O4-C4	-2.11	1.19	1.23
5	72	2069	G7M	C8-N7	2.11	1.36	1.33
5	72	2030	6MZ	C5-C4	-2.10	1.35	1.39
29	W	16	H2U	O4-C4	-2.09	1.19	1.23
29	W	20	H2U	O4-C4	-2.09	1.19	1.23
29	W	37	MIA	C8-N9	-2.08	1.33	1.37
7	A1	1498	UR3	O2-C2	-2.07	1.18	1.22
30	W1	37	MIA	C8-N9	-2.06	1.33	1.37
5	72	2251	OMG	C8-N7	2.06	1.38	1.32
5	72	2030	6MZ	C2-N1	2.03	1.37	1.33
5	72	2030	6MZ	C6-N1	-2.03	1.31	1.35
7	A2	527	G7M	C8-N7	2.02	1.36	1.33
32	Y1	37	6MZ	C6-N1	-2.02	1.31	1.35
32	Y1	37	6MZ	C2-N1	2.02	1.37	1.33
29	W	46	G7M	C8-N7	2.00	1.36	1.33

All (456) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	72	2503	2MA	C1'-N9-C8	-12.76	98.32	127.14
7	A1	1519	MA6	N1-C6-N6	-11.92	104.05	117.08
7	A2	1519	MA6	N1-C6-N6	-11.91	104.06	117.08
7	A1	1518	MA6	N1-C6-N6	-11.79	104.19	117.08
7	A2	1518	MA6	N1-C6-N6	-11.69	104.30	117.08
5	72	2503	2MA	C4-N9-C1'	11.17	153.20	126.59
29	W	37	MIA	C11-S10-C2	11.00	110.48	102.27
30	W1	37	MIA	C11-S10-C2	10.57	110.16	102.27
29	W	54	5MU	C5M-C5-C4	9.16	128.84	118.77
31	Y	54	5MU	C5M-C5-C4	8.87	128.53	118.77
5	72	1939	5MU	C4-N3-C2	-8.84	115.90	127.35
5	72	1939	5MU	C5M-C5-C4	8.78	128.43	118.77
31	Y	54	5MU	C4-N3-C2	-8.55	116.28	127.35
5	72	1939	5MU	C5-C6-N1	-8.30	114.80	123.34
31	Y	54	5MU	N3-C2-N1	8.08	125.62	114.89

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	72	1939	5MU	N3-C2-N1	8.04	125.56	114.89
29	W	54	5MU	N3-C2-N1	8.00	125.51	114.89
29	W	54	5MU	C4-N3-C2	-7.93	117.09	127.35
30	W1	8	4SU	C4-N3-C2	-7.87	119.69	127.34
29	W	8	4SU	C4-N3-C2	-7.82	119.74	127.34
31	Y	54	5MU	C5-C6-N1	-7.74	115.37	123.34
5	72	2449	H2U	C4-N3-C2	-7.19	119.83	125.79
5	72	1835	2MG	C2-N3-C4	7.18	120.94	112.04
29	W	54	5MU	C5M-C5-C6	-7.18	113.26	122.85
31	Y	54	5MU	C5M-C5-C6	-7.13	113.33	122.85
29	W	20	H2U	C4-N3-C2	-7.04	119.95	125.79
5	72	1939	5MU	C5M-C5-C6	-7.04	113.45	122.85
29	W	17	H2U	C4-N3-C2	-7.01	119.98	125.79
31	Y	17	H2U	C4-N3-C2	-7.01	119.98	125.79
5	72	2251	OMG	C1'-N9-C8	-6.94	106.93	126.70
5	72	2445	2MG	C2-N3-C4	6.85	120.53	112.04
29	W	16	H2U	C4-N3-C2	-6.84	120.12	125.79
29	W	54	5MU	C5-C6-N1	-6.80	116.34	123.34
30	W1	37	MIA	C5-C4-N3	-6.75	119.59	127.19
5	72	1939	5MU	C5-C4-N3	6.74	121.07	115.31
7	A1	1516	2MG	C2-N3-C4	6.70	120.34	112.04
7	A2	1207	2MG	C2-N3-C4	6.63	120.26	112.04
7	A2	966	2MG	C2-N3-C4	6.55	120.16	112.04
5	72	745	1MG	C1'-N9-C4	-6.53	107.10	126.50
7	A2	1516	2MG	C2-N3-C4	6.51	120.11	112.04
7	A1	966	2MG	C2-N3-C4	6.44	120.02	112.04
29	W	37	MIA	C5-C4-N3	-6.30	120.10	127.19
31	Y	54	5MU	C5-C4-N3	6.23	120.63	115.31
7	A1	1519	MA6	C5-C6-N6	6.21	136.12	125.30
7	A2	1519	MA6	C5-C6-N6	6.20	136.10	125.30
7	A1	1207	2MG	C2-N3-C4	6.18	119.71	112.04
5	72	745	1MG	C1'-N9-C8	6.11	144.08	126.70
7	A2	1518	MA6	C5-C6-N6	6.09	135.91	125.30
7	A1	1518	MA6	C5-C6-N6	6.06	135.85	125.30
5	72	2503	2MA	C5-C4-N3	-5.93	120.52	127.19
29	W	37	MIA	N6-C6-N1	-5.93	110.93	118.50
7	A1	966	2MG	C1'-N9-C4	-5.85	109.14	126.50
7	A1	1207	2MG	C1'-N9-C4	-5.84	109.16	126.50
5	72	1835	2MG	C5-C4-N3	-5.84	118.99	128.46
5	72	1618	6MZ	C5-C4-N3	-5.80	119.19	126.75
5	72	2251	OMG	C1'-N9-C4	5.76	143.60	126.50
7	A1	1207	2MG	C1'-N9-C8	5.74	143.03	126.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	W	54	5MU	C5-C4-N3	5.71	120.18	115.31
7	A1	966	2MG	C1'-N9-C8	5.67	142.83	126.70
5	72	2445	2MG	C5-C4-N3	-5.63	119.32	128.46
7	A2	1519	MA6	N1-C2-N3	-5.62	119.81	128.60
30	W1	8	4SU	C5-C4-N3	5.60	119.88	114.69
5	72	1618	6MZ	N1-C2-N3	-5.56	119.91	128.60
29	W	8	4SU	C5-C4-N3	5.54	119.83	114.69
32	Y1	34	CM0	C4-N3-C2	-5.54	120.17	127.35
32	Y1	37	6MZ	N1-C2-N3	-5.53	119.95	128.60
5	71	1915	3TD	N1-C2-N3	5.50	120.48	116.14
7	A2	966	2MG	C1'-N9-C4	-5.50	110.17	126.50
7	A1	1519	MA6	N1-C2-N3	-5.48	120.03	128.60
7	A1	1518	MA6	N1-C2-N3	-5.48	120.03	128.60
7	A2	1518	MA6	C1'-N9-C8	-5.47	114.78	127.14
7	A2	1518	MA6	N1-C2-N3	-5.47	120.05	128.60
5	72	2030	6MZ	N1-C2-N3	-5.45	120.08	128.60
7	A1	1518	MA6	C1'-N9-C8	-5.43	114.88	127.14
7	A1	1516	2MG	C5-C4-N3	-5.41	119.69	128.46
7	A2	1516	2MG	C1'-N9-C4	-5.40	110.47	126.50
7	A2	1207	2MG	C5-C4-N3	-5.40	119.71	128.46
7	A2	1207	2MG	C1'-N9-C4	-5.38	110.52	126.50
7	A2	966	2MG	C1'-N9-C8	5.35	141.93	126.70
7	A1	1516	2MG	C1'-N9-C4	-5.31	110.72	126.50
5	72	2030	6MZ	C5-C4-N3	-5.31	119.83	126.75
32	Y1	37	6MZ	C5-C4-N3	-5.30	119.84	126.75
7	A2	1207	2MG	C1'-N9-C8	5.29	141.75	126.70
7	A2	966	2MG	C5-C4-N3	-5.22	119.99	128.46
7	A2	1516	2MG	C1'-N9-C8	5.21	141.54	126.70
7	A1	1519	MA6	C1'-N9-C8	-5.21	115.38	127.14
7	A2	1516	2MG	C5-C4-N3	-5.21	120.02	128.46
7	A1	1516	2MG	C1'-N9-C8	5.14	141.32	126.70
5	72	2552	OMU	C4-N3-C2	-5.11	119.84	126.58
5	72	745	1MG	C5-C4-N3	-5.10	120.19	128.46
7	A1	966	2MG	C5-C4-N3	-5.09	120.20	128.46
32	Y1	46	7MG	C5-C6-N1	5.01	119.82	110.99
7	A1	1519	MA6	C5-C4-N3	-5.00	120.22	126.75
7	A2	1518	MA6	C5-C4-N3	-4.97	120.27	126.75
7	A2	1519	MA6	C1'-N9-C8	-4.94	115.98	127.14
29	W	55	PSU	C4-N3-C2	-4.92	119.25	126.34
31	Y	55	PSU	C4-N3-C2	-4.92	119.25	126.34
7	A1	1207	2MG	C5-C4-N3	-4.91	120.49	128.46
7	A2	1519	MA6	C5-C4-N3	-4.91	120.35	126.75

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A1	1518	MA6	C5-C4-N3	-4.90	120.36	126.75
5	72	1835	2MG	C2-N1-C6	-4.87	118.88	124.48
30	W1	46	G7M	C2-N3-C4	4.87	120.97	112.30
5	72	2445	2MG	C1'-N9-C4	-4.83	112.16	126.50
29	W	46	G7M	C2-N3-C4	4.83	120.90	112.30
29	W	55	PSU	N1-C2-N3	4.74	120.50	115.13
5	72	955	PSU	C4-N3-C2	-4.74	119.51	126.34
5	72	2445	2MG	C1'-N9-C8	4.73	140.15	126.70
5	72	2251	OMG	C5-C4-N3	-4.71	120.82	128.46
5	72	1835	2MG	C1'-N9-C4	-4.69	112.56	126.50
5	72	2604	PSU	C4-N3-C2	-4.68	119.60	126.34
7	A1	1518	MA6	N9-C8-N7	-4.66	107.54	113.91
7	A1	1498	UR3	C4-N3-C2	-4.65	120.18	124.56
29	W	32	PSU	C4-N3-C2	-4.65	119.64	126.34
30	W1	46	G7M	C5-C4-N3	-4.65	119.24	128.15
5	72	2503	2MA	N9-C8-N7	-4.64	107.56	113.91
30	W1	37	MIA	C4-C5-C6	4.64	120.40	116.81
7	A2	1498	UR3	C4-N3-C2	-4.64	120.20	124.56
5	72	2457	PSU	C4-N3-C2	-4.62	119.68	126.34
5	72	2580	PSU	C4-N3-C2	-4.62	119.68	126.34
5	72	1835	2MG	C1'-N9-C8	4.61	139.82	126.70
5	72	2605	PSU	C4-N3-C2	-4.60	119.71	126.34
5	72	2504	PSU	C4-N3-C2	-4.59	119.72	126.34
30	W1	39	PSU	C4-N3-C2	-4.58	119.74	126.34
30	W1	32	PSU	C4-N3-C2	-4.56	119.77	126.34
7	A2	1518	MA6	N9-C8-N7	-4.56	107.68	113.91
7	A2	1519	MA6	N9-C8-N7	-4.55	107.69	113.91
5	72	2445	2MG	C2-N1-C6	-4.52	119.27	124.48
29	W	46	G7M	C5-C4-N3	-4.52	119.48	128.15
31	Y	55	PSU	N1-C2-N3	4.48	120.21	115.13
32	Y1	46	7MG	C2-N3-C4	4.48	120.28	112.30
7	A1	966	2MG	C2-N1-C6	-4.47	119.33	124.48
7	A2	1207	2MG	C2-N1-C6	-4.43	119.38	124.48
7	A2	527	G7M	C2-N3-C4	4.41	120.16	112.30
29	W	37	MIA	N9-C8-N7	-4.39	107.91	113.91
7	A2	966	2MG	C2-N1-C6	-4.39	119.43	124.48
7	A2	1516	2MG	C2-N1-C6	-4.38	119.44	124.48
31	Y	46	G7M	C2-N3-C4	4.37	120.09	112.30
7	A1	1516	2MG	C2-N1-C6	-4.37	119.45	124.48
29	W	37	MIA	C4-N9-C1'	-4.37	116.19	126.59
7	A1	527	G7M	C2-N3-C4	4.36	120.06	112.30
5	72	2069	G7M	C2-N3-C4	4.34	120.04	112.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	W	55	PSU	C6-C5-C4	4.33	121.22	118.20
5	72	1939	5MU	O4-C4-N3	-4.32	111.83	120.12
7	A1	1519	MA6	N9-C8-N7	-4.30	108.03	113.91
5	72	1618	6MZ	C4-C5-C6	4.30	120.14	116.81
32	Y1	37	6MZ	N9-C8-N7	-4.28	108.06	113.91
32	Y1	37	6MZ	C4-N9-C1'	-4.26	116.43	126.59
5	72	2457	PSU	N1-C2-N3	4.25	119.95	115.13
7	A2	1518	MA6	C4-N9-C1'	4.25	136.71	126.59
5	72	2030	6MZ	N9-C8-N7	-4.23	108.12	113.91
5	72	2604	PSU	N1-C2-N3	4.23	119.92	115.13
5	72	2030	6MZ	C4-C5-C6	4.22	120.08	116.81
5	72	955	PSU	N1-C2-N3	4.22	119.91	115.13
5	72	2251	OMG	C2-N3-C4	4.20	119.78	112.30
29	W	32	PSU	N1-C2-N3	4.19	119.88	115.13
7	A1	1519	MA6	C4-N9-C1'	4.18	136.55	126.59
30	W1	39	PSU	N1-C2-N3	4.17	119.85	115.13
7	A1	1518	MA6	C4-N9-C1'	4.16	136.51	126.59
5	72	2580	PSU	N1-C2-N3	4.15	119.83	115.13
5	72	2605	PSU	N1-C2-N3	4.14	119.82	115.13
29	W	37	MIA	C5-C6-N6	4.14	128.74	121.76
5	72	2504	PSU	N1-C2-N3	4.13	119.81	115.13
5	71	1915	3TD	C4-N3-C2	-4.13	120.13	124.61
7	A1	1207	2MG	C2-N1-C6	-4.11	119.75	124.48
30	W1	46	G7M	C5-C6-N1	4.10	120.35	111.79
5	72	1939	5MU	C4'-O4'-C1'	-4.09	100.44	109.47
30	W1	32	PSU	N1-C2-N3	4.08	119.75	115.13
30	W1	37	MIA	N9-C8-N7	-4.06	108.36	113.91
29	W	46	G7M	C5-C6-N1	4.06	120.28	111.79
31	Y	46	G7M	C5-C4-N3	-4.05	120.39	128.15
29	W	8	4SU	C5-C4-S4	-4.05	119.25	124.47
5	72	1618	6MZ	N9-C8-N7	-4.05	108.38	113.91
29	W	54	5MU	O4-C4-N3	-4.03	112.38	120.12
5	72	2030	6MZ	C4-N9-C1'	-4.02	117.02	126.59
31	Y	54	5MU	O4-C4-N3	-4.01	112.44	120.12
32	Y1	46	7MG	C5-C4-N3	-3.99	120.53	128.13
32	Y1	37	6MZ	C4-C5-C6	3.99	119.90	116.81
30	W1	37	MIA	N3-C4-N9	3.97	132.50	126.99
7	A1	527	G7M	C5-C4-N3	-3.97	120.53	128.15
5	72	2069	G7M	C5-C4-N3	-3.94	120.58	128.15
7	A1	527	G7M	C5-C6-N1	3.93	120.00	111.79
31	Y	46	G7M	C5-C6-N1	3.92	119.98	111.79
30	W1	46	G7M	N9-C4-N3	3.91	133.80	125.94

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	72	2069	G7M	C5-C6-N1	3.91	119.95	111.79
29	W	37	MIA	N3-C2-N1	-3.90	119.80	126.95
29	W	37	MIA	C12-N6-C6	-3.83	116.87	122.55
29	W	37	MIA	C1'-N9-C8	3.83	135.78	127.14
7	A2	527	G7M	C5-C4-N3	-3.82	120.82	128.15
31	Y	54	5MU	O2-C2-N1	-3.80	117.74	122.79
7	A2	1519	MA6	C4-N9-C1'	3.79	135.62	126.59
5	72	1618	6MZ	C2-N3-C4	3.76	120.64	111.75
30	W1	37	MIA	N3-C2-N1	-3.75	120.07	126.95
7	A2	527	G7M	C5-C6-N1	3.75	119.61	111.79
5	72	2552	OMU	N3-C2-N1	3.74	119.86	114.89
30	W1	8	4SU	N3-C2-N1	3.74	119.85	114.89
29	W	46	G7M	N9-C4-N3	3.73	133.43	125.94
29	W	8	4SU	N3-C2-N1	3.73	119.84	114.89
5	72	1618	6MZ	C9-N6-C6	-3.71	119.68	122.87
32	Y1	37	6MZ	C1'-N9-C8	3.71	135.50	127.14
5	72	1939	5MU	O2-C2-N1	-3.67	117.91	122.79
5	72	1618	6MZ	N3-C4-N9	3.66	133.12	127.08
5	72	1835	2MG	N9-C4-N3	3.63	133.23	125.94
32	Y1	34	CM0	N3-C2-N1	3.63	119.70	114.89
5	72	745	1MG	C2-N3-C4	3.62	120.12	111.98
7	A2	1519	MA6	C2-N1-C6	3.60	120.27	111.75
30	W1	37	MIA	C12-C13-C14	-3.57	120.19	127.14
5	72	2445	2MG	N9-C4-N3	3.56	133.08	125.94
32	Y1	37	6MZ	C2-N3-C4	3.55	120.14	111.75
7	A1	1519	MA6	C2-N1-C6	3.54	120.12	111.75
7	A2	1519	MA6	C2-N3-C4	3.53	120.09	111.75
7	A2	1518	MA6	C2-N1-C6	3.53	120.09	111.75
29	W	46	G7M	O6-C6-C5	-3.53	120.10	128.06
7	A2	1518	MA6	C4-C5-C6	3.53	119.83	115.88
7	A1	1519	MA6	C4-C5-C6	3.51	119.81	115.88
5	72	2030	6MZ	C2-N3-C4	3.50	120.03	111.75
31	Y	54	5MU	C3'-C2'-C1'	3.49	108.06	101.43
30	W1	46	G7M	O6-C6-C5	-3.49	120.19	128.06
7	A1	1519	MA6	C2-N3-C4	3.49	119.99	111.75
7	A1	1518	MA6	C2-N1-C6	3.48	119.98	111.75
7	A2	1518	MA6	C2-N3-C4	3.48	119.98	111.75
5	72	2030	6MZ	C1'-N9-C8	3.47	134.97	127.14
5	72	2251	OMG	N9-C8-N7	-3.47	106.86	113.39
7	A1	1518	MA6	C4-C5-C6	3.46	119.75	115.88
7	A1	1518	MA6	C2-N3-C4	3.46	119.92	111.75
30	W1	8	4SU	C5-C4-S4	-3.46	120.02	124.47

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A1	967	5MC	C5-C6-N1	-3.45	119.79	123.34
7	A2	1519	MA6	C4-C5-C6	3.37	119.65	115.88
7	A1	527	G7M	O6-C6-C5	-3.36	120.47	128.06
29	W	54	5MU	O2-C2-N3	-3.35	115.25	121.50
5	72	2069	G7M	O6-C6-C5	-3.35	120.51	128.06
29	W	37	MIA	N3-C4-N9	3.34	131.63	126.99
7	A1	1516	2MG	N9-C4-N3	3.33	132.63	125.94
31	Y	46	G7M	O6-C6-C5	-3.33	120.55	128.06
5	72	2604	PSU	C6-C5-C4	3.32	120.52	118.20
5	72	2552	OMU	C5-C4-N3	3.32	119.80	114.84
5	72	1962	5MC	C5-C6-N1	-3.30	119.95	123.34
5	72	2449	H2U	N3-C2-N1	3.28	120.13	116.65
29	W	37	MIA	C5-N7-C8	3.27	108.16	103.51
29	W	32	PSU	C6-C5-C4	3.27	120.48	118.20
5	72	745	1MG	N9-C4-N3	3.26	132.48	125.94
5	72	2503	2MA	N3-C4-N9	3.25	131.50	126.99
31	Y	17	H2U	N3-C2-N1	3.24	120.08	116.65
5	72	2457	PSU	C6-C5-C4	3.24	120.46	118.20
7	A2	1207	2MG	N9-C4-N3	3.23	132.43	125.94
29	W	20	H2U	N3-C2-N1	3.23	120.07	116.65
30	W1	39	PSU	C6-C5-C4	3.23	120.46	118.20
5	72	2503	2MA	C5-N7-C8	3.23	108.09	103.51
29	W	37	MIA	C4-C5-C6	3.23	119.31	116.81
7	A2	1519	MA6	C5-N7-C8	3.22	108.08	103.51
5	72	1939	5MU	C6-N1-C2	3.22	124.55	121.30
29	W	55	PSU	C6-N1-C2	-3.20	119.42	122.68
7	A2	1518	MA6	C5-N7-C8	3.19	108.04	103.51
29	W	17	H2U	N3-C2-N1	3.19	120.03	116.65
7	A1	1518	MA6	C5-N7-C8	3.18	108.03	103.51
31	Y	55	PSU	C6-C5-C4	3.17	120.42	118.20
32	Y1	37	6MZ	N3-C4-N9	3.16	132.28	127.08
5	72	2030	6MZ	N3-C4-N9	3.15	132.28	127.08
30	W1	37	MIA	C5-N7-C8	3.14	107.97	103.51
32	Y1	37	6MZ	C5-N7-C8	3.13	107.96	103.51
29	W	16	H2U	N3-C2-N1	3.13	119.97	116.65
5	72	1618	6MZ	C4-N9-C1'	-3.13	119.13	126.59
5	72	2030	6MZ	C5-N7-C8	3.13	107.95	103.51
31	Y	46	G7M	N9-C4-N3	3.13	132.22	125.94
5	72	745	1MG	N9-C8-N7	-3.13	107.50	113.39
31	Y	55	PSU	C6-N1-C2	-3.12	119.49	122.68
30	W1	46	G7M	C2-N1-C6	-3.12	119.41	125.10
7	A2	967	5MC	C5-C6-N1	-3.12	120.13	123.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	72	2069	G7M	N9-C4-N3	3.12	132.20	125.94
7	A2	1516	2MG	N9-C4-N3	3.11	132.19	125.94
32	Y1	46	7MG	C4-C5-N7	3.11	109.84	105.53
5	72	2504	PSU	C6-C5-C4	3.10	120.36	118.20
7	A2	966	2MG	N9-C4-N3	3.08	132.12	125.94
7	A1	1519	MA6	C5-N7-C8	3.07	107.87	103.51
29	W	46	G7M	C2-N1-C6	-3.06	119.52	125.10
7	A1	527	G7M	N9-C4-N3	3.05	132.06	125.94
5	72	2580	PSU	C6-C5-C4	3.04	120.32	118.20
7	A2	527	G7M	O6-C6-C5	-3.04	121.20	128.06
7	A2	1518	MA6	N3-C4-N9	3.04	132.09	127.08
5	72	2503	2MA	N3-C2-N1	-3.02	120.17	125.72
29	W	37	MIA	C2-N3-C4	3.01	120.28	112.35
32	Y1	46	7MG	C5-C4-N9	3.01	110.25	106.35
29	W	54	5MU	C4'-O4'-C1'	-3.01	102.84	109.47
5	72	955	PSU	C6-C5-C4	3.00	120.30	118.20
29	W	37	MIA	S10-C2-N3	3.00	126.38	116.01
31	Y	46	G7M	C2-N1-C6	-3.00	119.63	125.10
5	72	1618	6MZ	C5-N7-C8	3.00	107.77	103.51
7	A1	1518	MA6	N3-C4-N9	2.99	132.01	127.08
5	72	2251	OMG	C2-N1-C6	-2.97	119.68	125.10
7	A1	527	G7M	C2-N1-C6	-2.97	119.69	125.10
30	W1	37	MIA	C2-N3-C4	2.96	120.14	112.35
30	W1	37	MIA	C4-N9-C1'	-2.95	119.56	126.59
7	A2	527	G7M	CN7-N7-C5	2.94	130.42	126.77
7	A1	1519	MA6	N3-C4-N9	2.93	131.92	127.08
30	W1	32	PSU	C6-N1-C2	-2.93	119.68	122.68
32	Y1	34	CM0	C7-O5-C5	-2.93	113.73	117.58
7	A1	966	2MG	N9-C8-N7	-2.93	107.87	113.39
30	W1	32	PSU	C6-C5-C4	2.92	120.24	118.20
5	72	2457	PSU	C6-N1-C2	-2.92	119.70	122.68
7	A1	966	2MG	N9-C4-N3	2.92	131.79	125.94
5	72	2605	PSU	C6-C5-C4	2.91	120.24	118.20
29	W	32	PSU	C6-N1-C2	-2.91	119.71	122.68
5	72	2069	G7M	C2-N1-C6	-2.90	119.81	125.10
5	72	2251	OMG	N9-C4-N3	2.89	131.75	125.94
29	W	37	MIA	C12-C13-C14	-2.88	121.55	127.14
5	72	2605	PSU	C6-N1-C2	-2.87	119.74	122.68
30	W1	46	G7M	CN7-N7-C5	2.87	130.34	126.77
30	W1	39	PSU	C6-N1-C2	-2.86	119.75	122.68
5	72	2449	H2U	C5-C4-N3	2.86	119.86	116.65
5	72	2504	PSU	C6-N1-C2	-2.86	119.76	122.68

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	72	2604	PSU	C6-N1-C2	-2.85	119.77	122.68
5	72	2552	OMU	O4-C4-C5	-2.85	120.14	125.16
30	W1	37	MIA	S10-C2-N3	2.84	125.84	116.01
5	72	1835	2MG	C5-C6-N1	2.83	120.38	113.19
5	72	955	PSU	C6-N1-C2	-2.83	119.79	122.68
7	A2	1519	MA6	N3-C4-N9	2.83	131.74	127.08
7	A2	1516	2MG	N9-C8-N7	-2.82	108.08	113.39
29	W	17	H2U	C5-C4-N3	2.81	119.81	116.65
7	A2	527	G7M	C4'-O4'-C1'	-2.80	103.28	109.47
7	A2	966	2MG	N9-C8-N7	-2.80	108.12	113.39
29	W	16	H2U	C5-C4-N3	2.79	119.79	116.65
31	Y	17	H2U	C5-C4-N3	2.79	119.78	116.65
5	72	2580	PSU	C6-N1-C2	-2.78	119.84	122.68
32	Y1	37	6MZ	C9-N6-C6	-2.78	120.48	122.87
7	A1	1516	2MG	N9-C8-N7	-2.78	108.16	113.39
7	A1	1407	5MC	C5-C6-N1	-2.78	120.48	123.34
32	Y1	46	7MG	O6-C6-C5	-2.77	120.74	127.54
31	Y	55	PSU	O2-C2-N1	-2.77	119.74	122.79
29	W	20	H2U	C5-C4-N3	2.77	119.75	116.65
5	72	2445	2MG	C5-C6-N1	2.76	120.19	113.19
7	A1	1207	2MG	N9-C8-N7	-2.75	108.20	113.39
7	A1	1207	2MG	N9-C4-N3	2.75	131.47	125.94
7	A2	527	G7M	N9-C4-N3	2.75	131.46	125.94
29	W	55	PSU	O2-C2-N1	-2.75	119.77	122.79
7	A1	1516	2MG	C5-C6-N1	2.74	120.16	113.19
7	A2	1207	2MG	C5-C6-N1	2.73	120.11	113.19
32	Y1	46	7MG	C2-N1-C6	-2.73	120.13	125.10
29	W	16	H2U	C5-C6-N1	2.72	120.59	111.61
7	A1	966	2MG	C5-C6-N1	2.72	120.10	113.19
7	A2	966	2MG	C5-C6-N1	2.71	120.08	113.19
7	A2	1516	2MG	C5-C6-N1	2.70	120.05	113.19
7	A2	1207	2MG	N9-C8-N7	-2.68	108.35	113.39
7	A2	1407	5MC	C5-C6-N1	-2.68	120.58	123.34
5	72	1939	5MU	O2-C2-N3	-2.67	116.52	121.50
29	W	54	5MU	O2-C2-N1	-2.67	119.24	122.79
7	A2	527	G7M	C2-N1-C6	-2.67	120.24	125.10
5	72	2251	OMG	C5-C6-N1	2.66	119.95	113.19
31	Y	17	H2U	C5-C6-N1	2.66	120.38	111.61
5	72	1835	2MG	O6-C6-C5	-2.66	119.55	126.60
29	W	17	H2U	C5-C6-N1	2.65	120.36	111.61
7	A1	1518	MA6	C4-N9-C8	2.65	108.60	105.73
30	W1	37	MIA	N6-C6-N1	-2.64	115.12	118.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	W	20	H2U	C5-C6-N1	2.64	120.32	111.61
31	Y	54	5MU	C6-N1-C2	2.63	123.96	121.30
5	72	745	1MG	C5-C6-N1	2.63	119.99	114.91
5	72	2445	2MG	N9-C8-N7	-2.62	108.46	113.39
5	72	1618	6MZ	C1'-N9-C8	2.62	133.04	127.14
31	Y	54	5MU	O2-C2-N3	-2.61	116.63	121.50
5	72	1835	2MG	N9-C8-N7	-2.61	108.48	113.39
5	72	2449	H2U	C5-C6-N1	2.58	120.12	111.61
7	A1	1207	2MG	C5-C6-N1	2.58	119.75	113.19
7	A2	527	G7M	O4'-C4'-C3'	-2.58	100.01	105.11
7	A2	1518	MA6	C4-N9-C8	2.57	108.51	105.73
29	W	32	PSU	O2-C2-N1	-2.56	119.97	122.79
7	A1	1516	2MG	N1-C2-N3	-2.56	119.99	123.95
5	72	2445	2MG	O6-C6-C5	-2.56	119.82	126.60
5	72	2457	PSU	O2-C2-N1	-2.55	119.99	122.79
5	72	2503	2MA	C4-N9-C8	2.54	108.48	105.73
7	A1	1516	2MG	O6-C6-C5	-2.54	119.87	126.60
5	72	2069	G7M	CN7-N7-C5	2.54	129.92	126.77
31	Y	46	G7M	CN7-N7-C5	2.53	129.92	126.77
5	72	2504	PSU	O2-C2-N1	-2.52	120.01	122.79
7	A2	966	2MG	O6-C6-C5	-2.52	119.91	126.60
29	W	20	H2U	O2-C2-N1	-2.52	119.94	123.11
7	A2	1516	2MG	O6-C6-C5	-2.52	119.93	126.60
7	A1	527	G7M	CN7-N7-C5	2.51	129.89	126.77
32	Y1	46	7MG	N9-C4-N3	2.51	129.22	125.47
7	A1	966	2MG	O6-C6-C5	-2.51	119.95	126.60
5	72	955	PSU	O2-C2-N1	-2.50	120.04	122.79
7	A2	966	2MG	N1-C2-N3	-2.50	120.09	123.95
7	A2	1207	2MG	O6-C6-C5	-2.49	120.00	126.60
7	A2	1516	2MG	N1-C2-N3	-2.48	120.11	123.95
29	W	17	H2U	O2-C2-N1	-2.48	119.99	123.11
7	A2	527	G7M	CN7-N7-C8	-2.47	121.02	124.84
5	72	2445	2MG	N1-C2-N3	-2.47	120.13	123.95
5	72	2604	PSU	O2-C2-N1	-2.46	120.08	122.79
30	W1	37	MIA	C1'-N9-C8	2.46	132.69	127.14
7	A2	1207	2MG	N1-C2-N3	-2.46	120.15	123.95
5	72	2580	PSU	O2-C2-N1	-2.45	120.09	122.79
7	A2	1519	MA6	C4-N9-C8	2.45	108.39	105.73
5	72	2449	H2U	O2-C2-N1	-2.45	120.03	123.11
30	W1	32	PSU	O2-C2-N1	-2.45	120.10	122.79
30	W1	39	PSU	O2-C2-N1	-2.45	120.10	122.79
31	Y	17	H2U	O2-C2-N1	-2.44	120.04	123.11

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	72	1835	2MG	N1-C2-N3	-2.44	120.18	123.95
7	A1	1207	2MG	N1-C2-N3	-2.43	120.19	123.95
29	W	37	MIA	C4-C5-N7	-2.43	107.66	110.62
5	72	2251	OMG	O6-C6-C5	-2.42	120.17	126.60
29	W	16	H2U	O2-C2-N1	-2.42	120.06	123.11
7	A1	1207	2MG	O6-C6-C5	-2.42	120.18	126.60
7	A2	1498	UR3	C1'-N1-C2	2.42	121.07	116.99
7	A1	966	2MG	N1-C2-N3	-2.40	120.24	123.95
5	72	2605	PSU	O2-C2-N1	-2.39	120.16	122.79
29	W	54	5MU	O4'-C4'-C3'	-2.37	100.43	105.11
5	72	2251	OMG	C8-N7-C5	2.36	108.51	104.24
29	W	46	G7M	CN7-N7-C5	2.36	129.69	126.77
7	A2	1402	4OC	C6-C5-C4	2.35	119.84	116.96
5	72	1939	5MU	O4'-C1'-N1	2.35	113.73	108.36
5	72	1835	2MG	CM2-N2-C2	-2.35	118.68	123.86
7	A1	1402	4OC	C6-C5-C4	2.33	119.82	116.96
29	W	54	5MU	C3'-C2'-C1'	2.33	105.86	101.43
30	W1	37	MIA	C16-C14-C15	2.33	119.74	114.60
29	W	37	MIA	C16-C14-C15	2.28	119.64	114.60
7	A2	1498	UR3	C6-N1-C2	-2.26	119.77	121.79
5	72	2503	2MA	C4-C5-N7	-2.25	107.88	110.62
30	W1	37	MIA	C5-C6-N6	2.21	125.50	121.76
7	A2	1519	MA6	C4-C5-N7	-2.21	107.93	110.62
29	W	54	5MU	O4'-C1'-N1	2.20	113.40	108.36
5	72	745	1MG	C8-N7-C5	2.20	108.22	104.24
32	Y1	46	7MG	N9-C8-N7	2.19	106.51	103.38
29	W	54	5MU	O4-C4-C5	2.19	127.44	124.90
7	A1	966	2MG	C8-N7-C5	2.18	108.19	104.24
30	W1	46	G7M	CN7-N7-C8	-2.17	121.50	124.84
7	A1	1519	MA6	C4-N9-C8	2.17	108.08	105.73
7	A2	527	G7M	C2'-C3'-C4'	-2.16	98.45	102.64
32	Y1	37	6MZ	C4-N9-C8	2.15	108.06	105.73
7	A2	1407	5MC	CM5-C5-C6	-2.14	119.99	122.85
29	W	37	MIA	C5-C4-N9	2.14	108.27	105.78
5	72	2030	6MZ	C4-C5-N7	-2.13	108.02	110.62
7	A2	967	5MC	CM5-C5-C6	-2.13	120.01	122.85
30	W1	37	MIA	C4-C5-N7	-2.13	108.03	110.62
32	Y1	37	6MZ	C4-C5-N7	-2.12	108.04	110.62
5	72	1962	5MC	CM5-C5-C6	-2.12	120.02	122.85
7	A1	1407	5MC	CM5-C5-C6	-2.11	120.03	122.85
5	72	2030	6MZ	C4-N9-C8	2.10	108.00	105.73
29	W	37	MIA	C4-N9-C8	2.10	108.00	105.73

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A2	966	2MG	C8-N7-C5	2.09	108.02	104.24
7	A2	1516	2MG	C8-N7-C5	2.07	107.99	104.24
5	72	2580	PSU	O4'-C1'-C2'	2.07	108.06	105.14
7	A1	966	2MG	CM2-N2-C2	-2.07	119.29	123.86
7	A2	527	G7M	N9-C8-N7	-2.06	107.11	112.21
7	A2	1207	2MG	C8-N7-C5	2.06	107.97	104.24
7	A1	1516	2MG	C8-N7-C5	2.06	107.97	104.24
5	72	2445	2MG	C8-N7-C5	2.05	107.96	104.24
5	72	2552	OMU	O2-C2-N1	-2.05	120.06	122.79
5	72	1835	2MG	C8-N7-C5	2.05	107.94	104.24
7	A2	1518	MA6	C4-C5-N7	-2.05	108.13	110.62
5	72	2069	G7M	N9-C8-N7	-2.04	107.16	112.21
5	71	1915	3TD	C6-C5-C4	2.04	119.63	118.22
7	A1	527	G7M	CN7-N7-C8	-2.04	121.69	124.84
31	Y	54	5MU	C5'-C4'-C3'	-2.03	107.58	115.18
7	A1	967	5MC	CM5-C5-C6	-2.02	120.15	122.85
5	72	2069	G7M	CN7-N7-C8	-2.02	121.73	124.84
7	A1	527	G7M	N9-C8-N7	-2.01	107.23	112.21
30	W1	8	4SU	O2-C2-N1	-2.01	120.11	122.79
7	A1	1519	MA6	C4-C5-N7	-2.01	108.17	110.62
31	Y	46	G7M	CN7-N7-C8	-2.01	121.74	124.84

There are no chirality outliers.

All (94) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
7	A1	1402	4OC	C1'-C2'-O2'-CM2
7	A1	1518	MA6	C5-C6-N6-C9
7	A1	1518	MA6	C5-C6-N6-C10
7	A1	1519	MA6	C3'-C4'-C5'-O5'
7	A2	527	G7M	O4'-C4'-C5'-O5'
7	A2	527	G7M	C3'-C4'-C5'-O5'
7	A2	1402	4OC	C1'-C2'-O2'-CM2
31	Y	17	H2U	O4'-C4'-C5'-O5'
31	Y	17	H2U	C3'-C4'-C5'-O5'
31	Y	17	H2U	O4'-C1'-N1-C6
31	Y	17	H2U	C2'-C1'-N1-C2
31	Y	17	H2U	C2'-C1'-N1-C6
32	Y1	37	6MZ	N1-C6-N6-C9
5	72	746	PSU	C2'-C1'-C5-C4
5	72	746	PSU	C2'-C1'-C5-C6
5	72	1618	6MZ	N1-C6-N6-C9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
5	72	1618	6MZ	O4'-C4'-C5'-O5'
5	72	1618	6MZ	C3'-C4'-C5'-O5'
5	72	1939	5MU	O4'-C4'-C5'-O5'
5	72	2030	6MZ	N1-C6-N6-C9
5	72	2251	OMG	O4'-C4'-C5'-O5'
5	72	2251	OMG	C1'-C2'-O2'-CM2
5	72	2498	OMC	O4'-C4'-C5'-O5'
29	W	37	MIA	O4'-C4'-C5'-O5'
29	W	37	MIA	C3'-C4'-C5'-O5'
29	W	37	MIA	N1-C2-S10-C11
29	W	37	MIA	N3-C2-S10-C11
29	W	37	MIA	N6-C12-C13-C14
29	W	54	5MU	O4'-C4'-C5'-O5'
30	W1	8	4SU	O4'-C4'-C5'-O5'
30	W1	37	MIA	N1-C2-S10-C11
30	W1	37	MIA	N3-C2-S10-C11
29	W	46	G7M	C4'-C5'-O5'-P
7	A1	1498	UR3	O4'-C4'-C5'-O5'
7	A1	1519	MA6	O4'-C4'-C5'-O5'
7	A2	1498	UR3	O4'-C4'-C5'-O5'
31	Y	46	G7M	C3'-C4'-C5'-O5'
5	72	1939	5MU	C3'-C4'-C5'-O5'
5	72	2251	OMG	C3'-C4'-C5'-O5'
29	W	17	H2U	O4'-C4'-C5'-O5'
29	W	17	H2U	C3'-C4'-C5'-O5'
29	W	32	PSU	O4'-C4'-C5'-O5'
29	W	54	5MU	C3'-C4'-C5'-O5'
30	W1	8	4SU	C3'-C4'-C5'-O5'
30	W1	37	MIA	O4'-C4'-C5'-O5'
30	W1	37	MIA	C3'-C4'-C5'-O5'
30	W1	46	G7M	O4'-C4'-C5'-O5'
32	Y1	34	CM0	O5-C7-C8-O8
32	Y1	34	CM0	O5-C7-C8-O9
7	A1	1498	UR3	C3'-C4'-C5'-O5'
7	A2	1498	UR3	C3'-C4'-C5'-O5'
7	A2	1519	MA6	O4'-C4'-C5'-O5'
5	72	2498	OMC	C3'-C4'-C5'-O5'
30	W1	46	G7M	C3'-C4'-C5'-O5'
32	Y1	34	CM0	C3'-C4'-C5'-O5'
32	Y1	34	CM0	O4'-C4'-C5'-O5'
7	A1	1518	MA6	N1-C6-N6-C10
29	W	32	PSU	C3'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
30	W1	46	G7M	C2'-C1'-N9-C4
7	A1	1519	MA6	C4'-C5'-O5'-P
7	A1	1519	MA6	C5-C6-N6-C10
32	Y1	37	6MZ	C5-C6-N6-C9
5	72	1618	6MZ	C5-C6-N6-C9
5	72	2030	6MZ	C5-C6-N6-C9
30	W1	46	G7M	C2'-C1'-N9-C8
31	Y	46	G7M	O4'-C4'-C5'-O5'
7	A1	527	G7M	C4'-C5'-O5'-P
29	W	20	H2U	C4'-C5'-O5'-P
29	W	54	5MU	C4'-C5'-O5'-P
29	W	16	H2U	C4'-C5'-O5'-P
29	W	37	MIA	C4'-C5'-O5'-P
31	Y	17	H2U	C4'-C5'-O5'-P
29	W	55	PSU	O4'-C4'-C5'-O5'
5	72	2069	G7M	C4'-C5'-O5'-P
5	72	1915	3TD	O4'-C4'-C5'-O5'
32	Y1	46	7MG	C4'-C5'-O5'-P
29	W	32	PSU	C4'-C5'-O5'-P
7	A2	1519	MA6	C3'-C4'-C5'-O5'
5	72	2069	G7M	O4'-C4'-C5'-O5'
31	Y	55	PSU	O4'-C1'-C5-C4
5	72	746	PSU	O4'-C1'-C5-C4
31	Y	17	H2U	O4'-C1'-N1-C2
30	W1	37	MIA	C5-C6-N6-C12
29	W	20	H2U	O4'-C4'-C5'-O5'
29	W	46	G7M	C2'-C1'-N9-C8
31	Y	55	PSU	O4'-C1'-C5-C6
5	72	746	PSU	O4'-C1'-C5-C6
30	W1	37	MIA	N1-C6-N6-C12
7	A2	967	5MC	O4'-C4'-C5'-O5'
5	72	747	5MU	O4'-C4'-C5'-O5'
5	72	1915	3TD	C3'-C4'-C5'-O5'
5	72	2030	6MZ	O4'-C4'-C5'-O5'
29	W	20	H2U	C3'-C4'-C5'-O5'
5	71	1915	3TD	C3'-C4'-C5'-O5'

There are no ring outliers.

39 monomers are involved in 56 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	72	2504	PSU	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	72	2251	OMG	1	0
5	72	2030	6MZ	1	0
29	W	54	5MU	1	0
7	A1	967	5MC	1	0
5	72	747	5MU	3	0
7	A2	527	G7M	1	0
5	72	1915	3TD	2	0
31	Y	46	G7M	1	0
7	A2	966	2MG	1	0
31	Y	55	PSU	1	0
30	W1	37	MIA	3	0
5	72	2604	PSU	2	0
29	W	55	PSU	2	0
7	A1	1516	2MG	1	0
7	A2	1498	UR3	2	0
32	Y1	46	7MG	1	0
29	W	8	4SU	2	0
30	W1	46	G7M	2	0
29	W	37	MIA	2	0
7	A2	1402	4OC	2	0
7	A1	1402	4OC	2	0
7	A2	1519	MA6	3	0
30	W1	32	PSU	1	0
7	A1	966	2MG	1	0
5	72	2605	PSU	3	0
5	72	1962	5MC	1	0
5	72	2457	PSU	1	0
5	72	1835	2MG	1	0
32	Y1	34	CM0	4	0
7	A2	1518	MA6	1	0
29	W	32	PSU	3	0
7	A1	1498	UR3	1	0
7	A2	1516	2MG	1	0
29	W	16	H2U	2	0
31	Y	54	5MU	1	0
7	A1	1207	2MG	1	0
7	A2	967	5MC	1	0
5	72	2449	H2U	1	0

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 274 ligands modelled in this entry, 271 are monoatomic - leaving 3 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
46	PUT	72	3001	-	5,5,5	0.26	0	4,4,4	0.52	0
46	PUT	72	3002	-	5,5,5	0.25	0	4,4,4	0.54	0
47	SPD	72	3003	-	9,9,9	0.33	0	8,8,8	0.88	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
46	PUT	72	3001	-	-	1/3/3/3	-
46	PUT	72	3002	-	-	0/3/3/3	-
47	SPD	72	3003	-	-	0/7/7/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
46	72	3001	PUT	C1-C2-C3-C4

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
46	72	3001	PUT	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

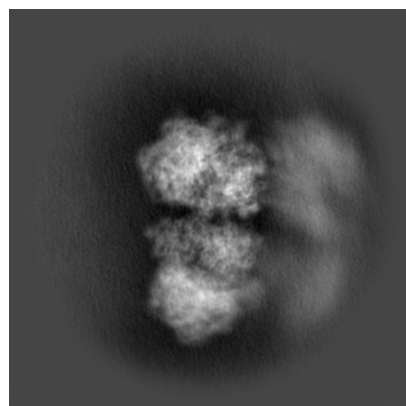
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-19058. These allow visual inspection of the internal detail of the map and identification of artifacts.

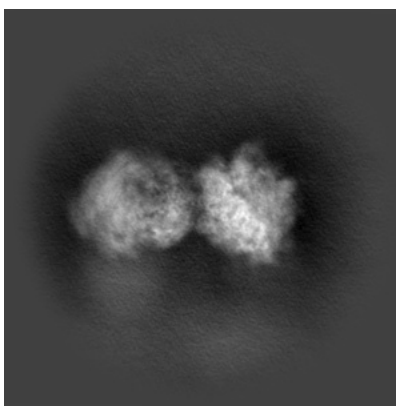
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

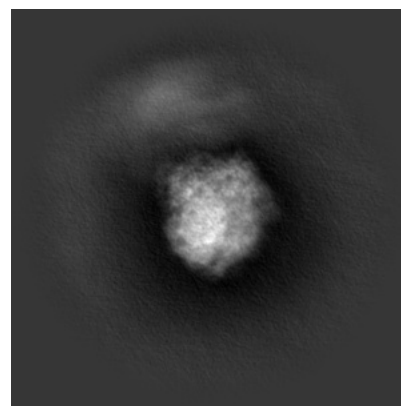
6.1.1 Primary map



X

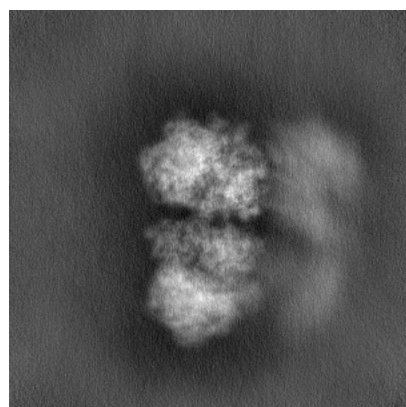


Y

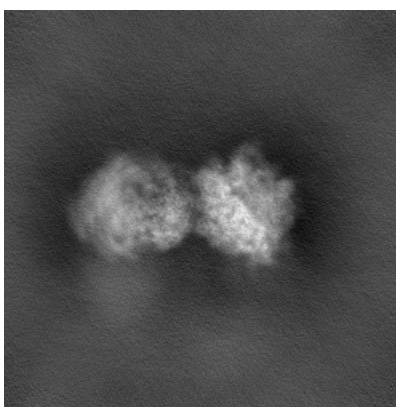


Z

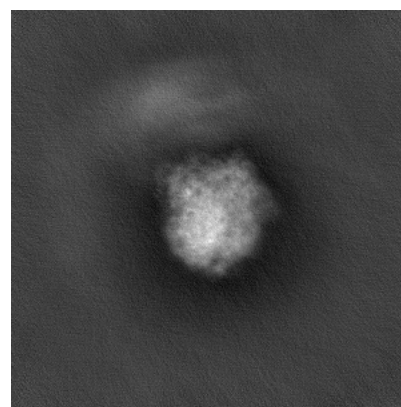
6.1.2 Raw map



X



Y

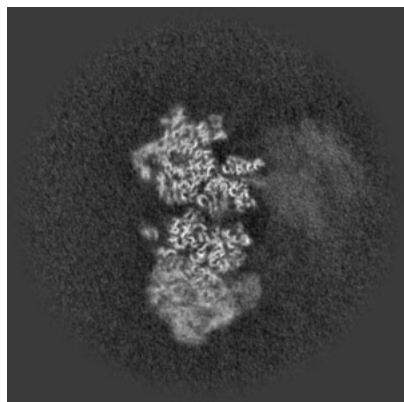


Z

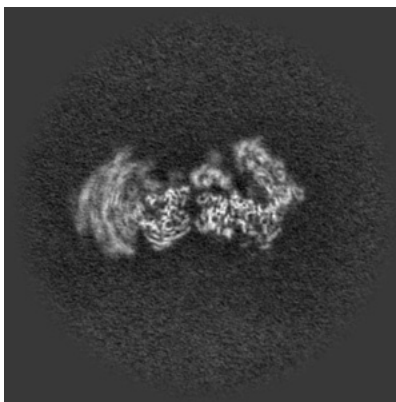
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

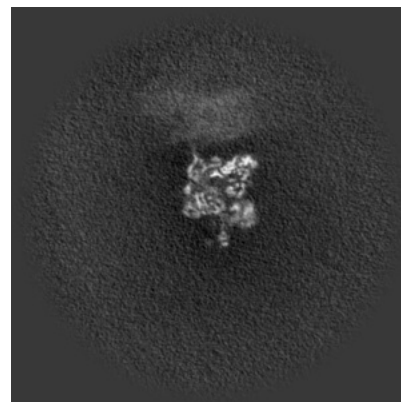
6.2.1 Primary map



X Index: 234

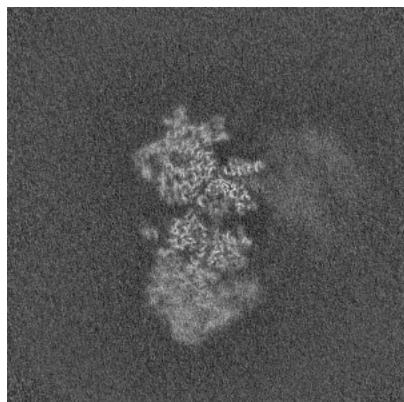


Y Index: 234

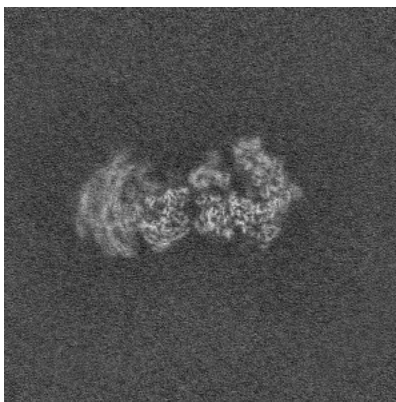


Z Index: 234

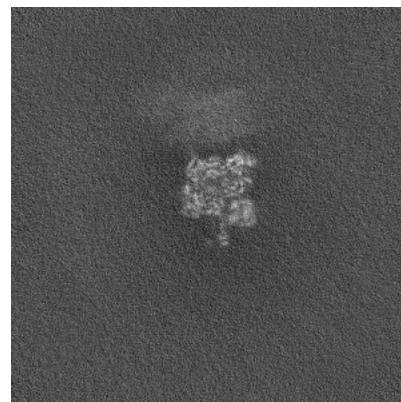
6.2.2 Raw map



X Index: 234



Y Index: 234

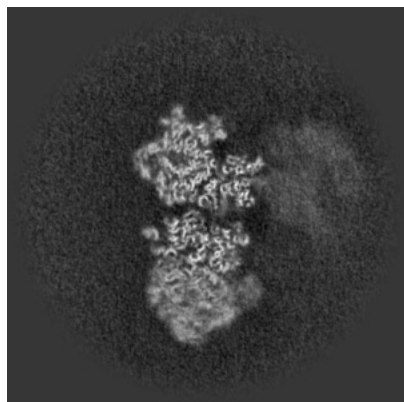


Z Index: 234

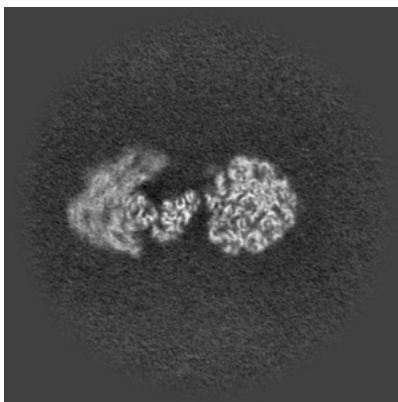
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

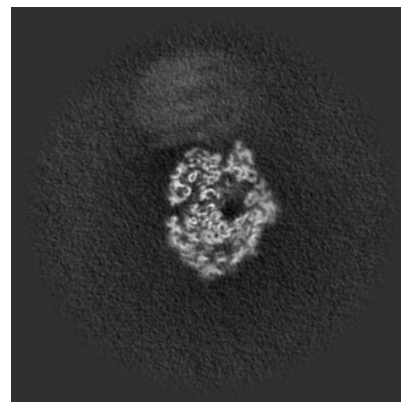
6.3.1 Primary map



X Index: 232

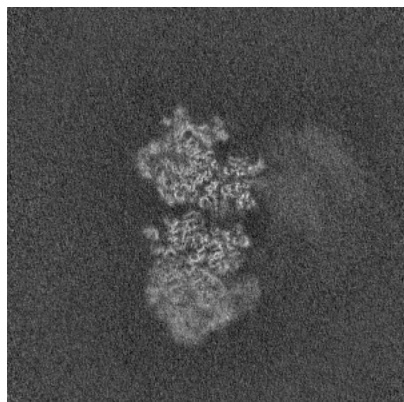


Y Index: 208

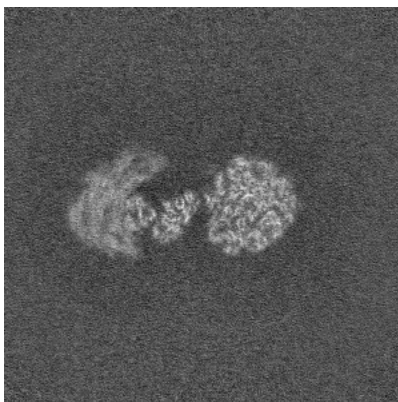


Z Index: 278

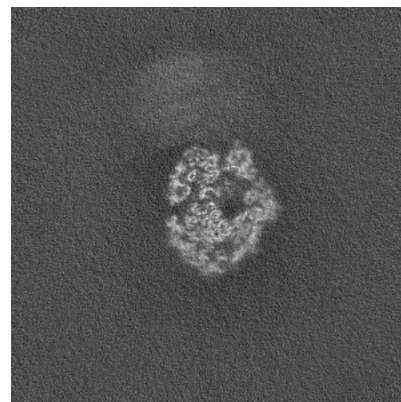
6.3.2 Raw map



X Index: 231



Y Index: 209

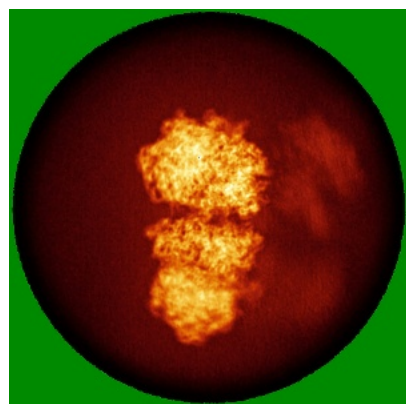


Z Index: 277

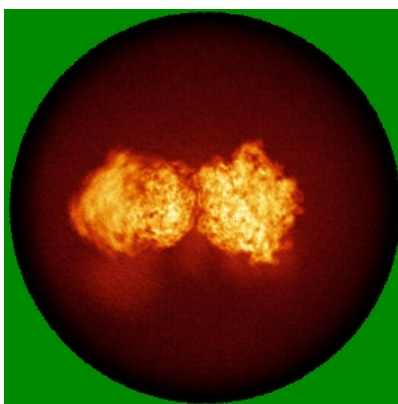
The images above show the largest variance slices of the map in three orthogonal directions.

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

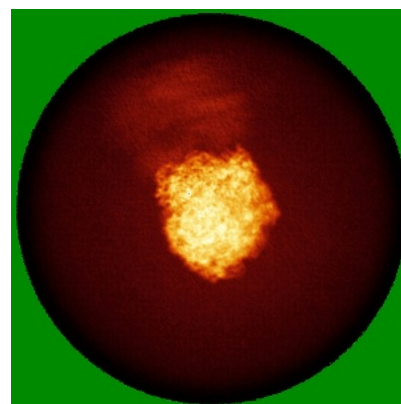
6.4.1 Primary map



X

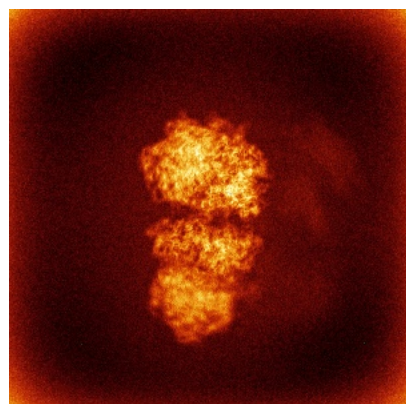


Y

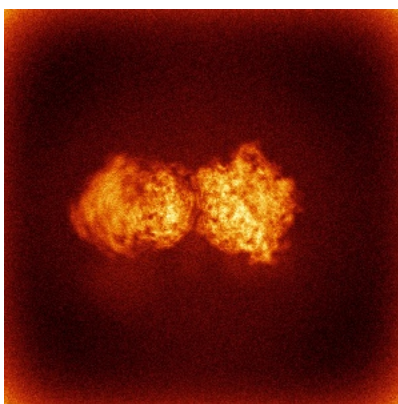


Z

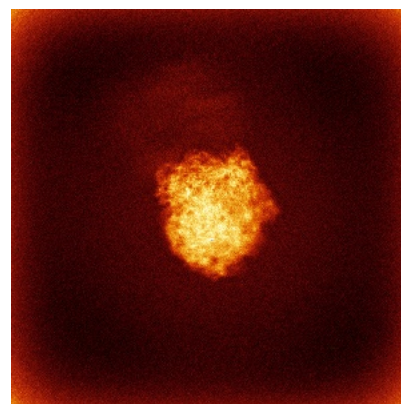
6.4.2 Raw map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

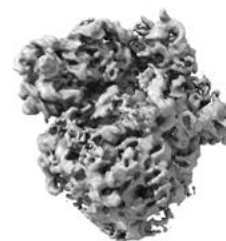
6.5.1 Primary map



X



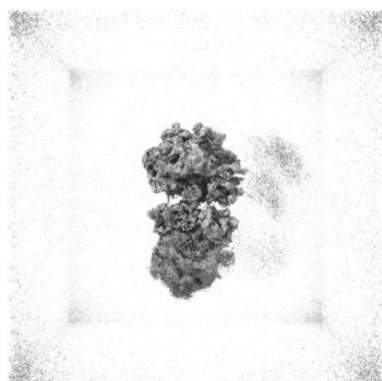
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 5.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

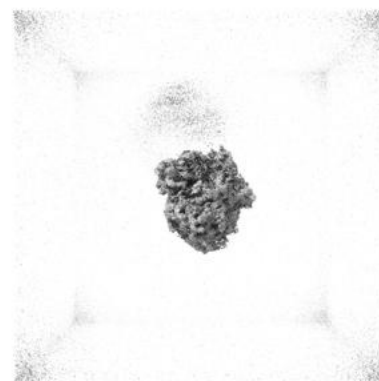
6.5.2 Raw map



X



Y



Z

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

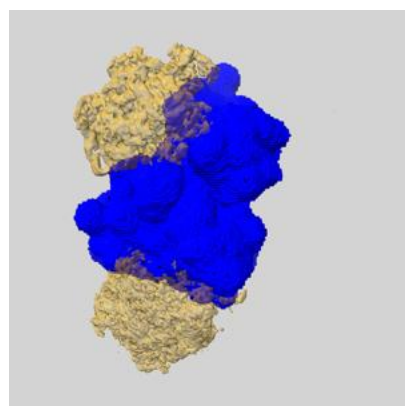
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

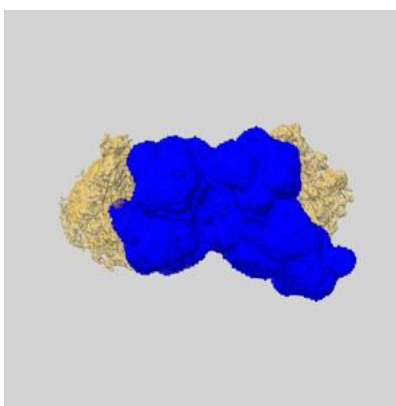
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

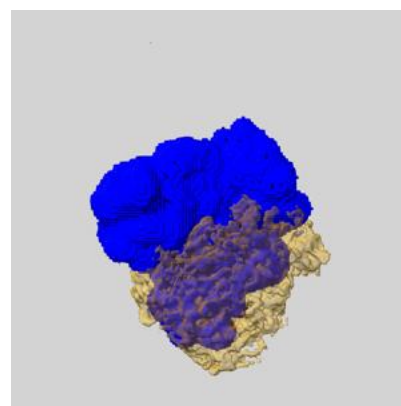
6.6.1 emd_19058_msk_1.map [i](#)



X



Y

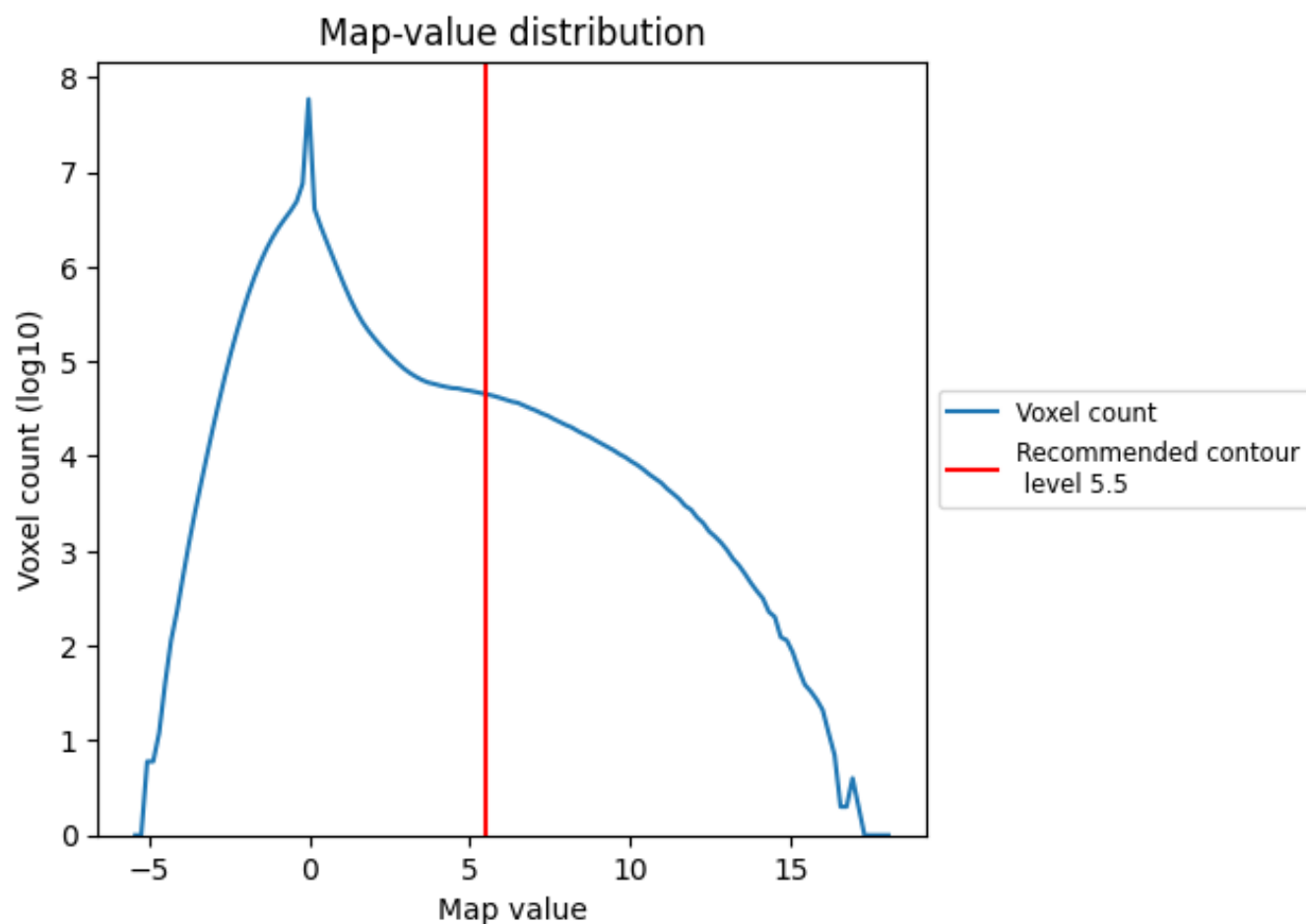


Z

7 Map analysis [i](#)

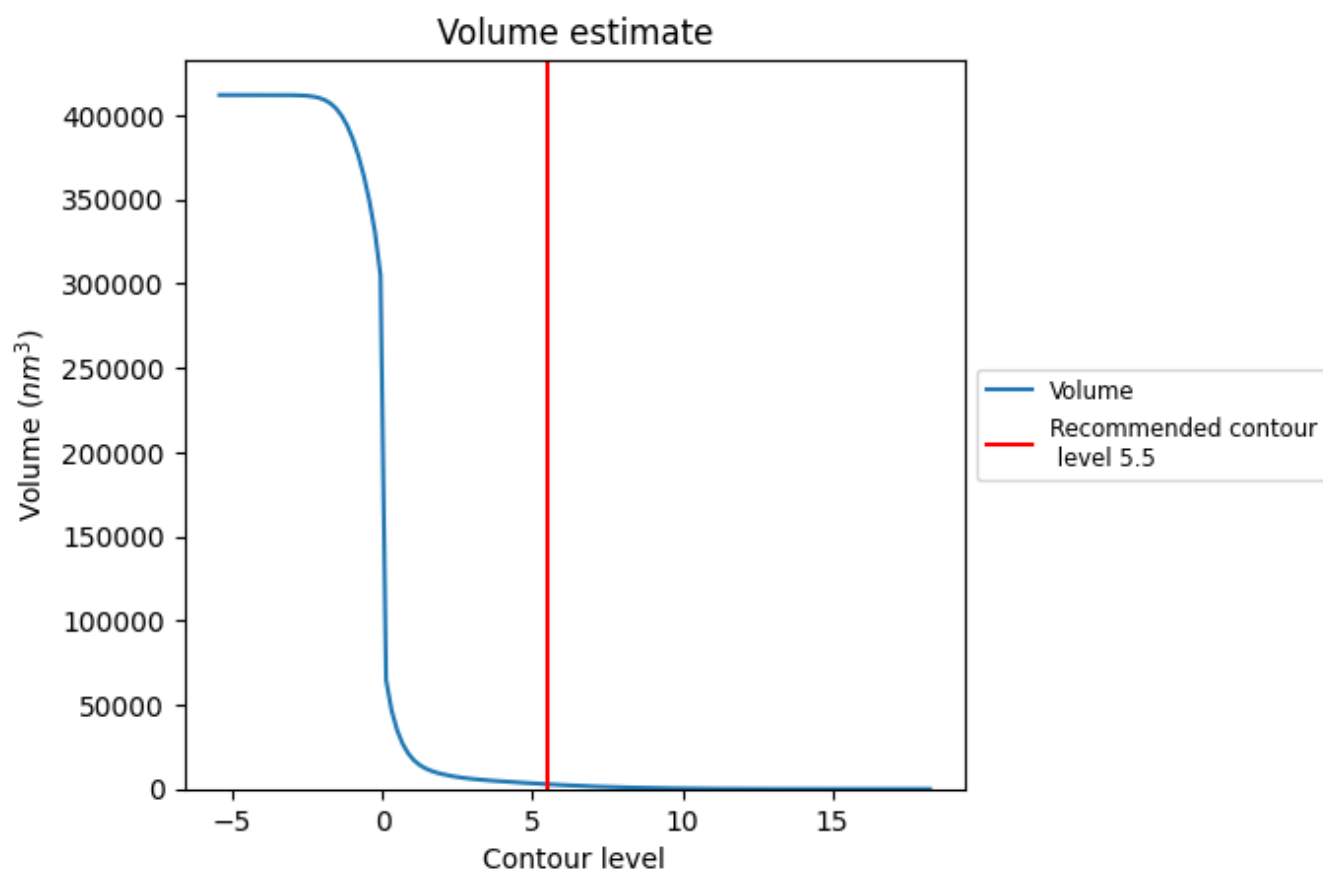
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

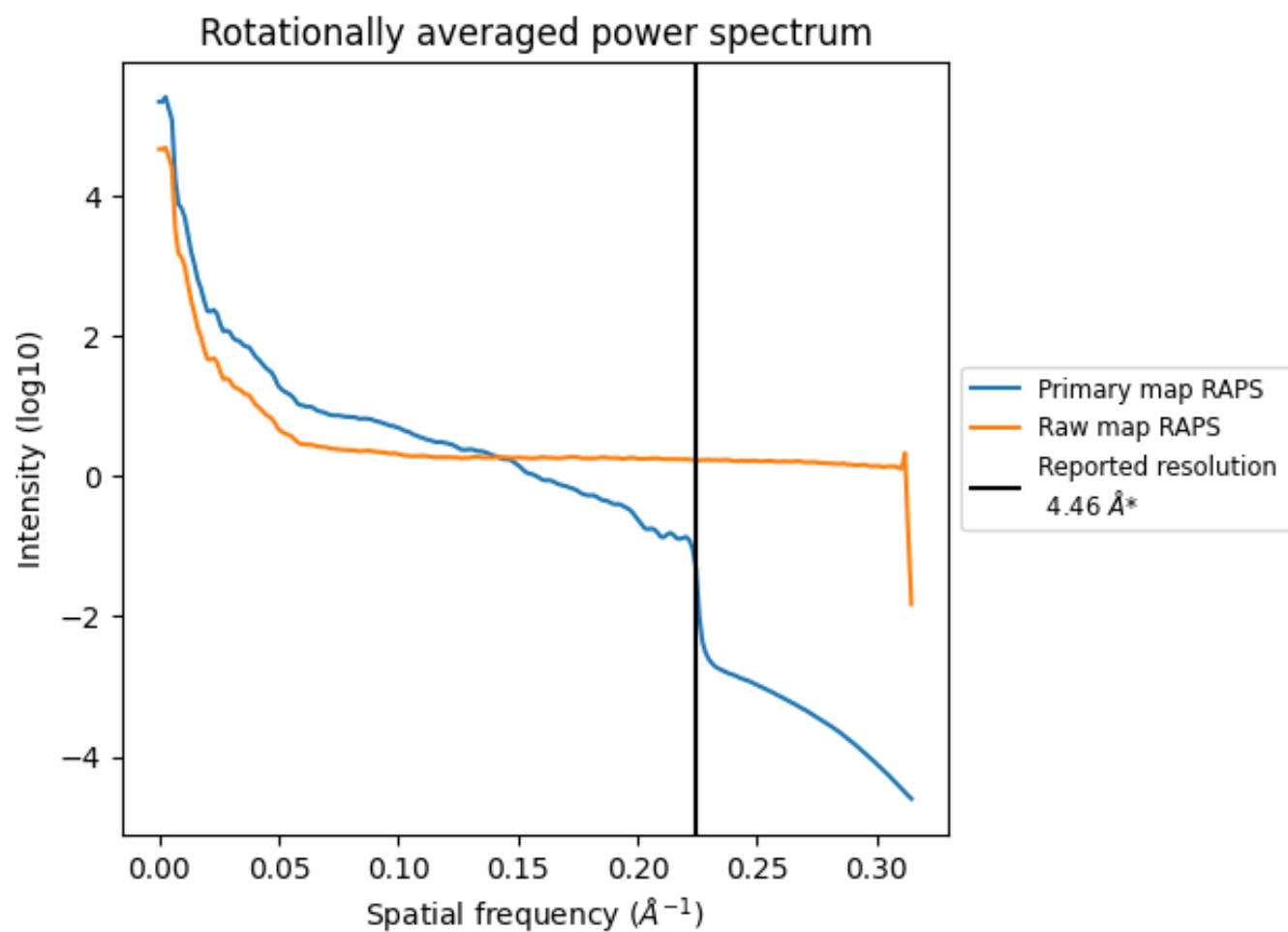
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2813 nm³; this corresponds to an approximate mass of 2541 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

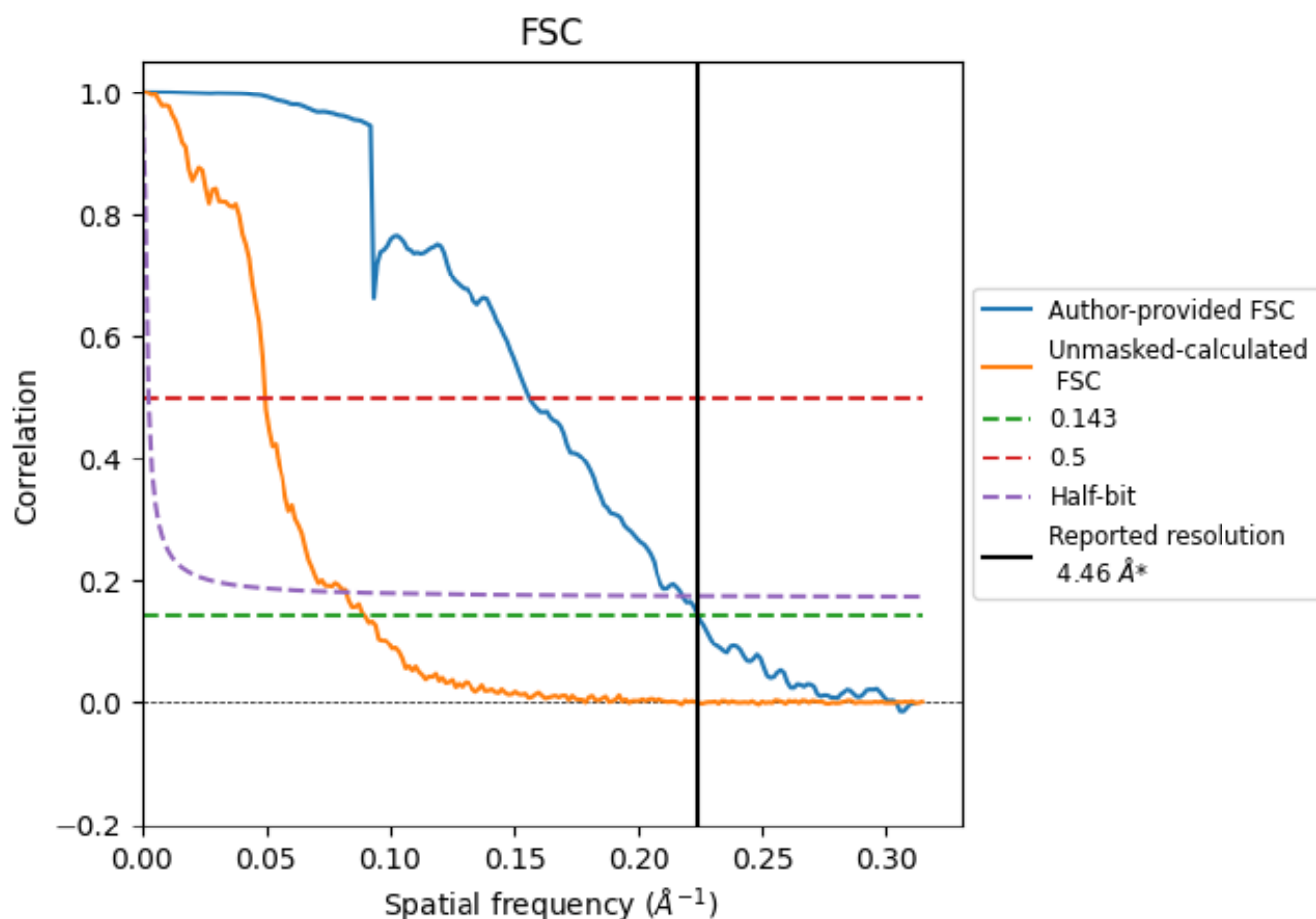


*Reported resolution corresponds to spatial frequency of 0.224 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of $0.224 \text{ \AA}^{-1}$

8.2 Resolution estimates [i](#)

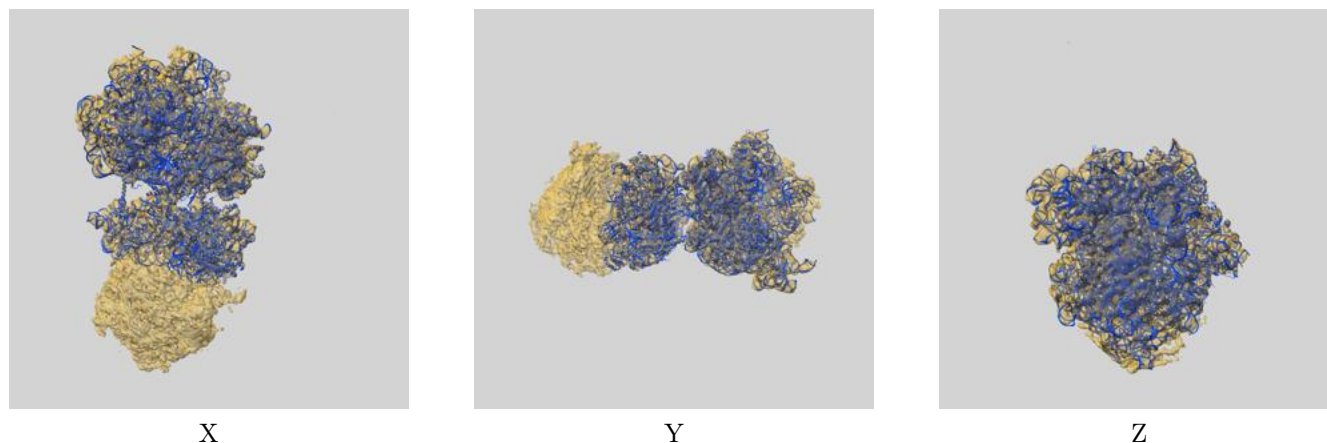
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.46	-	-
Author-provided FSC curve	4.46	6.41	4.59
Unmasked-calculated*	11.15	20.24	12.15

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 11.15 differs from the reported value 4.46 by more than 10 %

9 Map-model fit [i](#)

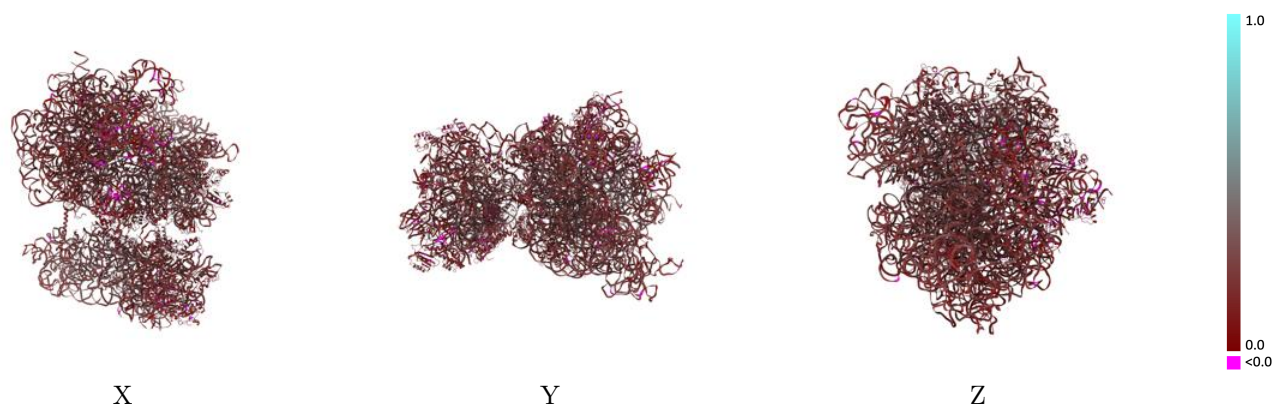
This section contains information regarding the fit between EMDB map EMD-19058 and PDB model 8RCS. Per-residue inclusion information can be found in [section 3](#) on [page 15](#).

9.1 Map-model overlay [i](#)



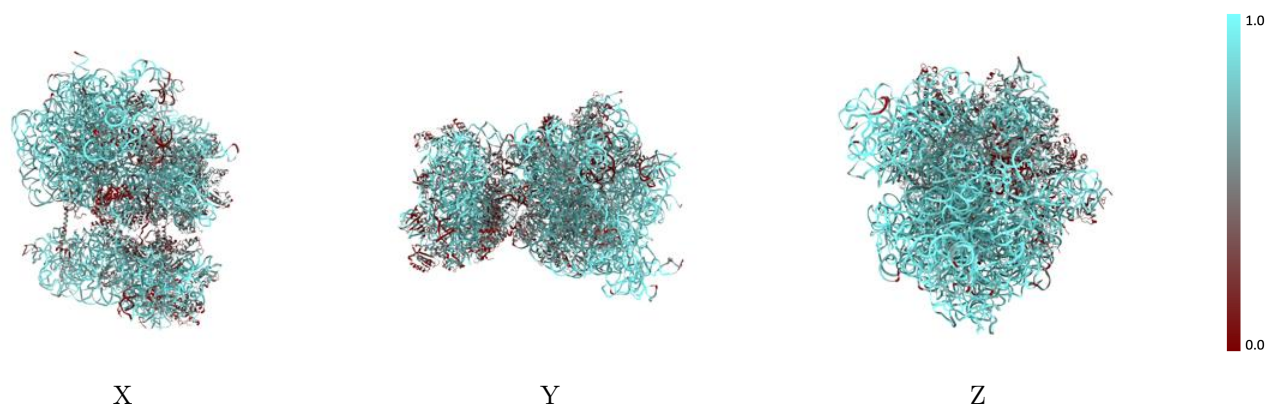
The images above show the 3D surface view of the map at the recommended contour level 5.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



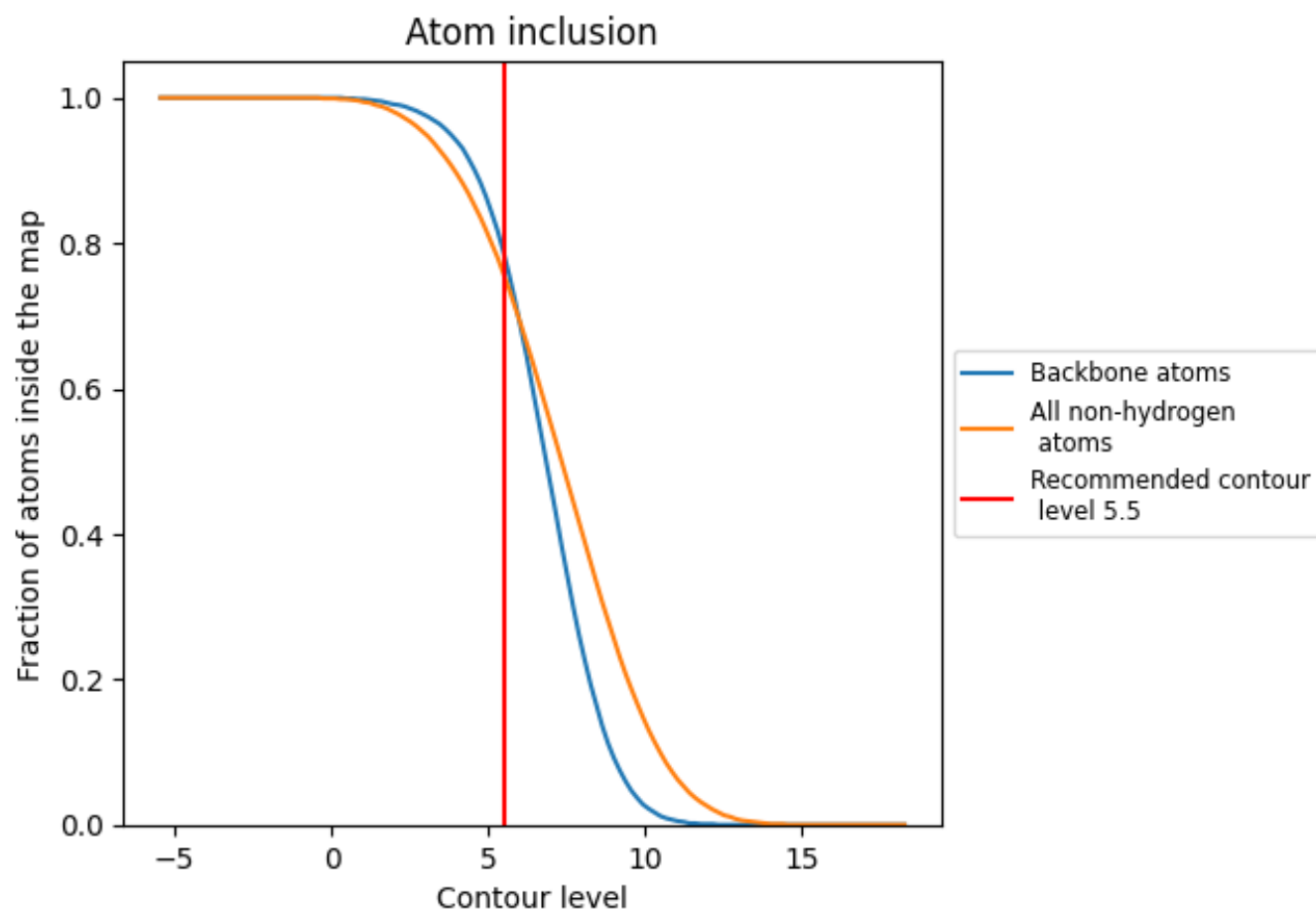
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (5.5).

9.4 Atom inclusion [i](#)



At the recommended contour level, 79% of all backbone atoms, 76% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (5.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7570	 0.2180
12	 0.5070	 0.1680
32	 0.5290	 0.1480
4	 0.2980	 0.1790
41	 0.4200	 0.1170
62	 0.4970	 0.1430
71	 0.8450	 0.2240
72	 0.8780	 0.2160
82	 0.8650	 0.1880
A1	 0.8880	 0.2410
A2	 0.9090	 0.2580
B	 0.3240	 0.1820
B2	 0.4600	 0.2080
C1	 0.4260	 0.2170
C2	 0.5350	 0.2230
D1	 0.4100	 0.1840
D2	 0.3910	 0.1920
E1	 0.3630	 0.2090
E2	 0.5240	 0.2310
F1	 0.2410	 0.1600
F2	 0.3570	 0.2020
G1	 0.3980	 0.1620
G2	 0.4920	 0.2020
H1	 0.4480	 0.1740
H2	 0.5210	 0.2020
I1	 0.5380	 0.1880
I2	 0.5600	 0.2020
J1	 0.4310	 0.1840
J2	 0.4950	 0.2130
K1	 0.3570	 0.1750
K2	 0.4300	 0.2200
L1	 0.4980	 0.2220
L2	 0.5760	 0.2270
M1	 0.4620	 0.1640
M2	 0.4950	 0.1870



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
N1	 0.5450	 0.1770
N2	 0.6250	 0.1940
O1	 0.4880	 0.1710
O2	 0.5170	 0.1850
P1	 0.4700	 0.2050
Q1	 0.4620	 0.1770
Q2	 0.5000	 0.1960
R1	 0.3380	 0.1660
R2	 0.3290	 0.1830
S1	 0.4390	 0.1330
S2	 0.6110	 0.2030
T1	 0.5760	 0.1660
U1	 0.3550	 0.1650
U2	 0.3960	 0.1910
V2	 0.3700	 0.1890
W	 0.8040	 0.2290
W1	 0.7310	 0.1870
Y	 0.0650	 0.1340
Y1	 0.2280	 0.1870
Z1	 0.0000	 0.1070
a2	 0.1170	 0.1060
b2	 0.4670	 0.1930
e2	 0.3810	 0.1460
g2	 0.4220	 0.1360
h2	 0.4230	 0.1710
i2	 0.2950	 0.2000
l2	 0.5690	 0.1690
o2	 0.5730	 0.1260
p	 0.0280	 -0.0080
r2	 0.5000	 0.1180
z2	 0.5710	 0.1210